# SECTION DISSIPATION DRIVE MODE SYSTEM

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#### **PRECAUTIONS**

[ECO MODE (M/T)] < PRECAUTION >

# **PRECAUTION**

#### **PRECAUTIONS**

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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.

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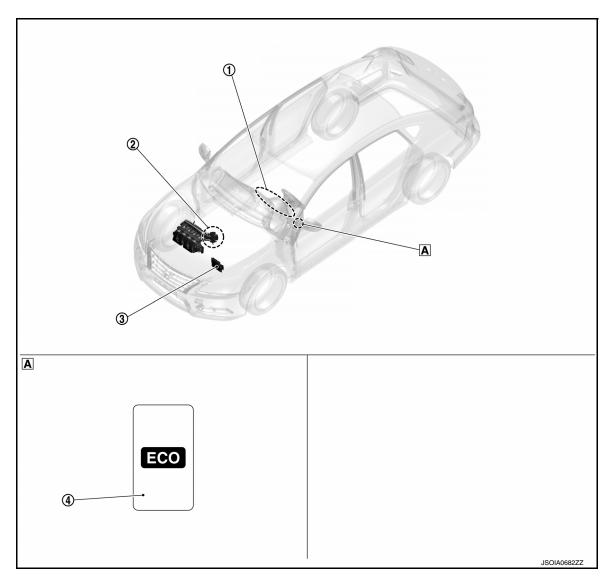
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# SYSTEM DESCRIPTION

## **COMPONENT PARTS**

## **Component Parts Location**





#### A Instrument lower finisher

No.	Component	Function
1	ECO mode indicator lamp	DMS-5, "ECO Mode Indicator Lamp"
2	Electric throttle control actuator	EC-22, "Electric Throttle Control Actuator"
3	ECM	EC-22, "ECM"
4	ECO mode switch	DMS-5, "ECO Mode Switch"

#### **COMPONENT PARTS**

< SYSTEM DESCRIPTION >

[ECO MODE (M/T)]

INFOID:0000000009755895

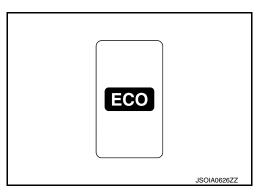
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ECO Mode Switch

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.

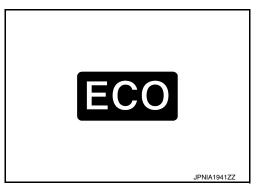


## **ECO Mode Indicator Lamp**

#### INFOID:0000000009755896

#### DESIGN/PURPOSE

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



#### SIGNAL PATH

- ECM receives ECO mode switch signal (ON/OFF) from combination meter 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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[ECO MODE (M/T)]

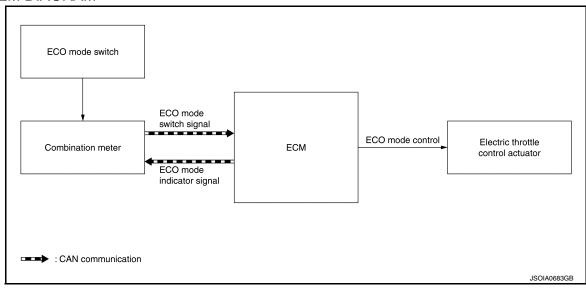
#### **SYSTEM**

#### ECO MODE CONTROL

## ECO MODE CONTROL: System Description

INFOID:0000000009755897

#### SYSTEM DIAGRAM



#### SYSTEM DESCRIPTION

- ECM transmits ECO mode indicator signal to combination meter via CAN communication. Combination meter illuminates ECO mode indicator lamp according to the signal.
- For ECM control details, refer to EC-52, "ECO MODE CONTROL: System Description".

#### **FAIL-SAFE**

If ECM detects a malfunction during ECO mode, the ECO mode indicator lamp turns OFF and the control switches to the normal mode control.

## [ECO MODE (M/T)]

# **ECU DIAGNOSIS INFORMATION**

## **ECM**

## List of ECU Reference

#### INFOID:0000000009755898

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## REFERENCE LIST

Engine	Reference
	EC-77, "Reference Value"
FOM	EC-90, "Fail Safe"
ECM	EC-93, "DTC Inspection Priority Chart"
	EC-94, "DTC Index"
	MWI-20, "Reference Value"
Combination meter	MWI-25, "Fail-Safe"
	MWI-26, "DTC Index"

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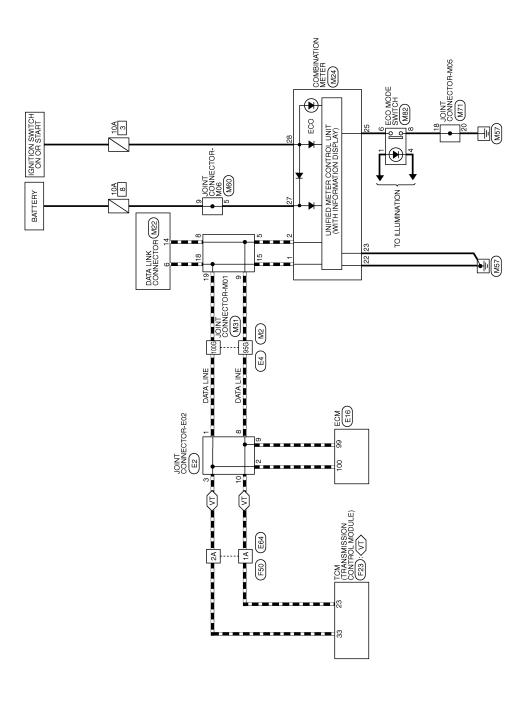
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# WIRING DIAGRAM

## **ECO MODE SYSTEM**

Wiring Diagram

VT∑: WITH CVT



**ECO MODE SYSTEM** 

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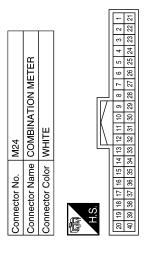
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			_					
	Connector Name   DATA LINK CONNECTOR	ITE		10 11 12 13 14 15 16	4 5 6 7 8 \	Signal Name	ı	1
. M22	me DA	lor WH		9 10 11	1 2 3	Color of Wire	_	۵
Connector No. M22	Connector Na	Connector Color WHITE			H.S.	Terminal No. Wire	9	14
olor of Signal Name		ı	-					
Terminal No. Color of		95G	100G					

1G 2G 3G 4G 5G 6G 7G 8G 9G 10G

Signal Name	CAN-H	CAN-L	GND2 (POWER)	GND3 (CIRCUIT)	ECO MODE SW	BAT	IGN
Color of Wire	Г	۵	В	В	GR	ГG	GR
Terminal No.	-	2	22	23	25	27	28



ECO MODE SYSTEM CONNECTORS

Connector No. M2
Connector Name WIRE TO WIRE

Connector Color WHITE

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Connector No.	M71
Connector Name	Connector Name JOINT CONNECTOR-M05
Connector Color PINK	PINK
H.S.	10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12 11
Terminal No.	Color of Signal Name

	Connector Name JOINT CONNECTOR-M05	~	6 5 4 3 2 1	20 19 18 17 16 15 14 13 12 11			Signal Name	I	ı
M71	me JOII	or PINK	10 9 8 7	0 19 18 17			Color of Wire	В	В
Connector No.	Connector Na	Connector Color					Terminal No.	18	50
		•			-	٠			

Connector No.	). M60	
Connector Na	Ime JOII	Connector Name JOINT CONNECTOR-M06
Connector Color BLUE	lor BLU	Ш
H.S.	10 9 8 20 19 18 1	10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12 11
Terminal No.	Color of Wire	Signal Name
2	٦В	_
6	M	_

Connector Name | JOINT CONNECTOR-M01

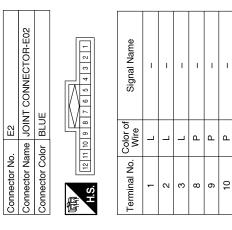
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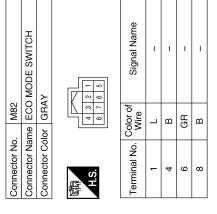
Connector No.

Connector Color GRAY

Terminal

Terr						
Signal Name	ı	ı	-	-	ı	_
Color of Wire	Д	Ь	Ь	٦	Γ	7
ninal No. Color of Wire	5	8	6	15	18	19





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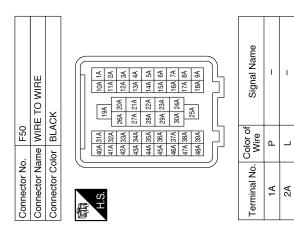
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Connector No. E16  Connector Name ECM  Connector Color GRAY  Liza 122 1131 1131 1131 1101 103 183  Liza 122 1131 1131 1131 1031 103 183  Terminal No. Wire Signal Name  99 P CAN-L  100 L CAN-H	
Signal Name	Signal Name
Color of Wire	Wire P L L
Terminal No. 95G 100G	Terminal No.
Connector Name   WIRE TO WIRE	Connector No. E64  Connector Name WIRE TO WIRE  Connector Color BLACK  LA 11A 10A 13A 22A 41A 22A 41A 33A 42A 41A 2A 13A 2A 2A 2A 41A 3A 13A 2A 2A 3A 43A 4A 4A 4A 4A 3A 13A 2A 2A 2A 3A 43A 4A 4A 4A 3A 13A 2A 2A 3A 43A 3A 43A 3A 43A 3A 43A 3A 43A 3A 43A 4

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Connector No.	_ ا	┡┺	F23	_									
Connector Name   TCM (TRANSMISSION   CONTROL MODULE)	ıme	<u> </u>	[ [ ]	ΣZ	ĔĔ	징	ဗ္≤		SS I	TCM (TRANSMISSIO) CONTROL MODULE)	z .		
Connector Color BLACK	힏		긆	일	$\mathbf{x}$								
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	$\ $					ī		1	П				(
9	31	32	8	8	33 34 35 36 37 38 39	98	37	88	88	4	47	48	_
	21	22	g	24	25	56	27	88	62	೫	45	46	
	11	12	13	14	14 15 16 17	16	17	18	19	20	43	44	
	-	2	က	4	r.	9	7	∞	6	2	41	42	_
	IJ	П	П	П	Ш	Ш	Ш	Ш		Ш			7
,	ļ	ı	ı	ı	ı	ſ		٦	L				١
						_			_				

of Signal Name	CAN-L	CAN-H
Color of Wire	۵	
Terminal No.	23	33

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[ECO MODE (M/T)] < BASIC INSPECTION >

