SECTION LAN SYSTEM

Diagnosis Procedure42

D

Е

F

Н

Κ

L

LAN

Ν

Ρ

CONTENTS

CAN FUNDAMENTAL PRECAUTION24 PRECAUTION8 PRECAUTIONS24 Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-Precautions for Trouble Diagnosis8 Precautions for Harness Repair8 Precautions for Trouble Diagnosis24 Precautions for Harness Repair24 FUNCTION DIAGNOSIS9 CAN COMMUNICATION SYSTEM9 System Description9 DIAGNOSIS AND REPAIR WORKFLOW26 System Diagram9 Interview Sheet26 CAN Communication Control Circuit10 FUNCTION DIAGNOSIS27 DIAG ON CAN11 CAN COMMUNICATION SYSTEM27 Description11 System Diagram11 CAN System Specification Chart27 CAN Communication Signal Chart28 TROUBLE DIAGNOSIS12 Condition of Error Detection12 Symptom When Error Occurs in CAN Communi-cation System12 Component Parts Location32 CAN Diagnosis with CONSULT-III15 Self-Diagnosis15 CAN Diagnostic Support Monitor15 How to Use CAN Communication Signal Chart17 BASIC INSPECTION18 DIAGNOSIS AND REPAIR WORKFLOW18 MAIN LINE BETWEEN BCM AND DLC CIR-Trouble Diagnosis Flow Chart18 Trouble Diagnosis Procedure18 Diagnosis Procedure40 CAN MAIN LINE BETWEEN DLC AND ABS CIR-HOW TO USE THIS MANUAL23 CUIT41 HOW TO USE THIS SECTION23 Diagnosis Procedure41 Caution23 MAIN LINE BETWEEN DLC AND ADP CIR-Abbreviation List23

MAIN LINE BETWEEN ADP AND ABS CIR-
CUIT
ECM BRANCH LINE CIRCUIT
4WD BRANCH LINE CIRCUIT 46 Diagnosis Procedure
A-BAG BRANCH LINE CIRCUIT
AV BRANCH LINE CIRCUIT
BCM BRANCH LINE CIRCUIT 49 Diagnosis Procedure
TCM BRANCH LINE CIRCUIT 50 Diagnosis Procedure 50
AFS BRANCH LINE CIRCUIT
DLC BRANCH LINE CIRCUIT
M&A BRANCH LINE CIRCUIT
STRG BRANCH LINE CIRCUIT
RAS BRANCH LINE CIRCUIT 55 Diagnosis Procedure 55
ADP BRANCH LINE CIRCUIT
ABS BRANCH LINE CIRCUIT
ICC BRANCH LINE CIRCUIT
IPDM-E BRANCH LINE CIRCUIT
CAN COMMUNICATION CIRCUIT
COMPONENT DIAGNOSIS 62
MAIN LINE BETWEEN BCM AND DLC CIR-
CUIT
MAIN LINE BETWEEN DLC AND ABS CIR- CUIT
Diagnosis Procedure63

ECM BRANCH LINE CIRCUIT 64 Diagnosis Procedure
A-BAG BRANCH LINE CIRCUIT
AV BRANCH LINE CIRCUIT 66 Diagnosis Procedure
BCM BRANCH LINE CIRCUIT 67 Diagnosis Procedure
DLC BRANCH LINE CIRCUIT
M&A BRANCH LINE CIRCUIT 69 Diagnosis Procedure
STRG BRANCH LINE CIRCUIT
ABS BRANCH LINE CIRCUIT
IPDM-E BRANCH LINE CIRCUIT
CAN COMMUNICATION CIRCUIT
COMPONENT DIAGNOSIS75
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 75 Diagnosis Procedure 75
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 75 Diagnosis Procedure 75 MAIN LINE BETWEEN DLC AND ADP CIR-
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 75 Diagnosis Procedure 75 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 76 Diagnosis Procedure 76 MAIN LINE BETWEEN ADP AND ABS CIR-
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 75 Diagnosis Procedure 75 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 76 Diagnosis Procedure 76
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 75 Diagnosis Procedure 75 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 76 Diagnosis Procedure 76 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 76 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 77
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 75 Diagnosis Procedure 75 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 76 Diagnosis Procedure 76 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 76 Diagnosis Procedure 77 Diagnosis Procedure 77 Diagnosis Procedure 77
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT75Diagnosis Procedure75MAIN LINE BETWEEN DLC AND ADP CIR- CUIT76Diagnosis Procedure76MAIN LINE BETWEEN ADP AND ABS CIR- CUIT77Diagnosis Procedure77Diagnosis Procedure77Diagnosis Procedure77Diagnosis Procedure77A-BAG BRANCH LINE CIRCUIT80
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT75Diagnosis Procedure75MAIN LINE BETWEEN DLC AND ADP CIR- CUIT76Diagnosis Procedure76MAIN LINE BETWEEN ADP AND ABS CIR- CUIT77Diagnosis Procedure77Diagnosis Procedure77Diagnosis Procedure77Diagnosis Procedure77ABRANCH LINE CIRCUIT79Diagnosis Procedure80AV BRANCH LINE CIRCUIT81
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT75Diagnosis Procedure75MAIN LINE BETWEEN DLC AND ADP CIR- CUIT76Diagnosis Procedure76MAIN LINE BETWEEN ADP AND ABS CIR- CUIT77Diagnosis Procedure77Diagnosis Procedure77Diagnosis Procedure77Diagnosis Procedure79A-BAG BRANCH LINE CIRCUIT80Diagnosis Procedure80AV BRANCH LINE CIRCUIT81Diagnosis Procedure81

STRG BRANCH LINE CIRCUIT Diagnosis Procedure	
ADP BRANCH LINE CIRCUIT Diagnosis Procedure	
ABS BRANCH LINE CIRCUIT Diagnosis Procedure	
IPDM-E BRANCH LINE CIRCUIT Diagnosis Procedure	
CAN COMMUNICATION CIRCUIT Diagnosis Procedure CAN SYSTEM (TYPE 4)	
COMPONENT DIAGNOSIS	91
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT	Q1
Diagnosis Procedure	
MAIN LINE BETWEEN DLC AND ADP CIR- CUIT Diagnosis Procedure	
MAIN LINE BETWEEN ADP AND ABS CIR- CUIT	93
Diagnosis Procedure ECM BRANCH LINE CIRCUIT Diagnosis Procedure	95
A-BAG BRANCH LINE CIRCUIT Diagnosis Procedure	96
AV BRANCH LINE CIRCUIT Diagnosis Procedure	
BCM BRANCH LINE CIRCUIT Diagnosis Procedure	
DLC BRANCH LINE CIRCUIT Diagnosis Procedure	
M&A BRANCH LINE CIRCUIT Diagnosis Procedure	
STRG BRANCH LINE CIRCUIT Diagnosis Procedure	
RAS BRANCH LINE CIRCUIT Diagnosis Procedure	
ADP BRANCH LINE CIRCUIT Diagnosis Procedure	
ABS BRANCH LINE CIRCUIT Diagnosis Procedure	
IPDM-E BRANCH LINE CIRCUIT Diagnosis Procedure	

CAN COMMUNICATION CIRCUIT	A
COMPONENT DIAGNOSIS 108	В
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT	
Diagnosis Procedure	С
MAIN LINE BETWEEN DLC AND ADP CIR- CUIT	D
Diagnosis Procedure	D
MAIN LINE BETWEEN ADP AND ABS CIR- CUIT	E
ECM BRANCH LINE CIRCUIT	F
A-BAG BRANCH LINE CIRCUIT	G
AV BRANCH LINE CIRCUIT	Н
BCM BRANCH LINE CIRCUIT	I
AFS BRANCH LINE CIRCUIT 116 Diagnosis Procedure	I
DLC BRANCH LINE CIRCUIT 117 Diagnosis Procedure	J
M&A BRANCH LINE CIRCUIT	K
STRG BRANCH LINE CIRCUIT	L
ADP BRANCH LINE CIRCUIT	LA
ABS BRANCH LINE CIRCUIT	N
ICC BRANCH LINE CIRCUIT	1.4
IPDM-E BRANCH LINE CIRCUIT 123 Diagnosis Procedure 123	0
CAN COMMUNICATION CIRCUIT	Ρ
COMPONENT DIAGNOSIS 126	
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT	

MAIN LINE BETWEEN DLC AND ADP CIR-	A
CUIT	
Diagnosis Procedure	A
MAIN LINE BETWEEN ADP AND ABS CIR- CUIT	E
ECM BRANCH LINE CIRCUIT	Т
A-BAG BRANCH LINE CIRCUIT 131 Diagnosis Procedure	C
AV BRANCH LINE CIRCUIT	N
BCM BRANCH LINE CIRCUIT	S
AFS BRANCH LINE CIRCUIT 134 Diagnosis Procedure	A
DLC BRANCH LINE CIRCUIT 135 Diagnosis Procedure	II
M&A BRANCH LINE CIRCUIT 136 Diagnosis Procedure	C
STRG BRANCH LINE CIRCUIT	C
RAS BRANCH LINE CIRCUIT 138 Diagnosis Procedure 138	N
ADP BRANCH LINE CIRCUIT	C
ABS BRANCH LINE CIRCUIT	N C
ICC BRANCH LINE CIRCUIT 141 Diagnosis Procedure	N C
IPDM-E BRANCH LINE CIRCUIT 142 Diagnosis Procedure 142	E
CAN COMMUNICATION CIRCUIT	A
CAN SYSTEM (TYPE 7)	
COMPONENT DIAGNOSIS145	A
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT	E
MAIN LINE BETWEEN DLC AND ABS CIR-	т
CUIT	C
ECM BRANCH LINE CIRCUIT 147 Diagnosis Procedure	L

A-BAG BRANCH LINE CIRCUIT148 Diagnosis Procedure
AV BRANCH LINE CIRCUIT
BCM BRANCH LINE CIRCUIT
TCM BRANCH LINE CIRCUIT151 Diagnosis Procedure
DLC BRANCH LINE CIRCUIT
M&A BRANCH LINE CIRCUIT153 Diagnosis Procedure
STRG BRANCH LINE CIRCUIT
ABS BRANCH LINE CIRCUIT155 Diagnosis Procedure
IPDM-E BRANCH LINE CIRCUIT
CAN COMMUNICATION CIRCUIT
COMPONENT DIAGNOSIS159
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT159
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 159 Diagnosis Procedure 159 MAIN LINE BETWEEN DLC AND ADP CIR- 160 Diagnosis Procedure 160 MAIN LINE BETWEEN ADP AND ABS CIR- 161
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 159 Diagnosis Procedure 159 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 160 Diagnosis Procedure 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 161 Diagnosis Procedure 161 Diagnosis Procedure 161
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 159 Diagnosis Procedure 159 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 160 Diagnosis Procedure 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 161 Diagnosis Procedure 161 Diagnosis Procedure 161 Diagnosis Procedure 161 ABRANCH LINE CIRCUIT 163 Diagnosis Procedure 163
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 159 Diagnosis Procedure 159 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 160 Diagnosis Procedure 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 161 Diagnosis Procedure 161 Diagnosis Procedure 161 ABRANCH LINE CIRCUIT 163 Diagnosis Procedure 163 A-BAG BRANCH LINE CIRCUIT 164 Diagnosis Procedure 164 AV BRANCH LINE CIRCUIT 165
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT 159 Diagnosis Procedure 159 MAIN LINE BETWEEN DLC AND ADP CIR- CUIT 160 Diagnosis Procedure 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 160 MAIN LINE BETWEEN ADP AND ABS CIR- CUIT 161 Diagnosis Procedure 161 Diagnosis Procedure 161 BCM BRANCH LINE CIRCUIT 164 AV BRANCH LINE CIRCUIT 165 Diagnosis Procedure 165 BCM BRANCH LINE CIRCUIT 165

LAN-4

M&A BRANCH LINE CIRCUIT Diagnosis Procedure	
STRG BRANCH LINE CIRCUIT Diagnosis Procedure	
ADP BRANCH LINE CIRCUIT Diagnosis Procedure	
ABS BRANCH LINE CIRCUIT Diagnosis Procedure	
IPDM-E BRANCH LINE CIRCUIT Diagnosis Procedure	
CAN COMMUNICATION CIRCUIT Diagnosis Procedure CAN SYSTEM (TYPE 10)	
COMPONENT DIAGNOSIS	176
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT Diagnosis Procedure	
MAIN LINE BETWEEN DLC AND ADP CIR- CUIT Diagnosis Procedure	
MAIN LINE BETWEEN ADP AND ABS CIR- CUIT Diagnosis Procedure	. 178
ECM BRANCH LINE CIRCUIT Diagnosis Procedure	
A-BAG BRANCH LINE CIRCUIT Diagnosis Procedure	
AV BRANCH LINE CIRCUIT Diagnosis Procedure	
BCM BRANCH LINE CIRCUIT Diagnosis Procedure	
TCM BRANCH LINE CIRCUIT Diagnosis Procedure	
DLC BRANCH LINE CIRCUIT Diagnosis Procedure	
M&A BRANCH LINE CIRCUIT Diagnosis Procedure	
STRG BRANCH LINE CIRCUIT Diagnosis Procedure	
RAS BRANCH LINE CIRCUIT Diagnosis Procedure	
ADP BRANCH LINE CIRCUIT Diagnosis Procedure	

ABS BRANCH LINE CIRCUIT	А
IPDM-E BRANCH LINE CIRCUIT	В
CAN COMMUNICATION CIRCUIT 192 Diagnosis Procedure	D
CAN SYSTEM (TYPE 11)	С
COMPONENT DIAGNOSIS194	
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT	D
Diagnosis Procedure	_
MAIN LINE BETWEEN DLC AND ADP CIR- CUIT	E
Diagnosis Procedure	F
MAIN LINE BETWEEN ADP AND ABS CIR-	I
CUIT	
Diagnosis Procedure196	G
ECM BRANCH LINE CIRCUIT	Н
A-BAG BRANCH LINE CIRCUIT	
AV BRANCH LINE CIRCUIT	
BCM BRANCH LINE CIRCUIT	J
TCM BRANCH LINE CIRCUIT	K
AFS BRANCH LINE CIRCUIT	L
DLC BRANCH LINE CIRCUIT	
Diagnosis Procedure	LAN
M&A BRANCH LINE CIRCUIT	
STRG BRANCH LINE CIRCUIT	Ν
ADP BRANCH LINE CIRCUIT	0
ABS BRANCH LINE CIRCUIT	Ρ
ICC BRANCH LINE CIRCUIT	
IPDM-E BRANCH LINE CIRCUIT	

LAN-5

CAN COMMUNICATION CIRCUIT 211	CC
Diagnosis Procedure211 CAN SYSTEM (TYPE 12)	MA
COMPONENT DIAGNOSIS213	CU D
MAIN LINE BETWEEN BCM AND DLC CIR-	MA
CUIT	CU
Diagnosis Procedure213 MAIN LINE BETWEEN DLC AND ADP CIR-	EC
CUIT	EC C
Diagnosis Procedure214	4W
MAIN LINE BETWEEN ADP AND ABS CIR-	D
CUIT	A-I
ECM BRANCH LINE CIRCUIT	C
Diagnosis Procedure217	AV D
A-BAG BRANCH LINE CIRCUIT 218	вс
Diagnosis Procedure	D
AV BRANCH LINE CIRCUIT 219 Diagnosis Procedure	тс
BCM BRANCH LINE CIRCUIT 220	C
Diagnosis Procedure	DL C
TCM BRANCH LINE CIRCUIT 221	Ma
Diagnosis Procedure	D
AFS BRANCH LINE CIRCUIT	ST
DLC BRANCH LINE CIRCUIT 223	
Diagnosis Procedure	AB C
M&A BRANCH LINE CIRCUIT 224	IP
Diagnosis Procedure	D
STRG BRANCH LINE CIRCUIT	CA
RAS BRANCH LINE CIRCUIT	C
Diagnosis Procedure226	СС
ADP BRANCH LINE CIRCUIT 227	MA
Diagnosis Procedure	CU
ABS BRANCH LINE CIRCUIT 228 Diagnosis Procedure	C
ICC BRANCH LINE CIRCUIT 229	MA CU
Diagnosis Procedure	
IPDM-E BRANCH LINE CIRCUIT	MA
Diagnosis Procedure	CU
CAN COMMUNICATION CIRCUIT 231 Diagnosis Procedure	EC
CAN SYSTEM (TYPE 13)	

211	COMPONENT DIAGNOSIS233
211	MAIN LINE BETWEEN BCM AND DLC CIR- CUIT233
213	Diagnosis Procedure
213 213	MAIN LINE BETWEEN DLC AND ABS CIR- CUIT
214	ECM BRANCH LINE CIRCUIT
214	4WD BRANCH LINE CIRCUIT
215 215	A-BAG BRANCH LINE CIRCUIT
217 217	AV BRANCH LINE CIRCUIT
218 218	BCM BRANCH LINE CIRCUIT
219 219	TCM BRANCH LINE CIRCUIT 240 Diagnosis Procedure 240
220 220	DLC BRANCH LINE CIRCUIT241 Diagnosis Procedure
221 221	M&A BRANCH LINE CIRCUIT242 Diagnosis Procedure
222 222	STRG BRANCH LINE CIRCUIT
223 223	ABS BRANCH LINE CIRCUIT
224 224	IPDM-E BRANCH LINE CIRCUIT
225 225	CAN COMMUNICATION CIRCUIT
226 226	CAN SYSTEM (TYPE 14) COMPONENT DIAGNOSIS248
227 227	MAIN LINE BETWEEN BCM AND DLC CIR- CUIT248
228 228	Diagnosis Procedure 248
229 229	MAIN LINE BETWEEN DLC AND ADP CIR- CUIT
230 230	MAIN LINE BETWEEN ADP AND ABS CIR- CUIT250
231	Diagnosis Procedure250
231	ECM BRANCH LINE CIRCUIT252 Diagnosis Procedure

4WD BRANCH LINE CIRCUIT Diagnosis Procedure	
A-BAG BRANCH LINE CIRCUIT Diagnosis Procedure	
AV BRANCH LINE CIRCUIT Diagnosis Procedure	
BCM BRANCH LINE CIRCUIT Diagnosis Procedure	
TCM BRANCH LINE CIRCUIT Diagnosis Procedure	
DLC BRANCH LINE CIRCUIT Diagnosis Procedure	
M&A BRANCH LINE CIRCUIT Diagnosis Procedure	
STRG BRANCH LINE CIRCUIT Diagnosis Procedure	
ADP BRANCH LINE CIRCUIT Diagnosis Procedure	
ABS BRANCH LINE CIRCUIT Diagnosis Procedure	
IPDM-E BRANCH LINE CIRCUIT Diagnosis Procedure	
CAN COMMUNICATION CIRCUIT Diagnosis Procedure CAN SYSTEM (TYPE 15)	
COMPONENT DIAGNOSIS	266
MAIN LINE BETWEEN BCM AND DLC CIR- CUIT Diagnosis Procedure	
MAIN LINE BETWEEN DLC AND ADP CIR- CUIT	. 267
Diagnosis Procedure	

MAIN LINE BETWEEN ADP AND ABS CIR-	А
CUIT	A
ECM BRANCH LINE CIRCUIT	В
4WD BRANCH LINE CIRCUIT	С
A-BAG BRANCH LINE CIRCUIT	D
AV BRANCH LINE CIRCUIT	
BCM BRANCH LINE CIRCUIT	E
TCM BRANCH LINE CIRCUIT	F
AFS BRANCH LINE CIRCUIT	G
DLC BRANCH LINE CIRCUIT	Н
M&A BRANCH LINE CIRCUIT	I
STRG BRANCH LINE CIRCUIT	1
ADP BRANCH LINE CIRCUIT	J
ABS BRANCH LINE CIRCUIT	Κ
ICC BRANCH LINE CIRCUIT	L
IPDM-E BRANCH LINE CIRCUIT	LA
CAN COMMUNICATION CIRCUIT	N

0

Ρ

PRECAUTIONS

Precautions for Trouble Diagnosis

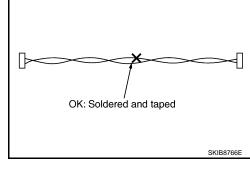
CAUTION:

- Never apply 7.0 V or more to the measurement terminal.
- Use a tester with open terminal voltage of 7.0 V or less.
- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

Precautions for Harness Repair

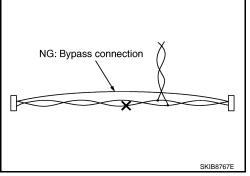
• Solder the repaired area and wrap tape around the soldered area. **NOTE:**

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 CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



• Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

LAN-8

INFOID:000000000963922

INFOID:000000000963921

FUNCTION DIAGNOSIS CAN COMMUNICATION SYSTEM

System Description

INFOID:000000000963923 В

INFOID:000000000963924

А

С

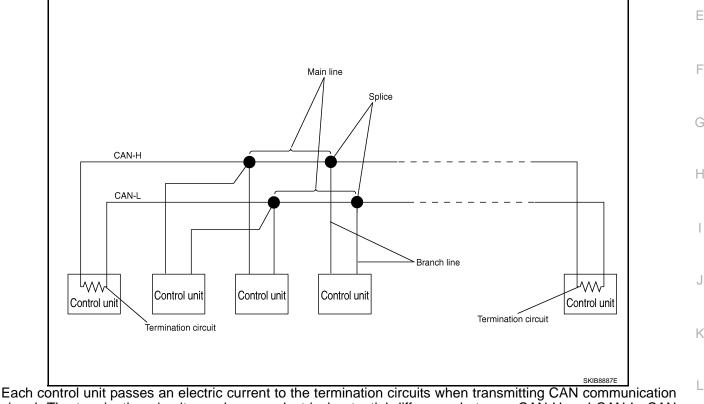
D

Ε

F

- CAN 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 two communication lines (CAN-H and CAN-L).
- · Control units on the CAN network transmit signals using the CAN communication control circuit. They receive only necessary signals from other control units to operate various functions.
- CAN communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

System Diagram



signal. The termination circuits produce an electrical potential difference between CAN-H and CAN-L. CAN communication system transmits and receives CAN communication signals by the potential difference.

Component	Description	
Main line	CAN communication line between splices	
Branch line	CAN communication line between splice and a control unit	
Splice	A point connecting a branch line with a main line	
Termination circuit	Refer to LAN-10, "CAN Communication Control Circuit".	

Ρ

Κ

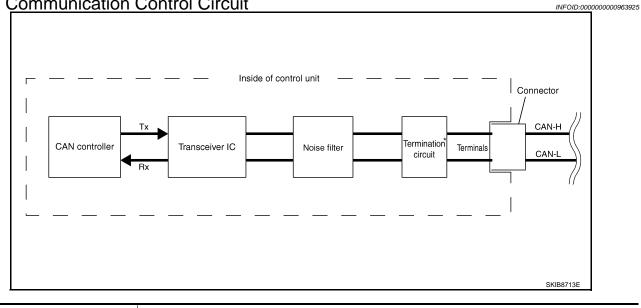
L

LAN

< FUNCTION DIAGNOSIS >

[CAN FUNDAMENTAL]

CAN Communication Control Circuit



Component	System description			
CAN controller	It controls CAN communication signal transmission and reception, error detection, etc.			
Transceiver IC	It converts digital signal into CAN communication signal, and CAN communication signal into dissignal.			
Noise filter	It eliminates noise of CAN communication signal.			
Termination circuit [*] (Resistance of approx. 120 Ω)	It produces potential difference.			

*: These are the only control units wired with both ends of CAN communication system.

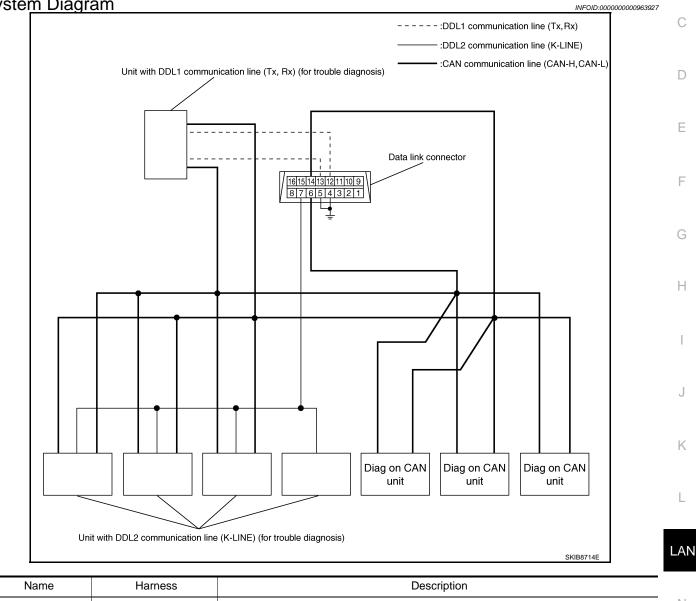
< FUNCTION DIAGNOSIS >

DIAG ON CAN

Description

"Diag on CAN" is a diagnosis using CAN communication instead of previous DDL1 and DDL2 communication В line, between control unit and diagnosis unit.

System Diagram



Name	Harness	Description	
DDL1	Tx Rx	It is used for trouble diagnosis. (CAN-H and CAN-L are used for controlling)	N
DDL2	K-LINE	It is used for trouble diagnosis. (CAN-H and CAN-L are used for controlling)	
Diag on CAN	CAN-H CAN-L	It is used for trouble diagnosis and control.	0

А

Ρ

INFOID:000000000963926

[CAN FUNDAMENTAL]

INFOID:00000000963928

TROUBLE DIAGNOSIS

Condition of Error Detection

"U1000" or "U1001" is indicated on SELF-DIAG RESULTS on CONSULT-III if CAN communication signal is not transmitted or received between units for 2 seconds or more.

CAN COMMUNICATION SYSTEM ERROR

- CAN communication line open (CAN-H, CAN-L, or both)
- CAN communication line short (ground, between CAN communication lines, other harnesses)
- Error of CAN communication control circuit of the unit connected to CAN communication line

WHEN INDICATED "U1000" OR "U1001" IS INDICATED EVEN THOUGH CAN COMMUNICATION SYSTEM IS NORMAL

- Removal/installation of parts: Error may be detected when removing and installing CAN communication unit and related parts while turning the ignition switch ON. (A DTC except for CAN communication may be detected.)
- Fuse blown out (removed): CAN communication of the unit may cease.
- Voltage drop: Error may be detected if voltage drops due to discharged battery when turning the ignition switch ON (Depending on the control unit which carries out CAN communication).
- Error may be detected if the power supply circuit of the control unit, which carries out CAN communication, malfunctions (Depending on the control unit which carries out CAN communication).
- Error may be detected if reprogramming is not completed normally.

NOTE:

CAN communication system is normal if "U1000" or "U1001" is indicated on SELF-DIAG RESULTS of CON-SULT-III under the above conditions. Erase the memory of the self-diagnosis of each unit.

Symptom When Error Occurs in CAN Communication System

INFOID:000000000963929

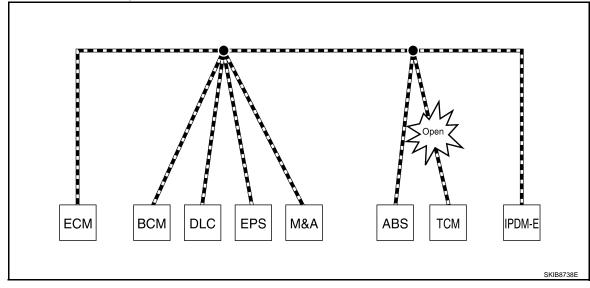
In CAN communication system, multiple units mutually transmit and receive signals. Each unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

ERROR EXAMPLE

NOTE:

- Each vehicle differs in symptom of each unit under fail-safe mode and CAN communication line wiring.
- Refer to LAN-23, "Abbreviation List" for the unit abbreviation.

Example: TCM branch line open circuit



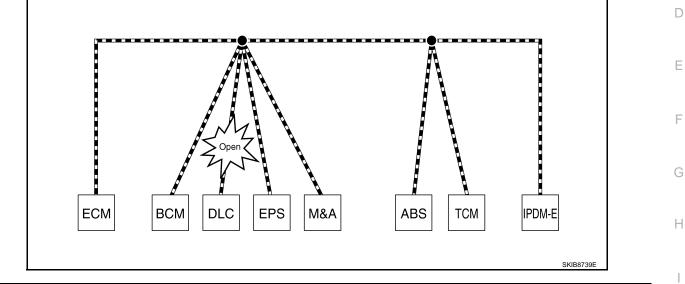
Unit name	Symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	Reverse warning chime does not sound.

< FUNCTION DIAGNOSIS >

[CAN FUNDAMENTAL]

Unit name	Symptom	^
EPS control unit	Normal operation.	A
Combination meter	Shift position indicator and OD OFF indicator turn OFF.Warning lamps turn ON.	R
ABS actuator and electric unit (control unit)	Normal operation.	D
ТСМ	No impact on operation.	
IPDM E/R	Normal operation.	С

Example: Data link connector branch line open circuit



Unit name	Symptom	
ECM		
BCM		J
EPS control unit		
Combination meter	Normal operation.	K
ABS actuator and electric unit (control unit)		
ТСМ		
IPDM E/R		L

NOTE:

- When data link connector branch line is open, transmission and reception of CAN communication signals is not affected. Therefore, no symptoms occur. However, be sure to repair malfunctioning circuit.
- The model (all units on CAN communication system are Diag on CAN) cannot perform CAN diagnosis with CONSULT-III if the following error occurs. The error is judged by the symptom.

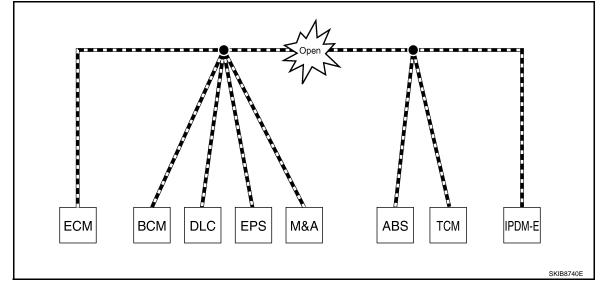
		N
Error	Difference of symptom	14
Data link connector branch line open circuit	Normal operation.	
CAN-H, CAN-L harness short-circuit	Most the units which are connected to the CAN communication system enter fail-safe mode or are deactivated.	0

Ρ

LAN

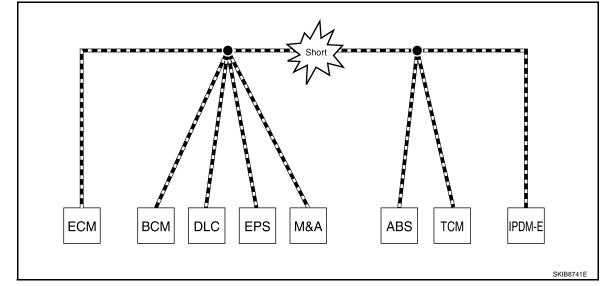
< FUNCTION DIAGNOSIS >

Example: Main Line Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) Open Circuit



Unit name	Symptom			
ECM	Engine torque limiting is affected, and shift harshness increases.			
BCM	 Reverse warning chime does not sound. The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position. 			
EPS control unit	The steering effort increases.			
Combination meter	 The shift position indicator and OD OFF indicator turn OFF. The speedometer is inoperative. The odo/trip meter stops. 			
ABS actuator and electric unit (control unit)	Normal operation.			
ТСМ	No impact on operation.			
IPDM E/R	When the ignition switch is ON,The headlamps (Lo) turn ON.The cooling fan continues to rotate.			

Example: CAN-H, CAN-L Harness Short Circuit



< FUNCTION DIAGNOSIS >

[CAN FUNDAMENTAL]

Unit name	Symptom • Engine torque limiting is affected, and shift harshness increases. • Engine speed drops.			
ECM				
ВСМ	 Reverse warning chime does not sound. The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position. The room lamp does not turn ON. The engine does not start (if an error or malfunction occurs while turning the ignition switch is OFF.) The steering lock does not release (if an error or malfunction occurs while turning the ignition switch is OFF.) 			
EPS control unit	The steering effort increases.			
Combination meter	The tachometer and the speedometer do not move.Warning lamps turn ON.Indicator lamps do not turn ON.			
ABS actuator and electric unit (control unit)	Normal operation.			
ТСМ	No impact on operation.			
IPDM E/R	When the ignition switch is ON,The headlamps (Lo) turn ON.The cooling fan continues to rotate.			

CAN Diagnosis with CONSULT-III

CAN diagnosis on CONSULT-III extracts the root cause by receiving the following information.

- Response to the system call
- Control unit diagnosis information
- Self-diagnosis
- CAN diagnostic support monitor

Self-Diagnosis

INFOID:000000000963931

INFOID:000000000963930

J

Н

DTC	Self-diagnosis item (CONSULT-III indication)	DTC detection condition	Inspection/Action	
U1000	CAN COMM CIRCUIT	When ECM is not transmitting or receiving CAN communication signal of OBD (emission-related diagnosis) for 2 seconds or more.		
01000		When a control unit (except for ECM) is not transmitting or receiving CAN communication signal for 2 seconds or more.	Start the inspection. Re- fer to the applicable sec-	
U1001	CAN COMM CIRCUIT	When ECM is not transmitting or receiving CAN communication signal other than OBD (emission-related diagnosis) for 2 seconds or more.	tion of the indicated control unit.	
U1002	SYSTEM COMM	When a control unit is not transmitting or receiv- ing CAN communication signal for 2 seconds or less.		
U1010	CONTROL UNIT [CAN]	When an error is detected during the initial diag- nosis for CAN controller of each control unit.	Replace the control unit indicating "U1010".	

