SECTION DMS
DRIVE MODE SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011972839

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:0000000011972840

- 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.

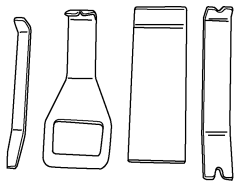
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000011972841

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

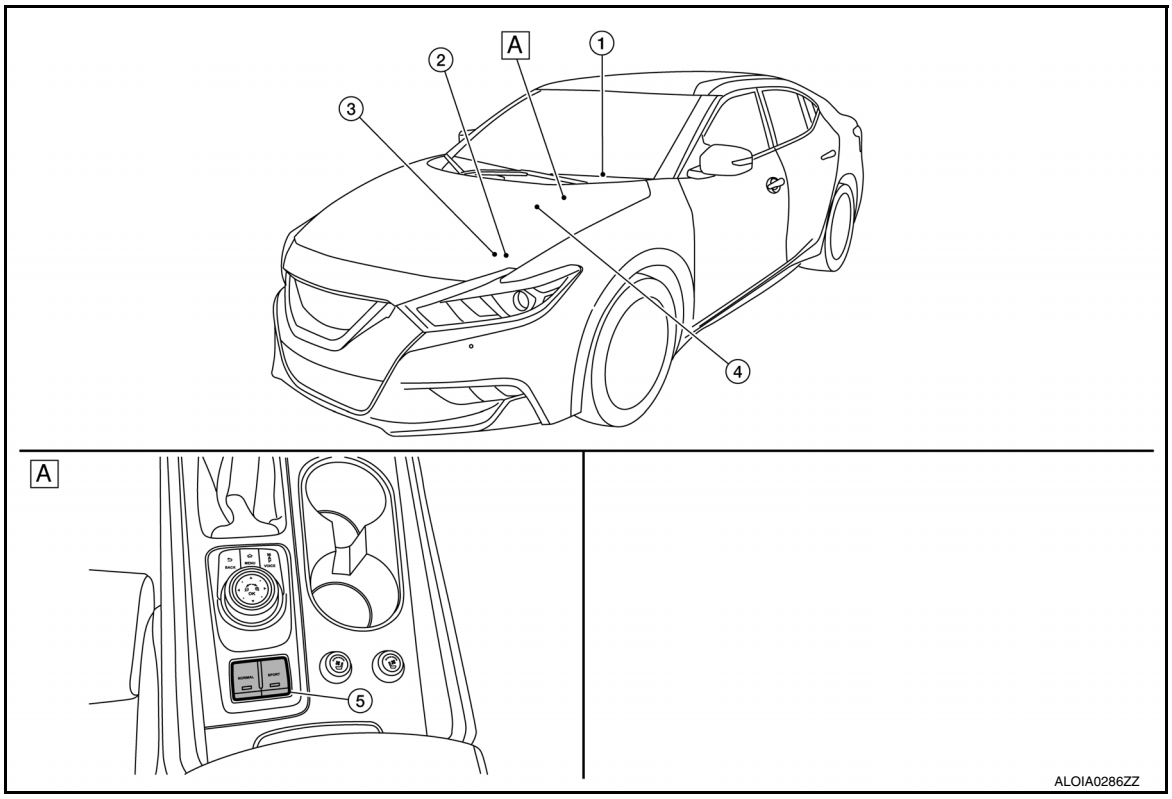
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011972842



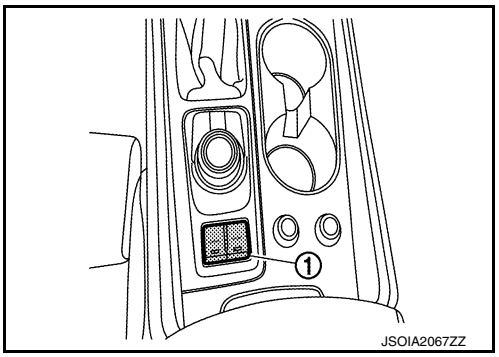
A Center console finisher

No.	Component	Function
①	Combination meter	The combination meter receives the drive mode indicator signal via CAN communications from the TCM. Refer to MWI-5, "METER SYSTEM : Component Parts Location" for detailed installation location.
②	TCM	• The TCM receives the drive mode selector signal via CAN communications from the A/C auto amp. • The TCM transmits the drive mode indicator signal via CAN communications to the combination meter. Refer to TM-12, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
③	ECM	The ECM receives the drive mode signal via CAN communications from the TCM. Refer to EC-15, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location.
④	A/C auto amp.	The combination meter transmits the drive mode selector signal via CAN communications to the TCM.
⑤	Drive mode selector	Refer to DMS-5, "Drive Mode Selector".

