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MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

Basic Diagnostic Procedure

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	<p>START INSPECTIONS.</p> <p>1) Use the Check List for Interview to confirm the condition of the problem from the user. <Ref. to 6MT(diag)-3, Check List for Interview.></p> <p>2) Before performing diagnosis, inspect parts related to the DCCD.</p> <ul style="list-style-type: none"> • General inspection <Ref. to 6MT(diag)-4, INSPECTION, General Description.> • Disconnection of harness connector • Visual check for harness connector damage • Oil leaks 	Items related DCCD are OK?	Go to step 2.	Repair the defective items.
2	<p>READ DTC.</p> <p>Read the DTC. <Ref. to 6MT(diag)-10, Subaru Select Monitor.></p> <p>NOTE:</p> <ul style="list-style-type: none"> • For the DTC, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to 6MT(diag)-20, List of Diagnostic Trouble Code (DTC).> • If the communication function of Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to 6MT(diag)-10, Subaru Select Monitor.> 	Is it possible to call out the DTC?	Go to step 3. NOTE: Record all DTC.	Inspect based on the "Diagnostics with Phenomenon". <Ref. to 6MT(diag)-37, Diagnostics with Phenomenon.>
3	<p>PERFORM DIAGNOSIS.</p> <p>1) Inspect and repair all DTC using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to 6MT(diag)-21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).></p> <p>NOTE: Refer to "List of Diagnostic Trouble Code (DTC)" for DTC. <Ref. to 6MT(diag)-20, List of Diagnostic Trouble Code (DTC).></p> <p>2) Start the engine.</p> <p>3) Read the DTC using the Select Monitor. <Ref. to 6MT(diag)-10, Subaru Select Monitor.></p>	Is DTC displayed?	Record all DTC using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)" for the inspection. <Ref. to 6MT(diag)-21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> Repeat execute diagnosis until DTC no longer appears.	Inspect based on the "Diagnostics with Phenomenon". <Ref. to 6MT(diag)-37, Diagnostics with Phenomenon.>

General Description

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3. General Description

A: CAUTION

The airbag system wiring harness is routed near the DCCD control module.

CAUTION:

- Airbag system wiring harnesses and connectors are yellow. Do not use an electric test equipment to check these circuits.
- Be careful not to damage the airbag system wiring harness when performing diagnostics or repair of the DCCD control module.
- When measuring the voltage and resistance of each control module or each sensor, use a tapered pin with a diameter of less than 0.64 mm (0.025 in) in order to avoid poor contact. Also, do not insert the pin more than 5 mm (0.2 in) into the part.

B: INSPECTION

1. POWER SUPPLY

1) Measure the battery voltage and specific gravity of the electrolyte.

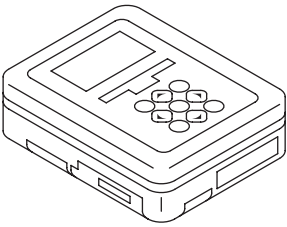
Standard voltage: 12 V or more

Specific gravity: Above 1.260

- 2) Check the fuse condition.
- 3) Check the connecting condition of harness and harness connector.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B021XU0	1B021XU0	SUBARU SELECT MONITOR III KIT	Used for trouble shooting the electrical system

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Oscilloscope	Used for measuring the sensor.

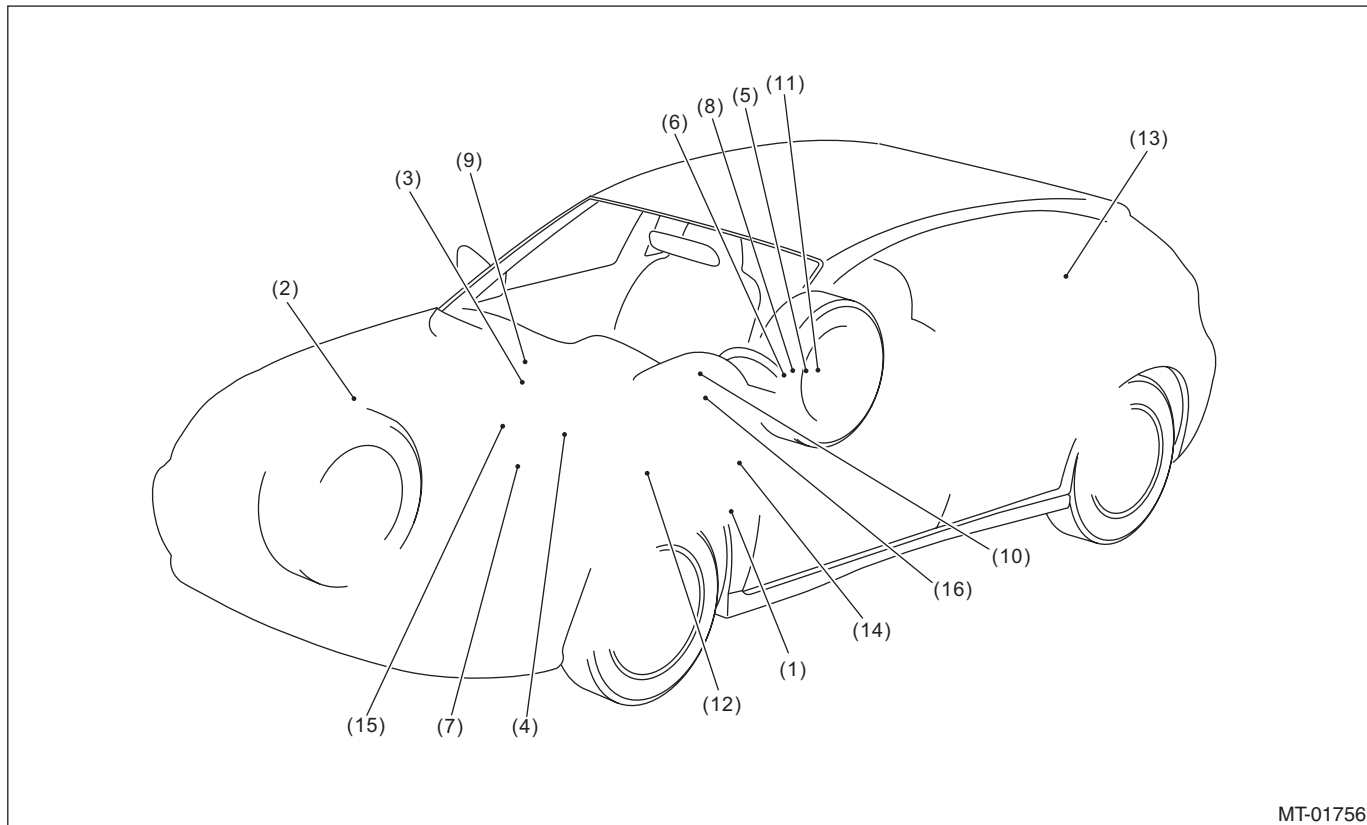
Electrical Component Location

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4. Electrical Component Location

A: LOCATION



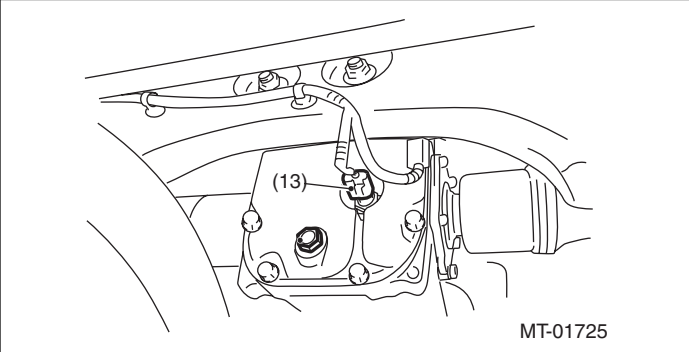
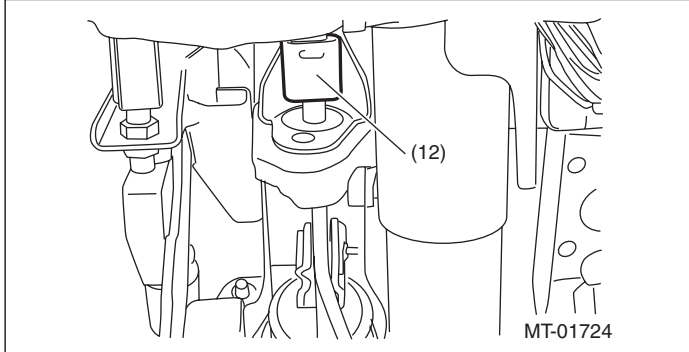
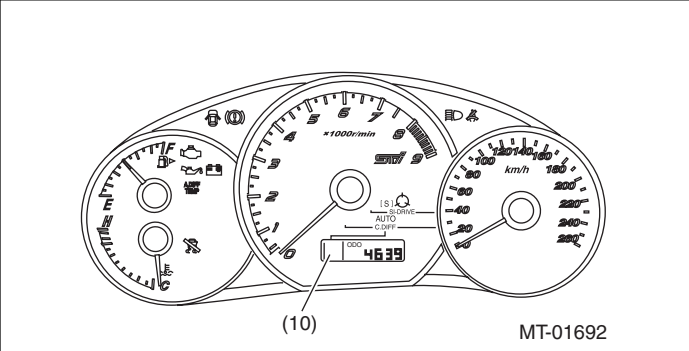
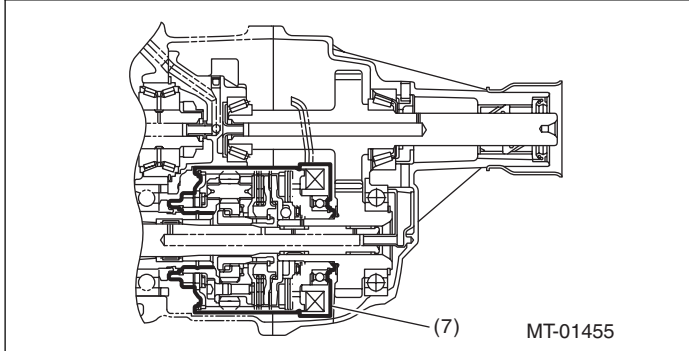
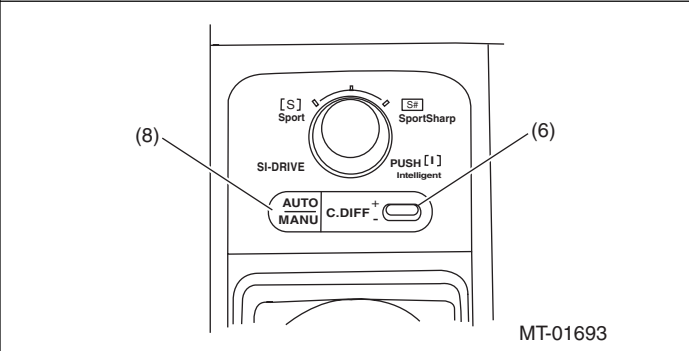
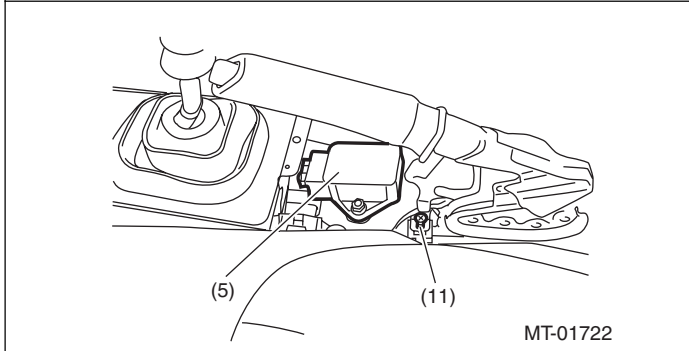
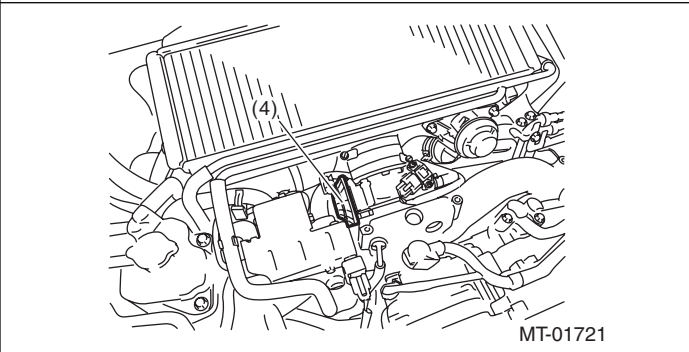
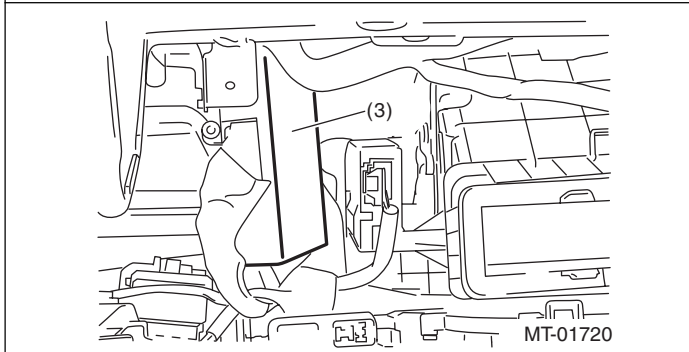
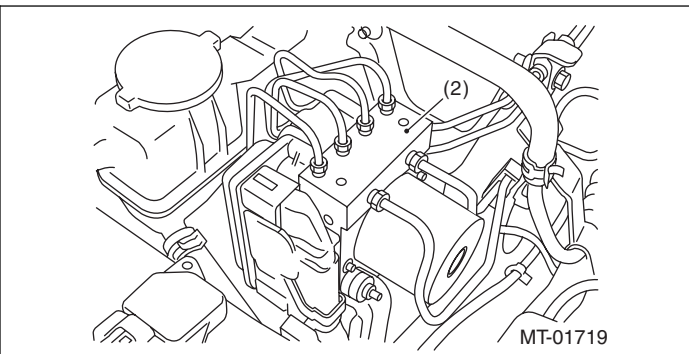
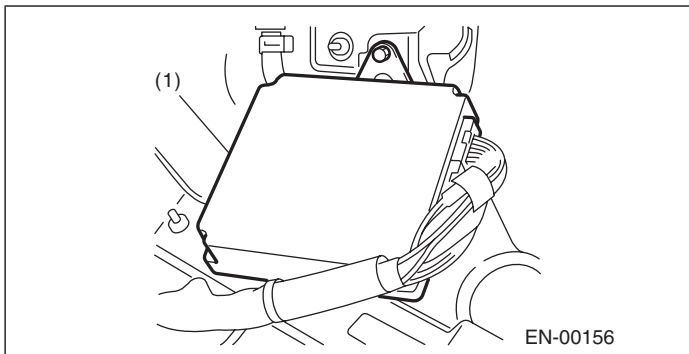
MT-01756