CAN Diagnostic Support Monitor

INFOID:000000000963932

Ρ

MONITOR ITEM (CONSULT-III)

< FUNCTION DIAGNOSIS >

Γ

Example: CAN DIAG SUPPORT MNTR indication

Withou	t PAST		With	PAST	
EC	М		EC	M	
	PRSNT	PAST		PRSNT	PAS
INITIAL DIAG	OK		TRANSMIT DIAG	¦OK	OK
TRANSMIT DIAG	OK		VDC/TCS/ABS	[-]-
ТСМ	OK		METER/M&A	¦ OK	OK
VDC/TCS/ABS	UNKWN		BCM/SEC	OK	OK
METER/M&A	OK		ICC	-	
ICC	UNKWN		HVAC		
BCM/SEC	¦ OK	1	ТСМ	lок	OK
IPDM E/R	OK	1	EPS	[]
			IPDM E/R	LOK	OK
			e4WD	-]-
			AWD/4WD	OK	OK

Without PAST

Item	PRSNT	Description			
Initial diagnosis	OK	Normal at present			
initial diagnosis	NG	Control unit error (Except for some control units)			
	OK	Normal at present			
Transmission diagnosis	UNKWN	Unable to transmit signals for 2 seconds or more.			
		Diagnosis not performed			
	OK	Normal at present			
Control unit name	UNKWN	Unable to receive signals for 2 seconds or more.			
(Reception diagnosis)		Diagnosis not performed			
		No control unit for receiving signals. (No applicable optional parts)			

With PAST

Item	PRSNT	PAST	Description
		OK	Normal at present and in the past
Transmission diagnosis	ОК	1 – 39	Normal at present, but unable to transmit signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
	UNKWN	0	Unable to transmit signals for 2 seconds or more at present.
	OK	Normal at present and in the past	
Control unit name	ОК	1 – 39	Normal at present, but unable to receive signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
(Reception diagnosis)	UNKWN	0	Unable to receive signals for 2 seconds or more at present
			Diagnosis not performed.
	_	_	No control unit for receiving signals. (No applicable optional parts)

MONITOR ITEM (ON-BOARD DIAGNOSIS)

NOTE:

For some models, CAN communication diagnosis result is received from the vehicle monitor.

LAN-16

< FUNCTION DIAGNOSIS >

INFOID:000000000963933

Н

Κ

L

LAN

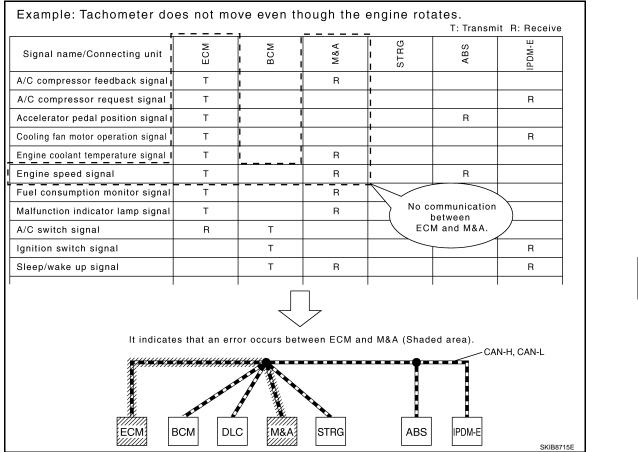
Ν

Ρ

Item	Result indi- cated Error counter Description								
	OK	0	Normal at present						
CAN_COMM (Initial diagnosis)	NG	1 – 50	Control unit error (The number indicates how many times diagnosis has bee run.)						
	OK	0	Normal at present						
CAN_CIRC_1 (Transmission diagnosis)	UNKWN	1 – 50	Unable to transmit for 2 seconds or more at present. (The number indicates how many times diagnosis has be run.)						
	OK	0	Normal at present						
CAN_CIRC_2 – 9 eception diagnosis of each unit)			Unable to transmit for 2 seconds or more at present. (The number indicates how many times diagnosis has been run.)						
cooption diagnosis of each diff.	UNKWN	1 – 50	Diagnosis not performed.						
			No control unit for receiving signals. (No applicable optional parts)						

How to Use CAN Communication Signal Chart

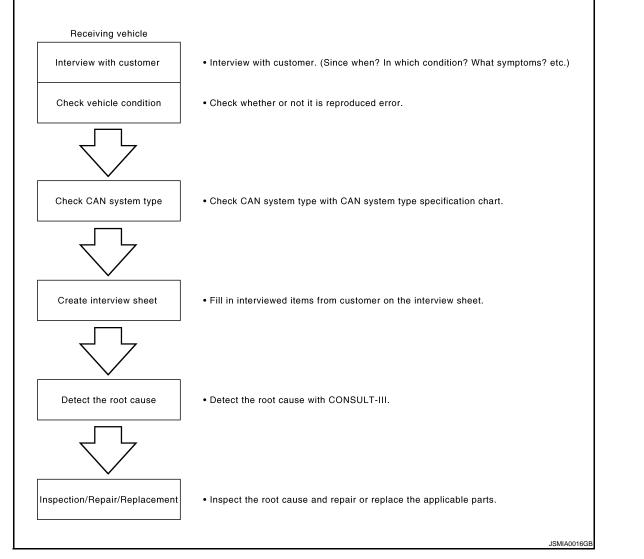
The CAN communication signal chart lists the signals needed for trouble diagnosis. It is useful for detecting the root cause by finding a signal related to the symptom, and by checking transmission and reception unit.



INFOID:000000000963934

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart



Trouble Diagnosis Procedure

INFOID:000000000963935

INTERVIEW WITH CUSTOMER

Interview with the customer is important to detect the root cause of CAN communication system errors and to understand vehicle condition and symptoms for proper trouble diagnosis.

Points in interview

- What: Parts name, system name
- When: Date, Frequency
- Where: Road condition, Place
- In what condition: Driving condition/environment
- Result: Symptom
- NOTE:
- Check normal units as well as error symptoms.
- Example: Circuit between ECM and the combination meter is judged normal if the customer indicates tachometer functions normally.
- When a CAN communication system error is present, multiple control units may malfunction or go into failsafe mode.

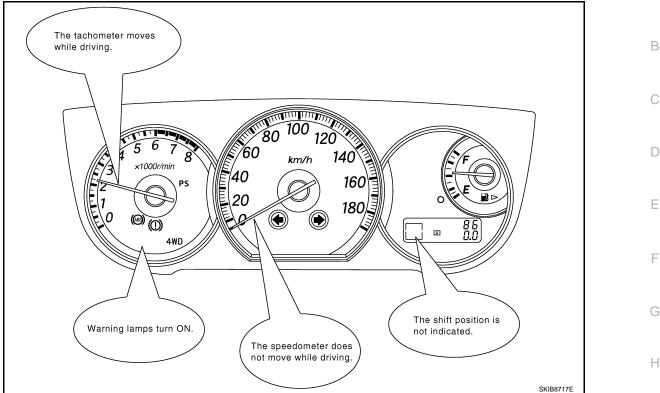
LAN-18

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

А

• Indication of the combination meter is important to detect the root cause because it is the most obvious from the customer, and it performs CAN communication with many units.



INSPECTION OF VEHICLE CONDITION

Check whether the symptom is reproduced or not.

NOTE:

Never turn the ignition switch OFF or disconnect the battery cable while the reproducing the error. The error may temporarily correct itself, making it difficult to determine the root cause.

CHECK OF CAN SYSTEM TYPE (HOW TO USE CAN SYSTEM TYPE SPECIFICATION CHART) Determine CAN system type based on vehicle equipment.

NOTE:

- This chart is used if CONSULT-III does not automatically recognize CAN system type.
- There are two styles for CAN system type specification charts. Depending on the number of available system types, either style A or style B may be used.

CAN System Type Specification Chart (Style A) **NOTE:**

J

Κ

L

0

< BASIC INSPECTION >

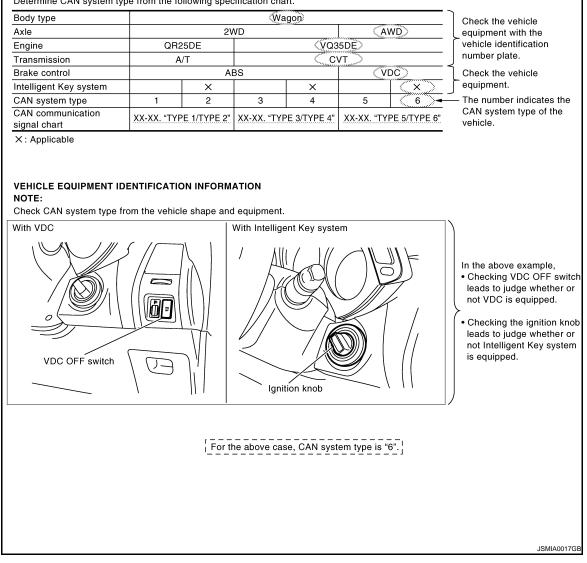
CAN system type is easily checked with the vehicle equipment identification information shown in the chart.

Example:

Vehicle is equipped as follows: Wagon, AWD, VQ35DE, CVT, VDC, and Intelligent Key system. (system type.)

CAN System Specification Chart

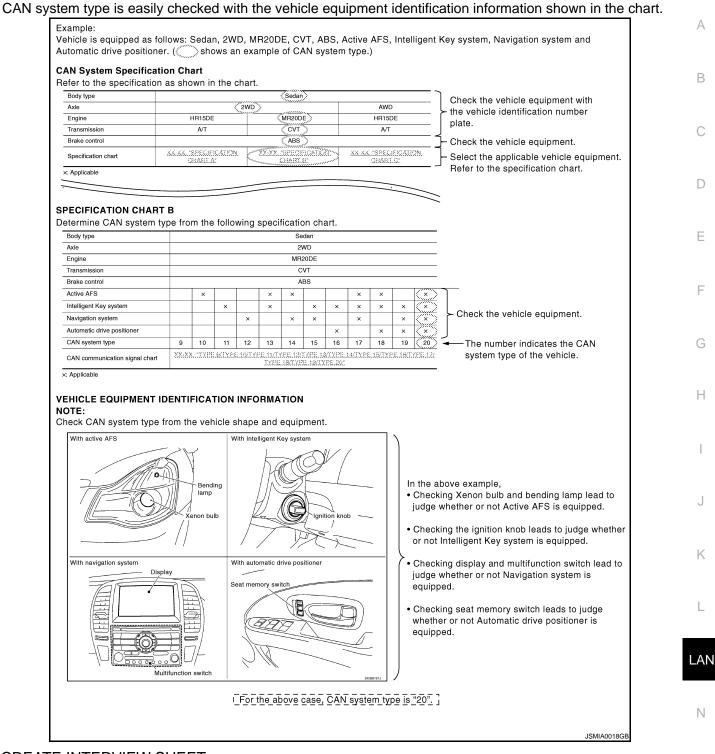
Determine CAN system type from the following specification chart.



CAN System Type Specification Chart (Style B) NOTE:

< BASIC INSPECTION >

[CAN FUNDAMENTAL]



CREATE INTERVIEW SHEET

Fill out the symptom described by the customer, vehicle condition, and CAN system type on the interview sheet.

Ρ

C

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

Interview Sheet (Example)

С	AN Communication System Diagnosis Interview Sheet
	Date received: 3, Feb. 2006
	Type: DBA-KG11 VIN No.: KG11-005040
	Model: BDRARGZ397EDA-E-J-
Fi	rst registration: 10, Jan. 2001 Mileage: 62,140
	CAN system type: Type 19
	Symptom (Results from interview with customer)
	Headlamps suddenly turn ON while driving the vehicle. The engine does not restart after stopping the vehicle and turning the ignition switch OFF.
	•The cooling fan continues rotating while turning the ignition switch ON.
	Condition at inspection
	Error Symptom: Present / Past
	The engine does not start. While turning the ignition switch ON, • The headlamps (Lo) turn ON, and the cooling fan continues rotating. • The interior lamp does not turn ON.
	JSMIA0019

DETECT THE ROOT CAUSE

CAN diagnosis function of CONSULT-III detects the root cause.

< HOW TO USE THIS MANUAL >

HOW TO USE THIS MANUAL HOW TO USE THIS SECTION

Caution

• This section describes information peculiar to a vehicle and inspection procedures.

• For trouble diagnosis procedure, refer to LAN-18, "Trouble Diagnosis Procedure".

Abbreviation List

Unit name abbreviations in CONSULT-III CAN diagnosis and in this section are as per the following list.

Abbreviation	Unit name	
4WD	AWD control unit	E
A-BAG	Air bag diagnosis sensor unit	L
ABS	ABS actuator and electric unit (control unit)	
ADP	Driver seat control unit	F
AFS	AFS control unit	
AV	AV control unit	
BCM	BCM	G
DLC	Data link connector	
ECM	ECM	Н
ICC	ICC sensor integrated unit	
IPDM-E	IPDM E/R	
M&A	Unified meter and A/C amp.	
STRG	Steering angle sensor	
RAS	4WAS main control unit	J
ТСМ	ТСМ	

L

А

В

С

D

[CAN]

INFOID:000000000963936

INFOID:000000000963937

LAN

Ν

Ο

Ρ

INFOID-000000000963939

INFOID:000000000963940

PRECAUTION PRECAUTIONS

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

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 and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the SRS section.
- Do not 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 for Trouble Diagnosis

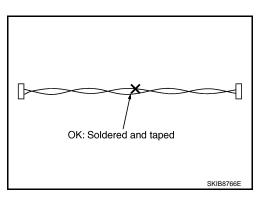
CAUTION:

- Never apply 7.0 V or more to the measurement terminal.
- Use a tester with open terminal voltage of 7.0 V or less.
- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

Precautions for Harness Repair

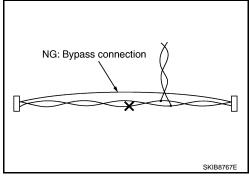
• Solder the repaired area and wrap tape around the soldered area. **NOTE:**

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 CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



PRECAUTIONS

< PRECAUTION >

A B C

Е

F

G

Н

J

Κ

L

......

Ν

0

Ρ

LAN-25

[CAN]

< BASIC INSPECTION >

[CAN]

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Interview Sheet

ew Sheet	INFOID:0000000009639
CAN Communication System Diagnosis Interview Sheet	
Date received:	
Type: VIN No.:	
Model:	
First registration: Mileage:	
CAN system type:	
Symptom (Results from interview with customer)	
Condition at inspection	
Error symptom : Present / Past	
	SKIB8898E

FUNCTION DIAGNOSIS

CAN COMMUNICATION SYSTEM

CAN System Specification Chart

Determine CAN system type from the following specification chart. **NOTE:**

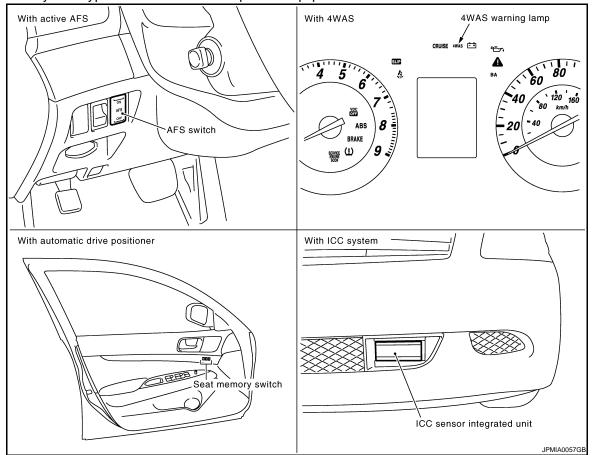
Refer to LAN-18, "Trouble Diagnosis Procedure" for how to use CAN system specification chart.

Body type							Sedan							
Axle		2WD AWD												
Engine		VQ35HR												
Transmission			M/T					A/T				A/T		
Brake control						1	VDC							
Active AFS				×	×				×	×			×	
4WAS			×		×			×		×				
Automatic drive positioner		×	×	×	×		×	×	×	×		×	×	
ICC system				×	×				×	×			×	
CAN system type	1	3	4	5	6	7	9	10	11	12	13	14	15	
Start CAN Diagnosis (CONSULT-III)	1	3	4	5	6	7	9	10	11	12	13	14	15	

 \times : Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION NOTE:

Check CAN system type from the vehicle shape and equipment.



[CAN]

INFOID:000000000963942

А

В

Κ

L

LAN

Ν

Ρ

LAN-27

< FUNCTION DIAGNOSIS >

INFOID:000000000963943

CAN Communication Signal Chart

Refer to <u>LAN-17, "How to Use CAN Communication Signal Chart"</u> for how to use CAN communication signal chart. **NOTE:**

Refer to LAN-23, "Abbreviation List" for the abbreviations of the connecting units.

	Σ	D	,	Σ	Σ	S	A	ß	S	Ъ	S	0	1-E
Signal name/Connecting unit	ECM	4WD	AV	BCM	TCM	AFS	M&A	STRG	RAS	ADP	ABS	ICC	IPDM-E
A/C compressor request signal	Т												F
Accelerator pedal position signal	Т	R			R						R	R	
ASCD OD cancel request signal	Т				R								
ASCD operation signal	Т				R								
ASCD status signal	Т						R						
ASCD SET indicator signal	Т						R						
Closed throttle position signal	Т				R							R	
Cooling fan speed request signal	Т												R
Engine coolant temperature signal	Т						R						
Engine speed signal	Т	R			R	R	R		R		R	R	
Engine status signal	Т		R	R									
Fuel consumption monitor signal	Т		R				R						
ICC brake switch signal	Т											R	
ICC clutch switch signal*	Т											R	
ICC prohibition signal	Т											R	
ICC steering switch signal	Т											R	
Malfunctioning indicator lamp signal	Т						R						
Park/neutral position switch signal*	Т											R	
Power generation command value signal	Т												R
	Т										R	R	
Snow mode switch signal	R						Т						
	Т											R	
Stop lamp switch signal		R									Т	R	
				Т	R								
Wide open throttle position signal	Т				R								
AWD signal		Т									R		
AWD warning lamp signal		Т					R						
			Т				R						
A/C switch/indicator signal			R				Т						
Rear window defogger switch signal			Т	R									
			Т	R						R			
System setting signal			R							Т			
			R	Т									
5				Т			R						
Buzzer output signal							R					Т	1
Door switch signal			R	Т			R			R			R
Door unlock signal				Т						R			

< FUNCTION DIAGNOSIS >

[CAN]

Signal name/Connecting unit	ECM	4WD	AV	BCM	TCM	AFS	M&A	STRG	RAS	ADP	ABS	SC	IPDM-E	A
Front fog light request signal				Т			R						R	_
Front wiper request signal				Т								R	R	В
High beam request signal				Т			R						R	
Horn reminder signal				Т									R	С
Ignition switch ON signal				T R									R T	
Ignition switch signal				Т						R				D
				Т									R	
Interlock/PNP switch signal				R									Т	E
Key ID signal				Т						R				
Key switch signal				Т						R				
Key warning lamp signal				Т			R							F
Low beam request signal				Т									R	
				Т			R							
Meter display signal							R					Т		G
				Т			R							
Oil pressure switch signal				R									Т	Н
Position light request signal				Т			R						R	
Poor window defeador control signal				Т									R	
Rear window defogger control signal	R		R	R									Т	
Sleep wake up signal				Т			R			R			R	
Starter control relay signal				Т									R	J
Startar ralay status signal				R									Т	
Starter relay status signal				Т									R	
Starting mode signal				Т						R				K
Steering lock relay signal				R T									T R	
Theft warning horn request signal				Т									R	
Tire pressure signal				Т			R							
Trunk switch signal			R	Т			R							LA
Turn indicator signal				Т			R							
A/T CHECK indicator lamp signal					Т	R	R							N
A/T self-diagnosis signal	R				Т									IN
Current gear position signal					Т						R	R		
Manual mode indicator signal					Т		R					R		0
N range signal				R	Т							R		
Output shaft revolution signal	R				Т							R		_
P range signal				R	Т					R	R	R		P
R range signal					Т							R		
Shift position signal					т	R	R				R	R		
Turbine revolution signal	R	1			т							R		
AFS OFF indicator lamp signal				1		т	R						1	
A/C evaporator temperature signal	R	1					Т							

< FUNCTION DIAGNOSIS >

[CAN]

Signal name/Connecting unit	ECM	4WD	AV	BCM	TCM	AFS	M&A	STRG	RAS	ADP	ABS	ICC	IPDM-E
A/C switch signal	R						т						
Blower fan motor switch signal	R						Т						
Distance to empty signal			R				Т						
Fuel level low warning signal			R				Т						
Fuel level sensor signal	R						Т						
Manual mode shift down signal					R		Т						
Manual mode shift up signal					R		Т						
Manual mode signal					R		Т						
Not manual mode signal					R		Т						
Parking brake switch signal		R		R			Т						
Seat belt buckle switch signal				R			Т						
				R			Т						
Sleep-ready signal				R									Т
Target A/C evaporator temperature signal	R						Т						
Vehicle anecd signal	R		R	R	R	R	Т			R			R
Vehicle speed signal		R		R			R		R		Т	R	
Wake up signal				R			Т						
Steering angle sensor signal						R		Т	R		R		
4WAS signal									Т		R		
4WAS warning lamp signal							R		Т				
A/T shift schedule change demand signal					R						Т		
ABS malfunction signal											Т	R	
ABS operation signal					R						Т	R	
ABS warning lamp signal							R				Т		
Brake pressure control signal											Т	R	
Brake warning lamp signal							R				Т		
Side G sensor signal					R						Т		
SLIP indicator lamp signal							R				Т		
TCS malfunction signal											Т	R	
TCS operation signal											Т	R	
VDC malfunction signal											Т	R	
VDC OFF indicator lamp signal							R				Т		
VDC OFF switch signal											Т	R	
VDC operation signal											Т	R	
Deceleration degree commandment value signal											R	т	
ICC operation signal	R											Т	
ICC warning lamp signal							R					Т	
A/T device (detention switch) signal				R									Т
Front wiper stop position signal				R									Т
High beam status signal	R					R							Т
Hood switch signal				R									Т
Low beam status signal	R					R							Т

< FUNCTION DIAGNOSIS >

< FUNCTION DIAGNOSIS >												[CAN]
Signal name/Connecting unit	ECM	4WD	AV	BCM	TCM	AFS	M&A	STRG	RAS	ADP	ABS	ICC	IPDM-E
Push-button ignition switch status signal				R									Т
Steering lock unit status signal				R									Т

*: M/T models only

NOTE:

CAN data of the air bag diagnosis sensor unit is not used by usual service work, thus it is omitted.

D

Е

F

С

А

В

Н

J

Κ

L

LAN

Ν

Ο

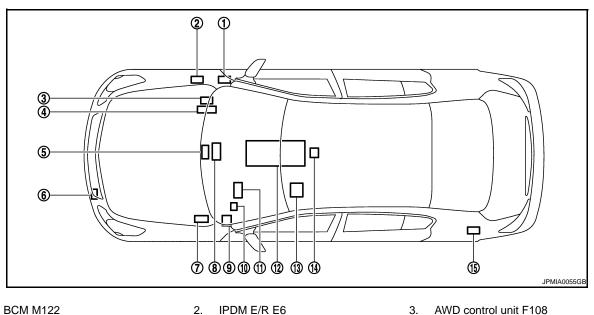
Ρ

[CAN]

COMPONENT DIAGNOSIS CAN COMMUNICATION SYSTEM

Component Parts Location

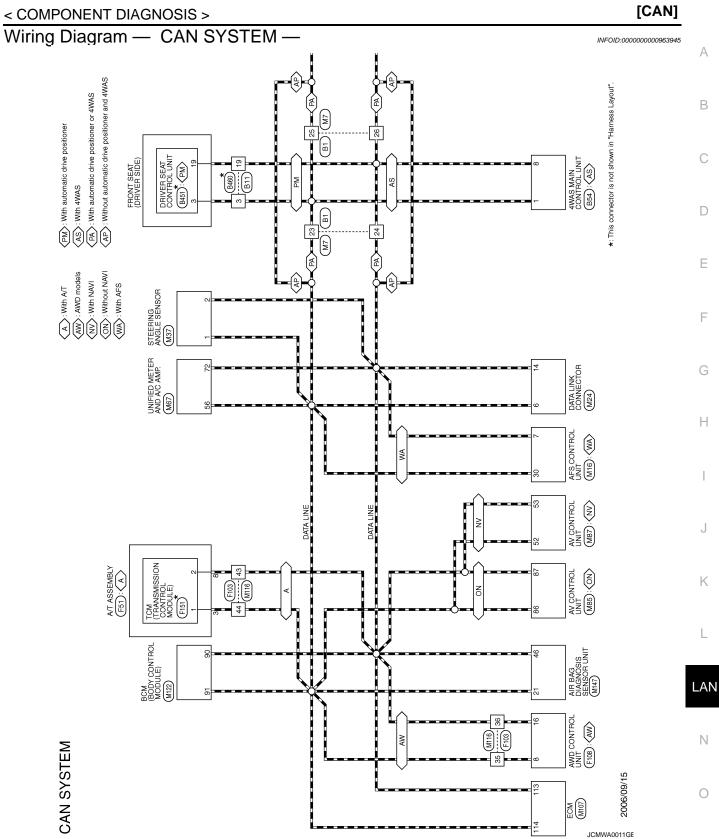
INFOID:000000000963944



- 1. 4. ECM M107
- 7. ABS actuator and electric unit (control unit) E41
- 10. Data link connector M24
- 13. Driver seat control unit B451
- IPDM E/R E6

8.

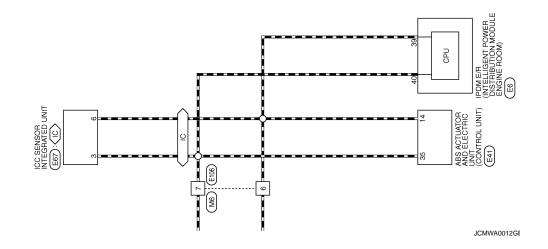
- 5. Unified meter and A/C amp. M67
 - AV control unit M85: Without NAVI M87: With NAVI
- 11. Steering angle sensor M37
- 14. Air bag diagnosis sensor unit M147 15. 4WAS main control unit B54
- AWD control unit F108
- 6. ICC sensor integrated unit E67
- AFS control unit M16 9.
- 12. A/T assembly F51



Ρ

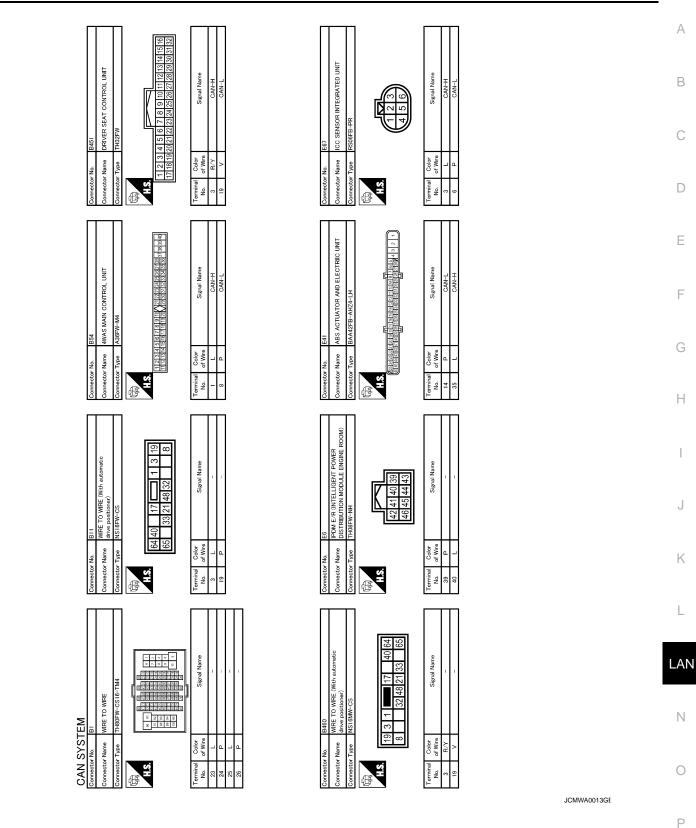
< COMPONENT DIAGNOSIS >





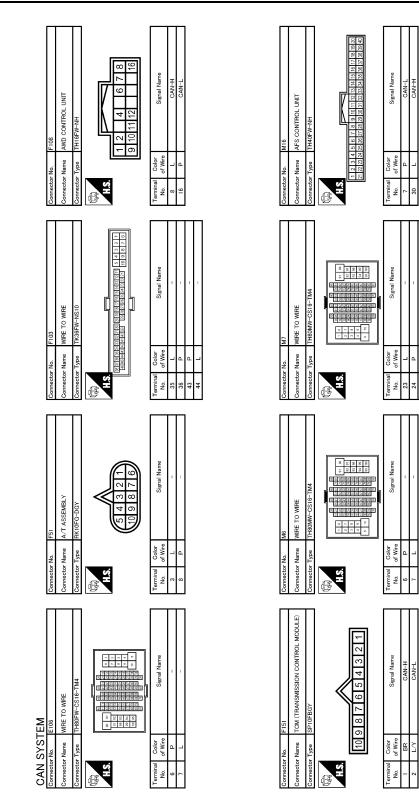
< COMPONENT DIAGNOSIS >

[CAN]



< COMPONENT DIAGNOSIS >

[CAN]



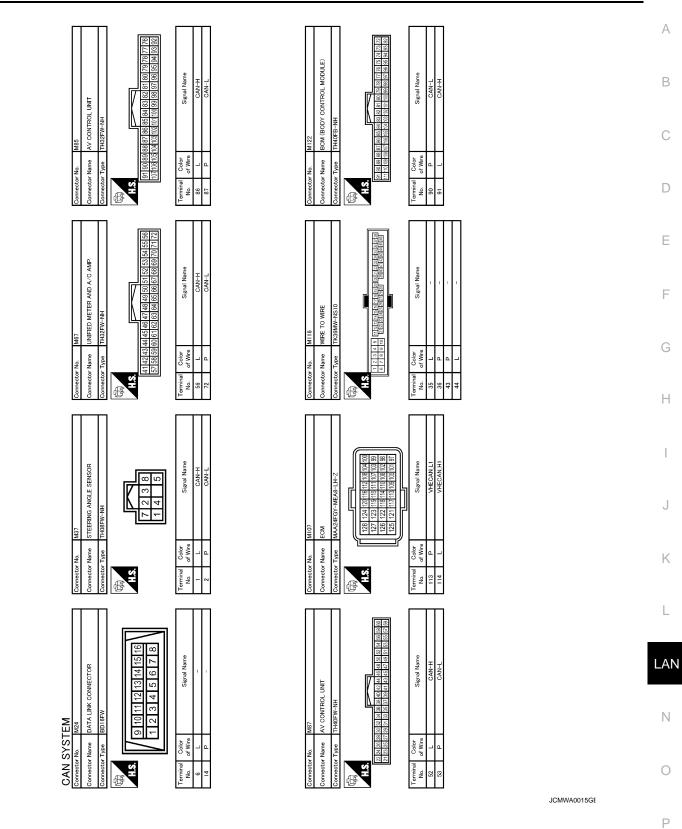
JCMWA0014GE

25 26

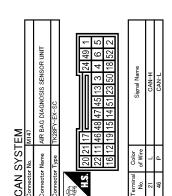
CAN COMMUNICATION SYSTEM

< COMPONENT DIAGNOSIS >

[CAN]



< COMPONENT DIAGNOSIS >



JCMWA0016GE

MALFUNCTION AREA CHART

< COMPONENT DIAGNOSIS >

MALFUNCTION AREA CHART

Main Line

INFOID:000000000963946

Malfunction Area	Reference	
Main line between BCM and data link connector	LAN-40, "Diagnosis Procedure"	
Main line between data link connector and ABS actuator and electric unit (control unit)	LAN-41, "Diagnosis Procedure"	(
Main line between data link connector and driver seat control unit	LAN-42, "Diagnosis Procedure"	
Main line between driver seat control unit and ABS actuator and electric unit (control unit)	LAN-43. "Diagnosis Procedure"	

Branch Line

INFOID:000000000963947

Malfunction Area	Reference	
ECM branch line circuit	LAN-45, "Diagnosis Procedure"	F
AWD control unit branch line circuit	LAN-46, "Diagnosis Procedure"	
Air bag diagnosis sensor unit branch line circuit	LAN-47, "Diagnosis Procedure"	G
AV control unit branch line circuit	LAN-48. "Diagnosis Procedure"	
BCM branch line circuit	LAN-49, "Diagnosis Procedure"	
TCM branch line circuit	LAN-50, "Diagnosis Procedure"	-
AFS control unit branch line circuit	LAN-51, "Diagnosis Procedure"	
Data link connector branch line circuit	LAN-52, "Diagnosis Procedure"	
Unified meter and A/C amp. branch line circuit	LAN-53, "Diagnosis Procedure"	
Steering angle sensor branch line circuit	LAN-54, "Diagnosis Procedure"	
4WAS main control unit branch line circuit	LAN-55, "Diagnosis Procedure"	J
Driver seat control unit branch line circuit	LAN-56, "Diagnosis Procedure"	
ABS actuator and electric unit (control unit) branch line circuit	LAN-57, "Diagnosis Procedure"	k
ICC sensor integrated unit branch line circuit	LAN-58. "Diagnosis Procedure"	
IPDM E/R branch line circuit	LAN-59, "Diagnosis Procedure"	

Short Circuit

INFOID:000000000963948

Malfunction Area	Reference	LAN
CAN communication circuit	LAN-60, "Diagnosis Procedure"	

V

Ο

А

Ε

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000963949

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
101122	90	10124	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

	MAIN LINE BET	WEEN DLC AND	O ABS CIRCUIT	
COMPONENT DIA				[CAN]
MAIN LINE BE	FWEEN DLC A	ND ABS CIRCL	ЛТ	
Diagnosis Proced	lure			INFOID:00000000963950
NSPECTION PROC	EDURE			
	TOR			
 Check the followi and harness side) Harness connector Harness connector s the inspection result YES >> GO TO 2. NO >> Repair the CHECK HARNESS Disconnect the hard 	attery cable from the non- ng terminals and con- br M6 br E106 <u>t normal?</u> e terminal and connect 5 CONTINUITY (OPEN prness connectors M6	nectors for damage, k tor. N CIRCUIT)		ection (connector side
	connector	Harness		
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M6	7	Existed
s the inspection resul	14		6	Existed
CHECK HARNESS	CONTINUITY (OPE) nnector of ABS actua ity between the harne	N CIRCUIT) tor and electric unit (co ess connector and the	ABS actuator and ele	ector M6.
Harness	connector		ctric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
<u> </u>	6		14	Existed
YES (Past error)>>E and electr	>Check CAN system rror was detected in th ic unit (control unit). main line between th	e main line between t		and the ABS actuator tuator and electric unit

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.

2. Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	- Continuity
M24	6	M7	23	Existed
11124	14	- IVI7	24	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M7.

$\mathbf{3}.$ check harness continuity (open circuit)

Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.

NO >> Repair the main line between the harness connector B1 and the driver seat control unit.