# **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORK FLOW

Work Flow INFOID:0000000009755900

OVERALL SEQUENCE

Inspection start 1. Get information for symptom Get the detailed information about symptom from the customer 2. Check DTC Check for DTC. • If a DTC is detected, perform the following steps, and after this, erase DTC. - Print (or write down) the detected DTC and freeze frame data. - Check DTC logic. - Check related Service Bulletins. Symptom is described. Symptom is not described. Symptom is described. DTC is detected. DTC is detected. DTC is not detected. 3. Confirm the symptom 4. Confirm the symptom Try to confirm the symptom described Try to confirm the symptom described by the customer. by the customer. Also study the normal operation and fail-Also study the normal operation and failsafe related to the symptom. safe related to the symptom. 5. Perform DTC CONFIRMATION PROCEDURE 6. Detect malfunctioning system by **Symptom Table** 7. Detect malfunctioning part by Diagnosis Procedure Symptom is Symptom is not described. 8. Repair or replace the malfunctioning part Check input/output signal or voltage DTC is 9. Final check Symptom remains. detected. Check that the symptom is not detected. Perform DTC Confirmation Procedure again, and then check that the malfunction is repaired. **DMS** DTC is not detected. Symptom is remains. INSPECTION END

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#### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION > [ECO MODE (M/T)]

## 1.GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred) using the "Diagnostic Work Sheet". (Refer to EC-129, "Diagnostic Work Sheet".)

>> GO TO 2.

## 2. CHECK DTC IN ECM

- Check DTC in ECM.
- 2. If a DTC is detected, perform the following steps, and after this, erase DTC.
- Print (or write down) the detected DTC and freeze frame data.
- Check DTC logic.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- Check related Service Bulletins.

#### Are any symptoms described and any DTCs detected?

Symptom is described, DTC is detected>>GO TO 3.

Symptom is described, DTC is not detected>>GO TO 4.

Symptom is not described, DTC is detected>>GO TO 5.

## 3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom. Refer to <u>EC-473, "Symptom Table"</u> and <u>EC-90, "Fail Safe"</u>.

Diagnosis Work Sheet is useful to verify the incident.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## 4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## 5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the displayed DTC, and then check that DTC is detected again.

If two or more DTCs are detected, refer to <u>EC-93, "DTC Inspection Priority Chart"</u> and determine trouble diagnosis order.

#### NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Check ECO mode system. Refer to DMS-20, "Component Function Check".

#### $oldsymbol{6}$ .DETECT MALFUNCTIONING PART BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to Symptom Diagnosis based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptoms.

#### Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related ECM terminals using CON-SULT. Refer to <u>EC-77</u>, "<u>Reference Value</u>".

DIAGNOSIS AND REPAIR WORK FLOW [ECO MODE (M/T)] < BASIC INSPECTION > 7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE Inspect according to Diagnosis Procedure of the system. Is a malfunctioning part detected? YES >> GO TO 8. В NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". 8.REPAIR OR REPLACE THE MALFUNCTIONING PART Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement. Check DTC. If DTC is displayed, erase it. D >> GO TO 9. Е 9. FINAL CHECK When DTC was detected in step 3, perform DTC CONFIRMATION PROCEDURE or Component Function Check again, and then check that the malfunction have been completely repaired. When symptom was described from the customer, refer to confirmed symptom in step 4 or 5, and check that the symptom is not detected. Is DTC detected and does symptom remain? YES-1 >> DTC is detected: GO TO 7. YES-2 >> Symptom remains: GO TO 4. >> Before returning the vehicle to the customer, always erase DTC. NO Н

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[ECO MODE (M/T)]

# DTC/CIRCUIT DIAGNOSIS

## **ECO MODE SWITCH**

## Component Function Check

INFOID:0000000009755901

## 1. CHECK ECO MODE SWITCH OPERATION

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

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Proceed to <u>DMS-16</u>, "<u>Diagnosis Procedure</u>".

## 2. CHECK ECO MODE SWITCH ILLUMINATION FUNCTION

- 1. Turn ON the headlamp.
- 2. Check ECO mode switch illumination lights up.

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Proceed to <u>DMS-16</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009755902

Regarding Wiring Diagram information, refer to <a href="DMS-8">DMS-8</a>. "Wiring Diagram".

# 1. CHECK ECO MODE SWITCH ILLUMINATION FUNCTION

- Turn ignition switch ON.
- 2. Turn ON the headlamp.
- 3. Check that the ECO mode switch illumination lights up.

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 2.

## 2.CHECK ECO MODE SWITCH ILLUMINATION POWER SUPPLY-1

- Turn OFF the headlamp.
- Turn ignition switch OFF.
- 3. Disconnect ECO mode switch harness connector.
- 4. Turn ignition switch ON.
- Turn ON the headlamp.
- Check the voltage between ECO mode switch harness connector terminals.

ECO mode switch			
Connector	+	-	Voltage
Connector	Terr	minal	
M82	1	4	Battery voltage

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39</u>, "<u>Intermittent Incident"</u>. If OK, replace ECO mode switch. Refer to <u>DMS-21</u>, "<u>Removal and Installation"</u>.

NO >> GO TO 3.

## ${f 3.}$ CHECK ECO MODE SWITCH ILLUMINATION POWER SUPPLY-2

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

#### **ECO MODE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

[ECO MODE (M/T)]

+ ECO mode switch			
ECO mo	de switch	_	Voltage
Connector	Terminal		
M82	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 4.

## 4.CHECK FUSE

- 1. Turn OFF the headlamp.
- 2. Turn ignition switch OFF.
- 3. Pull out #37 fuse. Refer to PG-47, "Terminal Arrangement".
- 4. Check that the fuse is not fusing.

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace the fuse after repair the applicable circuit.

## ${f 5.}$ CHECK ECO MODE SWITCH ILLUMINATION POWER SUPPLY CIRCUIT

- 1. Disconnect IPDM E/R harness connector E45. Refer to <a href="INL-26">INL-26</a>, "Wiring Diagram".
- 2. Check the continuity between IPDM E/R harness connector and ECO mode switch harness connector.

	+		_	
IPDI	M E/R	ECO mo	de switch	Continuity
Connector	Terminal	Connector	Terminal	
E45	33	M82	1	Existed

Also check harness for short to ground.

#### Is the inspection result normal?

YES >> Perform IPDM E/R auto active test and check tail lamp relay operation. Refer to <a href="PCS-9">PCS-9</a>, "Diagnosis Description" (with intelligent key), <a href="PCS-9">PCS-37</a>, "Diagnosis Description" (without intelligent key).

NO >> Repair or replace error-detected 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		
M82	4	Ground	Existed

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".

NO >> Repair or replace error-detected parts.

#### /.CHECK ECO MODE SWITCH CIRCUIT

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

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ECO mode switch			
Connector	+	-	Voltage (Ap- prox.)
Connector	Terr	minal	,
M82	6	8	5 V

#### Is the inspection result normal?

YES >> GO TO 11.

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 mo	de switch	_	Continuity
Connector	Terminal		
M82	8	Ground	Existed

#### Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace damaged parts.

## 9. CHECK CIRCUIT BETWEEN COMBINATION METER AND ECO MODE SWITCH-1

- Disconnect combination meter harness connector M38.
- Check continuity between combination meter harness connector terminal and ECO mode switch harness connector terminal.

	+		_	
Combina	tion meter	ECO mo	de switch	Continuity
Connector	Terminal	Connector	Terminal	
M24	25	M82	6	Existed

Also check harness for short to power and short to ground.

#### Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace damaged parts.

# 10. CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

- Connect all of disconnected connectors.
- Check input/output signal of combination meter. Refer to MWI-20, "Reference Value".

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace error detected parts.

# 11. CHECK ECO MODE SWITCH

Check ECO mode switch. Refer to DMS-18, "Component Inspection".

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Replace ECO mode switch. Refer to DMS-21, "Removal and Installation".

## Component Inspection

INFOID:0000000009755903

## 1. CHECK ECO MODE SWITCH

Check continuity between ECO mode switch connector terminals.

## **ECO MODE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

[ECO MODE (M/T)]

ECO mode switch	Condition	Continuity
Terminal	Condition	Continuity
6 – 8	ECO mode switch is depressed.	Existed
0-0	ECO mode switch is released.	Not existed

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Is the inspection result normal?

YES >> INSPECTION END

С

NO >> Replace ECO mode switch. Refer to <a href="DMS-21">DMS-21</a>, "Removal and Installation".

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[ECO MODE (M/T)]

#### **ECO MODE**

## Component Function Check

#### INFOID:0000000009755904

## 1. CHECK ECO MODE OPERATION

- 1. Turn ignition switch ON.
- 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 >> Proceed to <u>DMS-20</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009755905

## 1. CHECK DTC IN ECM

#### (P)With CONSULT

Check "Self Diagnostic Results" in "ENGINE".

#### Are any DTC detected?

YES >> Check DTC detected item. Refer to EC-94, "DTC Index".

NO >> GO TO 2.

## 2.CHECK DTC IN COMBINATION METER

#### (P)With CONSULT

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

#### Is any DTC detected?

YES >> Check DTC detected item. Refer to MWI-26, "DTC Index".

NO >> GO TO 3.

## 3. CHECK COMBINATION METER

#### (P)With CONSULT

- Select "Data Monitor" in "METER/M&A".
- Check that "ECO MODE IND" turns ON/OFF when ECO mode switch is operated. Refer to MWI-20, "Reference Value".

#### Is the inspection result normal?

YES >> Replace combination meter. Refer to <a href="MWI-77">MWI-77</a>, "Removal and Installation".

NO >> GO TO 4.

## 4. CHECK ECO MODE SWITCH SYSTEM

Check ECO mode switch system. Refer to DMS-16, "Component Function Check".