- | | | |
|---|-------------------------------|---|
| (1) Engine control module (ECM) | (6) C.DIFF +/- switch | (12) Stop light switch |
| (2) VDC control module & hydraulic control unit (VDCCM&H/U) | (7) Center differential | (13) Rear differential oil temperature switch |
| (3) DCCD control module | (8) Mode change switch | (14) Data link connector |
| (4) Throttle position sensor | (9) DCCD relay | (15) Neutral position switch |
| (5) Yaw rate & lateral G sensor | (10) DCCD manual mode display | (16) Steering angle sensor |
| | (11) Parking brake switch | |

Electrical Component Location

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

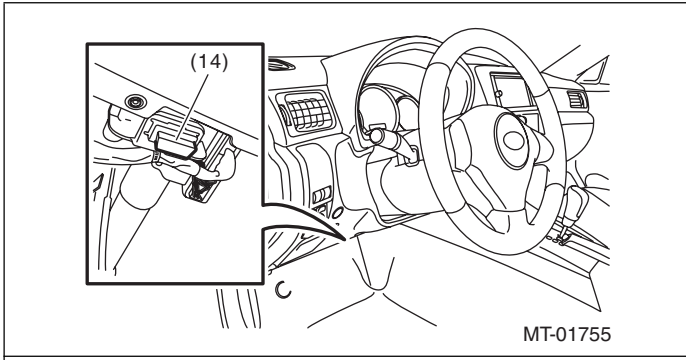
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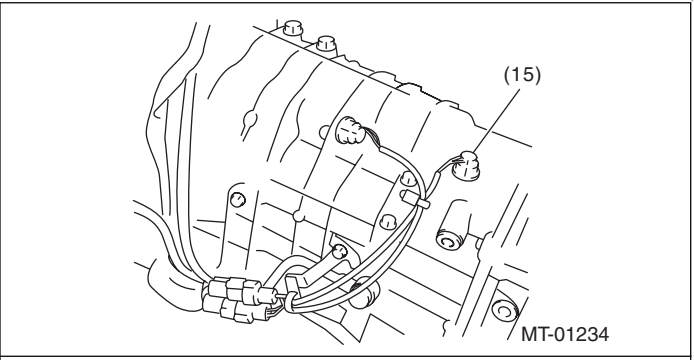
Electrical Component Location

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

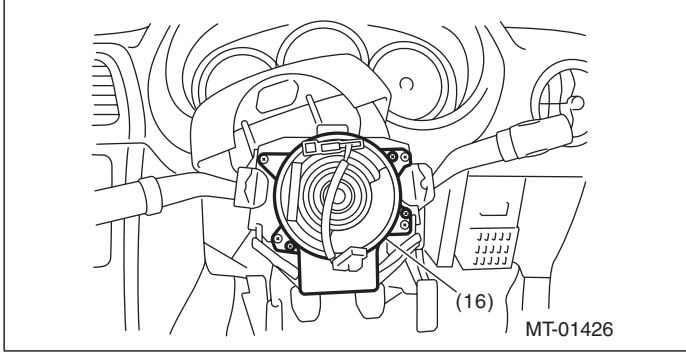
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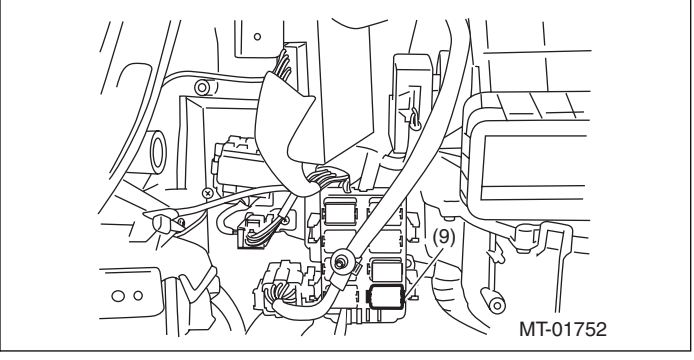
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MT-01426



MT-01752

Driver's Control Center Differential (DCCD) Control Module I/O Signal

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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5. Driver's Control Center Differential (DCCD) Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

TO **B380**

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

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Driver's Control Center Differential (DCCD) Control Module I/O Signal

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

Check with ignition switch ON.					
Contents	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
	Positive terminal	Ground terminal			
DCCD output	(B380) No. 2	(B380) No. 17	When differential is locked (when DCCD manual mode display is lock)	5.5 — 8.0	1.2 — 2.5
			When differential is free (When the parking brake is pulled)	Less than 0.5	
DCCD power supply	(B380) No. 3	Chassis ground	Ignition switch ON	10 — 13	—
	(B380) No. 4				—
Backup power supply	(B380) No. 5	Chassis ground	—	10 — 13	—
Ignition power supply	(B380) No. 6	Chassis ground	Ignition switch ON	10 — 13	—
DCCD relay	(B380) No. 10	Chassis ground	Ignition switch ON	Less than 1.0	—
Mode change switch	(B380) No. 11	Chassis ground	When the switch is not pressed	8.0 or more	—
			When the switch is pressed	Less than 1	—
Rear differential oil temperature switch	(B380) No. 12	Chassis ground	When the rear differential switch is ON	0.4 or more	—
			When the rear differential switch is OFF	Less than 8.0	—
CAN communication signal (+)	(B380) No. 15	Chassis ground	Ignition switch ON	Pulse signal	
CAN communication signal (-)	(B380) No. 31	Chassis ground	Ignition switch ON	Pulse signal	
Data link signal (Subaru Select Monitor)	(B380) No. 16	Chassis ground	—	—	—
System ground circuit	(B380) No. 18	Chassis ground	—	0	Less than 1.0
	(B380) No. 19	Chassis ground			
	(B380) No. 20	Chassis ground			
	(B380) No. 21	Chassis ground			
System ground circuit	(B380) No. 32	Chassis ground	—	0	Less than 1.0
Up switch	(B380) No. 27	Chassis ground	When the switch is not pressed/is pressed	8.0/1.0	
Down switch	(B380) No. 13	Chassis ground	When the switch is not pressed/is pressed	8.0/1.0	

B: WIRING DIAGRAM

Refer to "WIRING DIAGRAM". <Ref. to WI-54, Driver's Control Center Differential Control System.>

Subaru Select Monitor

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

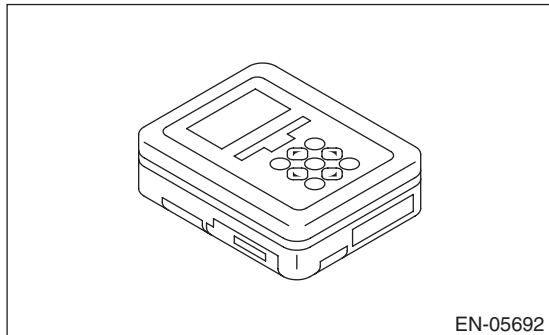
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6. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

1) Prepare the Subaru Select Monitor kit.



2) Prepare the personal computer which has been installed the Subaru Select Monitor.

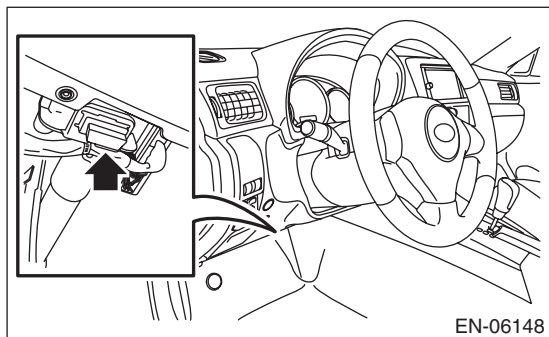
3) Connect the USB cable between SDI (Subaru Diagnosis Interface) and USB port on the personal computer (dedicated port for the Subaru Select Monitor).

NOTE:

The port for Subaru Select Monitor is the USB port used for installing the Subaru Select Monitor.

4) Connect the diagnosis cable to SDI.

5) Connect the SDI to data link connector located in the lower portion of the instrument panel (on the drivers side).



CAUTION:

Do not connect the scan tools other than the Subaru Select Monitor.

6) Start a PC.

7) Turn the ignition switch to ON.

8) Run the "PC application help for Subaru Select Monitor".

9) On the «Main Menu» display screen, select {Each System Check}.

10) On the «System Selection Menu» display screen, select {Transmission Control System}.

11) After the {Center Differential Control} is displayed, select [OK].

12) On the «Transmission Diagnosis», select {Diagnostic Code(s) Display}.

13) On the «Diagnostic Code(s) Display», select {Temporary Diagnostic Code(s)} or {Memorized Diagnostic Code(s)}.

2. READ CURRENT DATA

1) On the «Main Menu» display screen, select {Each System Check}.

2) On the «System Selection Menu» display screen, select {Transmission Control System}.

3) After the {Center Differential Control} is displayed, select [OK].

4) Select {Current Data Display & Save} in the «Transmission Diagnosis» screen.

5) On the «Current Data Display & Save», select {Normal sampling}.

6) Using the scroll key, scroll the display screen up or down until the desired data is shown.

Subaru Select Monitor

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

- A list of the support data is shown in the following table.