INFOID:000000000963951

< COMPONENT DIA		WEEN ADP AN	ID ABS CIRCUIT	[CAN]
MAIN LINE BET		ND ABS CIRC	UIT	[0/]
Diagnosis Proced	lure			INFOID:00000000963952
1.CHECK CONNECT	OR			
 Check the following and harness side) Harness connectore <l< td=""><td>ttery cable from the n ng terminals and con or B1 or M7 or M6 or E106 <u>terminal and connec</u> of CONTINUITY (OPEI rness connectors B1</td><td>nectors for damage, tor. N CIRCUIT) and M7.</td><td></td><td>nection (connector side</td></l<>	ttery cable from the n ng terminals and con or B1 or M7 or M6 or E106 <u>terminal and connec</u> of CONTINUITY (OPEI rness connectors B1	nectors for damage, tor. N CIRCUIT) and M7.		nection (connector side
2. Check the continu	ity between the harne	ss connector termina	als.	Continuity
Connector No.	23	Terminal No.	25	Continuity Existed
B1	23		26	Existed
CHECK HARNESS	e main line between th CONTINUITY (OPEI rness connectors M6 ity between the harne	N CIRCUIT) and E106.	unit and the harness	connector B1.
Harness	connector	Harnes	s connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	- Continuity
M7	25	M6	7	Existed
	26		6	Existed
LCHECK HARNESS	e main line between th CONTINUITY (OPEI nnector of ABS actua ity between the harne	N CIRCUIT) tor and electric unit (control unit).	lectric unit (control unit)
Harness	connector		lectric unit (control unit) s connector	Continuity
Connector No	Terminal No	Connector No	Terminal No	7

Harness connector		harness connector		Continuity	
 Connector No.	Terminal No.	Connector No.	Terminal No.		D
 E106	7	E41	35	Existed	· F
 L 100	6	L41	14	Existed	_

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actu-ator and electric unit (control unit).

< COMPONENT DIAGNOSIS >

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS	3>		[CAN]
ECM BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:00000000963953
1.CHECK CONNECTOR			
 Turn the ignition switch OI Disconnect the battery cal Check the terminals and connector side). 	ble from the negative ter		se connection (unit side and
Is the inspection result normal	<u>?</u>		
YES >> GO TO 2. NO >> Repair the termina	al and connector		
2.CHECK HARNESS FOR O			
 Disconnect the connector Check the resistance betw 		connector terminals.	
	ECM harness connector		Desistance (0)
Connector No.	Term	inal No.	Resistance (Ω)
M107	114	113	Approx. 108 – 132
Is the measurement value with YES >> GO TO 3. NO >> Repair the ECM b3.CHECK POWER SUPPLY	ranch line.	Т	
Check the power supply and the	•	ECM. Refer to <u>EC-133, "Di</u>	agnosis Procedure".
Is the inspection result normal			
YES (Past error)>>Error was	Special Repair Require	e <u>ment"</u> . anch line.	<u>RVICE WHEN REPLACING</u>

LAN

L

Ν

0

Ρ

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963954

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- AWD control unit connector
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AWD control unit.

2. Check the resistance between the AWD control unit harness connector terminals.

ŀ	AWD control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
F108	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-23, "Diagnosis Proce-</u> dure".

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-49</u>, "Exploded View".

YES (Past error)>>Error was detected in the AWD control unit branch line.

NG >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS	>		[CAN]
A-BAG BRANCH LINE			
Diagnosis Procedure			INFOID:00000000963955
1.CHECK CONNECTOR			
 Turn the ignition switch OFI Disconnect the battery cabl Check the terminals and connection (unit side and connection) 	e from the negative terr nnectors of the air bag	minal. diagnosis sensor unit for dan	nage, bend and loose con-
Is the inspection result normal?	,		
YES >> GO TO 2. NO >> Repair the terminal	and connector.		
2.CHECK HARNESS FOR OP			
	een the air bag diagnosi	is sensor unit harness conne	ctor terminals.
	nosis sensor unit harness co		Resistance (Ω)
Connector No. M147	21	nal No. 46	Approx. 54 – 66
Is the measurement value within		40	Approx. 54 – 66
YES >> GO TO 3.	diagnosis sensor unit br		
Check the power supply and the Diagram — SRS AIR BAG CON	NTROL SYSTEM —".	ir bag diagnosis sensor unit.	Refer to <u>SRC-189, "Wiring</u>
<u>Is the inspection result normal?</u> YES (Present error)>>Replace <u>tion"</u> .		sensor unit. Refer to SRC-8	, "Component Parts Loca-
YES (Past error)>>Error was on NO >> Repair the power set of the power set	detected in the air bag d upply and the ground ci		line.

LAN

L

Ν

0

Ρ

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AV control unit.

2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

	Resistance (Ω)		
Connector No.	Termi	Resistance (22)	
M87	52 53		Approx. 54 – 66

Models without NAVI

AV control unit harness connector			Resistance (Ω)
Connector No.	Termi		
M85	86	87	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000963956

BCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOS	-		[CAN]
BCM BRANCH LINE			
Diagnosis Procedure			INFOID:00000000963957
1.CHECK CONNECTOR			
 Turn the ignition switch 0 Disconnect the battery c Check the terminals and connector side). 	able from the negative terr		e connection (unit side and
Is the inspection result norma	<u>al?</u>		
YES >> GO TO 2. NO >> Repair the termin	nal and connector		
2.CHECK HARNESS FOR			
 Disconnect the connector Check the resistance between the connector 	or of BCM. tween the BCM harness co	onnector terminals.	
	BCM harness connector		
Connector No.	Termir	nal No.	Resistance (Ω)
M122	91	90	Approx. 54 – 66
Is the measurement value wi	thin the specification?		
YES >> GO TO 3.			
NO >> Repair the BCM			
3.CHECK POWER SUPPLY	AND GROUND CIRCUIT	-	
Check the power supply and	the ground circuit of the B	CM. Refer to <u>BCS-38, "Diac</u>	<u>nosis Procedure"</u> .
Is the inspection result norma	<u>al?</u>		
YES (Present error)>>Repla			
YES (Past error)>>Error wa NO >> Repair the powe	is detected in the BCM bra		

L

Κ

LAN

Ν

Ο

Ρ

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:00000000963958

[CAN]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly connector
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector			Resistance (Ω)
Connector No.	Terminal No.		
F51	3	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-168, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the control valve with TCM. Refer to TM-240, "Exploded View".

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

AFS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOS			[CAN]
AFS BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:00000000963959
1.CHECK CONNECTOR			
3. Check the terminals and side and connector side	able from the negative tern I connectors of the AFS con).		d and loose connection (unit
<u>Is the inspection result norm</u> YES >> GO TO 2.	<u>ar :</u>		
NO >> Repair the termi	nal and connector.		
2. Check harness for	OPEN CIRCUIT		
 Disconnect the connect Check the resistance be 	or of AFS control unit. tween the AFS control unit	harness connector termina	als.
A	AFS control unit harness connector		Resistance (Ω)
Connector No.	Termin	al No.	Resistance (22)
M16	30	7	Approx. 54 – 66
Is the measurement value wYES>> GO TO 3.NO>> Repair the AFS 3. CHECK POWER SUPPLY	control unit branch line.		
Check the power supply an UNIT : Diagnosis Procedure Is the inspection result norm	" _•	AFS control unit. Refer to	EXL-62, "AFS CONTROL
YES (Present error)>>Repl YES (Past error)>>Error wa	ace the AFS control unit. R	rol unit branch line.	<u>d View"</u> .

LAN

Ν

Ο

Ρ

DLC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Termi		
M24	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check the decision of CAN system type again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

INFOID:000000000963960

[CAN]

M&A BRANCH LINE CIRCUIT

	MIGA DIVANOLL		
< COMPONENT DIAGNOSIS	>		[CAN]
M&A BRANCH LINE C	IRCUIT		
Diagnosis Procedure			INFOID:00000000096396
1.CHECK CONNECTOR			
1. Turn the ignition switch OFF			
2. Disconnect the battery cable		inal.	
3. Check the terminals and co		neter and A/C amp. for da	mage, bend and loose con-
nection (unit side and connel Is the inspection result normal?	Ctor side).		
YES >> GO TO 2.			
NO >> Repair the terminal	and connector.		
2.CHECK HARNESS FOR OP	EN CIRCUIT		
1. Disconnect the connector of	f unified meter and A/C :	amp.	
2. Check the resistance betwee	en the unified meter and	A/C amp. harness conne	ector terminals.
Unified met	er and A/C amp. harness con	nector	
Connector No.	Termina	al No.	Resistance (Ω)
M67	56	72	Approx. 54 – 66
Is the measurement value within	the specification?		
YES >> GO TO 3.			
	neter and A/C amp. bran	ch line.	
3.CHECK POWER SUPPLY A			
Check the power supply and the		ified meter and A/C amp.	Refer to MWI-49, "UNIFIED
METER AND A/C AMP. : Diagno Is the inspection result normal?	<u>osis Procedure</u> .		
YES (Present error)>>Replace	the unified meter and A	/C amp. Refer to MWI-15	8 "Exploded View"
YES (Past error)>>Error was d			
NO >> Repair the power su	upply and the ground cire	cuit.	

LAN

L

Ν

0

Ρ

STRG BRANCH LINE CIRCUIT

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of steering angle sensor.
- 2. Check the resistance between the steering angle sensor harness connector terminals.

Ste	Resistance (Ω)		
Connector No.	Termi		
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82, "Wiring Dia-</u> gram -BRAKE CONTROL SYSTEM-".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

[CAN]

INFOID:000000000963962

RAS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOS	SIS >		[CAN]
RAS BRANCH LINE	E CIRCUIT		
Diagnosis Procedure			INFOID:00000000963963
1.CHECK CONNECTOR			
	cable from the negative terr d connectors of the 4WAS	ninal. main control unit for damage	e, bend and loose connec-
Is the inspection result norm	<u>al?</u>		
YES >> GO TO 2. NO >> Repair the term	inal and connector		
2.CHECK HARNESS FOR			
	or of 4WAS main control ur	.; 4	
		it. Itrol unit harness connector t	erminals.
4WA	S main control unit harness conn	ector	Resistance (Ω)
Connector No.	Termir	nal No.	
B54	1	8	Approx. 54 – 66
Is the measurement value wYES>> GO TO 3.NO>> Repair the 4WA 3. CHECK POWER SUPPL	S main control unit branch		
Procedure (4WAS Main Cor	<u>ntrol Unit)"</u> .	4WAS main control unit. Ref	er to <u>STC-134, "Diagnosis</u>
YES (Past error)>>Error w	lace the 4WAS main contro	ol unit. Refer to <u>STC-178, "Ex</u> ain control unit branch line. rcuit.	<u>kploded View"</u> .

LAN

Ν

0

Ρ

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963964

[CAN]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit connector
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of driver seat control unit.
- 2. Check the resistance between the driver seat control unit harness connector terminals.

Driv	Resistance (Ω)		
Connector No.	Termi		
B451	3	19	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View".

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend C and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)	
Connector No.	Terminal No.			
 E41	35	14	Approx. 54 – 66	— G

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "<u>Exploded</u> <u>J</u> <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

L

Κ

Ν

 \cap



[CAN]

INFOID:00000000963965

А

В

D

E

F

Н

ICC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ICC sensor integrated unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ICC sensor integrated unit.
- 2. Check the resistance between the ICC sensor integrated unit harness connector terminals.

ICC s	Resistance (Ω)		
Connector No.	Termi		
E67	3	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor integrated unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ICC sensor integrated unit. Refer to <u>CCS-80, "Diagnosis</u> <u>Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor integrated unit. Refer to CCS-110, "Exploded View".

YES (Past error)>>Error was detected in the ICC sensor integrated unit branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000963966

IPDM-E BRANCH LINE CIRCUIT

< COMPONENT DIAGNOS	SIS >		[CAN]
IPDM-E BRANCH L	INE CIRCUIT		
Diagnosis Procedure			INFOID:00000000963967
1.CHECK CONNECTOR			
	cable from the negative term		loose connection (unit side
Is the inspection result norm	al?		
YES >> GO TO 2. NO >> Repair the term	inal and connector		
2.CHECK HARNESS FOR			
 Disconnect the connect Check the resistance be 	or of IPDM E/R. etween the IPDM E/R harne	ess connector terminals.	
	IPDM E/R harness connector		Resistance (Ω)
Connector No.	Termin	al No.	
E6	40	39	Approx. 108 – 132
Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM	<i>ithin the specification?</i> / E/R branch line.		
3.CHECK POWER SUPPL	Y AND GROUND CIRCUIT		
`			
3.CHECK POWER SUPPL Check the power supply and Is the inspection result norm	the ground circuit of the IP	DM E/R. Refer to PCS-18	, "Diagnosis Procedure".

L

Κ

LAN

Ν

Ο

Ρ

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Continuity
M24	6 14		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
M24	6	Ground	Not existed
WI24	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.

2. Check the resistance between the ECM terminals.

ECM		Resistance (Ω)
Termi	Terminal No.	
114	113	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)	
Terminal No.			
40	39	Approx. 108 – 132	

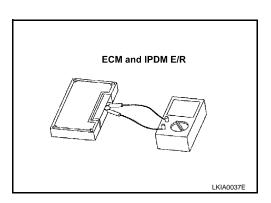
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



LAN-60

INFOID:000000000963968

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result	
Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.	А
6. CHECK UNIT REPRODUCTION	В
Perform the reproduction test as per the following procedure for each unit.	
1. Turn the ignition switch OFF.	С
 Disconnect the battery cable from the negative terminal. Disconnect one of the unit connectors of CAN communication system. 	0
NOTE:	
 ECM and IPDM E/R have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 	D
NOTE:	Е
Although unit-related error symptoms occur, do not confuse them with other symptoms.	
Inspection result	
Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.	F
	G

J

L

Κ

LAN

Ν

0

Ρ

[CAN SYSTEM (TYPE 1)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000963969

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
WI122	90	10124	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

	MAIN LINE BET	WEEN DLC AND	O ABS CIRCUIT	
< COMPONENT DIA			=	SYSTEM (TYPE 1)]
MAIN LINE BET	TWEEN DLC AI	ND ABS CIRCL	ЛТ	
Diagnosis Proced	lure			INFOID:00000000963970
INSPECTION PROCI	EDURE			
1. СНЕСК СОЛЛЕСТ	OR			
 3. Check the following and harness side) Harness connector Harness connector Is the inspection result YES >> GO TO 2. NO >> Repair the 2.CHECK HARNESS 1. Disconnect the hard 	ttery cable from the ne ng terminals and con or M6 or E106 <u>t normal?</u> e terminal and connect of CONTINUITY (OPEN rness connectors M6	nectors for damage, b tor. N CIRCUIT)		ection (connector side
Data link	connector	Harness	connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6 14	M6	7	Existed
3.CHECK HARNESS 1. Disconnect the co	CONTINUITY (OPEN nnector of ABS actuat ity between the harne	or and electric unit (co	ontrol unit).	ector M6.
Harness	connector	ABS actuator and ele harness of	ctric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
le the increation recult	6		14	Existed
YES (Past error)>>E and electr	>Check CAN system rror was detected in th ic unit (control unit). main line between th	e main line between t		and the ABS actuator tuator and electric unit

LAN-63

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963971

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114 113		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

Diagnosis Procedure			INFOID:00000000096397
1.CHECK CONNECTOR			
 Check the terminals and nection (unit side and co 	able from the negative tern connectors of the air bag onnector side).		mage, bend and loose con
Is the inspection result norm	al?		
YES >> GO TO 2.	nal and connector		
NO >> Repair the termi			
2.CHECK HARNESS FOR			
2. Check the resistance be	or of air bag diagnosis sens tween the air bag diagnosis	s sensor unit harness conn	ector terminals.
Air bag diagnosis sensor unit harness connector		Resistance (Ω)	
			Resistance (Ω)
Connector No.	Termin		
M147	21	al No. 46	Resistance (Ω) Approx. 54 – 66
M147 <u>Is the measurement value w</u> YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT	46 anch line.	Approx. 54 – 66
M147 <u>Is the measurement value w</u> YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —".	46 anch line.	Approx. 54 – 66
M147 <u>Is the measurement value w</u> YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL Check the power supply and <u>Diagram — SRS AIR BAG C</u> Is the inspection result norm	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —	46 anch line. r bag diagnosis sensor unit	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u>
M147 <u>Is the measurement value w</u> YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL Check the power supply and <u>Diagram — SRS AIR BAG O</u> <u>Is the inspection result norm</u> YES (Present error)>>Repl	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —	46 anch line. r bag diagnosis sensor unit	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u>
M147 <u>Is the measurement value w</u> YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result norm YES (Present error)>>Repl <u>tion"</u> . YES (Past error)>>Error wa	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —". al? ace the air bag diagnosis s	46 anch line. r bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> iagnosis sensor unit branch	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca
M147 Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result norm YES (Present error)>>Repl <u>tion"</u> . YES (Past error)>>Error wa	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air <u>CONTROL SYSTEM —</u> ". al? ace the air bag diagnosis so	46 anch line. r bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> iagnosis sensor unit branch	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca
M147 Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result norm YES (Present error)>>Repl <u>tion"</u> . YES (Past error)>>Error wa	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air <u>CONTROL SYSTEM —</u> ". al? ace the air bag diagnosis so	46 anch line. r bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> iagnosis sensor unit branch	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca
M147 Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result norm YES (Present error)>>Repl <u>tion"</u> . YES (Past error)>>Error wa	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air <u>CONTROL SYSTEM —</u> ". al? ace the air bag diagnosis so	46 anch line. r bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> iagnosis sensor unit branch	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca

LAN

Ν

0

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963973

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AV control unit.
- 2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
M87	52 53		Approx. 54 – 66

Models without NAVI

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M85	86 87		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

< COMPONENT DIAGNO	SIS >		[CAN SYSTEM (TYPE 1)]
BCM BRANCH LIN	E CIRCUIT		
Diagnosis Procedure			INF01D:00000000963974
1.CHECK CONNECTOR			
 Check the terminals an connector side). 	cable from the negative ter d connectors of the BCM		ose connection (unit side and
Is the inspection result norm YES >> GO TO 2. NO >> Repair the term 2.CHECK HARNESS FOR	inal and connector.		
1. Disconnect the connect		connector terminals.	
	BCM harness connector		Resistance (Ω)
Connector No.	Term	Terminal No.	
M122	91	90	Approx. 54 – 66
Is the measurement value w YES >> GO TO 3. NO >> Repair the BCM 3. CHECK POWER SUPPL	l branch line. Y AND GROUND CIRCUI		
Check the power supply and Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w NO >> Repair the power	nal? lace the BCM. Refer to <u>BC</u>	S-79. "Exploded View". anch line.	Diagnosis Procedure".

L

LAN

Ν

Ο

Ρ

< COMPONENT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963975

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check the decision of CAN system type again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

M&A BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

M&A BRANCH LINE				
Diagnosis Procedure			INFOID:00000000963976	
1. CHECK CONNECTOR				
	able from the negative term I connectors of the unified i		amage, bend and loose con-	
Is the inspection result norm YES >> GO TO 2. NO >> Repair the termi 2. CHECK HARNESS FOR	nal and connector.			
	or of unified meter and A/C tween the unified meter an		ector terminals.	
Unified	meter and A/C amp. harness cor	nector	Resistance (Ω)	
Connector No.	Termin	al No.	Resistance (22)	
M67	56	72	Approx. 54 – 66	
Is the measurement value w YES >> GO TO 3. NO >> Repair the unifie 3. CHECK POWER SUPPLY Check the power supply and METER AND A/C AMP. : Dia	ed meter and A/C amp. brar Y AND GROUND CIRCUIT I the ground circuit of the ur		Refer to <u>MWI-49, "UNIFIED</u>	
Is the inspection result norm			8 "Exploded View"	
YES (Present error)>>Repl YES (Past error)>>Error wa NO >> Repair the powe		eter and A/C amp. branch		

Ν

0

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963977

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of steering angle sensor.
- 2. Check the resistance between the steering angle sensor harness connector terminals.

Ste	Steering angle sensor harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82, "Wiring Dia-gram -BRAKE CONTROL SYSTEM-"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ABS BRANCH LINE Diagnosis Procedure			INF0ID:000000000963978	
1.CHECK CONNECTOR				
3. Check the terminals and	able from the negative terr	ctuator and electric unit (cor	ntrol unit) for damage, bend	
Is the inspection result norm	<u>al?</u>			
YES >> GO TO 2.				
NO >> Repair the term				
2. CHECK HARNESS FOR	OPEN CIRCUIT			
nals.	etween the ABS actuator a	and electric unit (control uni	t) harness connector termi-	
Connector No.		nal No.	Resistance (Ω)	
E41	35	14	Approx. 54 – 66	
Is the measurement value w		17		
YES >> GO TO 3.	actuator and electric unit (Y AND GROUND CIRCUIT	r F	unit (control unit) Refer to	
BRC-36, "Diagnosis Proced				
Is the inspection result norm	al?			
YES (Present error)>>Rep View".	ace the ABS actuator and	electric unit (control unit). Re	efer to <u>BRC-102, "Exploded</u>	
	as detected in the ABS acters supply and the ground ci	uator and electric unit (conti rcuit	ol unit) branch line.	
		louit.		
		ioun.		

LAN

Ν

0

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963979

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		Tresistance (22)
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

	TION CIRCUIT		
Diagnosis Procedure			INFOID:00000000963980
.CONNECTOR INSPECT	ION		
Turn the ignition switch			
	able from the negative terr onnectors on CAN commu		
 Check terminals and control 	nnectors for damage, bend		
<u>s the inspection result norm</u> YES >> GO TO 2.	<u>al?</u>		
YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
2. CHECK HARNESS CON	TINUITY (SHORT CIRCUI	T)	
Check the continuity betwee			
	Data link connector		
Connector No.	Termi	nal No.	Continuity
M24	6	14	Not existed
s the inspection result norm	al?		
YES >> GO TO 3. NO >> Check the harne	ess and repair the root cau	20	
B. CHECK HARNESS CON	•		
Check the continuity betwee			
		na the ground.	
Data link			Continuity
Connector No.	Terminal No.		5
		Ground	
M24	6	Ground	Not existed
M24	6 14	Ground	Not existed Not existed
M24	6 14	Ground	
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harne	6 14 al? ess and repair the root caus	se.	
M24 <u>s the inspection result norm</u> YES >> GO TO 4. NO >> Check the harne	6 14 al? ess and repair the root caus	se.	
M24 <u>s the inspection result norm</u> YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM 1. Remove the ECM and th	6 14 al? ess and repair the root caus E/R TERMINATION CIRC ne IPDM E/R.	se.	
M24 <u>s the inspection result norm</u> YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM I. Remove the ECM and th	6 14 al? ess and repair the root cause E/R TERMINATION CIRC	se.	
M24 <u>s the inspection result norm</u> YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM 1. Remove the ECM and th	6 14 ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. stween the ECM terminals.	se. UIT	
M24 <u>s the inspection result norm</u> YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be	6 14 al? ess and repair the root caus E/R TERMINATION CIRC ne IPDM E/R.	se. UIT	Not existed
M24 <u>s the inspection result norm</u> YES >> GO TO 4. NO >> Check the harne 1 .CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No.	6 14 ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. stween the ECM terminals.	se. UIT	Not existed
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM . Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11	6 14 al? ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. tween the ECM terminals. Resistance (state)	se. UIT 2) 132	Not existed
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be	6 14 al? ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. etween the ECM terminals. Resistance (0 3 Approx. 108 – 1	se. UIT 2) 132	Not existed
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1 .CHECK ECM AND IPDM I. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be IPDM E/R	6 14 al? ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. etween the ECM terminals. Resistance (0 3 Approx. 108 – 1	se. UIT 2) 132 nals.	Not existed
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harne 4.CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be IPDM E/R Terminal No.	6 14 al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. he IPDM E/R. etween the ECM terminals. Resistance (£ 13 Approx. 108 – 1 etween the IPDM E/R terminals. Resistance (£ Resistance (£	se. UIT 2) 132 nals.	Not existed
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harned 1 . CHECK ECM AND IPDM 1. Remove the ECM and the ECM and the resistance been explicitly as the resis the resistance been explicit as the resis	6 14 al? ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. tween the ECM terminals. Resistance (2 3 Approx. 108 – 2 tween the IPDM E/R termi Resistance (2 9 Approx. 108 – 2	se. UIT 2) 132 nals.	ECM and IPDM E/R
M24 s the inspection result norm YES >> GO TO 4. NO >> Check the harne 4.CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be IPDM E/R Terminal No. 40 3 s the measurement value w	6 14 al? ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. tween the ECM terminals. Resistance (2 3 Approx. 108 – 2 tween the IPDM E/R termi Resistance (2 9 Approx. 108 – 2	se. UIT 2) 132 nals.	ECM and IPDM E/R
M24 is the inspection result norm YES >> GO TO 4. NO >> Check the harne 4.CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be IPDM E/R Terminal No. 40 3 Is the measurement value w YES >> GO TO 5.	6 14 al? ess and repair the root cause E/R TERMINATION CIRC ne IPDM E/R. tween the ECM terminals. Resistance (2 3 Approx. 108 – 2 tween the IPDM E/R termi Resistance (2 9 Approx. 108 – 2	se. UIT 2) 132 nals.	ECM and IPDM E/R

LAN-73

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

	IGNOSIS > NT DIAGNO			SYSTEM (TYPE 3)
		ND DLC CIRCU	ЛТ	
agnosis Proced				
-				INFOID:000000000963
SPECTION PROC	EDURE S CONTINUITY (OPEN			
Disconnect the fo ECM harness cor BCM harness cor	attery cable from the ne llowing harness conne nnector nnector		d the data link connec	tor.
BCM harne	ess connector	Data link c	connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91 90	M24	6	Existed

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.

2. Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	MZ	23	Existed
11/24	14	M7	24	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M7.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.

NO >> Repair the main line between the harness connector B1 and the driver seat control unit.

INFOID:000000000963982

[CAN SYSTEM (TYPE 3)]

< COMPONENT DIAG		WEEN ADP ANI		N SYSTEM (TYPE 3)]
MAIN LINE BET	WEEN ADP A	ND ABS CIRCU	JIT	
Diagnosis Proced	ure			INFOID:000000000963983
1. CHECK CONNECT	OR			
 Check the followin and harness side). Harness connector Harness connector Harness connector Harness connector Harness connector Source the inspection result YES >> GO TO 2. 	tery cable from the n g terminals and con B1 M7 M6 E106 normal? terminal and connec	nectors for damage, b	pend and loose conr	nection (connector side
	ness connectors B1 ty between the harne	and M7. ss connector terminal	S.	
Connector No.		Terminal No.		Continuity
B1	23		25	Existed
	24		26	Existed
3. CHECK HARNESS	main line between th	and E106.	nit and the harness o	connector B1.
Harness	connector	Harness	connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	- Continuity
	25	MO	7	Existed
M7	26	M6	6	Existed
LCHECK HARNESS	main line between th CONTINUITY (OPE) nector of ABS actua ty between the harne	tor and electric unit (c	ontrol unit).	ectric unit (control unit)
Harness	connector	ABS actuator and ele harness of	ctric unit (control unit)	
Connector No	Terminal No	Connector No	Terminal No	Continuity

Harness	connector		connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
ETUO	6	E41	14	Existed

Ρ

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actu-ator and electric unit (control unit).

LAN-77

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ECM for damage, bend and loose connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. ECM harness connector Connector No. Terminal No. M107 114 113 Applies the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 	
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ECM for damage, bend and loose connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. ECM harness connector Connector No. Terminal No. M107 M107 M14 M13 Applies the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 	
NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. ECM harness connector Image: Connector No. Terminal No. M107 114 113 Application State YES >> GO TO 3. NO >> Repair the ECM branch line.	
1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. ECM harness connector terminals. ECM harness connector I Connector No. Terminal No. M107 114 113 Apple Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line.	Posistance (O)
Connector No. Terminal No. M107 114 113 Appendix 113 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line.	$P_{\text{optictor}}(\Omega)$
M107 114 113 Application Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line.	Resistance (Ω)
NO >> Repair the ECM branch line.	prox. 108 – 132
3. CHECK POWER SUPPLY AND GROUND CIRCUIT	
Check the power supply and the ground circuit of the ECM. Refer to <u>EC-133</u> , "Diagnosis F Is the inspection result normal? YES (Present error)>>Replace the ECM. Refer to <u>EC-15</u> , "ADDITIONAL SERVICE V <u>CONTROL UNIT : Special Repair Requirement</u> ". YES (Past error)>>Error was detected in the ECM branch line. NO >> Repair the power supply and the ground circuit.	

LAN

L

_/ 1

Ν

0

Ρ

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963985

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag	Air bag diagnosis sensor unit harness connector			
Connector No.	Termi	Resistance (Ω)		
M147	21	46	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

Diagnosis Procedure .CHECK CONNECTOR 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side). 3. the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of AV control unit harness connector terminals. Models with NAVI AV control unit harness connector Resistance (Ω) Connector No. Terminal No. M87 52 53 Models without NAVI Metals without NAVI Metals without NAVI AV control unit harness connector Resistance (Ω) M85 86 87 Approx. 54 - 66 Models without NAVI Resistance (Ω) M85 86 87 Approx. 54 - 66 Sthe measurement value within the specification? Yes Stop Stance (Ω) Stop Stance (Ω) Stop Stance (Ω) Check the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-319; "AV CONTROL UNIT: Diagnosi	V BRANCH LINE	CIRCUIT		
. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side). s: the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of AV control unit. 2. Check the resistance between the AV control unit harness connector terminals. Models with NAVI AV control unit harness connector Resistance (Ω) M87 52 M87 52 M87 52 M88 86 M85 86 St he measurement value within the specification? YES >> GO TO 3. NO >> Repair the AV control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the AV control unit. Refer to the following. BOSE audio without navigation: AV-39, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure"	Diagnosis Procedure			INFOID:00000000963986
 Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side). a the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of AV control unit. Check the resistance between the AV control unit harness connector terminals. Models with NAVI AV control unit harness connector Resistance (Ω) Connector No. Terminal No. M87 52 53 Approx. 54 - 66 Models without NAVI AV control unit harness connector Resistance (Ω) Connector No. Terminal No. Resistance (Ω) Connector No. Terminal No. Resistance (Ω)<	.CHECK CONNECTOR			
2. Check the resistance between the AV control unit harness connector terminals. Models with NAVI AV control unit harness connector Resistance (Ω) M87 52 53 Approx. 54 - 66 Models without NAVI AV control unit harness connector Resistance (Ω) M87 52 53 Approx. 54 - 66 Models without NAVI AV control unit harness connector Resistance (Ω) Connector No. Terminal No. Resistance (Ω) M85 86 87 Approx. 54 - 66 s the measurement value within the specification? YES > GO TO 3. NO >> Repair the AV control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-39. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" St he inspection result normal? YES (Present error)>>•Replace the AV control unit. Refer to the following. - Base audio without navigation: AV-292. "Exploded View" · BOSE audio without navigation: AV-292. "Exploded View" - BOSE audio without navigation: AV-292. "Exploded View" · BOSE audio without	 Disconnect the battery of Check the terminals and side and connector side the inspection result norm YES >> GO TO 2. NO >> Repair the terminals 	cable from the negative terr d connectors of the AV cor). <u>al?</u> nal and connector.		d and loose connection (unit
Connector No. Terminal No. Resistance (Ω) M87 52 53 Approx. 54 – 66 Models without NAVI Av control unit harness connector Resistance (Ω) AV control unit harness connector Resistance (Ω) M85 86 87 M85 86 87 Approx. 54 – 66 at the measurement value within the specification? YES >> GO TO 3. NO >> Repair the AV control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" SoSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-292, "Exploded View" BOSE audio without navigatio	. Check the resistance be		narness connector termina	ls.
Connector No. Terminal No. M87 52 53 Approx. 54 – 66 Models without NAVI AV control unit harness connector Resistance (Ω) Connector No. Terminal No. Resistance (Ω) M85 86 87 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. Approx. 54 – 66 NO >> Repair the AV control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" Sthe inspection result normal? YES (Present error)>>•Replace the AV control unit. Refer to the following. - Base audio without navigation: AV-311. "Exploded View" · BOSE audio without navigation: AV-530. "Exploded View" - BOSE audio without navigation: AV-530. "Exploded View" · BOSE audio without navigation: AV-530. "Exploded View" - BOSE audio without navigation: AV-530. "Exploded View" · BOSE audio without navigation: AV-530. "Exploded View" - BOSE audio without navigation: AV-530. "Exploded View" · BOSE audio without navigation: AV-		AV control unit harness connecto	r	Resistance (O)
Models without NAVI AV control unit harness connector Resistance (Ω) Connector No. Terminal No. Resistance (Ω) M85 86 87 Approx. 54 – 66 S the measurement value within the specification? YES >> GO TO 3. NO >> Repair the AV control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-39, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-39, "AV CONTROL UNIT : Diagnosis Procedure" s the inspection result normal? YES (Present error)>>•Replace the AV control unit. Refer to the following. - Base audio without navigation: AV-111, "Exploded View" - BOSE audio without navigation: AV-530, "Exploded View" - BOSE audio with navigation: AV-530, "Exploded View" YES (Past error)>>Error was detected in the AV control unit branch line. YEs (Past error)>>Error was detected in the AV control unit branch line.	Connector No.	Termiı	nal No.	
AV control unit harness connector Resistance (Ω) Connector No. Terminal No. M85 86 87 Approx. 54 – 66 Sthe measurement value within the specification? YES >> GO TO 3. Prove the advector of th	M87	52	53	Approx. 54 – 66
Connector No. Terminal No. Resistance (Ω) M85 86 87 Approx. 54 – 66 a the measurement value within the specification? YES >> GO TO 3. NO >> Repair the AV control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT where the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-292, "Exploded View" BOSE audio without navigation: AV-292, "Exploded View" BOSE audio without navigation: AV-292, "Exploded View" BOSE audio without navigation: AV-530, "Exploded View" BOSE audio with navigation: AV-530, "Exploded View" BOSE audio with navigation: AV-530, "Exploded View" BOSE audio with navigation: AV-530, "Exploded View"	Models without NAVI			
M85 86 87 Approx. 54 – 66 a the measurement value within the specification? YES >> GO TO 3. NO >> Repair the AV control unit branch line. •.CHECK POWER SUPPLY AND GROUND CIRCUIT heck the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379. "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-292. "Exploded View" BOSE audio without navigation: AV-292. "Exploded View" BOSE audio without navigation: AV-530, "Exploded View" BOSE audio with navigation: AV-530, "Exploded View" BOSE audio with navigation: AV-530, "Exploded View" YES (Past error)>>Error was detected in the AV control unit branch line.				Resistance (Ω)
a the measurement value within the specification? YES >> GO TO 3. NO >> Repair the AV control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT check the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: AV-39, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-161, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio with navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-379, "AV CONTROL UNIT : Diagnosis Procedure" BOSE audio without navigation: AV-292, "Exploded View" BOSE audio without navigation: AV-292, "Exploded View" BOSE audio with navigation: AV-530, "Exploded View" YES (Past error)>>Error was detected in the AV control unit branch line.				Annew 54, 00
YES >> GO TO 3. NO >> Repair the AV control unit branch line. .CHECK POWER SUPPLY AND GROUND CIRCUIT theck the power supply and the ground circuit of the AV control unit. Refer to the following. Base audio without navigation: <u>AV-39</u> , " <u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u> " BOSE audio without navigation: <u>AV-161</u> , " <u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u> " BOSE audio with navigation: <u>AV-379</u> , " <u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u> " BOSE audio with navigation: <u>AV-379</u> , " <u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u> " <u>BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>" <u>BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>" <u>BOSE audio with navigation: <u>AV-292</u>, "<u>Exploded View</u>" <u>BOSE audio with navigation: <u>AV-292</u>, "<u>Exploded View</u>" <u>BOSE audio with navigation: <u>AV-530</u>, "<u>Exploded View</u>" <u>BOSE audio with navigation: <u>AV-530</u>, "<u>Exploded View</u>" <u>BOSE audio with navigation: <u>AV-530</u>, "<u>Exploded View</u>"</u></u></u></u></u></u></u>			87	Approx. 54 – 66
	YES >> GO TO 3. NO >> Repair the AV co CHECK POWER SUPPL base audio without naviga BOSE audio without naviga BOSE audio without navigation the inspection result norm YES (Present error)>>•Rep - Base audio wi - BOSE audio w - BOSE audio w YES (Past error)>>Error wa	ontrol unit branch line. Y AND GROUND CIRCUIT I the ground circuit of the A tion: <u>AV-39, "AV CONTRO</u> ation: <u>AV-161, "AV CONTRO</u> ation: <u>AV-379, "AV CONTROL</u> al? blace the AV control unit. R thout navigation: <u>AV-111, "I</u> vithout navigation: <u>AV-530, "Ex</u> as detected in the AV contr	V control unit. Refer to the L UNIT : Diagnosis Proced OL UNIT : Diagnosis Proced UNIT : Diagnosis Procedu efer to the following. Exploded View" "Exploded View" ploded View" ol unit branch line.	dure" edure"

Ρ

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963987

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

DLC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

COMPONENT DIAGNOSIS:			
LC BRANCH LINE C	IRCUIT		
agnosis Procedure			INFOID:0000000096398
CHECK CONNECTOR			
	-		
 Turn the ignition switch OFF Disconnect the battery cable 		ninal.	
. Check the terminals and co	onnectors of the data lir		ge, bend and loose connection
connector side and harness the inspection result normal?	s side).		
YES >> GO TO 2.			
NO >> Repair the terminal			
CHECK HARNESS FOR OP	EN CIRCUIT		
heck the resistance between the	ne data link connector te	erminals.	
	Data link connector		Posistance (O)
Connector No.	Termin	al No.	Resistance (Ω)
M24	6	14	A
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	Approx. 54 – 66 ircuit.
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	
the measurement value within YES (Present error)>>Check th YES (Past error)>>Error was d	<u>the specification?</u> ne decision of CAN syst etected in the data link	em type again.	

