

SECTION **DMS**

DRIVE MODE SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:000000012421815

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. Information necessary to service the system safely is included in the SR 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Work

INFOID:000000012421816

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

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PREPARATION

< PREPARATION >

[SPORT MODE]

PREPARATION

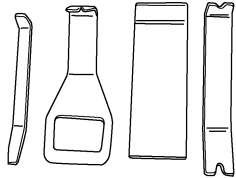
PREPARATION

Special Service Tool

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The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set	Removing trim components



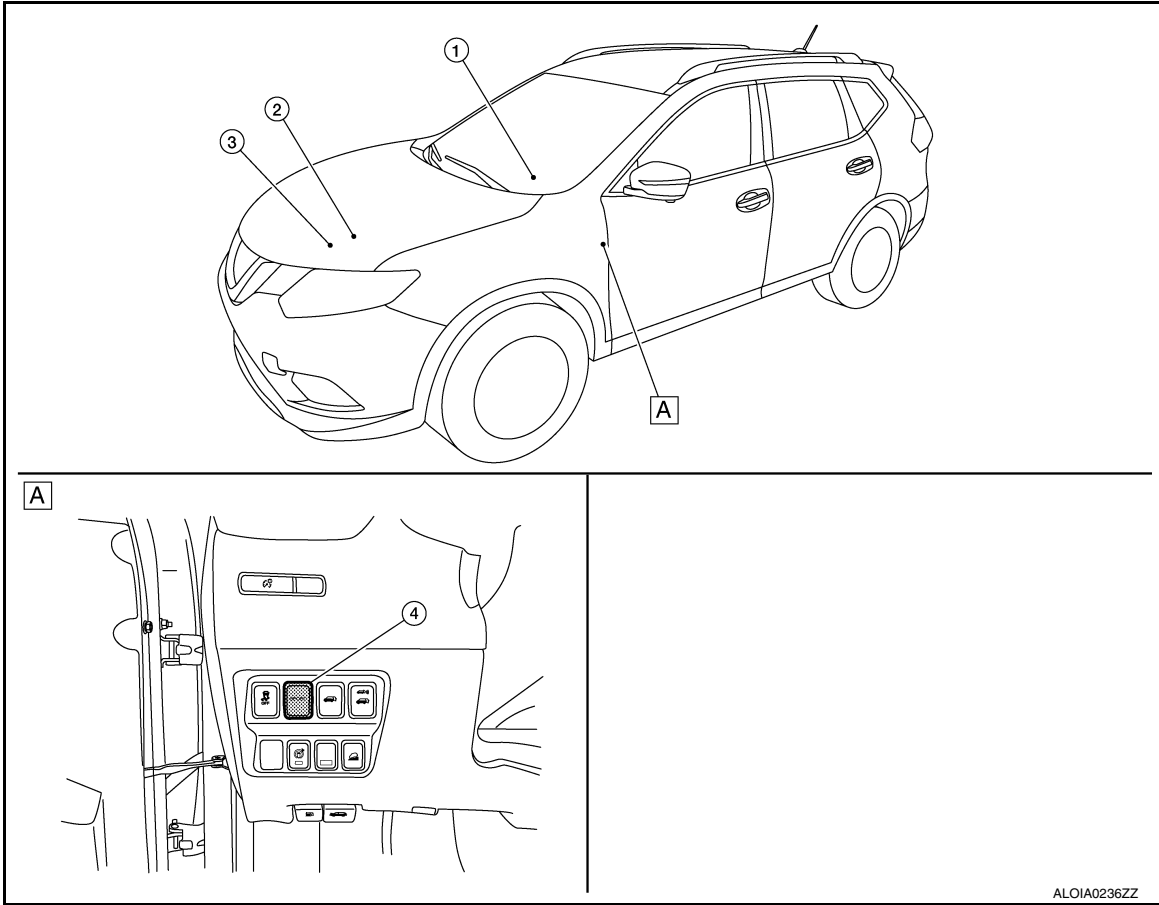
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012421818



A Instrument lower panel LH

No.	Component	Function
①	Combination meter	<ul style="list-style-type: none"> The combination meter transmits the following signal via CAN communications to the TCM. <ul style="list-style-type: none"> - SPORT mode switch signal The combination meter receives the following signal via CAN communications from the ECM. <ul style="list-style-type: none"> - SPORT mode indicator signal Refer to MWI-6, "METER SYSTEM : Component Parts Location" for detailed installation location.
②	TCM	<ul style="list-style-type: none"> The TCM receives the following signal via CAN communications from the combination meter. <ul style="list-style-type: none"> - SPORT mode switch signal The TCM transmits the following signal via CAN communications to the ECM. <ul style="list-style-type: none"> - SPORT mode signal Refer to TM-12, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

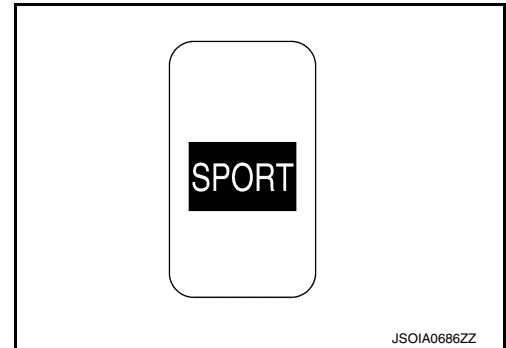
[SPORT MODE]

No.	Component	Function
③	ECM	<ul style="list-style-type: none"> The ECM receives the following signal via CAN communications from the TCM. <ul style="list-style-type: none"> - SPORT mode signal The ECM transmits the following signal via CAN communications to the combination meter. <ul style="list-style-type: none"> - SPORT mode indicator signal Refer to EC-14. "Component Parts Location" for detailed installation location.
④	SPORT mode switch	Refer to DMS-6. "SPORT Mode Switch" .

SPORT Mode Switch

INFOID:0000000012421819

- The SPORT mode switch is installed to the instrument lower finisher.
- When the SPORT mode indicator lamp on the combination meter is OFF and the SPORT mode switch is pressed, the SPORT mode is active and the SPORT mode indicator lamp is ON.
- When the SPORT mode indicator lamp on the combination meter is ON and the SPORT mode switch is pressed, the SPORT mode is cancelled and the SPORT mode indicator lamp is OFF.

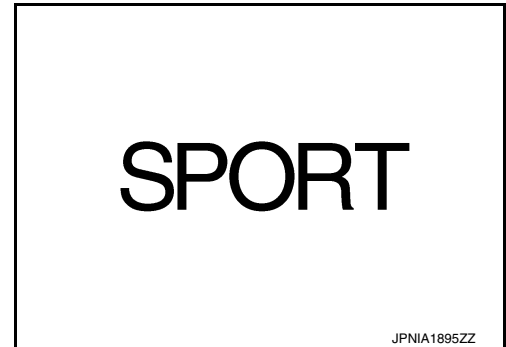


SPORT Mode Indicator Lamp

INFOID:0000000012421820

DESIGN/PURPOSE

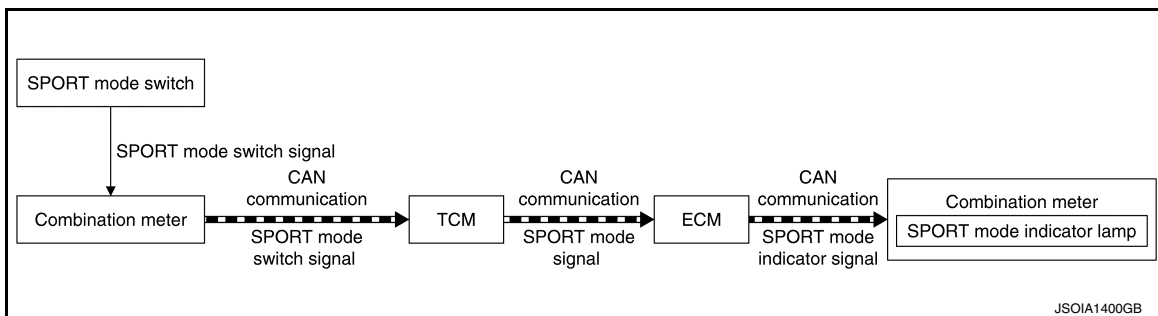
The SPORT mode indicator lamp inform the driver that the vehicle is in SPORT mode.