Contents	Display	Unit of measure
Center differential actual current	C-Diff. Real Current	A
Center differential indicated current	C-Diff. Indicate Current	A
Front vehicle speed sensor (RH)	FR Wheel Speed	km/h or MPH
Front vehicle speed sensor (LH)	FL Wheel Speed	km/h or MPH
Rear vehicle speed sensor (RH)	RR Wheel Speed	km/h or MPH
Rear vehicle speed sensor (LH)	RL Wheel Speed	km/h or MPH
Yaw rate & lateral G sensor	Lateral G	m/s ⁻²
Yaw rate & lateral G sensor	Yaw Rate	deg/s
Steering angle	Steering Angle Sensor	deg
Engine speed signal	Engine Speed	rpm
Stop light switch signal	Stop Light Switch	ON or OFF
Rear differential oil temperature switch signal	RR Diff. Oil Temp SW	ON or OFF
Down shift signal	Down Switch	ON or OFF
Up shift signal	Up Switch	ON or OFF
AUTO selection mode	DCCD Mode	*1
Manual mode torque distribution	DCCD Torque Allocation	*2
Battery voltage	Battery Voltage	V
Accelerator position	Accel. Opening Angle	%
Parking switch	Parking Position Switch	ON or OFF
Center differential relay	Center Diff. Relay	ON or OFF
Mode change switch	AUTO/MANUAL Mode Switch	ON or OFF
Neutral signal	Neutral Position Switch	Neutral or other than neutral

*1: Displayed by the number

0 in the manual mode

1 in AUTO[-] / 2 in AUTO / 3 in AUTO[+]

*2: Displayed by the number

0 in AUTO mode

1 (Free), 2, 3, 4, 5, 6 (LOCK) in manual mode

NOTE:

For details concerning the operation procedure, refer to the "PC Application Help for Subaru Select Monitor".

3. CLEAR MEMORY MODE

- 1) Place the change lever in neutral.
- 2) On the «Main Menu» display screen, select {Each System Check}.
- 3) On the «System Selection Menu» display screen, select {Transmission Control System}.
- 4) After the {Center Differential Control} is displayed, select [OK].
- 5) On the «Transmission Diagnosis» display screen, select {Clear Memory}.
- 6) When the «Done. Turn ignition switch OFF» is displayed, select [OK].
- 7) Turn the Subaru Select Monitor and ignition switch to OFF. To turn the ignition switch to ON again, wait for 10 seconds or more.

NOTE:

- To clear the previous DTC, use {Clear Memory}.
- For details concerning the operation procedure, refer to the "PC Application Help for Subaru Select Monitor".

Read Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

Refer to “Subaru Select Monitor” for information on how to display a DTC. <Ref. to 6MT(diag)-10, Subaru Select Monitor.>

For details concerning DTCs, refer to “List of Diagnostic Trouble Code (DTC)”. <Ref. to 6MT(diag)-20, List of Diagnostic Trouble Code (DTC).>

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Clear Memory Mode

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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8. Clear Memory Mode

A: OPERATION

Refer to "Subaru Select Monitor" for information about how to clear a DTC. <Ref. to 6MT(diag)-11, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

Driver's Control Center Differential (DCCD) Manual Mode Display

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

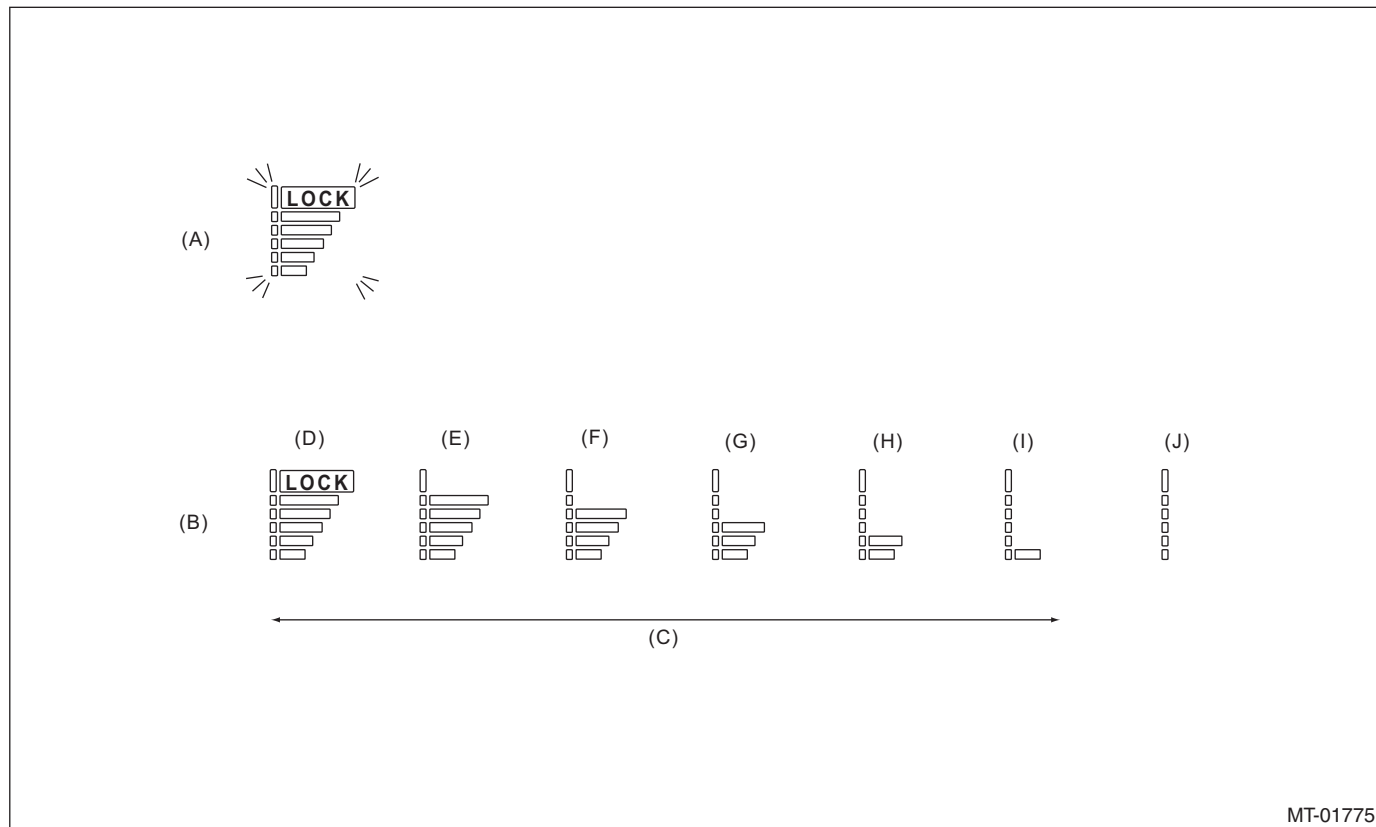
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9. Driver's Control Center Differential (DCCD) Manual Mode Display

A: OPERATION

When there is a problem with a part or module, DCCD manual mode display blinks. (DCCD manual mode display blinks even in AUTO mode condition.) Until the problem is detected and the ignition switch is turned OFF, the blinking continues. The faulty parts can be recognized by reading the DTC through the Subaru Select Monitor.

DCCD manual mode display is as shown in the figure.



- (A) If faulty (blinks at 1 Hz cycle)
- (B) If normal
- (C) Manual mode display
- (D) 6 (LOCK)

- (E) 5
- (F) 4
- (G) 3
- (H) 2

- (I) 1 (FREE)
- (J) No display (AUTO mode)

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Driver's Control Center Differential (DCCD) Manual Mode Display

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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B: INSPECTION

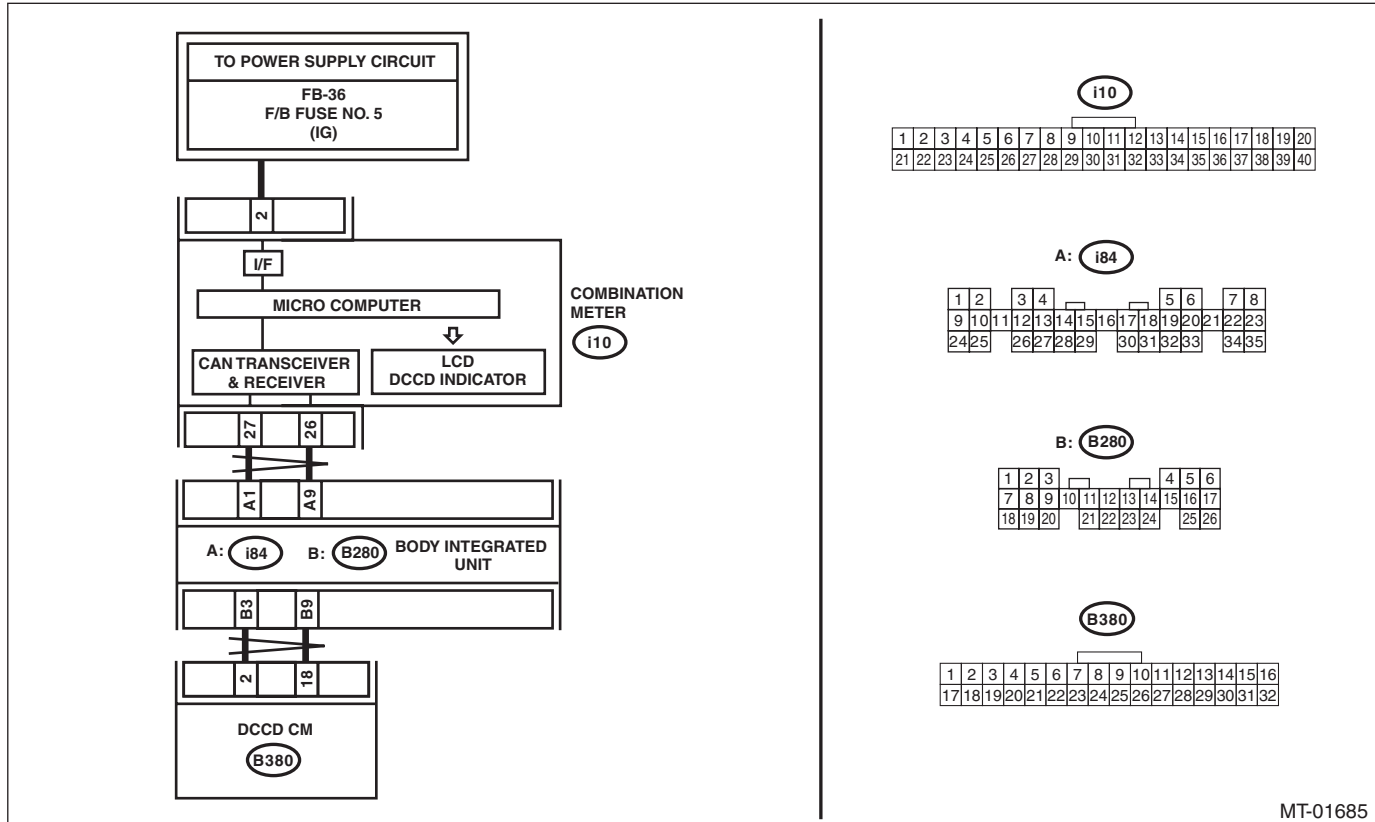
DIAGNOSIS:

DCCD manual mode display is open or shorted.

TROUBLE SYMPTOM:

DCCD manual mode display does not illuminate in manual mode.