Drive Mode Selector

INFOID:0000000011972843

- The drive mode selector ① is installed to the center console finisher.
- When the drive mode indicator (SPORT) on the combination meter is OFF and the drive mode selector (SPORT mode swtich) is pressed, the SPORT mode is active and the drive mode indicator (SPORT) is ON.
- When the drive mode indicator (SPORT) on the combination meter is ON and the drive mode selector (NORMAL mode swtich) is pressed, the drive mode (SPORT mode) is cancelled and the drive mode indicator (SPORT) is OFF.

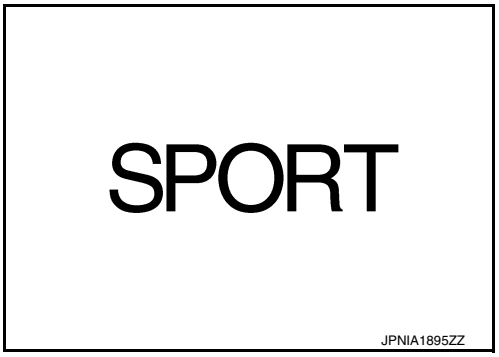


Drive Mode Indicator

INFOID:0000000011972844

DESIGN/PURPOSE

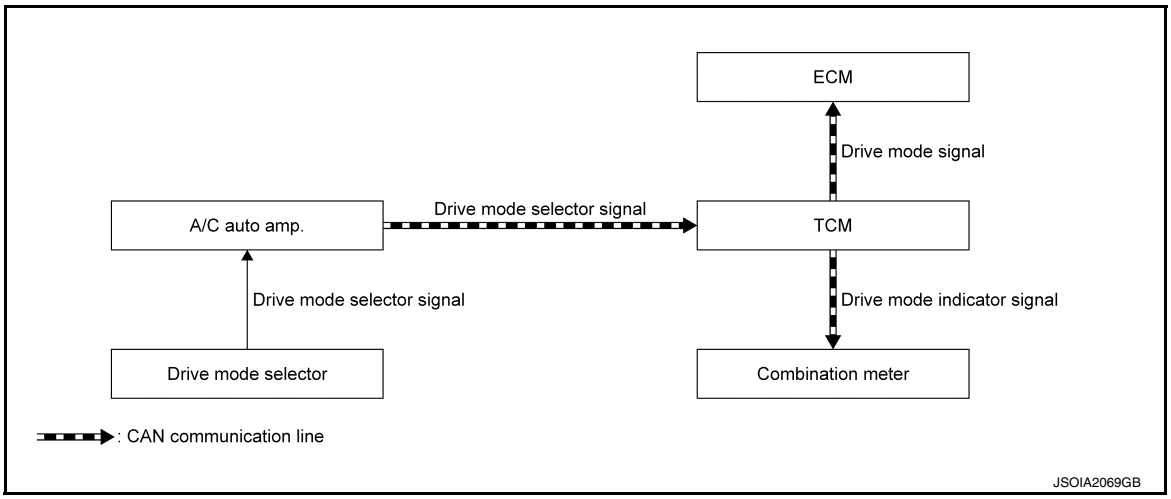
The drive mode indicator (SPORT) inform the driver that the vehicle is in SPORT mode.



BULB CHECK

Not applicable

SYSTEM DIAGRAM



SIGNAL PATH

- TCM receives drive mode selector signal (SPORT/NORMAL) from A/C auto amp. via CAN communication. Based on the signal, TCM transmits drive mode signal (SPORT/NORMAL) to ECM via CAN communication.
- TCM transmits drive mode indicator signal (SPORT) to combination meter via CAN communication. Based on the signal, combination meter illuminates drive mode indicator (SPORT).

LIGHTING CONDITION

When all of the following conditions are satisfied.

- Ignition switch: ON
- The drive mode selector (SPORT mode switch) is pressed when the drive mode indicator (SPORT) is OFF