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace error-detected parts.

#### **ECO MODE SWITCH**

< REMOVAL AND INSTALLATION >

[ECO MODE (M/T)]

# REMOVAL AND INSTALLATION

## **ECO MODE SWITCH**

## Removal and Installation

#### INFOID:0000000009755906

#### **REMOVAL**

- 1. Remove instrument lower panel LH. Refer to <a href="IP-21">IP-21</a>, "Removal and Installation".
- 2. Remove ECO mode switch.

#### **INSTALLATION**

Installation is in the reverse order of removal.

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#### **PRECAUTIONS**

< PRECAUTION > [ECO MODE (CVT)]

## **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. 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:**

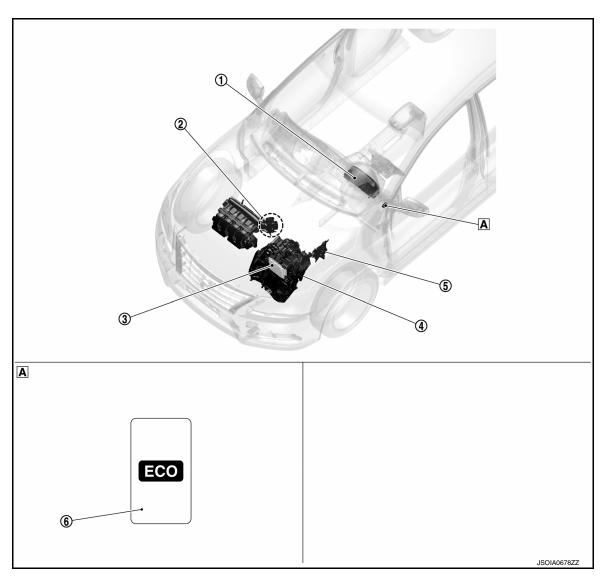
- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.

INFOID:0000000009755908

# SYSTEM DESCRIPTION

## **COMPONENT PARTS**

**Component Parts Location** 



A Instrument lower finisher

#### COMPONENT DESCRIPTION

No.	Component	Function
1	Combination meter	The combination meter transmittes the following signal via CAN communications to the TCM.  ECO mode switch signal  The combination meter receives the following signal via CAN communications from the ECM.  ECO mode indicator signal  Refer to MWI-5. "METER SYSTEM: Component Parts Location" for detailed installation location.
2	Electric throttle control actuator	Refer to EC-22, "Electric Throttle Control Actuator".

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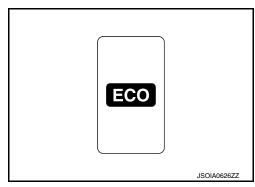
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#### < SYSTEM DESCRIPTION >

No.	Component	Function
3	ECM	The ECM receives the following signal via CAN communications from the TCM.  ECO mode signal The ECM transmittes the following signal via CAN communications to the combination meter.  ECO mode indicator signal Refer to EC-15, "ENGINE CONTROL SYSTEM: Component Parts Location" for detailed installation location.
4	Transaxle assembly	Refer to TM-73, "CVT CONTROL SYSTEM: Component Parts Location".
⑤	тсм	The TCM receives the following signal via CAN communications from the combination meter.  ECO mode switch signal The TCM transmittes the following signal via CAN communications to the ECM.  ECO mode signal Refer to TM-73, "CVT CONTROL SYSTEM: Component Parts Location" for detailed installation location.
6	ECO mode switch	Refer to DMS-24, "ECO Mode Switch".

ECO Mode Switch

- 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.

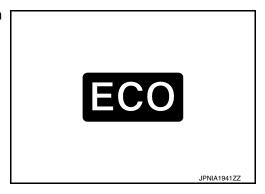


## **ECO Mode Indicator Lamp**

INFOID:0000000009755910

#### **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

## **COMPONENT PARTS**

< SYSTEM DESCRIPTION >

[ECO MODE (CVT)]

#### 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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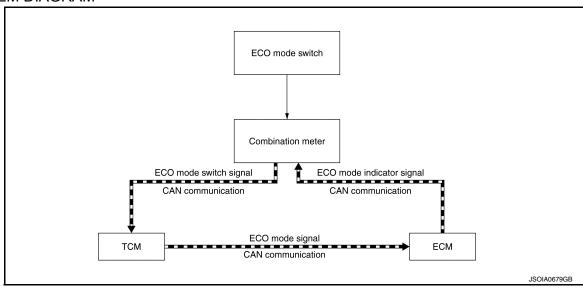
#### **SYSTEM**

#### ECO MODE CONTROL

ECO MODE CONTROL: System Description

INFOID:0000000009755911

#### 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-104, "ECO MODE CONTROL: System Description".
- For ECM control, refer to EC-52, "ECO MODE CONTROL: System Description".

## [ECO MODE (CVT)]

INFOID:0000000009755912

# **ECU DIAGNOSIS INFORMATION**

## **ECO MODE**

## List of ECU Reference

ECU	Reference	<u>.</u>
1	TM-114, "Reference Value"	
TOM	TM-122, "Fail-Safe"	
TCM	TM-125, "DTC Inspection Priority Chart"	
	TM-126, "DTC Index"	
	EC-77, "Reference Value"	
ECM	EC-90, "Fail Safe"	
EGIVI	EC-93, "DTC Inspection Priority Chart"	
	EC-94, "DTC Index"	
	MWI-20, "Reference Value"	
Combination meter	MWI-25, "Fail-Safe"	
	MWI-26, "DTC Index"	

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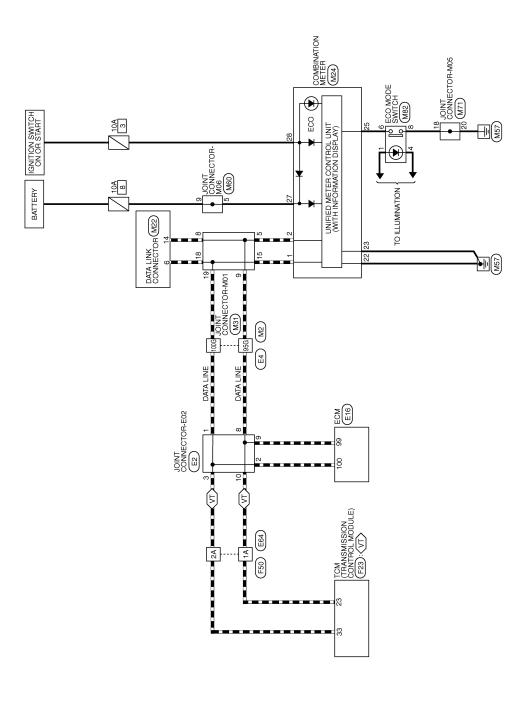
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# WIRING DIAGRAM

## **ECO MODE SYSTEM**

Wiring Diagram

VT∑: WITH CVT



**ECO MODE SYSTEM** 

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Terminal No.

**ECO MODE SYSTEM CONNECTORS** 

Connector Name WIRE TO WIRE

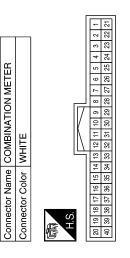
Connector No.

Connector Color WHITE

100G 95G

							_			
	Connector Name DATA LINK CONNECTOR	TE		12 13 14 15 16	3 4 5 6 7 8			Signal Name	_	-
). M22	me DAT	lor WH		9 10 11 1	1 2 3			Color of Wire	٦	۵
Connector No.	Connector Na	Connector Color WHITE			H.S.	]		Terminal No. Wire	9	14
				]						
Signal Name	Cignian Carlo	I	1							
Color of	Wire	۵	٦							
			ı	I						

Signal Name	CAN-H	CAN-L	GND2 (POWER)	GND3 (CIRCUIT)	ECO MODE SW	BAT	NSI
Color of Wire	_	۵	В	В	GR	LG	GR
Terminal No.	-	2	22	23	25	27	28



Connector No.

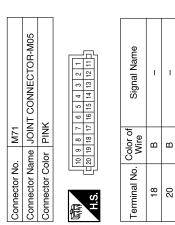
		7
16 26 36 46 56 66 75 80 96 106	110   120   120   140   150   140   170   180   190   120   170   120	
H.S.		

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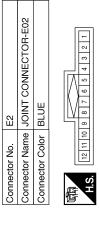
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Connector No.	). M60	)
Connector Na	ame JOI	Connector Name JOINT CONNECTOR-M06
Connector Color BLUE	olor BLL	E
H.S.	10 9 8 20 19 18	10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12 11
Terminal No. Wire	Color of Wire	Signal Name
2	ГG	ı
c	///	

Connector Name JOINT CONNECTOR-M01
Connector Color GRAY M31

Connector No.