BULB CHECK

Not applicable

SYSTEM DIAGRAM



SIGNAL PATH

- TCM receives SPORT mode switch signal (ON/OFF) from combination meter via CAN communication. Based on the signal, TCM transmits SPORT mode signal to ECM via CAN communication.
- ECM transmits SPORT mode indicator signal to combination meter via CAN communication. Based on the signal, combination meter illuminates SPORT mode indicator lamp.

LIGHTING CONDITION

When all of the following conditions are satisfied.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[SPORT MODE]

- Ignition switch: ON
- The SPORT mode switch is pressed when the SPORT mode indicator lamp is OFF

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SHUTOFF CONDITION

When any of the condition listed below is satisfied.

- Ignition switch: Other than ON
- The SPORT mode switch is pressed when the SPORT mode indicator lamp is ON.

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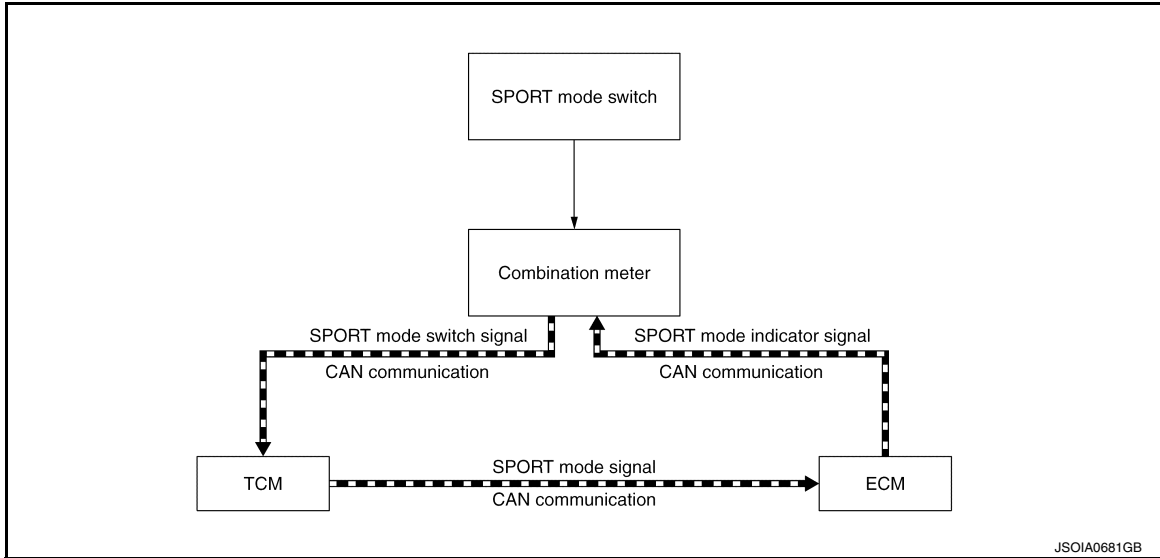
SYSTEM

SPORT MODE CONTROL

SPORT MODE CONTROL : System Description

INFOID:000000012421821

SYSTEM DIAGRAM



SYSTEM DISCRIPTION

- TCM receives SPORT mode switch signal (ON/OFF) from combination meter via CAN communication. TCM transmit SPORT mode signal to ECM via CAN communication according to the signal.
- ECM transmits SPORT mode indicator signal to combination meter via CAN communication. Combination meter illuminates SPORT mode indicator lamp according to the signal.

Each ECU Control

- For TCM control, refer to [TM-41. "SPORT MODE CONTROL : System Description"](#).
- For ECM control, refer to [EC-56. "SPORT MODE CONTROL : System Description"](#).

ECU DIAGNOSIS INFORMATION

SPORT MODE

List of ECU Reference

INFOID:0000000012421822

ECU	Reference
TCM	TM-52, "Reference Value"
	TM-58, "Fail-safe"
	TM-62, "DTC Inspection Priority Chart"
	TM-63, "DTC Index"
ECM	EC-80, "Reference Value"
	EC-92, "Fail Safe"
	EC-95, "DTC Inspection Priority Chart"
	EC-96, "DTC Index"
Combination meter	MWI-25, "Reference Value"
	MWI-30, "Fail-safe"
	MWI-31, "DTC Index"

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SPORT MODE SYSTEM

< WIRING DIAGRAM >

[SPORT MODE]