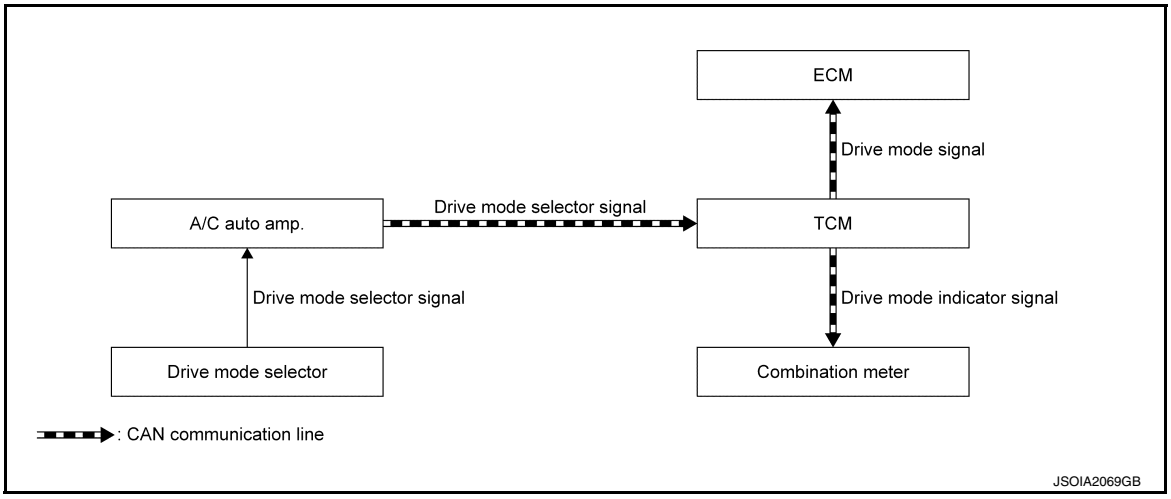
SHUTOFF CONDITION

When any of the condition listed below is satisfied.
- Ignition switch: Other than ON
- The drive mode selector (SPORT mode switch) is pressed when the drive mode indicator (SPORT) is ON.

SYSTEM
DRIVE MODE SELECTOR
DRIVE MODE SELECTOR : System Description

INFOID:0000000011972845

SYSTEM DIAGRAM



SYSTEM DISCRIPTION

- TCM receives drive mode selector signal (SPORT/NORMAL) from A/C auto amp. via CAN communication. TCM transmit drive mode signal (SPORT/NORMAL) to ECM via CAN communication according to the signal.
- TCM transmits drive mode indicator signal (SPORT) to combination meter via CAN communication. Combination meter illuminates drive mode indicator (SPORT) according to the signal.

Each ECU Control

- For TCM control, refer to TM-33, "SHIFT CONTROL : System Description".
- For ECM control, refer to EC-55, "SPORT MODE CONTROL : System Description".

ECU DIAGNOSIS INFORMATION

DRIVE MODE SELECTOR

List of ECU Reference

INFOID:0000000011972846

ECU	Reference
TCM	TM-47, "Reference Value"
	TM-53, "Fail-safe"
	TM-57, "DTC Inspection Priority Chart"
	TM-58, "DTC Index"
ECM	EC-86, "Reference Value"
	EC-103, "Fail-safe"
	EC-105, "DTC Inspection Priority Chart"
	EC-107, "DTC Index"
A/C auto amp.	HAC-30, "Reference Value"
	HAC-33, "Fail-safe"
	HAC-33, "DTC Inspection Priority Chart"
	HAC-33, "DTC Index"
Combination meter	MWI-23, "Reference Value"
	MWI-28, "Fail-safe"
	MWI-29, "DTC Index"

