MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	**START INSPECTIONS.** 1) Use the check list for Interview to confirm the condition of the problem from the user. <Ref. to 6MT(diag)-4, Check List for Interview.> 2) Before performing diagnosis, inspect parts related to the driver's control center differential. <Ref. to 6MT(diag)-5, INSPECTION, General Description.>	Are the modules related to the driver's control center differential problem operating properly?	Go to step **2**.	Repair the defective module.
2	**READ DTC.** Read the DTC. <Ref. to 6MT(diag)-21, WITH SUBARU SELECT MONITOR, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: • Refer to "List of Diagnostic Trouble Code (DTC)" for DTC. <Ref. to 6MT(diag)-26, List of Diagnostic Trouble Code (DTC).> • If the communication function of Subaru Select Monitor cannot be executed normally, check the communication circuit.	Was it possible to call out the DTC?	Go to step **3**. NOTE: Record all DTC.	Go to step **4**.
3	**PERFORM DIAGNOSIS.** 1) Inspect and repair all DTC using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to 6MT(diag)-28, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> NOTE: Refer to "List of Diagnostic Trouble Code (DTC)" for DTC. <Ref. to 6MT(diag)-26, List of Diagnostic Trouble Code (DTC).> 2) Start the engine. 3) Read the DTC using the Select Monitor. <Ref. to 6MT(diag)-21, WITH SUBARU SELECT MONITOR, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Record all DTC using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)" for the inspection. <Ref. to 6MT(diag)-28, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>Repeat execute diagnosis until DTC no longer appears.	Go to step **4**.
4	**DTC READ THROUGH THE COMBINATION METER.** Read the DTC from the combination meter. <Ref. to 6MT(diag)-21, WHEN USING THE DIAGNOSIS INDICATOR LIGHT, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: Refer to "List of Diagnostic Trouble Code (DTC)" for DTC. <Ref. to 6MT(diag)-26, List of Diagnostic Trouble Code (DTC).>	Was it possible to call out the DTC?	Go to step **5**. NOTE: Record all DTC. (Including normal codes)	Refer to "Cannot call out diagnosis code (DTC)". <Ref. to 6MT(diag)-28, DTC CANNOT BE CALLED UP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> NOTE: Read the DTC again after completing the inspection.

Step		Check	Yes	No
5	**PERFORM DIAGNOSIS.** 1) Inspect and repair all DTC using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to 6MT(diag)-28, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> NOTE: Refer to "List of Diagnostic Trouble Code (DTC)" for DTC. <Ref. to 6MT(diag)-26, List of Diagnostic Trouble Code (DTC).> 2) Perform the Inspection Mode. <Ref. to 6MT(diag)-23, Inspection Mode.>	Is DTC displayed?	Record all DTC using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)" for the inspection. <Ref. to 6MT(diag)-28, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> Repeat execute diagnosis until DTC no longer appears.	Inspect based on the general diagnosis table.

2. Check List for Interview

A: CHECK

Check the following items when a problem has occurred.

NOTE:
Use copies of this page for interviewing customers.

Customer's name			
Date of purchase			
Date of repair			
Transmission model	Transmission	V.I.N.	
Odometer distance	km or miles		
Frequency	❑ Continuous ❑ Intermittent (times a day)		
Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others ( )		
Place	❑ Highland ❑ Suburbs ❑ Inner city ❑ Uphill ❑ Rough road ❑ Others ( )		
Outside air temperature	❑ Hot ❑ Warm ❑ Cool ❑ Cold		
Vehicle speed	km/h (MPH)		
Driver's control center differential indicator light	❑ Flashing	❑ Other than flashing	
Driving condition	❑ Not affected ❑ When decelerating	❑ At starting ❑ When accelerating	❑ While turning (❑ RH/❑ LH) ❑ When cruising
Symptoms	❑ No change to AUTO or MANUAL		
	❑ No change of front and rear torque distribution		
	❑ No change to differential free		
	❑ No change to differential lock		
	❑ Tight corner braking condition is occurred in AUTO or MANUAL mode with differential free		
	❑ Noise or vibration		
	❑ Others ( )		

3. General Description

A: CAUTION

The airbag system wiring harness is routed near the driver's control center differential control module.

CAUTION:
• Airbag system wiring harnesses and connectors are yellow. Do not use an electrical test equipment to check these circuits.
• Be careful not to damage the airbag system wiring harness when performing diagnostics or repair of the driver's control center differential 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. Do not insert a pin of more than 0.65 mm (0.026 in) diameter.

B: INSPECTION

1. POWER SUPPLY

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

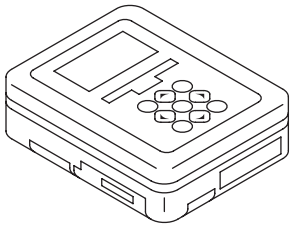
Standard voltage: 12 V or more

Specific gravity: 1.260 or more

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

C: PREPARATION TOOL

1. SPECIAL TOOL

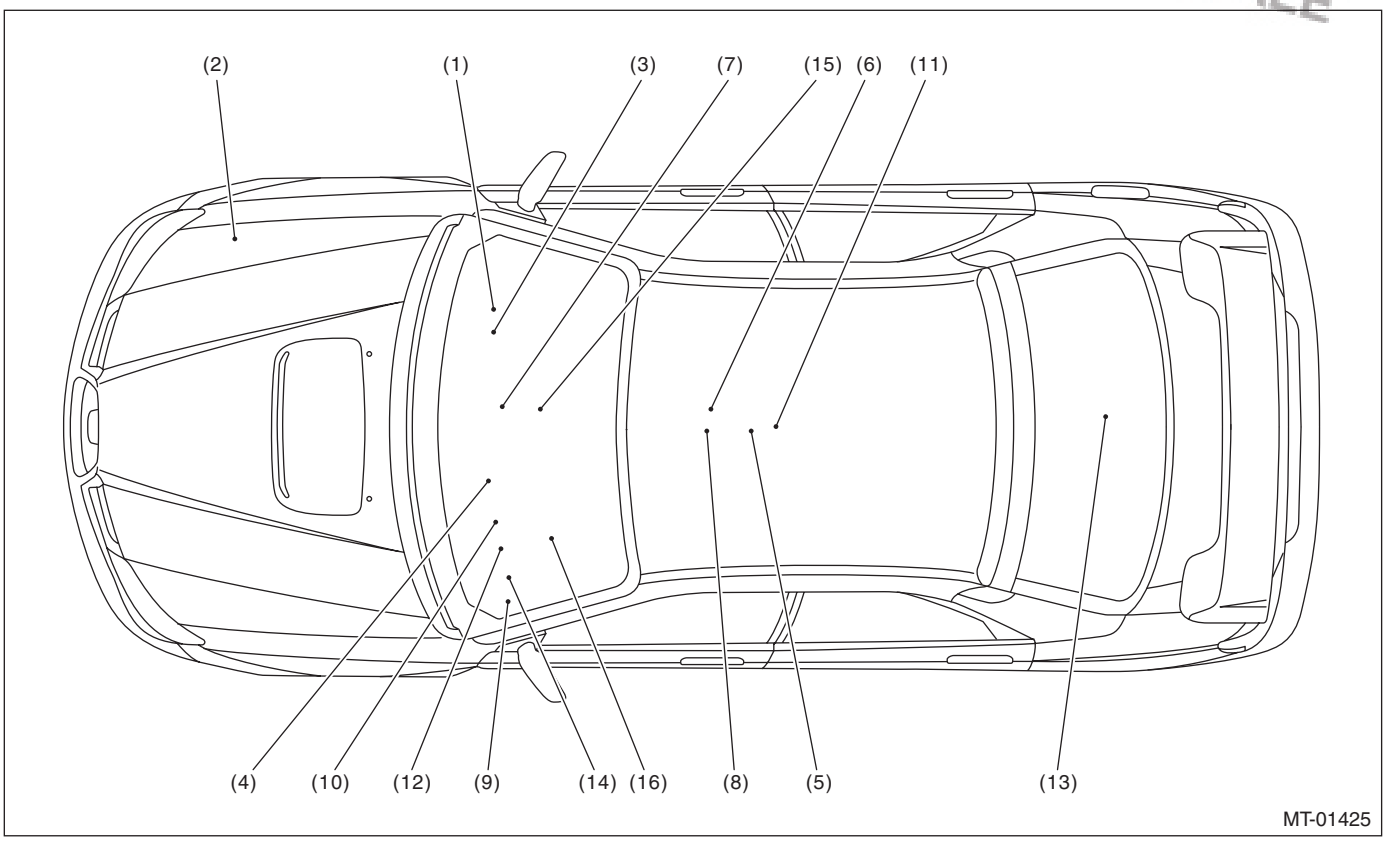
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B020XU0	1B020XU0	SUBARU SELECT MONITOR KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

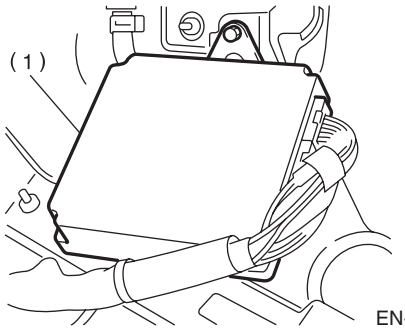
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Oscilloscope	Used for measuring the sensor.

4. Electrical Component Location

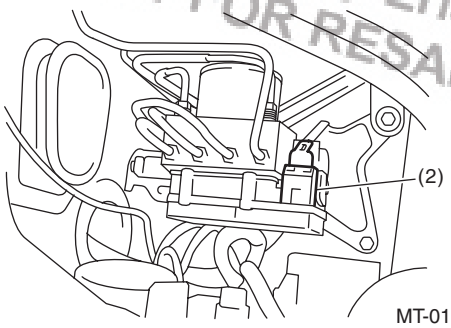
A: LOCATION



(1) Engine control module (ECM)
(2) ABS control module and hydraulic control unit (ABSCM&H/U)
(3) Driver's control center differential control module
(4) Accelerator pedal position sensor
(5) Yaw rate & lateral G sensor
(6) Center differential control dial
(7) Center differential
(8) Manual mode switch
(9) Driver's control center differential relay
(10) Driver's control center differential indicator light (driver's control center differential diagnosis indicator light)
(11) Parking brake switch
(12) Brake light switch
(13) Rear differential oil temperature switch
(14) Data link connector
(15) Neutral position switch
(16) Steering angle sensor



EN-00156



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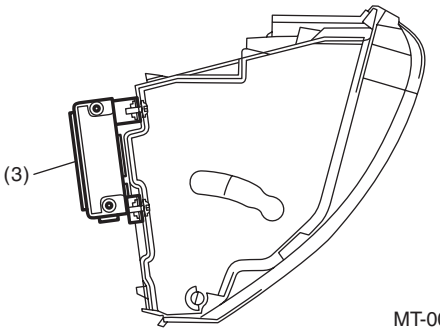

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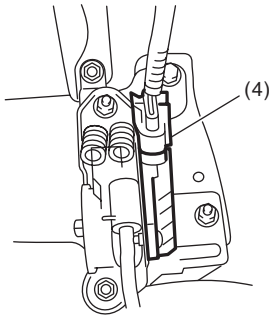

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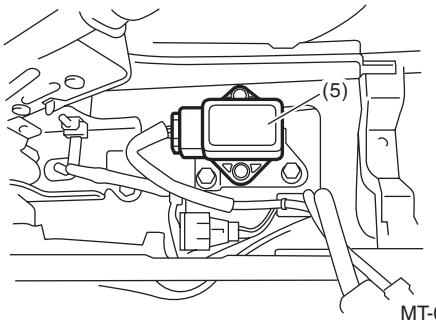
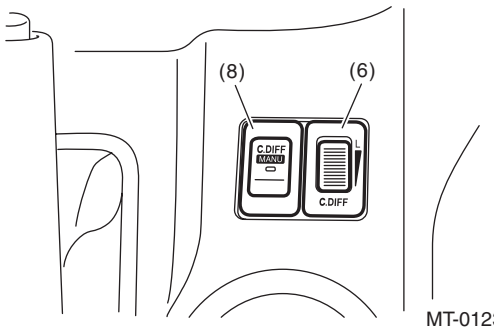
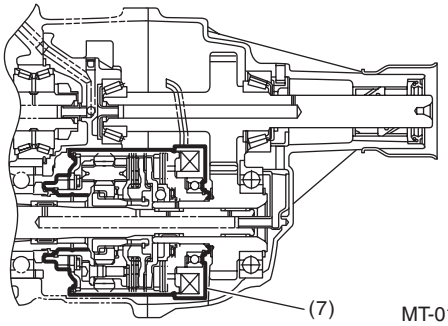