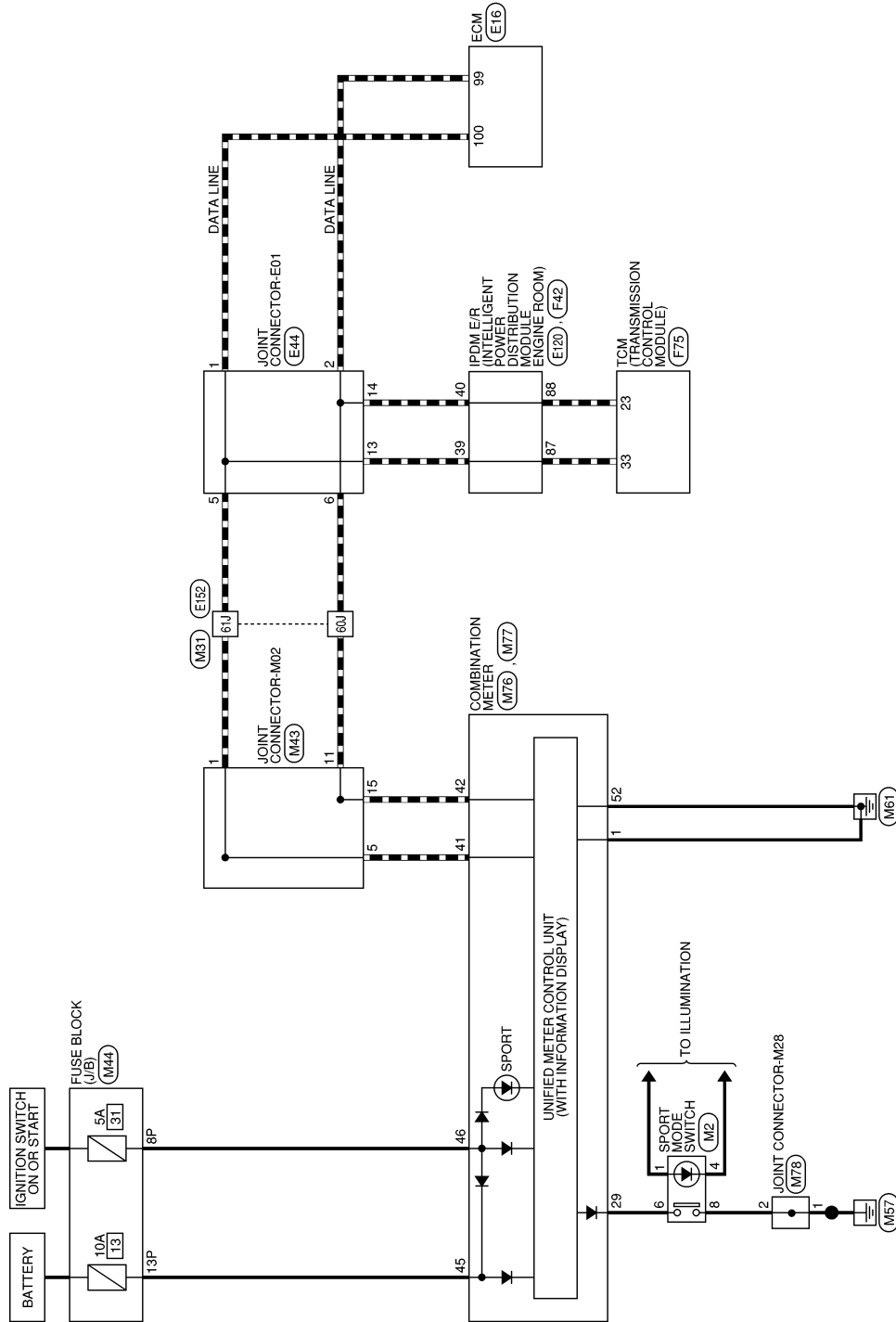
WIRING DIAGRAM

SPORT MODE SYSTEM

Wiring Diagram

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SPORT MODE SYSTEM



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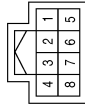
SPORT MODE SYSTEM

< WIRING DIAGRAM >

[SPORT MODE]

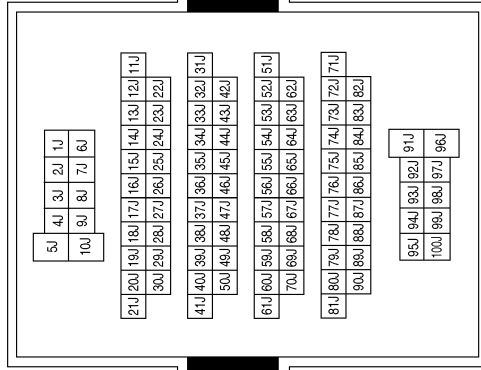
SPORT MODE SYSTEM CONNECTORS

Connector No.	M2
Connector Name	SPORT MODE SWITCH
Connector Color	BLUE



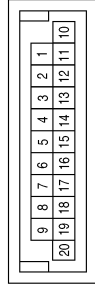
Terminal No.	Color of Wire	Signal Name
1	G	-
4	GR	-
6	R	-
8	GR	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
60J	P	-
61J	L	-

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	L	-
5	L	-
11	P	-
15	P	-

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8P	LA/BR	-
13P	LA/G	-

Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
29	R	SPORT MODE SW

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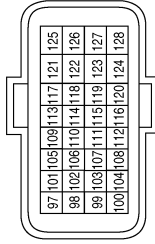


SPORT MODE SYSTEM

< WIRING DIAGRAM >

[SPORT MODE]

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



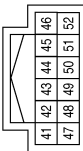
Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

Connector No.	M78
Connector Name	JOINT CONNECTOR-M28
Connector Color	WHITE



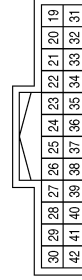
Terminal No.	Color of Wire	Signal Name
1	GR	-
2	GR	-

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
45	LA/G	BAT
46	LA/BR	IGN
52	B	G1

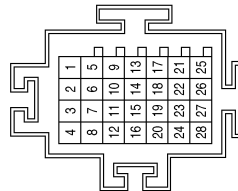
Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
39	L	CAN-H
40	P	CAN-L

Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
5	L	-
6	P	-
13	L	-
14	P	-

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE



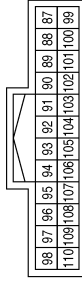
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SPORT MODE SYSTEM

< WIRING DIAGRAM >

[SPORT MODE]

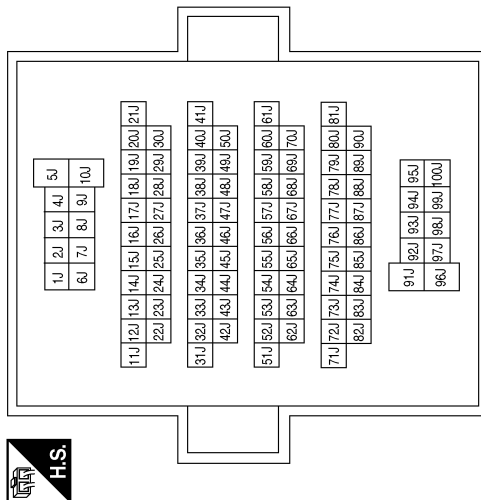
Connector No.	F42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



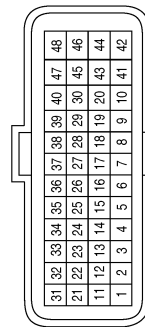
Terminal No.	Color of Wire	Signal Name
87	L	CAN-H
88	P	CAN-L

Terminal No.	Color of Wire	Signal Name
60J	P	-
61J	L	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	F75
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000012421824

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurs.

>> GO TO 2.

2.CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check if any other malfunctions are present.

>> GO TO 3.

3.DTC/SYSTEM DIGANOSIS

Perform a DTC/system diagnosis and repair or replace any malfunctioning part.

>> GO TO 4.

4.FINAL CHECK

Check that the SPORT mode functions normally.

Does it operation normally?

- YES >> End of trouble diagnosis
NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS**SPORT MODE SWITCH****Component Function Check**

INFOID:0000000012421825

1. CHECK SPORT MODE SWITCH OPERATION

1. Turn ignition switch ON.
2. Check SPORT mode indicator lamp turns ON/OFF on combination meter when turn SPORT mode switch ON/OFF.

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Proceed to [DMS-15, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000012421826

1. CHECK SPORT MODE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect SPORT mode switch harness connector.
3. Turn ignition switch ON.
4. Check voltage between SPORT mode switch harness connector terminals.

SPORT mode switch			Voltage (Approx.)
Connector	+	-	
	Terminal		
M2	6	8	5 V

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> GO TO 2.

2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check the continuity between SPORT mode switch harness connector and ground.

SPORT mode switch		—	Continuity
Connector	Terminal		
M2	8	Ground	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace damaged parts.

3. CHECK CIRCUIT BETWEEN COMBINATION METER AND SPORT MODE SWITCH (1)

1. Disconnect combination meter harness connector M76.
2. Check continuity between combination meter harness connector terminal and SPORT mode switch harness connector terminal.

Combination meter		SPORT mode switch		Continuity
Connector	Terminal	Connector	Terminal	
M76	29	M2	6	Existed

Is the inspection result normal?

- YES >> GO TO 4.
 NO >> Repair or replace damaged parts.

4. CHECK CIRCUIT BETWEEN COMBINATION METER AND SPORT MODE SWITCH (2)

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SPORT MODE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[SPORT MODE]

Check continuity between combination meter harness connector terminal and SPORT mode switch harness connector terminal.

Combination meter		—	Continuity
Connector	Terminal		
M76	29	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace damaged parts.

5.CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

1. Connect all of disconnected connectors.
2. Check input/output signal of combination meter. Refer to [MWI-25, "Reference Value"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-45, "Intermittent Incident"](#).

NO >> Replace combination meter. Refer to [MWI-84, "Removal and Installation"](#).

6.CHECK SPORT MODE SWITCH

Check SPORT mode switch. Refer to [DMS-16, "Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-45, "Intermittent Incident"](#).

NO >> Replace SPORT mode switch. Refer to [DMS-18, "Removal and Installation"](#).

Component Inspection

INFOID:0000000012421827

1.CHECK SPORT MODE SWITCH

Check continuity between SPORT mode switch connector terminals.

SPORT mode switch	Condition	Continuity
Terminal		
6 – 8	SPORT mode switch is depressed.	Existed
	SPORT mode switch is released.	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace SPORT mode switch. Refer to [DMS-18, "Removal and Installation"](#).