Ρ

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Unified meter and A/C amp. harness connector			
Connector No.	Termi	Resistance (Ω)		
M67	56	72	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

Diagnosis Procedure			INFOID:00000000963990
1.CHECK CONNECTOR			
	cable from the negative tern d connectors of the steering r side). al? inal and connector.		bend and loose connection
2. Check the resistance be	or of steering angle sensor atween the steering angle s pring angle sensor harness conne	ensor harness connector te	erminals.
Connector No.		nal No.	Resistance (Ω)
M37	1	2	Approx. 54 – 66
	ithin the specification?		
YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S	ing angle sensor branch lin Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> .	Г	fer to <u>BRC-82, "Wiring Dia-</u>
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Reply YES (Past error)>>Error was	ing angle sensor branch lin Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lal? lace the steering angle sen	steering angle sensor. Real nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	

LAN

Ν

0

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963991

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit connector
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of driver seat control unit.
- 2. Check the resistance between the driver seat control unit harness connector terminals.

Driv	Driver seat control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B451	3	19	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View".

YES (Past error)>>Error was detected in the driver seat control unit branch line.

ABS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ABS BRANCH LINE Diagnosis Procedure			INFOID:000000000963992
1.CHECK CONNECTOR			
3. Check the terminals and	able from the negative terr	tuator and electric unit (cor	ntrol unit) for damage, bend
Is the inspection result norm YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
	or of ABS actuator and elec		t) harness connector termi-
ABS actuator a	and electric unit (control unit) harr	ness connector	Posistanco (O)
ABS actuator a	and electric unit (control unit) harr Termir		Resistance (Ω)
Connector No. E41	Termir 35		Resistance (Ω) Approx. 54 – 66
Connector No. E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL Check the power supply an	Termir 35 ithin the specification? actuator and electric unit (or Y AND GROUND CIRCUIT d the ground circuit of the	nal No. 14 control unit) branch line.	Approx. 54 – 66
Connector No. E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL	Termir 35 <u>ithin the specification?</u> actuator and electric unit (o Y AND GROUND CIRCUIT d the ground circuit of the <u>ure"</u> .	nal No. 14 control unit) branch line.	Approx. 54 – 66
Connector No. E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL Check the power supply an BRC-36. "Diagnosis Procedure Is the inspection result norm YES (Present error)>>Reployed	Termir 35 ithin the specification? actuator and electric unit (of Y AND GROUND CIRCUIT d the ground circuit of the ure". al? lace the ABS actuator and e	al No. 14 control unit) branch line. - ABS actuator and electric electric unit (control unit). Ro	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-102, "Exploded</u>
Connector No. E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL Check the power supply an BRC-36. "Diagnosis Procedu Is the inspection result norm YES (Present error)>>Repl <u>View"</u> . YES (Past error)>>Error was	Termir 35 ithin the specification? actuator and electric unit (of Y AND GROUND CIRCUIT d the ground circuit of the ure". al? lace the ABS actuator and e	al No. 14 control unit) branch line. - ABS actuator and electric electric unit (control unit). Re uator and electric unit (contr	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-102, "Exploded</u>
Connector No. E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL Check the power supply an BRC-36. "Diagnosis Procedu Is the inspection result norm YES (Present error)>>Repl <u>View"</u> . YES (Past error)>>Error was	Termir 35 ithin the specification? actuator and electric unit (or Y AND GROUND CIRCUIT d the ground circuit of the <u>ure"</u> . al? lace the ABS actuator and e as detected in the ABS actu	al No. 14 control unit) branch line. - ABS actuator and electric electric unit (control unit). Re uator and electric unit (contr	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-102, "Exploded</u>

LAN

Ν

0

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963993

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT А **Diagnosis Procedure** INFOID:00000000963994 **1**.CONNECTOR INSPECTION 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. Disconnect all the unit connectors on CAN communication system. 3. C Check terminals and connectors for damage, bend and loose connection. 4 Is the inspection result normal? YES >> GO TO 2. D NO >> Repair the terminal and connector. 2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT) E Check the continuity between the data link connector terminals. Data link connector Continuity F Terminal No. Connector No. M24 6 14 Not existed Is the inspection result normal? YES >> GO TO 3. NO >> Check the harness and repair the root cause. **3.**CHECK HARNESS CONTINUITY (SHORT CIRCUIT) Н Check the continuity between the data link connector and the ground. Data link connector Continuity Terminal No. Connector No. Ground 6 Not existed M24 14 Not existed Is the inspection result normal? Κ YES >> GO TO 4. NO >> Check the harness and repair the root cause. ${f 4}$. CHECK ECM AND IPDM E/R TERMINATION CIRCUIT Remove the ECM and the IPDM E/R. 1. 2. Check the resistance between the ECM terminals. LAN ECM and IPDM E/R ECM Resistance (Ω) Terminal No. 114 Approx. 108 - 132 Ν 113 Check the resistance between the IPDM E/R terminals. 3 IPDM E/R Resistance (Ω) Terminal No. LKIA0037E 40 39 Approx. 108 - 132 Ρ Is the measurement value within the specification? YES >> GO TO 5. NO >> Replace the ECM and/or the IPDM E/R. 5.CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

LAN-89

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

)MPONE	GNOSIS >		[CAN	SYSTEM (TYPE 4)]
	NT DIAGNO	SIS		
IN LINE BE	TWEEN BCM A	ND DLC CIRCU	JIT	
gnosis Proced	dure			INFOID:000000000963995
-				
ECTION PROC	EDURE S CONTINUITY (OPEI			
Disconnect the fo ECM harness cor BCM harness cor	attery cable from the n Illowing harness conne nnector nnector		d the data link connec	tor.
BCM harn	ess connector	Data link c	connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91 90	M24	6	Existed
e inspection resu			14	Existed

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.

2. Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M7	23	Existed
11/24	14	- IVI7	24	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M7.

$\mathbf{3.}$ CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.

NO >> Repair the main line between the harness connector B1 and the driver seat control unit.

INFOID:000000000963996

[CAN SYSTEM (TYPE 4)]

< COMPONENT DIA		WEEN ADP AN	D ABS CIRCUIT	- N SYSTEM (TYPE 4)]
MAIN LINE BET	WEEN ADP A	ND ABS CIRC	UIT	
Diagnosis Proced	ure			INFOID:00000000963997
1.снеск соллест	OR			
 Check the followir and harness side) Harness connecto Harness connecto Harness connecto Harness connecto Harness connecto Harness connecto Source Source Source Source CHECK HARNESS 	ttery cable from the n ng terminals and con r B1 r M7 r M6 r E106 <u>: normal?</u> e terminal and connec CONTINUITY (OPE)	nectors for damage, tor. N CIRCUIT)	bend and loose conr	nection (connector side
	rness connectors B1 ity between the harne		als.	
Connector No.		Terminal No.		Continuity
B1	23		25	Existed
	24		26	Existed
3. CHECK HARNESS Disconnect the ha	main line between th	N CIRCUIT) and E106.	unit and the harness o	connector B1.
Harness	connector	Harness	connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
N47	25	M6	7	Existed
M7	26	ΟΙΫΙ	6	Existed
LCHECK HARNESS	e main line between th CONTINUITY (OPE) nnector of ABS actua ity between the harne	N CIRCUIT) tor and electric unit (d	control unit).	lectric unit (control unit)
		ABS actuator and el	ectric unit (control unit)	1
	connector	harness	connector	Continuity
Connector No	Torminal No	Connector No	Torminal No	

Harness	connector		ectric unit (control unit) connector	Continuity	_
Connector No.	Terminal No.	Connector No.	Terminal No.		D
E106	7	E41	35	Existed	F
ETUO	6	E41	14	Existed	-

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actu-ator and electric unit (control unit).

LAN-93

[CAN SYSTEM (TYPE 4)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

Diagnosis Procedure					
1.check connector					
	able from the negative term		ose connection (unit side and		
Is the inspection result normative YES >> GO TO 2. NO >> Repair the termin 2.CHECK HARNESS FOR	nal and connector.				
1. Disconnect the connecto	or of ECM.				
 Check the resistance be 	tween the ECM harness co	nnector terminals.			
	ECM harness connector		— Resistance (Ω)		
Connector No. M107	ECM harness connector Termina 114				
Connector No. M107 Is the measurement value wi YES >> GO TO 3. NO >> Repair the ECM 3.CHECK POWER SUPPLY	ECM harness connector Termina 114 thin the specification? branch line. Y AND GROUND CIRCUIT	al No. 113	Approx. 108 – 132		
Connector No. M107 Is the measurement value wi YES >> GO TO 3. NO >> Repair the ECM 3.CHECK POWER SUPPL Check the power supply and Is the inspection result normation YES (Present error)>>Repl	ECM harness connector Termina 114 thin the specification? branch line. AND GROUND CIRCUIT the ground circuit of the EC al? ace the ECM. Refer to EC : Special Repair Requirem	al No. 113 CM. Refer to <u>EC-133, "D</u> C-15, "ADDITIONAL SE	Approx. 108 – 132		

LAN

L

_/ 1

Ν

0

Ρ

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000963999

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag	Air bag diagnosis sensor unit harness connector		
Connector No.	Termi	Resistance (Ω)	
M147	21	46	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

AV BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:00000000964000
1.CHECK CONNECTOR			
	able from the negative tern d connectors of the AV cor). <u>al?</u> nal and connector.		d and loose connection (unit
 Disconnect the connector Check the resistance be Models with NAVI 	or of AV control unit. tween the AV control unit h	arness connector termina	ls.
	AV control unit harness connector		Resistance (Ω)
Connector No.	Termin	al No.	
M87	52	53	Approx. 54 – 66
Connector No.	AV control unit harness connector Termir		Resistance (Ω)
M85	86	87	Approx. 54 – 66
CHECK POWER SUPPL Check the power supply and Base audio without naviga BOSE audio without naviga BOSE audio with navigation Sthe inspection result norm YES (Present error)>>•Rep - Base audio with - BOSE audio w	ontrol unit branch line. Y AND GROUND CIRCUIT the ground circuit of the A tion: <u>AV-39, "AV CONTROL</u> ation: <u>AV-161, "AV CONTROL</u> ation: <u>AV-379, "AV CONTROL</u> al? blace the AV control unit. Re thout navigation: <u>AV-111, "E</u> vithout navigation: <u>AV-530, "Ex</u>	V control unit. Refer to the UNIT : Diagnosis Proced OL UNIT : Diagnosis Proced UNIT : Diagnosis Procedu efer to the following. Exploded View" "Exploded View" ploded View" ol unit branch line.	ure" edure"

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964001

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector			
Connector No.	Terminal No.		Resistance (Ω)	
M122	91	90	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

DLC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

Ρ

DLC BRANCH LINE CIRCUIT Diagnosis Procedure 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector result normal) YES YES No >> Repair the terminal and connector terminal No. Connector No. Terminal No. M24 6 14 Approx.54 - 66 Is the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Present error)>>Check the decision of CAN system type again. YES (Present error)>>Check the decision of CAN system type again. YES (Present error)>>Check the decision of CAN system type again. YES (Present error)>>Check the decision of CAN system type again. YES (Present error)>>Check the decision of CAN system type again. NO >> Repair the data link connector branch line circuit. NO >> Repair the data link connector branch line circuit.				
1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals. 				
1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals. 	Diagnosis Procedure			INFOID:00000000964002
1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals. 	1. CHECK CONNECTOR			
3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals. Data link connector Resistance (Ω) M24 M27 M28 <li< td=""><td>1. Turn the ignition switch OF</td><td></td><td></td><td></td></li<>	1. Turn the ignition switch OF			
(connector side and harness side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals. Data link connector Resistance (Ω) M24 6 M24 6 s the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.				e bend and loose connection
YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals.	(connector side and harne	ss side).	a cocoo. aaag	
NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT Check the resistance between the data link connector terminals. Data link connector Resistance (Ω) Connector No. M24 6 14 Approx. 54 – 66 s the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.	•	2		
Check the resistance between the data link connector terminals. Data link connector Resistance (Ω) Connector No. Terminal No. M24 6 14 Approx. 54 – 66 S the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.	NO >> Repair the termina			
Data link connector Resistance (Ω) Connector No. Terminal No. M24 6 14 Approx. 54 – 66 Is the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.	2.CHECK HARNESS FOR O	PEN CIRCUIT		
Connector No. Terminal No. Resistance (Ω) M24 6 14 Approx. 54 – 66 Is the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.	Check the resistance between	the data link connected	or terminals.	
Connector No. Terminal No. M24 6 14 Approx. 54 – 66 Is the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.		Data link connector		Resistance (O)
Is the measurement value within the specification? YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.				
YES (Present error)>>Check the decision of CAN system type again. YES (Past error)>>Error was detected in the data link connector branch line circuit.		-	14	Approx. 54 – 66
		detected in the data li	ink connector branch line ci	rcuit.
		detected in the data li	ink connector branch line ci	rcuit.
		detected in the data li	ink connector branch line ci	rcuit.
		detected in the data li	ink connector branch line ci	rcuit.
		detected in the data li	ink connector branch line ci	rcuit.
		detected in the data li	ink connector branch line ci	rcuit.
		detected in the data li	ink connector branch line ci	rcuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Resistance (Ω)		
Connector No.	Termi		
M67	56	72	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000964003

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of steering angle sensor. 2. Check the resistance between the steering angle sensor harness connector terminals. Steering angle sensor harness connector Resistance (Ω) M37 1 2 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT	Diagnosis Procedure			INFOID:00000000964004
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side). as the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of steering angle sensor. 2. Check the resistance between the steering angle sensor harness connector terminals. Steering angle sensor harness connector Resistance (Ω) M37 1 2 Approx. 54 - 66 Steering angle sensor branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82. "Wiring Diagram-BRAKE CONTROL SYSTEM-".</u> S the inspection result normal? YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105. "Exploded View".</u> YES (Past error)>>Error was detected in the steering angle sensor branch line.	1.CHECK CONNECTOR			
NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of steering angle sensor. 2. Check the resistance between the steering angle sensor harness connector terminals. Steering angle sensor harness connector Resistance (Ω) Connector No. Terminal No. M37 1 2 Approx. 54 - 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to BRC-82, "Wiring Diagram -BRAKE CONTROL SYSTEM-". s the inspection result normal? YES (Present error)>>Replace the steering angle sensor. Refer to BRC-105, "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line.	 Disconnect the battery Check the terminals ar (unit side and connector (sthe inspection result norr) 	cable from the negative terr of connectors of the steering or side).		bend and loose connection
2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of steering angle sensor. 2. Check the resistance between the steering angle sensor harness connector terminals. Steering angle sensor harness connector Resistance (Ω) Connector No. Terminal No. M37 1 2 Approx. 54 - 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to BRC-82, "Wiring Diagram -BRAKE CONTROL SYSTEM-". s the inspection result normal? YES (Present error)>>Replace the steering angle sensor. Refer to BRC-105, "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line.		ninal and connector.		
2. Check the resistance between the steering angle sensor harness connector terminals. Steering angle sensor harness connector Connector No. Terminal No. M37 1 2 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to BRC-82, "Wiring Diagram -BRAKE CONTROL SYSTEM-". s the inspection result normal? YES (Present error)>>Replace the steering angle sensor. Refer to BRC-105, "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line.	- '			
Connector No. Terminal No. Resistance (Ω) M37 1 2 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to BRC-82, "Wiring Diagram -BRAKE CONTROL SYSTEM-". s the inspection result normal? YES (Present error)>>Replace the steering angle sensor. Refer to BRC-105, "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line.				rminals.
Connector No. Terminal No. M37 1 2 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to BRC-82, "Wiring Diagram -BRAKE CONTROL SYSTEM-". s the inspection result normal? YES (Present error)>>Replace the steering angle sensor. Refer to BRC-105, "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line.	Ste	ering angle sensor harness conne	ector	Resistance (Ω)
s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82</u> , "Wiring Dia- <u>gram -BRAKE CONTROL SYSTEM-"</u> . <u>s the inspection result normal?</u> YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u> , "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line.				
 YES >> GO TO 3. NO >> Repair the steering angle sensor branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82</u>, "Wiring Diagram -BRAKE CONTROL SYSTEM-". <u>s the inspection result normal?</u> YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View". YES (Past error)>>Error was detected in the steering angle sensor branch line. 			2	Approx. 54 – 66
YES (Past error)>>Error was detected in the steering angle sensor branch line.				
	YES >> GO TO 3. NO >> Repair the stee 3.CHECK POWER SUPP Check the power supply a gram -BRAKE CONTROL S	ering angle sensor branch lir LY AND GROUND CIRCUIT and the ground circuit of the SYSTEM-".	Г	er to <u>BRC-82, "Wiring Dia</u> -
	YES >> GO TO 3. NO >> Repair the stee 3.CHECK POWER SUPP Check the power supply a gram -BRAKE CONTROL S Is the inspection result norr YES (Present error)>>Rep YES (Past error)>>Error v	ering angle sensor branch lir LY AND GROUND CIRCUIT and the ground circuit of the <u>SYSTEM-"</u> . <u>nal?</u> place the steering angle sen vas detected in the steering	T steering angle sensor. Ref nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	
	YES >> GO TO 3. NO >> Repair the stee 3.CHECK POWER SUPP Check the power supply a gram -BRAKE CONTROL Is the inspection result norr YES (Present error)>>Re YES (Past error)>>Error v	ering angle sensor branch lir LY AND GROUND CIRCUIT and the ground circuit of the <u>SYSTEM-"</u> . <u>nal?</u> place the steering angle sen vas detected in the steering	T steering angle sensor. Ref nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	

LAN

Ν

0

RAS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964005

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the 4WAS main control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of 4WAS main control unit.
- 2. Check the resistance between the 4WAS main control unit harness connector terminals.

4WA	Resistance (Ω)		
Connector No.	Terminal No.		
B54	1	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the 4WAS main control unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the 4WAS main control unit. Refer to <u>STC-134, "Diagnosis</u> Procedure (4WAS Main Control Unit)".

Is the inspection result normal?

YES (Present error)>>Replace the 4WAS main control unit. Refer to STC-178, "Exploded View".

YES (Past error)>>Error was detected in the 4WAS main control unit branch line.

ADP BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

•CHECK CONNECTOR • Turn the ignition switch OFF. • Disconnect the battery cable from the negative terminal. • Check the following terminals and connectors for damage, bend and loose connection (unit side and nector side). Driver seat control unit connector Harness connector B460 Harness connector B11 sthe inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. • CHECK HARNESS FOR OPEN CIRCUIT • Disconnect the connector of driver seat control unit. • Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit branch line. Connector No. B451 S > GO TO 3. NO CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SCONTOL UNIT: Diagnosi</u>	Diagnosis Procedure			INF0ID:00000000964006
Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loose connection (unit side and nector side). Driver seat control unit connector Harness connector B400 Harness connector B11 the inspection result normal? YES YES NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of driver seat control unit. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Resistance (Ω) Connector No. Terminal No. Resistance (Ω) Connector No. Terminal No. Resistance (Ω) Connector No. Terminal No. Resistance (Ω) Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER S</u> ONTAL UNIT : Diagnosis Procedure". CHECK POWER SUPPLY AND GROUND CIRCUIT heck the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER S</u> ONTAL UNIT : Diagnosis Procedure". The inspection result no	C			
L Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loose connection (unit side and nector side). Driver seat control unit connector Harness connector B460 Harness connector B460 Harness connector B11 s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of driver seat control unit harness connector terminals. Driver seat control on it harness connector terminals. Driver seat control unit harness connector Resistance (Ω) Connector No. Driver seat control unit branch line. Connector No. Terminal No. Repair the driver seat control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SCONTROL UNIT : Diagnosis Procedure"</u> . Set he inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.				
YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT . . Disconnect the connector of driver seat control unit. . . Check the resistance between the driver seat control unit harness connector terminals. .	 Disconnect the battery ca Check the following term nector side). Driver seat control unit c Harness connector B460 	able from the negative tern inals and connectors for d onnector		connection (unit side and con-
NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of driver seat control unit. . Check the resistance between the driver seat control unit harness connector terminals. . Driver seat control unit harness connector Resistance (Ω) Connector No. Terminal No. B451 3 19 Approx. 54 - 66 . Sthe measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. <td< td=""><td>•</td><td><u>ll?</u></td><td></td><td></td></td<>	•	<u>ll?</u>		
2. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Connector No. Terminal No. B451 3 19 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SCONTROL UNIT : Diagnosis Procedure"</u> . Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.		al and connector.		
2. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Connector No. Terminal No. B451 3 19 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66, "DRIVER S CONTROL UNIT : Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View". YES (Past error)>>Error was detected in the driver seat control unit branch line.	2. CHECK HARNESS FOR	OPEN CIRCUIT		
Connector No. Terminal No. B451 3 19 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SCONTROL UNIT : Diagnosis Procedure"</u> . s the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.				
Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SCONTROL UNIT : Diagnosis Procedure"</u> . Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.		Termir	Resistance (Ω)	
YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SCONTROL UNIT : Diagnosis Procedure"</u> . Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	Connector No.		iai no.	
<u>CONTROL UNIT : Diagnosis Procedure"</u> . <u>s the inspection result normal?</u> YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	B451	-		Approx. 54 – 66
YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	B451 Is the measurement value wi YES >> GO TO 3. NO >> Repair the driver	thin the specification? seat control unit branch lin	19 ne.	Approx. 54 – 66
	B451 Is the measurement value wi YES >> GO TO 3. NO >> Repair the driver 3.CHECK POWER SUPPLY Check the power supply and CONTROL UNIT : Diagnosis	thin the specification? seat control unit branch lin AND GROUND CIRCUIT the ground circuit of the dri <u>Procedure"</u> .	19 ne.	
	B451 Is the measurement value wi YES >> GO TO 3. NO >> Repair the driver 3.CHECK POWER SUPPLY Check the power supply and CONTROL UNIT : Diagnosis Is the inspection result normation YES (Present error)>>Replay YES (Past error)>>Error was	thin the specification? seat control unit branch lin AND GROUND CIRCUIT the ground circuit of the dri <u>Procedure"</u> . al? ace the driver seat control s detected in the driver seat	19 ne. iver seat control unit. Refe unit. Refer to <u>ADP-217, "</u> at control unit branch line	er to <u>ADP-66, "DRIVER SEAT</u> Exploded View".
	B451 Is the measurement value wi YES >> GO TO 3. NO >> Repair the driver 3. CHECK POWER SUPPLY Check the power supply and CONTROL UNIT : Diagnosis Is the inspection result normation YES (Present error)>>Replay YES (Past error)>>Error was	thin the specification? seat control unit branch lin AND GROUND CIRCUIT the ground circuit of the dri <u>Procedure"</u> . al? ace the driver seat control s detected in the driver seat	19 ne. iver seat control unit. Refe unit. Refer to <u>ADP-217, "</u> at control unit branch line	er to <u>ADP-66, "DRIVER SEAT</u> Exploded View".

Ν

0

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000964007

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 4)]

L

LAN

Ν

Ο

Ρ

.CHECK CONNECTOR . Turn the ignition switch OFF. .Disconnect the battery cable from the negative terminal. . Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side). athe inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of IPDM E/R. . Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) E6 40 39 Approx. 108 – 132 Sthe measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. .CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18, "Diagnosis Procedure". at he inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.	< COMPONENT DIAGNOS	ilS >		[CAN SYSTEM (TYPE 4)]
.CHECK CONNECTOR . Turn the ignition switch OFF. .Disconnect the battery cable from the negative terminal. . Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side). athe inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of IPDM E/R. . Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) Connector No. Terminal No. E6 40 39 Approx. 108 – 132 Sthe measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. .CHECK POWER SUPPLY AND GROUND CIRCUIT Sheck the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18. "Diagnosis Procedure". Scheck the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18. "Diagnosis Procedure". sche inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.	PDM-E BRANCH L	INE CIRCUIT		
Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side). Sthe inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of IPDM E/R. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) E6 40 39 Approx. 108 – 132 a the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18, "Diagnosis Procedure". a the inspection result normal? YES (Present error)>> Replace the IPDM E/R. Refer to PCS-33. "Exploded View". YES (Present error)>> Error was detected in the IPDM E/R branch line.	Diagnosis Procedure			INFOID:000000000964008
 Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side). a the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of IPDM E/R. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) Connector No. Terminal No. E6 40 39 Approx. 108 – 132 S the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18. "Diagnosis Procedure". a the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded View". YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.	1. CHECK CONNECTOR			
YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of IPDM E/R. . Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) Connector No. Terminal No. E6 40 39 Approx. 108 – 132 Sthe measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18, "Diagnosis Procedure". Sthe inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.	 Disconnect the battery of Check the terminals and 	able from the negative ter		l loose connection (unit side
. Disconnect the connector of IPDM E/R. . Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) Connector No. Terminal No. E6 40 39 Approx. 108 – 132 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. . . CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18, "Diagnosis Procedure". S the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.	YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance (Ω) Connector No. Terminal No. E6 40 39 Approx. 108 – 132 S the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. Sthe CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18, "Diagnosis Procedure". Sthe inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.	2.CHECK HARNESS FOR	OPEN CIRCUIT		
Connector No. Terminal No. Resistance (Ω) E6 40 39 Approx. 108 – 132 is the measurement value within the specification? YES >> GO TO 3. YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. J.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-18, "Diagnosis Procedure". Sthe inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View". YES (Past error)>>Error was detected in the IPDM E/R branch line.		tween the IPDM E/R harn	ness connector terminals.	
 <u>s the measurement value within the specification?</u> YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>s the inspection result normal?</u> YES (Present error)>>Replace the IPDM E/R. Refer to <u>PCS-33, "Exploded View"</u>. YES (Past error)>>Error was detected in the IPDM E/R branch line. 	Connector No.		nal No.	Resistance (Ω)
 YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. as the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to <u>PCS-33, "Exploded View"</u>. YES (Past error)>>Error was detected in the IPDM E/R branch line. 	E6	40	39	Approx. 108 – 132
YES (Past error)>>Error was detected in the IPDM_E/R branch line.	YES >> GO TO 3. NO >> Repair the IPDM 3.CHECK POWER SUPPL Check the power supply and is the inspection result norm	I E/R branch line. Y AND GROUND CIRCUI the ground circuit of the I al?	PDM E/R. Refer to <u>PCS-18</u>	-
	YES (Past error)>>Error wa	as detected in the IPDM E	/R branch line.	<u>v</u> .
		r supply and the ground c	ircuit.	

LAN-105

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector			
Connector No.	Terminal No.		Continuity	
M24	6	14	Not existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
10124	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

- 1. Remove the ECM and the IPDM E/R.
- 2. Check the resistance between the ECM terminals.

ECM		Resistance (Ω)	
Termi	Terminal No.		
114	113	Approx. 108 – 132	

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)	
Terminal No.			
40	39	Approx. 108 – 132	

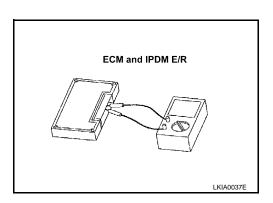
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



INFOID:000000000964009

LAN-106

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result		
Reproduced>>GO TO 6.		A
Non-reproduced>>Start the diagnosis again. Follow the trou detected.	uble diagnosis procedure when past error is	
6. CHECK UNIT REPRODUCTION		В
Perform the reproduction test as per the following procedure for	each unit.	
 Turn the ignition switch OFF. 		_
2. Disconnect the battery cable from the negative terminal.		С
3. Disconnect one of the unit connectors of CAN communicat	on system.	
NOTE:		
ECM and IPDM E/R have a termination circuit. Check othe	r units first.	D
 Connect the battery cable to the negative terminal. Check (Results from interview with customer)" are reproduced. 	c if the symptoms described in the "Symptom	
NOTE:		
Although unit-related error symptoms occur, do not confuse	e them with other symptoms.	E
Inspection result		
Reproduced>>Connect the connector. Check other units as per Non-reproduced>>Replace the unit whose connector was disc		F
		G
	connected.	-

Н

J

L

Κ

LAN

Ν

0

Ρ

[CAN SYSTEM (TYPE 5)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000964010

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	M122 91 M24	6	Existed	
90	10124	14	Existed	

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

RE			INF0ID:00000000096401
RE			
RE			
		pend and loose con	nection (connector side
mal?			
s connectors M7 a	nd B1.		
s connectors M7 a etween the data lin	nd B1. k connector and the	harness connector.	
etween the data lin	k connector and the		- Continuity
etween the data lin	k connector and the Harness of Connector No.	connector	- Continuity Existed
etween the data lin ector Terminal No. 6 14	k connector and the Harness of	connector Terminal No.	
etween the data lin ector Terminal No. 6 14 nal?	k connector and the Harness of Connector No. M7 data link connector a CIRCUIT)	connector Terminal No. 23 24	Existed Existed
etween the data lin ector Terminal No. 6 14 nal? n line between the NTINUITY (OPEN	k connector and the Harness of Connector No. M7 data link connector a CIRCUIT)	connector Terminal No. 23 24	Existed Existed
etween the data lin ector Terminal No. 6 14 nal? n line between the NTINUITY (OPEN	k connector and the Harness of Connector No. M7 data link connector a CIRCUIT) nnector terminals.	connector Terminal No. 23 24	Existed Existed
	rminals and conne nal? ninal and connecto NTINUITY (OPEN	nal? ninal and connector. NTINUITY (OPEN CIRCUIT)	rminals and connectors for damage, bend and loose con nal? ninal and connector.

Ν

Ο

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000000964012

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
DI	24	26	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

${ m 3.check}$ harness continuity (open circuit)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M7	25	Ме	7	Existed
1017	26	M6	6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E106	7	E 41	35	Existed
EIUO	6	E41	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

LAN-110

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

А

В

С

D

Е

F

G

Н

J

Κ

L

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

LAN

0

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964013

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	ECM harness connector		
Connector No.	Termi	Resistance (Ω)	
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

Diagnosis Procedure			INFOID:0000000096401
1. CHECK CONNECTOR			
 Check the terminals and nection (unit side and co 	able from the negative term connectors of the air bag d onnector side).		amage, bend and loose con
<u>s the inspection result norm</u> YES >> GO TO 2. NO >> Repair the termi 2. CHECK HARNESS FOR	nal and connector.		
	or of air bag diagnosis sense tween the air bag diagnosis		nector terminals.
Air bag	diagnosis sensor unit harness cor	nector	Resistance (0)
Air bag Connector No.	diagnosis sensor unit harness cor Termina		Resistance (Ω)
Connector No. M147	Termina 21		Resistance (Ω) Approx. 54 – 66
Connector No. M147 S the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C	Termina 21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —".	al No. 46 Inch line.	Approx. 54 – 66
Connector No. <u>M147</u> <u>Is the measurement value w</u> YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG O <u>Is the inspection result norm</u> YES (Present error)>>Repl <u>tion"</u> . YES (Past error)>>Error wa	21 ithin the specification? ag diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air <u>CONTROL SYSTEM —</u> ". al? ace the air bag diagnosis s	al No. 46 Inch line. bag diagnosis sensor uni eensor unit. Refer to <u>SRC</u> agnosis sensor unit branc	Approx. 54 – 66 t. Refer to <u>SRC-189, "Wiring</u> -8, "Component Parts Loca

LAN

Ν

0

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964015

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AV control unit.
- 2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

Connector No. Terminal No. Terminal No. M87 52 53 Approx. 54 – 66		Resistance (Ω)		
M87 52 53 Approx. 54 – 66	Connector No.	Termi	Resistance (22)	
	M87	52 53		Approx. 54 – 66

Models without NAVI

	AV control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
M85	86	87	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

BCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOS	IS >		[CAN SYSTEM (TYPE 5)]
BCM BRANCH LINE	ECIRCUIT		
Diagnosis Procedure			INFOID:00000000964016
1.CHECK CONNECTOR			
connector side).	able from the negative te I connectors of the BCM		ose connection (unit side and
Is the inspection result normalYES>> GO TO 2.NO>> Repair the termine			
2.CHECK HARNESS FOR	OPEN CIRCUIT		
 Disconnect the connector Check the resistance be 		connector terminals.	
	BCM harness connector		Posistance (0)
Connector No.	Terr	minal No.	Resistance (Ω)
M122	91	90	Approx. 54 – 66
Is the measurement value with YES >> GO TO 3. NO >> Repair the BCM 3. CHECK POWER SUPPLY	branch line. AND GROUND CIRCL		
Check the power supply and Is the inspection result normal	al?		<u>)iagnosis Procedure"</u> .
YES (Present error)>>Replayed YES (Past error)>>Error was NO >> Repair the powe		branch line.	

