

# SECTION **DAS**

## DRIVER ASSISTANCE SYSTEM

A  
B  
C

### CONTENTS

|  |   |    |
|--|---|----|
|  |   |    |
| <b>ADAS CONTROL UNIT</b>   | Description .....   | 62 |
| <b>PRECAUTION</b> .....  | Work Procedure .....  | 62 |
| <b>PRECAUTIONS</b> .....   | <b>CONFIGURATION (ADAS CONTROL UNIT)</b> ...                            | 63 |
| Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" ..... | Description .....   | 63 |
| Precautions for Removing Battery Terminal .....  | Work Procedure .....  | 63 |
| Precautions For Harness Repair .....   | <b>DTC/CIRCUIT DIAGNOSIS</b> .....                                      | 65 |
| <b>SYSTEM DESCRIPTION</b> .....  | <b>C1A0A CONFIG UNFINISHED</b> .....                                    | 65 |
| <b>COMPONENT PARTS</b> .....   | DTC Logic .....   | 65 |
| Component Parts Location .....   | Diagnosis Procedure .....   | 65 |
| ADAS Control Unit .....  | <b>C1A00 CONTROL UNIT</b> .....   | 66 |
| <b>SYSTEM</b> .....  | DTC Logic .....   | 66 |
| System Description .....   | Diagnosis Procedure .....   | 66 |
| Fail-safe (ADAS Control Unit) .....  | <b>C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2</b> ..... | 67 |
| <b>DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)</b> .....  | DTC Logic .....   | 67 |
| On Board Diagnosis Function .....  | Diagnosis Procedure .....   | 67 |
| CONSULT Function (ICC/ADAS) .....  | <b>C1A03 VEHICLE SPEED SENSOR</b> .....                                 | 68 |
| <b>ECU DIAGNOSIS INFORMATION</b> .....   | DTC Logic .....   | 68 |
| <b>ADAS CONTROL UNIT</b> .....   | Diagnosis Procedure .....   | 69 |
| Reference Value .....  | <b>C1A04 ABS/TCS/VDC SYSTEM</b> .....                                   | 70 |
| Fail-safe (ADAS Control Unit) .....  | DTC Logic .....   | 70 |
| DTC Inspection Priority Chart .....  | Diagnosis Procedure .....   | 70 |
| DTC Index .....  | <b>C1A05 BRAKE SW/STOP LAMP SW</b> .....                                | 72 |
| <b>WIRING DIAGRAM</b> .....  | DTC Logic .....   | 72 |
| <b>DRIVER ASSISTANCE SYSTEMS</b> .....   | Diagnosis Procedure .....   | 72 |
| Wiring Diagram .....   | Component Inspection (ICC Brake Switch) .....                           | 76 |
| <b>BASIC INSPECTION</b> .....  | Component Inspection (Stop Lamp Switch) .....                           | 76 |
| <b>ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT</b> .....                                 | <b>C1A06 OPERATION SW</b> .....   | 77 |
|  | DTC Logic .....   | 77 |
|  | Diagnosis Procedure .....   | 77 |
|  | Component Inspection .....  | 78 |
|  | <b>C1A13 STOP LAMP RELAY</b> .....                                      | 80 |
|  | DTC Logic .....   | 80 |

D  
E

F  
G

H  
I

J  
K

L  
M

N  
**DAS**

P

|   |            |   |            |
|---|------------|---|------------|
| Diagnosis Procedure .....                   | 81         | <b>C1B03 ABNRML TEMP DETECT .....</b>       | <b>106</b> |
| Component Inspection .....                  | 85         | DTC Logic .....                             | 106        |
| <b>C1A14 ECM .....</b>                      | <b>87</b>  | Diagnosis Procedure .....                   | 106        |
| DTC Logic .....                             | 87         | <b>C1B5D FEB OPE COUNT LIMIT .....</b>      | <b>107</b> |
| Diagnosis Procedure .....                   | 87         | DTC Logic .....                             | 107        |
| <b>C1A15 GEAR POSITION .....</b>            | <b>89</b>  | Diagnosis Procedure .....                   | 107        |
| Description .....                           | 89         | <b>C1B53 SIDE RADAR RIGHT MALFUNCTION.</b>  | <b>108</b> |
| DTC Logic .....                             | 89         | DTC Logic .....                             | 108        |
| Diagnosis Procedure .....                   | 90         | Diagnosis Procedure .....                   | 108        |
| <b>C1A24 NP RANGE .....</b>                 | <b>91</b>  | <b>C1B54 SIDE RADAR LEFT MALFUNCTION ..</b> | <b>109</b> |
| DTC Logic .....                             | 91         | DTC Logic .....                             | 109        |
| Diagnosis Procedure .....                   | 91         | Diagnosis Procedure .....                   | 109        |
| <b>C1A26 ECD MODE MALFUNCTION .....</b>     | <b>93</b>  | <b>C1B56 SONAR CIRCUIT .....</b>            | <b>110</b> |
| DTC Logic .....                             | 93         | DTC Logic .....                             | 110        |
| Diagnosis Procedure .....                   | 93         | Diagnosis Procedure .....                   | 110        |
| <b>C1A27 ECD POWER SUPPLY CIRCUIT .....</b> | <b>95</b>  | <b>C1B57 AVM CIRCUIT .....</b>              | <b>111</b> |
| DTC Logic .....                             | 95         | DTC Logic .....                             | 111        |
| Diagnosis Procedure .....                   | 95         | Diagnosis Procedure .....                   | 111        |
| <b>C1A33 CAN TRANSMISSION ERROR .....</b>   | <b>97</b>  | <b>C1B58 DRIVER ASSISTANCE BUZZER .....</b> | <b>112</b> |
| DTC Logic .....                             | 97         | DTC Logic .....                             | 112        |
| Diagnosis Procedure .....                   | 97         | Diagnosis Procedure .....                   | 112        |
| <b>C1A34 COMMAND ERROR .....</b>            | <b>98</b>  | <b>C1B82 DISTANCE SENSOR OFF-CENTER ..</b>  | <b>113</b> |
| DTC Logic .....                             | 98         | DTC Logic .....                             | 113        |
| Diagnosis Procedure .....                   | 98         | Diagnosis Procedure .....                   | 113        |
| <b>C1A35 ACCELERATOR PEDAL ACTUATOR..</b>   | <b>99</b>  | <b>C1B83 DISTANCE SENSOR BLOCKED .....</b>  | <b>114</b> |
| DTC Logic .....                             | 99         | DTC Logic .....                             | 114        |
| Diagnosis Procedure .....                   | 99         | Diagnosis Procedure .....                   | 114        |
| <b>C1A36 ACCELERATOR PEDAL ACTUATOR</b>     |            | <b>C1B84 DISTANCE SENSOR .....</b>          | <b>115</b> |
| <b>CAN COMM .....</b>                       | <b>100</b> | DTC Logic .....                             | 115        |
| DTC Logic .....                             | 100        | Diagnosis Procedure .....                   | 115        |
| Diagnosis Procedure .....                   | 100        | <b>C1B85 DISTANCE SENSOR ABNORMAL</b>       |            |
| <b>C1A37 ACCELERATOR PEDAL ACTUATOR</b>     |            | <b>TEMP .....</b>                           | <b>116</b> |
| <b>CAN 2 .....</b>                          | <b>101</b> | DTC Logic .....                             | 116        |
| DTC Logic .....                             | 101        | Diagnosis Procedure .....                   | 116        |
| Diagnosis Procedure .....                   | 101        | <b>C1B86 DISTANCE SENSOR POWER SUP-</b>     |            |
| <b>C1A38 ACCELERATOR PEDAL ACTUATOR</b>     |            | <b>PLY CIRCUIT .....</b>                    | <b>117</b> |
| <b>CAN 1 .....</b>                          | <b>102</b> | DTC Logic .....                             | 117        |
| DTC Logic .....                             | 102        | Diagnosis Procedure .....                   | 117        |
| Diagnosis Procedure .....                   | 102        | <b>C1F01 ACCELERATOR PEDAL ACTUATOR.</b>    | <b>119</b> |
| <b>C1A39 STEERING ANGLE SENSOR .....</b>    | <b>103</b> | DTC Logic .....                             | 119        |
| DTC Logic .....                             | 103        | Diagnosis Procedure .....                   | 119        |
| Diagnosis Procedure .....                   | 103        | <b>C1F02 ACCELERATOR PEDAL ACTUATOR.</b>    | <b>120</b> |
| <b>C1B00 CAMERA UNIT MALF .....</b>         | <b>104</b> | DTC Logic .....                             | 120        |
| DTC Logic .....                             | 104        | Diagnosis Procedure .....                   | 120        |
| Diagnosis Procedure .....                   | 104        | <b>C1F05 ACCELERATOR PEDAL ACTUATOR</b>     |            |
| <b>C1B01 CAM AIMING INCMP .....</b>         | <b>105</b> | <b>POWER SUPPLY CIRCUIT .....</b>           | <b>121</b> |
| DTC Logic .....                             | 105        | DTC Logic .....                             | 121        |
| Diagnosis Procedure .....                   | 105        | Diagnosis Procedure .....                   | 121        |

|                                       |            |   |            |   |
|---------------------------------------|------------|---|------------|---|
| <b>U0121 VDC CAN 2</b> .....          | <b>122</b> | <b>U1500 CAM CAN 2</b> .....                | <b>141</b> |   |
| DTC Logic .....                       | 122        | DTC Logic .....                             | 141        | A |
| Diagnosis Procedure .....             | 122        | Diagnosis Procedure .....                   | 141        |   |
| <b>U0126 STRG SEN CAN 1</b> .....     | <b>124</b> | <b>U1501 CAM CAN 1</b> .....                | <b>142</b> | B |
| DTC Logic .....                       | 124        | DTC Logic .....                             | 142        |   |
| Diagnosis Procedure .....             | 124        | Diagnosis Procedure .....                   | 142        |   |
| <b>U0235 ICC SENSOR CAN 1</b> .....   | <b>125</b> | <b>U1502 ICC SENSOR CAN COMM CIRC</b> ..... | <b>143</b> | C |
| DTC Logic .....                       | 125        | DTC Logic .....                             | 143        |   |
| Diagnosis Procedure .....             | 125        | Diagnosis Procedure .....                   | 143        |   |
| <b>U0401 ECM CAN 1</b> .....          | <b>126</b> | <b>U1503 SIDE RDR L CAN 2</b> .....         | <b>144</b> | D |
| DTC Logic .....                       | 126        | DTC Logic .....                             | 144        |   |
| Diagnosis Procedure .....             | 126        | Diagnosis Procedure .....                   | 144        |   |
| <b>U0402 TCM CAN 1</b> .....          | <b>127</b> | <b>U1504 SIDE RDR L CAN 1</b> .....         | <b>145</b> | E |
| DTC Logic .....                       | 127        | DTC Logic .....                             | 145        |   |
| Diagnosis Procedure .....             | 127        | Diagnosis Procedure .....                   | 145        | F |
| <b>U0415 VDC CAN 1</b> .....          | <b>128</b> | <b>U1505 SIDE RDR R CAN 2</b> .....         | <b>146</b> |   |
| DTC Logic .....                       | 128        | DTC Logic .....                             | 146        | G |
| Diagnosis Procedure .....             | 128        | Diagnosis Procedure .....                   | 146        |   |
| <b>U0424 HVAC CAN CIRCUIT 1</b> ..... | <b>130</b> | <b>U1506 SIDE RDR R CAN 1</b> .....         | <b>147</b> | H |
| Description .....                     | 130        | DTC Logic .....                             | 147        |   |
| DTC Logic .....                       | 130        | Diagnosis Procedure .....                   | 147        |   |
| Diagnosis Procedure .....             | 130        | <b>U1507 LOST COMM(SIDE RDR R)</b> .....    | <b>148</b> | I |
| <b>U0428 STRG SEN CAN 2</b> .....     | <b>131</b> | DTC Logic .....                             | 148        |   |
| DTC Logic .....                       | 131        | Diagnosis Procedure .....                   | 148        |   |
| Diagnosis Procedure .....             | 131        | <b>U1508 LOST COMM(SIDE RDR L)</b> .....    | <b>149</b> | J |
| <b>U1000 CAN COMM CIRCUIT</b> .....   | <b>132</b> | DTC Logic .....                             | 149        |   |
| Description .....                     | 132        | Diagnosis Procedure .....                   | 149        |   |
| DTC Logic .....                       | 132        | <b>U1512 HVAC CAN 3</b> .....               | <b>150</b> | K |
| Diagnosis Procedure .....             | 133        | DTC Logic .....                             | 150        |   |
| <b>U1010 CONTROL UNIT (CAN)</b> ..... | <b>134</b> | Diagnosis Procedure .....                   | 150        |   |
| Description .....                     | 134        | <b>U1513 METER CAN 3</b> .....              | <b>151</b> | L |
| DTC Logic .....                       | 134        | DTC Logic .....                             | 151        |   |
| Diagnosis Procedure .....             | 134        | Diagnosis Procedure .....                   | 151        |   |
| <b>U150B ECM CAN 3</b> .....          | <b>135</b> | <b>U1514 STRG SEN CAN 3</b> .....           | <b>152</b> | M |
| DTC Logic .....                       | 135        | DTC Logic .....                             | 152        |   |
| Diagnosis Procedure .....             | 135        | Diagnosis Procedure .....                   | 152        |   |
| <b>U150C VDC CAN 3</b> .....          | <b>136</b> | <b>U1515 ICC SENSOR CAN 3</b> .....         | <b>153</b> | N |
| DTC Logic .....                       | 136        | DTC Logic .....                             | 153        |   |
| Diagnosis Procedure .....             | 136        | Diagnosis Procedure .....                   | 153        |   |
| <b>U150D TCM CAN 3</b> .....          | <b>138</b> | <b>U1516 CAM CAN 3</b> .....                | <b>154</b> |   |
| DTC Logic .....                       | 138        | DTC Logic .....                             | 154        |   |
| Diagnosis Procedure .....             | 138        | Diagnosis Procedure .....                   | 154        | P |
| <b>U150E BCM CAN 3</b> .....          | <b>139</b> | <b>U1517 ACCELERATOR PEDAL ACTUATOR</b>     |            |   |
| DTC Logic .....                       | 139        | <b>CAN 3</b> .....                          | <b>155</b> |   |
| Diagnosis Procedure .....             | 139        | DTC Logic .....                             | 155        |   |
| <b>U150F AV CAN 3</b> .....           | <b>140</b> | Diagnosis Procedure .....                   | 155        |   |
| DTC Logic .....                       | 140        | <b>U1518 SIDE RDR L CAN 3</b> .....         | <b>156</b> |   |
| Diagnosis Procedure .....             | 140        |   |            |   |

DAS

|   |            |  |            |
|---|------------|--|------------|
| DTC Logic .....                                 | 156        | ICC Brake Hold Relay .....                         | 172        |
| Diagnosis Procedure .....                       | 156        | Accelerator Pedal Actuator .....                   | 172        |
| <b>U1519 SIDE RDR R CAN 3 .....</b>             | <b>157</b> | Driver Assistance Buzzer Control Module .....      | 172        |
| DTC Logic .....                                 | 157        | Driver Assistance Buzzer .....                     | 172        |
| Diagnosis Procedure .....                       | 157        | Lane Camera Unit .....                             | 172        |
| <b>U1521 SONAR CAN 2 .....</b>                  | <b>158</b> | Side Radar LH/RH .....                             | 172        |
| DTC Logic .....                                 | 158        | Blind Spot Warning/Blind Spot Intervention Indica- |            |
| Diagnosis Procedure .....                       | 158        | tor LH/RH .....                                    | 173        |
| <b>U1522 SONAR CAN 1 .....</b>                  | <b>159</b> | Dynamic Driver Assistance Switch .....             | 173        |
| DTC Logic .....                                 | 159        | Warning Systems Switch / Warning Systems ON        |            |
| Diagnosis Procedure .....                       | 159        | indicator .....                                    | 173        |
| <b>U1523 SONAR CAN 3 .....</b>                  | <b>160</b> | BCI Switch .....                                   | 173        |
| DTC Logic .....                                 | 160        | <b>SYSTEM .....</b>                                | <b>174</b> |
| Diagnosis Procedure .....                       | 160        | <b>DCA .....</b>                                   | <b>174</b> |
| <b>U1524 AVM CAN 1 .....</b>                    | <b>161</b> | DCA : System Description .....                     | 174        |
| DTC Logic .....                                 | 161        | <b>PFCW .....</b>                                  | <b>178</b> |
| Diagnosis Procedure .....                       | 161        | PFCW : System Description .....                    | 178        |
| <b>U1525 AVM CAN 3 .....</b>                    | <b>162</b> | <b>LDW .....</b>                                   | <b>179</b> |
| DTC Logic .....                                 | 162        | LDW : System Description .....                     | 180        |
| Diagnosis Procedure .....                       | 162        | <b>LDP .....</b>                                   | <b>181</b> |
| <b>U1530 DR ASSIST BUZZER CAN 1 .....</b>       | <b>163</b> | LDP : System Description .....                     | 182        |
| DTC Logic .....                                 | 163        | <b>BSW .....</b>                                   | <b>185</b> |
| Diagnosis Procedure .....                       | 163        | BSW : System Description .....                     | 185        |
| <b>POWER SUPPLY AND GROUND CIRCUIT ..</b>       | <b>164</b> | <b>BLIND SPOT INTERVENTION .....</b>               | <b>187</b> |
| Diagnosis Procedure .....                       | 164        | BLIND SPOT INTERVENTION : System Descrip-          |            |
| <b>REMOVAL AND INSTALLATION .....</b>           | <b>165</b> | tion .....   | 188        |
| <b>ADAS CONTROL UNIT .....</b>                  | <b>165</b> | <b>BCI .....</b>                                   | <b>191</b> |
| Removal and Installation .....                  | 165        | BCI : System Description .....                     | 192        |
| <b>DRIVER ASSISTANCE SYSTEM</b>                 |            | Fail-safe (ADAS Control Unit) .....                | 194        |
| <b>PRECAUTION .....</b>                         | <b>166</b> | Fail-safe (ICC Sensor) .....                       | 195        |
| <b>PRECAUTIONS .....</b>                        | <b>166</b> | Fail-safe (Lane Camera Unit) .....                 | 195        |
| Precaution for Supplemental Restraint System    |            | Fail-safe (Side Radar) .....                       | 196        |
| (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-         |            | <b>OPERATION .....</b>                             | <b>197</b> |
| SIONER" .....                                   | 166        | <b>DCA .....</b>                                   | <b>197</b> |
| Precautions for Removing Battery Terminal ..... | 166        | DCA : Switch Name and Function .....               | 197        |
| Precautions For Harness Repair .....            | 166        | DCA : Menu Displayed by Pressing Each Switch .     | 197        |
| DCA System Service .....                        | 167        | <b>PFCW .....</b>                                  | <b>199</b> |
| PFCW System Service .....                       | 167        | PFCW : Switch Name and Function .....              | 199        |
| LDW/LDP System Service .....                    | 167        | PFCW : Menu Displayed by Pressing Each Switch      |            |
| Blind Spot Warning/Blind Spot Intervention Sys- |            |  | 200        |
| tem Service .....                               | 167        | <b>LDW .....</b>                                   | <b>200</b> |
| BCI system service .....                        | 168        | LDW : Switch Name and Function .....               | 200        |
| <b>SYSTEM DESCRIPTION .....</b>                 | <b>169</b> | LDW : Menu Displayed by Pressing Each Switch.      | 201        |
| <b>COMPONENT PARTS .....</b>                    | <b>169</b> | <b>LDP .....</b>                                   | <b>201</b> |
| Component Parts Location .....                  | 169        | LDP : Switch Name and Function .....               | 201        |
| ICC Sensor .....                                | 171        | LDP : Menu Displayed by Pressing Each Switch .     | 202        |
| ICC Steering Switch .....                       | 172        | <b>BSW .....</b>                                   | <b>203</b> |
| ICC Brake Switch / Stop Lamp Switch .....       | 172        | BSW : Switch Name and Function .....               | 203        |
|   |            | BSW : Menu Displayed by Pressing Each Switch.      | 204        |

|   |            |   |            |     |
|---|------------|---|------------|-----|
| <b>BLIND SPOT INTERVENTION</b> .....  | <b>205</b> | Reference Value .....   | 255        |     |
| BLIND SPOT INTERVENTION : Switch Name<br>and Function .....                   | 205        | DTC Inspection Priority Chart .....   | 256        | A   |
| BLIND SPOT INTERVENTION : Menu Displayed<br>by Pressing Each Switch .....     | 205        | DTC Index .....   | 256        |     |
| <b>BCI</b> .....  | <b>206</b> | <b>LANE CAMERA UNIT</b> .....   | <b>257</b> | B   |
| BCI : Switch Name and Function .....  | 206        | Reference Value .....   | 257        |     |
| BCI : Menu Displayed by Pressing Each Switch ..                               | 207        | Fail-safe (Lane Camera Unit) .....  | 258        |     |
| <b>HANDLING PRECAUTION</b> .....  | <b>209</b> | DTC Inspection Priority Chart .....   | 259        | C   |
| Precautions for Distance Control Assist .....                                 | 209        | DTC Index .....   | 259        |     |
| Precautions for Predictive Forward Collision<br>Warning .....                 | 211        | <b>SIDE RADAR LH</b> .....  | <b>260</b> | D   |
| Precautions for Lane Departure Warning/Lane<br>Departure Prevention .....     | 211        | Reference Value .....   | 260        |     |
| Precautions for Blind Spot Warning/Blind Spot In-<br>tervention .....         | 212        | Fail-safe (Side Radar) .....  | 261        |     |
| Precautions for Back-up Collision Intervention ....                           | 213        | DTC Inspection Priority Chart .....   | 261        | E   |
| <b>DIAGNOSIS SYSTEM (ADAS CONTROL<br/>UNIT)</b> .....                         | <b>215</b> | DTC Index .....   | 262        |     |
| On Board Diagnosis Function .....   | 215        | <b>SIDE RADAR RH</b> .....  | <b>263</b> | F   |
| CONSULT Function (ICC/ADAS) .....   | 216        | Reference Value .....   | 263        |     |
| <b>DIAGNOSIS SYSTEM (ICC SENSOR)</b> .....                                    | <b>229</b> | Fail-safe (Side Radar) .....  | 264        |     |
| CONSULT Function (LASER/RADAR) .....  | 229        | DTC Inspection Priority Chart .....   | 264        | G   |
| <b>DIAGNOSIS SYSTEM (ACCELERATOR<br/>PEDAL ACTUATOR)</b> .....                | <b>231</b> | DTC Index .....   | 265        |     |
| CONSULT Function (ACCELERATOR PEDAL<br>ACT) .....                             | 231        | <b>DRIVER ASSISTANCE BUZZER CONTROL<br/>MODULE</b> .....                      | <b>266</b> | H   |
| <b>DIAGNOSIS SYSTEM (LANE CAMERA<br/>UNIT)</b> .....                          | <b>233</b> | Reference Value .....   | 266        |     |
| CONSULT Function (LANE CAMERA) .....  | 233        | DTC Inspection Priority Chart .....   | 269        |     |
| <b>DIAGNOSIS SYSTEM (SIDE RADAR LH)</b> .....                                 | <b>235</b> | DTC Index .....   | 269        | I   |
| CONSULT Function (SIDE RADAR LEFT) .....                                      | 235        | <b>WIRING DIAGRAM</b> .....   | <b>270</b> |     |
| <b>DIAGNOSIS SYSTEM (SIDE RADAR RH)</b> .....                                 | <b>236</b> | <b>DRIVER ASSISTANCE SYSTEMS</b> .....  | <b>270</b> | J   |
| CONSULT Function (SIDE RADAR RIGHT) .....                                     | 236        | Wiring Diagram .....  | 270        |     |
| <b>DIAGNOSIS SYSTEM (DRIVER ASSIS-<br/>TANCE BUZZER CONTROL MODULE)</b> ..... | <b>237</b> | <b>BASIC INSPECTION</b> .....   | <b>288</b> | K   |
| CONSULT Function (BSW/BUZZER) .....   | 237        | <b>DIAGNOSIS AND REPAIR WORK FLOW</b> .....                                   | <b>288</b> |     |
| <b>ECU DIAGNOSIS INFORMATION</b> .....  | <b>241</b> | Work Flow .....   | 288        | L   |
| <b>ADAS CONTROL UNIT</b> .....  | <b>241</b> | <b>ADDITIONAL SERVICE WHEN REPLACING<br/>ICC SENSOR</b> .....                 | <b>291</b> |     |
| Reference Value .....   | 241        | Description .....   | 291        |     |
| Fail-safe (ADAS Control Unit) .....   | 246        | Work Procedure .....  | 291        | M   |
| DTC Inspection Priority Chart .....   | 247        | <b>ADDITIONAL SERVICE WHEN REPLACING<br/>ACCELERATOR PEDAL ASSEMBLY</b> ..... | <b>292</b> |     |
| DTC Index .....   | 248        | Description .....   | 292        |     |
| <b>ICC SENSOR</b> .....   | <b>252</b> | Work Procedure .....  | 292        | N   |
| Reference Value .....   | 252        | <b>ADDITIONAL SERVICE WHEN REPLACING<br/>LANE CAMERA UNIT</b> .....           | <b>293</b> |     |
| Fail-safe (ICC Sensor) .....  | 253        | Description .....   | 293        |     |
| DTC Inspection Priority Chart .....   | 253        | Work Procedure .....  | 293        | DAS |
| DTC Index .....   | 253        | <b>PRE-INSPECTION FOR DIAGNOSIS</b> .....                                     | <b>294</b> |     |
| <b>ACCELERATOR PEDAL ACTUATOR</b> .....                                       | <b>255</b> | <b>LANE CAMERA UNIT</b> .....   | <b>294</b> | P   |
|   |            | LANE CAMERA UNIT : Inspection Procedure .....                                 | 294        |     |
|   |            | <b>CAMERA AIMING ADJUSTMENT</b> .....   | <b>295</b> |     |
|   |            | Description .....   | 295        |     |
|   |            | Work Procedure (Preparation) .....  | 295        |     |
|   |            | Work Procedure (Target Setting) .....   | 296        |     |

|  |            |   |            |
|--|------------|---|------------|
| Work Procedure (Camera Aiming Adjustment) .....                      | 297        | SIDE RADAR : DTC LOGIC .....  | 314        |
| Work Procedure (Target Mark Sample) .....                            | 298        | SIDE RADAR : Diagnosis Procedure .....  | 314        |
| <b>ACTION TEST .....</b>   | <b>300</b> | <b>C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT .....</b> | <b>315</b> |
| <b>DCA .....</b>   | <b>300</b> | <b>SIDE RADAR .....</b>   | <b>315</b> |
| DCA : Description .....  | 300        | SIDE RADAR : DTC Logic .....  | 315        |
| DCA : Work Procedure .....   | 300        | SIDE RADAR : Diagnosis Procedure .....  | 315        |
| <b>LDW/LDP .....</b>   | <b>300</b> | <b>C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT .....</b>  | <b>317</b> |
| LDW/LDP : Description .....  | 301        | <b>SIDE RADAR .....</b>   | <b>317</b> |
| LDW/LDP : Inspection Procedure .....                                 | 301        | SIDE RADAR : DTC Logic .....  | 317        |
| <b>BLIND SPOT WARNING/BLIND SPOT INTERVENTION .....</b>              | <b>303</b> | SIDE RADAR : Diagnosis Procedure .....  | 317        |
| BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description .....       | 303        | <b>C1B55 RADAR BLOCKAGE .....</b>   | <b>319</b> |
| BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Work Procedure .....    | 304        | <b>SIDE RADAR .....</b>   | <b>319</b> |
| <b>BCI .....</b>   | <b>306</b> | SIDE RADAR : DTC Logic .....  | 319        |
| BCI : Description .....  | 306        | SIDE RADAR : Diagnosis Procedure .....  | 319        |
| BCI : Work Procedure .....   | 306        | <b>C1F01 ACCELERATOR PEDAL ACTUATOR.321</b>   |            |
| <b>DTC/CIRCUIT DIAGNOSIS .....</b>                                   | <b>308</b> | <b>ACCELERATOR PEDAL ACTUATOR .....</b>   | <b>321</b> |
| <b>C1A50 ADAS CONTROL UNIT .....</b>                                 | <b>308</b> | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....  | 321        |
| <b>LANE CAMERA UNIT .....</b>  | <b>308</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....                                | 321        |
| LANE CAMERA UNIT : DTC Logic .....                                   | 308        | <b>C1F02 ACCELERATOR PEDAL ACTUATOR.322</b>   |            |
| LANE CAMERA UNIT : Diagnosis Procedure .....                         | 308        | <b>ACCELERATOR PEDAL ACTUATOR .....</b>   | <b>322</b> |
| <b>C1B00 CAMERA UNIT MALF .....</b>                                  | <b>309</b> | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....  | 322        |
| <b>LANE CAMERA UNIT .....</b>  | <b>309</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....                                | 322        |
| LANE CAMERA UNIT : DTC Logic .....                                   | 309        | <b>C1F03 ACCELERATOR PEDAL ACTUATOR.323</b>   |            |
| LANE CAMERA UNIT : Diagnosis Procedure .....                         | 309        | <b>ACCELERATOR PEDAL ACTUATOR .....</b>   | <b>323</b> |
| <b>C1B01 CAM AIMING INCOMP .....</b>                                 | <b>310</b> | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....  | 323        |
| <b>LANE CAMERA UNIT .....</b>  | <b>310</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....                                | 323        |
| LANE CAMERA UNIT : DTC Logic .....                                   | 310        | <b>C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT .....</b>                    | <b>324</b> |
| LANE CAMERA UNIT : Diagnosis Procedure .....                         | 310        | <b>ACCELERATOR PEDAL ACTUATOR .....</b>   | <b>324</b> |
| <b>C1B03 ABRML TEMP DETECT .....</b>                                 | <b>311</b> | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....  | 324        |
| <b>LANE CAMERA UNIT .....</b>  | <b>311</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....                                | 324        |
| LANE CAMERA UNIT : DTC Logic .....                                   | 311        | <b>C1F06 CAN CIRCUIT2 .....</b>   | <b>325</b> |
| LANE CAMERA UNIT : Diagnosis Procedure .....                         | 311        | <b>ACCELERATOR PEDAL ACTUATOR .....</b>   | <b>325</b> |
| <b>C1B20 CONTROL MODULE .....</b>                                    | <b>312</b> | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....  | 324        |
| <b>DRIVER ASSISTANCE BUZZER CONTROL MODULE .....</b>                 | <b>312</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....                                | 324        |
| DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic .....            | 312        | <b>C1F06 CAN CIRCUIT2 .....</b>   | <b>325</b> |
| DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure .....  | 312        | <b>ACCELERATOR PEDAL ACTUATOR .....</b>   | <b>325</b> |
| DRIVER ASSISTANCE BUZZER CONTROL MODULE : Component Inspection ..... | 313        | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....  | 325        |
| <b>C1B50 SIDE RADAR MALFUNCTION .....</b>                            | <b>314</b> |   |            |
| <b>SIDE RADAR .....</b>  | <b>314</b> |   |            |

|   |            |   |            |     |
|---|------------|---|------------|-----|
| ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....              | 325        | <b>SIDE RADAR LH</b> .....  | <b>337</b> |     |
| <b>C1F07 CAN CIRCUIT1</b> .....                                     | <b>327</b> | SIDE RADAR LH : Description .....                                   | 337        | A   |
| <b>ACCELERATOR PEDAL ACTUATOR</b> .....                             | <b>327</b> | SIDE RADAR LH : DTC Logic .....                                     | 338        |     |
| ACCELERATOR PEDAL ACTUATOR : DTC Logic .....                        | 327        | SIDE RADAR LH : Diagnosis Procedure .....                           | 338        | B   |
| ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....              | 327        | <b>SIDE RADAR RH</b> .....  | <b>338</b> |     |
| <b>U0104 ADAS CAN 1</b> .....                                       | <b>329</b> | SIDE RADAR RH : Description .....                                   | 338        | C   |
| <b>LANE CAMERA UNIT</b> .....                                       | <b>329</b> | SIDE RADAR RH : DTC Logic .....                                     | 339        |     |
| LANE CAMERA UNIT : DTC Logic .....                                  | 329        | SIDE RADAR RH : Diagnosis Procedure .....                           | 339        | D   |
| LANE CAMERA UNIT : Diagnosis Procedure .....                        | 329        | <b>DRIVER ASSISTANCE BUZZER CONTROL MODULE</b> .....                | <b>339</b> |     |
| <b>SIDE RADAR</b> .....   | <b>329</b> | DRIVER ASSISTANCE BUZZER CONTROL MODULE : Description .....         | 339        | E   |
| SIDE RADAR : DTC Logic .....  | 329        | DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic .....           | 339        |     |
| SIDE RADAR : Diagnosis Procedure .....                              | 330        | DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure ..... | 340        | F   |
| <b>DRIVER ASSISTANCE BUZZER CONTROL MODULE</b> .....                | <b>330</b> | <b>U1010 CONTROL UNIT (CAN)</b> .....                               | <b>341</b> |     |
| DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic .....           | 330        | <b>ACCELERATOR PEDAL ACTUATOR</b> .....                             | <b>341</b> | G   |
| DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure ..... | 331        | ACCELERATOR PEDAL ACTUATOR : Description .....                      | 341        |     |
| <b>U0126 STRG SEN CAN 1</b> .....                                   | <b>332</b> | ACCELERATOR PEDAL ACTUATOR : DTC Logic .....                        | 341        | H   |
| <b>LANE CAMERA UNIT</b> .....                                       | <b>332</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....              | 341        |     |
| LANE CAMERA UNIT : DTC Logic .....                                  | 332        | <b>LANE CAMERA UNIT</b> .....                                       | <b>341</b> | I   |
| LANE CAMERA UNIT : Diagnosis Procedure .....                        | 332        | LANE CAMERA UNIT : Description .....                                | 341        |     |
| <b>U0405 ADAS CAN 2</b> .....                                       | <b>333</b> | LANE CAMERA UNIT : DTC Logic .....                                  | 341        | J   |
| <b>LANE CAMERA UNIT</b> .....                                       | <b>333</b> | LANE CAMERA UNIT : Diagnosis Procedure .....                        | 342        |     |
| LANE CAMERA UNIT : DTC Logic .....                                  | 333        | <b>SIDE RADAR LH</b> .....  | <b>342</b> | K   |
| LANE CAMERA UNIT : Diagnosis Procedure .....                        | 333        | SIDE RADAR LH : Description .....                                   | 342        |     |
| <b>SIDE RADAR</b> .....   | <b>333</b> | SIDE RADAR LH : DTC Logic .....                                     | 342        | L   |
| SIDE RADAR : DTC Logic .....  | 333        | SIDE RADAR LH : Diagnosis Procedure .....                           | 343        |     |
| SIDE RADAR : Diagnosis Procedure .....                              | 334        | <b>SIDE RADAR RH</b> .....  | <b>343</b> | M   |
| <b>U0428 STRG SEN CAN 2</b> .....                                   | <b>335</b> | SIDE RADAR RH : Description .....                                   | 343        |     |
| <b>LANE CAMERA UNIT</b> .....                                       | <b>335</b> | SIDE RADAR RH : DTC Logic .....                                     | 343        | N   |
| LANE CAMERA UNIT : DTC Logic .....                                  | 335        | SIDE RADAR RH : Diagnosis Procedure .....                           | 343        |     |
| LANE CAMERA UNIT : Diagnosis Procedure .....                        | 335        | <b>DRIVER ASSISTANCE BUZZER CONTROL MODULE</b> .....                | <b>344</b> |     |
| <b>U1000 CAN COMM CIRCUIT</b> .....                                 | <b>336</b> | DRIVER ASSISTANCE BUZZER CONTROL MODULE : Description .....         | 344        |     |
| <b>ACCELERATOR PEDAL ACTUATOR</b> .....                             | <b>336</b> | DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic .....           | 344        | DAS |
| ACCELERATOR PEDAL ACTUATOR : Description .....                      | 336        | DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure ..... | 344        |     |
| ACCELERATOR PEDAL ACTUATOR : DTC Logic .....                        | 336        | <b>POWER SUPPLY AND GROUND CIRCUIT</b> ..                           | <b>345</b> | P   |
| ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....              | 336        | <b>ACCELERATOR PEDAL ACTUATOR</b> .....                             | <b>345</b> |     |
| <b>LANE CAMERA UNIT</b> .....                                       | <b>336</b> | ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure .....              | 345        |     |
| LANE CAMERA UNIT : Description .....                                | 336        | <b>LANE CAMERA UNIT</b> .....                                       | <b>345</b> |     |
| LANE CAMERA UNIT : DTC Logic .....                                  | 337        | LANE CAMERA UNIT : Diagnosis Procedure .....                        | 345        |     |
| LANE CAMERA UNIT : Diagnosis Procedure .....                        | 337        | <b>SIDE RADAR LH</b> .....  | <b>346</b> |     |

|   |            |   |            |
|---|------------|---|------------|
| SIDE RADAR LH : Diagnosis Procedure .....                                     | 346        | <b>BLIND SPOT WARNING/BLIND SPOT INTER-VENTION .....</b>                      | <b>367</b> |
| <b>SIDE RADAR RH .....</b>  | <b>347</b> | BLIND SPOT WARNING/BLIND SPOT INTER-VENTION : Description .....               | 367        |
| SIDE RADAR RH : Diagnosis Procedure .....                                     | 347        | BLIND SPOT WARNING/BLIND SPOT INTER-VENTION : Diagnosis Procedure .....       | 368        |
| <b>DRIVER ASSISTANCE BUZZER CONTROL MODULE .....</b>                          | <b>347</b> | <b>BCI .....</b>  | <b>368</b> |
| DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure .....           | 347        | BCI : Description .....   | 368        |
| <b>RIGHT/LEFT SWITCHING SIGNAL CIRCUIT. 349</b>                               |            | BCI : Diagnosis Procedure .....   | 369        |
| Diagnosis Procedure .....   | 349        | <b>SYSTEM NOT ACTIVATED .....</b>   | <b>370</b> |
| <b>DRIVER ASSISTANCE BUZZER CIRCUIT ... 350</b>                               |            | <b>DCA .....</b>  | <b>370</b> |
| Component Function Check .....  | 350        | DCA : Description .....   | 370        |
| Diagnosis Procedure .....   | 350        | DCA : Diagnosis Procedure .....   | 370        |
| <b>WARNING SYSTEMS SWITCH CIRCUIT .....</b>                                   | <b>352</b> | <b>BCI .....</b>  | <b>371</b> |
| Component Function Check .....  | 352        | BCI : Description .....   | 371        |
| Diagnosis Procedure .....   | 352        | BCI : Diagnosis Procedure .....   | 371        |
| Component Inspection .....  | 353        | <b>CHIME DOES NOT SOUND .....</b>   | <b>373</b> |
| <b>WARNING SYSTEMS ON INDICATOR CIRCUIT .....</b>                             | <b>354</b> | Description .....   | 373        |
| Component Function Check .....  | 354        | Diagnosis Procedure .....   | 373        |
| Diagnosis Procedure .....   | 354        | <b>NO FORCE GENERATED FOR PUTTING BACK THE ACCELERATOR PEDAL .....</b>        | <b>375</b> |
| Component Inspection .....  | 355        | Description .....   | 375        |
| <b>BCI SWITCH CIRCUIT .....</b>   | <b>356</b> | Diagnosis Procedure .....   | 375        |
| Component Function Check .....  | 356        | <b>FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT..</b> | <b>376</b> |
| Diagnosis Procedure .....   | 356        | Description .....   | 376        |
| Component Inspection .....  | 357        | Diagnosis Procedure .....   | 376        |
| <b>SYMPTOM DIAGNOSIS .....</b>  | <b>358</b> | <b>THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL .....</b>              | <b>378</b> |
| <b>DRIVER ASSISTANCE SYSTEM SYMPTOMS .....</b>                                | <b>358</b> | Description .....   | 378        |
| Symptom Table .....   | 358        | Diagnosis Procedure .....   | 378        |
| <b>SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF .....</b>               | <b>363</b> | <b>LANE DEPARTURE WARNING LAMP DOES NOT TURNED ON .....</b>                   | <b>380</b> |
| <b>DCA .....</b>  | <b>363</b> | Description .....   | 380        |
| DCA : Description .....   | 363        | Diagnosis Procedure .....   | 380        |
| DCA : Diagnosis Procedure .....   | 363        | <b>LDP ON INDICATOR LAMP DOES NOT TURNED ON .....</b>                         | <b>381</b> |
| <b>BLIND SPOT WARNING/BLIND SPOT INTER-VENTION .....</b>                      | <b>364</b> | Description .....   | 381        |
| BLIND SPOT WARNING/BLIND SPOT INTER-VENTION : Description .....               | 364        | Diagnosis Procedure .....   | 381        |
| BLIND SPOT WARNING/BLIND SPOT INTER-VENTION : Diagnosis Procedure .....       | 364        | <b>THE SYSTEM OPERATES EVEN WHEN USING TURN SIGNAL .....</b>                  | <b>382</b> |
| <b>SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN .....</b> | <b>366</b> | Description .....   | 382        |
| <b>DCA .....</b>  | <b>366</b> | Diagnosis Procedure .....   | 382        |
| DCA : Description .....   | 366        | <b>NORMAL OPERATING CONDITION .....</b>                                       | <b>383</b> |
| DCA : Diagnosis Procedure .....   | 366        | Description .....   | 383        |
| <b>LDW/LDP .....</b>  | <b>366</b> | <b>REMOVAL AND INSTALLATION .....</b>   | <b>389</b> |
| LDW/LDP : Description .....   | 367        | <b>ACCELERATOR PEDAL ASSEMBLY .....</b>                                       | <b>389</b> |
| LDW/LDP : Diagnosis Procedure .....   | 367        | Exploded View .....   | 389        |



|  |   |   |
|--|---|---|
| <b>DYNAMIC DRIVER ASSISTANCE SWITCH .. 390</b> | <b>DRIVER ASSISTANCE BUZZER CONTROL</b>   |   |
| Exploded View ..... 390                        | <b>MODULE ..... 395</b>                   | A |
| <b>LANE CAMERA UNIT ..... 391</b>              | Removal and Installation ..... 395        |   |
| Removal and Installation ..... 391             | <b>DRIVER ASSISTANCE BUZZER ..... 396</b> | B |
| <b>SIDE RADAR ..... 392</b>                    | Removal and Installation ..... 396        |   |
| Removal and Installation ..... 392             | <b>WARNING SYSTEMS SWITCH ..... 397</b>   | C |
| <b>BLIND SPOT WARNING/BLIND SPOT IN-</b>       | Removal and Installation ..... 397        |   |
| <b>TERVENTION INDICATOR ..... 394</b>          | <b>BCI SWITCH ..... 398</b>               | D |
| Removal and Installation ..... 394             | Removal and Installation ..... 398        |   |

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**DAS**

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000011436726

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precautions for Removing Battery Terminal

INFOID:000000011436727

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

**NOTE:**

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

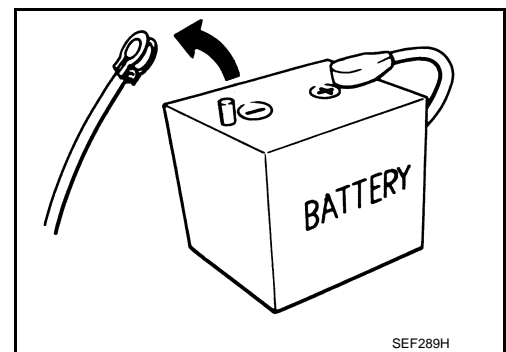
**NOTE:**

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

**NOTE:**

The removal of 12V battery may cause a DTC detection error.



Precautions For Harness Repair

INFOID:000000011436728

ITS communication uses a twisted pair line. Be careful when repairing it.

# PRECAUTIONS

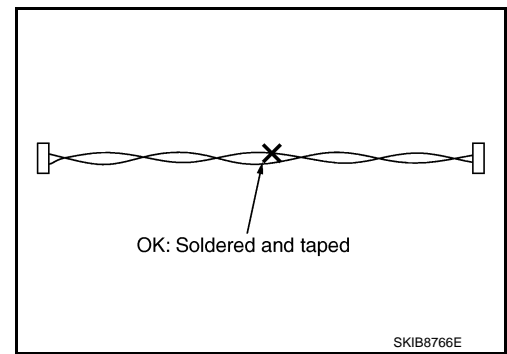
[ADAS CONTROL UNIT]

## < PRECAUTION >

- Solder the repaired area and wrap tape around the soldered area.

**NOTE:**

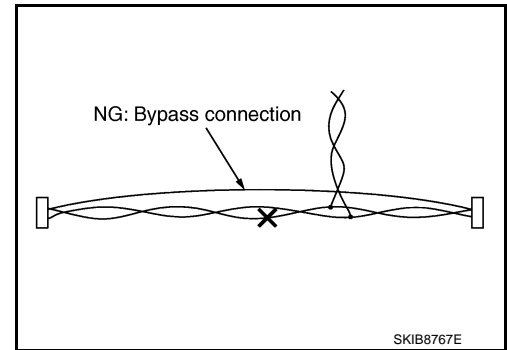
A fray of twisted lines must be within 110 mm (4.33 in).



- Bypass connection is never allowed at the repaired area.

**NOTE:**

Bypass connection may cause ITS communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



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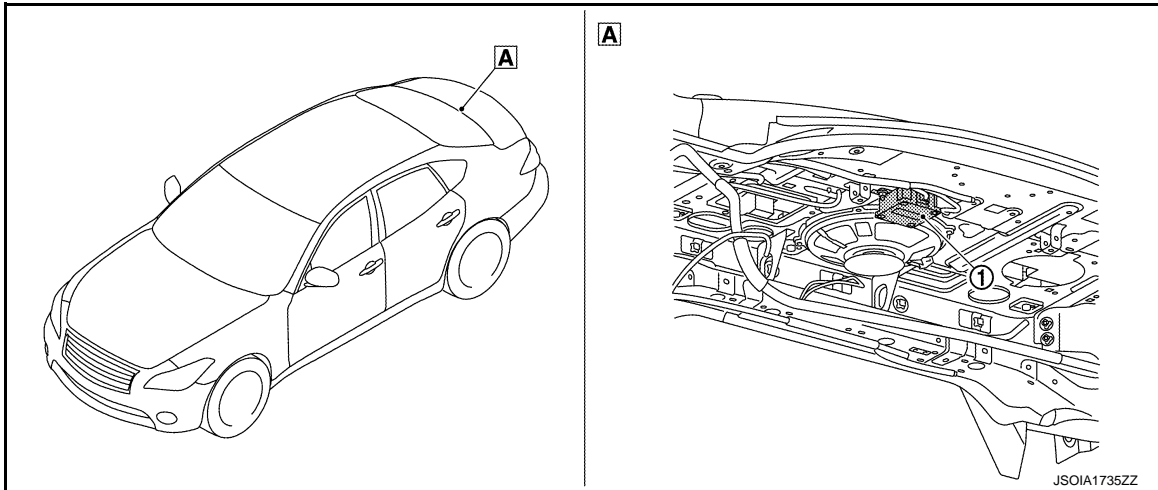
DAS

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000011436729



**A** Trunk side of rear parcel shelf

| No. | Component         | Description   |
|-----|-------------------|---|
| ①   | ADAS control unit | <ul style="list-style-type: none"> <li>Controls each system, based on CAN communication and ITS communication signals received from each control unit</li> <li>Transmits signals necessary for control between CAN communication and ITS communication</li> </ul> |

ADAS Control Unit

INFOID:000000011436730

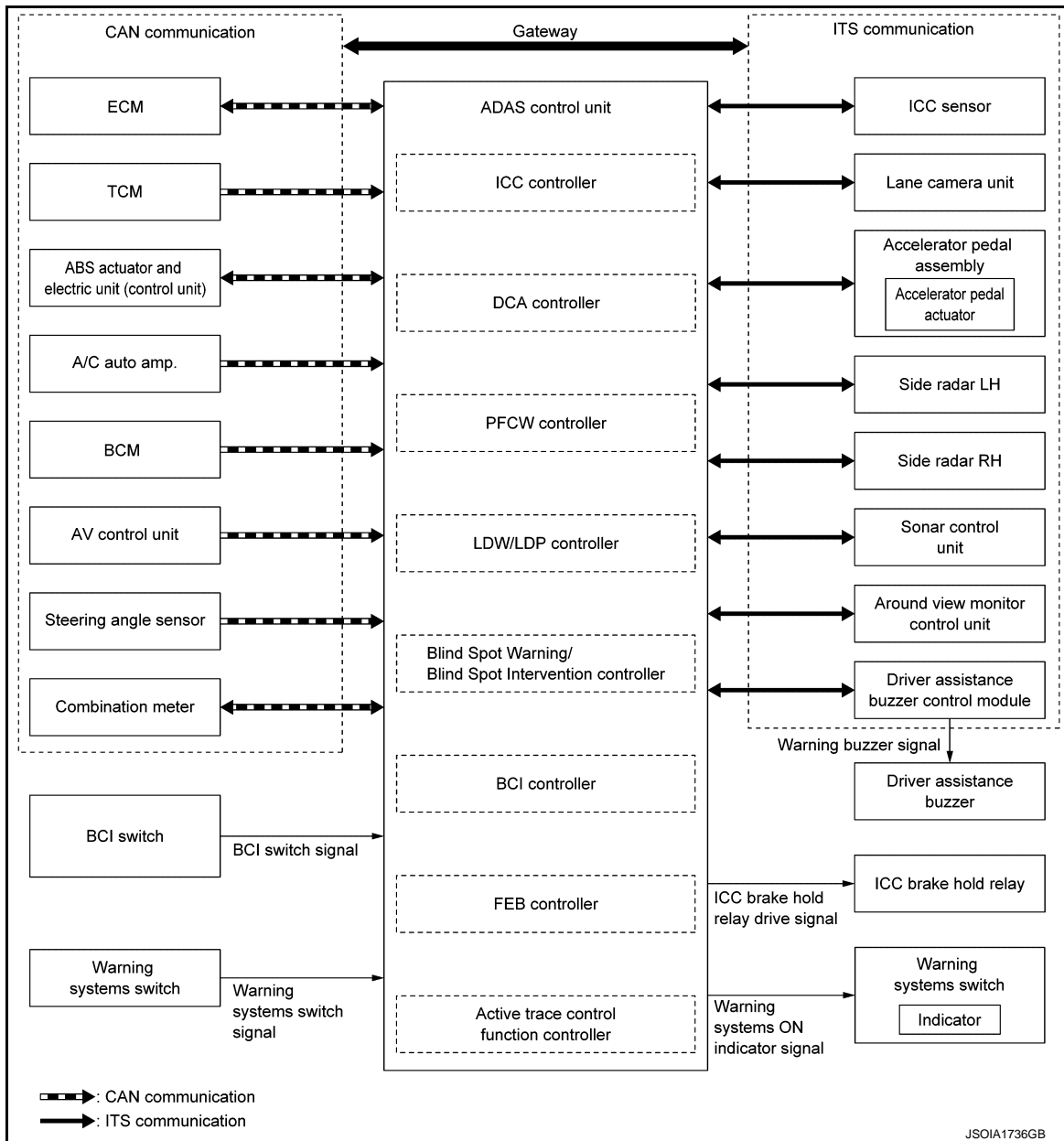
- ADAS control unit is installed at trunk side of rear parcel shelf.
- Communicates with each control unit via CAN communication/ITS communication.
- ADAS control unit included gateway function, and necessary for system control signals are transmitted to each control unit between CAN communication and ITS communication by the ADAS control unit.
- ADAS control unit controls the each system, based on ITS communication signal and CAN communication signal from each control unit.

SYSTEM

System Description

INFOID:000000011436731

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

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# SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Transmit unit                                 | Signal name             | Description                                      |   |   |
|---|-------------------------|--|---|---|
| ECM   | CAN communication       | Closed throttle position signal                  | Receives idle position state (ON/OFF)   |   |
|   |                         | Accelerator pedal position signal                | Receives accelerator pedal position (angle)   |   |
|   |                         | ICC prohibition signal                           | Receives an operable/inoperable state of the ICC system   |   |
|   |                         | Engine speed signal                              | Receives engine speed   |   |
|   |                         | ICC steering switch signal                       | MAIN switch signal  | Receives the operational state of the ICC steering switch |
|   |                         |  | SET/COAST switch signal   |   |
|   |                         |  | CANCEL switch signal  |   |
|   |                         |  | RESUME/ACCELERATE switch signal   |   |
|   |                         |  | DISTANCE switch signal  |   |
|   |                         |  | Dynamic driver assistance switch signal   |   |
|   |                         | ECO pedal reaction force control signal          | Receives a reaction force limiting value of the accelerator pedal during ECO mode (ECO pedal ON) selected by operating the drive mode select switch |   |
|   |                         | Stop lamp switch signal                          | Receives an operational state of the brake pedal  |   |
|   | ICC brake switch signal | Receives an operational state of the brake pedal |   |   |
|   | Snow mode switch signal | Receives an operational state of the snow mode   |   |   |
| TCM   | CAN communication       | Input speed signal                               | Receives the number of revolutions of input shaft   |   |
|   |                         | Current gear position signal                     | Receives a current gear position  |   |
|   |                         | Shift position signal                            | Receives a select lever position  |   |
|   |                         | Output shaft revolution signal                   | Receives the number of revolutions of output shaft  |   |
|   |                         | Drive mode select signal                         | Receives a drive mode state of ECM and TCM  |   |
| ABS actuator and electric unit (control unit) | CAN communication       | ABS malfunction signal                           | Receives a malfunction state of ABS   |   |
|   |                         | ABS operation signal                             | Receives an operational state of ABS  |   |
|   |                         | ABS warning lamp signal                          | Receives an ON/OFF state of ABS warning lamp  |   |
|   |                         | TCS malfunction signal                           | Receives a malfunction state of TCS   |   |
|   |                         | TCS operation signal                             | Receives an operational state of TCS  |   |
|   |                         | VDC OFF switch signal                            | Receives an ON/OFF state of VDC   |   |
|   |                         | VDC malfunction signal                           | Receives a malfunction state of VDC   |   |
|   |                         | VDC operation signal                             | Receives an operational state of VDC  |   |
|   |                         | Vehicle speed signal                             | Receives wheel speeds of four wheels  |   |
|   |                         | Yaw rate signal                                  | Receives yaw rate acting on the vehicle   |   |
|   |                         | Side G sensor signal                             | Receives lateral G acting on the vehicle  |   |
|   | Stop lamp switch signal | Receives an operational state of the brake pedal |   |   |
| Combination meter                             | CAN communication       | Parking brake switch signal                      | Receives an operational state of the parking brake  |   |
| BCM   | CAN communication       | Turn indicator signal                            | Receives an operational state of the turn signal lamp and the hazard lamp   |   |
|   |                         | Front wiper request signal                       | Receives an operational state of front wiper(s)   |   |
|   |                         | Dimmer signal                                    | Receives ON/OFF state of dimmer signal  |   |

# SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Transmit unit              | Signal name                   |  | Description  |
|----------------------------|-------------------------------|--|--|
| Steering angle sensor      | CAN communication             | Steering angle sensor malfunction signal           | Receives a malfunction state of steering angle sensor  |
|                            |                               | Steering angle sensor signal                       | Receives the number of revolutions, turning direction of the steering wheel                                    |
|                            |                               | Steering angle speed signal                        | Receives the turning angle speed of the steering wheel   |
| AV control unit            | CAN communication             | System selection signal                            | Receives a selection state of each item in "Driver assistance" selected with the navigation screen             |
| A/C auto amp.              | CAN communication             | ECO mode signal                                    | Receives a mode selection state of the drive mode select switch  |
|                            |                               | SNOW mode signal                                   |  |
|                            |                               | SPORT mode signal                                  |  |
|                            |                               | STANDARD mode signal                               |  |
| ICC sensor                 | ITS communication             | ICC sensor signal                                  | Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle |
| Lane camera unit           | ITS communication             | Detected lane condition signal                     | Receives detection results of lane marker  |
| Accelerator pedal actuator | ITS communication             | Accelerator pedal actuator operation status signal | Receives an operational state of accelerator pedal actuator  |
| Side radar LH, RH          | ITS communication             | Vehicle detection signal                           | Receives vehicle detection condition of detection zone   |
| Sonar control unit         | ITS communication             | Rear object detection signal                       | Receives objects detection result of rear area behind vehicle  |
| Warning systems switch     | Warning systems switch signal |  | Receive an ON/OFF state of the warning systems switch  |
| BCI switch                 | BCI switch signal             |  | Receive an ON/OFF state of the BCI switch  |

## Output Signal Item

| Reception unit                 | Signal name       |                                     | Description   |
|--------------------------------|-------------------|-------------------------------------|---|
| ECM                            | CAN communication | ICC operation signal                | Transmits an ICC operation signal necessary for intelligent cruise control                      |
| TCM                            | CAN communication | ICC operation signal                | Transmits an ICC operation signal necessary for intelligent cruise control via ECM              |
| ABS actuator and electric unit | CAN communication | Active trace control signal         | Transmits an active trace control signal necessary to control the active trace control function |
|                                |                   | Brake fluid pressure control signal | Transmits a brake fluid pressure control signal to activates the brake                          |
|                                |                   | Target yaw moment signal            | Transmits a target yaw moment signal to generate yaw moment to the vehicle                      |

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# SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Reception unit             | Signal name  |   | Description  |                             |
|----------------------------|--|---|--|-----------------------------|
| Combination meter          | CAN communication  | Own vehicle indicator signal  | Transmits a signal to display a state of the system on the information display   |                             |
|                            |  | Vehicle ahead detection indicator signal  |  |                             |
|                            |  | Set vehicle speed indicator signal  |  |                             |
|                            |  | Set distance indicator signal   |  |                             |
|                            |  | Meter display signal  |  | SET switch indicator signal |
|                            |  | MAIN switch indicator signal  |  |                             |
|                            |  | DCA system display signal   |  |                             |
|                            |  | FEB system display signal   |  |                             |
|                            | BCI system display signal                                      |   |  |                             |
|                            |  | FEB warning lamp signal   | <ul style="list-style-type: none"> <li>• Transmits a signal to turn ON the lamp</li> <li>• Transmits an ON/OFF state of the Forward Emergency Brake</li> </ul>                                 |                             |
|                            | Blind Spot Warning/Blind Spot Intervention warning lamp signal | Transmits a Blind Spot Warning/Blind Spot intervention warning lamp signal to turn ON the Blind Spot Warning/Blind Spot intervention warning lamp |  |                             |
|                            | Blind Spot Intervention ON indicator lamp signal               | Transmits a Blind Spot Intervention ON indicator lamp signal to turn ON the Blind Spot Intervention ON indicator lamp                             |  |                             |
|                            | LDP ON indicator lamp signal                                   | Transmits an LDP ON indicator lamp signal to turn ON the LDP ON indicator lamp  |  |                             |
|                            | Lane departure warning lamp signal                             | Transmits an lane departure warning lamp signal to turn ON the lane departure warning lamp  |  |                             |
|                            | ICC warning lamp signal  | Transmits an ICC warning lamp signal to turn ON the ICC warning lamp  |  |                             |
| ICC sensor                 | ITS communication  | Vehicle speed signal  | Transmits a vehicle speed calculated by the ADAS control unit  |                             |
|                            |  | Steering angle sensor signal  | Transmits a steering angle sensor signal received from the steering angle sensor   |                             |
| Lane camera unit           | ITS communication  | Vehicle speed signal  | Transmits a vehicle speed calculated by the ADAS control unit  |                             |
|                            |  | Turn indicator signal   | Transmits a turn indicator signal received from BCM  |                             |
| Accelerator pedal actuator | ITS communication  | Accelerator pedal position signal   | Transmits an accelerator pedal angle calculated by the ADAS control unit   |                             |
|                            |  | Accelerator pedal feedback force control signal (ECO pedal reaction force control signal)   | <ul style="list-style-type: none"> <li>• Transmits a target actuation force value calculated by the ADAS control unit</li> <li>• Transfer a signal received from ECM (ECO pedal ON)</li> </ul> |                             |
| Side radar LH, RH          | ITS communication  | Vehicle speed signal  | Transmits a vehicle speed calculated by the ADAS control unit  |                             |
|                            |  | Blind Spot Warning/Blind Spot Intervention indicator signal   | Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator  |                             |
|                            |  | Blind Spot Warning/Blind Spot Intervention indicator dimmer signal  | Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator  |                             |



# SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Reception unit                          | Signal name                         |                                 | Description  |
|---|-------------------------------------|---------------------------------|--|
| Sonar control unit                      | ITS communication                   | Buzzer drive signal             | Transmits a buzzer drive signal to activate buzzer                                 |
| Around view monitor control unit        | ITS communication                   | BCI warning signal              | Transmits a BCI warning signal to indicate a yellow/red frame on the upper display |
| Driver assistance buzzer control module | ITS communication                   | Driver assistance buzzer signal | Transmits a driver assistance buzzer signal to activates the buzzer                |
| ICC brake hold relay                    | ICC brake hold relay drive signal   |                                 | Activates the brake hold relay and turns ON the stop lamp                          |
| Warning systems ON indicator            | Warning systems ON indicator signal |                                 | Turns ON the warning systems ON indicator  |

## DESCRIPTION

- ADAS\* control unit controls the following systems, based on ITS communication signal and CAN communication signal from each control unit.

**NOTE:**

\*: Advanced Driver Assistance Systems

- Intelligent Cruise Control (ICC)
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

| System   | Reference   |
|--|---|
| Intelligent Cruise Control (ICC)                             | <a href="#">CCS-11, "System Description"</a>  |
| Distance Control Assist (DCA)                                | <a href="#">DAS-174, "DCA : System Description"</a>   |
| Forward Emergency Braking (FEB)                              | <a href="#">BRC-157, "System Description"</a>   |
| Predictive Forward Collision Warning (PFCW)                  | <a href="#">DAS-178, "PFCW : System Description"</a>  |
| Lane Departure Warning (LDW)/Lane Departure Prevention (LDP) | <ul style="list-style-type: none"> <li>• Lane Departure Warning: <a href="#">DAS-180, "LDW : System Description"</a></li> <li>• Lane Departure Prevention: <a href="#">DAS-182, "LDP : System Description"</a></li> </ul>               |
| Blind Spot Warning (BSW)/Blind Spot Intervention             | <ul style="list-style-type: none"> <li>• Blind Spot Warning: <a href="#">DAS-185, "BSW : System Description"</a></li> <li>• Blind Spot Intervention: <a href="#">DAS-188, "BLIND SPOT INTERVENTION : System Description"</a></li> </ul> |
| Back-up Collision Intervention (BCI)                         | <a href="#">DAS-192, "BCI : System Description"</a>   |
| Active trace control function                                | <a href="#">BRC-36, "ACTIVE STABILITY ASSIST : Active Trace Control Function"</a>   |

## Fail-safe (ADAS Control Unit)

INFOID:000000011460355

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

# SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| System   | Buzzer            | Warning lamp/Indicator lamp                             | Description  |
|--|-------------------|---|--|
| Vehicle-to-vehicle distance control mode       | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Conventional (fixed speed) cruise control mode | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Forward Emergency Braking (FEB)                | High-pitched tone | FEB warning lamp  | Cancel   |
| Predictive Forward Collision Warning (PFCW)    | High-pitched tone | FEB warning lamp  | Cancel   |
| Distance Control Assist (DCA)                  | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Lane Departure Warning (LDW)                   | —                 | Lane departure warning lamp                             | Cancel   |
| Lane Departure Prevention (LDP)                | Low-pitched tone  | Lane departure warning lamp                             | Cancel   |
| Blind Spot Warning (BSW)                       | —                 | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Blind Spot Intervention                        | Low-pitched tone  | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Back-up Collision Intervention (BCI)           | High-pitched tone | BCI malfunction indicator                               | Cancel   |
| Active trace control function                  | —                 | FEB warning lamp  | <ul style="list-style-type: none"> <li>• Cancel</li> <li>• If a communication error occurs between the A/C auto amp. and CAN communication line, a mode at the instant of error occurrence is maintained until the mode is fixed to STANDARD after turning the ignition switch from OFF to ON</li> </ul> |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

## DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

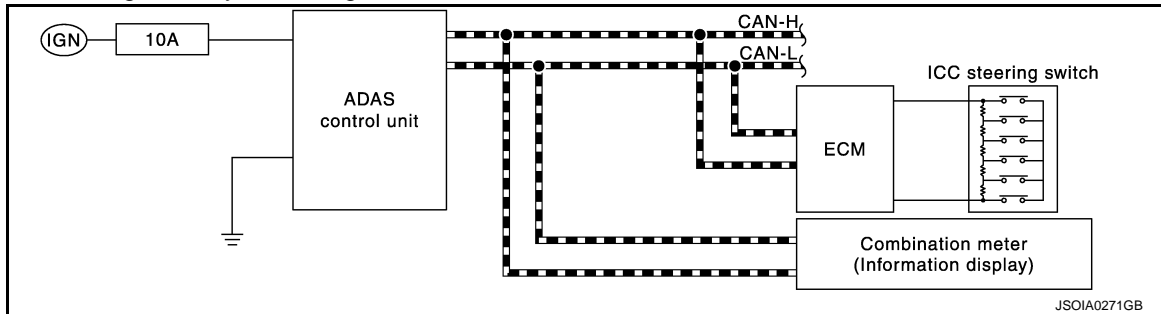
### On Board Diagnosis Function

INFOID:000000011436733

#### DESCRIPTION

The DTC is displayed on the information display by operating the ICC steering switch.

#### On Board Self-diagnosis System Diagram



#### METHOD OF STARTING

##### CAUTION:

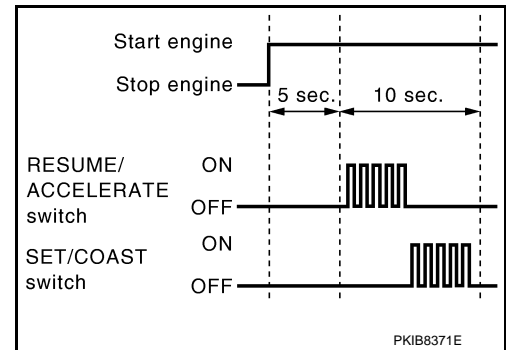
##### Start condition of on board self-diagnosis

- ICC system OFF
- DCA system OFF
- Vehicle speed 0 km/h (0 MPH)

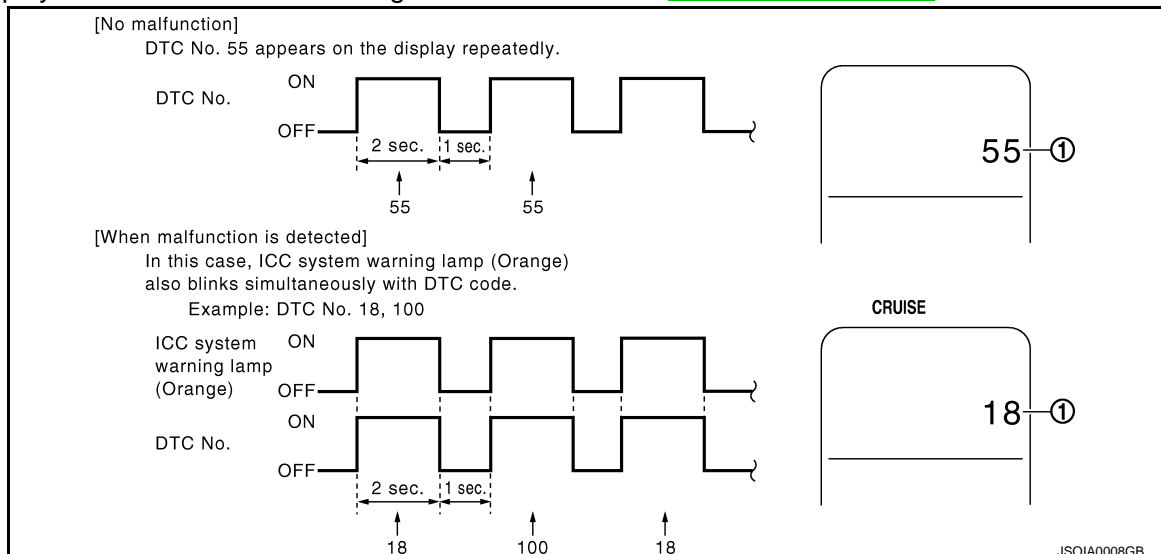
1. Turn the ignition switch OFF.
2. Start the engine.
3. Wait for 5 seconds after starting the engine. Push up the RESUME/ACCELERATE switch 5 times and push down the SET/COAST switch 5 times within 10 seconds.

##### NOTE:

If the above operation cannot be performed within 10 seconds after waiting for 5 seconds after starting the engine, repeat the procedure from step 1.



4. The DTC is displayed on the set vehicle speed indicator ① on the ICC system display on the information display when the on board self-diagnosis starts. Refer to [DAS-40. "DTC Index"](#).



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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

## < SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

- It displays for up to 5 minutes and then stops.
- If multiple malfunctions exist, up to 6 DTCs can be stored in memory at the most, and the most recent one is displayed first.

### WHEN THE ON BOARD SELF-DIAGNOSIS DOES NOT START

If the on board self-diagnosis does not start, check the following items.

| Assumed abnormal part   |                               | Inspection item  |
|---|-------------------------------|--|
| Information display   | Combination meter malfunction | Check that the self-diagnosis function of the combination meter operates. Refer to <a href="#">MWI-30, "On Board Diagnosis Function"</a> .   |
| ICC steering switch malfunction                                       |                               | Perform the inspection for DTC "C1A06". Refer to <a href="#">DAS-77, "DTC Logic"</a> .   |
| Harness malfunction between ICC steering switch and ADAS control unit |                               |  |
| ADAS control unit malfunction   |                               |  |
| Harness malfunction between ICC steering switch and ECM               |                               |  |
| ECM control unit malfunction  |                               | <ul style="list-style-type: none"> <li>• Check power supply and ground circuit of ADAS control unit. Refer to <a href="#">DAS-164, "Diagnosis Procedure"</a>.</li> <li>• Perform SELF-DIAGNOSIS for "ICC/ADAS" with CONSULT, and then check the malfunctioning parts. Refer to <a href="#">DAS-40, "DTC Index"</a>.</li> </ul> |
| ADAS control unit malfunction   |                               |  |

### HOW TO ERASE ON BOARD SELF-DIAGNOSIS

1. Turn the ignition switch OFF.
2. Start the engine, and then start the on board self-diagnosis.
3. Press the CANCEL switch 5 times, and then press the DISTANCE switch 5 times under the condition that the on board self-diagnosis starts.

**NOTE:**

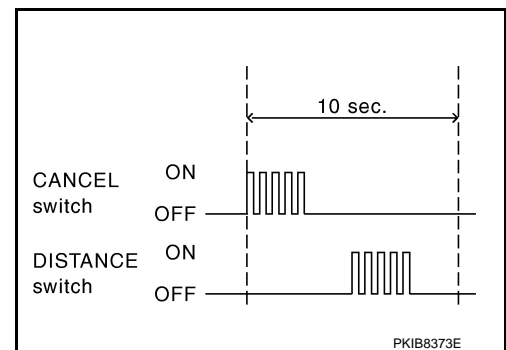
- Complete the operation within 10 seconds after pressing the CANCEL switch first.
- If the operation is not completed within 10 seconds, repeat the procedure from step 1.

4. DTC 55 is displayed after erasing.

**NOTE:**

DTCs for existing malfunction can not be erased.

5. Turn ignition switch OFF, and finish the diagnosis.



### CONSULT Function (ICC/ADAS)

INFOID:000000011436734

### APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using ADAS control unit.

| Diagnosis mode           | Description  |
|--------------------------|--|
| Configuration            | <ul style="list-style-type: none"> <li>• The vehicle specification that is written in ADAS control unit can be displayed or stored</li> <li>• The vehicle specification can be written when ADAS control unit is replaced</li> </ul> |
| Work Support             | Displays causes of automatic system cancellation occurred during system control  |
| Self Diagnostic Result   | Displays the name of a malfunctioning system stored in the ADAS control unit   |
| Data Monitor             | Displays ADAS control unit input/output data in real time  |
| Active Test              | Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load   |
| ECU Identification       | Displays ADAS control unit part number   |
| CAN Diag Support Monitor | Displays a reception/transmission state of CAN communication and ITS communication   |

### CONFIGURATION

Configuration includes functions as follows.

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Function                 |                    | Description   |
|--------------------------|--------------------|---|
| Read/Write Configuration | Before Replace ECU | Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT. |
|                          | After Replace ECU  | Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.                     |
| Manual Configuration     |                    | Allows the writing of the vehicle specification into the ADAS control unit by hand.                             |

## WORK SUPPORT

| Work support items     | Description  |
|------------------------|--|
| CAUSE OF AUTO-CANCEL 1 | Displays causes of automatic system cancellation occurred during control of the following systems <ul style="list-style-type: none"> <li>• Vehicle-to-vehicle control mode</li> <li>• Conventional (fixed speed) control mode</li> <li>• Distance Control Assist (DCA)</li> <li>• Forward Emergency Braking (FEB)</li> </ul> |
| CAUSE OF AUTO-CANCEL 2 | Displays causes of automatic system cancellation occurred during control of the following systems <ul style="list-style-type: none"> <li>• Lane Departure Prevention (LDP)</li> <li>• Blind Spot Intervention</li> </ul>   |
| CAUSE OF AUTO-CANCEL 3 | Displays causes of automatic system cancellation occurred during control of the Back-up Collision Intervention (BCI)   |

**NOTE:**

- Causes of the maximum five cancellations (system cancel) are displayed.
- The displayed cancellation causes display the number of the ignition switch ON/OFF up to 254. It is fixed to 254 if it is over 254. It returns to 0 when the same cancellation cause is detected again.

### Display Items for The Cause of Automatic Cancellation 1

| Cause of cancellation |  |  |                         |                           | Description   |
|-----------------------|--|--|-------------------------|---------------------------|---|
|                       | Vehicle-to-vehicle distance control mode | Conventional (fixed speed) cruise control mode | Distance Control Assist | Forward Emergency Braking |   |
| OPERATING WIPER       | ×  |  |                         |                           | The wiper operates at HI (it includes when the wiper is operated at HI with the wiper switch AUTO position) |
| OPERATING ABS         | ×  |  | ×                       | ×                         | ABS function was operated   |
| OPERATING TCS         | ×  | ×  | ×                       |                           | TCS function was operated   |
| OPERATING VDC         | ×  | ×  | ×                       | ×                         | VDC function was operated   |
| ECM CIRCUIT           | ×  | ×  |                         |                           | ECM did not permit ICC operation  |
| OPE SW VOLT CIRC      | ×  | ×  | ×                       |                           | The ICC steering switch input voltage is not within standard range  |
| SNOW MODE SW          | ×  |  | ×                       |                           | Shifting of the drive mode selector to SNOW position  |
| OP SW DOUBLE TOUCH    | ×  | ×  |                         |                           | ICC steering switches were pressed at the same time   |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

|                         |   |   |   |   |   |
|-------------------------|---|---|---|---|---|
| VHCL SPD DOWN           | × | × | × |   | Vehicle speed lower than the speed as follows<br><ul style="list-style-type: none"> <li>• Vehicle-to-vehicle distance control mode is 24 km/h (15 MPH)</li> <li>• Conventional (fixed speed) cruise control mode is 32 km/h (20 MPH)</li> </ul> |
| WHL SPD ELEC NOISE      | × | × | × |   | Wheel speed sensor signal caught electromagnetic noise  |
| VDC/TCS OFF SW          | × |   | × | × | VDC OFF switch was pressed  |
| VHCL SPD UNMATCH        | × | × | × |   | Wheel speed became different from A/T vehicle speed   |
| TIRE SLIP               | × | × |   |   | Wheel slipped   |
| IGN LOW VOLT            | × | × | × | × | Decrease in ADAS control unit ignition voltage  |
| PARKING BRAKE ON        | × | × |   |   | The parking brake is operating  |
| WHEEL SPD UNMATCH       | × | × | × |   | The wheel speeds of 4 wheels are out of the specified values  |
| INCHING LOST            | × |   |   |   | A vehicle ahead is not detected during the following driving when the vehicle speed is approximately 24 km/h (15 MPH) or less   |
| CAN COMM ERROR          | × | × | × | × | ADAS control unit received an abnormal signal with CAN communication  |
| ABS/TCS/VDC CIRC        | × | × | × | × | An abnormal condition occurs in VDC/TCS/ABS system  |
| ECD CIRCUIT             | × | × | × | × | An abnormal condition occurs in ECD system  |
| ENG SPEED DOWN          | × | × |   |   | Engine speed became extremely low while controlling ICC system  |
| ASCD VHCL SPD DTAC      |   | × |   |   | Vehicle speed is detached from set vehicle speed  |
| ASCD DOUBLE COMD        |   | × |   |   | Cancel switch and operation switch are detected simultaneously  |
| APA HI TEMP             |   |   | × |   | The accelerator pedal actuator integrated motor temperature is high   |
| ICC SENSOR CAN COMM ERR | × |   | × | × | Communication error between ADAS control unit and the ICC sensor  |
| 4WD LOCK MODE           | × | × | × | × | <b>NOTE:</b><br>The item is displayed, but not used   |
| ABS WARNING LAMP        | × |   | × |   | ABS warning lamp ON   |
| FR RADAR BLOCKED        | × |   | × | × | Inclusion of dirt or stains on the ICC sensor area of the front bumper  |
| FEB) CURVATURE          |   |   |   | × | Road curve was more than the specified value  |
| FEB) YAW RATE           |   |   |   | × | Detected yawing speed was more than the specified value   |
| FEB) LTRL ACCELERATION  |   |   |   | × | Detected lateral speed is the specified value or more   |
| RADAR INTERFERENCE      | × |   | × | × | ICC sensor receives electromagnetic interference  |
| NO RECORD               | × | × | × |   | —   |

## Display Items for The Cause of Automatic Cancellation 2

| Cause of cancellation | Lane departure prevention | Blind spot intervention | Description   |
|-----------------------|---------------------------|-------------------------|---|
| OPE VDC/TCS/ABS 1     | ×                         |                         | The activation of VDC, TCS, or ABS during LDP system control          |
| Vehicle dynamics      | ×                         |                         | Vehicle behavior exceeds specified value                              |
| Steering speed        | ×                         |                         | Steering speed was more than the specified value in evasive direction |
| End by yaw angle      | ×                         |                         | Yaw angle was the end of LDP control                                  |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Cause of cancellation     | Lane departure prevention | Blind spot intervention | Description  |
|---------------------------|---------------------------|-------------------------|--|
| Departure yaw large       | ×                         |                         | Detected more than the specified value of yaw angle in departure direction                   |
| ICC WARNING               | ×                         |                         | Target approach warning of ICC system, FEB system, or PFCW system was activated              |
| CURVATURE                 | ×                         |                         | Road curve was more than the specified value   |
| Steering angle large      | ×                         |                         | Steering angle was more than the specified value   |
| Brake is operated         | ×                         |                         | Brake pedal was operated   |
| IGN LOW VOLT              | ×                         |                         | Decrease in ADAS control unit IGN voltage  |
| Lateral offset            | ×                         |                         | Distance of vehicle and lane was detached in lateral direction more than the specified value |
| Lane marker lost          | ×                         |                         | Lane camera unit lost the trace of lane marker   |
| Lane marker unclear       | ×                         |                         | Detected lane marker was unclear   |
| Yaw acceleration          | ×                         |                         | Detected yawing speed was more than the specified value                                      |
| Deceleration large        | ×                         |                         | Deceleration in a longitudinal direction was more than the specified value                   |
| Accel is operated         | ×                         |                         | Accelerator pedal was depressed  |
| Departure steering        | ×                         |                         | Steering wheel was steered more than the specified value in departure direction              |
| Evasive steering          | ×                         |                         | Steering wheel was steered more than the specified value in the evasive direction            |
| R range                   | ×                         |                         | Selector lever was operated to R range   |
| Parking brake drift       | ×                         |                         | Rear wheels lock was detected  |
| Not operating condition   | ×                         |                         | Did not meet the operating condition (vehicle speed, turn signal operation, etc.)            |
| SNOW MODE SW              | ×                         |                         | Shifting of the drive mode selector to SNOW position   |
| VDC OFF SW                | ×                         |                         | VDC OFF switch was pressed   |
| OPE VDC/ABS 2             | ×                         |                         | The activation of VDC or ABS during a standby time of LDP system control                     |
| 4WD LOCK MODE             | ×                         |                         | <b>NOTE:</b><br>The item is displayed, but not used  |
| BSI WARNING               | ×                         |                         | Blind Spot Intervention system was activated   |
| BSI) OPE VDC/TCS/ABS 1    |                           | ×                       | The activation of VDC, TCS, or ABS during Blind Spot Intervention system control             |
| BSI) Vehicle dynamics     |                           | ×                       | Vehicle behavior exceeds specified value   |
| BSI) Steering speed       |                           | ×                       | Steering speed was more than the specified value in evasive direction                        |
| BSI) End by yaw angle     |                           | ×                       | Yaw angle was the end of Blind Spot Intervention control                                     |
| BSI) Departure yaw large  |                           | ×                       | Detected more than the specified value of yaw angle in departure direction                   |
| BSI) ICC WARNING          |                           | ×                       | Target approach warning of ICC system, FEB system or PFCW system was activated               |
| BSI) CURVATURE            |                           | ×                       | Road curve was more than the specified value   |
| BSI) Steering angle large |                           | ×                       | Steering angle was more than the specified value   |
| BSI) Brake is operated    |                           | ×                       | Brake pedal was operated   |
| BSI) IGN LOW VOLT         |                           | ×                       | Decrease in ADAS control unit IGN voltage  |
| BSI) Lateral offset       |                           | ×                       | Distance of vehicle and lane was detached in lateral direction more than the specified       |
| BSI) Lane marker lost     |                           | ×                       | Lane camera unit lost the trace of lane marker   |

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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

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[ADAS CONTROL UNIT]

| Cause of cancellation        | Lane departure prevention | Blind spot intervention | Description  |
|------------------------------|---------------------------|-------------------------|--|
| BSI) Lane marker unclear     |                           | ×                       | Detected lane marker was unclear   |
| BSI) Yaw acceleration        |                           | ×                       | Detected yawing speed was more than the specified value                                      |
| BSI) Deceleration large      |                           | ×                       | Deceleration in a longitudinal direction was more than the specified value                   |
| BSI) Accel is operated       |                           | ×                       | Accelerator pedal was depressed  |
| BSI) Departure steering      |                           | ×                       | Steering wheel was steered more than the specified value in departure direction              |
| BSI) Evasive steering        |                           | ×                       | Steering wheel was steered more than the specified value in the evasive direction            |
| BSI) R range                 |                           | ×                       | Selector lever was operated to R range   |
| BSI) Parking brake drift     |                           | ×                       | Rear wheels lock was detected  |
| BSI) SNOW MODE SW            |                           | ×                       | SNOW mode switch was pressed   |
| BSI) VDC OFF SW              |                           | ×                       | VDC OFF switch was pressed   |
| BSI) OPE VDC/ABS 2           |                           | ×                       | The activation of VDC or ABS during a standby time of Blind Spot Intervention system control |
| BSI) Not operating condition |                           | ×                       | Did not meet the operating condition (vehicle speed, turn signal operation, etc.)            |
| BSI) 4WD LOCK MODE           |                           | ×                       | <b>NOTE:</b><br>The item is displayed, but not used  |
| Side Radar Lost              |                           | ×                       | Unrecognized side radar LH or RH by the ADAS control unit                                    |
| NO RECORD                    | ×                         | ×                       | —  |

## Display Items for The Cause of Automatic Cancellation 3

| Cause of cancellation | Back-up Collision Intervention | Description  |
|-----------------------|--------------------------------|--|
| CAN COMM ERROR (CAN)  | ×                              | ADAS control unit received an abnormal signal with CAN communication |
| CAN COMM ERROR (ECD)  | ×                              | ADAS control unit received an abnormal signal with CAN communication |
| IGN LOW VOLT          | ×                              | Decrease in ADAS control unit ignition voltage                       |
| VEHICLE SPEED UP      | ×                              | Vehicle speed higher than 8 km/h (5 MPH)                             |
| ACCEL IS OPERATED     | ×                              | Accelerator pedal was depressed                                      |
| BRAKE IS OPERATED     | ×                              | Brake pedal was operated   |
| APA HI TEMP           | ×                              | The accelerator pedal actuator integrated motor temperature is high  |
| APA POWER             | ×                              | Decrease in accelerator pedal actuator ignition or battery voltage   |
| NO RECORD             | ×                              | —  |

## SELF DIAGNOSTIC RESULT

Refer to [DAS-40. "DTC Index"](#).



# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

## DATA MONITOR

### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored item<br>[Unit]          | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description  |
|-----------------------------------|------------------|-------------------|-----------------------|-----------------------|-------------------|--|
| MAIN SW<br>[On/Off]               | ×                | ×                 | ×                     | ×                     |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| SET/COAST SW<br>[On/Off]          | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| CANCEL SW<br>[On/Off]             | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| RESUME/ACC SW<br>[On/Off]         | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| DISTANCE SW<br>[On/Off]           | ×                |                   |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| CRUISE OPE<br>[On/Off]            | ×                | ×                 |                       |                       |                   | Indicates whether controlling or not (ON means "controlling")  |
| ON ROOT GUID-<br>ANCE<br>[On/Off] | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| BRAKE SW<br>[On/Off]              | ×                | ×                 | ×                     | ×                     | ×                 | Indicates [On/Off] status as judged from ICC brake switch signal (ECM transmits ICC brake switch signal through CAN communication)   |
| STOP LAMP SW<br>[On/Off]          | ×                | ×                 | ×                     | ×                     | ×                 | Indicates [On/Off] status as judged from stop lamp switch signal (ECM transmits stop lamp switch signal through CAN communication)   |
| CLUTCH SW SIG<br>[On/Off]         | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| IDLE SW<br>[On/Off]               | ×                |                   |                       |                       | ×                 | Indicates [On/Off] status of idle switch read from ADAS control unit through CAN communication (ECM transmits On/Off status through CAN communication)   |
| SET DISTANCE<br>[Short/Mid/Long]  | ×                | ×                 |                       |                       |                   | Indicates set distance memorized in ADAS control unit  |
| CRUISE LAMP<br>[On/Off]           | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status of MAIN switch indicator output  |
| OWN VHCL<br>[On/Off]              | ×                |                   |                       |                       |                   | Indicates [On/Off] status of own vehicle indicator output  |
| VHCL AHEAD<br>[On/Off]            | ×                |                   |                       |                       |                   | Indicates [On/Off] status of vehicle ahead detection indicator output  |
| ICC WARNING<br>[On/Off]           | ×                |                   |                       |                       |                   | Indicates [On/Off] status of ICC system warning lamp output  |
| VHCL SPEED SE<br>[km/h] or [mph]  | ×                | ×                 | ×                     | ×                     | ×                 | Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication] |
| SET VHCL SPD<br>[km/h] or [mph]   | ×                | ×                 |                       |                       |                   | Indicates set vehicle speed memorized in ADAS control unit   |
| BUZZER O/P<br>[On/Off]            | ×                |                   |                       |                       | ×                 | Indicates [On/Off] status of ICC warning chime output  |
| THRTL SENSOR<br>[deg]             | ×                | ×                 |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| ENGINE RPM<br>[rpm]               | ×                |                   |                       |                       |                   | Indicates engine speed read from ADAS control unit through CAN communication (ECM transmits engine speed signal through CAN communication)   |

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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Monitored item<br>[Unit]       | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description  |
|--------------------------------|------------------|-------------------|-----------------------|-----------------------|-------------------|--|
| WIPER SW<br>[OFF/LOW/HIGH]     | ×                |                   |                       |                       |                   | Indicates wiper [OFF/LOW/HIGH] status (BCM transmits front wiper request signal through CAN communication)   |
| NAVI-ICC DISP<br>[On/Off]      | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| YAW RATE<br>[deg/s]            | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| BA WARNING<br>[On/Off]         | ×                |                   |                       |                       |                   | Indicates [On/Off] status of FEB warning lamp output   |
| STP LMP DRIVE<br>[On/Off]      | ×                | ×                 |                       |                       | ×                 | Indicates [On/Off] status of ICC brake hold relay drive output   |
| D RANGE SW<br>[On/Off]         | ×                |                   |                       |                       |                   | Indicates [On/Off] status of "D" or "M" positions read from ADAS control unit through CAN communication; ON when position "D" or "M" (TCM transmits shift position signal through CAN communication).                                  |
| NP RANGE SW<br>[On/Off]        | ×                |                   |                       |                       |                   | Indicates shift position signal read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)  |
| PKB SW<br>[On/Off]             | ×                |                   |                       |                       |                   | Parking brake switch status [On/Off] judged from the parking brake switch signal that ADAS control unit readout via CAN communication is displayed (combination meter transmits the parking brake switch signal via CAN communication) |
| PWR SUP MONI<br>[V]            | ×                | ×                 |                       |                       |                   | Indicates IGN voltage input by ADAS control unit   |
| VHCL SPD AT<br>[km/h] or [mph] | ×                |                   |                       |                       |                   | Indicates vehicle speed calculated from A/T vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits A/T vehicle speed sensor signal through CAN communication)                                       |
| THRTL OPENING<br>[%]           | ×                | ×                 |                       |                       | ×                 | Indicates throttle position read from ADAS control unit through CAN communication (ECM transmits accelerator pedal position signal through CAN communication).   |
| GEAR<br>[1, 2, 3, 4, 5, 6, 7]  | ×                |                   |                       |                       |                   | Indicates A/T gear position read from ADAS control unit through CAN communication (TCM transmits current gear position signal through CAN communication)   |
| NP SW SIG<br>[On/Off]          | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| MODE SIG<br>[OFF, ICC, ASCD]   | ×                |                   |                       |                       |                   | Indicates the active mode from ICC or ASCD [conventional (fixed speed) cruise control mode]  |
| SET DISP IND<br>[On/Off]       | ×                |                   |                       |                       |                   | Indicates [On/Off] status of SET switch indicator output   |
| DISTANCE<br>[m]                | ×                |                   |                       |                       |                   | Indicates the distance from the vehicle ahead  |
| RELATIVE SPD<br>[m/s]          | ×                |                   |                       |                       |                   | Indicates the relative speed of the vehicle ahead  |
| DYNA ASIST SW<br>[On/Off]      | ×                | ×                 |                       | ×                     |                   | Indicates [On/Off] status as judged from ICC steering switch signal  |
| DCA ON IND<br>[On/Off]         | ×                |                   |                       |                       |                   | The status [ON/OFF] of DCA system switch indicator output is displayed   |
| DCA VHL AHED<br>[On/Off]       | ×                |                   |                       |                       |                   | The status [ON/OFF] of vehicle ahead detection indicator output in DCA system is displayed   |
| IBA SW<br>[On/Off]             | ×                | ×                 |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| FCW SYSTEM ON<br>[On/Off]      | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status of PFCW system   |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Monitored item<br>[Unit]                         | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description  |
|--|------------------|-------------------|-----------------------|-----------------------|-------------------|--|
| APA TEMP<br>[°C]                                 | ×                |                   |                       |                       | ×                 | Accelerator pedal actuator integrated motor temperature that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the integrated motor temperature via ITS communication)                                |
| APA PWR<br>[V]                                   | ×                |                   |                       |                       | ×                 | Accelerator pedal actuator power supply voltage that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the power supply voltage via ITS communication)  |
| LDW SYSTEM ON<br>[On/Off]                        |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDW system  |
| LDW ON LAMP<br>[On/Off]                          |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDW system ON display output  |
| LDP ON IND<br>[On/Off]                           |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDP system display output   |
| LANE DPRT W/L<br>[On/Off]                        |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDW/LDP warning display (Yellow) output   |
| LDW BUZER OUT-<br>PUT<br>[On/Off]                |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of warning buzzer output   |
| LDP SYSTEM ON<br>[On/Off]                        |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDP system  |
| WARN REQ<br>[On/Off]                             |                  |                   | ×                     |                       |                   | Indicates an ADAS control unit judged warning state (ON/OFF) of LDP system   |
| READY signal<br>[On/Off]                         |                  |                   | ×                     |                       |                   | Indicates LDP system settings  |
| Camera lost<br>[Detect/Deviate/Both]             |                  |                   | ×                     | ×                     |                   | Indicates a lane marker detection state judged from a lane marker detection signal read by the ADAS control unit via ITS communication (Lane camera unit transmits a lane marker signal via ITS communication)   |
| Shift position<br>[Off, P, R, N, D, M/T1 -<br>7] |                  |                   | ×                     | ×                     | ×                 | Indicates shift position read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)   |
| Turn signal<br>[OFF/LH/RH/LH&RH]                 |                  |                   | ×                     | ×                     |                   | Indicates turn signal operation status read from ADAS control unit through CAN communication (BCM transmits turn indicator signal through CAN communication)   |
| SIDE G<br>[G]                                    |                  |                   | ×                     | ×                     |                   | Indicates lateral G acting on the vehicle. This lateral G is judged from a side G sensor signal read by ADAS control unit via CAN communication (The ABS actuator and electric unit (control unit) transmits a side G sensor signal via CAN communication) |
| STATUS signal<br>[Stnby/Warn/Cancl/<br>Off]      |                  |                   | ×                     |                       |                   | Indicates a control state of LDP system  |
| Lane unclear<br>[On/Off]                         |                  |                   | ×                     | ×                     |                   | Indicates an ON/OFF state of the lane marker. The ON/OFF state is judged from a detected lane condition signal read by the ADAS control unit via ITS communication (The lane camera unit transmits a detected lane condition signal via ITS communication) |
| FUNC ITEM<br>[FUNC3]                             | ×                | ×                 | ×                     | ×                     |                   | Indicates systems which can be set to ON/OFF by selecting "Driver Assistance" ⇒ "Dynamic Assistance Setting" of the navigation screen<br>FUNC3: Distance Control Assist (DCA), Lane Departure Prevention (LDP), Blind spot Intervention                    |
| FUNC ITEM (NV-ICC)<br>[Off]                      | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used  |

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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Monitored item<br>[Unit]                               | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description   |
|--|------------------|-------------------|-----------------------|-----------------------|-------------------|---|
| FUNC ITEM (NV-DCA)<br>[Off]                            | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used   |
| DCA SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of the DCA system. The DCA system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance” of the navigation screen   |
| LDP SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of LDP system. LDP system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen   |
| BSI SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of Blind Spot Intervention system. Blind Spot Intervention system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen   |
| BSW SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen   |
| NAVI ICC SELECT<br>[Off]                               | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used   |
| NAVI DCA SELECT<br>[Off]                               | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used   |
| SYS SELECTABILITY<br>[On/Off]                          | ×                | ×                 | ×                     | ×                     |                   | Indicates the availability of ON/OFF switching for “Driver Assistance” items received from the AV control unit via CAN communication  |
| DRIVE MODE STATS<br>[STD/SPORT/ECO/<br>SNOW/MID/ERROR] | ×                | ×                 | ×                     | ×                     |                   | Indicates a drive mode selector select position judged from a drive mode select switch position signal read by the ADAS control unit via CAN communication (The A/C auto amp. transmits a switch position signal of the drive mode select switch signal via CA communication) |
| WARN SYS SW<br>[On/Off]                                | ×                | ×                 | ×                     | ×                     |                   | Indicates [On/Off] status of warning systems switch   |
| BSW/BSI WARN LMP<br>[On/Off]                           |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of Blind Spot Warning malfunction   |
| BSI ON IND<br>[On/Off]                                 |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of Blind Spot Intervention system display   |
| BSW SYSTEM ON<br>[On/Off]                              |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of BSW system   |
| BSI SYSTEM ON<br>[On/Off]                              |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of Blind Spot Intervention system   |
| BCI SYSTEM ON<br>[On/Off]                              |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI system   |
| BCI SWITCH<br>[On/Off]                                 |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI switch   |
| BCI ON IND<br>[On/Off]                                 |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI ON indicator   |
| BCI OFF IND<br>[On/Off]                                |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI OFF indicator  |
| BCI WARNING IND<br>[On/Off]                            |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI malfunction indicator  |
| BCI HI TEMP WARN<br>IND<br>[On/Off]                    |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI not available indicator  |

## ACTIVE TEST

### CAUTION:

- Never perform “Active Test” while driving the vehicle.
- The “Active Test” cannot be performed when the following systems malfunction is displayed.

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

- ICC system
- DCA
- LDW
- LDP
- Blind Spot Warning
- Blind Spot Intervention
- BCI
- The “Active Test” cannot be performed when the FEB warning lamp is illuminated.
- Shift the selector lever to “P” position, and then perform the test.

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| Test item            | Description  |
|----------------------|--|
| METER LAMP           | The MAIN switch indicator and FEB warning lamp can be illuminated by ON/OFF operations as necessary  |
| STOP LAMP            | The ICC brake hold relay can be operated by ON/OFF operations as necessary, and the stop lamp can be illuminated   |
| ICC BUZZER           | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Intelligent Cruise Control (ICC)</li> <li>• Distance Control Assist (DCA)</li> <li>• Predictive Forward Collision Warning (PFCW)</li> <li>• Forward Emergency Braking (FEB)</li> </ul> |
| BRAKE ACTUATOR       | Activates the brake by an arbitrary operation  |
| ACTIVE PEDAL         | The accelerator pedal actuator can be operated as necessary  |
| DCA INDICATOR        | The DCA system switch display can be illuminated by ON/OFF operations as necessary   |
| LDP BUZZER           | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Lane Departure Warning (LDW)</li> <li>• Lane Departure Prevention (LDP)</li> <li>• Blind Spot Warning (BSW)</li> <li>• Blind Spot Intervention</li> </ul>                              |
| WARNING SYSTEMS IND  | The warning systems ON indicator (on warning systems switch) can be illuminated by ON/OFF operations as necessary  |
| LDP ON IND           | The LDP ON indicator lamp can be illuminated by ON/OFF operations as necessary   |
| LANE DEPARTURE W/L   | The Lane departure warning lamp can be illuminated by ON/OFF operations as necessary   |
| BSW/BSI WARNING LAMP | The Blind Spot warning/Blind Spot Intervention warning lamp can be illuminated by ON/OFF operations as necessary   |
| BSI ON INDICATOR     | The Blind Spot Intervention ON indicator can be illuminated by ON/OFF operations as necessary  |
| BCI WARNING LAMP     | The BCI malfunction indicator can be illuminated by ON/OFF operations as necessary   |

**METER LAMP**

**NOTE:**

The test can be performed only when the engine is running.

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| Test item  | Operation | Description  | Signal |
|------------|-----------|--|--------|
| METER LAMP | Off       | Stops sending the following signals to exit from the test <ul style="list-style-type: none"> <li>• Meter display signal</li> <li>• FEB warning lamp signal</li> </ul>                      | OFF    |
|            | On        | Transmits the following signals to the combination meter via CAN communication <ul style="list-style-type: none"> <li>• Meter display signal</li> <li>• FEB warning lamp signal</li> </ul> | ON     |

DAS

**STOP LAMP**

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Test item | Operation | Description  | Stop lamp |
|-----------|-----------|--|-----------|
| STOP LAMP | Off       | Stops transmitting the ICC brake hold relay drive signal below to end the test | OFF       |
|           | On        | Transmits the ICC brake hold relay drive signal                                | ON        |

## ICC BUZZER

| Test item  | Operation  | Description  | Operation sound         |
|------------|------------|--|-------------------------|
| ICC BUZZER | MODE1      | Transmits the buzzer output signals to the driver assistance buzzer control module via ITS communication | Intermittent beep sound |
|            | Test start | Starts the tests of "MODE1"  | —                       |
|            | Reset      | Stops transmitting the buzzer output signal below to end the test  | —                       |
|            | End        | Returns to the "SELECT TEST ITEM" screen   | —                       |

## BRAKE ACTUATOR

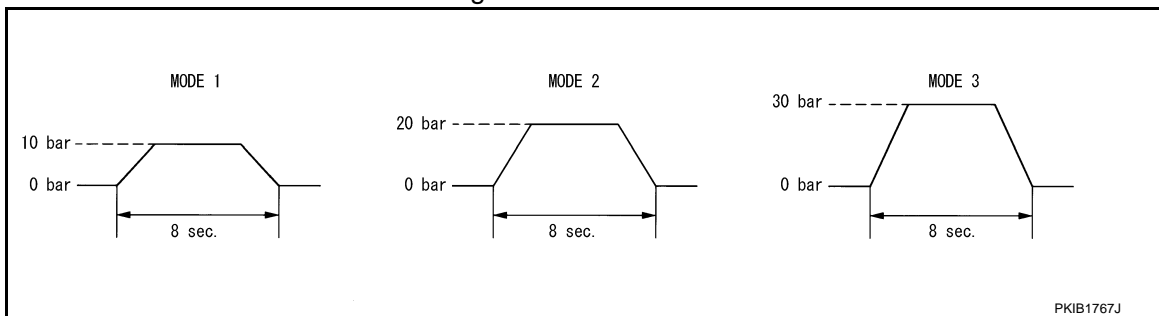
### NOTE:

The test can be performed only when the engine is running.

| Test item      | Operation  | Description  | "PRESS SENS" value |
|----------------|------------|--|--------------------|
| BRAKE ACTUATOR | MODE1      | Transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via CAN communication | 10 bar             |
|                | MODE2      |  | 20 bar             |
|                | MODE3      |  | 30 bar             |
|                | Test start | Starts the tests of "MODE1", "MODE2" and "MODE3"   | —                  |
|                | Reset      | Stops transmitting the brake fluid pressure control signal below to end the test   | —                  |
|                | End        | Returns to the "SELECT TEST ITEM" screen   | —                  |

### NOTE:

The test is finished in 10 seconds after starting



## Active Pedal

### CAUTION:

- Shift the selector lever to "P" position, and then perform the test.
- Never depress the accelerator pedal excessively. (The engine speed may rise unexpectedly when finishing the test.)

### NOTE:

- Depress the accelerator pedal to check when performing the test.
- The test can be performed only when the engine is running.

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

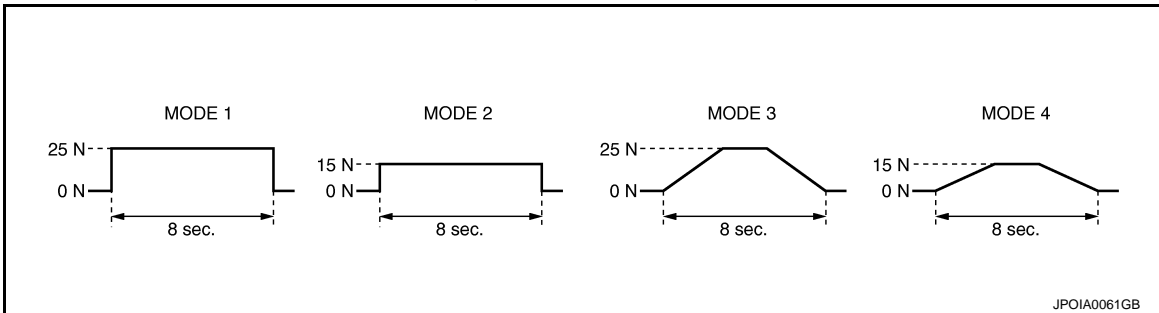
< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Test item    | Operation  | Description   | Accelerator pedal operation                 |
|--------------|------------|---|---|
| ACTIVE PEDAL | MODE1      | Transmit the accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication. | Constant with a force of 25 N for 8 seconds |
|              | MODE2      |   | Constant with a force of 15 N for 8 seconds |
|              | MODE3      |   | Change up to a force of 25 N for 8 seconds  |
|              | MODE4      |   | Change up to a force of 15 N for 8 seconds  |
|              | Test start | Starts the tests of "MODE1", "MODE2", "MODE3" and "MODE4"   | —   |
|              | Reset      | Stops transmitting the accelerator pedal feedback force control signal below to end the test.                         | —   |
|              | End        | Returns to the "SELECT TEST ITEM" screen  | —   |

**NOTE:**

The test is finished in 10 seconds after starting



**DCA INDICATOR**

**NOTE:**

The test can be performed only when the engine is running.

| Test item     | Operation | Description   | DCA system switch indicator |
|---------------|-----------|---|-----------------------------|
| DCA INDICATOR | Off       | Stops transmitting the DCA system switch indicator signal below to end the test                 | —                           |
|               | On        | Transmits the DCA system switch indicator signal to the combination meter via CAN communication | ON                          |

**LDP BUZZER**

| Test item  | Operation | Description  | Warning buzzer |
|------------|-----------|--|----------------|
| LDP BUZZER | Off       | Stops transmitting the warning buzzer signal below to end the test | —              |
|            | On        | Transmits the warning buzzer signal to the warning buzzer          | ON             |

**WARNING SYSTEM IND**

| Test item          | Operation | Description   | Warning systems ON indicator |
|--------------------|-----------|---|------------------------------|
| WARNING SYSTEM IND | Off       | Stops transmitting the warning systems ON indicator signal below to end the test      | —                            |
|                    | On        | Transmits the warning systems ON indicator signal to the warning systems ON indicator | ON                           |

**LDP ON IND**

DAS

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

| Test item  | Operation | Description   | LDP ON indicator lamp (Green) |
|------------|-----------|---|-------------------------------|
| LDP ON IND | Off       | Stops transmitting the LDP ON indicator lamp signal below to end the test                 | —                             |
|            | On        | Transmits the LDP ON indicator lamp signal to the combination meter via CAN communication | ON                            |

## LANE DEPARTURE W/L

| Test item          | Operation | Description   | Lane departure warning lamp (Yellow) |
|--------------------|-----------|---|--------------------------------------|
| LANE DEPARTURE W/L | Off       | Stops transmitting the lane departure warning lamp signal below to end the test                 | —                                    |
|                    | On        | Transmits the lane departure warning lamp signal to the combination meter via CAN communication | ON                                   |

## BSW/BSI WARNING LAMP

| Test item            | Operation | Description   | Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow) |
|----------------------|-----------|---|--|
| BSW/BSI WARNING LAMP | Off       | Stops transmitting the Blind Spot Warning/Blind Spot Intervention warning lamp signal below to end the test                 | —  |
|                      | On        | Transmits the Blind Spot Warning/Blind Spot Intervention warning lamp signal to the combination meter via CAN communication | ON   |

## BSI ON INDICATOR

| Test item        | Operation | Description   | Blind Spot Intervention ON indicator lamp (Green) |
|------------------|-----------|---|---|
| BSI ON INDICATOR | Off       | Stops transmitting the Blind Spot Intervention ON indicator lamp signal below to end the test                 | —   |
|                  | On        | Transmits the Blind Spot Intervention ON indicator lamp signal to the combination meter via CAN communication | ON  |

## BCI WARNING LAMP

| Test item        | Operation | Description   | BCI malfunction indicator |
|------------------|-----------|---|---------------------------|
| BCI WARNING LAMP | Off       | Stops transmitting the BCI malfunction indicator signal below to end the test                 | —                         |
|                  | On        | Transmits the BCI malfunction indicator signal to the combination meter via CAN communication | ON                        |

## ECU IDENTIFICATION

Displays ADAS control unit parts number.



ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:0000000011436735

VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item      | Condition  |  | Value/Status |
|-------------------|--|--|--------------|
| MAIN SW           | Ignition switch ON   | When MAIN switch is pressed  | On           |
|                   |  | When MAIN switch is not pressed  | Off          |
| SET/COAST SW      | Ignition switch ON   | When SET/COAST switch is pressed   | On           |
|                   |  | When SET/COAST switch is not pressed   | Off          |
| CANCEL SW         | Ignition switch ON   | When CANCEL switch is pressed  | On           |
|                   |  | When CANCEL switch is not pressed  | Off          |
| RESUME/ACC SW     | Ignition switch ON   | When RESUME/ACCELERATE switch is pressed                                     | On           |
|                   |  | When RESUME/ACCELERATE switch is not pressed                                 | Off          |
| DISTANCE SW       | Ignition switch ON   | When DISTANCE switch is pressed  | On           |
|                   |  | When DISTANCE switch is not pressed  | Off          |
| CRUISE OPE        | Drive the vehicle and activate the vehicle-to-vehicle distance control mode  | When ICC system is controlling   | On           |
|                   |  | When ICC system is not controlling   | Off          |
| ON ROOT GUID-ANCE | <b>NOTE:</b><br>The item is displayed, but not used  |  | Off          |
| BRAKE SW          | Ignition switch ON   | When brake pedal is depressed  | Off          |
|                   |  | When brake pedal is not depressed  | On           |
| STOP LAMP SW      | Ignition switch ON   | When brake pedal is depressed  | On           |
|                   |  | When brake pedal is not depressed  | Off          |
| CLUTCH SW SIG     | <b>NOTE:</b><br>The item is displayed, but not used  |  | Off          |
| IDLE SW           | Engine running   | Idling   | On           |
|                   |  | Except idling (depress accelerator pedal)                                    | Off          |
| SET DISTANCE      | <ul style="list-style-type: none"> <li>Start the engine and turn the ICC system ON</li> <li>Press the DISTANCE switch to change the vehicle-to-vehicle distance setting</li> </ul> | When set to "long"   | Long         |
|                   |  | When set to "middle"   | Mid          |
|                   |  | When set to "short"  | Short        |
| CRUISE LAMP       | Start the engine and press MAIN switch   | ICC system ON (MAIN switch indicator ON)                                     | On           |
|                   |  | ICC system OFF (MAIN switch indicator OFF)                                   | Off          |
| OWN VHCL          | Start the engine and press MAIN switch   | ICC system ON (Own vehicle indicator ON)                                     | Off          |
|                   |  | ICC system OFF (Own vehicle indicator OFF)                                   | Off          |
| VHCL AHEAD        | Drive the vehicle and activate the vehicle-to-vehicle distance control mode  | When a vehicle ahead is detected (vehicle ahead detection indicator ON)      | On           |
|                   |  | When a vehicle ahead is not detected (vehicle ahead detection indicator OFF) | Off          |

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C  
D  
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J  
K  
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P

DAS

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| Monitor item  | Condition   |  | Value/Status   |
|---------------|---|--|--|
| ICC WARNING   | Start the engine and press MAIN switch                                      | When ICC system is malfunctioning  | On   |
|               |   | When ICC system is normal  | Off  |
| VHCL SPEED SE | While driving   |  | Displays the vehicle speed calculated by ADAS control unit |
| SET VHCL SPD  | While driving   | When vehicle speed is set  | Displays the set vehicle speed                             |
| BUZZER O/P    | Engine running  | When the buzzer of the following system operates <ul style="list-style-type: none"> <li>• Vehicle-to-vehicle distance control mode</li> <li>• DCA system</li> <li>• PFCW system</li> <li>• FEB system</li> </ul>     | On   |
|               |   | When the buzzer of the following system not operates <ul style="list-style-type: none"> <li>• Vehicle-to-vehicle distance control mode</li> <li>• DCA system</li> <li>• PFCW system</li> <li>• FEB system</li> </ul> | Off  |
| THRTL SENSOR  | <b>NOTE:</b><br>The item is displayed, but not used                         |  | 0.0  |
| ENGINE RPM    | Engine running  |  | Equivalent to tachometer reading                           |
| WIPER SW      | Ignition switch ON  | Wiper not operating  | Off  |
|               |   | Wiper LO operation   | Low  |
|               |   | Wiper HI operation   | High   |
| NAVI-ICC DISP | <b>NOTE:</b><br>The item is displayed, but not used                         |  | Off  |
| YAW RATE      | <b>NOTE:</b><br>The item is displayed, but not used                         |  | 0.0  |
| BA WARNING    | Engine running  | FEB warning lamp ON <ul style="list-style-type: none"> <li>• When FEB system is malfunctioning</li> <li>• When FEB system is turned to OFF</li> </ul>  | On   |
|               |   | FEB warning lamp OFF <ul style="list-style-type: none"> <li>• When FEB system is normal</li> <li>• When FEB system is turned to ON</li> </ul>  | Off  |
| STP LMP DRIVE | Drive the vehicle and activate the vehicle-to-vehicle distance control mode | When ICC brake hold relay is activated   | On   |
|               |   | When ICC brake hold relay is not activated   | Off  |
| D RANGE SW    | Engine running  | When the selector lever is in "D" position or manual mode  | On   |
|               |   | When the selector lever is in any position other than "D" or manual mode   | Off  |
| NP RANGE SW   | Engine running  | When the selector lever is in "N", "P" position  | On   |
|               |   | When the selector lever is in any position other than "N", "P"   | Off  |
| PKB SW        | Ignition switch ON  | When the parking brake is applied  | On   |
|               |   | When the parking brake is released   | Off  |
| PWR SUP MONI  | Engine running  |  | Power supply voltage value of ADAS control unit            |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| Monitor item  | Condition   |  | Value/Status  |
|---------------|---|--|---|
| VHCL SPD AT   | While driving   |  | Value of A/T vehicle speed sensor signal                            |
| THRTL OPENING | Engine running  | Depress accelerator pedal  | Displays the throttle position                                      |
| GEAR          | While driving   |  | Displays the gear position  |
| NP SW SIG     | <b>NOTE:</b><br>The item is displayed, but not used   |  | Off   |
| MODE SIG      | Start the engine and press MAIN switch  | When ICC system is deactivated   | Off   |
|               |   | When vehicle-to-vehicle distance control mode is activated                   | ICC   |
|               |   | When conventional (fixed speed) cruise control mode is activated             | ASCD  |
| SET DISP IND  | <ul style="list-style-type: none"> <li>• Drive the vehicle and activate the conventional (fixed speed) cruise control mode</li> <li>• Press SET/COAST switch</li> </ul> | SET switch indicator ON  | On  |
|               |   | SET switch indicator OFF   | Off   |
| DISTANCE      | Drive the vehicle and activate the vehicle-to-vehicle distance control mode   | When a vehicle ahead is detected   | Displays the distance from the preceding vehicle                    |
|               |   | When a vehicle ahead is not detected   | 0.0   |
| RELATIVE SPD  | Drive the vehicle and activate the vehicle-to-vehicle distance control mode   | When a vehicle ahead is detected   | Displays the relative speed.  |
|               |   | When a vehicle ahead is not detected   | 0.0   |
| DYNA ASIST SW | Ignition switch ON  | When dynamic driver assistance switch is pressed                             | On  |
|               |   | When dynamic driver assistance switch is not pressed                         | Off   |
| DCA ON IND    | Start the engine and press dynamic driver assistance switch (When DCA setting is ON)  | DCA system OFF   | Off   |
|               |   | DCA system ON  | On  |
| DCA VHL AHED  | Drive the vehicle and activate the DCA system   | When a vehicle ahead is not detected (vehicle ahead detection indicator OFF) | Off   |
|               |   | When a vehicle ahead is detected (vehicle ahead detection indicator ON)      | On  |
| IBA SW        | <b>NOTE:</b><br>The item is displayed, but not used   |  | Off   |
| FCW SYSTEM ON | Ignition switch ON  | When the PFCW system is ON   | On  |
|               |   | When the PFCW system is OFF  | Off   |
| APA TEMP      | Engine running  |  | Display the accelerator pedal actuator integrated motor temperature |
| APA PWR       | Ignition switch ON  |  | Power supply voltage value of accelerator pedal actuator            |
| LDW SYSTEM ON | Ignition switch ON  | When the LDW system is ON  | On  |
|               |   | When the LDW system is OFF   | Off   |
| LDW ON LAMP   | Ignition switch ON  | When the LDW system is ON  | On  |
|               |   | When the LDW system is OFF   | Off   |

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| Monitor item       | Condition  | Value/Status   |
|--------------------|--|--|
| LDP ON IND         | Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)            | When the LDW system is ON<br>On  |
|                    |  | When the LDW system is OFF<br>Off  |
| LANE DPRT W/L      | Drive the vehicle and activate the LDW system or LDP system  | Lane departure warning ON<br>On  |
|                    |  | Lane departure warning OFF<br>Off  |
| LDW BUZER OUT-PUT  | Drive the vehicle and activate the LDW/LDP system or Blind Spot Warning/Blind Spot Intervention system | When the buzzer of the following system operates<br>• LDW/LDP system<br>• Blind Spot Warning/Blind Spot Intervention system<br>On          |
|                    |  | When the buzzer of the following system does not operate<br>• LDW/LDP system<br>• Blind Spot Warning/Blind Spot Intervention system<br>Off |
| LDP SYSTEM ON      | Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)            | When the LDP system is ON<br>On  |
|                    |  | When the LDP system is OFF<br>Off  |
| WARN REQ           | Drive the vehicle and activate the LDP system  | Lane departure warning is operating<br>On  |
|                    |  | Lane departure warning is not operating<br>Off   |
| READY signal       | Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)            | When the LDP system is ON<br>On  |
|                    |  | When the LDP system is OFF<br>Off  |
| Camera lost        | Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention system            | Both side lane markers are detected<br>Detect  |
|                    |  | Deviated side lane marker is lost<br>Deviated  |
|                    |  | Both side lane markers are lost<br>Both  |
| Shift position     | <ul style="list-style-type: none"> <li>• Engine running</li> <li>• While driving</li> </ul>            | Displays the shift position  |
| Turn signal        | Turn signal lamps OFF  | Off  |
|                    | Turn signal lamp LH blinking   | LH   |
|                    | Turn signal lamp RH blinking   | RH   |
|                    | Turn signal lamp LH and RH blinking  | LH&RH  |
| SIDE G             | While driving  | Vehicle turning right<br>Negative value  |
|                    |  | Vehicle turning left<br>Positive value   |
| STATUS signal      | Drive the vehicle and activate the LDP system  | When the LDP system is ON<br>Stnby   |
|                    |  | When the LDP system is operating<br>Warn   |
|                    |  | When the LDP system is canceled<br>Cancl   |
|                    |  | When the LDP system is OFF<br>Off  |
| Lane unclear       | While driving  | Lane marker is unclear<br>On   |
|                    |  | Lane marker is clear<br>Off  |
| FUNC ITEM          | Ignition switch ON   | FUNC3  |
| FUNC ITEM (NV-ICC) | <b>NOTE:</b><br>The item is displayed, but not used  | Off  |
| FUNC ITEM (NV-DCA) | <b>NOTE:</b><br>The item is displayed, but not used  | Off  |
| DCA SELECT         | Ignition switch ON   | "Distance Control Assist" set with the navigation screen is ON<br>On   |
|                    |  | "Distance Control Assist" set with the navigation screen is OFF<br>Off   |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| Monitor item      | Condition   |   | Value/Status |
|-------------------|---|---|--------------|
| LDP SELECT        | Ignition switch ON  | "Lane Departure Prevention" set with the navigation screen is ON  | On           |
|                   |   | "Lane Departure Prevention" set with the navigation screen is OFF   | Off          |
| BSI SELECT        | Ignition switch ON  | "Blind Spot Intervention" set with the navigation screen is ON  | On           |
|                   |   | "Blind Spot Intervention" set with the navigation screen is OFF   | Off          |
| BSW SELECT        | Ignition switch ON  | "Blind Spot Warning" set with the navigation screen is ON   | On           |
|                   |   | "Blind Spot Warning" set with the navigation screen is OFF  | Off          |
| NAVI ICC SELECT   | <b>NOTE:</b><br>The item is displayed, but not used   |   | Off          |
| NAVI DCA SELECT   | <b>NOTE:</b><br>The item is displayed, but not used   |   | Off          |
| SYS SELECTABILITY | Ignition switch ON  | Items set with the navigation screen can be switched normally   | On           |
|                   |   | Items set with the navigation screen cannot be switched normally  | Off          |
| DRIVE MODE STATS  | Ignition switch ON  | When drive mode select switch position is STANDARD  | STD          |
|                   |   | When drive mode select switch position is in SPORT  | SPORT        |
|                   |   | When drive mode select switch position is in ECO  | ECO          |
|                   |   | When drive mode select switch position is in SNOW   | SNOW         |
|                   |   | When position of drive mode select switch is in following states<br>• In the middle of SNOW-ECO<br>• In the middle of ECO-STANDARD<br>• In the middle of STANDARD-SPORT | Mid          |
|                   |   | A signal other than those above is input  | ERROR        |
| WARN SYS SW       | Ignition switch ON  | When warning systems switch is pressed  | On           |
|                   |   | When warning systems switch is not pressed  | Off          |
| BSW/BSI WARN LMP  | Ignition switch ON  | When the BSW system is malfunctioning   | On           |
|                   |   | When the BSW system is normal   | Off          |
| BSI ON IND        | Ignition switch ON  | Blind Spot Intervention warning ON  | On           |
|                   |   | Blind Spot Intervention warning OFF   | Off          |
| BSW SYSTEM ON     | Ignition switch ON  | When the BSW system is ON   | On           |
|                   |   | When the BSW system is OFF  | Off          |
| BSI SYSTEM ON     | Start the engine and press dynamic driver assistance switch (When Blind Spot Intervention system setting is ON) | When the Blind Spot Intervention system is ON   | On           |
|                   |   | When the Blind Spot Intervention system is OFF  | Off          |
| BCI SYSTEM ON     | Engine running  | When the BCI system is ON   | On           |
|                   |   | When the BCI system is OFF  | Off          |
| BCI SWITCH        | Ignition switch ON  | When BCI switch is pressed  | On           |
|                   |   | When BCI switch is not pressed  | Off          |
| BCI ON IND        | Ignition switch ON  | When BCI ON indicator is ON   | On           |
|                   |   | When BCI ON indicator is OFF  | Off          |
| BCI OFF IND       | Ignition switch ON  | When BCI OFF indicator is ON  | On           |
|                   |   | When BCI OFF indicator is OFF   | Off          |

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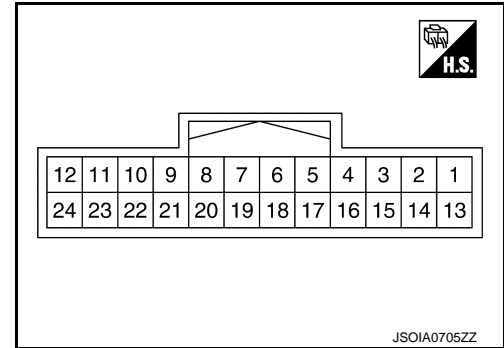
# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| Monitor item         | Condition          |   | Value/Status |
|----------------------|--------------------|---|--------------|
| BCI WARNING IND      | Ignition switch ON | When BCI malfunction indicator is ON    | On           |
|                      |                    | When BCI malfunction indicator is OFF   | Off          |
| BCI HI TEMP WARN IND | Ignition switch ON | When BCI not available indicator is ON  | On           |
|                      |                    | When BCI not available indicator is OFF | Off          |

## TERMINAL LAYOUT PHYSICAL VALUES



| Terminal No.<br>(Wire color) |                                | Description                       |                  | Condition          |  | Standard value | Reference value |
|------------------------------|--------------------------------|-----------------------------------|------------------|--------------------|--|----------------|-----------------|
| +                            | -                              | Signal name                       | Input/<br>Output |                    |  |                |                 |
| 1<br>(L)                     | —                              | CAN -H                            | —                | —                  |  | —              | —               |
| 2<br>(R)                     | —                              | CAN -L                            | —                | —                  |  | —              | —               |
| 5<br>(B/R)                   | Ground                         | Ground                            | —                | Ignition switch ON |  | 0 - 0.1 V      | Approx. 0 V     |
| 6<br>(L)                     | —                              | ITS communication-H               | —                | —                  |  | —              | —               |
| 7<br>(P)                     | —                              | ITS communication-L               | —                | —                  |  | —              | —               |
| 12<br>(GR)                   | 5<br>(B/R)                     | Ignition power supply             | Input            | Ignition switch ON | —  | 10 - 16 V      | Battery voltage |
| 17<br>(SB)                   |                                | ICC brake hold relay drive signal | Output           | Ignition switch ON | —  | 10 - 16 V      | Approx. 12 V    |
| 18<br>(Y)                    |                                | Warning systems switch            | Input            | Ignition switch ON | When warning systems switch is not pressed | 10 - 16 V      | Approx. 12 V    |
|                              |                                |                                   |                  |                    | When warning systems switch is pressed     | 0 - 0.1 V      | Approx. 0 V     |
| 19<br>(O)                    |                                | Warning systems ON indicator      | Output           | Ignition switch ON | Warning systems ON indicator ON            | 10 - 16 V      | Approx. 12 V    |
|                              |                                |                                   |                  |                    | Warning systems ON indicator OFF           | 0 - 0.1 V      | Approx. 0 V     |
| 22<br>(BR)                   |                                | BCI switch                        | Input            | Ignition switch ON | When BCI OFF switch is not pressed         | 10 - 16 V      | Approx. 12 V    |
|                              | When BCI OFF switch is pressed |                                   |                  |                    | 0 - 0.1 V                                  | Approx. 0 V    |                 |

## Fail-safe (ADAS Control Unit)

INFOID:000000011436736

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| System   | Buzzer            | Warning lamp/Indicator lamp                             | Description  |
|--|-------------------|---|--|
| Vehicle-to-vehicle distance control mode       | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Conventional (fixed speed) cruise control mode | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Forward Emergency Braking (FEB)                | High-pitched tone | FEB warning lamp  | Cancel   |
| Predictive Forward Collision Warning (PFCW)    | High-pitched tone | FEB warning lamp  | Cancel   |
| Distance Control Assist (DCA)                  | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Lane Departure Warning (LDW)                   | —                 | Lane departure warning lamp                             | Cancel   |
| Lane Departure Prevention (LDP)                | Low-pitched tone  | Lane departure warning lamp                             | Cancel   |
| Blind Spot Warning (BSW)                       | —                 | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Blind Spot Intervention                        | Low-pitched tone  | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Back-up Collision Intervention (BCI)           | High-pitched tone | BCI malfunction indicator                               | Cancel   |
| Active trace control function                  | —                 | FEB warning lamp  | <ul style="list-style-type: none"> <li>• Cancel</li> <li>• If a communication error occurs between the A/C auto amp. and CAN communication line, a mode at the instant of error occurrence is maintained until the mode is fixed to STANDARD after turning the ignition switch from OFF to ON</li> </ul> |

## DTC Inspection Priority Chart

INFOID:0000000011436737

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

| Priority | Detected items (DTC)  |
|----------|---|
| 1        | <ul style="list-style-type: none"> <li>• U1507: LOST COMM (SIDE RDR R)</li> <li>• U1508: LOST COMM (SIDE RDR L)</li> </ul>  |
| 2        | <ul style="list-style-type: none"> <li>• C1A0A: CONFIG UNFINISHED</li> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>  |
| 3        | <ul style="list-style-type: none"> <li>• C1B00: CAMERA UNIT MALF</li> <li>• C1F02: APA C/U MALF</li> <li>• C1B53: SIDE RDR R MALF</li> <li>• C1B54: SIDE RDR L MALF</li> <li>• C1B84: DIST SEN MALFUNCTION</li> </ul> |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

| Priority | Detected items (DTC)   |   |
|----------|--|---|
| 4        | <ul style="list-style-type: none"> <li>• C1A01: POWER SUPPLY CIR</li> <li>• C1A02: POWER SUPPLY CIR 2</li> <li>• C1A04: ABS/TCS/VDC CIRC</li> <li>• C1A05: BRAKE SW/STOP L SW</li> <li>• C1A06: OPERATION SW CIRC</li> <li>• C1A13: STOP LAMP RLY FIX</li> <li>• C1A14: ECM CIRCUIT</li> <li>• C1A24: NP RANGE</li> <li>• C1A26: ECD MODE MALF</li> <li>• C1A27: ECD PWR SUPPLY CIR</li> <li>• C1A33: CAN TRANSMISSION ERR</li> <li>• C1A34: COMMAND ERROR</li> <li>• C1A35: APA CIR</li> <li>• C1A36: APA CAN COMM CIR</li> <li>• C1A37: APA CAN CIR 2</li> <li>• C1A38: APA CAN CIR 1</li> <li>• C1A39: STRG SEN CIR</li> <li>• C1B01: CAM AIMING INCOMP</li> <li>• C1B03: CAM ABNORMAL TMP DETCT</li> <li>• C1B5D: FEB OPE COUNT LIMIT</li> <li>• C1B56: SONAR CIRCUIT</li> <li>• C1B57: AVM CIRCUIT</li> <li>• C1B58: DR ASSIST BUZZER CIRCUIT</li> <li>• C1B82: DIST SEN OFF-CENTER</li> <li>• C1B83: DIST SEN BLOCKED</li> <li>• C1B85: DIST SEN ABNORMAL TEMP</li> <li>• C1B86: DIST SEN PWR SUP CIR</li> <li>• C1F01: APA MOTOR MALF</li> <li>• C1F05: APA PWR SUPPLY CIR</li> </ul> | <ul style="list-style-type: none"> <li>• U0121: VDC CAN CIR 2</li> <li>• U0126: STRG SEN CAN CIR 1</li> <li>• U0235: ICC SENSOR CAN CIRC 1</li> <li>• U0401: ECM CAN CIR 1</li> <li>• U0402: TCM CAN CIR 1</li> <li>• U0415: VDC CAN CIR 1</li> <li>• U0424: HVAC CAN CIR 1</li> <li>• U0428: STRG SEN CAN CIR 2</li> <li>• U150B: ECM CAN CIRC 3</li> <li>• U150C: VDC CAN CIRC 3</li> <li>• U150D: TCM CAN CIRC 3</li> <li>• U150E: BCM CAN CIRC 3</li> <li>• U150F: AV CAN CIRC 3</li> <li>• U1500: CAM CAN CIR 2</li> <li>• U1501: CAM CAN CIR 1</li> <li>• U1502: ICC SEN CAN COMM CIR</li> <li>• U1503: SIDE RDR L CAN CIR 2</li> <li>• U1504: SIDE RDR L CAN CIR 1</li> <li>• U1505: SIDE RDR R CAN CIR 2</li> <li>• U1506: SIDE RDR R CAN CIR 1</li> <li>• U1512: HVAC CAN CIRC3</li> <li>• U1513: METER CAN CIRC 3</li> <li>• U1514: STRG SEN CAN CIRC 3</li> <li>• U1515: ICC SENSOR CAN CIRC 3</li> <li>• U1516: CAM CAN CIRC 3</li> <li>• U1517: APA CAN CIRC 3</li> <li>• U1518: SIDE RDR L CAN CIRC 3</li> <li>• U1519: SIDE RDR R CAN CIRC 3</li> <li>• U1521: SONAR CAN COMMUNICATION 3</li> <li>• U1522: SONAR CAN COMMUNICATION 3</li> <li>• U1523: SONAR CAN COMMUNICATION 2</li> <li>• U1524: AVM CAN COMMUNICATION 1</li> <li>• U1525: AVM CAN COMMUNICATION 3</li> <li>• U1530: DR ASSIST BUZZER CAN CIR 1</li> </ul> |
| 5        | <ul style="list-style-type: none"> <li>• C1A03: VHCL SPEED SE CIRC</li> </ul>  |   |
| 6        | <ul style="list-style-type: none"> <li>• C1A15: GEAR POSITION</li> </ul>   |   |
| 7        | <ul style="list-style-type: none"> <li>• C1A00: CONTROL UNIT</li> </ul>  |   |

## DTC Index

INFOID:000000011436738

### NOTE:

- The details of time display are as per the following.
  - CRNT: A malfunction is detected now
  - PAST: A malfunction was detected in the past
- IGN counter is displayed on FFD (Freeze Frame Data).
  - 0: The malfunctions that are detected now  
CAN communication system (U1000, U1010)
  - 1 - 39: It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
  - If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.  
Other than CAN communication system (Other than U1000, U1010)
  - 1 - 49: It increases like 0 → 1 → 2 ... 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
  - If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.



# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)
- J: Active trace control function

| DTC   |                  | CONSULT display                                     | Fail-safe                    | Reference               |
|---|------------------|---|------------------------------|-------------------------|
| CONSULT   | On board display |   | System                       |                         |
| NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED | 55               | NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED | —                            | —                       |
| C1A0A   | 41               | CONFIG UNFINISHED                                   | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-65</a>  |
| C1A00   | 0                | CONTROL UNIT  | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-66</a>  |
| C1A01   | 1                | POWER SUPPLY CIR                                    | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-67</a>  |
| C1A02   | 2                | POWER SUPPLY CIR 2                                  | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-67</a>  |
| C1A03   | 3                | VHCL SPEED SE CIRC                                  | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-68</a>  |
| C1A04   | 4                | ABS/TCS/VDC CIRC                                    | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-70</a>  |
| C1A05   | 5                | BRAKE SW/STOP L SW                                  | A, B, C, D, E, F, H, I       | <a href="#">DAS-72</a>  |
| C1A06   | 6                | OPERATION SW CIRC                                   | A, B, C, F, H                | <a href="#">DAS-77</a>  |
| C1A13   | 13               | STOP LAMP RLY FIX                                   | A, B, C, D, E, I             | <a href="#">DAS-80</a>  |
| C1A14   | 14               | ECM CIRCUIT   | A, B, C, D, E                | <a href="#">DAS-87</a>  |
| C1A15   | 15               | GEAR POSITION                                       | A, B, C, D, E                | <a href="#">DAS-89</a>  |
| C1A24   | 24               | NP RANGE  | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-91</a>  |
| C1A26   | 26               | ECD MODE MALF                                       | A, B, C, D, E                | <a href="#">DAS-93</a>  |
| C1A27   | 27               | ECD PWR SUPPLY CIR                                  | A, B, C, D, E                | <a href="#">DAS-95</a>  |
| C1A33   | 33               | CAN TRANSMISSION ERR                                | A, B, C, D, E, J             | <a href="#">DAS-97</a>  |
| C1A34   | 34               | COMMAND ERROR                                       | A, B, C, D, E, J             | <a href="#">DAS-98</a>  |
| C1A35   | 35               | APA CIR   | A, C, D, E                   | <a href="#">DAS-99</a>  |
| C1A36   | 36               | APA CAN COMM CIR                                    | A, C, D, E                   | <a href="#">DAS-100</a> |
| C1A37   | 133              | APA CAN CIR 2                                       | A, C, D, E                   | <a href="#">DAS-101</a> |
| C1A38   | 132              | APA CAN CIR 1                                       | A, C, D, E                   | <a href="#">DAS-102</a> |
| C1A39   | 39               | STRG SEN CIR  | A, B, C, D, E, G, I, J       | <a href="#">DAS-103</a> |
| C1B00   | 81               | CAMERA UNIT MALF                                    | F, H                         | <a href="#">DAS-104</a> |
| C1B01   | 82               | CAM AIMING INCOMP                                   | F, H                         | <a href="#">DAS-105</a> |
| C1B03   | 83               | ABNRML TMP DETCT                                    | F, H                         | <a href="#">DAS-106</a> |
| C1B5D   | 198              | FEB OPE COUNT LIMIT                                 | C, D, E                      | <a href="#">DAS-107</a> |
| C1B53   | 84               | SIDE RDR R MALF                                     | G, H, I                      | <a href="#">DAS-108</a> |
| C1B54   | 85               | SIDE RDR L MALF                                     | G, H, I                      | <a href="#">DAS-109</a> |
| C1B56   | 86               | SONAR CIRCUIT                                       | I                            | <a href="#">DAS-110</a> |
| C1B57   | 87               | AVM CIRCUIT   | I                            | <a href="#">DAS-111</a> |
| C1A58   | 182              | DR ASSIST BUZZER CIRCUIT                            |                              | <a href="#">DAS-112</a> |
| C1B82   | 12               | RADAR OFF-CENTER                                    | A, C, D, E                   | <a href="#">DAS-113</a> |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)
- J: Active trace control function

| DTC                   |                  | CONSULT display        | Fail-safe                    | Reference               |
|-----------------------|------------------|------------------------|------------------------------|-------------------------|
| CONSULT               | On board display |                        | System                       |                         |
| C1B83                 | 16               | RADAR BLOCKED          | A, C, D, E                   | <a href="#">DAS-114</a> |
| C1B84                 | 17               | DIST SEN MALFUNCTION   | A, C, D, E                   | <a href="#">DAS-115</a> |
| C1B85                 | 21               | DIST SEN ABNORMAL TEMP | A, C, D, E                   | <a href="#">DAS-116</a> |
| C1B86                 | 80               | DIST SEN PWR SUP CIR   | A, C, D, E                   | <a href="#">DAS-117</a> |
| C1F01                 | 91               | APA MOTOR MALF         | A, C, D, E, I                | <a href="#">DAS-119</a> |
| C1F02                 | 92               | APA C/U MALF           | A, C, D, E, I                | <a href="#">DAS-120</a> |
| C1F05                 | 95               | APA PWR SUPPLY CIR     | A, C, D, E, I                | <a href="#">DAS-121</a> |
| U0121                 | 127              | VDC CAN CIR 2          | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-122</a> |
| U0126                 | 130              | STRG SEN CAN CIR 1     | A, B, C, D, E, G, I, J       | <a href="#">DAS-124</a> |
| U0235                 | 144              | ICC SENSOR CAN CIRC 1  | A, C, D, E                   | <a href="#">DAS-125</a> |
| U0401                 | 120              | ECM CAN CIR 1          | A, B, C, D, E, G, I          | <a href="#">DAS-126</a> |
| U0402                 | 122              | TCM CAN CIR 1          | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-127</a> |
| U0415                 | 126              | VDC CAN CIR 1          | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-128</a> |
| U0424                 | 156              | HACV CAN CIR 1         |                              | <a href="#">DAS-130</a> |
| U0428                 | 131              | STRG SEN CAN CIR 2     | A, B, C, D, E, G, I, J       | <a href="#">DAS-131</a> |
| U1000 <sup>NOTE</sup> | 100              | CAN COMM CIRCUIT       | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-132</a> |
| U1010                 | 110              | CONTROL UNIT (CAN)     | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-134</a> |
| U150B                 | 157              | ECM CAN CIRC 3         | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-135</a> |
| U150C                 | 158              | VDC CAN CIRC 3         | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-136</a> |
| U150D                 | 159              | TCM CAN CIRC 3         | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-138</a> |
| U150E                 | 160              | BCM CAN CIRC 3         | A, B, C, F, G, H, I          | <a href="#">DAS-139</a> |
| U150F                 | 161              | AV CAN CIRC 3          |                              | <a href="#">DAS-140</a> |
| U1500                 | 145              | CAM CAN CIR2           | F, H                         | <a href="#">DAS-141</a> |
| U1501                 | 146              | CAM CAN CIR 1          | F, H                         | <a href="#">DAS-142</a> |
| U1502                 | 147              | ICC SEN CAN COMM CIR   | A, C, D, E                   | <a href="#">DAS-143</a> |
| U1503                 | 150              | SIDE RDR L CAN CIR 2   | G, H, I                      | <a href="#">DAS-144</a> |
| U1504                 | 151              | SIDE RDR L CAN CIR 1   | G, H, I                      | <a href="#">DAS-145</a> |
| U1505                 | 152              | SIDE RDR R CAN CIR 2   | G, H, I                      | <a href="#">DAS-146</a> |
| U1506                 | 153              | SIDE RDR R CAN CIR 1   | G, H, I                      | <a href="#">DAS-147</a> |
| U1507                 | 154              | LOST COMM (SIDE RDR R) | G, H, I                      | <a href="#">DAS-148</a> |
| U1508                 | 155              | LOST COMM (SIDE RDR L) | G, H, I                      | <a href="#">DAS-149</a> |
| U1512                 | 162              | HVAC CAN CIRC3         | F, H                         | <a href="#">DAS-150</a> |
| U1513                 | 163              | METER CAN CIRC 3       | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-151</a> |
| U1514                 | 164              | STRG SEN CAN CIRC 3    | A, B, C, D, E, G, I, J       | <a href="#">DAS-152</a> |
| U1515                 | 165              | ICC SENSOR CAN CIRC 3  | A, C, D, E                   | <a href="#">DAS-153</a> |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

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- I: Back-up Collision Intervention (BCI)
- J: Active trace control function

| DTC     |                  | CONSULT display           | Fail-safe  | Reference               |
|---------|------------------|---------------------------|------------|-------------------------|
| CONSULT | On board display |                           | System     |                         |
| U1516   | 166              | CAM CAN CIRC 3            | F, G, H    | <a href="#">DAS-154</a> |
| U1517   | 167              | APA CAN CIRC 3            | A, C, D, E | <a href="#">DAS-155</a> |
| U1518   | 168              | SIDE RDR L CAN CIRC 3     | G, H, I    | <a href="#">DAS-156</a> |
| U1519   | 169              | SIDE RDR R CAN CIRC 3     | G, H, I    | <a href="#">DAS-157</a> |
| U1521   | 177              | SONAR CAN COMMUNICATION 2 | I          | <a href="#">DAS-158</a> |
| U1522   | 178              | SONAR CAN COMMUNICATION 1 | I          | <a href="#">DAS-159</a> |
| U1523   | 179              | SONAR CAN COMMUNICATION 3 | I          | <a href="#">DAS-160</a> |
| U1524   | 180              | AVM CAN COMMUNICATION 1   | I          | <a href="#">DAS-161</a> |
| U1525   | 181              | AVM CAN COMMUNICATION 3   | I          | <a href="#">DAS-162</a> |
| U1530   | 183              | DR ASSIST BUZZER CAN CIR1 |            | <a href="#">DAS-163</a> |

**NOTE:**

With the detection of "U1000" some systems do not perform the fail-safe operation.

A system controlling based on a signal received from the control unit performs fail-safe operation when the communication with the ADAS control unit becomes inoperable.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

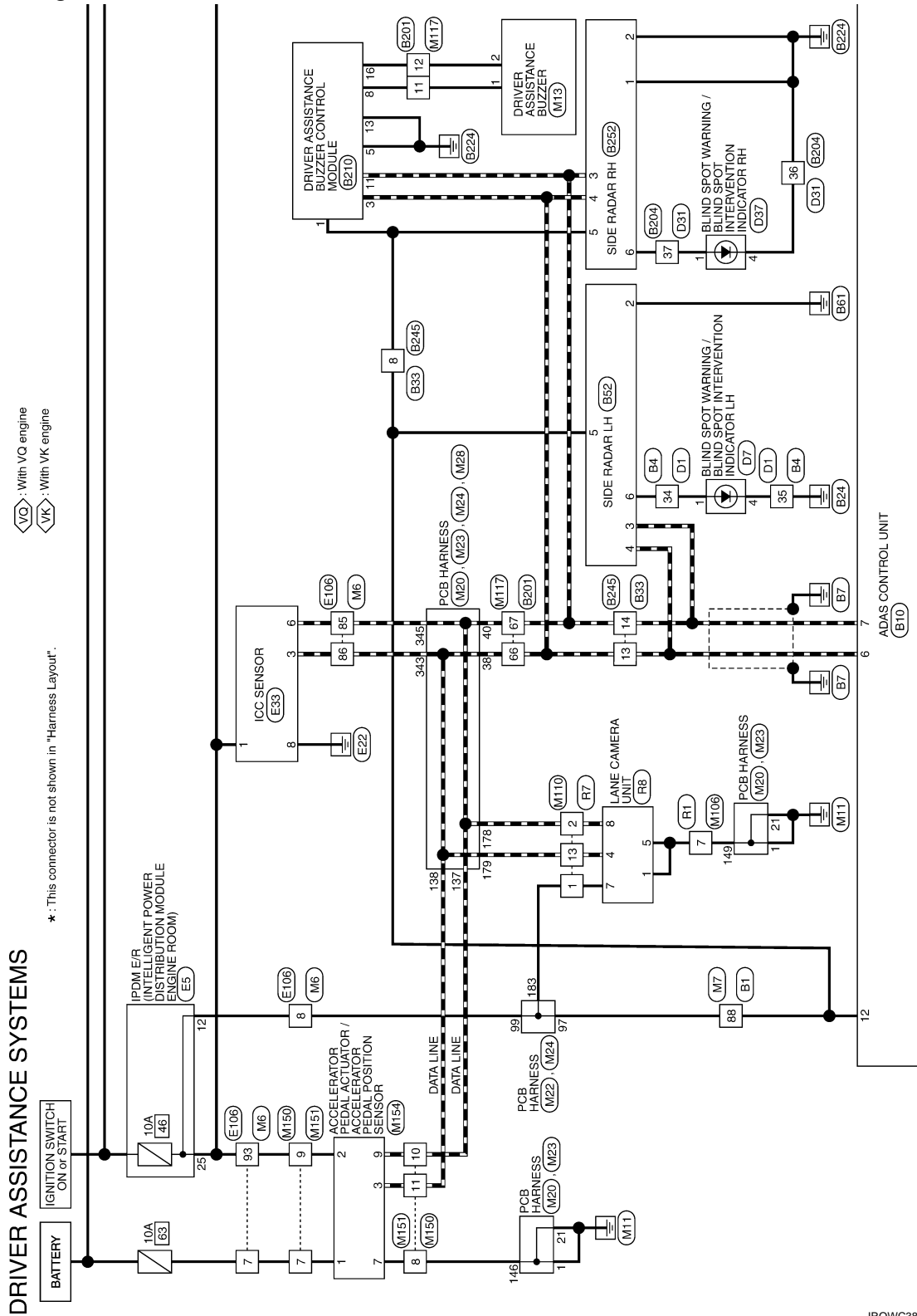
DAS

# WIRING DIAGRAM

## DRIVER ASSISTANCE SYSTEMS

### Wiring Diagram

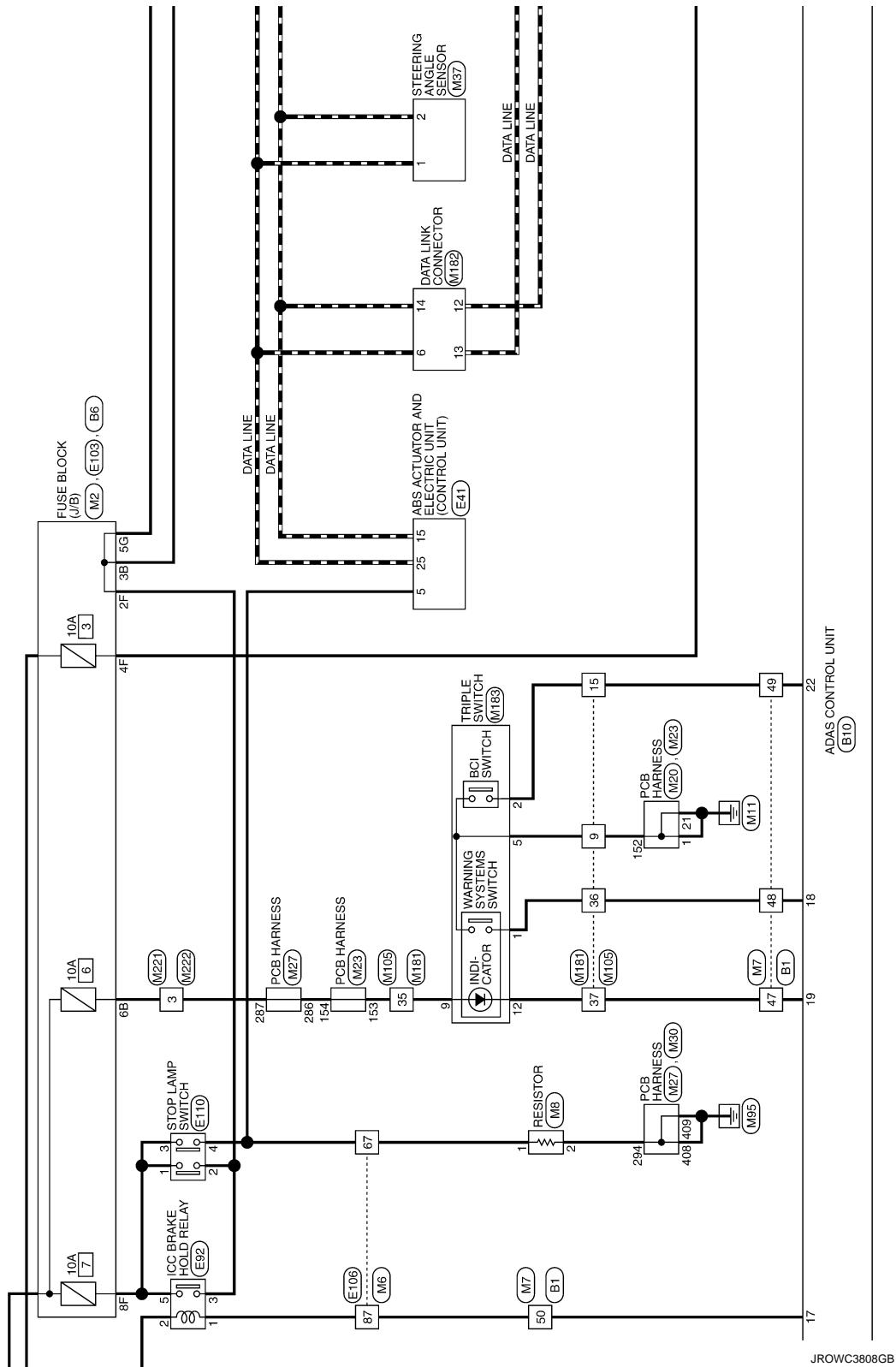
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# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]



JROWC3808GB

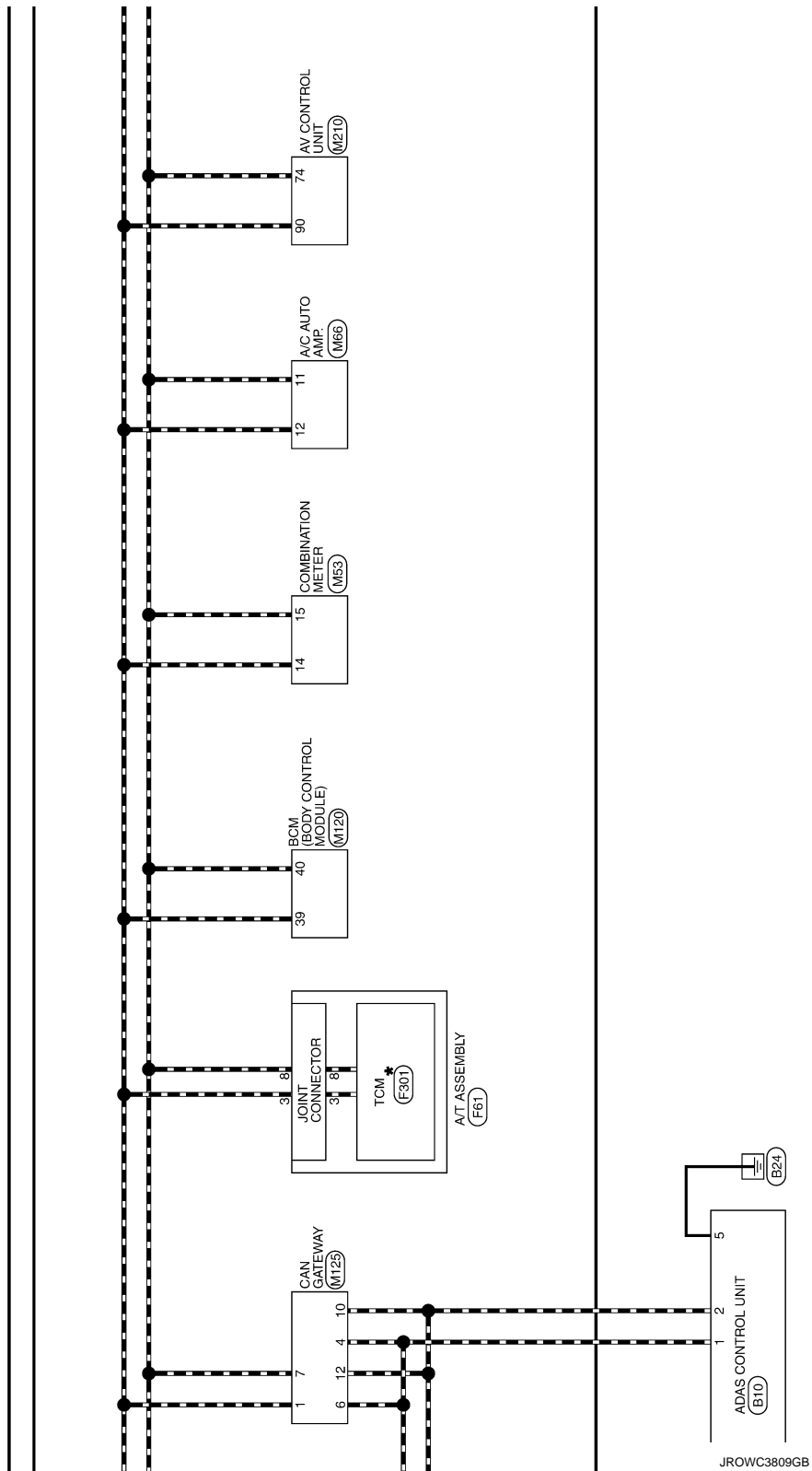
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

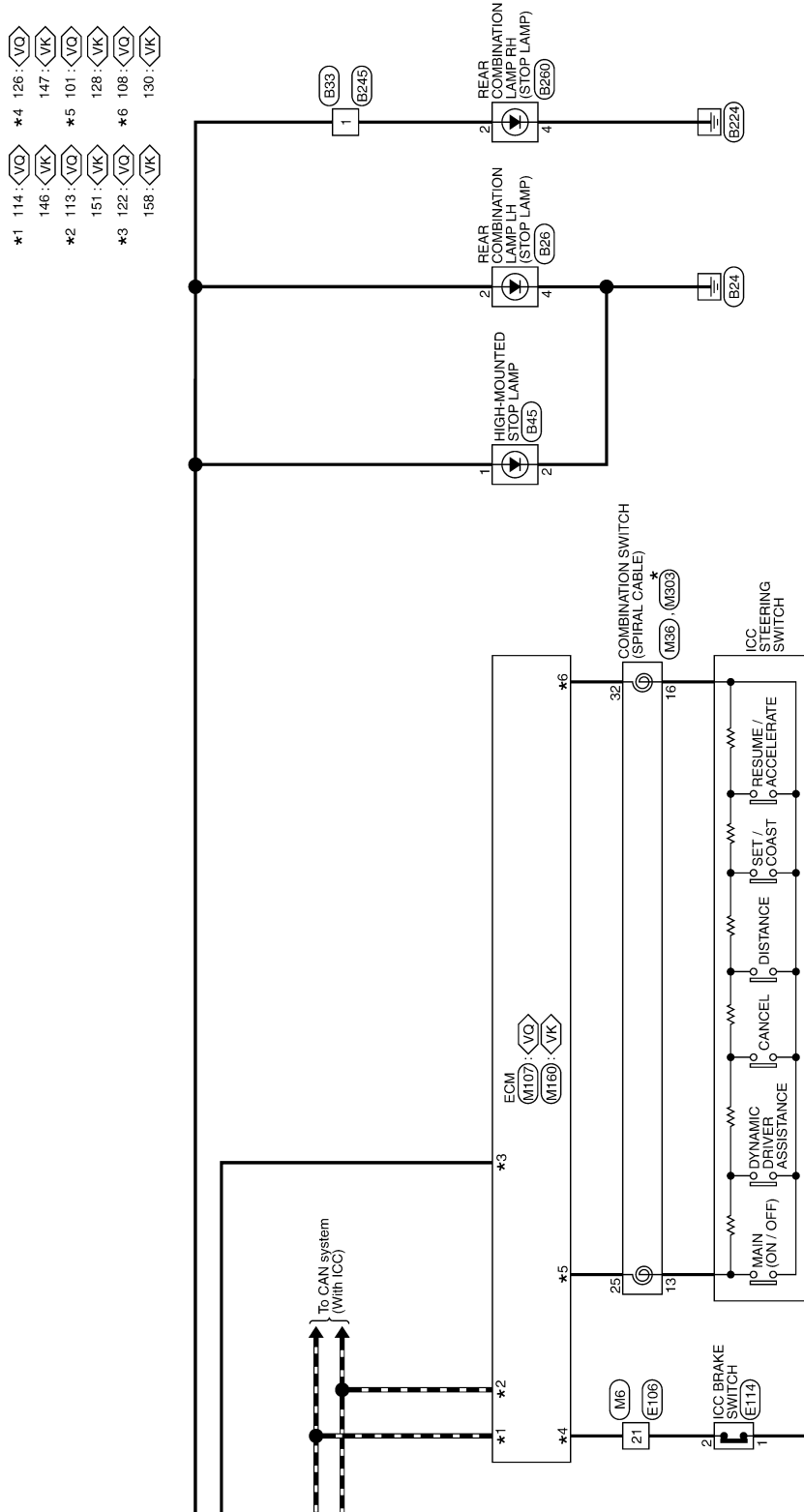
[ADAS CONTROL UNIT]



# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]



JROWC3810GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
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N  
P

DAS

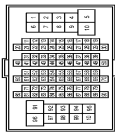
# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

|                |                 |
|----------------|-----------------|
| Connector No.  | B1              |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH8DFW-CS16-TM4 |

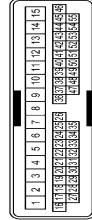


| Terminal No. | Color Of Wire | Signal Name [Specification]      |
|--------------|---------------|----------------------------------|
| 1            | R             | -                                |
| 2            | W             | -                                |
| 4            | LG            | -                                |
| 5            | P             | -                                |
| 7            | GR            | -                                |
| 8            | Y             | -                                |
| 9            | LG            | -                                |
| 10           | V             | -                                |
| 11           | GR            | - [With climate controlled seat] |
| 11           | L             | - [With heated seat]             |
| 12           | GR            | - [With heated seat]             |
| 12           | P             | - [With climate controlled seat] |
| 13           | BR            | -                                |
| 14           | R             | -                                |
| 15           | O             | -                                |
| 16           | V             | -                                |
| 17           | B             | -                                |
| 18           | R             | -                                |
| 19           | W             | -                                |
| 20           | L             | -                                |
| 21           | B             | -                                |
| 22           | LG            | -                                |
| 23           | V             | -                                |
| 24           | Y             | -                                |
| 25           | G             | -                                |
| 26           | GR            | -                                |
| 27           | SB            | -                                |
| 28           | L/O           | -                                |
| 29           | W/L           | -                                |
| 30           | SHIELD        | -                                |
| 32           | L             | -                                |
| 33           | R             | -                                |
| 34           | C             | -                                |
| 35           | SHIELD        | -                                |
| 36           | G             | -                                |

|    |        |   |
|----|--------|---|
| 37 | SB     | - |
| 40 | SHIELD | - |
| 41 | GR/V   | - |
| 42 | W/L    | - |
| 43 | L      | - |
| 44 | B      | - |
| 45 | V      | - |
| 46 | P      | - |
| 47 | O      | - |
| 48 | Y      | - |
| 49 | BR     | - |
| 50 | SB     | - |
| 51 | V      | - |
| 52 | LG     | - |
| 53 | G      | - |
| 55 | G      | - |
| 56 | P      | - |
| 57 | ER     | - |
| 58 | LG     | - |
| 59 | Y      | - |
| 60 | W      | - |
| 61 | B      | - |
| 62 | LG     | - |
| 63 | V      | - |
| 65 | O      | - |
| 66 | BR     | - |
| 67 | V      | - |
| 68 | LG     | - |
| 69 | GR     | - |
| 70 | R      | - |
| 72 | L      | - |
| 73 | P      | - |
| 74 | L      | - |
| 75 | P      | - |
| 76 | Y      | - |
| 77 | R      | - |
| 78 | W      | - |
| 79 | G      | - |
| 81 | LG     | - |
| 82 | BR     | - |
| 83 | SB     | - |
| 84 | Y      | - |
| 85 | W      | - |
| 86 | R      | - |
| 87 | G      | - |
| 88 | GR     | - |
| 91 | SB     | - |
| 92 | G      | - |
| 96 | Y      | - |

|    |    |   |
|----|----|---|
| 97 | O  | - |
| 98 | SB | - |
| 99 | LG | - |

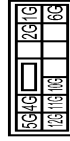
|                |              |
|----------------|--------------|
| Connector No.  | B4           |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40MW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | GR            | -                           |
| 3            | B             | -                           |
| 4            | L             | -                           |
| 5            | BRW           | -                           |
| 6            | L             | -                           |
| 7            | R             | -                           |
| 8            | B             | -                           |
| 9            | W             | -                           |
| 10           | LG            | -                           |
| 11           | P             | -                           |
| 12           | GR            | -                           |
| 13           | BRW           | -                           |
| 14           | SB            | -                           |
| 15           | O             | -                           |
| 16           | G             | -                           |
| 17           | Y             | -                           |
| 18           | BR            | -                           |
| 19           | GR            | -                           |
| 20           | O             | -                           |
| 21           | LG            | -                           |
| 22           | L             | -                           |
| 23           | SB            | -                           |
| 24           | V             | -                           |
| 25           | W/L           | -                           |
| 26           | L/O           | -                           |
| 27           | V             | -                           |
| 28           | W             | -                           |
| 29           | SB            | -                           |
| 30           | L             | -                           |

|    |        |   |
|----|--------|---|
| 31 | LG     | - |
| 32 | O      | - |
| 33 | V      | - |
| 34 | BR     | - |
| 35 | BR     | - |
| 36 | P      | - |
| 37 | BR     | - |
| 38 | W      | - |
| 39 | O      | - |
| 40 | L      | - |
| 41 | W      | - |
| 42 | B      | - |
| 43 | R      | - |
| 44 | G      | - |
| 45 | Y      | - |
| 46 | V      | - |
| 47 | SB     | - |
| 48 | GR     | - |
| 49 | LG     | - |
| 50 | B      | - |
| 51 | G      | - |
| 52 | R      | - |
| 53 | B      | - |
| 54 | V      | - |
| 55 | SHIELD | - |

|                |                  |
|----------------|------------------|
| Connector No.  | B6               |
| Connector Name | FUSE BLOCK (JIB) |
| Connector Type | INS12FBRCS       |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 10G          | W             | -                           |
| 11G          | W             | -                           |
| 12G          | GR            | -                           |
| 1G           | GR            | -                           |
| 2G           | GR            | -                           |
| 4G           | L             | -                           |
| 6G           | PL            | -                           |
| 6G           | G             | -                           |



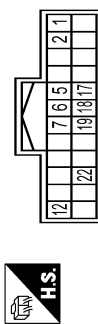
# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

|                |                   |
|----------------|-------------------|
| Connector No.  | B110              |
| Connector Name | ADAS CONTROL UNIT |
| Connector Type | TH24FMV-NH        |



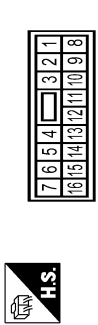
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | CANH                        |
| 2            | R             | CANL                        |
| 3            | B/R           | GROUND                      |
| 4            | L             | ITS COM+L                   |
| 5            | S/B           | ITS COM+H                   |
| 6            | Y             | IGNITION                    |
| 7            | O             | IGNITION                    |
| 8            | G             | IGNITION                    |
| 9            | B             | IGNITION                    |
| 10           | P             | IGNITION                    |
| 11           | R/L           | IGNITION                    |
| 12           | P/L           | IGNITION                    |
| 13           | L             | IGNITION                    |
| 14           | Y             | IGNITION                    |
| 15           | S/H           | IGNITION                    |
| 16           | 5             | IGNITION                    |
| 17           | 4             | IGNITION                    |
| 18           | 3             | IGNITION                    |
| 19           | 2             | IGNITION                    |
| 20           | 1             | IGNITION                    |
| 21           |               | IGNITION                    |
| 22           | BR            | IGNITION                    |

|                |                                      |
|----------------|--------------------------------------|
| Connector No.  | B26                                  |
| Connector Name | REAR COMBINATION LAMP LH (BODY SIDE) |
| Connector Type | NS4MMV-CS                            |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             |                             |
| 2            | P             |                             |
| 3            | GR            |                             |
| 4            | B/R           |                             |

|                |              |
|----------------|--------------|
| Connector No.  | B33          |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS18FGY-CS   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | P             |                             |
| 2            | O             |                             |
| 3            | O             |                             |
| 4            | G             |                             |
| 5            | G             |                             |
| 6            | GR            |                             |
| 7            | O             |                             |
| 8            | O             |                             |
| 9            | O             |                             |
| 10           | P             |                             |
| 11           | R/L           |                             |
| 12           | P/L           |                             |
| 13           | L             |                             |
| 14           | Y             |                             |
| 15           | S/H           |                             |
| 16           | 1             |                             |

|                |                        |
|----------------|------------------------|
| Connector No.  | B45                    |
| Connector Name | HIGH-MOUNTED STOP LAMP |
| Connector Type | TKG2MBR-P              |



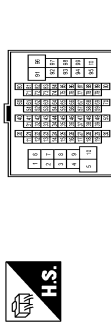
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | P             |                             |
| 2            | B/R           |                             |

|                |               |
|----------------|---------------|
| Connector No.  | B52           |
| Connector Name | SIDE PADAR LH |
| Connector Type | AAQ3FEB-WP-5P |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B/Y           |                             |
| 2            | Y             |                             |
| 3            | I             |                             |
| 4            | GR            |                             |
| 5            | GR            |                             |
| 6            | BR            |                             |

|                |                 |
|----------------|-----------------|
| Connector No.  | B201            |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH60MW-CS16-TM4 |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             |                             |
| 2            | W             |                             |
| 3            | R             |                             |
| 4            | W             |                             |
| 5            | L             |                             |
| 6            | R             |                             |
| 7            | W             |                             |
| 8            | V             |                             |
| 9            | L             |                             |
| 10           | R             |                             |
| 11           | R             |                             |
| 12           | G             |                             |
| 13           | Y             |                             |
| 14           | L             |                             |
| 15           | R             |                             |
| 16           | Y             |                             |
| 17           | GR            |                             |
| 18           | P             |                             |
| 19           | BR            |                             |
| 20           | GR            |                             |

|    |     |  |
|----|-----|--|
| 21 | Y   |  |
| 22 | GR  |  |
| 23 | R   |  |
| 24 | V   |  |
| 25 | B   |  |
| 26 | W   |  |
| 28 | V   |  |
| 29 | P   |  |
| 30 | O   |  |
| 31 | B/R |  |
| 32 | Y   |  |
| 40 | S/H |  |
| 41 | W/R |  |
| 42 | V   |  |
| 43 | S/B |  |
| 44 | R   |  |
| 45 | R   |  |
| 46 | Y   |  |
| 47 | G   |  |
| 48 | GR  |  |
| 49 | O   |  |
| 50 | R   |  |
| 51 | GR  |  |
| 52 | LG  |  |
| 53 | P   |  |
| 54 | P   |  |
| 55 | P   |  |
| 56 | P   |  |
| 57 | W   |  |
| 58 | O   |  |
| 59 | Y   |  |
| 60 | Y   |  |
| 61 | S/B |  |
| 62 | L   |  |
| 63 | W   |  |
| 64 | S/B |  |
| 65 | LG  |  |
| 66 | L   |  |
| 67 | Y   |  |
| 68 | S/B |  |
| 69 | B   |  |
| 70 | B   |  |
| 71 | L   |  |
| 72 | L   |  |
| 73 | R   |  |
| 74 | B   |  |
| 75 | L   |  |
| 76 | S/H |  |
| 77 | G   |  |
| 78 | R   |  |
| 79 | P   |  |
| 80 | G   |  |
| 81 | O   |  |
| 82 | BR  |  |

A  
B  
C  
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K  
L  
M  
N  
P

DAS

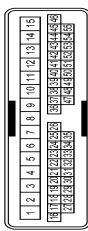
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**DRIVER ASSISTANCE SYSTEMS**

|     |    |   |   |
|-----|----|---|---|
| 83  | GR | - | - |
| 84  | V  | - | - |
| 85  | LG | - | - |
| 86  | W  | - | - |
| 87  | O  | - | - |
| 88  | Y  | - | - |
| 89  | BR | - | - |
| 90  | L  | - | - |
| 91  | BR | - | - |
| 93  | O  | - | - |
| 94  | GR | - | - |
| 96  | W  | - | - |
| 97  | P  | - | - |
| 98  | LG | - | - |
| 99  | LG | - | - |
| 100 | Y  | - | - |

- [With heated seat]  
- [With climate controlled seat]

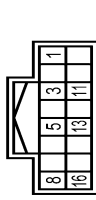
|                |              |
|----------------|--------------|
| Connector No.  | B204         |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40MW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | B/W           | -                           |
| 3            | B/W           | -                           |
| 5            | Y             | -                           |
| 9            | R             | -                           |
| 10           | P             | -                           |
| 11           | V             | -                           |
| 12           | Y             | -                           |
| 13           | BR            | -                           |
| 14           | LG            | -                           |
| 15           | GR            | -                           |
| 16           | G             | -                           |
| 17           | O             | -                           |
| 18           | BR            | -                           |
| 19           | GR            | -                           |
| 20           | V             | -                           |
| 21           | LG            | -                           |
| 22           | W             | -                           |

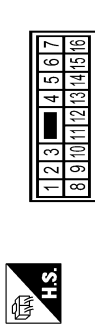
|    |        |   |   |
|----|--------|---|---|
| 23 | O      | - | - |
| 24 | Y      | - | - |
| 25 | BR     | - | - |
| 26 | L      | - | - |
| 27 | W      | - | - |
| 28 | B      | - | - |
| 29 | R      | - | - |
| 30 | SHIELD | - | - |
| 31 | G      | - | - |
| 32 | G      | - | - |
| 33 | R      | - | - |
| 35 | P      | - | - |
| 36 | B/R    | - | - |
| 37 | BR     | - | - |
| 38 | SB     | - | - |
| 39 | P      | - | - |
| 44 | SB     | - | - |
| 46 | B      | - | - |
| 53 | L      | - | - |
| 54 | B      | - | - |
| 55 | V      | - | - |

|                |   |
|----------------|---|
| Connector No.  | B210                                    |
| Connector Name | DRIVER ASSISTANCE BUZZER CONTROL MODULE |
| Connector Type | TH16FW-NH                               |



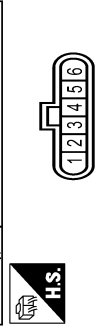
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | IGNITION                    |
| 3            | L             | ITS COMM-H                  |
| 5            | B/R           | GROUND                      |
| 6            | R             | SPEAKER OUT(+)              |
| 11           | Y             | ITS COMM-L                  |
| 13           | B/R           | GROUND                      |
| 16           | G             | SPEAKER OUT(-)              |

|                |              |
|----------------|--------------|
| Connector No.  | B245         |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS18MGY-CS   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | P             | -                           |
| 2            | O             | -                           |
| 3            | Y             | -                           |
| 6            | G             | -                           |
| 8            | G             | -                           |
| 9            | V             | -                           |
| 10           | P             | -                           |
| 11           | R/L           | -                           |
| 12           | P/L           | -                           |
| 13           | L             | -                           |
| 14           | Y             | -                           |
| 15           | SHIELD        | -                           |

|                |               |
|----------------|---------------|
| Connector No.  | B252          |
| Connector Name | SIDE RADAR RH |
| Connector Type | AA009FB-WP    |



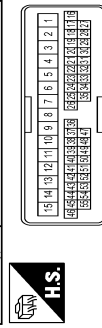
| Terminal No. | Color Of Wire | Signal Name [Specification]                    |
|--------------|---------------|--|
| 1            | B/R           | RIGHT/LEFT SWITCHING SIGNAL                    |
| 2            | B/R           | GROUND   |
| 3            | Y             | ITS COMM-L                                     |
| 4            | L             | ITS COMM-H                                     |
| 5            | G             | IGNITION                                       |
| 6            | BR            | BLU. LED BACKGROUND LIGHT INDICATION INDICATOR |

|                |                                      |
|----------------|--------------------------------------|
| Connector No.  | B260                                 |
| Connector Name | REAR COMBINATION LAMP RH (BODY SIDE) |
| Connector Type | NS04MW-CS                            |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | O             | -                           |
| 2            | P             | -                           |
| 3            | V             | -                           |
| 4            | BR            | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | D1           |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40FW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | G             | -                           |
| 3            | B             | -                           |
| 4            | L             | -                           |
| 5            | B             | -                           |
| 6            | L             | -                           |
| 7            | R             | -                           |
| 8            | GR            | -                           |
| 9            | G             | -                           |
| 10           | LG            | -                           |
| 11           | P             | -                           |
| 12           | LG            | -                           |
| 13           | B/W           | -                           |
| 14           | Y             | -                           |
| 15           | O             | -                           |
| 16           | R             | -                           |

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

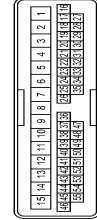
|    |        |   |   |   |   |
|----|--------|---|---|---|---|
| 17 | Y      | - | - | - | - |
| 18 | BR     | - | - | - | - |
| 19 | W      | - | - | - | - |
| 20 | O      | - | - | - | - |
| 21 | GR     | - | - | - | - |
| 22 | G      | - | - | - | - |
| 23 | LG     | - | - | - | - |
| 24 | B      | - | - | - | - |
| 25 | L      | - | - | - | - |
| 26 | P      | - | - | - | - |
| 27 | V      | - | - | - | - |
| 28 | W      | - | - | - | - |
| 29 | GR     | - | - | - | - |
| 30 | G      | - | - | - | - |
| 31 | Y      | - | - | - | - |
| 32 | O      | - | - | - | - |
| 33 | BR     | - | - | - | - |
| 34 | L      | - | - | - | - |
| 35 | P      | - | - | - | - |
| 36 | V      | - | - | - | - |
| 37 | GR     | - | - | - | - |
| 38 | O      | - | - | - | - |
| 39 | W      | - | - | - | - |
| 40 | R      | - | - | - | - |
| 41 | W      | - | - | - | - |
| 42 | B      | - | - | - | - |
| 43 | R      | - | - | - | - |
| 44 | G      | - | - | - | - |
| 45 | LG     | - | - | - | - |
| 46 | BR     | - | - | - | - |
| 47 | L      | - | - | - | - |
| 48 | Y      | - | - | - | - |
| 49 | P      | - | - | - | - |
| 50 | B/W    | - | - | - | - |
| 51 | G      | - | - | - | - |
| 52 | Y      | - | - | - | - |
| 53 | B/W    | - | - | - | - |
| 54 | W      | - | - | - | - |
| 55 | SHIELD | - | - | - | - |

|                |   |
|----------------|---|
| Connector No.  | D7  |
| Connector Name | BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR LH |
| Connector Type | TH40MV-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | SIGNAL                      |
| 4            | P             | EARTH                       |

|                |              |
|----------------|--------------|
| Connector No.  | D31          |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40FW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | B             | -                           |
| 3            | B/W           | -                           |
| 5            | GR            | -                           |
| 9            | V             | -                           |
| 10           | R             | -                           |
| 11           | L             | -                           |
| 12           | Y             | -                           |
| 13           | BR            | -                           |
| 14           | G             | -                           |
| 15           | SB            | -                           |
| 16           | G             | -                           |
| 17           | P             | -                           |
| 18           | BR            | -                           |
| 19           | GR            | -                           |
| 20           | V             | -                           |
| 21           | LG            | -                           |
| 22           | SB            | -                           |
| 23           | G             | -                           |

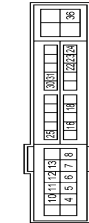
|    |        |   |   |
|----|--------|---|---|
| 24 | Y      | - | - |
| 25 | BR     | - | - |
| 26 | L      | - | - |
| 27 | W      | - | - |
| 28 | B      | - | - |
| 29 | R      | - | - |
| 30 | SHIELD | - | - |
| 31 | G      | - | - |
| 32 | P      | - | - |
| 33 | L      | - | - |
| 35 | W      | - | - |
| 36 | L      | - | - |
| 37 | P      | - | - |
| 38 | SB     | - | - |
| 39 | O      | - | - |
| 44 | SB     | - | - |
| 46 | B/W    | - | - |
| 53 | L      | - | - |
| 54 | B      | - | - |
| 55 | V      | - | - |

|                |   |
|----------------|---|
| Connector No.  | D37   |
| Connector Name | BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR RH |
| Connector Type | TH40MV-NH   |



|              |               |                             |
|--------------|---------------|-----------------------------|
| Terminal No. | Color Of Wire | Signal Name [Specification] |
| 1            | P             | SIGNAL                      |
| 4            | L             | EARTH                       |

|                |   |
|----------------|---|
| Connector No.  | E5  |
| Connector Name | POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4-1V   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 4            | W             | ENG SOL                     |
| 5            | P             | IGN COIL                    |
| 6            | B             | ECM_VB [With VQ engine]     |
| 6            | SB            | ECM_VB [With VK engine]     |
| 7            | Y             | ETC [With VQ engine]        |
| 7            | R             | ETC [With VK engine]        |
| 8            | L/Y           | A/C COMP [With VQ engine]   |
| 8            | P             | A/C COMP [With VK engine]   |
| 10           | V             | ECM_BAT                     |
| 11           | B             | P-GND                       |
| 12           | G             | ABS ECU                     |
| 13           | GR            | FUEL_PUMP [With VQ engine]  |
| 13           | W             | FUEL_PUMP [With VK engine]  |
| 16           | V             | WIPER AUTOSTOP              |
| 18           | Y             | IGN SIGNAL                  |
| 22           | BR            | ALT-C                       |
| 23           | P             | DTL RLY                     |
| 24           | O             | HOOD SW                     |
| 25           | LG            | SUB ECU                     |
| 30           | BR            | PUSH START_SW               |
| 31           | BR            | NP_SW [With VK engine]      |
| 31           | W             | NP_SW [With VQ engine]      |
| 36           | GR            | FIL IGN SW                  |

A  
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C  
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DAS

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# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

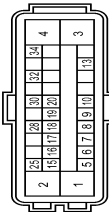
## DRIVER ASSISTANCE SYSTEMS

|                |            |
|----------------|------------|
| Connector No.  | E33        |
| Connector Name | ICC SENSOR |
| Connector Type | AAZ08FB    |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 1            | LG   | IGNITION                    |
| 3            | LG   | ITS COM+H                   |
| 6            | Y    | ITS COM+L                   |
| 8            | BY   | GROUND                      |

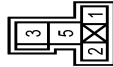
|                |   |
|----------------|---|
| Connector No.  | E41   |
| Connector Name | ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) |
| Connector Type | SAZ09FB-SJZ4-U                                |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 1            | B/W  | ECU(GND)                    |
| 2            | B    | MOTOR(GND)                  |
| 3            | Y    | SOLENOID(POWER)             |
| 4            | G    | MOTOR(POWER)                |
| 5            | SB   | STOP LAMP SW                |
| 6            | Y    | CANM2(L)                    |
| 7            | W    | R-LH SENS(SIGNAL)           |
| 8            | G    | R-RH SENS(POWER)            |
| 9            | BR   | F-RH SENS(SIGNAL)           |
| 10           | B    | F-RH SENS(POWER)            |
| 13           | LG   | VAC SENS(SIGNAL)            |
| 15           | P    | CANL                        |
| 18           | B    | CANM2(L)                    |
| 17           | Y    | R-RH SENS(SIGNAL)           |
| 16           | BR   | R-RH SENS(POWER)            |
| 19           | SB   | F-LH SENS(SIGNAL)           |

|    |        |                  |
|----|--------|------------------|
| 20 | O      | F-LH SENS(POWER) |
| 25 | L      | CAN-H            |
| 28 | V      | VAC SENS(POWER)  |
| 30 | R      | VDC OFF SW       |
| 32 | SHIELD | VAC SENS(GND)    |
| 34 | G      | IGN(POWER)       |

|                |                      |
|----------------|----------------------|
| Connector No.  | E92                  |
| Connector Name | ICC BRAKE HOLD RELAY |
| Connector Type | MS02FL-M2-LC         |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 1            | V    | -                           |
| 2            | LG   | -                           |
| 3            | V    | -                           |
| 5            | W    | -                           |

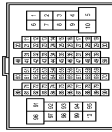
|                |                 |
|----------------|-----------------|
| Connector No.  | E103            |
| Connector Name | FUSE BLOCK (UB) |
| Connector Type | NS16FW-CS       |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 10F          | GR   | -                           |
| 12F          | Y    | -                           |
| 14F          | W    | -                           |
| 15F          | V    | -                           |
| 1F           | SB   | -                           |
| 2F           | LG   | -                           |
| 4F           | G    | -                           |
| 8F           | O    | -                           |

|    |    |   |
|----|----|---|
| 8F | BR | - |
| 9F | R  | - |

|                |                 |
|----------------|-----------------|
| Connector No.  | E106            |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Wire   | Signal Name [Specification] |
|--------------|--------|-----------------------------|
| 1            | B      | -                           |
| 2            | W      | -                           |
| 3            | SB     | -                           |
| 4            | LG     | -                           |
| 5            | O      | -                           |
| 6            | W      | -                           |
| 7            | GR     | -                           |
| 8            | G      | -                           |
| 9            | Y      | -                           |
| 10           | BR     | -                           |
| 11           | SB     | -                           |
| 12           | L      | -                           |
| 13           | GR     | -                           |
| 14           | GR     | -                           |
| 15           | V      | -                           |
| 16           | Y      | -                           |
| 17           | GR     | -                           |
| 18           | V      | -                           |
| 20           | BR     | -                           |
| 21           | P      | -                           |
| 22           | L      | -                           |
| 23           | P      | -                           |
| 27           | SHIELD | -                           |
| 28           | L/O    | -                           |
| 29           | W/L    | -                           |
| 31           | BR     | -                           |
| 32           | G      | -                           |
| 33           | G      | -                           |
| 34           | Y      | -                           |
| 36           | G      | -                           |
| 37           | V      | -                           |
| 41           | BR     | -                           |

|     |        |   |
|-----|--------|---|
| 44  | W      | - |
| 45  | L      | - |
| 46  | GR     | - |
| 47  | V      | - |
| 48  | G      | - |
| 49  | O      | - |
| 50  | LG     | - |
| 54  | R      | - |
| 55  | B      | - |
| 60  | W      | - |
| 61  | G      | - |
| 62  | Y      | - |
| 63  | BR     | - |
| 64  | B      | - |
| 65  | Y      | - |
| 66  | R      | - |
| 67  | SB     | - |
| 68  | G      | - |
| 69  | SHIELD | - |
| 70  | W      | - |
| 71  | W      | - |
| 72  | R      | - |
| 73  | G      | - |
| 74  | Y      | - |
| 75  | B      | - |
| 76  | SHIELD | - |
| 77  | O      | - |
| 78  | SB     | - |
| 80  | V      | - |
| 82  | SB     | - |
| 83  | GR     | - |
| 84  | Y      | - |
| 85  | Y      | - |
| 86  | L      | - |
| 87  | V      | - |
| 88  | BR     | - |
| 89  | LG     | - |
| 90  | W      | - |
| 91  | W      | - |
| 92  | P      | - |
| 93  | LG     | - |
| 94  | BR     | - |
| 95  | W      | - |
| 97  | R      | - |
| 98  | Y      | - |
| 99  | V      | - |
| 100 | V      | - |

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

|                |                  |
|----------------|------------------|
| Connector No.  | E110             |
| Connector Name | STOP LAMP SWITCH |
| Connector Type | M04FW-LC         |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | V             | -                           |
| 3            | G             | - [Without ICC]             |
| 4            | SB            | - [With ICC]                |

|                |                  |
|----------------|------------------|
| Connector No.  | E114             |
| Connector Name | ICC BRAKE SWITCH |
| Connector Type | M02FER-LC        |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | -                           |
| 2            | P             | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | F61          |
| Connector Name | A/T ASSEMBLY |
| Connector Type | RK10FG-D3Y   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | POWER SUPPLY (BACK UP)      |
| 2            | R             | POWER SUPPLY (BACK UP)      |
| 3            | V             | CAN-H                       |
| 4            | V             | K-LINE                      |
| 5            | B             | GND                         |
| 6            | G             | POWER SUPPLY (IGN)          |
| 7            | SB            | BACK-UP LAMP RELAY          |
| 8            | P             | CAN-L                       |
| 9            | BR            | PIN SIGNAL                  |
| 10           | B             | GROUND                      |

|                |        |
|----------------|--------|
| Connector No.  | F301   |
| Connector Name | TCM    |
| Connector Type | SP10FG |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | -             | VIGN                        |
| 2            | -             | BATT                        |
| 3            | -             | CAN-H                       |
| 4            | -             | K-LINE                      |
| 5            | -             | GND                         |
| 6            | -             | VIGN                        |
| 7            | -             | REV LAMP RLY                |
| 8            | -             | CAN-L                       |
| 9            | -             | START RLY                   |
| 10           | -             | GND                         |

|                |                 |
|----------------|-----------------|
| Connector No.  | M2              |
| Connector Name | FUSE BLOCK (UB) |
| Connector Type | NS10FM-CS       |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1B           | R             | -                           |
| 3B           | B             | -                           |
| 4B           | G             | -                           |
| 5B           | SB            | -                           |
| 6B           | W             | - [With V/G engine]         |
| 7B           | Y             | - [With V/G engine]         |
| 8B           | R             | -                           |
| 9B           | R             | -                           |

|                |                 |
|----------------|-----------------|
| Connector No.  | M6              |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH80MM-CS16-TM4 |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | L             | -                           |
| 3            | SB            | SHIELD                      |
| 4            | LG            | -                           |
| 5            | W             | -                           |
| 6            | W             | -                           |
| 7            | RG            | -                           |
| 8            | G             | -                           |
| 9            | Y             | -                           |
| 10           | W             | -                           |
| 11           | R             | -                           |

|    |        |                 |
|----|--------|-----------------|
| 12 | V      | -               |
| 13 | LG     | -               |
| 14 | L      | -               |
| 15 | V      | -               |
| 16 | B      | -               |
| 17 | GR     | -               |
| 18 | V      | -               |
| 20 | SB     | -               |
| 21 | BR     | -               |
| 22 | L      | -               |
| 23 | P      | -               |
| 27 | SHIELD | -               |
| 28 | V      | -               |
| 29 | SB     | -               |
| 31 | BG     | -               |
| 32 | P      | -               |
| 33 | R      | -               |
| 34 | RG     | -               |
| 36 | V      | -               |
| 37 | G      | -               |
| 41 | BR     | -               |
| 44 | BR     | -               |
| 45 | Y      | -               |
| 46 | BG     | -               |
| 47 | V      | -               |
| 48 | G      | -               |
| 49 | BG     | -               |
| 50 | W      | -               |
| 54 | W      | -               |
| 55 | G      | -               |
| 60 | GR     | -               |
| 61 | B      | -               |
| 62 | LG     | -               |
| 63 | BR     | -               |
| 64 | L      | - [With ICC]    |
| 64 | SB     | - [Without ICC] |
| 65 | R      | - [With ICC]    |
| 65 | Y      | - [Without ICC] |
| 66 | P      | -               |
| 67 | L      | -               |
| 68 | R      | -               |
| 69 | SHIELD | -               |
| 70 | B      | -               |
| 71 | W      | -               |
| 72 | R      | -               |
| 73 | G      | -               |
| 74 | Y      | -               |
| 75 | B      | -               |
| 76 | SHIELD | -               |
| 77 | B      | -               |

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DAS

# DRIVER ASSISTANCE SYSTEMS

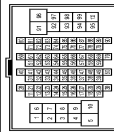
< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

|     |    |   |   |
|-----|----|---|---|
| 78  | V  | - | - |
| 80  | G  | - | - |
| 82  | B  | - | - |
| 83  | BG | - | - |
| 84  | SB | - | - |
| 85  | Y  | - | - |
| 86  | L  | - | - |
| 87  | V  | - | - |
| 88  | V  | - | - |
| 89  | LG | - | - |
| 90  | BG | - | - |
| 91  | W  | - | - |
| 92  | BG | - | - |
| 93  | G  | - | - |
| 94  | Y  | - | - |
| 95  | W  | - | - |
| 97  | SB | - | - |
| 98  | R  | - | - |
| 99  | W  | - | - |
| 100 | L  | - | - |

|                |                 |
|----------------|-----------------|
| Connector No.  | M7              |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TR80MW-CS16-TM4 |



| Terminal No. | Color Of Wire | Signal Name (Specification)      |
|--------------|---------------|----------------------------------|
| 1            | G             | -                                |
| 2            | Y             | -                                |
| 4            | BR            | -                                |
| 5            | P             | -                                |
| 7            | G             | -                                |
| 8            | Y             | -                                |
| 9            | G             | -                                |
| 10           | V             | -                                |
| 11           | L             | - [With heated seat]             |
| 12           | GR            | - [With climate controlled seat] |
| 12           | P             | - [With heated seat]             |
| 13           | BR            | - [With climate controlled seat] |
| 14           | GR            | -                                |

|    |        |   |   |
|----|--------|---|---|
| 15 | BG     | - | -   |
| 16 | V      | - | -   |
| 17 | BG     | - | -   |
| 18 | L      | - | - [Without CAN gateway]<br>- [With CAN gateway] |
| 19 | W      | - | -   |
| 20 | L      | - | -   |
| 21 | B      | - | -   |
| 22 | LG     | - | -   |
| 23 | W      | - | -   |
| 24 | V      | - | -   |
| 25 | G      | - | -   |
| 26 | BR     | - | -   |
| 27 | SB     | - | -   |
| 28 | P      | - | -   |
| 29 | L      | - | -   |
| 30 | SHIELD | - | -   |
| 32 | B      | - | -   |
| 33 | B      | - | -   |
| 34 | W      | - | -   |
| 35 | SHIELD | - | -   |
| 37 | BG     | - | -   |
| 41 | SB     | - | -   |
| 42 | V      | - | -   |
| 43 | L      | - | -   |
| 44 | B      | - | -   |
| 45 | BG     | - | -   |
| 46 | P      | - | -   |
| 47 | L      | - | -   |
| 48 | LG     | - | -   |
| 49 | BR     | - | -   |
| 50 | V      | - | -   |
| 51 | V      | - | -   |
| 52 | P      | - | -   |
| 53 | BG     | - | -   |
| 55 | G      | - | -   |
| 56 | SB     | - | -   |
| 57 | P      | - | -   |
| 58 | LG     | - | -   |
| 59 | Y      | - | -   |
| 60 | GR     | - | -   |
| 61 | B      | - | -   |
| 62 | LG     | - | -   |
| 63 | BR     | - | -   |
| 65 | W      | - | -   |
| 66 | R      | - | -   |
| 67 | V      | - | -   |
| 68 | LG     | - | -   |
| 69 | SB     | - | -   |

|    |    |   |   |
|----|----|---|---|
| 70 | V  | - | - |
| 72 | L  | - | - |
| 73 | P  | - | - |
| 74 | L  | - | - |
| 75 | P  | - | - |
| 76 | G  | - | - |
| 77 | Y  | - | - |
| 78 | SB | - | - |
| 79 | W  | - | - |
| 81 | LG | - | - |
| 82 | BR | - | - |
| 83 | BG | - | - |
| 84 | B  | - | - |
| 85 | W  | - | - |
| 86 | G  | - | - |
| 87 | R  | - | - |
| 88 | G  | - | - |
| 91 | W  | - | - |
| 92 | G  | - | - |
| 96 | W  | - | - |
| 97 | BG | - | - |
| 98 | Y  | - | - |
| 99 | LG | - | - |

|                |           |
|----------------|-----------|
| Connector No.  | M8        |
| Connector Name | RESISTOR  |
| Connector Type | MO2FBR-LC |



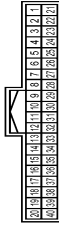
| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 1            | L             | -                           |
| 2            | B             | -                           |

|                |                          |
|----------------|--------------------------|
| Connector No.  | M13                      |
| Connector Name | DRIVER ASSISTANCE BUZZER |
| Connector Type | NS02FM-CS                |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 1            | R             | SPEAKER (IN+)               |
| 2            | G             | SPEAKER (IN-)               |

|                |             |
|----------------|-------------|
| Connector No.  | M20         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FB-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 2            | B             | -                           |
| 3            | Y             | -                           |
| 4            | G             | -                           |
| 5            | R             | -                           |
| 6            | W             | -                           |
| 11           | BR            | -                           |
| 12           | R             | -                           |
| 15           | B             | -                           |
| 16           | SHIELD        | -                           |
| 17           | R             | -                           |
| 18           | P             | -                           |
| 19           | W             | -                           |
| 21           | B             | -                           |
| 22           | R             | - [With ICC]                |
| 22           | Y             | - [Without ICC]             |
| 23           | L             | - [With ICC]                |
| 23           | SB            | - [Without ICC]             |

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

|    |   |   |
|----|---|---|
| 24 | L | - |
| 27 | P | - |
| 31 | V | - |
| 33 | V | - |
| 35 | L | - |
| 36 | P | - |
| 38 | L | - |
| 40 | Y | - |

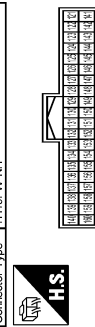
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|----------------|-------------|
| Connector No.  | M22         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FB-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 81           | L             | -                           |
| 82           | P             | -                           |
| 83           | B             | -                           |
| 84           | B             | -                           |
| 85           | B             | -                           |
| 86           | B             | -                           |
| 87           | B             | -                           |
| 88           | B             | -                           |
| 89           | Y             | -                           |
| 91           | V             | -                           |
| 92           | V             | -                           |
| 93           | B             | -                           |
| 94           | B             | -                           |
| 95           | LG            | -                           |
| 96           | BR            | -                           |
| 97           | G             | -                           |
| 98           | G             | -                           |
| 99           | G             | -                           |
| 100          | G             | -                           |
| 101          | L             | -                           |
| 102          | P             | -                           |
| 103          | B             | -                           |
| 104          | BR            | -                           |
| 105          | R             | -                           |
| 107          | Y             | -                           |
| 108          | Y             | -                           |

|     |    |                    |
|-----|----|--------------------|
| 109 | BR | -                  |
| 110 | Y  | -                  |
| 112 | B  | -                  |
| 113 | P  | -                  |
| 114 | L  | -                  |
| 116 | B  | -                  |
| 117 | B  | - [With VK engine] |
| 118 | B  | - [With VG engine] |
| 119 | LG | -                  |
| 120 | V  | -                  |

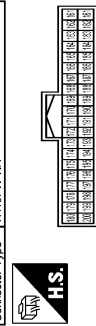
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|----------------|-------------|
| Connector No.  | M23         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 121          | R             | -                           |
| 122          | V             | -                           |
| 123          | BG            | -                           |
| 124          | BG            | -                           |
| 126          | B             | -                           |
| 131          | SB            | -                           |
| 132          | LG            | -                           |
| 133          | L             | -                           |
| 134          | L             | -                           |
| 135          | P             | -                           |
| 136          | P             | -                           |
| 137          | Y             | -                           |
| 138          | L             | -                           |
| 141          | W             | -                           |
| 142          | W             | -                           |
| 145          | B             | -                           |
| 146          | LG            | -                           |
| 147          | B             | -                           |
| 149          | B             | -                           |
| 150          | P             | -                           |
| 151          | L             | -                           |
| 152          | B             | -                           |
| 153          | W             | -                           |

|     |   |   |
|-----|---|---|
| 154 | W | - |
| 155 | W | - |
| 158 | R | - |
| 159 | R | - |

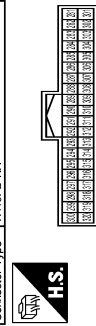
|                |             |
|----------------|-------------|
| Connector No.  | M24         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification)                       |
|--------------|---------------|---|
| 161          | BG            | -   |
| 162          | BG            | -   |
| 164          | V             | -   |
| 165          | V             | -   |
| 166          | R             | -   |
| 167          | LG            | -   |
| 169          | R             | -   |
| 171          | BG            | -   |
| 172          | B             | -   |
| 174          | W             | -   |
| 176          | L             | -   |
| 177          | P             | -   |
| 178          | Y             | -   |
| 179          | L             | -   |
| 180          | LG            | -   |
| 182          | BR            | - [With VG engine or with VK engine without (CC)] |
| 182          | R             | - [With VK engine with (CC)]                      |
| 183          | G             | -   |
| 184          | V             | -   |
| 185          | P             | -   |
| 186          | R             | -   |
| 187          | L             | -   |
| 187          | Y             | - [Without CAN gateway]                           |
| 188          | Y             | - [With CAN gateway]                              |
| 189          | B             | -   |
| 190          | V             | -   |
| 191          | LG            | -   |
| 192          | B             | -   |
| 193          | SB            | -   |
| 194          | BR            | -   |

|     |    |   |
|-----|----|---|
| 195 | SB | - |
| 198 | R  | - |
| 199 | B  | - |
| 200 | SB | - |

|                |             |
|----------------|-------------|
| Connector No.  | M27         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FB-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 281          | O             | -                           |
| 282          | BG            | -                           |
| 283          | BG            | -                           |
| 284          | BG            | -                           |
| 286          | W             | -                           |
| 287          | Y             | -                           |
| 289          | SHIELD        | -                           |
| 290          | B             | -                           |
| 291          | SHIELD        | -                           |
| 292          | B             | -                           |
| 293          | B             | -                           |
| 294          | B             | -                           |
| 295          | B             | -                           |
| 296          | GR            | -                           |
| 297          | B             | -                           |
| 298          | B             | -                           |
| 299          | L             | -                           |
| 300          | W             | -                           |
| 301          | R             | -                           |
| 302          | R             | -                           |
| 303          | R             | -                           |
| 304          | SHIELD        | -                           |
| 305          | P             | -                           |
| 306          | V             | -                           |
| 309          | G             | -                           |
| 310          | R             | -                           |
| 311          | W             | -                           |
| 312          | B             | -                           |
| 313          | B             | -                           |
| 314          | Y             | -                           |

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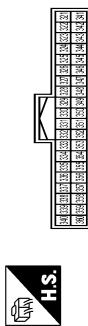
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JROWC3878GB

**DRIVER ASSISTANCE SYSTEMS**

|     |        |   |
|-----|--------|---|
| 315 | G      | - |
| 316 | R      | - |
| 317 | W      | - |
| 318 | SHIELD | - |
| 319 | V      | - |
| 320 | W      | - |

|                |             |
|----------------|-------------|
| Connector No.  | M28         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 321          | V             | -                           |
| 322          | V             | -                           |
| 324          | B             | -                           |
| 325          | L             | -                           |
| 326          | L             | -                           |
| 327          | P             | -                           |
| 328          | P             | -                           |
| 330          | B             | -                           |
| 331          | V             | -                           |
| 332          | V             | -                           |
| 335          | B             | -                           |
| 337          | W             | -                           |
| 338          | W             | -                           |
| 343          | L             | -                           |
| 344          | B             | -                           |
| 345          | Y             | -                           |
| 346          | L             | -                           |
| 347          | P             | -                           |
| 348          | GR            | -                           |
| 349          | V             | -                           |
| 350          | LG            | -                           |
| 351          | P             | -                           |
| 352          | R             | -                           |
| 353          | P             | -                           |
| 358          | W             | -                           |
| 359          | W             | -                           |
| 360          | G             | -                           |

|                |             |
|----------------|-------------|
| Connector No.  | M30         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 402          | R             | -                           |
| 403          | R             | -                           |
| 406          | B             | -                           |
| 407          | V             | -                           |
| 408          | B             | -                           |
| 409          | B             | -                           |
| 410          | B             | -                           |
| 411          | B             | -                           |
| 413          | Y             | -                           |
| 414          | BR            | -                           |
| 416          | LG            | -                           |
| 417          | B             | -                           |
| 419          | SB            | -                           |
| 420          | SHIELD        | -                           |
| 422          | V             | -                           |
| 427          | P             | -                           |
| 428          | V             | -                           |
| 429          | P             | -                           |
| 430          | LG            | -                           |
| 431          | B             | -                           |
| 432          | Y             | -                           |
| 435          | V             | -                           |
| 436          | BG            | -                           |
| 437          | B             | -                           |
| 438          | P             | -                           |
| 439          | L             | -                           |
| 440          | B             | -                           |

|                |                                   |
|----------------|-----------------------------------|
| Connector No.  | M36                               |
| Connector Name | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Type | TK08FGY-1V                        |



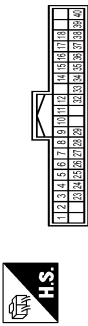
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 24           | P             | -                           |
| 25           | SB            | -                           |
| 26           | B             | -                           |
| 31           | L             | -                           |
| 32           | Y             | -                           |
| 33           | B             | -                           |
| 34           | LG            | -                           |

|                |                       |
|----------------|-----------------------|
| Connector No.  | M37                   |
| Connector Name | STEERING ANGLE SENSOR |
| Connector Type | TH08FW-NH             |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | CANH                        |
| 2            | P             | CANH                        |
| 7            | B             | GND                         |
| 8            | G             | IGN                         |

|                |                   |
|----------------|-------------------|
| Connector No.  | M53               |
| Connector Name | COMBINATION METER |
| Connector Type | TH40FW-NH         |



| Terminal No. | Color Of Wire | Signal Name [Specification]                  |
|--------------|---------------|--|
| 1            | W             | BATTERY POWER SUPPLY                         |
| 2            | BG            | IGNITION SIGNAL                              |
| 3            | GR            | VEHICLE SPEED SIGNAL (2-PULSE)               |
| 4            | R             | VEHICLE SPEED SIGNAL (8-PULSE)               |
| 5            | B             | ILLUMINATION CONTROL SIGNAL                  |
| 6            | B             | METER CONTROL SWITCH GROUND                  |
| 7            | SB            | ENTER SWITCH SIGNAL                          |
| 8            | LG            | SELECT SWITCH SIGNAL                         |
| 9            | G             | ILLUMINATION CONTROL SWITCH SIGNAL (+)       |
| 10           | GR            | ILLUMINATION CONTROL SWITCH SIGNAL (-)       |
| 11           | L             | TRIP RESET SWITCH SIGNAL                     |
| 12           | B             | GROUND                                       |
| 14           | L             | CANH   |
| 15           | P             | CANH   |
| 16           | R             | AIR BAG SIGNAL                               |
| 17           | G             | LED HEADLAMP (RH) WARNING SIGNAL             |
| 18           | V             | LED HEADLAMP (LH) WARNING SIGNAL             |
| 23           | B             | GROUND                                       |
| 24           | B             | FUEL LEVEL SENSOR GROUND                     |
| 25           | W             | ALTERNATOR SIGNAL                            |
| 26           | V             | PARKING BRAKE SWITCH SIGNAL                  |
| 27           | V             | BRAKE FLUID LEVEL SWITCH SIGNAL              |
| 28           | G             | SECURITY SIGNAL                              |
| 29           | L             | WASHER LEVEL SWITCH SIGNAL                   |
| 32           | G             | PADDLE SHIFTER SHIFT DOWN SIGNAL             |
| 33           | BG            | FUEL LEVEL SENSOR SIGNAL                     |
| 34           | G             | FUEL LEVEL SENSOR SIGNAL                     |
| 35           | W             | SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SEAT) |
| 36           | G             | PASSENGER SEAT BELT WARNING SIGNAL           |
| 37           | G             | NON-MANUAL MODE SIGNAL                       |
| 38           | V             | MANUAL MODE SHIFT DOWN SIGNAL                |
| 39           | L             | MANUAL MODE SHIFT UP SIGNAL                  |
| 40           | W             | MANUAL MODE SIGNAL                           |



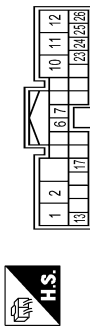
# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

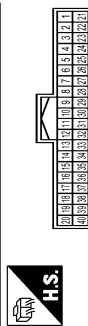
## DRIVER ASSISTANCE SYSTEMS

|                |              |
|----------------|--------------|
| Connector No.  | M166         |
| Connector Name | AC AUTO AMP. |
| Connector Type | TH40FW-TB6   |



| Terminal No. | Color Of Wire | Signal Name [Specification]     |
|--------------|---------------|---------------------------------|
| 1            | L             | BATTERY POWER SUPPLY            |
| 2            | W             | IGNITION POWER SUPPLY           |
| 5            | R             | BLOWER MOTOR FB SIGNAL          |
| 7            | L             | POWER TRANSISTOR CONTROL SIGNAL |
| 10           | B             | GROUND                          |
| 11           | P             | CANH                            |
| 12           | L             | CANL                            |
| 13           | V             | ACC POWER SUPPLY                |
| 17           | BG            | ECU CONTROL SIGNAL              |
| 23           | W             | DRIVE MODE SELECT SW (SNOW)     |
| 24           | L             | DRIVE MODE SELECT SW (STANDARD) |
| 25           | G             | DRIVE MODE SELECT SW (ECO)      |
| 26           | Y             | DRIVE MODE SELECT SW (SPORT)    |

|                |              |
|----------------|--------------|
| Connector No.  | M105         |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40FW-NH    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | B             | -                           |
| 3            | B             | -                           |
| 5            | Y             | -                           |
| 6            | LG            | -                           |
| 8            | P             | -                           |
| 7            | L             | -                           |
| 8            | P             | -                           |
| 9            | B             | -                           |

| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 10           | W             | -                           |
| 11           | W             | -                           |
| 12           | SB            | -                           |
| 13           | G             | -                           |
| 14           | SB            | -                           |
| 15           | BR            | -                           |
| 16           | V             | -                           |
| 17           | P             | -                           |
| 18           | G             | -                           |
| 22           | BG            | -                           |
| 23           | B             | -                           |
| 25           | W             | -                           |
| 30           | R             | -                           |
| 31           | BR            | -                           |
| 32           | L             | -                           |
| 33           | P             | -                           |
| 34           | LG            | -                           |
| 35           | W             | -                           |
| 36           | LG            | -                           |
| 37           | L             | -                           |
| 38           | BG            | -                           |
| 39           | SHIELD        | -                           |
| 40           | W             | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | M106         |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS18MW-CS    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 3            | R             | -                           |
| 4            | BG            | -                           |
| 5            | Y             | -                           |
| 6            | R             | -                           |
| 7            | B             | -                           |
| 8            | L             | -                           |

|                |                 |
|----------------|-----------------|
| Connector No.  | M107            |
| Connector Name | ECM             |
| Connector Type | RH24FY-RZ8-RH-Z |



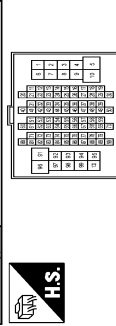
| Terminal No. | Color Of Wire | Signal Name [Specification]                     |
|--------------|---------------|---|
| 97           | R             | ACCELERATOR PEDAL POSITION SENSOR 1             |
| 98           | Y             | ACCELERATOR PEDAL POSITION SENSOR 2             |
| 99           | G             | SENSOR DATA ACCELERATOR PEDAL POSITION SENSOR 1 |
| 100          | W             | SENSOR DATA ACCELERATOR PEDAL POSITION SENSOR 2 |
| 101          | SB            | ASC/D STEERING SWITCH                           |
| 102          | P             | FUEL TANK PRESSURE SENSOR                       |
| 103          | L             | SENSOR DATA FUEL TANK PRESSURE SENSOR 1         |
| 104          | B             | SENSOR GROUND (Without ICC)                     |
| 104          | BR            | SENSOR GROUND (With ICC)                        |
| 105          | LG            | REFRIGERANT PRESSURE SENSOR                     |
| 106          | P             | FUEL TANK TEMPERATURE SENSOR                    |
| 107          | BG            | AVCC2 PDPRES/FPRES                              |
| 108          | Y             | GND ASCD SW                                     |
| 109          | BR            | ENGINE SPEED SIGNAL OUTPUT                      |
| 110          | V             | TRANSMISSION RANGE SWITCH                       |
| 111          | V             | GND PDPRES/FPRES                                |
| 112          | V             | GND PDPRES/FPRES                                |
| 113          | P             | CAN COMMUNICATION LINE                          |
| 114          | L             | CAN COMMUNICATION LINE                          |
| 117          | V             | DATA LINK CONNECTOR                             |
| 121          | G             | EVAP CANISTER VENT CONTROL VALVE                |
| 122          | P             | STOP LAMP SWITCH                                |
| 123          | B             | ECM GROUND                                      |
| 124          | B             | ECM GROUND                                      |
| 125          | SB            | POWER SUPPLY FOR ECM                            |
| 126          | BR            | ASGD BRAKE SWITCH                               |
| 127          | B             | ECM GROUND                                      |
| 128          | B             | ECM GROUND                                      |

|                |              |
|----------------|--------------|
| Connector No.  | M110         |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH24MW-NH    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | -                           |
| 2            | Y             | -                           |
| 3            | W             | -                           |
| 4            | R             | -                           |
| 5            | L             | -                           |
| 6            | B             | -                           |
| 7            | BR            | -                           |
| 8            | R             | -                           |
| 9            | B             | -                           |
| 10           | V             | -                           |
| 11           | BR            | -                           |
| 12           | G             | -                           |
| 13           | L             | -                           |
| 20           | V             | -                           |
| 21           | R             | -                           |
| 22           | G             | -                           |
| 23           | L             | -                           |
| 24           | LG            | -                           |

|                |                 |
|----------------|-----------------|
| Connector No.  | M117            |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH80FW-CS:6-TM4 |



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DAS

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

| Terminal No. | Color Of Wire | Signal Name [Specification]      |
|--------------|---------------|----------------------------------|
| 1            | Y             | -                                |
| 3            | Y             | -                                |
| 6            | R             | -                                |
| 7            | W             | -                                |
| 8            | V             | -                                |
| 11           | R             | -                                |
| 12           | G             | -                                |
| 13           | W             | -                                |
| 14           | L             | -                                |
| 15           | R             | - [Without ADAS]                 |
| 15           | Y             | - [With ADAS]                    |
| 17           | GR            | -                                |
| 18           | P             | -                                |
| 19           | BR            | -                                |
| 20           | GR            | -                                |
| 21           | Y             | -                                |
| 22           | LG            | -                                |
| 23           | R             | -                                |
| 24           | BS            | -                                |
| 25           | BS            | -                                |
| 26           | W             | -                                |
| 28           | V             | -                                |
| 29           | P             | -                                |
| 30           | B             | -                                |
| 31           | G             | -                                |
| 32           | Y             | -                                |
| 40           | SHIELD        | -                                |
| 41           | R             | -                                |
| 42           | V             | -                                |
| 45           | SB            | -                                |
| 46           | BS            | - [With heated seat]             |
| 46           | L             | - [With climate controlled seat] |
| 47           | G             | - [With climate controlled seat] |
| 47           | GR            | - [With heated seat]             |
| 48           | V             | -                                |
| 49           | BG            | -                                |
| 50           | LG            | -                                |
| 51           | SB            | -                                |
| 52           | Y             | -                                |
| 53           | W             | -                                |
| 56           | B             | -                                |
| 57           | G             | -                                |
| 58           | R             | -                                |
| 59           | W             | -                                |
| 61           | LG            | -                                |
| 62           | V             | -                                |
| 63           | R             | -                                |
| 64           | SB            | -                                |

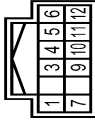
|     |        |                                  |
|-----|--------|----------------------------------|
| 65  | LG     | -                                |
| 66  | L      | -                                |
| 67  | Y      | -                                |
| 68  | SB     | -                                |
| 69  | B      | -                                |
| 71  | L      | -                                |
| 72  | L      | -                                |
| 73  | P      | -                                |
| 74  | B      | -                                |
| 75  | L      | -                                |
| 76  | SHIELD | -                                |
| 77  | G      | -                                |
| 78  | R      | -                                |
| 79  | L      | -                                |
| 80  | G      | -                                |
| 81  | BG     | -                                |
| 82  | BR     | -                                |
| 83  | GR     | -                                |
| 84  | V      | -                                |
| 85  | LG     | -                                |
| 86  | V      | -                                |
| 87  | R      | -                                |
| 88  | Y      | -                                |
| 89  | BR     | -                                |
| 90  | L      | -                                |
| 91  | Y      | -                                |
| 93  | G      | -                                |
| 93  | W      | - [With heated seat]             |
| 94  | V      | - [With climate controlled seat] |
| 96  | W      | -                                |
| 97  | Y      | -                                |
| 98  | BR     | -                                |
| 99  | G      | -                                |
| 100 | Y      | -                                |

|                |                           |
|----------------|---------------------------|
| Connector No.  | M120                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FB-NH                 |



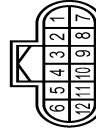
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | RR WINDOW DEFGR L/R CONT    |
| 2            | BG            | COMBI SW INPUT 5            |
| 3            | SB            | COMBI SW INPUT 4            |
| 4            | L             | COMBI SW INPUT 3            |
| 5            | G             | COMBI SW INPUT 2            |
| 6            | P             | COMBI SW INPUT 1            |
| 8            | V             | POWER WINDOW SW COMM        |
| 9            | P             | STOP LAMP SW 1              |
| 11           | R             | RAIN SENSOR SERIAL LINK     |
| 14           | W             | OPTICAL SENSOR              |
| 16           | SB            | DIMMER SIGNAL               |
| 17           | Y             | SENSOR PWR SPLY             |
| 18           | B             | RECEIVER / SENSOR GND       |
| 19           | V             | TURN SIG RH OUTPUT (FRONT)  |
| 20           | G             | TURN SIG LH OUTPUT (FRONT)  |
| 21           | P             | NATS ANT AMP                |
| 22           | GR            | KYLS ENT RECEIVER RSSI      |
| 23           | G             | SECURITY IND CONT           |
| 24           | L             | DONGLE LINK                 |
| 25           | G             | NATS ANT AMP                |
| 26           | G             | I-KEY IDENTIFICATION        |
| 29           | G             | HAZARD SW                   |
| 30           | O             | TR LID ORNR SW              |
| 31           | W             | DR DOOR UNLK SENSOR         |
| 32           | BR            | COMBI SW OUTPUT 5           |
| 33           | R             | COMBI SW OUTPUT 4           |
| 34           | V             | COMBI SW OUTPUT 3           |
| 35           | Y             | COMBI SW OUTPUT 2           |
| 36           | LG            | COMBI SW OUTPUT 1           |
| 37           | R             | P POSITION                  |
| 39           | L             | CANLH                       |
| 40           | P             | CANLH                       |

|                |             |
|----------------|-------------|
| Connector No.  | M125        |
| Connector Name | CAN GATEWAY |
| Connector Type | TH12FM-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | CANH                        |
| 3            | GR            | BATTERY                     |
| 4            | L             | CANH                        |
| 5            | B             | GND                         |
| 6            | L             | CANLH                       |
| 7            | P             | CANL                        |
| 8            | W             | IGNITION                    |
| 9            | W             | CANL                        |
| 10           | P             | CANL                        |
| 11           | B             | GND                         |
| 12           | P             | CANL                        |

|                |              |
|----------------|--------------|
| Connector No.  | M150         |
| Connector Name | WIRE TO WIRE |
| Connector Type | RH12FB       |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | -                           |
| 2            | BR            | -                           |
| 3            | R             | -                           |
| 4            | L             | -                           |
| 5            | W             | -                           |
| 6            | G             | -                           |
| 7            | BG            | -                           |
| 8            | LG            | -                           |
| 9            | G             | -                           |
| 10           | Y             | -                           |

JROWC38B1GB

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

## DRIVER ASSISTANCE SYSTEMS

|    |        |   |
|----|--------|---|
| 11 | L      | - |
| 12 | SHIELD | - |

Connector No. M151  
 Connector Name WIRE TO WIRE  
 Connector Type RH12MB



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | -                           |
| 2            | B             | -                           |
| 3            | R             | -                           |
| 4            | L             | -                           |
| 5            | W             | -                           |
| 6            | G             | -                           |
| 7            | O             | -                           |
| 8            | B             | -                           |
| 9            | R             | -                           |
| 10           | Y             | -                           |
| 11           | L             | -                           |
| 12           | SHIELD        | -                           |

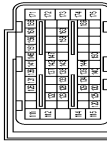
Connector No. M154  
 Connector Name ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR  
 Connector Type RH12FB



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | O             | BATTERY                     |
| 2            | R             | IGNITION                    |
| 3            | L             | ITS COMM-H                  |
| 4            | G             | SENSOR POWER SUPPLY         |

|    |   |  |
|----|---|--|
| 5  | W | SENSOR GROUND                              |
| 6  | R | ACCELERATOR PEDAL POSITION SENSOR 1 GROUND |
| 7  | B | GROUND                                     |
| 9  | Y | ITS COMM-L                                 |
| 10 | L | SENSOR POWER SUPPLY                        |
| 11 | B | SENSOR GROUND                              |
| 12 | Y | ACCELERATOR PEDAL POSITION SENSOR 2        |

Connector No. M160  
 Connector Name ECM  
 Connector Type MABS5FB-MEB10-LH-Z



| Terminal No. | Color Of Wire | Signal Name [Specification]  |
|--------------|---------------|--|
| 111          | W             | FUEL INJECTOR DRIVER POWER SUPPLY  |
| 112          | W             | FUEL INJECTOR DRIVER POWER SUPPLY  |
| 114          | B             | ECM GROUND   |
| 115          | B             | ECM GROUND   |
| 120          | G             | EVAP CANISTER VENT CONTROL VALVE (VAV) ACTUATOR RELAY (BISTABLE) SIGNAL LEVEL CONTROL MODULE |
| 122          | V             | THROTTLE CONTROL MOTOR RELAY   |
| 123          | BG            | FUEL PUMP CONTROL MODULE (FCM)   |
| 125          | P             | ACCELERATOR PEDAL POSITION SENSOR 2  |
| 126          | Y             | ASC/D STEERING SWITCH  |
| 128          | SB            | SENSOR GROUND (With ITC)   |
| 129          | B             | SENSOR GROUND (With ICC)   |
| 129          | BR            | SENSOR GROUND  |
| 130          | Y             | SENSOR POWER SUPPLY  |
| 131          | L             | SENSOR POWER SUPPLY  |
| 133          | BG            | SENSOR POWER SUPPLY  |
| 134          | P             | FUEL TANK TEMPERATURE SENSOR   |
| 136          | R             | ACCELERATOR PEDAL POSITION SENSOR 1  |
| 137          | G             | SENSOR POWER SUPPLY  |
| 138          | P             | BATTERY CURRENT SENSOR   |
| 139          | BG            | BATTERY TEMPERATURE SENSOR   |
| 140          | W             | SENSOR GROUND  |
| 141          | G             | IGNITION SWITCH  |
| 142          | GR            | FUEL PUMP CONTROL MODULE (FCM) CHECK   |
| 143          | P             | FUEL TANK PRESSURE SENSOR  |
| 144          | LG            | REFRIGERANT PRESSURE SENSOR  |
| 146          | L             | CAN COMMUNICATION LINE   |
| 147          | BR            | ASC/D BRAKE SWITCH   |

|     |    |                                     |
|-----|----|-------------------------------------|
| 150 | V  | SENSOR GROUND                       |
| 151 | P  | CAN COMMUNICATION LINE              |
| 156 | W  | POWER SUPPLY FOR ECM (BACK-UP)      |
| 158 | P  | STOP LAMP SWITCH                    |
| 161 | Y  | ENG COMMUNICATION LINE              |
| 163 | W  | ENG RELAY (SELF SHUT-OFF)           |
| 166 | BG | ENG COMMUNICATION LINE              |
| 169 | V  | ENGINE SPEED SIGNAL OUTPUT          |
| 171 | SB | POWER SUPPLY FOR ECM                |
| 172 | R  | THROTTLE CONTROL MOTOR POWER SUPPLY |
| 174 | B  | ECM GROUND                          |
| 175 | B  | ECM GROUND                          |

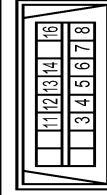
Connector No. M181  
 Connector Name WIRE TO WIRE  
 Connector Type TH60MV-NH



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | R             | -                           |
| 3            | B             | -                           |
| 5            | R             | -                           |
| 6            | BR            | -                           |
| 7            | L             | -                           |
| 8            | P             | -                           |
| 9            | B             | -                           |
| 10           | W             | -                           |
| 11           | LG            | -                           |
| 12           | SB            | -                           |
| 13           | G             | -                           |
| 14           | SB            | -                           |
| 15           | BR            | -                           |
| 16           | V             | -                           |
| 17           | P             | -                           |
| 18           | G             | -                           |
| 22           | BG            | -                           |
| 23           | B             | -                           |
| 25           | W             | -                           |
| 30           | R             | -                           |
| 31           | BR            | -                           |

|    |        |   |
|----|--------|---|
| 32 | L      | - |
| 33 | P      | - |
| 34 | LG     | - |
| 35 | W      | - |
| 36 | LG     | - |
| 37 | L      | - |
| 38 | BG     | - |
| 39 | SHIELD | - |
| 40 | W      | - |

Connector No. M182  
 Connector Name DATA LINK CONNECTOR  
 Connector Type BD18FW



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 3            | LG            | M-CAN L                     |
| 4            | B             | EARTH                       |
| 5            | B             | EARTH                       |
| 6            | L             | CAN-H                       |
| 7            | V             | KLINGE                      |
| 8            | LG            | IGN.SW                      |
| 11           | SB            | M-CAN H                     |
| 12           | P             | CAN-L                       |
| 13           | L             | CAN-H                       |
| 14           | P             | CAN-L                       |
| 16           | W             | POWER                       |

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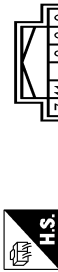
# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

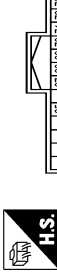
## DRIVER ASSISTANCE SYSTEMS

|                |               |
|----------------|---------------|
| Connector No.  | M183          |
| Connector Name | TRIPLE SWITCH |
| Connector Type | TH12FB-NH     |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | LG            | -                           |
| 2            | BR            | - [W/In:ICC]                |
| 3            | SB            | - [W/Out:ICC]               |
| 4            | BR            | -                           |
| 5            | B             | -                           |
| 6            | R             | -                           |
| 7            | B             | -                           |
| 8            | W             | -                           |
| 9            | W             | -                           |
| 10           | B             | -                           |
| 11           | B             | -                           |
| 12           | L             | -                           |

|                |                 |
|----------------|-----------------|
| Connector No.  | M210            |
| Connector Name | AV CONTROL UNIT |
| Connector Type | TH192FW-NH      |



| Terminal No. | Color Of Wire | Signal Name [Specification]   |
|--------------|---------------|-------------------------------|
| 65           | V             | PARKING BRAKE SIGNAL          |
| 67           | R             | COMPOSITE IMAGE SIGNAL GND    |
| 68           | W             | COMPOSITE IMAGE SIGNAL        |
| 69           | G             | I-KEY (IDENTIFICATION SIGNAL) |
| 70           | P             | SHIELD                        |
| 71           | SHIELD        | MICROPHONE SHIELD             |
| 72           | G             | MICROPHONE VCC                |
| 73           | BR            | COMM (CONT->DISP)             |
| 74           | P             | CAN-L                         |
| 75           | LG            | AV COMM (L)                   |

| Terminal No. | Color Of Wire | Signal Name [Specification]    |
|--------------|---------------|--------------------------------|
| 76           | LG            | AV COMM (L)                    |
| 79           | SB            | DIMMER SIGNAL                  |
| 80           | W             | IGNITION SIGNAL                |
| 81           | BG            | REVERSE SIGNAL                 |
| 82           | R             | VEHICLE SPEED SIGNAL (8-PULSE) |
| 83           | SHIELD        | SHIELD                         |
| 84           | B             | COMPOSITE IMAGE SYNC SIGNAL    |
| 87           | R             | MICROPHONE SIGNAL              |
| 88           | SHIELD        | SHIELD                         |
| 89           | Y             | COMM (DISP->CONT)              |
| 90           | L             | CAN-H                          |
| 91           | SB            | AV COMM (H)                    |
| 92           | SB            | AV COMM (H)                    |

|                |              |
|----------------|--------------|
| Connector No.  | M221         |
| Connector Name | WIRE TO WIRE |
| Connector Type | M03FW-LC     |



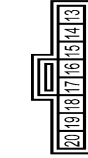
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | R             | -                           |
| 3            | W             | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | M222         |
| Connector Name | WIRE TO WIRE |
| Connector Type | M03MW-LC     |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | R             | -                           |
| 3            | Y             | -                           |

|                |                                   |
|----------------|-----------------------------------|
| Connector No.  | M303                              |
| Connector Name | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Type | TK08FGY                           |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 13           | -             | -                           |
| 14           | -             | -                           |
| 15           | -             | -                           |
| 16           | -             | -                           |
| 17           | -             | -                           |
| 18           | -             | -                           |
| 19           | -             | -                           |
| 20           | -             | -                           |

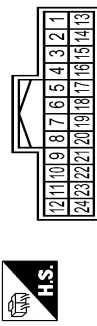
|                |              |
|----------------|--------------|
| Connector No.  | R1           |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FW-GS    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 3            | R             | -                           |
| 4            | BS            | -                           |
| 5            | Y             | -                           |
| 6            | GR            | -                           |

| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 7            | B             | -                           |
| 8            | BR            | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | R7           |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH24FW-NH    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | -                           |
| 2            | Y             | -                           |
| 3            | W             | -                           |
| 4            | R             | -                           |
| 5            | L             | -                           |
| 6            | B             | -                           |
| 7            | R             | -                           |
| 8            | P             | -                           |
| 9            | B             | -                           |
| 10           | V             | -                           |
| 11           | BR            | -                           |
| 12           | G             | -                           |
| 13           | L             | -                           |
| 20           | R             | -                           |
| 21           | R             | -                           |
| 22           | G             | -                           |
| 23           | L             | -                           |
| 24           | LG            | -                           |

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**DRIVER ASSISTANCE SYSTEMS**

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| Connector No.  | IR8              |
| Connector Name | LANE CAMERA UNIT |
| Connector Type | THK8FV-NH        |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | GROUND                      |
| 4            | B             | ITS COM+H                   |
| 5            | B             | GROUND                      |
| 7            | O             | IGNITION                    |
| 8            | Y             | ITS COM+L                   |

JROWC3884GB

DAS

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## BASIC INSPECTION

### ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT

#### Description

INFOID:000000011436740

Always perform the ADAS control unit configuration after replacing the ADAS control unit.