7 6 5 4 3 2 1 17 16 15 14 13 12 11	Signal Name	-	I	I	I	ı	1
20 19 18 1	Color of Wire	Ь	Ь	Ь	٦	Г	L
H.S.	Terminal No. Wire	9	8	6	15	18	19



JOINT CONNECTOR-E02	Ш	7 6 5 4 3 2 1	Signal Name	ı	-	1	I	I	I
	lor BLUE	12 11 10 9 8	Color of Wire	_	٦	T	Ь	Ь	Д
Connector Name	Connector Color	H.S.	Terminal No.	-	2	3	8	6	10

	ECO MODE SWITCH	<u></u>	6 5 1 6 5 1	Signal Name	ı	1	ı	ı
M82		or GRAY	4 8	Color of Wire	_	В	GR	В
Connector No.	Connector Name	Connector Color	原.S.H	Terminal No.	-	4	9	8

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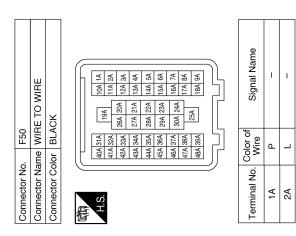
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Connector No. E16 Connector Name ECM Connector Color GRAY  Test 124   124   126   114   114   107   103   28   125   122   113   114   114   114   107   103   28   125   122   113   114   114   114   107   103   28   125   122   113   114   114   114   104   28   28   28   28   28   28   28   2	
Signal Name	Signal Name – – – – – – – – – – – – – – – – – – –
Color of Wire	Color of Wire
Terminal No. 95G 100G	Terminal No.
Connector No.   E4   Connector Name   WIRE TO WIRE   Connector Color   WHITE   Solution   Solutio	Connector No. E64  Connector Name WIRE TO WIRE  Connector Color BLACK  LA 11A 2A 12A 2A 3A 42A 44 13A 2A 12A 2A 3A 42A 44 13A 2A 12A 2A 3A 42A 44 13A 2A 13A 2A 2A 3A 42A 2A 13A 2A 13A 2A 2A 3A 43A 2A 13A 2A 13A 13A 2A 13A 13A 2A
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Connector No.	No.	۳	F23										
Connector Name	Name		[ [ ]	ΣZ	ĔĔ	징	છ≥	둘	SSI	TCM (TRANSMISSION CONTROL MODULE)	z		
Connector Color BLACK	Color	ш.	긆	일	$\mathbf{x}$								
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0	8	32	8	8	32 33 34 35 36 37 38	98	37	88	33	4	47	48	_
9	2	22	g	23 24	25 26	26	27	83	23	೫	45	46	
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	-	2	က	4	r.	9	7	∞	6	유	41	42	
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Signal Name	CAN-L	CAN-H
Color of Wire	Ь	Г
Terminal No.	23	33

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#### **DIAGNOSIS AND REPAIR WORK FLOW**

[ECO MODE (CVT)] < BASIC INSPECTION > **BASIC INSPECTION** Α DIAGNOSIS AND REPAIR WORK FLOW Work Flow INFOID:0000000009755914 В **DETAILED FLOW** 1. OBTAIN INFORMATION ABOUT SYMPTOM C Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurs. D >> GO TO 2. 2.CHECK SYMPTOM Е · Check the symptom based on the information obtained from the customer. · Check if any other malfunctions are present. F >> GO TO 3. 3.DTC/SYSTEM DIGANOSIS Perform a DTC/system diagnosis and repair or replace any malfunctioning part. >> GO TO 4. Н 4.FINAL CHECK Check that the ECO mode functions normally. Does it operation normally? YES >> End of trouble diagnosis NO >> GO TO 2. Ν

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[ECO MODE (CVT)]

# DTC/CIRCUIT DIAGNOSIS

#### **ECO MODE SWITCH**

## Component Function Check

INFOID:0000000009755915

## 1. CHECK ECO MODE SWITCH OPERATION

- 1. Turn ignition switch ON.
- 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-38, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000009755916

Regarding Wiring Diagram information, refer to <a href="DMS-28">DMS-28</a>, "Wiring Diagram".

## 1. DETECT MALFUNCTIONING ITEMS

#### What is malfunction items?

ECO mode switch illumination does not turns ON>>GO TO 2.

ECO mode indicator lamp does not turns ON>>GO TO 8.

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

- 1. Turn OFF the headlamp.
- 2. Turn ignition switch OFF.
- 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		
Connector	+	-	Voltage
Connector	Terr	minal	
M82	1	4	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

## 3.check intermittent incidente

Refer to GI-39, "Intermittent Incident".

#### Is the inspection result normal?

YES >> Replace ECO mode switch. Refer to <a href="DMS-39">DMS-39</a>, "Removal and Installation".

NO >> Replace the fuse after repair the applicable circuit.

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

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

#### **ECO MODE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

[ECO MODE (CVT)]

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	+		
ECO mo	de switch	-	Voltage
Connector	Terminal		
M82	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 5.

## 5. CHECK FUSE

- 1. Turn OFF the headlamp.
- 2. Turn ignition switch OFF.
- 3. Pull out #37 fuse. Refer to PG-47, "Terminal Arrangement".
- 4. Check that the fuse is not fusing.

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the fuse after repair the applicable circuit.

## 6.CHECK ECO MODE SWITCH ILLUMINATION POWER SUPPLY CIRCUIT

- Disconnect IPDM E/R harness connector E45. Refer to INL-26, "Wiring Diagram".
- 2. Check the continuity between IPDM E/R harness connector and ECO mode switch harness connector.

+		-		
IPDI	M E/R	ECO mode switch		Continuity
Connector	Terminal	Connector	Terminal	
E45	33	M82	1	Existed

3. Also check harness for short to ground.

#### Is the inspection result normal?

YES >> Perform IPDM E/R auto active test and check tail lamp relay operation. Refer to <a href="PCS-9">PCS-9</a>, "Diagnosis Description" (with intelligent key), <a href="PCS-9">PCS-37</a>, "Diagnosis Description" (without intelligent key).

NO >> Repair or replace error-detected parts.

## 7.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		
M82	4	Ground	Existed

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".

NO >> Repair or replace error-detected parts.

## 8. CHECK ECO MODE SWITCH CIRCUIT

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

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Connector	+	-	Voltage (Approx.)
	Terr		
M82	6	8	5 V

#### Is the inspection result normal?

YES >> GO TO 13. NO >> GO TO 9.

## 9. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check the continuity between ECO mode switch harness connector and ground.

ECO mo	ECO mode switch		Continuity
Connector	Terminal	_	Continuity
M82	8	Ground	Existed

#### Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace damaged parts.

# 10.check circuit between combination meter and eco mode switch (1)

- 1. Disconnect combination meter harness connector M24.
- 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	Continuity
M24	25	M82	6	Existed

#### Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace damaged parts.

# 11.CHECK CIRCUIT BETWEEN COMBINATION METER AND ECO MODE SWITCH (2)

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

Combination meter			Continuity
Connector	Terminal		Continuity
M24	25	Ground	Not existed

#### Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair or replace damaged parts.

# 12. CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

- Connect all of disconnected connectors.
- Check input/output signal of combination meter. Refer to <u>MWI-20, "Reference Value"</u>.

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Replace combination meter. Refer to MWI-77, "Removal and Installation".

# 13. CHECK ECO MODE SWITCH

Check ECO mode switch. Refer to DMS-37, "Component Inspection".

#### Is the inspection result normal?

## **ECO MODE SWITCH**

## < DTC/CIRCUIT DIAGNOSIS >

[ECO MODE (CVT)]

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Replace ECO mode switch. Refer to <a href="DMS-39">DMS-39</a>, "Removal and Installation".

INFOID:0000000009755917

# Component Inspection

# 1. CHECK ECO MODE SWITCH

Check continuity between ECO mode switch connector terminals.

ECO mode switch	Condition	Continuity
Terminal	Condition	Continuity
6 – 8	ECO mode switch is depressed.	Existed
0 – 0	ECO mode switch is released.	Not existed

## Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace ECO mode switch. Refer to <a href="DMS-39">DMS-39</a>, "Removal and Installation".

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## THE ECO MODE INDICATOR LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

[ECO MODE (CVT)]

# SYMPTOM DIAGNOSIS

# THE ECO MODE INDICATOR LAMP DOES NOT TURN ON

Description INFOID:0000000009755918

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

# Diagnosis Procedure

INFOID:0000000009755919

# 1. PERFORM COMBINATION METER ON BOARD DIAGNOSIS

Perform combination meter on board diagnosis. Refer to MWI-16, "Description".

#### Is the check result normal?

YES >> GO TO 2.

NO >> Replace combination meter. Refer to MWI-77, "Removal and Installation".

# 2.CHECK DTC (TCM)

## (P)With CONSULT

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

#### Is any DTC detected?

YES >> Check DTC detected item. Refer to TM-126, "DTC Index".

NO >> GO TO 3.

# 3.CHECK DTC (ECM)

#### (P)With CONSULT

Check "Self Diagnostic Results" in "ENGINE".

#### Is any DTC detected?

YES >> Check DTC detected item. Refer to EC-94, "DTC Index".

NO >> GO TO 4.

# 4.CHECK DTC (COMBINATION METER)

#### (P)With CONSULT

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

#### Is any DTC detected?

YES >> Check DTC detected item. Refer to MWI-26, "DTC Index".

NO >> GO TO 5.

# 5.CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

#### (P)With CONSULT

- Select "Data Monitor" in "METER/M&A".
- Select "ECO MODE IND".
- 3. Check that "ECO MODE IND" turns ON/OFF when ECO mode switch is operated. Refer to MWI-20, "Reference Value".

#### Is any DTC detected?

YES >> Replace combination meter. Refer to <a href="MWI-77">MWI-77</a>, "Removal and Installation".

NO >> GO TO 6.

# 6.CHECK ECO MODE SWITCH CIRCUIT

Check ECO mode switch circuit. Refer to <a href="DMS-34">DMS-34</a>, "Diagnosis Procedure".

#### Is any DTC detected?

YES >> INSPECTION END

NO >> Repair or replace malfunctioning parts.

# **ECO MODE SWITCH**

< REMOVAL AND INSTALLATION >

[ECO MODE (CVT)]

INFOID:0000000009755920

# REMOVAL AND INSTALLATION

# **ECO MODE SWITCH**

Removal and Installation

## **REMOVAL**

- 1. Remove instrument lower panel LH. Refer to IP-21, "Removal and Installation".
- 2. Remove ECO mode switch.

## **INSTALLATION**

Installation is in the reverse order of removal.

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## **PRECAUTIONS**

< PRECAUTION > [SPORT MODE (M/T)]

# **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. 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:**

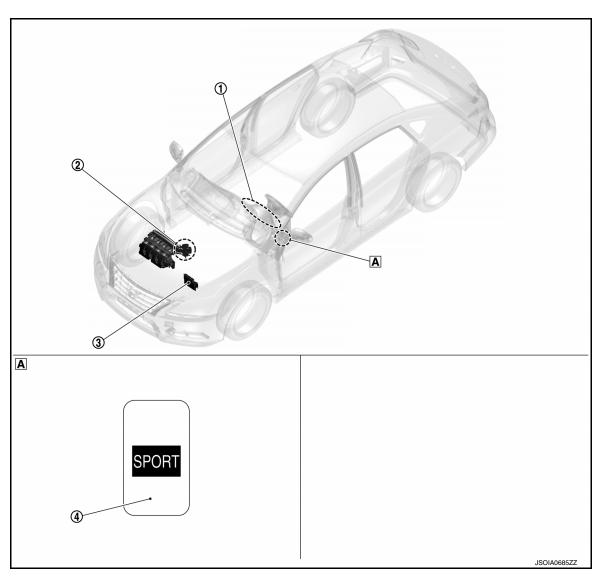
- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.