WIRING DIAGRAM:



MT-01685

Driver's Control Center Differential (DCCD) Manual Mode Display

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
1 CHECK THE BODY INTEGRATED UNIT. Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step 2.
2 CHECK COMBINATION METER. Perform the self-diagnosis of combination meter. <Ref. to IDI-13, Combination Meter.>	Is the self-diagnosis of combination meter OK?	Go to step 3.	Repair it according to combination meter diagnostics.
3 CHECK IGNITION POWER SUPPLY CIRCUIT OF DCCD CONTROL MODULE. 1) Connect the Subaru Select Monitor to the vehicle. 2) Turn the ignition switch to ON. 3) Read the data of "Battery Voltage" using the Subaru Select Monitor.	Is the voltage 11 V or more?	Go to step 4.	Repair the open circuit of harness between fuse (F/B No. 12) and DCCD control module, or between fuse (F/B No. 12) and battery.
4 CHECK DTC.	Is DTC P1720 displayed?	Perform the diagnosis according to DTC.	Go to step 5.
5 CHECK MODE CHANGE SWITCH. Read the data of "AUTO/MANUAL Mode Switch" using the Subaru Select Monitor.	Does the display change to ON/OFF according to the mode change switch operation?	Go to step 6.	Diagnose the mode change switch.
6 CHECK C.DIFF +/- SWITCH (UP/DOWN). Read the data of "Up Switch" and "Down Switch" using the Subaru Select Monitor.	Does the display change to ON/OFF according to the C.DIFF +/- switch operation?	Go to step 7.	Check the C.DIFF +/- switch.
7 CHECK INDICATION OF DCCD MANUAL MODE DISPLAY. Press the mode change switch to enter the manual mode.	Does the DCCD manual mode display illuminate?	Go to step 8.	Check the poor contact.
8 CHECK INDICATION OF DCCD MANUAL MODE DISPLAY. Read the data of "DCCD Torque Allocation" using the Subaru Select Monitor.	Does the DCCD manual mode display change according to the C.DIFF +/- switch operation.	Go to step 9.	Check the poor contact.
9 CHECK OTHER DTC.	Is there any other DTC displayed?	Perform the diagnosis according to DTC.	DCCD manual mode display is OK.

Diagnostic Procedure for Subaru Select Monitor Communication

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
2 CHECK SUBARU SELECT MONITOR GROUND CIRCUIT. Measure the resistance of harness between data link connector and chassis ground. Battery & Terminal (B40) No. 4 — Chassis ground: (B40) No. 5 — Chassis ground:	Is resistance less than 1 Ω ?	Go to step 3.	Repair the open circuit of harness between data link connector and ground terminal, and poor contact of connector.
3 CHECK COMMUNICATION OF SUBARU SELECT MONITOR. 1) Turn the ignition switch to ON. 2) Check the communication with transmission system.	Is the name of system displayed on Subaru Select Monitor?	System is normal.	Go to step 4.
4 CHECK COMMUNICATION OF SUBARU SELECT MONITOR. 1) Turn the ignition switch to OFF. 2) Disconnect the DCCD control module connector. 3) Turn the ignition switch to ON. 4) Check the communication with engine system.	Is the name of system displayed on Subaru Select Monitor?	Go to step 6.	Go to step 5.
5 CHECK COMMUNICATION OF SUBARU SELECT MONITOR. 1) Turn the ignition switch to OFF. 2) Connect the DCCD control module connector. 3) Disconnect the connector from ECM. 4) Turn the ignition switch to ON. 5) Check the communication with transmission system.	Is the name of system displayed on Subaru Select Monitor?	Inspect the ECM.	Go to step 6.
6 CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the DCCD control module and ECM connectors. 3) Measure the resistance between data link connector and chassis ground. Battery & Terminal (B40) No. 7 — Chassis ground:	Is the resistance 1 M Ω or more?	Go to step 7.	Check harness and connector between each control module and data link connector.
7 CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR. 1) Disconnect the all modules that communicate with Subaru Select Monitor. 2) Turn the ignition switch to ON. 3) Measure the voltage between data link connector and chassis ground. Battery & Terminal (B40) No. 7 (+) — Chassis ground (-):	Is the voltage 1 V or more?	Check harness and connector between each control module and data link connector.	Go to step 8.
8 CHECK HARNESS CONNECTOR BETWEEN DCCD CONTROL MODULE AND DATA LINK CONNECTOR. Measure the resistance between DCCD control module connector and data link connector. Battery & Terminal (B380) No. 1 — (B40) No. 7:	Is resistance less than 1 Ω ?	Go to step 9.	Check harness and connector between DCCD control module and data link connector.

Diagnostic Procedure for Subaru Select Monitor Communication

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Step	Check	Yes	No
9 CHECK INSTALLATION OF DCCD CONTROL MODULE. Turn the ignition switch to OFF.	Is the DCCD control module connector connected to DCCD control module?	Go to step 10.	Connect the DCCD control module connector to DCCD control module?
10 CHECK POOR CONTACT OF DCCD CONTROL MODULE CONNECTOR.	Is there poor contact in the connector?	Repair the poor contact.	Go to step 11.
11 CHECK POWER SUPPLY OF DCCD CONTROL MODULE. 1) Disconnect the connector from DCCD control module. 2) Turn the ignition switch to ON. 3) Measure the voltage between DCCD control module connector and chassis ground. Battery & Terminal <i>(B380) No. 13 (+) — Chassis ground (-):</i> <i>(B380) No. 14 (+) — Chassis ground (-):</i>	Are the voltages 10 — 13 V?	Go to step 15.	Go to step 12.
12 CHECK POWER SUPPLY CIRCUIT OF FUSE (F/B NO. 12). 1) Turn the ignition switch to OFF. 2) Remove the fuse (F/B No. 12).	Is the fuse (F/B No. 12) blown out?	Replace the fuse (F/B No. 12). If the new fuse (F/B No. 12) has blown out easily, repair the short circuit of harness between fuse (F/B No. 12) and DCCD control module.	Go to step 13.
13 CHECK POWER SUPPLY CIRCUIT OF FUSE (M/B NO. 12). Remove the fuse (M/B No. 12).	Is the fuse (M/B No. 12) blown out?	Replace the fuse (M/B No. 12). If the new fuse (M/B No. 12) has blown out easily, repair the short circuit of harness between fuse (M/B No. 12) and DCCD control module.	Go to step 14.
14 CHECK POWER SUPPLY CIRCUIT OF DCCD CONTROL MODULE. Measure the resistance between the battery (+) terminal and fuse. Battery & Terminal <i>Battery (+) — M/B No. 12:</i> <i>Battery (+) — F/B No. 12:</i>	Is resistance less than 1 Ω ?	Repair the open circuit.	Go to step 15.
15 CHECK HARNESS CONNECTOR BETWEEN DCCD CONTROL MODULE AND CHASSIS GROUND. 1) Turn the ignition switch to OFF. 2) Measure the resistance between DCCD control module and chassis ground. Connector & terminal <i>(B380) No. 28 — Chassis ground:</i> <i>(B380) No. 29 — Chassis ground:</i> <i>(B380) No. 30 — Chassis ground:</i> <i>(B380) No. 31 — Chassis ground:</i>	Is resistance less than 1 Ω ?	Check the poor contact.	Repair the short circuit or poor contact of harness between DCCD control module and transmission connector.

List of Diagnostic Trouble Code (DTC)

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11. List of Diagnostic Trouble Code (DTC)

A: LIST

1. SUBARU SELECT MONITOR DISPLAY

DTC	Item	Content of diagnosis	Reference target
P1521	Brake Switch Circuit Range	Stop light switch circuit is open or shorted.	<Ref. to 6MT(diag)-21, DTC P1521 BRAKE SWITCH CIRCUIT RANGE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1720	DCCD CAN System Circuit	CAN communication circuit is open or shorted.	<Ref. to 6MT(diag)-22, DTC P1720 DCCD CAN SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1767	DCCD Steering Angle Sensor	Open, short or communication failure of the steering angle sensor circuit	<Ref. to 6MT(diag)-23, DTC P1767 DCCD STEERING ANGLE SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1769	Yaw Rate & Lateral G Sensor Malfunction	Yaw rate & lateral G sensor malfunction	<Ref. to 6MT(diag)-25, DTC P1769 YAW RATE & LATERAL G SENSOR MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1875	Circuit of Center Diff.	Open or short in the driver's control center differential circuit	<Ref. to 6MT(diag)-27, DTC P1875 CIRCUIT OF CENTER DIFF., Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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12. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC P1521 BRAKE SWITCH CIRCUIT RANGE

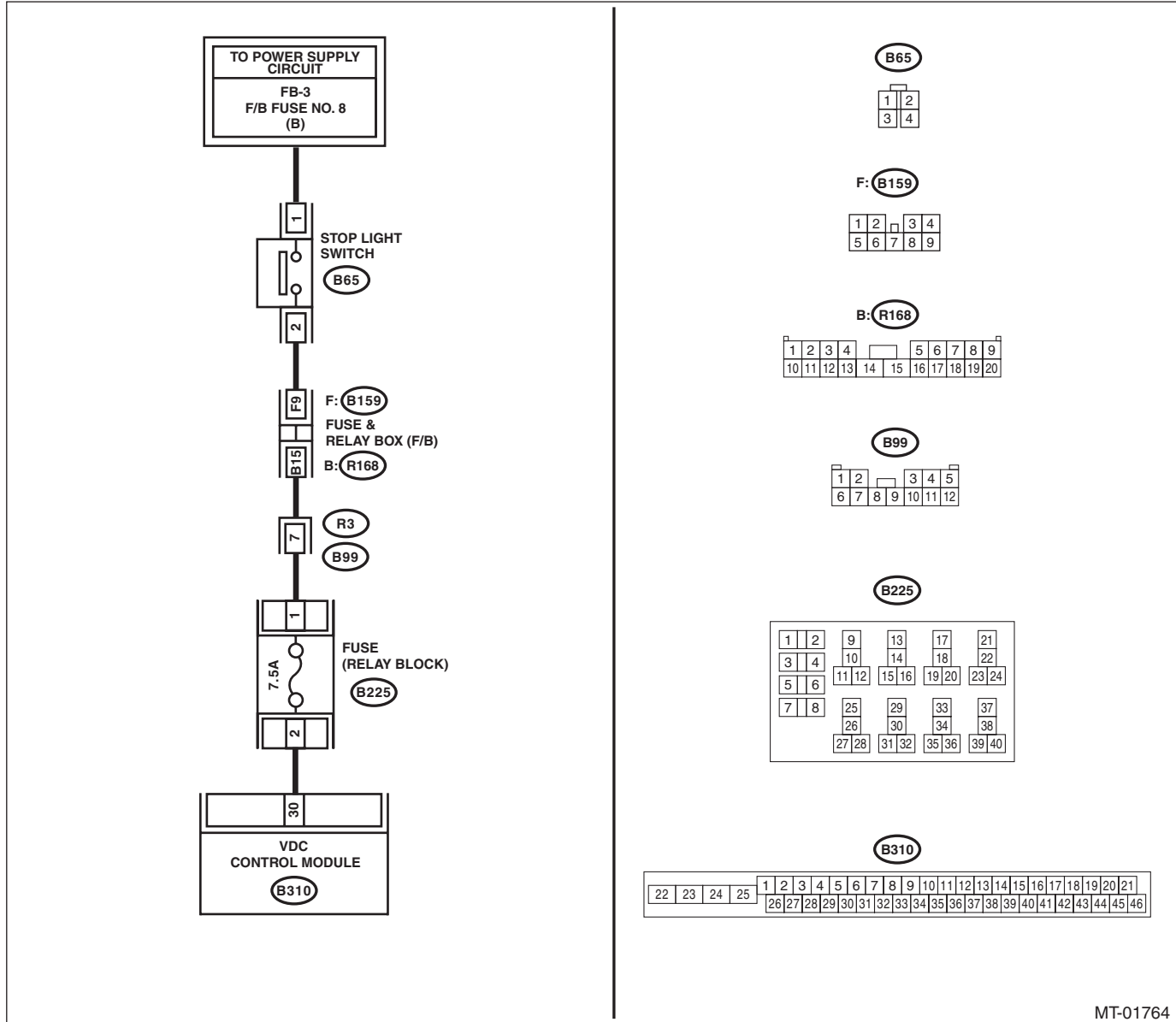
DIAGNOSIS:

Stop light switch circuit is open or shorted.