WIRING DIAGRAM

DRIVE MODE SELECTOR

Wiring Diagram

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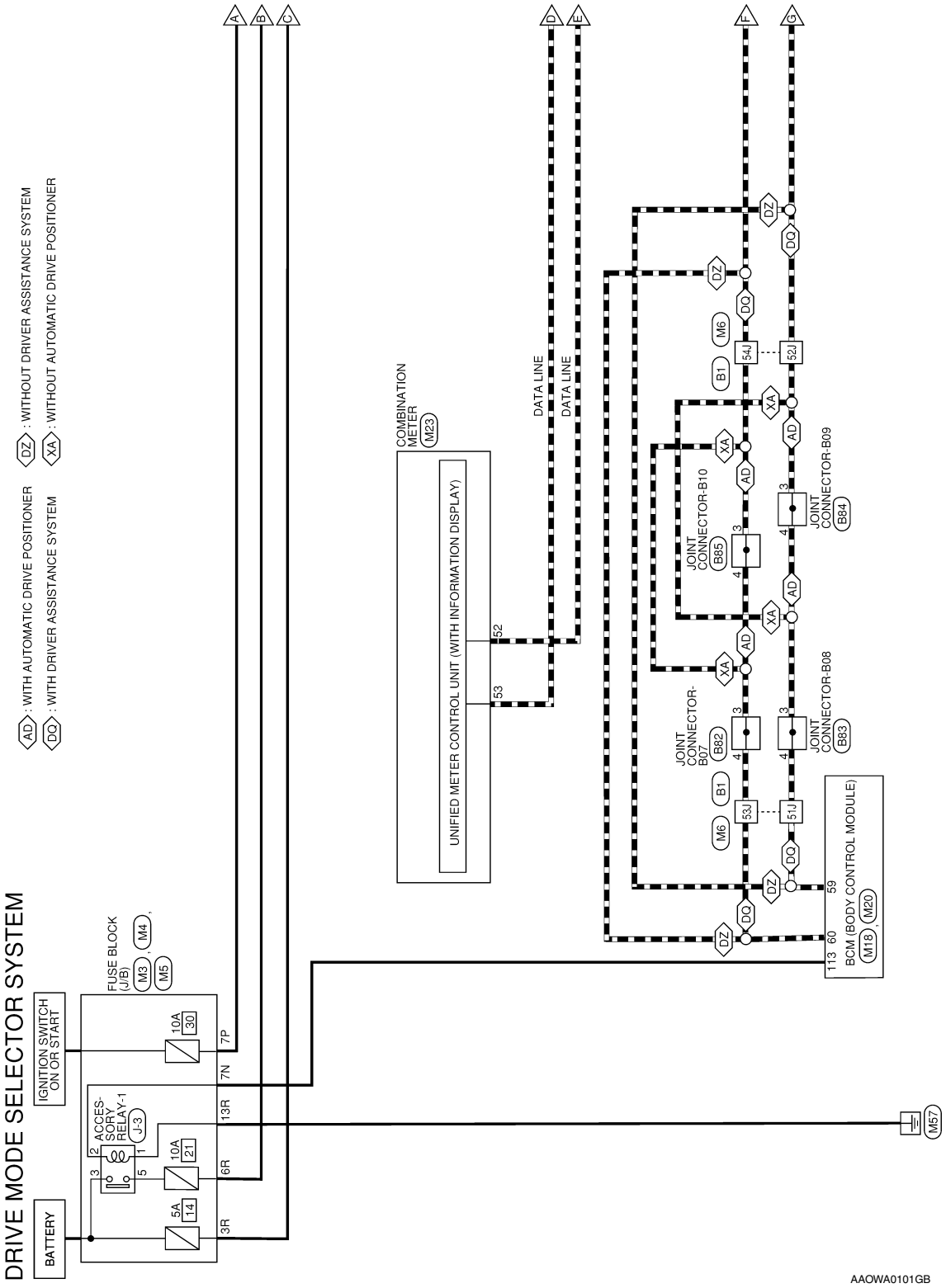

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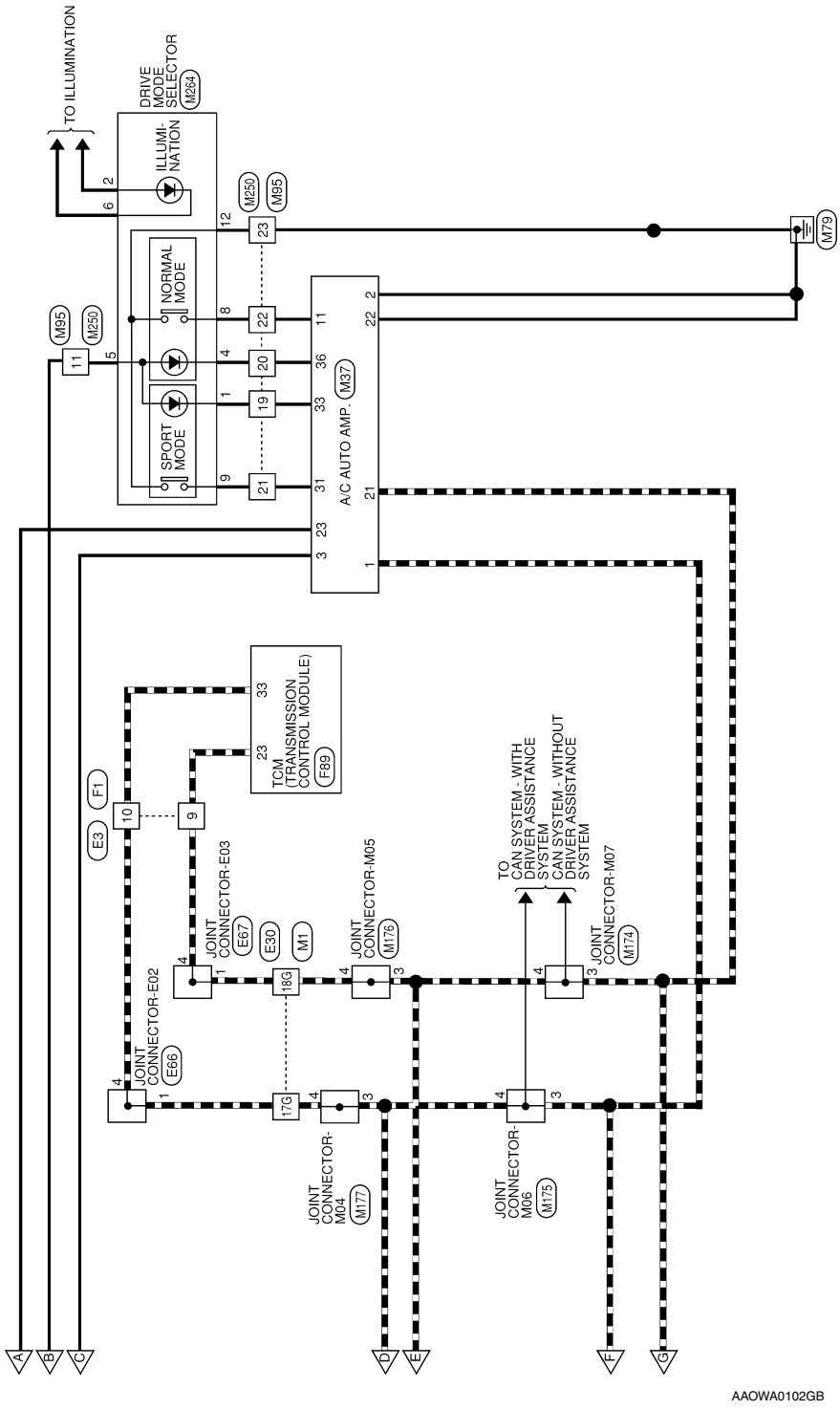