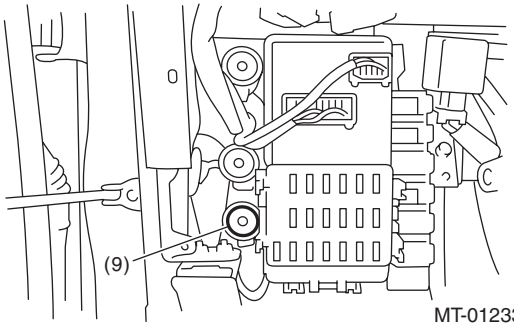
MT-01231



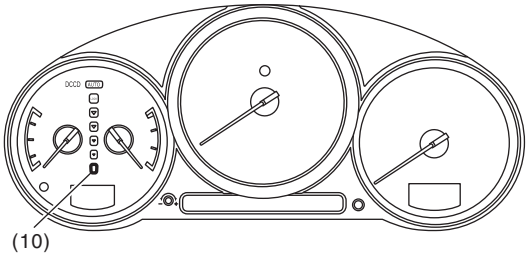
MT-01232



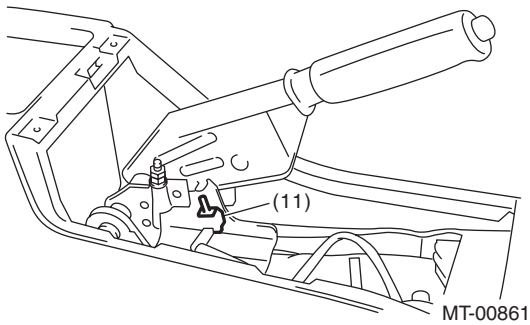
MT-01455



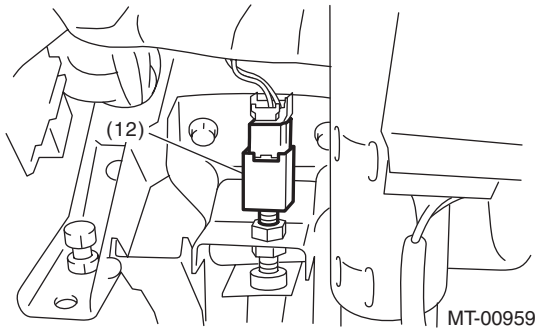
MT-01233

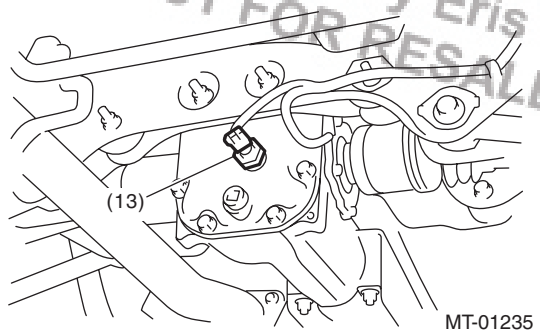


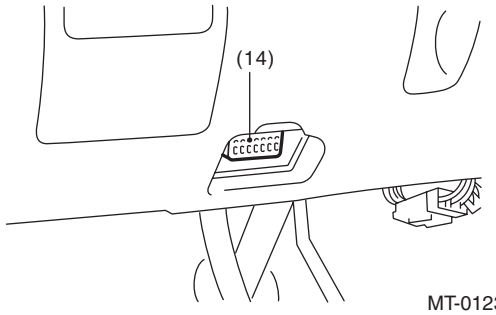
MT-00860

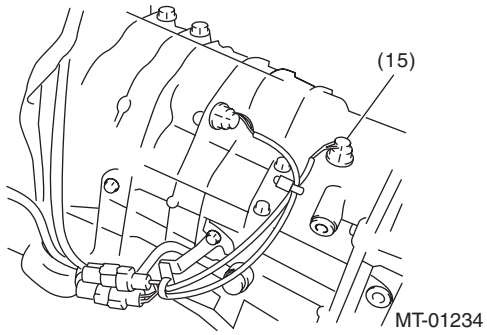


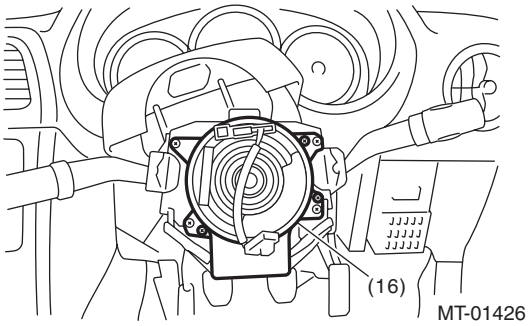
MT-00861





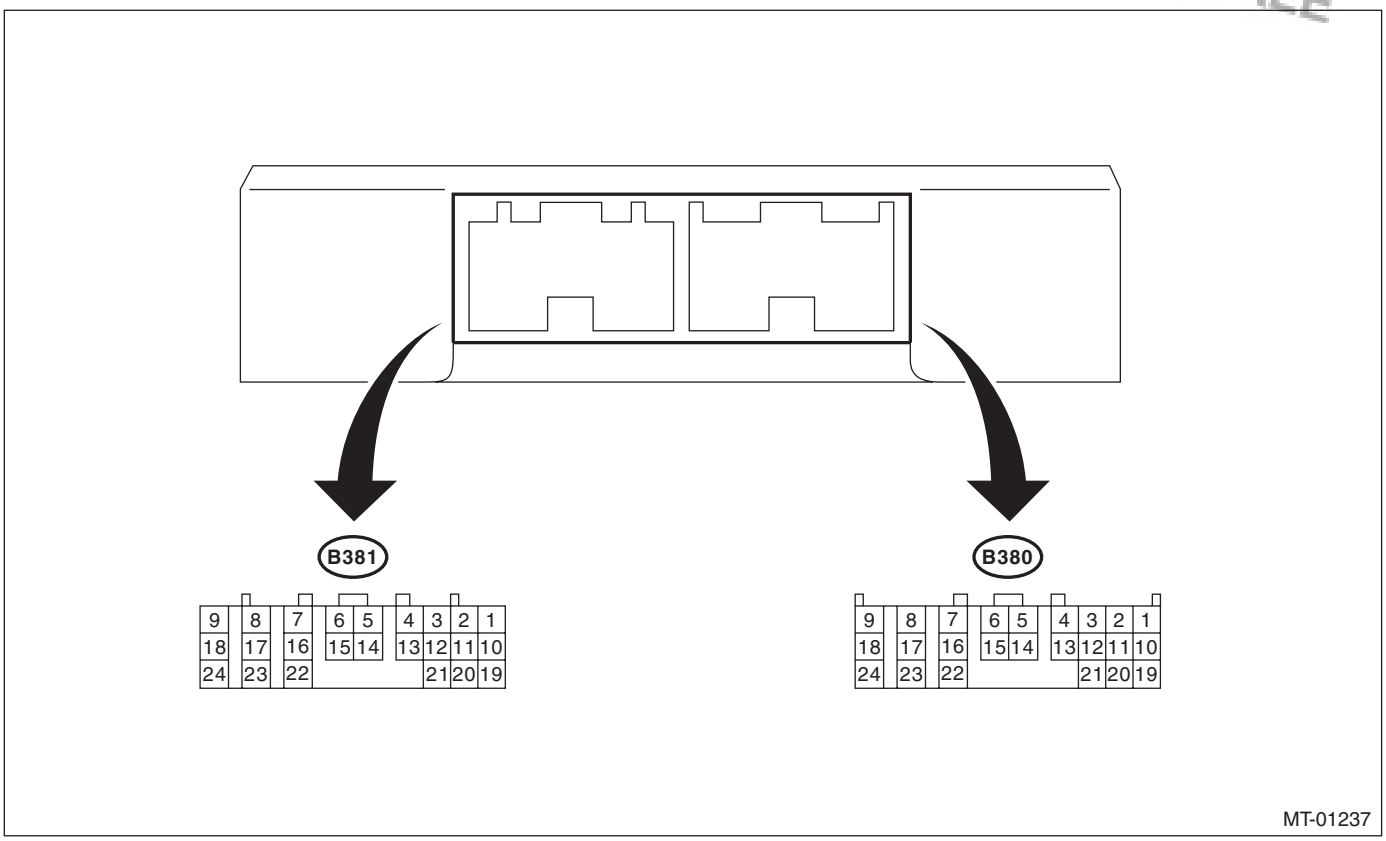






5. Driver's Control Center Differential Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

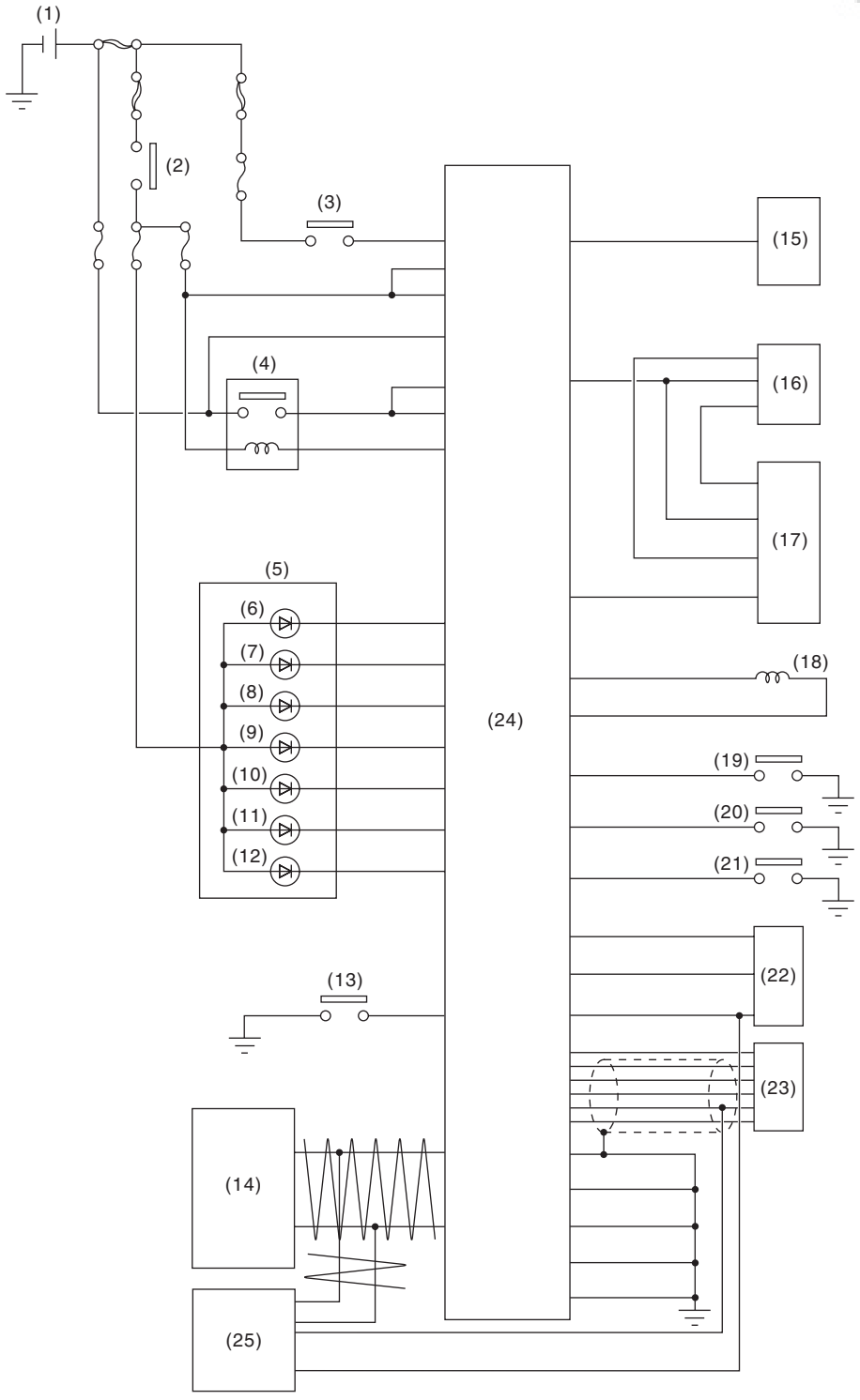


Check with ignition switch ON.					Resistance (Ω)
Contents	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	
	Positive terminal	Ground terminal			
Backup power supply	(B381) No. 17	Chassis ground	—	10 — 13	—
Ignition power supply	(B381) No. 5	Chassis ground	Ignition switch ON (engine OFF)	10 — 13	—
	(B381) No. 6	Chassis ground			
Driver's control center differential power	(B381) No. 7	Chassis ground	Ignition switch ON (engine OFF)	10 — 13	—
	(B381) No. 8				—
Driver's control relay	(B381) No. 10	Chassis ground	Ignition switch ON (engine OFF)	Less than 1	—
Accelerator pedal position sensor	(B380) No. 2	Chassis ground	When accelerator is not pressed	0.1 — 1.3	—
			When accelerator is fully pressed	2.0 — 4.3	—
Center differential control dial power	(B380) No. 23	(B381) No. 14	Ignition switch ON (engine OFF)	Approx. 5	—
Center differential control dial ground	(B381) No. 14	Chassis ground	—	—	—
Center differential control dial input signal	(B380) No. 3	(B381) No. 14	When differential is locked	Approx. 5	—
			When differential is free	Less than 0.5	—

Check with ignition switch ON.					
Contents	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
	Positive terminal	Ground terminal			
Driver's control center differential output	(B381) No. 9	(B381) No. 24	When differential is locked (During driver's control center differential indicator light differential lock)	7.0 — 9.0	1.2 — 2.5
			When differential is free (When the parking brake is pulled)	Less than 0.5	
Driver's control center differential ground	(B381) No. 24	Chassis ground	When differential is free	Less than 0.5	—
Parking brake switch	(B380) No. 5	Chassis ground	When the parking brake is applied.	Less than 0.4	—
			When the parking brake is released.	8 or more	
Driver's control center differential indicator light (lock ratio 0%)	(B381) No. 4	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
Driver's control center differential indicator light (lock ratio 15%)	(B381) No. 3	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
Driver's control center differential indicator light (lock ratio 35%)	(B381) No. 2	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
Driver's control center differential indicator light (lock ratio 65%)	(B381) No. 1	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
Driver's control center differential indicator light (lock ratio 85%)	(B381) No. 13	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
Driver's control center differential indicator light (lock ratio 100%)	(B381) No. 12	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
AUTO indicator light	(B381) No. 11	Chassis ground	When light is ON	Less than 1	—
			When light is OFF	8 or more	
Stop light switch	(B380) No. 4	Chassis ground	When brake pedal is depressed.	8 or more	—
			When the brake pedal is depressed.	Less than 1	
Rear differential oil temperature switch	(B380) No. 14	Chassis ground	When the rear differential switch is ON	8 or more	—
			When the rear differential switch is OFF	Less than 0.4	
Manual mode switch	(B380) No. 13	Chassis ground	When the switch is not pressed	4.3 or more	—
			Throttle full open condition	Less than 0.1	
Data link signal (Subaru Select Monitor)	(B380) No. 9	Chassis ground	—	—	—
CAN communication signal (+)	(B380) No. 18	Chassis ground	Ignition switch ON	Pulse signal	—