L

LAN

Ν

Ο

< COMPONENT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964017

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AFS control unit.
- 2. Check the resistance between the AFS control unit harness connector terminals.

ŀ	Resistance (Ω)		
Connector No.	Termi		
M16	30	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-62, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-194, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

DLC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 5)]

COMPONENT DIAGNOS	SIS >		[CAN SYSTEM (TYPE 5)]
DLC BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:0000000096401
.CHECK CONNECTOR			
 Check the terminals and (connector side and har) 	able from the negative te d connectors of the data ness side).		e, bend and loose connectior
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi			
CHECK HARNESS FOR			
Check the resistance betwee		terminals.	
	Data link connector		
Connector No.		ninal No.	Resistance (Ω)
M24	6	14	Approx. 54 – 66
YES (Present error)>>Cheo YES (Past error)>>Error wa	ck the decision of CAN sy	k connector branch line ci	ircuit.
YES (Present error)>>Cheo YES (Past error)>>Error wa	ck the decision of CAN sy as detected in the data lin	k connector branch line ci	ircuit.
YES (Present error)>>Cheo YES (Past error)>>Error wa	ck the decision of CAN sy as detected in the data lin	k connector branch line ci	ircuit.
YES (Past error)>>Error wa	ck the decision of CAN sy as detected in the data lin	k connector branch line ci	ircuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Unified meter and A/C amp. harness connector			
Connector No.	Termi	Resistance (Ω)		
M67	56	72	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000964019

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

Diagnosis Procedure			INFOID:00000000964020
1.CHECK CONNECTOR			
	cable from the negative tern d connectors of the steering r side).	ninal. g angle sensor for damage, l	bend and loose connection
NO >> Repair the term	inal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
	or of steering angle sensor etween the steering angle s	ensor harness connector te	rminals.
Stee	eering angle sensor harness connector Resistance (Q)		Resistance (Ω)
Connector No.		Terminal No.	
M37	1	2	Approx. 54 – 66
Is the measurement value w	<u>Authin the specification?</u>		
3. CHECK POWER SUPPL			ar to BBC-82 "Wiring Dia
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S	Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> .		er to <u>BRC-82, "Wiring Dia-</u>
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error was	Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . hal? lace the steering angle ser	steering angle sensor. Refe sor. Refer to <u>BRC-105, "Exp</u> angle sensor branch line.	
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error was	Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . <u>nal?</u> lace the steering angle sen as detected in the steering	steering angle sensor. Refe sor. Refer to <u>BRC-105, "Exp</u> angle sensor branch line.	
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error was	Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . <u>nal?</u> lace the steering angle sen as detected in the steering	steering angle sensor. Refe sor. Refer to <u>BRC-105, "Exp</u> angle sensor branch line.	

LAN

Ν

0

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964021

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit connector
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of driver seat control unit.

2. Check the resistance between the driver seat control unit harness connector terminals.

Driv	Driver seat control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B451	3	19	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u>.

YES (Past error)>>Error was detected in the driver seat control unit branch line.

ABS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ABS BRANCH LINE			
Diagnosis Procedure			INFOID:00000000964022
1.CHECK CONNECTOR			
3. Check the terminals and	cable from the negative terr	tuator and electric unit (con	trol unit) for damage, bend
s the inspection result norm YES >> GO TO 2. NO >> Repair the term 2.CHECK HARNESS FOR	inal and connector.		
1. Disconnect the connect	or of ABS actuator and elec	ctric unit (control unit). Ind electric unit (control unit) harness connector termi-
ABS actuator	and electric unit (control unit) harr	ness connector	Resistance (Ω)
Connector No.	Termir	nal No.	
E41	35	14	Approx. 54 – 66
3 .CHECK POWER SUPPL Check the power supply an	actuator and electric unit (Y AND GROUND CIRCUIT d the ground circuit of the	,	unit (control unit). Refer to
BRC-36, "Diagnosis Proced Is the inspection result norm			
		electric unit (control unit). Re	fer to <u>BRC-102, "Exploded</u>
	as detected in the ABS actuer supply and the ground ci	uator and electric unit (contro rcuit.	ol unit) branch line.

LAN

Ν

0

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ICC sensor integrated unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ICC sensor integrated unit.
- 2. Check the resistance between the ICC sensor integrated unit harness connector terminals.

ICC sensor integrated unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
E67	3	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor integrated unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ICC sensor integrated unit. Refer to <u>CCS-80, "Diagnosis</u> <u>Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor integrated unit. Refer to CCS-110, "Exploded View".

YES (Past error)>>Error was detected in the ICC sensor integrated unit branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000964023

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 5)]

1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. Impose the resistance between the IPDM E/R harness connector terminals. Resistance	Diagnosis Procedure 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend an and connector side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. Impose the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-1 s the inspection result normal?	PONENT DIAGNO	S >		[CAN SYSTEM (TYPE 5)]
1.CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. Impose the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.		-E BRANCH L	NE CIRCUIT		
1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connectio and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. Impose from the impose connector is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend an and connector side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Connector No. IPDM E/R harness connector Connector No. Terminal No. E6 40 39 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-13 s the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded Vie YES (Past error)>>Error was detected in the IPDM E/R branch line.	osis Procedure			INF01D:00000000096402
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection and connector side). 3. Sthe inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance Connector No. Terminal No. E6 40 39 Approx. 108 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the IPDM E/R for damage, bend an and connector side). <u>s the inspection result normal?</u> YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Connector No. Terminal No. E6 40 39 <u>s the measurement value within the specification?</u> YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-1 <u>s the inspection result normal?</u> YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded Vie YES (Past error)>>Error was detected in the IPDM E/R branch line.	CK CONNECTOR			
1. Disconnect the connector of IPDM E/R. 2. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance Connector No. Terminal No. E6 40 39 Approx. 108 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	 Disconnect the connector of IPDM E/R. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Connector No. Terminal No. E6 40 39 s the measurement value within the specification? YES YES Scheck POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-1 s the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded Vie YES (Past error)>>Error was detected in the IPDM E/R branch line.	connect the battery of eck the terminals an I connector side). <u>spection result norm</u> >> GO TO 2.	ble from the negative t connectors of the IPDI <u>I?</u>		d loose connection (unit side
2. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Resistance Connector No. Terminal No. E6 40 39 Approx. 108 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	2. Check the resistance between the IPDM E/R harness connector terminals. IPDM E/R harness connector Connector No. Terminal No. E6 40 39 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-1 s the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-3. "Exploded Vie YES (Past error)>>Error was detected in the IPDM E/R branch line.	CK HARNESS FOR	PEN CIRCUIT		
Connector No. Terminal No. Resistance E6 40 39 Approx. 108 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	Connector No. Terminal No. E6 40 39 s the measurement value within the specification? 39 YES >> GO TO 3. 39 NO >> Repair the IPDM E/R branch line. 30 3.CHECK POWER SUPPLY AND GROUND CIRCUIT 30 Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-1 30 s the inspection result normal? 30 YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded Vie YES (Past error)>>Error was detected in the IPDM E/R branch line.		ween the IPDM E/R ha		
Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to PCS-1 s the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33. "Exploded Vie YES (Past error)>>Error was detected in the IPDM E/R branch line.	Connector No.			Resistance (Ω)
YES >> GO TO 3. NO >> Repair the IPDM E/R branch line.	YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-1</u> <u>s the inspection result normal?</u> YES (Present error)>>Replace the IPDM E/R. Refer to <u>PCS-33. "Exploded Vie</u> YES (Past error)>>Error was detected in the IPDM E/R branch line.	E6	40	39	Approx. 108 – 132
	NO >> Repair the power supply and the ground circuit.	>> Repair the IPDM CK POWER SUPPL he power supply and <u>spection result norm</u> Present error)>>Rep Past error)>>Error w	AND GROUND CIRCU the ground circuit of the <u>I?</u> ce the IPDM E/R. Refe s detected in the IPDM	PIPDM E/R. Refer to <u>PCS-1</u> or to <u>PCS-33. "Exploded View</u> E/R branch line.	-

LAN

Ν

Ο

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Continuity
M24	6	14	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
10124	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.

2. Check the resistance between the ECM terminals.

E	СМ	Resistance (Ω)	
Termi	nal No.		
114	113	Approx. 108 – 132	

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (O)	
Termi	nal No.	Resistance (Ω)	
40	39	Approx. 108 – 132	

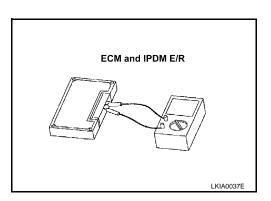
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



INFOID:000000000964025

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

А
В
_
С
D
D
Е
F
G

Н

J

Κ

L

LAN

Ν

0

[CAN SYSTEM (TYPE 6)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000964026

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
WI122	90	10124	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

	SNOSIS >		[CAN	N SYSTEM (TYPE 6)]
MAIN LINE BET	WEEN DLC A	ND ADP CIRC	UIT	
Diagnosis Proced	ure			INFOID:00000000964027
INSPECTION PROCE 1. CHECK CONNECT 1. Turn the ignition so	OR witch OFF.			
	r M7		bend and loose conn	ection (connector side
• ·	terminal and connect			
2.CHECK HARNESS				
	rness connectors M7 ty between the data li		e harness connector.	
Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	6	M7	23	Existed
	14		24	Existed
s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Check the continuity be	main line between th CONTINUITY (OPEN	I CIRCUIT)	and the harness conr	nector M7.
Connector No.		Terminal No.		Continuity
	23		25	Existed
B1	24		26	Existed
	normal?			
Is the inspection result YES (Present error)>:	>Check CAN system			tor and the driver seat

Ν

0

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000000964028

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Termi	nal No.	Continuity
B1	23	25	Existed
DI	24	26	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

${ m 3.check}$ harness continuity (open circuit)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7	25	M6	7	Existed
1717	26		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
EIUO	6		14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

LAN-128

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

А

В

С

D

Е

F

G

Н

J

Κ

L

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

LAN

.

Ν

0

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964029

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	ECM harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure 1.check connector			
1 ALLEAK ADDINEATOD			INFOID:00000000096403
I.CHECK CONNECTOR			
3. Check the terminals and nection (unit side and co	able from the negative termin l connectors of the air bag dia onnector side).		damage, bend and loose con
Is the inspection result norm	<u>al?</u>		
YES >> GO TO 2. NO >> Repair the term	nal and connector.		
2. CHECK HARNESS FOR			
2. Check the resistance be	or of air bag diagnosis sensor tween the air bag diagnosis s	ensor unit harness co	nnector terminals.
Connector No.	diagnosis sensor unit harness conne Terminal I		Resistance (Ω)
M147	21	46	Approx. 54 – 66
Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3. CHECK POWER SUPPL	ag diagnosis sensor unit brand	ch line.	
	the ground circuit of the air b	ag diagnosis sensor u	nit. Refer to <u>SRC-189, "Wiring</u>
Is the inspection result norm	<u>al?</u> ace the air bag diagnosis ser	nsor unit. Refer to <u>SR</u>	·
tion". YES (Past error)>>Error wa	as detected in the air bag diag r supply and the ground circu		ich line.

LAN

Ν

0

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964031

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AV control unit.
- 2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

Connector No. Terminal No.	Resistance (Ω)
M87 52 53	Approx. 54 – 66

Models without NAVI

	AV control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
M85	86	87	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

BCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the BCM for damage, bend and loc connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. 	ose connection (unit side and
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the BCM for damage, bend and loc connector side). <u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. BCM harness connector <u>Connector No.</u> <u>M122</u> 91 90 Is the measurement value within the specification? YES >> GO TO 3.	
NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. BCM harness connector Connector No. M122 91 90 Is the measurement value within the specification? YES YES	Resistance (Ω)
 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. BCM harness connector <u>BCM harness connector</u> <u>Connector No.</u> <u>M122</u> 91 90 Is the measurement value within the specification? YES >> GO TO 3. 	— Resistance (Ω)
1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. BCM harness connector Connector No. Terminal No. M122 91 90 Is the measurement value within the specification? YES >> GO TO 3.	— Resistance (Ω)
M122 91 90 Is the measurement value within the specification? YES >> GO TO 3.	
YES >> GO TO 3.	Approx. 54 – 66
NO >> Repair the BCM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT	
Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "D</u> <u>Is the inspection result normal?</u> YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u> . YES (Past error)>>Error was detected in the BCM branch line. NO >> Repair the power supply and the ground circuit.	iagnosis Procedure".

LAN-133

L

LAN

Ν

Ο

< COMPONENT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964033

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AFS control unit.
- 2. Check the resistance between the AFS control unit harness connector terminals.

ŀ	AFS control unit harness connected	or	Resistance (Ω)
Connector No.	Termi	nal No.	
M16	30	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-62, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-194, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

DLC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

COMPONENT DIAGNOSIS	S>		[CAN SYSTEM (TYPE 6)]
OLC BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:0000000009640
.CHECK CONNECTOR			
 Turn the ignition switch OF Disconnect the battery cab Check the terminals and c (connector side and harnes) 	ble from the negative te connectors of the data		ge, bend and loose connection
s the inspection result normal?	,		
YES >> GO TO 2. NO >> Repair the termina	l and connector.		
CHECK HARNESS FOR OF			
Check the resistance between		r terminals.	
	Data link connector		
Connector No.	Tern	ninal No.	Resistance (Ω)
M24	6	14	Approx. 54 – 66
YES (Past error)>>Error was	the decision of CAN sy detected in the data lin k connector branch line	nk connector branch line of	circuit.
YES (Past error)>>Error was	detected in the data lin	nk connector branch line of	circuit.
YES (Past error)>>Error was	detected in the data lin	nk connector branch line of	circuit.
YES (Past error)>>Error was	detected in the data lin	nk connector branch line of	circuit.
YES (Present error)>>Check YES (Past error)>>Error was NO >> Repair the data lini	detected in the data lin	nk connector branch line of	circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	d meter and A/C amp. harness co	nnector	Resistance (Ω)
Connector No.	Termi	nal No.	
M67	56	72	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000964035

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INF0ID:00000000096403
1. CHECK CONNECTOR			
	cable from the negative term d connectors of the steering r side).		, bend and loose connection
YES >> GO TO 2.			
NO >> Repair the termi			
2.CHECK HARNESS FOR			
	or of steering angle sensor etween the steering angle s	: sensor harness connector to	erminals.
	ering angle sensor harness conne	ector	Resistance (Ω)
Connector No.		nal No.	
M37	1	2	Approx. 54 – 66
-	ithin the specification?		
Is the measurement value w YES >> GO TO 3.	ing angle sensor branch lin	ne.	
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer	ing angle sensor branch lin Y AND GROUND CIRCUI d the ground circuit of the	ne. F	
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ing angle sensor branch lin Y AND GROUND CIRCUI d the ground circuit of the <u>YSTEM-"</u> . lal? lace the steering angle ser	ne. T steering angle sensor. Re nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ing angle sensor branch lin Y AND GROUND CIRCUI d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle ser as detected in the steering	ne. T steering angle sensor. Re nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ing angle sensor branch lin Y AND GROUND CIRCUI d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle ser as detected in the steering	ne. T steering angle sensor. Re nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ing angle sensor branch lin Y AND GROUND CIRCUI d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle ser as detected in the steering	ne. T steering angle sensor. Re nsor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -

LAN

Ν

0

< COMPONENT DIAGNOSIS >

RAS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964037

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the 4WAS main control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of 4WAS main control unit.
- 2. Check the resistance between the 4WAS main control unit harness connector terminals.

4WAS main control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B54	1	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the 4WAS main control unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the 4WAS main control unit. Refer to <u>STC-134, "Diagnosis</u> Procedure (4WAS Main Control Unit)".

Is the inspection result normal?

YES (Present error)>>Replace the 4WAS main control unit. Refer to STC-178, "Exploded View".

YES (Past error)>>Error was detected in the 4WAS main control unit branch line.

ADP BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INFOID:00000000964038
1. CHECK CONNECTOR			
	able from the negative ter inals and connectors for o onnector <u>al?</u> nal and connector.		onnection (unit side and con-
I. Disconnect the connecto	r of driver seat control un		
 Check the resistance bet 	ween the driver seat cont	rol unit namess connector	terminals.
	r seat control unit harness conr		
	r seat control unit harness conr		Terminals. Resistance (Ω)
Drive Connector No. B451	r seat control unit harness conr Termi 3	ector	
Drive Connector No. B451 Sthe measurement value wi YES >> GO TO 3. NO >> Repair the driver CHECK POWER SUPPLY Check the power supply and	r seat control unit harness conr Termi 3 thin the specification? seat control unit branch I Y AND GROUND CIRCUI the ground circuit of the d	ine.	- Resistance (Ω)
Drive Connector No. B451 Is the measurement value wi YES >> GO TO 3. NO >> Repair the driver 3.CHECK POWER SUPPLY Check the power supply and CONTROL UNIT : Diagnosis Is the inspection result normation YES (Present error)>>Replay YES (Past error)>>Error wat	r seat control unit harness conr Termi 3 thin the specification? seat control unit branch I Y AND GROUND CIRCUI the ground circuit of the d <u>Procedure"</u> . al? ace the driver seat control	ine. T ine. ADP-217, "E at control unit branch line.	 Resistance (Ω) Approx. 54 – 66 er to <u>ADP-66</u>, "DRIVER SEAT Exploded View".

LAN

Ν

0

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		Resistance (22)
E41	35 14		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

ICC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ICC BRANCH LINE	CIRCUIT			
Diagnosis Procedure			INFOID:00000000964040	
1.CHECK CONNECTOR				
3. Check the terminals and nection (unit side and co	cable from the negative terr d connectors of the ICC se onnector side).	ninal. ensor integrated unit for dar	nage, bend and loose con-	
Is the inspection result norm YES >> GO TO 2. NO >> Repair the termination 2.CHECK HARNESS FOR	inal and connector.			
 Disconnect the connect Check the resistance be 	or of ICC sensor integrated etween the ICC sensor inte	grated unit harness connect	or terminals.	
	sensor integrated unit harness connector Resistance (Ω		Resistance (Ω)	
E67	Iermii 3	nal No. 6	Approx. 54 – 66	
YES >> GO TO 3. NO >> Repair the ICC s 3. CHECK POWER SUPPL Check the power supply and		T	efer to CCS-80 "Diagnosis	
Procedure"	-		elei lo <u>CCS-60, Diagilosis</u>	
YES (Past error)>>Error wa	lace the ICC sensor integra	ated unit. Refer to <u>CCS-110,</u> sor integrated unit branch lir rcuit.		

Ν

0

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964041

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector		Posistanaa (O)	
Connector No.	Terminal No.		Resistance (Ω)
E6	40 39		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

iagnosis Procedure .CONNECTOR INSPECTION Turn the ignition switch OFI			
			INFOID:0000000096404
Turn the ignition switch OF	l		
Disconnect the battery cabl Disconnect all the unit conr Check terminals and conne	e from the negative tern nectors on CAN commur	nication system.	
the inspection result normal? (ES >> GO TO 2. NO >> Repair the terminal	and connector.		
CHECK HARNESS CONTIN			
	Data link connector		
Connector No.	Termin	al No.	Continuity
M24	6	14	Not existed
NO >> Check the harness CHECK HARNESS CONTIN heck the continuity between th		Г)	
Data link conr	nector		Quatianity
Connector No.	Terminal No.	Ground	Continuity
M24	6	Not existed	
the inspection result normal?	14		Not existed
/ES >> GO TO 4.			
Check the resistance betwe	een the ECM terminals.		
ECM Terminal No. 114 113	Resistance (Ω Approx. 108 – 1		ECM and IPDM E/R
Check the resistance betwe		//	
IPDM E/R	Resistance (Ω)	
Terminal No.		·	LKIA0037E
40 39	Approx. 108 – 1	32	
the measurement value within (ES >> GO TO 5. NO >> Replace the ECM a .CHECK SYMPTOM			

LAN-143

< COMPONENT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

	MAIN LINE BET	WEEN BCM AND	DLC CIRCUIT	
COMPONENT DIA			[CAN	SYSTEM (TYPE 7)]
COMPONEN	NT DIAGNO	SIS		/
JAIN LINE BET	WEEN BCM A	ND DLC CIRCU	JIT	-
Diagnosis Proced	ure			INFOID:00000000964043
NSPECTION PROCE	DURE			
CHECK HARNESS		N CIRCUIT)		(
 Disconnect the foll ECM harness con BCM harness con 	ttery cable from the ne lowing harness conne nector nector		d the data link connec	tor.
BCM harnes	ss connector	Data link c	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M122	91	M24	6	Existed
s the inspection result	normal?			(
NO >> Repair the	main line between th	he BCM and the data lin	ιk connector.	
				L
				(
				F

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M6	7	Existed
11/24	14		6	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M6.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector		ctric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
ETUO	6	- E41	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ECM BRANCH LINE	CIRCUIT		
	CINCOT		
Diagnosis Procedure			INFOID:00000000964045
1. CHECK CONNECTOR			
 Turn the ignition switch OF Disconnect the battery cat Check the terminals and c connector side). 	ole from the negative term		ose connection (unit side and
Is the inspection result normal? YES >> GO TO 2.	2		
NO >> Repair the termina			
2. CHECK HARNESS FOR O	PEN CIRCUIT		
1 Disconnect the connector			
 Disconnect the connector Check the resistance betw 	een the ECM harness co	nnector terminals.	
			Resistance (Ω)
2. Check the resistance betw Connector No. M107	ECM harness connector Termina		Resistance (Ω) Approx. 108 – 132
2. Check the resistance betw Connector No.	ECM harness connector ECM harness connector Termina 114 in the specification? ranch line.	il No.	
2. Check the resistance betw Connector No. M107 Is the measurement value with YES >> GO TO 3. NO >> Repair the ECM bu	ECM harness connector ECM harness connector Termina 114 in the specification? Termina Connector Termina	11 No. 113	Approx. 108 – 132
2. Check the resistance betw Connector No. M107 Is the measurement value with YES >> GO TO 3. NO >> Repair the ECM by 3.CHECK POWER SUPPLY A Check the power supply and the Is the inspection result normal? YES (Present error)>>Replace CONTROL UNIT : YES (Past error)>>Error was	ECM harness connector ECM harness connector Termina 114 in the specification? ranch line. AND GROUND CIRCUIT he ground circuit of the EC special Repair Requirem	113 113 M. Refer to <u>EC-133, "D</u> 2-15, "ADDITIONAL SE ent". ich line.	Approx. 108 – 132
2. Check the resistance betw Connector No. M107 Is the measurement value with YES >> GO TO 3. NO >> Repair the ECM by 3.CHECK POWER SUPPLY A Check the power supply and the Is the inspection result normal? YES (Present error)>>Replace CONTROL UNIT : YES (Past error)>>Error was	een the ECM harness con ECM harness connector Termina 114 in the specification? ranch line. AND GROUND CIRCUIT he ground circuit of the EC e the ECM. Refer to EC Special Repair Requirem detected in the ECM bran	113 113 M. Refer to <u>EC-133, "D</u> 2-15, "ADDITIONAL SE ent". ich line.	Approx. 108 – 132

L

LAN

Ν

0

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964046

[CAN SYSTEM (TYPE 7)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag	Air bag diagnosis sensor unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M147	21	46	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AV BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:00000000964047
1. CHECK CONNECTOR			
	able from the negative term d connectors of the AV cor). <u>al?</u> nal and connector.		d and loose connection (unit
 Disconnect the connect Check the resistance be Models with NAVI 	or of AV control unit. tween the AV control unit h	arness connector termina	ls.
	AV control unit harness connector		Resistance (Ω)
Connector No.	Termin	al No.	
M87	52	53	Approx. 54 – 66
Connector No.	AV control unit harness connector Termir		- Resistance (Ω)
M85	86	87	Approx. 54 – 66
CHECK POWER SUPPL check the power supply and Base audio without naviga BOSE audio without navig BOSE audio with navigation sthe inspection result norm YES (Present error)>>•Rep - Base audio wi - BOSE audio wi - BOSE audio wi YES (Past error)>>Error wa	ontrol unit branch line. Y AND GROUND CIRCUIT the ground circuit of the A tion: <u>AV-39, "AV CONTROL</u> ation: <u>AV-161, "AV CONTROL</u> ation: <u>AV-379, "AV CONTROL</u> al? blace the AV control unit. Re thout navigation: <u>AV-111, "E</u> vithout navigation: <u>AV-530, "Ex</u>	V control unit. Refer to the UNIT : Diagnosis Proced OL UNIT : Diagnosis Proced UNIT : Diagnosis Procedu efer to the following. Exploded View" "Exploded View" of unit branch line.	ure" edure"

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964048

[CAN SYSTEM (TYPE 7)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.		
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

TCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CHECK CONNECTOR			
 Check the following terr nector side). A/T assembly connecto Harness connector F10 Harness connector M11 <u>s the inspection result norm</u> YES >> GO TO 2. NO >> Repair the term 	cable from the negative term ninals and connectors for da r 3 6 <u>nal?</u> inal and connector.		onnection (unit side and con-
CHECK HARNESS FOR Disconnect the connect Check the resistance be		arness connector terminals).
	A/T assembly harness connector		
Connector No.	Termin	al No.	Resistance (Ω)
F51	3	8	Approx. 54 – 66
	l branch line. Y AND GROUND CIRCUIT		

LAN

Ν

0

< COMPONENT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964050

[CAN SYSTEM (TYPE 7)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector		Resistance (Ω)
Connector No.	Terminal No.		
M24	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check the decision of CAN system type again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

M&A BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

Diagnosis Procedure			INFOID:00000000964051
1.CHECK CONNECTOR			
	cable from the negative termin d connectors of the unified me		mage, bend and loose con-
s the inspection result norm	nal?		
YES >> GO TO 2. NO >> Repair the term	inal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
	or of unified meter and A/C an etween the unified meter and A		ctor terminals.
Unified	I meter and A/C amp. harness conner	ctor	Resistance (Ω)
Connector No.	Terminal N	۱o.	. ,
M67 s the measurement value v	56	72	Approx. 54 – 66
YES >> GO TO 3.			
NO >> Repair the unified of the second secon			Refer to <u>MWI-49, "UNIFIED</u>
NO >> Repair the unified CHECK POWER SUPPL Check the power supply and METER AND A/C AMP. : Di s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	Y AND GROUND CIRCUIT d the ground circuit of the unificagnosis Procedure".	ed meter and A/C amp. I c amp. Refer to <u>MWI-158</u> er and A/C amp. branch	, "Exploded View".
NO >> Repair the unified 3.CHECK POWER SUPPL Check the power supply and METER AND A/C AMP. : Discrete the inspection result norm YES (Present error)>> Rep YES (Past error)>> Error w	Y AND GROUND CIRCUIT d the ground circuit of the unifi- agnosis Procedure". aal? lace the unified meter and A/C as detected in the unified meter	ed meter and A/C amp. I c amp. Refer to <u>MWI-158</u> er and A/C amp. branch	, "Exploded View".
NO >> Repair the unified 3.CHECK POWER SUPPL Check the power supply and METER AND A/C AMP. : Discrete the inspection result norm YES (Present error)>> Rep YES (Past error)>> Error w	Y AND GROUND CIRCUIT d the ground circuit of the unifi- agnosis Procedure". aal? lace the unified meter and A/C as detected in the unified meter	ed meter and A/C amp. I c amp. Refer to <u>MWI-158</u> er and A/C amp. branch	, "Exploded View".

Ν

0

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964052

[CAN SYSTEM (TYPE 7)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of steering angle sensor.
- 2. Check the resistance between the steering angle sensor harness connector terminals.

Ste	Steering angle sensor harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82, "Wiring Dia-gram -BRAKE CONTROL SYSTEM-"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ABS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

	ECIRCUIT		
Diagnosis Procedure			INFOID:00000000964053
1.CHECK CONNECTOR			
3. Check the terminals an	cable from the negative term	tuator and electric unit (co	ontrol unit) for damage, bend
s the inspection result norm YES >> GO TO 2. NO >> Repair the term	inal and connector.		
	or of ABS actuator and elec		it) harness connector termi-
ABS actuator	and electric unit (control unit) harn	ess connector	Resistance (Ω)
Connector No.	Termin	al No.	
E41	35	14	Approx. 54 – 66
Is the measurement value v YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL	actuator and electric unit (c	,	
	d the ground circuit of the		c unit (control unit). Refer to
BRC-36, "Diagnosis Proced Is the inspection result norm	d the ground circuit of the <u>ure"</u> . <u>aal?</u>	ABS actuator and electric	
<u>BRC-36, "Diagnosis Proced</u> <u>Is the inspection result norm</u> YES (Present error)>>Rep <u>View"</u> . YES (Past error)>>Error w	d the ground circuit of the <u>ure"</u> . <u>aal?</u>	ABS actuator and electric electric unit (control unit). F lator and electric unit (con	Refer to <u>BRC-102, "Exploded</u>

LAN

Ν

Ο

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964054

[CAN SYSTEM (TYPE 7)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

			INFOID:00000000964055
.CONNECTOR INSPECT	ION		
. Disconnect all the unit c	able from the negative terr	inication system.	
the inspection result norm YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
CHECK HARNESS CON			
	Data link connector		
Connector No.	Termir	nal No.	Continuity
M24	6	14	Not existed
Check the continuity betwee		nd the ground.	
Connector No.	Terminal No.		Continuity
M24	6	Ground	Not existed
	14		Not existed
	ess and repair the root caus E/R TERMINATION CIRC		
. Remove the ECM and the	tween the ECM terminals.		
. Remove the ECM and the		2)	ECM and IPDM E/R
. Remove the ECM and the Check the resistance be ECM	etween the ECM terminals.		ECM and IPDM E/R
. Remove the ECM and the Check the resistance be ECM Terminal No.	etween the ECM terminals.	132	ECM and IPDM E/R
Remove the ECM and the Check the resistance be ECM Terminal No. 114 114 IPDM E/R	etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1	nals.	ECM and IPDM E/R
 Remove the ECM and the Check the resistance be ECM Terminal No. 114 Check the resistance be IPDM E/R Terminal No. 	etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R termin Resistance (Ω	132 inals.	ECM and IPDM E/R
Remove the ECM and the Check the resistance be ECM Terminal No. 114 114 IPDM E/R	etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R termin Resistance (Ω 9 Approx. 108 – 1	132 inals.	

LAN-157

< COMPONENT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

OMPONENT DIA	GNOSIS >			
OMPONE			[CAN	SYSTEM (TYPE 9)]
AIN LINE BE	I WEEN BCM A	ND DLC CIRCU)	
agnosis Proce	dure			INFOID:00000000964056
PECTION PROC	EDURE			
CHECK HARNES	S CONTINUITY (OPEN	N CIRCUIT)		
Disconnect the for ECM harness con BCM harness con	attery cable from the ne llowing harness conne nnector nnector		I the data link connec	tor.
BCM harn	ess connector	Data link c	onnector	Oractionity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
ne inspection resu	t normal?			
O →> Repair th		e BCM and the data lir		

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.

2. Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M7	23	Existed
11/24	14	- IVI7	24	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M7.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Termi	nal No.	Continuity
B1	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.

NO >> Repair the main line between the harness connector B1 and the driver seat control unit.

INFOID:000000000964057

N COMPONENT DIAG		WEEN ADP AN	D ABS CIRCUIT	- N SYSTEM (TYPE 9)]
MAIN LINE BET	WEEN ADP A	ND ABS CIRC	UIT	
Diagnosis Procedu	re			INFOID:00000000964058
1.снеск соллестс	R			
and harness side). Harness connector Harness connector Harness connector Harness connector s the inspection result r YES >> GO TO 2. NO >> Repair the t 2.CHECK HARNESS (1. Disconnect the harr	ery cable from the n terminals and con B1 M7 M6 E106 hormal? erminal and connec CONTINUITY (OPEI hess connectors B1	nectors for damage, tor. N CIRCUIT) and M7.		nection (connector side
		ess connector termina	lls.	
Connector No.		Terminal No.		Continuity
B1	23		25 26	Existed
YES >> GO TO 3. NO >> Repair the r CHECK HARNESS C Disconnect the harr Check the continuity	CONTINUITY (OPE	N CIRCUIT) and E106.	unit and the harness o	connector B1.
Harness co Connector No.	Terminal No.	Connector No.	connector Terminal No.	Continuity
	25		7	Existed
M7	26	M6	6	Existed
LCHECK HARNESS C	nain line between th CONTINUITY (OPEI nector of ABS actua	tor and electric unit (or each of the second electric unit the second end the second electric unit the second electric unit (or each of the second electric unit) and the second electric unit (or each of the second electric unit) and the second electric unit (or each of the second electric unit) and the second electric unit (or each of the second electric unit) and the second electric unit (or each of the second electric unit) and the second electric unit (or each of the second electric unit) and the second electric unit) are second electric unit.	control unit). e ABS actuator and e	lectric unit (control unit)
Harness co	onnector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

Harnes	s connector		connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
E100	6	L41	14	Existed
	14 10			

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actu-ator and electric unit (control unit).