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



MT-01764

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No	
1	CHECK DTC.	Does the DTC related to stop light SW appear in the VDC diagnostics test mode?	Perform the diagnosis according to DTC.	Go to step 2.
2	CHECK IGNITION POWER SUPPLY CIRCUIT OF DCCD CONTROL MODULE. 1) Connect the Subaru Select Monitor to the vehicle. 2) Turn the ignition switch to ON. 3) Read the data of "Battery Voltage" using the Subaru Select Monitor.	Is the voltage 11 V or more?	Go to step 3.	Repair the open circuit of harness between fuse (F/B No. 12) and DCCD control module, or between fuse (F/B No. 12) and battery.
3	CHECK DTC.	Is DTC P1720 displayed?	Perform the diagnosis according to DTC.	Go to step 4.
4	CHECK DCCD CONTROL MODULE. 1) Turn the ignition switch to ON. 2) Read the data of "Stop Light Switch" using the Subaru Select Monitor.	Does the brake SW change to ON/OFF according to the depressing/releasing operation of brake?	Go to step 5.	Check the poor contact.
5	CHECK OTHER DTC.	Is a DTC other than DTC P1521 displayed?	Perform the diagnosis according to DTC.	The stop light switch is currently normal.

B: DTC P1720 DCCD CAN SYSTEM CIRCUIT

NOTE:

For the diagnostic procedure, refer to DTC U1216. <Ref. to LAN(diag)-55, DTC U1216 HIGH-SPEED CAN (DCCD) DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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C: DTC P1767 DCCD STEERING ANGLE SENSOR

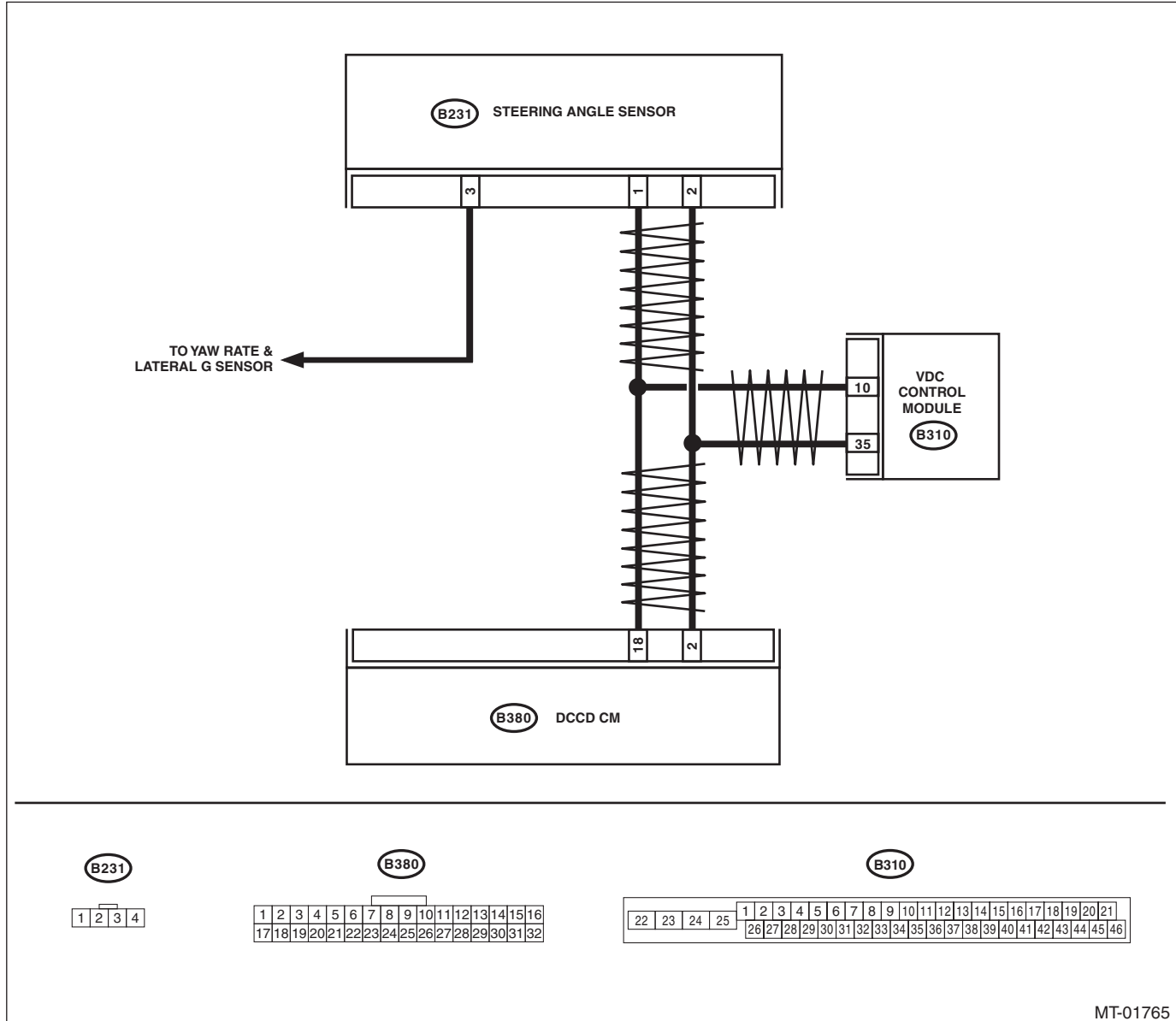
DIAGNOSIS:

Open, short or communication failure of the steering angle sensor circuit

TROUBLE SYMPTOM:

A tight corner braking symptom occurs.

WIRING DIAGRAM:



MT-01765

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
1 CHECK DTC.	Does the DTC related to steering angle sensor appear in the VDC diagnostics test mode?	Perform the diagnosis according to DTC.	Go to step 2.
2 CHECK IGNITION POWER SUPPLY CIRCUIT OF DCCD CONTROL MODULE. 1) Connect the Subaru Select Monitor to the vehicle. 2) Turn the ignition switch to ON. 3) Read the data of "Battery Voltage" using the Subaru Select Monitor.	Is the voltage 11 V or more?	Go to step 3.	Repair the open circuit of harness between fuse (F/B No. 12) and DCCD control module, or between fuse (F/B No. 12) and battery.
3 CHECK DTC.	Is DTC P1720 displayed?	Perform the diagnosis according to DTC.	Go to step 4.
4 CHECK DCCD CONTROL MODULE. 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, read "Steering Angle Sensor" data.	Does the Subaru Select Monitor value change according to the input from the steering to the right and left?	Go to step 5.	Go to step 6.
5 CHECK DTC. 1) Erase the memory. 2) Start the engine. 3) Read the DTC.	Is DTC P1767 displayed?	Replace the steering angle sensor.	Go to step 6.
6 CHECK OTHER DTC.	Is a DTC other than DTC P1767 displayed?	Perform the diagnosis according to DTC.	The steering angle sensor circuit is currently operating properly.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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D: DTC P1769 YAW RATE & LATERAL G SENSOR MALFUNCTION

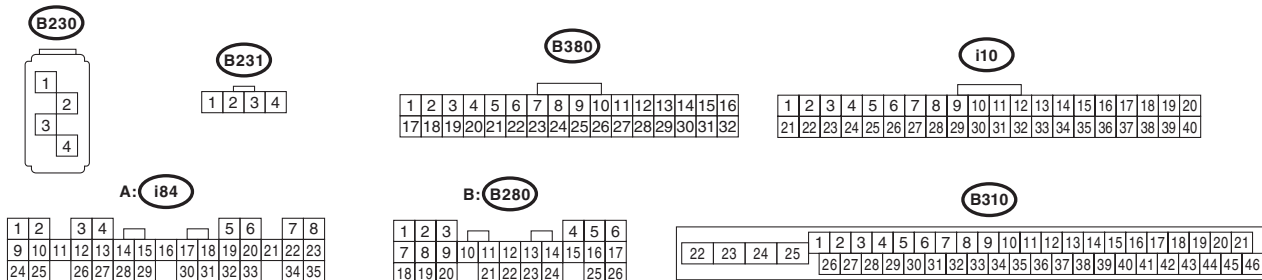
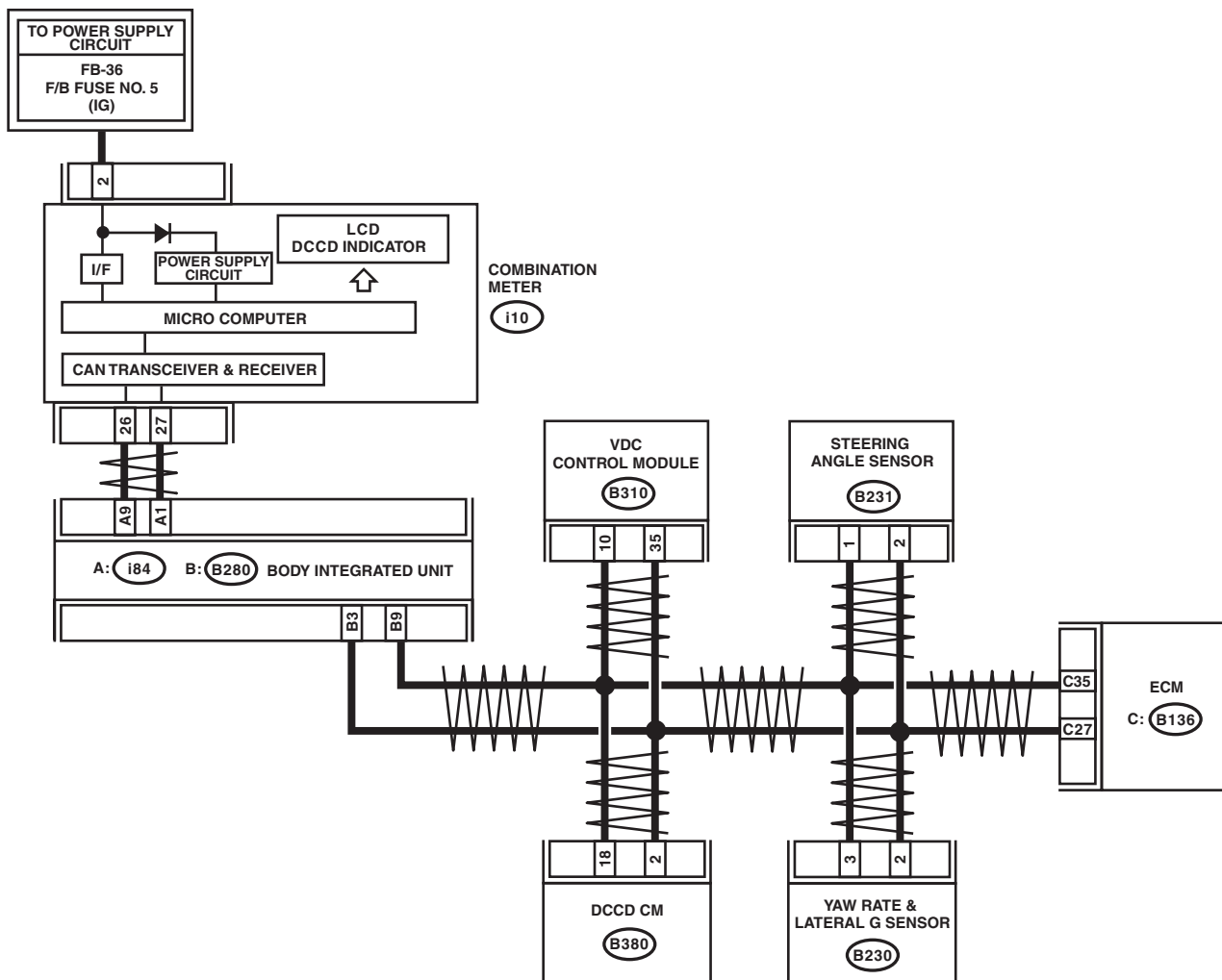
DIAGNOSIS:

Malfunction information transmitted from the yaw rate & lateral G sensor

TROUBLE SYMPTOM:

A tendency to understeer occurs during high speed cornering.