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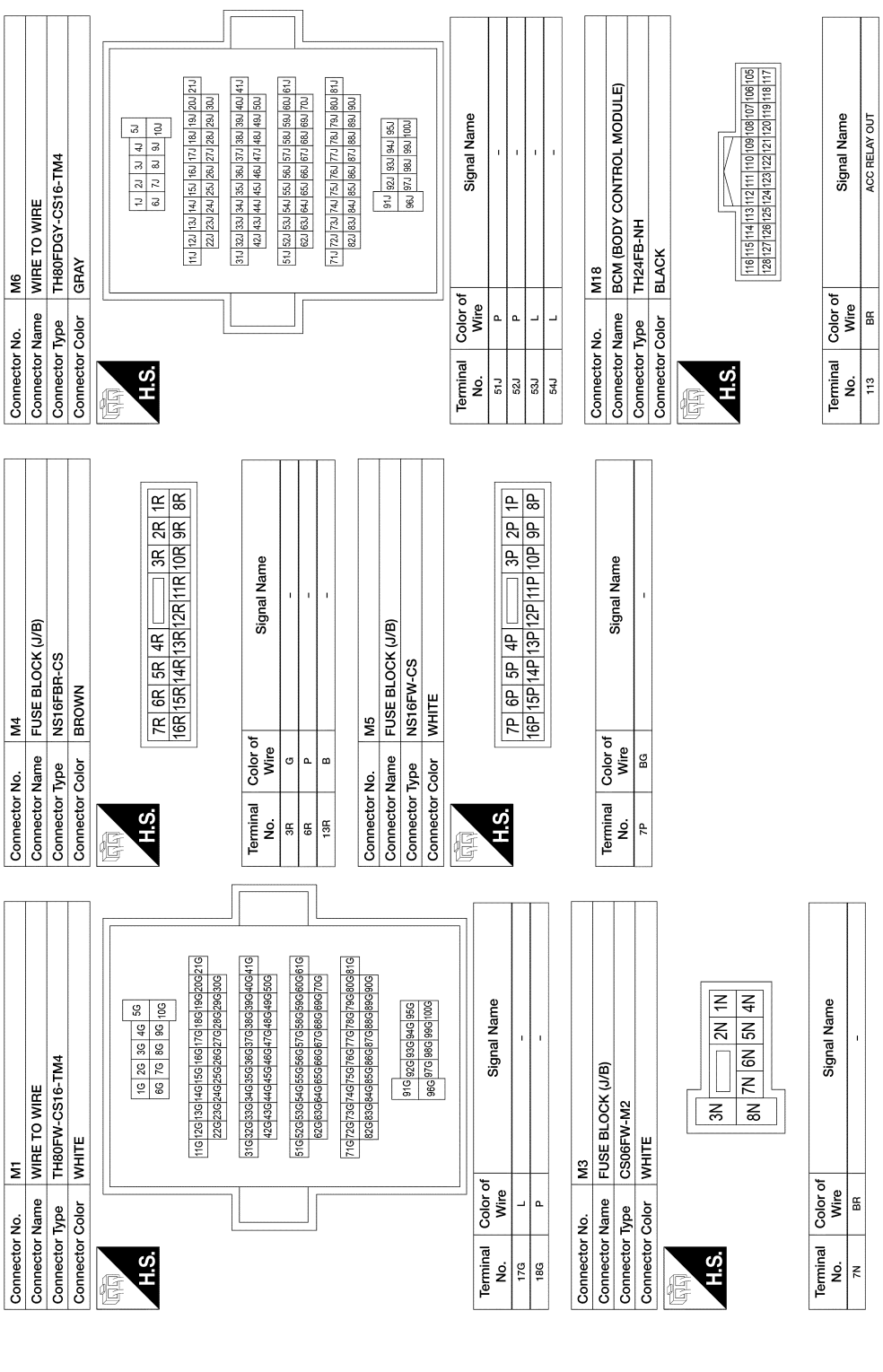