THE SPORT MODE INDICATOR LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

[SPORT MODE]

SYMPTOM DIAGNOSIS

THE SPORT MODE INDICATOR LAMP DOES NOT TURN ON

Description

INFOID:0000000012421828

The SPORT mode indicator lamp does not turn ON when the SPORT mode switch is operated.

Diagnosis Procedure

INFOID:0000000012421829

1. CHECK SPORT MODE INDICATOR LAMP FUNCTION

Perform combination meter self-diagnosis mode and check test order 10. Refer to [MWI-19. "Description"](#).

Is the check result normal?

YES >> GO TO 2.

NO >> Replace combination meter. Refer to [MWI-84. "Removal and Installation"](#).

2. CHECK DTC (TCM)

 **With CONSULT**

1. Start the engine.
2. Check "Self Diagnostic Results" in "TRANSMISSION".

Is any DTC detected?

YES >> Check DTC detected item. Refer to [TM-63. "DTC Index"](#).

NO >> GO TO 3.

3. CHECK DTC (ECM)

 **With CONSULT**


Check "Self Diagnostic Results" in "ENGINE".

Is any DTC detected?

YES >> Check DTC detected item. Refer to [EC-96. "DTC Index"](#).

NO >> GO TO 4.

4. CHECK DTC (COMBINATION METER)

 **With CONSULT**

Check "Self Diagnostic Results" in "METER/M&A".

Is any DTC detected?

YES >> Check DTC detected item. Refer to [MWI-31. "DTC Index"](#).

NO >> GO TO 5.

5. CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

 **With CONSULT**

1. Select "Data Monitor" in "METER/M&A".
2. Select "SPORT MODE IND".
3. Check that "SPORT MODE IND" turns ON/OFF when SPORT mode switch is operated. Refer to [MWI-25. "Reference Value"](#).

Is any DTC detected?

YES >> Replace combination meter. Refer to [MWI-84. "Removal and Installation"](#).

NO >> GO TO 6.

6. CHECK SPORT MODE SWITCH CIRCUIT

Check SPORT mode switch circuit. Refer to [DMS-15. "Diagnosis Procedure"](#).

Is any DTC detected?

YES >> INSPECTION END

NO >> Repair or replace malfunctioning parts.

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SPORT MODE SWITCH

< REMOVAL AND INSTALLATION >

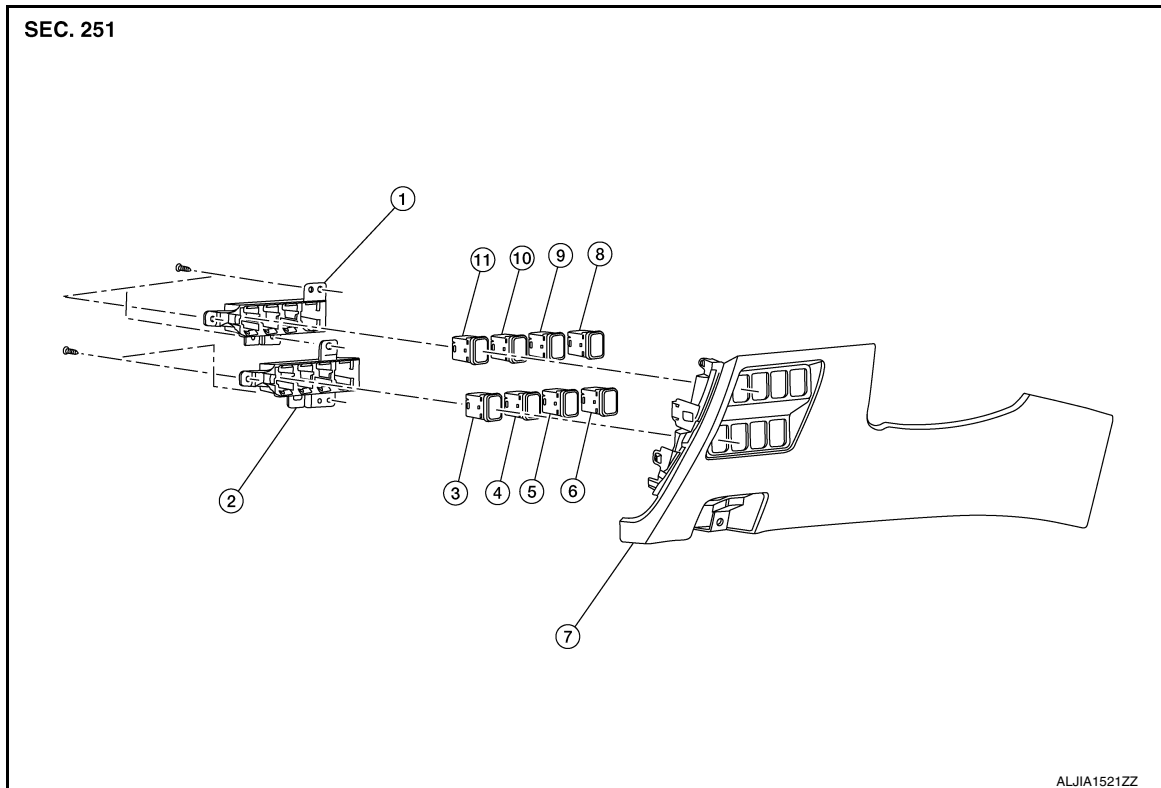
[SPORT MODE]

REMOVAL AND INSTALLATION

SPORT MODE SWITCH

Exploded View

INFOID:0000000012732710



- | | | |
|------------------------------|--|--|
| 1. Upper switch carrier | 2. Lower switch carrier | 3. ECO mode switch |
| 4. Warning system switch | 5. AWD lock switch (if equipped) | 6. Hill descent control switch (if equipped) |
| 7. Instrument lower panel LH | 8. Automatic back door main switch (if equipped) | 9. Automatic back door switch (if equipped) |
| 10. SPORT mode switch | 11. VDC OFF switch | |

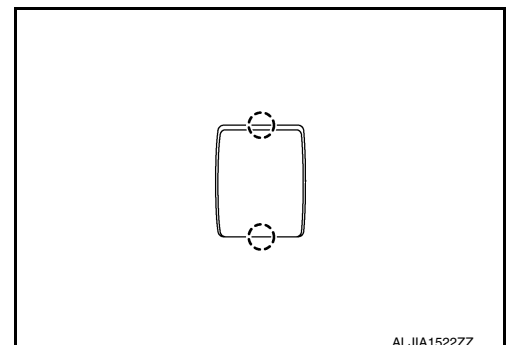
Removal and Installation

INFOID:0000000012421830

REMOVAL

1. Remove the instrument lower panel LH. Refer to [IP-23. "Removal and Installation"](#).
2. Disconnect the harness connector from the SPORT mode switch.
3. Remove the screws from the upper switch carrier.
4. Remove the upper switch carrier from the instrument lower panel LH.
5. Release pawls using suitable tool and remove the SPORT mode switch from the upper switch carrier.

○: Pawl



SPORT MODE SWITCH

< REMOVAL AND INSTALLATION >

[SPORT MODE]

INSTALLATION

Installation is in the reverse order of removal.