— P

< COMPONENT DIAGNOSIS >

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side at connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. <u>ECM harness connector</u> <u>Resistance (Ω)</u> <u>M107</u> <u>114</u> <u>113</u> <u>Approx. 108 – 132</u> Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ECM. Refer to <u>EC-133, "Diagnosis Procedure"</u> .	Diagnosis Procedure			INFOID:00000000096405
1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side ar connector side). s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. ECM harness connector Resistance (Ω) M107 114 M107 114 S the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the ECM. Refer to EC-15. "ADDITIONAL SERVICE WHEN REPLACIN CONTROL UNIT : Special Repair Requirement". YES (Past error)>>Fror was detected in the ECM branch line.	•			INF-OID:0000000096405
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side at connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals. ECM harness connector Resistance (Ω) M107 114 113 Approx. 108 – 132 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the ECM. Refer to EC-15. "ADDITIONAL SERVICE WHEN REPLACIN CONTROL UNIT : Special Repair Requirement". YES (Past error)>>Error was detected in the ECM branch line.	.CHECK CONNECTOR			
YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals.	 Disconnect the battery of Check the terminals an 	cable from the negative termin		pose connection (unit side and
NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals.		al?		
2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals.		inal and connector		
1. Disconnect the connector of ECM. 2. Check the resistance between the ECM harness connector terminals.				
Connector No. Terminal No. M107 114 113 Approx. 108 – 132 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the ECM. Refer to EC-15. "ADDITIONAL SERVICE WHEN REPLACIN CONTROL UNIT : Special Repair Requirement". YES (Past error)>>Error was detected in the ECM branch line.	. Check the resistance be		nector terminals.	
Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ECM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the ECM. Refer to EC-15, "ADDITIONAL SERVICE WHEN REPLACIN CONTROL UNIT : Special Repair Requirement". YES (Past error)>>Error was detected in the ECM branch line.	Connector No.	Terminal	No.	Resistance (Ω)
YES >> GO TO 3. NO >> Repair the ECM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the ECM. Refer to EC-15, "ADDITIONAL SERVICE WHEN REPLACIN CONTROL UNIT : Special Repair Requirement". YES (Past error)>>Error was detected in the ECM branch line.	M107	114	113	Approx. 108 – 132
Is the inspection result normal? YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACIN</u> <u>CONTROL UNIT : Special Repair Requirement"</u> . YES (Past error)>>Error was detected in the ECM branch line.				
CONTROL UNIT : Special Repair Requirement ["] . YES (Past error)>>Error was detected in the ECM branch line.	NO >> Repair the ECM CHECK POWER SUPPL	Y AND GROUND CIRCUIT		
	NO >> Repair the ECN CHECK POWER SUPPL Check the power supply and	Y AND GROUND CIRCUIT	M. Refer to <u>EC-133, "[</u>	Diagnosis Procedure".
	NO >> Repair the ECM CHECK POWER SUPPL check the power supply and the inspection result norm YES (Present error)>>Rep <u>CONTROL UNI</u> YES (Past error)>>Error w	Y AND GROUND CIRCUIT the ground circuit of the EC <u>al?</u> lace the ECM. Refer to <u>EC</u> <u>T : Special Repair Requirement</u> as detected in the ECM brand	- <u>15. "ADDITIONAL S</u> ent <u>"</u> . ch line.	

L

LAN

Ν

0

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964060

[CAN SYSTEM (TYPE 9)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag	diagnosis sensor unit harness co	onnector	Resistance (Ω)
Connector No.	Termi	nal No.	1(63)3(2)106 (22)
M147	21	46	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AV BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:00000000964061
1.CHECK CONNECTOR			
	able from the negative tern d connectors of the AV cor). <u>al?</u> nal and connector.		d and loose connection (unit
 Disconnect the connector Check the resistance be Models with NAVI 	or of AV control unit. tween the AV control unit h	arness connector termina	S.
	AV control unit harness connector		Resistance (Ω)
Connector No.	Termin	al No.	
M87 Models without NAVI	52	53	Approx. 54 – 66
Connector No.	AV control unit harness connector Termin		Resistance (Ω)
M85	86	87	Approx. 54 – 66
CHECK POWER SUPPL check the power supply and Base audio without naviga BOSE audio without navig BOSE audio with navigation sthe inspection result norm YES (Present error)>>•Rep - Base audio wi - BOSE audio wi - BOSE audio wi YES (Past error)>>Error wa	ontrol unit branch line. Y AND GROUND CIRCUIT the ground circuit of the A tion: <u>AV-39, "AV CONTROL</u> ation: <u>AV-161, "AV CONTROL</u> ation: <u>AV-379, "AV CONTROL</u> al? blace the AV control unit. Re thout navigation: <u>AV-111, "E</u> vithout navigation: <u>AV-530, "Ex</u>	V control unit. Refer to the UNIT : Diagnosis Proced OL UNIT : Diagnosis Proced UNIT : Diagnosis Procedu efer to the following. Exploded View" "Exploded View" ploded View" of unit branch line.	ure" edure"

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964062

[CAN SYSTEM (TYPE 9)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

TCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

la ana ala Dra a a durra			
iagnosis Procedure			INFOID:00000000964063
CHECK CONNECTOR			
Check the following term nector side). A/T assembly connector Harness connector F103 Harness connector M11 the inspection result norm (ES >> GO TO 2.	able from the negative terr inals and connectors for d		onnection (unit side and con-
CHECK HARNESS FOR Disconnect the connector	OPEN CIRCUIT or of A/T assembly.		
CHECK HARNESS FOR Disconnect the connector Check the resistance be	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly h		S.
CHECK HARNESS FOR Disconnect the connector Check the resistance be	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly have a connector		S. - Resistance (Ω)
CHECK HARNESS FOR Disconnect the connector Check the resistance be	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly have a connector A/T assembly harness connector Termin 3	r	1

LAN

L

Ν

0

< COMPONENT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964064

[CAN SYSTEM (TYPE 9)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check the decision of CAN system type again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

M&A BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

Diagnosis Procedure			INFOID:00000000964065
1.CHECK CONNECTOR			
	cable from the negative termina d connectors of the unified me		mage, bend and loose con-
s the inspection result norm	al?		
YES >> GO TO 2. NO >> Repair the term	inal and connector.		
2. CHECK HARNESS FOR			
	or of unified meter and A/C am etween the unified meter and A		ctor terminals.
	I meter and A/C amp. harness connec		Resistance (Ω)
Connector No.	Terminal N		
M67	56	72	Approx. 54 – 66
	initiation:		
YES >> GO TO 3. NO >> Repair the unifie CHECK POWER SUPPL Check the power supply and METER AND A/C AMP. : Di- s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	ed meter and A/C amp. branch Y AND GROUND CIRCUIT I the ground circuit of the unifie agnosis Procedure". al? lace the unified meter and A/C as detected in the unified meter	ed meter and A/C amp. I amp. Refer to <u>MWI-158</u> and A/C amp. branch	, "Exploded View".
NO >> Repair the unifie 3.CHECK POWER SUPPL Check the power supply and METER AND A/C AMP. : Div Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	ed meter and A/C amp. branch Y AND GROUND CIRCUIT I the ground circuit of the unifie agnosis Procedure". al? lace the unified meter and A/C	ed meter and A/C amp. I amp. Refer to <u>MWI-158</u> and A/C amp. branch	, "Exploded View".

Ν

0

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964066

[CAN SYSTEM (TYPE 9)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of steering angle sensor.
- 2. Check the resistance between the steering angle sensor harness connector terminals.

Ste	Steering angle sensor harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82, "Wiring Dia-gram -BRAKE CONTROL SYSTEM-"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ADP BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

•CHECK CONNECTOR • Turn the ignition switch OFF. • Disconnect the battery cable from the negative terminal. • Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side). Driver seat control unit connector Harness connector B460 Harness connector B11 a the inspection result normal? YES YES > GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT • Disconnect the connector of driver seat control unit. • Check the resistance between the driver seat control unit harness connector terminals. • Driver seat control unit harness connector Connector No. Terminal No. B451 3 19 Approx.54 - 66 a the measurement value within the specification? YES > GO TO 3. NO >> Repair the driver seat control unit branch line. • CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66. "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure". • The inspection result normal? YES (Present error)>> Replace the driver seat control unit. Refer to ADP-217. "Explod	Diagnosis Procedure			INFOID:00000000964067
Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side). Driver seat control unit connector Harness connector B460 Harness connector B11 sthe inspection result normal? YES > GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of driver seat control unit. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Connector No. Driver seat control unit harness connector Resistance (Ω) Approx. 54 - 66 Sthe measurement value within the specification? YES > GO TO 3. NO >> Repair the driver seat control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure".</u> Sthe inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Preset error)>> Replace the driver seat control	C			
Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side). Driver seat control unit connector Harness connector B460 Harness connector B11 is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect the connector of driver seat control unit. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Resistance (Ω) Absta 3 Driver seat control unit harness connector Resistance (Ω) B451 3 B451 3 S > GO TO 3. NO >> Repair the driver seat control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> CONTROL UNIT : Diagnosis Procedure". S the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch				
YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of driver seat control unit. . Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Resistance (Ω) Connector No. Terminal No. B451 3 19 Approx. 54 - 66 Sthe measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> : CONTROL UNIT : Diagnosis Procedure". Sthe inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	 Disconnect the battery can Check the following terminector side). Driver seat control unit con Harness connector B460 	able from the negative terr inals and connectors for d onnector		connection (unit side and con-
NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT . Disconnect the connector of driver seat control unit. . Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Resistance (Ω) Connector No. Terminal No. B451 3 19 Approx. 54 - 66 Sthe measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure". Sthe inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View". YES (Past error)>>Error was detected in the driver seat control unit branch line.	•	<u>ll?</u>		
1. Disconnect the connector of driver seat control unit. 2. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Connector No. Terminal No. B451 3 19 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View". YES (Past error)>>Error was detected in the driver seat control unit branch line.	NO >> Repair the termin			
2. Check the resistance between the driver seat control unit harness connector terminals. Driver seat control unit harness connector Connector No. Terminal No. B451 3 19 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure".</u> Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.				
Connector No. Terminal No. Resistance (Ω) B451 3 19 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. B.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View". YES (Past error)>>Error was detected in the driver seat control unit branch line.				terminals.
Connector No. Terminal No. B451 3 19 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> CONTROL UNIT : Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.				
Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"</u> . Is the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	Drive	r seat control unit harness conne	ector	Resistance (Q)
YES >> GO TO 3. NO >> Repair the driver seat control unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u> . s the inspection result normal? YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	Connector No.	Termir	al No.	
<u>CONTROL UNIT : Diagnosis Procedure"</u> . <u>s the inspection result normal?</u> YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	Connector No. B451	Termir 3	al No.	
YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u> . YES (Past error)>>Error was detected in the driver seat control unit branch line.	Connector No. B451 s the measurement value with YES >> GO TO 3. NO >> Repair the driver	Termir 3 hin the specification? seat control unit branch lin	nal No. 19 Ne.	
	Connector No. B451 s the measurement value with YES >> GO TO 3. NO >> Repair the driver 3. CHECK POWER SUPPLY Check the power supply and the control UNIT : Diagnosis	Termir 3 hin the specification? seat control unit branch lin AND GROUND CIRCUIT the ground circuit of the dr <u>Procedure"</u> .	nal No. 19 ne.	Approx. 54 – 66
	Connector No. B451 s the measurement value with YES >> GO TO 3. NO >> Repair the driver 3. CHECK POWER SUPPLY Check the power supply and the control UNIT : Diagnosis s the inspection result normal YES (Present error)>>Replat YES (Past error)>>Error was	Termir 3 hin the specification? seat control unit branch lin AND GROUND CIRCUIT the ground circuit of the dr Procedure". 1? ace the driver seat control s detected in the driver se	ne. - iver seat control unit. Refe unit. Refer to <u>ADP-217, "</u> at control unit branch line	Approx. 54 – 66 er to <u>ADP-66, "DRIVER SEAT</u> Exploded View".
	Connector No. B451 s the measurement value with YES >> GO TO 3. NO >> Repair the driver 3. CHECK POWER SUPPLY Check the power supply and the control UNIT : Diagnosis s the inspection result normal YES (Present error)>>Replat YES (Past error)>>Error was	Termir 3 hin the specification? seat control unit branch lin AND GROUND CIRCUIT the ground circuit of the dr Procedure". 1? ace the driver seat control s detected in the driver se	ne. - iver seat control unit. Refe unit. Refer to <u>ADP-217, "</u> at control unit branch line	Approx. 54 – 66 er to <u>ADP-66, "DRIVER SEAT</u> Exploded View".

Ν

0

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (32)
E41	35 14		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View"</u>.

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000000964068

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 9)]

	ilS >		[CAN SYSTEM (TYPE 9)]
PDM-E BRANCH L	INE CIRCUIT		
Diagnosis Procedure			INFOID:00000000964069
1. CHECK CONNECTOR			
 Check the terminals and and connector side). s the inspection result normal 	able from the negative ter I connectors of the IPDM		loose connection (unit side
YES >> GO TO 2. NO >> Repair the termin	nal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
	IPDM E/R harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
E6	40	39	Approx. 108 – 132
s the measurement value wi	thin the specification?		
Is the measurement value will YES >> GO TO 3. NO >> Repair the IPDM 3. CHECK POWER SUPPLY Check the power supply and Is the inspection result normation YES (Present error)>>Replay YES (Past error)>>Error wate	I E/R branch line. Y AND GROUND CIRCUI the ground circuit of the I al? ace the IPDM E/R. Refer	PDM E/R. Refer to <u>PCS-18</u> to <u>PCS-33, "Exploded View</u>	-

LAN

L

Ν

Ο

Ρ

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Continuity
M24	6	14	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
10124	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.

2. Check the resistance between the ECM terminals.

ECM		Resistance (Ω)	
Termi	Terminal No.		
114	113	Approx. 108 – 132	

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)	
Termi	nal No.		
40	39	Approx. 108 – 132	

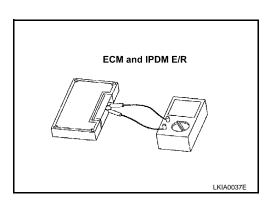
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



LAN-174

INFOID:000000000964070

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result А Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. 6.CHECK UNIT REPRODUCTION В Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. С 2. 3. Disconnect one of the unit connectors of CAN communication system. NOTE: ECM and IPDM E/R have a termination circuit. Check other units first. D Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom 4. (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

Н

L

Κ

LAN

Ν

_

[CAN SYSTEM (TYPE 10)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000964071

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
101122	90	10124	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

< COMPONENT DIAG		ND ADP CIRC		SYSTEM (TYPE 10)]
Diagnosis Proced	ure			INFOID:000000000964072
NSPECTION PROCE				
.CHECK CONNECT	OR			
 Check the followir and harness side) Harness connecto Harness connecto <u>s the inspection result</u> YES >> GO TO 2. NO >> Repair the CHECK HARNESS 	ttery cable from the non- ng terminals and conn r M7 r B1 <u>normal?</u> terminal and connect	nectors for damage, tor. N CIRCUIT)	bend and loose conn	ection (connector side
. Check the continu	connector	ink connector and the	e harness connector.	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
	6		23	Existed
M24	14	M7	24	Existed
CHECK HARNESS		N CIRCUIT)	r and the harness conr	ector M7.
Connector No.		Terminal No.		Continuity
	23		25	Existed
			26	Existed
B1	24			
s the inspection result				

Ν

0

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000000964073

[CAN SYSTEM (TYPE 10)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1 -	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

${ m 3.check}$ harness continuity (open circuit)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7 -	25	M6	7	Existed
	26		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
	6		14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

LAN-178

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

А

В

С

D

Е

F

G

Н

J

Κ

L

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

LAN

Ν

0

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964074

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		Nesistance (22)
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

Diagnosis Procedure			INFOID:00000000964075
1. CHECK CONNECTOR			
	able from the negative termi I connectors of the air bag di		amage, bend and loose con-
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi			
2.CHECK HARNESS FOR			
2. Check the resistance be	or of air bag diagnosis senso	sensor unit harness conr	ector terminals.
Connector No.	diagnosis sensor unit harness conr Termina		Resistance (Ω)
M147	21	46	Approx. 54 – 66
e the measurement value w	ithin the eneritication?		
YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL	ag diagnosis sensor unit brar Y AND GROUND CIRCUIT		
NO >> Repair the air ba 3. CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG (ag diagnosis sensor unit bran Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —".		. Refer to <u>SRC-189, "Wiring</u>
YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG (Is the inspection result norm YES (Present error)>>Repl tion". YES (Past error)>>Error wa	ag diagnosis sensor unit bran Y AND GROUND CIRCUIT the ground circuit of the air CONTROL SYSTEM —".	bag diagnosis sensor unit ensor unit. Refer to <u>SRC-</u> ignosis sensor unit branc	8, "Component Parts Loca-

LAN

Ν

0

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964076

[CAN SYSTEM (TYPE 10)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AV control unit.
- 2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

Connector No. Terminal No. Hoststation (32) M87 52 53 Approx. 54 – 66		AV control unit harness connecto	r	Resistance (Ω)
M87 52 53 Approx. 54 – 66	Connector No.	Termi	nal No.	
	M87	52	53	Approx. 54 – 66

Models without NAVI

	AV control unit harness connector		
Connector No.	Termi	nal No.	Resistance (Ω)
M85	86	87	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

BCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. <u>BCM harness connector</u> Resistance (Ω) M122 91 90 Approx.54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38. "Diagnosis Procedure"</u> .	Diagnosis Procedure			INFOID:0000000096407
1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side). 1s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. M122 91 90 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38. "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79. "Exploded View". YES (Present error)>>Error was detected in the BCM branch line.				
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. BCM harness connector terminal No. M122 91 90 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38. "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>> Replace the BCM. Refer to BCS-79. "Exploded View". YES (Past error)>> Error was detected in the BCM branch line.		FF		
$\begin{array}{llllllllllllllllllllllllllllllllllll$	 Disconnect the battery ca Check the terminals and 	ble from the negative termine		e connection (unit side and
NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. Image: Connector No. BCM harness connector Resistance (Ω) Connector No. M122 91 90 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.	Is the inspection result norma	<u> ?</u>		
2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. Image: Second structure BCM harness connector Resistance (Ω) M122 91 90 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.				
1. Disconnect the connector of BCM. 2. Check the resistance between the BCM harness connector terminals. BCM harness connector Resistance (Ω) Connector No. Terminal No. M122 91 90 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.				
2. Check the resistance between the BCM harness connector terminals. BCM harness connector Resistance (Ω) Connector No. Terminal No. M122 91 90 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.	Z .CHECK HARNESS FOR (DPEN CIRCUIT		
M122 91 90 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. NO >> Repair the BCM branch line. S.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.				
Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the BCM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.	O anna a fua Na		NI-	Resistance (Ω)
YES >> GO TO 3. NO >> Repair the BCM branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the BCM. Refer to BCS-38, "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to BCS-79, "Exploded View". YES (Past error)>>Error was detected in the BCM branch line.		Terminal	-	
Is the inspection result normal? YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u> . YES (Past error)>>Error was detected in the BCM branch line.	M122	Terminal 91	-	
YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u> . YES (Past error)>>Error was detected in the BCM branch line.	M122 <u>Is the measurement value wit</u> YES >> GO TO 3. NO >> Repair the BCM b	Terminal 91 hin the specification? branch line.	-	
YES (Past error)>>Error was detected in the BCM branch line.	M122 <u>Is the measurement value wit</u> YES >> GO TO 3. NO >> Repair the BCM B 3. CHECK POWER SUPPLY	Terminal 91 hin the specification? branch line. AND GROUND CIRCUIT	90	Approx. 54 – 66
	M122 <u>Is the measurement value wit</u> YES >> GO TO 3. NO >> Repair the BCM b 3. CHECK POWER SUPPLY Check the power supply and the second	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT he ground circuit of the BC	90	Approx. 54 – 66
	M122 Is the measurement value with YES >> GO TO 3. NO >> Repair the BCM to 3. CHECK POWER SUPPLY Check the power supply and to Is the inspection result normator YES (Present error)>>Replator YES (Past error)>>Error was	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT the ground circuit of the BC I? ce the BCM. Refer to <u>BCS-</u> s detected in the BCM brand	90 M. Refer to <u>BCS-38, "Diac</u> <u>79, "Exploded View"</u> . ch line.	Approx. 54 – 66
	M122 Is the measurement value with YES >> GO TO 3. NO >> Repair the BCM to 3. CHECK POWER SUPPLY Check the power supply and to Is the inspection result normator YES (Present error)>>Replator YES (Past error)>>Error was	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT the ground circuit of the BC I? ce the BCM. Refer to <u>BCS-</u> s detected in the BCM brand	90 M. Refer to <u>BCS-38, "Diac</u> <u>79, "Exploded View"</u> . ch line.	Approx. 54 – 66

L

LAN

Ν

0

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964078

[CAN SYSTEM (TYPE 10)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly connector
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

	A/T assembly harness connector	r	Resistance (Ω)
Connector No.	Termi	nal No.	
F51	3	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-168, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the control valve with TCM. Refer to TM-240, "Exploded View".

YES (Past error)>>Error was detected in the TCM branch line.

DLC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

Diagnosis Procedure	е		INFOID:000000009640
. Turn the ignition swite			
. Disconnect the batter	y cable from the negative ter	rminal.	
 Check the terminals (connector side and h 		link connector for damag	ge, bend and loose connection
s the inspection result no			
YES >> GO TO 2.			
	minal and connector.		
CHECK HARNESS FC			
Check the resistance betw	veen the data link connector	terminals.	
	Data link connector		
Connector No.	Term	inal No.	Resistance (Ω)
M24	6	14	Approx. 54 – 66
s the measurement value YES (Present error)>>C YES (Past error)>>Error	within the specification? heck the decision of CAN sy was detected in the data lini ta link connector branch line	k connector branch line c	ircuit.
s the measurement value YES (Present error)>>C YES (Past error)>>Error	heck the decision of CAN sy was detected in the data lin	k connector branch line c	ircuit.
s the measurement value YES (Present error)>>C YES (Past error)>>Error	heck the decision of CAN sy was detected in the data lin	k connector branch line c	ircuit.
s the measurement value YES (Present error)>>C YES (Past error)>>Error	heck the decision of CAN sy was detected in the data lin	k connector branch line c	ircuit.
the measurement value YES (Present error)>>C YES (Past error)>>Error	heck the decision of CAN sy was detected in the data line	k connector branch line c	ircuit.
s the measurement value YES (Present error)>>C YES (Past error)>>Error	heck the decision of CAN sy was detected in the data line	k connector branch line c	ircuit.
s the measurement value YES (Present error)>>C YES (Past error)>>Error	heck the decision of CAN sy was detected in the data line	k connector branch line c	ircuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964080

[CAN SYSTEM (TYPE 10)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	d meter and A/C amp. harness co	nnector	Resistance (Ω)
Connector No.	Termi	nal No.	
M67	56	72	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

Diagnosis Procedure			INFOID:00000000964081
1.CHECK CONNECTOR			
 Check the terminals and (unit side and connector) 	cable from the negative termi d connectors of the steering a r side).		, bend and loose connection
s the inspection result norm YES >> GO TO 2.	nal?		
NO >> Repair the term	inal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
	or of steering angle sensor. etween the steering angle ser	nsor harness connector t	erminals.
	ering angle sensor harness connect		- Resistance (Ω)
Connector No.	Terminal		
M37	1	2	Approx. 54 – 66
	vithin the specification?		
YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	ring angle sensor branch line Y AND GROUND CIRCUIT d the ground circuit of the st <u>YSTEM-"</u> .	eering angle sensor. Re or. Refer to <u>BRC-105, "E</u> ngle sensor branch line.	
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	ring angle sensor branch line Y AND GROUND CIRCUIT d the ground circuit of the si <u>YSTEM-"</u> . lace the steering angle senso as detected in the steering ar	eering angle sensor. Re or. Refer to <u>BRC-105, "E</u> ngle sensor branch line.	

Ν

0

RAS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964082

[CAN SYSTEM (TYPE 10)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the 4WAS main control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of 4WAS main control unit.
- 2. Check the resistance between the 4WAS main control unit harness connector terminals.

4WA	S main control unit harness conr	ector	Resistance (Ω)
Connector No.	Termi	nal No.	
B54	1	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the 4WAS main control unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the 4WAS main control unit. Refer to <u>STC-134, "Diagnosis</u> Procedure (4WAS Main Control Unit)".

Is the inspection result normal?

YES (Present error)>>Replace the 4WAS main control unit. Refer to STC-178, "Exploded View".

YES (Past error)>>Error was detected in the 4WAS main control unit branch line.

ADP BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

Diagnosis Procedure			INFOID:00000000096408.
1. CHECK CONNECTOR			
 Turn the ignition switch OF Disconnect the battery cab Check the following termin nector side). Driver seat control unit con Harness connector B460 Harness connector B11 Is the inspection result normal? YES >> GO TO 2. NO >> Repair the termina CHECK HARNESS FOR OF 	le from the negative terr als and connectors for d nector		onnection (unit side and con-
. Disconnect the connector		i.	
2. Check the resistance betw	een the driver seat contr	ol unit harness connector	terminals.
Driver s	eat control unit harness conne	ector	
			Resistance (0)
Connector No.	Termir	nal No.	Resistance (Ω)
Connector No. B451	Termir 3	nal No. 19	Resistance (Ω) Approx. 54 – 66
B451 Is the measurement value with	3		
B451 Is the measurement value with YES >> GO TO 3.	3 in the specification? eat control unit branch li	19 ne.	
B451 Is the measurement value with YES >> GO TO 3. NO >> Repair the driver si 3. CHECK POWER SUPPLY A Check the power supply and th CONTROL UNIT : Diagnosis F	3 in the specification? eat control unit branch lin AND GROUND CIRCUIT e ground circuit of the dr Procedure".	19 ne.	Approx. 54 – 66
B451 Is the measurement value with YES >> GO TO 3. NO >> Repair the driver signal 3. CHECK POWER SUPPLY A Check the power supply and th CONTROL UNIT : Diagnosis F Is the inspection result normal? YES (Present error)>> Replac YES (Past error)>> Error was	3 in the specification? eat control unit branch lin AND GROUND CIRCUIT e ground circuit of the dr Procedure". 2 e the driver seat control	19 ne. - iver seat control unit. Refe unit. Refer to <u>ADP-217, "E</u> at control unit branch line.	Approx. 54 – 66 r to <u>ADP-66, "DRIVER SEAT</u> Exploded View".
B451 Is the measurement value with YES >> GO TO 3. NO >> Repair the driver signal 3. CHECK POWER SUPPLY A Check the power supply and th CONTROL UNIT : Diagnosis F Is the inspection result normal? YES (Present error)>> Replac YES (Past error)>> Error was	3 in the specification? eat control unit branch lin AND GROUND CIRCUIT e ground circuit of the dr <u>Procedure"</u> . e the driver seat control detected in the driver se	19 ne. - iver seat control unit. Refe unit. Refer to <u>ADP-217, "E</u> at control unit branch line.	Approx. 54 – 66 r to <u>ADP-66, "DRIVER SEAT</u> Exploded View".
B451 Is the measurement value with YES >> GO TO 3. NO >> Repair the driver signal 3. CHECK POWER SUPPLY A Check the power supply and th CONTROL UNIT : Diagnosis F Is the inspection result normal? YES (Present error)>> Replac YES (Past error)>> Error was	3 in the specification? eat control unit branch lin AND GROUND CIRCUIT e ground circuit of the dr <u>Procedure"</u> . e the driver seat control detected in the driver se	19 ne. - iver seat control unit. Refe unit. Refer to <u>ADP-217, "E</u> at control unit branch line.	Approx. 54 – 66 r to <u>ADP-66, "DRIVER SEAT</u> Exploded View".

LAN

Ν

0

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964084

[CAN SYSTEM (TYPE 10)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator a	and electric unit (control unit) har	ness connector	Resistance (Ω)
Connector No.	Termi	nal No.	
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 10)]

COMPONENT DIAGNOS	SIS >		[CAN SYSTEM (TYPE 10)]
PDM-E BRANCH L			
Diagnosis Procedure			INF01D:00000000096408
1.CHECK CONNECTOR			
	able from the negative terr		d loose connection (unit side
Is the inspection result norm YES >> GO TO 2. NO >> Repair the termi 2.CHECK HARNESS FOR	nal and connector.		
1. Disconnect the connect	tween the IPDM E/R harn	ess connector terminals.	
 Disconnect the connect Check the resistance be 	IPDM E/R harness connector	ness connector terminals.	Resistance (Ω)
Disconnect the connector Check the resistance be Connector No. E6	Provide the IPDM E/R harn IPDM E/R harness connector Termin 40		
Disconnect the connect Check the resistance be Connector No.	Provide the IPDM E/R harn IPDM E/R harness connector Termin 40 ithin the specification? I E/R branch line.	nal No. 39	
1. Disconnect the connect 2. Check the resistance be Connector No. E6 Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM 3.CHECK POWER SUPPL Check the power supply and Is the inspection result norm	The the IPDM E/R harn IPDM E/R harness connector Termin 40 ithin the specification? I E/R branch line. Y AND GROUND CIRCUIT I the ground circuit of the II al?	nal No. 39 T PDM E/R. Refer to <u>PCS-1</u>	Approx. 108 – 132 8, "Diagnosis Procedure".
1. Disconnect the connect 2. Check the resistance be Connector No. E6 Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM 3.CHECK POWER SUPPL Check the power supply and Is the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error wa	Termin IPDM E/R harness connector Termin 40 ithin the specification? I E/R branch line. Y AND GROUND CIRCUIT I the ground circuit of the II al? ace the IPDM E/R. Refer	nal No. 39 T PDM E/R. Refer to <u>PCS-1</u> to <u>PCS-33. "Exploded Vie</u> /R branch line.	Approx. 108 – 132 8, "Diagnosis Procedure".

LAN

L

Ν

Ο

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000000964086

[CAN SYSTEM (TYPE 10)]

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector			
Connector No.	Termi	Continuity		
M24	6	14	Not existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector			Continuity
Connector No.	Terminal No.	Ground	Continuity
M24	6	Ground	Not existed
IVIZ4	14	_	Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

- 1. Remove the ECM and the IPDM E/R.
- 2. Check the resistance between the ECM terminals.