CAN communication signal (–)	(B380) No. 24	Chassis ground	Ignition switch ON	Pulse signal	—

Check with ignition switch ON.						
Contents		Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
		Positive terminal	Ground terminal			
Neutral position switch		(B380) No. 15	Chassis ground	In neutral	Less than 1	—
				Out of neutral	8 or more	
Engine speed signal		(B380) No. 6	Chassis ground	Ignition switch ON (engine OFF)	Less than 1	—
				Ignition switch ON (during idle)	5 or more (AC range)	—
Yaw rate & lateral G sensor	Input (Lateral G sensor)	(B380) No. 1	(B380) No. 11	Ignition switch ON (When vehicle is horizontally level.)	2.35 — 2.65	—
	Battery voltage	(B380) No. 22	(B380) No. 11	Ignition switch ON	8 or more	—
	Output (Yaw rate sensor)	(B380) No. 10	(B380) No. 11	Ignition switch ON (Engine OFF, while parked, ABS normal	Waveform <Ref. to 6MT(diag)-14, WAVEFORM, MEASUREMENT, Driver's Control Center Differential Control Module I/O Signal.>	—
	Standard (Yaw rate sensor)	(B380) No. 19	(B380) No. 11	Ignition switch ON	2.1 — 2.9	—
	Test	(B380) No. 21	(B380) No. 11	Ignition switch ON (Engine OFF, while parked, ABS normal	Waveform <Ref. to 6MT(diag)-14, WAVEFORM, MEASUREMENT, Driver's Control Center Differential Control Module I/O Signal.>	—
	GND	(B380) No. 11	Chassis ground	—	—	—
Steering angle sensor power		(B380) No. 22	(B381) No. 14	Ignition switch ON	8 or more	—
Steering angle sensor ground		(B381) No. 14	Chassis ground	—	—	—
System ground circuit		(B380) No. 20	Chassis ground	—	0	Less than 1
		(B381) No. 15	Chassis ground			
		(B381) No. 16	Chassis ground			
		(B381) No. 22	Chassis ground			
		(B381) No. 23	Chassis ground			

B: WIRING DIAGRAM



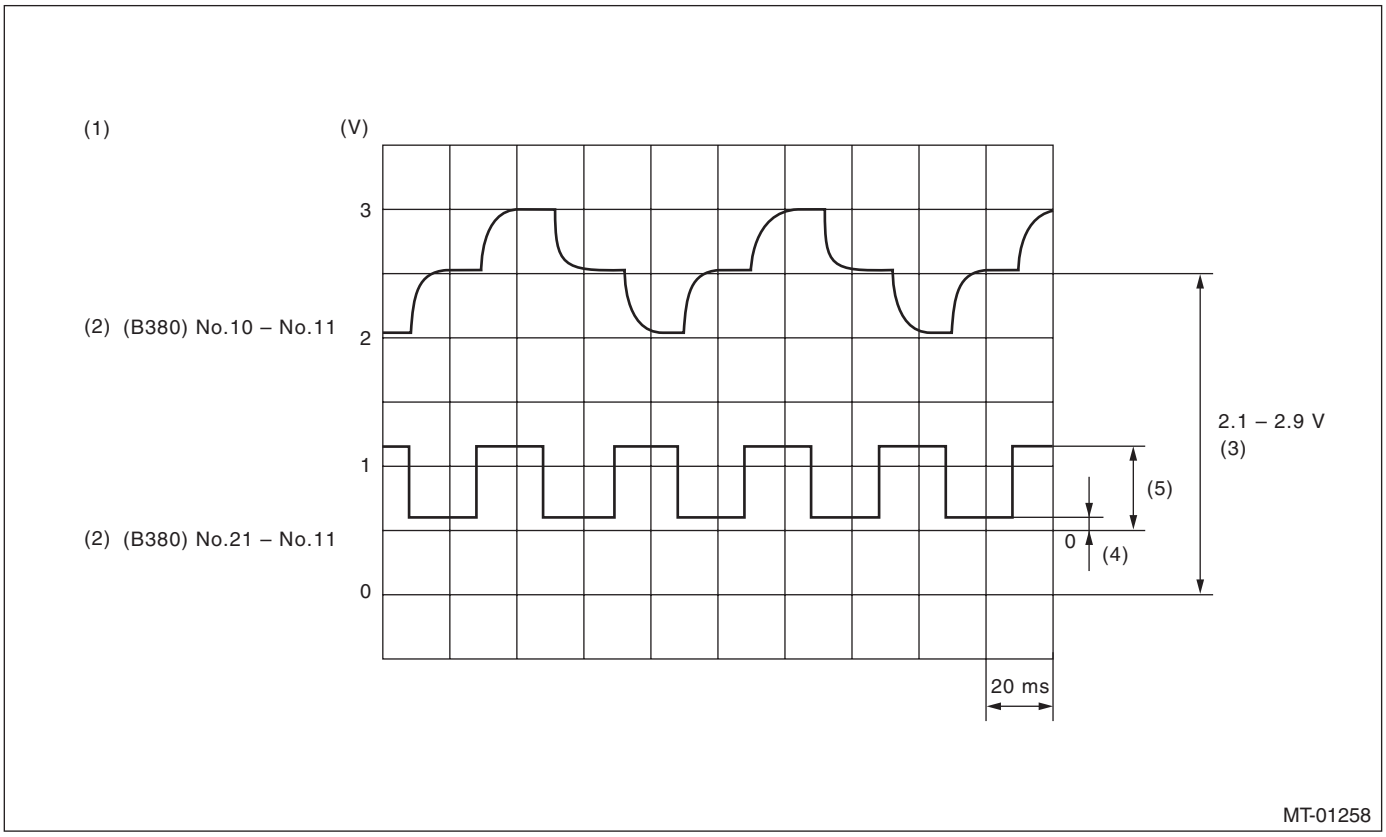
MT-01471

(1) Battery
(2) Ignition relay
(3) Stop light switch
(4) Driver's control center differential relay
(5) Combination meter
(6) Driver's control center differential indicator light (lock ratio 0%)
(7) Driver's control center differential indicator light (lock ratio 15%)
(8) Driver's control center differential indicator light (lock ratio 35%)
(9) Driver's control center differential indicator light (lock ratio 65%)
(10) Driver's control center differential indicator light (lock ratio 85%)
(11) Driver's control center differential indicator light (lock ratio 100%)
(12) AUTO indicator light
(13) Neutral position switch
(14) ABS control module and hydraulic control unit (ABSCM&H/U)
(15) Data link connector
(16) Accelerator pedal position sensor
(17) Engine control module (ECM)
(18) Driver's control center differential
(19) Parking brake switch
(20) Manual mode switch
(21) Rear differential oil temperature switch
(22) Center differential control dial
(23) Yaw rate & lateral G sensor
(24) Driver's control center differential control module
(25) Steering angle sensor

C: MEASUREMENT

Measure input and output signal voltage.

1. WAVEFORM



(1) Yaw rate sensor
(2) Terminal No.
(3) When vehicle is parked (Engine OFF, ABS normal)
(4) 1 V or less
(5) Approx. 6 V

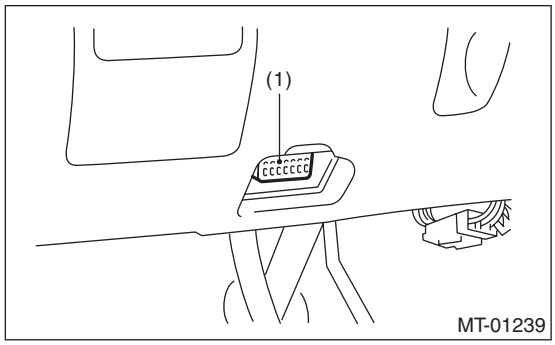
6. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

1) Prepare the Subaru Select Monitor kit. <Ref. to 6MT(diag)-5, SPECIAL TOOL, PREPARATION TOOL, General Description.>
2) Connect the diagnosis cable to the Subaru Select Monitor.
3) Connect the Subaru Select Monitor to the data link connector.

(1) The data link connector is located in the lower portion of the instrument panel (on the driver's side).



(1) Data link connector

(2) Connect the diagnosis cable to the data link connector.

CAUTION:
Do not connect any scan tools except the Subaru Select Monitor or general scan tool.

4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.
5) On the «Main Menu» display screen, select {Each System Check}.
6) On the «System Selection Menu» display screen, select {Transmission}.
7) Select {Center Differential Control}.
8) On the «Transmission Diagnosis» display screen, select {DTC Display}.