INFOID:0000000009755922

# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

**Component Parts Location** 



#### Instrument lower finisher

No.	Component	Function
1	SPORT mode indicator lamp	DMS-42, "SPORT Mode Indicator Lamp"
2	Electric throttle control actuator	EC-22, "Electric Throttle Control Actuator"
3	ECM	EC-22, "ECM"
4	SPORT mode switch	DMS-42, "SPORT Mode Switch"

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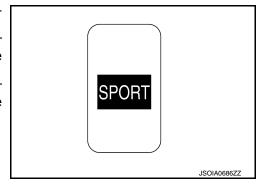
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#### [SPORT MODE (M/T)]

## SPORT Mode Switch

INFOID:0000000009755923

- 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.

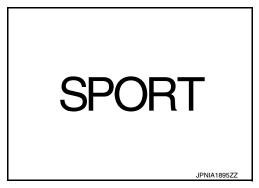


# SPORT Mode Indicator Lamp

INFOID:0000000009755924

#### DESIGN/PURPOSE

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



# **BULB CHECK**

Not applicable

#### SIGNAL PATH

- ECM receives SPORT mode switch signal (ON/OFF) from combination meter 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.

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

#### 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.
- The ECO mode switch is pressded when the SPORT mode indicator lamp is ON.

# **SYSTEM**

# SPORT MODE CONTROL

# SPORT MODE CONTROL: System Description

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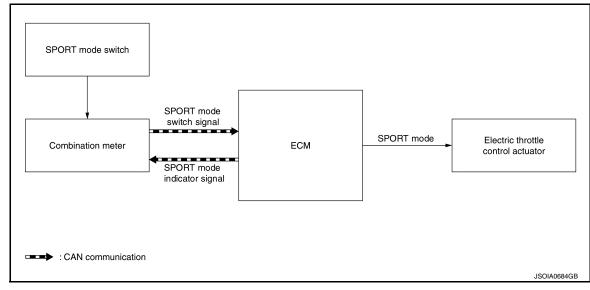
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#### SYSTEM DIAGRAM



## SYSTEM DESCRIPTION

- ECM transmits SPORT mode indicator signal to combination meter via CAN communication. Combination meter illuminates SPORT mode indicator lamp according to the signal.
- For ECM Control details, refer to <u>EC-53</u>, "SPORT MODE CONTROL: System Description".

#### FAIL-SAFE

If ECM detects a malfunction during SPORT mode, the SPORT mode indicator lamp turns OFF and the control switches to the normal mode control.

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[SPORT MODE (M/T)]

# **ECU DIAGNOSIS INFORMATION**

**ECM** 

# List of ECU Reference

INFOID:0000000009755926

# REFERENCE LIST

Engine	Reference
	EC-77, "Reference Value"
ECM	EC-90, "Fail Safe"
ECIVI	EC-93, "DTC Inspection Priority Chart"
	EC-94, "DTC Index"
	MWI-20, "Reference Value"
Combination meter	MWI-25, "Fail-Safe"
	MWI-26, "DTC Index"

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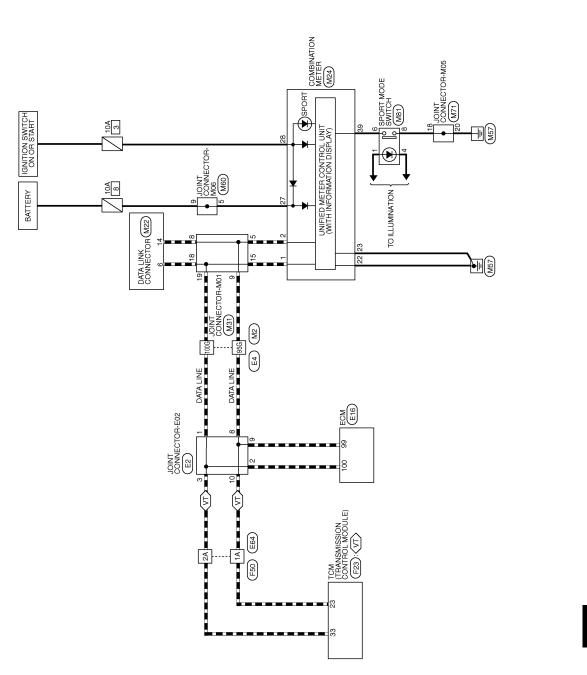
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# WIRING DIAGRAM

# SPORT MODE SYSTEM

Wiring Diagram

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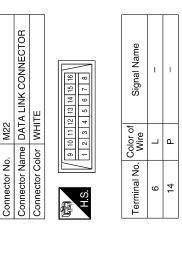
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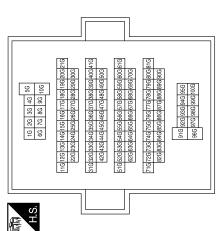
SPORT MODE SYSTEM

# SPORT MODE SYSTEM CONNECTORS

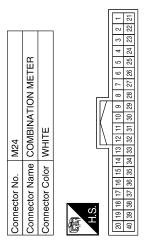




Signal Name	-	_	
Color of Wire	Ь	L	
Terminal No.	95G	100G	



Signal Name	CAN-H	CAN-L	GND2 (POWER)	GND3 (CIRCUIT)	BAT	IGN	SPORT MODE SW
Color of Wire	Т	۵	В	В	LG	GR	Μ
Terminal No.	1	2	22	23	27	28	68



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M31		Connector No.	M60		Conne	Connector No.	M71	
JOINT	nector Name JOINT CONNECTOR-M01	Connector Nam	TOIN	Connector Name   JOINT CONNECTOR-M06	Conne	ector Nan	JOIN	Connector Name JOINT CONNECTOR-M05
nector Color GRAY		Connector Color BLUE	r BLUE		Conne	Connector Color PINK	or PINK	
7	6 5 4 3 2 1	10	7 8 6 0	6 5 4 3 2 1		01	9 8 7	6 5 4 3 2 1
19 18 17 1	16 15 14 13 12 11	H.S.	19 18 17	16 15 14 13 12 11	H.S.		19 18 17	16 15 14 13 12 11 1
ninal No. Color of Wire	Signal Name	Terminal No. Wire	Solor of Wire	Signal Name	Termi	Terminal No. Wire	Solor of Wire	Signal Name
<u> </u>	1	ß	ГG	1	,	18	В	1
_	1	o	>	1		20	В	1
_	ı							
_	1							
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	JOINT CONNECTOR-E02	E .	7 6 5 1	Signal Name	_	_	_	_	-	_
. E2		lor BLUE	12 11 10 9 8	Color of Wire	٦	٦	_	Ь	Ь	Ь
Connector No.	Connector Name	Connector Color	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Terminal No.	1	2	3	8	6	10

	SPORT MODE SWITCH	Ξ	- Q - Q - Q	Signal Name	ı	1	ı	-
. M81		lor BLUE	4 8	Color of Wire	٦	В	>	В
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	4	9	8

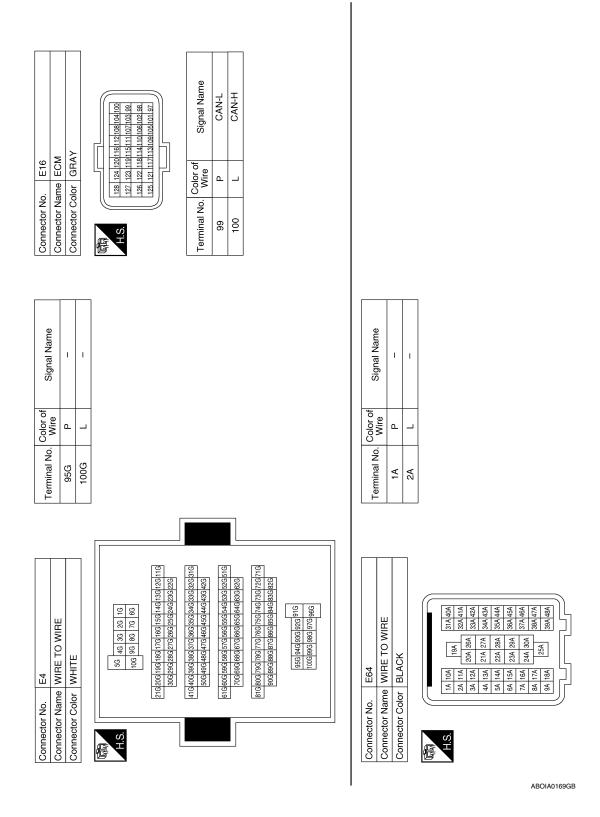
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**DMS-47** Revision: October 2013 2014 Sentra NAM

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Connector No.	Š		F23	ω.										
Connector Name   TCM (TRANSMISSION   CONTROL MODULE)	Nan	e	128	ΣŽ	٣	징	ဗ္≤		SS I	TCM (TRANSMISSIO) CONTROL MODULE)	2			
Connector Color BLACK	9	_	Ⅱ	AC.	$ \mathbf{x} $									
						L			١,				ı	
偃	1		Ш	Ш	Ш	ī	Ш	П	┚				6	
01		31 32 33 34 35 36 37 38	83	8	35	98	37	88		8	47	8	=	
9	67	21 22	22 23 24 25 26	24	25	26	27	27 28	62	8	45	46		
	Ξ		12 13 14 15 16 17 18 19	14	15	16	17	18	19	20	43	44		
		2	က	4	ß	9	7	∞	6	9	14	42	=	
	IJ											lÌ	?	
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Signal Name	CAN-L	CAN-H
Color of Wire	Ь	
Terminal No.	23	33

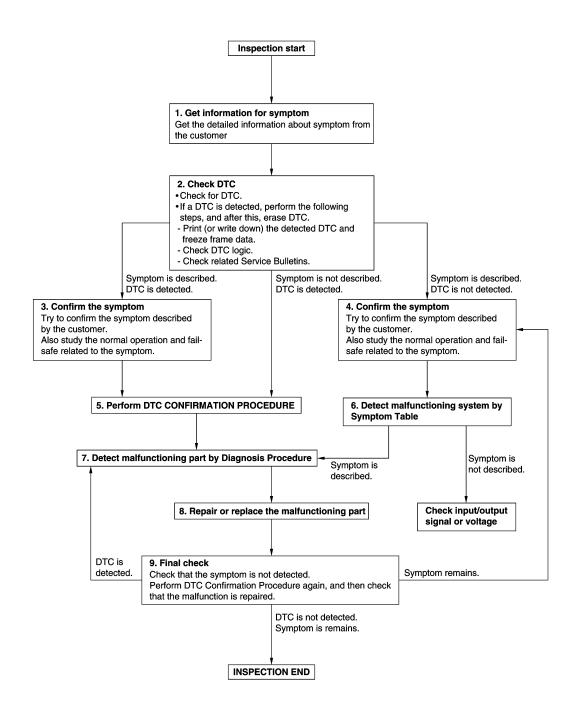
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# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

**OVERALL SEQUENCE** 



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#### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

# 1.GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred) using the "Diagnostic Work Sheet". (Refer to <a href="EC-129">EC-129</a>, "Diagnostic Work Sheet".)