#### Work Procedure

INFOID:000000011436741

#### 1. ADAS CONTROL UNIT CONFIGURATION

---

Perform the ADAS control unit configuration with CONSULT. Refer to [DAS-63. "Description"](#).

>> GO TO 2.

#### 2. PERFORM SELF-DIAGNOSIS

---

Perform the self-diagnosis of ADAS control unit with CONSULT. Check if any DTC is detected.

Is any DTC detected?

- YES >> Perform the trouble diagnosis for the detected DTC. Refer to [DAS-40. "DTC Index"](#).
- NO >> INSPECTION END

# CONFIGURATION (ADAS CONTROL UNIT)

< BASIC INSPECTION >

[ADAS CONTROL UNIT]

## CONFIGURATION (ADAS CONTROL UNIT)

### Description

INFOID:000000011436742

- Since vehicle specifications are not included in the ADAS control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

| Function                 |                    | Description   |
|--------------------------|--------------------|---|
| Read/Write Configuration | Before Replace ECU | Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT. |
|                          | After Replace ECU  | Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.                     |
| Manual Configuration     |                    | Allows the writing of the vehicle specification into the ADAS control unit by hand.                             |

### Work Procedure

INFOID:000000011436743

#### 1. SAVING VEHICLE SPECIFICATION

##### Ⓜ WITH CONSULT

Perform "READ CONFIGURATION" to save or print current vehicle specification.

Is vehicle specification saved normally?

YES >> GO TO 2.

NO >> GO TO 4.

#### 2. REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

>> GO TO 3.

#### 3. WRITING VEHICLE SPECIFICATION

##### Ⓜ WITH CONSULT

Perform "WRITE CONFIGURATION - Config file" to write vehicle specification.

>> GO TO 6.

#### 4. REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

>> GO TO 5.

#### 5. WRITING VEHICLE SPECIFICATION

##### Ⓜ WITH CONSULT

Select "WRITE CONFIGURATION - Manual selection" and write in the following list at a ADAS control unit depending on a vehicle specification.

##### NOTE:

- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.
- If selection items are not displayed on the CONSULT screen, touch "OK".

| Setting item        |               |                        |
|---------------------|---------------|------------------------|
| Items               | Setting value | Description            |
| CAMERA CONTROL UNIT | WITHOUT       | Without LDW/LDP system |
|                     | WITH          | With LDP/LDW system    |

# CONFIGURATION (ADAS CONTROL UNIT)

< BASIC INSPECTION >

[ADAS CONTROL UNIT]

| Setting item |               |             |
|--------------|---------------|-------------|
| Items        | Setting value | Description |
| 2WD/4WD      | 2WD           | 2WD models  |
|              | 4WD           | 4WD models  |

>> GO TO 6.

## 6. OPERATION CHECK

Confirm that each function controlled by ADAS control unit operates normally.

>> WORK END



# DTC/CIRCUIT DIAGNOSIS

## C1A0A CONFIG UNFINISHED

### DTC Logic

INFOID:000000011436744

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                        | DTC detecting condition  |
|---------------------------|---|--|
| C1A0A<br>(41)             | CONFIG UNFINISH<br>(Configuration unfinished) | The vehicle specifications of ADAS control unit is incomplete. |

### POSSIBLE CAUSE

Vehicle specifications for ADAS control unit is incomplete.

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A01" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A01" detected as the current malfunction?

- YES >> Refer to [DAS-65, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436745

#### 1.PERFORM CONFIGURATION OF ADAS CONTROL UNIT

Perform configuration of ADAS control unit when DTC "C1A0A" is detected.

>> Perform configuration of ADAS control unit. Refer to [DAS-63, "Description"](#).

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DAS

## C1A00 CONTROL UNIT

### DTC Logic

INFOID:000000011436746

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name         | DTC detecting condition                |
|---------------------------|--------------------------------|--|
| C1A00<br>(0)              | CONTROL UNIT<br>(Control unit) | ADAS control unit internal malfunction |

### POSSIBLE CAUSE

ADAS control unit

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1A00" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A00" detected as the current malfunction?

- YES >> Refer to [DAS-66, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436747

#### 1. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than "C1A00" is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-40, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

### DTC Logic

INFOID:000000011436748

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                         | DTC detecting condition  |
|---------------------------|--|--|
| C1A01<br>(1)              | POWER SUPPLY CIR<br>(Power supply circuit)     | The battery voltage sent to ADAS control unit remains less than 7.9 V for 5 seconds  |
| C1A02<br>(2)              | POWER SUPPLY CIR 2<br>(Power supply circuit 2) | The battery voltage sent to ADAS control unit remains more than 19.3 V for 5 seconds |

### POSSIBLE CAUSE

- Connector, harness, fuse
- ADAS control unit

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A01" or "C1A02" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A01" or "C1A02" detected as the current malfunction?

YES >> Refer to [DAS-67, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436749

#### 1. CHECK ADAS CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ADAS control unit. Refer to [DAS-164, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

NO >> Repair or replace the malfunctioning parts.

# C1A03 VEHICLE SPEED SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A03 VEHICLE SPEED SENSOR

### DTC Logic

INFOID:000000011436750

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                               | DTC detecting condition   |
|---------------------------|--|---|
| C1A03<br>(3)              | VHCL SPEED SE CIRC<br>(Vehicle speed sensor circuit) | If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) and the A/T vehicle speed sensor signal (output shaft revolution signal) from TCM, received by the ADAS control unit via CAN communication, are inconsistent |

### POSSIBLE CAUSE

- Wheel speed sensor
- ABS actuator and electric unit (control unit)
- Vehicle speed sensor A/T (output speed sensor)
- TCM
- ADAS control unit

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1A03" is displayed with DTC "U1000" or "C1A04", first diagnose the DTC "U1000" or "C1A04".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - C1A04: Refer to [DAS-70, "DTC Logic"](#)

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Drive the vehicle at 30 km/h (19 MPH) or more.

**CAUTION:**

**Always drive safely.**

4. Stop the vehicle.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the "C1A03" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A03" detected as the current malfunction?

YES >> Refer to [DAS-69, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

# C1A03 VEHICLE SPEED SENSOR

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

INFOID:000000011436751

## Diagnosis Procedure

### 1. CHECK DTC PRIORITY

If DTC "C1A03" is displayed with DTC "U1000" or "C1A04", first diagnose the DTC "U1000" or "C1A04".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - C1A04: Refer to [DAS-70, "DTC Logic"](#)

NO >> GO TO 2.

### 2. CHECK DATA MONITOR

1. Start the engine.
2. Drive the vehicle.
3. Check that the value of "VHCL SPD AT" is almost the same as the value of "VHCL SPEED SE" in "DATA MONITOR" of "ICC/ADAS".

#### **CAUTION:**

**Be careful of the vehicle speed.**

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

NO >> GO TO 3.

### 3. CHECK TCM SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading".
2. Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-78, "DTC Index"](#).

NO >> GO TO 4.

### 4. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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**C1A04 ABS/TCS/VDC SYSTEM**

**DTC Logic**

INFOID:000000011436752

**DTC DETECTION LOGIC**

| DTC<br>(On board display) | Trouble diagnosis name                    | DTC detecting condition                           |
|---------------------------|---|---|
| C1A04<br>(4)              | ABS/TCS/VDC CIRC<br>(ABS/TCS/VDC circuit) | If a malfunction occurs in the VDC/TCS/ABS system |

**POSSIBLE CAUSE**

ABS actuator and electric unit (control unit)

**FAIL-SAFE**

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

**DTC CONFIRMATION PROCEDURE**

**1.CHECK DTC PRIORITY**

If DTC "C1A04" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

**2.PERFORM DTC CONFIRMATION PROCEDURE**

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A04" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A04" detected as the current malfunction?

- YES >> Refer to [DAS-70. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

**Diagnosis Procedure**

INFOID:000000011436753

**1.CHECK DTC PRIORITY**

If DTC "C1A04" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

**2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS**

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).

# C1A04 ABS/TCS/VDC SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

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# C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A05 BRAKE SW/STOP LAMP SW

### DTC Logic

INFOID:000000011436754

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                | DTC detecting condition  |
|---------------------------|---|--|
| C1A05<br>(5)              | BRAKE SW/STOP L SW<br>(Brake switch/Stop lamp switch) | A mismatch between a stop lamp switch signal and a ICC brake switch signal received from ECM and a stop lamp signal received from the ABS actuator and electric unit (control unit) continues for 10 seconds or more with vehicle speeds at approximately 40 km/h (25 MPH) or more |

### POSSIBLE CAUSE

- Stop lamp switch circuit
- ICC brake switch circuit
- Stop lamp switch
- ICC brake switch
- Incorrect stop lamp switch installation
- Incorrect ICC brake switch installation
- ECM
- ABS actuator and electric unit (control unit)

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1A05" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A05" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A05" detected as the current malfunction?

YES >> Refer to [DAS-72, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436755

#### 1. CHECK DTC PRIORITY

If DTC "C1A05" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.



# C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## 2.CHECK STOP LAMP SWITCH AND ICC BRAKE SWITCH

Check that "STOP LAMP SW" and "BRAKE SW" operate normally in "DATA MONITOR" of "ICC/ADAS".

Is the inspection result normal?

YES >> GO TO 3.

NO-1 >> When "BRAKE SW" operation is malfunctioning: GO TO 4.

NO-2 >> When "STOP LAMP SW" operation is malfunctioning: GO TO 8.

## 3.CHECK STOP LAMP SWITCH

Check that "STOP LAMP SW" operate normally in "DATA MONITOR" of "ABS".

Is the inspection result normal?

YES >> GO TO 14.

NO >> GO TO 9.

## 4.CHECK ICC SWITCH INSTALLATION

1. Turn ignition switch OFF.

2. Check ICC brake switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust ICC brake switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

## 5.ICC BRAKE SWITCH INSPECTION

1. Disconnect ICC brake switch connector.

2. Check ICC brake switch. Refer to [DAS-76, "Component Inspection \(ICC Brake Switch\)"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace ICC brake switch.

## 6.CHECK ICC BRAKE SWITCH POWER SUPPLY CIRCUIT

1. Turn the ignition switch ON.

2. Check voltage between ICC brake switch harness connector and ground.

| Terminals        |          | Voltage<br>(Approx.) |
|------------------|----------|----------------------|
| (+)              | (-)      |                      |
| ICC brake switch |          | Ground               |
| Connector        | Terminal |                      |
| E114             | 1        |                      |
|                  |          | Battery voltage      |

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair the harnesses or connectors.

## 7.CHECK HARNESS BETWEEN ICC BRAKE SWITCH AND ECM

1. Turn ignition switch OFF

2. Disconnect ECM connector.

3. Check for continuity between ICC brake switch harness connector and ECM harness connector.

VQ engine models

| ICC brake switch |          | ECM       |          | Continuity |
|------------------|----------|-----------|----------|------------|
| Connector        | Terminal | Connector | Terminal |            |
| E114             | 2        | M107      | 126      | Existed    |

VK engine models

| ICC brake switch |          | ECM       |          | Continuity |
|------------------|----------|-----------|----------|------------|
| Connector        | Terminal | Connector | Terminal |            |
| E114             | 2        | M160      | 147      | Existed    |

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# C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

4. Check for continuity between ICC brake switch harness connector and ground.

| ICC brake switch |          | Ground | Continuity  |
|------------------|----------|--------|-------------|
| Connector        | Terminal |        |             |
| E114             | 2        |        | Not existed |

Is the inspection result normal?

- YES >> GO TO 8.  
NO >> Repair the harnesses or connectors.

## 8.PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-103, "DTC Index"](#) (VQ37VHR), or [EC-645, "DTC Index"](#) (VK56VD).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## 9.CHECK STOP LAMP SWITCH INSTALLATION

1. Turn ignition switch OFF.
2. Check stop lamp switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

- YES >> GO TO 10.  
NO >> Adjust stop lamp switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

## 10.STOP LAMP SWITCH INSPECTION

1. Disconnect stop lamp switch connector.
2. Check stop lamp switch. Refer to [DAS-76, "Component Inspection \(Stop Lamp Switch\)"](#).

Is the inspection result normal?

- YES >> GO TO 11.  
NO >> Replace stop lamp switch.

## 11.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Turn the ignition switch ON.
2. Check voltage between stop lamp switch harness connector and ground.

| Terminals        |          | Ground | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| (+)              | (-)      |        |                   |
| Stop lamp switch |          | Ground | Battery voltage   |
| Connector        | Terminal |        |                   |
| E110             | 1        |        |                   |
|                  | 3        |        |                   |

Is the inspection result normal?

- YES >> GO TO 12.  
NO >> Repair the harnesses or connectors.

## 12.CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ECM

1. Turn ignition switch OFF
2. Disconnect ECM, rear combination lamp and high-mounted stop lamp connectors.
3. Check for continuity between stop lamp switch harness connector and ECM harness connector.

# C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

VQ engine models

| Stop lamp switch |          | ECM       |          | Continuity |
|------------------|----------|-----------|----------|------------|
| Connector        | Terminal | Connector | Terminal |            |
| E110             | 2        | M107      | 122      | Existed    |

VK engine models

| Stop lamp switch |          | ECM       |          | Continuity |
|------------------|----------|-----------|----------|------------|
| Connector        | Terminal | Connector | Terminal |            |
| E110             | 2        | M160      | 158      | Existed    |

4. Check for continuity between stop lamp switch harness connector and ground.

| Stop lamp switch |          | Ground | Continuity  |
|------------------|----------|--------|-------------|
| Connector        | Terminal |        |             |
| E110             | 2        |        | Not existed |

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair the harnesses or connectors.

## 13. CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Disconnect ABS actuator and electric unit (control unit) connector and resistor.
2. Check for continuity between stop lamp switch harness connector and ABS actuator and electric unit (control unit) harness connector.

| Stop lamp switch |          | ABS actuator and electric unit (control unit) |          | Continuity |
|------------------|----------|---|----------|------------|
| Connector        | Terminal | Connector                                     | Terminal |            |
| E110             | 4        | E41   | 5        | Existed    |

3. Check for continuity between stop lamp switch harness connector and ground.

| Stop lamp switch |          | Ground | Continuity  |
|------------------|----------|--------|-------------|
| Connector        | Terminal |        |             |
| E110             | 4        |        | Not existed |

Is the inspection result normal?

YES >> GO TO 14.

NO >> Repair the harnesses or connectors.

## 14. PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-103. "DTC Index"](#) (VQ37VHR), or [EC-645. "DTC Index"](#) (VK56VD).

Is any DTC detected?

YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.

NO >> GO TO 15.

## 15. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Check if any DTC is detected in "Self Diagnostic Result" of "ABS". Refer to [BRC-50. "DTC Index"](#).

Is any DTC detected?

YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.

NO >> Repair the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

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# C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## Component Inspection (ICC Brake Switch)

INFOID:000000011436756

### 1.CHECK ICC BRAKE SWITCH

Check for continuity between ICC brake switch terminals.

| Terminal |   | Condition                     | Continuity  |
|----------|---|-------------------------------|-------------|
| 1        | 2 | When brake pedal is depressed | Not existed |
|          |   | When brake pedal is released  | Existed     |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace ICC brake switch.

## Component Inspection (Stop Lamp Switch)

INFOID:000000011436757

### 1.CHECK STOP LAMP SWITCH

Check for continuity between stop lamp switch terminals.

With ICC system

| Terminal |   | Condition                     | Continuity  |
|----------|---|-------------------------------|-------------|
| 1        | 2 | When brake pedal is depressed | Existed     |
|          |   | When brake pedal is released  | Not existed |
| 3        | 4 | When brake pedal is depressed | Existed     |
|          |   | When brake pedal is released  | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace stop lamp switch.

C1A06 OPERATION SW

DTC Logic

INFOID:000000011436758

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                          | DTC detecting condition   |
|---------------------------|---|---|
| C1A06<br>(6)              | OPERATION SW CIRC<br>(Operation switch circuit) | <ul style="list-style-type: none"> <li>Any switch of the ICC steering switch is detected as "ON" continuously for 60 seconds</li> <li>An ON/OFF state judgment of the ICC differs between ECM and ADAS control unit, and the state continues for 2 seconds or more</li> </ul> |

POSSIBLE CAUSE

- ICC steering switch circuit
- ICC steering switch
- ADAS control unit
- ECM

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1A06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Wait for approximately 10 minutes after turning the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A06" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A06" detected as the current malfunction?

- YES >> Refer to [DAS-77, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436759

1.CHECK DTC PRIORITY

If DTC "C1A06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ICC STEERING SWITCH

1. Turn the ignition switch OFF.
2. Disconnect the ICC steering switch connector.
3. Check the ICC steering switch. Refer to [DAS-78, "Component Inspection"](#).

Is the inspection result normal?

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< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 3.
- NO >> Replace the ICC steering switch.

**3.CHECK HARNESS BETWEEN SPIRAL CABLE AND ECM**

1. Disconnect the ECM connector.
2. Check for continuity between the spiral cable harness connector and ECM harness connector.

VQ engine models

| Spiral cable |          | ECM       |          | Continuity |
|--------------|----------|-----------|----------|------------|
| Connector    | Terminal | Connector | Terminal |            |
| M36          | 25       | M107      | 101      | Existed    |
|              | 32       |           | 108      |            |

VK engine models

| Spiral cable |          | ECM       |          | Continuity |
|--------------|----------|-----------|----------|------------|
| Connector    | Terminal | Connector | Terminal |            |
| M36          | 25       | M160      | 128      | Existed    |
|              | 32       |           | 130      |            |

3. Check for continuity between spiral cable harness connector and ground.

| Spiral cable |          | Ground | Continuity  |
|--------------|----------|--------|-------------|
| Connector    | Terminal |        |             |
| M36          | 25       |        | Not existed |
|              | 32       |        |             |

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Repair the harnesses or connectors.

**4.CHECK SPIRAL CABLE**

Check for continuity between spiral cable terminals.

| Spiral cable |    | Continuity |
|--------------|----|------------|
| Terminal     |    |            |
| 13           | 25 | Existed    |
| 16           | 32 |            |

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Replace the spiral cable.

**5.PERFORM SELF-DIAGNOSIS OF ECM**

1. Connect the connectors of ICC steering switch and ECM connector.
2. Turn the ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform self-diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [EC-103. "DTC Index"](#) (VQ37VHR), or [EC-645. "DTC Index"](#) (VK56VD).
- NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

**Component Inspection**

INFOID:000000011436760

**1.CHECK ICC STEERING SWITCH**

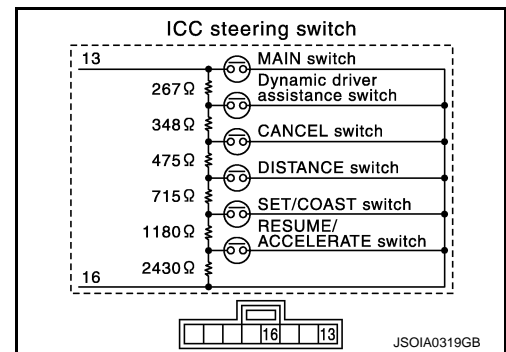
# C1A06 OPERATION SW

## < DTC/CIRCUIT DIAGNOSIS >

## [ADAS CONTROL UNIT]

Check resistance between ICC steering switch terminals.

| Terminal | Switch operation                               | Resistance [Ω] |
|----------|--|----------------|
| 13 16    | When pressing MAIN switch                      | Approx. 0      |
|          | When pressing dynamic driver assistance switch | Approx. 267    |
|          | When pressing CANCEL switch                    | Approx. 615    |
|          | When pressing DISTANCE switch                  | Approx. 1090   |
|          | When pressing SET/COAST switch                 | Approx. 1805   |
|          | When pressing RESUME/ACCELERATE switch         | Approx. 2985   |
|          | When all switches are not pressed              | Approx. 5415   |



Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace the ICC steering switch.

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## C1A13 STOP LAMP RELAY

### DTC Logic

INFOID:000000011436761

#### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                     | DTC detecting condition  |
|---------------------------|--|--|
| C1A13<br>(13)             | STOP LAMP RLY FIX<br>(Stop lamp relay fix) | <ul style="list-style-type: none"> <li>Stop lamp inactive state continues for 0.3 seconds or more despite the outputting of an ICC sensor ICC brake hold relay drive signal</li> <li>The stop lamp remains ON for 60 seconds or more under the following conditions:                             <ul style="list-style-type: none"> <li>- Driving at 40 km/h (25 MPH) or more</li> <li>- No stop lamp drive signal output from ICC sensor</li> <li>- No brake operation</li> </ul> </li> </ul> |

#### POSSIBLE CAUSE

- Stop lamp switch circuit
- ICC brake switch circuit
- ICC brake hold relay circuit
- Stop lamp switch
- ICC brake switch
- ICC brake hold relay
- Incorrect stop lamp switch installation
- Incorrect ICC brake switch installation
- ECM
- ABS actuator and electric unit (control unit)

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1. CHECK DTC PRIORITY

If DTC "C1A13" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

##### 2. PERFORM DTC CONFIRMATION PROCEDURE (1)

1. Start the engine.
2. Perform the active test item "STOP LAMP" with CONSULT.
3. Perform "All DTC Reading".
4. Check if the "C1A13" is detected as the current malfunction in the "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A13" detected as the current malfunction?

- YES >> Refer to [DAS-81. "Diagnosis Procedure"](#).  
 NO >> GO TO 3.

##### 3. PERFORM DTC CONFIRMATION PROCEDURE (2)

1. Drive at the vehicle speed of 40 km/h (25 MPH) or more for approximately 20 seconds or more without the brake pedal depressed.

**CAUTION:**

**Always drive safely.**



# C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

## NOTE:

- If it is outside the above condition, repeat step 1.
  - Perform "All DTC Reading".
  - Check if the "C1A13" is detected as the current malfunction in the "Self Diagnostic Result" of "ICC/ADAS".
- Is "C1A13" detected as the current malfunction?
- YES >> Refer to [DAS-81, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

## Diagnosis Procedure

INFOID:000000011436762

### 1.CHECK DTC PRIORITY

If DTC "C1A13" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

### 2.CHECK STOP LAMP SWITCH

Check that "STOP LAMP SW" operate normally in "DATA MONITOR" of "ICC/ADAS".

Is the inspection result normal?

- YES >> GO TO 10.
- NO >> GO TO 3.

### 3.CHECK STOP LAMP SWITCH INSTALLATION

- Turn ignition switch OFF.
- Check stop lamp switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Adjust stop lamp switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

### 4.CHECK STOP LAMP SWITCH

- Disconnect stop lamp switch connector.
- Check stop lamp switch. Refer to [DAS-76, "Component Inspection \(Stop Lamp Switch\)"](#).

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Replace stop lamp switch.

### 5.CHECK STOP LAMP FOR ILLUMINATION

- Connect stop lamp switch connector.
- Remove ICC brake hold relay.
- Check that the stop lamp is illuminated by depressing the brake pedal to turn the stop lamp ON.

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Check the stop lamp circuit, and repair or replace the malfunctioning parts.

### 6.CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ECM

- Turn the ignition switch OFF.
- Disconnect stop lamp switch, ECM, rear combination lamp, and high-mounted stop lamp connectors.
- Check for continuity between the stop lamp switch harness connector and the ECM harness connector.

VQ engine models

| Stop lamp switch |          | ECM       |          | Continuity |
|------------------|----------|-----------|----------|------------|
| Connector        | Terminal | Connector | Terminal |            |
| E110             | 2        | M107      | 122      | Existed    |

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# C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

## < DTC/CIRCUIT DIAGNOSIS >

VK engine models

| Stop lamp switch |          | ECM       |          | Continuity |
|------------------|----------|-----------|----------|------------|
| Connector        | Terminal | Connector | Terminal |            |
| E110             | 2        | M160      | 158      | Existed    |

4. Check for continuity between stop lamp switch harness connector and ground.

| Stop lamp switch |          | Ground | Continuity  |
|------------------|----------|--------|-------------|
| Connector        | Terminal |        |             |
| E110             | 2        |        | Not existed |

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair the harnesses or connectors.

## 7. CHECK ICC BRAKE HOLD RELAY CIRCUIT

1. Connect ICC brake hold relay, ECM, rear combination lamp, and high-mounted stop lamp connectors.
2. Check that the stop lamp does not illuminate when brake pedal is not depressed.

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

## 8. CHECK ICC BRAKE HOLD RELAY

1. Remove ICC brake hold relay.
2. Check ICC brake hold relay. Refer to [DAS-85, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 9.

NO >> Replace ICC brake hold relay.

## 9. PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-103, "DTC Index"](#) (VQ37VHR), or [EC-645, "DTC Index"](#) (VK56VD).

Is any DTC detected?

YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.

NO >> Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## 10. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove ICC brake hold relay.
3. Check the voltage between ICC brake hold relay harness connector and ground.

| Terminal             |          | Voltage (Approx.) |
|----------------------|----------|-------------------|
| (+)                  | (-)      |                   |
| ICC brake hold relay |          | Ground            |
| Connector            | Terminal |                   |
| E92                  | 2        |                   |

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace ICC brake hold relay power supply circuit.

## 11. CHECK HARNESS BETWEEN AND ICC BRAKE HOLD RELAY AND ADAS CONTROL UNIT

1. Disconnect ADAS control unit connectors.

# C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

## < DTC/CIRCUIT DIAGNOSIS >

- Check for continuity between ICC brake hold relay harness connector and ADAS control unit harness connector.

| ICC brake hold relay |          | ADAS control unit |          | Continuity |
|----------------------|----------|-------------------|----------|------------|
| Connector            | Terminal | Connector         | Terminal |            |
| E92                  | 1        | B10               | 17       | Existed    |

- Check for continuity between ADAS control unit harness connector and ground.

| ICC brake hold relay |          | Ground | Continuity  |
|----------------------|----------|--------|-------------|
| Connector            | Terminal |        |             |
| E92                  | 1        |        | Not existed |

Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair the harnesses or connectors.

## 12.CHECK ADAS CONTROL UNIT STANDARD VOLTAGE

- Connect all connectors again if the connectors are disconnected.
- Turn ignition switch ON.
- Perform "STOP LAMP" on "Active Test" of "ICC/ADAS", and then check the voltage between ADAS control unit harness connector and ground.

| Terminal          |          | Condition                    | Voltage (Approx.) |
|-------------------|----------|------------------------------|-------------------|
| (+)               | (-)      |                              |                   |
| ADAS control unit |          | Active Test item "STOP LAMP" | Battery voltage   |
| Connector         | Terminal |                              |                   |
| B10               | 17       |                              |                   |
|                   |          | Off                          | 0 V               |

Is the inspection result normal?

YES >> GO TO 13.

NO >> Replace ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

## 13.CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Check the voltage between ICC brake hold relay harness connector and ground.

| Terminal             |          | Voltage (Approx.) |
|----------------------|----------|-------------------|
| (+)                  | (-)      |                   |
| ICC brake hold relay |          | Ground            |
| Connector            | Terminal |                   |
| E92                  | 5        |                   |
|                      |          | Battery voltage   |

Is the inspection result normal?

YES >> GO TO 14.

NO >> Repair or replace ICC brake hold relay power supply circuit.

## 14.CHECK HARNESS BETWEEN ICC BRAKE HOLD RELAY AND ECM

- Disconnect ECM, rear combination lamp, and high-mounted stop lamp connectors and remove ICC brake hold relay.
- Check for continuity between ICC brake hold relay harness connector and ECM harness connector.

# C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

## < DTC/CIRCUIT DIAGNOSIS >

VQ engine models

| ICC brake hold relay |          | ECM       |          | Continuity |
|----------------------|----------|-----------|----------|------------|
| Connector            | Terminal | Connector | Terminal |            |
| E92                  | 3        | E107      | 122      | Existed    |

VK engine models

| ICC brake hold relay |          | ECM       |          | Continuity |
|----------------------|----------|-----------|----------|------------|
| Connector            | Terminal | Connector | Terminal |            |
| E92                  | 3        | E160      | 158      | Existed    |

3. Check for continuity between ICC brake hold relay harness connector and ground.

| ICC brake hold relay |          | Ground | Continuity  |
|----------------------|----------|--------|-------------|
| Connector            | Terminal |        |             |
| E92                  | 3        |        | Not existed |

Is the inspection result normal?

YES >> GO TO 15.

NO >> Repair the harnesses or connectors.

### 15.CHECK ICC BRAKE HOLD RELAY

1. Remove ICC brake hold relay.
2. Check ICC brake hold relay. Refer to [DAS-85, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace ICC brake hold relay.

### 16.CHECK STOP LAMP SWITCH

Check that "STOP LAMP SW" operate normally in "DATA MONITOR" of "ABS".

Is the inspection result normal?

YES >> GO TO 21.

NO >> GO TO 17.

### 17.CHECK STOP LAMP SWITCH INSTALLATION

1. Turn ignition switch OFF.
2. Check stop lamp switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 18.

NO >> Adjust stop lamp switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

### 18.CHECK STOP LAMP SWITCH

1. Disconnect stop lamp switch connector.
2. Check stop lamp switch. Refer to [DAS-76, "Component Inspection \(Stop Lamp Switch\)"](#).

Is the inspection result normal?

YES >> GO TO 19.

NO >> Replace stop lamp switch.

### 19.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Connect stop lamp switch connector.
2. Check the voltage between stop lamp switch harness connector and ground.

# C1A13 STOP LAMP RELAY

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

| Terminal         |          | Voltage<br>(Approx.) |
|------------------|----------|----------------------|
| (+)              | (-)      |                      |
| Stop lamp switch |          | Ground               |
| Connector        | Terminal |                      |
| E110             | 1        |                      |
|                  | 3        | Battery<br>voltage   |

Is the inspection result normal?

YES >> GO TO 20.

NO >> Repair or replace stop lamp switch power supply circuit.

## 20. CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Turn the ignition switch OFF.
2. Disconnect stop lamp switch, ABS actuator and electric unit (control unit), and resistor connectors.
3. Check for continuity between the stop lamp switch harness connector and the ABS actuator and electric unit (control unit) harness connector.

| Stop lamp switch |          | ABS actuator and electric unit (control unit) |          | Continuity |
|------------------|----------|---|----------|------------|
| Connector        | Terminal | Connector                                     | Terminal |            |
| E110             | 4        | E41   | 5        | Existed    |

4. Check for continuity between stop lamp switch harness connector and ground.

| Stop lamp switch |          | Ground | Continuity  |
|------------------|----------|--------|-------------|
| Connector        | Terminal |        |             |
| E110             | 4        |        | Not existed |

Is the inspection result normal?

YES >> GO TO 21.

NO >> Repair the harnesses or connectors.

## 21. PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-103, "DTC Index"](#) (VQ37VHR), or [EC-645, "DTC Index"](#) (VK56VD).

Is any DTC detected?

YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.

NO >> GO TO 22.

## 22. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ABS". Refer to [BRC-50, "DTC Index"](#).

Is any DTC detected?

YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.

NO >> Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## Component Inspection

INFOID:0000000011436763

### 1. CHECK ICC BRAKE HOLD RELAY

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# C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

## < DTC/CIRCUIT DIAGNOSIS >

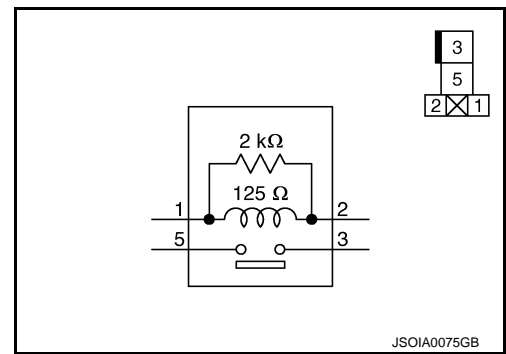
Apply battery voltage to ICC brake hold relay terminals 1 and 2, and then check for continuity under the following conditions.

| Terminal |   | Condition                               | Continuity  |
|----------|---|---|-------------|
| 3        | 5 | When the battery voltage is applied     | Existed     |
|          |   | When the battery voltage is not applied | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace ICC brake hold relay.



C1A14 ECM

DTC Logic

INFOID:000000011436764

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name       | DTC detecting condition  |
|---------------------------|------------------------------|--------------------------|
| C1A14<br>(14)             | ECM CIRCUIT<br>(ECM circuit) | If ECM is malfunctioning |

POSSIBLE CAUSE

- Accelerator pedal position sensor
- ECM
- ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1A14" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Operate the ICC system and drive.  
**CAUTION:**  
**Always drive safely.**
3. Stop the vehicle.
4. Perform "All DTC Reading" with CONSULT.
5. Check if the "C1A14" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A14" detected as the current malfunction?

- YES >> Refer to [DAS-87. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436765

1.CHECK DTC PRIORITY

If DTC "C1A14" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS OF ECM

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [EC-103. "DTC Index"](#) (VQ37VHR), or [EC-645. "DTC Index"](#) (VK56VD).



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## C1A14 ECM

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

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NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).



## C1A15 GEAR POSITION

### Description

INFOID:000000011436766

ADAS control unit judges the gear position based on the following signals.

- Current gear position signal transmitted from TCM via CAN communication.
- Value of gear ratio calculated from input speed signal transmitted from TCM via CAN communication.
- Value of gear ratio calculated from the vehicle speed signal transmitted from ABS actuator and electric unit (control unit) via CAN communication.

### DTC Logic

INFOID:000000011436767

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name           | DTC detecting condition  |
|---------------------------|----------------------------------|--|
| C1A15<br>(15)             | GEAR POSITION<br>(Gear position) | A mismatch between an current gear position signal transmitted from TCM via CAN communication and a gear position calculated by the ADAS control unit continues for approximately 11 minutes or more |

### POSSIBLE CAUSE

- Input speed sensor
- Vehicle speed sensor A/T (output speed sensor)
- TCM

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1A15" is displayed with DTC "U1000", "C1A03" or "C1A04" first diagnose the DTC "U1000", "C1A03" or "C1A04"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - C1A03: Refer to [DAS-70, "DTC Logic"](#)
  - C1A04: Refer to [DAS-70, "DTC Logic"](#)

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Drive the vehicle at 10 km/h (6 MPH) or faster for approximately 15 minutes or more.  
**CAUTION:**  
**Always drive safely.**
4. Stop the vehicle.
5. Perform "All DTC Reading" with CONSULT.
6. Check if "C1A15" is detected as the current malfunction in the "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A15" detected as the current malfunction?

- YES >> Refer to [DAS-90, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

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## Diagnosis Procedure

### 1. CHECK DTC PRIORITY

If DTC "C1A15" is displayed with DTC "U1000", "C1A03" or "C1A04" first diagnose the DTC "U1000", "C1A03" or "C1A04"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - C1A03: Refer to [DAS-70, "DTC Logic"](#)
  - C1A04: Refer to [DAS-70, "DTC Logic"](#)
- NO >> GO TO 2.

### 2. CHECK VEHICLE SPEED SIGNAL

Check that "VHCL SPEED SE" operates normally in "DATA MONITOR" of "ICC/ADAS".

**CAUTION:**

**Be careful of the vehicle speed.**

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> GO TO 7.

### 3. CHECK GEAR POSITION

Check that "GEAR" operates normally in "DATA MONITOR" of "ICC/ADAS".

**CAUTION:**

**Be careful of the vehicle speed.**

Is the inspection result normal?

- YES >> GO TO 5.  
NO >> GO TO 4.

### 4. CHECK GEAR POSITION SIGNAL

Check that "GEAR" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

- YES >> GO TO 5.  
NO >> GO TO 6.

### 5. CHECK INPUT SPEED SENSOR SIGNAL

Check that "INPUT SPEED" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).  
NO >> GO TO 6.

### 6. CHECK TCM SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading".
2. Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-78, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

### 7. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading".
2. Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

C1A24 NP RANGE

DTC Logic

INFOID:000000011436769

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name | DTC detecting condition  |
|---------------------------|------------------------|--|
| C1A24<br>(24)             | NP RANGE<br>(NP range) | A mismatch between a shift position signal transmitted from TCM via CAN communication and an current gear position signal continues for 60 seconds or more |

POSSIBLE CAUSE

- TCM
- Transmission range switch

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1A24" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK DTC REPRODUCE (1)

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Wait for approximately 5 minutes or more after shifting the selector lever to "P" position.
4. Perform "All DTC Reading" with CONSULT.
5. Check if the "C1A24" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A24" detected as the current malfunction?

- YES >> Refer to [DAS-91. "Diagnosis Procedure"](#).
- NO >> GO TO 3.

3.CHECK DTC REPRODUCE (2)

1. Wait for approximately 5 minutes or more after shifting the selector lever to "N" position.
2. Perform "All DTC Reading".
3. Check if the "C1A24" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A24" detected as the current malfunction?

- YES >> Refer to [DAS-91. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436770

1.CHECK DTC PRIORITY

If DTC "C1A24" is displayed with DTC "U1000", first diagnose the DTC "U1000".

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< DTC/CIRCUIT DIAGNOSIS >

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Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

## 2.CHECK TCM DATA MONITOR

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Check that "SLCT LVR POSI" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform diagnosis for transmission range switch circuit and repair or replace the malfunctioning parts. Refer to [TM-111, "Diagnosis Procedure"](#).

## 3.PERFORM TCM SELF-DIAGNOSIS

---

1. Perform "All DTC Reading".

2. Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-78, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# C1A26 ECD MODE MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A26 ECD MODE MALFUNCTION

### DTC Logic

INFOID:000000011436771

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                  | DTC detecting condition                         |
|---------------------------|---|---|
| C1A26<br>(26)             | ECD MODE MALF<br>(ECD mode malfunction) | If an abnormal condition occurs with ECD system |

### POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1A26" is displayed with DTC "U1000", "U0415" or "U0121" first diagnose the DTC "U1000", "C1A03" or "C1A04"

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132. "DTC Logic"](#)
  - U0415: Refer to [DAS-128. "Diagnosis Procedure"](#)
  - U0121: Refer to [DAS-122. "Diagnosis Procedure"](#)

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Wait for approximately 1 minute after turning the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A26" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "C1A26" detected as the current malfunction?

- YES >> Refer to [DAS-93. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436772

#### 1. CHECK DTC PRIORITY

If DTC "C1A26" is displayed with DTC "U1000", "U0415" or first diagnose the DTC "U1000", "C1A03" or "C1A04"

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132. "DTC Logic"](#)
  - U0415: Refer to [DAS-128. "DTC Logic"](#)
  - U0121: Refer to [DAS-122. "DTC Logic"](#)

NO >> GO TO 2.

#### 2. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

## C1A26 ECD MODE MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).
- NO >> Replace ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

# C1A27 ECD POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A27 ECD POWER SUPPLY CIRCUIT

### DTC Logic

INFOID:000000011436773

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                           | DTC detecting condition                            |
|---------------------------|--|--|
| C1A27<br>(27)             | ECD PWR SUPPLY CIR<br>(ECD power supply circuit) | ECD system power supply voltage is excessively low |

### POSSIBLE CAUSE

- ABS actuator and electric unit (control unit) power supply circuit
- ABS actuator and electric unit (control unit)

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1A27" is displayed with DTC "U1000", "U0415" or first diagnose the DTC "U1000", "U0415" or "U0121"

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132. "DTC Logic"](#)
  - U0415: Refer to [DAS-128. "DTC Logic"](#)
  - U0121: Refer to [DAS-122. "DTC Logic"](#)

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Wait for approximately 1 minute after turning the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A27" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "C1A27" detected as the current malfunction?

- YES >> Refer to [DAS-95. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436774

#### 1. CHECK DTC PRIORITY

If DTC "C1A27" is displayed with DTC "U1000", "U0415" or first diagnose the DTC "U1000", "U0415" or "U0121"

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132. "DTC Logic"](#)
  - U0415: Refer to [DAS-128. "DTC Logic"](#)
  - U0121: Refer to [DAS-122. "DTC Logic"](#)

NO >> GO TO 2.

#### 2. CHECK POWER SUPPLY CIRCUIT OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

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## C1A27 ECD POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Check power supply circuit of ABS actuator and electric unit (control unit). Refer to [BRC-126. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Perform self-diagnosis of ABS actuator and electric unit (control unit). Refer to [BRC-50. "DTC Index"](#).

NO >> Repair the harnesses or connectors.



# C1A33 CAN TRANSMISSION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A33 CAN TRANSMISSION ERROR

### DTC Logic

INFOID:000000011436775

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                           | DTC detecting condition  |
|---------------------------|--|--|
| C1A33<br>(33)             | CAN TRANSMISSION ERR<br>(CAN transmission error) | If an error occurs in the CAN communication signal that ADAS control unit transmits to ECM |

### POSSIBLE CAUSE

ADAS control unit

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1A33" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A33" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A33" detected as the current malfunction?

- YES >> Refer to [DAS-97, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436776

#### 1.CHECK DTC PRIORITY

If DTC "C1A33" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "C1A33" in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.  
Refer to [DAS-132, "DTC Logic"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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## C1A34 COMMAND ERROR

### DTC Logic

INFOID:000000011436777

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name           | DTC detecting condition  |
|---------------------------|----------------------------------|--|
| C1A34<br>(34)             | COMMAND ERROR<br>(Command error) | If an error occurs in the command signal that ADAS control unit transmits to ECM via CAN communication |

### POSSIBLE CAUSE

ADAS control unit

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1A34" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Operate the ICC system and drive.  
**CAUTION:**  
**Always drive safely.**
3. Stop the vehicle.
4. Perform "All DTC Reading" with CONSULT.
5. Check if the "C1A34" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A34" detected as the current malfunction?

- YES >> Refer to [DAS-98, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436778

#### 1. CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "C1A34" in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.  
 Refer to [DAS-132, "DTC Logic"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# C1A35 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A35 ACCELERATOR PEDAL ACTUATOR

### DTC Logic

INFOID:000000011436779

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                          | DTC detecting condition                             |
|---------------------------|---|---|
| C1A35<br>(35)             | APA CIR<br>(Accelerator pedal actuator circuit) | If the accelerator pedal actuator is malfunctioning |

### POSSIBLE CAUSE

Accelerator pedal actuator

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1A35" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A35" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A35" detected as the current malfunction?

- YES >> Refer to [DAS-99, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436780

#### 1.CHECK DTC PRIORITY

If DTC "C1A35" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if the DTC is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

# C1A36 ACCELERATOR PEDAL ACTUATOR CAN COMM

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A36 ACCELERATOR PEDAL ACTUATOR CAN COMM

### DTC Logic

INFOID:000000011436781

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name  | DTC detecting condition  |
|---------------------------|---|--|
| C1A36<br>(36)             | APA CAN COMM CIR<br>(Accelerator pedal actuator<br>CAN circuit) | If an error occurs in the signal that the accelerator pedal actuator transmits via ITS communication |

### POSSIBLE CAUSE

- ADAS control unit
- Accelerator pedal actuator
- ITS communication system

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1A36" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A36" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A36" detected as the current malfunction?

- YES >> Refer to [DAS-100, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436782

#### 1.CHECK DTC PRIORITY

If DTC "C1A36" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if the DTC is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# C1A37 ACCELERATOR PEDAL ACTUATOR CAN 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A37 ACCELERATOR PEDAL ACTUATOR CAN 2

### DTC Logic

INFOID:000000011436783

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                       | DTC detecting condition   |
|---------------------------|--|---|
| C1A37<br>(133)            | APA CAN CIR2<br>(Accelerator pedal actuator<br>CAN circuit2) | If ADAS control unit detects an error signal that is received from accelerator pedal actuator via ITS communication |

### POSSIBLE CAUSE

Accelerator pedal actuator malfunction

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1A37" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A37" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

#### Is "C1A37" detected as the current malfunction?

- YES >> Refer to [DAS-101, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436784

#### 1.CHECK DTC PRIORITY

If DTC "C1A37" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.REPLACE ACCELERATOR PEDAL ASSEMBLY

1. Turn the ignition switch OFF.
2. Replace the accelerator pedal assembly.
3. Turn the ignition switch ON.
4. Erases All self-diagnosis results.
5. Perform "All DTC Reading" again.
6. Check if the DTC "C1A37" is detected in self-diagnosis results of "ICC/ADAS".

#### Is "C1A37" detected?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).  
NO >> INSPECTION END

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# C1A38 ACCELERATOR PEDAL ACTUATOR CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A38 ACCELERATOR PEDAL ACTUATOR CAN 1

### DTC Logic

INFOID:000000011436785

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                       | DTC detecting condition   |
|---------------------------|--|---|
| C1A38<br>(132)            | APA CAN CIR1<br>(Accelerator pedal actuator<br>CAN circuit1) | If ADAS control unit detects an error signal that is received from accelerator pedal actuator via ITS communication |

### POSSIBLE CAUSE

Accelerator pedal actuator malfunction

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1A38" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A38" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A38" detected as the current malfunction?

- YES >> Refer to [DAS-102. "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436786

#### 1.CHECK DTC PRIORITY

If DTC "C1A38" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.REPLACE ACCELERATOR PEDAL ASSEMBLY

1. Turn the ignition switch OFF.
2. Replace the accelerator pedal assembly.
3. Erases All self-diagnosis results.
4. Perform "All DTC Reading" again.
5. Check if the "C1A38" is detected in self-diagnosis results of "ICC/ADAS".

Is "C1A38" detected?

- YES >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).  
NO >> INSPECTION END

# C1A39 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1A39 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000011436787

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                          | DTC detecting condition                     |
|---------------------------|---|---|
| C1A39<br>(39)             | STRG SEN CIR<br>(Steering angle sensor circuit) | If the steering angle sensor is malfunction |

### POSSIBLE CAUSE

Steering angle sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Forward Collision Warning (FCW)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1A39" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A39" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A39" detected as the current malfunction?

- YES >> Refer to [DAS-103, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436788

#### 1.CHECK DTC PRIORITY

If DTC "C1A39" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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# C1B00 CAMERA UNIT MALF

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

## C1B00 CAMERA UNIT MALF

### DTC Logic

INFOID:000000011436789

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                        | DTC detecting condition               |
|---------------------------|---|---------------------------------------|
| C1B00<br>(81)             | CAMERA UNIT MALF<br>(Camera unit malfunction) | If lane camera unit is malfunctioning |

### POSSIBLE CAUSE

Lane camera unit

### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B00" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B00" detected as the current malfunction?

- YES >> Refer to [DAS-104, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#)
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436790

#### 1. CHECK SELF-DIAGNOSIS RESULTS

Check if "C1B00" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B00" detected?

- YES >> Refer to [DAS-132, "DTC Logic"](#)
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).



C1B01 CAM AIMING INCMP

DTC Logic

INFOID:000000011436791

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                         | DTC detecting condition        |
|---------------------------|--|--------------------------------|
| C1B01<br>(82)             | CAM AIMING INCMP<br>(Camera aiming incomplete) | Camera aiming is not completed |

POSSIBLE CAUSE

- Lane camera aiming is not adjusted
- Lane camera aiming adjustment has been interrupted

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Operate the LDP system and drive.  
**CAUTION:**  
**Always drive safely.**
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B01" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B01" detected as the current malfunction?

- YES >> Refer to [DAS-105, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436792

1. CHECK SELF-DIAGNOSIS RESULTS

Check if "C1B01" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B01" detected?

- YES >> Refer to [DAS-259, "DTC Index"](#)
- NO >> GO TO 2.

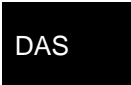
2. CHECK DATA MONITOR

1. Start the engine.
2. Check that "OK" is indicated for the value of "AIMING RESULT" in "DATA MONITOR" of "LANE CAMERA".

Is "OK" indicated?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

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# C1B03 ABNRML TEMP DETECT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B03 ABNRML TEMP DETECT

### DTC Logic

INFOID:000000011436793

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                       | DTC detecting condition                                 |
|---------------------------|--|---|
| C1B03<br>(83)             | CAM ABNRML TMP DETCT<br>(Camera abnormal temperature detect) | Temperature around lane camera unit is excessively high |

### POSSIBLE CAUSE

Interior room temperature is excessively high

### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B03" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

#### Is "C1A39" detected as the current malfunction?

- YES >> Refer to [DAS-106, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436794

#### 1. CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the "C1B03" is detected in "Self Diagnostic Result" of "LANE CAMERA"

#### Is "C1B03" detected?

- YES >> Refer to [DAS-259, "DTC Index"](#)  
NO >> GO TO 2.

#### 2. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

1. Erase all self-diagnosis results with CONSULT.
2. Perform "All DTC Reading".
3. Check if the "C1B03" is detected in "Self Diagnostic Result" of "ICC/ADAS"

#### Is "C1B03" detected?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).  
NO >> INSPECTION END

# C1B5D FEB OPE COUNT LIMIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B5D FEB OPE COUNT LIMIT

### DTC Logic

INFOID:000000011436795

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition                                |
|---------------------------|--|--|
| C1B5D<br>(198)            | FEB OPE COUNT LIMIT<br>(Forward Emergency Braking operation count limit) | FEB system operated 3 times within ignition switch ON. |

#### NOTE:

If "C1B5D" detected, perform the ICC system action test and check ICC system operates normally.

#### POSSIBLE CAUSE

FEB system operated 3 times within ignition switch ON.

#### FAIL-SAFE

The following systems are canceled.

- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM ICC SYSTEM ACTION TEST

Perform the ICC system action test.

Is there any malfunction symptom?

- YES >> Refer to [DAS-107, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

#### Diagnosis Procedure

INFOID:000000011436796

##### 1. DTC CHECK SELF-DIAGNOSIS RESULTS

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B5D" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is C1B5D detected as current malfunction?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).  
NO >> Perform ICC system action test. Refer to [CCS-92, "Description"](#).

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# C1B53 SIDE RADAR RIGHT MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B53 SIDE RADAR RIGHT MALFUNCTION

### DTC Logic

INFOID:000000011436797

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                            | DTC detecting condition   |
|---------------------------|---|---|
| C1B53<br>(84)             | SIDE RDR R MALF<br>(Side radar right malfunction) | ADAS control unit detects that side radar RH has a malfunction. |

### POSSIBLE CAUSE

Side radar RH

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1B53" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B53" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B53" detected as the current malfunction?

YES >> Refer to [DAS-108. "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436798

#### 1. CHECK DTC PRIORITY

If DTC "C1B53" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).

NO >> GO TO 2.

#### 2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262. "DTC Index"](#) (SIDE RADAR LH), [DAS-265. "DTC Index"](#) (SIDE RADAR RH).

NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

# C1B54 SIDE RADAR LEFT MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B54 SIDE RADAR LEFT MALFUNCTION

### DTC Logic

INFOID:000000011436799

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                           | DTC detecting condition   |
|---------------------------|--|---|
| C1B54<br>(85)             | SIDE RDR L MALF<br>(Side radar left malfunction) | ADAS control unit detects that side radar LH has a malfunction. |

### POSSIBLE CAUSE

Side radar LH

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1B54" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B54" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B54" detected as the current malfunction?

- YES >> Refer to [DAS-109. "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436800

#### 1.CHECK DTC PRIORITY

If DTC "C1B54" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262. "DTC Index"](#) (SIDE RADAR LH), [DAS-265. "DTC Index"](#) (SIDE RADAR RH).  
NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

## C1B56 SONAR CIRCUIT

### DTC Logic

INFOID:000000011436801

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                           | DTC detecting condition  |
|---------------------------|--|--|
| C1B56<br>(87)             | SONAR CIRCUIT MALF<br>(Sonar controller circuit) | ADAS control unit detects that rear sonar circuit has a malfunction. |

### POSSIBLE CAUSE

Sonar control unit

### FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1B56" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B56" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B56" detected as the current malfunction?

- YES >> Refer to [DAS-110, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436802

#### 1. CHECK DTC PRIORITY

If DTC "C1B56" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-236, "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## C1B57 AVM CIRCUIT

### DTC Logic

INFOID:000000011436803

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                            | DTC detecting condition  |
|---------------------------|---|--|
| C1B57<br>(88)             | AVM CIRCUIT MALF<br>(Around view monitor circuit) | ADAS control unit detects that around view monitor control unit has a malfunction. |

### POSSIBLE CAUSE

Around view monitor control unit

### FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1B57" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B57" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B57" detected as the current malfunction?

- YES >> Refer to [DAS-111, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436804

#### 1. CHECK DTC PRIORITY

If DTC "C1B57" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "AVM".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-232, "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

# C1B58 DRIVER ASSISTANCE BUZZER

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B58 DRIVER ASSISTANCE BUZZER

### DTC Logic

INFOID:000000011436805

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition  |
|---------------------------|--|--|
| C1B58<br>(14)             | DR ASSIST BUZZER CIRCUIT<br>(Driver assistance buzzer circuit) | ADAS control unit detects that driver assistance buzzer has a malfunction. |

### POSSIBLE CAUSE

- Driver assistance buzzer
- Driver assistance buzzer control module
- ADAS control unit

### FAIL-SAFE

None

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Operate the ICC system and drive.  
**CAUTION:**  
**Always drive safely.**
3. Stop the vehicle.
4. Perform "All DTC Reading" with CONSULT.
5. Check if the "C1B58" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "C1B58" detected as the current malfunction?

- YES >> Refer to [DAS-112, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436806

#### 1. CHECK DTC PRIORITY

If DTC "C1B58" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BSW/BUZZER".

#### Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-269, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).



# C1B82 DISTANCE SENSOR OFF-CENTER

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B82 DISTANCE SENSOR OFF-CENTER

### DTC Logic

INFOID:000000011436807

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                             | DTC detecting condition               |
|---------------------------|--|---------------------------------------|
| C1B82<br>(12)             | DIS SEN OFF-CENTER<br>(Distance sensor off-center) | ICC sensor is off the alignment point |

### POSSIBLE CAUSE

Radar alignment is off the aiming point

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B82" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B82" detected as the current malfunction?

- YES >> Refer to [DAS-113, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436808

#### 1. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the "C1B82" is detected as the current malfunction in "Self Diagnostic Result" of "LASER/RADAR".

Is "C1A12" detected?

- YES >> Refer to [CCS-59, "DTC Index"](#).
- NO >> GO TO 2.

#### 2. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if the "C1B82" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B82" detected?

- YES >> Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).
- NO >> INSPECTION END

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DAS

# C1B83 DISTANCE SENSOR BLOCKED

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B83 DISTANCE SENSOR BLOCKED

### DTC Logic

INFOID:000000011436809

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                | DTC detecting condition         |
|---------------------------|---|---------------------------------|
| C1B84<br>(17)             | DIST SEN MALFUNCTION<br>(Distance sensor malfunction) | If ICC sensor is malfunctioning |

### POSSIBLE CAUSE

ICC sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B84" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B84" detected as the current malfunction?

- YES >> Refer to [DAS-114, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436810

#### 1. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if "U1000" is detected other than "C1B84" in "Self Diagnostic Result" of "LASER/RADAR".

Is "" detected?

- YES >> Perform the CAN communication system inspection. Refer to [CCS-59, "DTC Index"](#).  
NO >> GO TO 2.

#### 2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" "ICC/ADAS "

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [CCS-132, "Removal and Installation"](#).  
NO >> Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## C1B84 DISTANCE SENSOR

### DTC Logic

INFOID:000000011436811

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                | DTC detecting condition         |
|---------------------------|---|---------------------------------|
| C1B84<br>(17)             | DIST SEN MALFUNCTION<br>(Distance sensor malfunction) | If ICC sensor is malfunctioning |

### POSSIBLE CAUSE

ICC sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B84" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B84" detected as the current malfunction?

- YES >> Refer to [DAS-115, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436812

#### 1. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if "U1000" is detected other than "C1B84" in "Self Diagnostic Result" of "LASER/RADAR".

Is "C1B84" detected?

- YES >> Perform the CAN communication system inspection. Refer to [CCS-59, "DTC Index"](#).
- NO >> GO TO 2.

#### 2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" "ICC/ADAS "

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-40, "DTC Index"](#).
- NO >> Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

# C1B85 DISTANCE SENSOR ABNORMAL TEMP

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B85 DISTANCE SENSOR ABNORMAL TEMP

### DTC Logic

INFOID:000000011436813

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition                        |
|---------------------------|--|--|
| C1B85<br>(21)             | DIST SEN ABNORMAL TEMP<br>(Distance sensor abnormal temperature) | ICC sensor judges high temperature abnormality |

### POSSIBLE CAUSE

Temperature around the ICC sensor becomes high

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Wait for 10 minutes or more to cool the ICC sensor.
3. Start the engine.
4. Turn the ICC system ON.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the "C1B85" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B85" detected as the current malfunction?

YES >> Refer to [DAS-116. "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436814

#### 1. CHECK SELF-DIAGNOSIS RESULTS

Check if "C1B85" is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B85" detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-40. "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

# C1B86 DISTANCE SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1B86 DISTANCE SENSOR POWER SUPPLY CIRCUIT

### DTC Logic

INFOID:000000011436815

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition                        |
|---------------------------|--|--|
| C1B86<br>(80)             | DIST SEN PWR SUP CIR<br>(Distance sensor power supply circuit) | ICC sensor power supply voltage is malfunction |

### POSSIBLE CAUSE

- Harness, connector, fuse
- ICC sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1B86" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B86" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

#### Is "C1A86" detected as the current malfunction?

- YES >> Refer to [DAS-117. "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436816

#### 1.CHECK DTC PRIORITY

If DTC "C1B86" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the "C1A01" or "C1A02" is detected as the current malfunction in "Self Diagnostic Result" of "LASER/RADAR".

#### Is "C1A01" or "C1A02" detected?

- YES >> Refer to [CCS-99. "DTC Logic"](#).  
NO >> GO TO 3.

#### 3.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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## C1B86 DISTANCE SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Check if the "C1B86" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B86" detected?

- YES >> Replace ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).
- NO >> INSPECTION END

# C1F01 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1F01 ACCELERATOR PEDAL ACTUATOR

### DTC Logic

INFOID:000000011436819

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                     | DTC detecting condition                                   |
|---------------------------|--|---|
| C1F01<br>(91)             | APA MOTOR MALF<br>(Accelerator pedal actuator malfunction) | If the accelerator pedal actuator motor error is detected |

### POSSIBLE CAUSE

Accelerator pedal actuator integrated motor malfunction

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1F01" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON.
3. Slowly depress the accelerator pedal completely, and then release it.
4. Repeat step 3 several times.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the DTC "C1F01" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS".

Is "C1F01" detected as the current malfunction?

- YES >> Refer to [DAS-119, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436820

#### 1.CHECK DTC PRIORITY

If DTC "C1F01" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if "C1F01" is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F01" detected?

- YES >> Refer to [DAS-256, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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# C1F02 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1F02 ACCELERATOR PEDAL ACTUATOR

### DTC Logic

INFOID:000000011436821

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name  | DTC detecting condition   |
|---------------------------|---|---|
| C1F02<br>(92)             | APA C/U MALF<br>(Accelerator pedal actuator internal malfunction) | If the accelerator pedal actuator integrated control unit error is detected |

### POSSIBLE CAUSE

Accelerator pedal actuator integrated control unit malfunction

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "C1F02" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F02" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS".

Is "C1F02" detected as the current malfunction?

- YES >> Refer to [DAS-120, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436822

#### 1.CHECK DTC PRIORITY

If DTC "C1F02" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if "C1F02" is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F02" detected?

- YES >> Refer to [DAS-256, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).



# C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT

### DTC Logic

INFOID:000000011436823

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition  |
|---------------------------|--|--|
| C1F05<br>(95)             | APA PWR SUPPLY CIR<br>(Accelerator pedal actuator<br>power supply circuit) | The battery voltage sent to accelerator pedal actuator remains less than 7.9 V or more than 19.3 V for 5 seconds |

### POSSIBLE CAUSE

- Harness, connector, or fuse
- Accelerator pedal actuator

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "C1F05" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F05" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS".

Is "C1F05" detected as the current malfunction?

YES >> Refer to [DAS-121, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436824

#### 1. CHECK DTC PRIORITY

If DTC "C1F05" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2. CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if "C1F05" is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F05" detected?

YES >> Refer to [DAS-256, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U0121 VDC CAN 2

DTC Logic

INFOID:000000011436825

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name             | DTC detecting condition  |
|---------------------------|------------------------------------|--|
| U0121<br>(127)            | VDC CAN CIR2<br>(VDC CAN circuit2) | If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication |

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0121” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0121” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U0121” detected as the current malfunction?

- YES >> Refer to [DAS-122. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436826

1.CHECK DTC PRIORITY

If DTC “U0121” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “ABS”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).

U0121 VDC CAN 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

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## U0126 STRG SEN CAN 1

### DTC Logic

INFOID:000000011436827

#### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                              | DTC detecting condition  |
|---------------------------|---|--|
| U0126<br>(130)            | STRG SEN CAN CIR1<br>(Steering sensor CAN circuit1) | If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication |

#### POSSIBLE CAUSE

Steering angle sensor

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)
- Active trace control function

#### DTC CONFIRMATION PROCEDURE

##### 1. CHECK DTC PRIORITY

If DTC "U0126" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

##### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0126" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U0126" detected as the current malfunction?

- YES >> Refer to [DAS-124. "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

#### Diagnosis Procedure

INFOID:000000011436828

##### 1. CHECK DTC PRIORITY

If DTC "U0126" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

##### 2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

U0235 ICC SENSOR CAN 1

DTC Logic

INFOID:000000011436829

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                           | DTC detecting condition   |
|---------------------------|--|---|
| U0235<br>(144)            | ICC SENSOR CAN CIR1<br>(ICC sensor CAN circuit1) | If ADAS control unit detects an error signal that is received from ICC sensor via ITS communication |

POSSIBLE CAUSE

ICC sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0235” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0235” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U0235” detected as the current malfunction?

- YES >> Refer to [DAS-125, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436830

1.CHECK DTC PRIORITY

If DTC “U0235” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “LASER/RADAR”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-253, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U0401 ECM CAN 1

DTC Logic

INFOID:000000011436831

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name             | DTC detecting condition  |
|---------------------------|------------------------------------|--|
| U0401<br>(120)            | ECM CAN CIR1<br>(ECM CAN circuit1) | If ADAS control unit detects an error signal that is received from ECM via CAN communication |

POSSIBLE CAUSE

ECM

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U0401" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0401" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U0401" detected as the current malfunction?

- YES >> Refer to [DAS-126. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436832

1.CHECK DTC PRIORITY

If DTC "U0401" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ECM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to the following. Refer to [EC-103. "DTC Index"](#) (VQ37VHR), [EC-645. "DTC Index"](#) (VK56VD).
- NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

U0402 TCM CAN 1

DTC Logic

INFOID:000000011436833

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name              | DTC detecting condition  |
|---------------------------|-------------------------------------|--|
| U0402<br>(122)            | TCM CAN CIRC1<br>(TCM CAN circuit1) | If ADAS control unit detects an error signal that is received from TCM via CAN communication |

POSSIBLE CAUSE

TCM

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0402” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0402” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U0402” detected as the current malfunction?

- YES >> Refer to [DAS-127, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436834

1.CHECK DTC PRIORITY

If DTC “U0402” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK TCM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “TRANSMISSION”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-78, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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U0415 VDC CAN 1

DTC Logic

INFOID:000000011436835

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name             | DTC detecting condition  |
|---------------------------|------------------------------------|--|
| U0415<br>(126)            | VDC CAN CIR1<br>(VDC CAN circuit1) | If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication |

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U0415" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0415" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U0415" detected as the current malfunction?

- YES >> Refer to [DAS-128. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436836

1. CHECK DTC PRIORITY

If DTC "U0415" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).



U0415 VDC CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

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DAS

# U0424 HVAC CAN CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## U0424 HVAC CAN CIRCUIT 1

### Description

INFOID:000000011436837

ADAS control unit reads status of signal that is transmitted from A/C auto AMP. to ADAS control unit.

### DTC Logic

INFOID:000000011436838

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Display Item                           | Malfunction detected condition   |
|---------------------------|--|--|
| U0424<br>(156)            | HVAC CAN CIR 1<br>(HVAC CAN circuit 1) | When signal that is transmitted from A/C auto amp. is not the latest information |

### POSSIBLE CAUSE

A/C auto amp.

### FAIL-SAFE

None

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U0424" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0424" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U0424" detected as the current malfunction?

YES >> Refer to [DAS-130, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436839

#### 1.CHECK DTC PRIORITY

If DTC "U0424" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2.CHECK A/C AUTO AMP. SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "HVAC".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [HAC-31, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## U0428 STRG SEN CAN 2

### DTC Logic

INFOID:000000011436840

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                              | DTC detecting condition  |
|---------------------------|---|--|
| U0428<br>(131)            | STRG SEN CAN CIR2<br>(Steering sensor CAN circuit2) | If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication |

### POSSIBEL CAUSE

Steering angle sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U0428" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0428" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U0428" detected as the current malfunction?

- YES >> Refer to [DAS-131. "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436841

#### 1.CHECK DTC PRIORITY

If DTC "U0428" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).



## U1000 CAN COMM CIRCUIT

### Description

INFOID:0000000011436842

#### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to [LAN-35, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

#### ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

### DTC Logic

INFOID:0000000011436843

#### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                          | DTC detecting condition  |
|---------------------------|---|--|
| U1000<br>(100)            | CAN COMM CIRCUIT<br>(CAN communication circuit) | If ADAS control unit is not transmitting or receiving CAN communication signal or ITS communication signal for 2 seconds or more |

#### POSSIBLE CAUSE

- CAN communication system
- ITS communication system

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-133, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

# U1000 CAN COMM CIRCUIT

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

## Diagnosis Procedure

INFOID:000000011436844

### 1. PERFORM THE SELF-DIAGNOSIS

1. Turn the ignition switch ON.
2. Turn the MAIN switch of ICC system ON, and then wait for 30 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

- YES >> Refer to [LAN-25. "Trouble Diagnosis Flow Chart"](#).  
NO >> INSPECTION END

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DAS

## U1010 CONTROL UNIT (CAN)

### Description

INFOID:000000011436845

CAN controller controls the communication of CAN communication signal and ITS communication signal, and the error detection.

### DTC Logic

INFOID:000000011436846

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                     | DTC detecting condition  |
|---------------------------|--|--|
| U1010<br>(110)            | CONTROL UNIT (CAN)<br>[Control unit (CAN)] | If ADAS control unit detects malfunction by CAN controller initial diagnosis |

### POSSIBLE CAUSE

ADAS control unit

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-134, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436847

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the MAIN switch of ICC system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1010" detected as the current malfunction?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

## U150B ECM CAN 3

## DTC Logic

INFOID:000000011436848

## DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                | DTC detecting condition   |
|---------------------------|---------------------------------------|---|
| U150B<br>(157)            | ECM CAN CIRC 3<br>(ECM CAN circuit 3) | ADAS control unit detects an error signal that is received from ECM via CAN communication |

## POSSIBLE CAUSE

ECM

## FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

## DTC CONFIRMATION PROCEDURE

## 1.CHECK DTC PRIORITY

If DTC "U150B" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

## 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150B" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150B" detected as the current malfunction?

- YES >> Refer to [DAS-135, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

## Diagnosis Procedure

INFOID:000000011436849

## 1.CHECK DTC PRIORITY

If DTC "U150B" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

## 2.CHECK ECM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to the following. Refer to [EC-103, "DTC Index"](#) (VQ37VHR), [EC-645, "DTC Index"](#) (VK56VD).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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U150C VDC CAN 3

DTC Logic

INFOID:000000011436850

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                | DTC detecting condition   |
|---------------------------|---------------------------------------|---|
| U150C<br>(158)            | VDC CAN CIRC 3<br>(VDC CAN circuit 3) | ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication |

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Brake (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)
- Active trace control function

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U150C" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150C" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150C" detected as the current malfunction?

- YES >> Refer to [DAS-136. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436851

1.CHECK DTC PRIORITY

If DTC "U150C" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).



# U150C VDC CAN 3

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

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## U150D TCM CAN 3

### DTC Logic

INFOID:000000011436852

#### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                | DTC detecting condition   |
|---------------------------|---------------------------------------|---|
| U150D<br>(159)            | TCM CAN CIRC 3<br>(TCM CAN circuit 3) | ADAS control unit detects an error signal that is received from TCM via CAN communication |

#### POSSIBLE CAUSE

TCM

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1. CHECK DTC PRIORITY

If DTC "U150D" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

##### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150D" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150D" detected as the current malfunction?

- YES >> Refer to [DAS-138, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

#### Diagnosis Procedure

INFOID:000000011436853

##### 1. CHECK DTC PRIORITY

If DTC "U150D" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

##### 2. CHECK TCM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-78, "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## U150E BCM CAN 3

### DTC Logic

INFOID:000000011436854

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                | DTC detecting condition   |
|---------------------------|---------------------------------------|---|
| U150E<br>(160)            | BCM CAN CIRC 3<br>(BCM CAN circuit 3) | ADAS control unit detects an error signal that is received from BCM via CAN communication |

### POSSIBLE CAUSE

BCM

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "U150E" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150E" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150E" detected as the current malfunction?

- YES >> Refer to [DAS-139, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436855

#### 1. CHECK DTC PRIORITY

If DTC "U150E" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. CHECK BCM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BCM".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BCS-55, "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

U150F AV CAN 3

DTC Logic

INFOID:000000011436856

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name              | DTC detecting condition   |
|---------------------------|-------------------------------------|---|
| U150F<br>(161)            | AV CAN CIRC 3<br>(AV CAN circuit 3) | ADAS control unit detects an error signal that is received from AV control unit via CAN communication |

POSSIBLE CAUSE

AV control unit

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U150F” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA, LDP, or Blind Spot Intervention system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U150F” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U150F” detected as the current malfunction?

- YES >> Refer to [DAS-140, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436857

1.CHECK DTC PRIORITY

If DTC “U150F” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK AV CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “MULTI AV”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-210, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U1500 CAM CAN 2

DTC Logic

INFOID:000000011436858

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                   | DTC detecting condition   |
|---------------------------|--|---|
| U1500<br>(145)            | CAM CAN CIRC 2<br>(Camera can circuit 2) | ADAS control unit detects an error signal that is received from lane camera via ITS communication |

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1500" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1500" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1500" detected as the current malfunction?

- YES >> Refer to [DAS-141, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436859

1.CHECK DTC PRIORITY

If DTC "U1500" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-259, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

## U1501 CAM CAN 1

### DTC Logic

INFOID:000000011436860

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                   | DTC detecting condition   |
|---------------------------|--|---|
| U1501<br>(145)            | CAM CAN CIRC 1<br>(Camera can circuit 1) | ADAS control unit detects an error signal that is received from lane camera via ITS communication |

### POSSIBLE CAUSE

Lane camera unit

### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "U1501" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1501" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1501" detected as the current malfunction?

- YES >> Refer to [DAS-142, "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436861

#### 1. CHECK DTC PRIORITY

If DTC "U1501" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-259, "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# U1502 ICC SENSOR CAN COMM CIRC

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## U1502 ICC SENSOR CAN COMM CIRC

### DTC Logic

INFOID:000000011436862

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition  |
|---------------------------|--|--|
| U1502<br>(147)            | ICC SEN CAN COMM CIR<br>(ICC sensor CAN communication circuit) | ADAS control unit detects an error signal that is received from ICC sensor via CAN communication |

### POSSIBLE CAUSE

ICC sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U1502" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1502" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1502" detected as the current malfunction?

- YES >> Refer to [DAS-143, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436863

#### 1.CHECK DTC PRIORITY

If DTC "U1502" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LASER/RADAR".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [CCS-59, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

U1503 SIDE RDR L CAN 2

DTC Logic

INFOID:000000011436864

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                  | DTC detecting condition   |
|---------------------------|---|---|
| U1503<br>(150)            | SIDE RDR L CAN CIR 2<br>(Side radar left CAN circuit 2) | ADAS control unit detects an error signal that is received from side radar LH via ITS communication |

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1503" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-132, "DTC Logic"](#)
- U1508: Refer to [DAS-149, "DTC Logic"](#)

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1503" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1503" detected as the current malfunction?

YES >> Refer to [DAS-144, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436865

1.CHECK DTC PRIORITY

If DTC "U1503" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-132, "DTC Logic"](#)
- U1508: Refer to [DAS-149, "DTC Logic"](#)

NO >> GO TO 2.

2.CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).



U1504 SIDE RDR L CAN 1

DTC Logic

INFOID:000000011436866

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                  | DTC detecting condition   |
|---------------------------|---|---|
| U1504<br>(151)            | SIDE RDR L CAN CIR 1<br>(Side radar left CAN circuit 1) | ADAS control unit detects an error signal that is received from side radar LH via ITS communication |

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1504" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1508: Refer to [DAS-149, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1504" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1504" detected as the current malfunction?

- YES >> Refer to [DAS-145, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436867

1.CHECK DTC PRIORITY

If DTC "U1504" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1508: Refer to [DAS-149, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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**U1505 SIDE RDR R CAN 2**

**DTC Logic**

INFOID:000000011436868

**DTC DETECTION LOGIC**

| DTC<br>(On board display) | Trouble diagnosis name                                   | DTC detecting condition   |
|---------------------------|--|---|
| U1505<br>(152)            | SIDE RDR R CAN CIR 2<br>(Side radar right CAN circuit 2) | ADAS control unit detects an error signal that is received from side radar RH via ITS communication |

**POSSIBLE CAUSE**

Side radar RH

**FAIL- SAFE**

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

**DTC CONFIRMATION PROCEDURE**

**1.CHECK DTC PRIORITY**

If DTC "U1505" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1507: Refer to [DAS-148, "DTC Logic"](#)
- NO >> GO TO 2.

**2.PERFORM DTC CONFIRMATION PROCEDURE**

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1505" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1505" detected as the current malfunction?

- YES >> Refer to [DAS-146, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

**Diagnosis Procedure**

INFOID:000000011436869

**1.CHECK DTC PRIORITY**

If DTC "U1505" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1507: Refer to [DAS-148, "DTC Logic"](#)
- NO >> GO TO 2.

**2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS**

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U1506 SIDE RDR R CAN 1

DTC Logic

INFOID:000000011436870

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                   | DTC detecting condition   |
|---------------------------|--|---|
| U1506<br>(153)            | SIDE RDR R CAN CIR 1<br>(Side radar right CAN circuit 1) | ADAS control unit detects an error signal that is received from side radar RH via ITS communication |

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1506" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1507: Refer to [DAS-148, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1506" detected as the current malfunction?

- YES >> Refer to [DAS-147, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436871

1.CHECK DTC PRIORITY

If DTC "U1506" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1507: Refer to [DAS-148, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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# U1507 LOST COMM(SIDE RDR R)

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## U1507 LOST COMM(SIDE RDR R)

### DTC Logic

INFOID:000000011436872

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition  |
|---------------------------|--|--|
| U1507<br>(154)            | LOST COMM(SIDE RDR R)<br>[Lost communication (Side radar right)] | ADAS control unit cannot receive ITS communication signal from side radar RH for 2 seconds or more |

### POSSIBLE CAUSE

- Side radar RH right/left switching signal circuit
- ITS communication system
- Side radar RH

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U1507" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1507" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1507" detected as the current malfunction?

- YES >> Refer to [DAS-148, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436873

#### 1.CHECK DTC PRIORITY

If DTC "U1507" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check right/left switching signal circuit. Refer to [DAS-349, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.  
Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).  
NO >> Repair right/left switching signal circuit.

# U1508 LOST COMM(SIDE RDR L)

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## U1508 LOST COMM(SIDE RDR L)

### DTC Logic

INFOID:000000011436874

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name  | DTC detecting condition  |
|---------------------------|---|--|
| U1508<br>(155)            | LOST COMM(SIDE RDR L)<br>[Lost communication (Side radar left)] | ADAS control unit cannot receive ITS communication signal from side radar LH for 2 seconds or more |

### POSSIBLE CAUSE

- Side radar LH harness connector
- ITS communication system
- Side radar LH

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U1508" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1508" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1508" detected as the current malfunction?

- YES >> Refer to [DAS-149, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436875

#### 1.CHECK DTC PRIORITY

If DTC "U1508" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK SIDE RADAR HARNESS CONNECTOR

1. Turn the ignition switch OFF.
2. Check the terminals and connectors of the side radar LH for damage, bend and short (unit side and connector side).

Is the inspection result normal?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.  
Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).  
NO >> Repair the terminal or connector.

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DAS

U1512 HVAC CAN 3

DTC Logic

INFOID:000000011436876

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                  | DTC detecting condition   |
|---------------------------|---|---|
| U1512<br>(162)            | HVAC CAN CIRC 3<br>(HVAC CAN circuit 3) | ADAS control unit detects an error signal that is received from A/C auto amp. via CAN communication |

POSSIBLE CAUSE

A/C auto amp.

FAIL- SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1512” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1512” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1512” detected as the current malfunction?

- YES >> Refer to [DAS-150, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436877

1.CHECK DTC PRIORITY

If DTC “U1512” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK A/C AUTO AMP. SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “HVAC”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [HAC-31, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U1513 METER CAN 3

DTC Logic

INFOID:000000011436878

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                    | DTC detecting condition   |
|---------------------------|---|---|
| U1513<br>(163)            | METER CAN CIRC 3<br>(Meter CAN circuit 3) | ADAS control unit detects an error signal that is received from combination meter via CAN communication |

POSSIBLE CAUSE

Combination meter

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1513” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1513” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1513” detected as the current malfunction?

- YES >> Refer to [DAS-151, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436879

1.CHECK DTC PRIORITY

If DTC “U1513” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK COMBINATION METER SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “METER/M&A”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [MWI-45, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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## U1514 STRG SEN CAN 3

### DTC Logic

INFOID:000000011436880

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                 | DTC detecting condition   |
|---------------------------|--|---|
| U1514<br>(164)            | STRG SEN CAN CIRC 3<br>(Steering sensor CAN circuit 3) | ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication |

### POSSIBLE CAUSE

Steering angle sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)
- Active trace control function

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "U1514" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1514" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1514" detected as the current malfunction?

- YES >> Refer to [DAS-152. "Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436881

#### 1. CHECK DTC PRIORITY

If DTC "U1514" is displayed with DTC "U1000", first diagnose the DTC "U1000".

#### Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132. "DTC Logic"](#).  
 NO >> GO TO 2.

#### 2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

#### Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).  
 NO >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).



## U1515 ICC SENSOR CAN 3

### DTC Logic

INFOID:000000011436882

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                              | DTC detecting condition  |
|---------------------------|---|--|
| U1515<br>(165)            | ICC SENSOR CAN CIRC 3<br>(ICC sensor CAN circuit 3) | ADAS control unit detects an error signal that is received from ICC sensor via ITS communication |

### POSSIBLE CAUSE

ICC sensor

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1. CHECK DTC PRIORITY

If DTC "U1515" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1515" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1515" detected as the current malfunction?

YES >> Refer to [DAS-153, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436883

#### 1. CHECK DTC PRIORITY

If DTC "U1515" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LASER/RADAR".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [CCS-59, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U1516 CAM CAN 3

DTC Logic

INFOID:000000011436884

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                   | DTC detecting condition  |
|---------------------------|--|--|
| U1516<br>(166)            | CAM CAN CIRC 3<br>(Camera CAN circuit 3) | ADAS control unit detects an error signal that is received from lane camera unit via CAN communication |

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1516" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1516" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1516" detected as the current malfunction?

- YES >> Refer to [DAS-154, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436885

1.CHECK DTC PRIORITY

If DTC "U1516" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-259, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# U1517 ACCELERATOR PEDAL ACTUATOR CAN 3

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## U1517 ACCELERATOR PEDAL ACTUATOR CAN 3

### DTC Logic

INFOID:000000011436886

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name  | DTC detecting condition  |
|---------------------------|---|--|
| U1517<br>(167)            | APA CAN CIRC 3<br>(Accelerator pedal actuator<br>CAN circuit 3) | ADAS control unit detects an error signal that is received from accelerator pedal actuator via CAN communication |

### POSSIBLE CAUSE

Accelerator pedal actuator

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U1517" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1517" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1517" detected as the current malfunction?

- YES >> Refer to [DAS-155, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436887

#### 1.CHECK DTC PRIORITY

If DTC "U1517" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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U1518 SIDE RDR L CAN 3

DTC Logic

INFOID:000000011436888

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                   | DTC detecting condition   |
|---------------------------|--|---|
| U1518<br>(168)            | SIDE RDR L CAN CIRC 3<br>(Side radar left CAN circuit 3) | ADAS control unit detects an error signal that is received from side radar LH via ITS communication |

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1518" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-132, "DTC Logic"](#)
- U1508: Refer to [DAS-149, "DTC Logic"](#)

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1518" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1518" detected as the current malfunction?

YES >> Refer to [DAS-156, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436889

1.CHECK DTC PRIORITY

If DTC "U1518" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-132, "DTC Logic"](#)
- U1508: Refer to [DAS-149, "DTC Logic"](#)

NO >> GO TO 2.

2.CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-262, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

U1519 SIDE RDR R CAN 3

DTC Logic

INFOID:000000011436890

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                    | DTC detecting condition   |
|---------------------------|---|---|
| U1519<br>(169)            | SIDE RDR R CAN CIRC 3<br>(Side radar right CAN circuit 3) | ADAS control unit detects an error signal that is received from side radar RH via ITS communication |

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1519" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1508: Refer to [DAS-149, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1519" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1519" detected as the current malfunction?

- YES >> Refer to [DAS-157, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436891

1.CHECK DTC PRIORITY

If DTC "U1519" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-132, "DTC Logic"](#)
  - U1508: Refer to [DAS-149, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-265, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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U1521 SONAR CAN 2

DTC Logic

INFOID:000000011436892

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                   | DTC detecting condition  |
|---------------------------|--|--|
| U1521<br>(177)            | SONAR CAN COMMUNICATION 2<br>(Sonar CAN communication 2) | ADAS control unit detects an error signal that is received from sonar control unit via CAN communication |

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1521" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Backup Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1521" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1521" detected as the current malfunction?

YES >> Refer to [DAS-158, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436893

1. CHECK DTC PRIORITY

If DTC "U1521" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK SONAR SYSTEM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-236, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

## U1522 SONAR CAN 1

### DTC Logic

INFOID:000000011436894

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                   | DTC detecting condition  |
|---------------------------|--|--|
| U1522<br>(178)            | SONAR CAN COMMUNICATION 1<br>(Sonar CAN communication 1) | ADAS control unit detects an error signal that is received from sonar control unit via CAN communication |

### POSSIBLE CAUSE

Sonar control unit

### FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U1522" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Backup Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1522" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1522" detected as the current malfunction?

YES >> Refer to [DAS-159, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436895

#### 1.CHECK DTC PRIORITY

If DTC "U1522" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

#### 2.CHECK SONAR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-236, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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DAS

U1523 SONAR CAN 3

DTC Logic

INFOID:000000011436896

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name                                   | DTC detecting condition  |
|---------------------------|--|--|
| U1523<br>(179)            | SONAR CAN COMMUNICATION 3<br>(Sonar CAN communication 3) | ADAS control unit detects an error signal that is received from sonar control unit via CAN communication |

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1523" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Backup Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1523" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1523" detected as the current malfunction?

YES >> Refer to [DAS-160, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436897

1.CHECK DTC PRIORITY

If DTC "U1523" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK SONAR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-236, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).



U1524 AVM CAN 1

DTC Logic

INFOID:000000011436898

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition  |
|---------------------------|--|--|
| U1524<br>(180)            | AVM CAN COMMUNICATION 1<br>(Around view monitor CAN communication 1) | ADAS control unit detects an error signal that is received from around view monitor control unit via CAN communication |

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1524" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1524" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1524" detected as the current malfunction?

YES >> Refer to [DAS-161, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436899

1.CHECK DTC PRIORITY

If DTC "U1524" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK SONAR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "AVM".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-232, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

DAS

U1525 AVM CAN 3

DTC Logic

INFOID:000000011436900

DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition  |
|---------------------------|--|--|
| U1525<br>(181)            | AVM CAN COMMUNICATION 3<br>(Around view monitor CAN communication 3) | ADAS control unit detects an error signal that is received from around view monitor control unit via CAN communication |

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1525" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Back-up Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1525" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1525" detected as the current malfunction?

YES >> Refer to [DAS-162, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011436901

1. CHECK DTC PRIORITY

If DTC "U1525" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "AVM".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-232, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# U1530 DR ASSIST BUZZER CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## U1530 DR ASSIST BUZZER CAN 1

### DTC Logic

INFOID:000000011436902

### DTC DETECTION LOGIC

| DTC<br>(On board display) | Trouble diagnosis name   | DTC detecting condition   |
|---------------------------|--|---|
| U1530<br>(183)            | DR ASSIST BUZZER CAN CIR<br>1<br>(Driver assistance buzzer CAN<br>circuit 1) | ADAS control unit detects an error signal that is received from driver assistance buzzer control module via ITS communication |

### POSSIBLE CAUSE

Driver assistance buzzer control module

### FAIL-SAFE

None

### DTC CONFIRMATION PROCEDURE

#### 1.CHECK DTC PRIORITY

If DTC "U1530" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1530" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1530" detected as the current malfunction?

- YES >> Refer to [DAS-163, "Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### Diagnosis Procedure

INFOID:000000011436903

#### 1.CHECK DTC PRIORITY

If DTC "U1530" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-132, "DTC Logic"](#).  
NO >> GO TO 2.

#### 2.CHECK DRIVER ASSISTANCE BUZZER CONTROL MODULE SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BSW/BUZZER".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-269, "DTC Index"](#).  
NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:000000011436904

#### 1. CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT

Check voltage between ADAS control unit harness connector and ground.

| Terminal          |          | Condition          | Voltage<br>(Approx.) |
|-------------------|----------|--------------------|----------------------|
| (+)               | (-)      |                    |                      |
| ADAS control unit |          | Ignition<br>switch | 0 V                  |
| Connector         | Terminal |                    |                      |
| B10               | 12       | OFF                | 0 V                  |
|                   |          | ON                 | Battery volt-<br>age |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the ADAS control unit power supply circuit.

#### 2. CHECK ADAS CONTROL UNIT GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the ADAS control unit connector.
3. Check for continuity between ADAS control unit harness connector and ground.

| ADAS control unit |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| B10               | 5        |        | Existed    |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the ADAS control unit ground circuit.

# REMOVAL AND INSTALLATION

## ADAS CONTROL UNIT

### Removal and Installation

INFOID:000000011436905

#### REMOVAL

**CAUTION:**

Before replacing ADAS control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to [DAS-62, "Work Procedure"](#).

1. Remove the rear parcel shelf finisher. Refer to [INT-53, "Removal and Installation"](#).
2. Remove clips on the trunk finisher front upper to obtain space for work. Refer to [INT-64, "TRUNK FINISHER FRONT : Removal and Installation"](#).
3. Disconnect ADAS control unit connector.
4. Remove mounting bolts from ADAS control unit.
5. Remove ADAS control unit.

#### INSTALLATION

**CAUTION:**

Be sure to perform “Read/Write Configuration” when replacing ADAS control unit. For details, refer to [DAS-63, "Work Procedure"](#).

Install in the reverse order of removal.

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## PRECAUTION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000011436909

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

**WARNING:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precautions for Removing Battery Terminal

INFOID:000000011436910

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

**NOTE:**

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

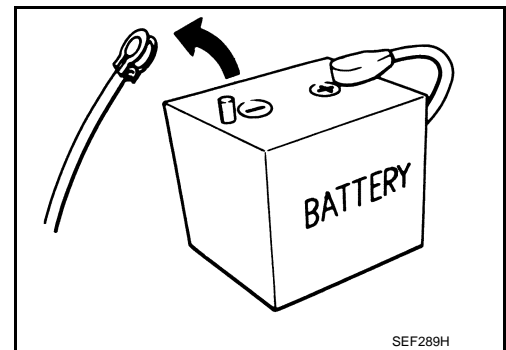
**NOTE:**

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

**NOTE:**

The removal of 12V battery may cause a DTC detection error.



#### Precautions For Harness Repair

INFOID:000000011436911

ITS communication uses a twisted pair line. Be careful when repairing it.

# PRECAUTIONS

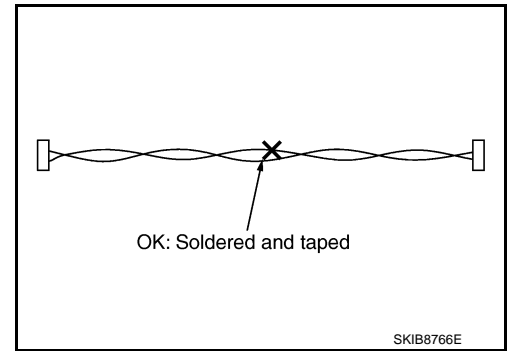
## [DRIVER ASSISTANCE SYSTEM]

### < PRECAUTION >

- Solder the repaired area and wrap tape around the soldered area.

**NOTE:**

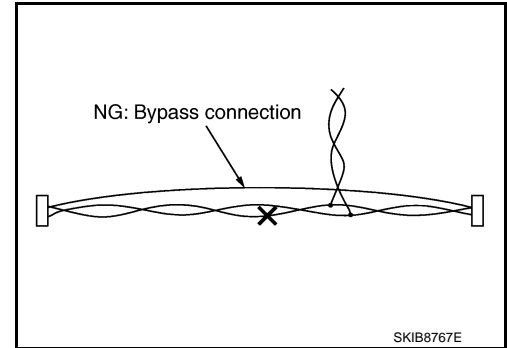
A fray of twisted lines must be within 110 mm (4.33 in).



- Bypass connection is never allowed at the repaired area.

**NOTE:**

Bypass connection may cause ITS communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



### DCA System Service

INFOID:0000000011436912

**CAUTION:**

- Turn the DCA system OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.
- Never use the ICC sensor removed from vehicle. Never disassemble or remodel.
- Erase DTC when replacing parts of DCA system, then check the operation of DCA system after radar alignment if necessary.

### PFCW System Service

INFOID:0000000011436913

**CAUTION:**

- Turn the PFCW/FEB system OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.
- Never use the ICC sensor removed from vehicle. Never disassemble or remodel.
- Erase DTC when replacing parts of ICC system, then check the operation of ICC system after radar alignment if necessary.

### LDW/LDP System Service

INFOID:0000000011436914

**WARNING:**

Be careful of traffic conditions and safety around the vehicle when performing road test.

**CAUTION:**

- Never use the LDP system when driving with free rollers or a chassis dynamometer.
- Never perform the active test while driving.
- Never disassemble and remodel the lane camera unit.
- Do not use the lane camera unit that is removed from the vehicle.

### Blind Spot Warning/Blind Spot Intervention System Service

INFOID:0000000011436915

**WARNING:**

Be careful of traffic conditions and safety around the vehicle when performing road test.

**CAUTION:**

- Never use the Blind Spot Intervention system when driving with free rollers or a chassis dynamometer.
- Never perform the active test while driving.

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DAS

# PRECAUTIONS

[DRIVER ASSISTANCE SYSTEM]

< PRECAUTION >

- **Never disassemble and remodel the lane camera unit.**
- **Do not use the lane camera unit that is removed from the vehicle.**
- **Never change BSW initial state ON ⇒ OFF without the consent of the customer.**

TO KEEP THE BLIND SPOT WARNING/BLIND SPOT INTERVENTION SYSTEM OPERATING PROPERLY, BE SURE TO OBSERVE THE FOLLOWING ITEMS:

## Lane Camera Unit Maintenance

The lane camera unit for the LDW/LDP system is located above the inside mirror. To keep the proper operation of the LDW/LDP systems and prevent a system malfunction, be sure to observe the following:

- Always keep the windshield clean.
- Do not attach a sticker (including transparent material) or install an accessory near the camera unit.
- Do not place reflective materials, such as white paper or a mirror, on the instrument panel. The reflection of sunlight may adversely affect the camera unit capability of detecting the lane markers.
- Do not strike or damage the areas around the camera unit.
- Do not touch the camera lens or remove the screw located on the camera unit.

## System Maintenance

The two side radar for the Blind Spot Warning and Blind Spot Intervention systems are located near the rear bumper.

- Always keep the area near the side radar clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radar.
- Do not strike or damage the area around the side radar.

## BCI system service

INFOID:000000011436916

### **WARNING:**

**Be careful of traffic conditions and safety around the vehicle when performing road test.**

### **CAUTION:**

- **Never use the BCI system when driving with free rollers or a chassis dynamometer.**
- **Never perform the active test while driving.**
- **Never change BCI initial state ON ⇒ OFF without the consent of the customer.**

TO KEEP THE BCI SYSTEM OPERATING PROPERLY, BE SURE TO OBSERVE THE FOLLOWING ITEMS:

## System Maintenance

The two side radars for the BCI system are located near the rear bumper.

- Always keep the area near the side radars clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radars.
- Do not strike or damage the area around the side radars.

## System Maintenance

The four rear sonars for the BCI system are located in the rear bumper.

- Always keep the area near the rear sonars clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the rear sonars.
- Do not strike or damage the area around the rear sonars.