WIRING DIAGRAM:



MT-01691

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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	Step	Check	Yes	No
1	CHECK DTC.	Does the DTC related to lateral G sensor or yaw rate sensor appear in the VDC diagnostics test mode?	Perform the diagnosis according to DTC.	Go to step 2.
2	CHECK IGNITION POWER SUPPLY CIRCUIT OF DCCD CONTROL MODULE. 1) Connect the Subaru Select Monitor to the vehicle. 2) Turn the ignition switch to ON. 3) Read the data of "Battery Voltage" using the Subaru Select Monitor.	Is the voltage 11 V or more?	Go to step 3.	Repair the open circuit of harness between fuse (F/B No. 12) and DCCD control module, or between fuse (F/B No. 12) and battery.
3	CHECK DTC.	Is DTC P1720 displayed?	Perform the diagnosis according to DTC.	Go to step 4.
4	CHECK DCCD CONTROL MODULE. 1) Drive the vehicle on a flat road. 2) Stop the vehicle with the front wheels in a straight forward direction. 3) Read the data of "Yaw Rate" and "Lateral G" using the Subaru Select Monitor.	Does the yaw rate and lateral G value change according to the vehicle behavior? When the vehicle stops, is the yaw rate value within $-4 \text{ — } 4 \text{ deg/s}$, and also is the lateral G value within $-1.5 \text{ — } 1.5 \text{ m/s}^2$?	Go to step 5.	Go to step 6.
5	CHECK DTC. 1) Erase the memory. 2) Start the engine. 3) Read the DTC.	Is DTC P1769 displayed?	Replace the yaw rate & lateral G sensor.	Go to step 6.
6	CHECK OTHER DTC.	Is a DTC other than DTC P1769 displayed?	Perform the diagnosis according to DTC.	Yaw rate & lateral G sensors are currently normal.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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E: DTC P1875 CIRCUIT OF CENTER DIFF.

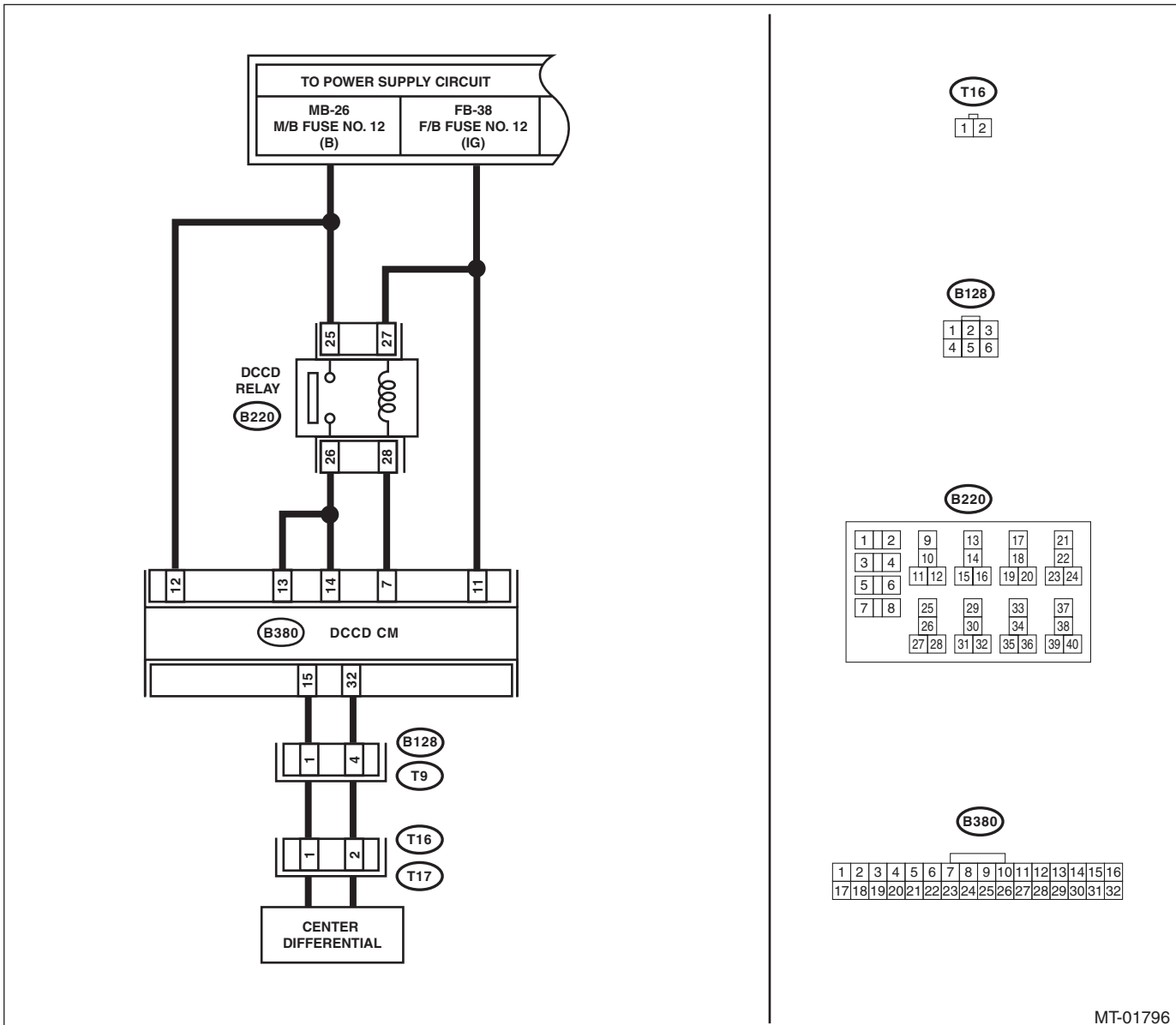
DIAGNOSIS:

Center differential output signal circuit is open or shorted.

TROUBLE SYMPTOM:

- Center differential does not operate.
- The lock ratio of the center differential does not change, or malfunction occurs.
- A tight corner braking symptom occurs.
- An oversteer tendency will become apparent.
- A tendency to understeer occurs during high speed cornering.

WIRING DIAGRAM:



MT-01796

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
<p>1</p> <p>CHECK HARNESS BETWEEN DCCD CONTROL MODULE AND TRANSMISSION HARNESS.</p> <p>1) Turn the ignition switch to OFF. 2) Disconnect the DCCD control module harness connector. 3) Disconnect the transmission harness connector and the bulk harness connector. 4) Measure resistance of the harness between DCCD control module harness connector and the transmission harness connector.</p> <p>Connector & terminal (B380) No. 15 — (B128) No. 1: (B380) No. 32 — (B128) No. 4:</p>	Is resistance less than 1 Ω?	Go to step 2.	Repair the bulk harness open circuit between DCCD control module and transmission harness.
<p>2</p> <p>CHECK HARNESS BETWEEN DCCD CONTROL MODULE AND TRANSMISSION HARNESS.</p> <p>Measure the resistance between DCCD control module harness connector and chassis ground.</p> <p>Connector & terminal (B380) No. 15 — Chassis ground: (B380) No. 32 — Chassis ground:</p>	Is the resistance 1 MΩ or more?	Go to step 3.	Repair the bulk harness short circuit between DCCD control module and transmission harness.
<p>3</p> <p>CHECK CENTER DIFFERENTIAL.</p> <p>Measure the resistance between transmission harness connector terminals.</p> <p>Connector & terminal (T9) No. 1 — No. 4:</p>	Is the resistance between 1.2 and 2.5 Ω?	Go to step 4.	Replace the center differential.
<p>4</p> <p>CHECK OUTPUT SIGNAL OF DCCD CONTROL MODULE.</p> <p>1) Connect all harness connectors. 2) Turn the ignition switch to ON. 3) Release the parking brake. 4) Press the mode change switch to enter the manual mode. 5) Press the C.DIFF +/- switch to enter the lock position. 6) Measure the voltage between DCCD control module harness connectors.</p> <p>Connector & terminal (B380) No. 15 (+) — No. 32 (-):</p>	Is the voltage 5.5 — 8.0 V?	Go to step 5.	Go to step 6.
<p>5</p> <p>CHECK OUTPUT SIGNAL OF DCCD CONTROL MODULE.</p> <p>1) Move the C.DIFF +/- switch from the differential lock position to the differential free position. 2) Read the voltage between DCCD control module harness connectors.</p> <p>Connector & terminal (B380) No. 15 (+) — No. 32 (-):</p>	Does the voltage drop in stages according to the DCCD manual mode display?	Circuit is currently operating properly.	Go to step 6.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
6 CHECK FUSE (NO. 12). Remove the fuse (M/B No. 12).	Is the fuse (M/B No. 12) blown out?	Replace the fuse (M/B No. 12). If the new fuse (M/B No. 12) has blown out easily, check for the short circuit to chassis ground of harness between fuse (M/B No. 12) and DCCD control module, or between fuse (M/B No. 12) and relay.	Go to step 7.
7 CHECK POWER SUPPLY CIRCUIT OF DCCD RELAY. 1) Install the fuse. 2) Turn the ignition switch to OFF. 3) Disconnect the DCCD relay harness connector. 4) Measure the voltage between DCCD relay harness connector and chassis ground. Connector & terminal (B220) No. 25 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 8.	Repair the open or short circuit between fuse (M/B No. 12), DCCD relay, and battery.
8 CHECK IGNITION POWER SUPPLY CIRCUIT OF DCCD RELAY. 1) Turn the ignition switch to ON. 2) Measure the voltage between DCCD relay and chassis ground. Connector & terminal (B220) No. 27 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 9.	Repair the open circuit between fuse (F/B No. 12), DCCD relay, and battery.
9 CHECK HARNESS BETWEEN DCCD CONTROL MODULE AND DCCD RELAY. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from DCCD control module. 3) Measure resistance of the harness between DCCD control module connector and DCCD relay connector. Connector & terminal (B380) No. 7 — (B220) No. 28: (B380) No. 13 — (B220) No. 26: (B380) No. 14 — (B220) No. 26:	Is resistance less than 1 Ω ?	Go to step 10.	Repair the open circuit of harness between DCCD control module connector and DCCD relay connector.
10 CHECK HARNESS BETWEEN DCCD CONTROL MODULE AND DCCD RELAY. Measure the resistance of harness between DCCD control module connector and chassis ground. Connector & terminal (B380) No. 7 — Chassis ground: (B380) No. 13 — Chassis ground: (B380) No. 14 — Chassis ground:	Is the resistance 1 M Ω or more?	Go to step 11.	Repair the short circuit of harness between DCCD control module connector and DCCD relay connector.
11 CHECK DCCD RELAY. Measure the resistance between DCCD relay terminals. Terminals No. 25 — No. 26:	Is the resistance 1 M Ω or more?	Go to step 12.	Replace the DCCD relay.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
12 CHECK DCCD RELAY. Connect the battery positive lead to terminal No. 27 and the negative lead to terminal No. 28, then measure the resistance between DCCD relay terminals. <i>Terminals</i> <i>No. 25 — No. 26:</i>	Is resistance less than 1 Ω ?	Go to step 13.	Replace the DCCD relay.
13 CHECK DCCD CONTROL MODULE RELAY DRIVE CIRCUIT. 1) Connect all the connectors. 2) Turn the ignition switch to ON. 3) Measure the voltage between DCCD control module and chassis ground. <i>Connector & terminal</i> <i>(B380) No. 7 (+) — Chassis ground (-):</i>	Is the voltage less than 1 V?	Go to step 14.	Go to step 17.
14 CHECK IGNITION POWER SUPPLY CIRCUIT OF DCCD CONTROL MODULE. Measure the voltage between DCCD control module and chassis ground. <i>Connector & terminal</i> <i>(B380) No. 13 (+) — Chassis ground (-):</i> <i>(B380) No. 14 (+) — Chassis ground (-):</i>	Is the voltage 8 V or more?	Go to step 15.	Go to step 17.
15 CHECK CENTER DIFFERENTIAL. 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON. 4) Turn on the Subaru Select Monitor. 5) Press the mode change switch to enter the manual mode. 6) Release the parking brake. 7) Press the C.DIFF +/- switch to enter the lock position. 8) In the Subaru Select Monitor, read "C-Diff. Indicate Current" and "C-Diff. Real Current" data.	Is the center differential indicated current and the center differential actual current both approximately 3.6 — 4.0 A?	Go to step 16.	Go to step 17.
16 CHECK CENTER DIFFERENTIAL. 1) Operate the C.DIFF +/- switch so that the "C-Diff. Indicate Current" becomes "1.6A". 2) Read the data of the "C-Diff. Real Current" data using the Subaru Select Monitor.	Is the center differential actual current about the same as the center differential indicated current?	Go to step 18.	Go to step 17.
17 CHECK POOR CONTACT IN HARNESS CONNECTORS.	Is there poor contact in the harness connector?	Repair the poor contact.	Go to step 18.
18 CHECK DTC. 1) Erase the memory. <Ref. to 6MT(diag)-13, Clear Memory Mode.> 2) Read the DTC using the Select Monitor. <Ref. to 6MT(diag)-12, Read Diagnostic Trouble Code (DTC).>	Is P1875 displayed?	Check the poor contact.	Go to step 19.
19 CHECK DTC.	Are DTCs other than P1875 displayed?	Perform the diagnosis according to DTC.	The center differential circuit is currently operating properly.