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PRECAUTION

PRECAUTIONS

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

INFOID:000000012421831

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. Information necessary to service the system safely is included in the SR 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Work

INFOID:000000012421832

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

[ECO MODE]

PREPARATION

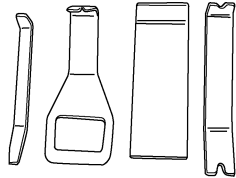
PREPARATION

Special Service Tool

INFOID:000000012421833

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set	Removing trim components



AWJIA0483ZZ

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DMS

COMPONENT PARTS

< SYSTEM DESCRIPTION >

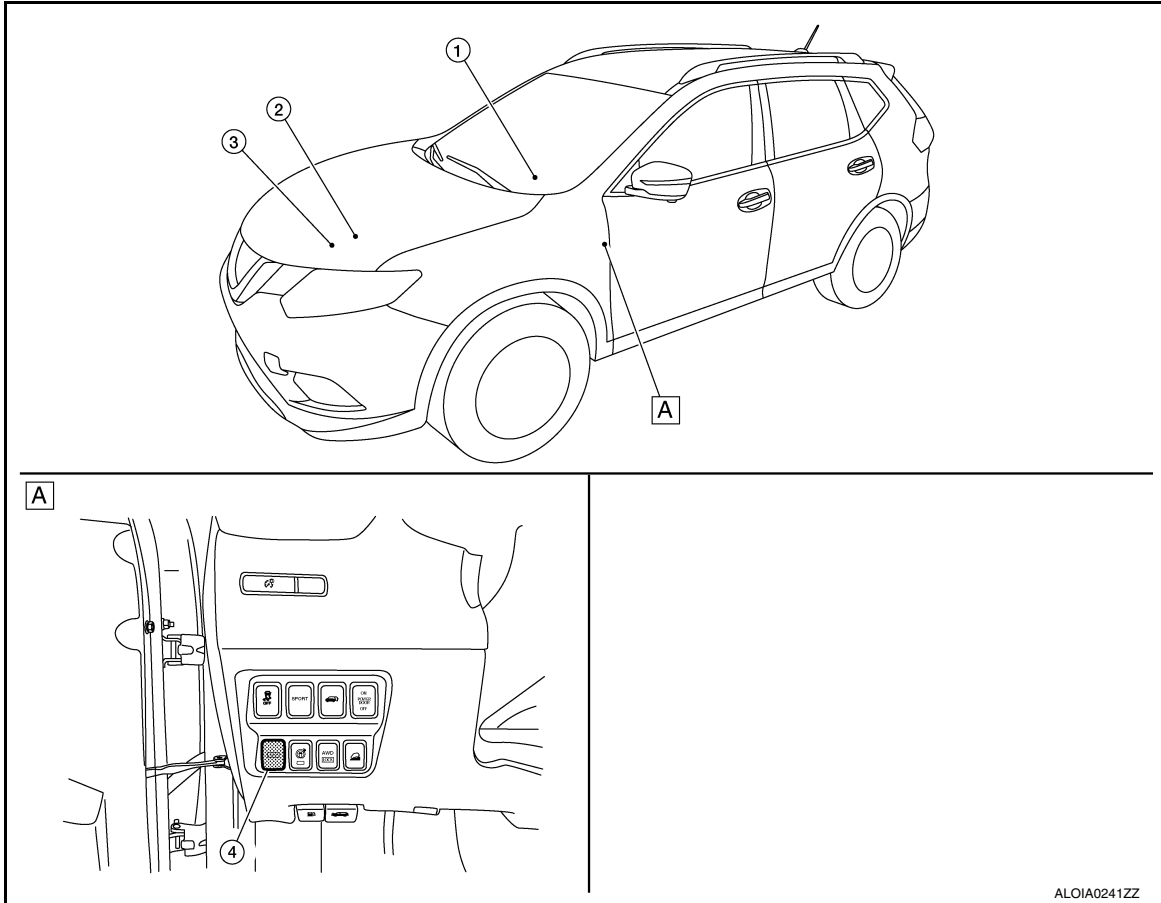
[ECO MODE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000012421834



A Instrument lower panel LH

COMPONENT DESCRIPTION

No.	Component	Function
①	Combination meter	<ul style="list-style-type: none"> The combination meter transmits the following signal via CAN communications to the TCM. <ul style="list-style-type: none"> - ECO mode switch signal The combination meter receives the following signal via CAN communications from the ECM. <ul style="list-style-type: none"> - ECO mode indicator signal Refer to MWI-6, "METER SYSTEM : Component Parts Location" for detailed installation location.
②	TCM	<ul style="list-style-type: none"> The TCM receives the following signal via CAN communications from the combination meter. <ul style="list-style-type: none"> - ECO mode switch signal The TCM transmits the following signal via CAN communications to the ECM. <ul style="list-style-type: none"> - ECO mode signal Refer to TM-12, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

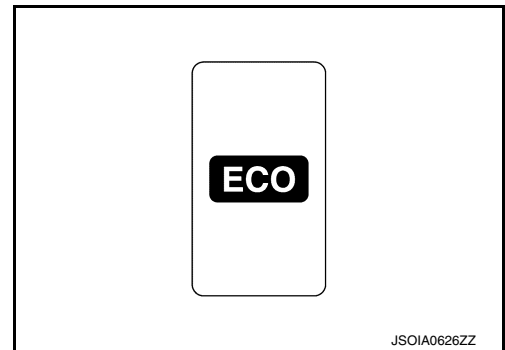
[ECO MODE]

No.	Component	Function
③	ECM	<ul style="list-style-type: none"> The ECM receives the following signal via CAN communications from the TCM. <ul style="list-style-type: none"> - ECO mode signal The ECM transmits the following signal via CAN communications to the combination meter. <ul style="list-style-type: none"> - ECO mode indicator signal Refer to EC-14, "Component Parts Location" for detailed installation location.
④	ECO mode switch	Refer to DMS-23, "ECO Mode Switch" .

ECO Mode Switch

INFOID:0000000012421835

- The ECO mode switch is installed to the instrument lower finisher.
- When the ECO mode indicator lamp on the combination meter is OFF and the ECO mode switch is pressed, the ECO mode is active and the ECO mode indicator lamp is ON.
- When the ECO mode indicator lamp on the combination meter is ON and the ECO mode switch is pressed, the ECO mode is cancelled and the ECO mode indicator lamp is OFF.

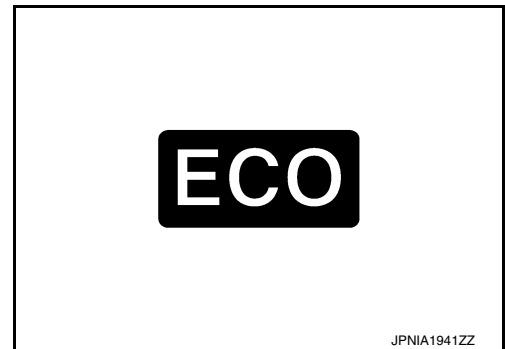


ECO Mode Indicator Lamp

INFOID:0000000012421836

DESIGN/PURPOSE

The ECO mode indicator lamp inform the driver that the vehicle is in ECO mode.



BULB CHECK

Not applicable

SIGNAL PATH

- TCM receives ECO mode switch signal (ON/OFF) from combination meter via CAN communication. Based on the signal, TCM transmits ECO mode signal to ECM via CAN communication.
- ECM transmits ECO mode indicator signal to combination meter via CAN communication. Based on the signal, combination meter illuminates ECO mode indicator lamp.

LIGHTING CONDITION

When all of the following conditions are satisfied.

- Ignition switch: ON
- The ECO mode switch is pressed when the ECO mode indicator lamp is OFF

SHUTOFF CONDITION

When any of the condition listed below is satisfied.

- Ignition switch: Other than ON
- The ECO mode switch is pressed when the ECO mode indicator lamp is ON.
- The SPORT mode switch is pressed when the ECO mode indicator lamp is ON.