>> GO TO 2.

# 2. CHECK DTC IN ECM

- 1. Check DTC in ECM.
- 2. If a DTC is detected, perform the following steps, and after this, erase DTC.
- Print (or write down) the detected DTC and freeze frame data.
- Check DTC logic.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- Check related Service Bulletins.

## Are any symptoms described and any DTCs detected?

Symptom is described, DTC is detected>>GO TO 3.

Symptom is described, DTC is not detected>>GO TO 4.

Symptom is not described, DTC is detected>>GO TO 5.

# 3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom. Refer to <u>EC-473, "Symptom Table"</u> and <u>EC-90, "Fail Safe"</u>.

Diagnosis Work Sheet is useful to verify the incident.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

# 4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

# 5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the displayed DTC, and then check that DTC is detected again.

If two or more DTCs are detected, refer to <u>EC-93</u>, "<u>DTC Inspection Priority Chart"</u> and determine trouble diagnosis order.

#### NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Check SPORT mode system. Refer to <a href="DMS-57">DMS-57</a>, "Component Function Check".

# **Ó**.DETECT MALFUNCTIONING PART BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to Symptom Diagnosis based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptoms.

## Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related ECM terminals using CON-SULT. Refer to <a href="EC-77">EC-77</a>, "Reference Value".

**DMS-51** 

[SPORT MODE (M/T)]

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#### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[SPORT MODE (M/T)]

# 7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

#### Is a malfunctioning part detected?

YES >> GO TO 8.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

# 8.REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement
- 3. Check DTC. If DTC is displayed, erase it.

>> GO TO 9.

# 9. FINAL CHECK

When DTC was detected in step 3, perform DTC CONFIRMATION PROCEDURE or Component Function Check again, and then check that the malfunction have been completely repaired.

When symptom was described from the customer, refer to confirmed symptom in step 4 or 5, and check that the symptom is not detected.

#### Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

## SPORT MODE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[SPORT MODE (M/T)]

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# DTC/CIRCUIT DIAGNOSIS

# SPORT MODE SWITCH

# Component Function Check

# 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 >> GO TO 2.

NO >> Proceed to <u>DMS-53</u>, "<u>Diagnosis Procedure</u>".

# $oldsymbol{2}$ . CHECK SPORT MODE SWITCH ILLUMINATION FUNCTION

- Turn ON the headlamp.
- 2. Check SPORT mode switch illumination lights up.

# Is the inspection result normal?

YES >> INSPECTION END

NO >> Proceed to <u>DMS-53</u>, "<u>Diagnosis Procedure</u>".

# Diagnosis Procedure

Regarding Wiring Diagram information, refer to DMS-45. "Wiring Diagram".

# 1. CHECK SPORT MODE SWITCH ILLUMINATION FUNCTION

- Turn ignition switch ON.
- Turn ON the headlamp.
- 3. Check that the SPORT mode switch illumination lights up.

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 2.

# 2.CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY-1

- 1. Turn OFF the headlamp.
- Turn ignition switch OFF.
- Disconnect SPORT mode switch harness connector.
- 4. Turn ignition switch ON.
- Turn ON the headlamp.
- Check the voltage between SPORT mode switch harness connector terminals.

;				
Connector	+	-	Voltage	
Connector	Terminal			
M81	1 4		Battery voltage	

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39</u>, "<u>Intermittent Incident</u>". If OK, replace SPORT mode switch. Refer to <u>DMS-58</u>, "<u>Removal and Installation</u>".

NO >> GO TO 3.

# 3.CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY-2

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

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+			
SPORT mode switch		_	Voltage
Connector Terminal			
M81	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 6. NO >> GO TO 4.

# 4.CHECK FUSE

- 1. Turn OFF the headlamp.
- 2. Turn ignition switch OFF.
- 3. Pull out #37 fuse. Refer to PG-47, "Terminal Arrangement".
- 4. Check that the fuse is not fusing.

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace the fuse after repair the applicable circuit.

# 5.check sport mode switch illumination power supply circuit

- 1. Disconnect IPDM E/R harness connector E45. Refer to INL-26, "Wiring Diagram".
- 2. Check the continuity between IPDM E/R harness connector and SPORT mode switch harness connector.

+		,	_	
IPDM E/R		SPORT m	ode switch	Continuity
Connector	Terminal	Connector	Terminal	
E45	33	M81	1	Existed

3. Also check harness for short to ground.

#### Is the inspection result normal?

YES >> Perform IPDM E/R auto active test and check tail lamp relay operation. Refer to <a href="PCS-9">PCS-9</a>, "Diagnosis Description" (with intelligent key), <a href="PCS-9">PCS-37</a>, "Diagnosis Description" (without intelligent key).

NO >> Repair or replace error-detected parts.

# 6. CHECK GROUND CIRCUIT

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

+			
SPORT mode switch		_	Continuity
Connector Terminal			
M81	4	Ground	Existed

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace error-detected parts.

# 7. CHECK SPORT MODE SWITCH CIRCUIT

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

#### < DTC/CIRCUIT DIAGNOSIS >

SPORT mode switch			) / I/ /A
Connector	+	-	Voltage (Ap- prox.)
Connector	Terr	minal	, ,
M81	6	8	5 V

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 8.

# 8.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			
M81	8	Ground	Existed

#### Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace damaged parts.

# 9.CHECK CIRCUIT BETWEEN COMBINATION METER AND SPORT MODE SWITCH-1

Disconnect combination meter harness connector M38.

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

	+		_	
Combina	tion meter	SPORT m	ode switch	Continuity
Connector	Terminal	Connector	Terminal	
M24	39	M81	6	Existed

Also check harness for short to power and short to ground.

#### Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace damaged parts.

# 10. CHECK COMBINATION METER INPUT/OUTPUT SIGNAL

- Connect all of disconnected connectors.
- Check input/output signal of combination meter. Refer to <u>MWI-20, "Reference Value"</u>.

## Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace error detected parts.

# 11. CHECK SPORT MODE SWITCH

Check SPORT mode switch. Refer to <a href="DMS-55">DMS-55</a>, "Component Inspection".

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Replace SPORT mode switch. Refer to DMS-58, "Removal and Installation".

# Component Inspection

Revision: October 2013

1.CHECK SPORT MODE SWITCH

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Check continuity between SPORT mode switch connector terminals.

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# **SPORT MODE SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

[SPORT MODE (M/T)]

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 <a href="DMS-58">DMS-58</a>. "Removal and Installation".

# **SPORT MODE**

SPORT MODE	
< DTC/CIRCUIT DIAGNOSIS >	[SPORT MODE (M/T)]
SPORT MODE	
Component Function Check	INFOID:000000009755932
1. CHECK SPORT MODE OPERATION	
<ol> <li>Turn ignition switch ON.</li> <li>Check SPORT mode indicator lamp turns ON/OFF on combination meter who ON/OFF.</li> <li>Is the inspection result normal?</li> </ol>	en turn SPORT mode switch
YES >> INSPECTION END. NO >> Proceed to <u>DMS-57</u> , " <u>Diagnosis Procedure</u> ".	
Diagnosis Procedure	INFOID:000000009755933
1.CHECK DTC IN ECM	
With CONSULT Check "Self Diagnostic Results" in "ENGINE". Are any DTC detected? YES >> Check DTC detected item. Refer to EC-94, "DTC Index". NO >> GO TO 2. 2.CHECK DTC IN COMBINATION METER	
With CONSULT Check "Self Diagnostic Results" in "METER/M&A".    Is any DTC detected?  YES >> Check DTC detected item. Refer to MWI-26, "DTC Index".  NO >> GO TO 3.	
3. CHECK COMBINATION METER	
<ul> <li>(a) With CONSULT</li> <li>1. Select "Data Monitor" in "METER/M&amp;A".</li> <li>2. Check that "SPORT MODE IND" turns ON/OFF when SPORT mode switch is "Reference Value".</li> </ul>	operated. Refer to MWI-20,
Is the inspection result normal?  YES >> Replace combination meter. Refer to MWI-77, "Removal and Installation NO >> GO TO 4.	ion".
4.CHECK SPORT MODE SWITCH SYSTEM	
Check SPORT mode switch system. Refer to <a href="DMS-53">DMS-53</a> , "Component Function Checks the inspection result normal?  YES >> INSPECTION END  NO >> Repair or replace error-detected parts.	eck".

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# **SPORT MODE SWITCH**

< REMOVAL AND INSTALLATION >

[SPORT MODE (M/T)]

# REMOVAL AND INSTALLATION

# SPORT MODE SWITCH

# Removal and Installation

#### INFOID:0000000009755934

## **REMOVAL**

- 1. Remove instrument lower panel LH. Refer to IP-21, "Removal and Installation".
- 2. Remove SPORT mode switch.

## **INSTALLATION**

Installation is in the reverse order of removal.