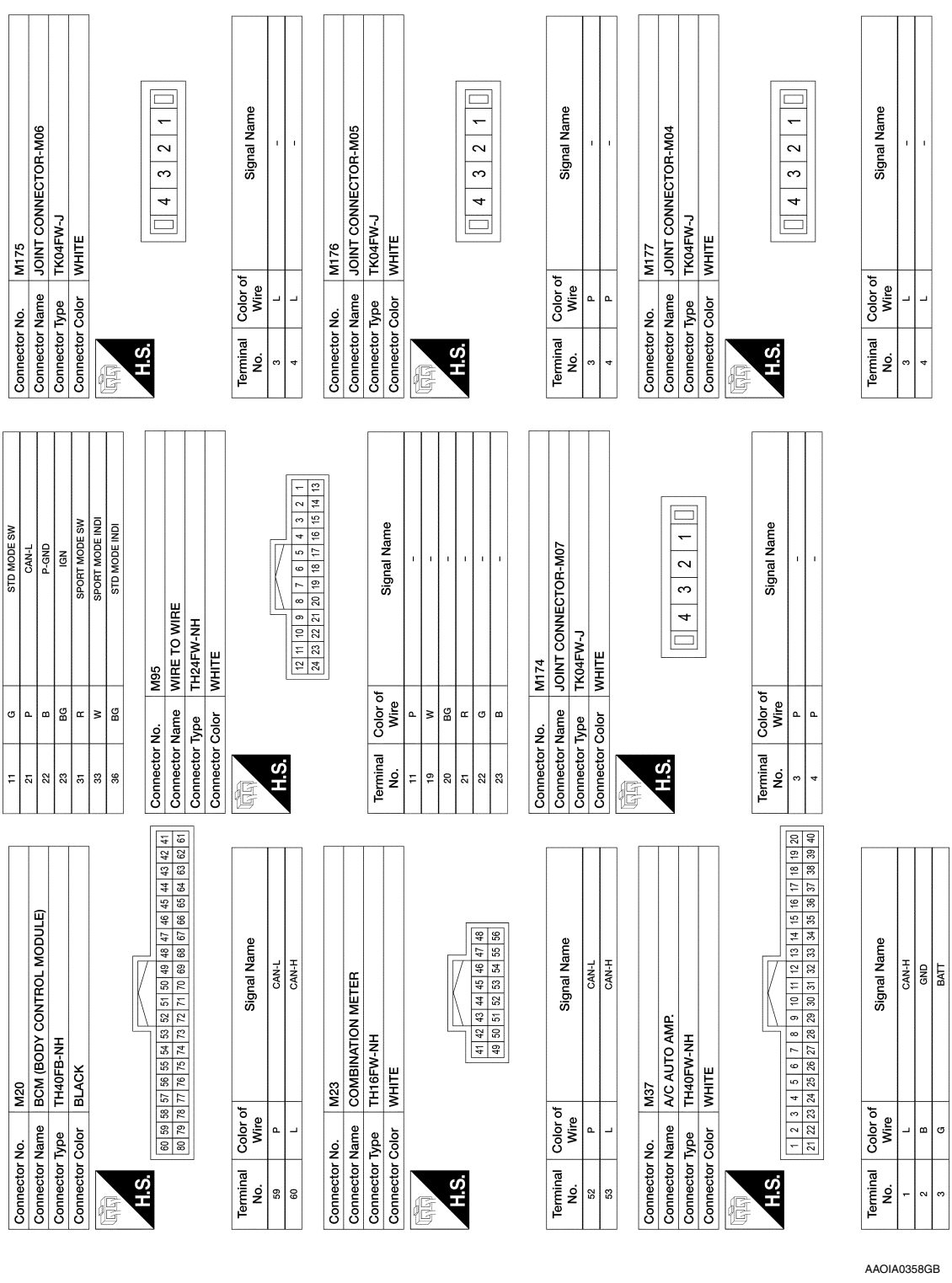
DRIVE MODE SELECTOR SYSTEM CONNECTORS