# COMPONENT PARTS

< SYSTEM DESCRIPTION >

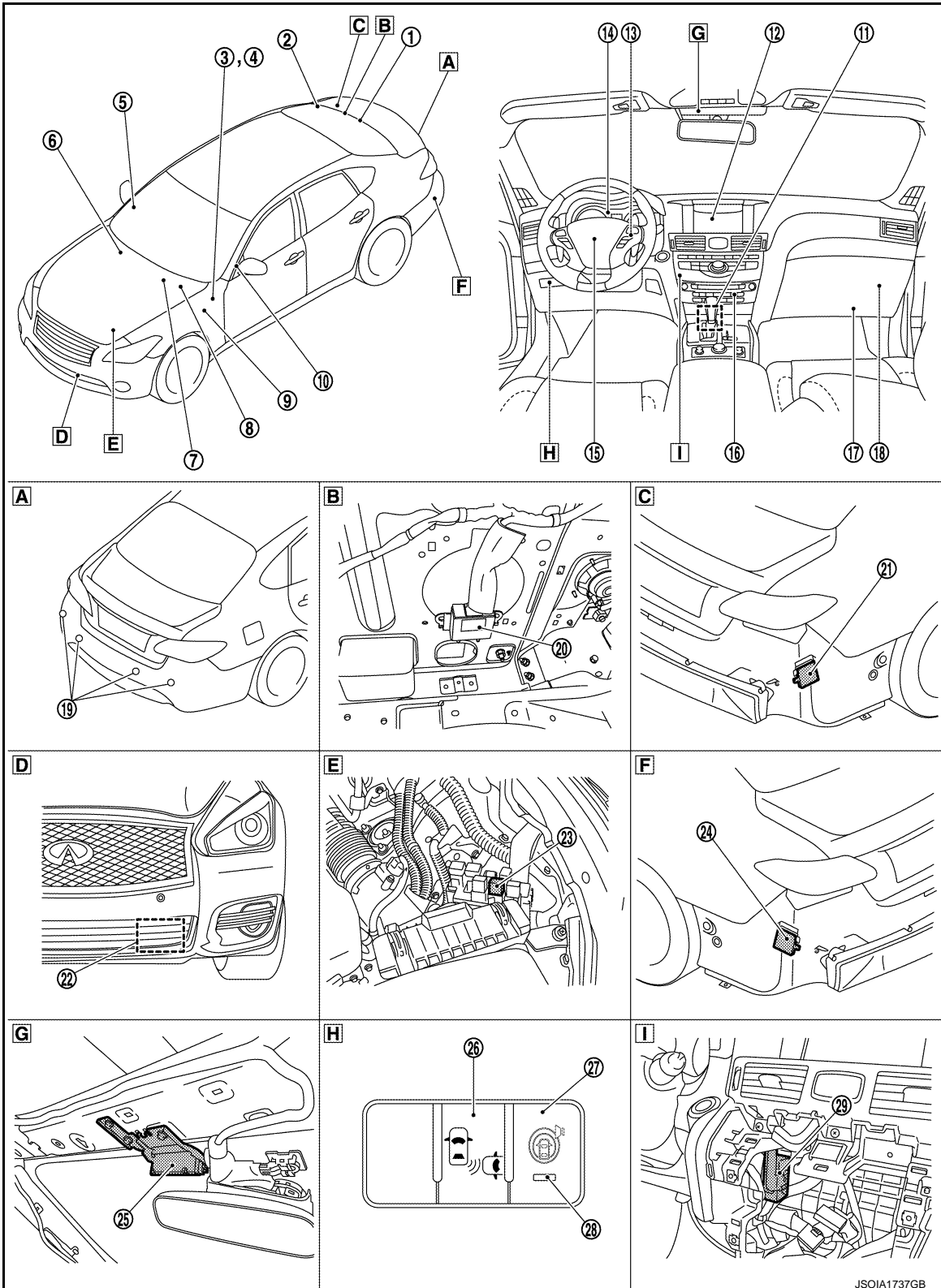
[DRIVER ASSISTANCE SYSTEM]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000011436917



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# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- |                                |   |   |
|--------------------------------|---|---|
| <b>A</b> Rear side of vehicle  | <b>B</b> Trunk side of rear parcel shelf (RH) | <b>C</b> Rear bumper removed condition (RH) |
| <b>D</b> Front bumper (LH)     | <b>E</b> Engine room (LH)                     | <b>F</b> Rear bumper removed condition (LH) |
| <b>G</b> Front of the map lamp | <b>H</b> Instrument lower panel (LH)          | <b>I</b> Behind the AV control unit         |

| No. | Component   | Description   |
|-----|---|---|
| ①   | ADAS control unit   | <ul style="list-style-type: none"> <li>• ADAS control unit calculates a target distance between vehicles and a target speed, based on signals received from each sensor and switch to transmit a brake fluid pressure control signal to ABS actuator and electric unit (control unit) via CAN communication</li> <li>• ADAS control unit transmits an accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication</li> <li>• Refer to <a href="#">DAS-12, "Component Parts Location"</a> for detailed installation location.</li> </ul> |
| ②   | Around view monitor control unit                              | <ul style="list-style-type: none"> <li>• Receives the BCI warning signal via ITS CAN communication, and indicate the yellow/red frame on the front display</li> <li>• Refer to <a href="#">AV-150, "Component Parts Location"</a> for detailed installation location.</li> </ul>  |
| ③   | Stop lamp switch  | Refer to <a href="#">DAS-172, "ICC Brake Switch / Stop Lamp Switch"</a>   |
| ④   | ICC brake switch  | Refer to <a href="#">DAS-172, "ICC Brake Switch / Stop Lamp Switch"</a>   |
| ⑤   | Blind Spot Warning/Blind Spot Intervention indicator RH       | Refer to <a href="#">DAS-173, "Blind Spot Warning/Blind Spot Intervention Indicator LH/RH"</a>  |
| ⑥   | TCM   | <ul style="list-style-type: none"> <li>• TCM transmits the signal related to A/T control to ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">TM-11, "A/T CONTROL SYSTEM : Component Parts Location"</a> for detailed installation location.</li> </ul>   |
| ⑦   | BCM   | <ul style="list-style-type: none"> <li>• Transmits the turn indicator signal to ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">BCS-4, "BODY CONTROL SYSTEM : Component Parts Location"</a> for detailed installation location.</li> </ul>  |
| ⑧   | ABS actuator and electric unit (control unit)                 | <ul style="list-style-type: none"> <li>• ABS actuator and electric unit (control unit) transmits the vehicle speed signal (wheel speed), stop lamp signal and VDC/TCS/ABS system operation condition to ADAS control unit via CAN communication</li> <li>• ABS actuator and electric unit (control unit) controls the brake, based on a brake fluid pressure control signal received from ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">BRC-10, "Component Parts Location"</a> for detailed installation location.</li> </ul>                             |
| ⑨   | Accelerator pedal actuator                                    | Refer to <a href="#">DAS-172, "Accelerator Pedal Actuator"</a>  |
| ⑩   | Blind Spot Warning/Blind Spot Intervention indicator LH       | Refer to <a href="#">DAS-173, "Blind Spot Warning/Blind Spot Intervention Indicator LH/RH"</a>  |
| ⑪   | Sonar control unit  | <ul style="list-style-type: none"> <li>• The warning buzzer outputs by inputting the sensor signal from sonar sensors. (BCI system)</li> <li>• Sensor signal that corresponds to the detected distance to an obstacle is transmitted to around view monitor control unit via can communication</li> <li>• Refer to <a href="#">AV-150, "Component Parts Location"</a> for detailed installation location.</li> </ul>  |
| ⑫   | Display unit  | <ul style="list-style-type: none"> <li>• Displays the various system screen signals according to the priority level received.</li> <li>• If an approaching vehicle or object behind the vehicle is detected when own vehicle is backing up, a red frame will appear on the display.</li> <li>• Refer to <a href="#">AV-150, "Component Parts Location"</a> for detailed installation location.</li> </ul>   |
| ⑬   | Dynamic driver assistance switch (On the ICC steering switch) | ECM receives an ICC steering switch (dynamic driver assistance switch) signal and transmits the signal to ADAS control unit via CAN communication   |

# COMPONENT PARTS

## [DRIVER ASSISTANCE SYSTEM]

### < SYSTEM DESCRIPTION >

| No. | Component                               | Description  |
|-----|---|--|
| ⑭   | Combination meter                       | <p>Performs the following operations using the signals received from the ADAS control unit via the CAN communication</p> <ul style="list-style-type: none"> <li>• Displays the DCA system operation status using the meter display signal</li> <li>• Displays the PFCW system operation status using the meter display signal</li> <li>• Illuminates the lane departure warning lamp using the lane departure warning lamp signal</li> <li>• Illuminates the LDP ON indicator lamp using the LDP ON indicator lamp signal</li> <li>• Illuminates the Blind Spot Warning/Blind Spot Intervention warning lamp using the Blind Spot Warning/Blind Spot Intervention warning lamp signal</li> <li>• Illuminates the Blind Spot Intervention ON indicator lamp using the Blind Spot Intervention ON indicator lamp signal</li> <li>• Displays the BCI system operation status using the meter display signal</li> <li>• Displays the FEB system operation status using the meter display signal</li> <li>• Illuminates the ICC system warning lamp using the ICC warning lamp signal</li> <li>• Refer to <a href="#">MWI-6, "METER SYSTEM : Component Parts Location"</a> for detailed installation location.</li> </ul> |
| ⑮   | Steering angle sensor                   | <ul style="list-style-type: none"> <li>• Measures the rotation amount, rotation speed, and rotation direction of steering wheel, and then transmits them to ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">BRC-10, "Component Parts Location"</a> for detailed installation location.</li> </ul>  |
| ⑯   | AV control unit                         | <ul style="list-style-type: none"> <li>• AV control unit transmits the system selection signal to the ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">AV-13, "Component Parts Location"</a> (Base audio without navigation), or <a href="#">AV-150, "Component Parts Location"</a> (BOSE audio with navigation) for detailed installation location.</li> </ul>   |
| ⑰   | ECM                                     | <ul style="list-style-type: none"> <li>• ECM transmits the accelerator pedal position signal, ICC brake switch signal, stop lamp switch signal, ICC steering switch signal, etc. to ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">EC-24, "ENGINE CONTROL SYSTEM : Component Parts Location"</a> (VQ37VHR), or <a href="#">EC-553, "ENGINE CONTROL SYSTEM : Component Parts Location"</a> (VK56VD) for detailed installation location.</li> </ul>   |
| ⑱   | A/C auto amp.                           | <ul style="list-style-type: none"> <li>• A/C auto amp. transmits the mode selection state of the drive mode select switch to ADAS control unit via CAN communication</li> <li>• Refer to <a href="#">HAC-5, "AUTOMATIC AIR CONDITIONING SYSTEM : Component Parts Location"</a> for detailed installation location.</li> </ul>  |
| ⑲   | Sonar sensor (rear)                     | <ul style="list-style-type: none"> <li>• When a distance from an obstacle is detected, a distance signal is transmitted to the sonar control unit.</li> <li>• Refer to <a href="#">AV-150, "Component Parts Location"</a> for detailed installation location.</li> </ul>   |
| ⑳   | Driver assistance buzzer control module | Refer to <a href="#">DAS-172, "Driver Assistance Buzzer Control Module"</a>  |
| ㉑   | Side radar RH                           | Refer to <a href="#">DAS-172, "Side Radar LH/RH"</a>   |
| ㉒   | ICC sensor                              | Refer to <a href="#">DAS-171, "ICC Sensor"</a>   |
| ㉓   | ICC brake hold relay                    | Refer to <a href="#">DAS-172, "ICC Brake Hold Relay"</a>   |
| ㉔   | Side radar LH                           | Refer to <a href="#">DAS-172, "Side Radar LH/RH"</a>   |
| ㉕   | Lane camera unit                        | Refer to <a href="#">DAS-172, "Lane Camera Unit"</a>   |
| ㉖   | BCI switch                              | Refer to <a href="#">DAS-173, "BCI Switch"</a>   |
| ㉗   | Warning systems switch                  | Refer to <a href="#">DAS-173, "Warning Systems Switch / Warning Systems ON indicator"</a>  |
| ㉘   | Warning systems ON indicator            | Refer to <a href="#">DAS-173, "Warning Systems Switch / Warning Systems ON indicator"</a>  |
| ㉙   | Driver assistance buzzer                | Refer to <a href="#">DAS-172, "Driver Assistance Buzzer"</a>   |

### ICC Sensor

INFOID:000000011436918

- ICC sensor is installed on the back of the front bumper and detects a vehicle ahead by using millimeter waves.
- ICC sensor detects radar reflected from a vehicle ahead by irradiating radar forward and calculates a distance from the vehicle ahead and relative speed, based on the detected signal.

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- ICC sensor transmits the presence/absence of vehicle ahead and the distance from the vehicle to ADAS control unit via ITS communication.

## ICC Steering Switch

INFOID:000000011436919

- ICC steering switch is installed to the steering wheel and allows the driver to operate the ICC system by using this switch.
- ICC steering switch allows the ON/OFF of the Intelligent Cruise Control and the settings of a vehicle speed and distance between vehicles.
- ICC steering switch signal is transmitted to ECM. ECM transmits the signal to the ADAS control unit via CAN communication.

## ICC Brake Switch / Stop Lamp Switch

INFOID:000000011436920

- ICC brake switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.
- ICC brake switch is turned OFF when depressing the brake pedal.
- ICC brake switch signal is input to ECM. ICC brake switch signal is transmitted from ECM to ADAS control unit via CAN communication.
- Stop lamp switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.
- Stop lamp switch is turned ON, when depressing the brake pedal.
- Stop lamp switch signal is input to ECM and ABS actuator and electric unit (control unit). Stop lamp switch signals are transmitted from ECM and ABS actuator and electric unit (control unit) to ADAS control unit via CAN communication.

## ICC Brake Hold Relay

INFOID:000000011436921

- ICC brake hold relay is installed in the engine room (left side).
- When the brake is activated by the ICC system, the ICC brake hold relay turns ON the stop lamp by bypassing the circuit of the stop lamp, according to a signal transmitted from the ADAS control unit.

## Accelerator Pedal Actuator

INFOID:000000011436923

- Installed to the upper portion of the accelerator pedal, this consists of the accelerator pedal actuator together with the accelerator pedal position sensor, and is linked with the accelerator pedal.
- If accelerator pedal feedback force control signal is received from ADAS control unit via ITS communication, it operates the integrated motor for applying control to move the accelerator pedal upward.

## Driver Assistance Buzzer Control Module

INFOID:000000011436924

- Driver assistance buzzer control module is installed at trunk side of rear parcel shelf (right side).
- When driver assistance buzzer signal is received from the ADAS control unit, the driver assistance buzzer control module transmits the warning buzzer signal to driver assistance buzzer.

## Driver Assistance Buzzer

INFOID:000000011436925

- Driver assistance buzzer is installed at the behind the AV control unit.
- When a warning buzzer signal is received from the driver assistance buzzer control module, the driver assistance buzzer sounds a buzzer.

## Lane Camera Unit

INFOID:000000011436926

- Lane camera unit detects the lane marker in travel lane and located above the front of map lamp.
- Transmits lane marker signal to ADAS control unit via ITS communication.

## Side Radar LH/RH

INFOID:000000011436927

- Installed near the rear bumper, the side radar detects other vehicles beside own vehicle in an adjacent lane.
- Connected with the ADAS control unit via ITS communication, the side radar transmits a vehicle detection signal.
- Receives a Blind Spot Warning/Blind Spot Intervention indicator signal and a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal from the ADAS control unit and transmits an indicator operation signal to the Blind Spot Warning/Blind Spot Intervention indicator LH/RH.

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- Since side radar RH and side radar LH have the same specifications, side radar RH has the right/left switching signal circuit for identification.

## Blind Spot Warning/Blind Spot Intervention Indicator LH/RH

INFOID:0000000011436928

- Installed on the front door corner cover, the Blind Spot Warning/Blind Spot Intervention indicator warns the driver by lighting/blinking.
- Receives a Blind Spot Warning/Blind Spot Intervention indicator operation signal from the side radar LH/RH and blinks or turns ON/OFF the Blind Spot Warning/Blind Spot Intervention indicator.

## Dynamic Driver Assistance Switch

INFOID:0000000011436929

- Dynamic driver assistance switch is integrated in ICC steering switch.
- ICC steering switch is input to ECM.

### NOTE:

Dynamic driver assistance switch is shared with following systems.

- Distance Control Assist (DCA)
- Lane Departure Prevention (LDP)
- Blind Spot Intervention

## Warning Systems Switch / Warning Systems ON indicator

INFOID:0000000011436930

- Warning systems switch and warning systems ON indicator are integrated at the instrument lower panel (LH).
- Warning systems switch (ON/OFF) input to ADAS control unit.
- Warning systems ON indicator turn ON when PFCW system, LDW system and/or BSW system are ON.
- Warning systems ON indicator blinks when PFCW system, LDW system and/or BSW system are OFF and the warning systems switch is pressed.

### NOTE:

Warning systems switch is shared with following systems (ON/OFF).

- Predictive Forward Collision Warning (PFCW)
- Lane departure Warning (LDW)
- Blind Spot Warning (BSW)

## BCI Switch

INFOID:0000000011436931

- BCI switch is integrated at the instrument lower panel (LH).
- BCI switch (ON/OFF) input to ADAS control unit.

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DAS

# SYSTEM

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

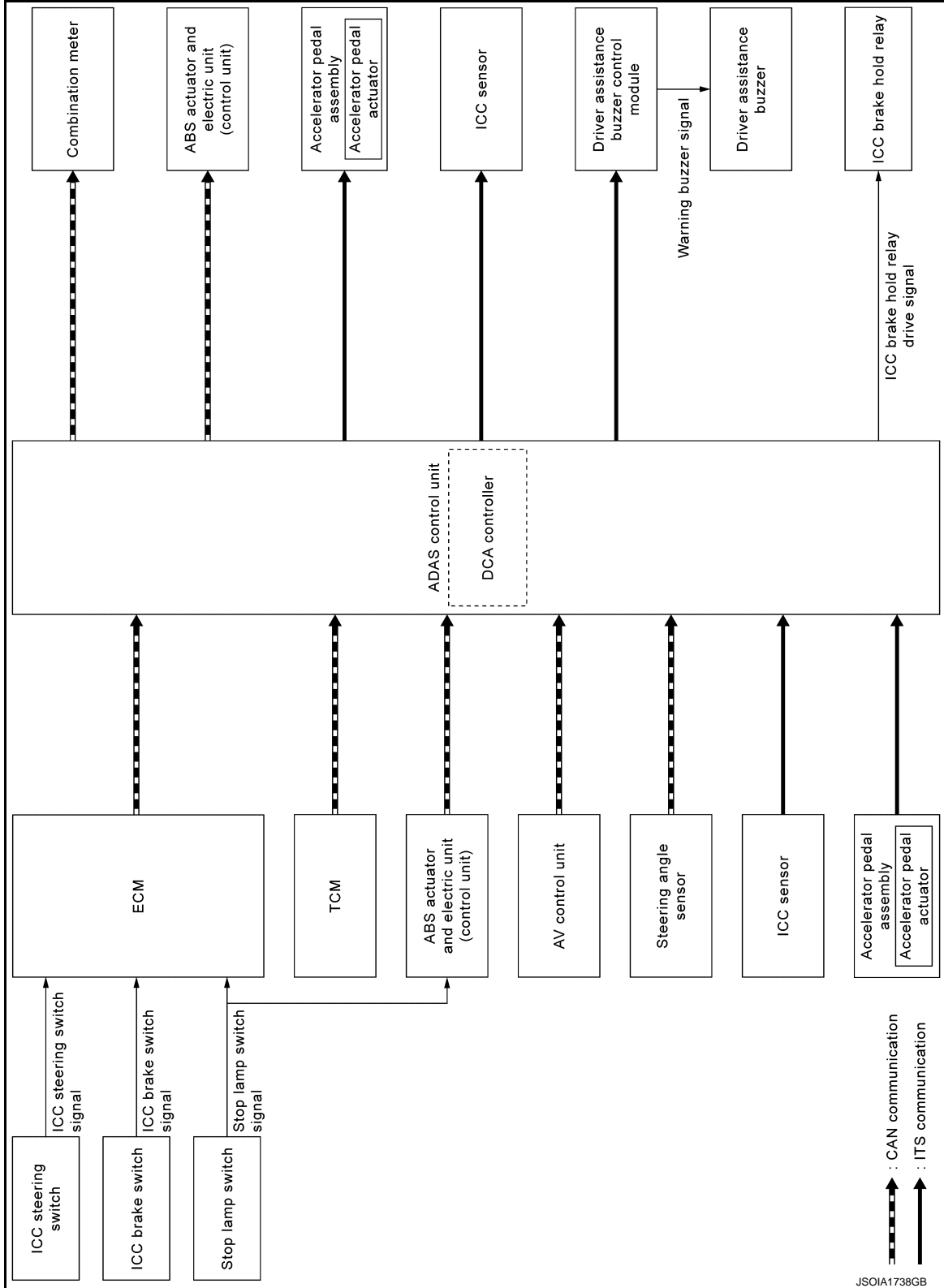
## SYSTEM

DCA

DCA : System Description

INFOID:000000011436932

## SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

# SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Input Signal Item

| Transmit unit                                 | Signal name       |  | Description  |
|---|-------------------|--|--|
| ECM   | CAN communication | Closed throttle position signal                    | Receives idle position state (ON/OFF)  |
|   |                   | Accelerator pedal position signal                  | Receives accelerator pedal position (angle)  |
|   |                   | Engine speed signal                                | Receives engine speed  |
|   |                   | Stop lamp switch signal                            | Receives an operational state of the brake pedal   |
|   |                   | ICC brake switch signal                            | Receives an operational state of the brake pedal   |
|   |                   | Snow mode switch signal                            | Receives an operational state of the snow mode   |
|   |                   | ICC steering switch signal                         | Dynamic driver assistance switch signal  |
| TCM   | CAN communication | Input speed signal                                 | Receives the number of revolutions of input shaft  |
|   |                   | Current gear position signal                       | Receives a current gear position   |
|   |                   | Shift position signal                              | Receives a selector lever position   |
|   |                   | Output shaft revolution signal                     | Receives the number of revolutions of output shaft   |
| ABS actuator and electric unit (control unit) | CAN communication | ABS malfunction signal                             | Receives a malfunction state of ABS  |
|   |                   | ABS operation signal                               | Receives an operational state of ABS   |
|   |                   | ABS warning lamp signal                            | Receives an ON/OFF state of ABS warning lamp   |
|   |                   | TCS malfunction signal                             | Receives a malfunction state of TCS  |
|   |                   | TCS operation signal                               | Receives an operational state of TCS   |
|   |                   | VDC OFF switch signal                              | Receives an ON/OFF state of VDC  |
|   |                   | VDC malfunction signal                             | Receives a malfunction state of VDC  |
|   |                   | VDC operation signal                               | Receives an operational state of VDC   |
|   |                   | Vehicle speed signal                               | Receives wheel speeds of four wheels   |
|   |                   | Yaw rate signal                                    | Receives yaw rate acting on the vehicle  |
| Steering angle sensor                         | CAN communication | Steering angle sensor malfunction signal           | Receives a malfunction state of steering angle sensor  |
|   |                   | Steering angle sensor signal                       | Receives the number of revolutions, turning direction of the steering wheel                                    |
|   |                   | Steering angle speed signal                        | Receives the turning angle speed of the steering wheel   |
| AV control unit                               | CAN communication | System selection signal                            | Receives a selection state of each item in "Driver Assistance" selected with the navigation screen             |
| ICC sensor                                    | ITS communication | ICC sensor signal                                  | Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle |
| Accelerator pedal actuator                    | ITS communication | Accelerator pedal actuator operation status signal | Receives an operational state of accelerator pedal actuator  |

Output Signal Item

| Reception unit                                | Signal name       |                                     | Description  |
|---|-------------------|-------------------------------------|--|
| ABS actuator and electric unit (control unit) | CAN communication | Brake fluid pressure control signal | Transmits a brake fluid pressure control signal to activates the brake |

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# SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Reception unit                          | Signal name                       |   | Description  |
|---|-----------------------------------|---|--|
| Combination meter                       | CAN communication                 | Meter display signal                            | Transmits a signal to display a state of the system on the information display   |
|   |                                   |   |  |
| ICC sensor                              | ITS communication                 | DCA system display signal                       |  |
|   |                                   | Vehicle speed signal                            | Transmits a vehicle speed calculated by the ADAS control unit                    |
| Accelerator pedal actuator              | ITS communication                 | Steering angle sensor signal                    | Transmits a steering angle sensor signal received from the steering angle sensor |
|   |                                   | Accelerator pedal position signal               | Transmits an accelerator pedal angle calculated by the ADAS control unit         |
| Driver assistance buzzer control module | ITS communication                 | Accelerator pedal feedback force control signal | Transmits a target actuation force value calculated by the ADAS control unit     |
|   |                                   | Driver assistance buzzer signal                 | Transmits a driver assistance buzzer signal to active the buzzer                 |
| ICC brake hold relay                    | ICC brake hold relay drive signal |   | Activates the brake hold relay and turns ON the stop lamp                        |

## FUNCTION DESCRIPTION

When a vehicle is detected ahead

- The vehicle ahead detection indicator comes ON.

When vehicle approaches a vehicle ahead

- If the driver is not depressing the accelerator pedal, the system activates the brakes to decelerate smoothly as necessary. If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system.
- If the driver is depressing the accelerator pedal, the system moves the accelerator pedal upward to assist the driver to release the accelerator pedal.

When brake operation by driver is required

- The system alerts the driver by a warning chime and blinking the vehicle ahead detection indicator. If the driver is depressing the accelerator pedal after the warning, the system moves the accelerator pedal upward to assist the driver to switch to the brake pedal.

### CAUTION:

**If the vehicle ahead comes to a standstill, the vehicle decelerates to a standstill within the limitations of the system. The system will release brake control with a warning chime once it judges the vehicle is at a standstill. To prevent the vehicle from moving, the driver must depress the brake pedal. [The system will resume control automatically once the system reaches 5 km/h (3 MPH)].**

### NOTE:

- Depending on the position of the accelerator pedal, the system may not be able to assist the driver to release the accelerator pedal appropriately.
- When the driver depresses the accelerator pedal even further while the system is moving the accelerator pedal upward, the accelerator pedal control will be canceled.
- When the driver is depressing the accelerator pedal, the brake control by the system is not operated.
- When the driver is depressing the brake pedal, neither the brake control nor the alert by the system operates.
- When the ICC system is set, the DCA system will be canceled.

## OPERATION DESCRIPTION

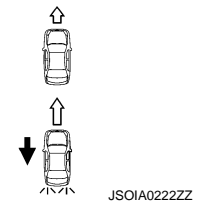
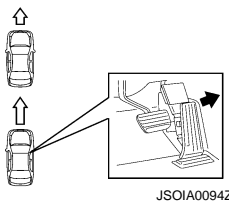
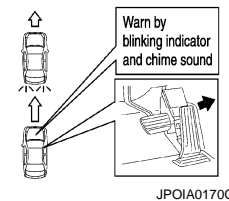
ICC sensor calculates a distance from a vehicle ahead and a relative speed to transmit the ICC sensor signal to the ADAS control unit via ITS communication. Based on the received signal, the ADAS control unit transmits a control signal to the accelerator pedal actuator via ITS communication and to the ABS actuator control unit (control unit) via CAN communication.



# SYSTEM

## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

|  |  |   |             |
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| When vehicle approaches a vehicle ahead    | If the driver is not depressing the accelerator pedal, the system activates the brakes to decelerate smoothly as necessary   |  | A<br>B<br>C |
|  | If the driver is depressing the accelerator pedal, the system moves the accelerator pedal upward to assist the driver to release the accelerator pedal   |  | D<br>E      |
| When brake operation by driver is required | The system alerts the driver by a warning chime and blinking the vehicle ahead detection indicator. If the driver is depressing the accelerator pedal after the warning, the system moves the accelerator pedal upward to assist the driver to switch to the brake pedal |  | F<br>G<br>H |
| Deceleration control                       | It transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via CAN communication and performs the brake control   |   | I           |
| Accelerator pedal actuation control        | It transmits the accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication and controls the accelerator pedal in the upward direction  |   | J           |

### Operation Condition

ADAS control unit performs the control when the following conditions are satisfied.

- When the DCA system setting on the navigation screen is ON.
- When the dynamic driver assistance switch is turned to ON.
- When the brake pedal is not depressed.
- When the vehicle speed is above approximately 5 km/h (3 MPH).
- When the vehicle ahead is detected.
- When the ICC system is not set.

### No Operation Condition

The ADAS control unit is not operate when the system is under any conditions of the no operation condition.

- When the brake pedal depressed.
- When the ICC system is set.
- When the system judges that the vehicle comes to a standstill by the system control.
- When the vehicle ahead is not detected.

### Operation Cancellation Condition

The ADAS control unit cancels the operation when the system is under any conditions of the operation cancellation condition.

- When the dynamic driver assistance switch is turned to OFF.
- When the system malfunction occurs.
- When ABS or VDC (including the TCS) operates.
- When the VDC is turned OFF.
- When the drive mode select switch is in SNOW position.
- When the front bumper grille near the ICC sensor is dirty and the measurement of the distance between the vehicles becomes difficult.

### Operation At The Driver Operation

Give priority to the driver operation in the following situation.

- When the accelerator pedal is depressed again.
- When the brake pedal is depressed.

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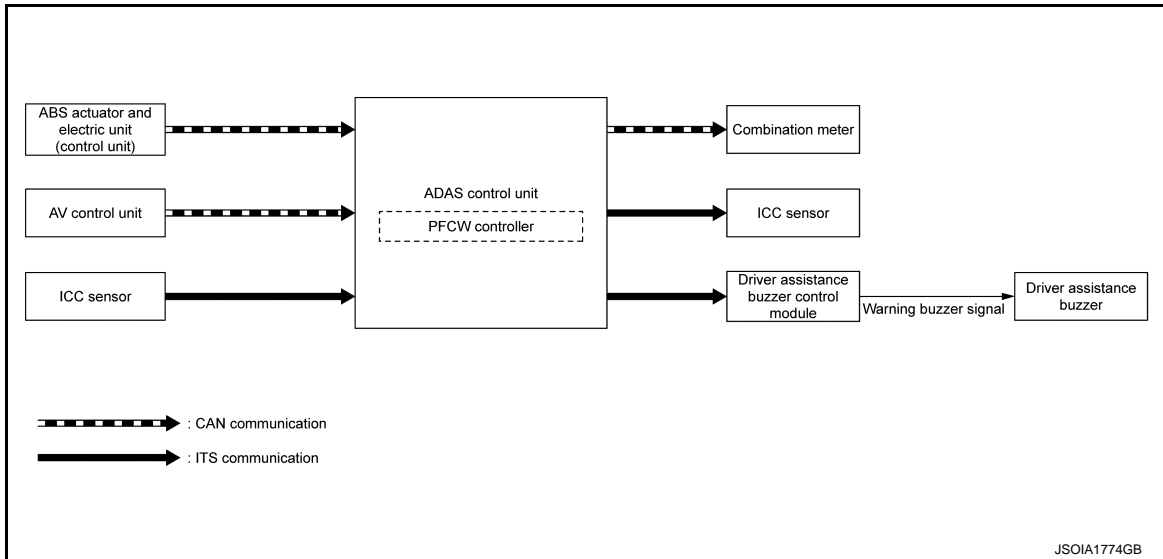
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PFCW

PFCW : System Description

INFOID:000000011436933

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

| Transmit unit                                 | Signal name       |                         | Description  |
|---|-------------------|-------------------------|--|
| ABS actuator and electric unit (control unit) | CAN communication | Vehicle speed signal    | Receives wheel speeds of four wheels   |
| AV control unit                               | CAN communication | System selection signal | Receives a selection state each item in "Driver Assistance" selected with the navigation screen                |
| ICC sensor                                    | ITS communication | ICC sensor signal       | Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle |

Output Signal Item

| Reception unit                          | Signal name       |  | Description  |
|---|-------------------|--|--|
| Combination meter                       | CAN communication | Meter display signal<br>Vehicle ahead detection indicator signal | Transmits a signal to display a state of the system on the information display |
| ICC sensor                              | ITS communication | Vehicle speed signal   | Transmits a vehicle speed calculated by the ADAS control unit                  |
| Driver assistance buzzer control module | ITS communication | Driver assistance buzzer signal                                  | Transmits a driver assistance buzzer signal to activate the buzzer             |

DESCRIPTION

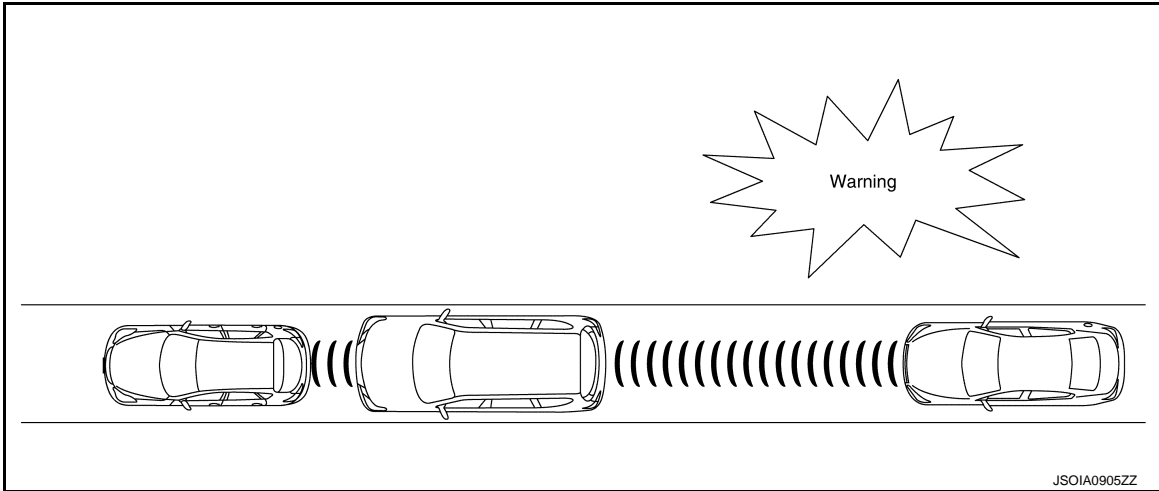
- The PFCW system will function when own vehicle is driven at speeds of approximately 5 km/h (3 MPH) and above.

# SYSTEM

## [DRIVER ASSISTANCE SYSTEM]

### < SYSTEM DESCRIPTION >

- The Predictive Forward Collision Warning (PFCW) System alerts the driver by the vehicle ahead detection indicator and chime when the distance between own vehicle and a vehicle in front of the vehicle ahead becomes closer.



#### **NOTE:**

The PFCW/FEB system shares the diagnosis function with ICC/DCA system.

#### FUNCTION DESCRIPTION

The distance from the vehicle in front of the vehicle ahead and a relative speed are calculated by using the ICC sensor and an ICC sensor signal is transmitted to the ADAS control unit via ITS communication. When judging the necessity of warning according to the received ICC sensor signal, the ADAS control unit transmits a driver assistance buzzer signal to the driver assistance buzzer control module via ITS communication and meter display signal to the combination meter via CAN communication.

#### PFCW Operating Condition

- Warning systems ON indicator: ON
- Vehicle speed: Approximately 5 km/h (3 MPH) and above.
- Vehicle in front of the vehicle ahead: Detected.

#### **NOTE:**

ON/OFF of PFCW system is performed with the navigation screen.

#### LDW

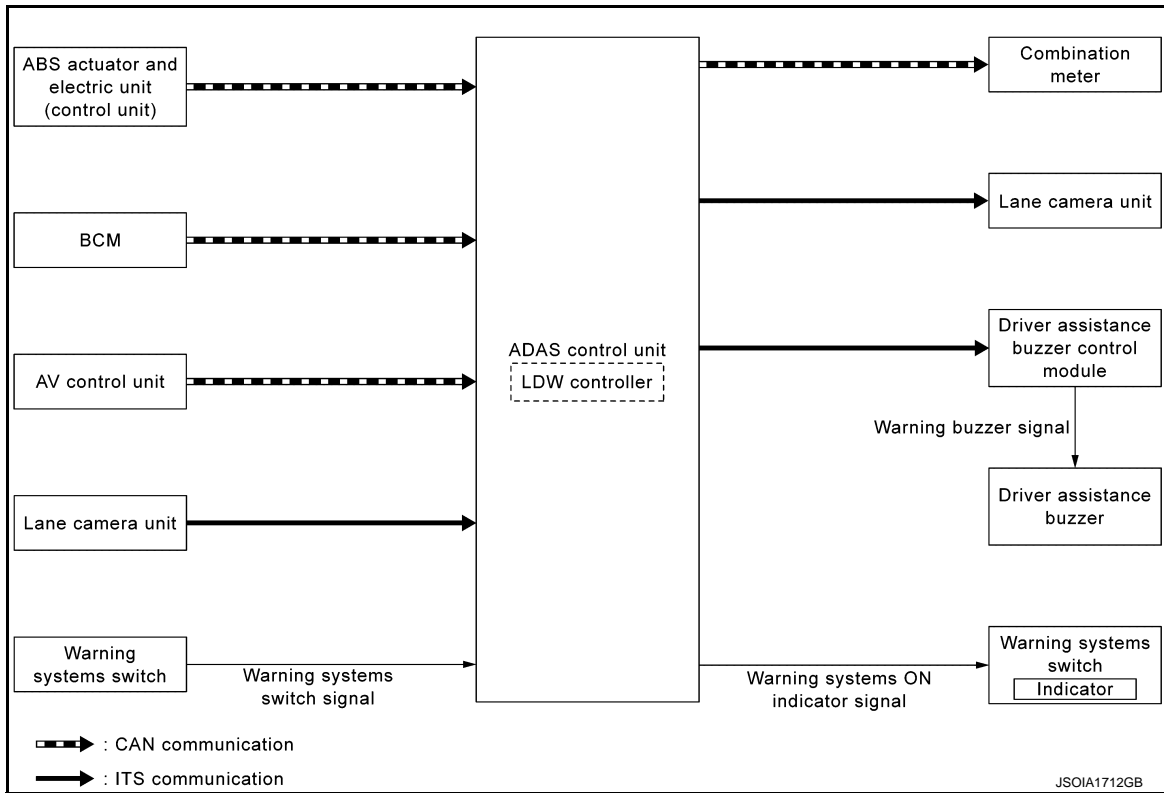
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DAS

LDW : System Description

INFOID:000000011436934

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

| Transmit unit                                 | Signal name                   |                                | Description  |
|---|-------------------------------|--------------------------------|--|
| ABS actuator and electric unit (control unit) | CAN communication             | Vehicle speed signal           | Receives wheel speeds of four wheels   |
| BCM   | CAN communication             | Turn indicator signal          | Receives an operational state of the turn signal lamp and the hazard lamp                          |
| AV control unit                               | CAN communication             | System selection signal        | Receives a selection state of each item in "Driver Assistance" selected with the navigation screen |
| Lane camera unit                              | ITS communication             | Detected lane condition signal | Receives detection results of lane marker  |
| Warning systems switch                        | Warning systems switch signal |                                | Receives an ON/OFF state of the warning systems switch   |

Output Signal Item

| Reception unit    | Signal name       |                                    | Description   |
|-------------------|-------------------|------------------------------------|---|
| Combination meter | CAN communication | Lane departure warning lamp signal | Transmits a lane departure warning lamp signal to turn ON the lane departure warning lamp |
| Lane camera unit  | ITS communication | Vehicle speed signal               | Transmits a vehicle speed calculated by the ADAS control unit                             |
|                   |                   | Turn indicator signal              | Transmits a turn indicator signal received from BCM                                       |

# SYSTEM

< SYSTEM DESCRIPTION >

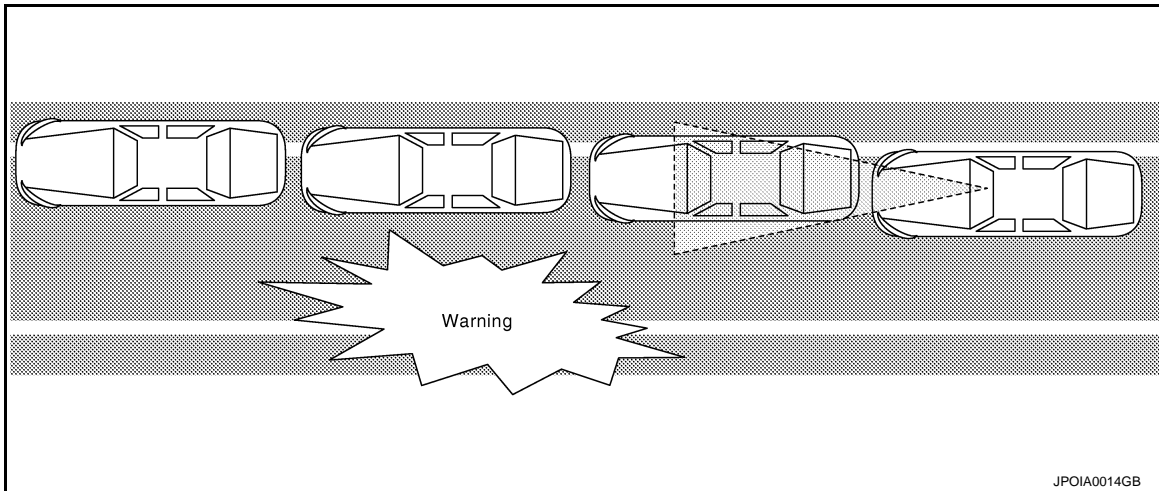
[DRIVER ASSISTANCE SYSTEM]

| Reception unit               | Signal name                         | Description   |
|------------------------------|-------------------------------------|---|
| Driver assistance buzzer     | Driver assistance buzzer signal     | Transmits a warning buzzer signal to activates the buzzer |
| Warning systems ON indicator | Warning systems ON indicator signal | Turns ON the warning systems ON indicator                 |

## FUNCTION DESCRIPTION

- Lane Departure Warning (LDW) system provides a lane departure warning function when the vehicle is driven at speeds of approximately 70 km/h (45 MPH) or more.
- When the vehicle approaches either the left or the right side of the traveling lane, a warning will sound and the lane departure warning lamp (yellow) on the combination meter will blink to alert the driver.
- The warning does not occur during turn signal operation (Lane change side).
- The warning function will stop when the vehicle returns inside of the lane markers.

## EXAMPLE



When the vehicle approaches the right lane marker, the driver is alerted by the buzzer and the blinking of LDW warning display (yellow).

## OPERATION DESCRIPTION

- When the system is turned ON by operating the warning systems switch, ADAS control unit turns ON the warning systems ON indicator.
- Lane camera unit monitors lane markers of the traveling lane. It transmits the detected lane condition signal to ADAS control unit via ITS communication.
- When judging from a lane marker detection signal that the vehicle is approaching the lane marker, the ADAS control unit controls the following item to alert the driver.
  - Activates warning buzzer by driver assistance buzzer control module.
  - ADAS control unit transmits a lane departure warning lamp signal to combination meter via CAN communication and turns ON/OFF the lane departure warning lamp (yellow).

## OPERATING CONDITION

- Warning systems ON indicator: ON
- Vehicle speed: approximately 60 km/h (40 MPH) or more
- Turn indicator signal: After 2 seconds or more from turned OFF

### NOTE:

- LDW system ON/OFF can be set on the navigation screen.
- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH)
- LDP ON indicator lamp is OFF.
- The LDW system may not function properly, depending on the situation. Refer to [DAS-211. "Precautions for Lane Departure Warning/Lane Departure Prevention"](#)

## LDP

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# SYSTEM

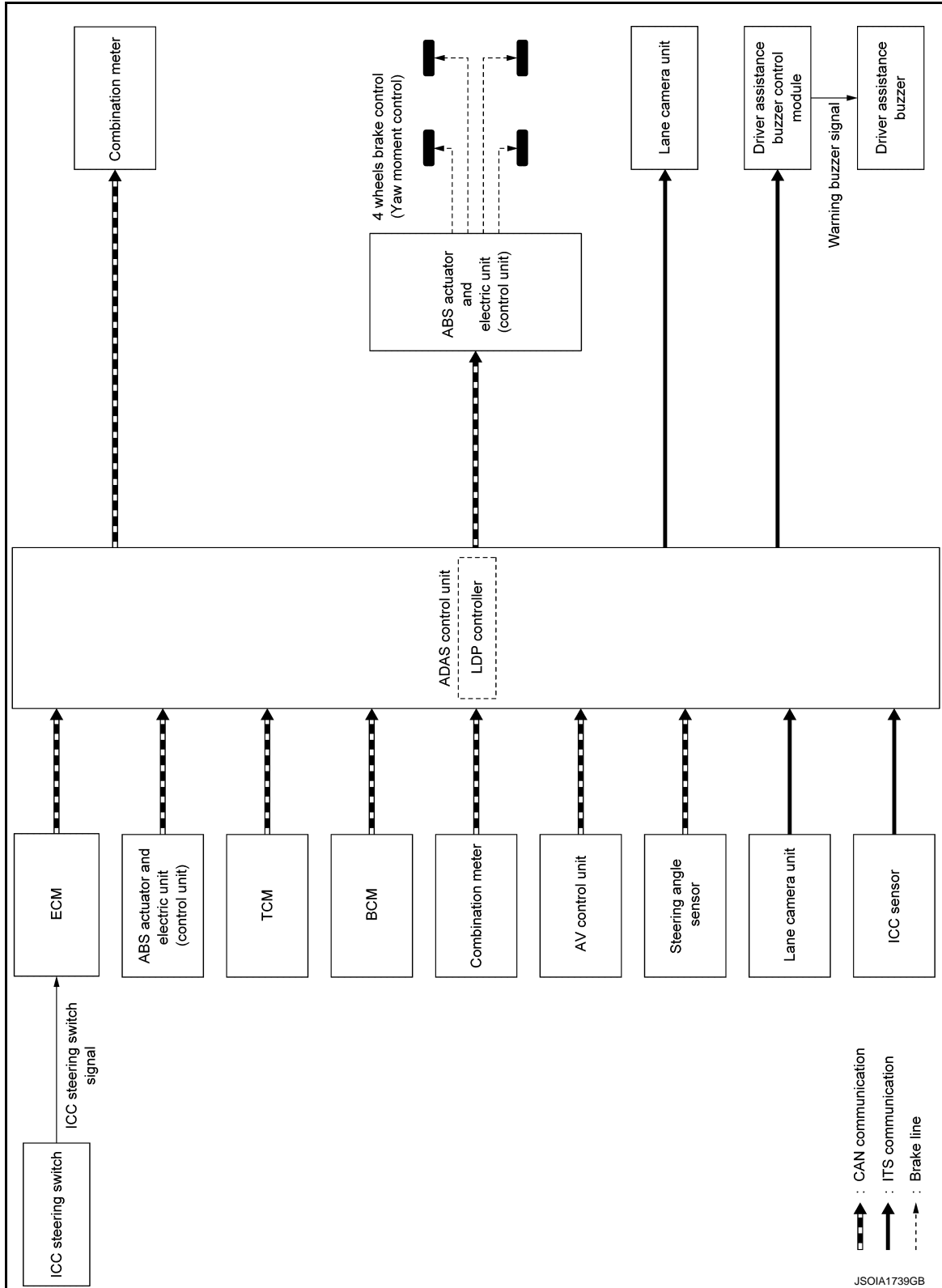
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

LDP : System Description

INFOID:000000011436935

## SYSTEM DIAGRAM



### ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

# SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Transmit unit                                 | Signal name                              |  | Description  |  |
|---|--|--|--|--|
| ECM   | CAN communication                        | Accelerator pedal position signal        | Receives accelerator pedal position (angle)  |  |
|   |  | ICC steering switch signal               | Dynamic driver assistance switch signal  | Receives the operational state of the ICC steering switch (dynamic driver assistance switch) |
|   |  | Engine speed signal                      |  | Receives engine speed  |
|   |  | Snow mode switch signal                  |  | Receives an operational state of the snow mode   |
| TCM   | CAN communication                        | Input speed signal                       | Receives the number of revolutions of input shaft  |  |
|   |  | Current gear position signal             | Receives a current gear position   |  |
|   |  | Shift position signal                    | Receives a selector lever position   |  |
|   |  | Output shaft revolution signal           | Receives the number of revolutions of output shaft   |  |
| ABS actuator and electric unit (control unit) | CAN communication                        | ABS malfunction signal                   | Receives a malfunction state of ABS  |  |
|   |  | ABS operation signal                     | Receives an operational state of ABS   |  |
|   |  | TCS malfunction signal                   | Receives a malfunction state of TCS  |  |
|   |  | TCS operation signal                     | Receives an operational state of TCS   |  |
|   |  | VDC OFF switch signal                    | Receives an ON/OFF state of VDC  |  |
|   |  | VDC malfunction signal                   | Receives a malfunction state of VDC  |  |
|   |  | VDC operation signal                     | Receives an operational state of VDC   |  |
|   |  | Vehicle speed signal                     | Receives wheel speeds of four wheels   |  |
| Yaw rate signal                               | Receives yaw rate acting on the vehicle  |  |  |  |
| Side G sensor signal                          | Receives lateral G acting on the vehicle |  |  |  |
| Combination meter                             | CAN communication                        | Parking brake switch signal              | Receives an operational state of the parking brake   |  |
| BCM   | CAN communication                        | Turn indicator signal                    | Receives an operational state of the turn signal lamp and the hazard lamp                                      |  |
| Steering angle sensor                         | CAN communication                        | Steering angle sensor malfunction signal | Receives a malfunction state of steering angle sensor  |  |
|   |  | Steering angle sensor signal             | Receives the number of revolutions, turning direction of the steering wheel                                    |  |
|   |  | Steering angle speed signal              | Receives the turning angle speed of the steering wheel   |  |
| AV control unit                               | CAN communication                        | System selection signal                  | Receives a selection state of each item in "Driver Assistance" selected with the navigation screen             |  |
| ICC sensor                                    | ITS communication                        | ICC sensor signal                        | Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle |  |
| Lane camera unit                              | ITS communication                        | Detected lane condition signal           | Receives detection results of lane marker  |  |

## Output Signal Item

| Reception unit                                | Signal name       |                                    | Description  |
|---|-------------------|------------------------------------|--|
| ABS actuator and electric unit (control unit) | CAN communication | Target yaw moment signal           | Transmits a target yaw moment signal to generate yaw moment to the vehicle                 |
| Combination meter                             | CAN communication | LDP ON indicator lamp signal       | Transmits an LDP ON indicator lamp signal to turn ON the LDP ON indicator lamp             |
|   |                   | Lane departure warning lamp signal | Transmits an lane departure warning lamp signal to turn ON the lane departure warning lamp |

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# SYSTEM

## < SYSTEM DESCRIPTION >

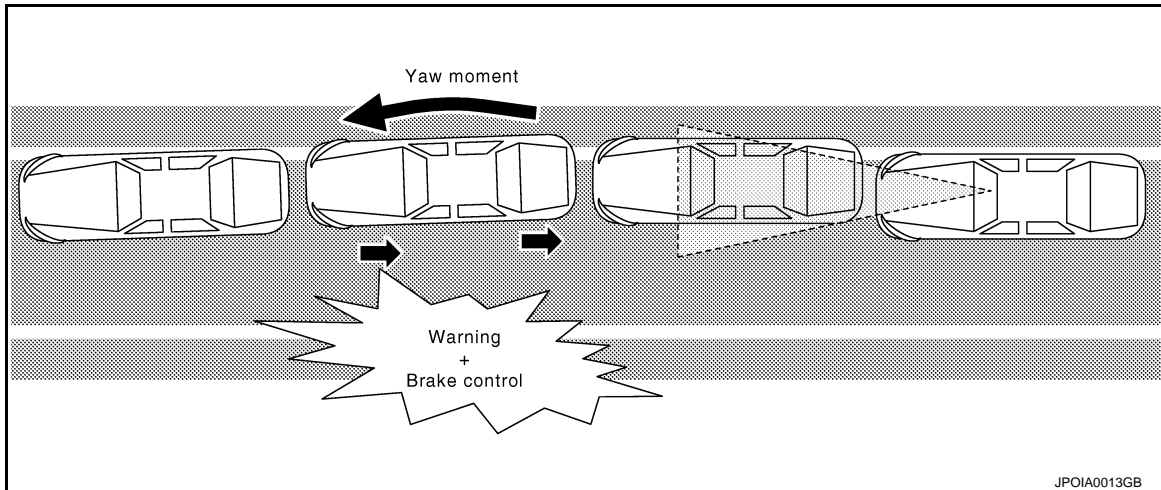
## [DRIVER ASSISTANCE SYSTEM]

| Reception unit                          | Signal name       |                                 | Description  |
|---|-------------------|---------------------------------|--|
| Lane camera unit                        | ITS communication | Vehicle speed signal            | Transmits a vehicle speed calculated by the ADAS control unit      |
|   |                   | Turn indicator signal           | Transmits a turn indicator signal received from BCM                |
| Driver assistance buzzer control module | ITS communication | Driver assistance buzzer signal | Transmits a driver assistance buzzer signal to activate the buzzer |

### FUNCTION DESCRIPTION

- Lane Departure Prevention (LDP) system provides a lane departure warning and brake control assistance when the vehicle is driven at speeds of approximately 70 km/h (45 MPH) or more.
- When the vehicle approaches either the left or the right side of the traveling lane, a warning sounds and the lane departure warning lamp (Yellow) on the combination meter blinks to alert the driver. Then, the LDP system automatically applies the brakes for a short period of time to help assist the driver to return the vehicle to the center of the traveling lane.
- Warning and brake control are not performed during turn signal operation (lane change side).
- The warning and assist functions stop when the vehicle returns to a position inside of the lane marker.

### EXAMPLE



When the vehicle approaches the right lane marker, the driver is alerted by the buzzer and the blinking of lane departure warning lamp (yellow). Simultaneously, the left brake is controlled independently to generate force toward the direction to recover the vehicle from the lane departure.

### OPERATION DESCRIPTION

- When the system is turned ON by dynamic driver assistance switch, ADAS control unit transmits LDP ON indicator lamp signal to combination meter via CAN communication.
- Lane camera unit monitors lane markers of the traveling lane. It transmits the detected lane condition signal to ADAS control unit via ITS communication.
- When judging from a lane marker detection signal that the vehicle is approaching the lane marker, ADAS control unit controls the following items.
  - Activates warning buzzer by driver assistance buzzer control module.
  - Transmits a lane departure warning lamp signal to combination meter via CAN communication.
  - Calculates necessary yaw moment to transmit a target yaw moment signal to ABS actuator and electric unit (control unit) via CAN communication.
- When receiving the target yaw moment signal, ABS actuator and electric unit (control unit) controls brake pressure of four wheels, respectively.
- When receiving the signal from ADAS control unit, combination meter turns ON/OFF the lane departure warning lamp (yellow) and the LDP ON indicator lamp (green).

### OPERATING CONDITION

- LDP ON indicator (green): ON
- Vehicle speed: approximately 70 km/h (45 MPH) or more
- Turn indicator signal: After 2 seconds or more from turned OFF

### NOTE:

- When the LDP system setting on the navigation screen is ON.



# SYSTEM

## [DRIVER ASSISTANCE SYSTEM]

### < SYSTEM DESCRIPTION >

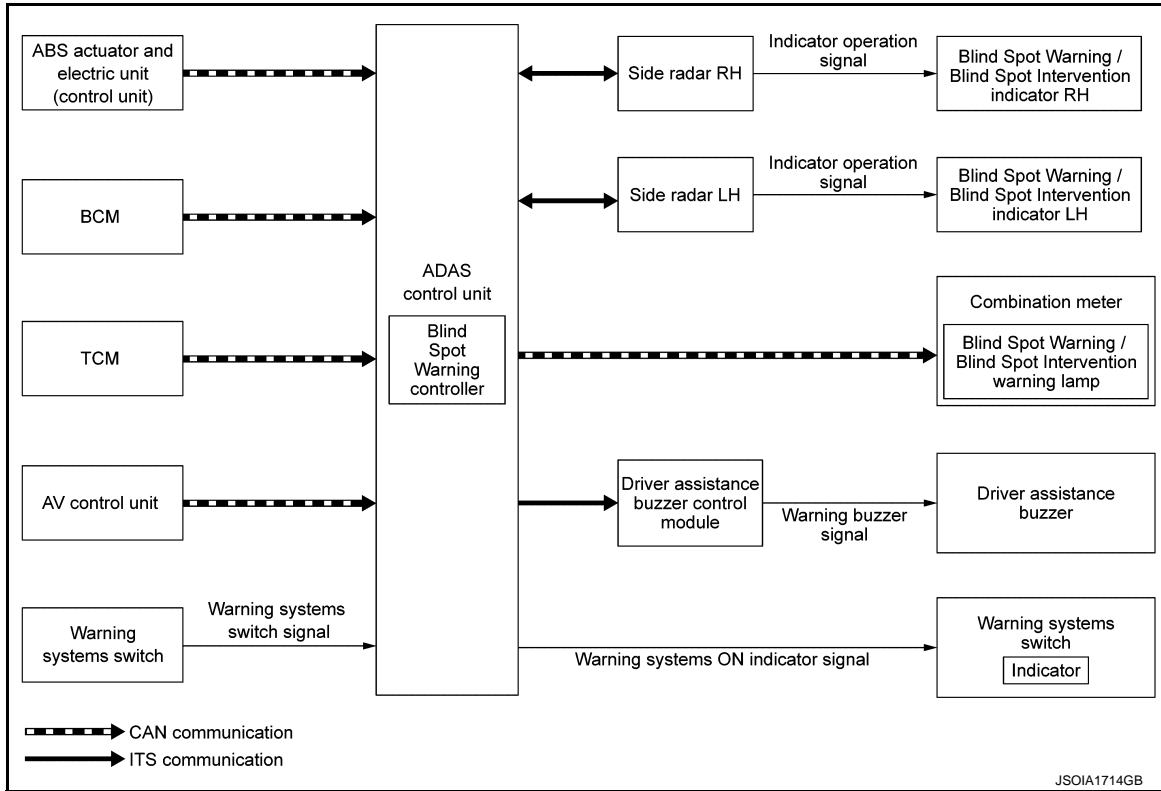
- After the operating conditions are satisfied, the control continues until the vehicle speed reaches approximately 60 km/h (40 MPH).
- The LDP system may not function properly, depending on the situation. Refer to [DAS-211. "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

### BSW

### BSW : System Description

INFOID:000000011436936

### SYSTEM DIAGRAM



### ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

ADAS control unit receives signals via CAN communication. It also detects vehicle conditions that are necessary for Blind Spot Warning control.

#### Input Signal Item

| Transmit unit                                 | Signal name                                   | Description  |
|---|---|--|
| TCM   | CAN communication<br>Shift position signal    | Receives a selector lever position   |
| ABS actuator and electric unit (control unit) | CAN communication<br>Vehicle speed signal     | Receives wheel speeds of four wheels   |
| BCM   | CAN communication<br>Turn indicator signal    | Receives an operational state of the turn signal lamp and the hazard lamp                          |
|   | Dimmer signal                                 | Receives ON/OFF state of dimmer signal   |
| AV control unit                               | CAN communication<br>System selection signal  | Receives a selection state of each item in "Driver Assistance" selected with the navigation screen |
| Side radar LH, RH                             | ITS communication<br>Vehicle detection signal | Receives vehicle detection condition of detection zone.  |
| Warning systems switch                        | Warning systems switch signal                 | Receives an ON/OFF state of the warning systems switch   |

#### Output Signal Item

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# SYSTEM

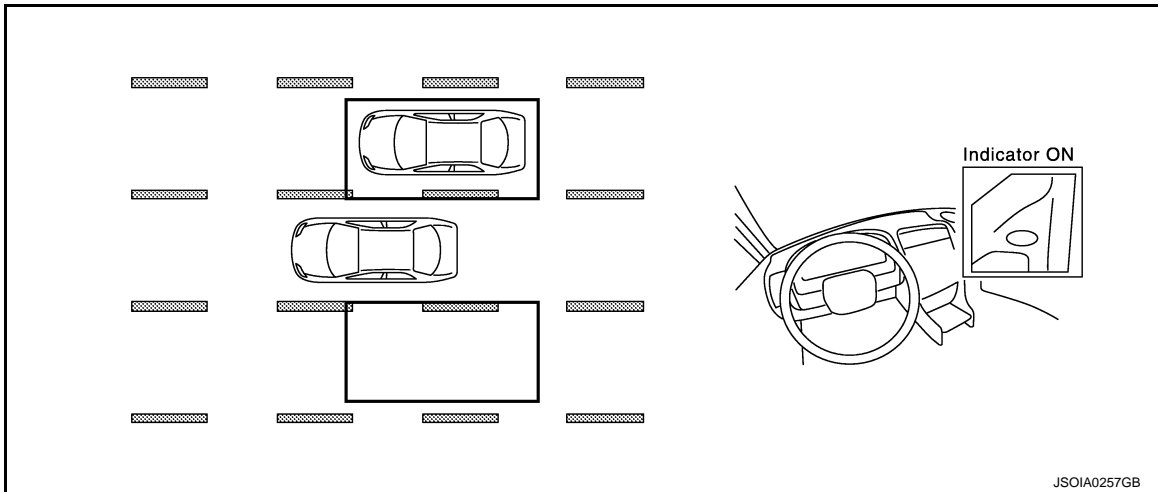
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Reception unit                          | Signal name                         |  | Description   |
|---|-------------------------------------|--|---|
| Combination meter                       | CAN communication                   | Blind Spot Warning/Blind Spot Intervention warning lamp signal     | Transmits a Blind Spot Warning/Blind Spot Intervention warning lamp signal to turn ON the Blind Spot Warning/Blind Spot Intervention warning lamp |
|   |                                     | Blind Spot Intervention ON indicator signal                        | Transmits a Blind Spot Intervention ON indicator lamp signal to turn ON the Blind Spot Intervention ON indicator lamp                             |
| Side radar LH, RH                       | ITS communication                   | Blind Spot Warning/Blind Spot Intervention indicator signal        | Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator       |
|   |                                     | Blind Spot Warning/Blind Spot Intervention indicator dimmer signal | Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator     |
|   |                                     | Vehicle speed signal   | Transmits a vehicle speed calculated by the ADAS control unit   |
| Driver assistance buzzer control module | ITS communication                   | Driver assistance buzzer signal                                    | Transmits a driver assistance buzzer signal to activates the buzzer   |
| Warning systems ON indicator            | Warning systems ON indicator signal |  | Turns ON the warning systems ON indicator   |

## FUNCTION DESCRIPTION

- The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.
- The BSW system uses side radar installed near the rear bumper to detect vehicles in an adjacent lane.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the outside mirror of vehicle and extends approximately 10 ft (3.0 m) behind the rear bumper, and approximately 10 ft (3.0 m) sideways.
- The BSW system operates above approximately 32 km/h (20 MPH).
- If the side radar detects vehicles in the detection zone, the Blind Spot Warning/Blind Spot Intervention indicator illuminates.



- If the driver then activates the turn signal, a buzzer will sound twice and the Blind Spot Warning/Blind Spot Intervention indicator will blink.

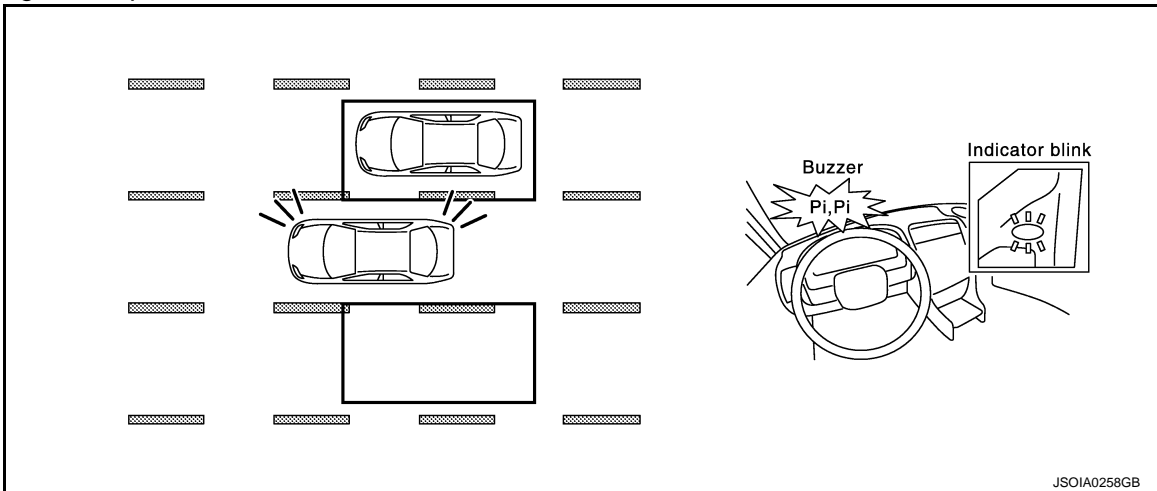
**NOTE:**

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## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

A buzzer sounds if the side radar have already detected vehicles when the driver activates the turn signal. If a vehicle comes into the detection zone after the driver activates the turn signal, then only the Blind Spot Warning/Blind Spot Intervention indicator blinks and no buzzer sounds.



### BLIND SPOT WARNING SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables BSW system.
- The ADAS control unit turns on the BSW system when the warning systems switch is turned ON.
- Side radar detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- ADAS control unit starts the control as follows, based on a vehicle detection signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
  - Blind Spot Warning/Blind Spot Intervention indicator signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal transmission to side radar.
  - Activates warning buzzer by driver assistance buzzer control module.
- Side radar transmits an indicator operation signal to the Blind Spot Warning/Blind Spot Intervention indicator according to Blind Spot Warning/Blind Spot Intervention indicator signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal.

### OPERATING CONDITION

ADAS control unit performs the control when the following conditions are satisfied.

- Warning systems ON indicator: ON
- Vehicle speed: Approximately 32 km/h (20 MPH) or more.

#### NOTE:

ON/OFF of Blind Spot Warning system is performed with the navigation screen.

- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 29 km/h (18 MPH)
- The Blind Spot Warning system may not function properly, depending on the situation. Refer to [DAS-212. "Precautions for Blind Spot Warning/Blind Spot Intervention"](#).

### BLIND SPOT INTERVENTION

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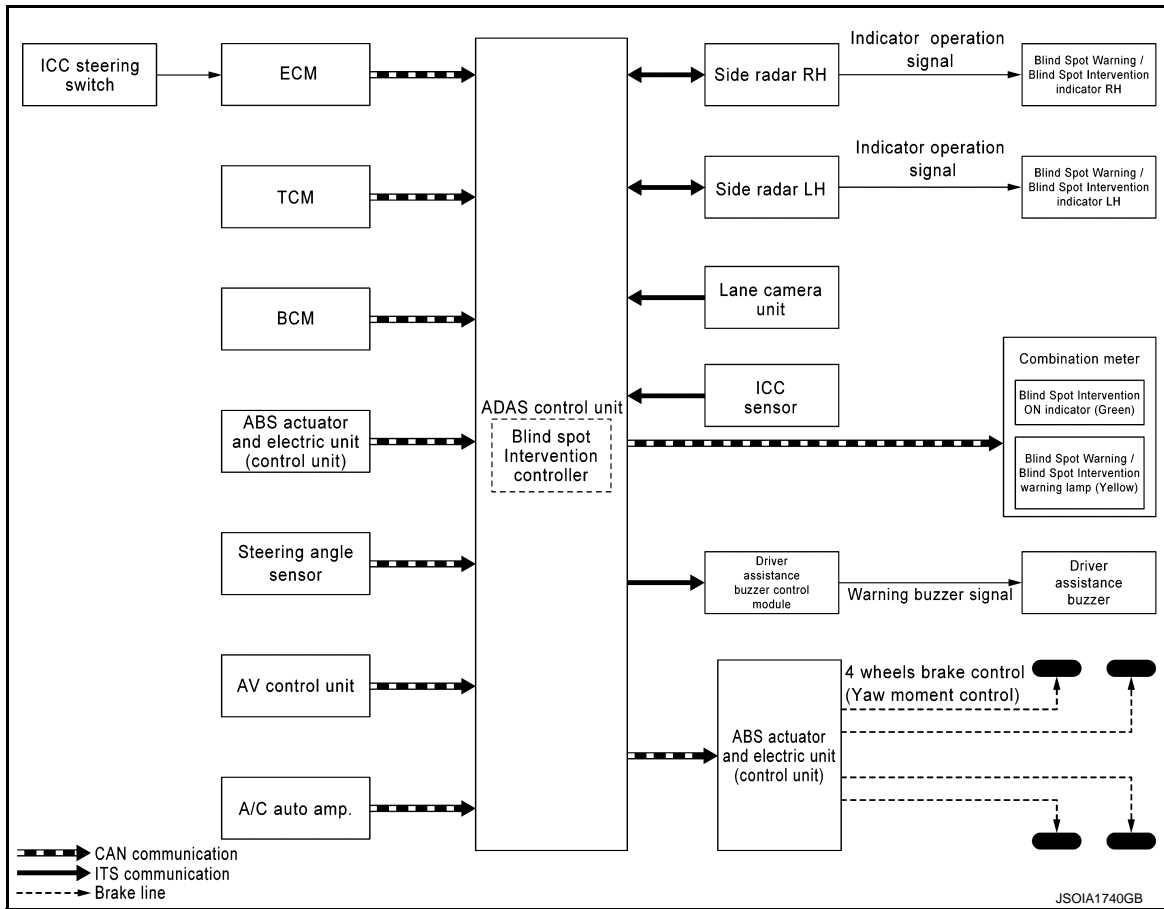
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## BLIND SPOT INTERVENTION : System Description

INFOID:000000011436937

### SYSTEM DIAGRAM



### ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

#### Input Signal Item

| Transmit unit | Signal name       |   | Description  |
|---------------|-------------------|---|--|
| ECM           | CAN communication | Accelerator pedal position signal       | Receives accelerator pedal position (angle)  |
|               |                   | ICC steering switch signal              | Receives the operational state of the ICC steering switch (dynamic driver assistance switch) |
|               |                   | Dynamic driver assistance switch signal |  |
|               |                   | Engine speed signal                     | Receives engine speed  |
| TCM           | CAN communication | Input speed signal                      | Receives the number of revolutions of input shaft  |
|               |                   | Current gear position signal            | Receives a current gear position   |
|               |                   | Shift position signal                   | Receives a select lever position   |
|               |                   | Output shaft revolution signal          | Receives the number of revolutions of output shaft   |

# SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Transmit unit                                 | Signal name       |  | Description  |
|---|-------------------|--|--|
| ABS actuator and electric unit (control unit) | CAN communication | ABS malfunction signal                   | Receives a malfunction state of ABS  |
|   |                   | ABS operation signal                     | Receives an operational state of ABS   |
|   |                   | TCS malfunction signal                   | Receives a malfunction state of TCS  |
|   |                   | TCS operation signal                     | Receives an operational state of TCS   |
|   |                   | VDC OFF switch signal                    | Receives an ON/OFF state of VDC  |
|   |                   | VDC malfunction signal                   | Receives a malfunction state of VDC  |
|   |                   | VDC operation signal                     | Receives an operational state of VDC   |
|   |                   | Vehicle speed signal                     | Receives wheel speeds of four wheels   |
|   |                   | Yaw rate signal                          | Receives yaw rate acting on the vehicle  |
|   |                   | Side G sensor signal                     | Receives lateral G acting on the vehicle   |
| Combination meter                             | CAN communication | Parking brake switch signal              | Receives an operational state of the parking brake   |
| BCM   | CAN communication | Turn indicator signal                    | Receives an operational state of the turn signal lamp and the hazard lamp                                      |
|   |                   | Dimmer signal                            | Receives ON/OFF state of dimmer signal   |
| Steering angle sensor                         | CAN communication | Steering angle sensor malfunction signal | Receives a malfunction state of steering angle sensor  |
|   |                   | Steering angle sensor signal             | Receives the number of revolutions, turning direction of the steering wheel                                    |
|   |                   | Steering angle speed signal              | Receives the turning angle speed of the steering wheel   |
| AV control unit                               | CAN communication | System selection signal                  | Receives a selection state of each item in "Driver assistance" selected with the navigation screen             |
| A/C auto amp.                                 | CAN communication | SNOW mode signal                         | Receives a mode selection state of the drive mode select switch  |
| ICC sensor                                    | ITS communication | ICC sensor signal                        | Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle |
| Lane camera unit                              | ITS communication | Detection lane condition signal          | Receives detection results of lane marker  |
| Side radar LH, RH                             | ITS communication | Vehicle detection signal                 | Receives vehicle detection condition of detection zone.  |

## Output Signal Item

| Reception unit                                | Signal name       |  | Description   |
|---|-------------------|--|---|
| ABS actuator and electric unit (control unit) | CAN communication | Target yaw moment signal                                       | Transmits a target yaw moment signal to generate yaw moment to the vehicle  |
| Combination meter                             | CAN communication | Blind Spot Warning/Blind Spot Intervention warning lamp signal | Transmits a Blind Spot Warning/Blind Spot Intervention warning lamp signal to turn ON the Blind Spot Warning/Blind Spot Intervention warning lamp |
|   |                   | Blind Spot Intervention ON indicator lamp signal               | Transmits a Blind Spot Intervention ON indicator lamp signal to turn ON the Blind Spot Intervention ON indicator lamp                             |
| Lane camera unit                              | ITS communication | Vehicle speed signal   | Transmits a vehicle speed calculated by the ADAS control unit   |
|   |                   | Turn indicator signal  | Transmits a turn indicator signal received from BCM   |

# SYSTEM

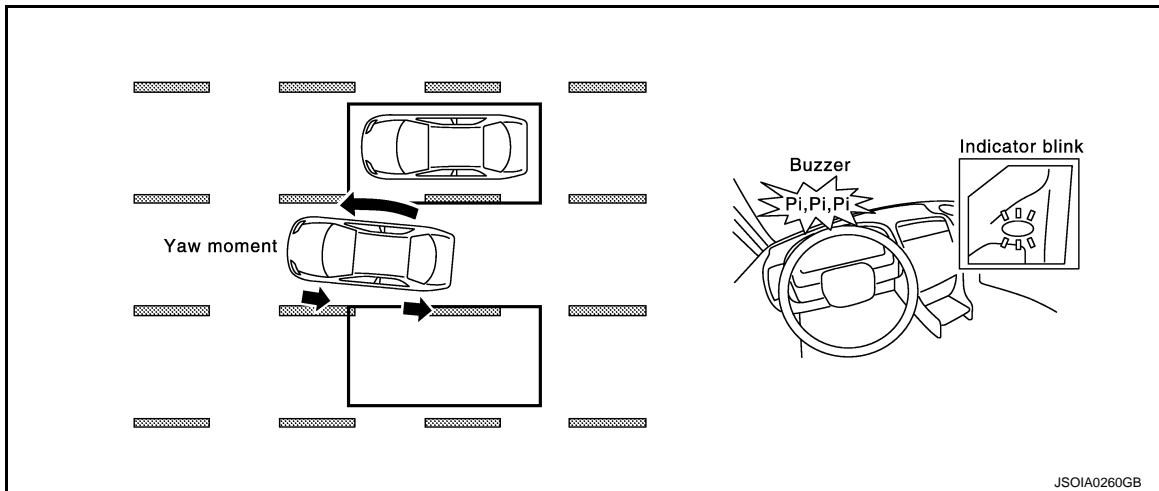
## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

| Reception unit                          | Signal name  | Description   |   |
|---|--|---|---|
| Side radar LH, RH                       | Blind Spot Warning/Blind Spot Intervention indicator signal        | Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator   |   |
|   | Blind Spot Warning/Blind Spot Intervention indicator dimmer signal | Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator |   |
|   | Vehicle speed signal   | Transmits a vehicle speed calculated by the ADAS control unit   |   |
| Driver assistance buzzer control module | ITS communication  | Driver assistance buzzer signal   | Transmits a driver assistance buzzer signal to activates the buzzer |

### FUNCTION DESCRIPTION

- The Blind Spot Intervention system can help alert the driver of other vehicles in adjacent lanes when changing lanes. Blind Spot Intervention always operates together with Blind Spot Warning.
- The Blind Spot Intervention system operates above approximately 60 km/h (37 MPH).
- The Blind Spot Intervention system uses side radar installed near the rear bumper to detect other vehicles beside vehicle in an adjacent lane.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the outside mirror of vehicle and extends approximately 10 ft (3.0 m) behind the rear bumper, and approximately 10 ft (3.0 m) sideways.
- If the Blind Spot Warning/Blind Spot Intervention indicator is illuminated while vehicle is approaching a lane marker, the Blind Spot Warning/Blind Spot Intervention indicator blinks and an audible warning will sound three times. Then the system applies the brakes on one side of the vehicle for a short period of time to help return the vehicle back to the center of the lane.



- Blind Spot Intervention operates regardless of turn signal usage.
- The brightness of Blind Spot Warning/Blind Spot Intervention indicator lights is adjusted automatically depending on the brightness of the ambient light.

#### NOTE:

- Blind Spot Intervention is typically activated earlier than LDP when getting closer to the lane marker.
- Warning and brake control will only be activated if the Blind Spot Warning/Blind Spot Intervention indicator is already illuminated when vehicle approaches a lane marker.
- If another vehicle comes into the detection zone after vehicle has crossed a lane marker, no warning or brake control will be activated.

### BLIND SPOT INTERVENTION SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables Blind Spot Intervention system.
- Turn ON the dynamic driver assistance switch, and Blind Spot Intervention system setting on the navigation screen. Then Blind Spot Intervention ON indicator comes on.
- Combination meter turns Blind Spot Intervention Blind Spot Intervention indicator lamp ON/OFF according to the signals from ADAS control unit via CAN communication.
- Side radar detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- Side radar receives vehicle speed signal from ADAS control unit and changes its detecting function.

# SYSTEM

## [DRIVER ASSISTANCE SYSTEM]

### < SYSTEM DESCRIPTION >

- Lane camera unit monitors lane markers of the traveling lane and transmits the detected lane condition signal to ADAS control unit via ITS communication. A
- ADAS control unit starts the control as follows, based on a vehicle detection signal, lane condition signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
  - Blind Spot Warning/Blind Spot Intervention indicator signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal transmission to side radar. B
  - Driver assistance buzzer signal transmission to driver assistance buzzer control module via ITS communication. C
  - Calculation of necessary yaw moment and transmission of the target yaw moment signal to ABS actuator and electric unit (control unit). D
- Side radar transmits an indicator operation signal to the Blind Spot Warning/Blind Spot Intervention indicator according to Blind Spot Warning/Blind Spot Intervention indicator operation signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal. E
- ABS actuator and electric unit (control unit) controls brake pressure of four wheels respectively according to the target yaw moment signal. F

#### Operation Condition of Blind Spot Intervention System

ADAS control unit performs the control when the following conditions are satisfied.

- Blind Spot Intervention ON indicator: ON
- Vehicle speed: Approximately 60 km/h (37 MPH) or more

#### NOTE:

- When the Blind Spot Intervention system setting on the navigation screen is ON. G
- The Blind Spot Intervention system may not function properly, depending on the situation. Refer to [DAS-212, "Precautions for Blind Spot Warning/Blind Spot Intervention"](#). H
- Blind Spot Intervention braking will not operate or will stop operating and only a warning chime will sound under the following conditions. I
  - When the brake pedal is depressed.
  - When the accelerator pedal is depressed while brake control assist is provided.
  - When steering quickly.
  - When the ICC, DCA, PFCW or FEB warnings sound.
  - When the hazard warning flashers are operated.
  - When driving on a curve at a high speed.
- Under the following conditions, the Blind Spot Intervention system will be turned off automatically, a beep will sound and the Blind Spot Intervention ON indicator will blink. The BSW system is still available, but the Blind Spot Intervention system will not be available until the conditions no longer exist. J
  - When the VDC system (except TCS function) or ABS operates. K
  - When the VDC system is turned OFF.
  - When the drive mode select switch is turned to the SNOW mode. L

#### BCI

DAS

# SYSTEM

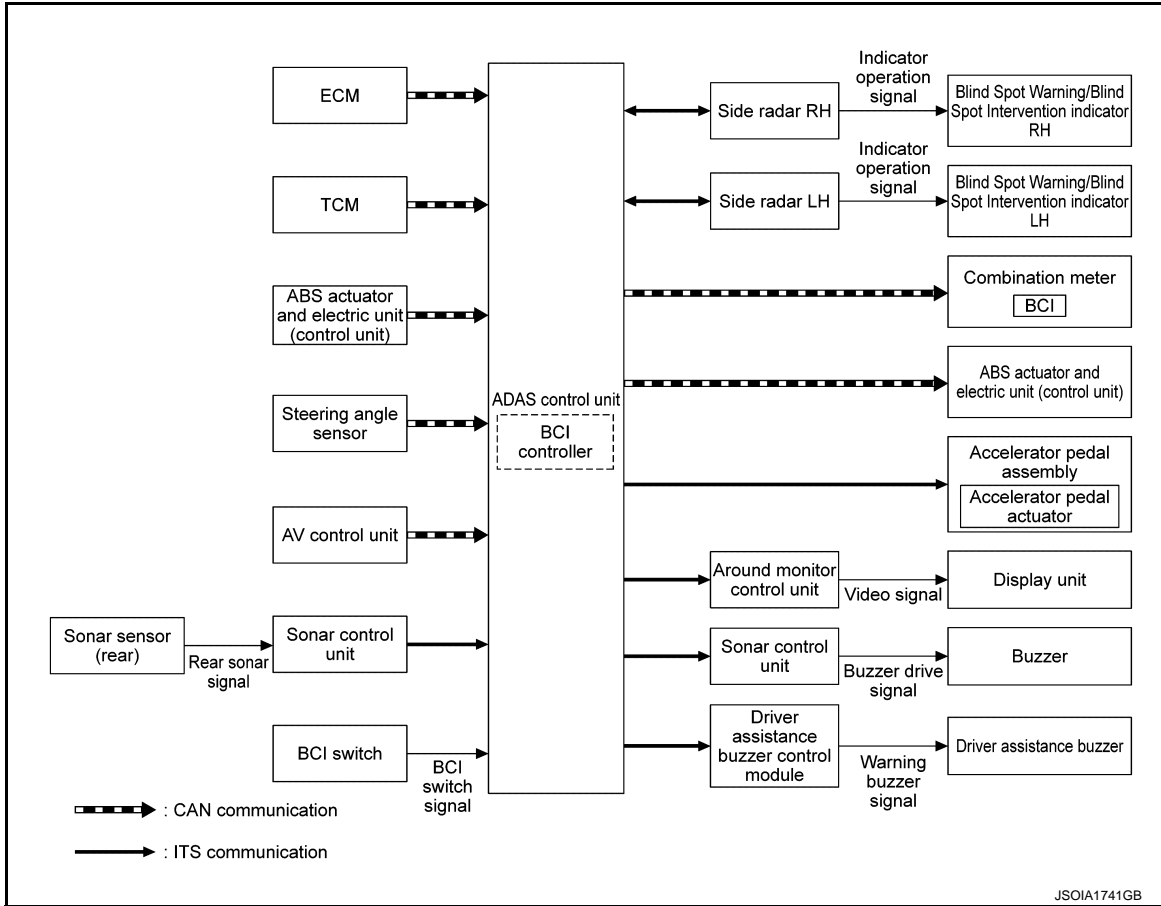
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## BCI : System Description

INFOID:000000011436938

### SYSTEM DIAGRAM



### ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

#### Input Signal Item

| Transmit unit                                 | Signal name            | Description                          |
|---|------------------------|--------------------------------------|
| ECM   | CAN communication      | Accelerator pedal position signal    |
|   | Engine speed signal    | Receives engine speed                |
| TCM   | CAN communication      | Current gear position signal         |
|   | Shift position signal  | Receives a select lever position     |
| ABS actuator and electric unit (control unit) | CAN communication      | ABS malfunction signal               |
|   | VDC malfunction signal | Receives a malfunction state of VDC  |
|   | Vehicle speed signal   | Receives wheel speeds of four wheels |
| Sonar control unit                            | ITS communication      | Rear object detection signal         |
| Side radar LH, RH                             | ITS communication      | Vehicle detection signal             |
| BCI switch                                    | BCI switch signal      | Receives the state of the BCI switch |

#### Output Signal Item



# SYSTEM

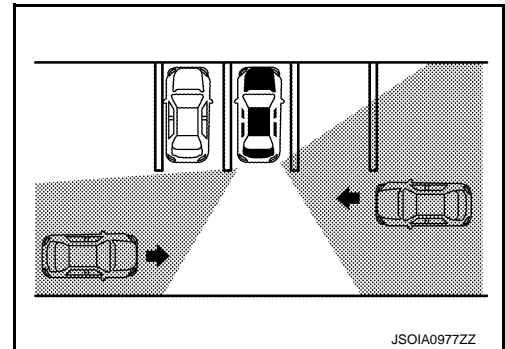
## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

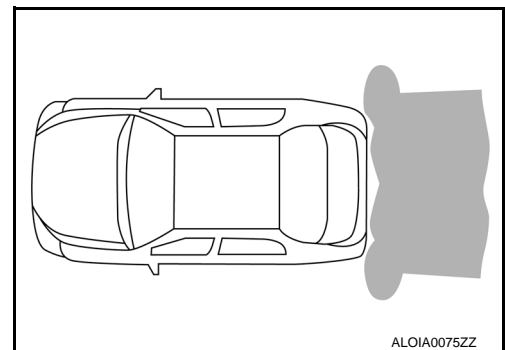
| Reception unit                                | Signal name       |  | Description   |  |
|---|-------------------|--|---|--|
| ABS actuator and electric unit (control unit) | CAN communication | Brake fluid pressure control signal.                               | Transmits a brake fluid pressure control signal to activate the brake.  |  |
| Combination meter                             | CAN communication | Meter display signal   | BCI system display signal   | Turns the BCI ON/OFF display and BCI system indicator to display a state of the system on the information display. |
| Sonar control unit                            | ITS communication | Buzzer drive signal  | Transmits a buzzer drive signal to activate buzzer  |  |
| Around view monitor control unit              | ITS communication | BCI warning signal   | Transmits a BCI warning signal to indicate the yellow/red frame on the upper display  |  |
| Accelerator pedal actuator                    | ITS communication | Accelerator pedal feedback force control signal                    | Transmits an accelerator pedal feedback force control signal to activate the accelerator pedal actuator                                       |  |
| Side radar LH, RH                             | ITS communication | Blind Spot Warning/Blind Spot Intervention indicator signal        | Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator   |  |
|   |                   | Blind Spot Warning/Blind Spot Intervention indicator dimmer signal | Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator |  |
|   |                   | Vehicle speed signal   | Transmits a vehicle speed calculated by the ADAS control unit   |  |

### FUNCTION DESCRIPTION

- The Back-up Collision Intervention system can help alert the driver of approaching vehicles or rear objects when the driver is backing out of a parking space.
- The BCI system comprise of to main detection systems. The side radar LH/RH, and the four sonar sensors mounted on the rear bumper.
- The BCI system operates at speeds below 8 km/h (5 MPH) whenever the vehicle is in reverse.
- The BCI system uses the side radar LH/RH installed near the rear bumper to detect approaching vehicles and rear obstacles.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- The radar sensors detect the approaching vehicle from up to approximately 15 m (49 ft) away.



- The sonar sensors can detect rear obstacles of up to approximately 1.5 m (4.9 ft).



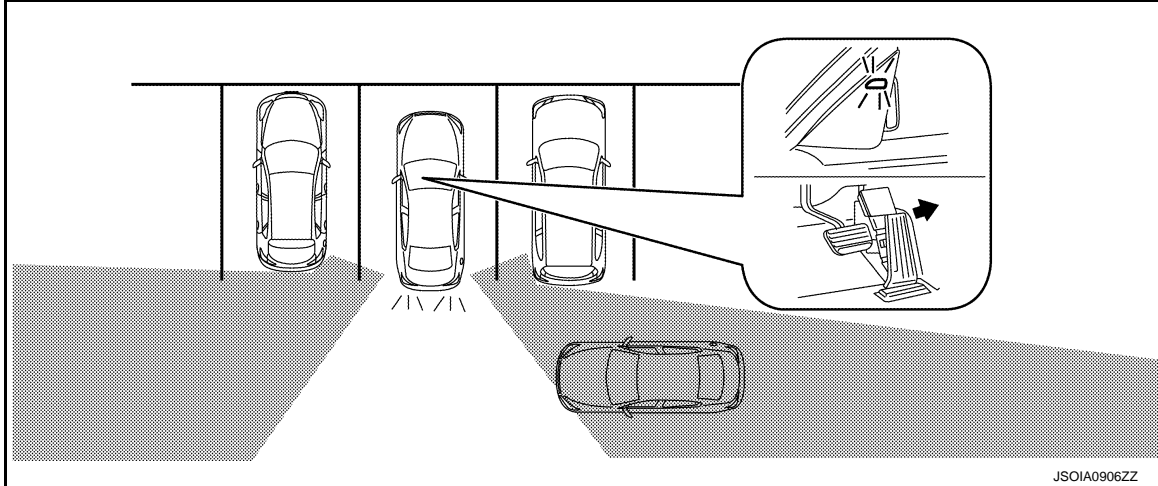
- If the radar detects a vehicle approaching from the side or the sonar detects close objects in the rear, the system gives visual and audible warnings, and applies the brake for a moment when the vehicle is moving

# SYSTEM

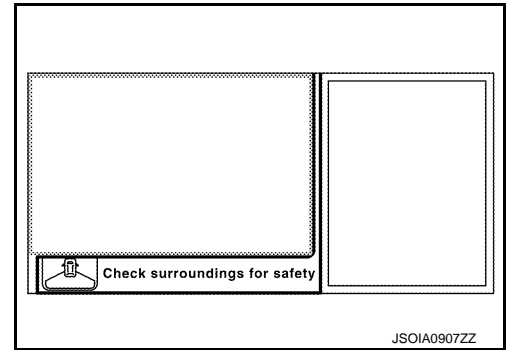
## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

backwards. If the driver's foot is on the accelerator pedal, the system pushes the accelerator upward before applying the brake. If the driver continues to press the accelerator, the system will not engage the brake.



- If the side radar detects an approaching vehicle from the side, the BCI system sounds a beep (single beep), the Blind spot warning indicator on the side of the approaching vehicle flashes and the frame of the around view monitor screen is shown in yellow. If the detected vehicle approaches closer and own vehicle is backing up toward the detected vehicle, the system sounds a beep (three times) and the frame of the around view monitor screen is shown in red.



### BACK-UP COLLISION INTERVENTION SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables Back-up Collision Intervention system.
- The BCI system is automatically turned ON every time the engine is started.
- Combination meter turns Back-up Collision Intervention ON indicator ON/OFF according to the signals from ADAS control unit via CAN communication.
- Side radar detects a vehicle approaching, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- Side radar receives vehicle speed signal from ADAS control unit and changes its detecting function.
- ADAS control unit starts the control as follows, based on a vehicle detection signal.

#### Operation Condition of Back-up Collision Intervention System

ADAS control unit performs the control when the following conditions are satisfied.

- Back-up Collision Intervention: ON (Selected by BCI switch)
- When the vehicle is moving in reverse at 8 km/h (5 MPH) or less.

#### NOTE:

When the Back-up Collision Intervention system setting is ON in the BCI switch.

### Fail-safe (ADAS Control Unit)

INFOID:0000000011471830

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

| System   | Buzzer            | Warning lamp/Indicator lamp | Description |
|--|-------------------|-----------------------------|-------------|
| Vehicle-to-vehicle distance control mode       | High-pitched tone | ICC system warning lamp     | Cancel      |
| Conventional (fixed speed) cruise control mode | High-pitched tone | ICC system warning lamp     | Cancel      |

# SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| System                                      | Buzzer            | Warning lamp/Indicator lamp                             | Description  |
|---|-------------------|---|--|
| Forward Emergency Braking (FEB)             | High-pitched tone | FEB warning lamp  | Cancel   |
| Predictive Forward Collision Warning (PFCW) | High-pitched tone | FEB warning lamp  | Cancel   |
| Distance Control Assist (DCA)               | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Lane Departure Warning (LDW)                | —                 | Lane departure warning lamp                             | Cancel   |
| Lane Departure Prevention (LDP)             | Low-pitched tone  | Lane departure warning lamp                             | Cancel   |
| Blind Spot Warning (BSW)                    | —                 | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Blind Spot Intervention                     | Low-pitched tone  | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Back-up Collision Intervention (BCI)        | High-pitched tone | BCI malfunction indicator                               | Cancel   |
| Active trace control function               | —                 | FEB warning lamp  | <ul style="list-style-type: none"> <li>• Cancel</li> <li>• If a communication error occurs between the A/C auto amp. and CAN communication line, a mode at the instant of error occurrence is maintained until the mode is fixed to STANDARD after turning the ignition switch from OFF to ON</li> </ul> |

## Fail-safe (ICC Sensor)

INFOID:000000011471831

If a malfunction occurs in the ICC sensor, ADAS control unit cancels control, sounds a beep, and turns ON the ICC system warning lamp in the combination meter.

## Fail-safe (Lane Camera Unit)

INFOID:000000011471832

### FAIL-SAFE CONTROL BY DTC

#### Lane Departure Warning (LDW)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, and turns ON the lane departure warning lamp in the combination meter.

#### Lane Departure Prevention (LDP)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, sounds a beep, and turns ON the lane departure warning lamp in the combination meter.

### TEMPORARY DISABLED STATUS AT HIGH TEMPERATURE

#### Lane Departure Warning (LDW)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the lane departure warning lamp (yellow) in the combination meter will blink.
- When interior temperature is reduced, the system will resume operation automatically and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

#### Lane Departure Prevention (LDP)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the buzzer sounds and lane departure warning lamp (yellow) in the combination meter will blink.

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### < SYSTEM DESCRIPTION >

- When interior temperature is reduced, the system will resume when dynamic driver assistance switch is turned OFF and turned ON and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

### Fail-safe (Side Radar)

INFOID:000000011471833

#### FAIL-SAFE CONTROL BY DTC

##### Blind Spot Warning (BSW)

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

##### Blind Spot Intervention

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

##### Back-up Collision Intervention (BCI)

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the BCI malfunction indicator in the combination meter (information display).

#### TEMPORARY DISABLED STATUS AT BLOCKAGE

##### Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily cancelled. Then the Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

##### Blind Spot Intervention

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

##### Back-up Collision Intervention (BCI)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and BCI not available indicator in combination meter indicates (information display). Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

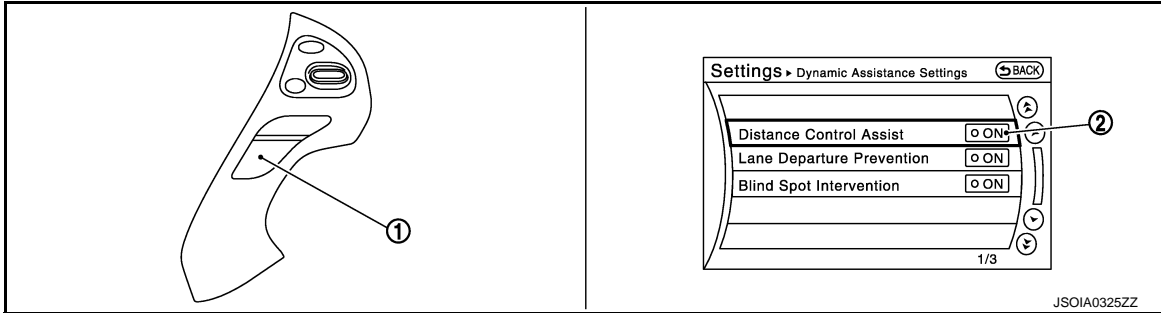
< SYSTEM DESCRIPTION >

OPERATION

DCA

DCA : Switch Name and Function

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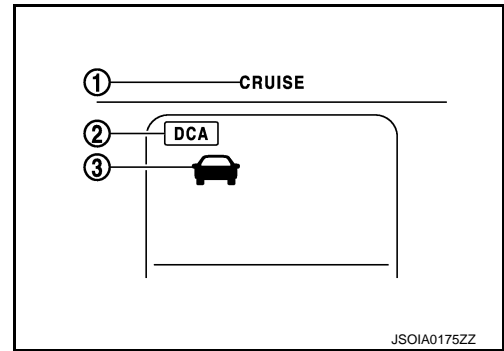


| No. | Switch name   | Description   |
|-----|---|---|
| ①   | Dynamic driver assistance switch                                | Turns DCA system ON/OFF<br>(When the setting of DCA system on the navigation system setting screen is ON) |
| ②   | DCA system setting screen<br>(Navigation system setting screen) | The setting of DCA system can be switched between ON and OFF  |

DCA : Menu Displayed by Pressing Each Switch

INFOID:000000011436944

SYSTEM DISPLAY



| No. | Switch name                       | Description   |
|-----|-----------------------------------|---|
| ①   | ICC system warning lamp           | Indicates that an abnormal condition is present in DCA system   |
| ②   | DCA system switch indicator       | Indicates that DCA system is ON   |
| ③   | Vehicle ahead detection indicator | Indicates whether it detect a vehicle ahead<br><b>NOTE:</b><br>The vehicle ahead detection indicator turns OFF when the no operation condition is satisfied |

DISPLAY AND WARNING LAMP

System Control Condition Display

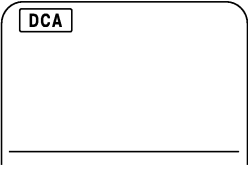
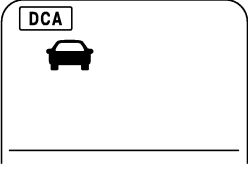
The DCA system switch indicator illuminates and the system is turned ON by pressing the dynamic driver assistance switch at the system OFF.

DAS

# OPERATION

< SYSTEM DESCRIPTION >

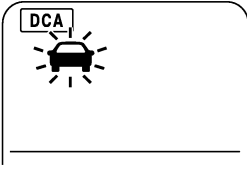
[DRIVER ASSISTANCE SYSTEM]

|                  | Condition                  | Display on combination meter  |
|------------------|----------------------------|---|
| Operation status | Vehicle ahead not detected | <br><small>JSOIA0207ZZ</small> |
|                  | Vehicle ahead detected     | <br><small>JSOIA0208ZZ</small> |

## Warning Operation

### Approach Warning

- If own vehicle comes closer to the vehicle ahead due to rapid deceleration of that vehicle or if another vehicle cuts in, the system warns the driver with the chime and DCA system display. Decelerate by depressing the brake pedal to maintain a safe vehicle distance if:
  - The chime sounds.
  - The vehicle ahead detection indicator blinks.
- The warning chime may not sound in some cases when there is a short distance between vehicles. Some examples are:
  - When the vehicles are traveling at the same speed and the distance between vehicles is not changing
  - When the vehicle ahead is traveling faster and the distance between vehicles is increasing
  - When a vehicle cuts in near own vehicle
- The warning chime will not sound when own vehicle approaches vehicles that are parked or moving slowly.


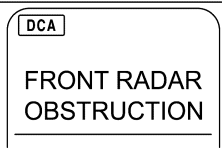

| Condition  | Display on combination meter  |
|--|---|
| When the system judges that the brake operation by the driver is necessary | <br><small>JSOIA0209ZZ</small> |

## Warning Lamp Display

# OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

|                 | Condition   | Description   | Display on combination meter  |
|-----------------|---|---|---|
| Warning display | When the dynamic driver assistance switch is turned ON with settings of DCA system, LDP system and Blind Spot Intervention system OFF   | The DCA system is not activated. The DCA system switch indicator blinks.  | <br><small>JSOIA0210ZZ</small>             |
|                 | <ul style="list-style-type: none"> <li>When the VDC or ABS (including the TCS) operates</li> <li>When the VDC is turned OFF</li> <li>When the drive mode select switch is in SNOW position</li> </ul> | The DCA system is automatically canceled. The chime will sound and the DCA system switch indicator will blink.<br><b>NOTE:</b><br>The system operates if the dynamic driver assistance switch is turned OFF⇒ON after the condition improves.  |   |
|                 | When the sensor window is dirty, making it impossible to detect a vehicle ahead   | The DCA system is automatically canceled. The chime sounds and the ICC system warning lamp will come on and the "FRONT RADAR OBSTRUCTION" indicator will appear.<br><b>NOTE:</b><br>Stop the vehicle in a safe location and turn the ignition switch OFF. Clean the dirty area with soft cloth. The system returns to normal condition when turning the ignition switch ON again. | CRUISE<br><br><small>JSOIA1775ZZ</small>   |
|                 | When the DCA system is not operating properly   | The chime sounds and the ICC system warning lamp will come on.<br><b>NOTE:</b><br>Turn the ignition switch OFF, and then turn the ignition switch ON again. If there is no malfunction, the system returns to the normal condition.   | CRUISE<br><br><small>JSOIA0212ZZ</small> |

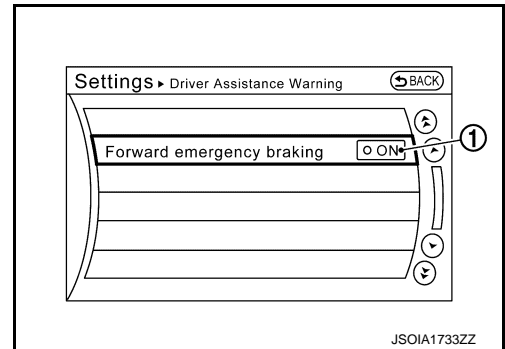
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**NOTE:**  
When the DCA system is automatically canceled, the cancellation condition can be displayed on "WORK SUPPORT" of CONSULT (ICC/ADAS).

## PFCW

### PFCW : Switch Name and Function

INFOID:000000011436945



DAS

| No. | Switch name   | Description   |
|-----|---|---|
| ①   | PFCW/FEB system setting screen (Navigation system setting screen) | The setting of PFCW/FEB system can be switched between ON and OFF |

# OPERATION

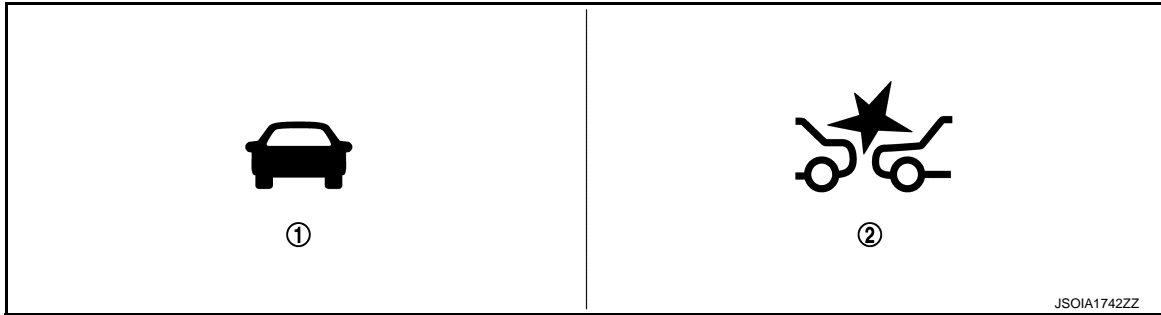
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## PFCW : Menu Displayed by Pressing Each Switch

INFOID:000000011436946

### INDICATOR AND WARNING LAMP



| No. | Switch name                       | Description  |
|-----|-----------------------------------|--|
| ①   | Vehicle ahead detection indicator | Vehicle ahead detection indicator blinks when the PFCW system is activated.  |
| ②   | FEB warning lamp                  | FEB warning lamp turns ON when: <ul style="list-style-type: none"> <li>• PFCW system has a malfunction</li> <li>• When the ICC sensor area is covered with dirt or is obstructed</li> </ul> <b>NOTE:</b><br>Shared with FEB system |

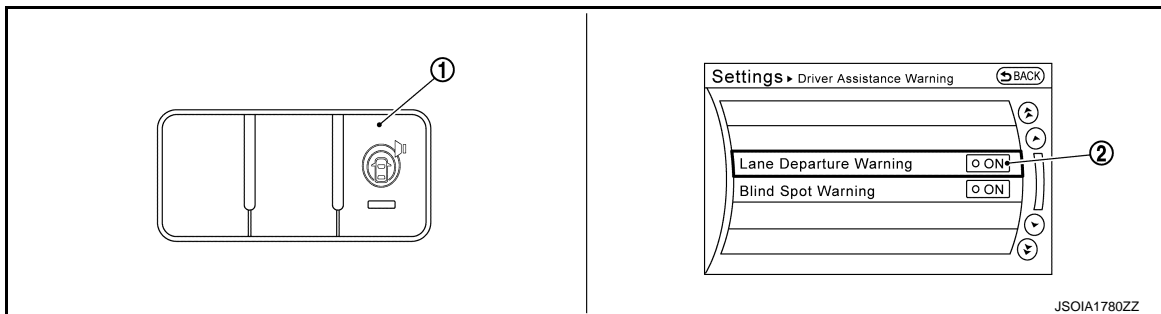
### SYSTEM CONTROL CONDITION DISPLAY

| Condition  | Vehicle ahead detection indicator<br>(In the combination meter) | Buzzer |
|--|---|--------|
| Set condition  | OFF   | —      |
| When own vehicle comes closer to the vehicle ahead and it is judged that the distance between the vehicles is not sufficient | <p>JSOIA0134ZZ</p>  | Beep   |

## LDW

### LDW : Switch Name and Function

INFOID:000000011436947



| No. | Switch name  | Description   |
|-----|--|---|
| ①   | Warning systems switch   | Turns LDW system ON/OFF<br>(When the setting of LDW system on the navigation system screen is ON) |
| ②   | LDW system setting screen<br>(Navigation system settings screen) | The setting of LDW system can be switched between ON and OFF                                      |



# OPERATION

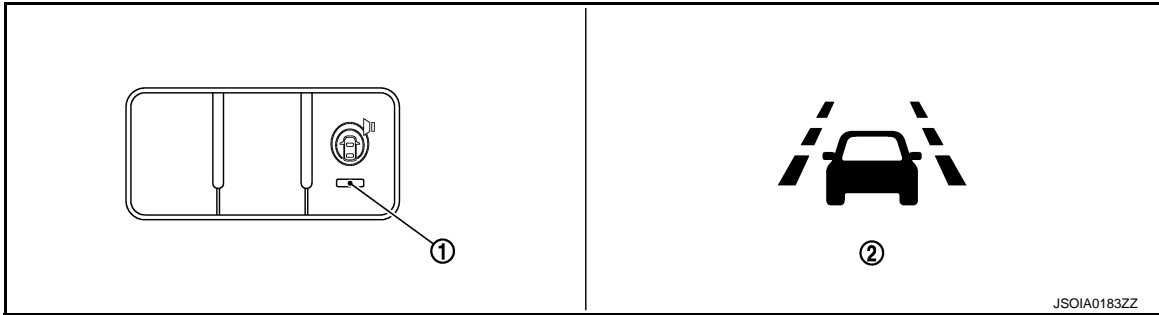
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## LDW : Menu Displayed by Pressing Each Switch

INFOID:000000011436948

### INDICATOR AND WARNING LAMP



| No. | Switch name                  | Description  |
|-----|------------------------------|--|
| ①   | Warning systems ON indicator | <ul style="list-style-type: none"> <li>Indicates that LDW system and BSW system are ON</li> <li>Blinks when that the setting of LDW system and BSW system are "OFF" and the warning systems switch is pressed</li> </ul> |
| ②   | Lane departure warning lamp  | <ul style="list-style-type: none"> <li>Blinks when LDW system is activated</li> <li>Turns ON when LDW system has a malfunction</li> <li>Blinks when the temperature of the lane camera unit becomes high</li> </ul>      |

### DISPLAY AND WARNING

| Vehicle condition / Driver's operation | Action  | Warning systems ON indicator   | Indication on the combination meter | buzzer                                       |                        |
|--|---|--|-------------------------------------|--|------------------------|
| Less than approx. 60 km/h (40 MPH)     | Close to lane marker  | No action  | ON                                  | OFF  | —                      |
| Approx. 70 km/h (45 MPH) or more       | Close to lane marker  | Warning <ul style="list-style-type: none"> <li>Buzzer sounds</li> <li>Warning lamp blinks</li> </ul> | ON                                  | (Yellow) Blink<br><small>JPOIA0018GB</small> | Short continuous beeps |
|  | <ul style="list-style-type: none"> <li>Close to lane marker</li> <li>Turn signal ON (Deviate side)</li> </ul> | No action  | ON                                  | OFF  | —                      |

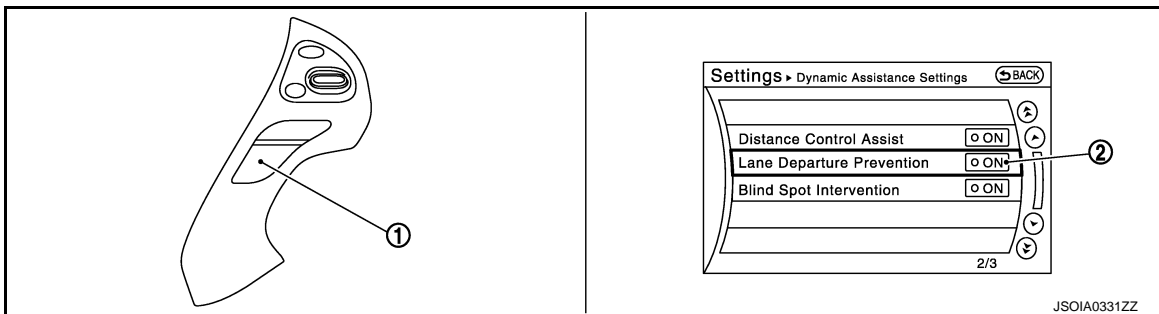
#### NOTE:

After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to [DAS-180. "LDW : System Description"](#).