NOTE:
• For details concerning the operation procedure, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".
• For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to 6MT(diag)-26, List of Diagnostic Trouble Code (DTC).>

9) If the transmission and Subaru Select Monitor cannot communicate, check the communication circuit. <Ref. to 6MT(diag)-18, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>
10) On the «Diagnostic Code(s) Display» screen, select {Current Diagnostic Code(s)} or {History Diagnostic Code(s)}.

Display	Contents to be monitored
Latest code	The current DTC is displayed on Subaru Select Monitor display screen.
Memory code	The current DTC is displayed on the Subaru Select Monitor display screen.

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}.
3) Select {Center Differential Control}.
4) Select {Current Data Display & Save} in the «Transmission Diagnosis» screen.
5) Select the data display method in the «Data Display Menu» screen.
6) Using the scroll key, scroll the display screen up or down until necessary data is shown.

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

Display	Contents to be monitored	Unit of measure
Lateral G Sensor	The lateral G sensor voltage is displayed.	V
Center Differential Switch Voltage	Center differential switch voltage is displayed.	V
Center Differential Actual Current	Actual current from the center differential is displayed.	A
Center Differential Indicated Current	Indicated current from the center differential is displayed.	A
FR Wheel Speed	Wheel speed detected by front ABS wheel speed sensor RH is displayed.	km/h or MPH
FL Wheel Speed	Wheel speed detected by front ABS wheel speed sensor LH is displayed.	km/h or MPH
RR Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor RH is displayed.	km/h or MPH
RL Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor LH is displayed.	km/h or MPH
Sub-accelerator Sensor	Accelerator pedal position sensor voltage is displayed.	V
Yaw Rate Sensor Voltage	Voltage detected by the yaw rate sensor is displayed.	V
Yaw Rate & lateral G Sensor Reference Voltage	Yaw rate & lateral G sensor reference voltage is displayed.	V
Steering Angle Sensor	The vehicle steering angle is displayed.	deg
Engine Speed	Engine speed is displayed.	rpm
ABS Signal	ON/OFF of the ABS signal is displayed.	ON or OFF
Stop Light SW	Stop light switch ON/OFF is displayed.	ON or OFF
Rear Differential Oil Temperature Switch	Rear differential oil temperature switch ON/OFF is displayed.	ON or OFF
Module Identification Signal	Module identification signal ON/OFF is displayed.	ON or OFF
Center Differential Light 1	Center differential light 1 ON/OFF is displayed.	ON or OFF
Center Differential Light 2	Center differential light 2 ON/OFF is displayed.	ON or OFF
Center Differential Light 3	Center differential light 3 ON/OFF is displayed.	ON or OFF
Center Differential Light 4	Center differential light 4 ON/OFF is displayed.	ON or OFF
Center Differential Light 5	Center differential light 5 ON/OFF is displayed.	ON or OFF
Center Differential Light 6	Center differential light 6 ON/OFF is displayed.	ON or OFF
Parking Switch	Parking brake switch ON/OFF is displayed.	ON or OFF
Center Differential Relay	Center differential relay ON/OFF is displayed.	ON or OFF
AUTO/MANUAL Mode Change Switch	AUTO/MANUAL mode change switch ON/OFF is displayed.	ON or OFF
AUTO Mode Light	AUTO mode light ON/OFF is displayed.	ON or OFF
Neutral Position Switch	Neutral switch neutral/out of neutral is displayed.	Neutral or other than neutral

NOTE:
For details concerning the operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

3. CLEAR MEMORY MODE

1) On the «Main Menu» display screen, select {2. Each System Check}.
2) On the «System Selection Menu» display screen, select {Transmission}.
3) Select {Center Differential Control}.
4) On the «Transmission Diagnosis» display screen, select {Clear Memory}.

Display	Contents to be monitored
Clear Memory?	DTC deleting function

5) When “Done” and “Turn ignition switch to OFF” are shown on the display screen, turn the ignition switch to OFF and close the Subaru Select Monitor.

NOTE:
For details concerning the operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

4. FREEZE FRAME DATA

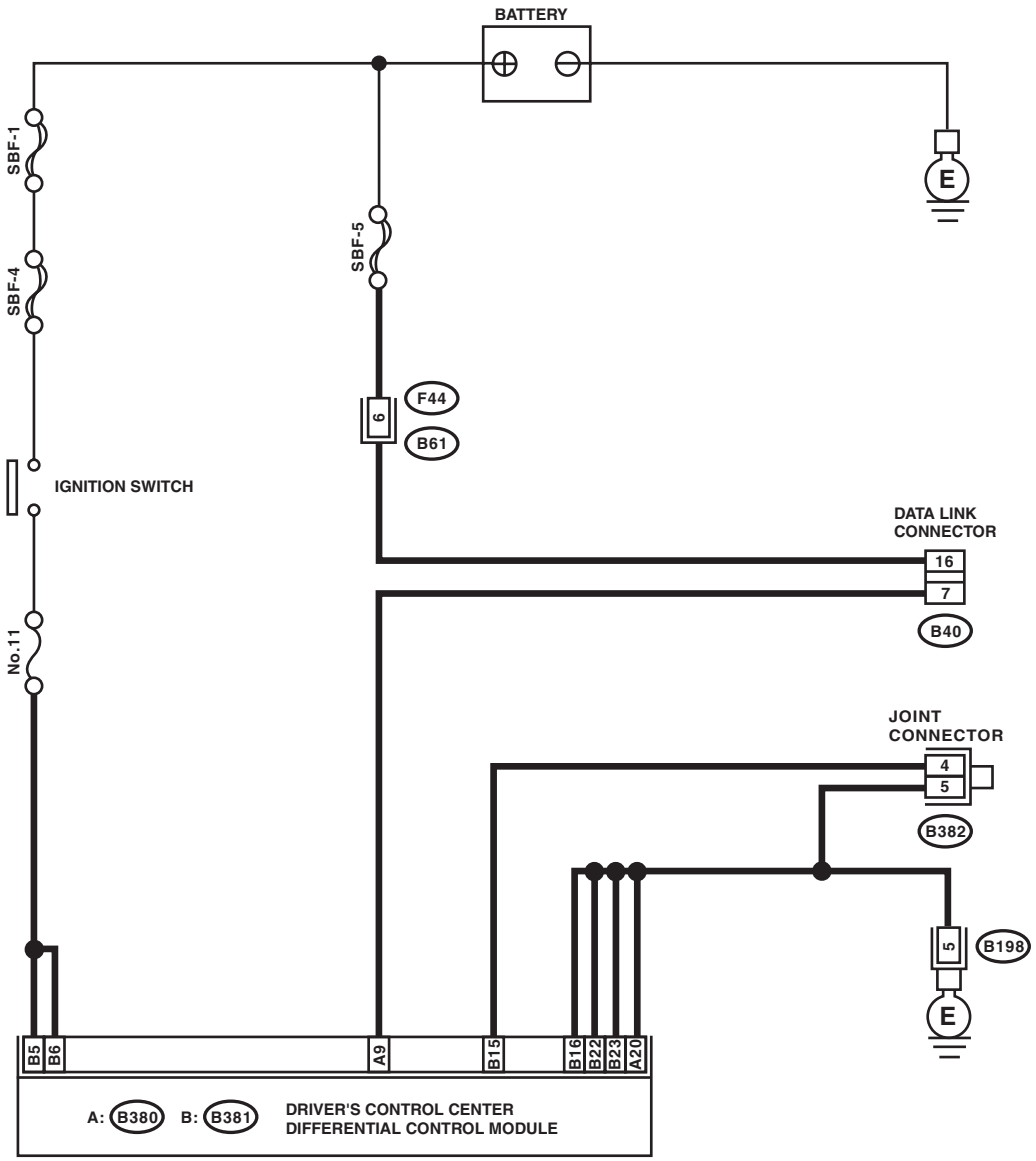
NOTE:
• Data stored at the time of trouble occurrence is shown on the display.
• Each time a trouble occurs, the latest information is stored in the freeze frame data in memory.
• Up to 9 freeze frame data will be stored.

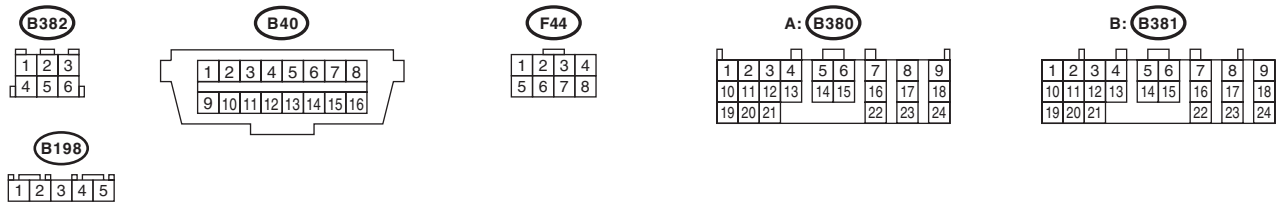
DTC	Item	Contents to be monitored
P1521	Brake Switch Circuit Range	Brake switch circuit status is displayed.
P1720	DCCD CAN System Circuit	CAN communication circuit status is displayed.
P1721	DCCD Engine Rpm Signal System Circuit	Engine speed signal circuit status is displayed.
P1759	Lateral G Sensor Circuit	Lateral G sensor circuit status is displayed.
P1764	Yaw Rate Sensor System Circuit	Yaw rate & lateral G sensor circuit status is displayed.
P1765	Yaw Rate Side G Sensor Reference System Circuit	Yaw rate & lateral G sensor reference circuit status is displayed.
P1767	DCCD Steering Angle Sensor	Steering angle sensor circuit status is displayed.
P1875	Circuit Of Center Diff.	Center differential circuit status is displayed.
P2125	Accelerator Pedal Position Sensor E	Accelerator pedal position sensor circuit status is displayed.

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DETECTING CONDITION:
Defective harness connector
TROUBLE SYMPTOM:
Communication is impossible between the driver's control center differential control module and the Subaru Select Monitor.
WIRING DIAGRAM:





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	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select the transmission mode using the Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 10 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at the battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK INSTALLATION OF DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE CONNECTOR.** Turn the ignition switch to OFF.	Is the driver's control center differential control module connector inserted in the driver's control center differential control module until the clamp is locked?	Go to step **5**.	Insert the driver's control center differential control module connector into the driver's control center differential control module.
5	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Is the system name displayed on the Subaru Select Monitor?	Go to step **9**.	Go to step **6**.
6	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the driver's control center differential control module connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed on the Subaru Select Monitor?	Repair the poor contact.	Go to step **7**.
7	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the driver's control center differential control module connector, ECM connector and ABSCM connector. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **8**.	Repair the harness and connector between each control module and data link connector.
8	**CHECK OUTPUT SIGNAL TO DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **9**.	Repair the harness and connector between each control module and data link connector.

	Step	Check	Yes	No
9	**CHECK HARNESS CONNECTOR BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the driver's control center differential control module connector. 3) Measure the resistance between the driver's control center differential control module connector and data link connector. ***Connector & terminal*** ***(B380) No. 9 — (B40) No. 7:***	Is the resistance less than 1 Ω?	Go to step **10**.	Repair the harness and connector between the driver's control center differential control module and data link connector.
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the ignition power supply voltage between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B381) No. 5 (+) — Chassis ground (–):*** ***(B381) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **11**.	Repair the harness open circuit between the driver's control center differential control module and the battery.
11	**CHECK HARNESS CONNECTOR BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Measure resistance of the harness between the driver's control center differential control module and the chassis ground ***Connector & terminal*** ***(B380) No. 20 — Chassis ground:*** ***(B381) No. 15 — Chassis ground:*** ***(B381) No. 16 — Chassis ground:*** ***(B381) No. 22 — Chassis ground:*** ***(B381) No. 23 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair the connector.	Repair the open circuit in harness between driver's control center differential control module and inhibitor side connector, and poor contact of coupling connector.