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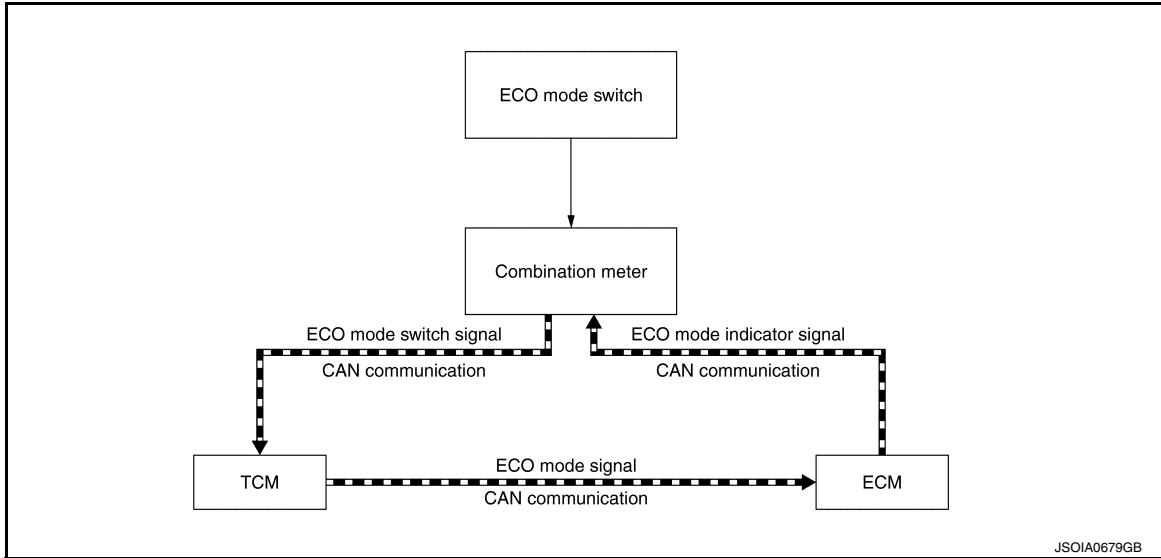
SYSTEM

ECO MODE CONTROL

ECO MODE CONTROL : System Description

INFOID:000000012421837

SYSTEM DIAGRAM



SYSTEM DISCRIPTION

- TCM receive ECO mode switch signal (ON/OFF) from combination meter via CAN communication. TCM transmit ECO mode signal to ECM via CAN communication according to the signal.
- ECM transmit ECO mode indicator signal to combination meter via CAN communication. Combination meter illuminates ECO mode indicator lamp according to the signal.

Each ECU Control

- For TCM control, refer to [TM-43. "ECO MODE SYSTEM : System Description"](#).
- For ECM control, refer to [EC-56. "ECO MODE CONTROL : System Description"](#).

ECU DIAGNOSIS INFORMATION

ECO MODE

List of ECU Reference

INFOID:0000000012421838

ECU	Reference
TCM	TM-52, "Reference Value"
	TM-58, "Fail-safe"
	TM-62, "DTC Inspection Priority Chart"
	TM-63, "DTC Index"
ECM	EC-80, "Reference Value"
	EC-92, "Fail Safe"
	EC-95, "DTC Inspection Priority Chart"
	EC-96, "DTC Index"
Combination meter	MWI-25, "Reference Value"
	MWI-30, "Fail-safe"
	MWI-31, "DTC Index"

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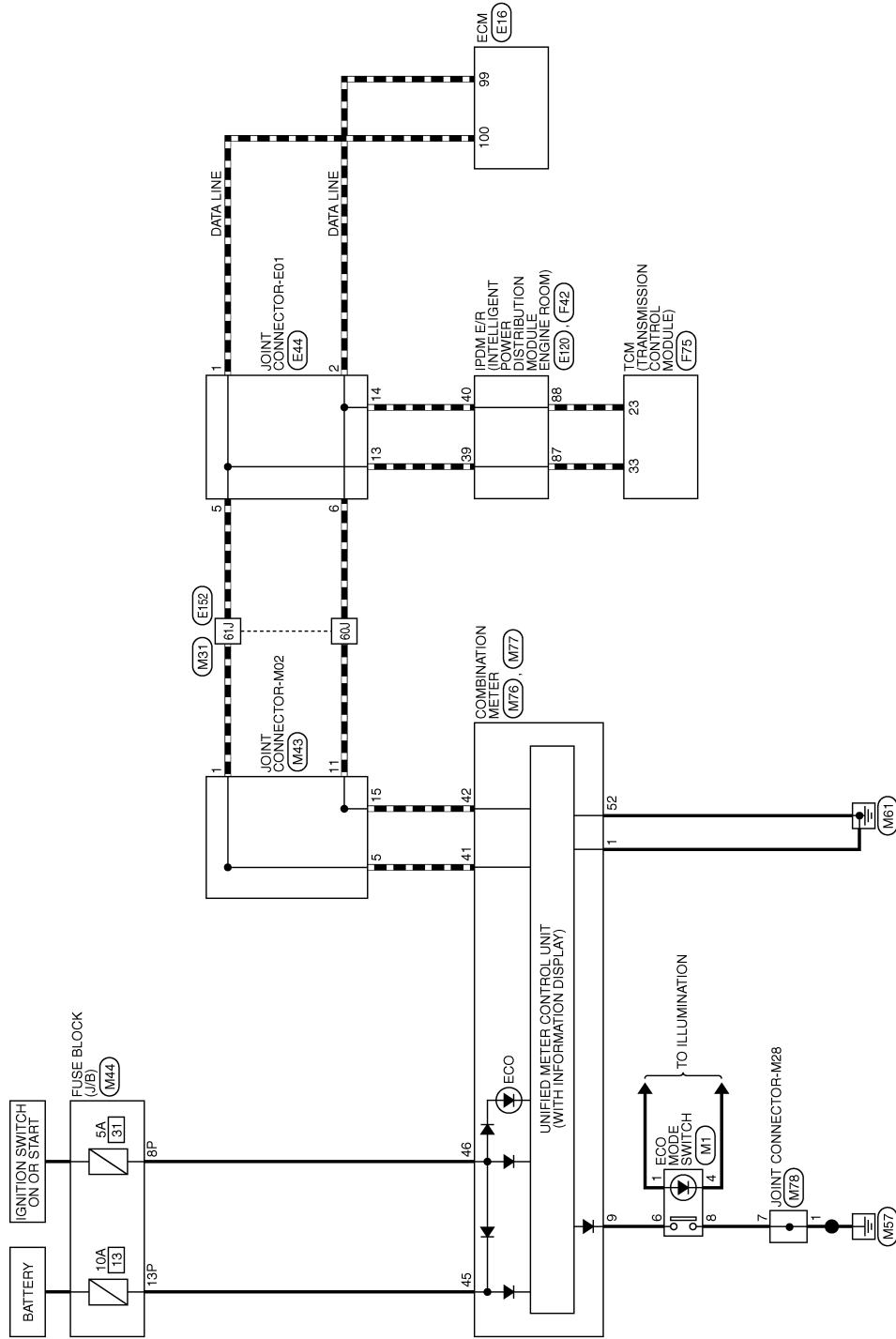
WIRING DIAGRAM

ECO MODE SYSTEM

Wiring Diagram

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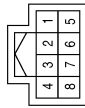
ECO MODE SYSTEM



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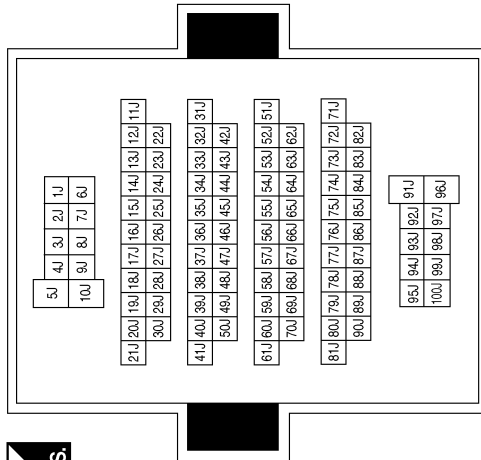
ECO MODE SYSTEM CONNECTORS