### LDP

### LDP : Switch Name and Function

INFOID:000000011436949



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# OPERATION

< SYSTEM DESCRIPTION >

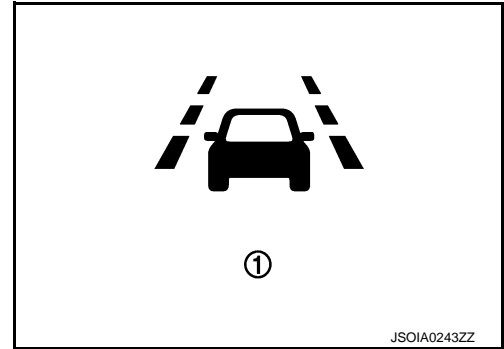
[DRIVER ASSISTANCE SYSTEM]

| No. | Switch name   | Description   |
|-----|---|---|
| ①   | Dynamic driver assistance switch                                | Turns LDP system ON/OFF<br>(When the setting of LDP system on the navigation system setting screen is ON) |
| ②   | LDP system setting screen<br>(Navigation system setting screen) | The setting of LDP system can be switched between ON and OFF  |

## LDP : Menu Displayed by Pressing Each Switch


INFOID:000000011436950

## INDICATOR AND WARNING LAMP



| No. | Switch name                          | Description  |
|-----|--------------------------------------|--|
| ①   | LDP ON indicator (green)             | <ul style="list-style-type: none"> <li>Indicates that LDP system is ON</li> <li>Blinks when dynamic driver assistance switch is pressed<br/>(When the setting of LDP system and DCA system are "OFF")</li> </ul>         |
|     | Lane departure warning lamp (yellow) | <ul style="list-style-type: none"> <li>Blinks when the warning of LDP system occurs</li> <li>Turns ON when LDP system has a malfunction</li> <li>Blinks when the temperature of lane camera unit becomes high</li> </ul> |



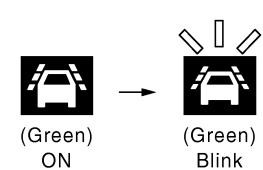
## DISPLAY AND WARNING

| Vehicle condition / Driver's operation |                      | Action    | Indication on the combination meter  | Buzzer |
|--|----------------------|-----------|--|--------|
| Less than approx. 60 km/h (40 MPH)     | Close to lane marker | No action | <br>(Green)<br>ON<br><small>J50IA0021GB</small> | —      |

# OPERATION

## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

| Vehicle condition / Driver's operation | Action  | Indication on the combination meter   | Buzzer   |
|--|---|---|--|
| Approx. 70 km/h (45 MPH) or more       | Close to lane marker  |  <p>(Green) ON → (Yellow) Blink → (Green) ON</p> <p>JPOIA0022GB</p>   | Short continuous beeps   |
|  | <ul style="list-style-type: none"> <li>Close to lane marker</li> <li>Turn signal ON (Deviate side)</li> </ul>   | No action   | —  |
|  | Close to lane with soft braking   |  <p>(Green) ON → (Yellow) Blink → (Green) ON</p> <p>JPOIA0022GB</p>   | Short continuous beeps   |
|  | <ul style="list-style-type: none"> <li>VDC OFF switch OFF ⇒ ON (VDC system ON ⇒ OFF)</li> <li>Shifting drive mode select switch to SNOW position</li> </ul> | Cancellation <ul style="list-style-type: none"> <li>Buzzer sounds</li> <li>Indicator lamp blinks</li> </ul> <b>NOTE:</b><br>When dynamic driver assistance switch is ON ⇒ OFF, indicator lamp is turned OFF |  <p>(Green) ON → (Green) Blink</p> <p>JPOIA0023GB</p> |

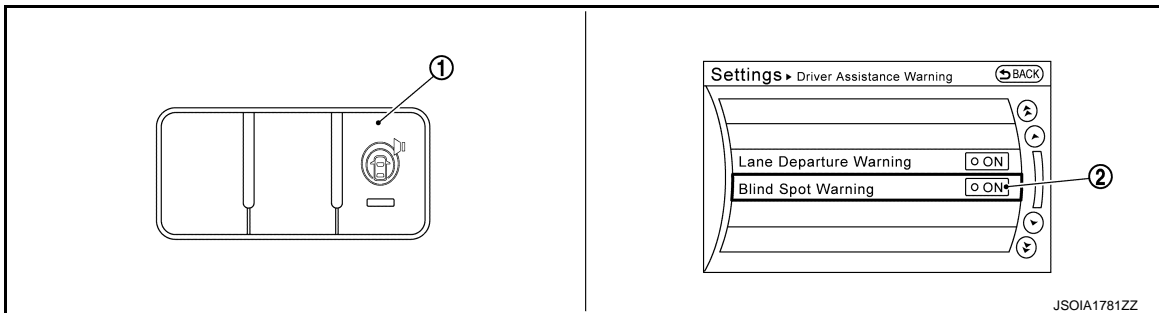
### NOTE:

After the operating conditions are satisfied, the control continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to [DAS-182. "LDP : System Description"](#).

### BSW

### BSW : Switch Name and Function

INFOID:000000011436951



| No. | Switch name   | Description   |
|-----|---|---|
| ①   | Warning systems switch  | Turns BSW systems ON/OFF (When the setting of BSW system on the navigation system setting screen is ON) |
| ②   | BSW system setting screen (Navigation system settings screen) | The setting of BSW system can be switched between ON and OFF  |

# OPERATION

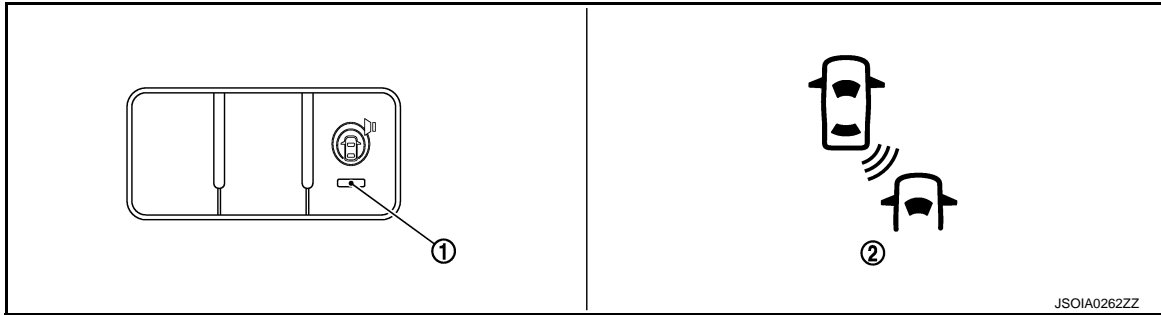
[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

## BSW : Menu Displayed by Pressing Each Switch

INFOID:000000011436952

### INDICATOR AND WARNING LAMP



| No. | Switch name  | Description  |
|-----|--|--|
| ①   | Warning systems ON indicator                                     | <ul style="list-style-type: none"> <li>Indicates that BSW system, LDW system, and PFCW system are ON</li> <li>Blinks when the setting of BSW system, LDW system, and PFCW system are "OFF" and the warning systems switch is pressed</li> </ul>  |
| ②   | Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) | <ul style="list-style-type: none"> <li>Turns ON when Blind Spot Warning/Blind Spot Intervention system is malfunctioning</li> <li>Blinks when the following conditions:                             <ul style="list-style-type: none"> <li>When the camera detects that interior temperature is high</li> <li>When radar blockage is detected</li> </ul> </li> </ul> |

### DISPLAY AND WARNING OPERATION

| Vehicle condition / Driver's operation         |                                    |                                 |  | Action   |   |
|--|------------------------------------|---------------------------------|--|--|---|
| Warning systems ON indicator                   | Vehicle speed                      | Turn signal condition           | Status of vehicle detection within detection area  | Indication on the Blind Spot Warning/Blind spot Intervention indicator | Buzzer                                      |
| OFF  | —                                  | —                               | —  | OFF  | OFF   |
| ON   | Less than approx. 29 km/h (18 MPH) | —                               | Vehicle is absent                                  | OFF  | OFF   |
|  |                                    | OFF                             | Vehicle is absent                                  | ON   | OFF   |
|  | Approx. 32 km/h (20 MPH) or more   | ON (Vehicle detected direction) | Before turn signal operates<br>Vehicle is detected | Blink<br><p>JSOIA0251GB</p>  | Short continuous beep<br><p>JSOIA0252GB</p> |
| Vehicle is detected after turn signal operates |                                    |                                 | Blink<br><p>JSOIA0251GB</p>                        | OFF  |   |

NOTE:

# OPERATION

## [DRIVER ASSISTANCE SYSTEM]

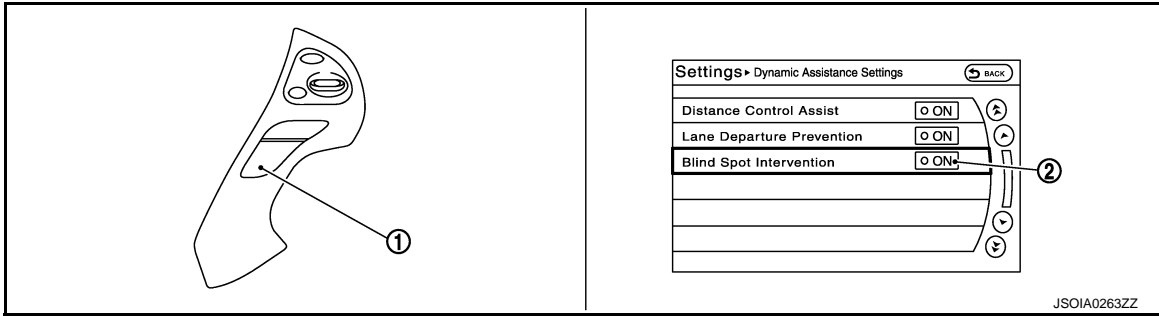
### < SYSTEM DESCRIPTION >

- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.
- Always Blind Spot Intervention system operates together with BSW system. Whenever Blind Spot Intervention system is turned on by pushing the dynamic driver assistance switch, BSW system also be turned on even if the BSW system is turned off. However, at this time the warning systems ON indicator remains OFF.

### BLIND SPOT INTERVENTION

#### BLIND SPOT INTERVENTION : Switch Name and Function

INFOID:000000011436953

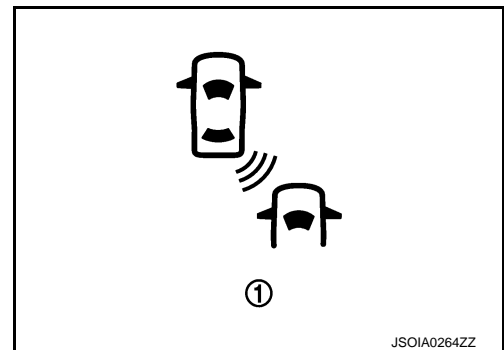


| No. | Switch name   | Description  |
|-----|---|--|
| ①   | Dynamic driver assistance switch  | Turns Blind Spot Intervention system ON/OFF                                      |
| ②   | Blind Spot Intervention system setting screen<br>(Navigation system setting screen) | The setting of Blind Spot Intervention system can be switched between ON and OFF |

#### BLIND SPOT INTERVENTION : Menu Displayed by Pressing Each Switch

INFOID:000000011436954

### INDICATOR AND WARNING LAP



| No. | Switch name  | Description   |
|-----|--|---|
| ①   | Blind Spot Intervention ON indicator (green)                     | <ul style="list-style-type: none"> <li>• Turns ON while Blind Spot Intervention system is ON</li> <li>• Blinks when dynamic driver assistance switch is pressed while setting of Blind Spot Intervention is OFF</li> <li>• Under the following conditions, the Blind Spot Intervention ON indicator (green) will blink                             <ul style="list-style-type: none"> <li>- When the VDC system (except TCS function) or ABS operates</li> <li>- When the VDC system is turned OFF</li> <li>- When the drive mode select switch is turned to the SONW mode</li> </ul> </li> </ul> |
|     | Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) | <ul style="list-style-type: none"> <li>• Turns ON when Blind Spot Warning/Blind Spot Intervention system is malfunctioning</li> <li>• Blinks when the following conditions:                             <ul style="list-style-type: none"> <li>- When the camera detects that interior temperature is high</li> <li>- When radar blockage is detected.</li> </ul> </li> </ul>   |

### DISPLAY AND WARNING OPERATION

Whenever the Blind Spot Intervention system is turned on, the BSW system will also be on.

# OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Vehicle condition / Driver's operation |                                    |   |                                     | Action   |               |                       |
|--|------------------------------------|---|-------------------------------------|--|---------------|-----------------------|
| Blind Spot Intervention ON indicator   | Vehicle speed                      | Status of vehicle detection within detection area | Status of approach to adjacent lane | Indication on the Blind Spot Warning/Blind spot Intervention indicator | Brake control | Buzzer                |
| OFF                                    | —                                  | —   | —                                   | OFF  | OFF           | OFF                   |
| ON                                     | Less than approx. 60 km/h (37 MPH) | —   | —                                   | OFF  | OFF           | OFF                   |
|  |                                    | Vehicle is absent                                 | —                                   | OFF  | OFF           | OFF                   |
|  | Approx. 60 km/h (37 MPH) or more   | Vehicle is detected                               | Not approaching                     | ON   | OFF           | OFF                   |
|  |                                    | Vehicle is detected                               | Approaching                         | Blink  | ON            | Short continuous beep |

Time shown in the figure is approximate time.

Time shown in the figure is approximate time.

Under the following conditions, the Blind Spot Intervention system will be turned off automatically, a beep will sound and the Blind Spot Intervention ON indicator (green) will blink. The BSW system is still available, but the Blind Spot Intervention system will not be available until the conditions no longer exist.

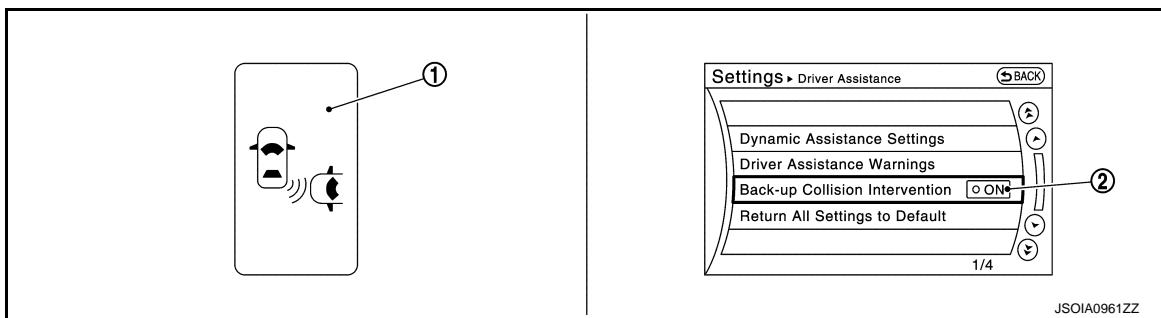
- When the VDC system (except TCS function) or ABS operates.
- When the VDC system is turned OFF.
- When the drive mode select switch is turned to the SNOW mode.

## BCI

### BCI : Switch Name and Function

INFOID:000000011436955

## BCI



| No. | Switch name  | Description  |
|-----|--|--|
| ①   | BCI switch   | Turns BCI systems ON/OFF<br>(When the setting of BCI system on the navigation system setting screen is ON) |
| ②   | BCI setting screen<br>(Navigation system setting screen) | The setting of BCI system can be switched between ON and OFF   |

# OPERATION

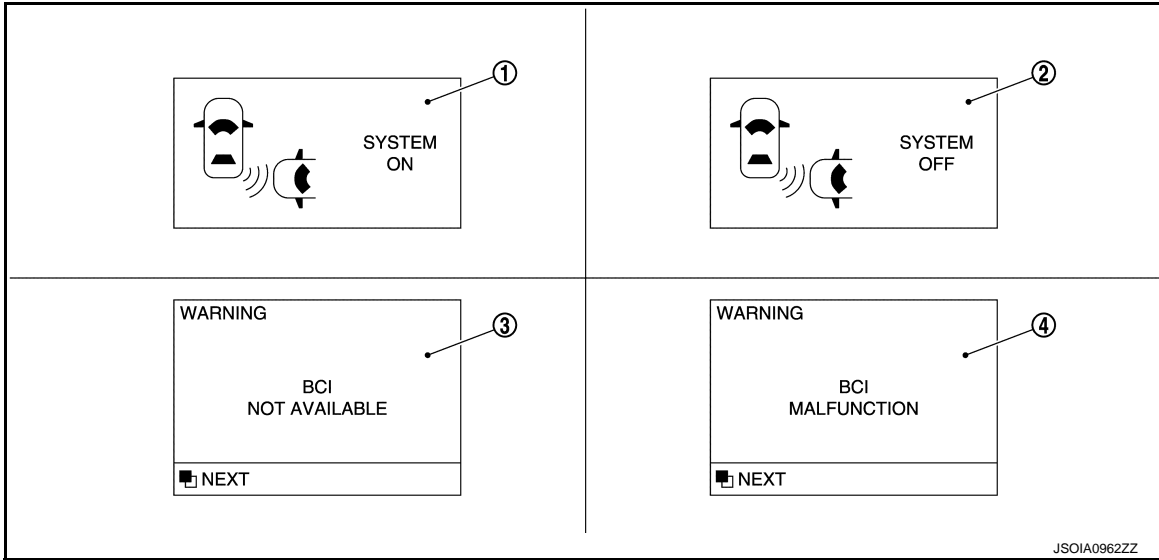
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## BCI : Menu Displayed by Pressing Each Switch

INFOID:000000011436956

### SYSTEM DISPLAY



| No. | Name                        | Description   |
|-----|-----------------------------|---|
| ①   | BCI ON indicator            | Turns ON when the selector lever is placed in "R" position.   |
| ②   | BCI OFF indicator           | Turns ON when the BCI system is turned off temporarily by pushing the BCI switch.   |
| ③   | BCI not available indicator | Turns ON when the following conditions are satisfied: <ul style="list-style-type: none"> <li>• When the accelerator pedal actuator detects that the internal motor temperature is high [over approximately 100°C (212°F)].</li> <li>• When radar blockage is detected.</li> </ul> |
| ④   | BCI malfunction indicator   | Turns ON when BCI system is malfunctioning.   |

### DISPLAY AND WARNING OPERATION

| Vehicle condition / Driver's operation |                     |                  |                   |                        |   | Action                     |               |        |
|--|---------------------|------------------|-------------------|------------------------|---|----------------------------|---------------|--------|
| Selector lever position                | BCI system          | BCI ON indicator | BCI OFF indicator | Vehicle speed          | Status of vehicle detection within detection area | Accelerator pedal position | Brake control | Buzzer |
| Other than "R" position                | —                   | OFF              | OFF               | —                      | —   | OFF                        | OFF           | OFF    |
| "R" position                           | OFF                 | OFF              | ON                | —                      | —   | OFF                        | OFF           | ON     |
|  | ON                  | ON               | OFF               | 0 km/h (0 MPH)         | Vehicle is detected                               | OFF                        | OFF           | ON     |
|  |                     |                  |                   | 8 km/h (5 MPH) or less | Vehicle is detected                               | ON                         | ON            | ON     |
| More than 8km/h (5 MPH)                | Vehicle is detected | OFF              | OFF               | OFF                    |   |                            |               |        |

#### NOTE:

When the following conditions are satisfied, the Back-up Collision Intervention system will be turned off automatically, a beep will sound. The Back-up Collision Intervention system will not be available until the conditions no longer exist.

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## OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- When the accelerator pedal actuator detects that the internal motor temperature is high [over approximately 100°C (212°F)].
- When side radar blockage is detected.



## HANDLING PRECAUTION

## Precautions for Distance Control Assist

INFOID:000000011436957

- If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges that the vehicle has come to a standstill with a warning chime. To prevent the vehicle from moving, the driver must depress the brake pedal.
- The DCA system will not apply brake control while the driver's foot is on the accelerator pedal.
- This system is only an aid to assist the driver and is not a collision warning or avoidance device. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- This system will not adapt automatically to road conditions. Do not use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The distance sensor will not detect the following object.
  - Stationary and slow moving vehicles
  - Pedestrians or objects in the roadway
  - Oncoming vehicles in the same lane
  - Motorcycles traveling offset in the travel lane
- As there is a performance limit to the distance control function, never rely solely on the DCA system. This system does not correct careless, inattentive or absent-minded driving, or overcome poor visibility in rain, fog, or other bad weather. Decelerate the vehicle speed by depressing the brake pedal, depending on the distance to the vehicle ahead and the surrounding circumstances in order to maintain a safe distance between vehicles.
- The system may not detect the vehicle in front of own vehicle in certain road or weather conditions. To avoid accidents, never use the DCA system under the following conditions.
  - On roads with sharp curves
  - On slippery road surfaces such as on ice or snow, etc.
  - During bad weather (rain, fog, snow, etc.)
  - When rain, snow or dirt adhere to the system sensor
  - On steep downhill roads (frequent braking may result in overheating the brakes)
  - On repeated uphill and downhill roads
- In some road or traffic conditions, a vehicle or object can unexpectedly come into the sensor detection zone and cause automatic braking. Driver may need to control the distance from other vehicles using the accelerator pedal. Always stay alert and avoid using the DCA system when it is not recommended in this section.
- The following are some conditions in which the sensor cannot detect the signals.
  - When the snow or road spray from traveling vehicles reduces the sensor's visibility
  - When excessively heavy baggage is loaded in the rear seat or the luggage room of own vehicle
- The DCA system is designed to automatically check the sensor's operation. When the sensor area of front bumper is covered with dirt or is obstructed, the system will automatically be canceled. If the sensor is covered with ice, a transparent or translucent vinyl bag, etc., the DCA system may not detect them. In these instances, the DCA system may not be able to decelerate the vehicle properly. Be sure to check and clean the sensor regularly.
- The DCA system is designed to help assist the driver to maintain a following distance from the vehicle ahead. The system will decelerate as necessary and if the vehicle ahead comes to a stop, the vehicle decelerates to standstill. However, the DCA system can only apply up to approximately 40% of the vehicles total braking power. If a vehicle moves into the traveling lane ahead or if a vehicle traveling ahead rapidly decelerates, the distance between vehicles may become closer because the DCA system cannot decelerate the vehicle quickly enough. If this occurs, the DCA system will sound a warning chime and blink the system display to notify the driver to take necessary action.
- The DCA system does not control vehicle speed or warn when driver approach stationary and slow moving vehicles. Driver must pay attention to vehicle operation to maintain proper distance from vehicles ahead.

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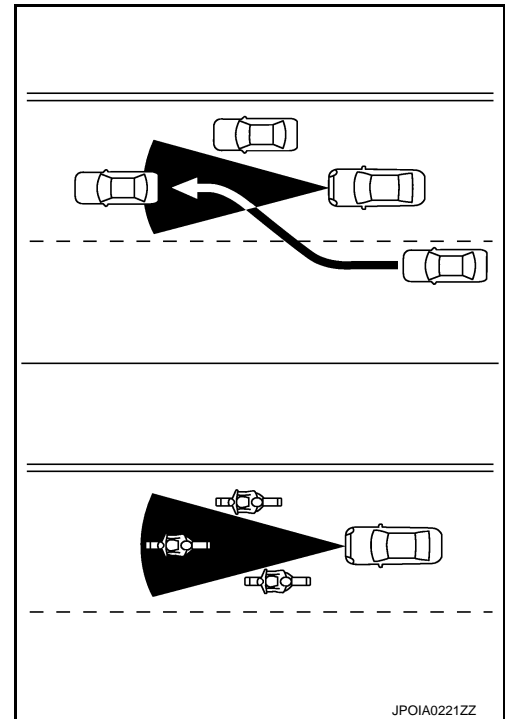
P

# HANDLING PRECAUTION

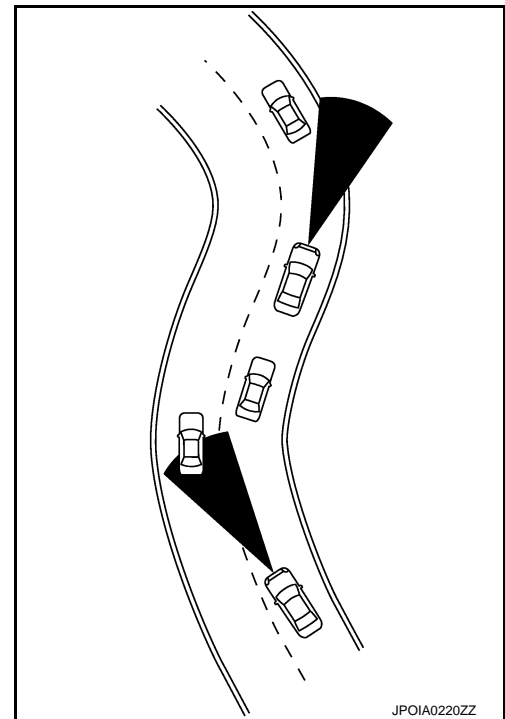
## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

- The detection zone of the sensor is limited. A vehicle ahead must be in the detection zone for the system to operate.
- A vehicle ahead may move outside of the detection zone due to its position within the same lane of travel. Motorcycles may not be detected in the same lane ahead if they are traveling offset from the center line of the lane. A vehicle that is entering the lane ahead may not be detected until the vehicle has completely moved into the lane. If this occurs, the system may warn driver by blinking the system indicator and sounding the chime. The driver may have to manually control the proper distance away from vehicle traveling ahead.



- When driving on some roads, such as winding, hilly, curved, narrow roads, or roads which are under construction, the sensor may detect vehicles in a different lane, or may temporarily not detect a vehicle traveling ahead. This may cause the system to work inappropriately. The detection of vehicles may also be affected by vehicle operation (steering maneuver or traveling position in the lane, etc.) or vehicle condition. If this occurs, the system may warn driver by blinking the system indicator and sounding the chime unexpectedly. The driver will have to manually control the proper distance away from the vehicle traveling ahead.



- The approach warning chime may sound and the system display may blink when the radar sensor detects objects on the side of the vehicle or on the side of the road. This may cause the DCA system to decelerate or accelerate the vehicle. The radar sensor may detect these objects when the vehicle is driven on winding roads, narrow roads, hilly roads or when entering or exiting a curve. In these cases driver will have to manually control the proper distance ahead of own vehicle. Also, the sensor sensitivity can be affected by vehicle operation (steering maneuver or driving position in the lane) or traffic or vehicle condition (for example, if a vehicle is being driven with some damage).
- The DCA system automatically decelerates own vehicle to help assist the driver to maintain a following distance from the vehicle ahead. Manually brake when deceleration is required to maintain a safe distance upon sudden braking by the vehicle ahead or when a vehicle suddenly appears in front of own vehicle. Always stay alert when using the DCA system.
- When the vehicle ahead detection indicator lamp is not illuminated, system will not control or warn the driver.
- Depending on the position of the accelerator pedal, the system may not be able to assist the driver to release the accelerator pedal appropriately.
- If the vehicle ahead comes to a standstill, the vehicle decelerates to a standstill within the limitations of the system. The system will release brake control with a warning chime once it judges the vehicle is at a standstill. To prevent the vehicle from moving, the driver must depress the brake pedal. [The system will resume control automatically once the system reaches 5 km/h (3 MPH)].

### Precautions for Predictive Forward Collision Warning

INFOID:000000011436958

- PFCW system is designed to warn driver before a collision but will not avoid a collision. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times. A
- The radar sensor does not detect the following objects. B
  - Pedestrians, animals, or obstacles in the roadway.
  - Oncoming vehicles
  - Crossing vehicles
- The predictive forward collision warning system does not function when a vehicle ahead is a narrow vehicle, such as a motorcycle. C
- The radar sensor may not detect a second vehicle ahead in the following conditions: D
  - Snow or heavy rain
  - Dirt, ice, snow or other material covering the radar sensor
  - Interference by other radar sources
  - Snow or road spray from traveling vehicles is splashed
  - Driving in a tunnel
- The radar sensor may not detect a second vehicle when the vehicle ahead is being towed. E
- When the distance to the vehicle ahead is too close, the beam of the radar sensor is obstructed. F
- The radar sensor may not detect a second vehicle when driving on a steep downhill slope or on roads with sharp curves. F
- Excessive noise will interfere with the warning tone sound, and it may not be heard. F

### Precautions for Lane Departure Warning/Lane Departure Prevention

INFOID:000000011436959

#### LANE CAMERA UNIT HANDLING

To keep the proper operation of the LDW/LDP systems and prevent a system malfunction, be sure to observe the following: H

- Always keep the windshield clean. I
- Do not attach a sticker (including transparent material) or install an accessory near the lane camera unit. I
- Do not place reflective materials, such as white paper or a mirror, on the instrument panel. The reflection of sunlight may adversely affect the lane camera unit capability of detecting the lane markers. I
- Do not strike or damage the areas around the camera unit. Do not touch the camera lens or remove the screw located on the camera unit. If the camera unit is damaged due to an accident. J

#### LANE DEPARTURE WARNING (LDW)

- LDW system is only a warning device to inform the driver of a potential unintended lane departure. It will not steer the vehicle or prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of the vehicle at all times. K
- LDW system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers. L
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard. L
- LDW system may not function properly under the following conditions: M
  - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers; or lane markers covered with water, dirt or snow, etc.
  - On roads where the discontinued lane markers are still detectable.
  - On roads where there are sharp curves.
  - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. (The LDW system could detect these items as lane markers.)
  - On roads where the traveling lane merges or separates.
  - When the vehicle's traveling direction does not align with the lane marker.
  - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
  - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
  - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly. P
  - When strong light enters the lane camera unit. (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
  - When a sudden change in brightness occurs. (For example, when the vehicle enters or exits a tunnel or under a bridge.)

#### LANE DEPARTURE PREVENTION (LDP)

# HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- The LDP system will not always steer the vehicle to keep it in the lane. It is not designed to prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times.
- LDP system is primarily intended for use on well-developed freeways or highways. It may not detect the lane markers in certain roads, weather or driving conditions.
- Using the LDP system under some conditions of road, lane marker or weather, or when driver change lanes without using the turn signal could lead to an unexpected system operation. In such conditions, driver needs to correct the vehicle's direction with driver's steering operation to avoid accidents.
- The LDP system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers.
- Do not use the LDP system under the following conditions as it may not function properly:
  - During bad weather (rain, fog, snow, wind, etc.).
  - When driving on slippery roads, such as on ice or snow, etc.
  - When driving on winding or uneven roads.
  - When there is a lane closure due to road repairs.
  - When driving in a makeshift or temporary lane.
  - When driving on roads where the lane width is too narrow.
  - When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
  - When the vehicle is equipped with non-original brake or steering parts or suspension parts.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- The LDP system may or may not operate properly under the following conditions:
  - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers or lane markers covered with water, dirt or snow, etc.
  - On roads where discontinued lane markers are still detectable.
  - On roads where there are sharp curves.
  - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs (The LDP system could detect these items as lane markers.).
  - On roads where the traveling lane merges or separates.
  - When the vehicle's traveling direction does not align with the lane marker.
  - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
  - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
  - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly.
  - When strong light enters the lane camera unit (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
  - When a sudden change in brightness occurs (For example, when the vehicle enters or exits a tunnel or under a bridge.)

## Precautions for Blind Spot Warning/Blind Spot Intervention

INFOID:000000011436960

### LANE CAMERA UNIT HANDLING

Refer to [DAS-211, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

### SIDE RADAR HANDLING

- Side radar for Blind Spot Warning/Blind Spot Intervention system is located inside the rear bumper.
- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.
- Do not strike, damage, and scratch the side radar, especially the vent seal (gray circular) area, under repair.

### BLIND SPOT WARNING & BLIND SPOT INTERVENTION

- The Blind Spot Warning and Blind Spot Intervention systems are not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the Blind Spot Warning or Blind Spot Intervention system.
- Using the Blind Spot Intervention system under some road, lane marker or weather conditions could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The Blind Spot Warning and Blind Spot Intervention systems may not provide the warning or the control for vehicles that pass through the detection zone quickly.

# HANDLING PRECAUTION

## < SYSTEM DESCRIPTION >

## [DRIVER ASSISTANCE SYSTEM]

- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard. A
- The side radar may not be able to detect and activate Blind Spot Warning/Blind Spot Intervention when certain objects are present such as:
  - Pedestrians, bicycles, animals. B
  - Vehicle such as motorcycles, low height vehicle, or high ground clearance vehicle.
  - Oncoming vehicles.
  - Vehicles remaining in the detection zone when driver accelerate from a stop.
  - A vehicle merging into an adjacent lane at a speed approximately the same as vehicle. C
  - A vehicle approaching rapidly from behind.
  - A vehicle which vehicle overtakes rapidly.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles. D
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.
- The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition. E

## BLIND SPOT INTERVENTION

- Do not use the Blind Spot Intervention system under the following conditions because the system may not function properly. F
  - During bad weather (for example. rain, fog, snow, wind, etc.)
  - When driving on slippery roads, such as on ice or snow, etc. G
  - When driving on winding or uneven roads.
  - When there is a lane closure due to road repairs.
  - When driving in a makeshift or temporary lane.
  - When driving on roads where the lane width is too narrow. H
  - When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
  - When the vehicle is equipped with non-original steering parts, brake parts or suspension parts. I
- The camera may not detect lane markers in the following situations and the Blind Spot Intervention system may not operate properly. J
  - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; nonstandard lane markers; lane markers covered with water, dirt, snow, etc.
  - On roads where discontinued lane markers are still detectable.
  - On roads where there are sharp curves.
  - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. K
  - On roads where the traveling lane merges or separates.
  - When the vehicle is traveling direction does not align with the lane markers. L
  - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
  - When rain, snow or dirt adheres to the windshield in front of a lane camera unit.
  - When the headlights are not bright due to dirt on the lens or if aiming is not adjusted properly. M
  - When strong light enters a lane camera unit. (for example, light directly shines on the front of the vehicle at sunrise or sunset.) N
  - When a sudden change in brightness occurs. (for example, when the vehicle enters or exits a tunnel or under a bridge.)
- The Blind Spot Intervention system will not operate if own vehicle is on a lane marker when another vehicle enters the detection zone. In this case only the BSW system operates.
- Blind Spot Intervention assist will not operate or will stop operating and only a warning chime will sound under the following conditions. P
  - When the brake pedal is depressed.
  - When the vehicle is accelerated during Blind Spot Intervention operation.
  - When steering quickly.
  - When the ICC, DCA, predictive forward collision warning or forward emergency braking warnings sound.
  - When the hazard warning flashers are operated.
  - When driving on a curve at a high speed.

## Precautions for Back-up Collision Intervention

INFOID:000000011436961

## SONAR HANDLING

# HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- Always keep the sonar sensors clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work over any of the sonar sensors.
- Do not strike or scratch any of the sonar sensors causing physical damage. to a sensor or the surrounding area

## SIDE RADAR HANDLING

- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.

## BACK-UP COLLISION INTERVENTION

- The Back-up Collision Intervention system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing out of parking space, always use the inside and outside rear view mirrors and turn and look in the direction own vehicle will move. Never rely solely on the Back-up Collision Intervention system.
- There is a limitation to the detection capability of the radar and the sonar. Using the BCI system under some road, ground, lane marker, traffic or weather conditions could lead to improper system operation. Always rely on driver operation to avoid accidents.
- In the case of several vehicles approaching in a row or in the opposite direction, a chime may not be issued to the BCI system after the first vehicle passes the sensors.
- When the sonar sounds a tone, the BCI system does not chime a sound (single beep).
- The BCI system does not operate if the object is very close to the bumper.
- The radar sensor cannot detect every object such as:
  - Pedestrians, bicycles or animals or child operated toy vehicle.
  - A vehicle that is passing at a speed greater than approximately 24 km/h (15 MPH).
- The radar sensor may not detect approaching vehicles in certain situations:
  - When the vehicle parked next to own vehicle obstructs the beam of the radar sensor.
  - When the vehicle is parked in an angled parking space.
  - When the vehicle is parked on inclined ground.
  - When the vehicle turns around into own vehicle's aisle.
  - When the angle formed by own vehicle and approaching vehicle is small.
- The following conditions may reduce the ability of the radar sensor to detect other vehicle:
  - Severe weather
  - Road spray
  - Ice build up on the vehicle
  - Frost build up on the vehicle
  - Dirt build up on the vehicle
- The sonar sensor system may not detect:
  - Small or moving object.
  - Wedge-shaped objects.
  - Object closer to the bumper [less than approximately 30 cm (10 in)].
  - Thin objects such as rope, wire, chain, etc.
- The brakes engaged by the BCI system is not as effective on a slope as it is on flat ground. When on a steep slope, the system may not function properly.
- Do not use the BCI system under the following conditions because the system may not function properly:
  - When driving with a tire that is not the within normal tire condition (example: tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
  - When the vehicle is equipped with non-original brake parts or suspension parts.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

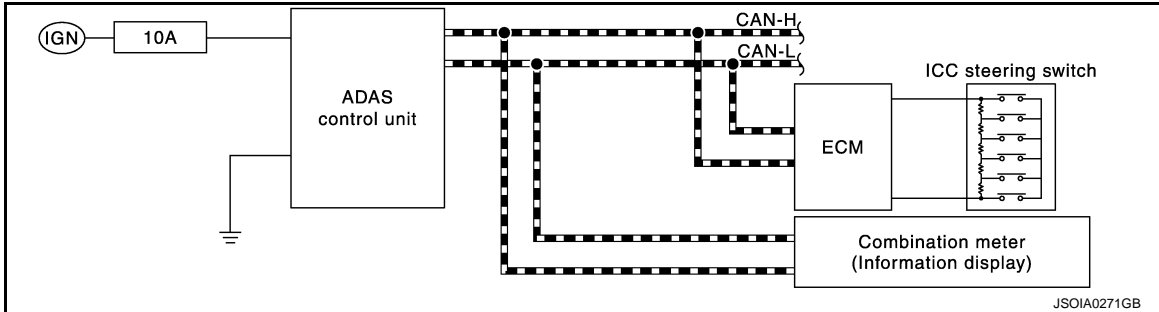
### On Board Diagnosis Function

INFOID:000000011471837

#### DESCRIPTION

The DTC is displayed on the information display by operating the ICC steering switch.

#### On Board Self-diagnosis System Diagram



#### METHOD OF STARTING

##### CAUTION:

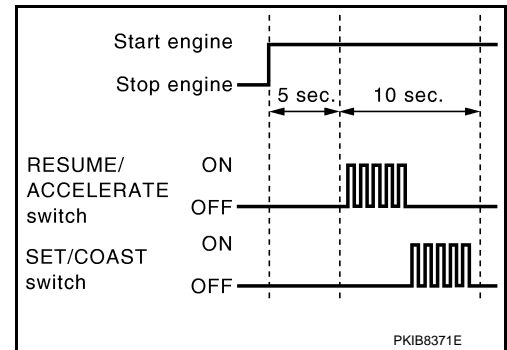
##### Start condition of on board self-diagnosis

- ICC system OFF
- DCA system OFF
- Vehicle speed 0 km/h (0 MPH)

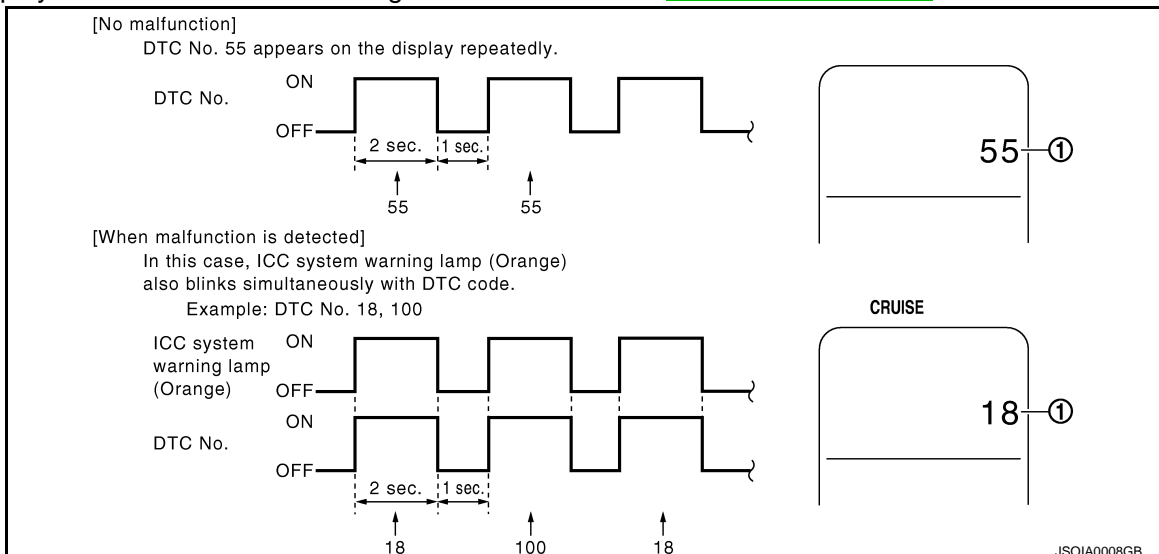
1. Turn the ignition switch OFF.
2. Start the engine.
3. Wait for 5 seconds after starting the engine. Push up the RESUME/ACCELERATE switch 5 times and push down the SET/COAST switch 5 times within 10 seconds.

##### NOTE:

If the above operation cannot be performed within 10 seconds after waiting for 5 seconds after starting the engine, repeat the procedure from step 1.



4. The DTC is displayed on the set vehicle speed indicator ① on the ICC system display on the information display when the on board self-diagnosis starts. Refer to [DAS-40. "DTC Index"](#).



##### NOTE:

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

## < SYSTEM DESCRIPTION >

- It displays for up to 5 minutes and then stops.
- If multiple malfunctions exist, up to 6 DTCs can be stored in memory at the most, and the most recent one is displayed first.

## WHEN THE ON BOARD SELF-DIAGNOSIS DOES NOT START

If the on board self-diagnosis does not start, check the following items.

| Assumed abnormal part   |                               | Inspection item  |
|---|-------------------------------|--|
| Information display   | Combination meter malfunction | Check that the self-diagnosis function of the combination meter operates. Refer to <a href="#">MWI-30, "On Board Diagnosis Function"</a> .   |
| ICC steering switch malfunction                                       |                               | Perform the inspection for DTC "C1A06". Refer to <a href="#">DAS-77, "DTC Logic"</a> .   |
| Harness malfunction between ICC steering switch and ADAS control unit |                               |  |
| ADAS control unit malfunction   |                               |  |
| Harness malfunction between ICC steering switch and ECM               |                               |  |
| ECM control unit malfunction  |                               |  |
| ADAS control unit malfunction   |                               | <ul style="list-style-type: none"> <li>• Check power supply and ground circuit of ADAS control unit. Refer to <a href="#">DAS-164, "Diagnosis Procedure"</a>.</li> <li>• Perform SELF-DIAGNOSIS for "ICC/ADAS" with CONSULT, and then check the malfunctioning parts. Refer to <a href="#">DAS-40, "DTC Index"</a>.</li> </ul> |

## HOW TO ERASE ON BOARD SELF-DIAGNOSIS

1. Turn the ignition switch OFF.
2. Start the engine, and then start the on board self-diagnosis.
3. Press the CANCEL switch 5 times, and then press the DISTANCE switch 5 times under the condition that the on board self-diagnosis starts.

### NOTE:

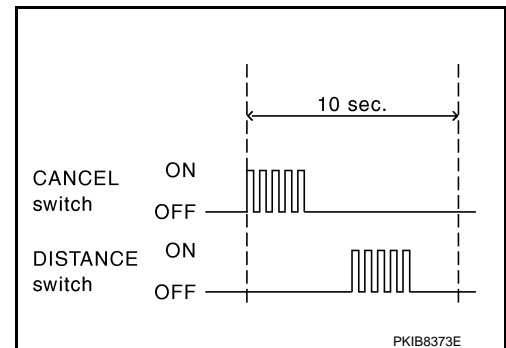
- Complete the operation within 10 seconds after pressing the CANCEL switch first.
- If the operation is not completed within 10 seconds, repeat the procedure from step 1.

4. DTC 55 is displayed after erasing.

### NOTE:

DTCs for existing malfunction can not be erased.

5. Turn ignition switch OFF, and finish the diagnosis.



## CONSULT Function (ICC/ADAS)

INFOID:000000011471838

## APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using ADAS control unit.

| Diagnosis mode           | Description  |
|--------------------------|--|
| Configuration            | <ul style="list-style-type: none"> <li>• The vehicle specification that is written in ADAS control unit can be displayed or stored</li> <li>• The vehicle specification can be written when ADAS control unit is replaced</li> </ul> |
| Work Support             | Displays causes of automatic system cancellation occurred during system control  |
| Self Diagnostic Result   | Displays the name of a malfunctioning system stored in the ADAS control unit   |
| Data Monitor             | Displays ADAS control unit input/output data in real time  |
| Active Test              | Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load   |
| ECU Identification       | Displays ADAS control unit part number   |
| CAN Diag Support Monitor | Displays a reception/transmission state of CAN communication and ITS communication   |

## CONFIGURATION

Configuration includes functions as follows.



# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Function                 |                    | Description   |
|--------------------------|--------------------|---|
| Read/Write Configuration | Before Replace ECU | Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT. |
|                          | After Replace ECU  | Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.                     |
| Manual Configuration     |                    | Allows the writing of the vehicle specification into the ADAS control unit by hand.                             |

## WORK SUPPORT

| Work support items     | Description  |
|------------------------|--|
| CAUSE OF AUTO-CANCEL 1 | Displays causes of automatic system cancellation occurred during control of the following systems <ul style="list-style-type: none"> <li>• Vehicle-to-vehicle control mode</li> <li>• Conventional (fixed speed) control mode</li> <li>• Distance Control Assist (DCA)</li> <li>• Forward Emergency Braking (FEB)</li> </ul> |
| CAUSE OF AUTO-CANCEL 2 | Displays causes of automatic system cancellation occurred during control of the following systems <ul style="list-style-type: none"> <li>• Lane Departure Prevention (LDP)</li> <li>• Blind Spot Intervention</li> </ul>   |
| CAUSE OF AUTO-CANCEL 3 | Displays causes of automatic system cancellation occurred during control of the Back-up Collision Intervention (BCI)   |

**NOTE:**

- Causes of the maximum five cancellations (system cancel) are displayed.
- The displayed cancellation causes display the number of the ignition switch ON/OFF up to 254. It is fixed to 254 if it is over 254. It returns to 0 when the same cancellation cause is detected again.

### Display Items for The Cause of Automatic Cancellation 1

| Cause of cancellation | Vehicle-to-vehicle distance control mode | Conventional (fixed speed) cruise control mode | Distance Control Assist | Forward Emergency Braking | Description   |
|-----------------------|--|--|-------------------------|---------------------------|---|
|                       |  |  |                         |                           |   |
| OPERATING WIPER       | ×  |  |                         |                           | The wiper operates at HI (it includes when the wiper is operated at HI with the wiper switch AUTO position) |
| OPERATING ABS         | ×  |  | ×                       | ×                         | ABS function was operated   |
| OPERATING TCS         | ×  | ×  | ×                       |                           | TCS function was operated   |
| OPERATING VDC         | ×  | ×  | ×                       | ×                         | VDC function was operated   |
| ECM CIRCUIT           | ×  | ×  |                         |                           | ECM did not permit ICC operation  |
| OPE SW VOLT CIRC      | ×  | ×  | ×                       |                           | The ICC steering switch input voltage is not within standard range  |
| SNOW MODE SW          | ×  |  | ×                       |                           | Shifting of the drive mode selector to SNOW position  |
| OP SW DOUBLE TOUCH    | ×  | ×  |                         |                           | ICC steering switches were pressed at the same time   |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

|                         |   |   |   |   |   |
|-------------------------|---|---|---|---|---|
| VHCL SPD DOWN           | × | × | × |   | Vehicle speed lower than the speed as follows<br><ul style="list-style-type: none"> <li>• Vehicle-to-vehicle distance control mode is 24 km/h (15 MPH)</li> <li>• Conventional (fixed speed) cruise control mode is 32 km/h (20 MPH)</li> </ul> |
| WHL SPD ELEC NOISE      | × | × | × |   | Wheel speed sensor signal caught electromagnetic noise  |
| VDC/TCS OFF SW          | × |   | × | × | VDC OFF switch was pressed  |
| VHCL SPD UNMATCH        | × | × | × |   | Wheel speed became different from A/T vehicle speed   |
| TIRE SLIP               | × | × |   |   | Wheel slipped   |
| IGN LOW VOLT            | × | × | × | × | Decrease in ADAS control unit ignition voltage  |
| PARKING BRAKE ON        | × | × |   |   | The parking brake is operating  |
| WHEEL SPD UNMATCH       | × | × | × |   | The wheel speeds of 4 wheels are out of the specified values  |
| INCHING LOST            | × |   |   |   | A vehicle ahead is not detected during the following driving when the vehicle speed is approximately 24 km/h (15 MPH) or less   |
| CAN COMM ERROR          | × | × | × | × | ADAS control unit received an abnormal signal with CAN communication  |
| ABS/TCS/VDC CIRC        | × | × | × | × | An abnormal condition occurs in VDC/TCS/ABS system  |
| ECD CIRCUIT             | × | × | × | × | An abnormal condition occurs in ECD system  |
| ENG SPEED DOWN          | × | × |   |   | Engine speed became extremely low while controlling ICC system  |
| ASCD VHCL SPD DTAC      |   | × |   |   | Vehicle speed is detached from set vehicle speed  |
| ASCD DOUBLE COMD        |   | × |   |   | Cancel switch and operation switch are detected simultaneously  |
| APA HI TEMP             |   |   | × |   | The accelerator pedal actuator integrated motor temperature is high   |
| ICC SENSOR CAN COMM ERR | × |   | × | × | Communication error between ADAS control unit and the ICC sensor  |
| 4WD LOCK MODE           | × | × | × | × | <b>NOTE:</b><br>The item is displayed, but not used   |
| ABS WARNING LAMP        | × |   | × |   | ABS warning lamp ON   |
| FR RADAR BLOCKED        | × |   | × | × | Inclusion of dirt or stains on the ICC sensor area of the front bumper  |
| FEB) CURVATURE          |   |   |   | × | Road curve was more than the specified value  |
| FEB) YAW RATE           |   |   |   | × | Detected yawing speed was more than the specified value   |
| FEB) LTRL ACCELERATION  |   |   |   | × | Detected lateral speed is the specified value or more   |
| RADAR INTERFERENCE      | × |   | × | × | ICC sensor receives electromagnetic interference  |
| NO RECORD               | × | × | × |   | —   |

## Display Items for The Cause of Automatic Cancellation 2

| Cause of cancellation | Lane departure prevention | Blind spot intervention | Description   |
|-----------------------|---------------------------|-------------------------|---|
| OPE VDC/TCS/ABS 1     | ×                         |                         | The activation of VDC, TCS, or ABS during LDP system control          |
| Vehicle dynamics      | ×                         |                         | Vehicle behavior exceeds specified value                              |
| Steering speed        | ×                         |                         | Steering speed was more than the specified value in evasive direction |
| End by yaw angle      | ×                         |                         | Yaw angle was the end of LDP control                                  |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Cause of cancellation     | Lane departure prevention | Blind spot intervention | Description  |
|---------------------------|---------------------------|-------------------------|--|
| Departure yaw large       | ×                         |                         | Detected more than the specified value of yaw angle in departure direction                   |
| ICC WARNING               | ×                         |                         | Target approach warning of ICC system, FEB system, or PFCW system was activated              |
| CURVATURE                 | ×                         |                         | Road curve was more than the specified value   |
| Steering angle large      | ×                         |                         | Steering angle was more than the specified value   |
| Brake is operated         | ×                         |                         | Brake pedal was operated   |
| IGN LOW VOLT              | ×                         |                         | Decrease in ADAS control unit IGN voltage  |
| Lateral offset            | ×                         |                         | Distance of vehicle and lane was detached in lateral direction more than the specified value |
| Lane marker lost          | ×                         |                         | Lane camera unit lost the trace of lane marker   |
| Lane marker unclear       | ×                         |                         | Detected lane marker was unclear   |
| Yaw acceleration          | ×                         |                         | Detected yawing speed was more than the specified value                                      |
| Deceleration large        | ×                         |                         | Deceleration in a longitudinal direction was more than the specified value                   |
| Accel is operated         | ×                         |                         | Accelerator pedal was depressed  |
| Departure steering        | ×                         |                         | Steering wheel was steered more than the specified value in departure direction              |
| Evasive steering          | ×                         |                         | Steering wheel was steered more than the specified value in the evasive direction            |
| R range                   | ×                         |                         | Selector lever was operated to R range   |
| Parking brake drift       | ×                         |                         | Rear wheels lock was detected  |
| Not operating condition   | ×                         |                         | Did not meet the operating condition (vehicle speed, turn signal operation, etc.)            |
| SNOW MODE SW              | ×                         |                         | Shifting of the drive mode selector to SNOW position   |
| VDC OFF SW                | ×                         |                         | VDC OFF switch was pressed   |
| OPE VDC/ABS 2             | ×                         |                         | The activation of VDC or ABS during a standby time of LDP system control                     |
| 4WD LOCK MODE             | ×                         |                         | <b>NOTE:</b><br>The item is displayed, but not used  |
| BSI WARNING               | ×                         |                         | Blind Spot Intervention system was activated   |
| BSI) OPE VDC/TCS/ABS 1    |                           | ×                       | The activation of VDC, TCS, or ABS during Blind Spot Intervention system control             |
| BSI) Vehicle dynamics     |                           | ×                       | Vehicle behavior exceeds specified value   |
| BSI) Steering speed       |                           | ×                       | Steering speed was more than the specified value in evasive direction                        |
| BSI) End by yaw angle     |                           | ×                       | Yaw angle was the end of Blind Spot Intervention control                                     |
| BSI) Departure yaw large  |                           | ×                       | Detected more than the specified value of yaw angle in departure direction                   |
| BSI) ICC WARNING          |                           | ×                       | Target approach warning of ICC system, FEB system or PFCW system was activated               |
| BSI) CURVATURE            |                           | ×                       | Road curve was more than the specified value   |
| BSI) Steering angle large |                           | ×                       | Steering angle was more than the specified value   |
| BSI) Brake is operated    |                           | ×                       | Brake pedal was operated   |
| BSI) IGN LOW VOLT         |                           | ×                       | Decrease in ADAS control unit IGN voltage  |
| BSI) Lateral offset       |                           | ×                       | Distance of vehicle and lane was detached in lateral direction more than the specified       |
| BSI) Lane marker lost     |                           | ×                       | Lane camera unit lost the trace of lane marker   |

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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

| Cause of cancellation        | Lane departure prevention | Blind spot intervention | Description  |
|------------------------------|---------------------------|-------------------------|--|
| BSI) Lane marker unclear     |                           | ×                       | Detected lane marker was unclear   |
| BSI) Yaw acceleration        |                           | ×                       | Detected yawing speed was more than the specified value                                      |
| BSI) Deceleration large      |                           | ×                       | Deceleration in a longitudinal direction was more than the specified value                   |
| BSI) Accel is operated       |                           | ×                       | Accelerator pedal was depressed  |
| BSI) Departure steering      |                           | ×                       | Steering wheel was steered more than the specified value in departure direction              |
| BSI) Evasive steering        |                           | ×                       | Steering wheel was steered more than the specified value in the evasive direction            |
| BSI) R range                 |                           | ×                       | Selector lever was operated to R range   |
| BSI) Parking brake drift     |                           | ×                       | Rear wheels lock was detected  |
| BSI) SNOW MODE SW            |                           | ×                       | SNOW mode switch was pressed   |
| BSI) VDC OFF SW              |                           | ×                       | VDC OFF switch was pressed   |
| BSI) OPE VDC/ABS 2           |                           | ×                       | The activation of VDC or ABS during a standby time of Blind Spot Intervention system control |
| BSI) Not operating condition |                           | ×                       | Did not meet the operating condition (vehicle speed, turn signal operation, etc.)            |
| BSI) 4WD LOCK MODE           |                           | ×                       | <b>NOTE:</b><br>The item is displayed, but not used  |
| Side Radar Lost              |                           | ×                       | Unrecognized side radar LH or RH by the ADAS control unit                                    |
| NO RECORD                    | ×                         | ×                       | —  |

## Display Items for The Cause of Automatic Cancellation 3

| Cause of cancellation | Back-up Collision Intervention | Description  |
|-----------------------|--------------------------------|--|
| CAN COMM ERROR (CAN)  | ×                              | ADAS control unit received an abnormal signal with CAN communication |
| CAN COMM ERROR (ECD)  | ×                              | ADAS control unit received an abnormal signal with CAN communication |
| IGN LOW VOLT          | ×                              | Decrease in ADAS control unit ignition voltage                       |
| VEHICLE SPEED UP      | ×                              | Vehicle speed higher than 8 km/h (5 MPH)                             |
| ACCEL IS OPERATED     | ×                              | Accelerator pedal was depressed                                      |
| BRAKE IS OPERATED     | ×                              | Brake pedal was operated   |
| APA HI TEMP           | ×                              | The accelerator pedal actuator integrated motor temperature is high  |
| APA POWER             | ×                              | Decrease in accelerator pedal actuator ignition or battery voltage   |
| NO RECORD             | ×                              | —  |

## SELF DIAGNOSTIC RESULT

Refer to [DAS-40. "DTC Index"](#).

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

## DATA MONITOR

### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored item<br>[Unit]          | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description  |
|-----------------------------------|------------------|-------------------|-----------------------|-----------------------|-------------------|--|
| MAIN SW<br>[On/Off]               | ×                | ×                 | ×                     | ×                     |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| SET/COAST SW<br>[On/Off]          | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| CANCEL SW<br>[On/Off]             | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| RESUME/ACC SW<br>[On/Off]         | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| DISTANCE SW<br>[On/Off]           | ×                |                   |                       |                       |                   | Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)  |
| CRUISE OPE<br>[On/Off]            | ×                | ×                 |                       |                       |                   | Indicates whether controlling or not (ON means "controlling")  |
| ON ROOT GUID-<br>ANCE<br>[On/Off] | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| BRAKE SW<br>[On/Off]              | ×                | ×                 | ×                     | ×                     | ×                 | Indicates [On/Off] status as judged from ICC brake switch signal (ECM transmits ICC brake switch signal through CAN communication)   |
| STOP LAMP SW<br>[On/Off]          | ×                | ×                 | ×                     | ×                     | ×                 | Indicates [On/Off] status as judged from stop lamp switch signal (ECM transmits stop lamp switch signal through CAN communication)   |
| CLUTCH SW SIG<br>[On/Off]         | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| IDLE SW<br>[On/Off]               | ×                |                   |                       |                       | ×                 | Indicates [On/Off] status of idle switch read from ADAS control unit through CAN communication (ECM transmits On/Off status through CAN communication)   |
| SET DISTANCE<br>[Short/Mid/Long]  | ×                | ×                 |                       |                       |                   | Indicates set distance memorized in ADAS control unit  |
| CRUISE LAMP<br>[On/Off]           | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status of MAIN switch indicator output  |
| OWN VHCL<br>[On/Off]              | ×                |                   |                       |                       |                   | Indicates [On/Off] status of own vehicle indicator output  |
| VHCL AHEAD<br>[On/Off]            | ×                |                   |                       |                       |                   | Indicates [On/Off] status of vehicle ahead detection indicator output  |
| ICC WARNING<br>[On/Off]           | ×                |                   |                       |                       |                   | Indicates [On/Off] status of ICC system warning lamp output  |
| VHCL SPEED SE<br>[km/h] or [mph]  | ×                | ×                 | ×                     | ×                     | ×                 | Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication] |
| SET VHCL SPD<br>[km/h] or [mph]   | ×                | ×                 |                       |                       |                   | Indicates set vehicle speed memorized in ADAS control unit   |
| BUZZER O/P<br>[On/Off]            | ×                |                   |                       |                       | ×                 | Indicates [On/Off] status of ICC warning chime output  |
| THRTL SENSOR<br>[deg]             | ×                | ×                 |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| ENGINE RPM<br>[rpm]               | ×                |                   |                       |                       |                   | Indicates engine speed read from ADAS control unit through CAN communication (ECM transmits engine speed signal through CAN communication)   |

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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Monitored item<br>[Unit]       | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description  |
|--------------------------------|------------------|-------------------|-----------------------|-----------------------|-------------------|--|
| WIPER SW<br>[OFF/LOW/HIGH]     | ×                |                   |                       |                       |                   | Indicates wiper [OFF/LOW/HIGH] status (BCM transmits front wiper request signal through CAN communication)   |
| NAVI-ICC DISP<br>[On/Off]      | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| YAW RATE<br>[deg/s]            | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| BA WARNING<br>[On/Off]         | ×                |                   |                       |                       |                   | Indicates [On/Off] status of FEB warning lamp output   |
| STP LMP DRIVE<br>[On/Off]      | ×                | ×                 |                       |                       | ×                 | Indicates [On/Off] status of ICC brake hold relay drive output   |
| D RANGE SW<br>[On/Off]         | ×                |                   |                       |                       |                   | Indicates [On/Off] status of "D" or "M" positions read from ADAS control unit through CAN communication; ON when position "D" or "M" (TCM transmits shift position signal through CAN communication).                                  |
| NP RANGE SW<br>[On/Off]        | ×                |                   |                       |                       |                   | Indicates shift position signal read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)  |
| PKB SW<br>[On/Off]             | ×                |                   |                       |                       |                   | Parking brake switch status [On/Off] judged from the parking brake switch signal that ADAS control unit readout via CAN communication is displayed (combination meter transmits the parking brake switch signal via CAN communication) |
| PWR SUP MONI<br>[V]            | ×                | ×                 |                       |                       |                   | Indicates IGN voltage input by ADAS control unit   |
| VHCL SPD AT<br>[km/h] or [mph] | ×                |                   |                       |                       |                   | Indicates vehicle speed calculated from A/T vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits A/T vehicle speed sensor signal through CAN communication)                                       |
| THRTL OPENING<br>[%]           | ×                | ×                 |                       |                       | ×                 | Indicates throttle position read from ADAS control unit through CAN communication (ECM transmits accelerator pedal position signal through CAN communication).   |
| GEAR<br>[1, 2, 3, 4, 5, 6, 7]  | ×                |                   |                       |                       |                   | Indicates A/T gear position read from ADAS control unit through CAN communication (TCM transmits current gear position signal through CAN communication)   |
| NP SW SIG<br>[On/Off]          | ×                |                   |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| MODE SIG<br>[OFF, ICC, ASCD]   | ×                |                   |                       |                       |                   | Indicates the active mode from ICC or ASCD [conventional (fixed speed) cruise control mode]  |
| SET DISP IND<br>[On/Off]       | ×                |                   |                       |                       |                   | Indicates [On/Off] status of SET switch indicator output   |
| DISTANCE<br>[m]                | ×                |                   |                       |                       |                   | Indicates the distance from the vehicle ahead  |
| RELATIVE SPD<br>[m/s]          | ×                |                   |                       |                       |                   | Indicates the relative speed of the vehicle ahead  |
| DYNA ASIST SW<br>[On/Off]      | ×                | ×                 |                       | ×                     |                   | Indicates [On/Off] status as judged from ICC steering switch signal  |
| DCA ON IND<br>[On/Off]         | ×                |                   |                       |                       |                   | The status [ON/OFF] of DCA system switch indicator output is displayed   |
| DCA VHL AHED<br>[On/Off]       | ×                |                   |                       |                       |                   | The status [ON/OFF] of vehicle ahead detection indicator output in DCA system is displayed   |
| IBA SW<br>[On/Off]             | ×                | ×                 |                       |                       |                   | <b>NOTE:</b><br>The item is displayed, but not used  |
| FCW SYSTEM ON<br>[On/Off]      | ×                | ×                 |                       |                       |                   | Indicates [On/Off] status of PFCW system   |

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Monitored item<br>[Unit]                         | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description  |
|--|------------------|-------------------|-----------------------|-----------------------|-------------------|--|
| APA TEMP<br>[°C]                                 | ×                |                   |                       |                       | ×                 | Accelerator pedal actuator integrated motor temperature that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the integrated motor temperature via ITS communication)                                |
| APA PWR<br>[V]                                   | ×                |                   |                       |                       | ×                 | Accelerator pedal actuator power supply voltage that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the power supply voltage via ITS communication)  |
| LDW SYSTEM ON<br>[On/Off]                        |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDW system  |
| LDW ON LAMP<br>[On/Off]                          |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDW system ON display output  |
| LDP ON IND<br>[On/Off]                           |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDP system display output   |
| LANE DPRT W/L<br>[On/Off]                        |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDW/LDP warning display (Yellow) output   |
| LDW BUZER OUT-<br>PUT<br>[On/Off]                |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of warning buzzer output   |
| LDP SYSTEM ON<br>[On/Off]                        |                  |                   | ×                     |                       |                   | Indicates [On/Off] status of LDP system  |
| WARN REQ<br>[On/Off]                             |                  |                   | ×                     |                       |                   | Indicates an ADAS control unit judged warning state (ON/OFF) of LDP system   |
| READY signal<br>[On/Off]                         |                  |                   | ×                     |                       |                   | Indicates LDP system settings  |
| Camera lost<br>[Detect/Deviate/Both]             |                  |                   | ×                     | ×                     |                   | Indicates a lane marker detection state judged from a lane marker detection signal read by the ADAS control unit via ITS communication (Lane camera unit transmits a lane marker signal via ITS communication)   |
| Shift position<br>[Off, P, R, N, D, M/T1 -<br>7] |                  |                   | ×                     | ×                     | ×                 | Indicates shift position read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)   |
| Turn signal<br>[OFF/LH/RH/LH&RH]                 |                  |                   | ×                     | ×                     |                   | Indicates turn signal operation status read from ADAS control unit through CAN communication (BCM transmits turn indicator signal through CAN communication)   |
| SIDE G<br>[G]                                    |                  |                   | ×                     | ×                     |                   | Indicates lateral G acting on the vehicle. This lateral G is judged from a side G sensor signal read by ADAS control unit via CAN communication (The ABS actuator and electric unit (control unit) transmits a side G sensor signal via CAN communication) |
| STATUS signal<br>[Stnby/Warn/Cancl/<br>Off]      |                  |                   | ×                     |                       |                   | Indicates a control state of LDP system  |
| Lane unclear<br>[On/Off]                         |                  |                   | ×                     | ×                     |                   | Indicates an ON/OFF state of the lane marker. The ON/OFF state is judged from a detected lane condition signal read by the ADAS control unit via ITS communication (The lane camera unit transmits a detected lane condition signal via ITS communication) |
| FUNC ITEM<br>[FUNC3]                             | ×                | ×                 | ×                     | ×                     |                   | Indicates systems which can be set to ON/OFF by selecting "Driver Assistance" ⇒ "Dynamic Assistance Setting" of the navigation screen<br>FUNC3: Distance Control Assist (DCA), Lane Departure Prevention (LDP), Blind spot Intervention                    |
| FUNC ITEM (NV-ICC)<br>[Off]                      | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used  |

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# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Monitored item<br>[Unit]                               | ALL SIG<br>(ICC) | MAIN SIG<br>(ICC) | MAIN SIG<br>(LDW/LDP) | MAIN SIG<br>(BSW/BSI) | MAIN SIG<br>(BCI) | Description   |
|--|------------------|-------------------|-----------------------|-----------------------|-------------------|---|
| FUNC ITEM (NV-DCA)<br>[Off]                            | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used   |
| DCA SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of the DCA system. The DCA system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance” of the navigation screen   |
| LDP SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of LDP system. LDP system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen   |
| BSI SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of Blind Spot Intervention system. Blind Spot Intervention system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen   |
| BSW SELECT<br>[On/Off]                                 | ×                | ×                 | ×                     | ×                     |                   | Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen   |
| NAVI ICC SELECT<br>[Off]                               | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used   |
| NAVI DCA SELECT<br>[Off]                               | ×                | ×                 | ×                     | ×                     |                   | <b>NOTE:</b><br>The item is displayed, but not used   |
| SYS SELECTABILITY<br>[On/Off]                          | ×                | ×                 | ×                     | ×                     |                   | Indicates the availability of ON/OFF switching for “Driver Assistance” items received from the AV control unit via CAN communication  |
| DRIVE MODE STATS<br>[STD/SPORT/ECO/<br>SNOW/MID/ERROR] | ×                | ×                 | ×                     | ×                     |                   | Indicates a drive mode selector select position judged from a drive mode select switch position signal read by the ADAS control unit via CAN communication (The A/C auto amp. transmits a switch position signal of the drive mode select switch signal via CA communication) |
| WARN SYS SW<br>[On/Off]                                | ×                | ×                 | ×                     | ×                     |                   | Indicates [On/Off] status of warning systems switch   |
| BSW/BSI WARN LMP<br>[On/Off]                           |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of Blind Spot Warning malfunction   |
| BSI ON IND<br>[On/Off]                                 |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of Blind Spot Intervention system display   |
| BSW SYSTEM ON<br>[On/Off]                              |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of BSW system   |
| BSI SYSTEM ON<br>[On/Off]                              |                  |                   |                       | ×                     |                   | Indicates [On/Off] status of Blind Spot Intervention system   |
| BCI SYSTEM ON<br>[On/Off]                              |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI system   |
| BCI SWITCH<br>[On/Off]                                 |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI switch   |
| BCI ON IND<br>[On/Off]                                 |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI ON indicator   |
| BCI OFF IND<br>[On/Off]                                |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI OFF indicator  |
| BCI WARNING IND<br>[On/Off]                            |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI malfunction indicator  |
| BCI HI TEMP WARN<br>IND<br>[On/Off]                    |                  |                   |                       |                       | ×                 | Indicates [On/Off] status of BCI not available indicator  |

## ACTIVE TEST

### CAUTION:

- Never perform “Active Test” while driving the vehicle.
- The “Active Test” cannot be performed when the following systems malfunction is displayed.



# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

- ICC system
- DCA
- LDW
- LDP
- Blind Spot Warning
- Blind Spot Intervention
- BCI
- The “Active Test” cannot be performed when the FEB warning lamp is illuminated.
- Shift the selector lever to “P” position, and then perform the test.

| Test item            | Description  |
|----------------------|--|
| METER LAMP           | The MAIN switch indicator and FEB warning lamp can be illuminated by ON/OFF operations as necessary  |
| STOP LAMP            | The ICC brake hold relay can be operated by ON/OFF operations as necessary, and the stop lamp can be illuminated   |
| ICC BUZZER           | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Intelligent Cruise Control (ICC)</li> <li>• Distance Control Assist (DCA)</li> <li>• Predictive Forward Collision Warning (PFCW)</li> <li>• Forward Emergency Braking (FEB)</li> </ul> |
| BRAKE ACTUATOR       | Activates the brake by an arbitrary operation  |
| ACTIVE PEDAL         | The accelerator pedal actuator can be operated as necessary  |
| DCA INDICATOR        | The DCA system switch display can be illuminated by ON/OFF operations as necessary   |
| LDP BUZZER           | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Lane Departure Warning (LDW)</li> <li>• Lane Departure Prevention (LDP)</li> <li>• Blind Spot Warning (BSW)</li> <li>• Blind Spot Intervention</li> </ul>                              |
| WARNING SYSTEMS IND  | The warning systems ON indicator (on warning systems switch) can be illuminated by ON/OFF operations as necessary  |
| LDP ON IND           | The LDP ON indicator lamp can be illuminated by ON/OFF operations as necessary   |
| LANE DEPARTURE W/L   | The Lane departure warning lamp can be illuminated by ON/OFF operations as necessary   |
| BSW/BSI WARNING LAMP | The Blind Spot warning/Blind Spot Intervention warning lamp can be illuminated by ON/OFF operations as necessary   |
| BSI ON INDICATOR     | The Blind Spot Intervention ON indicator can be illuminated by ON/OFF operations as necessary  |
| BCI WARNING LAMP     | The BCI malfunction indicator can be illuminated by ON/OFF operations as necessary   |

## METER LAMP

### NOTE:

The test can be performed only when the engine is running.

| Test item  | Operation | Description  | <ul style="list-style-type: none"> <li>• MAIN switch indicator</li> <li>• ICC system warning</li> <li>• FEB warning lamp</li> </ul> |
|------------|-----------|--|---|
| METER LAMP | Off       | Stops sending the following signals to exit from the test <ul style="list-style-type: none"> <li>• Meter display signal</li> <li>• FEB warning lamp signal</li> </ul>                      | OFF   |
|            | On        | Transmits the following signals to the combination meter via CAN communication <ul style="list-style-type: none"> <li>• Meter display signal</li> <li>• FEB warning lamp signal</li> </ul> | ON  |

## STOP LAMP

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Test item | Operation | Description  | Stop lamp |
|-----------|-----------|--|-----------|
| STOP LAMP | Off       | Stops transmitting the ICC brake hold relay drive signal below to end the test | OFF       |
|           | On        | Transmits the ICC brake hold relay drive signal                                | ON        |

## ICC BUZZER

| Test item  | Operation  | Description  | Operation sound         |
|------------|------------|--|-------------------------|
| ICC BUZZER | MODE1      | Transmits the buzzer output signals to the driver assistance buzzer control module via ITS communication | Intermittent beep sound |
|            | Test start | Starts the tests of "MODE1"  | —                       |
|            | Reset      | Stops transmitting the buzzer output signal below to end the test  | —                       |
|            | End        | Returns to the "SELECT TEST ITEM" screen   | —                       |

## BRAKE ACTUATOR

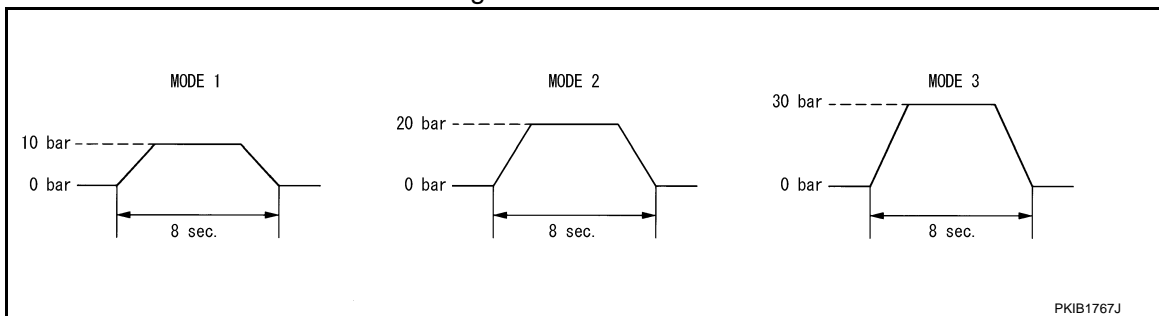
**NOTE:**

The test can be performed only when the engine is running.

| Test item      | Operation  | Description  | "PRESS SENS" value |
|----------------|------------|--|--------------------|
| BRAKE ACTUATOR | MODE1      | Transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via CAN communication | 10 bar             |
|                | MODE2      |  | 20 bar             |
|                | MODE3      |  | 30 bar             |
|                | Test start | Starts the tests of "MODE1", "MODE2" and "MODE3"   | —                  |
|                | Reset      | Stops transmitting the brake fluid pressure control signal below to end the test   | —                  |
|                | End        | Returns to the "SELECT TEST ITEM" screen   | —                  |

**NOTE:**

The test is finished in 10 seconds after starting



Active Pedal

**CAUTION:**

- Shift the selector lever to "P" position, and then perform the test.
- Never depress the accelerator pedal excessively. (The engine speed may rise unexpectedly when finishing the test.)

**NOTE:**

- Depress the accelerator pedal to check when performing the test.
- The test can be performed only when the engine is running.

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

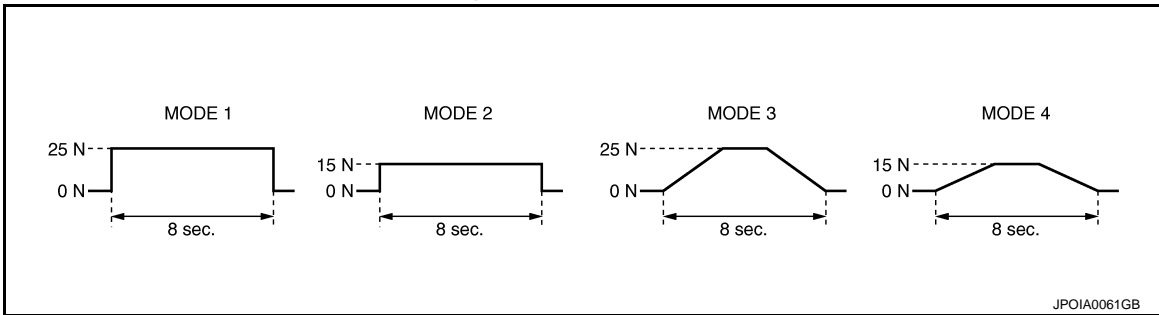
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Test item    | Operation  | Description   | Accelerator pedal operation                 |
|--------------|------------|---|---|
| ACTIVE PEDAL | MODE1      | Transmit the accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication. | Constant with a force of 25 N for 8 seconds |
|              | MODE2      |   | Constant with a force of 15 N for 8 seconds |
|              | MODE3      |   | Change up to a force of 25 N for 8 seconds  |
|              | MODE4      |   | Change up to a force of 15 N for 8 seconds  |
|              | Test start | Starts the tests of "MODE1", "MODE2", "MODE3" and "MODE4"   | —   |
|              | Reset      | Stops transmitting the accelerator pedal feedback force control signal below to end the test.                         | —   |
|              | End        | Returns to the "SELECT TEST ITEM" screen  | —   |

**NOTE:**

The test is finished in 10 seconds after starting



**DCA INDICATOR**

**NOTE:**

The test can be performed only when the engine is running.

| Test item     | Operation | Description   | DCA system switch indicator |
|---------------|-----------|---|-----------------------------|
| DCA INDICATOR | Off       | Stops transmitting the DCA system switch indicator signal below to end the test                 | —                           |
|               | On        | Transmits the DCA system switch indicator signal to the combination meter via CAN communication | ON                          |

**LDP BUZZER**

| Test item  | Operation | Description  | Warning buzzer |
|------------|-----------|--|----------------|
| LDP BUZZER | Off       | Stops transmitting the warning buzzer signal below to end the test | —              |
|            | On        | Transmits the warning buzzer signal to the warning buzzer          | ON             |

**WARNING SYSTEM IND**

| Test item          | Operation | Description   | Warning systems ON indicator |
|--------------------|-----------|---|------------------------------|
| WARNING SYSTEM IND | Off       | Stops transmitting the warning systems ON indicator signal below to end the test      | —                            |
|                    | On        | Transmits the warning systems ON indicator signal to the warning systems ON indicator | ON                           |

**LDP ON IND**

DAS

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

## < SYSTEM DESCRIPTION >

| Test item  | Operation | Description   | LDP ON indicator lamp (Green) |
|------------|-----------|---|-------------------------------|
| LDP ON IND | Off       | Stops transmitting the LDP ON indicator lamp signal below to end the test                 | —                             |
|            | On        | Transmits the LDP ON indicator lamp signal to the combination meter via CAN communication | ON                            |

### LANE DEPARTURE W/L

| Test item          | Operation | Description   | Lane departure warning lamp (Yellow) |
|--------------------|-----------|---|--------------------------------------|
| LANE DEPARTURE W/L | Off       | Stops transmitting the lane departure warning lamp signal below to end the test                 | —                                    |
|                    | On        | Transmits the lane departure warning lamp signal to the combination meter via CAN communication | ON                                   |

### BSW/BSI WARNING LAMP

| Test item            | Operation | Description   | Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow) |
|----------------------|-----------|---|--|
| BSW/BSI WARNING LAMP | Off       | Stops transmitting the Blind Spot Warning/Blind Spot Intervention warning lamp signal below to end the test                 | —  |
|                      | On        | Transmits the Blind Spot Warning/Blind Spot Intervention warning lamp signal to the combination meter via CAN communication | ON   |

### BSI ON INDICATOR

| Test item        | Operation | Description   | Blind Spot Intervention ON indicator lamp (Green) |
|------------------|-----------|---|---|
| BSI ON INDICATOR | Off       | Stops transmitting the Blind Spot Intervention ON indicator lamp signal below to end the test                 | —   |
|                  | On        | Transmits the Blind Spot Intervention ON indicator lamp signal to the combination meter via CAN communication | ON  |

### BCI WARNING LAMP

| Test item        | Operation | Description   | BCI malfunction indicator |
|------------------|-----------|---|---------------------------|
| BCI WARNING LAMP | Off       | Stops transmitting the BCI malfunction indicator signal below to end the test                 | —                         |
|                  | On        | Transmits the BCI malfunction indicator signal to the combination meter via CAN communication | ON                        |

### ECU IDENTIFICATION

Displays ADAS control unit parts number.

# DIAGNOSIS SYSTEM (ICC SENSOR)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (ICC SENSOR)

### CONSULT Function (LASER/RADAR)

INFOID:000000011471839

#### APPLICATION ITEMS

CONSULT performs the following functions via CAN communication with ADAS control unit and the communication with ICC sensor.

| Diagnosis mode           | Description   |
|--------------------------|---|
| Work Support             | It can monitor the adjustment direction indication in order to perform the radar alignment operation smoothly |
| Self Diagnostic Result   | Displays malfunctioning system memorized in ICC sensor  |
| Data Monitor             | Displays real-time input/output data of ICC sensor  |
| ECU Identification       | Displays ICC sensor part number   |
| CAN Diag Support Monitor | The results of transmit/receive diagnosis of ITS communication can be read                                    |

#### WORK SUPPORT

| Work support items     | Description  |
|------------------------|--|
| MILLIWAVE RADAR ADJUST | Outputs millimeter waves, calculates dislocation of the millimeter waves, and indicates adjustment direction |

#### Radar Alignment

Refer to [CCS-80, "Application Notice"](#).

#### SELF DIAGNOSTIC RESULT

Refer to [CCS-59, "DTC Index"](#).

#### DATA MONITOR

##### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored item<br>[Unit]         | Description   |
|----------------------------------|---|
| VHCL SPEED SE<br>[km/h] or [mph] | Vehicle speed judged from a vehicle speed signal read by the ICC sensor via ITS communication is displayed [ADAS control unit receives a vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication and transmits the calculated vehicle speed to ICC sensor via ITS communication]  |
| YAW RATE<br>[deg/s]              | Indicates yaw rate read from ADAS control unit through ITS communication (ADAS control unit receives yaw rate signal from ABS actuator and electric unit (control unit) via CAN communication and transmits yaw rate calculated by the ADAS control unit)<br>Yaw rate judged from a yaw rate signal read by ICC sensor via ITS communication is displayed [ADAS control unit receives a yaw rate signal from ABS actuator and electric unit (control unit) via CAN communication and transmits the calculated yaw rate to ICC sensor via ITS communication] |
| PWR SUP MONI<br>[V]              | Indicates IGN voltage input by ICC sensor   |
| DISTANCE<br>[m]                  | Indicates the distance from the vehicle ahead   |
| RELATIVE SPD<br>[m/s]            | Indicates the relative speed of the vehicle ahead   |
| RADAR OFFSET<br>[m]              | <b>NOTE:</b><br>The item is displayed, but not used   |
| RADAR HEIGHT<br>[m]              | <b>NOTE:</b><br>The item is displayed, but not used   |
| STEERING ANGLE<br>[deg]          | The steering angle is displayed   |

# DIAGNOSIS SYSTEM (ICC SENSOR)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

| Monitored item<br>[Unit]    | Description   |
|-----------------------------|---|
| STRG ANGLE SPEED<br>[deg/s] | The steering angle speed is displayed                     |
| L/R ADJUST                  | The horizontal correction value of the radar is displayed |
| U/D ADJUST                  | The vertical correction value of the radar is displayed   |

## ECU IDENTIFICATION

Displays ICC sensor parts number.

# DIAGNOSIS SYSTEM (ACCELERATOR PEDAL ACTUATOR)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## DIAGNOSIS SYSTEM (ACCELERATOR PEDAL ACTUATOR)

### CONSULT Function (ACCELERATOR PEDAL ACT)

INFOID:000000011436965

#### DESCRIPTION

CONSULT performs the following functions via CAN communication with ADAS control unit and the communication with accelerator pedal actuator.

| Mode                     | Function   |
|--------------------------|--|
| Self Diagnostic Result   | <ul style="list-style-type: none"><li>Displays malfunctioning system memorized in accelerator pedal actuator</li><li>Displays the Freeze Frame Data when the malfunction is detected</li></ul> |
| DATA MONITOR             | Displays real-time input/output data of accelerator pedal actuator   |
| ACTIVE TEST              | Enables operation check of electrical loads by sending driving signal to them  |
| ECU Identification       | Displays accelerator pedal actuator parts number   |
| CAN Diag Support Monitor | The results of transmit/receive diagnosis of ITS communication can be read   |

#### SELF DIAGNOSTIC RESULT

##### Self Diagnostic Result

Refer to [DAS-256, "DTC Index"](#).

##### FFD (Freeze Frame Data)

The accelerator pedal actuator records the following data when the malfunction is detected.

| Freeze Frame Data item<br>[Unit]   | Description  |
|------------------------------------|--|
| TGT FBK FRC<br>[N]                 | It displays the target accelerator pedal actuation force that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication at the time when the malfunction is detected |
| TGT MOT POSI<br>[%]                | It displays the target motor position that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication at the time when the malfunction is detected                    |
| ACT MOT POSI<br>[%]                | It displays the integrated motor position that the accelerator pedal actuator read out at the time when the malfunction is detected  |
| AP OPEN<br>[%]                     | It displays the accelerator pedal position signal that the accelerator pedal actuator read out via ITS communication at the time when the malfunction is detected  |
| APA TEMP<br>[°C]                   | It displays the integrated motor temperature that the accelerator pedal actuator read out at the time when the malfunction is detected   |
| APA CURRENT<br>[A]                 | It displays the integrated motor consumption current that the accelerator pedal actuator read out at the time when the malfunction is detected   |
| APA PWR<br>[V]                     | It displays the power supply voltage that the accelerator pedal actuator read out at the time when the malfunction is detected   |
| APA OPE STATS<br>[On/Off]          | It displays the activation permission status of accelerator pedal actuator at the time when the malfunction is detected  |
| APA STATS<br>[READY/NG/TP NG/INIT] | It displays the condition of accelerator pedal actuator at the time when the malfunction is detected   |
| IGN Counter <sup>Note</sup>        | It displays number of ignition switch OFF → ON after the malfunction is detected   |

#### NOTE:

- The number is 0 when is detected now.
- The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

#### DATA MONITOR

##### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

# DIAGNOSIS SYSTEM (ACCELERATOR PEDAL ACTUATOR)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item [Unit]                | FUNCTION DESCRIPTION   |
|------------------------------------|--|
| TGT FBK FRC<br>[N]                 | It displays the target accelerator pedal actuation force that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication<br>(The ADAS control unit transmits the accelerator pedal feedback force control signal via ITS communication) |
| TGT MOT POSI<br>[%]                | It displays the target motor position that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication<br>(The ADAS control unit transmits the accelerator pedal feedback force control signal via ITS communication)                    |
| ACT MOT POSI<br>[%]                | It displays the integrated motor position that the accelerator pedal actuator read out   |
| AP OPEN<br>[%]                     | It displays the accelerator pedal position signal that the accelerator pedal actuator read out via ITS communication<br>(The ADAS control unit transmits with ITS communication the accelerator pedal position signal that is received from ECM via CAN communication)                                       |
| APA TEMP<br>[°C]                   | It displays the accelerator pedal actuator integrated motor temperature  |
| APA CURRENT<br>[A]                 | It displays the accelerator pedal actuator integrated motor consumption current  |
| APA PWR<br>[V]                     | It displays the power supply voltage that the accelerator pedal actuator read out  |
| APA OPE STATS<br>[On/Off]          | It displays the activation permission status of accelerator pedal actuator   |
| APA STATS<br>[READY/NG/TP NG/INIT] | It displays the condition of accelerator pedal actuator  |

## ACTIVE TEST

### CAUTION:

**Never perform ACTIVE TEST while driving the vehicle.**

### NOTE:

The active test cannot be performed when the ICC system warning lamp is illuminated.

Item list

| Active test item                 | Description  |
|----------------------------------|--|
| ACCELERATOR PEDAL ACTUATOR TEST1 | Drive the accelerator pedal actuator and generate the constant accelerator pedal actuation force |
| ACCELERATOR PEDAL ACTUATOR TEST2 | Drive the accelerator pedal actuator and generate the vibration                                  |

## ACCELERATOR PEDAL ACTUATOR TEST 1

### NOTE:

Check the accelerator pedal by depressing when performing the test.

| Active test item                 | Operation | Description   |
|----------------------------------|-----------|---|
| ACCELERATOR PEDAL ACTUATOR TEST1 | STOP      | Finish the test   |
|                                  | START     | Generate the constant accelerator pedal actuation force for accelerator pedal |

## ACCELERATOR PEDAL ACTUATOR TEST 2

### NOTE:

Check the accelerator pedal by depressing when performing the test.

| Active test item                  | Operation | Description                                  |
|-----------------------------------|-----------|--|
| ACCELERATOR PEDAL ACTUATOR TEST 2 | STOP      | Finish the test                              |
|                                   | START     | Generate the vibration for accelerator pedal |

## ECU IDENTIFICATION

Displays accelerator pedal assembly parts number.



# DIAGNOSIS SYSTEM (LANE CAMERA UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## DIAGNOSIS SYSTEM (LANE CAMERA UNIT)

### CONSULT Function (LANE CAMERA)

INFOID:000000011436966

#### APPLICATION ITEMS

CONSULT performs the following functions by communicating with the lane camera unit.

| Mode                     | Description   |
|--------------------------|---|
| Work Support             | Performs the camera aiming.   |
| Self Diagnostic Result   | Displays the name of a malfunctioning system stored in the lane camera unit |
| Data Monitor             | Displays lane camera unit input/output data in real time                    |
| ECU Identification       | Displays lane camera unit part number                                       |
| CAN Diag Support Monitor | Displays a reception/transmission state of ITS communication                |

#### WORK SUPPORT

| Work support items | Description   |
|--------------------|---|
| AUTO AIM           | Outputs camera unit, calculates dislocation of the camera, and displays adjustment direction. |
| AIM CHECK          | <b>NOTE:</b><br>The item is displayed, but not used   |

#### SELF DIAGNOSTIC RESULT

Refer to [DAS-259. "DTC Index"](#).

#### DATA MONITOR

##### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored item<br>[Unit]         | Description   |
|----------------------------------|---|
| LC INACCURAT [On/Off]            | Lane camera unit status   |
| AIMING DONE [OK/NG]              | Status that camera aiming is done   |
| AIMING RESULT [OK/NOK]           | Result of camera aiming   |
| CAM HIGH TEMP [NORMAL/High]      | Status of lane camera unit high temperature judgment                            |
| VHCL SPD SE [km/h] or [mph]      | Vehicle speed received from ADAS control unit via ITS communication             |
| TURN SIGNAL [Off, LH, RH, LH/RH] | Status of "Turn signal" determined from ADAS control unit via ITS communication |
| LANE DETCT LH [On/Off]           | Left side lane marker detection   |
| LANE DETCT RH [On/Off]           | Right side lane marker detection  |
| CROSS LANE LH [On/Off]           | Condition that the vehicle is crossing left lane marker                         |
| CROSS LANE RH [On/Off]           | Condition that the vehicle is crossing right lane marker                        |
| WARN LANE LH [On/Off]            | Warning for left lane marker  |
| WARN LANE RH [On/Off]            | Warning for right lane marker   |
| VALID POS LH [VLD/INVLD]         | Lateral position for left lane marker is valid                                  |
| VALID POS RH [VLD/INVLD]         | Lateral position for right lane marker is valid                                 |
| XOFFSET [pixel]                  | Lane camera unit installation condition   |
| AIM CHECK YAW [deg]              | Check result of camera aiming   |
| AIM CHECK ROLL [deg]             | Check result of camera aiming   |
| AIM CHECK PITCH [deg]            | Check result of camera aiming   |

# DIAGNOSIS SYSTEM (LANE CAMERA UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Monitored item<br>[Unit] | Description                             |
|--------------------------|---|
| FCTRY AIM YAW [deg]      | Lane camera unit installation condition |
| FCTRY AIM ROL [deg]      | Lane camera unit installation condition |
| FCTRY AIM PIT [deg]      | Lane camera unit installation condition |
| ADAS MALF [On/Off]       | ADAS control unit status                |

# DIAGNOSIS SYSTEM (SIDE RADAR LH)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## DIAGNOSIS SYSTEM (SIDE RADAR LH)

### CONSULT Function (SIDE RADAR LEFT)

INFOID:000000011436967

#### DESCRIPTION

CONSULT performs the following functions by communicating with the side radar LH.

| Mode                   | Function   |
|------------------------|--|
| Self Diagnostic Result | Displays memorized DTC in the side radar.                                      |
| Data Monitor           | Displays real-time data of side radar.   |
| Active Test            | Enables operation check of electrical loads by sending driving signal to them. |
| ECU Identification     | Displays part number of side radar.  |

#### SELF DIAGNOSTIC RESULT

##### Self Diagnostic Result

Displays memorized DTC in side radar LH. Refer to [DAS-262. "DTC Index"](#).

##### FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

| Freeze Frame Data item | Description   |
|------------------------|---|
| VHCL SP from ADAS      | The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed |
| TURN SIG STATUS        | Turn signal status at the moment a malfunction is detected is displayed                         |

#### DATA MONITOR

##### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored Item [unit] |     | Description                                      |
|-----------------------|-----|--|
| BEAM DISTANCE         | —   | The item is displayed, but it is not used.       |
| BEAM POSITION         | —   | The item is displayed, but it is not used.       |
| SIDE RADAR MALF       | Off | Side radar is normal.                            |
|                       | On  | Side radar is malfunctioning.                    |
| BLOCKAGE COND         | Off | Side radar is not blocked.                       |
|                       | On  | Side radar is blocked.                           |
| ACTIVATE OPE          | —   | The item is displayed, but it is not used.       |
| VEHICLE DETECT        | Off | Does not detect a vehicle within detection area. |
|                       | On  | Detects a vehicle within detection area.         |

#### ACTIVE TEST

##### CAUTION:

- Never perform the active test while driving.
- Active test cannot be started while the Blind Spot Warning/Blind Spot Intervention indicator is illuminated.

| Active test item           | Operation | Description   |
|----------------------------|-----------|---|
| BSW/BSI INDICATOR<br>DRIVE | On        | Outputs the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator. |
|                            | Off       | Stops the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator.   |

#### ECU IDENTIFICATION

Displays side radar LH parts number.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N

DAS

P

# DIAGNOSIS SYSTEM (SIDE RADAR RH)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## DIAGNOSIS SYSTEM (SIDE RADAR RH)

### CONSULT Function (SIDE RADAR RIGHT)

INFOID:000000011471840

#### DESCRIPTION

CONSULT performs the following functions by communicating with the side radar RH.

| Mode                   | Function   |
|------------------------|--|
| Self Diagnostic Result | Displays memorized DTC in the side radar.                                      |
| Data Monitor           | Displays real-time data of side radar.   |
| Active Test            | Enables operation check of electrical loads by sending driving signal to them. |
| ECU Identification     | Displays part number of side radar.  |

#### SELF DIAGNOSTIC RESULT

##### Self Diagnostic Result

Displays memorized DTC in side radar RH. Refer to [DAS-265. "DTC Index"](#).

##### FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

| Freeze Frame Data item | Description   |
|------------------------|---|
| VHCL SP from ADAS      | The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed |
| TURN SIG STATUS        | Turn signal status at the moment a malfunction is detected is displayed                         |

#### DATA MONITOR

##### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored Item [unit] |     | Description                                      |
|-----------------------|-----|--|
| BEAM DISTANCE         | —   | The item is displayed, but it is not used.       |
| BEAM POSITION         | —   | The item is displayed, but it is not used.       |
| SIDE RADAR MALF       | Off | Side radar is normal.                            |
|                       | On  | Side radar is malfunctioning.                    |
| BLOCKAGE COND         | Off | Side radar is not blocked.                       |
|                       | On  | Side radar is blocked.                           |
| ACTIVATE OPE          | —   | The item is displayed, but it is not used.       |
| VEHICLE DETECT        | Off | Does not detect a vehicle within detection area. |
|                       | On  | Detects a vehicle within detection area.         |

#### ACTIVE TEST

##### CAUTION:

- Never perform the active test while driving.
- Active test cannot be started while the Blind Spot Warning/Blind Spot Intervention indicator is illuminated.

| Active test item           | Operation | Description   |
|----------------------------|-----------|---|
| BSW/BSI INDICATOR<br>DRIVE | On        | Outputs the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator. |
|                            | Off       | Stops the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator.   |

#### ECU IDENTIFICATION

Displays side radar RH parts number.

# DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

## DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

### CONSULT Function (BSW/BUZZER)

INFOID:000000011436969

#### DESCRIPTION

CONSULT performs the following functions via CAN communication with ADAS control unit and the communication with driver assistance buzzer control module.

| Mode                   | Function  |
|------------------------|---|
| Self Diagnostic Result | <ul style="list-style-type: none"><li>Displays malfunctioning system memorized in driver assistance buzzer control module</li><li>Displays the Freeze Frame Data when the malfunction is detected</li></ul> |
| DATA MONITOR           | Displays real-time input/output data of driver assistance buzzer control module   |
| ACTIVE TEST            | Enables operation check of electrical loads by sending driving signal to them   |
| ECU Identification     | Displays driver assistance buzzer control module parts number   |

#### SELF DIAGNOSTIC RESULT

##### Self Diagnostic Result

Refer to [DAS-269, "DTC Index"](#).

##### FFD (Freeze Frame Data)

The driver assistance buzzer control module records the following data when the malfunction is detected.

| Freeze Frame Data item [Unit] | Description  |
|-------------------------------|--|
| IGN Counter <sup>Note</sup>   | It displays number of ignition switch OFF → ON after the malfunction is detected |

#### NOTE:

- The number is 0 when is detected now.
- The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

#### DATA MONITOR

##### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item [Unit]                             | FUNCTION DESCRIPTION  |
|---|---|
| Buzzer 1 request (ADAS) [Off/TYPE 1 - 3/Cancel] | Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication) |
| Buzzer 1 volume (ADAS) [Vol. 1 - 16]            | Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)       |
| Buzzer 1 stop (ADAS) [CYCLE/IMEDIAT]            | Indicates buzzer stop status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)         |
| Buzzer 2 request (ADAS) [Off/TYPE 1 - 3/Cancel] | Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication) |
| Buzzer 2 volume (ADAS) [Vol. 1 - 16]            | Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)       |
| Buzzer 2 stop (ADAS) [CYCLE/IMEDIAT]            | Indicates buzzer stop status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)         |
| Buzzer 3 request (ADAS) [Off/TYPE 1/Cancel]     | Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication) |
| Buzzer 3 volume (ADAS) [Vol. 1 - 16]            | Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)       |

# DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item [Unit]                                | FUNCTION DESCRIPTION   |
|--|--|
| Buzzer 3 stop (ADAS)<br>[CYCLE/IMEDIAT]            | Indicates buzzer stop status as judged from ADAS control unit through ITS communication<br>(The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)         |
| Buzzer 4 request (ADAS)<br>[Off/TYPE 1 - 7/Cancel] | Indicates buzzer request type status as judged from ADAS control unit through ITS communication<br>(The ADAS control unit transmits the driver assistance buzzer signal via ITS communication) |
| Buzzer 4 volume (ADAS)<br>[Vol. 1- 16]             | Indicates buzzer volume status as judged from ADAS control unit through ITS communication<br>(The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)       |
| Buzzer 4 stop (ADAS)<br>[CYCLE/IMEDIAT]            | Indicates buzzer stop status as judged from ADAS control unit through ITS communication<br>(The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)         |
| Buzzer 1 request (CCM)<br>[Off/TYPE 1 - 3/Cancel]  | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 1 volume (CCM)<br>[Vol. 1- 16]              | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 1 stop (CCM)<br>[CYCLE/IMEDIAT]             | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 2 request (CCM)<br>[Off/TYPE 1 - 3/Cancel]  | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 2 volume (CCM)<br>[Vol. 1- 16]              | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 2 stop (CCM)<br>[CYCLE/IMEDIAT]             | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 3 request (CCM)<br>[Off/TYPE 1/Cancel]      | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 3 volume (CCM)<br>[Vol. 1- 16]              | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 3 stop (CCM)<br>[CYCLE/IMEDIAT]             | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 4 request (CCM)<br>[Off/TYPE 1 - 7/Cancel]  | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 4 volume (CCM)<br>[Vol. 1- 16]              | <b>NOTE:</b><br>The item is displayed, but not used  |
| Buzzer 4 stop (CCM)<br>[CYCLE/IMEDIAT]             | <b>NOTE:</b><br>The item is displayed, but not used  |
| ADAS MALFUNCTION<br>[Off/On]                       | Indicates ADAS control unit status   |
| CCM MALFUNCTION<br>[Off/On]                        | <b>NOTE:</b><br>The item is displayed, but not used  |
| DR ASSIST BUZZ MALF<br>[Off/On]                    | Indicates driver assistance control buzzer module status   |
| DR ASSIST BUZZ STATUS<br>[1/2/3/1, 2/2, 4/1, 4/4]  | Indicates driver assistance control buzzer sound status  |

## ACTIVE TEST

### CAUTION:

**Never perform ACTIVE TEST while driving the vehicle.**

Item list

# DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Active test item | Description   |
|------------------|---|
| BUZZER 1 (ADAS)  | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Lane Departure Warning (LDW)</li> <li>• Blind Spot Warning (BSW)</li> <li>• Blind Spot Intervention</li> </ul>                              |
| BUZZER 2 (ADAS)  | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Intelligent Cruise Control (ICC)</li> <li>• Predictive Forward Collision Warning (PFCW)</li> <li>• Distance Control Assist (DCA)</li> </ul> |
| BUZZER 3 (ADAS)  | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Forward Emergency Braking (FEB)</li> </ul>  |
| BUZZER 4 (ADAS)  | Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> <li>• Predictive Forward Collision Warning (PFCW)</li> </ul>  |
| BUZZER 1 (CCM)   | <b>NOTE:</b><br>The item is displayed, but not used   |
| BUZZER 2 (CCM)   | <b>NOTE:</b><br>The item is displayed, but not used   |
| BUZZER 3 (CCM)   | <b>NOTE:</b><br>The item is displayed, but not used   |
| BUZZER 4 (CCM)   | <b>NOTE:</b><br>The item is displayed, but not used   |

## BUZZER 1 (ADAS)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 1 (ADAS)  | Off       | Stops transmitting the warning buzzer signal below to end of the test |
|                  | On        | Transmits the warning buzzer signal to the warning buzzer             |

## BUZZER 2 (ADAS)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 2 (ADAS)  | Off       | Stops transmitting the warning buzzer signal below to end of the test |
|                  | On        | Transmits the warning buzzer signal to the warning buzzer             |

## BUZZER 3 (ADAS)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 3 (ADAS)  | Off       | Stops transmitting the warning buzzer signal below to end of the test |
|                  | On        | Transmits the warning buzzer signal to the warning buzzer             |

## BUZZER 4 (ADAS)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 4 (ADAS)  | Off       | Stops transmitting the warning buzzer signal below to end of the test |
|                  | On        | Transmits the warning buzzer signal to the warning buzzer             |

## BUZZER 1 (CCM)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 1 (CCM)   | —         | <b>NOTE:</b><br>The item is displayed, but not used |

## BUZZER 2 (CCM)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 2 (CCM)   | —         | <b>NOTE:</b><br>The item is displayed, but not used |

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# DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 2 (CCM)   | —         | <b>NOTE:</b><br>The item is displayed, but not used |

## BUZZER 3 (CCM)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 3 (CCM)   | —         | <b>NOTE:</b><br>The item is displayed, but not used |

## BUZZER 4 (CCM)

| Active test item | Operation | Description   |
|------------------|-----------|---|
| BUZZER 4 (CCM)   | —         | <b>NOTE:</b><br>The item is displayed, but not used |

## ECU IDENTIFICATION

Displays driver assistance buzzer control module parts number.



# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## ECU DIAGNOSIS INFORMATION

### ADAS CONTROL UNIT

#### Reference Value

INFOID:0000000011471821

#### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item      | Condition  |  | Value/Status |
|-------------------|--|--|--------------|
| MAIN SW           | Ignition switch ON   | When MAIN switch is pressed  | On           |
|                   |  | When MAIN switch is not pressed  | Off          |
| SET/COAST SW      | Ignition switch ON   | When SET/COAST switch is pressed   | On           |
|                   |  | When SET/COAST switch is not pressed   | Off          |
| CANCEL SW         | Ignition switch ON   | When CANCEL switch is pressed  | On           |
|                   |  | When CANCEL switch is not pressed  | Off          |
| RESUME/ACC SW     | Ignition switch ON   | When RESUME/ACCELERATE switch is pressed                                     | On           |
|                   |  | When RESUME/ACCELERATE switch is not pressed                                 | Off          |
| DISTANCE SW       | Ignition switch ON   | When DISTANCE switch is pressed  | On           |
|                   |  | When DISTANCE switch is not pressed  | Off          |
| CRUISE OPE        | Drive the vehicle and activate the vehicle-to-vehicle distance control mode  | When ICC system is controlling   | On           |
|                   |  | When ICC system is not controlling   | Off          |
| ON ROOT GUID-ANCE | <b>NOTE:</b><br>The item is displayed, but not used  |  | Off          |
| BRAKE SW          | Ignition switch ON   | When brake pedal is depressed  | Off          |
|                   |  | When brake pedal is not depressed  | On           |
| STOP LAMP SW      | Ignition switch ON   | When brake pedal is depressed  | On           |
|                   |  | When brake pedal is not depressed  | Off          |
| CLUTCH SW SIG     | <b>NOTE:</b><br>The item is displayed, but not used  |  | Off          |
| IDLE SW           | Engine running   | Idling   | On           |
|                   |  | Except idling (depress accelerator pedal)                                    | Off          |
| SET DISTANCE      | <ul style="list-style-type: none"> <li>• Start the engine and turn the ICC system ON</li> <li>• Press the DISTANCE switch to change the vehicle-to-vehicle distance setting</li> </ul> | When set to "long"   | Long         |
|                   |  | When set to "middle"   | Mid          |
|                   |  | When set to "short"  | Short        |
| CRUISE LAMP       | Start the engine and press MAIN switch   | ICC system ON<br>(MAIN switch indicator ON)                                  | On           |
|                   |  | ICC system OFF<br>(MAIN switch indicator OFF)                                | Off          |
| OWN VHCL          | Start the engine and press MAIN switch   | ICC system ON<br>(Own vehicle indicator ON)                                  | Off          |
|                   |  | ICC system OFF<br>(Own vehicle indicator OFF)                                | Off          |
| VHCL AHEAD        | Drive the vehicle and activate the vehicle-to-vehicle distance control mode  | When a vehicle ahead is detected (vehicle ahead detection indicator ON)      | On           |
|                   |  | When a vehicle ahead is not detected (vehicle ahead detection indicator OFF) | Off          |

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# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item  | Condition   |  | Value/Status   |
|---------------|---|--|--|
| ICC WARNING   | Start the engine and press MAIN switch                                      | When ICC system is malfunctioning  | On   |
|               |   | When ICC system is normal  | Off  |
| VHCL SPEED SE | While driving   |  | Displays the vehicle speed calculated by ADAS control unit |
| SET VHCL SPD  | While driving   | When vehicle speed is set  | Displays the set vehicle speed                             |
| BUZZER O/P    | Engine running  | When the buzzer of the following system operates <ul style="list-style-type: none"> <li>• Vehicle-to-vehicle distance control mode</li> <li>• DCA system</li> <li>• PFCW system</li> <li>• FEB system</li> </ul>     | On   |
|               |   | When the buzzer of the following system not operates <ul style="list-style-type: none"> <li>• Vehicle-to-vehicle distance control mode</li> <li>• DCA system</li> <li>• PFCW system</li> <li>• FEB system</li> </ul> | Off  |
| THRTL SENSOR  | <b>NOTE:</b><br>The item is displayed, but not used                         |  | 0.0  |
| ENGINE RPM    | Engine running  |  | Equivalent to tachometer reading                           |
| WIPER SW      | Ignition switch ON  | Wiper not operating  | Off  |
|               |   | Wiper LO operation   | Low  |
|               |   | Wiper HI operation   | High   |
| NAVI-ICC DISP | <b>NOTE:</b><br>The item is displayed, but not used                         |  | Off  |
| YAW RATE      | <b>NOTE:</b><br>The item is displayed, but not used                         |  | 0.0  |
| BA WARNING    | Engine running  | FEB warning lamp ON <ul style="list-style-type: none"> <li>• When FEB system is malfunctioning</li> <li>• When FEB system is turned to OFF</li> </ul>  | On   |
|               |   | FEB warning lamp OFF <ul style="list-style-type: none"> <li>• When FEB system is normal</li> <li>• When FEB system is turned to ON</li> </ul>  | Off  |
| STP LMP DRIVE | Drive the vehicle and activate the vehicle-to-vehicle distance control mode | When ICC brake hold relay is activated   | On   |
|               |   | When ICC brake hold relay is not activated   | Off  |
| D RANGE SW    | Engine running  | When the selector lever is in "D" position or manual mode  | On   |
|               |   | When the selector lever is in any position other than "D" or manual mode   | Off  |
| NP RANGE SW   | Engine running  | When the selector lever is in "N", "P" position  | On   |
|               |   | When the selector lever is in any position other than "N", "P"   | Off  |
| PKB SW        | Ignition switch ON  | When the parking brake is applied  | On   |
|               |   | When the parking brake is released   | Off  |
| PWR SUP MONI  | Engine running  |  | Power supply voltage value of ADAS control unit            |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item  | Condition   |  | Value/Status  |
|---------------|---|--|---|
| VHCL SPD AT   | While driving   |  | Value of A/T vehicle speed sensor signal                            |
| THRTL OPENING | Engine running  | Depress accelerator pedal  | Displays the throttle position                                      |
| GEAR          | While driving   |  | Displays the gear position  |
| NP SW SIG     | <b>NOTE:</b><br>The item is displayed, but not used   |  | Off   |
| MODE SIG      | Start the engine and press MAIN switch  | When ICC system is deactivated   | Off   |
|               |   | When vehicle-to-vehicle distance control mode is activated                   | ICC   |
|               |   | When conventional (fixed speed) cruise control mode is activated             | ASCD  |
| SET DISP IND  | <ul style="list-style-type: none"> <li>• Drive the vehicle and activate the conventional (fixed speed) cruise control mode</li> <li>• Press SET/COAST switch</li> </ul> | SET switch indicator ON  | On  |
|               |   | SET switch indicator OFF   | Off   |
| DISTANCE      | Drive the vehicle and activate the vehicle-to-vehicle distance control mode   | When a vehicle ahead is detected   | Displays the distance from the preceding vehicle                    |
|               |   | When a vehicle ahead is not detected   | 0.0   |
| RELATIVE SPD  | Drive the vehicle and activate the vehicle-to-vehicle distance control mode   | When a vehicle ahead is detected   | Displays the relative speed.  |
|               |   | When a vehicle ahead is not detected   | 0.0   |
| DYNA ASIST SW | Ignition switch ON  | When dynamic driver assistance switch is pressed                             | On  |
|               |   | When dynamic driver assistance switch is not pressed                         | Off   |
| DCA ON IND    | Start the engine and press dynamic driver assistance switch (When DCA setting is ON)  | DCA system OFF   | Off   |
|               |   | DCA system ON  | On  |
| DCA VHL AHED  | Drive the vehicle and activate the DCA system   | When a vehicle ahead is not detected (vehicle ahead detection indicator OFF) | Off   |
|               |   | When a vehicle ahead is detected (vehicle ahead detection indicator ON)      | On  |
| IBA SW        | <b>NOTE:</b><br>The item is displayed, but not used   |  | Off   |
| FCW SYSTEM ON | Ignition switch ON  | When the PFCW system is ON   | On  |
|               |   | When the PFCW system is OFF  | Off   |
| APA TEMP      | Engine running  |  | Display the accelerator pedal actuator integrated motor temperature |
| APA PWR       | Ignition switch ON  |  | Power supply voltage value of accelerator pedal actuator            |
| LDW SYSTEM ON | Ignition switch ON  | When the LDW system is ON  | On  |
|               |   | When the LDW system is OFF   | Off   |
| LDW ON LAMP   | Ignition switch ON  | When the LDW system is ON  | On  |
|               |   | When the LDW system is OFF   | Off   |

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# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item       | Condition  |   | Value/Status                |
|--------------------|--|---|-----------------------------|
| LDP ON IND         | Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)            | When the LDW system is ON   | On                          |
|                    |  | When the LDW system is OFF  | Off                         |
| LANE DPRT W/L      | Drive the vehicle and activate the LDW system or LDP system  | Lane departure warning ON   | On                          |
|                    |  | Lane departure warning OFF  | Off                         |
| LDW BUZER OUT-PUT  | Drive the vehicle and activate the LDW/LDP system or Blind Spot Warning/Blind Spot Intervention system | When the buzzer of the following system operates<br>• LDW/LDP system<br>• Blind Spot Warning/Blind Spot Intervention system         | On                          |
|                    |  | When the buzzer of the following system does not operate<br>• LDW/LDP system<br>• Blind Spot Warning/Blind Spot Intervention system | Off                         |
| LDP SYSTEM ON      | Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)            | When the LDP system is ON   | On                          |
|                    |  | When the LDP system is OFF  | Off                         |
| WARN REQ           | Drive the vehicle and activate the LDP system  | Lane departure warning is operating   | On                          |
|                    |  | Lane departure warning is not operating   | Off                         |
| READY signal       | Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)            | When the LDP system is ON   | On                          |
|                    |  | When the LDP system is OFF  | Off                         |
| Camera lost        | Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention system            | Both side lane markers are detected   | Detect                      |
|                    |  | Deviated side lane marker is lost   | Deviated                    |
|                    |  | Both side lane markers are lost   | Both                        |
| Shift position     | <ul style="list-style-type: none"> <li>• Engine running</li> <li>• While driving</li> </ul>            |   | Displays the shift position |
| Turn signal        |  | Turn signal lamps OFF   | Off                         |
|                    |  | Turn signal lamp LH blinking  | LH                          |
|                    |  | Turn signal lamp RH blinking  | RH                          |
|                    |  | Turn signal lamp LH and RH blinking   | LH&RH                       |
| SIDE G             | While driving  | Vehicle turning right   | Negative value              |
|                    |  | Vehicle turning left  | Positive value              |
| STATUS signal      | Drive the vehicle and activate the LDP system  | When the LDP system is ON   | Stnby                       |
|                    |  | When the LDP system is operating  | Warn                        |
|                    |  | When the LDP system is canceled   | Cancl                       |
|                    |  | When the LDP system is OFF  | Off                         |
| Lane unclear       | While driving  | Lane marker is unclear  | On                          |
|                    |  | Lane marker is clear  | Off                         |
| FUNC ITEM          | Ignition switch ON   |   | FUNC3                       |
| FUNC ITEM (NV-ICC) | <b>NOTE:</b><br>The item is displayed, but not used  |   | Off                         |
| FUNC ITEM (NV-DCA) | <b>NOTE:</b><br>The item is displayed, but not used  |   | Off                         |
| DCA SELECT         | Ignition switch ON   | "Distance Control Assist" set with the navigation screen is ON  | On                          |
|                    |  | "Distance Control Assist" set with the navigation screen is OFF   | Off                         |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item      | Condition   |   | Value/Status |
|-------------------|---|---|--------------|
| LDP SELECT        | Ignition switch ON  | "Lane Departure Prevention" set with the navigation screen is ON  | On           |
|                   |   | "Lane Departure Prevention" set with the navigation screen is OFF   | Off          |
| BSI SELECT        | Ignition switch ON  | "Blind Spot Intervention" set with the navigation screen is ON  | On           |
|                   |   | "Blind Spot Intervention" set with the navigation screen is OFF   | Off          |
| BSW SELECT        | Ignition switch ON  | "Blind Spot Warning" set with the navigation screen is ON   | On           |
|                   |   | "Blind Spot Warning" set with the navigation screen is OFF  | Off          |
| NAVI ICC SELECT   | <b>NOTE:</b><br>The item is displayed, but not used   |   | Off          |
| NAVI DCA SELECT   | <b>NOTE:</b><br>The item is displayed, but not used   |   | Off          |
| SYS SELECTABILITY | Ignition switch ON  | Items set with the navigation screen can be switched normally   | On           |
|                   |   | Items set with the navigation screen cannot be switched normally  | Off          |
| DRIVE MODE STATS  | Ignition switch ON  | When drive mode select switch position is STANDARD  | STD          |
|                   |   | When drive mode select switch position is in SPORT  | SPORT        |
|                   |   | When drive mode select switch position is in ECO  | ECO          |
|                   |   | When drive mode select switch position is in SNOW   | SNOW         |
|                   |   | When position of drive mode select switch is in following states<br>• In the middle of SNOW-ECO<br>• In the middle of ECO-STANDARD<br>• In the middle of STANDARD-SPORT | Mid          |
|                   |   | A signal other than those above is input  | ERROR        |
| WARN SYS SW       | Ignition switch ON  | When warning systems switch is pressed  | On           |
|                   |   | When warning systems switch is not pressed  | Off          |
| BSW/BSI WARN LMP  | Ignition switch ON  | When the BSW system is malfunctioning   | On           |
|                   |   | When the BSW system is normal   | Off          |
| BSI ON IND        | Ignition switch ON  | Blind Spot Intervention warning ON  | On           |
|                   |   | Blind Spot Intervention warning OFF   | Off          |
| BSW SYSTEM ON     | Ignition switch ON  | When the BSW system is ON   | On           |
|                   |   | When the BSW system is OFF  | Off          |
| BSI SYSTEM ON     | Start the engine and press dynamic driver assistance switch (When Blind Spot Intervention system setting is ON) | When the Blind Spot Intervention system is ON   | On           |
|                   |   | When the Blind Spot Intervention system is OFF  | Off          |
| BCI SYSTEM ON     | Engine running  | When the BCI system is ON   | On           |
|                   |   | When the BCI system is OFF  | Off          |
| BCI SWITCH        | Ignition switch ON  | When BCI switch is pressed  | On           |
|                   |   | When BCI switch is not pressed  | Off          |
| BCI ON IND        | Ignition switch ON  | When BCI ON indicator is ON   | On           |
|                   |   | When BCI ON indicator is OFF  | Off          |
| BCI OFF IND       | Ignition switch ON  | When BCI OFF indicator is ON  | On           |
|                   |   | When BCI OFF indicator is OFF   | Off          |

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# ADAS CONTROL UNIT

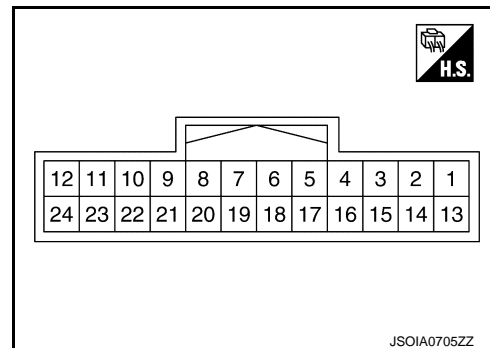
< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item         | Condition          |   | Value/Status |
|----------------------|--------------------|---|--------------|
| BCI WARNING IND      | Ignition switch ON | When BCI malfunction indicator is ON    | On           |
|                      |                    | When BCI malfunction indicator is OFF   | Off          |
| BCI HI TEMP WARN IND | Ignition switch ON | When BCI not available indicator is ON  | On           |
|                      |                    | When BCI not available indicator is OFF | Off          |

## TERMINAL LAYOUT

## PHYSICAL VALUES



| Terminal No.<br>(Wire color) |            | Description                       |                    | Condition                          |  | Standard value | Reference value |
|------------------------------|------------|-----------------------------------|--------------------|------------------------------------|--|----------------|-----------------|
| +                            | -          | Signal name                       | Input/<br>Output   |                                    |  |                |                 |
| 1<br>(L)                     | —          | CAN -H                            | —                  |                                    | —  | —              | —               |
| 2<br>(R)                     | —          | CAN -L                            | —                  |                                    | —  | —              | —               |
| 5<br>(B/R)                   | Ground     | Ground                            | —                  |                                    | Ignition switch ON                         | 0 - 0.1 V      | Approx. 0 V     |
| 6<br>(L)                     | —          | ITS communication-H               | —                  |                                    | —  | —              | —               |
| 7<br>(P)                     | —          | ITS communication-L               | —                  |                                    | —  | —              | —               |
| 12<br>(GR)                   | 5<br>(B/R) | Ignition power supply             | Input              | Ignition switch ON                 | —  | 10 - 16 V      | Battery voltage |
| 17<br>(SB)                   |            | ICC brake hold relay drive signal | Output             | Ignition switch ON                 | —  | 10 - 16 V      | Approx. 12 V    |
| 18<br>(Y)                    |            | Warning systems switch            | Input              | Ignition switch ON                 | When warning systems switch is not pressed | 10 - 16 V      | Approx. 12 V    |
|                              |            |                                   |                    |                                    | When warning systems switch is pressed     | 0 - 0.1 V      | Approx. 0 V     |
| 19<br>(O)                    |            | Warning systems ON indicator      | Output             | Ignition switch ON                 | Warning systems ON indicator ON            | 10 - 16 V      | Approx. 12 V    |
|                              |            |                                   |                    |                                    | Warning systems ON indicator OFF           | 0 - 0.1 V      | Approx. 0 V     |
| 22<br>(BR)                   | BCI switch | Input                             | Ignition switch ON | When BCI OFF switch is not pressed | 10 - 16 V                                  | Approx. 12 V   |                 |
|                              |            |                                   |                    | When BCI OFF switch is pressed     | 0 - 0.1 V                                  | Approx. 0 V    |                 |

## Fail-safe (ADAS Control Unit)

INFOID:000000011471822

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| System   | Buzzer            | Warning lamp/Indicator lamp                             | Description  |
|--|-------------------|---|--|
| Vehicle-to-vehicle distance control mode       | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Conventional (fixed speed) cruise control mode | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Forward Emergency Braking (FEB)                | High-pitched tone | FEB warning lamp  | Cancel   |
| Predictive Forward Collision Warning (PFCW)    | High-pitched tone | FEB warning lamp  | Cancel   |
| Distance Control Assist (DCA)                  | High-pitched tone | ICC system warning lamp                                 | Cancel   |
| Lane Departure Warning (LDW)                   | —                 | Lane departure warning lamp                             | Cancel   |
| Lane Departure Prevention (LDP)                | Low-pitched tone  | Lane departure warning lamp                             | Cancel   |
| Blind Spot Warning (BSW)                       | —                 | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Blind Spot Intervention                        | Low-pitched tone  | Blind Spot Warning/Blind spot Intervention warning lamp | Cancel   |
| Back-up Collision Intervention (BCI)           | High-pitched tone | BCI malfunction indicator                               | Cancel   |
| Active trace control function                  | —                 | FEB warning lamp  | <ul style="list-style-type: none"> <li>• Cancel</li> <li>• If a communication error occurs between the A/C auto amp. and CAN communication line, a mode at the instant of error occurrence is maintained until the mode is fixed to STANDARD after turning the ignition switch from OFF to ON</li> </ul> |

## DTC Inspection Priority Chart

INFOID:0000000011471823

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

| Priority | Detected items (DTC)  |
|----------|---|
| 1        | <ul style="list-style-type: none"> <li>• U1507: LOST COMM (SIDE RDR R)</li> <li>• U1508: LOST COMM (SIDE RDR L)</li> </ul>  |
| 2        | <ul style="list-style-type: none"> <li>• C1A0A: CONFIG UNFINISHED</li> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>  |
| 3        | <ul style="list-style-type: none"> <li>• C1B00: CAMERA UNIT MALF</li> <li>• C1F02: APA C/U MALF</li> <li>• C1B53: SIDE RDR R MALF</li> <li>• C1B54: SIDE RDR L MALF</li> <li>• C1B84: DIST SEN MALFUNCTION</li> </ul> |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Priority | Detected items (DTC)   |   |
|----------|--|---|
| 4        | <ul style="list-style-type: none"> <li>• C1A01: POWER SUPPLY CIR</li> <li>• C1A02: POWER SUPPLY CIR 2</li> <li>• C1A04: ABS/TCS/VDC CIRC</li> <li>• C1A05: BRAKE SW/STOP L SW</li> <li>• C1A06: OPERATION SW CIRC</li> <li>• C1A13: STOP LAMP RLY FIX</li> <li>• C1A14: ECM CIRCUIT</li> <li>• C1A24: NP RANGE</li> <li>• C1A26: ECD MODE MALF</li> <li>• C1A27: ECD PWR SUPPLY CIR</li> <li>• C1A33: CAN TRANSMISSION ERR</li> <li>• C1A34: COMMAND ERROR</li> <li>• C1A35: APA CIR</li> <li>• C1A36: APA CAN COMM CIR</li> <li>• C1A37: APA CAN CIR 2</li> <li>• C1A38: APA CAN CIR 1</li> <li>• C1A39: STRG SEN CIR</li> <li>• C1B01: CAM AIMING INCOMP</li> <li>• C1B03: CAM ABNORMAL TMP DETCT</li> <li>• C1B5D: FEB OPE COUNT LIMIT</li> <li>• C1B56: SONAR CIRCUIT</li> <li>• C1B57: AVM CIRCUIT</li> <li>• C1B58: DR ASSIST BUZZER CIRCUIT</li> <li>• C1B82: DIST SEN OFF-CENTER</li> <li>• C1B83: DIST SEN BLOCKED</li> <li>• C1B85: DIST SEN ABNORMAL TEMP</li> <li>• C1B86: DIST SEN PWR SUP CIR</li> <li>• C1F01: APA MOTOR MALF</li> <li>• C1F05: APA PWR SUPPLY CIR</li> </ul> | <ul style="list-style-type: none"> <li>• U0121: VDC CAN CIR 2</li> <li>• U0126: STRG SEN CAN CIR 1</li> <li>• U0235: ICC SENSOR CAN CIRC 1</li> <li>• U0401: ECM CAN CIR 1</li> <li>• U0402: TCM CAN CIR 1</li> <li>• U0415: VDC CAN CIR 1</li> <li>• U0424: HVAC CAN CIR 1</li> <li>• U0428: STRG SEN CAN CIR 2</li> <li>• U150B: ECM CAN CIRC 3</li> <li>• U150C: VDC CAN CIRC 3</li> <li>• U150D: TCM CAN CIRC 3</li> <li>• U150E: BCM CAN CIRC 3</li> <li>• U150F: AV CAN CIRC 3</li> <li>• U1500: CAM CAN CIR 2</li> <li>• U1501: CAM CAN CIR 1</li> <li>• U1502: ICC SEN CAN COMM CIR</li> <li>• U1503: SIDE RDR L CAN CIR 2</li> <li>• U1504: SIDE RDR L CAN CIR 1</li> <li>• U1505: SIDE RDR R CAN CIR 2</li> <li>• U1506: SIDE RDR R CAN CIR 1</li> <li>• U1512: HVAC CAN CIRC3</li> <li>• U1513: METER CAN CIRC 3</li> <li>• U1514: STRG SEN CAN CIRC 3</li> <li>• U1515: ICC SENSOR CAN CIRC 3</li> <li>• U1516: CAM CAN CIRC 3</li> <li>• U1517: APA CAN CIRC 3</li> <li>• U1518: SIDE RDR L CAN CIRC 3</li> <li>• U1519: SIDE RDR R CAN CIRC 3</li> <li>• U1521: SONAR CAN COMMUNICATION 3</li> <li>• U1522: SONAR CAN COMMUNICATION 3</li> <li>• U1523: SONAR CAN COMMUNICATION 2</li> <li>• U1524: AVM CAN COMMUNICATION 1</li> <li>• U1525: AVM CAN COMMUNICATION 3</li> <li>• U1530: DR ASSIST BUZZER CAN CIR 1</li> </ul> |
| 5        | <ul style="list-style-type: none"> <li>• C1A03: VHCL SPEED SE CIRC</li> </ul>  |   |
| 6        | <ul style="list-style-type: none"> <li>• C1A15: GEAR POSITION</li> </ul>   |   |
| 7        | <ul style="list-style-type: none"> <li>• C1A00: CONTROL UNIT</li> </ul>  |   |

## DTC Index

INFOID:000000011471824

### NOTE:

- The details of time display are as per the following.
  - CRNT: A malfunction is detected now
  - PAST: A malfunction was detected in the past
- IGN counter is displayed on FFD (Freeze Frame Data).
  - 0: The malfunctions that are detected now  
CAN communication system (U1000, U1010)
  - 1 - 39: It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
  - If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.  
Other than CAN communication system (Other than U1000, U1010)
  - 1 - 49: It increases like 0 → 1 → 2 ... 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
  - If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.



# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)
- J: Active trace control function

| DTC   |                  | CONSULT display                                     | Fail-safe                    | Reference               |
|---|------------------|---|------------------------------|-------------------------|
| CONSULT   | On board display |   | System                       |                         |
| NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED | 55               | NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED | —                            | —                       |
| C1A0A   | 41               | CONFIG UNFINISHED                                   | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-65</a>  |
| C1A00   | 0                | CONTROL UNIT  | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-66</a>  |
| C1A01   | 1                | POWER SUPPLY CIR                                    | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-67</a>  |
| C1A02   | 2                | POWER SUPPLY CIR 2                                  | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-67</a>  |
| C1A03   | 3                | VHCL SPEED SE CIRC                                  | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-68</a>  |
| C1A04   | 4                | ABS/TCS/VDC CIRC                                    | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-70</a>  |
| C1A05   | 5                | BRAKE SW/STOP L SW                                  | A, B, C, D, E, F, H, I       | <a href="#">DAS-72</a>  |
| C1A06   | 6                | OPERATION SW CIRC                                   | A, B, C, F, H                | <a href="#">DAS-77</a>  |
| C1A13   | 13               | STOP LAMP RLY FIX                                   | A, B, C, D, E, I             | <a href="#">DAS-80</a>  |
| C1A14   | 14               | ECM CIRCUIT   | A, B, C, D, E                | <a href="#">DAS-87</a>  |
| C1A15   | 15               | GEAR POSITION                                       | A, B, C, D, E                | <a href="#">DAS-89</a>  |
| C1A24   | 24               | NP RANGE  | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-91</a>  |
| C1A26   | 26               | ECD MODE MALF                                       | A, B, C, D, E                | <a href="#">DAS-93</a>  |
| C1A27   | 27               | ECD PWR SUPPLY CIR                                  | A, B, C, D, E                | <a href="#">DAS-95</a>  |
| C1A33   | 33               | CAN TRANSMISSION ERR                                | A, B, C, D, E, J             | <a href="#">DAS-97</a>  |
| C1A34   | 34               | COMMAND ERROR                                       | A, B, C, D, E, J             | <a href="#">DAS-98</a>  |
| C1A35   | 35               | APA CIR   | A, C, D, E                   | <a href="#">DAS-99</a>  |
| C1A36   | 36               | APA CAN COMM CIR                                    | A, C, D, E                   | <a href="#">DAS-100</a> |
| C1A37   | 133              | APA CAN CIR 2                                       | A, C, D, E                   | <a href="#">DAS-101</a> |
| C1A38   | 132              | APA CAN CIR 1                                       | A, C, D, E                   | <a href="#">DAS-102</a> |
| C1A39   | 39               | STRG SEN CIR  | A, B, C, D, E, G, I, J       | <a href="#">DAS-103</a> |
| C1B00   | 81               | CAMERA UNIT MALF                                    | F, H                         | <a href="#">DAS-104</a> |
| C1B01   | 82               | CAM AIMING INCOMP                                   | F, H                         | <a href="#">DAS-105</a> |
| C1B03   | 83               | ABNRML TMP DETCT                                    | F, H                         | <a href="#">DAS-106</a> |
| C1B5D   | 198              | FEB OPE COUNT LIMIT                                 | C, D, E                      | <a href="#">DAS-107</a> |
| C1B53   | 84               | SIDE RDR R MALF                                     | G, H, I                      | <a href="#">DAS-108</a> |
| C1B54   | 85               | SIDE RDR L MALF                                     | G, H, I                      | <a href="#">DAS-109</a> |
| C1B56   | 86               | SONAR CIRCUIT                                       | I                            | <a href="#">DAS-110</a> |
| C1B57   | 87               | AVM CIRCUIT   | I                            | <a href="#">DAS-111</a> |
| C1A58   | 182              | DR ASSIST BUZZER CIRCUIT                            |                              | <a href="#">DAS-112</a> |
| C1B82   | 12               | RADAR OFF-CENTER                                    | A, C, D, E                   | <a href="#">DAS-113</a> |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
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- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)
- J: Active trace control function

| DTC                   |                  | CONSULT display        | Fail-safe                    | Reference               |
|-----------------------|------------------|------------------------|------------------------------|-------------------------|
| CONSULT               | On board display |                        | System                       |                         |
| C1B83                 | 16               | RADAR BLOCKED          | A, C, D, E                   | <a href="#">DAS-114</a> |
| C1B84                 | 17               | DIST SEN MALFUNCTION   | A, C, D, E                   | <a href="#">DAS-115</a> |
| C1B85                 | 21               | DIST SEN ABNORMAL TEMP | A, C, D, E                   | <a href="#">DAS-116</a> |
| C1B86                 | 80               | DIST SEN PWR SUP CIR   | A, C, D, E                   | <a href="#">DAS-117</a> |
| C1F01                 | 91               | APA MOTOR MALF         | A, C, D, E, I                | <a href="#">DAS-119</a> |
| C1F02                 | 92               | APA C/U MALF           | A, C, D, E, I                | <a href="#">DAS-120</a> |
| C1F05                 | 95               | APA PWR SUPPLY CIR     | A, C, D, E, I                | <a href="#">DAS-121</a> |
| U0121                 | 127              | VDC CAN CIR 2          | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-122</a> |
| U0126                 | 130              | STRG SEN CAN CIR 1     | A, B, C, D, E, G, I, J       | <a href="#">DAS-124</a> |
| U0235                 | 144              | ICC SENSOR CAN CIRC 1  | A, C, D, E                   | <a href="#">DAS-125</a> |
| U0401                 | 120              | ECM CAN CIR 1          | A, B, C, D, E, G, I          | <a href="#">DAS-126</a> |
| U0402                 | 122              | TCM CAN CIR 1          | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-127</a> |
| U0415                 | 126              | VDC CAN CIR 1          | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-128</a> |
| U0424                 | 156              | HACV CAN CIR 1         |                              | <a href="#">DAS-130</a> |
| U0428                 | 131              | STRG SEN CAN CIR 2     | A, B, C, D, E, G, I, J       | <a href="#">DAS-131</a> |
| U1000 <sup>NOTE</sup> | 100              | CAN COMM CIRCUIT       | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-132</a> |
| U1010                 | 110              | CONTROL UNIT (CAN)     | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-134</a> |
| U150B                 | 157              | ECM CAN CIRC 3         | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-135</a> |
| U150C                 | 158              | VDC CAN CIRC 3         | A, B, C, D, E, F, G, H, I, J | <a href="#">DAS-136</a> |
| U150D                 | 159              | TCM CAN CIRC 3         | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-138</a> |
| U150E                 | 160              | BCM CAN CIRC 3         | A, B, C, F, G, H, I          | <a href="#">DAS-139</a> |
| U150F                 | 161              | AV CAN CIRC 3          |                              | <a href="#">DAS-140</a> |
| U1500                 | 145              | CAM CAN CIR2           | F, H                         | <a href="#">DAS-141</a> |
| U1501                 | 146              | CAM CAN CIR 1          | F, H                         | <a href="#">DAS-142</a> |
| U1502                 | 147              | ICC SEN CAN COMM CIR   | A, C, D, E                   | <a href="#">DAS-143</a> |
| U1503                 | 150              | SIDE RDR L CAN CIR 2   | G, H, I                      | <a href="#">DAS-144</a> |
| U1504                 | 151              | SIDE RDR L CAN CIR 1   | G, H, I                      | <a href="#">DAS-145</a> |
| U1505                 | 152              | SIDE RDR R CAN CIR 2   | G, H, I                      | <a href="#">DAS-146</a> |
| U1506                 | 153              | SIDE RDR R CAN CIR 1   | G, H, I                      | <a href="#">DAS-147</a> |
| U1507                 | 154              | LOST COMM (SIDE RDR R) | G, H, I                      | <a href="#">DAS-148</a> |
| U1508                 | 155              | LOST COMM (SIDE RDR L) | G, H, I                      | <a href="#">DAS-149</a> |
| U1512                 | 162              | HVAC CAN CIRC3         | F, H                         | <a href="#">DAS-150</a> |
| U1513                 | 163              | METER CAN CIRC 3       | A, B, C, D, E, F, G, H, I    | <a href="#">DAS-151</a> |
| U1514                 | 164              | STRG SEN CAN CIRC 3    | A, B, C, D, E, G, I, J       | <a href="#">DAS-152</a> |
| U1515                 | 165              | ICC SENSOR CAN CIRC 3  | A, C, D, E                   | <a href="#">DAS-153</a> |

# ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
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- F: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)
- J: Active trace control function

| DTC     |                  | CONSULT display           | Fail-safe  | Reference               |
|---------|------------------|---------------------------|------------|-------------------------|
| CONSULT | On board display |                           | System     |                         |
| U1516   | 166              | CAM CAN CIRC 3            | F, G, H    | <a href="#">DAS-154</a> |
| U1517   | 167              | APA CAN CIRC 3            | A, C, D, E | <a href="#">DAS-155</a> |
| U1518   | 168              | SIDE RDR L CAN CIRC 3     | G, H, I    | <a href="#">DAS-156</a> |
| U1519   | 169              | SIDE RDR R CAN CIRC 3     | G, H, I    | <a href="#">DAS-157</a> |
| U1521   | 177              | SONAR CAN COMMUNICATION 2 | I          | <a href="#">DAS-158</a> |
| U1522   | 178              | SONAR CAN COMMUNICATION 1 | I          | <a href="#">DAS-159</a> |
| U1523   | 179              | SONAR CAN COMMUNICATION 3 | I          | <a href="#">DAS-160</a> |
| U1524   | 180              | AVM CAN COMMUNICATION 1   | I          | <a href="#">DAS-161</a> |
| U1525   | 181              | AVM CAN COMMUNICATION 3   | I          | <a href="#">DAS-162</a> |
| U1530   | 183              | DR ASSIST BUZZER CAN CIR1 |            | <a href="#">DAS-163</a> |

**NOTE:**

With the detection of “U1000” some systems do not perform the fail-safe operation.

A system controlling based on a signal received from the control unit performs fail-safe operation when the communication with the ADAS control unit becomes inoperable.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

# ICC SENSOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## ICC SENSOR

### Reference Value

INFOID:0000000011471825

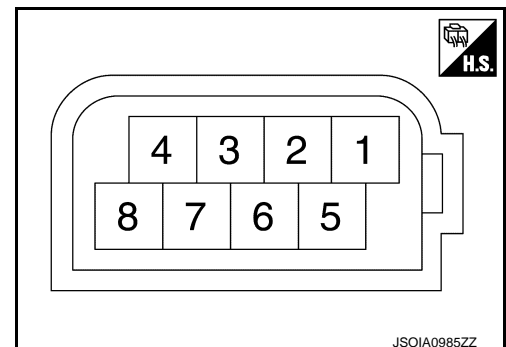
### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item     | Condition   |  | Value/Status                                     |
|------------------|---|--|--|
| VHCL SPEED SE    | While driving   |  | Value of vehicle speed signal (wheel speed)      |
| YAW RATE         | While driving   | Vehicle stopped  | 0.0  |
|                  |   | Vehicle turning right                                      | Positive value                                   |
|                  |   | Vehicle turning left                                       | Negative value                                   |
| PWR SUP MONI     | Ignition switch ON  |  | Power supply voltage value of ICC sensor         |
| DISTANCE         | Drive the vehicle and activate the vehicle-to-vehicle distance control mode | When a vehicle ahead is detected                           | Displays the distance from the preceding vehicle |
|                  |   | When a vehicle ahead is not detected                       | 0.0  |
| RELATIVE SPD     | Drive the vehicle and activate the vehicle-to-vehicle distance control mode | When a vehicle ahead is detected                           | Displays the relative speed                      |
|                  |   | When a vehicle ahead is not detected                       | 0.0  |
| RADAR OFFSET     | <b>NOTE:</b><br>The item is displayed, but not used                         |  | —  |
| RADAR HEIGHT     | <b>NOTE:</b><br>The item is displayed, but not used                         |  | —  |
| STEERING ANGLE   | Ignition switch ON  | When setting the steering wheel in straight-ahead position | 0.0  |
|                  |   | When turning the steering wheel 90° rightward              | +90  |
|                  |   | When turning the steering wheel 90° leftward               | -90  |
| STRG ANGLE SPEED | Ignition switch ON  | At the time of turning the steering wheel                  | Steering wheel turning speed is displayed        |
| L/R ADJUST       | Ignition switch ON  | At the completion of radar alignment adjustment            | Horizontal correction value is displayed         |
| U/D ADJUST       | Ignition switch ON  | At the completion of radar alignment adjustment            | Vertical correction value is displayed           |

### TERMINAL LAYOUT



## PHYSICAL VALUES

| Terminal No.<br>(Wire color) |        | Description           |                  | Condition          | Standard value | Reference value |
|------------------------------|--------|-----------------------|------------------|--------------------|----------------|-----------------|
| +                            | -      | Signal name           | Input/<br>Output |                    |                |                 |
| 1<br>(L/G)                   | Ground | Ignition power supply | Input            | Ignition switch ON | 10 - 16 V      | Battery voltage |
| 3<br>(L)                     |        | ITS communication-H   | —                | —                  | —              | —               |
| 6<br>(Y)                     |        | ITS communication-L   | —                | —                  | —              | —               |
| 8<br>(BY)                    |        | Ground                | —                | Ignition switch ON | 0 - 0.1 V      | Approx. 0 V     |

### Fail-safe (ICC Sensor)

INFOID:000000011471826

If a malfunction occurs in the ICC sensor, ADAS control unit cancels control, sounds a beep, and turns ON the ICC system warning lamp in the combination meter.

### DTC Inspection Priority Chart

INFOID:000000011471827

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

| Priority | Detected items (DTC)  |
|----------|---|
| 1        | <ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>  |
| 2        | <ul style="list-style-type: none"> <li>• C1A50: ADAS MALFUNCTION</li> </ul>   |
| 3        | <ul style="list-style-type: none"> <li>• C1A01: POWER SUPPLY CIR</li> <li>• C1A02: POWER SUPPLY CIR 2</li> <li>• C1A12: RADAR OFF-CENTER</li> <li>• C1A16: RADAR BLOCKED</li> <li>• C1A21: UNIT HIGH TEMP</li> <li>• C1A23: UNIT LOW TEMP</li> <li>• C1A39: STRG SEN CIR</li> <li>• U0104: ADAS CAN CIR1</li> <li>• U0121: VDC CAN CIR2</li> <li>• U0126: STRG SEN CAN CIR1</li> <li>• U0405: ADAS CAN CIR2</li> <li>• U0415: VDC CAN CIR1</li> <li>• U0428: STRG SEN CAN CIR2</li> </ul> |
| 4        | <ul style="list-style-type: none"> <li>• C1A00: CONTROL UNIT</li> </ul>   |

### DTC Index

INFOID:000000011471828

**NOTE:**

- The details of time display are as per the following.
- 0: The malfunctions that are detected now  
CAN communication system (U1000, U1010)
- 1 - 39: It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.  
Other than CAN communication system (Other than U1000, U1010)
- 1 - 49: It increases like 0 → 1 → 2 ... 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

×: Applicable



# ICC SENSOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| DTC   | CONSULT display    | Fail-safe                                |  |                               |   | Reference               |
|-------|--------------------|--|--|-------------------------------|---|-------------------------|
|       |                    | Vehicle-to-vehicle distance control mode | Conventional (fixed speed) cruise control mode | Distance Control Assist (DCA) | Forward Emergency Braking (FEB) / Predictive Forward Collision Warning (PFCW) |                         |
| C1A00 | CONTROL UNIT       | ×  | ×  | ×                             | ×   | <a href="#">CCS-98</a>  |
| C1A01 | POWER SUPPLY CIR   | ×  | ×  | ×                             | ×   | <a href="#">CCS-99</a>  |
| C1A02 | POWER SUPPLY CIR2  | ×  | ×  | ×                             | ×   | <a href="#">CCS-99</a>  |
| C1A12 | RADAR OFF-CENTER   | ×  |  | ×                             | ×   | <a href="#">CCS-100</a> |
| C1A16 | RADAR BLOCKED      | ×  |  | ×                             | ×   | <a href="#">CCS-101</a> |
| C1A21 | UNIT HIGH TEMP     | ×  | ×  | ×                             | ×   | <a href="#">CCS-103</a> |
| C1A23 | UNIT LOW TEMP      | ×  | ×  | ×                             | ×   | <a href="#">CCS-104</a> |
| C1A39 | STRG SEN CIR       | ×  | ×  | ×                             | ×   | <a href="#">CCS-105</a> |
| C1A50 | ADAS MALFUNCTION   | ×  | ×  | ×                             | ×   | <a href="#">CCS-106</a> |
| U0104 | ADAS CAN CIR1      | ×  | ×  | ×                             | ×   | <a href="#">CCS-107</a> |
| U0121 | VDC CAN CIR2       | ×  | ×  | ×                             | ×   | <a href="#">CCS-108</a> |
| U0126 | STRG SEN CAN CIR1  | ×  | ×  | ×                             | ×   | <a href="#">CCS-109</a> |
| U0405 | ADAS CAN CIR2      | ×  | ×  | ×                             | ×   | <a href="#">CCS-110</a> |
| U0415 | VDC CAN CIR1       | ×  | ×  | ×                             | ×   | <a href="#">CCS-111</a> |
| U0428 | STRG SEN CAN CIR2  | ×  | ×  | ×                             | ×   | <a href="#">CCS-112</a> |
| U1000 | CAN COMM CIRCUIT   | ×  | ×  | ×                             | ×   | <a href="#">CCS-113</a> |
| U1010 | CONTROL UNIT (CAN) | ×  | ×  | ×                             | ×   | <a href="#">CCS-114</a> |

# ACCELERATOR PEDAL ACTUATOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## ACCELERATOR PEDAL ACTUATOR

### Reference Value

INFOID:000000011436978

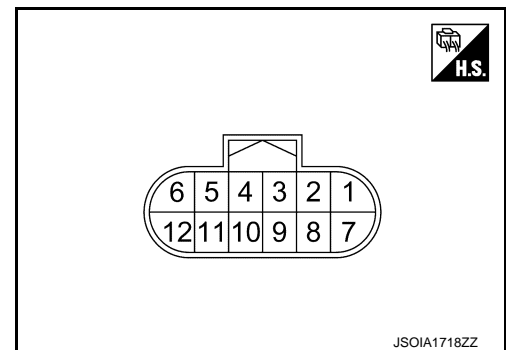
### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item  | Condition   |  | Value/Status   |
|---------------|---|--|--|
| TGT FBK FRC   | Drive the vehicle and operate the DCA system        | When the ADAS control unit is controlling the accelerator pedal actuator | It changes with the demand from the ADAS control unit                      |
| TGT MOT POSI  | <b>NOTE:</b><br>The item is displayed, but not used |  | —  |
| ACT MOT POSI  | Engine running                                      | Depress accelerator pedal  | It changes according to the depressed amount of accelerator pedal          |
| AP OPEN       | Engine running                                      | Depress accelerator pedal  | It changes according to the depressed amount of accelerator pedal          |
| APA TEMP      | Engine running                                      |  | Display the accelerator pedal actuator integrated motor temperature        |
| APA CURRENT   | Drive the vehicle and operate the DCA system        | When the ADAS control unit is controlling the accelerator pedal actuator | Display the accelerator pedal actuator motor operation consumption current |
| APA PWR       | Ignition switch ON                                  |  | Battery voltage  |
| APA OPE STATS | Engine running                                      | When the accelerator pedal actuator control is permitted                 | On   |
|               |   | When the accelerator pedal actuator control is invalid                   | Off  |
| APA STATS     | Engine running                                      | When the accelerator pedal actuator is normal                            | Ready  |
|               |   | When the accelerator pedal actuator is temporarily malfunctioning        | TP NG  |
|               |   | When the accelerator pedal actuator is malfunctioning                    | NG   |
|               |   | During the accelerator pedal actuator operation preparations             | Init   |

### TERMINAL LAYOUT



### PHYSICAL VALUES

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DAS

# ACCELERATOR PEDAL ACTUATOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Terminal No.<br>(Wire color) |          | Description           |                  | Condition           | Standard value<br>(Approx.) | Reference value |
|------------------------------|----------|-----------------------|------------------|---------------------|-----------------------------|-----------------|
| +                            | -        | Signal name           | Input/<br>Output |                     |                             |                 |
| 1<br>(O)                     | 7<br>(B) | Battery power supply  | Input            | Ignition switch OFF | 8 - 16 V                    | Battery voltage |
| 2<br>(R)                     |          | Ignition power supply | Input            | Ignition switch ON  | 8 - 16 V                    | Battery voltage |
| 3<br>(L)                     |          | ITS communication-H   | —                | —                   | —                           | —               |
| 7<br>(B)                     | Ground   | Ground                | —                | Ignition switch ON  | 0 - 0.1 V                   | 0 V             |
| 9<br>(Y)                     | 7<br>(B) | ITS communication-L   | —                | —                   | —                           | —               |

## DTC Inspection Priority Chart

INFOID:000000011436979

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

| Priority | Detected items (DTC)   |
|----------|--|
| 1        | <ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>   |
| 2        | <ul style="list-style-type: none"> <li>• C1F02: APA C/U MALF</li> </ul>  |
| 3        | <ul style="list-style-type: none"> <li>• C1F01: APA MOTOR MALF</li> <li>• C1F03: APA HI TEMP</li> <li>• C1F05: APA PWR SUPPLY CIR</li> <li>• C1F06: CAN CIR2</li> <li>• C1F07: CAN CIR1</li> </ul> |

## DTC Index

INFOID:000000011436980

### NOTE:

- The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past
- IGN counter is displayed in FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now
- 1 - 39: It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.

x: Applicable

| CONSULT display           | ICC system warning lamp | Fail-safe function | Reference               |
|---------------------------|-------------------------|--------------------|-------------------------|
| C1F01: APA MOTOR MALF     | ON                      | ×                  | <a href="#">DAS-321</a> |
| C1F02: APA C/U MALF       | ON                      | ×                  | <a href="#">DAS-322</a> |
| C1F03: APA HI TEMP        | —                       | —                  | <a href="#">DAS-323</a> |
| C1F05: APA PWR SUPPLY CIR | ON                      | ×                  | <a href="#">DAS-324</a> |
| C1F06: CAN CIR2           | ON                      | ×                  | <a href="#">DAS-325</a> |
| C1F07: CAN CIR1           | ON                      | ×                  | <a href="#">DAS-327</a> |
| U1000: CAN COMM CIRCUIT   | ON                      | ×                  | <a href="#">DAS-336</a> |
| U1010: CONTROL UNIT (CAN) | ON                      | ×                  | <a href="#">DAS-341</a> |



# LANE CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## LANE CAMERA UNIT

### Reference Value

INFOID:000000011436981

### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor Item    | Condition  | Value/Status                                    |
|-----------------|--|---|
| LC INACCURAT    | Lane camera unit malfunction                                 | On  |
|                 | Lane camera unit normal                                      | Off   |
| AIMING DONE     | Camera aiming is completed                                   | OK  |
|                 | Camera aiming is not adjusted                                | NG  |
| AIMING RESULT   | Camera aiming is completed                                   | OK  |
|                 | Camera aiming is not completed                               | NOK   |
| CAM HIGH TEMP   | When the temperature around the lane camera unit is adequate | NORMAL  |
|                 | When the temperature around the lane camera unit is high     | High  |
| VHCL SPD SE     | While driving  | Approximately equivalent to speedometer reading |
| TURN SIGNAL     | Turn signal lamp LH and RH blinking                          | LH/RH   |
|                 | Turn signal lamp LH blinking                                 | LH  |
|                 | Turn signal lamp RH blinking                                 | RH  |
|                 | Turn signal lamps OFF  | Off   |
| LANE DETCT LH   | Left side lane marker is detected                            | On  |
|                 | Left side lane marker is not detected                        | Off   |
| LANE DETCT RH   | Right side lane marker is detected                           | On  |
|                 | Right side lane marker is not detected                       | Off   |
| CROSS LANE LH   | The vehicle is crossing left side lane marker                | On  |
|                 | The vehicle is not crossing left side lane marker            | Off   |
| CROSS LANE RH   | The vehicle is crossing right side lane marker               | On  |
|                 | The vehicle is not crossing right side lane marker           | Off   |
| WARN LANE LH    | Warning for left side lane                                   | On  |
|                 | Not warning for left side lane                               | Off   |
| WARN LANE RH    | Warning for right side lane                                  | On  |
|                 | Not warning for right side lane                              | Off   |
| VALID POS LH    | Lateral position for left side lane marker is valid          | VLD   |
|                 | Lateral position for left side lane marker is invalid        | INVLD   |
| VALID POS RH    | Lateral position for right side lane marker is valid         | VLD   |
|                 | Lateral position for right side lane marker is invalid       | INVLD   |
| XOFFSET         | Camera aiming is completed                                   | Approx. 180 pixel                               |
| AIM CHECK YAW   | <b>NOTE:</b><br>The item is displayed, but not used          | —   |
| AIM CHECK ROLL  | <b>NOTE:</b><br>The item is displayed, but not used          | —   |
| AIM CHECK PITCH | <b>NOTE:</b><br>The item is displayed, but not used          | —   |

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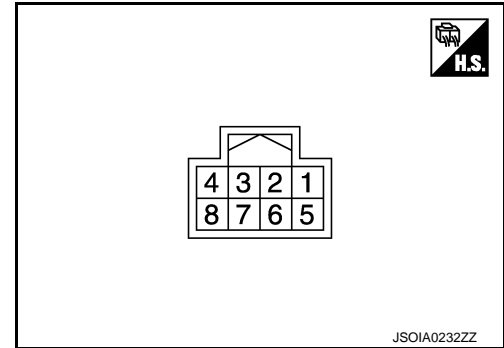
# LANE CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor Item  | Condition                      | Value/Status |
|---------------|--------------------------------|--------------|
| FCTRY AIM YAW | Camera aiming is not completed | 0.0 deg      |
|               | Camera aiming is completed     | 0 ± 5.0 deg  |
| FCTRY AIM ROL | Camera aiming is not completed | 0.0 deg      |
|               | Camera aiming is completed     | 0 ± 5.0 deg  |
| FCTRY AIM PIT | Camera aiming is not completed | 0.0 deg      |
|               | Camera aiming is completed     | 0 ± 5.0 deg  |
| ADAS MALF     | ADAS control unit malfunction  | On           |
|               | ADAS control unit normal       | Off          |

## TERMINAL LAYOUT



## PHYSICAL VALUES

| Terminal No.<br>(Wire color) |        | Description           |                  | Condition       | Standard value | Reference value |             |
|------------------------------|--------|-----------------------|------------------|-----------------|----------------|-----------------|-------------|
| +                            | -      | Signal name           | Input/<br>Output |                 |                |                 |             |
| 1<br>(B)                     | Ground | Ground                | —                | —               | 0 - 0.1 V      | Approx. 0 V     |             |
| 4<br>(L)                     |        | ITS communication-H   | —                | —               | —              | —               |             |
| 5<br>(B)                     |        | Ground                | —                | —               | —              | 0 - 0.1 V       | Approx. 0 V |
| 7<br>(G)                     |        | Ignition power supply | Input            | Ignition switch | 10 - 16 V      | Battery voltage |             |
| 8<br>(Y)                     |        | ITS communication-L   | —                | —               | —              | —               | —           |

## Fail-safe (Lane Camera Unit)

INFOID:000000011436982

### FAIL-SAFE CONTROL BY DTC

#### Lane Departure Warning (LDW)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, and turns ON the lane departure warning lamp in the combination meter.

#### Lane Departure Prevention (LDP)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, sounds a beep, and turns ON the lane departure warning lamp in the combination meter.

### TEMPORARY DISABLED STATUS AT HIGH TEMPERATURE

#### Lane Departure Warning (LDW)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the lane departure warning lamp (yellow) in the combination meter will blink.

# LANE CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

- When interior temperature is reduced, the system will resume operation automatically and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

## Lane Departure Prevention (LDP)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the buzzer sounds and lane departure warning lamp (yellow) in the combination meter will blink.
- When interior temperature is reduced, the system will resume when dynamic driver assistance switch is turned OFF and turned ON and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

## DTC Inspection Priority Chart

INFOID:0000000011436983

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

| Priority | Detected items (DTC)  |
|----------|---|
| 1        | <ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>  |
| 2        | C1A50: ADAS MALFUNCTION   |
| 3        | <ul style="list-style-type: none"> <li>• C1B01: CAM AIMING INCOMP</li> <li>• C1B03: ABNRML TEMP DETECT</li> <li>• U0104: ADAS CAN CIR1</li> <li>• U0126: STRG SEN CAN CIR1</li> <li>• U0405: ADAS CAN CIR2</li> <li>• U0428: STRG SEN CAN CIR2</li> </ul> |
| 4        | C1B00: CAMERA UNIT MALF   |

## DTC Index

INFOID:0000000011436984

×: Applicable

| DTC   | Lane departure warning lamp (yellow) | Fail-safe                                   |   | Reference               |
|-------|--------------------------------------|---|---|-------------------------|
|       |                                      | Blind Spot Warning/ Blind Spot Intervention |   |                         |
| C1A50 | ADAS MALFUNCTION                     | ON  | — | <a href="#">DAS-308</a> |
| C1B00 | CAMERA UNIT MALF                     | ON  | × | <a href="#">DAS-309</a> |
| C1B01 | CAM AIMING INCOMP                    | ON  | × | <a href="#">DAS-310</a> |
| C1B03 | ABNRML TEMP DETECT                   | Blink                                       | × | <a href="#">DAS-311</a> |
| U0104 | ADAS CAN CIR1                        | ON  | × | <a href="#">DAS-329</a> |
| U0126 | STRG SEN CAN CIR1                    | ON  | × | <a href="#">DAS-332</a> |
| U0405 | ADAS CAN CIR2                        | ON  | × | <a href="#">DAS-333</a> |
| U0428 | STRG SEN CAN CIR2                    | ON  | × | <a href="#">DAS-335</a> |
| U1000 | CAN COMM CIRCUIT                     | ON  | × | <a href="#">DAS-337</a> |
| U1010 | CONTROL UNIT (CAN)                   | ON  | × | <a href="#">DAS-341</a> |

DAS

SIDE RADAR LH

Reference Value

INFOID:000000011436985

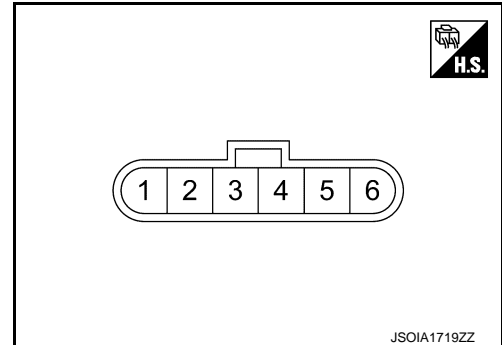
VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor Item    | Condition  | Value/Status |
|-----------------|--|--------------|
| BEAM DISTANCE   | <b>NOTE:</b><br>The item is displayed, but not used. | —            |
| BEAM POSITION   | <b>NOTE:</b><br>The item is displayed, but not used. | —            |
| SIDE RADAR MALF | Side radar is normal.                                | Off          |
|                 | Side radar is malfunctioning.                        | On           |
| BLOCKAGE COND   | Side radar is not blocked.                           | Off          |
|                 | Side radar is blocked.                               | On           |
| ACTIVATE OPE    | <b>NOTE:</b><br>The item is displayed, but not used. | —            |
| VEHICLE DETECT  | Radar does not detect a vehicle.                     | Off          |
|                 | Radar detects a vehicle.                             | On           |

TERMINAL LAYOUT



PHYSICAL VALUES

| Terminal No.<br>(Wire color) |        | Description  |              | Condition  | Standard value | Reference value |
|------------------------------|--------|--|--------------|--|----------------|-----------------|
| +                            | -      | Signal name  | Input/Output |  |                |                 |
| 2<br>(B/Y)                   | Ground | Ground   | —            | —  | 0 - 0.1 V      | Approx. 0 V     |
| 3<br>(Y)                     | —      | ITS communication-L                                  | —            | —  | —              | —               |
| 4<br>(L)                     | —      | ITS communication-H                                  | —            | —  | —              | —               |
| 5<br>(GR)                    | Ground | Ignition power supply                                | Input        | Ignition switch ON   | 10 - 16 V      | Approx. 12 V    |
| 6<br>(BR)                    | Ground | Blind Spot Warning/Blind Spot Intervention indicator | Output       | Approx. 2 sec. after ignition switch OFF ⇒ ON (bulb check) | 5.5 - 16 V     | Approx. 6 V     |

**Fail-safe (Side Radar)**

INFOID:000000011436986

**FAIL-SAFE CONTROL BY DTC**

**Blind Spot Warning (BSW)**

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

**Blind Spot Intervention**

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

**Back-up Collision Intervention (BCI)**

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the BCI malfunction indicator in the combination meter (information display).

**TEMPORARY DISABLED STATUS AT BLOCKAGE**

**Blind Spot Warning (BSW)**

When the side radar is blocked, the operation is temporarily cancelled. Then the Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

**Blind Spot Intervention**

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

**Back-up Collision Intervention (BCI)**

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and BCI not available indicator in combination meter indicates (information display). Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

**DTC Inspection Priority Chart**

INFOID:000000011436987

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

| Priority | Detected items (DTC)   |
|----------|--|
| 1        | <ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>   |
| 2        | <ul style="list-style-type: none"> <li>• U0104: ADAS CAN CIR 1</li> <li>• U0405: ADAS CAN CIR 2</li> </ul>   |
| 3        | C1B50: SIDE RDR MALFUNCTION  |
| 4        | <ul style="list-style-type: none"> <li>• C1B51: BSW/BSI IND SHORT CIR</li> <li>• C1B52: BSW/BSI IND OPEN CIR</li> <li>• C1B55: RADAR BLOCKAGE</li> </ul> |

# SIDE RADAR LH

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## DTC Index

INFOID:000000011436988

×: Applicable

| DTC   | Blind Spot Warning/Blind Spot Intervention warning lamp | BCI malfunction indicator | BC not available indicator | Fail-safe                                  |     | Reference page |                         |
|-------|---|---------------------------|----------------------------|--|-----|----------------|-------------------------|
|       |   |                           |                            | Blind Spot Warning/Blind Spot Intervention | BCI |                |                         |
| C1B50 | SIDE RDR MALFUNCTION                                    | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-314</a> |
| C1B51 | BSW/BSI IND SHORT CIR                                   | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-315</a> |
| C1B52 | BSW/BSI IND OPEN CIR                                    | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-317</a> |
| C1B55 | RADAR BLOCKAGE  | Blink                     | —                          | ON   | ×   | ×              | <a href="#">DAS-319</a> |
| U1000 | CAN COMM CIRCUIT  | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-338</a> |
| U1010 | CONTROL UNIT (CAN)                                      | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-342</a> |
| U0104 | ADAS CAN CIR1   | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-329</a> |
| U0405 | ADAS CAN CIR2   | ON                        | ON                         | —  | ×   | ×              | <a href="#">DAS-333</a> |

# SIDE RADAR RH

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## SIDE RADAR RH

### Reference Value

INFOID:000000011436989

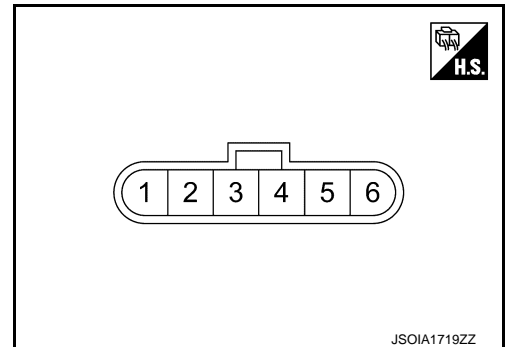
### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor Item    | Condition  | Value/Status |
|-----------------|--|--------------|
| BEAM DISTANCE   | <b>NOTE:</b><br>The item is displayed, but not used. | —            |
| BEAM POSITION   | <b>NOTE:</b><br>The item is displayed, but not used. | —            |
| SIDE RADAR MALF | Side radar is normal.                                | Off          |
|                 | Side radar is malfunctioning.                        | On           |
| BLOCKAGE COND   | Side radar is not blocked.                           | Off          |
|                 | Side radar is blocked.                               | On           |
| ACTIVATE OPE    | <b>NOTE:</b><br>The item is displayed, but not used. | —            |
| VEHICLE DETECT  | Radar does not detect a vehicle.                     | Off          |
|                 | Radar detects a vehicle.                             | On           |

### TERMINAL LAYOUT



### PHYSICAL VALUES

| Terminal No.<br>(Wire color) |        | Description  |              | Condition  | Standard value | Reference value |
|------------------------------|--------|--|--------------|--|----------------|-----------------|
| +                            | -      | Signal name  | Input/Output |  |                |                 |
| 1<br>(B/R)                   | Ground | Right/Left switching signal                          | Input        | —  | 0 - 0.1 V      | Approx. 0 V     |
| 2<br>(B/R)                   | Ground | Ground   | —            | —  | 0 - 0.1 V      | Approx. 0 V     |
| 3<br>(Y)                     | —      | ITS communication-L                                  | —            | —  | —              | —               |
| 4<br>(L)                     | —      | ITS communication-H                                  | —            | —  | —              | —               |
| 5<br>(G)                     | Ground | Ignition power supply                                | Input        | Ignition switch ON   | 10 - 16 V      | Approx. 12 V    |
| 6<br>(BR)                    | Ground | Blind Spot Warning/Blind Spot Intervention indicator | Output       | Approx. 2 sec. after ignition switch OFF ⇒ ON (bulb check) | 5.5 - 16 V     | Approx. 6 V     |

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DAS

**Fail-safe (Side Radar)**

INFOID:000000011471834

**FAIL-SAFE CONTROL BY DTC**

**Blind Spot Warning (BSW)**

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

**Blind Spot Intervention**

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

**Back-up Collision Intervention (BCI)**

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the BCI malfunction indicator in the combination meter (information display).

**TEMPORARY DISABLED STATUS AT BLOCKAGE**

**Blind Spot Warning (BSW)**

When the side radar is blocked, the operation is temporarily cancelled. Then the Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

**Blind Spot Intervention**

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

**Back-up Collision Intervention (BCI)**

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and BCI not available indicator in combination meter indicates (information display). Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

**DTC Inspection Priority Chart**

INFOID:000000011471835

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

| Priority | Detected items (DTC)   |
|----------|--|
| 1        | <ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>   |
| 2        | <ul style="list-style-type: none"> <li>• U0104: ADAS CAN CIR 1</li> <li>• U0405: ADAS CAN CIR 2</li> </ul>   |
| 3        | C1B50: SIDE RDR MALFUNCTION  |
| 4        | <ul style="list-style-type: none"> <li>• C1B51: BSW/BSI IND SHORT CIR</li> <li>• C1B52: BSW/BSI IND OPEN CIR</li> <li>• C1B55: RADAR BLOCKAGE</li> </ul> |



# SIDE RADAR RH

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## DTC Index

INFOID:000000011471836

×: Applicable

| DTC   |                       | Blind Spot Warning/Blind Spot Intervention warning lamp | BCI malfunction indicator | BC not available indicator | Fail-safe                                  |     | Reference page          |
|-------|-----------------------|---|---------------------------|----------------------------|--|-----|-------------------------|
|       |                       |   |                           |                            | Blind Spot Warning/Blind Spot Intervention | BCI |                         |
| C1B50 | SIDE RDR MALFUNCTION  | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-314</a> |
| C1B51 | BSW/BSI IND SHORT CIR | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-315</a> |
| C1B52 | BSW/BSI IND OPEN CIR  | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-317</a> |
| C1B55 | RADAR BLOCKAGE        | Blink   | —                         | ON                         | ×  | ×   | <a href="#">DAS-319</a> |
| U1000 | CAN COMM CIRCUIT      | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-339</a> |
| U1010 | CONTROL UNIT (CAN)    | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-343</a> |
| U0104 | ADAS CAN CIR1         | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-329</a> |
| U0405 | ADAS CAN CIR2         | ON  | ON                        | —                          | ×  | ×   | <a href="#">DAS-333</a> |

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# DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE BUZZER CONTROL MODULE

### Reference Value

INFOID:000000011436993

### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item            | Condition                                 |   | Value/Status                                       |
|-------------------------|---|---|--|
| Buzzer 1 request (ADAS) | Drive the vehicle and operate each system | Except for the LDW/LDP/Blind Spot Warning/Blind Spot Intervention warning condition | Off  |
|                         |   | When the LDW warning condition  | TYPE 1   |
|                         |   | When the BSW warning condition  | TYPE 2   |
|                         |   | When the Blind Spot Intervention warning condition                                  | TYPE 3   |
|                         |   | When the warning condition cancel   | Cancel   |
| Buzzer 1 volume (ADAS)  | Ignition switch ON                        | When the buzzer sound   | It changes according to the sound volume of buzzer |
| Buzzer 1 stop (ADAS)    | Ignition switch ON                        | When the buzzer cancel immediate  | IMEDIAT  |
|                         |   | When the buzzer cancel other than above   | CYCLE  |
| Buzzer 2 request (ADAS) | Drive the vehicle and operate each system | Except for the ICC/PFCW/DCA warning condition                                       | Off  |
|                         |   | When the approach warning condition   | TYPE 1   |
|                         |   | When the PFCW warning condition   | TYPE 2   |
|                         |   | When the DCA condition  | TYPE 3   |
|                         |   | When the warning condition cancel   | Cancel   |
| Buzzer 2 volume (ADAS)  | Ignition switch ON                        | When the buzzer sound   | It changes according to the sound volume of buzzer |
| Buzzer 2 stop (ADAS)    | Ignition switch ON                        | When the buzzer cancel immediate  | IMEDIAT  |
|                         |   | When the buzzer cancel other than above   | CYCLE  |
| Buzzer 3 request (ADAS) | Drive the vehicle and operate each system | Except for the FEB warning condition  | Off  |
|                         |   | When the FEB warning condition  | TYPE 1   |
|                         |   | When the warning condition cancel   | Cancel   |
| Buzzer 3 volume (ADAS)  | Ignition switch ON                        | When the buzzer sound   | It changes according to the sound volume of buzzer |
| Buzzer 3 stop (ADAS)    | Ignition switch ON                        | When the buzzer cancel immediate  | IMEDIAT  |
|                         |   | When the buzzer cancel other than above   | CYCLE  |
| Buzzer 4 request (ADAS) | Drive the vehicle and operate each system | Except for the PFCW warning condition   | Off  |
|                         |   | When the PFCW warning condition   | TYPE 1   |
|                         |   | When the warning condition cancel   | Cancel   |
| Buzzer 4 volume (ADAS)  | Ignition switch ON                        | When the buzzer sound   | It changes according to the sound volume of buzzer |
| Buzzer 4 stop (ADAS)    | Ignition switch ON                        | When the buzzer cancel immediate  | IMEDIAT  |
|                         |   | When the buzzer cancel other than above   | CYCLE  |

# DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

| Monitor item                    | Condition                                 |  | Value/Status |
|---------------------------------|---|--|--------------|
| Buzzer 1 request (CCM)          | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 1 volume (CCM)           | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 1 stop (CCM)             | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 2 request (CCM)          | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 2 volume (CCM)           | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 2 stop (CCM)             | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 3 request (CCM)          | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 3 volume (CCM)           | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 3 stop (CCM)             | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 4 request (CCM)          | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 4 volume (CCM)           | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| Buzzer 4 stop (CCM)             | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| ADAS MALFUNCTION                | Ignition switch ON                        | When the ADAS control unit malfunction   | On           |
|                                 |   | When the ADAS control unit normal  | Off          |
| CCM MALFUNCTION                 | —   | <b>NOTE:</b><br>The item is displayed, but not used  | —            |
| DR ASSIST BUZZ MALF             | Ignition switch ON                        | When the driver assistance control module malfunction                                      | On           |
|                                 |   | When the driver assistance control module normal   | Off          |
| DR ASSIST BUZZ STATUS           | Drive the vehicle and operate each system | Except for the warning condition   | Off          |
|                                 |   | LDW/LDP/Blind Spot Warning/Blind Spot Intervention system warning in progress              | 1            |
|                                 |   | ICC/PFCW/DCA system warning in progress  | 2            |
|                                 |   | FEB system warning in progress   | 3            |
|                                 |   | LDW/LDP/Blind Spot Warning/Blind Spot Intervention/ICC/PFCW/DCA system warning in progress | 1, 2         |
|                                 |   | ICC/PFCW/DCA system warning in progress.   | 2, 4         |
|                                 |   | LDW/LDP//Blind Spot Warning/Blind Spot Intervention/PFCW system warning in progress        | 1, 4         |
| PFCW system warning in progress | 4   |  |              |

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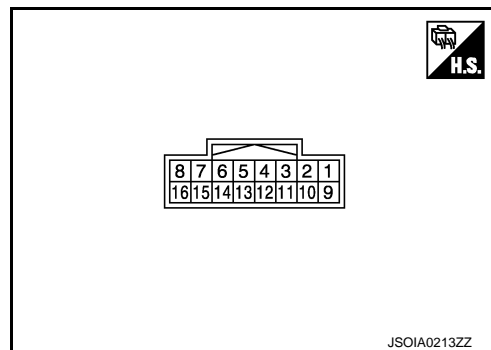
DAS

# DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## TERMINAL LAYOUT



## PHYSICAL VALUES

| Terminal No.<br>(Wire color) |            | Description                     |                  | Condition             |  | Standard value  | Reference value |
|------------------------------|------------|---------------------------------|------------------|-----------------------|--|---|-----------------|
| +                            | -          | Signal name                     | Input/<br>Output |                       |  |   |                 |
| 1<br>(G)                     | 5<br>(B/R) | Ignition power supply           | Input            | Ignition<br>switch ON | —                                      | 10 - 16V  | Battery voltage |
| 3<br>(L)                     | —          | ITS communication-H             | —                | —                     | —                                      | —   | —               |
| 5<br>(B/R)                   | Ground     | Ground                          | —                | Ignition<br>switch ON | —                                      | 0 - 0.1 V   | Approx. 0 V     |
| 8<br>(R)                     | 16<br>(G)  | Warning buzzer signal           | Output           | Ignition<br>switch ON | Driver assistance<br>buzzer OFF        | 0 - 0.1 V   | Approx. 0 V     |
|                              |            |                                 |                  |                       | At "BUZZER 1" test of<br>"Active test" | <p style="text-align: right; font-size: x-small;">JSOIA0949ZZ</p> |                 |
|                              |            |                                 |                  |                       | At "BUZZER 2" test of<br>"Active test" | <p style="text-align: right; font-size: x-small;">JSOIA0950ZZ</p> |                 |
|                              |            |                                 |                  |                       | At "BUZZER 3" test of<br>"Active test" | <p style="text-align: right; font-size: x-small;">JSOIA0951ZZ</p> |                 |
| 11<br>(Y)                    | —          | ITS communication-L             | —                | —                     | —                                      | —   | —               |
| 13<br>(B/R)                  | Ground     | Ground                          | —                | Ignition<br>switch ON | —                                      | 0 - 0.1 V   | Approx. 0 V     |
| 16<br>(G)                    | 5<br>(B/R) | Warning buzzer signal<br>ground | Output           | Ignition<br>switch ON | —                                      | 0 - 0.1 V   | Approx. 0 V     |

# DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

## DTC Inspection Priority Chart

INFOID:000000011436994

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

| Priority | Detected items (DTC)  |
|----------|---|
| 1        | <ul style="list-style-type: none"><li>U1000: CAN COMM CIRCUIT</li><li>U1010: CONTROL UNIT (CAN)</li></ul> |
| 2        | <ul style="list-style-type: none"><li>U0104: ADAS CAN CIR2</li></ul>                                      |
| 3        | <ul style="list-style-type: none"><li>C1B20: CONTROL MODULE</li></ul>                                     |

## DTC Index

INFOID:000000011436995

### NOTE:

- The details of time display are as per the following.
  - CRNT: A malfunction is detected now
  - PAST: A malfunction was detected in the past
- IGN counter is displayed in FFD (Freeze Frame Data).
  - 0: The malfunctions that are detected now
  - 1 - 39: It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
  - If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.

×: Applicable

| CONSULT display |                    | Reference               |
|-----------------|--------------------|-------------------------|
| C1B20           | CONTROL MODULE     | <a href="#">DAS-312</a> |
| U0104           | ADAS CAN CIR2      | <a href="#">DAS-330</a> |
| U1000           | CAN COMM CIRCUIT   | <a href="#">DAS-339</a> |
| U1010           | CONTROL UNIT (CAN) | <a href="#">DAS-344</a> |

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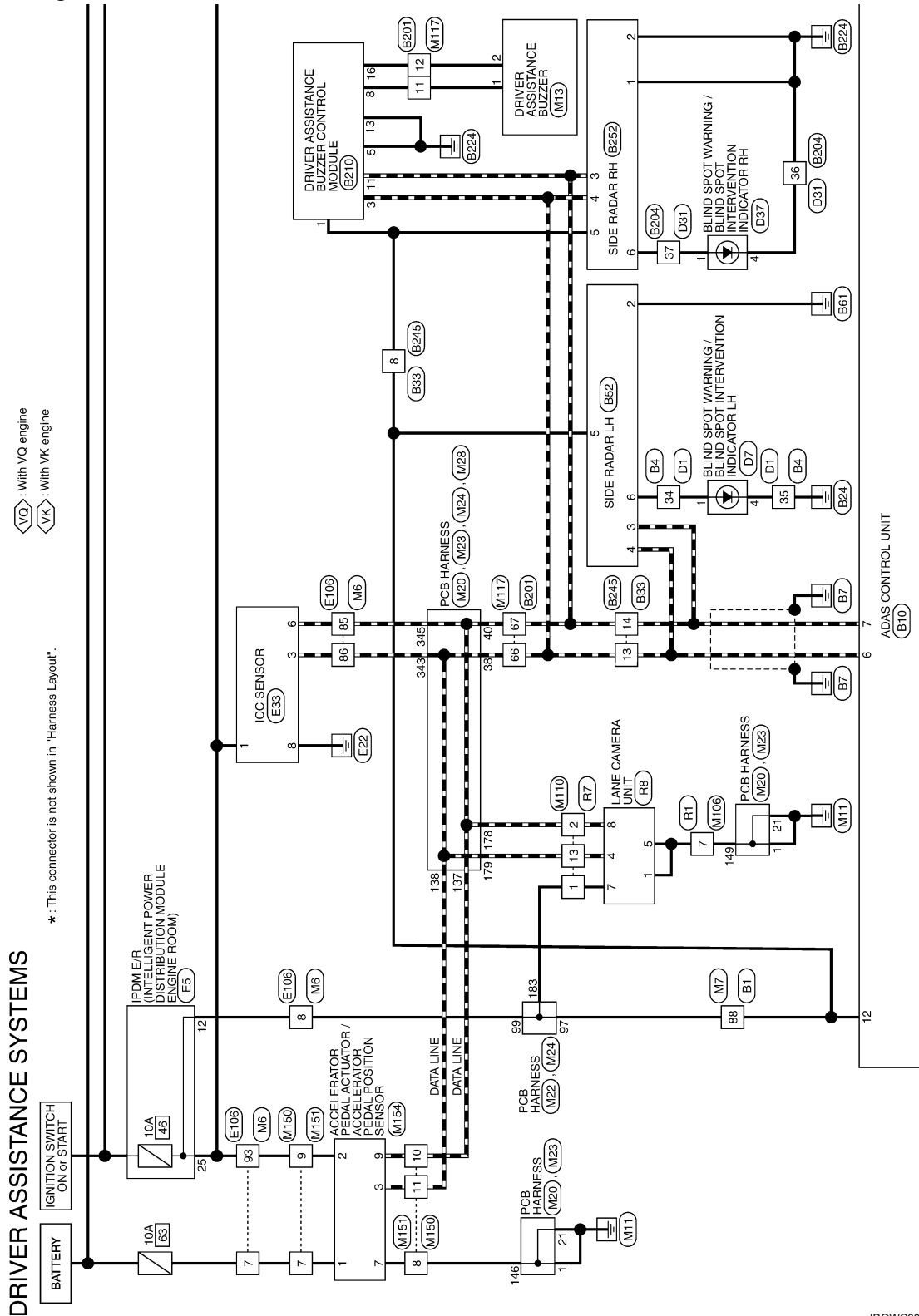
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# WIRING DIAGRAM

## DRIVER ASSISTANCE SYSTEMS

### Wiring Diagram

INFOID:000000011436996



### DRIVER ASSISTANCE SYSTEMS

: With VO engine  
 : With VK engine

\*: This connector is not shown in "Harness Layout".

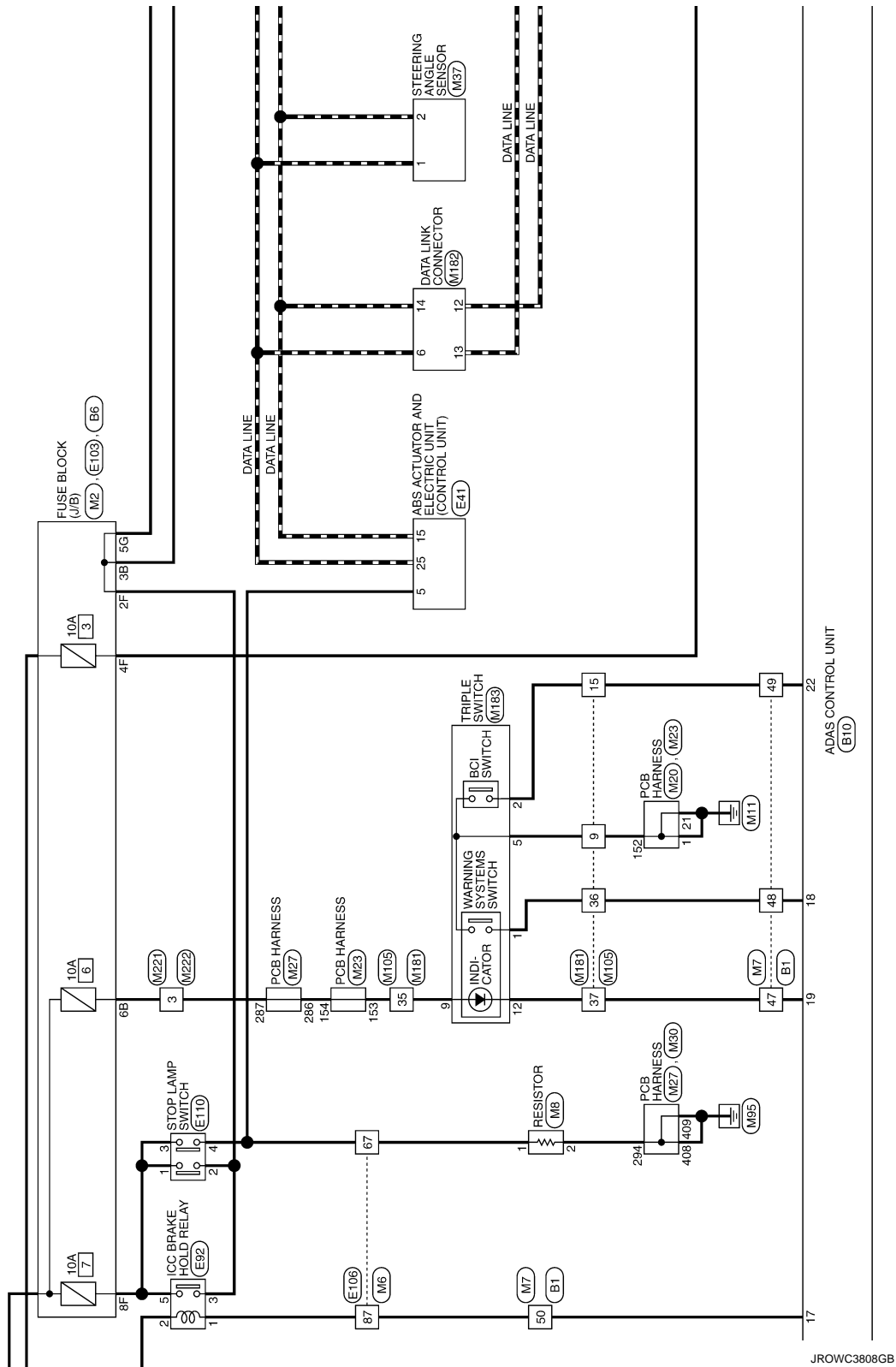
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JROWC3807GB

# DRIVER ASSISTANCE SYSTEMS

## [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >



JROWC3808GB

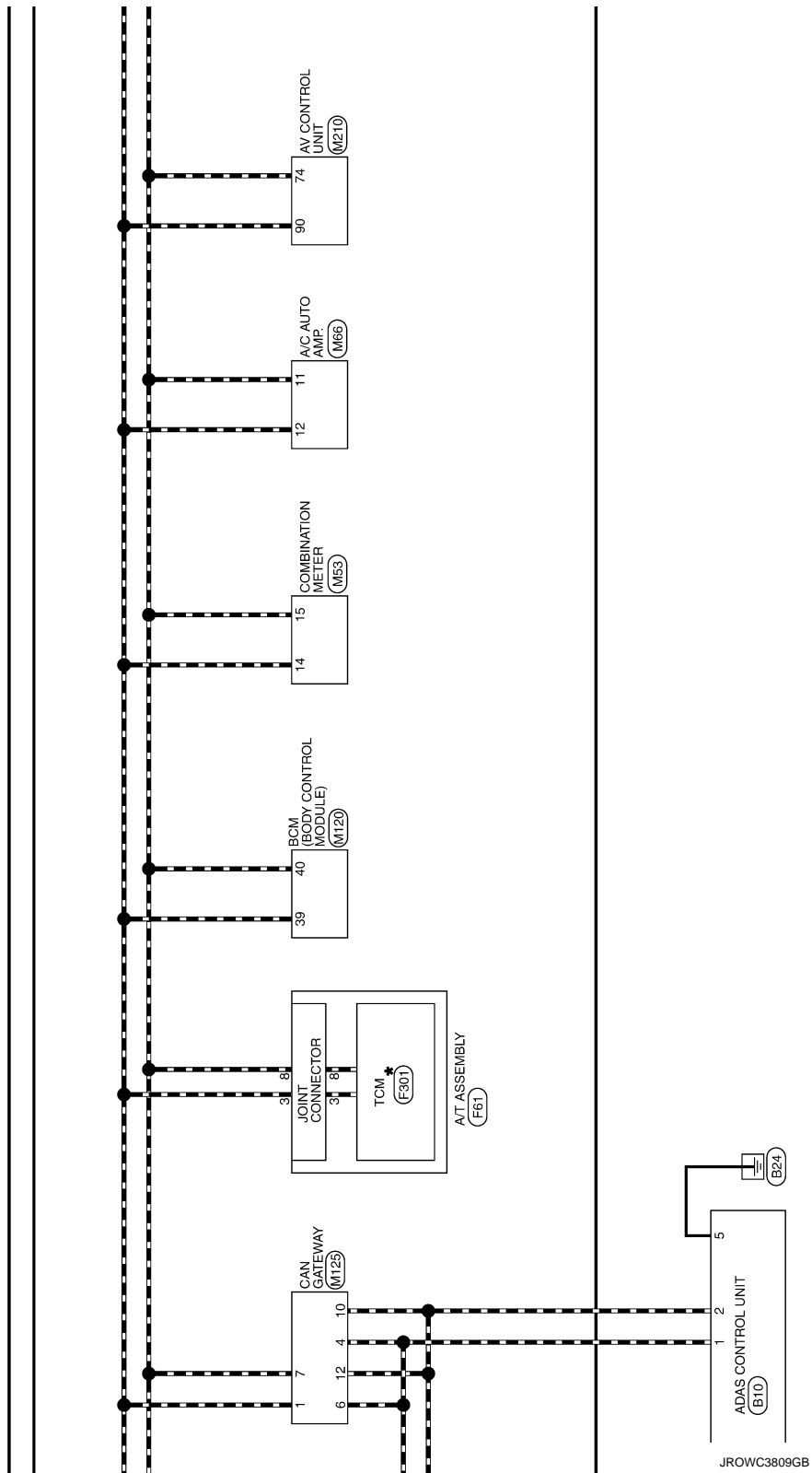
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# DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

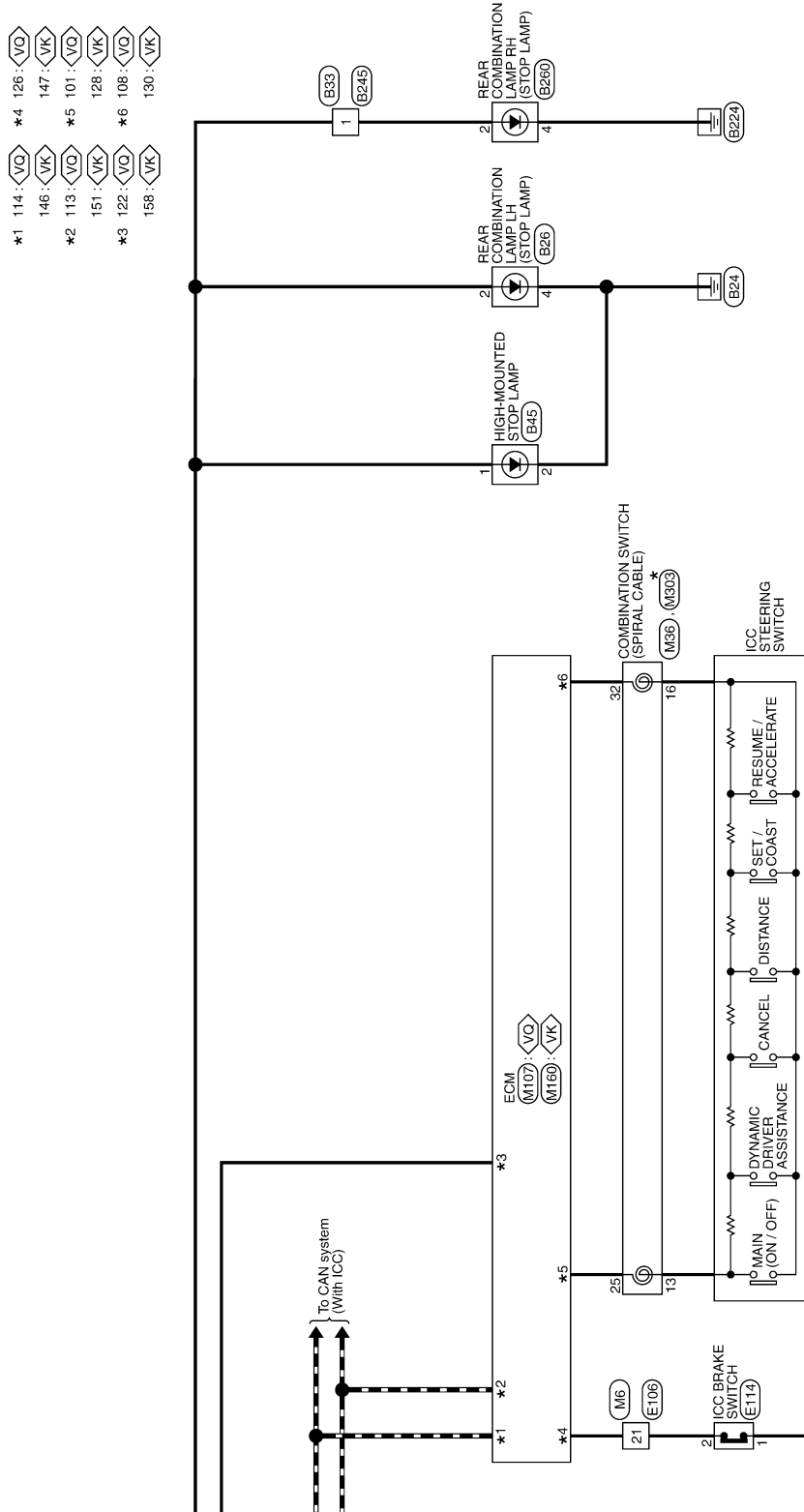




# DRIVER ASSISTANCE SYSTEMS

## [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >



JROWC3810GB

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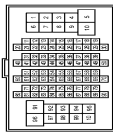
# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE SYSTEMS

|                |                 |
|----------------|-----------------|
| Connector No.  | B1              |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH80FW-CS16-TM4 |

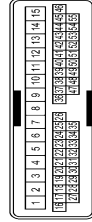


| Terminal No. | Color Of Wire | Signal Name [Specification]      |
|--------------|---------------|----------------------------------|
| 1            | R             | -                                |
| 2            | W             | -                                |
| 4            | LG            | -                                |
| 5            | P             | -                                |
| 7            | GR            | -                                |
| 8            | Y             | -                                |
| 9            | LG            | -                                |
| 10           | V             | -                                |
| 11           | GR            | - [With climate controlled seat] |
| 11           | L             | - [With heated seat]             |
| 12           | GR            | - [With heated seat]             |
| 12           | P             | - [With climate controlled seat] |
| 13           | BR            | -                                |
| 14           | R             | -                                |
| 15           | O             | -                                |
| 16           | V             | -                                |
| 17           | B             | -                                |
| 18           | R             | -                                |
| 19           | W             | -                                |
| 20           | L             | -                                |
| 21           | B             | -                                |
| 22           | LG            | -                                |
| 23           | V             | -                                |
| 24           | Y             | -                                |
| 25           | G             | -                                |
| 26           | GR            | -                                |
| 27           | SB            | -                                |
| 28           | L/O           | -                                |
| 29           | W/L           | -                                |
| 30           | SHIELD        | -                                |
| 32           | L             | -                                |
| 33           | R             | -                                |
| 34           | C             | -                                |
| 35           | SHIELD        | -                                |
| 36           | G             | -                                |

|    |        |   |
|----|--------|---|
| 37 | SB     | - |
| 40 | SHIELD | - |
| 41 | GR/V   | - |
| 42 | W/L    | - |
| 43 | L      | - |
| 44 | B      | - |
| 45 | V      | - |
| 46 | P      | - |
| 47 | O      | - |
| 48 | Y      | - |
| 49 | BR     | - |
| 50 | SB     | - |
| 51 | V      | - |
| 52 | LG     | - |
| 53 | G      | - |
| 55 | G      | - |
| 56 | P      | - |
| 57 | BR     | - |
| 58 | LG     | - |
| 59 | Y      | - |
| 60 | W      | - |
| 61 | B      | - |
| 62 | LG     | - |
| 63 | V      | - |
| 65 | O      | - |
| 66 | BR     | - |
| 67 | V      | - |
| 68 | LG     | - |
| 69 | GR     | - |
| 70 | R      | - |
| 72 | L      | - |
| 73 | P      | - |
| 74 | L      | - |
| 75 | P      | - |
| 76 | Y      | - |
| 77 | R      | - |
| 78 | W      | - |
| 79 | G      | - |
| 81 | LG     | - |
| 82 | BR     | - |
| 83 | SB     | - |
| 84 | Y      | - |
| 85 | W      | - |
| 86 | R      | - |
| 87 | G      | - |
| 88 | GR     | - |
| 91 | SB     | - |
| 92 | G      | - |
| 96 | Y      | - |

|    |    |   |
|----|----|---|
| 97 | O  | - |
| 98 | SB | - |
| 99 | LG | - |

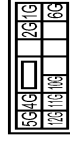
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|----------------|--------------|
| Connector No.  | B4           |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40MW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | GR            | -                           |
| 3            | B             | -                           |
| 4            | L             | -                           |
| 5            | BRW           | -                           |
| 6            | L             | -                           |
| 7            | R             | -                           |
| 8            | B             | -                           |
| 9            | W             | -                           |
| 10           | LG            | -                           |
| 11           | P             | -                           |
| 12           | GR            | -                           |
| 13           | BRW           | -                           |
| 14           | SB            | -                           |
| 15           | O             | -                           |
| 16           | G             | -                           |
| 17           | Y             | -                           |
| 18           | BR            | -                           |
| 19           | GR            | -                           |
| 20           | O             | -                           |
| 21           | LG            | -                           |
| 22           | L             | -                           |
| 23           | SB            | -                           |
| 24           | V             | -                           |
| 25           | W/L           | -                           |
| 26           | L/O           | -                           |
| 27           | V             | -                           |
| 28           | W             | -                           |
| 29           | SB            | -                           |
| 30           | L             | -                           |

|    |        |   |
|----|--------|---|
| 31 | LG     | - |
| 32 | O      | - |
| 33 | V      | - |
| 34 | BR     | - |
| 35 | BR     | - |
| 36 | P      | - |
| 37 | BR     | - |
| 38 | W      | - |
| 39 | O      | - |
| 40 | L      | - |
| 41 | W      | - |
| 42 | B      | - |
| 43 | R      | - |
| 44 | G      | - |
| 45 | Y      | - |
| 46 | V      | - |
| 47 | SB     | - |
| 48 | GR     | - |
| 49 | LG     | - |
| 50 | B      | - |
| 51 | G      | - |
| 52 | R      | - |
| 53 | B      | - |
| 54 | V      | - |
| 55 | SHIELD | - |

|                |                  |
|----------------|------------------|
| Connector No.  | B6               |
| Connector Name | FUSE BLOCK (JIB) |
| Connector Type | INS12FBRCS       |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 10G          | W             | -                           |
| 11G          | W             | -                           |
| 12G          | GR            | -                           |
| 1G           | GR            | -                           |
| 2G           | GR            | -                           |
| 4G           | L             | -                           |
| 6G           | PL            | -                           |
| 6G           | G             | -                           |

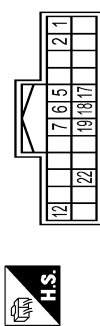
# DRIVER ASSISTANCE SYSTEMS

## [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

### DRIVER ASSISTANCE SYSTEMS

|                |                   |
|----------------|-------------------|
| Connector No.  | B10               |
| Connector Name | ADAS CONTROL UNIT |
| Connector Type | TH24FMV-NH        |



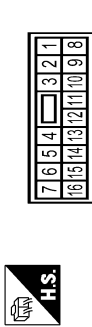
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | CANH                        |
| 2            | R             | CANL                        |
| 3            | B/R           | GROUND                      |
| 4            | L             | ITS COM+H                   |
| 5            | P             | ITS COM+L                   |
| 6            | GR            | IGNITION                    |
| 7            | SB            | BRAKE HOLD RLY DRIVE SIGNAL |
| 8            | Y             | WARNING SYSTEMS SW          |
| 9            | O             | WARNING SYSTEMS ON/IND      |
| 10           | BR            | BCI SW                      |

|                |                                      |
|----------------|--------------------------------------|
| Connector No.  | B26                                  |
| Connector Name | REAR COMBINATION LAMP LH (BODY SIDE) |
| Connector Type | NS44MV-CS                            |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | -                           |
| 2            | P             | -                           |
| 3            | GR            | -                           |
| 4            | B/R           | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | B33          |
| Connector Name | WIPE TO WIRE |
| Connector Type | NS18FGY-CS   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | P             | -                           |
| 2            | O             | -                           |
| 3            | G             | -                           |
| 4            | G             | -                           |
| 5            | GR            | -                           |
| 6            | GR            | -                           |
| 7            | O             | -                           |
| 8            | P             | -                           |
| 9            | R/L           | -                           |
| 10           | P/L           | -                           |
| 11           | L             | -                           |
| 12           | Y             | -                           |
| 13           | SHIELD        | -                           |

|                |                        |
|----------------|------------------------|
| Connector No.  | B45                    |
| Connector Name | HIGH-MOUNTED STOP LAMP |
| Connector Type | TKG2MBR-P              |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | P             | -                           |
| 2            | B/R           | -                           |

|                |               |
|----------------|---------------|
| Connector No.  | B52           |
| Connector Name | SIDE PADAR LH |
| Connector Type | AAQ3FEB-WP-5P |



| Terminal No. | Color Of Wire | Signal Name [Specification]                  |
|--------------|---------------|--|
| 1            | B/Y           | GROUND                                       |
| 2            | Y             | ITS COM+L                                    |
| 3            | L             | ITS COM+H                                    |
| 4            | GR            | IGNITION                                     |
| 5            | BR            | BLU SPOT WARMING/SPOT INTERVENTION INDICATOR |

|                |                 |
|----------------|-----------------|
| Connector No.  | B201            |
| Connector Name | WIPE TO WIRE    |
| Connector Type | TH60MW-CS16-TM4 |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | -                           |
| 2            | R             | -                           |
| 3            | R             | -                           |
| 4            | W             | -                           |
| 5            | W             | -                           |
| 6            | V             | -                           |
| 7            | W             | -                           |
| 8            | V             | -                           |
| 9            | R             | -                           |
| 10           | R             | -                           |
| 11           | G             | -                           |
| 12           | G             | -                           |
| 13           | Y             | -                           |
| 14           | L             | -                           |
| 15           | R             | -                           |
| 16           | Y             | -                           |
| 17           | GR            | -                           |
| 18           | P             | -                           |
| 19           | BR            | -                           |
| 20           | GR            | -                           |

|    |        |   |
|----|--------|---|
| 21 | Y      | - |
| 22 | GR     | - |
| 23 | R      | - |
| 24 | V      | - |
| 25 | B      | - |
| 26 | W      | - |
| 27 | V      | - |
| 28 | V      | - |
| 29 | P      | - |
| 30 | O      | - |
| 31 | B/R    | - |
| 32 | Y      | - |
| 33 | SHIELD | - |
| 34 | W/R    | - |
| 35 | V      | - |
| 36 | SB     | - |
| 37 | R      | - |
| 38 | R      | - |
| 39 | Y      | - |
| 40 | G      | - |
| 41 | GR     | - |
| 42 | GR     | - |
| 43 | V      | - |
| 44 | O      | - |
| 45 | R      | - |
| 46 | LG     | - |
| 47 | LG     | - |
| 48 | P      | - |
| 49 | P      | - |
| 50 | W      | - |
| 51 | O      | - |
| 52 | Y      | - |
| 53 | SB     | - |
| 54 | L      | - |
| 55 | W      | - |
| 56 | W      | - |
| 57 | W      | - |
| 58 | O      | - |
| 59 | Y      | - |
| 60 | Y      | - |
| 61 | SB     | - |
| 62 | L      | - |
| 63 | W      | - |
| 64 | SB     | - |
| 65 | LG     | - |
| 66 | L      | - |
| 67 | Y      | - |
| 68 | SB     | - |
| 69 | B      | - |
| 70 | B      | - |
| 71 | L      | - |
| 72 | L      | - |
| 73 | R      | - |
| 74 | B      | - |
| 75 | L      | - |
| 76 | SHIELD | - |
| 77 | G      | - |
| 78 | R      | - |
| 79 | P      | - |
| 80 | G      | - |
| 81 | O      | - |
| 82 | BR     | - |

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JROWC3872GB

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

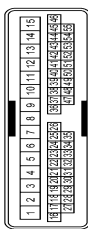
[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE SYSTEMS

|     |    |   |   |
|-----|----|---|---|
| 83  | GR | - | - |
| 84  | V  | - | - |
| 85  | LG | - | - |
| 86  | W  | - | - |
| 87  | O  | - | - |
| 88  | Y  | - | - |
| 89  | BR | - | - |
| 90  | L  | - | - |
| 91  | BR | - | - |
| 93  | O  | - | - |
| 94  | GR | - | - |
| 96  | W  | - | - |
| 97  | P  | - | - |
| 98  | LG | - | - |
| 99  | LG | - | - |
| 100 | Y  | - | - |

- [With heated seat]  
- [With climate controlled seat]

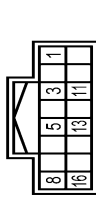
|                |              |
|----------------|--------------|
| Connector No.  | B204         |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40MW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | B/W           | -                           |
| 3            | B/W           | -                           |
| 5            | Y             | -                           |
| 9            | R             | -                           |
| 10           | P             | -                           |
| 11           | V             | -                           |
| 12           | Y             | -                           |
| 13           | BR            | -                           |
| 14           | LG            | -                           |
| 15           | GR            | -                           |
| 16           | G             | -                           |
| 17           | O             | -                           |
| 18           | BR            | -                           |
| 19           | GR            | -                           |
| 20           | V             | -                           |
| 21           | LG            | -                           |
| 22           | W             | -                           |

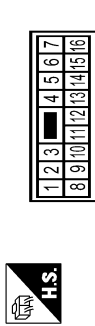
|    |        |   |   |
|----|--------|---|---|
| 23 | O      | - | - |
| 24 | Y      | - | - |
| 25 | BR     | - | - |
| 26 | L      | - | - |
| 27 | W      | - | - |
| 28 | B      | - | - |
| 29 | R      | - | - |
| 30 | SHIELD | - | - |
| 31 | G      | - | - |
| 32 | G      | - | - |
| 33 | R      | - | - |
| 35 | P      | - | - |
| 36 | B/R    | - | - |
| 37 | BR     | - | - |
| 38 | SB     | - | - |
| 39 | P      | - | - |
| 44 | SB     | - | - |
| 46 | B      | - | - |
| 53 | L      | - | - |
| 54 | B      | - | - |
| 55 | V      | - | - |

|                |   |
|----------------|---|
| Connector No.  | B210                                    |
| Connector Name | DRIVER ASSISTANCE BUZZER CONTROL MODULE |
| Connector Type | TH16FW-NH                               |



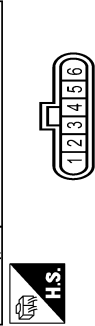
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | IGNITION                    |
| 3            | L             | ITS COMM-H                  |
| 5            | B/R           | GROUND                      |
| 6            | R             | SPEAKER OUT(+)              |
| 11           | Y             | ITS COMM-L                  |
| 13           | B/R           | GROUND                      |
| 16           | G             | SPEAKER OUT(-)              |

|                |              |
|----------------|--------------|
| Connector No.  | B245         |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS18MGY-CS   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | P             | -                           |
| 2            | O             | -                           |
| 3            | Y             | -                           |
| 6            | G             | -                           |
| 8            | G             | -                           |
| 9            | V             | -                           |
| 10           | P             | -                           |
| 11           | R/L           | -                           |
| 12           | P/L           | -                           |
| 13           | L             | -                           |
| 14           | Y             | -                           |
| 15           | SHIELD        | -                           |

|                |               |
|----------------|---------------|
| Connector No.  | B252          |
| Connector Name | SIDE RADAR RH |
| Connector Type | AA009FB-WP    |



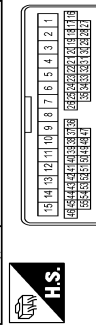
| Terminal No. | Color Of Wire | Signal Name [Specification]                    |
|--------------|---------------|--|
| 1            | B/R           | RIGHT/LEFT SWITCHING SIGNAL                    |
| 2            | B/R           | GROUND   |
| 3            | Y             | ITS COMM-L                                     |
| 4            | L             | ITS COMM-H                                     |
| 5            | G             | IGNITION                                       |
| 6            | BR            | BLU. SPOT CONFIRMATION AND INTERLUDE INDICATOR |

|                |                                      |
|----------------|--------------------------------------|
| Connector No.  | B260                                 |
| Connector Name | REAR COMBINATION LAMP RH (BODY SIDE) |
| Connector Type | NS04MW-CS                            |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | O             | -                           |
| 2            | P             | -                           |
| 3            | V             | -                           |
| 4            | BR            | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | D1           |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40FW-CS15  |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | G             | -                           |
| 3            | B             | -                           |
| 4            | L             | -                           |
| 5            | B             | -                           |
| 6            | L             | -                           |
| 7            | R             | -                           |
| 8            | GR            | -                           |
| 9            | G             | -                           |
| 10           | LG            | -                           |
| 11           | P             | -                           |
| 12           | LG            | -                           |
| 13           | B/W           | -                           |
| 14           | Y             | -                           |
| 15           | O             | -                           |
| 16           | R             | -                           |

# DRIVER ASSISTANCE SYSTEMS

## [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

### DRIVER ASSISTANCE SYSTEMS

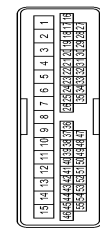
|    |        |   |   |
|----|--------|---|---|
| 17 | Y      | - | - |
| 18 | BR     | - | - |
| 19 | W      | - | - |
| 20 | O      | - | - |
| 21 | GR     | - | - |
| 22 | G      | - | - |
| 23 | LG     | - | - |
| 24 | B      | - | - |
| 25 | L      | - | - |
| 26 | P      | - | - |
| 27 | V      | - | - |
| 28 | W      | - | - |
| 29 | GR     | - | - |
| 30 | G      | - | - |
| 31 | Y      | - | - |
| 32 | O      | - | - |
| 33 | BR     | - | - |
| 34 | L      | - | - |
| 35 | P      | - | - |
| 36 | V      | - | - |
| 37 | GR     | - | - |
| 38 | O      | - | - |
| 39 | W      | - | - |
| 40 | R      | - | - |
| 41 | W      | - | - |
| 42 | B      | - | - |
| 43 | R      | - | - |
| 44 | G      | - | - |
| 45 | LG     | - | - |
| 46 | BR     | - | - |
| 47 | L      | - | - |
| 48 | Y      | - | - |
| 49 | P      | - | - |
| 50 | B/W    | - | - |
| 51 | G      | - | - |
| 52 | Y      | - | - |
| 53 | B/W    | - | - |
| 54 | W      | - | - |
| 55 | SHIELD | - | - |

|                |   |
|----------------|---|
| Connector No.  | D7  |
| Connector Name | BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR LH |
| Connector Type | TH40MV-NH   |



|              |      |                             |
|--------------|------|-----------------------------|
| Terminal No. | Wire | Signal Name [Specification] |
| 1            | L    | SIGNAL                      |
| 4            | P    | EARTH                       |

|                |              |
|----------------|--------------|
| Connector No.  | D31          |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40FW-CS15  |



|              |      |                             |
|--------------|------|-----------------------------|
| Terminal No. | Wire | Signal Name [Specification] |
| 2            | B    | -                           |
| 3            | B/W  | -                           |
| 5            | GR   | -                           |
| 9            | V    | -                           |
| 10           | R    | -                           |
| 11           | L    | -                           |
| 12           | Y    | -                           |
| 13           | BR   | -                           |
| 14           | G    | -                           |
| 15           | SB   | -                           |
| 16           | G    | -                           |
| 17           | P    | -                           |
| 18           | BR   | -                           |
| 19           | GR   | -                           |
| 20           | V    | -                           |
| 21           | LG   | -                           |
| 22           | SB   | -                           |
| 23           | G    | -                           |