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. WHEN USING THE DIAGNOSIS INDICATOR LIGHT

NOTE:
Perform steps 4) to 8) below within 30 seconds.
1) Securely apply the parking brake.
2) Switch the center differential control dial in the differential free position.
3) Start the engine.
4) Switch the center differential control dial in the differential lock position.
5) Release the parking brake.
6) Switch the center differential control dial in the differential free position.
7) Securely apply the parking brake.
8) Repeat steps 4) to 7) two more times.

NOTE:
If the diagnosis indicator light does not flash, repeat from step 1).
9) Perform the Inspection Mode. <Ref. to 6MT(diag)-23, Inspection Mode.>

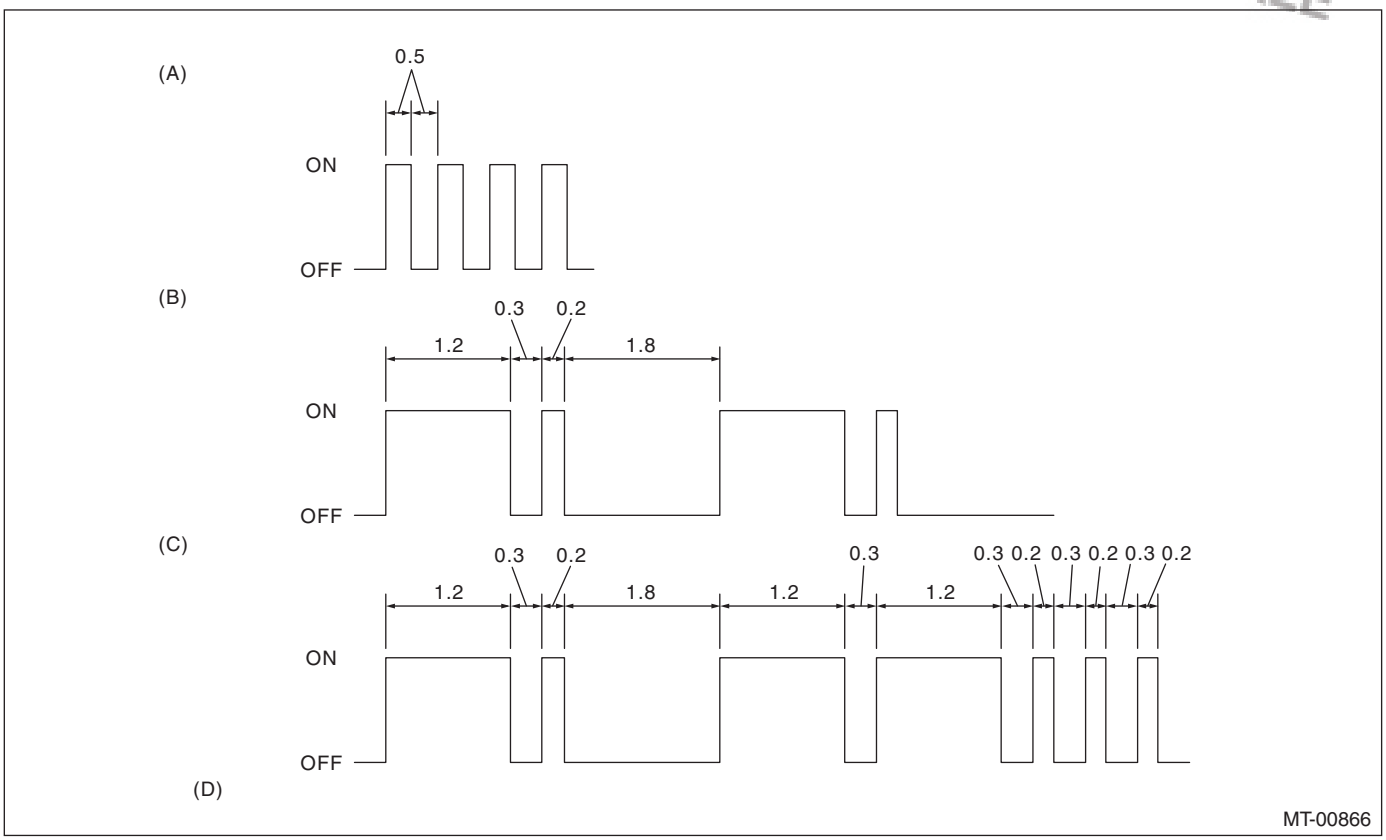
NOTE:
Refer to “How to Read Diagnostic Trouble Code” for information on how to read a DTC. <Ref. to 6MT(diag)-22, HOW TO READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Read Diagnostic Trouble Code (DTC).>

2. WITH SUBARU SELECT MONITOR

For details regarding DTC read procedures, refer to the “Subaru Select Monitor”. <Ref. to 6MT(diag)-15, Subaru Select Monitor.>

3. HOW TO READ DIAGNOSTIC TROUBLE CODE (DTC)

The code for a part having the problem will be indicated by a flashing driver's control center differential indicator light. A long flash (1.2 sec.) indicates the 10's digit, and a short flash (0.2 sec.) indicates the 1's digit.



(A) OK code
(B) List of Diagnostic Trouble Code (DTC) 11
(C) Diagnosis code (DTC) 11 and 23
(D) Unit: sec.

NOTE:
- The only codes which are recorded to the control module memory and the codes which indicate a problem to the driver during driving are "21", "22", "23", "25", "26", "27", "28", "29", "33".
- For details concerning DTC, refer to "List of Diagnostic Trouble Code (DTC)". <Ref. to 6MT(diag)-26, List of Diagnostic Trouble Code (DTC).>

8. Inspection Mode

A: PROCEDURE

WARNING:
When actually driving the vehicle, follow all road laws and regulations.

1) Call out the self diagnosis DTC. <Ref. to 6MT(diag)-21, WHEN USING THE DIAGNOSIS INDICATOR LIGHT, OPERATION, Read Diagnostic Trouble Code (DTC).>
2) Step on the brake pedal and release the brake pedal.
3) Operate the manual mode switch at least once, and change to manual mode.
4) Release the parking brake, turn the center differential control dial from the differential lock to differential free and back to the differential lock position, then wait for three seconds at differential lock position.
5) With the car parked, shift the gear into 1st gear, then to neutral.

9. Clear Memory Mode

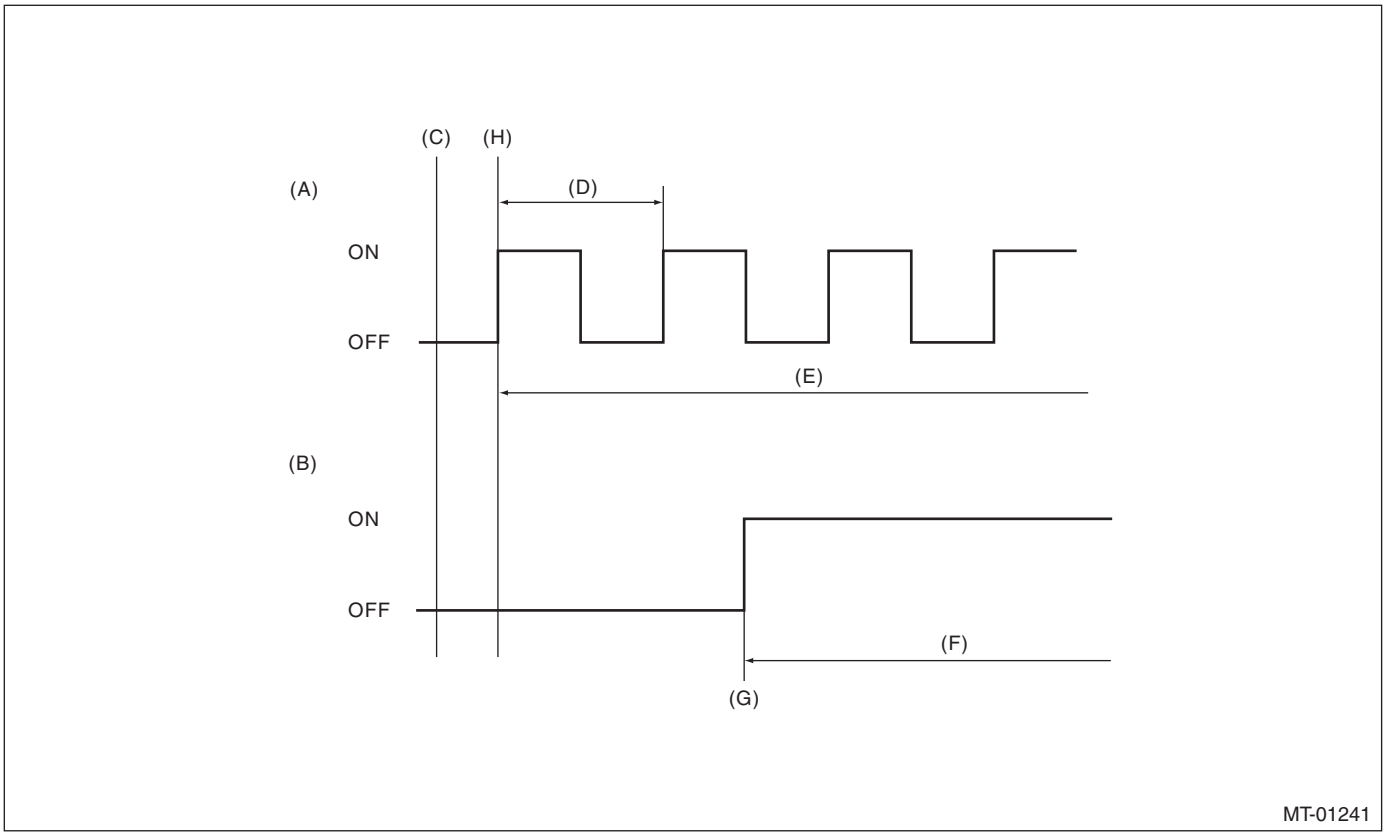
A: OPERATION

For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to 6MT(diag)-15, Subaru Select Monitor.>

10.Driver's Control Center Differential Indicator Light Display

A: INSPECTION

When there is a problem with a part or module, the control module will perform a self diagnosis. Until the problem is detected and the ignition switch is turned OFF, the driver's control center differential indicator light (the differential free light on the bottom) will flash. Parts or modules with a problem can be checked with the call out of the DTC.
Indicator light signal patterns are as shown in the figure.



(A) If there is a problem
(B) If normal
(C) Ignition switch ON
(D) 1 sec.
(E) Blink
(F) Driver's control center differential indicator light lit
(G) Switch the manual mode dial in the differential free position
(H) Problem detected

11.List of Diagnostic Trouble Code (DTC)

A: LIST

1. SUBARU SELECT MONITOR DISPLAY

DTC	Item	Content of diagnosis	Reference target
P1521	Stop Light Switch Circuit Range	Stop light switch circuit is open or shorted.	<Ref. to 6MT(diag)-33, 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)-35, DTC P1720 DCCD CAN SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1721	DCCD engine rpm signal system circuit	Open or shorted engine speed signal circuit	<Ref. to 6MT(diag)-37, DTC P1721 DCCD ENGINE RPM SIGNAL SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1759	Lateral Acceleration Sensor Circuit	Open or short in the lateral G sensor circuit	<Ref. to 6MT(diag)-39, DTC P1759 LATERAL ACCELERATION SENSOR CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1764	Yaw rate sensor system circuit	Open, short or stuck in the yaw rate & lateral G sensor circuit	<Ref. to 6MT(diag)-42, DTC P1764 YAW RATE SENSOR SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1765	Yaw rate side G sensor reference system circuit	Open or short in the yaw rate & lateral G sensor reference circuit	<Ref. to 6MT(diag)-45, DTC P1765 YAW RATE SIDE G SENSOR REFERENCE 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)-48, DTC P1767 DCCD STEERING ANGLE SENSOR, 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)-50, DTC P1875 CIRCUIT OF CENTER DIFF., Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P2125	Accelerator Position Sensor E	Open or short in the accelerator pedal position sensor circuit	<Ref. to 6MT(diag)-56, DTC P2125 ACCELERATOR POSITION SENSOR E, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