ECM		Resistance (Ω)	
Terminal No.			
114	113	Approx. 108 – 132	

3. Check the resistance between the IPDM E/R terminals.

IPDN	Resistance (Ω)	
Terminal No.		
40	39	Approx. 108 – 132

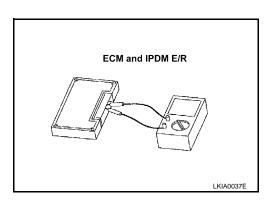
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



LAN-192

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result А Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. 6.CHECK UNIT REPRODUCTION В Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. С 2. 3. Disconnect one of the unit connectors of CAN communication system. NOTE: ECM and IPDM E/R have a termination circuit. Check other units first. D Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom 4. (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

Н

K

L

LAN

Ν

0

[CAN SYSTEM (TYPE 11)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000964087

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
	90	10124	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

AIN LINE BET	WEEN DLC AI	ND ADP CIRC	UIT	
iagnosis Proced	ure			INFOID:000000000964085
SPECTION PROCE				
.CHECK CONNECT				
Turn the ignition sv				
Disconnect the bat Check the followin and harness side). Harness connector Harness connector the inspection result (ES >> GO TO 2. NO >> Repair the .CHECK HARNESS Disconnect the har	tery cable from the ne g terminals and con M7 B1	nectors for damage, for. N CIRCUIT) and B1.		ection (connector side
Data link	-		connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
NO 4	6		23	Existed
M24	14	M7	24	Existed
CHECK HARNESS		I CIRCUIT)	and the harness conn	ector M7.
Connector No.		Terminal No.		Continuity
	23		25	Existed
B1	24		26	Existed

Ν

0

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000000964089

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
Ы	24	26	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

${ m 3.check}$ harness continuity (open circuit)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7	25	Ме	7	Existed
1017	M7 M6	6	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E 41	35	Existed
EIUO	6 E41	14	Existed	

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

LAN-196

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

А

В

С

D

Е

F

G

Н

J

Κ

L

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

LAN

Ν

0

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964090

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	Resistance (Ω)		
Connector No.	Terminal No.		itesistance (12)
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal?	Diagnosis Procedure			INFOID:00000000096409
1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of air bag diagnosis sensor unit. 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Resistance (Ω) M147 21 46 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189. "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —".</u> Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8. "Component Parts Location".</u> YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.				
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of air bag diagnosis sensor unit. 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Resistance (Ω) Air bag diagnosis sensor unit harness connector Resistance (Ω) M147 21 46 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189</u> , "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>> Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8. "Component Parts Location".</u> YES (Past error)>> Error was detected in the air bag diagnosis sensor unit branch line.)FF		
YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of air bag diagnosis sensor unit. 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Resistance (Ω) Connector No. Terminal No. M147 21 46 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189</u> , "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8. "Component Parts Location".</u> YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.	 Disconnect the battery c Check the terminals and 	able from the negative term connectors of the air bag d		amage, bend and loose con-
NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of air bag diagnosis sensor unit. 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Resistance (Ω) Connector No. Terminal No. M147 21 46 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189, "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —".</u> Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8, "Component Parts Loca-tion".</u> YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.	Is the inspection result norma	al?		
2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of air bag diagnosis sensor unit. 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Resistance (Ω) Connector No. Terminal No. M147 21 46 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to SRC-189, "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to SRC-8, "Component Parts Location". YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.				
 Disconnect the connector of air bag diagnosis sensor unit. Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Air bag diagnosis sensor unit harness connector Resistance (Ω) Air bag diagnosis sensor unit harness connector Resistance (Ω) M147 21 46 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to SRC-189, "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to SRC-8, "Component Parts Location". YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line. 				
 Check the resistance between the air bag diagnosis sensor unit harness connector terminals. Air bag diagnosis sensor unit harness connector Connector No. M147 Terminal No. M147 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189</u> , "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8, "Component Parts Location".</u> YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.				
Connector No. Terminal No. Resistance (Ω) M147 21 46 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to SRC-189, "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to SRC-8, "Component Parts Location". YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.	2. Check the resistance be	tween the air bag diagnosis	sensor unit harness conr	ector terminals.
M147 21 46 Approx. 54 – 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. S.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to SRC-189, "Wiring Diagram — SRS AIR BAG CONTROL SYSTEM —". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to SRC-8, "Component Parts Location". YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.		-		Resistance (Ω)
Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189</u> , "Wiring <u>Diagram — SRS AIR BAG CONTROL SYSTEM —</u> ". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u> , "Component Parts Loca- <u>tion"</u> . YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.	Connector No.			
 YES >> GO TO 3. NO >> Repair the air bag diagnosis sensor unit branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the air bag diagnosis sensor unit. Refer to <u>SRC-189</u>, "Wiring <u>Diagram — SRS AIR BAG CONTROL SYSTEM —</u>". Is the inspection result normal? YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8, "Component Parts Location"</u>. YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line. 	N4147	21	46	Approx E4 CC
<u>Diagram — SRS AIR BAG CONTROL SYSTEM —</u> ". <u>Is the inspection result normal?</u> YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8, "Component Parts Loca- tion"</u> . YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.			46	Approx. 54 – 66
YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8, "Component Parts Loca-</u> <u>tion"</u> . YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.	Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL	thin the specification? Ig diagnosis sensor unit bra AND GROUND CIRCUIT	inch line.	
tion". YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.	Is the measurement value wi YES >> GO TO 3. NO >> Repair the air ba CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C	thin the specification? Ig diagnosis sensor unit bra AND GROUND CIRCUIT The ground circuit of the air ONTROL SYSTEM —".	inch line.	
	Is the measurement value wi YES >> GO TO 3. NO >> Repair the air ba CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result norm	thin the specification? g diagnosis sensor unit bra AND GROUND CIRCUIT the ground circuit of the air <u>ONTROL SYSTEM —</u> ". al?	nch line. bag diagnosis sensor unit	. Refer to <u>SRC-189, "Wiring</u>
	Is the measurement value wi YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPLY Check the power supply and Diagram — SRS AIR BAG CO Is the inspection result normation YES (Present error)>>Replant <u>tion</u> ".	thin the specification? Ig diagnosis sensor unit bra (AND GROUND CIRCUIT the ground circuit of the air <u>ONTROL SYSTEM —</u> ". al? ace the air bag diagnosis s	nch line. bag diagnosis sensor unit ensor unit. Refer to <u>SRC-</u>	. Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca
	Is the measurement value wi YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result normation YES (Present error)>>Replication tion". YES (Past error)>>Error was	thin the specification? Ig diagnosis sensor unit bra AND GROUND CIRCUIT The ground circuit of the air ONTROL SYSTEM —". al? ace the air bag diagnosis s	nch line. bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> agnosis sensor unit branc	. Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca
	Is the measurement value wi YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result normation YES (Present error)>>Replication tion". YES (Past error)>>Error was	thin the specification? Ig diagnosis sensor unit bra AND GROUND CIRCUIT The ground circuit of the air ONTROL SYSTEM —". al? ace the air bag diagnosis s	nch line. bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> agnosis sensor unit branc	. Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca
	Is the measurement value wi YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result normation YES (Present error)>>Replication tion". YES (Past error)>>Error was	thin the specification? Ig diagnosis sensor unit bra AND GROUND CIRCUIT The ground circuit of the air ONTROL SYSTEM —". al? ace the air bag diagnosis s	nch line. bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> agnosis sensor unit branc	. Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca

LAN

Ν

0

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964092

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AV control unit.
- 2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

Connector No. Terminal No. Terminal No. M87 52 53 Approx. 54 – 66		Resistance (Ω)		
M87 52 53 Approx. 54 – 66	Connector No.	Termi		
	M87	52	53	Approx. 54 – 66

Models without NAVI

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M85	86 87		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 ${\it 3.}$ Check power supply and ground circuit

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

BCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

Diagnosis Procedure			INFOID:00000000964093
1.CHECK CONNECTOR			
 Turn the ignition switch (Disconnect the battery c 	able from the negative terr I connectors of the BCM f		e connection (unit side and
YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
 Disconnect the connector 			
2. Check the resistance be	tween the BCM harness co BCM harness connector	onnector terminals.	Resistance (0)
Connector No.	BCM harness connector Termir	nal No.	Resistance (Ω)
Connector No. M122	BCM harness connector Termir 91		Resistance (Ω) Approx. 54 – 66
Connector No.	BCM harness connector Termir 91 thin the specification? branch line.	nal No. 90	
Connector No. M122 Is the measurement value w YES >> GO TO 3. NO >> Repair the BCM	BCM harness connector Termir 91 Ithin the specification? branch line. Y AND GROUND CIRCUIT the ground circuit of the B al? ace the BCM. Refer to BCS	nal No. 90 - CM. Refer to <u>BCS-38, "Dia</u> S-79, "Exploded View".	Approx. 54 – 66

L

LAN

Ν

0

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964094

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly connector
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector			Resistance (Ω)
Connector No.	Terminal No.		
F51	3 8		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-168, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the control valve with TCM. Refer to TM-240, "Exploded View".

YES (Past error)>>Error was detected in the TCM branch line.

AFS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

		-	
AFS BRANCH LINE			
Diagnosis Procedure			INFOID:00000000964095
1.CHECK CONNECTOR			
1. Turn the ignition switch			
 Disconnect the battery of Check the terminals and side and connector side 	cable from the negative tern d connectors of the AFS co).		and loose connection (unit
s the inspection result norm	al?		
YES >> GO TO 2. NO >> Repair the term	inal and connector		
2.CHECK HARNESS FOR			
 Disconnect the connect Check the resistance be 		t harness connector termina	lls
<i>I</i>	AFS control unit harness connected	or	Resistance (Ω)
Connector No.	Termi	nal No.	
M16	30	7	Approx. 54 – 66
s the measurement value w	ithin the specification?		
YES >> GO TO 3.	aantaal uusit kaan ah lina		
• '	control unit branch line.	-	
3. CHECK POWER SUPPL			
Check the power supply an UNIT : Diagnosis Procedure		e AFS control unit. Refer to	EXL-62, "AFS CONTROL
is the inspection result norm			
		Refer to EXL-194, "Exploded	d View".
YES (Past error)>>Error wa	as detected in the AFS con	trol unit branch line.	<u> </u>
NO >> Repair the powe	er supply and the ground ci	rcuit.	

LAN

Ν

0

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964096

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	6 14		Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check the decision of CAN system type again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

M&A BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

M&A BRANCH LIN	ECIRCUIT		
Diagnosis Procedure			INFOID:00000000964097
1.CHECK CONNECTOR			
	cable from the negative tern d connectors of the unified onnector side).		mage, bend and loose con-
NO >> Repair the term			
2.CHECK HARNESS FOR	OPEN CIRCUIT		
Check the resistance be	or of unified meter and A/C etween the unified meter an	d A/C amp. harness conne	ctor terminals.
	I meter and A/C amp. harness cor		Resistance (Ω)
Connector No.	Termin		
M67	56	72	Approx. 54 – 66
B .CHECK POWER SUPPL	ed meter and A/C amp. brai Y AND GROUND CIRCUIT	-	
Check the power supply and METER AND A/C AMP. : Dia s the inspection result norm	agnosis Procedure".	nified meter and A/C amp. I	Refer to <u>MWI-49, "UNIFIED</u>
YES (Present error)>>Rep YES (Past error)>>Error w	lace the unified meter and <i>i</i> as detected in the unified m er supply and the ground ci	neter and A/C amp. branch	

LAN

Ν

0

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964098

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of steering angle sensor.
- 2. Check the resistance between the steering angle sensor harness connector terminals.

Ste	Steering angle sensor harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M37	1 2		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82, "Wiring Dia-gram -BRAKE CONTROL SYSTEM-"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ADP BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 11)]

А

В

С

D

Е

F

< COMPONENT DIAGNOSIS >	[CAN SYSTEM (TYPE 11)]
ADP BRANCH LINE CIRCUIT	
Diagnosis Procedure	INFOID:00000000964099
1.CHECK CONNECTOR	
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loos 	e connection (unit side and con-
nector side).	
 Driver seat control unit connector Harness connector B460 	

Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of driver seat control unit.

Check the resistance between the driver seat control unit harness connector terminals. 2.

Driver seat control unit harness connector			Resistance (Ω)	G
Connector No.	Terminal No.		Resistance (22)	
B451	3	19	Approx. 54 – 66	
Is the measurement value v	vithin the specification?			H

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

 $\mathbf{3}$. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View".

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

LAN

Ν

Ρ

Κ

L

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964100

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E41	35 14		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

ICC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

ICC BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:00000000964101
1. CHECK CONNECTOR			
 Check the terminals and nection (unit side and co 	able from the negative tend d connectors of the ICC se nnector side).		mage, bend and loose con-
s the inspection result norma YES >> GO TO 2. NO >> Repair the termin	nal and connector.		
	or of ICC sensor integrated		
	tween the ICC sensor inte	grated unit harness connec	tor terminals.
Connector No.		nal No.	Resistance (Ω)
E67	3	6	Approx. 54 – 66
s the measurement value wi YES >> GO TO 3. NO >> Repair the ICC s CHECK POWER SUPPLY	sensor integrated unit bran		
Procedure"	-	CC sensor integrated unit. R	Refer to <u>CCS-80, "Diagnosis</u>
s the inspection result norma YES (Present error)>>Repla YES (Past error)>>Error wa NO >> Repair the powe	ace the ICC sensor integra	sor integrated unit branch li	

0

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964102

[CAN SYSTEM (TYPE 11)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E6	40 39		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

CAN COMMUNICATION CIRCUIT А **Diagnosis Procedure** INFOID:000000000964103 **1**.CONNECTOR INSPECTION 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. Disconnect all the unit connectors on CAN communication system. 3. C Check terminals and connectors for damage, bend and loose connection. 4 Is the inspection result normal? YES >> GO TO 2. D NO >> Repair the terminal and connector. 2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT) E Check the continuity between the data link connector terminals. Data link connector Continuity F Connector No. Terminal No. M24 6 14 Not existed Is the inspection result normal? YES >> GO TO 3. NO >> Check the harness and repair the root cause. **3.**CHECK HARNESS CONTINUITY (SHORT CIRCUIT) Н Check the continuity between the data link connector and the ground. Data link connector Continuity Terminal No. Connector No. Ground 6 Not existed M24 14 Not existed Is the inspection result normal? Κ YES >> GO TO 4. NO >> Check the harness and repair the root cause. ${f 4}$. CHECK ECM AND IPDM E/R TERMINATION CIRCUIT Remove the ECM and the IPDM E/R. 1. 2. Check the resistance between the ECM terminals. LAN ECM and IPDM E/R ECM Resistance (Ω) Terminal No. 114 Approx. 108 - 132 Ν 113 Check the resistance between the IPDM E/R terminals. 3 IPDM E/R Resistance (Ω) Terminal No. LKIA0037E 40 39 Approx. 108 - 132 Ρ Is the measurement value within the specification? YES >> GO TO 5. NO >> Replace the ECM and/or the IPDM E/R. 5.CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

LAN-211

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

COMPONENT DIA		WEEN BCM AND	[CAN S	SYSTEM (TYPE 12)]
		SIS	-	
		ND DLC CIRCU	ЛТ	
)iagnosis Proced				NECID-00000000004404
-				INFOID:000000000964104
	EDURE S CONTINUITY (OPEN			
 Turn the ignition s Disconnect the base Disconnect the for ECM harness con BCM harness con 	witch OFF. attery cable from the ne llowing harness conne nnector nnector	egative terminal.	d the data link connec	tor.
BCM harne	ess connector	Data link c	connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
the inspection resul	90		14	Existed
			nk connector.	link connector.
			nk connector.	

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.

2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M24	6	M7	23	Existed	
	14		24	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M7.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
DI	24	26	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.

NO >> Repair the main line between the harness connector B1 and the driver seat control unit.

INFOID:000000000964105

	MAIN LINE BET	WEEN ADP AN		T N SYSTEM (TYPE 12)]
	TWEEN ADP A	ND ABS CIRC	UIT	
Diagnosis Proced	lure			INFOID:000000000964106
	ſOR			
 Check the following and harness side) Harness connectore <l< td=""><td>attery cable from the na ng terminals and con or B1 or M7 or M6 or E106 t normal?</td><td>nectors for damage, tor. N CIRCUIT) and M7.</td><td></td><td>nnection (connector side</td></l<>	attery cable from the na ng terminals and con or B1 or M7 or M6 or E106 t normal?	nectors for damage, tor. N CIRCUIT) and M7.		nnection (connector side
Connector No.		Terminal No.		Continuity
	23			Existed
B1	24		26	Existed
3. CHECK HARNESS		N CIRCUIT) and E106.	unit and the harness	s connector B1.
Harness	connector	Harness connector		
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7	25 26	M6	7 6	Existed Existed
 CHECK HARNESS Disconnect the co Check the continumerical harness connector 	e main line between th CONTINUITY (OPEN Innector of ABS actua ity between the harne	N CIRCUIT) tor and electric unit (ess connector and the ABS actuator and e	control unit).	electric unit (control unit)
Connector No.	Terminal No.	Connector No.	Terminal No.	
	+			

Is the inspection result normal?

E106

YES (Present error)>>Check CAN system type decision again.

7

6

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

E41

35

14

Existed

Existed

[CAN SYSTEM (TYPE 12)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ECM BRANCH LINE	ECIRCUIT		
Diagnosis Procedure			INFOID:00000000964107
1.CHECK CONNECTOR			
	able from the negative tern		ose connection (unit side and
Is the inspection result norma YES >> GO TO 2. NO >> Repair the termin 2.CHECK HARNESS FOR	nal and connector.		
1. Disconnect the connecto	or of ECM. tween the ECM harness co	onnector terminals.	
	ECM harness connector		Resistance (Ω)
Connector No. M107	ECM harness connector Termin 114	nal No. 113	
M107 Is the measurement value wi YES >> GO TO 3. NO >> Repair the ECM	Termin 114 ithin the specification? branch line.	113	
M107 Is the measurement value with YES >> GO TO 3. NO >> Repair the ECM 3.CHECK POWER SUPPLY Check the power supply and Is the inspection result normal YES (Present error)>>Replay CONTROL UNITY YES (Past error)>>Error wat	Termin 114 ithin the specification? branch line. Y AND GROUND CIRCUIT the ground circuit of the Er al? ace the ECM. Refer to <u>E</u> I : Special Repair Requirent	113 CM. Refer to <u>EC-133, "D</u> <u>C-15, "ADDITIONAL SE</u> <u>nent"</u> . nch line.	Approx. 108 – 132

LAN

L

Ν

0

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964108

[CAN SYSTEM (TYPE 12)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag diagnosis sensor unit harness connector			Resistance (Ω)
Connector No.	Termi	nal No.	
M147	21	46	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

AV BRANCH LINE CIF	CUIT		
Diagnosis Procedure			INF01D:00000000964109
1.CHECK CONNECTOR			
 Turn the ignition switch OFF Disconnect the battery cable Check the terminals and co side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal a CHECK HARNESS FOR OPI 	a from the negative termination of the AV contro		and loose connection (unit
 Disconnect the connector of Check the resistance betwe Models with NAVI 		ness connector terminal	S.
AV co	ntrol unit harness connector		Resistance (Ω)
Connector No.	Terminal N	lo.	
M87	52	53	Approx. 54 – 66
AV co	ntrol unit harness connector Terminal N	No.	Resistance (Ω)
M85	86	87	Approx. 54 – 66
 BOSE audio witho 	ol unit branch line. ND GROUND CIRCUIT ground circuit of the AV c <u>AV-39, "AV CONTROL U</u> : <u>AV-161, "AV CONTROL U</u> V-379, "AV CONTROL UN the AV control unit. Refer t navigation: <u>AV-111, "Exp</u> ut navigation: <u>AV-292, "Ex</u>	NIT : Diagnosis Procedu UNIT : Diagnosis Procedu NT : Diagnosis Procedu r to the following. Noded View" Qoloded View"	ure" edure"
YES (Past error)>>Error was d	navigation: <u>AV-530, "Explo</u> etected in the AV control u pply and the ground circui	init branch line.	

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964110

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector			
Connector No.	Termi	Terminal No.		
M122	91	90	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

TCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

agnosis Procedure			
•			INFOID:0000000096411:
CHECK CONNECTOR			
Check the following term nector side). A/T assembly connector Harness connector F10 Harness connector M11 the inspection result norm	able from the negative terr inals and connectors for d 3 3 <u>al?</u>		connection (unit side and con-
O >> Repair the term			
IO >> Repair the termi CHECK HARNESS FOR	OPEN CIRCUIT		
IO >> Repair the termine CHECK HARNESS FOR Disconnect the connect	OPEN CIRCUIT	arness connector termina	als.
IO >> Repair the term CHECK HARNESS FOR Disconnect the connect Check the resistance be	OPEN CIRCUIT or of A/T assembly.		
IO >> Repair the term CHECK HARNESS FOR Disconnect the connect Check the resistance be	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly hanness connector		als. Resistance (Ω)
IO >> Repair the termine the termine the termine the connect of th	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly have A/T assembly harness connector Termir 3		

LAN

L

Ν

0

< COMPONENT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964112

[CAN SYSTEM (TYPE 12)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AFS control unit.
- 2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M16	30	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-62, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-194, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

DLC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

DLC BRANCH LINE			
Diagnosis Procedure			INFOID:0000000096411
1.CHECK CONNECTOR			
1. Turn the ignition switch	OFF.		
2. Disconnect the battery of	cable from the negative ter		
 Check the terminals an (connector side and har 		ink connector for damage	e, bend and loose connectior
is the inspection result norm			
YES >> GO TO 2.			
NO >> Repair the term			
2. CHECK HARNESS FOR	OPEN CIRCUIT		
Check the resistance betwe	en the data link connector t	terminals.	
	Data link connector		
Connector No.	Termi	nal No.	Resistance (Ω)
M24	6	14	Approx. 54 – 66

LAN-223

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964114

[CAN SYSTEM (TYPE 12)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Unified meter and A/C amp. harness connector		
Connector No.	Termi	nal No.	Resistance (Ω)
M67	56	72	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

Diagnosis Procedure			INFOID:0000000096411
1. CHECK CONNECTOR			
 Check the terminals and (unit side and connector 	cable from the negative tern d connectors of the steering r side).		e, bend and loose connectior
<u>Is the inspection result norm</u> YES >> GO TO 2. NO >> Repair the termi			
2. CHECK HARNESS FOR	OPEN CIRCUIT		
	or of steering angle sensor etween the steering angle s		terminals.
Stee	ering angle sensor harness conne	ector	Resistance (Ω)
Connector No.	Termi	nal No.	
M37	1	2	Approx. 54 – 66
	vithin the specification?		
YES >> GO TO 3. NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ing angle sensor branch lin Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lal? lace the steering angle sen	steering angle sensor. R sor. Refer to <u>BRC-105, "E</u> angle sensor branch line.	
NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ing angle sensor branch lin Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	steering angle sensor. R sor. Refer to <u>BRC-105, "E</u> angle sensor branch line.	Exploded View".

Ν

0

Ρ

< COMPONENT DIAGNOSIS >

RAS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964116

[CAN SYSTEM (TYPE 12)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the 4WAS main control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of 4WAS main control unit.
- 2. Check the resistance between the 4WAS main control unit harness connector terminals.

4WA	4WAS main control unit harness connector		
Connector No.	Termi	nal No.	Resistance (Ω)
B54	1	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the 4WAS main control unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the 4WAS main control unit. Refer to <u>STC-134, "Diagnosis</u> Procedure (4WAS Main Control Unit)".

Is the inspection result normal?

YES (Present error)>>Replace the 4WAS main control unit. Refer to STC-178, "Exploded View".

YES (Past error)>>Error was detected in the 4WAS main control unit branch line.

ADP BRANCH LINE CIRCUIT

ICAN SYSTEM (TYPE 12)]

А

В

D

Е

F

< COMPONENT DIAGNOSIS >	[CAN SYSTEM (TYPE 12)]
ADP BRANCH LINE CIRCUIT	
Diagnosis Procedure	INFOID:00000000964117
1. CHECK CONNECTOR	

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and con-С nector side). Driver seat control unit connector
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of driver seat control unit.
- 2. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Posistance (O)	G
Connector No.	Terminal No.		Resistance (Ω)	
B451	3	19	Approx. 54 – 66	
Is the measurement value w	vithin the specification?			H

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-66, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-217, "Exploded View"</u>.

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

LAN

Κ

L

Ν

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964118

[CAN SYSTEM (TYPE 12)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator a	and electric unit (control unit) har	ness connector	Resistance (Ω)
Connector No.	Termi	nal No.	
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

ICC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ICC BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:00000000964119
1. CHECK CONNECTOR 1. Turn the ignition switch	OFF		
2. Disconnect the battery	cable from the negative terr d connectors of the ICC se		amage, bend and loose con-
Is the inspection result normYES>> GO TO 2.NO>> Repair the term2CUECK HARNESS FOR	inal and connector.		
	or of ICC sensor integrated		ctor terminals.
	ensor integrated unit harness con		Resistance (Ω)
E67	Termir 3	nal No. 6	Approx. 54 – 66
Is the measurement value wYES>> GO TO 3.NO>> Repair the ICC 3. CHECK POWER SUPPL	sensor integrated unit bran		
Check the power supply and Procedure". Is the inspection result norm	the ground circuit of the IC	C sensor integrated unit.	Refer to <u>CCS-80, "Diagnosis</u>
	- IO		
YES (Present error)>>Rep YES (Past error)>>Error w	n <u>al?</u> lace the ICC sensor integra as detected in the ICC sens er supply and the ground ci	sor integrated unit branch	
YES (Present error)>>Rep YES (Past error)>>Error w	lace the ICC sensor integra as detected in the ICC sens	sor integrated unit branch	
YES (Present error)>>Rep YES (Past error)>>Error w	lace the ICC sensor integra as detected in the ICC sens	sor integrated unit branch	

Ν

0

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964120

[CAN SYSTEM (TYPE 12)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-18, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-33, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

CAN COMMUNICATION CIRCUIT А **Diagnosis Procedure** INFOID:000000000964121 **1**.CONNECTOR INSPECTION В 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. Disconnect all the unit connectors on CAN communication system. 3. C Check terminals and connectors for damage, bend and loose connection. 4 Is the inspection result normal? YES >> GO TO 2. D NO >> Repair the terminal and connector. 2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT) E Check the continuity between the data link connector terminals. Data link connector Continuity F Connector No. Terminal No. M24 6 14 Not existed Is the inspection result normal? YES >> GO TO 3. NO >> Check the harness and repair the root cause. **3.**CHECK HARNESS CONTINUITY (SHORT CIRCUIT) Н Check the continuity between the data link connector and the ground. Data link connector Continuity Terminal No. Connector No. Ground 6 Not existed M24 14 Not existed Is the inspection result normal? Κ YES >> GO TO 4. NO >> Check the harness and repair the root cause. ${f 4}$. CHECK ECM AND IPDM E/R TERMINATION CIRCUIT Remove the ECM and the IPDM E/R. 1. 2. Check the resistance between the ECM terminals. LAN ECM and IPDM E/R ECM Resistance (Ω) Terminal No. 114 Approx. 108 - 132 Ν 113 Check the resistance between the IPDM E/R terminals. 3 IPDM E/R Resistance (Ω) Terminal No. LKIA0037E 40 39 Approx. 108 - 132 Ρ Is the measurement value within the specification? YES >> GO TO 5. NO >> Replace the ECM and/or the IPDM E/R. 5.CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

LAN-231

< COMPONENT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

Both Colspan="2">Both Colspan="2">Continuity Colspan="2">Continuity Event the battery colspan="2">Continuity Event the the Colspan="2">Continuity Event the battery colspan="2">Continuity Continuity Event the Sconnector No. Terminal No. Continuity Event the Continuity Event the Sconnector No. Terminal No. Continuity Event the No. No. Terminal No. Continuity Event the Sconnector No.	OMPONENT DIAG	MAIN LINE BET		[CAN S	SYSTEM (TYPE 13)]
IN LINE BETWEEN BCM AND DLC CIRCUIT gnosis Procedure FECTION PROCEDURE HECK HARNESS CONTINUITY (OPEN CIRCUIT) Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM harness connector BCM harness connector Check the continuity between the BCM harness connector and the data link connector. EXM harness connector Connector No. Terminal No. Connector No. Terminal No. M122 91 M24 6 Existed M122 91 M24 6 Existed inspection result normal? CPresent error)>>Check CAN system type decision again. CPast error)>>Error was detected in the main line between the BCM and the data link connector.			SIS		
PECTION PROCEDURE HECK HARNESS CONTINUITY (OPEN CIRCUIT) Furn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM harness connector CM harness connector CM harness connector Check the continuity between the BCM harness connector and the data link connector. $\frac{BCM harness connector}{Connector No.} \ \hline Terminal No.} \ \hline Continuity \ \hline M122 \ 91 \ M24 \ 6 \ Existed \ 14 \ Existed \ 14 \ Existed \ 14 \ Existed \ 14 \ Existed \ 15 \ Existed \ 16 \ Existed \ $				JIT	
PECTION PROCEDURE HECK HARNESS CONTINUITY (OPEN CIRCUIT) Furn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM harness connector BCM harness connector Check the continuity between the BCM harness connector and the data link connector. BCM harness connector Connector No. Terminal No. M122 91 M122 91 M122 91 M122 91 M122 91 M24 6 Existed 14 Existed 20 Present error)>>Check CAN system type decision again. S (Present error)>>Error was detected in the main line between the BCM and the data link connector.		-			
HECK HARNESS CONTINUITY (OPEN CIRCUIT) Furn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM harness connector BCM harness connector Connector No. M122 91 M24 6 Existed 90 M24 14 Existed	griosis i loceu	ule			INFOID:000000000964122
Furn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM harness connector BCM harness connector Check the continuity between the BCM harness connector and the data link connector. BCM harness connector Data link connector Connector No. Terminal No. M122 91 M122 91 M122 91 M122 90 S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.					
Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM harness connector BCM harness connector Check the continuity between the BCM harness connector and the data link connector. BCM harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. M122 91 M24 6 Existed 90 M24 14 Existed e inspection result normal? S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.					
Connector No. Terminal No. Connector No. Terminal No. Continuity M122 91 M24 6 Existed 90 M24 14 Existed e inspection result normal? S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.	Disconnect the bat Disconnect the foll ECM harness con BCM harness con	ttery cable from the n lowing harness conne nector nector	ectors.	d the data link connec	tor.
Connector No. Terminal No. Connector No. Terminal No. M122 91 M24 6 Existed 90 M24 14 Existed e inspection result normal? S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.	BCM harnes	ss connector	Data link	connector	
M122 M24 14 Existed e inspection result normal? S S Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.	Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
e inspection result normal? S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.	M122	-	- M24		
S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BCM and the data link connector.		90		14	EXISIEO
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		
	S (Present error)> S (Past error)>>Er	Check CAN system ror was detected in the system	ne main line between t		

[CAN SYSTEM (TYPE 13)]

INFOID:000000000964123

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INSPECTION PROCEDURE

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M6	7	Existed
11/24	14		6	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M6.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector	ABS actuator and ele harness of		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E 41	35	Existed
EIUO	6	E41	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

	ECIRCUIT		
Diagnosis Procedure			INFOID:00000000964124
1.CHECK CONNECTOR			
	able from the negative tern		se connection (unit side and
Is the inspection result norma YES >> GO TO 2. NO >> Repair the termin	nal and connector.		
2.CHECK HARNESS FOR			
 Disconnect the connector Check the resistance be 	tween the ECM harness co	onnector terminals.	
	ECM harness connector		
Connector No.	ECM harness connector Termin	al No.	Resistance (Ω)
M107	Termin 114	al No. 113	Resistance (Ω) Approx. 108 – 132
	Termin 114 thin the specification? branch line.	113	
M107 Is the measurement value wi YES >> GO TO 3. NO >> Repair the ECM 3. CHECK POWER SUPPLY Check the power supply and Is the inspection result normal	Termin 114 thin the specification? branch line. Y AND GROUND CIRCUIT the ground circuit of the End al?	113 CM. Refer to <u>EC-133, "Dia</u>	Approx. 108 – 132 gnosis Procedure".
M107 Is the measurement value wi YES >> GO TO 3. NO >> Repair the ECM 3. CHECK POWER SUPPLY Check the power supply and Is the inspection result normation YES (Present error)>>Replation CONTROL UNITY YES (Past error)>>Error was	Termin 114 thin the specification? branch line. Y AND GROUND CIRCUIT the ground circuit of the Er al? ace the ECM. Refer to E : Special Repair Requirem	113 CM. Refer to <u>EC-133, "Dia</u> <u>C-15, "ADDITIONAL SEF</u> <u>nent"</u> . nch line.	Approx. 108 – 132
M107 Is the measurement value wi YES >> GO TO 3. NO >> Repair the ECM 3. CHECK POWER SUPPLY Check the power supply and Is the inspection result normation YES (Present error)>>Replation CONTROL UNITY YES (Past error)>>Error was	Termin 114 thin the specification? branch line. Y AND GROUND CIRCUIT the ground circuit of the Eval? ace the ECM. Refer to E <u>C: Special Repair Requirent</u> as detected in the ECM bra	113 CM. Refer to <u>EC-133, "Dia</u> <u>C-15, "ADDITIONAL SEF</u> <u>nent"</u> . nch line.	Approx. 108 – 132 gnosis Procedure".

L

LAN

Ν

0

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964125

[CAN SYSTEM (TYPE 13)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- AWD control unit connector
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AWD control unit.

2. Check the resistance between the AWD control unit harness connector terminals.

A	WD control unit harness connect	or	Resistance (Ω)
Connector No.	Termi	nal No.	
F108	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-23, "Diagnosis Proce-</u> <u>dure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-49</u>, "Exploded View".

YES (Past error)>>Error was detected in the AWD control unit branch line.

A-BAG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

Diagnosis Procedure			INFOID:00000000964120
1.CHECK CONNECTOR			
 Check the terminals and nection (unit side and co 	able from the negative term connectors of the air bag donnector side).		mage, bend and loose con-
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi 2.CHECK HARNESS FOR	nal and connector.		
1. Disconnect the connector	or of air bag diagnosis sens tween the air bag diagnosis		ector terminals.
Air bag	diagnosis sensor unit harness cor	nnector	Posistance (0)
Air bag Connector No.	diagnosis sensor unit harness cor Termina		Resistance (Ω)
Connector No. M147	Termin 21		Resistance (Ω) Approx. 54 – 66
Connector No. M147 Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPLY Check the power supply and	Termina 21 thin the specification? Ing diagnosis sensor unit brack Y AND GROUND CIRCUIT the ground circuit of the air	al No. 46 anch line.	Approx. 54 – 66
Connector No. M147 Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba 3.CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C	Termin 21 thin the specification? og diagnosis sensor unit bra Y AND GROUND CIRCUIT the ground circuit of the air ONTROL SYSTEM —".	al No. 46 anch line.	Approx. 54 – 66
Connector No. M147 Is the measurement value w YES >> GO TO 3. NO >> Repair the air ba CHECK POWER SUPPL Check the power supply and Diagram — SRS AIR BAG C Is the inspection result norm YES (Present error)>>Repl <u>tion"</u> . YES (Past error)>>Error wa	21 thin the specification? In diagnosis sensor unit brack Y AND GROUND CIRCUIT the ground circuit of the air <u>ONTROL SYSTEM —</u> ". al? ace the air bag diagnosis s	al No. 46 anch line. bag diagnosis sensor unit sensor unit. Refer to <u>SRC-</u> agnosis sensor unit brancl	Approx. 54 – 66 . Refer to <u>SRC-189, "Wiring</u> 8, "Component Parts Loca-

LAN

Ν

0

< COMPONENT DIAGNOSIS >

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964127

[CAN SYSTEM (TYPE 13)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AV control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AV control unit.
- 2. Check the resistance between the AV control unit harness connector terminals.

Models with NAVI

Connector No. Terminal No. Hoststation (32) M87 52 53 Approx. 54 – 66		AV control unit harness connecto	r	Resistance (Ω)
M87 52 53 Approx. 54 – 66	Connector No.	Termi	nal No.	
	M87	52	53	Approx. 54 – 66

Models without NAVI

	AV control unit harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
M85	86	87	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3.}$ Check power supply and ground circuit

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-39, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-161, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-379</u>, "<u>AV CONTROL UNIT</u> : <u>Diagnosis Procedure</u>"

Is the inspection result normal?

YES (Present error)>>•Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-111, "Exploded View"</u>
- BOSE audio without navigation: AV-292, "Exploded View"
- BOSE audio with navigation: <u>AV-530, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

BCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

Diagnosis Procedure			INFOID:000000000964128
1.CHECK CONNECTOR			
	PFF. able from the negative termin connectors of the BCM for		e connection (unit side and
Is the inspection result norma	<u>l?</u>		
YES >> GO TO 2. NO >> Repair the termin	al and connector		
_ · · · · · · · · · · · · · · · · · · ·			
2.CHECK HARNESS FOR C 1. Disconnect the connector			
2. Check the resistance bet	ween the BCM harness con	nector terminals.	
	BCM harness connector	N	Resistance (Ω)
Connector No.	Terminal	-	
M122	Terminal 91	No. 90	Resistance (Ω) Approx. 54 – 66
	Terminal 91 hin the specification? branch line.	-	
M122 Is the measurement value wit YES >> GO TO 3. NO >> Repair the BCM b	Terminal 91 hin the specification? branch line. AND GROUND CIRCUIT	90	Approx. 54 – 66
M122 Is the measurement value wit YES >> GO TO 3. NO >> Repair the BCM B 3.CHECK POWER SUPPLY	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT the ground circuit of the BCI	90	Approx. 54 – 66
M122 Is the measurement value with YES >> GO TO 3. NO >> Repair the BCM to 3.CHECK POWER SUPPLY Check the power supply and to Is the inspection result normation YES (Present error)>>Replation YES (Past error)>>Error was	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT the ground circuit of the BCI I? ice the BCM. Refer to BCS- is detected in the BCM brand	90 M. Refer to <u>BCS-38, "Dia</u> <u>79, "Exploded View"</u> . ch line.	Approx. 54 – 66
M122 Is the measurement value with YES >> GO TO 3. NO >> Repair the BCM to 3.CHECK POWER SUPPLY Check the power supply and to Is the inspection result normation YES (Present error)>>Replation YES (Past error)>>Error was	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT the ground circuit of the BCI I? ice the BCM. Refer to BCS-	90 M. Refer to <u>BCS-38, "Dia</u> <u>79, "Exploded View"</u> . ch line.	Approx. 54 – 66
M122 Is the measurement value with YES >> GO TO 3. NO >> Repair the BCM to 3.CHECK POWER SUPPLY Check the power supply and to Is the inspection result normation YES (Present error)>>Replation YES (Past error)>>Error was	Terminal 91 hin the specification? oranch line. AND GROUND CIRCUIT the ground circuit of the BCI I? ice the BCM. Refer to BCS- is detected in the BCM brand	90 M. Refer to <u>BCS-38, "Dia</u> <u>79, "Exploded View"</u> . ch line.	Approx. 54 – 66

L

LAN

Ν

0

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964129

[CAN SYSTEM (TYPE 13)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly connector
- Harness connector F103
- Harness connector M116
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

	A/T assembly harness connector	r	Resistance (Ω)
Connector No.	Termi	nal No.	
F51	3	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-168, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the control valve with TCM. Refer to TM-240, "Exploded View".