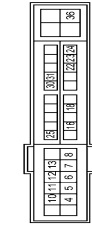
|    |        |   |
|----|--------|---|
| 24 | Y      | - |
| 25 | BR     | - |
| 26 | L      | - |
| 27 | W      | - |
| 28 | B      | - |
| 29 | R      | - |
| 30 | SHIELD | - |
| 31 | G      | - |
| 32 | P      | - |
| 33 | L      | - |
| 35 | W      | - |
| 36 | L      | - |
| 37 | P      | - |
| 38 | SB     | - |
| 39 | O      | - |
| 44 | SB     | - |
| 46 | B/W    | - |
| 53 | L      | - |
| 54 | B      | - |
| 55 | V      | - |

|                |   |
|----------------|---|
| Connector No.  | D37   |
| Connector Name | BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR RH |
| Connector Type | TH40MV-NH   |



|              |      |                             |
|--------------|------|-----------------------------|
| Terminal No. | Wire | Signal Name [Specification] |
| 1            | P    | SIGNAL                      |
| 4            | L    | EARTH                       |

|                |   |
|----------------|---|
| Connector No.  | E5  |
| Connector Name | POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4-1V   |



|              |               |                             |
|--------------|---------------|-----------------------------|
| Terminal No. | Color Of Wire | Signal Name [Specification] |
| 4            | W             | ENG SOL                     |
| 5            | P             | IGN COIL                    |
| 6            | B             | ECM_VB [With VQ engine]     |
| 6            | SB            | ECM_VB [With VK engine]     |
| 7            | R             | ETC [With VK engine]        |
| 8            | L/Y           | A/C COMP [With VK engine]   |
| 8            | P             | A/C COMP [With VQ engine]   |
| 10           | V             | ECM_BAT                     |
| 11           | B             | P-GND                       |
| 12           | G             | ABS ECU                     |
| 13           | GR            | FUEL_PUMP [With VQ engine]  |
| 13           | W             | FUEL_PUMP [With VK engine]  |
| 16           | V             | WIPER AUTOSTOP              |
| 18           | Y             | IGN SIGNAL                  |
| 22           | BR            | ALT-C                       |
| 23           | P             | DTL RLY                     |
| 24           | O             | HOOD SW                     |
| 25           | LG            | SUB ECU                     |
| 30           | BR            | PUSH START_SW               |
| 31           | BR            | NP_SW [With VK engine]      |
| 31           | W             | NP_SW [With VQ engine]      |
| 36           | GR            | FIL IGN SW                  |

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# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

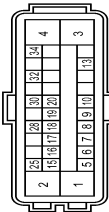
## DRIVER ASSISTANCE SYSTEMS

|                |            |
|----------------|------------|
| Connector No.  | E33        |
| Connector Name | ICC SENSOR |
| Connector Type | AAZ08FB    |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 1            | LG   | IGNITION                    |
| 3            | LG   | ITS COM+H                   |
| 8            | Y    | ITS COM+L                   |
| 8            | BY   | GROUND                      |

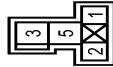
|                |   |
|----------------|---|
| Connector No.  | E41   |
| Connector Name | ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) |
| Connector Type | SAZ09FB-SJZ4-U                                |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 1            | B/W  | ECU(GND)                    |
| 2            | B    | MOTOR(GND)                  |
| 3            | Y    | SOLENOID(POWER)             |
| 4            | G    | MOTOR(POWER)                |
| 5            | SB   | STOP LAMP SW                |
| 6            | Y    | CANM2(L)                    |
| 7            | W    | R-LH SENS(SIGNAL)           |
| 8            | G    | R-RH SENS(POWER)            |
| 9            | BR   | F-RH SENS(SIGNAL)           |
| 10           | B    | F-RH SENS(POWER)            |
| 13           | LG   | VAC SENS(SIGNAL)            |
| 15           | P    | CANL                        |
| 18           | B    | CANM2(L)                    |
| 17           | Y    | R-RH SENS(SIGNAL)           |
| 18           | BR   | R-RH SENS(POWER)            |
| 19           | SB   | F-LH SENS(SIGNAL)           |

|    |        |                  |
|----|--------|------------------|
| 20 | O      | F-LH SENS(POWER) |
| 25 | L      | CAN-H            |
| 28 | V      | VAC SENS(POWER)  |
| 30 | R      | VDC OFF SW       |
| 32 | SHIELD | VAC SENS(GND)    |
| 34 | G      | IGN(POWER)       |

|                |                      |
|----------------|----------------------|
| Connector No.  | E92                  |
| Connector Name | ICC BRAKE HOLD RELAY |
| Connector Type | MS02FL-M2-LC         |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 1            | V    | -                           |
| 2            | LG   | -                           |
| 3            | V    | -                           |
| 5            | W    | -                           |

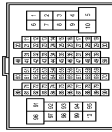
|                |                 |
|----------------|-----------------|
| Connector No.  | E103            |
| Connector Name | FUSE BLOCK (UB) |
| Connector Type | NS16FW-CS       |



| Terminal No. | Wire | Signal Name [Specification] |
|--------------|------|-----------------------------|
| 10F          | GR   | -                           |
| 12F          | Y    | -                           |
| 14F          | W    | -                           |
| 15F          | V    | -                           |
| 16F          | SB   | -                           |
| 17F          | LG   | -                           |
| 18F          | G    | -                           |
| 19F          | O    | -                           |

|    |    |   |
|----|----|---|
| 8F | BR | - |
| 9F | R  | - |

|                |                 |
|----------------|-----------------|
| Connector No.  | E106            |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Wire   | Signal Name [Specification] |
|--------------|--------|-----------------------------|
| 1            | B      | -                           |
| 2            | W      | -                           |
| 3            | SB     | -                           |
| 4            | LG     | -                           |
| 5            | O      | -                           |
| 6            | W      | -                           |
| 7            | GR     | -                           |
| 8            | G      | -                           |
| 9            | Y      | -                           |
| 10           | BR     | -                           |
| 11           | SB     | -                           |
| 12           | L      | -                           |
| 13           | GR     | -                           |
| 14           | GR     | -                           |
| 15           | V      | -                           |
| 16           | Y      | -                           |
| 17           | GR     | -                           |
| 18           | V      | -                           |
| 20           | BR     | -                           |
| 21           | P      | -                           |
| 22           | L      | -                           |
| 23           | P      | -                           |
| 27           | SHIELD | -                           |
| 28           | L/O    | -                           |
| 29           | W/L    | -                           |
| 31           | BR     | -                           |
| 32           | G      | -                           |
| 33           | G      | -                           |
| 34           | Y      | -                           |
| 36           | G      | -                           |
| 37           | V      | -                           |
| 41           | BR     | -                           |

|     |        |   |
|-----|--------|---|
| 44  | W      | - |
| 45  | L      | - |
| 46  | GR     | - |
| 47  | V      | - |
| 48  | G      | - |
| 49  | O      | - |
| 50  | LG     | - |
| 54  | R      | - |
| 55  | B      | - |
| 60  | W      | - |
| 61  | G      | - |
| 62  | Y      | - |
| 63  | BR     | - |
| 64  | B      | - |
| 65  | Y      | - |
| 66  | R      | - |
| 67  | SB     | - |
| 68  | G      | - |
| 69  | SHIELD | - |
| 70  | W      | - |
| 71  | W      | - |
| 72  | R      | - |
| 73  | G      | - |
| 74  | Y      | - |
| 75  | B      | - |
| 76  | SHIELD | - |
| 77  | O      | - |
| 78  | SB     | - |
| 80  | V      | - |
| 82  | SB     | - |
| 83  | GR     | - |
| 84  | Y      | - |
| 85  | Y      | - |
| 86  | L      | - |
| 87  | V      | - |
| 88  | BR     | - |
| 89  | LG     | - |
| 90  | W      | - |
| 91  | W      | - |
| 92  | P      | - |
| 93  | LG     | - |
| 94  | BR     | - |
| 95  | W      | - |
| 97  | R      | - |
| 98  | Y      | - |
| 99  | V      | - |
| 100 | V      | - |

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE SYSTEMS

|                |                  |
|----------------|------------------|
| Connector No.  | E110             |
| Connector Name | STOP LAMP SWITCH |
| Connector Type | M04FW-LC         |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | V             | -                           |
| 3            | G             | - [Without ICC]             |
| 4            | SB            | - [With ICC]                |

|                |                  |
|----------------|------------------|
| Connector No.  | E114             |
| Connector Name | ICC BRAKE SWITCH |
| Connector Type | M02FER-LC        |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | -                           |
| 2            | P             | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | F61          |
| Connector Name | A/T ASSEMBLY |
| Connector Type | RK10FG-D3Y   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | POWER SUPPLY (BACK UP)      |
| 2            | R             | POWER SUPPLY (BACK UP)      |
| 3            | V             | CAN-H                       |
| 4            | V             | K-LINE                      |
| 5            | B             | GND                         |
| 6            | G             | POWER SUPPLY (IGN)          |
| 7            | SB            | BACK-UP LAMP RELAY          |
| 8            | P             | CAN-L                       |
| 9            | BR            | PIN SIGNAL                  |
| 10           | B             | GROUND                      |

|                |        |
|----------------|--------|
| Connector No.  | F301   |
| Connector Name | TCM    |
| Connector Type | SP10FG |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | -             | VIGN                        |
| 2            | -             | BATT                        |
| 3            | -             | CAN-H                       |
| 4            | -             | K-LINE                      |
| 5            | -             | GND                         |
| 6            | -             | VIGN                        |
| 7            | -             | REV LAMP RLY                |
| 8            | -             | CAN-L                       |
| 9            | -             | START RLY                   |
| 10           | -             | GND                         |

|                |                 |
|----------------|-----------------|
| Connector No.  | M2              |
| Connector Name | FUSE BLOCK (UB) |
| Connector Type | NS10FM-CS       |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1B           | R             | -                           |
| 3B           | B             | -                           |
| 4B           | G             | -                           |
| 5B           | SB            | -                           |
| 6B           | W             | - [With V/G engine]         |
| 7B           | Y             | - [With V/G engine]         |
| 8B           | R             | -                           |
| 9B           | R             | -                           |

|                |                 |
|----------------|-----------------|
| Connector No.  | M6              |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TH80MM-CS16-TM4 |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | L             | -                           |
| 3            | SB            | -                           |
| 4            | LG            | -                           |
| 5            | W             | -                           |
| 6            | W             | -                           |
| 7            | RG            | -                           |
| 8            | G             | -                           |
| 9            | Y             | -                           |
| 10           | W             | -                           |
| 11           | R             | -                           |

|    |        |                 |
|----|--------|-----------------|
| 12 | V      | -               |
| 13 | LG     | -               |
| 14 | L      | -               |
| 15 | V      | -               |
| 16 | B      | -               |
| 17 | GR     | -               |
| 18 | V      | -               |
| 20 | SB     | -               |
| 21 | BR     | -               |
| 22 | L      | -               |
| 23 | P      | -               |
| 27 | SHIELD | -               |
| 28 | V      | -               |
| 29 | SB     | -               |
| 31 | BG     | -               |
| 32 | P      | -               |
| 33 | R      | -               |
| 34 | RG     | -               |
| 36 | V      | -               |
| 37 | G      | -               |
| 41 | BR     | -               |
| 44 | BR     | -               |
| 45 | Y      | -               |
| 46 | BG     | -               |
| 47 | V      | -               |
| 48 | G      | -               |
| 49 | BG     | -               |
| 50 | W      | -               |
| 54 | W      | -               |
| 55 | G      | -               |
| 60 | GR     | -               |
| 61 | B      | -               |
| 62 | LG     | -               |
| 63 | BR     | -               |
| 64 | L      | - [With ICC]    |
| 64 | SB     | - [Without ICC] |
| 65 | R      | - [With ICC]    |
| 65 | Y      | - [Without ICC] |
| 66 | P      | -               |
| 67 | L      | -               |
| 68 | R      | -               |
| 69 | SHIELD | -               |
| 70 | R      | -               |
| 71 | W      | -               |
| 72 | R      | -               |
| 73 | G      | -               |
| 74 | Y      | -               |
| 75 | B      | -               |
| 76 | SHIELD | -               |
| 77 | B      | -               |

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# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE SYSTEMS

|     |    |   |   |
|-----|----|---|---|
| 78  | V  | - | - |
| 80  | G  | - | - |
| 82  | B  | - | - |
| 83  | BG | - | - |
| 84  | SB | - | - |
| 85  | Y  | - | - |
| 86  | L  | - | - |
| 87  | V  | - | - |
| 88  | V  | - | - |
| 89  | LG | - | - |
| 90  | BG | - | - |
| 91  | W  | - | - |
| 92  | BG | - | - |
| 93  | G  | - | - |
| 94  | Y  | - | - |
| 95  | W  | - | - |
| 96  | SB | - | - |
| 97  | R  | - | - |
| 98  | W  | - | - |
| 100 | L  | - | - |

|                |                 |
|----------------|-----------------|
| Connector No.  | M7              |
| Connector Name | WIRE TO WIRE    |
| Connector Type | TR80MW-CS16-TM4 |



| Terminal No. | Color Of Wire | Signal Name (Specification)      |
|--------------|---------------|----------------------------------|
| 1            | G             | -                                |
| 2            | Y             | -                                |
| 4            | BR            | -                                |
| 5            | P             | -                                |
| 7            | G             | -                                |
| 8            | Y             | -                                |
| 9            | G             | -                                |
| 10           | V             | -                                |
| 11           | L             | - [With heated seat]             |
| 12           | GR            | - [With climate controlled seat] |
| 12           | GR            | - [With heated seat]             |
| 12           | P             | - [With climate controlled seat] |
| 13           | BR            | -                                |
| 14           | GR            | -                                |

|    |        |   |   |
|----|--------|---|---|
| 15 | BG     | - | -   |
| 16 | V      | - | -   |
| 17 | BG     | - | -   |
| 18 | L      | - | - [Without CAN gateway]<br>- [With CAN gateway] |
| 19 | W      | - | -   |
| 20 | L      | - | -   |
| 21 | B      | - | -   |
| 22 | LG     | - | -   |
| 23 | W      | - | -   |
| 24 | V      | - | -   |
| 25 | G      | - | -   |
| 26 | BR     | - | -   |
| 27 | SB     | - | -   |
| 28 | P      | - | -   |
| 29 | L      | - | -   |
| 30 | SHIELD | - | -   |
| 32 | B      | - | -   |
| 33 | B      | - | -   |
| 34 | W      | - | -   |
| 35 | SHIELD | - | -   |
| 37 | BG     | - | -   |
| 41 | SB     | - | -   |
| 42 | V      | - | -   |
| 43 | L      | - | -   |
| 44 | B      | - | -   |
| 45 | BG     | - | -   |
| 46 | P      | - | -   |
| 47 | L      | - | -   |
| 48 | LG     | - | -   |
| 49 | BR     | - | -   |
| 50 | V      | - | -   |
| 51 | V      | - | -   |
| 52 | P      | - | -   |
| 53 | BG     | - | -   |
| 55 | G      | - | -   |
| 56 | SB     | - | -   |
| 57 | P      | - | -   |
| 58 | LG     | - | -   |
| 59 | Y      | - | -   |
| 60 | GR     | - | -   |
| 61 | B      | - | -   |
| 62 | LG     | - | -   |
| 63 | BR     | - | -   |
| 65 | W      | - | -   |
| 66 | R      | - | -   |
| 67 | V      | - | -   |
| 68 | LG     | - | -   |
| 69 | SB     | - | -   |

|                |           |
|----------------|-----------|
| Connector No.  | M8        |
| Connector Name | RESISTOR  |
| Connector Type | M02FBR-LC |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 1            | L             | -                           |
| 2            | B             | -                           |

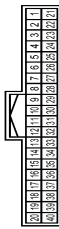
|    |    |   |   |
|----|----|---|---|
| 70 | V  | - | - |
| 72 | L  | - | - |
| 73 | P  | - | - |
| 74 | L  | - | - |
| 75 | P  | - | - |
| 76 | G  | - | - |
| 77 | Y  | - | - |
| 78 | SB | - | - |
| 79 | W  | - | - |
| 81 | LG | - | - |
| 82 | BR | - | - |
| 83 | BG | - | - |
| 84 | B  | - | - |
| 85 | W  | - | - |
| 86 | G  | - | - |
| 87 | R  | - | - |
| 88 | G  | - | - |
| 91 | W  | - | - |
| 92 | G  | - | - |
| 96 | W  | - | - |
| 97 | BG | - | - |
| 98 | Y  | - | - |
| 99 | LG | - | - |

|                |                          |
|----------------|--------------------------|
| Connector No.  | M13                      |
| Connector Name | DRIVER ASSISTANCE BUZZER |
| Connector Type | NS02FM-CS                |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 1            | R             | SPEAKER (IN+)               |
| 2            | G             | SPEAKER (IN-)               |

|                |             |
|----------------|-------------|
| Connector No.  | M20         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FB-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 2            | B             | -                           |
| 3            | Y             | -                           |
| 4            | G             | -                           |
| 5            | R             | -                           |
| 6            | W             | -                           |
| 11           | BR            | -                           |
| 12           | R             | -                           |
| 15           | B             | -                           |
| 16           | SHIELD        | -                           |
| 17           | R             | -                           |
| 18           | P             | -                           |
| 19           | W             | -                           |
| 21           | B             | -                           |
| 22           | R             | - [With ICC]                |
| 22           | Y             | - [Without ICC]             |
| 23           | L             | - [With ICC]                |
| 23           | SB            | - [Without ICC]             |



# DRIVER ASSISTANCE SYSTEMS

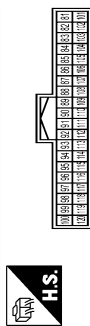
## [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

### DRIVER ASSISTANCE SYSTEMS

|    |   |   |
|----|---|---|
| 24 | L | - |
| 27 | P | - |
| 31 | V | - |
| 33 | V | - |
| 35 | L | - |
| 36 | P | - |
| 38 | L | - |
| 40 | Y | - |

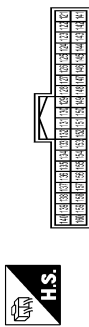
|                |             |
|----------------|-------------|
| Connector No.  | M22         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FB-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 81           | L             | -                           |
| 82           | P             | -                           |
| 83           | B             | -                           |
| 84           | B             | -                           |
| 85           | B             | -                           |
| 86           | B             | -                           |
| 87           | B             | -                           |
| 88           | B             | -                           |
| 89           | Y             | -                           |
| 91           | V             | -                           |
| 92           | V             | -                           |
| 93           | B             | -                           |
| 94           | B             | -                           |
| 95           | LG            | -                           |
| 96           | BR            | -                           |
| 97           | G             | -                           |
| 98           | G             | -                           |
| 99           | G             | -                           |
| 100          | G             | -                           |
| 101          | L             | -                           |
| 102          | P             | -                           |
| 103          | B             | -                           |
| 104          | BR            | -                           |
| 105          | R             | -                           |
| 107          | Y             | -                           |
| 108          | Y             | -                           |

|     |    |                    |
|-----|----|--------------------|
| 109 | BR | -                  |
| 110 | Y  | -                  |
| 112 | B  | -                  |
| 113 | P  | -                  |
| 114 | L  | -                  |
| 116 | B  | -                  |
| 117 | B  | - [With VK engine] |
| 118 | B  | - [With VG engine] |
| 119 | LG | -                  |
| 120 | V  | -                  |

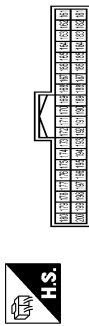
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| Connector No.  | M23         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FM-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 121          | R             | -                           |
| 122          | V             | -                           |
| 123          | BG            | -                           |
| 124          | BG            | -                           |
| 126          | B             | -                           |
| 131          | SB            | -                           |
| 132          | LG            | -                           |
| 133          | L             | -                           |
| 134          | L             | -                           |
| 135          | P             | -                           |
| 136          | P             | -                           |
| 137          | Y             | -                           |
| 138          | L             | -                           |
| 141          | W             | -                           |
| 142          | W             | -                           |
| 145          | B             | -                           |
| 146          | LG            | -                           |
| 147          | B             | -                           |
| 149          | B             | -                           |
| 150          | P             | -                           |
| 151          | L             | -                           |
| 152          | B             | -                           |
| 153          | W             | -                           |

|     |   |   |
|-----|---|---|
| 154 | W | - |
| 155 | W | - |
| 158 | R | - |
| 159 | R | - |

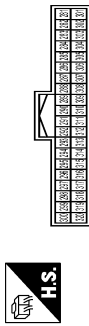
|                |             |
|----------------|-------------|
| Connector No.  | M24         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification)                       |
|--------------|---------------|---|
| 161          | BG            | -   |
| 162          | BG            | -   |
| 164          | V             | -   |
| 165          | V             | -   |
| 166          | R             | -   |
| 167          | LG            | -   |
| 169          | R             | -   |
| 171          | BG            | -   |
| 172          | B             | -   |
| 174          | W             | -   |
| 176          | L             | -   |
| 177          | P             | -   |
| 178          | Y             | -   |
| 179          | L             | -   |
| 180          | LG            | -   |
| 182          | BR            | - [With VG engine or with VK engine without (CC)] |
| 182          | R             | - [With VK engine with (CC)]                      |
| 183          | G             | -   |
| 184          | V             | -   |
| 185          | P             | -   |
| 186          | R             | -   |
| 187          | L             | -   |
| 187          | Y             | - [Without CAN gateway]                           |
| 188          | L             | - [With CAN gateway]                              |
| 189          | B             | -   |
| 190          | V             | -   |
| 191          | LG            | -   |
| 192          | B             | -   |
| 193          | SB            | -   |
| 194          | BR            | -   |

|     |    |   |
|-----|----|---|
| 195 | SB | - |
| 198 | R  | - |
| 199 | B  | - |
| 200 | SB | - |

|                |             |
|----------------|-------------|
| Connector No.  | M27         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FB-NH   |



| Terminal No. | Color Of Wire | Signal Name (Specification) |
|--------------|---------------|-----------------------------|
| 281          | O             | -                           |
| 282          | BG            | -                           |
| 283          | BG            | -                           |
| 284          | BG            | -                           |
| 286          | W             | -                           |
| 287          | Y             | -                           |
| 289          | SHIELD        | -                           |
| 290          | B             | -                           |
| 291          | SHIELD        | -                           |
| 292          | B             | -                           |
| 293          | B             | -                           |
| 294          | B             | -                           |
| 295          | B             | -                           |
| 296          | GR            | -                           |
| 297          | B             | -                           |
| 298          | B             | -                           |
| 299          | L             | -                           |
| 300          | W             | -                           |
| 301          | R             | -                           |
| 302          | R             | -                           |
| 303          | R             | -                           |
| 304          | SHIELD        | -                           |
| 305          | P             | -                           |
| 306          | V             | -                           |
| 309          | G             | -                           |
| 310          | R             | -                           |
| 311          | W             | -                           |
| 312          | B             | -                           |
| 313          | B             | -                           |
| 314          | Y             | -                           |

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JROWC3878GB

# DRIVER ASSISTANCE SYSTEMS

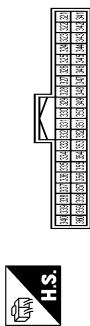
## [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

### DRIVER ASSISTANCE SYSTEMS

|     |        |   |
|-----|--------|---|
| 315 | G      | - |
| 316 | R      | - |
| 317 | W      | - |
| 318 | SHIELD | - |
| 319 | V      | - |
| 320 | W      | - |

|                |             |
|----------------|-------------|
| Connector No.  | M28         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 321          | V             | -                           |
| 322          | B             | -                           |
| 324          | V             | -                           |
| 325          | L             | -                           |
| 326          | L             | -                           |
| 327          | P             | -                           |
| 328          | P             | -                           |
| 330          | B             | -                           |
| 331          | V             | -                           |
| 332          | V             | -                           |
| 335          | B             | -                           |
| 337          | W             | -                           |
| 338          | W             | -                           |
| 343          | L             | -                           |
| 344          | B             | -                           |
| 345          | Y             | -                           |
| 346          | L             | -                           |
| 347          | P             | -                           |
| 348          | GR            | -                           |
| 349          | V             | -                           |
| 350          | LG            | -                           |
| 351          | P             | -                           |
| 352          | R             | -                           |
| 353          | P             | -                           |
| 358          | W             | -                           |
| 359          | W             | -                           |
| 360          | G             | -                           |

|                |             |
|----------------|-------------|
| Connector No.  | M30         |
| Connector Name | PCB HARNESS |
| Connector Type | TH40FW-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 402          | R             | -                           |
| 403          | R             | -                           |
| 406          | B             | -                           |
| 407          | V             | -                           |
| 408          | B             | -                           |
| 409          | B             | -                           |
| 410          | B             | -                           |
| 411          | B             | -                           |
| 413          | Y             | -                           |
| 414          | BR            | -                           |
| 416          | LG            | -                           |
| 417          | B             | -                           |
| 419          | SB            | -                           |
| 420          | SHIELD        | -                           |
| 422          | V             | -                           |
| 427          | P             | -                           |
| 428          | V             | -                           |
| 429          | P             | -                           |
| 430          | LG            | -                           |
| 431          | B             | -                           |
| 432          | Y             | -                           |
| 435          | V             | -                           |
| 436          | BG            | -                           |
| 437          | B             | -                           |
| 438          | P             | -                           |
| 439          | L             | -                           |
| 440          | B             | -                           |

|                |                                   |
|----------------|-----------------------------------|
| Connector No.  | M36                               |
| Connector Name | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Type | TK08FGY-1V                        |



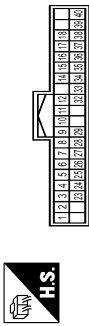
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 24           | P             | -                           |
| 25           | SB            | -                           |
| 26           | B             | -                           |
| 31           | L             | -                           |
| 32           | Y             | -                           |
| 33           | B             | -                           |
| 34           | LG            | -                           |

|                |                       |
|----------------|-----------------------|
| Connector No.  | M37                   |
| Connector Name | STEERING ANGLE SENSOR |
| Connector Type | TH08FW-NH             |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | CANH                        |
| 2            | P             | CANH                        |
| 7            | B             | GND                         |
| 8            | G             | IGN                         |

|                |                   |
|----------------|-------------------|
| Connector No.  | M53               |
| Connector Name | COMBINATION METER |
| Connector Type | TH40FW-NH         |



| Terminal No. | Color Of Wire | Signal Name [Specification]                  |
|--------------|---------------|--|
| 1            | W             | BATTERY POWER SUPPLY                         |
| 2            | BG            | IGNITION SIGNAL                              |
| 3            | GR            | VEHICLE SPEED SIGNAL (2-PULSE)               |
| 4            | R             | VEHICLE SPEED SIGNAL (8-PULSE)               |
| 5            | B             | ILLUMINATION CONTROL SIGNAL                  |
| 6            | B             | METER CONTROL SWITCH GROUND                  |
| 7            | SB            | ENTER SWITCH SIGNAL                          |
| 8            | LG            | SELECT SWITCH SIGNAL                         |
| 9            | G             | ILLUMINATION CONTROL SWITCH SIGNAL (+)       |
| 10           | GR            | ILLUMINATION CONTROL SWITCH SIGNAL (-)       |
| 11           | L             | TRIP RESET SWITCH SIGNAL                     |
| 12           | B             | GROUND                                       |
| 14           | L             | CANH   |
| 15           | P             | CANH   |
| 16           | R             | AIR BAG SIGNAL                               |
| 17           | G             | LED HEADLAMP (RH) WARNING SIGNAL             |
| 18           | V             | LED HEADLAMP (LH) WARNING SIGNAL             |
| 23           | B             | GROUND                                       |
| 24           | B             | FUEL LEVEL SENSOR GROUND                     |
| 25           | W             | ALTERNATOR SIGNAL                            |
| 26           | V             | PARKING BRAKE SWITCH SIGNAL                  |
| 27           | V             | BRAKE FLUID LEVEL SWITCH SIGNAL              |
| 28           | G             | SECURITY SIGNAL                              |
| 29           | L             | WASHER LEVEL SWITCH SIGNAL                   |
| 32           | G             | PADDLE SHIFTER SHIFT DOWN SIGNAL             |
| 33           | BG            | FUEL LEVEL SENSOR SIGNAL                     |
| 34           | G             | FUEL LEVEL SENSOR SIGNAL                     |
| 35           | W             | SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SEAT) |
| 36           | G             | PASSENGER SEAT BELT WARNING SIGNAL           |
| 37           | G             | NON-MANUAL MODE SIGNAL                       |
| 38           | V             | MANUAL MODE SHIFT DOWN SIGNAL                |
| 39           | L             | MANUAL MODE SHIFT UP SIGNAL                  |
| 40           | W             | MANUAL MODE SIGNAL                           |

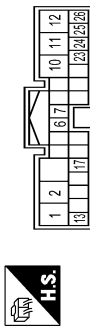
# DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

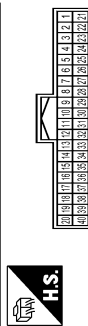
## DRIVER ASSISTANCE SYSTEMS

|                |              |
|----------------|--------------|
| Connector No.  | M166         |
| Connector Name | AC AUTO AMP. |
| Connector Type | TH40FW-TB6   |



| Terminal No. | Color Of Wire | Signal Name [Specification]     |
|--------------|---------------|---------------------------------|
| 1            | L             | BATTERY POWER SUPPLY            |
| 2            | W             | IGNITION POWER SUPPLY           |
| 6            | R             | BLOWER MOTOR FB SIGNAL          |
| 7            | L             | POWER TRANSISTOR CONTROL SIGNAL |
| 10           | B             | GROUND                          |
| 11           | P             | CANH                            |
| 12           | L             | CANL                            |
| 13           | V             | ACC POWER SUPPLY                |
| 17           | BG            | ECV CONTROL SIGNAL              |
| 23           | W             | DRIVE MODE SELECT SW (SNOW)     |
| 24           | L             | DRIVE MODE SELECT SW (STANDARD) |
| 25           | G             | DRIVE MODE SELECT SW (ECO)      |
| 26           | Y             | DRIVE MODE SELECT SW (SPORT)    |

|                |              |
|----------------|--------------|
| Connector No.  | M105         |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40FW-NH    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | B             | -                           |
| 3            | B             | -                           |
| 6            | LG            | -                           |
| 8            | P             | -                           |
| 7            | L             | -                           |
| 8            | P             | -                           |
| 9            | B             | -                           |

|    |        |   |
|----|--------|---|
| 10 | W      | - |
| 11 | W      | - |
| 12 | SB     | - |
| 13 | G      | - |
| 14 | SB     | - |
| 15 | BR     | - |
| 16 | V      | - |
| 17 | P      | - |
| 18 | G      | - |
| 22 | BG     | - |
| 23 | B      | - |
| 25 | W      | - |
| 30 | R      | - |
| 31 | ER     | - |
| 32 | L      | - |
| 33 | P      | - |
| 34 | LG     | - |
| 35 | W      | - |
| 36 | LG     | - |
| 37 | L      | - |
| 38 | BG     | - |
| 39 | SHIELD | - |
| 40 | W      | - |

|                |              |
|----------------|--------------|
| Connector No.  | M106         |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS88MW-CS    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 3            | R             | -                           |
| 4            | BG            | -                           |
| 5            | Y             | -                           |
| 6            | R             | -                           |
| 7            | B             | -                           |
| 8            | L             | -                           |

|                |                  |
|----------------|------------------|
| Connector No.  | M107             |
| Connector Name | ECM              |
| Connector Type | RH24FGY-RZ8-RH-Z |



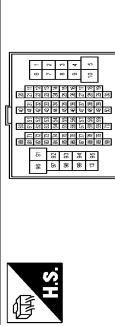
| Terminal No. | Color Of Wire | Signal Name [Specification]                     |
|--------------|---------------|---|
| 97           | R             | ACCELERATOR PEDAL POSITION SENSOR 1             |
| 98           | Y             | ACCELERATOR PEDAL POSITION SENSOR 2             |
| 99           | G             | SENSOR DATA ACCELERATOR PEDAL POSITION SENSOR 1 |
| 100          | W             | SENSOR DATA ACCELERATOR PEDAL POSITION SENSOR 2 |
| 101          | SB            | ASC/D STEERING SWITCH                           |
| 102          | P             | FUEL TANK PRESSURE SENSOR                       |
| 103          | L             | SENSOR DATA ACCELERATOR PEDAL POSITION SENSOR 2 |
| 104          | B             | SENSOR GROUND (Without ICC)                     |
| 104          | BR            | SENSOR GROUND (With ICC)                        |
| 105          | LG            | REFRIGERANT PRESSURE SENSOR                     |
| 106          | P             | FUEL TANK TEMPERATURE SENSOR                    |
| 107          | BG            | AVCC2 PDPRES/FPRES                              |
| 108          | Y             | GND ASCD SW                                     |
| 109          | BR            | ENGINE SPEED SIGNAL OUTPUT                      |
| 110          | V             | TRANSMISSION RANGE SWITCH                       |
| 111          | V             | GND4 PDPRES/FPRES                               |
| 112          | V             | GND4 PDPRES/FPRES                               |
| 113          | P             | CAN COMMUNICATION LINE                          |
| 114          | L             | CAN COMMUNICATION LINE                          |
| 117          | L             | DATA LINK CONNECTOR                             |
| 121          | G             | EVAP CANISTER VENT CONTROL VALVE                |
| 122          | P             | STOP LAMP SWITCH                                |
| 123          | B             | ECM GROUND                                      |
| 124          | B             | ECM GROUND                                      |
| 125          | SB            | POWER SUPPLY FOR ECM                            |
| 126          | BR            | ASGD BRAKE SWITCH                               |
| 127          | B             | ECM GROUND                                      |
| 128          | B             | ECM GROUND                                      |

|                |              |
|----------------|--------------|
| Connector No.  | M110         |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH24MW-NH    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | -                           |
| 2            | Y             | -                           |
| 3            | W             | -                           |
| 4            | R             | -                           |
| 5            | L             | -                           |
| 6            | B             | -                           |
| 7            | BR            | -                           |
| 8            | R             | -                           |
| 9            | B             | -                           |
| 10           | V             | -                           |
| 11           | BR            | -                           |
| 12           | G             | -                           |
| 13           | L             | -                           |
| 20           | V             | -                           |
| 21           | R             | -                           |
| 22           | G             | -                           |
| 23           | L             | -                           |
| 24           | LG            | -                           |

|                |               |
|----------------|---------------|
| Connector No.  | M117          |
| Connector Name | WIRE TO WIRE  |
| Connector Type | TH80FW-CS:TM4 |



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JROWC3880GB

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

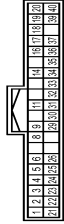
[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE SYSTEMS

| Terminal No. | Color Of Wire | Signal Name [Specification]      |
|--------------|---------------|----------------------------------|
| 1            | Y             | -                                |
| 3            | Y             | -                                |
| 6            | R             | -                                |
| 7            | W             | -                                |
| 8            | V             | -                                |
| 11           | R             | -                                |
| 12           | G             | -                                |
| 13           | W             | -                                |
| 14           | L             | -                                |
| 15           | R             | - [Without ADAS]                 |
| 15           | Y             | - [With ADAS]                    |
| 17           | GR            | -                                |
| 18           | P             | -                                |
| 19           | BR            | -                                |
| 20           | GR            | -                                |
| 21           | Y             | -                                |
| 22           | LG            | -                                |
| 23           | R             | -                                |
| 24           | BS            | -                                |
| 25           | BS            | -                                |
| 26           | W             | -                                |
| 28           | V             | -                                |
| 29           | P             | -                                |
| 30           | B             | -                                |
| 31           | G             | -                                |
| 32           | Y             | -                                |
| 40           | SHIELD        | -                                |
| 41           | R             | -                                |
| 42           | V             | -                                |
| 45           | SB            | -                                |
| 46           | BS            | - [With heated seat]             |
| 46           | L             | - [With climate controlled seat] |
| 47           | G             | - [With climate controlled seat] |
| 47           | GR            | - [With heated seat]             |
| 48           | V             | -                                |
| 49           | BG            | -                                |
| 50           | LG            | -                                |
| 51           | SB            | -                                |
| 52           | Y             | -                                |
| 53           | W             | -                                |
| 56           | B             | -                                |
| 57           | G             | -                                |
| 58           | R             | -                                |
| 59           | W             | -                                |
| 61           | LG            | -                                |
| 62           | V             | -                                |
| 63           | R             | -                                |
| 64           | SB            | -                                |

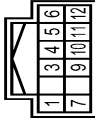
|     |        |                                  |
|-----|--------|----------------------------------|
| 65  | LG     | -                                |
| 66  | L      | -                                |
| 67  | Y      | -                                |
| 68  | SB     | -                                |
| 69  | B      | -                                |
| 71  | L      | -                                |
| 72  | L      | -                                |
| 73  | P      | -                                |
| 74  | B      | -                                |
| 75  | L      | -                                |
| 76  | SHIELD | -                                |
| 77  | G      | -                                |
| 78  | R      | -                                |
| 79  | L      | -                                |
| 80  | G      | -                                |
| 81  | BG     | -                                |
| 82  | BR     | -                                |
| 83  | GR     | -                                |
| 84  | V      | -                                |
| 85  | LG     | -                                |
| 86  | V      | -                                |
| 87  | R      | -                                |
| 88  | Y      | -                                |
| 89  | BR     | -                                |
| 90  | L      | -                                |
| 91  | Y      | -                                |
| 93  | G      | - [With heated seat]             |
| 93  | W      | - [With climate controlled seat] |
| 94  | V      | -                                |
| 96  | W      | -                                |
| 97  | Y      | -                                |
| 98  | BR     | -                                |
| 99  | G      | -                                |
| 100 | Y      | -                                |

|                |                           |
|----------------|---------------------------|
| Connector No.  | M120                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FB-NH                 |



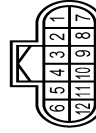
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | RR WINDOW DEFGR L/R CONT    |
| 2            | BG            | COMBI SW INPUT 5            |
| 3            | SB            | COMBI SW INPUT 4            |
| 4            | L             | COMBI SW INPUT 3            |
| 5            | G             | COMBI SW INPUT 2            |
| 6            | P             | COMBI SW INPUT 1            |
| 8            | V             | POWER WINDOW SW COMM        |
| 9            | P             | STOP LAMP SW 1              |
| 11           | R             | RAIN SENSOR SERIAL LINK     |
| 14           | W             | OPTICAL SENSOR              |
| 16           | SB            | DIMMER SIGNAL               |
| 17           | Y             | SENSOR PWR SPLY             |
| 18           | B             | RECEIVER / SENSOR GND       |
| 19           | V             | TURN SIG RH OUTPUT (FRONT)  |
| 20           | G             | TURN SIG LH OUTPUT (FRONT)  |
| 21           | P             | NATS ANT AMP                |
| 22           | GR            | KYLS ENT RECEIVER RSSI      |
| 23           | G             | SECURITY IND CONT           |
| 24           | L             | DONGLE LINK                 |
| 25           | G             | NATS ANT AMP                |
| 26           | G             | I-KEY IDENTIFICATION        |
| 29           | G             | HAZARD SW                   |
| 30           | O             | TR LID ORNR SW              |
| 31           | W             | DR DOOR UNLK SENSOR         |
| 32           | BR            | COMBI SW OUTPUT 5           |
| 33           | R             | COMBI SW OUTPUT 4           |
| 34           | V             | COMBI SW OUTPUT 3           |
| 35           | Y             | COMBI SW OUTPUT 2           |
| 36           | LG            | COMBI SW OUTPUT 1           |
| 37           | R             | P POSITION                  |
| 39           | L             | CAN/H                       |
| 40           | P             | CAN/L                       |

|                |             |
|----------------|-------------|
| Connector No.  | M125        |
| Connector Name | CAN GATEWAY |
| Connector Type | TH12FM-NH   |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | L             | CAN/H                       |
| 3            | GR            | BATTERY                     |
| 4            | L             | CAN/H                       |
| 5            | B             | GND                         |
| 6            | L             | CAN/H                       |
| 7            | P             | CAN/L                       |
| 8            | W             | IGNITION                    |
| 9            | W             | CAN/L                       |
| 10           | P             | CAN/L                       |
| 11           | B             | GND                         |
| 12           | P             | CAN/L                       |

|                |              |
|----------------|--------------|
| Connector No.  | M150         |
| Connector Name | WIRE TO WIRE |
| Connector Type | RH12FB       |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | -                           |
| 2            | BR            | -                           |
| 3            | R             | -                           |
| 4            | L             | -                           |
| 5            | W             | -                           |
| 6            | G             | -                           |
| 7            | BG            | -                           |
| 8            | LG            | -                           |
| 9            | G             | -                           |
| 10           | Y             | -                           |

JROWC38B1GB

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE SYSTEMS

|    |        |   |
|----|--------|---|
| 11 | L      | - |
| 12 | SHIELD | - |

Connector No. M151  
 Connector Name WIRE TO WIRE  
 Connector Type RH12MB



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | -                           |
| 2            | B             | -                           |
| 3            | R             | -                           |
| 4            | L             | -                           |
| 5            | W             | -                           |
| 6            | G             | -                           |
| 7            | O             | -                           |
| 8            | B             | -                           |
| 9            | R             | -                           |
| 10           | Y             | -                           |
| 11           | L             | -                           |
| 12           | SHIELD        | -                           |

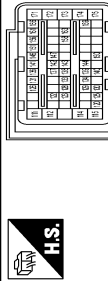
Connector No. M154  
 Connector Name ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR  
 Connector Type RH12FB



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | O             | BATTERY                     |
| 2            | R             | IGNITION                    |
| 3            | L             | ITS COMM-H                  |
| 4            | G             | SENSOR POWER SUPPLY         |

|    |   |  |
|----|---|--|
| 5  | W | SENSOR GROUND                              |
| 6  | R | ACCELERATOR PEDAL POSITION SENSOR 1 GROUND |
| 7  | B | GROUND                                     |
| 9  | Y | ITS COMM-L                                 |
| 10 | L | SENSOR POWER SUPPLY                        |
| 11 | B | SENSOR GROUND                              |
| 12 | Y | ACCELERATOR PEDAL POSITION SENSOR 2        |

Connector No. M160  
 Connector Name ECM  
 Connector Type MABS5FB-MEB10-LH-Z



| Terminal No. | Color Of Wire | Signal Name [Specification]  |
|--------------|---------------|--|
| 111          | W             | FUEL INJECTOR DRIVER POWER SUPPLY  |
| 112          | W             | FUEL INJECTOR DRIVER POWER SUPPLY  |
| 114          | B             | ECM GROUND   |
| 115          | B             | ECM GROUND   |
| 120          | G             | EVAP CANISTER VENT CONTROL VALVE (VARIABLE OR MOTOR RELAY) SIGNAL LEVEL CONTROL MODULE |
| 122          | V             | THROTTLE CONTROL MOTOR RELAY   |
| 123          | BG            | THROTTLE CONTROL MOTOR RELAY   |
| 125          | P             | FUEL PUMP CONTROL MODULE (FCM)   |
| 126          | Y             | ACCELERATOR PEDAL POSITION SENSOR 2  |
| 128          | SB            | ASC/D STEERING SWITCH  |
| 129          | B             | SENSOR GROUND (WITH ICC)   |
| 129          | BR            | SENSOR GROUND (WITH ICC)   |
| 130          | Y             | SENSOR GROUND  |
| 131          | L             | SENSOR POWER SUPPLY  |
| 133          | BG            | SENSOR POWER SUPPLY  |
| 134          | P             | FUEL TANK TEMPERATURE SENSOR   |
| 136          | R             | ACCELERATOR PEDAL POSITION SENSOR 1  |
| 137          | G             | SENSOR POWER SUPPLY  |
| 138          | P             | BATTERY CURRENT SENSOR   |
| 139          | BG            | BATTERY TEMPERATURE SENSOR   |
| 140          | W             | SENSOR GROUND  |
| 141          | G             | IGNITION SWITCH  |
| 142          | GR            | FUEL INJECTOR MODULE (FCM) CHECK   |
| 143          | P             | FUEL TANK PRESSURE SENSOR  |
| 144          | LG            | REFRIGERANT PRESSURE SENSOR  |
| 146          | L             | CAN COMMUNICATION LINE   |
| 147          | BR            | ASC/D BRAKE SWITCH   |

|     |    |  |
|-----|----|--|
| 150 | V  | SENSOR GROUND                          |
| 151 | P  | CAN COMMUNICATION LINE                 |
| 156 | W  | POWER SUPPLY FOR ECM (BACK-UP)         |
| 158 | P  | STOP LAMP SWITCH                       |
| 161 | Y  | ENG COMMUNICATION LINE                 |
| 163 | W  | ENG COMMUNICATION LINE (SELF SHUT-OFF) |
| 166 | BG | ENG COMMUNICATION LINE                 |
| 169 | V  | ENGINE SPEED SIGNAL OUTPUT             |
| 171 | SB | POWER SUPPLY FOR ECM                   |
| 172 | R  | POWER SUPPLY FOR ECM                   |
| 173 | R  | THROTTLE CONTROL MOTOR POWER SUPPLY    |
| 174 | B  | ECM GROUND                             |
| 175 | B  | ECM GROUND                             |

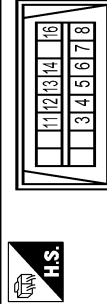
Connector No. M181  
 Connector Name WIRE TO WIRE  
 Connector Type TH60MW-NH



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | R             | -                           |
| 3            | B             | -                           |
| 5            | R             | -                           |
| 6            | BR            | -                           |
| 7            | L             | -                           |
| 8            | P             | -                           |
| 9            | B             | -                           |
| 10           | W             | -                           |
| 11           | LG            | -                           |
| 12           | SB            | -                           |
| 13           | G             | -                           |
| 14           | SB            | -                           |
| 15           | BR            | -                           |
| 16           | V             | -                           |
| 17           | P             | -                           |
| 18           | G             | -                           |
| 22           | BG            | -                           |
| 23           | B             | -                           |
| 25           | W             | -                           |
| 30           | R             | -                           |
| 31           | BR            | -                           |

|    |        |   |
|----|--------|---|
| 32 | L      | - |
| 33 | P      | - |
| 34 | LG     | - |
| 35 | W      | - |
| 36 | LG     | - |
| 37 | L      | - |
| 38 | BG     | - |
| 39 | SHIELD | - |
| 40 | W      | - |

Connector No. M182  
 Connector Name DATA LINK CONNECTOR  
 Connector Type BD18FW



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 3            | LG            | M-CAN L                     |
| 4            | B             | EARTH                       |
| 5            | B             | EARTH                       |
| 6            | L             | CAN-H                       |
| 7            | V             | KLING                       |
| 8            | LG            | IGN.SW                      |
| 11           | SB            | M-CAN H                     |
| 12           | P             | CAN-L                       |
| 13           | L             | CAN-H                       |
| 14           | P             | CAN-L                       |
| 16           | W             | POWER                       |

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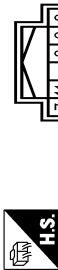
# DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

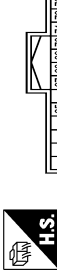
## DRIVER ASSISTANCE SYSTEMS

|                |               |
|----------------|---------------|
| Connector No.  | M183          |
| Connector Name | TRIPLE SWITCH |
| Connector Type | TH12FB-NH     |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | LG            | -                           |
| 2            | BR            | - [W/In:ICC]                |
| 3            | SB            | - [W/Out:ICC]               |
| 4            | BR            | -                           |
| 5            | B             | -                           |
| 6            | R             | -                           |
| 7            | B             | -                           |
| 8            | W             | -                           |
| 9            | W             | -                           |
| 10           | B             | -                           |
| 11           | B             | -                           |
| 12           | L             | -                           |

|                |                 |
|----------------|-----------------|
| Connector No.  | M210            |
| Connector Name | AV CONTROL UNIT |
| Connector Type | TH192FW-NH      |



| Terminal No. | Color Of Wire | Signal Name [Specification]   |
|--------------|---------------|-------------------------------|
| 65           | V             | PARKING BRAKE SIGNAL          |
| 67           | R             | COMPOSITE IMAGE SIGNAL GND    |
| 68           | W             | COMPOSITE IMAGE SIGNAL        |
| 69           | G             | I-KEY (IDENTIFICATION SIGNAL) |
| 70           | P             | SHIELD                        |
| 71           | SHIELD        | MICROPHONE SHIELD             |
| 72           | G             | MICROPHONE VCC                |
| 73           | BR            | COMM (CONT->DISP)             |
| 74           | P             | CAN-L                         |
| 75           | LG            | AV COMM (L)                   |

| Terminal No. | Color Of Wire | Signal Name [Specification]    |
|--------------|---------------|--------------------------------|
| 76           | LG            | AV COMM (L)                    |
| 79           | SB            | DIMMER SIGNAL                  |
| 80           | W             | IGNITION SIGNAL                |
| 81           | BG            | REVERSE SIGNAL                 |
| 82           | R             | VEHICLE SPEED SIGNAL (S-PULSE) |
| 83           | SHIELD        | SHIELD                         |
| 84           | B             | COMPOSITE IMAGE SYNC SIGNAL    |
| 87           | R             | MICROPHONE SIGNAL              |
| 88           | SHIELD        | SHIELD                         |
| 89           | Y             | COMM (DISP->CONT)              |
| 90           | L             | CAN-H                          |
| 91           | SB            | AV COMM (H)                    |
| 92           | SB            | AV COMM (H)                    |

|                |              |
|----------------|--------------|
| Connector No.  | M221         |
| Connector Name | WIRE TO WIRE |
| Connector Type | M03FW-LC     |



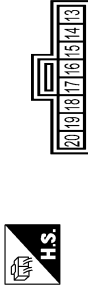
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | R             | -                           |
| 3            | W             | -                           |

|                |              |
|----------------|--------------|
| Connector No.  | M222         |
| Connector Name | WIRE TO WIRE |
| Connector Type | M03MW-LC     |



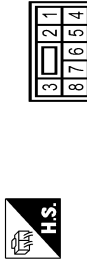
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W             | -                           |
| 2            | R             | -                           |
| 3            | Y             | -                           |

|                |                                   |
|----------------|-----------------------------------|
| Connector No.  | M303                              |
| Connector Name | COMBINATION SWITCH (SPIRAL CABLE) |
| Connector Type | TK08FGY                           |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 13           | -             | -                           |
| 14           | -             | -                           |
| 15           | -             | -                           |
| 16           | -             | -                           |
| 17           | -             | -                           |
| 18           | -             | -                           |
| 19           | -             | -                           |
| 20           | -             | -                           |

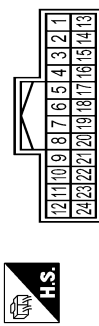
|                |              |
|----------------|--------------|
| Connector No.  | R1           |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FW-GS    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 3            | R             | -                           |
| 4            | BS            | -                           |
| 5            | Y             | -                           |
| 6            | GR            | -                           |

|              |   |    |   |
|--------------|---|----|---|
| Terminal No. | 7 | B  | - |
| Terminal No. | 8 | BR | - |

|                |              |
|----------------|--------------|
| Connector No.  | R7           |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH24FW-NH    |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | G             | -                           |
| 2            | Y             | -                           |
| 3            | W             | -                           |
| 4            | R             | -                           |
| 5            | L             | -                           |
| 6            | B             | -                           |
| 7            | R             | -                           |
| 8            | P             | -                           |
| 9            | B             | -                           |
| 10           | V             | -                           |
| 11           | BR            | -                           |
| 12           | G             | -                           |
| 13           | L             | -                           |
| 20           | R             | -                           |
| 21           | R             | -                           |
| 22           | G             | -                           |
| 23           | L             | -                           |
| 24           | LG            | -                           |

JROWC3883GB

# DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

A  
B  
C  
D  
E  
F  
G  
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K  
L  
M  
N  
P

## DRIVER ASSISTANCE SYSTEMS

|                |                  |
|----------------|------------------|
| Connector No.  | R8               |
| Connector Name | LANE CAMERA UNIT |
| Connector Type | THK8FW-NH        |



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | GROUND                      |
| 4            | B             | ITS COMPL-H                 |
| 5            | B             | GROUND                      |
| 7            | O             | IGNITION                    |
| 8            | Y             | ITS COMPL-L                 |

JROWC3884GB

DAS

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

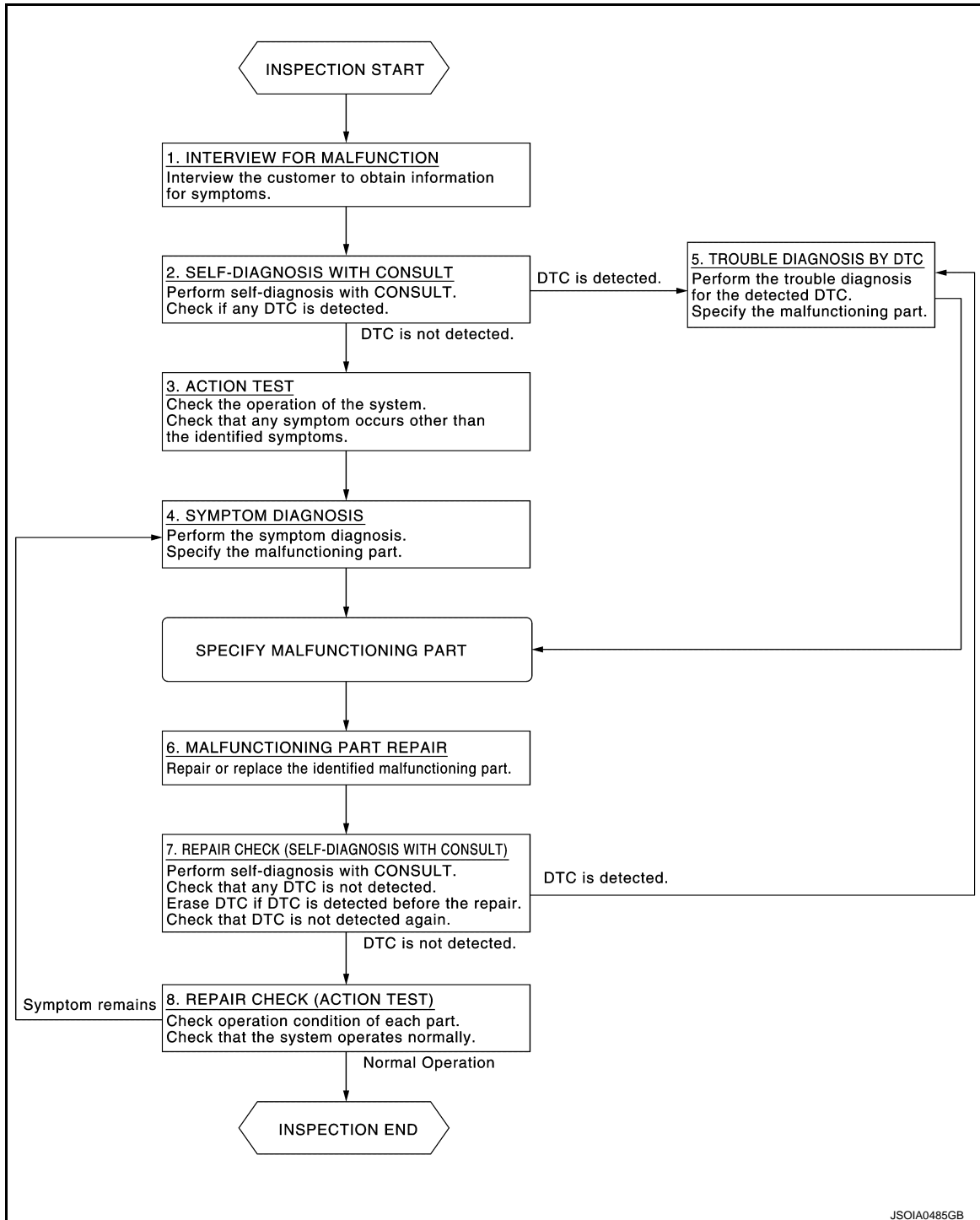
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000011436997

#### OVERALL SEQUENCE



#### DETAILED FLOW

##### 1. INTERVIEW FOR MALFUNCTION

It is also important to clarify the customer concerns before starting the inspection. Interview the customer about the concerns carefully and understand the symptoms fully.



# DIAGNOSIS AND REPAIR WORK FLOW

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

## NOTE:

The customers are not professionals. Never assume that “maybe the customer means...” or “maybe the customer mentioned this symptom”.

>> GO TO 2.

## 2.SELF-DIAGNOSIS WITH CONSULT

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected on the self-diagnosis results of following.
  - “ICC/ADAS”
  - “LASER/RADAR”
  - “ACCELE PEDAL ACT”
  - “LANE CAMERA”
  - “SIDE RADAR LEFT”
  - “SIDE RADAR RIGHT”
  - “BSW/BUZZER”

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 3.

## 3.ACTION TEST

Perform Following system action test to check the operation status. Check if any other malfunctions occur.

- DCA: Refer to [DAS-300, "DCA : Description"](#).
- LDW/LDP: Refer to [DAS-301, "LDW/LDP : Description"](#).
- Blind Spot Warning/Blind spot Intervention: Refer to [DAS-303, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"](#).
- BCI: Refer to [DAS-306, "BCI : Description"](#).

>> GO TO 4.

## 4.SYMPTOM DIAGNOSIS

Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to [DAS-358, "Symptom Table"](#).

>> GO TO 6.

## 5.TROUBLE DIAGNOSIS BY DTC

1. Check the DTC in the self-diagnosis results.
2. Perform trouble diagnosis for the detected DTC following.
  - “ICC/ADAS”: Refer to [DAS-248, "DTC Index"](#).
  - “LASER/RADAR” Refer to [DAS-253, "DTC Index"](#).
  - “ACCELE PEDAL ACT”: Refer to [DAS-256, "DTC Index"](#).
  - “LANE CAMERA”: Refer to [DAS-259, "DTC Index"](#).
  - “SIDE RADAR LEFT”: Refer to [DAS-262, "DTC Index"](#).
  - “SIDE RADAR RIGHT”: Refer to [DAS-265, "DTC Index"](#).
  - “BSW/BUZZER”: Refer to [DAS-269, "DTC Index"](#).

## NOTE:

If “DTC: U1000” is detected, first diagnose the CAN communication system or ITS communication system.

>> GO TO 6.

## 6.MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

>> GO TO 7.

## 7.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

1. Erases self-diagnosis results.

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DAS

## DIAGNOSIS AND REPAIR WORK FLOW

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

2. Perform "All DTC Reading" again after repairing or replacing the specific items.
3. Check if any DTC is detected in self-diagnosis results of following.
  - "ICC/ADAS"
  - "LASER/RADAR"
  - "ACCELE PEDAL ACT"
  - "LANE CAMERA"
  - "SIDE RADAR LEFT"
  - "SIDE RADAR RIGHT"
  - "BSW/BUZZER"

Is any DTC detected?

- YES >> GO TO 5.
- NO >> GO TO 8.

### 8. REPAIR CHECK (ACTION TEST)

Perform the Following system action test. Check that the malfunction symptom is solved or no other symptoms occur.

- DCA: Refer to [DAS-300. "DCA : Description"](#).
- LDW/LDP: Refer to [DAS-301. "LDW/LDP : Description"](#).
- Blind Spot Warning/Blind Spot Intervention: Refer to [DAS-303. "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"](#).
- BCI: Refer to [DAS-306. "BCI : Description"](#).

Is there a malfunction symptom?

- YES >> GO TO 4.
- NO >> INSPECTION END

# ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

## ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

### Description

INFOID:0000000011472171

- Always perform the radar alignment after removing and installing or replacing the ICC sensor.

**CAUTION:**

**The system does not operate normally unless the radar alignment is performed. Always perform it.**

- Perform the ICC system action test to check that the ICC system operates normally.

### Work Procedure

INFOID:0000000011472172

#### 1. PERFORM RADAR ALIGNMENT

Perform the radar alignment. Refer to [CCS-80, "Application Notice"](#).

>> GO TO 2.

#### 2. ICC SYSTEM ACTION TEST

1. Perform the ICC system action test. Refer to [CCS-92, "Description"](#).
2. Check that the ICC system operates normally.

>> INSPECTION END

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DAS

# ADDITIONAL SERVICE WHEN REPLACING ACCELERATOR PEDAL ASSEMBLY

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

## ADDITIONAL SERVICE WHEN REPLACING ACCELERATOR PEDAL ASSEMBLY

### Description

INFOID:000000011437000

Perform the DCA system action test check that the DCA system operates normally.

### Work Procedure

INFOID:000000011437001

#### 1. DCA SYSTEM ACTION TEST

1. Perform the DCA system action test. Refer to [DAS-300, "DCA : Description"](#).
2. Check that the DCA system operates normally.

>> INSPECTION END

# ADDITIONAL SERVICE WHEN REPLACING LANE CAMERA UNIT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

## ADDITIONAL SERVICE WHEN REPLACING LANE CAMERA UNIT

### Description

INFOID:000000011437002

Always adjust the camera aiming after removing and installing or replacing the lane camera unit.

#### **CAUTION:**

**The system does not operate normally unless the camera aiming adjustment is performed. Always perform it.**

### Work Procedure

INFOID:000000011437003

#### 1. CAMERA AIMING ADJUSTMENT

Perform the camera aiming adjustment. Refer to [DAS-297, "Work Procedure \(Camera Aiming Adjustment\)"](#).

>> GO TO 2.

#### 2. PERFORM SELF-DIAGNOSIS

Perform the self-diagnosis of lane camera unit with CONSULT. Check if any DTC is detected.

##### Is any DTC detected?

YES >> Perform the trouble diagnosis for the detected DTC. Refer to [DAS-259, "DTC Index"](#)

NO >> GO TO 3.

#### 3. LDW/LDP SYSTEM ACTION TEST

1. Perform the LDW/LDP system action test. Refer to [DAS-301, "LDW/LDP : Description"](#).
2. Check that the LDW/LDP system operates normally.

>> GO TO 4.

#### 4. BLIND SPOT WARNING/BLIND SPOT INTERVENTION SYSTEM ACTION TEST

1. Perform the Blind Spot Warning/Blind Spot Intervention system action test. Refer to [DAS-304, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Work Procedure"](#).
2. Check that the Blind Spot Warning/Blind Spot Intervention system operates normally.

>> WORK END

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DAS

# PRE-INSPECTION FOR DIAGNOSIS

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

## PRE-INSPECTION FOR DIAGNOSIS

### LANE CAMERA UNIT

#### LANE CAMERA UNIT : Inspection Procedure

INFOID:000000011437004

#### 1.CHECK CAMERA LENS AND WINDSHIELD

---

Are camera lens and windshield contaminated with foreign materials?

YES >> Clean camera lens and windshield.

NO >> GO TO 2.

#### 2.CHECK LANE CAMERA UNIT INSTALLATION CONDITION

---

Check lane camera unit installation condition (installation position, properly tightened, a bent bracket).

Is it properly installed?

YES >> GO TO 3.

NO >> Install lane camera unit properly, and perform camera aiming. Refer to [DAS-295. "Description"](#).

#### 3.CHECK VEHICLE HEIGHT

---

Check vehicle height. Refer to [FSU-21. "Wheelarch Height"](#) (2WD), [FSU-41. "Wheelarch Height"](#) (AWD).

Is vehicle height appropriate?

YES >> INSPECTION END

NO >> Repair vehicle to appropriate height.

# CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

## CAMERA AIMING ADJUSTMENT

### Description

INFOID:000000011437005

Always adjust the camera aiming after removing and installing or replacing the lane camera unit.

#### CAUTION:

- Place the vehicle on level ground when the camera aiming adjustment is operated.
- Follow the **CONSULT** when performing the camera aiming. (Camera aiming adjustment cannot be operated without **CONSULT**.)

### Work Procedure (Preparation)

INFOID:000000011437006

#### 1. PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of ADAS control unit and lane camera unit.

##### Is any DTC detected?

Except "C1B01">>Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to [DAS-248, "DTC Index"](#) (ICC/ADAS) or [DAS-259, "DTC Index"](#) (LANE CAMERA).

"C1B01" or no DTC>>GO TO 2.

#### 2. PREPARATION BEFORE CAMERA AIMING ADJUSTMENT

1. Perform pre-inspection for diagnosis. Refer to [DAS-294, "LANE CAMERA UNIT : Inspection Procedure"](#).
2. Adjust the tire pressure to the specified pressure value.
3. Maintain no-load in vehicle.
4. Check if coolant and engine oil are filled up to correct level and fuel tank is full.
5. Shift the selector lever to "P" position and release the parking brake.
6. Clean the windshield.
7. Completely clear off the instrument panel.

>> GO TO 3.

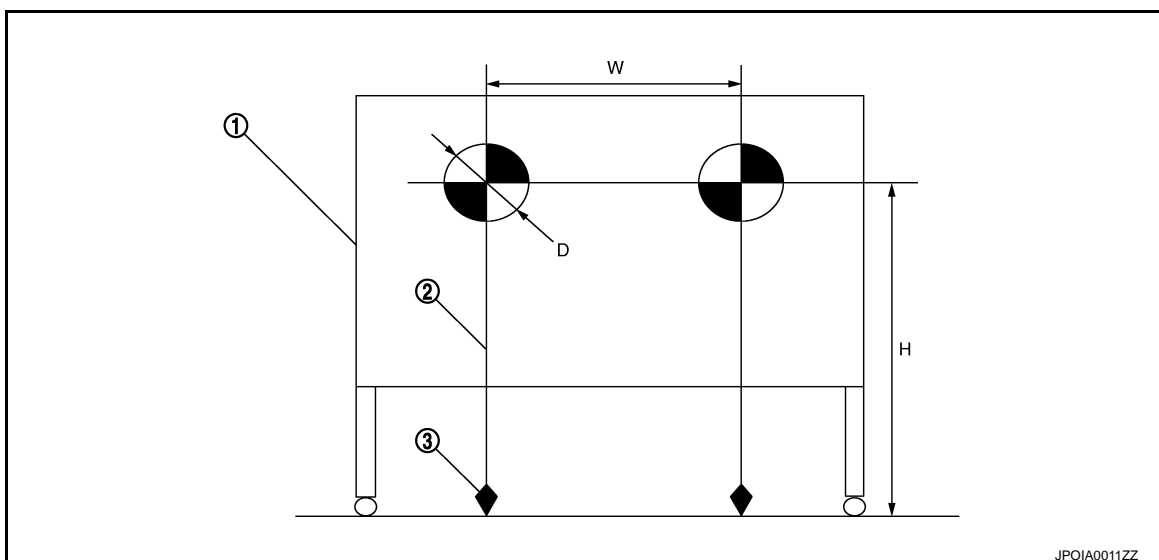
#### 3. PREPARATION OF AIMING ADJUSTMENT JIG

Prepare the aiming adjustment jig according to the following procedure and the figure.

1. Print out the target mark attached in this service manual. Refer to [DAS-298, "Work Procedure \(Target Mark Sample\)"](#).
2. Stick a printed target mark on the board with a scotch tape or a piece of double-sided tape.

##### NOTE:

- Use the board that peripheral area of the target is monochrome such as a white-board.
- Notice that the cross of the target is horizontal and vertical.



# CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

- ① Board
- ② String
- ③ Cone
- : Target mark

**Diameter of a target (D)** : 200 mm (7.87 in)  
**Height of a target center (H)** : 1,450 mm (57.09 in)  
**Width between a right target center from a left target center (W)** : 600 mm (23.62 in)

>> Go to [DAS-296. "Work Procedure \(Target Setting\)"](#).

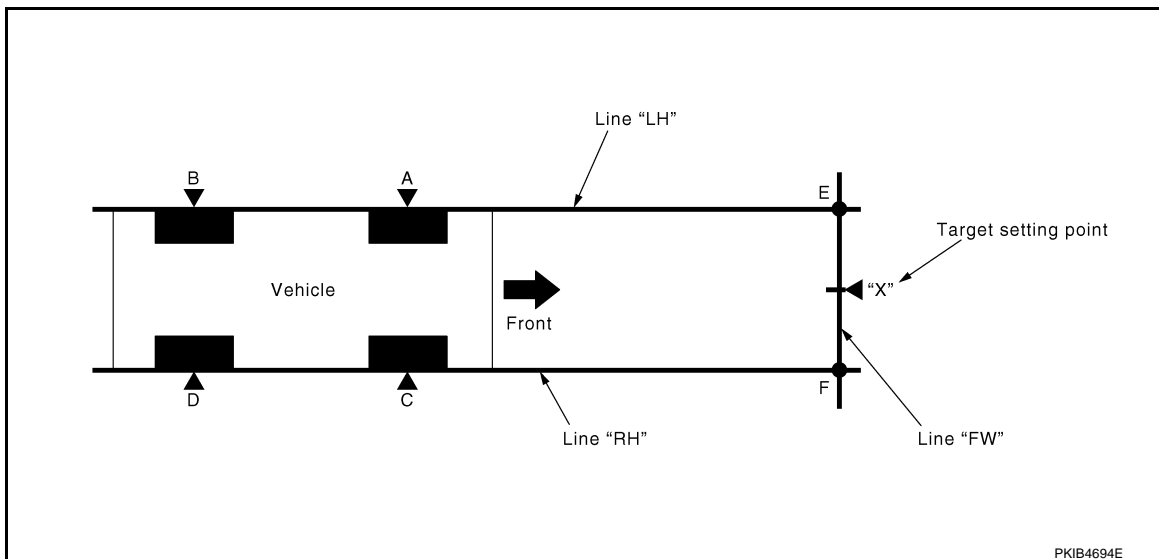
## Work Procedure (Target Setting)

INFOID:000000011437007

### CAUTION:

- Perform this operation in a horizontal position where there is a clear view for 5 m (16.4 ft) forward and 3 m (9.84 ft) wide.
- Place the target in a well-lighted location. (Poor lighting may make it hard to adjust.)
- The target may not be detected when there is a light source within 1.5 m (4.92 ft) from either side and within 1 m (3.28 ft) upward/downward from the target.
- Check the location of the sun. (Sunlight should not shine directly on the front of the vehicle.)
- The target may not be detected when there is the same pattern of black and white as the target when the pattern is within 1 m (3.28 ft) from either side and upward/downward position from the target. (It is desirable that the vehicle is positioned on the opposite side of a single-color wall.)

### 1. TARGET SETTING



**"A" – "E" ("C" – "F")** : 3,850 mm (151.57 in)

1. Mark points "A", "B", "C" and "D" at the center of the lateral surface of each wheels.

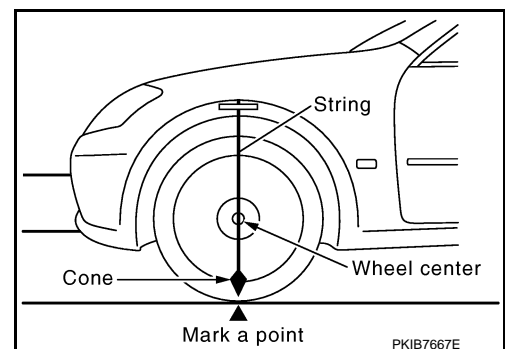
#### NOTE:

Hang a string with a cone from the fender so as to pass through the center of wheel, and then mark a point at the center of the lateral surface of the wheel.

2. Draw line "LH" passing through points "A" and "B" on the left side of vehicle.

#### NOTE:

Approximately 4 m (13.12 ft) or more from the front end of vehicle.





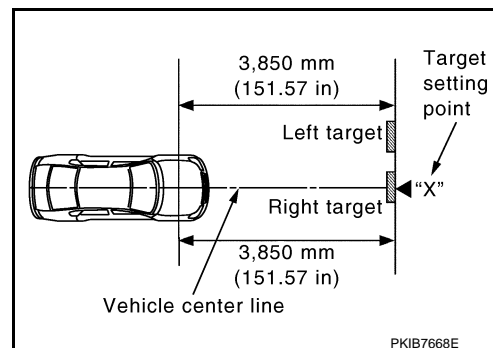
# CAMERA AIMING ADJUSTMENT

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

3. Mark point "E" on the line "LH" at the positions 3,850 mm (151.57 in) from point "A".
4. Draw line "RH" passing through points "C" and "D" on the right side of vehicle in the same way as step 2.  
**NOTE:**  
Approximately 4 m (13.12 ft) or more from the front end of vehicle.
5. Mark point "F" on the line "RH" at the positions 3,850 mm (151.57 in) from point "C".
6. Draw line "FW" passing through the points "E" and "F" on the front side of vehicle.
7. Mark point "X" at the center of point "E" and "F" on the line "FW".  
**CAUTION:**  
**Make sure that "E" to "X" is equal to "F" to "X".**
8. Position the center of the right target to point of "X".

>> Go to [DAS-297, "Work Procedure \(Camera Aiming Adjustment\)"](#).



## Work Procedure (Camera Aiming Adjustment)

INFOID:000000011437008

**CAUTION:**  
Perform the adjustment under unloaded vehicle condition.

### 1. CHECK VEHICLE HEIGHT

Measure the wheelarch height. Calculate "Dh".

$$Dh [mm] = (Hfl + Hfr) \div 2 - 756$$

where,

Hfl: Front left wheelarch height [mm]

Hfr: Front right wheelarch height [mm]

**NOTE:**

"Dh" may be calculated as a minus value.

>> GO TO 2.

### 2. CAMERA AIMING ADJUSTMENT

**CAUTION:**

Operate CONSULT outside the vehicle, and close all the doors. (To retain vehicle attitude appropriately)

1. Select "Work Support" on "LANE CAMERA" with CONSULT.
2. Select "AUTO AIM".
3. Confirm the following items;
  - The target should be accurately placed.
  - The vehicle should be stopped.
4. Select "Start" to perform camera aiming.

**CAUTION:**

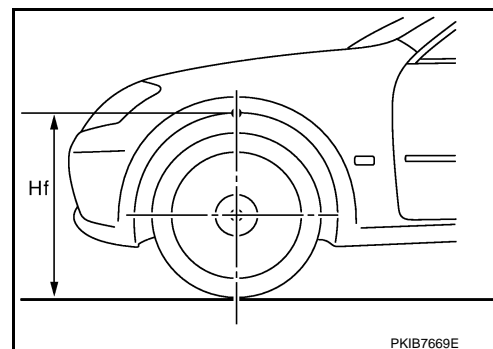
- Never select "Start" when the target is not accurately placed.
- Wait 5 seconds or more after selecting "Start".

5. Input "Dh", and then select "Start".

**CAUTION:**

Never change "Ht" and "Dt".

6. Confirm the displayed item.
  - "Normally Completed": Select "Completion".
  - "SUSPENSION", "X AIMING NG Y", "ABNORMALLY COMPLETED": Perform the following services.



# CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

| Displayed item                        |                           | Possible cause   | Service procedure  |
|---------------------------------------|---------------------------|--|--|
| SUSPENSION                            | —                         | Temporary malfunction in internal processing of the lane camera unit.  | Go back to Step 1  |
|                                       | 00H Routine not activated | Lane camera unit malfunction.  | Position the target appropriately again. Perform the aiming again. Refer to <a href="#">DAS-296, "Work Procedure (Target Setting)"</a> |
|                                       | 10H Writing error         | <ul style="list-style-type: none"> <li>• Temporary malfunction in internal processing of the lane camera unit.</li> <li>• Lane camera unit malfunction.</li> </ul>                                 |  |
| X AIMING NG Y<br>(X: 0 - 7, Y: 1 - 8) | —                         | <ul style="list-style-type: none"> <li>• A target is not-yet-placed.<br/>(The lane camera unit cannot detect a target.)</li> <li>• The position of the lane camera unit is not correct.</li> </ul> | Position the target appropriately again. Perform the aiming again. Refer to <a href="#">DAS-295, "Work Procedure (Preparation)"</a> .  |
| ABNORMALLY COMPLETED                  | —                         | <ul style="list-style-type: none"> <li>• Inappropriate work environment.</li> <li>• Inappropriate vehicle condition.</li> </ul>  |  |

**NOTE:**

Replace camera unit if "00H Routine not activated" or "10H Writing error" are repeatedly indicated during the above two services are performed.

7. Confirm that "Normally Completed" is displayed and then select "End" to close the aiming adjustment procedure.

>> GO TO 3.

### 3. PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of lane camera unit with CONSULT.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to [DAS-259, "DTC Index"](#).

NO >> GO TO 4.

### 4. ACTION TEST

Test the LDW/LDP system operation by action test. Refer to [DAS-301, "LDW/LDP : Description"](#).

>> WORK END

Work Procedure (Target Mark Sample)

INFOID:000000011437009

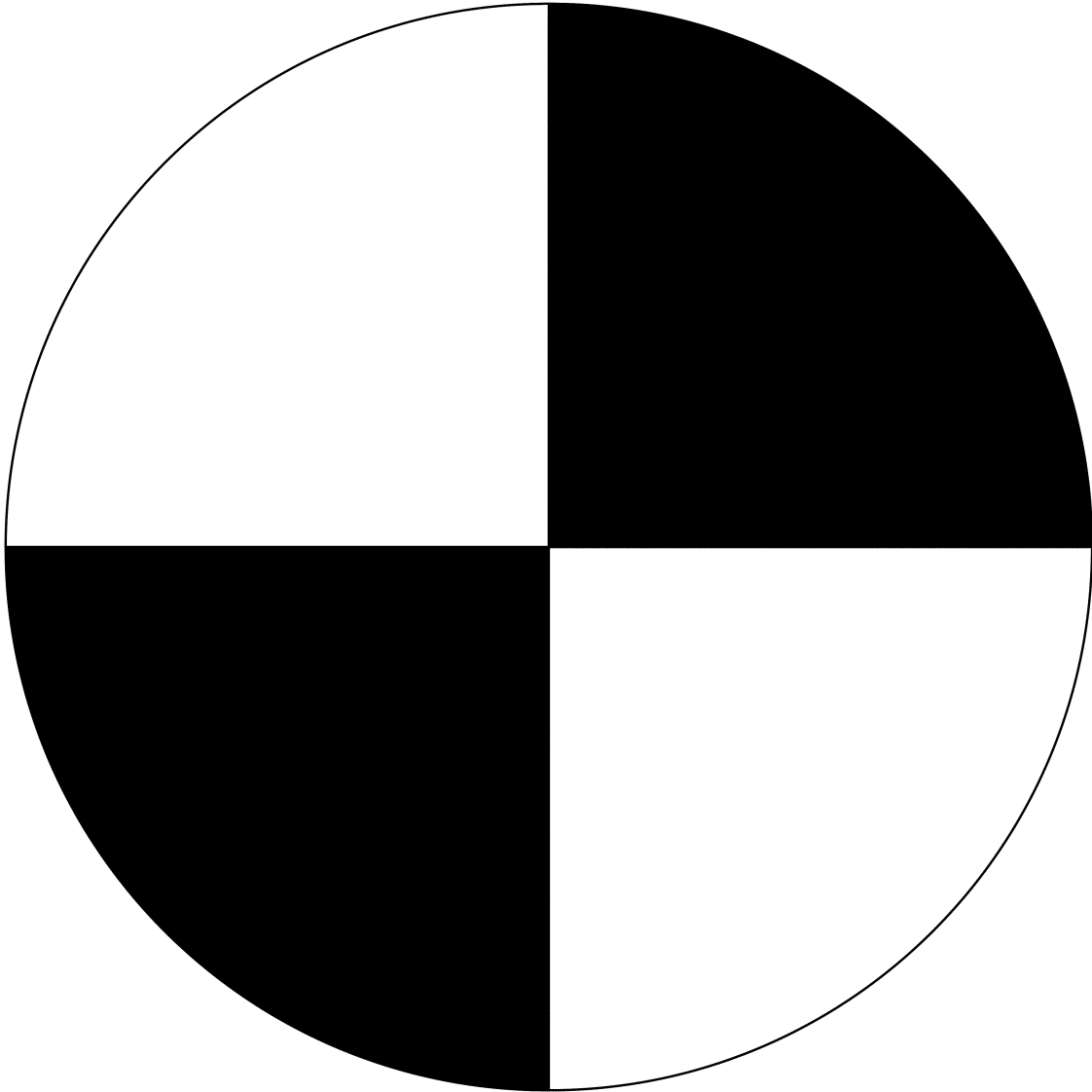
**NOTE:**

# CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

Print this illustration so that the diameter of the circle is 200 mm (7.87 in).



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## ACTION TEST

### DCA

#### DCA : Description

INFOID:000000011437010

Always perform the DCA system action test to check that the system operates normally after replacing the ICC sensor, replacing the accelerator pedal assembly, or repairing any DCA system malfunction.

**CAUTION:**

**Perform the DCA system action test after checking that the ICC system operates normally because the DCA system shares components with the ICC system.**

#### DCA : Work Procedure

INFOID:000000011437011

**NOTE:**

When the ICC system is set, the information display changes to the ICC system display.

### 1. ICC SYSTEM ACTION TEST

Perform the ICC system action test. Refer to [CCS-92, "Description"](#).

>> GO TO 2.

### 2. CHECK DCA SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 30 seconds or more.
3. Check that the DCA system setting can be enabled/disabled on the navigation screen.
4. Turn OFF the ignition switch and wait for 5 seconds or more.
5. Check that the previous setting is saved when the engine starts again.

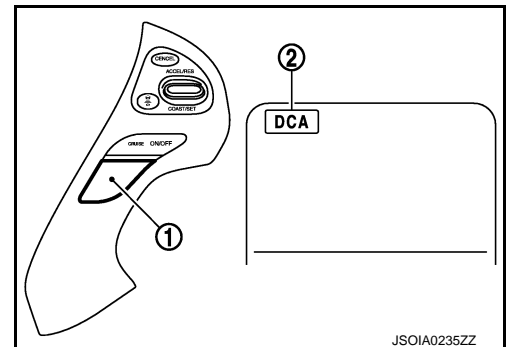
>> GO TO 3.

### 3. CHECK DRIVER ASSISTANCE SYSTEMS SWITCH

1. Start the engine.
2. After starting the engine wait for 30 seconds or more.
3. Enable the setting of the DCA system on the navigation screen.
4. Press the dynamic driver assistance switch ①.
5. Check that the DCA system switch indicator ② on the information display illuminates.
6. Check that the DCA system switch indicator turns OFF when the system is turned OFF by pressing the dynamic driver assistance switch.
7. Check that the DCA system switch indicator turns OFF when the engine starts again.

**NOTE:**

The DCA system switch indicator does not illuminate even when the dynamic driver assistance switch is turned ON within approximately 5 seconds after starting the engine.



If the accelerator pedal assembly is not replaced>>INSPECTION END

If the accelerator pedal assembly is replaced>>GO TO 4.

### 4. CHECK DCA SYSTEM OPERATION

Check that the accelerator pedal actuator operates by the "Active Test" items "ACCELERATOR PEDAL ACTUATOR TEST1" and "ACCELERATOR PEDAL ACTUATOR TEST2" of "ACCELE PEDAL ACT" with CONSULT.

>> INSPECTION END

### LDW/LDP

# ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

## LDW/LDP : Description

INFOID:000000011437012

- Perform action test to verify the customer's concern.
- Perform action test and check the system operation after system diagnosis.

**WARNING:**

**Be careful of traffic conditions and safety around the vehicle when performing road test.**

**CAUTION:**

- Fully understand the following items well before the road test;
  - Precautions: Refer to [DAS-167, "LDW/LDP System Service"](#).
  - System description for LDW: Refer to [DAS-180, "LDW : System Description"](#).
  - System description for LDP: Refer to [DAS-182, "LDP : System Description"](#).
  - Handling precaution: Refer to [DAS-211, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

## LDW/LDP : Inspection Procedure

INFOID:000000011437013

**WARNING:**

**Be careful of traffic conditions and safety around the vehicle when performing road test.**

**CAUTION:**

- Fully understand the following items well before the road test;
  - Precautions: Refer to [DAS-167, "LDW/LDP System Service"](#).
  - System description for LDW: Refer to [DAS-180, "LDW : System Description"](#).
  - System description for LDP: Refer to [DAS-182, "LDP : System Description"](#).
  - Handling precaution: Refer to [DAS-211, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

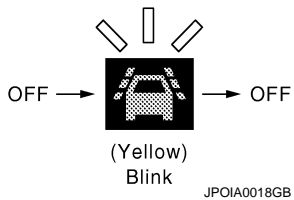
### 1. CHECK LDW SYSTEM SETTING

1. Start the engine.
2. Check that the LDW system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 30 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 2.

### 2. ACTION TEST FOR LDW

1. Enable the setting of the LDW system on the navigation screen.
  2. Turn warning systems switch ON (warning systems ON indicator is ON).
- NOTE:**  
LDP system is OFF.
3. Check the LDW operation according to the following table.

| Vehicle condition/ Driver's operation |   | Action  | Warning systems ON indicator | Indication on the combination meter  | Buzzer                 |
|---------------------------------------|---|---|------------------------------|--|------------------------|
| Less than approx. 60 km/h (37 MPH)    | Close to lane marker  | No action   | ON                           | OFF  | —                      |
| Approx. 70 km/h (45 MPH) or more      | Close to lane marker  | Warning <ul style="list-style-type: none"> <li>• Buzzer sounds</li> <li>• Warning lap blinks</li> </ul> | ON                           |  <p>(Yellow) Blink<br/>JPOIA0018GB</p> | Short continuous beeps |
|                                       | <ul style="list-style-type: none"> <li>• Close to lane marker</li> <li>• Turn signal ON (Deviate side)</li> </ul> | No action   | ON                           | OFF  | —                      |

**NOTE:**



# ACTION TEST

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (37 MPH). Refer to [DAS-180, "LDW : System Description"](#).

>> GO TO 3.


## 3. CHECK LDP SYSTEM SETTING

1. Start the engine.
2. Check that the LDP system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 30 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 4.

## 4. ACTION TEST FOR LDP

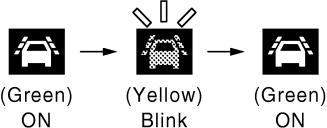

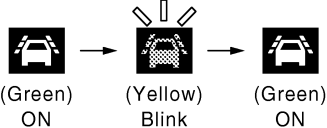
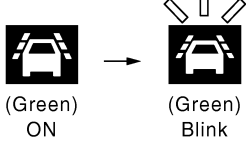
1. Enable the setting of the LDP system on the navigation screen.
2. Turn dynamic driver assistance switch ON (LDP ON indicator lamp is ON).
3. Check the LDP operation according to the following table.

| Vehicle condition/ Driver's operation |                      | Action    | Indication on the combination meter  | Buzzer |
|---------------------------------------|----------------------|-----------|--|--------|
| Less than approx. 60 (37)             | Close to lane marker | No action | <br>(Green)<br>ON<br><small>JPOIA0021GB</small> | —      |

# ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

| Vehicle condition/ Driver's operation | Action  | Indication on the combination meter  | Buzzer  |                        |
|---------------------------------------|---|--|---|------------------------|
| Approx. 70<br>(45) or more            | Close to lane marker  |  <p style="text-align: center;">(Green) ON      (Yellow) Blink      (Green) ON</p> <p style="text-align: center;">JPOIA0022GB</p>      | Short continuous beeps  |                        |
|                                       | <ul style="list-style-type: none"> <li>Close to lane marker</li> <li>Turn signal ON (deviate side)</li> </ul>   | No action  |  <p style="text-align: center;">(Green) ON</p> <p style="text-align: center;">JPOIA0021GB</p>                                    | —                      |
|                                       | Close to lane marker with soft braking  | <p>Warning</p> <ul style="list-style-type: none"> <li>Buzzer sounds</li> <li>Warning lamp blinks</li> </ul>  |  <p style="text-align: center;">(Green) ON      (Yellow) Blink      (Green) ON</p> <p style="text-align: center;">JPOIA0022GB</p> | Short continuous beeps |
|                                       | <ul style="list-style-type: none"> <li>VDC OFF switch OFF ⇒ ON (VDC system ON ⇒ OFF)</li> <li>Shifting drive mode select switch to SNOW position</li> </ul> | <p>Cancellation</p> <ul style="list-style-type: none"> <li>Buzzer sounds</li> <li>Indicator lamp blinks</li> </ul> <p><b>NOTE:</b><br/>When dynamic driver assistance switch ON ⇒ OFF, indicator lamp is turned OFF.</p> |  <p style="text-align: center;">(Green) ON      (Green) Blink</p> <p style="text-align: center;">JPOIA0023GB</p>               | Beep                   |

**NOTE:**

After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (37 MPH). Refer to [DAS-182, "LDP : System Description"](#).

>> INSPECTION END

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION

### BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description

INFOID:000000011437014

Always perform the Blind Spot Warning and Blind Spot Intervention system action test to check that the system operates normally after replacing the lane camera unit, replacing the side radar left (right), or repairing any Blind Spot Intervention system malfunction.

**NOTE:**

Perform the Blind Spot Intervention system action test after checking that the LDP system operates normally because the Blind Spot Intervention system shares components with the LDP system.

**WARNING:**

**Be careful of traffic conditions and safety around the vehicle when performing road test.**

**CAUTION:**

Fully understand the following items well before the road test;

- **Precautions:** Refer to [DAS-167, "Blind Spot Warning/Blind Spot Intervention System Service"](#).
- **System description for Blind Spot Warning:** Refer to [DAS-185, "BSW : System Description"](#).
- **System description for Blind Spot Intervention:** Refer to [DAS-188, "BLIND SPOT INTERVENTION : System Description"](#).
- **Normal operating condition:** Refer to [DAS-383, "Description"](#).

# ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Work Procedure INFOID:000000011437015

### **WARNING:**

Be careful of traffic conditions and safety around the vehicle when performing road test.

### **CAUTION:**

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-167, "Blind Spot Warning/Blind Spot Intervention System Service"](#).
- System description for Blind Spot Warning: Refer to [DAS-185, "BSW : System Description"](#).
- System description for Blind Spot Intervention: Refer to [DAS-188, "BLIND SPOT INTERVENTION : System Description"](#).
- Normal operating condition: Refer to [DAS-383, "Description"](#).

### 1. LDW/LDP SYSTEM ACTION TEST

Perform the LDW/LDP system action test. Refer to [DAS-301, "LDW/LDP : Inspection Procedure"](#).

>> GO TO 2.

### 2. CHECK BSW SYSTEM SETTING

1. Start the engine.
2. Check that the BSW system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 5 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 3.

### 3. BSW SYSTEM ACTION TEST

1. Enable the setting of the BSW system on the navigation screen.
2. Turn warning systems switch ON (warning systems ON indicator is ON).

#### **NOTE:**

Blind Spot Intervention system is OFF.

3. Check BSW operation according to the following table.

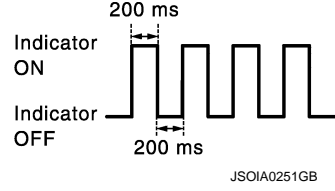
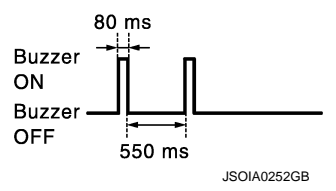
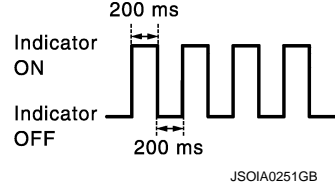
| Vehicle condition/ Driver's operation |               |                       |   | Action   |        |
|---------------------------------------|---------------|-----------------------|---|--|--------|
| Warning systems ON indicator          | Vehicle speed | Turn signal condition | Status of vehicle detection within detection area | Indication on the Blind Spot Warning/Blind Spot Intervention indicator | Buzzer |
| OFF                                   | —             | —                     | —   | OFF  | OFF    |



# ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

| Vehicle condition/ Driver's operation |  |  |  | Action  |  |
|---------------------------------------|--|--|--|---|--|
| Warning systems ON indicator          | Vehicle speed                                  | Turn signal condition  | Status of vehicle detection within detection area  | Indication on the Blind Spot Warning/Blind Spot Intervention indicator                      | Buzzer   |
| ON                                    | Less than approx. 29 km/h (18 MPH)             | —  | —  | OFF   | OFF  |
|                                       | Approx. 32 km/h (20 MPH)                       | —  | Vehicle is absent                                  | OFF   | OFF  |
|                                       |  | OFF  | Vehicle is detected                                | ON  | OFF  |
|                                       |  | ON (vehicle detected direction)  | Before turn signal operates<br>Vehicle is detected | Blink<br> | Short continuous beep<br> |
| ON (vehicle detected direction)       | Vehicle is detected after turn signal operates | Blink<br> | OFF  |   |  |

**NOTE:**

- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.
- Always Blind Spot Intervention system operates together with BSW system. Whenever Blind Spot Intervention system is turned on by pushing the dynamic driver assistance switch, BSW system also be turned on even if the BSW system is turned off. However, at this time the warning systems ON indicator remains OFF.

>> GO TO 4.

## 4. CHECK BLIND SPOT INTERVENTION SYSTEM SETTING

1. Start the engine.
2. Check that the Blind Spot Intervention system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 5 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 5.

## 5. CHECK DYNAMIC DRIVER ASSISTANCE SWITCH

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Enable the setting of the Blind Spot Intervention system on the navigation screen.
4. Press the dynamic driver assistance switch.
5. Check that the Blind Spot Intervention ON indicator on the combination meter illuminates.
6. Check that the Blind Spot Intervention ON indicator turns OFF when the system is turned OFF by pressing the dynamic driver assistance switch.
7. Check that the Blind Spot Intervention ON indicator turns OFF when the engine starts again.

**NOTE:**

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# ACTION TEST

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

- The Blind Spot Intervention ON indicator does not illuminate even when the dynamic driver assistance switch is turned ON within approximately 5 seconds after starting the engine.
- When the Blind Spot Intervention system setting is disabled on the navigation screen, the Blind Spot Intervention ON indicator is not turned ON by pressing the dynamic driver assistance switch.

>> INSPECTION END

## BCI

### BCI : Description

INFOID:000000011437016

Always perform the BCI system action test to check that the system operates normally after replacing the side radar (left or right), or repairing any BCI system malfunction.

#### **WARNING:**

**Be careful of traffic conditions and safety around the vehicle when performing road test.**

#### **CAUTION:**

**Fully understand the following items well before the road test;**

- **Precautions:** Refer to [DAS-168, "BCI system service"](#).
- **System description for BCI:** Refer to [DAS-192, "BCI : System Description"](#).
- **Normal operating condition:** Refer to [DAS-383, "Description"](#).

### BCI : Work Procedure

INFOID:000000011437017

#### **WARNING:**

**Be careful of traffic conditions and safety around the vehicle when performing road test.**

#### **CAUTION:**

**Fully understand the following items well before the road test;**

- **Precautions:** Refer to [DAS-168, "BCI system service"](#).
- **System description for BCI:** Refer to [DAS-192, "BCI : System Description"](#).
- **Normal operating condition:** Refer to [DAS-383, "Description"](#).

#### 1. CHECK BCI SYSTEM SETTING

Check the sonar system operation. Refer to [AV-156, "MULTI AV SYSTEM : System Diagram"](#).

>> GO TO 2.

#### 2. CHECK BCI SYSTEM SETTING

1. Start the engine.
2. Check that the BCI system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 30 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 3.



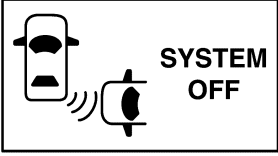
#### 3. ACTION TEST FOR BCI

1. Enable the setting of the BCI system on the navigation screen.
2. Turn BCI switch OFF (Back-up Collision Intervention system ON indicator is ON).
3. Check the BCI operation according to the following table.

# ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

| Vehicle condition         | Action  | Indication on the combination meter  | Buzzer   |             |
|---------------------------|---|--|--|-------------|
| 0 km/h (0 MPH)<br>R range | If the radar detects an approaching vehicle from the side | <ul style="list-style-type: none"> <li>• Chime sound (single beep)</li> <li>• Flashes Blind Spot Warning/ Blind Spot Intervention indicator on the side of the approaching vehicle is detected</li> <li>• Yellow rectangular frame appears in the display</li> </ul> |  <p style="text-align: right; font-weight: bold; margin: 0;">SYSTEM<br/>ON</p> <p style="text-align: right; font-size: small; margin: 0;">JSOIA0965ZZ</p>  | Single beep |
|                           | No approaching vehicle                                    | No action  |  <p style="text-align: right; font-weight: bold; margin: 0;">SYSTEM<br/>ON</p> <p style="text-align: right; font-size: small; margin: 0;">JSOIA0965ZZ</p>  | —           |
|                           | No approaching vehicle                                    | BCI system OFF   |  <p style="text-align: right; font-weight: bold; margin: 0;">SYSTEM<br/>OFF</p> <p style="text-align: right; font-size: small; margin: 0;">JSOIA0971ZZ</p> | —           |

>> INSPECTION END

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DAS

**DTC/CIRCUIT DIAGNOSIS**

## C1A50 ADAS CONTROL UNIT

## LANE CAMERA UNIT

## LANE CAMERA UNIT : DTC Logic

INFOID:000000011437018

## DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                              | DTC detecting condition                |
|-------|---|--|
| C1A50 | ADAS MALFUNCTION<br>(ADAS control unit malfunction) | If ADAS control unit is malfunctioning |

## POSSIBLE CAUSE

ADAS control unit

## FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

## DTC CONFIRMATION PROCEDURE

**1.CHECK DTC PRIORITY**

If DTC "C1A50" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

**2.PERFORM DTC CONFIRMATION PROCEDURE**

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A50" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1A50" detected as the current malfunction?

- YES >> Refer to [DAS-308, "LANE CAMERA UNIT : Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

## LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437019

**1.CHECK DTC PRIORITY**

If DTC "C1A50" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

**2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS**

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).  
 NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

# C1B00 CAMERA UNIT MALF

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## C1B00 CAMERA UNIT MALF

### LANE CAMERA UNIT

### LANE CAMERA UNIT : DTC Logic

INFOID:000000011437020

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                        | DTC detecting condition               |
|-------|---|---------------------------------------|
| C1B00 | CAMERA UNIT MALF<br>(Camera unit malfunction) | If lane camera unit is malfunctioning |

### POSSIBLE CAUSE

Lane camera unit

### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B00" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

#### Is "C1B00" detected as the current malfunction?

- YES >> Refer to [DAS-309, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437021

#### 1.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than "C1B00" is detected in "Self Diagnostic Result" of "LANE CAMERA".

#### Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-259, "DTC Index"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

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**C1B01 CAM AIMING INCOMP****LANE CAMERA UNIT****LANE CAMERA UNIT : DTC Logic**

INFOID:000000011437022

**DTC DETECTION LOGIC**

| DTC   | Trouble diagnosis name                          | DTC detecting condition        |
|-------|---|--------------------------------|
| C1B01 | CAM AIMING INCOMP<br>(Camera aiming incomplete) | Camera aiming is not completed |

**POSSIBLE CAUSE**

- Lane camera aiming is not adjusted
- Lane camera aiming adjustment has been interrupted

**FAIL-SAFE**

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

**DTC CONFIRMATION PROCEDURE****1. PERFORM DTC CONFIRMATION PROCEDURE**

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B01" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

**Is "C1B01" detected as the current malfunction?**

- YES >> Refer to [DAS-310, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

**LANE CAMERA UNIT : Diagnosis Procedure**

INFOID:000000011437023

**1. CAMERA AIMING ADJUSTMENT**

1. Perform the camera aiming. Refer to [DAS-295, "Description"](#).
2. Erase all self-diagnosis results with CONSULT.
3. Perform "All DTC Reading".
4. Check if the "C1B01" is detected in "Self Diagnostic Result" of "LANE CAMERA".

**Is "C1B01" detected?**

- YES >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).
- NO >> INSPECTION END

# C1B03 ABNRML TEMP DETECT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## C1B03 ABNRML TEMP DETECT

### LANE CAMERA UNIT

#### LANE CAMERA UNIT : DTC Logic

INFOID:000000011437024

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                              | DTC detecting condition                                 |
|-------|---|---|
| C1B03 | ABNRML TEMP DETECT<br>(Abnormal temperature detect) | Temperature around lane camera unit is excessively high |

#### POSSIBLE CAUSE

Interior room temperature is excessively high

#### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B03" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

##### Is "C1B03" detected as the current malfunction?

- YES >> Refer to [DAS-311. "LANE CAMERA UNIT : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

#### LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437025

##### 1. COOLING LANE CAMERA UNIT

1. Wait for 10 minutes or more to cool the lane camera unit.
2. Erase all self-diagnosis results with CONSULT.
3. Perform "All DTC Reading".
4. Check if the "C1B03" is detected in "Self Diagnostic Result" of "LANE CAMERA".

##### Is "C1B03" detected?

- YES >> Replace the lane camera unit. Refer to [DAS-391. "Removal and Installation"](#).  
NO >> INSPECTION END

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# C1B20 CONTROL MODULE

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1B20 CONTROL MODULE

### DRIVER ASSISTANCE BUZZER CONTROL MODULE

#### DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011437026

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name             | DTC detecting condition                                      |
|-------|------------------------------------|--|
| C1B20 | CONTROL MODULE<br>(Control module) | If driver assistance buzzer control module is malfunctioning |

#### POSSIBLE CAUSE

- Driver assistance buzzer control module
- Driver assistance buzzer
- Driver assistance buzzer circuit

#### FAIL-SAFE

None

#### DTC CONFIRMATION PROCEDURE

##### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B20" is detected as the current malfunction in "Self Diagnostic Result" of "BSW/BUZZER".

##### Is "C1B20" detected as the current malfunction?

YES >> Refer to [DAS-312. "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

#### DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011437027

##### 1.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than "C1B20" is detected in "Self Diagnostic Result" of "BSW/BUZZER".

##### Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-269. "DTC Index"](#).

NO >> GO TO 2.

##### 2.CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect the driver assistance buzzer connector.
3. Disconnect the driver assistance buzzer control module connector.
4. Check continuity between the driver assistance buzzer control module harness connector and driver assistance buzzer harness connector.

| Driver assistance buzzer control module |          | Driver assistance buzzer |          | Continuity |
|---|----------|--------------------------|----------|------------|
| Connector                               | Terminal | Connector                | Terminal |            |
| B210                                    | 8        | M13                      | 1        | Existed    |
|   | 16       |                          | 2        |            |

##### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.



# C1B20 CONTROL MODULE

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## 3. CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR SHORT

Check continuity between the driver assistance buzzer control module harness connector and ground.

| Driver assistance buzzer control module |          | Ground | Continuity  |
|---|----------|--------|-------------|
| Connector                               | Terminal |        |             |
| B210                                    | 8        |        | Not existed |
|   | 16       |        |             |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

## 4. CHECK DRIVER ASSISTANCE BUZZER

Check driver assistance buzzer. Refer to [DAS-313, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the driver assistance buzzer control module. Refer to [DAS-395, "Removal and Installation"](#).

NO >> Replace the driver assistance buzzer. Refer to [DAS-396, "Removal and Installation"](#).

## DRIVER ASSISTANCE BUZZER CONTROL MODULE : Component Inspection

INFOID:000000011437028

## 1. CHECK DRIVER ASSISTANCE BUZZER

1. Turn ignition switch OFF.
2. Disconnect driver assistance buzzer connector.
3. Check resistance between driver assistance buzzer terminals.

| Terminal |   | Resistance  |
|----------|---|-------------|
| 1        | 2 | Approx. 6 Ω |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace driver assistance buzzer.

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DAS

# C1B50 SIDE RADAR MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1B50 SIDE RADAR MALFUNCTION

### SIDE RADAR

#### SIDE RADAR : DTC LOGIC

INFOID:000000011437029

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                           | DTC detecting condition |
|-------|--|-------------------------|
| C1B50 | SIDE RDR MALFUNCTION<br>(Side radar malfunction) | Side radar malfunction  |

#### POSSIBLE CAUSE

Side radar

#### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B50" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B50" detected as the current malfunction?

- YES >> Refer to [DAS-314, "SIDE RADAR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

#### SIDE RADAR : Diagnosis Procedure

INFOID:000000011437030

##### 1. CHECK SELF-DIAGNOSIS RESULT

Check if any DTC other than "C1B50" is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT"

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunction part. Refer to [DAS-265, "DTC Index"](#) (SIDE RADAR RIGHT) or [DAS-262, "DTC Index"](#) (SIDE RADAR LEFT).  
NO >> Replace the side radar. Refer to [DAS-392, "Removal and Installation"](#).

# C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:0000000011437031

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name  | DTC detecting condition   |
|-------|---|---|
| C1B51 | BSW/BSI IND SHORT CIR<br>(Blind Spot Warning/Blind Spot Intervention indicator short circuit) | Short circuit in Blind Spot Warning/Blind Spot Intervention indicator circuit is detected. (Over current is detected) |

### POSSIBLE CAUSE

- Blind Spot Warning/Blind Spot Intervention indicator circuit.
- Blind Spot Warning/Blind Spot Intervention indicator.
- Side radar.

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B51" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B51" detected as the current malfunction?

YES >> Refer to [DAS-315, "SIDE RADAR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### SIDE RADAR : Diagnosis Procedure

INFOID:0000000011437032

#### 1.CHECK BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR CIRCUIT FOR SHORT

1. Turn ignition switch OFF.
2. Disconnect side radar harness connector and Blind Spot Warning/Blind Spot Intervention indicator harness connector.
3. Check continuity between side radar harness connector and ground.

| Side radar |          | Ground | Continuity  |
|------------|----------|--------|-------------|
| Connector  | Terminal |        |             |
| B52 (LH)   | 6        |        | Not existed |
| B252 (RH)  |          |        |             |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

#### 2.REPLACE THE SIDE RADAR

1. Replace the side radar.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B51" is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT"

# C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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Is the DTC "C1B51" detected?

- YES >> Replace the side radar. Refer to [DAS-392, "Removal and Installation"](#).
- NO >> INSPECTION END

# C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:000000011437033

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name  | DTC detecting condition   |
|-------|---|---|
| C1B52 | BSW/BSI IND OPEN CIR<br>(Blind Spot Warning/Blind Spot Intervention indicator open circuit) | Open circuit in Blind Spot Warning/Blind Spot Intervention indicator circuit is detected. |

### POSSIBLE CAUSE

- Blind Spot Warning/Blind Spot Intervention indicator circuit.
- Blind Spot Warning/Blind Spot Intervention indicator.
- Side radar.

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B52" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B52" detected as the current malfunction?

YES >> Refer to [DAS-317, "SIDE RADAR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### SIDE RADAR : Diagnosis Procedure

INFOID:000000011437034

#### 1. CHECK BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR CIRCUIT FOR OPEN 1

1. Turn ignition switch OFF.
2. Disconnect side radar harness connector and Blind Spot Warning/Blind Spot Intervention indicator harness connector.
3. Check continuity between side radar harness connector and Blind Spot Warning/Blind Spot Intervention indicator harness connector.

| Side radar |          | Blind Spot Warning/Blind Spot Intervention indicator |          | Continuity |
|------------|----------|--|----------|------------|
| Connector  | Terminal | Connector  | Terminal |            |
| B52 (LH)   | 6        | D7 (LH)  | 1        | Existed    |
| B252 (RH)  |          | D37 (RH)   |          |            |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

# C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## 2. CHECK BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR CIRCUIT FOR OPEN 2

Check continuity between Blind Spot Warning/Blind Spot Intervention indicator harness connector and ground.

| Blind Spot Warning/Blind Spot Intervention indicator |          | Ground | Continuity |
|--|----------|--------|------------|
| Connector  | Terminal |        |            |
| D7 (LH)  | 4        |        | Existed    |
| D37 (RH)   |          |        |            |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

## 3. CHECK SIDE RADAR VOLTAGE OUTPUT

1. Connect side radar harness connector.
2. Check voltage between Blind Spot Warning/Blind Spot Intervention indicator harness connector and ground.

| Blind Spot Warning/Blind Spot Intervention indicator |          | Ground | Condition                                       | Voltage (Approx.) |
|--|----------|--------|---|-------------------|
| Connector  | Terminal |        |   |                   |
| D7 (LH)  | 1        |        | Ignition switch<br>OFF ⇒ ON<br>(Approx. 2 sec.) | 6 V               |
| D37 (RH)   |          |        |   |                   |

Is the inspection result normal?