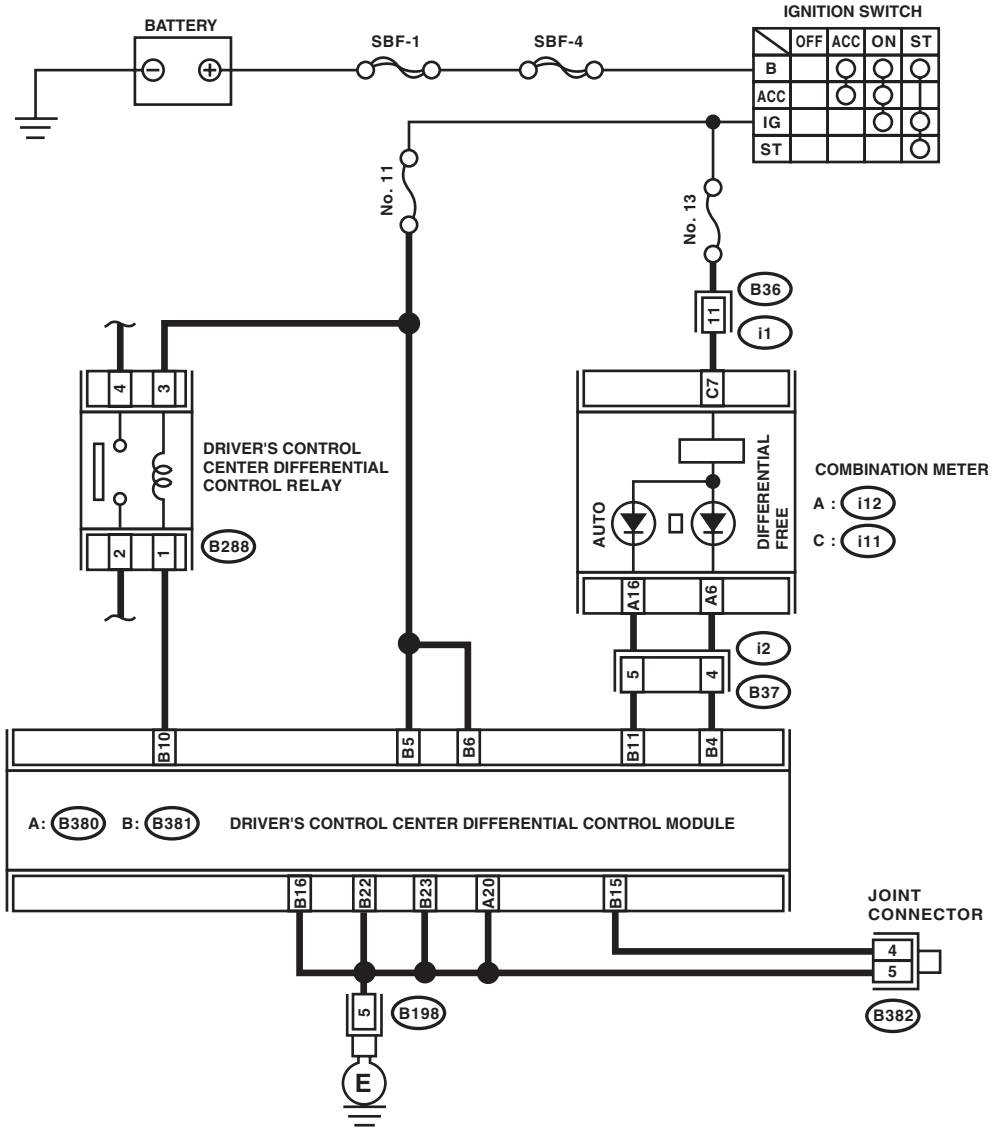
2. COMBINATION METER LIGHT DISPLAY

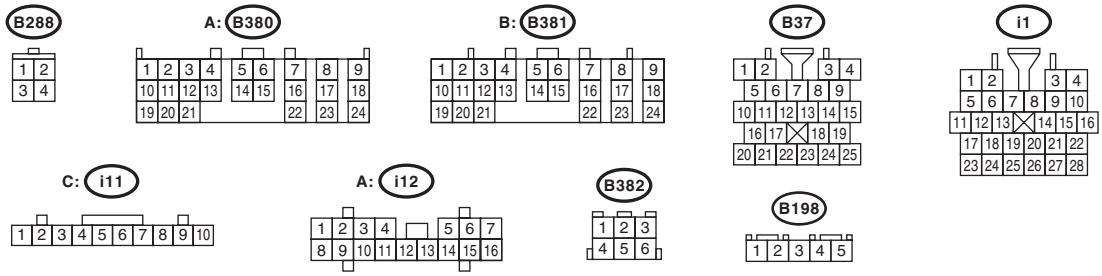
DTC	Item	Content of diagnosis	Reference target
21	Accelerator Position Sensor E	Open or short in the accelerator pedal position sensor circuit	<Ref. to 6MT(diag)-56, DTC P2125 ACCELERATOR POSITION SENSOR E, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
22	Lateral Acceleration Sensor Circuit	Open or short in the lateral G sensor circuit	<Ref. to 6MT(diag)-39, DTC P1759 LATERAL ACCELERATION SENSOR CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
23	Circuit of Center Diff.	Open or short in the driver's control center differential circuit	<Ref. to 6MT(diag)-50, DTC P1875 CIRCUIT OF CENTER DIFF., Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
24	Check Center Differential Control Dial	Open or short in the center differential control dial circuit.	<Ref. to 6MT(diag)-59, DTC 24 CHECK CENTER DIFFERENTIAL CONTROL DIAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
25	DCCD CAN system circuit	CAN communication circuit is open or shorted.	<Ref. to 6MT(diag)-35, DTC P1720 DCCD CAN SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
26	DCCD engine rpm signal system	Open or shorted engine speed signal circuit	<Ref. to 6MT(diag)-37, DTC P1721 DCCD ENGINE RPM SIGNAL SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
27	Yaw rate side G sensor reference system circuit	Open or short in the yaw rate & lateral G sensor reference circuit	<Ref. to 6MT(diag)-45, DTC P1765 YAW RATE SIDE G SENSOR REFERENCE SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
28	Yaw rate sensor system circuit	Open, short or stuck in the yaw rate & lateral G sensor circuit	<Ref. to 6MT(diag)-42, DTC P1764 YAW RATE SENSOR SYSTEM CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
29	DCCD Steering Angle Sensor	Open, short or communication failure of the steering angle sensor circuit	<Ref. to 6MT(diag)-48, DTC P1767 DCCD STEERING ANGLE SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
31	Manual mode switch	Open or short in the manual mode switch circuit	<Ref. to 6MT(diag)-61, DTC 31 MANUAL MODE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
32	Check Parking Brake Switch	Open or short in the parking brake switch circuit	<Ref. to 6MT(diag)-64, DTC 32 CHECK PARKING BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
33	Stop Light Switch Circuit Range	Open or short in the stop light switch circuit	<Ref. to 6MT(diag)-33, DTC P1521 BRAKE SWITCH CIRCUIT RANGE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
37	Neutral position switch	Open or short in the neutral position switch circuit	<Ref. to 6MT(diag)-67, DTC 37 NEUTRAL POSITION SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

12.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC CANNOT BE CALLED UP

WIRING DIAGRAM:





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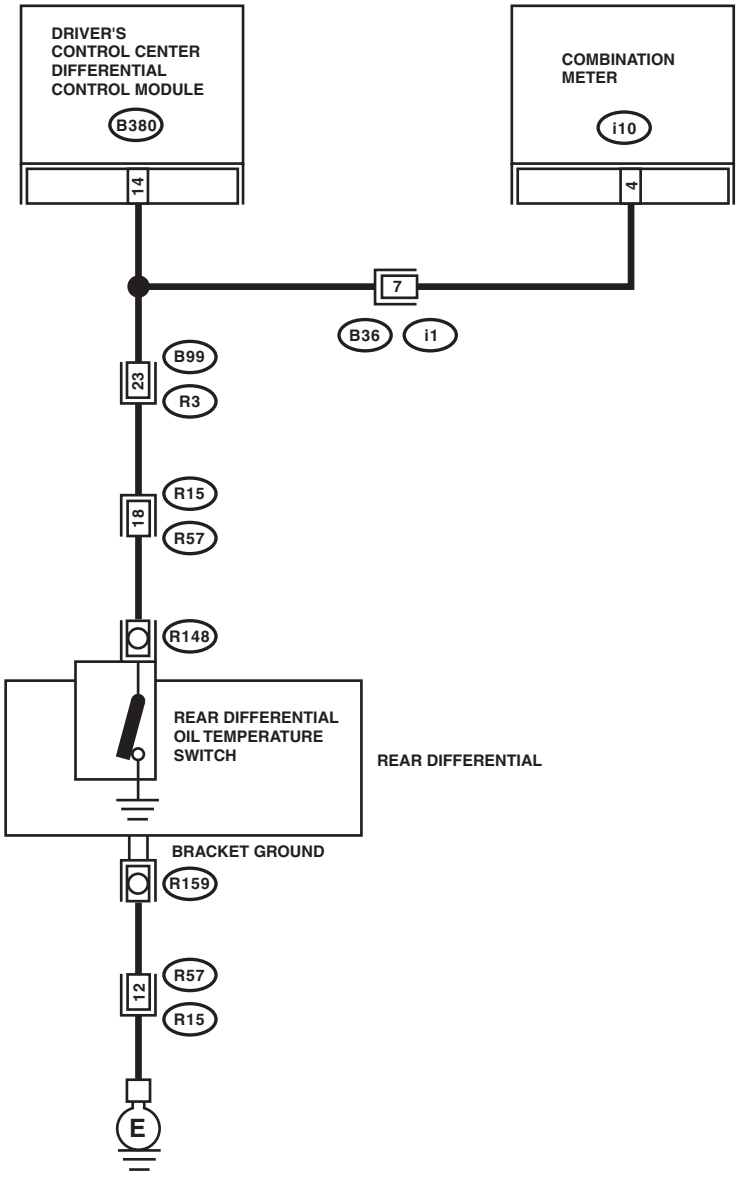
	Step	Check	Yes	No
1	**CHECK INDICATOR LIGHT.** Turn the ignition switch to ON.	Does the AUTO indicator light illuminate?	Go to step **5**.	Go to step **2**.
2	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of the driver's control center differential control module. 3) Measure resistance of the driver's control center differential control module harness connector and the chassis ground ***Connector & terminal*** ***(B380) No. 20 — Chassis ground:*** ***(B381) No. 15 — Chassis ground:*** ***(B381) No. 16 — Chassis ground:*** ***(B381) No. 22 — Chassis ground:*** ***(B381) No. 23 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the open circuit of the driver's control center differential control module ground circuit.
3	**CHECK FUSE (NO. 11).** Remove the fuse (No. 11).	Is the fuse (No. 11) blown out?	Replace the fuse (No. 11). If the replaced fuse (No. 11) has blown out easily, repair the short circuit of harness between fuse (No. 11) and driver's control center differential control module.	Go to step **4**.
4	**CHECK IGNITION POWER SUPPLY CIRCUIT OF DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the voltage between the driver's control center differential control module and chassis ground. ***Connector & terminal*** ***(B381) No. 5 (+) — Chassis ground (–):*** ***(B381) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Repair the open circuit of harness between fuse (No. 11) and the driver's control center differential control module, or fuse (No. 11) and battery.
5	**CHECK MANUAL MODE SWITCH.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Turn the ignition switch to ON. (engine OFF) 4) Push the manual mode switch to change to manual mode.	Does it change to manual mode?	Go to step **6**.	Repair. <Ref. to 6MT(diag)-61, DTC 31 MANUAL MODE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
6	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL INDICATOR LIGHT.** Operate the center differential control dial.	Does the driver's control center differential indicator light illuminate according to the dial?	Go to step **8**.	Go to step **7**.
7	**CHECK CENTER DIFFERENTIAL CONTROL DIAL.** <Ref. to 6MT(diag)-59, DTC 24 CHECK CENTER DIFFERENTIAL CONTROL DIAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is the center differential control dial circuit normal?	Go to step **8**.	Repair.
8	**CHECK PARKING BRAKE SWITCH.** <Ref. to 6MT(diag)-64, DTC 32 CHECK PARKING BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is the parking brake switch circuit normal?	Go to step **9**.	Repair.