## **PRECAUTIONS**

< PRECAUTION > [SPORT MODE (CVT)]

# **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. 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.

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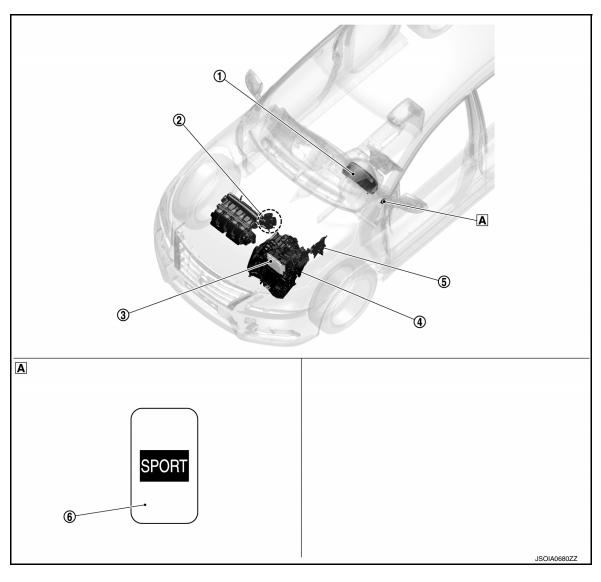
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# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

# **Component Parts Location**

INFOID:0000000009755936



A Instrument lower finisher

## **COMPONENT DESCRIPTION**

No.	Component	Function
1	Combination meter	The combination meter transmittes the following signal via CAN communications to the TCM. SPORT mode switch signal The combination meter receives the following signal via CAN communications from the ECM. SPORT mode indicator signal Refer to MWI-5, "METER SYSTEM: Component Parts Location" for detailed installation location.
2	Electric throttle control actuator	Refer to EC-22, "Electric Throttle Control Actuator".

## **COMPONENT PARTS**

# < SYSTEM DESCRIPTION >

[SPORT MODE (CVT)]

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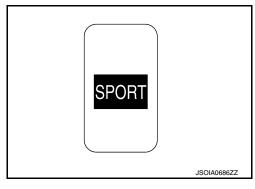
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No.	Component	Function
3	ECM	The ECM receives the following signal via CAN communications from the TCM. SPORT mode signal The ECM transmittes the following signal via CAN communications to the combination meter. SPORT mode indicator signal Refer to EC-15. "ENGINE CONTROL SYSTEM: Component Parts Location" for detailed installation location.
4	Transaxle assembly	Refer to TM-73, "CVT CONTROL SYSTEM: Component Parts Location".
(5)	TCM	The TCM receives the following signal via CAN communications from the combination meter.  SPORT mode switch signal The TCM transmittes the following signal via CAN communications to the ECM.  SPORT mode signal Refer to TM-73, "CVT CONTROL SYSTEM: Component Parts Location" for detailed installation location.
6	SPORT mode switch	Refer to DMS-61, "SPORT Mode Switch".

#### SPORT Mode Switch

 The SPORT mode switch is installed to the instrument lower finisher.

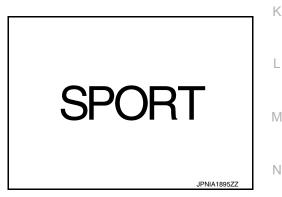
- When the SPORT mode indicator lamp on the combination meter is OFF and the SPORT mode switch is pressed, the SPORT mode is active and the SPORT mode indicator lamp is ON.
- When the SPORT mode indicator lamp on the combination meter is ON and the SPORT mode switch is pressed, the SPORT mode is cancelled and the SPORT mode indicator lamp is OFF.



# **SPORT Mode Indicator Lamp**

#### DESIGN/PURPOSE

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



# BULB CHECK Not applicable

### 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.

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

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# **COMPONENT PARTS**

< SYSTEM DESCRIPTION >

[SPORT MODE (CVT)]

# 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.
  The ECO mode switch is pressded when the SPORT mode indicator lamp is ON.

# **SYSTEM**

# SPORT MODE CONTROL

SPORT MODE CONTROL: System Description

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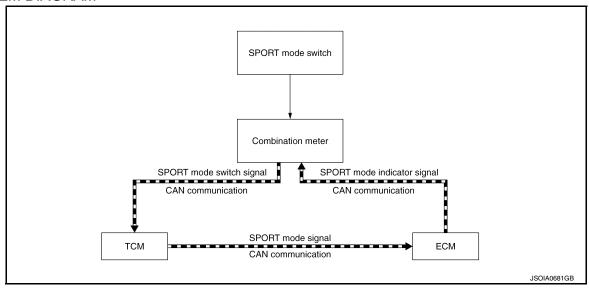
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#### SYSTEM DIAGRAM



### SYSTEM DISCRIPTION

- TCM receive 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 transmit 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-104, "SPORT MODE CONTROL: System Description".
- For ECM control, refer to EC-53, "SPORT MODE CONTROL: System Description".

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# **ECU DIAGNOSIS INFORMATION**

# **SPORT MODE**

# List of ECU Reference

INFOID:0000000009755940

ECU	Reference
	TM-114, "Reference Value"
TCM	TM-122, "Fail-Safe"
I GIVI	TM-125. "DTC Inspection Priority Chart"
	TM-126, "DTC Index"
	EC-77, "Reference Value"
ECM	EC-90, "Fail Safe"
LOW	EC-93, "DTC Inspection Priority Chart"
	EC-94, "DTC Index"
	MWI-20, "Reference Value"
Combination meter	MWI-25, "Fail-Safe"
	MWI-26, "DTC Index"

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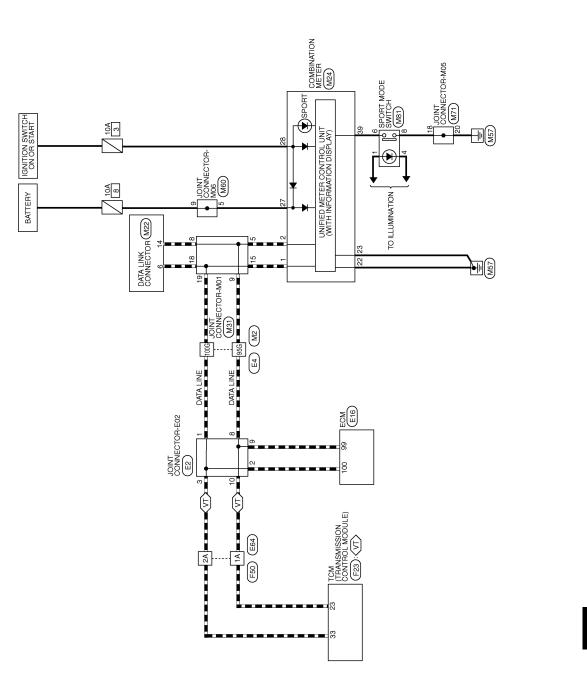
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# WIRING DIAGRAM

# SPORT MODE SYSTEM

Wiring Diagram

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SPORT MODE SYSTEM

# SPORT MODE SYSTEM CONNECTORS



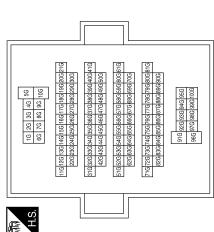
10 11 12 13 14 15 16   7   8   1   1   1   1   1   1   1   1   1	ı
9 10 11   2 3   Wire	Δ
H.S. Color of Wire 6 L	17

Signal Name	ı	_	
Color of Wire	Ь	Γ	
Terminal No.	926	100G	

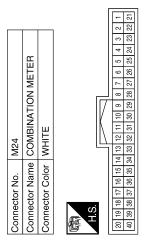
Connector Name DATA LINK CONNECTOR

Connector No.

Connector Color WHITE



Signal Name	CAN-H	CAN-L	GND2 (POWER)	GND3 (CIRCUIT)	BAT	IGN	SPORT MODE SW
Color of Wire		۵	В	В	LG	GR	>
Terminal No.	-	2	22	23	27	28	39



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NECTOR-M05	3 2 1 13 12 11	Signal Name	1	ı				
Connector Name JOINT CONNECTOR-M05 Connector Color PINK	10 9 8 7 6 5 4		В	В				
Connector No. M71 Connector Name JOINT Connector Color PINK	100 H.S.	Terminal No. Color of Wire	18	20				
Connector Name JOINT CONNECTOR-M06 Connector Color BLUE	7 6 5 4 3 2 1	of Signal Name	1	ı				
. M60 me JOIN lor BLUE	10 9 8	Color o	ГG	>				
Connector No. M60 Connector Name JOINT Connector Color BLUE	H.S.	Terminal No. Color of Wire	2	6				
ctor No. M31  ctor Name JOINT CONNECTOR-M01  ctor Color GRAY	7 6 5 4 3 2 11 17 16 15 14 13 12 11	Signal Name	1	1	_	ı	1	ı
ctor No. M31 ctor Name JOINT ctor Color GRAY	20 19 18 7	nal No. Color of Wire	۵	Ь	Д	7	_	٦
stor No		al No.					8	6

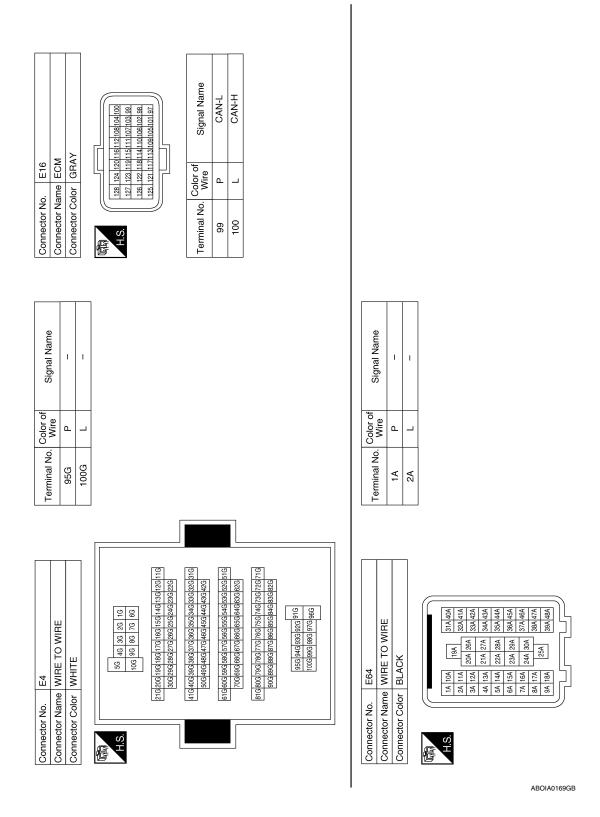
	JOINT CONNECTOR-E02	JE .	7 8 7 9 1		Signal Name	-	ı	ı	I	1	-
E2	me JOI	or BLUE	\$ \$	2	Color of Wire	7	_	_	۵	۵	Д
Connector No.	Connector Name	Connector Color			Terminal No.	1	2	3	8	6	10