YES >> Replace Blind Spot Warning/Blind Spot Intervention indicator.

NO >> Replace side radar. Refer to [DAS-392, "Removal and Installation"](#).

# C1B55 RADAR BLOCKAGE

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## C1B55 RADAR BLOCKAGE

### SIDE RADAR

### SIDE RADAR : DTC Logic

INFOID:000000011437035

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name             | DTC detecting condition |
|---------|------------------------------------|-------------------------|
| C1B55   | RADAR BLOCKAGE<br>(Radar blockage) | Side radar is blocked.  |

#### NOTE:

DTC "C1B55" may be detected under the following conditions except for possible cause. (Explain to the customer about the difference between the contamination detection function and the indication when the malfunction is detected and tell them "This is not malfunction".)

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.
- Due to the nature of radar technology it is possible to get a blockage warning and not actually be blocked. This is rare and is known as a false blockage warning. A false blocked condition either self-clears or clears after an ignition cycle.

#### POSSIBLE CAUSE

Stain or foreign materials is deposited.

#### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the C1B55 is detected as the current malfunction in "Self Diagnosis Result" of "SIDE RADAR RIGHT/LEFT".

#### Is the DTC "C1B55" detected?

- YES >> Refer to [DAS-319, "SIDE RADAR : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction system before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

### SIDE RADAR : Diagnosis Procedure

INFOID:000000011437036

##### 1.CHECK THE REAR BUMPER

Check rear bumper near the side radar contaminated with foreign materials.

>> GO TO 2.

##### 2.CHECK THE SIDERADAR

Check side radar and the side radar outskirts contaminated with foreign materials.

>> GO TO 3.

##### 3.CHECK THE SIDE RADAR INSTALL CONDITION

Check side radar installation condition (installation position, properly tightened, a bent bracket).

>> GO TO 4.

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# C1B55 RADAR BLOCKAGE

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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## 4. INTERVIEW

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1. Ask if there is stain or foreign materials.
2. Ask if there is any temporary ambient condition such as splashing water, mist or fog.
3. Ask if there is any object such as ice, frost or dirt obstructing the side radar.

Is any of above conditions seen?

YES >> Explain to the customer about the difference between the blockage detection function and the indication when the malfunction is detected and tell them "This is not malfunction".

NO >> INSPECTION END



# C1F01 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1F01 ACCELERATOR PEDAL ACTUATOR

### ACCELERATOR PEDAL ACTUATOR

#### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437037

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name   | DTC detecting condition                                   |
|-------|--|---|
| C1F01 | APA MOTOR MALF<br>(Accelerator pedal actuator motor malfunction) | If the accelerator pedal actuator motor error is detected |

#### POSSIBLE CAUSE

Accelerator pedal actuator integrated motor malfunction

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON.
3. Slowly depress the accelerator pedal completely, and then release it.
4. Repeat step 3 several times.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the DTC "C1F01" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS" or "ACCELE PEDAL ACT".

##### Is "C1F01" detected as the current malfunction?

- YES >> Refer to [DAS-321, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

#### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437038

##### 1. REPLACE ACCELERATOR PEDAL ASSEMBLY

Perform DTC confirmation procedure. If "C1F01" is detected, replace the accelerator pedal assembly. Refer to [DAS-389, "Exploded View"](#).

>> INSPECTION END

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# C1F02 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1F02 ACCELERATOR PEDAL ACTUATOR

### ACCELERATOR PEDAL ACTUATOR

#### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437039

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name  | DTC detecting condition   |
|-------|---|---|
| C1F02 | APA C/U MALF<br>(Accelerator pedal actuator control unit malfunction) | If the accelerator pedal actuator integrated control unit error is detected |

#### POSSIBLE CAUSE

Accelerator pedal actuator integrated control unit malfunction

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F02" is detected as the current malfunction on the self-diagnosis results of "ACCELERATOR PEDAL ACT" or "ICC/ADAS".

Is "C1F02" detected as the current malfunction?

- YES >> Refer to [DAS-322. "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

#### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437040

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F02" is detected as the current malfunction on the self-diagnosis results of "ACCELERATOR PEDAL ACT" or "ICC/ADAS".

Is "C1F02" detected as the current malfunction?

- YES >> Replace the accelerator pedal assembly. Refer to [DAS-389. "Exploded View"](#).  
NO >> INSPECTION END

# C1F03 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1F03 ACCELERATOR PEDAL ACTUATOR

### ACCELERATOR PEDAL ACTUATOR

#### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437041

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                                       | DTC detecting condition   |
|-------|--|---|
| C1F03 | APA HI TEMP<br>(Accelerator pedal actuator high temperature) | <ul style="list-style-type: none"><li>The temperature of the motor integrated in the accelerator pedal actuator remains 100°C (212°F) or more for 0.4 seconds or more.</li><li>The temperature of the motor drive circuit integrated in the accelerator pedal actuator remains 120°C (248°F) or more for 0.4 seconds or more.</li></ul> |

#### POSSIBLE CAUSE

Accelerator pedal actuator integrated motor malfunction

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

When the accelerator pedal actuator operates excessively, "C1F03" may be detected temporarily.

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Wait for 10 minutes or more and cool the accelerator pedal actuator integrated motor.
3. Drive the vehicle with DCA system ON and operate the system.

#### **CAUTION:**

**Always drive safely.**

4. Stop the vehicle.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the DTC "C1F03" is detected as the current malfunction in self-diagnosis results of "ACCELERATOR PEDAL ACT".

#### Is "C1F03" detected as the current malfunction?

- YES >> Refer to [DAS-323, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

#### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437042

When the accelerator pedal actuator operates excessively, "C1F03" may be detected temporarily.

#### 1. REPLACE ACCELERATOR PEDAL ASSEMBLY

Perform DTC confirmation procedure. If "C1F03" is detected, replace the accelerator pedal assembly. Refer to [DAS-389, "Exploded View"](#).

>> INSPECTION END

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# C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437043

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name   | DTC detecting condition  |
|-------|--|--|
| C1F05 | APA PWR SUPPLY CIR<br>(Accelerator pedal actuator<br>power supply circuit) | The battery voltage sent to accelerator pedal actuator remains less than 7.9 V or more than 19.3 V for 5 seconds |

### POSSIBLE CAUSE

- Harness, connector, or fuse
- Accelerator pedal actuator

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F05" is detected as the current malfunction on the self-diagnosis results of "ACCELERATOR PEDAL ACT".

Is "C1F05" detected as the current malfunction?

- YES >> Refer to [DAS-324, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437044

#### 1. CHECK POWER SUPPLY CIRCUIT

Check the accelerator pedal actuator power supply circuit. Refer to [DAS-345, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace the accelerator pedal assembly. Refer to [DAS-389, "Exploded View"](#).  
NO >> Repair or replace the malfunctioning parts.

# C1F06 CAN CIRCUIT2

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## C1F06 CAN CIRCUIT2

### ACCELERATOR PEDAL ACTUATOR

#### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437045

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name       | DTC detecting condition   |
|-------|------------------------------|---|
| C1F06 | CAN CIR 2<br>(CAN Circuit 2) | If accelerator pedal actuator detects an error signal that is received from ADAS control unit via ITS communication |

#### POSSIBLE CAUSE

ADAS control unit

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1.CHECK DTC PRIORITY

If DTC "C1F06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-336, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

##### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F06" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

Is "C1F06" detected as the current malfunction?

YES >> Refer to [DAS-325, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

#### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437046

##### 1.CHECK DTC PRIORITY

If DTC "C1F06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-336, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

##### 2.REPLACE ADAS CONTROL UNIT

1. Turn the ignition switch OFF.
2. Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).
3. Erases all self-diagnosis results.
4. Perform "All DTC Reading" again.
5. Check if the "C1F06" is detected in self-diagnosis results of "ACCELERATOR PEDAL ACT".

Is "C1F06" detected?

YES >> Replace the accelerator pedal assembly. Refer to [DAS-389, "Exploded View"](#).

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## C1F06 CAN CIRCUIT2

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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NO >> INSPECTION END

# C1F07 CAN CIRCUIT1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## C1F07 CAN CIRCUIT1

### ACCELERATOR PEDAL ACTUATOR

#### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437047

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name      | DTC detecting condition   |
|-------|-----------------------------|---|
| C1F07 | CAN CIR 1<br>(CAN Circuit1) | If accelerator pedal actuator detects an error signal that is received from ADAS control unit via ITS communication |

#### POSSIBLE CAUSE

ADAS control unit

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1.CHECK DTC PRIORITY

If DTC "C1F07" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-336, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

##### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F07" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F07" detected as the current malfunction?

YES >> Refer to [DAS-327, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

#### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437048

##### 1.CHECK DTC PRIORITY

If DTC "C1F07" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-336, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

##### 2.REPLACE ADAS CONTROL UNIT

1. Turn the ignition switch OFF.
2. Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).
3. Erases all self-diagnosis results.
4. Perform "All DTC Reading" again.
5. Check if the "C1F07" is detected in self-diagnosis results of "ACCELE PEDAL ACT".

Is "C1F07" detected?

YES >> Replace the accelerator pedal assembly. Refer to [DAS-389, "Exploded View"](#).

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# C1F07 CAN CIRCUIT1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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NO >> INSPECTION END



< DTC/CIRCUIT DIAGNOSIS >

U0104 ADAS CAN 1

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:0000000011437049

DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                              | DTC detecting condition   |
|-------|---|---|
| U0104 | ADAS CAN CIR 1<br>(ADAS control unit CAN circuit 1) | If lane camera unit detects an error signal that is received from ADAS control unit via ITS communication |

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0104" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0104" detected as the current malfunction?

- YES >> Refer to [DAS-329, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:0000000011437050

1.CHECK DTC PRIORITY

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:0000000011437051

DTC DETECTION LOGIC

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# U0104 ADAS CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| DTC   | Trouble diagnosis name                              | DTC detecting condition   |
|-------|---|---|
| U0104 | ADAS CAN CIR 1<br>(ADAS control unit CAN circuit 1) | If side radar LH/RH detects an error signal that is received from ADAS control unit via ITS communication |

## POSSIBLE CAUSE

ADAS control unit

## FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

## DTC CONFIRMATION PROCEDURE

### 1. CHECK DTC PRIORITY

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-338, "SIDE RADAR LH : DTC Logic"](#) (SIDE RADAR LEFT) or [DAS-339, "SIDE RADAR RH : DTC Logic"](#) (SIDE RADAR RIGHT).

NO >> GO TO 2.

### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the BSW system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0104" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT".

Is "U0104" detected as the current malfunction?

YES >> Refer to [DAS-330, "SIDE RADAR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

## SIDE RADAR : Diagnosis Procedure

INFOID:000000011437052

### 1. CHECK DTC PRIORITY

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-338, "SIDE RADAR LH : DTC Logic"](#) (SIDE RADAR LEFT) or [DAS-339, "SIDE RADAR RH : DTC Logic"](#) (SIDE RADAR RIGHT).

NO >> GO TO 2.

### 2. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).

NO >> Replace the side radar. Refer to [DAS-391, "Removal and Installation"](#).

## DRIVER ASSISTANCE BUZZER CONTROL MODULE

## DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011437053

## DTC DETECTION LOGIC

# U0104 ADAS CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| DTC   | Trouble diagnosis name                              | DTC detecting condition  |
|-------|---|--|
| U0104 | ADAS CAN CIR 1<br>(ADAS control unit CAN circuit 1) | If driver assistance buzzer control module detects an error signal that is received from ADAS control unit via ITS communication |

## POSSIBLE CAUSE

ADAS control unit

## FAIL-SAFE

None

## DTC CONFIRMATION PROCEDURE

### 1.CHECK DTC PRIORITY

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-339, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic"](#).

NO >> GO TO 2.

### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0104" is detected as the current malfunction in "Self Diagnostic Result" of "BSW/BUZZER".

Is "U0104" detected as the current malfunction?

YES >> Refer to [DAS-331, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

## DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011437054

### 1.CHECK DTC PRIORITY

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-339, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic"](#).

NO >> GO TO 2.

### 2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).

NO >> Replace the driver assistance buzzer control module. Refer to [DAS-391, "Removal and Installation"](#).

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## U0126 STRG SEN CAN 1

### LANE CAMERA UNIT

#### LANE CAMERA UNIT : DTC Logic

INFOID:000000011437055

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                                    | DTC detecting condition   |
|-------|---|---|
| U0126 | STRG SEN CAN CIR1<br>(Steering angle sensor CAN circuit1) | If lane camera unit detects an error signal that is received from steering angle sensor via ADAS control unit |

#### POSSIBLE CAUSE

Steering angle sensor

#### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

#### DTC CONFIRMATION PROCEDURE

##### 1.CHECK DTC PRIORITY

If DTC "U0126" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

##### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0126" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0126" detected as the current malfunction?

- YES >> Refer to [DAS-332, "LANE CAMERA UNIT : Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

#### LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437056

##### 1.CHECK DTC PRIORITY

If DTC "U0126" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

##### 2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).  
 NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U0405 ADAS CAN 2  
LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:0000000011437057

DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                              | DTC detecting condition   |
|-------|---|---|
| U0405 | ADAS CAN CIR 2<br>(ADAS control unit CAN circuit 2) | If lane camera unit detects an error signal that is received from ADAS control unit via ITS communication |

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U0405" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0405" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0405" detected as the current malfunction?

- YES >> Refer to [DAS-333, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:0000000011437058

1.CHECK DTC PRIORITY

If DTC "U0405" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:0000000011437059

DTC DETECTION LOGIC

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| DTC   | Trouble diagnosis name                              | DTC detecting condition   |
|-------|---|---|
| U0405 | ADAS CAN CIR 2<br>(ADAS control unit CAN circuit 2) | If side radar detects an error signal that is received from ADAS control unit via ITS communication |

## POSSIBLE CAUSE

ADAS control unit

## FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

## DTC CONFIRMATION PROCEDURE

### 1. CHECK DTC PRIORITY

If DTC "U0405" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

### 2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the BSW system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0405" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT".

Is "U0405" detected as the current malfunction?

- YES >> Refer to [DAS-334, "SIDE RADAR : Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

## SIDE RADAR : Diagnosis Procedure

INFOID:000000011437060

### 1. CHECK DTC PRIORITY

If DTC "U0405" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

### 2. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).  
 NO >> Replace the side radar. Refer to [DAS-391, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

### U0428 STRG SEN CAN 2

#### LANE CAMERA UNIT

#### LANE CAMERA UNIT : DTC Logic

INFOID:000000011437061

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                                    | DTC detecting condition   |
|-------|---|---|
| U0428 | STRG SEN CAN CIR2<br>(Steering angle sensor CAN circuit2) | If lane camera unit detects an error signal that is received from steering angle sensor via ADAS control unit |

#### POSSIBLE CAUSE

Steering angle sensor

#### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

#### DTC CONFIRMATION PROCEDURE

##### 1.CHECK DTC PRIORITY

If DTC "U0428" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

##### 2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0428" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0428" detected as the current malfunction?

- YES >> Refer to [DAS-335, "LANE CAMERA UNIT : Diagnosis Procedure"](#).  
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
 NO-2 >> Confirmation after repair: INSPECTION END

#### LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437062

##### 1.CHECK DTC PRIORITY

If DTC "U0428" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-337, "LANE CAMERA UNIT : DTC Logic"](#).  
 NO >> GO TO 2.

##### 2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-248, "DTC Index"](#).  
 NO >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

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# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## U1000 CAN COMM CIRCUIT ACCELERATOR PEDAL ACTUATOR

### ACCELERATOR PEDAL ACTUATOR : Description

INFOID:000000011437063

#### ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011437064

#### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                          | DTC detecting condition   |
|-------|---|---|
| U1000 | CAN COMM CIRCUIT<br>(CAN communication circuit) | If accelerator pedal actuator is not transmitting or receiving ITS communication signal for 2 seconds or more |

#### POSSIBLE CAUSE

ITS communication system

#### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

- YES >> Refer to [DAS-336. "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44. "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011437065

##### 1. PERFORM THE SELF-DIAGNOSIS

1. Turn the ignition switch ON.
2. Turn the DCA system ON, and then wait for 2 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

Is "U1000" detected as the current malfunction?

- YES >> Refer to [LAN-25. "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-44. "Intermittent Incident"](#).

## LANE CAMERA UNIT

### LANE CAMERA UNIT : Description

INFOID:000000011437066

#### ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.



# U1000 CAN COMM CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

## LANE CAMERA UNIT : DTC Logic

INFOID:000000011437067

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                          | DTC detecting condition   |
|-------|---|---|
| U1000 | CAN COMM CIRCUIT<br>(CAN communication circuit) | If lane camera unit is not transmitting or receiving ITS communication signal for 2 seconds or more |

### POSSIBLE CAUSE

ITS communication system

### FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-337, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

## LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437068

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Turn the ignition switch ON.
2. Turn the LDP system ON, and then wait for 2 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-44, "Intermittent Incident"](#).

## SIDE RADAR LH

### SIDE RADAR LH : Description

INFOID:000000011437069

### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to [LAN-35, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

### ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting plural units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

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# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## SIDE RADAR LH : DTC Logic

INFOID:000000011437070

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                          | DTC detecting condition  |
|-------|---|--|
| U1000 | CAN COMM CIRCUIT<br>(CAN communication circuit) | If Side radar LH is not transmitting or receiving ITS communication signal for 2 seconds or more |

### POSSIBLE CAUSE

ITS communication system

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-338, "SIDE RADAR LH : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

## SIDE RADAR LH : Diagnosis Procedure

INFOID:000000011437071

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Start the engine.
2. Turn the Blind Spot Intervention system ON, and then wait for 30 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT".

#### Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-44, "Intermittent Incident"](#).

## SIDE RADAR RH

### SIDE RADAR RH : Description

INFOID:000000011437072

### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to [LAN-35, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

### ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting plural units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## SIDE RADAR RH : DTC Logic

INFOID:000000011437073

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                          | DTC detecting condition  |
|-------|---|--|
| U1000 | CAN COMM CIRCUIT<br>(CAN communication circuit) | If Side radar RH is not transmitting or receiving ITS communication signal for 2 seconds or more |

### POSSIBLE CAUSE

ITS communication system

### FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-339, "SIDE RADAR RH : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

## SIDE RADAR RH : Diagnosis Procedure

INFOID:000000011437074

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Start the engine.
2. Turn the Blind Spot Intervention system ON, and then wait for 30 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-44, "Intermittent Incident"](#).

## DRIVER ASSISTANCE BUZZER CONTROL MODULE

### DRIVER ASSISTANCE BUZZER CONTROL MODULE : Description

INFOID:000000011437075

### ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

### DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011437076

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                          | DTC detecting condition  |
|-------|---|--|
| U1000 | CAN COMM CIRCUIT<br>(CAN communication circuit) | If driver assistance buzzer control module is not transmitting or receiving ITS communication signal for 2 seconds or more |

### POSSIBLE CAUSE

# U1000 CAN COMM CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

ITS communication system

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

---

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-340, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011437077

## 1. PERFORM THE SELF-DIAGNOSIS

---

1. Turn the ignition switch ON.
2. Turn the MAIN switch of ICC system ON, and then wait for 2 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "BSW/BUZZER".

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-44, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## U1010 CONTROL UNIT (CAN) ACCELERATOR PEDAL ACTUATOR

### ACCELERATOR PEDAL ACTUATOR : Description

INFOID:0000000011437078

CAN controller controls the communication of ITS communication signal and the error detection.

### ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:0000000011437079

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                     | DTC detecting condition   |
|-------|--|---|
| U1010 | CONTROL UNIT (CAN)<br>[Control unit (CAN)] | If accelerator pedal actuator detects malfunction by CAN controller initial diagnosis |

### POSSIBLE CAUSE

Accelerator pedal actuator

### FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-341, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).  
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).  
NO-2 >> Confirmation after repair: INSPECTION END

### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:0000000011437080

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the DCA system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

#### Is "U1010" detected as the current malfunction?

- YES >> Replace the accelerator pedal actuator. Refer to [DAS-389, "Exploded View"](#).  
NO >> INSPECTION END

## LANE CAMERA UNIT

### LANE CAMERA UNIT : Description

INFOID:0000000011437081

CAN controller controls the communication of ITS communication signal and the error detection.

### LANE CAMERA UNIT : DTC Logic

INFOID:0000000011437082

### DTC DETECTION LOGIC

# U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

| DTC   | Trouble diagnosis name                     | DTC detecting condition   |
|-------|--|---|
| U1010 | CONTROL UNIT (CAN)<br>[Control unit (CAN)] | If lane camera unit detects malfunction by CAN controller initial diagnosis |

## POSSIBLE CAUSE

Lane camera unit

## FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

## DTC CONFIRMATION PROCEDURE

### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1010" detected as the current malfunction?

YES >> Refer to [DAS-342, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

## LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011437083

### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the LDP system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U1010" detected as the current malfunction?

YES >> Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

NO >> INSPECTION END

## SIDE RADAR LH

### SIDE RADAR LH : Description

INFOID:000000011437084

CAN controller controls the communication of ITS communication signal and the error detection.

### SIDE RADAR LH : DTC Logic

INFOID:000000011437085

## DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                     | DTC detecting condition   |
|-------|--|---|
| U1010 | CONTROL UNIT (CAN)<br>[Control unit (CAN)] | If side radar LH detects malfunction by CAN controller initial diagnosis. |

## POSSIBLE CAUSE

Side radar LH

## FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

## DTC CONFIRMATION PROCEDURE

# U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-343, "SIDE RADAR LH : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

## SIDE RADAR LH : Diagnosis Procedure

INFOID:0000000011437086

### 1.CHECK SELF-DIAGNOSIS RESULT

1. Turn the Blind Spot Intervention system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is "U1010" detected as the current malfunction?

- YES >> Replace the side radar LH. [DAS-392, "Removal and Installation"](#).
- NO >> INSPECTION END

## SIDE RADAR RH

## SIDE RADAR RH : Description

INFOID:0000000011437087

CAN controller controls the communication of ITS communication signal and the error detection.

## SIDE RADAR RH : DTC Logic

INFOID:0000000011437088

## DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                     | DTC detecting condition   |
|-------|--|---|
| U1010 | CONTROL UNIT (CAN)<br>[Control unit (CAN)] | If Side radar RH detects malfunction by CAN controller initial diagnosis. |

## POSSIBLE CAUSE

Side radar RH

## FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

## DTC CONFIRMATION PROCEDURE

### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-343, "SIDE RADAR RH : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

## SIDE RADAR RH : Diagnosis Procedure

INFOID:0000000011437089

### 1.CHECK SELF-DIAGNOSIS RESULT

# U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

1. Turn the Blind Spot Intervention system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is "U1010" detected as the current malfunction?

YES >> Replace the side radar RH. [DAS-392, "Removal and Installation"](#).

NO >> INSPECTION END

## DRIVER ASSISTANCE BUZZER CONTROL MODULE

### DRIVER ASSISTANCE BUZZER CONTROL MODULE : Description

INFOID:000000011437090

CAN controller controls the communication of ITS communication signal and the error detection.

### DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011437091

### DTC DETECTION LOGIC

| DTC   | Trouble diagnosis name                     | DTC detecting condition  |
|-------|--|--|
| U1010 | CONTROL UNIT (CAN)<br>[Control unit (CAN)] | If driver assistance buzzer control module detects malfunction by CAN controller initial diagnosis |

### POSSIBLE CAUSE

Driver assistance buzzer control module

### FAIL-SAFE

None

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1010" detected as the current malfunction?

YES >> Refer to [DAS-344, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

### DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011437092

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the MAIN switch of ICC system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "BSW/BUZZER".

Is "U1010" detected as the current malfunction?

YES >> Replace the driver assistance buzzer control module. Refer to [DAS-391, "Removal and Installation"](#).

NO >> INSPECTION END



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## POWER SUPPLY AND GROUND CIRCUIT

### ACCELERATOR PEDAL ACTUATOR

#### ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:0000000011437093

#### 1.CHECK FUSES

Check if any of the following fuses are blown:

| Signal name           | Fuse No. |
|-----------------------|----------|
| Battery power supply  | 63       |
| Ignition power supply | 46       |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

#### 2.CHECK ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR POWER SUPPLY CIRCUIT

Check voltage between accelerator pedal actuator/accelerator pedal position sensor harness connector and ground.

| Terminal   |          | Condition       | Voltage (Approx.) |
|--|----------|-----------------|-------------------|
| (+)  | (-)      |                 |                   |
| Accelerator pedal actuator/accelerator pedal position sensor |          | Ignition switch | Battery voltage   |
| Connector  | Terminal |                 |                   |
| M154   | 1        | OFF             |                   |
|  | 2        | ON              |                   |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator/accelerator pedal position sensor power supply circuit.

#### 3.CHECK ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the accelerator pedal actuator/accelerator pedal position sensor connector.
3. Check for continuity between accelerator pedal actuator/accelerator pedal position sensor harness connector and ground.

| Accelerator pedal actuator/accelerator pedal position sensor |          | Ground | Continuity |
|--|----------|--------|------------|
| Connector  | Terminal |        |            |
| M154   | 7        |        | Existed    |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the accelerator pedal actuator/accelerator pedal position sensor ground circuit.

### LANE CAMERA UNIT

#### LANE CAMERA UNIT : Diagnosis Procedure

INFOID:0000000011437094

#### 1.CHECK LANE CAMERA UNIT POWER SUPPLY CIRCUIT

Check voltage between lane camera unit harness connector and ground.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Terminal         |          | Condition       | Voltage (Approx.) |
|------------------|----------|-----------------|-------------------|
| (+)              | (-)      |                 |                   |
| Lane camera unit |          | Ignition switch | 0 V               |
| Connector        | Terminal |                 |                   |
| R8               | 7        | OFF             |                   |
|                  |          | ON              |                   |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the lane camera unit power supply circuit.

## 2.CHECK LANE CAMERA UNIT GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the lane camera unit connector.
3. Check for continuity between lane camera unit harness connector and ground.

| Lane camera unit |          | Ground | Continuity |
|------------------|----------|--------|------------|
| Connector        | Terminal |        |            |
| R8               | 1        |        | Existed    |
|                  | 5        |        |            |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the lane camera unit ground circuit.

## SIDE RADAR LH

### SIDE RADAR LH : Diagnosis Procedure

INFOID:000000011437095

## 1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the side radar LH connector.
3. Check voltage between side radar LH harness connector and ground.

| Terminals     |          | Condition       | Voltage (Approx.) |
|---------------|----------|-----------------|-------------------|
| (+)           | (-)      |                 |                   |
| Side radar LH |          | Ignition switch | 0 V               |
| Connector     | Terminal |                 |                   |
| B52           | 5        | OFF             |                   |
|               |          | ON              |                   |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the side radar LH power supply circuit.

## 2.CHECK GROUND CIRCUIT

Check continuity between side radar LH harness connectors and ground.

| Side radar LH |          | Ground | Continuity |
|---------------|----------|--------|------------|
| Connector     | Terminal |        |            |
| B52           | 2        |        | Existed    |

Is the inspection result normal?

YES >> INSPECTION END

# POWER SUPPLY AND GROUND CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the side radar LH ground circuit.

## SIDE RADAR RH

### SIDE RADAR RH : Diagnosis Procedure

INFOID:000000011437096

#### 1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the side radar RH connector.
3. Check voltage between side radar RH harness connector and ground.

| Terminals     |          | Condition       | Voltage<br>(Approx.) |
|---------------|----------|-----------------|----------------------|
| (+)           | (-)      |                 |                      |
| Side radar RH |          | Ignition switch | 0 V                  |
| Connector     | Terminal |                 |                      |
| B252          | 5        | OFF             | 0 V                  |
|               |          | ON              | Battery voltage      |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the side radar RH power supply circuit.

#### 2.CHECK GROUND CIRCUIT

Check continuity between side radar RH harness connectors and ground.

| Side radar RH |          | Ground | Continuity |
|---------------|----------|--------|------------|
| Connector     | Terminal |        |            |
| B252          | 2        |        | Existed    |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the side radar RH ground circuit.

## DRIVER ASSISTANCE BUZZER CONTROL MODULE

### DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011437097

#### 1.CHECK FUSES

Check if any of the following fuses are blown:

| Signal name           | Fuse No. |
|-----------------------|----------|
| Ignition power supply | 46       |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

#### 2.CHECK DRIVER ASSISTANCE BUZZER CONTROL MODULE POWER SUPPLY CIRCUIT

Check voltage between driver assistance buzzer control module harness connector and ground.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Terminal                                |          | Condition       | Voltage<br>(Approx.) |
|---|----------|-----------------|----------------------|
| (+)                                     | (-)      |                 |                      |
| Driver assistance buzzer control module |          | Ignition switch | Battery voltage      |
| Connector                               | Terminal |                 |                      |
| B210                                    | 1        | ON              |                      |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the driver assistance buzzer control module power supply circuit.

## 3. CHECK DRIVER ASSISTANCE BUZZER CONTROL MODULE GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the driver assistance buzzer control module.
3. Check for continuity between driver assistance buzzer control module harness connector and ground.

| Driver assistance buzzer control module |          | Ground | Continuity |
|---|----------|--------|------------|
| Connector                               | Terminal |        |            |
| B210                                    | 5        |        | Existed    |
|   | 13       |        |            |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the driver assistance buzzer control module.

# RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:000000011437098

#### 1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check the terminals and connectors of the side radar RH for damage, bend and short (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.  
NO >> Repair the terminal or connector.

#### 2. CHECK CONTINUITY RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

1. Disconnect side radar RH connector.
2. Check continuity between side radar RH harness connectors and ground.

| Side radar RH |          | Ground | Continuity |
|---------------|----------|--------|------------|
| Connector     | Terminal |        |            |
| B252          | 1        |        | Existed    |

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Repair harness or connector.

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DAS

# DRIVER ASSISTANCE BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE BUZZER CIRCUIT

### Component Function Check

INFOID:000000011437099

#### 1.CHECK WARNING BUZZER

1. Turn the ignition switch ON.
2. Select the active test item "BUZZER 1 (ADAS)" of "BSW/BUZZER" with CONSULT.
3. With operating the test item, check the operation.

**On** : Warning buzzer is activated.

**Off** : Warning buzzer is not activated.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [DAS-350, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000011437100

#### 1.CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect the driver assistance buzzer connector.
3. Disconnect the driver assistance buzzer control module connector.
4. Check continuity between the driver assistance buzzer control module harness connector and driver assistance buzzer harness connector.

| Driver assistance buzzer control module |          | Driver assistance buzzer |          | Continuity |
|---|----------|--------------------------|----------|------------|
| Connector                               | Terminal | Connector                | Terminal |            |
| B210                                    | 8        | M13                      | 1        | Existed    |
|   | 16       |                          | 2        |            |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

#### 2.CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR SHORT

Check continuity between the driver assistance buzzer control module harness connector and ground.

| Driver assistance buzzer control module |          | Ground | Continuity  |
|---|----------|--------|-------------|
| Connector                               | Terminal |        |             |
| B210                                    | 8        |        | Not existed |
|   | 16       |        |             |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

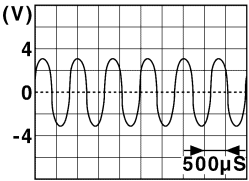
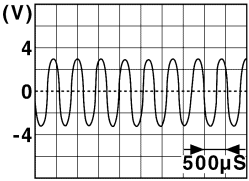
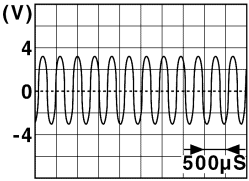
#### 3.CHECK DRIVER ASSISTANCE BUZZER SIGNAL

1. Connect the driver assistance buzzer connector and driver assistance buzzer control module connector.
2. Turn ignition switch ON.
3. Check waveform between the driver assistance buzzer control module harness connector and ground.

# DRIVER ASSISTANCE BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Driver assistance buzzer control module |                           | Condition                                 | Voltage<br>(Approx.)  |
|---|---------------------------|---|---|
| Connector                               | Terminal                  |   |   |
|   | +                      -  |   |   |
| B210                                    | 8                      16 | At "BUZZER 1"<br>test of "Active<br>test" |  <p style="text-align: right; font-size: small;">JSOIA0949ZZ</p>  |
|   |                           | At "BUZZER 2"<br>test of "Active<br>test" |  <p style="text-align: right; font-size: small;">JSOIA0950ZZ</p>  |
|   |                           | At "BUZZER 3"<br>test of "Active<br>test" |  <p style="text-align: right; font-size: small;">JSOIA0951ZZ</p> |

Is the inspection result normal?

- YES    >> Replace the driver assistance buzzer. Refer to [DAS-165, "Removal and Installation"](#).
- NO     >> Replace the driver assistance buzzer control module. Refer to [DAS-396, "Removal and Installation"](#).

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DAS

# WARNING SYSTEMS SWITCH CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## WARNING SYSTEMS SWITCH CIRCUIT

### Component Function Check

INFOID:0000000011437101

#### 1. CHECK WARNING SYSTEMS SWITCH INPUT SIGNAL

1. Turn the ignition switch ON.
2. Select the DATA MONITOR item "WARN SYS SW" of "ICC/ADAS" with CONSULT.
3. With operating the warning systems switch, check the monitor status.

| Monitor item | Condition                             | Monitor status |
|--------------|---------------------------------------|----------------|
| WARN SYS SW  | Warning systems switch is pressed     | On             |
|              | Warning systems switch is not pressed | OFF            |

Is the inspection result normal?

YES >> Warning systems switch circuit is normal.

NO >> Refer to [DAS-352. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:0000000011437102

#### 1. CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT

1. Turn the ignition switch ON.
2. Check voltage between ADAS control unit harness connector and ground.

| Terminals         |          | Condition              | Voltage (Approx.) |
|-------------------|----------|------------------------|-------------------|
| (+)               | (-)      |                        |                   |
| ADAS control unit |          | Warning systems switch |                   |
| Connector         | Terminal |                        |                   |
| B10               | 18       | Pressed                | 0 V               |
|                   |          | Released               | 12 V              |

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

NO >> GO TO 2.

#### 2. CHECK WARNING SYSTEMS SWITCH

1. Turn ignition switch OFF.
2. Remove warning systems switch. Refer to [DAS-397. "Removal and Installation"](#).
3. Check warning systems switch. Refer to [DAS-353. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the warning systems switch. Refer to [DAS-397. "Removal and Installation"](#).

#### 3. CHECK WARNING SYSTEMS SWITCH GROUND CIRCUIT

Check continuity between triple switch harness connector terminal and the ground.

| Triple switch |          | Ground | Continuity |
|---------------|----------|--------|------------|
| Connector     | Terminal |        |            |
| M183          | 5        |        | Existed    |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

#### 4. CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT CIRCUIT FOR OPEN

1. Disconnect the ADAS control unit connector.



# WARNING SYSTEMS SWITCH CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between the ADAS control unit harness connector and triple switch harness connector.

| ADAS control unit |          | Triple switch |          | Continuity |
|-------------------|----------|---------------|----------|------------|
| Connector         | Terminal | Connector     | Terminal |            |
| B10               | 18       | M183          | 1        | Existed    |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

## 5. CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

| ADAS control unit |          | Ground | Continuity  |
|-------------------|----------|--------|-------------|
| Connector         | Terminal |        |             |
| B10               | 18       |        | Not existed |

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:000000011437103

## 1. CHECK WARNING SYSTEMS SWITCH

Check continuity of warning systems switch.

| Terminal |   | Condition                               | Continuity  |
|----------|---|---|-------------|
| 1        | 5 | When warning systems switch is pressed  | Existed     |
|          |   | When warning systems switch is released | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace warning systems switch. Refer to [DAS-397, "Removal and Installation"](#).

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# WARNING SYSTEMS ON INDICATOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## WARNING SYSTEMS ON INDICATOR CIRCUIT

### Component Function Check

INFOID:000000011437104

#### 1. CHECK WARNING SYSTEMS ON INDICATOR

1. Turn the ignition switch ON.
2. Select the active test item "WARNING SYSTEM IND" of "ICC/ADAS" with CONSULT.
3. With operating the test item, check the operation.

**On** : Warning systems ON indicator illuminates

**Off** : Warning systems ON indicator is turned OFF

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [DAS-354, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000011437105

#### 1. CHECK WARNING ON INDICATOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect triple switch connector.
3. Turn ignition switch ON.
4. Check voltage between triple switch harness connector and ground.

| Terminals     |          | Voltage<br>(Approx.)          |
|---------------|----------|-------------------------------|
| (+)           | (-)      |                               |
| Triple switch |          | Ground<br><br>Battery voltage |
| Connector     | Terminal |                               |
| M183          | 9        |                               |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the warning systems ON indicator power supply circuit.

#### 2. CHECK WARNING SYSTEMS ON INDICATOR SIGNAL FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect the ADAS control unit harness connector.
3. Check continuity between the ADAS control unit harness connector and triple switch harness connector.

| ADAS control unit |          | Triple switch |          | Continuity |
|-------------------|----------|---------------|----------|------------|
| Connector         | Terminal | Connector     | Terminal |            |
| B10               | 19       | M183          | 12       | Existed    |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

#### 3. CHECK WARNING SYSTEMS ON INDICATOR SIGNAL CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

| ADAS control unit |          | Ground | Continuity  |
|-------------------|----------|--------|-------------|
| Connector         | Terminal |        |             |
| B10               | 19       |        | Not existed |

Is the inspection result normal?

YES >> GO TO 4.

# WARNING SYSTEMS ON INDICATOR CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the harnesses or connectors.

## 4.CHECK WARNING SYSTEMS ON INDICATOR

Check the warning systems ON indicator. Refer to [DAS-355, "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

NO >> Replace warning systems switch. [DAS-397, "Removal and Installation"](#).

## Component Inspection

INFOID:000000011437106

## 1.CHECK WARNING SYSTEMS ON INDICATOR

Apply battery voltage to warning systems switch terminals 9 and 12, and then check if the warning systems ON indicator illuminates.

| Terminals |     | Condition                               | Warning systems ON indicator |
|-----------|-----|---|------------------------------|
| (+)       | (-) |   |                              |
| 9         | 12  | When the battery voltage is applied     | On                           |
|           |     | When the battery voltage is not applied | Off                          |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the warning systems switch. Refer to [DAS-397, "Removal and Installation"](#).

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**BCI SWITCH CIRCUIT**

**Component Function Check**

INFOID:000000011437107

**1.CHECK BCI SWITCH INPUT SIGNAL**

1. Turn the ignition switch ON.
2. Select the DATA MONITOR item "BCI SWITCH" of "ICC/ADAS" with CONSULT.
3. With operating the BCI switch, check the monitor status.

| Monitor item | Condition                 | Monitor status |
|--------------|---------------------------|----------------|
| BCI SWITCH   | BCI switch is pressed     | On             |
|              | BCI switch is not pressed | OFF            |

Is the inspection result normal?

- YES >> BCI switch circuit is normal.  
 NO >> Refer to [DAS-356. "Diagnosis Procedure"](#).

**Diagnosis Procedure**

INFOID:000000011437108

**1.CHECK BCI SWITCH SIGNAL INPUT**

1. Turn the ignition switch ON.
2. Check voltage between ADAS control unit harness connector and ground.

| Terminals         |          | Condition  | Voltage (Approx.) |      |
|-------------------|----------|------------|-------------------|------|
| (+)               | (-)      |            |                   |      |
| ADAS control unit |          | BCI switch |                   |      |
| Connector         | Terminal |            |                   |      |
| B10               | 22       | Pressed    |                   | 0 V  |
|                   |          | Released   |                   | 12 V |

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).  
 NO >> GO TO 2.

**2.CHECK BCI SWITCH**

1. Turn ignition switch OFF.
2. Remove BCI switch. Refer to [DAS-398. "Removal and Installation"](#).
3. Check BCI switch. Refer to [DAS-357. "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 3.  
 NO >> Replace the BCI switch. Refer to [DAS-398. "Removal and Installation"](#).

**3.CHECK BCI SWITCH GROUND CIRCUIT**

Check continuity between triple switch harness connector terminal and the ground.

| Triple switch |          | Ground | Continuity |
|---------------|----------|--------|------------|
| Connector     | Terminal |        |            |
| M183          | 5        |        | Existed    |

Is the inspection result normal?

- YES >> GO TO 4.  
 NO >> Repair harness or connector.

**4.CHECK BCI SWITCH SIGNAL INPUT CIRCUIT FOR OPEN**

1. Disconnect the ADAS control unit connector.
2. Check continuity between the ADAS control unit harness connector and triple switch harness connector.

# BCI SWITCH CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

| ADAS control unit |          | Triple switch |          | Continuity |
|-------------------|----------|---------------|----------|------------|
| Connector         | Terminal | Connector     | Terminal |            |
| B10               | 22       | M183          | 2        | Existed    |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

## 5.CHECK BCI SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

| ADAS control unit |          | Ground | Continuity  |
|-------------------|----------|--------|-------------|
| Connector         | Terminal |        |             |
| B10               | 22       |        | Not existed |

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000011437109

### 1.CHECK BCI SWITCH

Check continuity of BCI switch.

| Terminal |   | Condition                   | Continuity  |
|----------|---|-----------------------------|-------------|
| 2        | 5 | When BCI switch is pressed  | Existed     |
|          |   | When BCI switch is released | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace BCI switch. Refer to [DAS-398, "Removal and Installation"](#).

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# SYMPTOM DIAGNOSIS

## DRIVER ASSISTANCE SYSTEM SYMPTOMS

### Symptom Table

INFOID:000000011437110

#### DCA

**CAUTION:**

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

**NOTE:**

Refer to the operation condition of the DCA system. Refer to [DAS-174, "DCA : System Description"](#).

|                           | Symptoms   | Reference page   |
|---------------------------|--|--|
| Operation                 | Switch does not turn ON  | Refer to <a href="#">DAS-363, "DCA : Description"</a> .  |
|                           | Switch does not turn OFF   |  |
|                           | DCA system setting cannot be turned ON on the navigation screen      | Refer to <a href="#">DAS-366, "DCA : Description"</a> .  |
|                           | DCA system setting cannot be turned OFF on the navigation screen     |  |
|                           | DCA system not activated (switch is ON)                              | Refer to <a href="#">DAS-370, "DCA : Description"</a> .  |
| Display/Chime             | Information display is not illuminated (vehicle ahead indicator)     | Refer to <a href="#">MWI-30, "On Board Diagnosis Function"</a> .   |
|                           | Chime does not sound   | Refer to <a href="#">DAS-373, "Description"</a> .  |
| Control                   | No force generated for putting back the accelerator pedal            | Refer to <a href="#">DAS-375, "Description"</a> .  |
| Detection of lead vehicle | Frequently cannot detect the vehicle ahead                           | Refer to <a href="#">DAS-376, "Description"</a> .  |
|                           | Detection zone is short  |  |
|                           | System misidentifies a vehicle even though there is no vehicle ahead | <ul style="list-style-type: none"> <li>Adjust ICC sensor alignment: Refer to <a href="#">CCS-80, "Application Notice"</a>.</li> <li>Perform action test. Refer to <a href="#">DAS-300, "DCA : Description"</a>.</li> </ul> |
|                           | System misidentifies a vehicle in the next lane                      |  |
|                           | System does not detect the vehicle ahead at all                      | Refer to <a href="#">DAS-378, "Description"</a> .  |

#### LDW/LDP

**CAUTION:**

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

**NOTE:**

Refer to the operation condition of the LDW/LDP system.

- LDW system: [DAS-180, "LDW : System Description"](#).
- LDP system: [DAS-182, "LDP : System Description"](#).

# DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Symptom   | Possible cause   | Inspection item/Reference page  |  |
|---|--|---|--|
| Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON                         | <ul style="list-style-type: none"> <li>Lane departure warning lamp (Yellow) does not illuminate.</li> </ul>  | <ul style="list-style-type: none"> <li>Combination meter</li> <li>ADAS control unit</li> </ul> <p>Lane departure warning lamp does not turned ON<br/>Refer to <a href="#">DAS-380, "Description"</a></p>  |  |
|   | <ul style="list-style-type: none"> <li>LDP ON indicator lamp (Green) does not illuminate.</li> </ul>   | <ul style="list-style-type: none"> <li>Combination meter</li> <li>ADAS control unit</li> </ul> <p>LDP ON indicator lamp does not turned ON<br/>Refer to <a href="#">DAS-381, "Description"</a></p>  |  |
|   | <ul style="list-style-type: none"> <li>Warning systems ON indicator does not illuminate.</li> </ul>  | <ul style="list-style-type: none"> <li>Harness between ADAS control unit and warning systems switch</li> <li>Warning systems switch</li> <li>ADAS control unit</li> </ul> <p>Warning systems ON indicator circuit<br/>Refer to <a href="#">DAS-354, "Component Function Check"</a></p>  |  |
|   | <ul style="list-style-type: none"> <li>Lane departure warning lamp (Yellow) and LDP ON indicator lamp (Green) does not illuminate.</li> </ul>  | <ul style="list-style-type: none"> <li>Combination meter</li> <li>ADAS control unit</li> </ul>  | <ul style="list-style-type: none"> <li>Lane departure warning lamp does not turned ON<br/>Refer to <a href="#">DAS-380, "Description"</a></li> <li>LDP ON indicator lamp does not turned ON<br/>Refer to <a href="#">DAS-381, "Description"</a></li> </ul>   |
|   | <ul style="list-style-type: none"> <li>All of indicator/warning lamps does not illuminate;</li> <li>Lane departure warning lamp (Yellow)</li> <li>LDP ON indicator lamp (Green)</li> <li>Warning systems ON indicator</li> </ul> | <ul style="list-style-type: none"> <li>Power supply and ground circuit of ADAS control unit</li> <li>ADAS control unit</li> </ul>   | <p>Power supply and ground circuit of ADAS control unit<br/>Refer to <a href="#">DAS-164, "Diagnosis Procedure"</a></p>  |
| LDW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON) | <ul style="list-style-type: none"> <li>Warning systems ON indicator is not turned ON ⇔ OFF when operating warning systems switch</li> </ul>  | <ul style="list-style-type: none"> <li>Harness between ADAS control unit and warning systems switch</li> <li>Harness between warning systems switch and ground</li> <li>Warning systems switch</li> <li>ADAS control unit</li> </ul> <p>Warning systems switch circuit<br/>Refer to <a href="#">DAS-352, "Component Function Check"</a></p> <p>LDW system setting can not be turned ON/OFF on the navigation screen<br/>Refer to <a href="#">DAS-367, "LDW/LDP : Diagnosis Procedure"</a></p> |  |
|   | <ul style="list-style-type: none"> <li>Warning buzzer is not sounding. (Lane departure warning lamp is activated.)</li> </ul>  | <ul style="list-style-type: none"> <li>Harness between the IPDM E/R and warning buzzer</li> <li>Harness between ADAS control unit, driver assistance buzzer control module and driver assistance buzzer</li> <li>Driver assistance buzzer</li> <li>Driver assistance buzzer control module</li> <li>ADAS control unit</li> </ul>  | <p>Driver assistance buzzer circuit<br/>Refer to <a href="#">DAS-350, "Component Function Check"</a></p>   |
| LDP system is not activated. (LDW system is functioning normally)                               | <ul style="list-style-type: none"> <li>Indicator lamp is not turned ON ⇔ OFF when operating dynamic driver assistance switch</li> </ul>  | <ul style="list-style-type: none"> <li>Dynamic driver assistance switch</li> <li>Combination meter</li> <li>ADAS control unit</li> <li>AV control unit</li> </ul>   | <ul style="list-style-type: none"> <li>Dynamic driver assistance switch (ICC steering switch)<br/>Refer to <a href="#">DAS-78, "Component Inspection"</a></li> <li>LDP system setting can not be turned ON/OFF on the navigation screen<br/>Refer to <a href="#">DAS-367, "LDW/LDP : Description"</a></li> </ul> |
|   | <ul style="list-style-type: none"> <li>Warning is functioning but yawing is not functioning.</li> </ul>  | —   | <ul style="list-style-type: none"> <li>Cause of auto-cancel 2<br/>Refer to <a href="#">DAS-216, "CONSULT Function (ICC/ADAS)"</a></li> <li>Normal operating condition<br/>Refer to <a href="#">DAS-383, "Description"</a></li> </ul>   |

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# DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Symptom  | Possible cause  | Inspection item/Reference page   |
|--|---|--|
| Warning functions are not timely<br>(Example)<br><ul style="list-style-type: none"> <li>Does not function when driving on lane markers</li> <li>Functions when driving in a lane</li> <li>Functions in a different position from the actual position.</li> </ul> | <ul style="list-style-type: none"> <li>Camera aiming adjustment</li> <li>Lane camera unit</li> <li>ADAS control unit</li> </ul> | Camera aiming adjustment<br><a href="#">DAS-295, "Description"</a>                             |
| Functions when changing the course in direction of the turn signal   | Turn indicator signal (CAN)<br><ul style="list-style-type: none"> <li>BCM</li> <li>ADAS control unit</li> </ul>                 | System operates even when using turn signal<br>Refer to <a href="#">DAS-382, "Description"</a> |

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION

### CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

### NOTE:

Refer to the operation condition of the Blind Spot Warning/Blind Spot Intervention system.

- Blind Spot Warning system: [DAS-185, "BSW : System Description"](#).
- Blind Spot Intervention system: [DAS-188, "BLIND SPOT INTERVENTION : System Description"](#).

| Symptom  | Possible cause   | Inspection item/Reference page  |
|--|--|---|
| Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON. | Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow) does not illuminate   | <ul style="list-style-type: none"> <li>Blind Spot Warning/Blind Spot Intervention warning lamp signal (CAN)</li> <li>- Combination meter</li> <li>- ADAS control unit</li> <li>Blind Spot Warning/Blind Spot Intervention warning lamp (combination meter)</li> </ul> |
|  | Blind Spot Intervention ON indicator (Green) does not illuminate   | <ul style="list-style-type: none"> <li>Blind Spot Intervention ON indicator lamp signal (CAN)</li> <li>- Combination meter</li> <li>- ADAS control unit</li> <li>Blind Spot Intervention ON indicator (combination meter)</li> </ul>                                  |
|  | Blind Spot Intervention ON indicator (Green) and Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow) do not illuminate  | <ul style="list-style-type: none"> <li>Combination meter</li> <li>ADAS control unit</li> </ul>  |
|  | All of indicator/warning lamps do not illuminate;<br><ul style="list-style-type: none"> <li>Blind Spot Warning/Blind Spot Intervention warning lamp</li> <li>Blind Spot Intervention ON indicator</li> <li>Warning systems ON indicator</li> </ul> | <ul style="list-style-type: none"> <li>Power supply and ground circuit of ADAS control unit</li> <li>ADAS control unit</li> <li>Combination meter</li> </ul>  |
|  | Warning systems ON indicator (on the warning systems switch) does not illuminate   | <ul style="list-style-type: none"> <li>Harness between ADAS control unit and warning systems switch</li> <li>Warning systems switch</li> <li>ADAS control unit</li> </ul>   |
|  | Blind Spot Warning/Blind Spot Intervention indicator does not turn ON  | <ul style="list-style-type: none"> <li>Harness between side radar and Blind Spot Warning/Blind Spot Intervention indicator</li> <li>Side radar LH/RH</li> <li>Blind Spot Warning/Blind Spot Intervention indicator</li> </ul>   |



# DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Symptom  | Possible cause  | Inspection item/Reference page  |  |
|--|---|---|--|
| BSW system is not activated.<br>(Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON.)  | <ul style="list-style-type: none"> <li>Warning systems ON indicator is not turned ON ⇔ OFF when operating warning systems switch</li> </ul> | <ul style="list-style-type: none"> <li>Warning systems switch circuit. Refer to <a href="#">DAS-352, "Diagnosis Procedure"</a>.</li> <li>BSW system setting cannot be turned ON/OFF on the navigation screen. Refer to <a href="#">DAS-367, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"</a></li> </ul> |  |
|  | Buzzer is not sounding  | <ul style="list-style-type: none"> <li>Buzzer power supply circuit.</li> <li>Harness between ADAS control unit, driver assistance buzzer control module and driver assistance buzzer</li> <li>Driver assistance buzzer</li> <li>Driver assistance buzzer control module</li> <li>ADAS control unit</li> </ul>         | Driver assistance buzzer circuit. Refer to <a href="#">DAS-350, "Diagnosis Procedure"</a>  |
| Blind Spot Intervention system is not activated.<br>(BSW system is functioning normally)             | Blind Spot Intervention ON indicator is not turned ON ⇔ OFF when operating dynamic driver assistance switch.                                | <ul style="list-style-type: none"> <li>Dynamic driver assistance switch</li> <li>Combination meter</li> <li>ADAS control unit</li> </ul>  | <ul style="list-style-type: none"> <li>Dynamic driver assistance switch does not turn ON/OFF. Refer to <a href="#">DAS-364, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"</a></li> <li>Blind Spot Intervention system setting cannot be turned ON/OFF on the navigation screen. Refer to <a href="#">DAS-367, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"</a></li> </ul> |
|  | Warning is functioning but yawing is not functioning.   | —   | <ul style="list-style-type: none"> <li>Check "Cause of auto-cancel 2". Refer to <a href="#">DAS-216, "CONSULT Function (ICC/ADAS)"</a></li> <li>Check normal operating condition. Refer to <a href="#">DAS-383, "Description"</a></li> </ul>   |
| Blind Spot Intervention functions are not timely. (BSW system is functioning normally.)<br>(Example) | <ul style="list-style-type: none"> <li>Camera aiming adjustment</li> <li>Lane camera unit</li> </ul>  | Camera aiming adjustment. Refer to <a href="#">DAS-295, "Description"</a> .   |  |

BCI

**CAUTION:**

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

**NOTE:**

Refer to the operation condition of the BCI system. Refer to [DAS-192, "BCI : System Description"](#).

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# DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

| Symptom                       |  | Possible cause  | Action to take/Reference page  |   |
|-------------------------------|--|---|--|---|
| BCI system does not operation | BCI ON indicator/BCI OFF indicator does not display  | <ul style="list-style-type: none"> <li>• Meter display signal (CAN)</li> <li>- Combination meter</li> <li>- ADAS control unit</li> <li>• BCI switch</li> </ul>  | BCI system does not activate. Refer to <a href="#">DAS-368, "BCI : Description"</a> .  |   |
|                               | <ul style="list-style-type: none"> <li>• BCI system setting is not selectable on the navigation screen</li> <li>• BCI system setting differs from the one set at the previous driving</li> </ul> | <ul style="list-style-type: none"> <li>• ADAS control unit</li> <li>• AV control unit</li> <li>• Combination meter</li> </ul>   | BCI system setting cannot be turned ON/OFF. Refer to <a href="#">DAS-368, "BCI : Description"</a> .  |   |
|                               | Blind Spot Warning/Blind Spot Intervention indicator does not turn ON  | <ul style="list-style-type: none"> <li>• Harness between side radar and Blind Spot Warning/Blind Spot Intervention indicator</li> <li>• Side radar LH/RH</li> <li>• Blind Spot Warning/Blind Spot Intervention indicator</li> </ul> | Perform self-diagnosis of side radar. Refer to <a href="#">DAS-235, "CONSULT Function (SIDE RADAR LEFT)"</a> or <a href="#">DAS-236, "CONSULT Function (SIDE RADAR RIGHT)"</a> . |   |
|                               | Buzzer does not sound  | Buzzer does not sound both in sonar system and Back-up Collision Intervention system  | Sonar control unit   | Replace the sonar control unit. Refer to <a href="#">AV-431, "Removal and Installation"</a> . |
|                               |  | Buzzer does not sound only in Back-up Collision Intervention system   | ADAS control unit  | Replace the ADAS control unit. Refer to <a href="#">DAS-165, "Removal and Installation"</a> . |

# SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

### DCA

#### DCA : Description

INFOID:000000011437111

The switch does not turn ON

- When the DCA system setting is ON, the DCA system switch indicator does not illuminate even if the dynamic driver assistance switch is depressed.

The switch does not turn OFF

- The DCA system switch indicator does not turn OFF even if the dynamic driver assistance switch is pressed when the DCA system switch indicator illuminates.

#### NOTE:

The system cannot be operated when setting conventional (fixed speed) cruise control mode.

#### DCA : Diagnosis Procedure

INFOID:000000011437112

### 1. CHECK DCA SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Check that DCA system setting on the navigation screen is ON.

Is DCA system setting ON?

YES >> GO TO 2.

NO >> Enable the DCA system setting.

### 2. DYNAMIC DRIVER ASSISTANCE SWITCH INSPECTION

1. Start the engine.
2. Check that "DYNA ASIST SW" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 5.

### 3. CHECK DCA SYSTEM SWITCH INDICATOR CIRCUIT

1. Start the engine.
2. Select the active test item "DCA INDICATOR" of "ICC/ADAS" with CONSULT.
3. Check if the DCA system switch indicator illuminates when the test item is operated.

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 4.

### 4. PERFORM THE SELF-DIAGNOSIS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A". Refer to [MWI-45. "DTC Index"](#).

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

### 5. CHECK STEERING SWITCH CIRCUIT

Check the steering switch circuit. Refer to [DAS-77. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 7.

### 6. PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-248. "DTC Index"](#).

Is any DTC detected?

# SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- YES >> GO TO 7.  
NO >> GO TO 8.

## 7. REPAIR OR REPLACE MALFUNCTIONING PARTS.

Repair or replace malfunctioning parts.

>> GO TO 8.

## 8. CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-300, "DCA : Description"](#) for action test.)
2. Check that the DCA system is normal.

>> INSPECTION END

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION

### BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description

INFOID:000000011437113

The switch does not turn ON

- When the Blind Spot Intervention system setting is ON, the Blind Spot Intervention ON indicator does not illuminate even if the dynamic driver assistance switch is depressed.

The switch does not turn OFF

- The Blind Spot Intervention ON indicator does not turn off even if the dynamic driver assistance switch is pressed when the Blind Spot Intervention ON indicator illuminates.

### BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Diagnosis Procedure

INFOID:000000011437114

## 1. CHECK BLIND SPOT INTERVENTION SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Check that Blind Spot Intervention system setting on the navigation screen is ON.

Is Blind Spot Intervention system setting ON?

- YES >> GO TO 2.  
NO >> Enable the Blind Spot Intervention system setting.

## 2. DYNAMIC DRIVER ASSISTANCE SWITCH INSPECTION

1. Start the engine.
2. Check that "DYNA ASIST SW" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> GO TO 5.

## 3. CHECK BLIND SPOT INTERVENTION ON INDICATOR CIRCUIT

1. Start the engine.
2. Select the active test item "BSI ON IND" of "ICC/ADAS" with CONSULT.
3. Check if the Blind Spot Intervention ON indicator illuminates when the test item is operated.

Is the inspection result normal?

- YES >> GO TO 6.  
NO >> GO TO 4.

## 4. PERFORM THE SELF-DIAGNOSIS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A". Refer to [MWI-45, "DTC Index"](#).

Is the inspection result normal?

- YES >> GO TO 7.

# SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

NO >> GO TO 6.

## 5.CHECK STEERING SWITCH CIRCUIT

Check the steering switch circuit. Refer to [DAS-77, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 7.

## 6.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.

2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-248, "DTC Index"](#).

Is any DTC detected?

YES >> GO TO 7.

NO >> GO TO 8.

## 7.REPAIR OR REPLACE MALFUNCTIONING PARTS.

Repair or replace malfunctioning parts.

>> GO TO 8.

## 8.CHECK BLIND SPOT INTERVENTION SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-303, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"](#) for action test.)

2. Check that the Blind Spot Intervention system is normal.

>> INSPECTION END

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DAS

# SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

DCA

DCA : Description

INFOID:000000011437115

- DCA system setting is not selectable on the navigation screen.

**NOTE:**

When the ignition switch is in ACC position, DCA system settings cannot be changed.

- "Distance Control Assist" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item of "Distance Control Assist" on the navigation screen is not active.
- After turning ON the ignition switch or starting the engine, DCA settings of the navigation screen cannot be selected for several tens of seconds under the following conditions:
  - After replacing AV control unit.
  - After erasing connection history of the navigation screen.
  - After erasing self-diagnosis results.
- The DCA system setting differs from the one set at the previous driving.

**NOTE:**

Turn OFF the ignition switch and wait for 5 seconds or more.

DCA : Diagnosis Procedure

INFOID:000000011437116

### 1. CHECK DCA SYSTEM SETTING

1. Start the engine.
2. Check that the DCA system settings is selectable on the navigation screen.

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> GO TO 2.

### 2. PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A".  
Refer to the following.
  - ICC/ADAS: [DAS-248. "DTC Index"](#)
  - MULTI AV (Base audio without navigation): [AV-42. "DTC Index"](#)
  - MULTI AV (BOSE audio with navigation): [AV-210. "DTC Index"](#)
  - METER/M&A: [MWI-45. "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

### 3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "DCA SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-20. "On Board Diagnosis Function"](#) (Base audio without navigation) or [AV-177. "On Board Diagnosis Function"](#) (BOSE audio with navigation).
- NO >> GO TO 4.

### 4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

LDW/LDP

# SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## LDW/LDP : Description

INFOID:000000011437119

- LDW system setting is not selectable on the navigation screen.
- LDP system setting is not selectable on the navigation screen.

### NOTE:

- When the ignition switch is in ACC position, LDW or LDP system settings cannot be changed.
- "Lane Departure Warning" or "Lane Departure Prevention" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item of "Lane Departure Warning" or "Lane Departure Prevention" on the navigation screen is not active.
- After turning ON the ignition switch or starting the engine, LDW or LDP settings of the navigation screen cannot be selected for several tens of seconds under the following conditions:
  - After replacing AV control unit.
  - After erasing connection history of the navigation screen.
  - After erasing self-diagnosis results of AV control unit.
- The LDW or LDP system setting differs from the one set at the previous driving.

### NOTE:

Turn OFF the ignition switch and wait for 5 seconds or more.

## LDW/LDP : Diagnosis Procedure

INFOID:000000011437120

### 1.CHECK LDP SYSTEM SETTING

1. Start the engine.
2. Check that the LDP system settings is selectable on the navigation screen.

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> GO TO 2.

### 2.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A". Refer to the following.
  - ICC/ADAS: [DAS-248. "DTC Index"](#)
  - MULTI AV (Base audio without navigation): [AV-42. "DTC Index"](#)
  - MULTI AV (BOSE audio with navigation): [AV-210. "DTC Index"](#)
  - METER/M&A: [MWI-45. "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

### 3.CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "LDP SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-20. "On Board Diagnosis Function"](#) (Base audio without navigation) or [AV-177. "On Board Diagnosis Function"](#) (BOSE audio with navigation).
- NO >> GO TO 4.

### 4.CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description

INFOID:000000011437121

- BSW system setting is not selectable on the navigation screen.
- Blind Spot Intervention system setting is not selectable on the navigation screen.

### NOTE:

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# SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

When the ignition switch is in ACC position, Blind Spot Warning or Blind Spot Intervention system settings cannot be changed.

- "Blind Spot Warning" or "Blind Spot Intervention" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item "Blind Spot Warning" or "Blind Spot Intervention" on the navigation screen is not active.
- The Blind Spot Warning or Blind Spot Intervention system setting differs from the one set at the previous driving.

**NOTE:**

Turn OFF the ignition switch and wait for 5 seconds or more.

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Diagnosis Procedure

INFOID:000000011437122

### 1. CHECK BLIND SPOT INTERVENTION SYSTEM SETTING

1. Start the engine.
2. Check that the Blind Spot Intervention system settings is selectable on the navigation screen.

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> GO TO 2.

### 2. PERFORM THE SELF-DIAGNOSIS

1. Perform self-diagnosis with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A". Refer to the following.
  - ICC/ADAS: [DAS-248, "DTC Index"](#)
  - MULTI AV (Base audio without navigation): [AV-42, "DTC Index"](#)
  - MULTI AV (BOSE audio with navigation): [AV-210, "DTC Index"](#)
  - METER/M&A: [MWI-45, "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

### 3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "BSI SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-20, "On Board Diagnosis Function"](#) (Base audio without navigation) or [AV-177, "On Board Diagnosis Function"](#) (BOSE audio with navigation).
- NO >> GO TO 4.

### 4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

## BCI

### BCI : Description

INFOID:000000011437123

- BCI system setting is not selectable on the navigation screen.
- Back-up Collision Intervention system setting is not selectable on the navigation screen.

**NOTE:**

When the ignition switch is in ACC position, Back-up Collision Intervention system settings cannot be changed.

- "Back-up Collision Intervention" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item "Back-up Collision Intervention" on the navigation screen is not active.
- The Back-up Collision Intervention system setting differs from the one set at the previous driving.

**NOTE:**



# SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Turn OFF the ignition switch and wait for 5 seconds or more.

## BCI : Diagnosis Procedure

INFOID:000000011437124

### 1. CHECK BACK-UP COLLISION INTERVENTION SYSTEM SETTING

1. Start the engine.
2. Check that the Back-up Collision Intervention system settings is selectable on the navigation screen.

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> GO TO 2.

### 2. PERFORM THE SELF-DIAGNOSIS

1. Perform self-diagnosis with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A". Refer to the following.
  - ICC/ADAS: [DAS-248. "DTC Index"](#)
  - MULTI AV (Base audio without navigation): [AV-42. "DTC Index"](#)
  - MULTI AV (BOSE audio with navigation): [AV-210. "DTC Index"](#)
  - METER/M&A: [MWI-45. "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.  
NO >> INSPECTION END

### 3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "BSI SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-20. "On Board Diagnosis Function"](#) (Base audio without navigation) or [AV-177. "On Board Diagnosis Function"](#) (BOSE audio with navigation).  
NO >> GO TO 4.

### 4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).  
NO >> Repair or replace malfunctioning parts.

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# SYSTEM NOT ACTIVATED

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## SYSTEM NOT ACTIVATED

### DCA

#### DCA : Description

INFOID:000000011437125

The dynamic driver assistance switch can be turned ON/OFF, but the DCA system does not operate.

#### NOTE:

Never start the operation under the following conditions.

- No operation condition
- When the brake pedal depressed
- When the ICC system is set
- When the system judges that the vehicle comes to a standstill by the system control
- When the vehicle ahead is not detected
- Operation cancellation condition
- When the dynamic driver assistance switch is turned to OFF
- When the system malfunction occurs
- When ABS or VDC (including the TCS) operates
- When the VDC is turned OFF
- When ABS warning lamp is ON
- When drive mode select switch is in SNOW position
- When the radar is temporarily interrupted
- When the ICC sensor area is dirty and the measurement of the distance between the vehicles becomes difficult

#### DCA : Diagnosis Procedure

INFOID:000000011437126

### 1. CHECK CAUSE OF AUTOMATIC CANCELLATION

Check if there is any cancellation cause in the "CAUSE OF AUTO-CANCEL" on "WORK SUPPORT" of "ICC/ADAS" with CONSULT.

#### Is it displayed?

Not displayed>>GO TO 2.

"OPE SW VOLT CIRC">>Refer to [DAS-77, "DTC Logic"](#).

"VHCL SPD UNMATCH">>Refer to [DAS-68, "DTC Logic"](#).

"IGN LOW VOLT">>Refer to [DAS-67, "DTC Logic"](#).

"CAN COMM ERROR">>Refer to [DAS-132, "DTC Logic"](#).

"ICC SENSOR CAN COMM ERR">>Refer to [DAS-125, "DTC Logic"](#).

"ABS/TCS/VDC CIRC">>Refer to [DAS-70, "DTC Logic"](#).

"APA HI TEMP">>Refer to [DAS-323, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

"ECD CIRCUIT">>Refer to [DAS-93, "DTC Logic"](#).

### 2. PERFORM ALL OF THE SELF-DIAGNOSIS

1. Perform "All DTC Reading".
2. Check if any DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-248, "DTC Index"](#).

#### Is any DTC detected?

YES >> GO TO 3.

NO >> GO TO 4.

### 3. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts identified by the self-diagnosis result.

>> GO TO 6.

### 4. CHECK EACH SWITCH AND VEHICLE SPEED SIGNAL

1. Start the engine.
2. Check that the following items operate normally in "DATA MONITOR" of "ICC/ADAS".
  - "VHCL SPEED SE"
  - "BRAKE SW"
  - "DYNA ASIST SW"

# SYSTEM NOT ACTIVATED

[DRIVER ASSISTANCE SYSTEM]

< SYMPTOM DIAGNOSIS >

Is there a malfunctioning item?

All items are normal>>GO TO 5.

“VHCL SPEED SE”>>Refer to [DAS-68. "DTC Logic"](#).

“BRAKE SW”>>Refer to [DAS-72. "DTC Logic"](#).

“DYNA ASIST SW”>>Refer to [DAS-77. "DTC Logic"](#).

## 5.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

>> GO TO 6.

## 6.CHECK DCA SYSTEM

1. Erase “self-diagnosis result”, and then perform “All DTC Reading” again after performing the action test. (Refer to [DAS-300. "DCA : Description"](#) for action test.)
2. Check that the DCA system is normal.

>> INSPECTION END

## BCI

### BCI : Description

INFOID:0000000011437129

The switch does not turn ON

- When the BCI system setting is ON and BCI system is OFF, the BCI ON indicator does not illuminate even if the BCI switch is depressed.

The switch does not turn OFF

- When the BCI system setting is ON and BCI system ON, the BCI OFF indicator does not illuminate even if the BCI switch is depressed.

### BCI : Diagnosis Procedure

INFOID:0000000011437130

## 1.CHECK BACK-UP COLLISION INTERVENTION SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Check that Back-up Collision Intervention system setting on the navigation screen is ON.

Is Back-up Collision Intervention system setting ON?

YES >> GO TO 2.

NO >> Enable the Back-up Collision Intervention system setting.

## 2.BCI SWITCH INSPECTION

Check that “BCI SWITCH” operates normally in “DATA MONITOR” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the BCI switch circuit. Refer to [DAS-356. "Component Function Check"](#).

## 3.CHECK BCI ON INDICATOR

1. Turn the BCI system ON/OFF.
2. Check the data monitor item “BCI ON IND” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 7.

## 4.PERFORM THE SELF-DIAGNOSIS OF COMBINATION METER

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of “METER/M&A”. Refer to [MWI-45. "DTC Index"](#).

Is any DTC detected?

YES >> GO TO 6.

## SYSTEM NOT ACTIVATED

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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NO >> GO TO 5.

### 5.PERFORM THE SELF-DIAGNOSIS

---

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-248. "DTC Index"](#).

Is any DTC detected?

YES >> GO TO 6.

NO >> GO TO 8.

### 6.REPAIR OR REPLACE MALFUNCTIONING PARTS

---

Repair or replace malfunctioning parts.

>> GO TO 8.

### 7.REPLACE ADAS CONTROL UNIT

---

Replace ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

>> GO TO 8.

### 8.CHECK BACK-UP COLLISION INTERVENTION SYSTEM

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1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. Refer to [DAS-306. "BCI : Description"](#).
2. Check that the Back-up Collision Intervention system is normal.

>> INSPECTION END

# CHIME DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## CHIME DOES NOT SOUND

### Description

INFOID:0000000011437131

The warning chime may not sound in some cases when there is a short distance between vehicles. Some examples are:

- When the vehicles are traveling at the same speed and the distance between vehicles is not changing
- When the vehicle ahead is traveling faster and the distance between vehicles is increasing
- When a vehicle cuts in near own vehicle
- The warning chime will not sound when own vehicle approaches vehicles that are parked or moving slowly.
- The warning chime does not sound when the system does not detect any vehicle ahead. (Diagnose the conditions under which the system is detecting the vehicle ahead and when the system is malfunctioning. If there is any malfunction in detecting the vehicle ahead, check the system following the [DAS-376, "Description"](#).)

### Diagnosis Procedure

INFOID:0000000011437132

#### 1.PERFORM ACTIVE TEST

Check if the warning chime sounds on the active test item "ICC BUZZER" of "ICC/ADAS" with CONSULT.

Does the warning chime sound?

YES >> GO TO 2.

NO >> GO TO 3.

#### 2.CHECK THE MALFUNCTION SYMPTOM DURING WARNING CHIME OPERATION

Understand the vehicle ahead detection condition when the malfunction occurred. If the warning chime should have sounded, replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

>> GO TO 9.

#### 3.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.

2. Check if the "U1000" is detected in self-diagnosis results of "ICC/ADAS".

Is "U1000" detected?

YES >> GO TO 4.

NO >> GO TO 5.

#### 4.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to [DAS-132, "DTC Logic"](#).

>> GO TO 9.

#### 5.PERFORM THE SELF-DIAGNOSIS OF DRIVER ASSISTANCE BUZZER CONTROL MODULE

1. Perform "All DTC Reading" with CONSULT.

2. Check if any DTC is detected in self-diagnosis results of "BSW/BUZZER".

Is any DTC detected?

YES >> Repair or replace malfunctioning parts. Refer to [DAS-269, "DTC Index"](#).

NO >> GO TO 6.

#### 6.CHECK ICC DRIVER ASSISTANCE BUZZER CIRCUIT

Check driver assistance buzzer. Refer to [DAS-350, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 7.

#### 7.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts.

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## CHIME DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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>> GO TO 9.

### 8.REPLACE ADAS CONTROL UNIT

---

Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

>> GO TO 9.

### 9.CHECK EACH SYSTEM

---

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-300, "DCA : Description"](#) for action test.)
2. Check if the each system is normal.

>> INSPECTION END

# NO FORCE GENERATED FOR PUTTING BACK THE ACCELERATOR PEDAL

## Description

INFOID:0000000011437133

The dynamic driver assistance switch can be turned ON/OFF but the actuation force of accelerator pedal is not generated.

### NOTE:

- When the vehicle ahead detection indicator does not illuminate, the control and warning with the system are not performed.
- The actuation force of accelerator pedal may not be generated sufficiently depending on depressing method or depressing amount of accelerator pedal.

## Diagnosis Procedure

INFOID:0000000011437134

### 1.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if any DTC is detected in self-diagnosis results of "ICC/ADAS" or "ACCELE PEDAL ACT".

#### Is any DTC detected?

- YES >> GO TO 2.  
NO >> GO TO 3.

### 2.REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts. Refer to [DAS-248. "DTC Index"](#) (ICC/ADAS) or [DAS-256. "DTC Index"](#) (ACCELE PEDAL ACT).

>> GO TO 5.

### 3.PERFORM ACTIVE TEST

Check if the accelerator pedal actuator operates by the active test items "ACCELERATOR PEDAL ACTUATOR TEST1" and "ACCELERATOR PEDAL ACTUATOR TEST2" of "ACCELE PEDAL ACT" with CONSULT.

#### Does it operate?

- YES >> GO TO 4.  
NO >> Replace the accelerator pedal assembly.

### 4.CHECK VEHICLE AHEAD DETECTION PERFORMANCE

Understand the vehicle ahead detection condition when the malfunction occurred. If the detecting function is malfunctioning, check according to [DAS-376. "Description"](#).

>> INSPECTION END

### 5.CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-300. "DCA : Description"](#) for action test.)
2. Check if the DCA system is normal.

>> INSPECTION END

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# FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

### Description

INFOID:000000011437135

Symptom check: Detection function may become unstable under the following conditions.

- When the vehicle is driving on a curve such as S-curve where the curvature changes.
- When the vehicle is driving on up-and-down road or passing the peak or foot of slope or passing the break of the inclination of hill.

### Diagnosis Procedure

INFOID:000000011437136

#### 1.VISUAL CHECK (1)

Check front bumper grille near the ICC sensor for contamination and foreign materials.

Do foreign materials adhere?

- YES >> GO TO 2.
- NO >> GO TO 3.

#### 2.WIPE OUT DIRT AND FOREIGN OBJECTS

Wipe out the contamination and/or foreign materials from the front bumper grille near the ICC sensor.

>> GO TO 7.

#### 3.VISUAL CHECK (2)

Check ICC sensor body window for cracks and/or scratches.

Are there cracks?

- YES >> GO TO 5.
- NO >> GO TO 4.

#### 4.PERFORM RADAR ALIGNMENT

1. Perform radar alignment. Refer to [CCS-80. "Application Notice"](#).
2. Perform action test. Refer to [CCS-92. "Description"](#).
3. Check that the vehicle ahead detection performance improves.

Does it improve?

- YES >> INSPECTION END
- NO >> GO TO 5.

#### 5.REPLACE ICC SENSOR

1. Replace the ICC sensor. Refer to [CCS-132. "Removal and Installation"](#).
2. Perform radar alignment. Refer to [CCS-80. "Application Notice"](#).
3. Perform action test. Refer to [CCS-92. "Description"](#).
4. Check that the vehicle ahead detection performance improves.

Does it improve?

- YES >> INSPECTION END
- NO >> GO TO 6.

#### 6.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

>> GO TO 7.

#### 7.CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-300. "DCA : Description"](#) for action test.)
2. Check that the DCA system is normal.



# FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

>> INSPECTION END

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# THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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## THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

### Description

INFOID:000000011437137

When DCA system is active, the DCA system does not perform any control even through there is a vehicle ahead.

### Diagnosis Procedure

INFOID:000000011437138

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#### 1. CHECK INFORMATION DISPLAY

1. Start the self-diagnosis mode of combination meter. Refer to [MWI-30. "On Board Diagnosis Function"](#).
2. Check that the segment of information display is displayed normally.

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Replace the combination meter.

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#### 2. VISUAL CHECK (1)

Check front bumper grille near the ICC sensor for contamination and/or foreign materials.

Do foreign materials adhere?

- YES >> GO TO 3.
- NO >> GO TO 4.

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#### 3. WIPE OUT DIRT AND FOREIGN MATERIALS

Wipe out the contamination and/or foreign materials from the front bumper grille near the ICC sensor.

>> GO TO 8.

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#### 4. VISUAL CHECK (2)

Check ICC sensor body window for cracks and/or scratches.

Are there cracks?

- YES >> GO TO 6.
- NO >> GO TO 5.

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#### 5. PERFORM RADAR ALIGNMENT

1. Perform radar alignment. Refer to [CCS-80. "Application Notice"](#).
2. Perform action test. Refer to [CCS-92. "Description"](#).
3. Check that the vehicle ahead detection performance improves.

Does it improve?

- YES >> INSPECTION END
- NO >> GO TO 6.

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#### 6. REPLACE ICC SENSOR

1. Replace the ICC sensor. Refer to [CCS-132. "Removal and Installation"](#).
2. Perform radar alignment. Refer to [CCS-80. "Application Notice"](#).
3. Perform action test. Refer to [CCS-92. "Description"](#).
4. Check that the vehicle ahead detection performance improves.

>> GO TO 7.

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#### 7. REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-165. "Removal and Installation"](#).

>> GO TO 8.

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#### 8. CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-300. "DCA : Description"](#) for action test.)

# THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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2. Check that the DCA system is normal.

>> INSPECTION END

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# LANE DEPARTURE WARNING LAMP DOES NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## LANE DEPARTURE WARNING LAMP DOES NOT TURNED ON

### Description

INFOID:000000011437139

The lane departure warning lamp in the combination meter does not turn ON when turning on the ignition switch

### Diagnosis Procedure

INFOID:000000011437140

#### 1. CHECK LANE DEPARTURE WARNING LAMP

1. Check that "LANE DEPARTURE W/L" operate normally in "ACTIVE TEST" of "ICC/ADAS".
2. Operate the test items to check that the lane departure warning lamp blinks

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 2.

#### 2. CHECK COMBINATION METER

Turn the ignition switch from OFF to ON to check that "LANE W/L" included in "DATA MONITOR" in "METER/M&A" operates normally.

Is the inspection result normal?

- YES >> Replace the combination meter. Refer to [MWI-94, "Removal and Installation"](#).
- NO >> GO TO 3.

#### 3. CHECK SELF-DIAGNOSIS RESULTS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A". Refer to [MWI-45, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> GO TO 4.

#### 4. CHECK SELF-DIAGNOSIS RESULTS OF ADAS CONTROL UNIT

Check if the DTC is detected in self-diagnosis results of "ICC/ADAS" Refer to [DAS-248, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# LDP ON INDICATOR LAMP DOES NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## LDP ON INDICATOR LAMP DOES NOT TURNED ON

### Description

INFOID:0000000011437141

The LDP ON indicator lamp in the combination meter does not turn ON when turning on the ignition switch

### Diagnosis Procedure

INFOID:0000000011437142

#### 1. CHECK LDP ON INDICATOR LAMP

1. Check that "LDP ON IND" operate normally in "ACTIVE TEST" of "ICC/ADAS".
2. Check if the LDP ON indicator lamp illuminates when operates each test item.

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 2.

#### 2. CHECK COMBINATION METER

Turn the ignition switch from OFF to ON to check that "LDP IND" included in "DATA MONITOR" in "METER/M&A" operates normally.

Is the inspection result normal?

- YES >> Replace the combination meter. Refer to [MWI-94, "Removal and Installation"](#).
- NO >> GO TO 3.

#### 3. CHECK SELF-DIAGNOSIS RESULTS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A" Refer to [MWI-45, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> GO TO 4.

#### 4. CHECK SELF-DIAGNOSIS RESULTS OF ADAS CONTROL UNIT

Check if the DTC is detected in self-diagnosis results of "ICC/ADAS" Refer to [DAS-248, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> Replace the ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

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# THE SYSTEM OPERATES EVEN WHEN USING TURN SIGNAL

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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## THE SYSTEM OPERATES EVEN WHEN USING TURN SIGNAL

### Description

INFOID:000000011437143

The warning of Lane Departure Warning (LDW) and Lane Departure Prevention (LDP) and the yaw moment control are activated during the use of a turn signal.

**NOTE:**

For the operational conditions of Lane Departure Warning (LDW) and Lane Departure Prevention (LDP), refer to the following descriptions.

- LDW: [DAS-180, "LDW : System Description"](#)
- LDP: [DAS-182, "LDP : System Description"](#)

### Diagnosis Procedure

INFOID:000000011437144

#### 1. CHECK TURN SIGNAL OPERATION

Check that both right and left turn signals are normal.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts. Refer to [DAS-358, "Symptom Table"](#).

#### 2. CHECK SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.

2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS" Refer to [DAS-248, "DTC Index"](#).

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts.

NO >> Replace ADAS control unit. Refer to [DAS-165, "Removal and Installation"](#).

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000011437145

#### PRECAUTIONS FOR DISTANCE CONTROL ASSIST (DCA) SYSTEM

- If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges that the vehicle has come to a standstill with a warning chime. To prevent the vehicle from moving, the driver must depress the brake pedal.
- The DCA system will not apply brake control while the driver's foot is on the accelerator pedal.
- This system is only an aid to assist the driver and is not a collision warning or avoidance device. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- This system will not adapt automatically to road conditions. Do not use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The distance sensor will not detect the following object.
  - Stationary and slow moving vehicles
  - Pedestrians or objects in the roadway
  - Oncoming vehicles in the same lane
  - Motorcycles traveling offset in the travel lane
- As there is a performance limit to the distance control function, never rely solely on the DCA system. This system does not correct careless, inattentive or absent-minded driving, or overcome poor visibility in rain, fog, or other bad weather. Decelerate the vehicle speed by depressing the brake pedal, depending on the distance to the vehicle ahead and the surrounding circumstances in order to maintain a safe distance between vehicles.
- The system may not detect the vehicle in front of own vehicle in certain road or weather conditions. To avoid accidents, never use the DCA system under the following conditions.
  - On roads with sharp curves
  - On slippery road surfaces such as on ice or snow, etc.
  - During bad weather (rain, fog, snow, etc.)
  - When rain, snow or dirt adhere to the system sensor
  - On steep downhill roads (frequent braking may result in overheating the brakes)
  - On repeated uphill and downhill roads
- In some road or traffic conditions, a vehicle or object can unexpectedly come into the sensor detection zone and cause automatic braking. Driver may need to control the distance from other vehicles using the accelerator pedal. Always stay alert and avoid using the DCA system when it is not recommended in this section.
- The following are some conditions in which the sensor cannot detect the signals.
  - When the snow or road spray from traveling vehicles reduces the sensor's visibility
  - When excessively heavy baggage is loaded in the rear seat or the luggage room of own vehicle
- The DCA system is designed to automatically check the sensor's operation. When the sensor area of front bumper is covered with dirt or is obstructed, the system will automatically be canceled. If the sensor is covered with ice, a transparent or translucent vinyl bag, etc., the DCA system may not detect them. In these instances, the DCA system may not be able to decelerate the vehicle properly. Be sure to check and clean the sensor regularly.
- The DCA system is designed to help assist the driver to maintain a following distance from the vehicle ahead. The system will decelerate as necessary and if the vehicle ahead comes to a stop, the vehicle decelerates to standstill. However, the DCA system can only apply up to approximately 40% of the vehicles total braking power. If a vehicle moves into the traveling lane ahead or if a vehicle traveling ahead rapidly decelerates, the distance between vehicles may become closer because the DCA system cannot decelerate the vehicle quickly enough. If this occurs, the DCA system will sound a warning chime and blink the system display to notify the driver to take necessary action.
- The DCA system does not control vehicle speed or warn when driver approach stationary and slow moving vehicles. Driver must pay attention to vehicle operation to maintain proper distance from vehicles ahead.

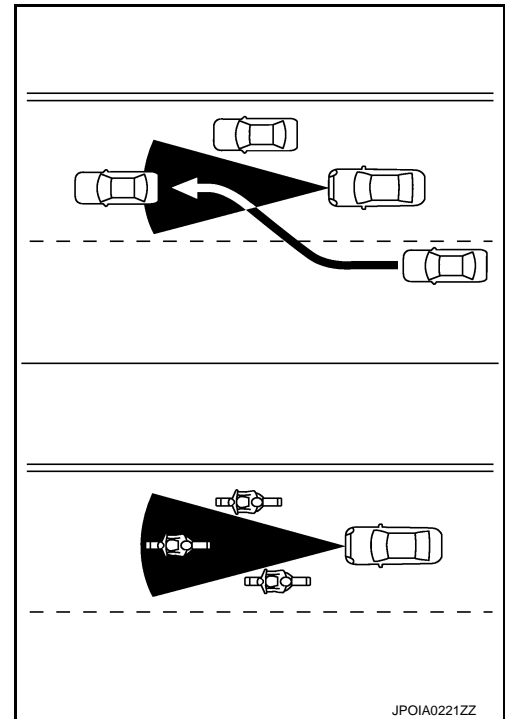
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## NORMAL OPERATING CONDITION

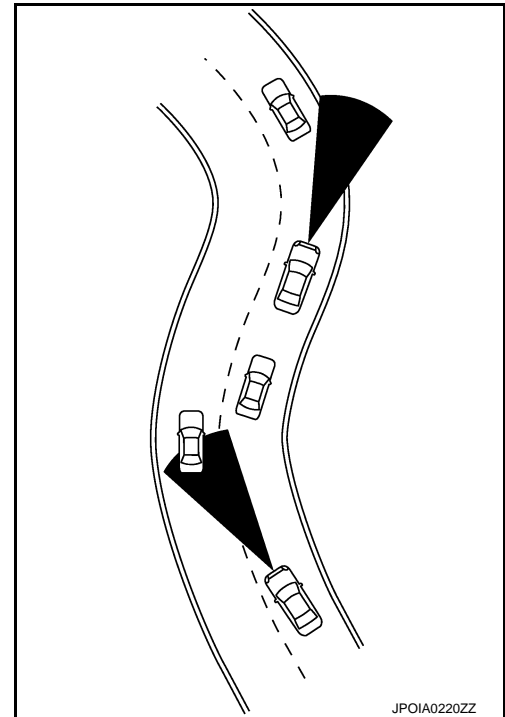
### < SYMPTOM DIAGNOSIS >

### [DRIVER ASSISTANCE SYSTEM]

- The detection zone of the sensor is limited. A vehicle ahead must be in the detection zone for the system to operate.
- A vehicle ahead may move outside of the detection zone due to its position within the same lane of travel. Motorcycles may not be detected in the same lane ahead if they are traveling offset from the center line of the lane. A vehicle that is entering the lane ahead may not be detected until the vehicle has completely moved into the lane. If this occurs, the system may warn driver by blinking the system indicator and sounding the chime. The driver may have to manually control the proper distance away from vehicle traveling ahead.



- When driving on some roads, such as winding, hilly, curved, narrow roads, or roads which are under construction, the sensor may detect vehicles in a different lane, or may temporarily not detect a vehicle traveling ahead. This may cause the system to work inappropriately. The detection of vehicles may also be affected by vehicle operation (steering maneuver or traveling position in the lane, etc.) or vehicle condition. If this occurs, the system may warn driver by blinking the system indicator and sounding the chime unexpectedly. The driver will have to manually control the proper distance away from the vehicle traveling ahead.
- The approach warning chime may sound and the system display may blink when the radar sensor detects objects on the side of the vehicle or on the side of the road. This may cause the DCA system to decelerate or accelerate the vehicle. The radar sensor may detect these objects when the vehicle is driven on winding roads, narrow roads, hilly roads or when entering or exiting a curve. In these cases driver will have to manually control the proper distance ahead of own vehicle. Also, the sensor sensitivity can be affected by vehicle operation (steering maneuver or driving position in the lane) or traffic or vehicle condition (for example, if a vehicle is being driven with some damage).



- The DCA system automatically decelerates own vehicle to help assist the driver to maintain a following distance from the vehicle ahead. Manually brake when deceleration is required to maintain a safe distance upon sudden braking by the vehicle ahead or when a vehicle suddenly appears in front of own vehicle. Always stay alert when using the DCA system.
- When the vehicle ahead detection indicator lamp is not illuminated, system will not control or warn the driver.
- Depending on the position of the accelerator pedal, the system may not be able to assist the driver to release the accelerator pedal appropriately.
- If the vehicle ahead comes to a standstill, the vehicle decelerates to a standstill within the limitations of the system. The system will release brake control with a warning chime once it judges the vehicle is at a standstill. To prevent the vehicle from moving, the driver must depress the brake pedal. [The system will resume control automatically once the system reaches 5 km/h (3 MPH)].

### PRECAUTIONS FOR FORWARD COLLISION WARNING (PFCW) SYSTEM

- PFCW system is designed to warn driver before a collision but will not avoid a collision. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.



# NORMAL OPERATING CONDITION

## [DRIVER ASSISTANCE SYSTEM]

### < SYMPTOM DIAGNOSIS >

- The radar sensor does not detect the following objects.
  - Pedestrians, animals, or obstacles in the roadway.
  - Oncoming vehicles
  - Crossing vehicles
- The predictive forward collision warning system does not function when a vehicle ahead is a narrow vehicle, such as a motorcycle.
- The radar sensor may not detect a second vehicle ahead in the following conditions:
  - Snow or heavy rain
  - Dirt, ice, snow or other material covering the radar sensor
  - Interference by other radar sources
  - Snow or road spray from traveling vehicles is splashed
  - Driving in a tunnel
- The radar sensor may not detect a second vehicle when the vehicle ahead is being towed.
- When the distance to the vehicle ahead is too close, the beam of the radar sensor is obstructed.
- The radar sensor may not detect a second vehicle when driving on a steep downhill slope or on roads with sharp curves.
- Excessive noise will interfere with the warning tone sound, and it may not be heard.

### PRECAUTIONS FOR LANE DEPARTURE WARNING (LDW) SYSTEM

- LDW system is only a warning device to inform the driver of a potential unintended lane departure. It will not steer the vehicle or prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of the vehicle at all times.
- LDW system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- LDW system may not function properly under the following conditions:
  - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers; or lane markers covered with water, dirt or snow, etc.
  - On roads where the discontinued lane markers are still detectable.
  - On roads where there are sharp curves.
  - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. (The LDW system could detect these items as lane markers.)
  - On roads where the traveling lane merges or separates.
  - When the vehicle's traveling direction does not align with the lane marker.
  - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
  - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
  - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly.
  - When strong light enters the lane camera unit. (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
  - When a sudden change in brightness occurs. (For example, when the vehicle enters or exits a tunnel or under a bridge.)

### PRECAUTIONS FOR LANE DEPARTURE PREVENTION (LDP) SYSTEM

- The LDP system will not always steer the vehicle to keep it in the lane. It is not designed to prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times.
- LDP system is primarily intended for use on well-developed freeways or highways. It may not detect the lane markers in certain roads, weather or driving conditions.
- Using the LDP system under some conditions of road, lane marker or weather, or when driver change lanes without using the turn signal could lead to an unexpected system operation. In such conditions, driver needs to correct the vehicle's direction with driver's steering operation to avoid accidents.
- The LDP system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers.
- Do not use the LDP system under the following conditions as it may not function properly:
  - During bad weather (rain, fog, snow, wind, etc.).
  - When driving on slippery roads, such as on ice or snow, etc.
  - When driving on winding or uneven roads.
  - When there is a lane closure due to road repairs.
  - When driving in a makeshift or temporary lane.
  - When driving on roads where the lane width is too narrow.

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DAS

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
- When the vehicle is equipped with non-original brake or steering parts or suspension parts.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- The LDP system may or may not operate properly under the following conditions:
  - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers or lane markers covered with water, dirt or snow, etc.
  - On roads where discontinued lane markers are still detectable.
  - On roads where there are sharp curves.
  - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs (The LDP system could detect these items as lane markers.).
  - On roads where the traveling lane merges or separates.
  - When the vehicle's traveling direction does not align with the lane marker.
  - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
  - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
  - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly.
  - When strong light enters the lane camera unit (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
  - When a sudden change in brightness occurs (For example, when the vehicle enters or exits a tunnel or under a bridge.)

### PRECAUTIONS FOR BLIND SPOT WARNING (BSW) & BLIND SPOT INTERVENTION SYSTEM

- The Blind Spot Warning and Blind Spot Intervention systems are not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the Blind Spot Warning or Blind Spot Intervention system.
- Using the Blind Spot Intervention system under some road, lane marker or weather conditions could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The Blind Spot Warning and Blind Spot Intervention systems may not provide the warning or the control for vehicles that pass through the detection zone quickly.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate Blind Spot Warning/Blind Spot Intervention when certain objects are present such as:
  - Pedestrians, bicycles, animals.
  - Vehicle such as motorcycles, low height vehicle, or high ground clearance vehicle.
  - Oncoming vehicles.
  - Vehicles remaining in the detection zone when driver accelerate from a stop.
  - A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.
  - A vehicle approaching rapidly from behind.
  - A vehicle which vehicle overtakes rapidly.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.
- The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.

### PRECAUTIONS FOR BLIND SPOT INTERVENTION SYSTEM

- Do not use the Blind Spot Intervention system under the following conditions because the system may not function properly.
  - During bad weather (for example. rain, fog, snow, wind, etc.)
  - When driving on slippery roads, such as on ice or snow, etc.
  - When driving on winding or uneven roads.
  - When there is a lane closure due to road repairs.
  - When driving in a makeshift or temporary lane.
  - When driving on roads where the lane width is too narrow.
  - When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
  - When the vehicle is equipped with non-original steering parts, brake parts or suspension parts.

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- The camera may not detect lane markers in the following situations and the Blind Spot Intervention system may not operate properly.
  - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; nonstandard lane markers; lane markers covered with water, dirt, snow, etc.
  - On roads where discontinued lane markers are still detectable.
  - On roads where there are sharp curves.
  - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs.
  - On roads where the traveling lane merges or separates.
  - When the vehicle is traveling direction does not align with the lane markers.
  - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
  - When rain, snow or dirt adheres to the windshield in front of a lane camera unit.
  - When the headlights are not bright due to dirt on the lens or if aiming is not adjusted properly.
  - When strong light enters a lane camera unit. (for example, light directly shines on the front of the vehicle at sunrise or sunset.)
  - When a sudden change in brightness occurs. (for example, when the vehicle enters or exits a tunnel or under a bridge.)
- The Blind Spot Intervention system will not operate if own vehicle is on a lane marker when another vehicle enters the detection zone. In this case only the BSW system operates.
- Blind Spot Intervention assist will not operate or will stop operating and only a warning chime will sound under the following conditions.
  - When the brake pedal is depressed.
  - When the vehicle is accelerated during Blind Spot Intervention operation.
  - When steering quickly.
  - When the ICC, DCA, predictive forward collision warning or forward emergency braking warnings sound.
  - When the hazard warning flashers are operated.
  - When driving on a curve at a high speed.

## PRECAUTIONS FOR BACK-UP COLLISION INTERVENTION (BCI) SYSTEM

### Sonar Handling

- Always keep the sonar sensors clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work over any of the sonar sensors.
- Do not strike or scratch any of the sonar sensors causing physical damage. to a sensor or the surrounding area

### Side Radar Handling

- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.

### Back-up Collision Intervention

- The Back-up Collision Intervention system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing out of parking space, always use the inside and outside rear view mirrors and turn and look in the direction own vehicle will move. Never rely solely on the Back-up Collision Intervention system.
- There is a limitation to the detection capability of the radar and the sonar. Using the BCI system under some road, ground, lane marker, traffic or weather conditions could lead to improper system operation. Always rely on driver operation to avoid accidents.
- In the case of several vehicles approaching in a row or in the opposite direction, a chime may not be issued to the BCI system after the first vehicle passes the sensors.
- When the sonar sounds a tone, the BCI system does not chime a sound (single beep).
- The BCI system does not operate if the object is very close to the bumper.
- The radar sensor cannot detect every object such as:
  - Pedestrians, bicycles or animals or child operated toy vehicle.
  - A vehicle that is passing at a speed greater than approximately 24 km/h (15 MPH).
- The radar sensor may not detect approaching vehicles in certain situations:
  - When the vehicle parked next to own vehicle obstructs the beam of the radar sensor.
  - When the vehicle is parked in an angled parking space.
  - When the vehicle is parked on inclined ground.
  - When the vehicle turns around into own vehicle's aisle.

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## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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- When the angle formed by own vehicle and approaching vehicle is small.
- The following conditions may reduce the ability of the radar sensor to detect other vehicle:
  - Severe weather
  - Road spray
  - Ice build up on the vehicle
  - Frost build up on the vehicle
  - Dirt build up on the vehicle
- The sonar sensor system may not detect:
  - Small or moving object.
  - Wedge-shaped objects.
  - Object closer to the bumper [less than approximately 30 cm (10 in)].
  - Thin objects such as rope, wire, chain, etc.
- The brakes engaged by the BCI system is not as effective on a slope as it is on flat ground. When on a steep slope, the system may not function properly.
- Do not use the BCI system under the following conditions because the system may not function properly:
  - When driving with a tire that is not within normal tire condition (example: tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
  - When the vehicle is equipped with non-original brake parts or suspension parts.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.

# ACCELERATOR PEDAL ASSEMBLY

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

## REMOVAL AND INSTALLATION

### ACCELERATOR PEDAL ASSEMBLY

Exploded View

INFOID:000000011437146

Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Exploded View"](#).

**CAUTION:**

Always perform accelerator pedal released position learning after replacement, removal, or installation of accelerator pedal assembly, and then check the DCA system operation. Refer to [DAS-292, "Description"](#).

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## DYNAMIC DRIVER ASSISTANCE SWITCH

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

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### DYNAMIC DRIVER ASSISTANCE SWITCH

#### Exploded View

INFOID:000000011437147

Dynamic driver assistance switch is integrated in the ICC steering switch. Refer to [ST-33. "Exploded View"](#).

## LANE CAMERA UNIT

## Removal and Installation

INFOID:000000011437148

## REMOVAL

1. Remove headlining assembly. Refer to [INT-59. "Removal and Installation"](#).
2. Remove the bolts.
3. Remove lane camera unit.

## INSTALLATION

Install in the reverse order of removal.

**CAUTION:**

- Remove the camera lens cap for replacement.
- Never give an impact to the lane camera unit.
- Perform the camera aiming every time the lane camera unit is removed and installed. Refer to [DAS-293. "Description"](#).

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B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

# SIDE RADAR

< REMOVAL AND INSTALLATION >

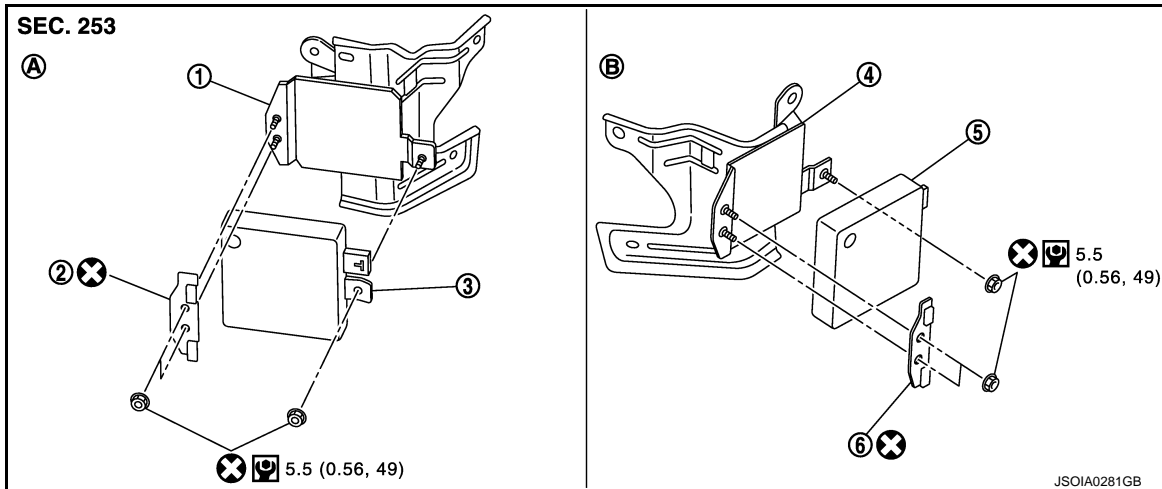
[DRIVER ASSISTANCE SYSTEM]

## SIDE RADAR

### Removal and Installation

INFOID:000000011437149

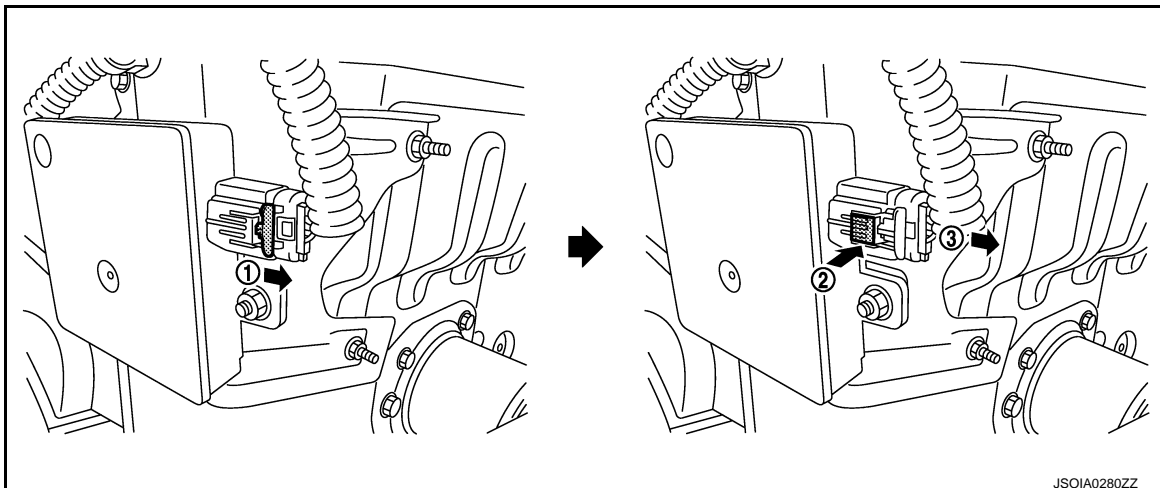
### EXPLODED VIEW



### REMOVAL AND INSTALLATION

#### Removal

1. Remove the rear bumper fascia.
2. Remove the side radar connector.



3. Remove the mounting nut.
4. Remove the side radar RH/LH.

#### Installation

Note the following, and install in the reverse order of removal.

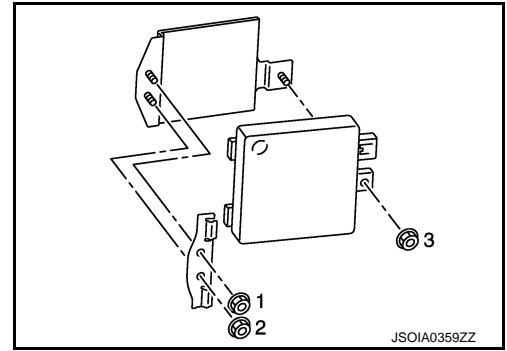


# SIDE RADAR

## [DRIVER ASSISTANCE SYSTEM]

### < REMOVAL AND INSTALLATION >

- Tighten mounting nuts in the numerical order as shown in the figure.
- Always lock the side radar connector.



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

---

## BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR

### Removal and Installation

INFOID:000000011437151

#### REMOVAL AND INSTALLATION

##### Removal

1. Remove the front door sash inner cover. Refer to [INT-32. "FRONT DOOR SASH INNER COVER : Removal and Installation"](#).
2. Remove the blind spot warning/blind spot intervention indicator.

##### Installation

Install in the reverse order of removal.

# DRIVER ASSISTANCE BUZZER CONTROL MODULE

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

## DRIVER ASSISTANCE BUZZER CONTROL MODULE

### Removal and Installation

INFOID:000000011437152

#### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-53, "Removal and Installation"](#).
2. Remove clips on the trunk finisher front upper to obtain space for work. Refer to [INT-64, "TRUNK FINISHER FRONT : Removal and Installation"](#).
3. Disconnect driver assistance buzzer control module connector.
4. Remove mounting bolts from driver assistance buzzer control module.
5. Remove driver assistance buzzer control module.

#### INSTALLATION

Installation is in the reverse order of removal.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

## DRIVER ASSISTANCE BUZZER

### Removal and Installation

INFOID:000000011437153

#### REMOVAL

1. Remove the AV control unit. Refer to [AV-405, "Removal and Installation"](#).
2. Remove driver assistance buzzer mounting screw.
3. Remove driver assistance buzzer.

#### INSTALLATION

Install in the reverse order of removal.

# WARNING SYSTEMS SWITCH

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

## WARNING SYSTEMS SWITCH

### Removal and Installation

INFOID:000000011437154

#### REMOVAL

1. Remove the instrument lower panel LH. Refer to [IP-13. "Removal and Installation"](#).
2. Remove warning systems switch from instrument driver lower panel LH.

#### **NOTE:**

Warning systems switch, BCI switch and VDC OFF switch are integrated.

#### INSTALLATION

Install in the reverse order of removal.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
P

DAS

## BCI SWITCH

### Removal and Installation

INFOID:000000011437155

#### REMOVAL

1. Remove the instrument lower panel LH. Refer to [IP-13. "Removal and Installation"](#).
2. Remove BCI switch from instrument driver lower panel LH.

**NOTE:**

BCI switch, warning systems switch and VDC OFF switch are integrated.

#### INSTALLATION

Install in the reverse order of removal.