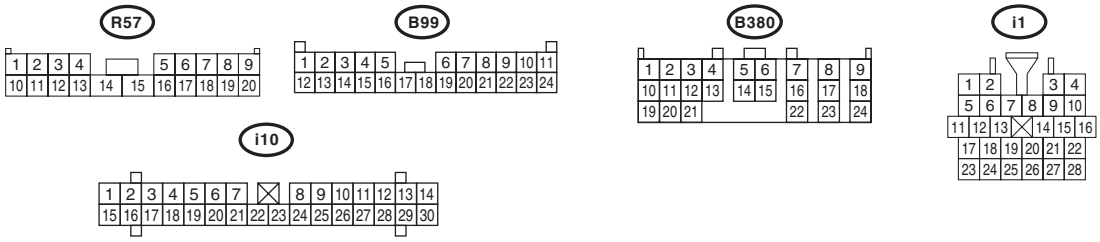
	Step	Check	Yes	No
9	**READ DTC.** Read the DTC. <Ref. to 6MT(diag)-21, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is it possible to call out the DTC?	Go back to "Basic Diagnostic Procedure". <Ref. to 6MT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step **10**.
10	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL INDICATOR LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from the combination meter. 3) Turn the ignition switch to ON. (engine OFF) 4) Short the combination meter harness connector and the chassis ground. ***Connector & terminal*** ***(i12) No. 6 — Chassis ground:***	Does the bottom light of driver's control center differential indicator lights illuminate?	Go to step **11**.	Check the combination meter.
11	**CHECK HARNESS BETWEEN COMBINATION METER AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from the driver's control center differential control module. 3) Measure resistance of the harness between the combination meter harness connector and driver's control center differential control module harness connector. ***Connector & terminal*** ***(i12) No. 6 — (B381) No. 4:***	Is the resistance less than 1 Ω?	Go to step **12**.	Repair the open circuit of the harness and the connector between the combination meter harness connector and driver's control center differential control module harness connectors.
12	**CHECK HARNESS BETWEEN COMBINATION METER AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** Measure resistance of the harness between the driver's control center differential control module harness connector and the chassis ground ***Connector & terminal*** ***(B381) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Repair the poor contact.	Repair the short circuit and connector of the harness and the connector between the combination meter harness connector and driver's control center differential control module harness connectors.

B: 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 becomes lit.

WIRING DIAGRAM:





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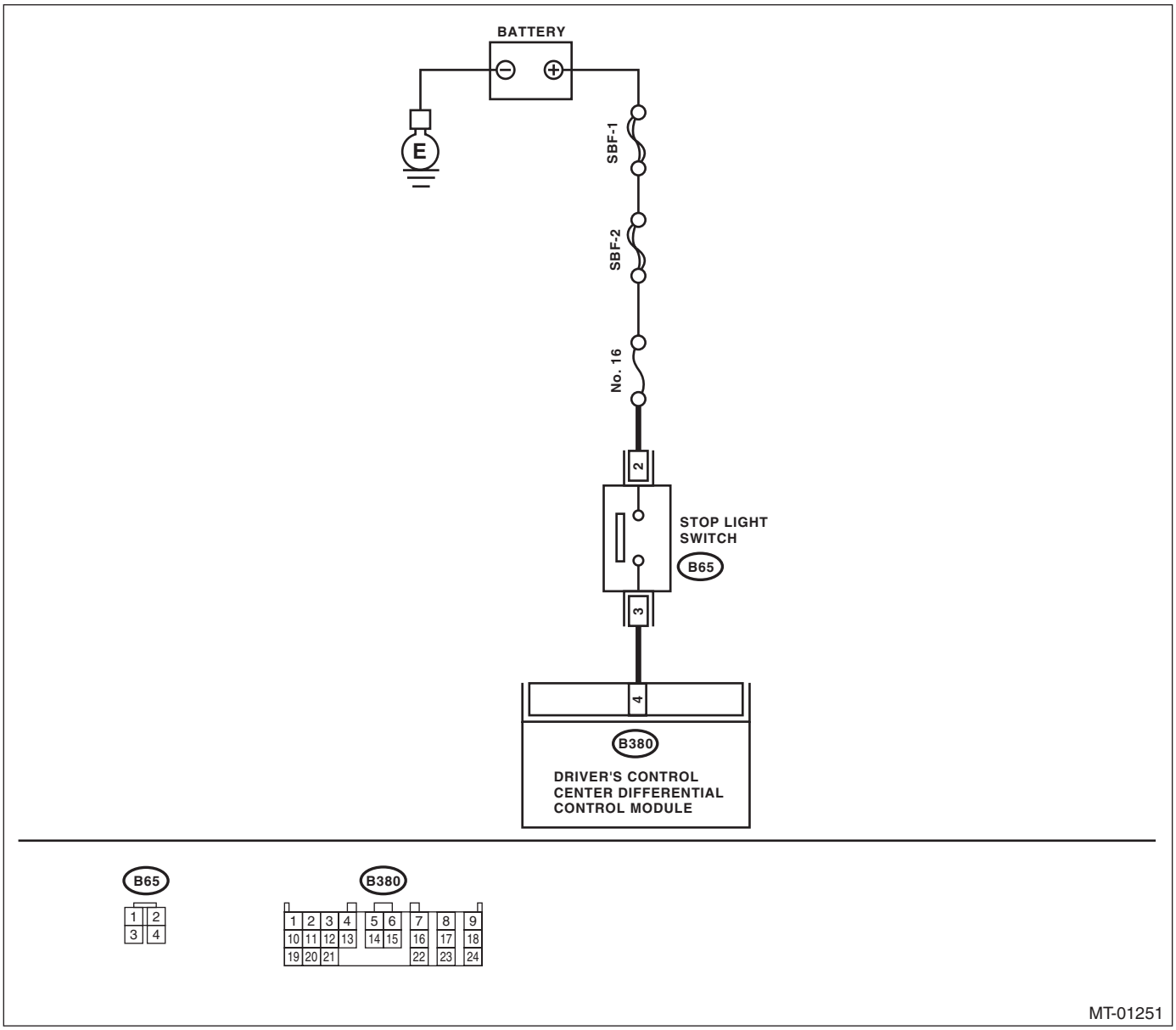
	Step	Check	Yes	No
1	**CHECK REAR DIFFERENTIAL OIL TEMPERATURE SWITCH WARNING LIGHT CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the driver's control center differential control module harness connector. 3) Turn the ignition switch to ON. (engine OFF) 4) Measure the voltage of the rear differential oil temperature switch. ***Connector & terminal*** ***(B380) No. 14 (+) — Chassis ground (–):***	Is the voltage less than 0.4 V?	Repair the poor contact.	Go to step **2**.
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL 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 resistance of the driver's control center differential control module harness connector and the combination meter. ***Connector & terminal*** ***(B380) No. 14 — (i10) No. 4:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the open circuit between the driver's control center differential control module and the combination meter.
3	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND REAR DIFFERENTIAL OIL TEMPERATURE SWITCH.** Measure resistance between the driver's control center differential control module harness connector and rear differential oil temperature switch harness connectors. ***Connector & terminal*** ***(B380) No. 14 — (R148) No. 1:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the open circuit between the driver's control center differential control module and the 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. ***Connector & terminal*** ***(R159) No. 1 — Chassis ground:***	Is the resistance 1 MΩ 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. ***Terminals*** ***No. 1 — Rear differential oil temperature switch body:***	Is the 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. ***Connector & terminal*** ***(i10) No. 4 (+) — Chassis ground (–):***	Does the rear differential oil temperature light turn OFF?	Repair the poor contact.	Check the combination meter.

C: DTC P1521 BRAKE SWITCH CIRCUIT RANGE

DIAGNOSIS:
Stop light switch circuit is open or shorted.
TROUBLE SYMPTOM:
Wheels are locked when ABS operates.
WIRING DIAGRAM:

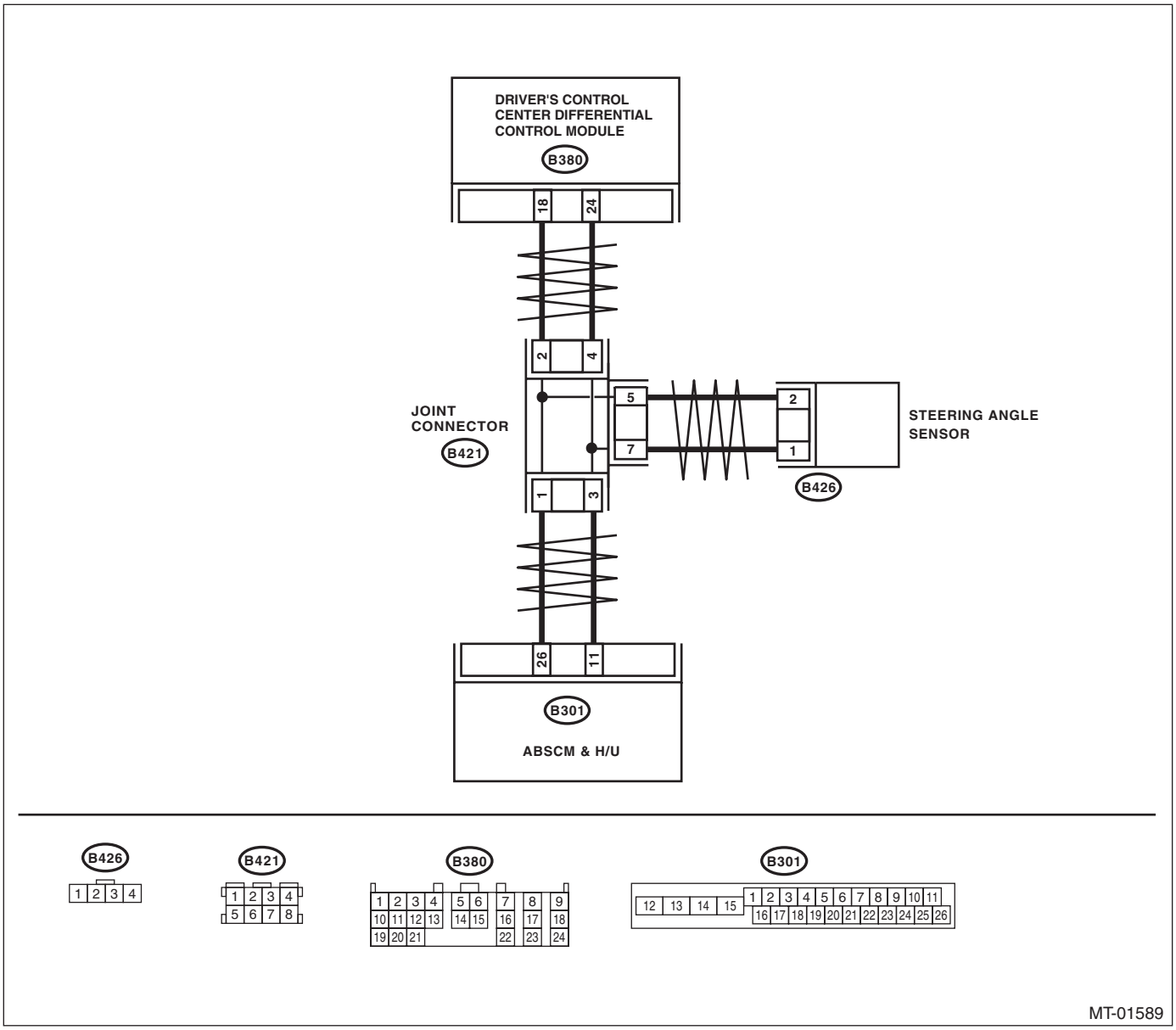


	Step	Check	Yes	No
1	**CHECK DTC.**	Is the stop light switch DTC displayed in the ABS self diagnosis test mode?	Inspect according to the DTC of the ABS.	Go to step **2**.
2	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch and the run the Subaru Select Monitor. 4) Read the data of "Stop Light Switch" using the Subaru Select Monitor.	Is data "OFF"?	Go to step **3**.	Replace the driver's control center differential control module.
3	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** 1) Step on the brake pedal and hold. 2) Read the data of "Stop Light Switch" using the Subaru Select Monitor.	Is data "ON"?	The stop light switch is currently normal. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module and stop light switch.	Go to step **4**.
4	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of the driver's control center differential control module. 3) Depress the brake pedal. 4) Measure the voltage between the driver's control center differential control module and chassis ground. ***Connector & terminal*** ***(B380) No. 4 (+) — Chassis ground (–):***	Is the voltage 8 V or more?	Repair the poor contact of harness.	Repair the harness open circuit between the driver's control center differential control module and the stop light switch.