YES (Past error)>>Error was detected in the TCM branch line.

DLC BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

Diagnosis Procedure			INFOID:0000000096413
CHECK CONNECTOR			
. Turn the ignition switch			
Disconnect the battery of	cable from the negative ter d connectors of the data		ge, bend and loose connection
s the inspection result norm	,		
YES >> GO TO 2. NO >> Repair the termi			
CHECK HARNESS FOR	OPEN CIRCUIT		
Check the resistance betwee	en the data link connector	terminals.	
	Data link connector		
Connector No.	Term	inal No.	Resistance (Ω)
M24	6	14	Approx. 54 – 66
	link connector branch line		
NO >> Repair the data			

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964131

[CAN SYSTEM (TYPE 13)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	d meter and A/C amp. harness co	nnector	Resistance (Ω)
Connector No.	Termi	nal No.	
M67	56	72	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

Diagnosis Procedure			INFOID:00000000964132
			INFOID.00000000904152
1.CHECK CONNECTOR	-		
	cable from the negative terr d connectors of the steering		, bend and loose connection
Is the inspection result norm	nal?		
YES >> GO TO 2. NO >> Repair the termi	inal and connector		
2.CHECK HARNESS FOR			
	or of steering angle sensor. Atween the steering angle s		erminals.
Ster	ering angle sensor harness conne	ector	
Connector No.		nal No.	Resistance (Ω)
M37	1	2	A
-		Z	Approx. 54 – 66
	ithin the specification?	2	Approx. 54 – 66
Is the measurement value w YES >> GO TO 3.	·		Approx. 54 – 66
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer	ring angle sensor branch lir	ie.	Approx. 54 – 66
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3. CHECK POWER SUPPL	ring angle sensor branch lir Y AND GROUND CIRCUIT	ie. -	
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the	ie. -	
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> .	ie. -	
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . aal?	ie. - steering angle sensor. Re	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . hal? lace the steering angle sen	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -
Is the measurement value w YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ring angle sensor branch lir Y AND GROUND CIRCUIT d the ground circuit of the <u>YSTEM-"</u> . lace the steering angle sen as detected in the steering	ie. - steering angle sensor. Re sor. Refer to <u>BRC-105, "Ex</u> angle sensor branch line.	fer to <u>BRC-82, "Wiring Dia</u> -

Ν

0

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964133

[CAN SYSTEM (TYPE 13)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator a	and electric unit (control unit) har	ness connector	Resistance (Ω)
Connector No.	Termi	nal No.	
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 13)]

PDM-E BRANCH L		•	CAN SYSTEM (TYPE 13)
	INE CIRCUIT		
Diagnosis Procedure			INFOID:000000009641
.CHECK CONNECTOR			
	able from the negative terr		d loose connection (unit side
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi CHECK HARNESS FOR	nal and connector.		
 Disconnect the connect Check the resistance be 	or of IPDM E/R. etween the IPDM E/R harno	ess connector terminals.	
Connector No.		nal No.	- Resistance (Ω)
E6	40	39	Approx. 108 – 132
	ithin the enerification?		
<u>s the measurement value w</u> YES >> GO TO 3. NO >> Repair the IPDN 3. CHECK POWER SUPPL	1 E/R branch line.	-	

LAN

L

Ν

Ο

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

[CAN SYSTEM (TYPE 13)]

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal. 2.
- Disconnect all the unit connectors on CAN communication system. 3.
- Check terminals and connectors for damage, bend and loose connection. 4

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector		Continuity
Connector No.	Termi	nal No.	Continuity
M24	6	14	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
IVIZ4	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

- Remove the ECM and the IPDM E/R. 1.
- Check the resistance between the ECM terminals. 2.

E	СМ	Resistance (Ω)
Termi	nal No.	
114	113	Approx. 108 – 132

Check the resistance between the IPDM E/R terminals.

IPDN	/I E/R	Resistance (Ω)
Termi	nal No.	
40	39	Approx. 108 – 132

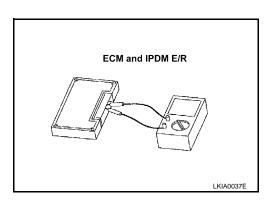
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



LAN-246

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result А Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. 6.CHECK UNIT REPRODUCTION В Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. С 2. 3. Disconnect one of the unit connectors of CAN communication system. NOTE: ECM and IPDM E/R have a termination circuit. Check other units first. D Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom 4. (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

Н

L

Κ

LAN

Ν

0

Ρ

LAN-247

[CAN SYSTEM (TYPE 14)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000964136

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
101122	90	IVIZ4	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

COMPONENT DIAGN		ND ADP CIRCU	JIT	
iagnosis Procedur	е			INFOID:000000000964137
ISPECTION PROCED	IIDE			
.CHECK CONNECTOR				
Turn the ignition swite Disconnect the batter Check the following and harness side). Harness connector M Harness connector B the inspection result no YES >> GO TO 2.	ch OFF. ry cable from the ne terminals and conr 47 41 ormal? rminal and connect ONTINUITY (OPEN	nectors for damage, b or. N CIRCUIT)	pend and loose conn	ection (connector side
	between the data li		harness connector.	
		ink connector and the Harness		
Check the continuity		nk connector and the		Continuity
Check the continuity Data link cor Connector No.	nnector	nk connector and the Harness of Connector No.	connector	Continuity Existed
Check the continuity Data link cor Connector No. M24	nnector Terminal No. 6 14	nk connector and the Harness of	connector Terminal No.	·
Check the continuity Data link cor Connector No. M24 the inspection result no YES >> GO TO 3.	nnector Terminal No. 6 14 ormal? ain line between th ONTINUITY (OPEN	e data link connector and the	connector Terminal No. 23 24	Existed
Check the continuity Data link cor Connector No. M24 the inspection result no YES >> GO TO 3. NO >> Repair the m CHECK HARNESS CO	nnector Terminal No. 6 14 ormal? ain line between th ONTINUITY (OPEN	e data link connector and the	connector Terminal No. 23 24	Existed
Check the continuity Data link cor Connector No. M24 the inspection result no YES >> GO TO 3. NO >> Repair the m CHECK HARNESS CO heck the continuity betw	nnector Terminal No. 6 14 ormal? ain line between th ONTINUITY (OPEN	e data link connector and the Harness of M7 e Connector No. M7 e Data link connector a N CIRCUIT)	connector Terminal No. 23 24	Existed Existed

Ν

0

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000000964138

[CAN SYSTEM (TYPE 14)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1 -	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

${ m 3.check}$ harness continuity (open circuit)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7 -	25	M6	7	Existed
	26		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106 -	7	E41	35	Existed
	6		14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

LAN-250

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

А

В

С

D

Е

F

G

Н

J

Κ

L

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

LAN

Ν

0

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964139

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		Nesistance (22)
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

4WD BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

Diagnosis Procedure			INF0ID:00000000964140
1. CHECK CONNECTOR			
 Turn the ignition switch OFI Disconnect the battery cabl Check the following termina nector side). AWD control unit connector Harness connector F103 Harness connector M116 s the inspection result normal? 	e from the negative termina als and connectors for dama		onnection (unit side and con-
YES >> GO TO 2. NO >> Repair the terminal CHECK HARNESS FOR OP			
. Disconnect the connector o c. Check the resistance betwee AWD		arness connector termi	
Connector No.	Terminal N	0.	Resistance (Ω)
F108	8	16	Approx. 54 – 66
the measurement value within YES >> GO TO 3. NO >> Repair the AWD co CHECK POWER SUPPLY A Check the power supply and th	ntrol unit branch line. ND GROUND CIRCUIT	D control unit. Refer to	DLN-23. "Diagnosis Proce-
			<u>DERTEC, Diagnolio 11000</u>
the inspection result normal?			
YES (Present error)>>Replace YES (Present error)>>Replace YES (Past error)>>Error was o		l unit branch line.	<u>d View"</u> .
lure". s the inspection result normal? YES (Present error)>>Replace YES (Past error)>>Error was o NG >> Repair the power si	detected in the AWD control	l unit branch line.	<u>d View"</u> .

LAN

Ν

0

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964141

[CAN SYSTEM (TYPE 14)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag	Air bag diagnosis sensor unit harness connector		
Connector No.	Termi	nal No.	Resistance (Ω)
M147	21	46	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

AV BRANCH LINE CI	RCUIT		
Diagnosis Procedure			INFOID:00000000964142
1.CHECK CONNECTOR			
 Turn the ignition switch OF Disconnect the battery cab Check the terminals and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the termina CHECK HARNESS FOR OF 	le from the negative termin connectors of the AV contro 2 I and connector.		d and loose connection (unit
 Disconnect the connector of Check the resistance betwork Models with NAVI 		rness connector termina	als.
AV	control unit harness connector		Resistance (Ω)
Connector No.	Terminal	No.	
M87	52	53	Approx. 54 – 66
AV Connector No.	control unit harness connector Terminal	No.	Resistance (Ω)
M85	86	87	Approx. 54 – 66
Is the measurement value with YES >> GO TO 3. NO >> Repair the AV cont 3.CHECK POWER SUPPLY A Check the power supply and th • Base audio without navigatio • BOSE audio without navigatio • BOSE audio with navigation: Is the inspection result normal?	AND GROUND CIRCUIT and GROUND CIRCUIT are ground circuit of the AV n: AV-39, "AV CONTROL L on: AV-161, "AV CONTROL U AV-379, "AV CONTROL U	<u>JNIT : Diagnosis Procec</u> L UNIT : Diagnosis Proc INIT : Diagnosis Proced	dure" cedure"
 BOSE audio with 	out navigation: <u>AV-111, "Ex</u> out navigation: <u>AV-292, "E</u> navigation: <u>AV-530, "Expl</u>	ploded View" xploded View" oded View"	

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964143

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		
Connector No.	Termi	Resistance (Ω)	
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

TCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

agnosis Procedure			INFOID:00000000964144
•			IN 012.0000000000004144
CHECK CONNECTOR			
	able from the negative terr inals and connectors for d		connection (unit side and con-
O >> Repair the termi			
IO >> Repair the termi CHECK HARNESS FOR Disconnect the connect	OPEN CIRCUIT or of A/T assembly.		
IO >> Repair the termi CHECK HARNESS FOR Disconnect the connect	OPEN CIRCUIT	arness connector termina	als.
IO >> Repair the termi CHECK HARNESS FOR Disconnect the connect Check the resistance be	OPEN CIRCUIT or of A/T assembly.		
IO >> Repair the termi CHECK HARNESS FOR Disconnect the connect Check the resistance be	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly ha		Als. Resistance (Ω)
IO >> Repair the termi CHECK HARNESS FOR Disconnect the connect Check the resistance be	OPEN CIRCUIT or of A/T assembly. tween the A/T assembly ha A/T assembly harness connector Termir 3		

LAN

L

Ν

0

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964145

[CAN SYSTEM (TYPE 14)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check the decision of CAN system type again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

M&A BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

Diagnosis Procedure			INFOID:00000000964146
LCHECK CONNECTOR			
	able from the negative termin connectors of the unified m		damage, bend and loose con-
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi CHECK HARNESS FOR	nal and connector.		
	or of unified meter and A/C a tween the unified meter and		nector terminals.
Unified	meter and A/C amp. harness conne	ector	Posistance (O)
Connector No.	Terminal	No.	Resistance (Ω)
M67	56	72	Approx. 54 – 66
3. CHECK POWER SUPPL Check the power supply and	the ground circuit of the unit		p. Refer to <u>MWI-49, "UNIFIED</u>
s the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error wa		ter and A/C amp. bran	
YES (Past error)>>Error wa	al? ace the unified meter and A/ as detected in the unified me	ter and A/C amp. bran	

_/\\\

Ν

0

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964147

[CAN SYSTEM (TYPE 14)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the steering angle sensor for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of steering angle sensor.
- 2. Check the resistance between the steering angle sensor harness connector terminals.

Ste	Steering angle sensor harness connector			
Connector No.	Termi	Terminal No.		
M37	1	2	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-82, "Wiring Dia-gram -BRAKE CONTROL SYSTEM-"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-105</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ADP BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

Diagnosis Procedure			INFOID:00000000964148
1. CHECK CONNECTOR			
 Check the following term nector side). Driver seat control unit of Harness connector B460 Harness connector B11 	able from the negative terminal. inals and connectors for damag		nection (unit side and con-
Is the inspection result norm YES >> GO TO 2. NO >> Repair the termi			
• ·	OPEN CIRCUIT		
2.CHECK HARNESS FOR			
1. Disconnect the connector	r of driver seat control unit. ween the driver seat control un	it harness connector te	erminals.
 Disconnect the connector Check the resistance be 	r of driver seat control unit.	it harness connector te	
 Disconnect the connector Check the resistance be 	r of driver seat control unit. ween the driver seat control un		erminals. Resistance (Ω)
 Disconnect the connector Check the resistance be 	r of driver seat control unit. ween the driver seat control un r seat control unit harness connector Terminal No. 3		
1. Disconnect the connector 2. Check the resistance be Drive Connector No. B451 Is the measurement value w YES >> GO TO 3. NO >> Repair the drive 3. CHECK POWER SUPPLY	r of driver seat control unit. ween the driver seat control un r seat control unit harness connector Terminal No. 3 hin the specification? seat control unit branch line. AND GROUND CIRCUIT the ground circuit of the driver s <u>Procedure"</u> .	19	Resistance (Ω) Approx. 54 – 66

LAN

Ν

0

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964149

[CAN SYSTEM (TYPE 14)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator a	ABS actuator and electric unit (control unit) harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E41	35 14		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-36, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u>, "Exploded <u>View</u>".

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 14)]

COMPONENT DIAGNOS	SIS >	[CAN SYSTEM (TYPE 14)
PDM-E BRANCH L			
Diagnosis Procedure			INFOID:000000009641
1.CHECK CONNECTOR			
	able from the negative terr		d loose connection (unit side
Is the inspection result norm YES >> GO TO 2. NO >> Repair the termi 2.CHECK HARNESS FOR	nal and connector.		
	· · · · - /-		
	tween the IPDM E/R harn	ess connector terminals.	1
 Check the resistance be 	IPDM E/R harness connector	ess connector terminals.	- Resistance (Ω)
2. Check the resistance be Connector No. E6	Termin 40		- Resistance (Ω) Approx. 108 – 132
2. Check the resistance be Connector No.	Termin IPDM E/R harness connector Termin 40 ithin the specification? 1 E/R branch line.	nal No. 39	
2. Check the resistance be Connector No. E6 Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM 3.CHECK POWER SUPPL Check the power supply and Is the inspection result norm	tween the IPDM E/R harn IPDM E/R harness connector Termin 40 ithin the specification? 1 E/R branch line. Y AND GROUND CIRCUIT I the ground circuit of the II al?	nal No. 39 F PDM E/R. Refer to <u>PCS-18</u>	Approx. 108 – 132 8, "Diagnosis Procedure".
2. Check the resistance be Connector No. E6 Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM 3.CHECK POWER SUPPL Check the power supply and Is the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error wa	The area of the IPDM E/R harn IPDM E/R harness connector Termin 40 ithin the specification? I E/R branch line. Y AND GROUND CIRCUIT I the ground circuit of the IF al? ace the IPDM E/R. Refer	nal No. 39 F PDM E/R. Refer to <u>PCS-18</u> to <u>PCS-33. "Exploded View</u> /R branch line.	Approx. 108 – 132 8, "Diagnosis Procedure".

LAN

L

Ν

Ο

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Continuity
M24	6	14	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
10124	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.

2. Check the resistance between the ECM terminals.

ECM		Resistance (Ω)	
Termi	Terminal No.		
114	114 113		

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)	
Termi	Terminal No.		
40	39	Approx. 108 – 132	

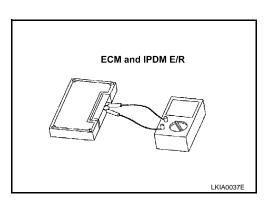
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



INFOID:000000000964151

LAN-264

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result А Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. 6.CHECK UNIT REPRODUCTION В Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. С 2. 3. Disconnect one of the unit connectors of CAN communication system. NOTE: ECM and IPDM E/R have a termination circuit. Check other units first. D Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom 4. (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

Н

Κ

_

L

LAN

Ν

0

Ρ

LAN-265

[CAN SYSTEM (TYPE 15)]

COMPONENT DIAGNOSIS MAIN LINE BETWEEN BCM AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000000964152

INSPECTION PROCEDURE

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM harness connector
- BCM harness connector
- 4. Check the continuity between the BCM harness connector and the data link connector.

BCM harne	ss connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M122	91	M24	6	Existed
	90	ivi∠4	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the BCM and the data link connector.

NO >> Repair the main line between the BCM and the data link connector.

MAIN LINE BET	GNOSIS >		-	SYSTEM (TYPE 15)]
Diagnosis Proced	uie			INFOID:000000000964153
NSPECTION PROCE	EDURE			
CHECK CONNECT	OR			
 Turn the ignition sv Disconnect the bai Check the followir and harness side). Harness connecto Harness connecto 	ttery cable from the ne ng terminals and conr r M7	egative terminal. nectors for damage, l	pend and loose conn	ection (connector side
s the inspection result	normal?			
YES >> GO TO 2. NO >> Repair the	terminal and connect	or		
2.CHECK HARNESS				
Check the continuit	ity hetween the data li			
Data link	connector	Harness	harness connector.	Continuity
	connector Terminal No.		connector Terminal No.	·
Data link Connector No. M24	connector Terminal No. 6 14	Harness	connector	Continuity Existed Existed
Data link Connector No. M24 s the inspection result YES >> GO TO 3.	connector Terminal No. 6 14 normal? main line between th CONTINUITY (OPEN	Harness Connector No. M7 e data link connector N CIRCUIT)	connector Terminal No. 23 24	Existed
Data link Connector No. M24 s the inspection result YES >> GO TO 3. NO >> Repair the 3.CHECK HARNESS	connector Terminal No. 6 14 normal? main line between th CONTINUITY (OPEN	Harness Connector No. M7 e data link connector N CIRCUIT)	connector Terminal No. 23 24	Existed
Data link Connector No. M24 s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Check the continuity be Connector No.	connector Terminal No. 6 14 normal? main line between th CONTINUITY (OPEN	Harness Connector No. M7 e data link connector N CIRCUIT) onnector terminals.	connector Terminal No. 23 24	Existed Existed
Data link Connector No. M24 <u>s the inspection result</u> YES >> GO TO 3. NO >> Repair the 3. CHECK HARNESS Check the continuity be	connector Terminal No. 6 14 normal? main line between th CONTINUITY (OPEN etween the harness co 23 24	Harness Connector No. M7 e data link connector N CIRCUIT) onnector terminals.	connector Terminal No. 23 24 and the harness conr	Existed Existed ector M7.

Ν

0

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000000964154

[CAN SYSTEM (TYPE 15)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Termi	Continuity	
B1	23	25	Existed
	24	26	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

${ m 3.check}$ harness continuity (open circuit)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7	25	M6	7	Existed
1017	26		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	7	E41	35	Existed
EIUO	6		14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

LAN-268

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

А

В

С

D

Е

F

G

Н

J

Κ

L

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

LAN

Ν

0

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964155

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ECM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

ECM harness connector			Resistance (Ω)
Connector No.	Termi	itesistance (12)	
M107	114	114 113	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-133, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-15. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

4WD BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

Diagnosis Procedure			INFOID:00000000964156
1.CHECK CONNECTOR			
nector side).AWD control unit connectorHarness connector F103	e from the negative termina Is and connectors for dama		onnection (unit side and con-
- Harness connector M116 Is the inspection result normal?			
YES >> GO TO 2. NO >> Repair the terminal	and connector.		
2.CHECK HARNESS FOR OP	EN CIRCUIT		
 Disconnect the connector of Check the resistance betwe 	en the AWD control unit ha	rness connector termi	nals.
	control unit harness connector		Resistance (Ω)
Connector No.	Terminal N	16	Approx. 54 – 66
s the measurement value within YES >> GO TO 3.			
NO >> Repair the AWD cor CHECK POWER SUPPLY AI			
3. CHECK POWER SUPPLY AI Check the power supply and the dure".	ND GROUND CIRCUIT	D control unit. Refer to	DLN-23, "Diagnosis Proce-
B. CHECK POWER SUPPLY AI Check the power supply and the dure". <u>s the inspection result normal?</u> YES (Present error)>>Replace YES (Past error)>>Error was d	ND GROUND CIRCUIT e ground circuit of the AWI the AWD control unit. Refe	er to <u>DLN-49, "Explode</u> unit branch line.	
3.CHECK POWER SUPPLY AI Check the power supply and the dure". Is the inspection result normal? YES (Present error)>>Replace YES (Past error)>>Error was d	ND GROUND CIRCUIT e ground circuit of the AWI the AWD control unit. Refe etected in the AWD control	er to <u>DLN-49, "Explode</u> unit branch line.	

LAN

Ν

0

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964157

[CAN SYSTEM (TYPE 15)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of air bag diagnosis sensor unit.
- 2. Check the resistance between the air bag diagnosis sensor unit harness connector terminals.

Air bag	Resistance (Ω)		
Connector No.	Termi		
M147	21 46		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the air bag diagnosis sensor unit branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Is the inspection result normal?

YES (Present error)>>Replace the air bag diagnosis sensor unit. Refer to <u>SRC-8</u>, "Component Parts Location".

YES (Past error)>>Error was detected in the air bag diagnosis sensor unit branch line.

AV BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

AV BRANCH LINE CIP	RCUIT		
Diagnosis Procedure			INF01D:00000000964158
1.CHECK CONNECTOR			
 Turn the ignition switch OFF Disconnect the battery cable Check the terminals and conside and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal CHECK HARNESS FOR OP 	e from the negative termin onnectors of the AV contro and connector.		and loose connection (unit
 Disconnect the connector o Check the resistance betwee Models with NAVI 		ness connector terminal	S.
AV c	ontrol unit harness connector		Resistance (Ω)
Connector No.	Terminal	No.	
M87	52	53	Approx. 54 – 66
AV c	ontrol unit harness connector Terminal	No.	Resistance (Ω)
M85	86	87	Approx. 54 – 66
- BOSE audio witho - BOSE audio with YES (Past error)>>Error was d	ol unit branch line. ND GROUND CIRCUIT e ground circuit of the AV of : <u>AV-39</u> , "AV CONTROL U n: <u>AV-161, "AV CONTROL U</u> AV-379, "AV CONTROL U e the AV control unit. Refe ut navigation: <u>AV-111, "Exp</u> out navigation: <u>AV-292, "E</u> navigation: <u>AV-530, "Explo</u>	INIT : Diagnosis Procedu <u>UNIT : Diagnosis Procedu</u> NIT : Diagnosis Procedu er to the following. <u>bloded View"</u> <u>xploded View"</u> <u>bded View"</u> unit branch line.	ure" edure"
NO >> Repair the power st	apply and the ground circu	m.	

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964159

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-38, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-79, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

TCM BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

agnosis Procedure			INFOID:00000000964160
•			INFULD:0000000964160
CHECK CONNECTOR			
Check the following term nector side). A/T assembly connector Harness connector F103 Harness connector M110 he inspection result norm ES >> GO TO 2.	able from the negative tern inals and connectors for d		connection (unit side and con-
CHECK HARNESS FOR Disconnect the connector	DPEN CIRCUIT r of A/T assembly.	arness connector termina	ls
CHECK HARNESS FOR Disconnect the connector Check the resistance be	DPEN CIRCUIT r of A/T assembly. ween the A/T assembly ha		ls.
CHECK HARNESS FOR Disconnect the connector Check the resistance be	DPEN CIRCUIT r of A/T assembly.		ls. — Resistance (Ω)
CHECK HARNESS FOR Disconnect the connector Check the resistance be	DPEN CIRCUIT r of A/T assembly. ween the A/T assembly ha v/T assembly harness connector Termin 3		

LAN

L

Ν

0

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964161

[CAN SYSTEM (TYPE 15)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of AFS control unit.
- 2. Check the resistance between the AFS control unit harness connector terminals.

ŀ	AFS control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M16	30	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-62, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-194, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

DLC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 15)]

connectior
(Ω)
- 66

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964163

[CAN SYSTEM (TYPE 15)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the unified meter and A/C amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Unified meter and A/C amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M67	56 72		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-49, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-158, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

STRG BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

Diagnosis Procedure			INFOID:00000000964164
1.CHECK CONNECTOR			
3. Check the terminals and (unit side and connector	cable from the negative term d connectors of the steering r side).		e, bend and loose connection
Is the inspection result norm	al?		
YES >> GO TO 2. NO >> Repair the term	inal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
	or of steering angle sensor. etween the steering angle se	nsor harness connector	terminals.
Stee	ering angle sensor harness connec	tor	Resistance (Ω)
Connector No.	Termina	-	
M37	1	2	
	·	2	Approx. 54 – 66
YES >> GO TO 3. NO >> Repair the steer 3.CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	rithin the specification? ring angle sensor branch line Y AND GROUND CIRCUIT d the ground circuit of the s <u>YSTEM-"</u> .	e. steering angle sensor. Ro or. Refer to <u>BRC-105, "E</u> ngle sensor branch line.	efer to <u>BRC-82, "Wiring Dia-</u>
NO >> Repair the steer 3. CHECK POWER SUPPL Check the power supply an gram -BRAKE CONTROL S Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error was	rithin the specification? Ting angle sensor branch line Y AND GROUND CIRCUIT d the ground circuit of the s <u>YSTEM-"</u> . lace the steering angle sens as detected in the steering a	e. steering angle sensor. Ro or. Refer to <u>BRC-105, "E</u> ngle sensor branch line.	efer to <u>BRC-82, "Wiring Dia-</u>

Ν

0

Ρ

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964165

[CAN SYSTEM (TYPE 15)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit connector
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of driver seat control unit.

2. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B451	3 19		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-66, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-217, "Exploded View".

YES (Past error)>>Error was detected in the driver seat control unit branch line.

ABS BRANCH LINE CIRCUIT

< COMPONENT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ABS actuator and electric unit (control unit). 2. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals. ABS actuator and electric unit (control unit) harness connector Resistance (Ω) Connector No. Terminal No. Resistance (Ω) E41 35 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-102, "Exploded View". YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102, "Exploded View". YES (Present error)>>Replace the ABS actuator and electric unit (control unit) branch line	Diagnosis Procedure			INFOID:0000000096416
 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the ABS actuator and electric unit (control unit) for damage, bend and loose connection (unit side and connector side). Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ABS actuator and electric unit (control unit). 2. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals. ABS actuator and electric unit (control unit) harness connector Terminal No. E41 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-36. "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102. "Exploded <u>View"</u> . YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	1.CHECK CONNECTOR			
YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of ABS actuator and electric unit (control unit). 2. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals. ABS actuator and electric unit (control unit) harness connector Resistance (Ω) Connector No. Terminal No. E41 35 14 Approx. 54 - 66 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-36. "Diagnosis Procedure". Is the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102. "Exploded View". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	 Disconnect the battery Check the terminals an 	cable from the negative terr d connectors of the ABS ac	ctuator and electric unit (cor	ntrol unit) for damage, benc
I. Disconnect the connector of ABS actuator and electric unit (control unit). 2. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals. ABS actuator and electric unit (control unit) harness connector Resistance (Ω) Connector No. Terminal No. E41 35 14 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. C.CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-36. "Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102, "Exploded View". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	YES >> GO TO 2. NO >> Repair the term	inal and connector.		
ABS actuator and electric unit (control unit) harness connector terminals. ABS actuator and electric unit (control unit) harness connector Connector No. Terminal No. E41 35 14 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to 3RC-36. "Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>Miew"</u> . YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.				
Connector No. Terminal No. Resistance (Ω) E41 35 14 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to 3RC-36. "Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102, "Exploded View". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	 Check the resistance b nals. 	etween the ABS actuator a	and electric unit (control uni	t) harness connector termi-
E41 35 14 Approx. 54 – 66 s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. NO >> Repair the ABS actuator and electric unit (control unit) branch line. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-36. "Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102, "Exploded View". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.		. ,		Resistance (Ω)
s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>3RC-36. "Diagnosis Procedure"</u> . <u>s the inspection result normal?</u> YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102, "Exploded</u> <u>View"</u> . YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.				()
YES >> GO TO 3. NO >> Repair the ABS actuator and electric unit (control unit) branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-36. "Diagnosis Procedure". s the inspection result normal? YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-102, "Exploded View". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.				
<u>BRC-36. "Diagnosis Procedure"</u> . <u>s the inspection result normal?</u> YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102, "Exploded</u> <u>View"</u> . YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	E41	35		
YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-102</u> , " <u>Exploded</u> <u>View</u> ". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	E41 <u>s the measurement value v</u> YES >> GO TO 3. NO >> Repair the ABS 3. CHECK POWER SUPPI	35 vithin the specification? actuator and electric unit (Y AND GROUND CIRCUIT	14 control unit) branch line.	Approx. 54 – 66
View". YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPI Check the power supply ar BRC-36, "Diagnosis Proces	35 vithin the specification? actuator and electric unit (AND GROUND CIRCUIT and the ground circuit of the lure".	14 control unit) branch line.	Approx. 54 – 66
YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.	E41 <u>s the measurement value v</u> YES >> GO TO 3. NO >> Repair the ABS 3. CHECK POWER SUPPI Check the power supply ar <u>BRC-36. "Diagnosis Proceed</u> s the inspection result norm	35 within the specification? actuator and electric unit (AND GROUND CIRCUIT and the ground circuit of the lure". mal?	14 control unit) branch line. MBS actuator and electric	Approx. 54 – 66 unit (control unit). Refer to
	E41 Solution State Stat	35 within the specification? actuator and electric unit (AND GROUND CIRCUIT and the ground circuit of the lure". mal?	14 control unit) branch line. MBS actuator and electric	Approx. 54 – 66 unit (control unit). Refer to
	E41 Is the measurement value v YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPI Check the power supply ar BRC-36. "Diagnosis Proceed Is the inspection result norm YES (Present error)>>Rep <u>View"</u> . YES (Past error)>>Error w	35 vithin the specification? actuator and electric unit (AND GROUND CIRCUIT and the ground circuit of the lure". aal? place the ABS actuator and of ras detected in the ABS actu	14 control unit) branch line. MBS actuator and electric electric unit (control unit). Re uator and electric unit (control	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-102, "Exploded</u>
	E41 <u>s the measurement value v</u> YES >> GO TO 3. NO >> Repair the ABS 3. CHECK POWER SUPPI Check the power supply ar <u>BRC-36.</u> "Diagnosis Proceed <u>s the inspection result norm</u> YES (Present error)>>Rep <u>View"</u> . YES (Past error)>>Error w	35 vithin the specification? actuator and electric unit (AND GROUND CIRCUIT and the ground circuit of the lure". aal? place the ABS actuator and of ras detected in the ABS actu	14 control unit) branch line. MBS actuator and electric electric unit (control unit). Re uator and electric unit (control	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-102, "Exploded</u>

LAN

Ν

Ο

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000000964167

[CAN SYSTEM (TYPE 15)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the ICC sensor integrated unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ICC sensor integrated unit.
- 2. Check the resistance between the ICC sensor integrated unit harness connector terminals.

ICC sensor integrated unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
E67	3	3 6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor integrated unit branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ICC sensor integrated unit. Refer to <u>CCS-80, "Diagnosis</u> <u>Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor integrated unit. Refer to CCS-110, "Exploded View".

YES (Past error)>>Error was detected in the ICC sensor integrated unit branch line.

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 15)]

< COMPONENT DIAGNOSIS >	[CAN SYSTEM (TYPE 15)]
IPDM-E BRANCH LINE CIRCUIT	
Diagnosis Procedure	INFOID:0000000096416
1.CHECK CONNECTOR	
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the IPDM E/R for damage, b and connector side). 	end and loose connection (unit side
<u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair the terminal and connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect the connector of IPDM E/R. Check the resistance between the IPDM E/R harness connector term IPDM E/R harness connector 	
Connector No. Terminal No.	Resistance (Ω)
E6 40 39	Approx. 108 – 132
<u>Is the measurement value within the specification?</u> YES >> GO TO 3. NO >> Repair the IPDM E/R branch line. 3. CHECK POWER SUPPLY AND GROUND CIRCUIT	
Check the power supply and the ground circuit of the IPDM E/R. Refer to Is the inspection result normal? YES (Present error)>>Replace the IPDM E/R. Refer to <u>PCS-33</u> , "Explore	
YES (Past error)>>Error was detected in the IPDM E/R branch line. NO >> Repair the power supply and the ground circuit.	

L

LAN

Ν

Ο

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal. 2.
- Disconnect all the unit connectors on CAN communication system. 3.
- Check terminals and connectors for damage, bend and loose connection. 4.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector		
Connector No.	Terminal No.		Continuity
M24	6	14	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
10124	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

Remove the ECM and the IPDM E/R. 1.

Check the resistance between the ECM terminals. 2.

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

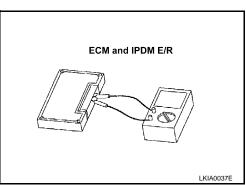
Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



INFOID:000000000964169

LAN-284

CAN COMMUNICATION CIRCUIT

< COMPONENT DIAGNOSIS >

Inspection result А Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. 6.CHECK UNIT REPRODUCTION В Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. С 2. 3. Disconnect one of the unit connectors of CAN communication system. NOTE: ECM and IPDM E/R have a termination circuit. Check other units first. D Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom 4. (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

Н

K

L

Ν

0

Ρ

LAN-285