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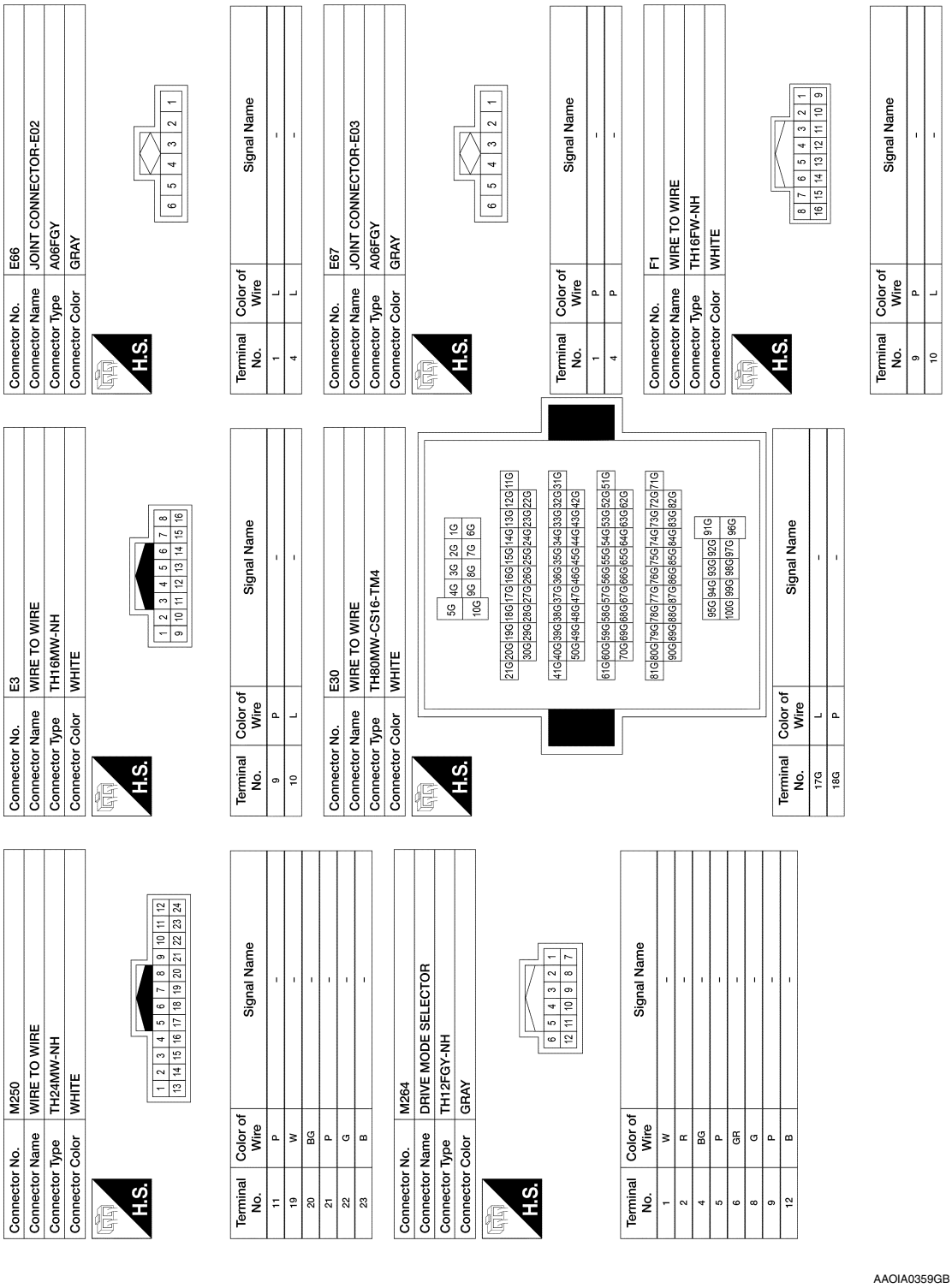