Connector No.	M1
Connector Name	ECO MODE SWITCH
Connector Color	GRAY



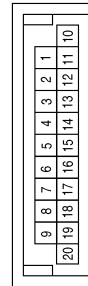
Terminal No.	Color of Wire	Signal Name
1	G	-
4	GR	-
6	GR	-
8	GR	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
60J	P	-
61J	L	-

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	L	-
5	L	-
11	P	-
15	P	-

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8P	LA/BR	-
13P	LA/G	-

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ECO MODE SYSTEM

< WIRING DIAGRAM >

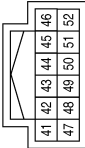
[ECO MODE]

Connector No.	M78
Connector Name	JOINT CONNECTOR-M28
Connector Color	WHITE



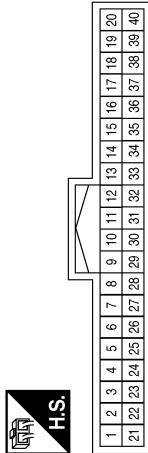
Terminal No.	Color of Wire	Signal Name
1	GR	-
7	GR	-

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
45	LA/G	BAT
46	LA/BR	IGN
52	B	G1

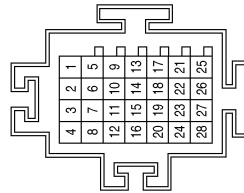
Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE



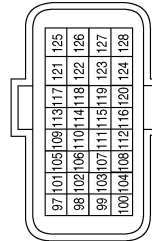
Terminal No.	Color of Wire	Signal Name
1	B	GND
9	GR	ECO MODE SW

Terminal No.	Color of Wire	Signal Name
1	L	-
2	P	-
5	L	-
6	P	-
13	L	-
14	P	-

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE



Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

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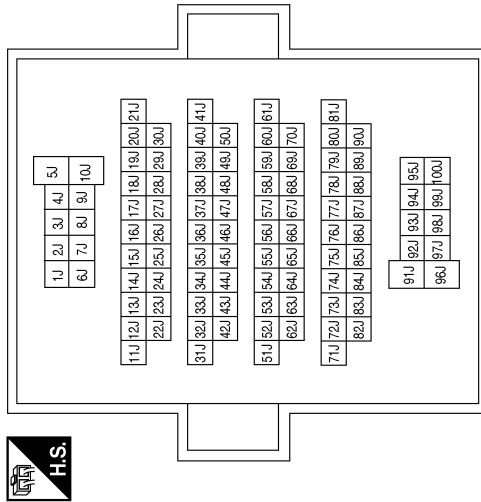
ECO MODE SYSTEM

< WIRING DIAGRAM >

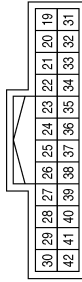
[ECO MODE]

Terminal No.	Color of Wire	Signal Name
60J	P	-
61J	L	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

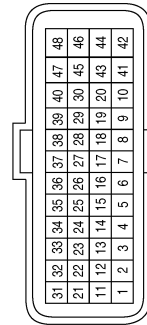


Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY



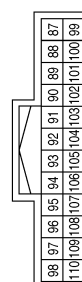
Terminal No.	Color of Wire	Signal Name
39	L	CAN-H
40	P	CAN-L

Connector No.	F75
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

Connector No.	F42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
87	L	CAN-H
88	P	CAN-L

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DMS

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000012421840

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurs.

>> GO TO 2.

2.CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check if any other malfunctions are present.

>> GO TO 3.

3.DTC/SYSTEM DIGANOSIS

Perform a DTC/system diagnosis and repair or replace any malfunctioning part.

>> GO TO 4.

4.FINAL CHECK

Check that the ECO mode functions normally.

Does it operation normally?

- YES >> End of trouble diagnosis
NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

ECO MODE SWITCH

Component Function Check

INFOID:0000000012421841

1. CHECK ECO MODE SWITCH OPERATION

1. Turn ignition switch ON.
2. Check ECO mode indicator lamp turns ON/OFF on combination meter when turn ECO mode switch ON/OFF.

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Go to [DMS-34. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000012421842

1. DETECT MALFUNCTIONING ITEMS

What is malfunction item?

- ECO mode switch illumination does not turn ON>>GO TO 2.
 ECO mode indicator does not turn ON>>GO TO 7.

2. CHECK ECO MODE SWITCH ILLUMINATION POWER SUPPLY (PART 1)

1. Turn OFF the headlamp.
2. Turn ignition switch OFF.
3. Disconnect ECO mode switch harness connector.
4. Turn ignition switch ON.
5. Turn ON the headlamp.
6. Check the voltage between ECO mode switch harness connector terminals.

ECO mode switch			Voltage (Approx.)
Connector	+	-	
	Terminal		
M1	1	4	12 V

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> GO TO 4.

3. CHECK INTERMITTENT INCIDENTS

Refer to [GI-45. "Intermittent Incident"](#).

Is the inspection result normal?

- YES >> Replace ECO mode switch. Refer to [DMS-35. "Removal and Installation"](#).
 NO >> Replace the fuse after repair the applicable circuit.

4. CHECK ECO MODE SWITCH ILLUMINATION POWER SUPPLY (PART 2)

Check the voltage between ECO mode switch harness connector and ground.

+		-	Voltage (Approx.)
ECO mode switch			
Connector	Terminal		
M1	1	Ground	12 V

Is the inspection result normal?

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

ECO MODE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[ECO MODE]

5. CHECK CIRCUIT BETWEEN COMBINATION METER AND ECO MODE SWITCH

1. Disconnect combination meter connector M77.
2. Check the continuity between combination meter harness connector terminal and ECO mode switch harness connector terminal.

Combination meter		ECO mode switch		Continuity
Connector	Terminal	Connector	Terminal	
M77	43	M1	1	Existed

3. Also check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace malfunctioning parts.

6. CHECK GROUND CIRCUIT

1. Turn OFF the headlamp.
2. Turn ignition switch OFF.
3. Check continuity between ECO mode switch harness connector terminal and ground.

ECO mode switch		—	Continuity
Connector	Terminal		
M1	4	Ground	Existed

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-45, "Intermittent Incident"](#).

NO >> Repair or replace malfunctioning parts.

7. CHECK ECO MODE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect ECO mode switch connector.
3. Turn ignition switch ON.
4. Check voltage between ECO mode switch harness connector terminals.

Connector	ECO mode switch		Voltage (Approx.)
	+	-	
	Terminal		
M1	6	8	10 V

Is the inspection result normal?

YES >> GO TO 12.

NO >> GO TO 8.

8. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check the continuity between ECO mode switch harness connector and ground.

ECO mode switch		—	Continuity
Connector	Terminal		
M1	8	Ground	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace malfunctioning parts.

9. CHECK CIRCUIT BETWEEN COMBINATION METER AND ECO MODE SWITCH (PART 1)

1. Disconnect combination meter harness connector M76.

ECO MODE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[ECO MODE]

2. Check continuity between combination meter harness connector terminal and ECO mode switch harness connector terminal.

Combination meter		ECO mode switch		Continuity
Connector	Terminal	Connector	Terminal	
M76	9	M1	6	Existed

Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace malfunctioning parts.

10.CHECK CIRCUIT BETWEEN COMBINATION METER AND ECO MODE SWITCH (PART 2)

Check continuity between combination meter harness connector terminal and ground.

Combination meter		—	Continuity
Connector	Terminal		
M76	9	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace malfunctioning parts.

11.CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

1. Connect all of disconnected connectors.
2. Check input/output signal of combination meter. Refer to [MWI-25, "Reference Value"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-45, "Intermittent Incident"](#).

NO >> Replace combination meter. Refer to [MWI-84, "Removal and Installation"](#).