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

13. Diagnostic Procedure without Diagnostic Trouble Code (DTC)

A: CHECK REAR DIFFERENTIAL OIL TEMPERATURE SWITCH

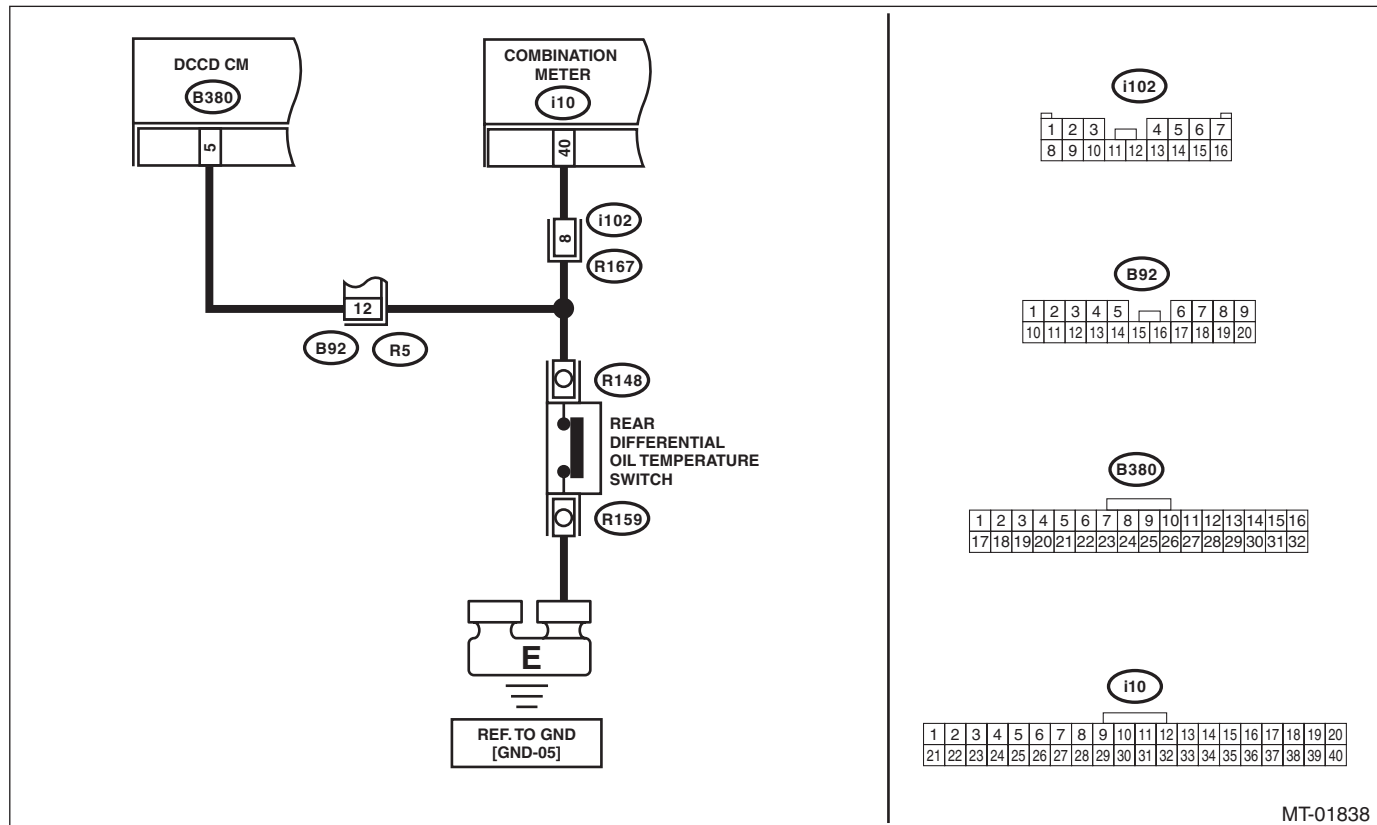
DIAGNOSIS:

Input signal circuit of rear differential oil temperature switch is open or shorted.

TROUBLE SYMPTOM:

- Center differential remains free
- An oversteer tendency will become apparent.
- Rear differential oil temperature warning light illuminates.

WIRING DIAGRAM:



MT-01838

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
1 CHECK REAR DIFFERENTIAL OIL TEMPERATURE SWITCH WARNING LIGHT CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the DCCD control module harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage of the rear differential oil temperature switch. <i>Connector & terminal</i> <i>(B380) No. 5 (+) — Chassis ground (-):</i>	Is the voltage less than 0.4 V?	Go to step 6.	Go to step 2.
2 CHECK HARNESS BETWEEN DCCD CONTROL MODULE AND COMBINATION METER. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from the combination meter. 3) Disconnect the connector from the rear differential oil temperature switch. 4) Measure the resistance between combination meter and DCCD control module harness connectors. <i>Connector & terminal</i> <i>(B380) No. 5 — (i10) No. 40:</i>	Is resistance less than 1 Ω ?	Go to step 3.	Repair the open circuit between DCCD control module and the combination meter.
3 CHECK HARNESS BETWEEN DCCD CONTROL MODULE AND REAR DIFFERENTIAL OIL TEMPERATURE SWITCH. Measure the resistance between DCCD control module harness connector and rear differential oil temperature switch harness connector. <i>Connector & terminal</i> <i>(B380) No. 5 — (R148) No. 1:</i>	Is resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit between DCCD control module and rear differential oil temperature switch.
4 CHECK REAR DIFFERENTIAL OIL TEMPERATURE SWITCH GROUND CIRCUIT. 1) Disconnect the harness connector from the bracket ground of the rear differential. 2) Measure the resistance between the rear differential oil temperature switch ground harness connector and chassis ground. <i>Connector & terminal</i> <i>(R159) No. 1 — Chassis ground:</i>	Is the resistance 1 M Ω or more?	Repair the open circuit of the rear differential oil temperature ground circuit, and contact failure of the harness connector.	Go to step 5.
5 CHECK REAR DIFFERENTIAL OIL TEMPERATURE SWITCH. Measure the resistance between the rear differential oil temperature switch and the rear differential oil temperature switch body. <i>Terminals</i> <i>(R148) No. 1 — Rear differential oil temperature switch body:</i>	Is resistance less than 1 Ω ?	Go to step 6.	Replace the rear differential oil temperature switch.
6 CHECK REAR DIFFERENTIAL OIL TEMPERATURE WARNING LIGHT. 1) Turn the ignition switch to ON. 2) Short the chassis ground and the combination meter harness connector. <i>Terminals</i> <i>(i10) No. 40 (+) — Chassis ground (-):</i>	Does the rear differential oil temperature light turn OFF?	Check the poor contact.	Check the combination meter.

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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B: CHECK PARKING BRAKE SWITCH

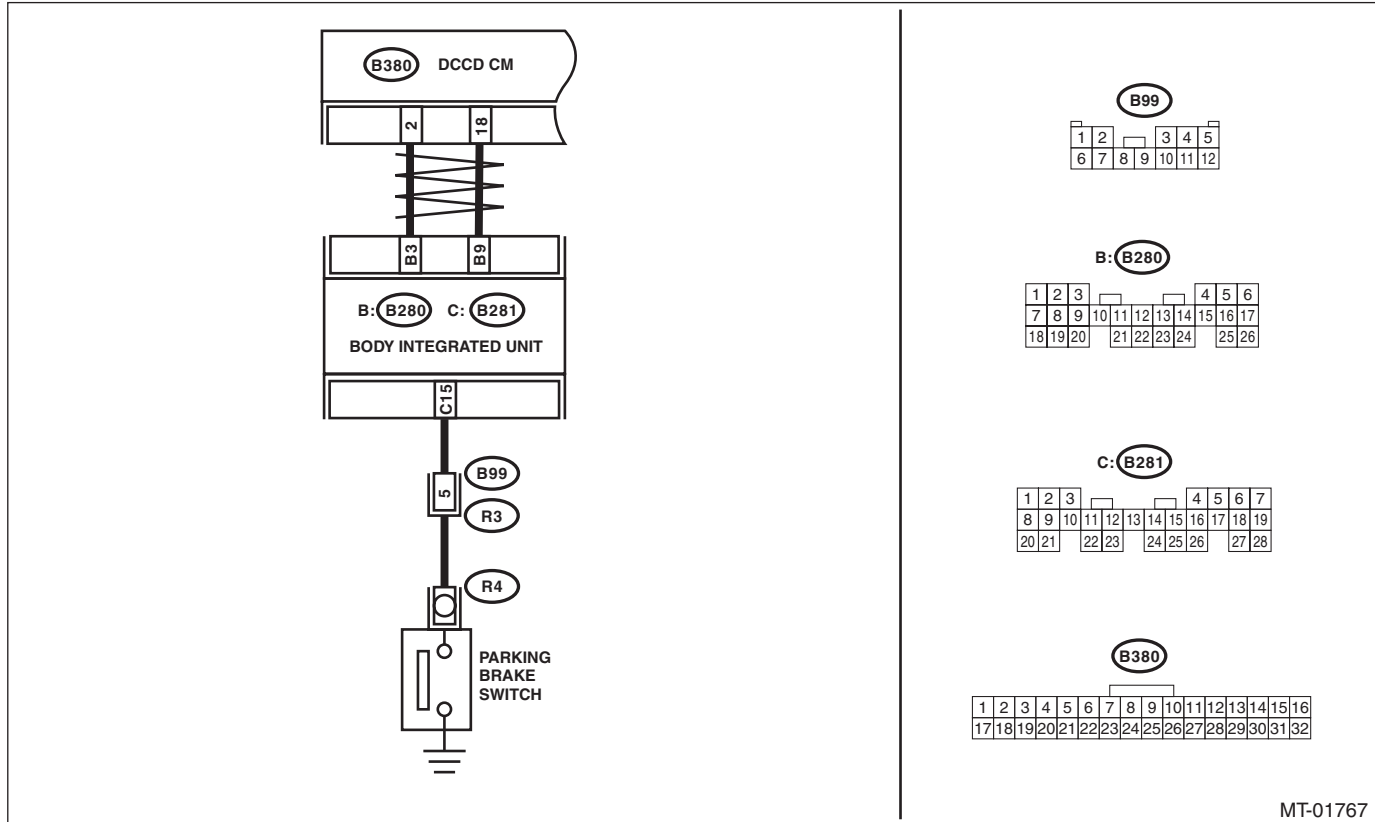
DIAGNOSIS:

Input signal circuit of parking brake switch is open or shorted.

TROUBLE SYMPTOM:

- It does not show a differential free tendency even when the parking brake switch is applied.
- Remains differential free even when the parking brake switch is released.