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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000011972848

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 drive mode functions normally.

Does it operation normally?

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

DTC/CIRCUIT DIAGNOSIS

DRIVE MODE SELECTOR CIRCUIT

Component Function Check

INFOID:0000000011972849

1. CHECK DRIVE MODE SELECTOR (SPORT) OPERATION

1. Turn ignition switch ON.
2. Check drive mode indicator (SPORT) turns ON/OFF on combination meter when press sport or normal mode switch ON/OFF.

Is the inspection result normal?

YES >> INSPECTION END
NO >> Proceed to DMS-16, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011972850

1. TCM INPUT SIGNAL

1. Turn ignition switch ON.
2. Select the “Data Monitor” for the “TRANSMISSION” and check the “DRIVE MODE STATS” monitor value.

Condition	Value
Drive mode selector: SPORT switch ON	SPORT
Drive mode selector: Normal switch ON	NORMAL

Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 2.

2. CHECK DRIVE MODE SELECTOR CIRCUIT

1. Check voltage between A/C auto amp. harness connector terminals.

A/C auto amp.		–	Condition	Voltage (Approx.)
Connector	+			
	Terminal			
M37	11	Ground	Drive mode selector: Normal switch ON	0 V
			Drive mode selector: Normal switch OFF	12 V
	31		Drive mode selector: SPORT switch ON	0 V
			Drive mode selector: SPORT swtich OFF	12 V

Is the inspection result normal?

YES >> Replace TCM. Refer to TM-191, "Removal and Installation".
NO >> GO TO 3.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect drive mode selector connector.
3. Check the continuity between drive mode selector harness connector and ground.

Drive mode selector		—	Continuity
Connector	Terminal		
M264	12	Ground	Existed

Is the inspection result normal?

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

4.CHECK CIRCUIT BETWEEN A/C AUTO AMP. AND DRIVE MODE SELECTOR (1)

1. Disconnect A/C auto amp. connector.
2. Check continuity between A/C auto amp. harness connector terminals and drive mode selector harness connector terminals.

A/C auto amp.		Drive mode selector		Continuity
Connector	Terminal	Connector	Terminal	
M37	11	M264	8	Existed
	31		9	

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace damaged parts.

5.CHECK CIRCUIT BETWEEN A/C AUTO AMP. AND DRIVE MODE SELECTOR (2)

Check continuity between A/C auto amp. harness connector terminal and ground.

A/C auto amp.		—	Continuity
Connector	Terminal		
M37	11	Ground	Not existed
	31		

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace damaged parts.

6.CHECK DRIVE MODE SELECTOR

Check drive mode selector. Refer to DMS-17, "Component Inspection".

Is the inspection result normal?

YES >> Replace A/C auto amp. Refer to HAC-102, "Removal and Installation".
NO >> Replace drive mode selector. Refer to DMS-20, "Removal and Installation".

7.COMBINATION METER INPUT SIGNAL

Select the “Data Monitor” for the “METER/M&A” and check the “SPORT IND” monitor value.

Condition	Value
Drive mode selector: SPORT switch ON	ON
Drive mode selector: Normal switch ON	OFF

Is the inspection result normal?

YES >> Replace TCM. Refer to TM-191, "Removal and Installation".
NO >> Replace combination meter. Refer to MWI-68, "Removal and Installation".

Component Inspection

INFOID:0000000011972851

1.CHECK DRIVE MODE SELECTOR

Check continuity between drive mode selector connector terminals.

Drive mode selector Terminal	Condition	Continuity
9 – 12	SPORT switch ON	Existed
	SPORT switch OFF	Not existed
8 – 12	Normal switch ON	Existed
	Normal switch OFF	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace drive mode selector. Refer to DMS-20, "Removal and Installation".

SYMPTOM DIAGNOSIS

DRIVE MODE INDICATOR DOES NOT TURN ON

Description

INFOID:0000000011972852

The drive mode indicator (SPORT mode indicator) does not turn ON when the drive mode selector (SPORT switch) is operated.

Diagnosis Procedure

INFOID:0000000011972853

1. 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-58, "DTC Index".
NO >> GO TO 2.

2. CHECK DTC (A/C AUTO AMP.)

With CONSULT
Check “Self Diagnostic Results” in “HVAC”.

Is any DTC detected?

YES >> Check DTC detected item. Refer to HAC-33, "DTC Index".
NO >> GO TO 3.

3. 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-29, "DTC Index".
NO >> GO TO 4.

4. CHECK DRIVE MODE SELECTOR CIRCUIT

Check drive mode selector circuit. Refer to DMS-16, "Component Function Check".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace malfunctioning parts.

REMOVAL AND INSTALLATION

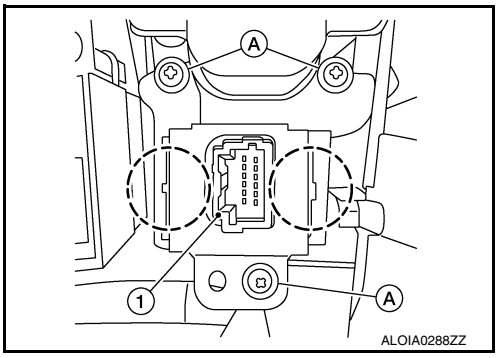
DRIVE MODE SELECTOR

Removal and Installation

INFOID:0000000011972854

REMOVAL

1. Remove center console finisher. Refer to IP-20, "Removal and Installation".
2. Remove screws (A) and release pawls using suitable tool. Remove drive mode selector (1) from center console finisher.
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.