12.CHECK ECO MODE SWITCH

Check ECO mode switch. Refer to [DMS-33, "Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-45, "Intermittent Incident"](#).

NO >> Replace ECO mode switch. Refer to [DMS-35, "Removal and Installation"](#).

Component Inspection

INFOID:0000000012421843

1.CHECK ECO MODE SWITCH

Check continuity between ECO mode switch connector terminals.

ECO mode switch	Condition	Continuity
Terminal		
6 – 8	ECO mode switch is depressed.	Existed
	ECO mode switch is released.	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace ECO mode switch. Refer to [DMS-35, "Removal and Installation"](#).

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THE ECO MODE INDICATOR LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

[ECO MODE]

SYMPTOM DIAGNOSIS

THE ECO MODE INDICATOR LAMP DOES NOT TURN ON

Description

INFOID:0000000012421844

The ECO mode indicator lamp does not turn ON when the ECO mode switch is operated.

Diagnosis Procedure

INFOID:0000000012421845

1. PERFORM COMBINATION METER ON BOARD DIAGNOSIS

Perform combination meter on board diagnosis. Refer to [MWI-19. "Description"](#).

Is the check result normal?

YES >> GO TO 2.

NO >> Replace combination meter. Refer to [MWI-84. "Removal and Installation"](#).

2. CHECK DTC (TCM)

Ⓟ With CONSULT

1. Start the engine.
2. Check "Self Diagnostic Results" in "TRANSMISSION".

Is any DTC detected?

YES >> Check DTC detected item. Refer to [TM-63. "DTC Index"](#).

NO >> GO TO 3.

3. CHECK DTC (ECM)

Ⓟ With CONSULT

Check "Self Diagnostic Results" in "ENGINE".

Is any DTC detected?

YES >> Check DTC detected item. Refer to [EC-96. "DTC Index"](#).

NO >> GO TO 4.

4. CHECK DTC (COMBINATION METER)

Ⓟ With CONSULT

Check "Self Diagnostic Results" in "METER/M&A".

Is any DTC detected?

YES >> Check DTC detected item. Refer to [MWI-31. "DTC Index"](#).

NO >> GO TO 5.

5. CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

Ⓟ With CONSULT

1. Select "Data Monitor" in "METER/M&A".
2. Select "ECO MODE IND".
3. Check that "ECO MODE IND" turns ON/OFF when ECO mode switch is operated. Refer to [MWI-25. "Reference Value"](#).

Is any DTC detected?

YES >> Replace combination meter. Refer to [MWI-86. "Disassembly and Assembly"](#).

NO >> GO TO 6.

6. CHECK ECO MODE SWITCH CIRCUIT

Check ECO mode switch circuit. Refer to [DMS-31. "Diagnosis Procedure"](#).

Is any DTC detected?

YES >> INSPECTION END

NO >> Repair or replace malfunctioning parts.

ECO MODE SWITCH

< REMOVAL AND INSTALLATION >

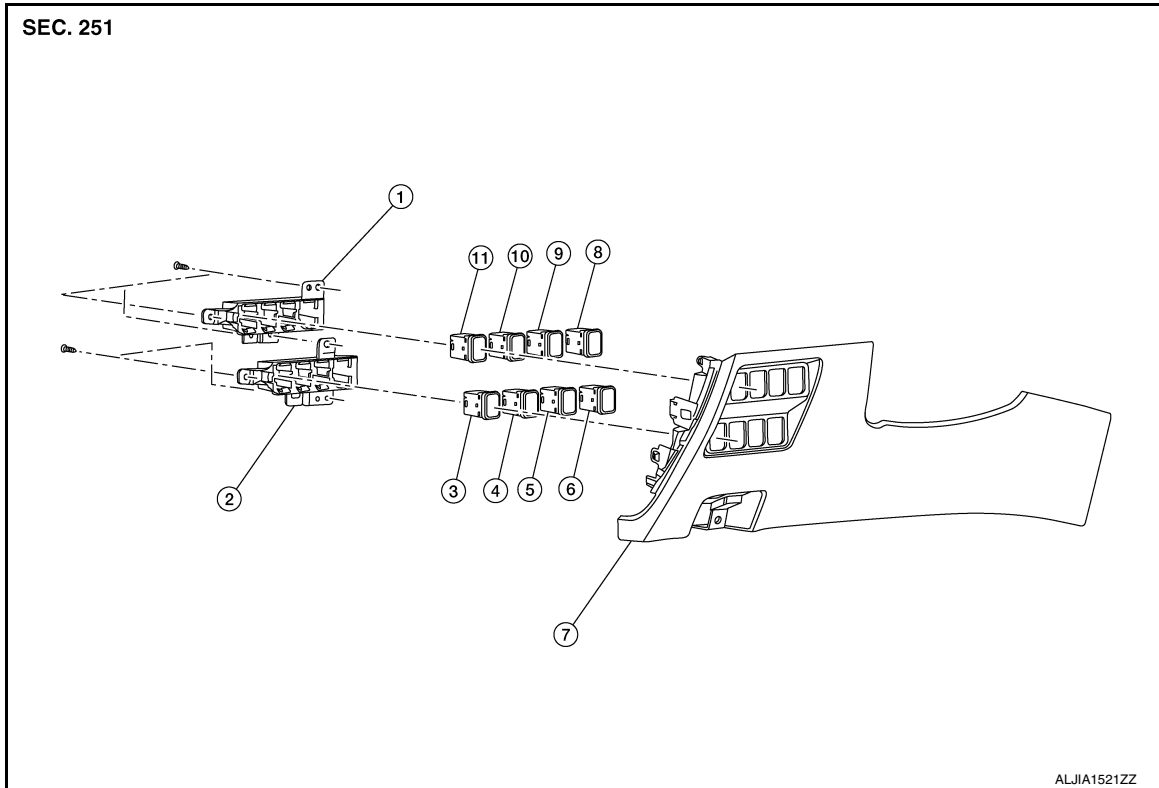
[ECO MODE]

REMOVAL AND INSTALLATION

ECO MODE SWITCH

Exploded View

INFOID:0000000012732711



- | | | |
|------------------------------|--|--|
| 1. Upper switch carrier | 2. Lower switch carrier | 3. ECO mode switch |
| 4. Warning system switch | 5. AWD lock switch (if equipped) | 6. Hill descent control switch (if equipped) |
| 7. Instrument lower panel LH | 8. Automatic back door main switch (if equipped) | 9. Automatic back door switch (if equipped) |
| 10. SPORT mode switch | 11. VDC OFF switch | |

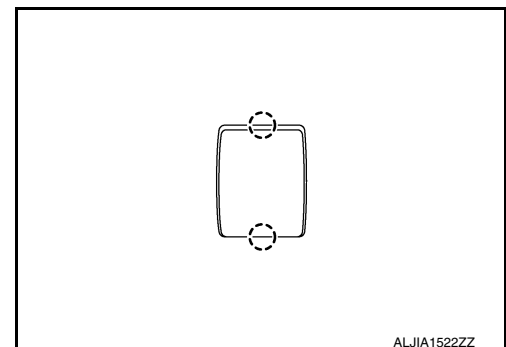
Removal and Installation

INFOID:0000000012421846

REMOVAL

1. Remove instrument lower panel LH. Refer to [IP-23. "Removal and Installation"](#).
2. Disconnect the harness connector from the ECO mode switch.
3. Remove the screws from the lower switch carrier.
4. Remove the lower switch carrier from the instrument lower panel LH.
5. Release pawls using suitable tool and remove the ECO mode switch from the lower switch carrier.

○: Pawl



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ECO MODE SWITCH

< REMOVAL AND INSTALLATION >

[ECO MODE]

INSTALLATION

Installation in the reverse order of removal.