WIRING DIAGRAM:



MT-01767

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
1 CHECK IGNITION CIRCUIT OF DCCD CONTROL MODULE. 1) Connect the Subaru Select Monitor to the vehicle. 2) Turn the ignition switch to ON. 3) Read the data of "Battery Voltage" using the Subaru Select Monitor.	Is the voltage 11 V or more?	Go to step 2.	Repair the open circuit of harness between fuse (F/B No. 12) and DCCD control module, or between fuse (F/B No. 12) and battery.
2 CHECK DTC.	Is DTC P1720 displayed?	Perform the diagnosis according to DTC.	Go to step 3.
3 CHECK DCCD CONTROL MODULE. 1) Operate the parking brake lever. 2) Read the data of "Parking Position Switch" using the Subaru Select Monitor.	Is the ON/OFF normally detected?	The parking brake switch circuit is currently operating properly.	Go to step 4.
4 CHECK THE BODY INTEGRATED UNIT. 1) Operate the parking brake lever. 2) Read the data of "Parking Position Switch" using the Subaru Select Monitor.	Is the ON/OFF normally detected?	Go to step 7.	Go to step 5.
5 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND PARKING BRAKE SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Check for open circuit, short circuit to battery and short circuit to ground between the body integrated unit connector and parking brake switch connector. Connector & terminal (B281) No. 15 — (R4) No. 1:	Is the harness normal?	Go to step 6.	Repair or replace the harness.
6 CHECK PARKING BRAKE SWITCH. Measure the resistance between parking brake switch terminals.	Is the resistance less than 10 Ω when the parking brake lever is pulled? Is the resistance 1 MΩ or more when the parking brake lever is released?	Replace the body integrated unit.	Replace the parking brake switch.
7 CHECK DTC. Check DTC of body integrated unit.	Is DTC related CAN displayed?	Perform the diagnosis according to DTC.	Check the poor contact of DCCD system.

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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C: CHECK DCCD MULTI SELECT SWITCH

DIAGNOSIS:

Input signal of DCCD multi select switch is open or shorted.

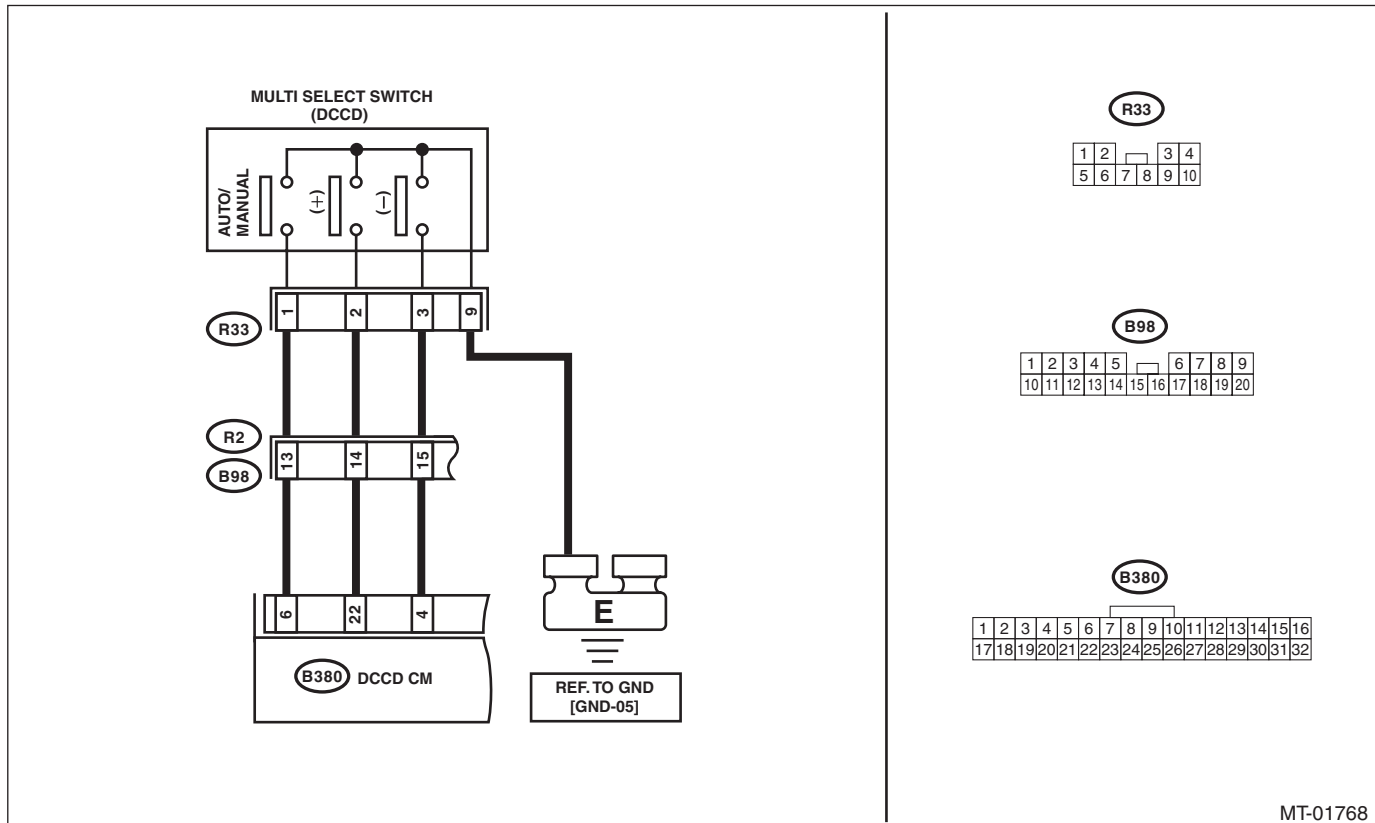
TROUBLE SYMPTOM:

- Does not enter manual mode or AUTO mode when the mode change switch is pressed.
- Mode does not change in AUTO mode.
- Initial torque can not be changed in manual mode.

NOTE:

Other switch input can not be received if either mode change switch or C.DIFF +/- switch is stuck ON.

WIRING DIAGRAM:



MT-01768

Step	Check	Yes	No
1 CHECK CURRENT DATA. 1) Display the current data "AUTO/MANUAL Mode Switch" of DCCD control module, using Subaru Select Monitor. 2) Press the manual mode change switch.	Does the data change to OFF/ON?	Go to step 2.	Go to step 4.
2 CHECK CURRENT DATA. 1) Display the current data "Up Switch" of DCCD control module, using Subaru Select Monitor. 2) Push the multi select switch toward plus.	Does the data change to OFF/ON?	Go to step 3.	Go to step 5.
3 CHECK CURRENT DATA. 1) Display the current data "Down Switch" of DCCD control module, using Subaru Select Monitor. 2) Push the multi select switch toward minus.	Does the data change to OFF/ON?	The switch circuit is normal.	Go to step 6.

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Step	Check	Yes	No
4 CHECK MODE CHANGE SWITCH. 1) Disconnect the multi select switch connector. 2) Press the mode change switch. 3) Using the tester, measure the resistance between terminals. Connector & terminal (R33) No. 1 — No. 9:	Is resistance less than 1 Ω?	Go to step 7.	Replace the multi select switch. <Ref. to FU(STI)-48, SI-DRIVE (Subaru Intelligent Drive) Selector.>
5 CHECK MULTI SELECT SWITCH. 1) Push the multi select switch toward plus. 2) Using the tester, measure the resistance between terminals. Connector & terminal (R33) No. 2 — No. 9:	Is resistance less than 1 Ω?	Go to step 7.	Replace the multi select switch. <Ref. to FU(STI)-48, SI-DRIVE (Subaru Intelligent Drive) Selector.>
6 CHECK MULTI SELECT SWITCH. 1) Push the multi select switch toward plus. 2) Using the tester, measure the resistance between terminals. Connector & terminal (R33) No. 3 — No. 9:	Is resistance less than 1 Ω?	Go to step 7.	Replace the multi select switch. <Ref. to FU(STI)-48, SI-DRIVE (Subaru Intelligent Drive) Selector.>
7 CHECK HARNESS. Use a tester to measure the resistance between the multi select switch harness connector and chassis ground. Connector & terminal (R33) No. 9 — Chassis ground:	Is resistance less than 1 Ω?	Go to step 8.	Repair or replace the ground circuit.
8 CHECK HARNESS. 1) Disconnect the DCCD control module connector. 2) Use a tester to measure the resistance between the DCCD control module and the multi select switch. Connector & terminal (R33) No. 1 — (B380) No. 6: (R33) No. 2 — (B380) No. 22: (R33) No. 3 — (B380) No. 4:	Is resistance less than 1 Ω?	Go to step 9.	Repair or replace the open circuit of the harness.
9 CHECK HARNESS. Using the tester, measure the resistance between terminals. Connector & terminal (R33) No. 1 — (R33) No. 2: (R33) No. 1 — (R33) No. 3: (R33) No. 3 — (R33) No. 2:	Is the resistance 1 MΩ or more?	Go to step 10.	Repair or replace the short circuit of the harness.
10 CHECK HARNESS. Using the tester, measure the resistance between terminals. Connector & terminal (R33) No. 1 — Chassis ground: (R33) No. 2 — Chassis ground: (R33) No. 3 — Chassis ground:	Is the resistance 1 MΩ or more?	Check the poor contact.	Repair or replace the short circuit of the harness.

Diagnostics with Phenomenon

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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14. Diagnostics with Phenomenon

A: INSPECTION

Symptom	Problem parts
A tight corner braking symptom occurs.	<ul style="list-style-type: none"> • VDCCM&H/U • ABS wheel speed sensor • Yaw rate & lateral G sensor • Steering angle sensor • CAN communication signal • Center differential • C.DIFF +/- switch • Mode change switch • Tire/Wheel • DCCD control module • ECM • Body integrated unit
An oversteer tendency will become apparent.	<ul style="list-style-type: none"> • Throttle position sensor • ECM • C.DIFF +/- switch • Mode change switch • Tire/Wheel • DCCD control module • Center differential • DCCD relay • Rear differential oil temperature switch • Neutral position switch • Steering angle sensor • VDCCM • CAN communication signal • Body integrated unit • Yaw rate & lateral G sensor
A tendency to understeer occurs during high speed cornering.	<ul style="list-style-type: none"> • VDCCM&H/U • ABS wheel speed sensor • CAN communication signal • Throttle position sensor • Yaw rate & lateral G sensor • Center differential • ECM • Engine speed signal • Neutral position switch • Steering angle sensor • Body integrated unit
Torque characteristics of the center differential do not change.	<ul style="list-style-type: none"> • C.DIFF +/- switch • DCCD relay • Center differential • DCCD control module
DCCD indicator does not operate. (is not displayed)	<ul style="list-style-type: none"> • Combination meter • DCCD control module
DCCD indicator does not operate even when the C.DIFF +/- switch is operated. (Displayed but does not change. or display blinks.)	<ul style="list-style-type: none"> • C.DIFF +/- switch • Combination meter • DCCD control module
DCCD AUTO mode does not operate even when the C.DIFF +/- switch is operated. (Displayed but does not change.)	<ul style="list-style-type: none"> • Mode change switch • Combination meter • DCCD control module • Body integrated unit • CAN communication signal

Diagnostics with Phenomenon

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

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Symptom	Problem parts
DCCD AUTO mode display does not illuminate.	<ul style="list-style-type: none"> • Mode change switch • Combination meter • DCCD control module • Body integrated unit • CAN communication signal
Will not become differential free or remains differential free	<ul style="list-style-type: none"> • Parking brake switch • Center differential • Mode change switch • C.DIFF +/- switch • Rear differential • Tire/Wheel • DCCD relay • Rear differential oil temperature switch • DCCD control module • ECM • Body integrated unit • VDCCM • Yaw rate & lateral G sensor • CAN communication signal
ABS does not operate.	<ul style="list-style-type: none"> • VDCCM&H/U • CAN communication signal • Stop light switch • DCCD control module • ECM • Body integrated unit • Yaw rate & lateral G sensor
Will not lock the differential. Or the differential is continually locked.	<ul style="list-style-type: none"> • VDCCM&H/U • ABS wheel speed sensor • CAN communication signal • Center differential • C.DIFF +/- switch • Mode change switch • Tire/Wheel • DCCD control module • DCCD relay • ECM • Body integrated unit • Yaw rate & lateral G sensor