	Connector Name   SPORT MODE SWITCH	JE	- so	Signal Name	_	_	-	_	
. M81	me SPC	lor BLUE	4 8	Color of Wire	٦	В	M	В	
Connector No.	Connector Na	Connector Color	H.S.	Terminal No.	1	4	9	8	

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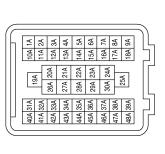
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Connector No.	F50
Connector Name   WIRE TO WIRE	WIRE TO WIRE
Connector Color BLACK	BLACK



Sign		
Color of Wire	Ь	٦
Terminal No.	1 4	2A

Connector No.	9		F23	8									
Connector Name TCM (TRANSMISSION CONTROL MODULE)	lan	Φ	128	ΣŽ	leë.	동	ဗ္ခ≦	물님	l‰∑	TCM (TRANSMISSIO) CONTROL MODULE)	z		
Connector Color BLACK	용	Ţ	B B	8	×								
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	IJ					Ī		1					(
9	31	32	32 33 34 35 36 37 38 39	34	35	36	37	38	39	40	47	48	
9	21	22	23	23 24 25 26	25	26	27	88	23	8	45	46	
	Ŀ	11 12	12 13 14 15 16 17	14	15	16	17	18	19	20	43	44	
		2	က	4	2	9	7	∞	6	10	41	42	
_	ا	l				1	1	1	]	]			1

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

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# **DIAGNOSIS AND REPAIR WORK FLOW**

< BASIC INSPECTION >

[SPORT MODE (CVT)]

# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

#### **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.

## SPORT MODE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[SPORT MODE (CVT)]

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# DTC/CIRCUIT DIAGNOSIS

# SPORT MODE SWITCH

# Component Function Check

# 1. CHECK SPORT MODE SWITCH OPERATION

- 1. Turn ignition switch ON.
- 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 <u>DMS-71</u>, "<u>Diagnosis Procedure</u>".

# Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a href="DMS-65">DMS-65</a>, "Wiring Diagram".

# 1. DETECT MALFUNCTIONING ITEMS

#### What is malfunction items?

SPORT mode switch illumination does not turns ON>>GO TO 2.

SPORT mode indicator lamp does not turns ON>>GO TO 8.

# 2.CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY (1)

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

	SPORT mode switch	:h	
Connector	+	-	Voltage
Connector	Terr	ninal	
M81	1	4	Battery voltage

# Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

# 3. CHECK INTERMITTENT INCIDENTE

Refer to GI-39, "Intermittent Incident".

#### Is the inspection result normal?

YES >> Replace SPORT mode switch. Refer to <a href="DMS-76">DMS-76</a>, "Removal and Installation".

NO >> Replace the fuse after repair the applicable circuit.

## **4.**CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY (2)

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

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	+		
SPORT m	ode switch	_	Voltage
Connector	Terminal		
M81	1	Ground	Battery voltage

### Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 5.

# **5.**CHECK FUSE

- 1. Turn OFF the headlamp.
- 2. Turn ignition switch OFF.
- 3. Pull out #37 fuse. Refer to PG-47, "Terminal Arrangement".
- 4. Check that the fuse is not fusing.

## Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the fuse after repair the applicable circuit.

# 6.CHECK SPORT MODE SWITCH ILLUMINATION POWER SUPPLY CIRCUIT

- 1. Disconnect IPDM E/R harness connector E45. Refer to INL-26, "Wiring Diagram".
- 2. Check the continuity between IPDM E/R harness connector and SPORT mode switch harness connector.

	+	,	_	
IPDM E/R		SPORT mode switch		Continuity
Connector	Terminal	Connector	Terminal	
E45	33	M81	1	Existed

3. Also check harness for short to ground.

#### Is the inspection result normal?

YES >> Perform IPDM E/R auto active test and check tail lamp relay operation. Refer to <a href="PCS-9">PCS-9</a>, "Diagnosis Description" (with intelligent key), <a href="PCS-9">PCS-37</a>, "Diagnosis Description" (without intelligent key).

NO >> Repair or replace error-detected parts.

# 7.CHECK GROUND CIRCUIT

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

+			
SPORT mode switch		_	Continuity
Connector	Terminal		
M81	4	Ground	Existed

## Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace error-detected parts.

# 8. 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.

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#### < DTC/CIRCUIT DIAGNOSIS >

SPORT mode switch			V-11 (A-
Connector	+	-	Voltage (Ap- prox.)
Connector	Terr	minal	,
M81	6	8	5 V

Is the inspection result normal?

YES >> GO TO 13. NO >> GO TO 9.

# 9. CHECK GROUND CIRCUIT

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

SPORT mode switch			Continuity
Connector	Terminal	_	Continuity
M81	8	Ground	Existed

#### Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace damaged parts.

# 10.check circuit between combination meter and sport mode switch (1)

- Disconnect combination meter harness connector M24.
- Check continuity between combination meter harness connector terminal and SPORT mode switch harness connector terminal.

Combina	Combination meter		SPORT mode switch		
Connector	Terminal	Connector	Terminal	Continuity	
M24	39	M81	6	Existed	

## Is the inspection result normal?

>> GO TO 11. YES

NO >> Repair or replace damaged parts.

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

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

	Combina	nector Terminal		Continuity
	Connector			Continuity
•	M24	39	Ground	Not existed

#### Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair or replace damaged parts.

# 12.check combination meter input/output signal

- Connect all of disconnected connectors.
- Check input/output signal of combination meter. Refer to MWI-20, "Reference Value".

#### Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
- >> Replace combination meter. Refer to MWI-77, "Removal and Installation". NO

# 13. CHECK SPORT MODE SWITCH

Check SPORT mode switch. Refer to <a href="DMS-37">DMS-37</a>, "Component Inspection".

#### Is the inspection result normal?

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# **SPORT MODE SWITCH**

## < DTC/CIRCUIT DIAGNOSIS >

[SPORT MODE (CVT)]

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Replace SPORT mode switch. Refer to <a href="DMS-39">DMS-39</a>, "Removal and Installation".

# Component Inspection

INFOID:0000000009755945

# 1. CHECK SPORT MODE SWITCH

Check continuity between SPORT mode switch connector terminals.

SPORT mode switch	Condition	Continuity	
Terminal	Condition		
6 – 8	SPORT mode switch is depressed.	Existed	
0-0	SPORT mode switch is released.	Not existed	

## Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace SPORT mode switch. Refer to <a href="DMS-76">DMS-76</a>, "Removal and Installation".

# THE SPORT MODE INDICATOR LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

NO

>> Repair or replace malfunctioning parts.

[SPORT MODE (CVT)]

SYMPTOM DIAGNOSIS	Λ
THE SPORT MODE INDICATOR LAMP DOES NOT TURN ON	А
Description INFOID:000000009755946	В
The SPORT mode indicator lamp does not turn ON when the SPORT mode switch is operated.	
Diagnosis Procedure	С
1.PERFORM COMBINATION METER ON BOARD DIAGNOSIS	
Perform combination meter on board diagnosis. Refer to MWI-16, "Description".	D
Is the check result normal?	
YES >> GO TO 2.  NO >> Replace combination meter. Refer to MWI-77, "Removal and Installation".	Е
2.CHECK DTC (TCM)	
With CONSULT	F
<ol> <li>Start the engine.</li> <li>Check "Self Diagnostic Results" in "TRANSMISSION".</li> </ol>	
Is any DTC detected?	G
YES >> Check DTC detected item. Refer to <u>TM-126, "DTC Index"</u> .	
NO >> GO TO 3.  3. CHECK DTC (ECM)	Н
(A)With CONSULT	11
Check "Self Diagnostic Results" in "ENGINE".	
Is any DTC detected?	
YES >> Check DTC detected item. Refer to <u>EC-94, "DTC_Index"</u> .  NO >> GO TO 4.	
4.CHECK DTC (COMBINATION METER)	J
(P)With CONSULT	
Check "Self Diagnostic Results" in "METER/M&A".	K
Is any DTC detected?	
YES >> Check DTC detected item. Refer to <a href="MWI-26">MWI-26</a> , "DTC Index". NO >> GO TO 5.	L
5. CHECK COMBINATION METER INPUT/OUTPUT SIGNAL	
<ul><li>With CONSULT</li><li>Select "Data Monitor" in "METER/M&amp;A".</li></ul>	$\mathbb{M}$
2. Select "SPORT MODE IND".	
<ol> <li>Check that "SPORT MODE IND" turns ON/OFF when SPORT mode switch is operated. Refer to <u>MWI-20</u>. "<u>Reference Value</u>".</li> </ol>	Ν
Is any DTC detected?	
YES >> Replace combination meter. Refer to <a href="MWI-77">MWI-77</a> , "Removal and Installation". NO >> GO TO 6.	DMS
6. CHECK SPORT MODE SWITCH CIRCUIT	
Check SPORT mode switch circuit. Refer to DMS-34, "Diagnosis Procedure".	Р
Is any DTC detected?	
YES >> INSPECTION END	

## **SPORT MODE SWITCH**

< REMOVAL AND INSTALLATION >

[SPORT MODE (CVT)]

# REMOVAL AND INSTALLATION

# SPORT MODE SWITCH

# Removal and Installation

#### INFOID:0000000009755948

## **REMOVAL**

- 1. Remove instrument lower panel LH. Refer to IP-14, "Exploded View".
- 2. Remove SPORT mode switch.

## **INSTALLATION**

Installation is in the reverse order of removal.