D: DTC P1720 DCCD CAN SYSTEM CIRCUIT

DIAGNOSIS:
CAN communication circuit is open or shorted.
TROUBLE SYMPTOM:
- A tight corner braking condition is occurred.
- ABS does not operate.
- ABS warning light comes on.

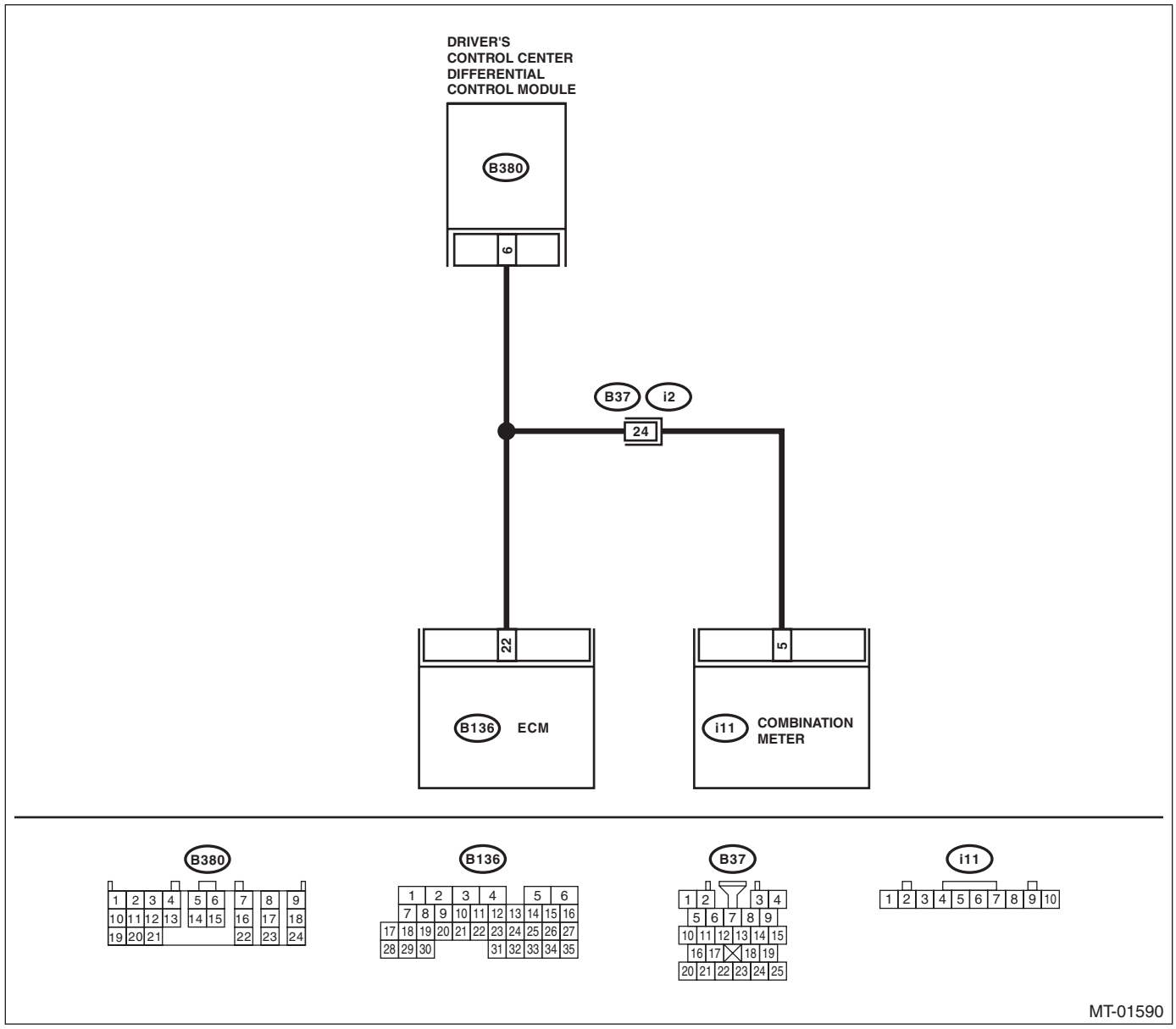
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS CONNECTOR BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the driver's control center differential control module and ABSCM&H/U. 3) Measure resistance of the harness connector between the driver's control center differential control module and ABSCM&H/U. ***Connector & terminal*** ***(B380) No. 18 — (B301) No. 26:*** ***(B380) No. 24 — (B301) No. 11:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair the open circuit of the harness between the driver's control center differential control module and ABSCM&H/U.
2	**CHECK HARNESS CONNECTOR BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM.** 1) Disconnect the connector from steering angle sensor. 2) Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 18 — Chassis ground:*** ***(B380) No. 24 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Repair the short circuit of the harness between the driver's control center differential control module and ABSCM&H/U.
3	**CHECK HARNESS CONNECTOR BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM.** 1) Turn the ignition switch to ON. 2) Measure the voltage between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 18 (+) — Chassis ground (–):*** ***(B380) No. 24 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Repair the short circuit of the harness between the driver's control center differential control module and ABSCM&H/U.
4	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the ABSCM and driver's control center differential control module connector. 3) Start the engine. 4) Read the DTC.	Is DTC P1720 displayed?	Go to step **5**.	Replace the steering angle sensor. <Ref. to 6MT-123, Steering Angle Sensor.>
5	**CHECK ABSCM.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Clear the DTC. 4) Read the DTC.	Is a CAN communication related DTC displayed on ABSCM?	Repair the poor contact.	Check the ABSCM.

E: DTC P1721 DCCD ENGINE RPM SIGNAL SYSTEM CIRCUIT

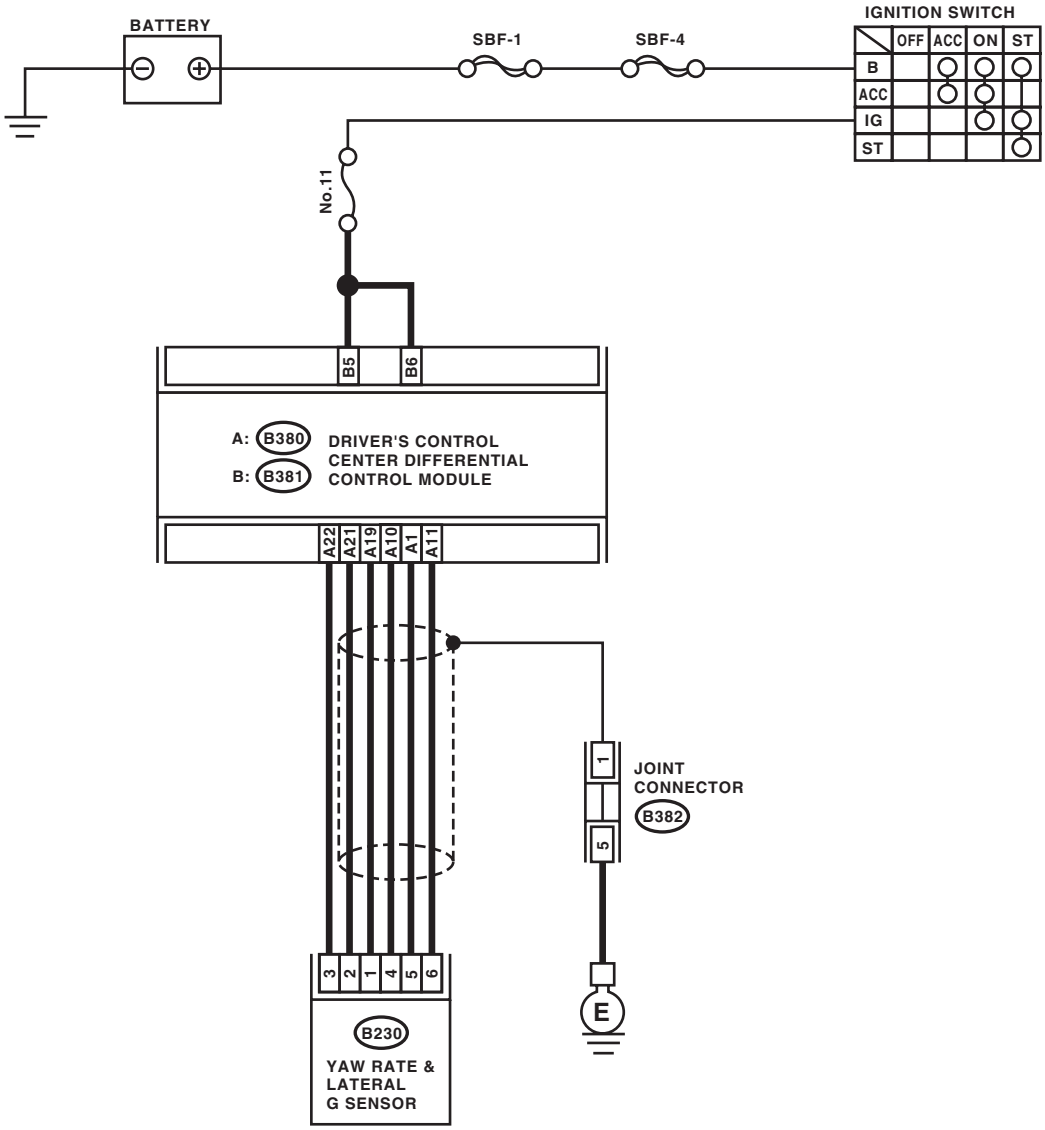
DIAGNOSIS:
DCCD Open or shorted in engine speed signal circuit
TROUBLE SYMPTOM:
A tendency to oversteer occurs during high speed cornering.
WIRING DIAGRAM:

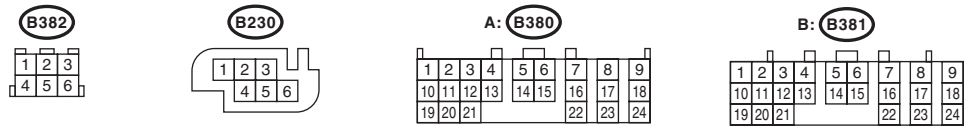


	Step	Check	Yes	No
1	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from the driver's control center differential control module, combination meter and ECM. 3) Measure resistance of the harness between the driver's control center differential control module and the ECM harness connector. ***Connector & terminal*** ***(B380) No. 6 — (B136) No. 22:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair the harness open circuit between the driver's control center differential control module and the ECM.
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ECM.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 6 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Repair the harness short circuit between the driver's control center differential control module and the ECM.
3	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ECM.** 1) Turn the ignition switch to ON. 2) Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 6 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Repair the harness short circuit between the driver's control center differential control module and the ECM.
4	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Start the engine and let it idle.	Is the tachometer in the combination meter working properly?	Go to step **5**.	Inspect the ECM.
5	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to the data link connector. 3) Start the engine, and run the Subaru Select Monitor. 4) Idle the engine. 5) Read the data of engine speed using Subaru Select Monitor.	Is the rpm reading about the same as the tachometer reading shown on the combination meter?	Even if the center differential indicator light (differential free position) is blinking, the circuit operating properly at this time. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module, ECM, and combination meter.	Repair the poor contact.

F: DTC P1759 LATERAL ACCELERATION SENSOR CIRCUIT

DIAGNOSIS:
Open or short circuit in the yaw rate & lateral G sensor circuit
TROUBLE SYMPTOM:
A tendency to understeer occurs during high speed cornering.
WIRING DIAGRAM:





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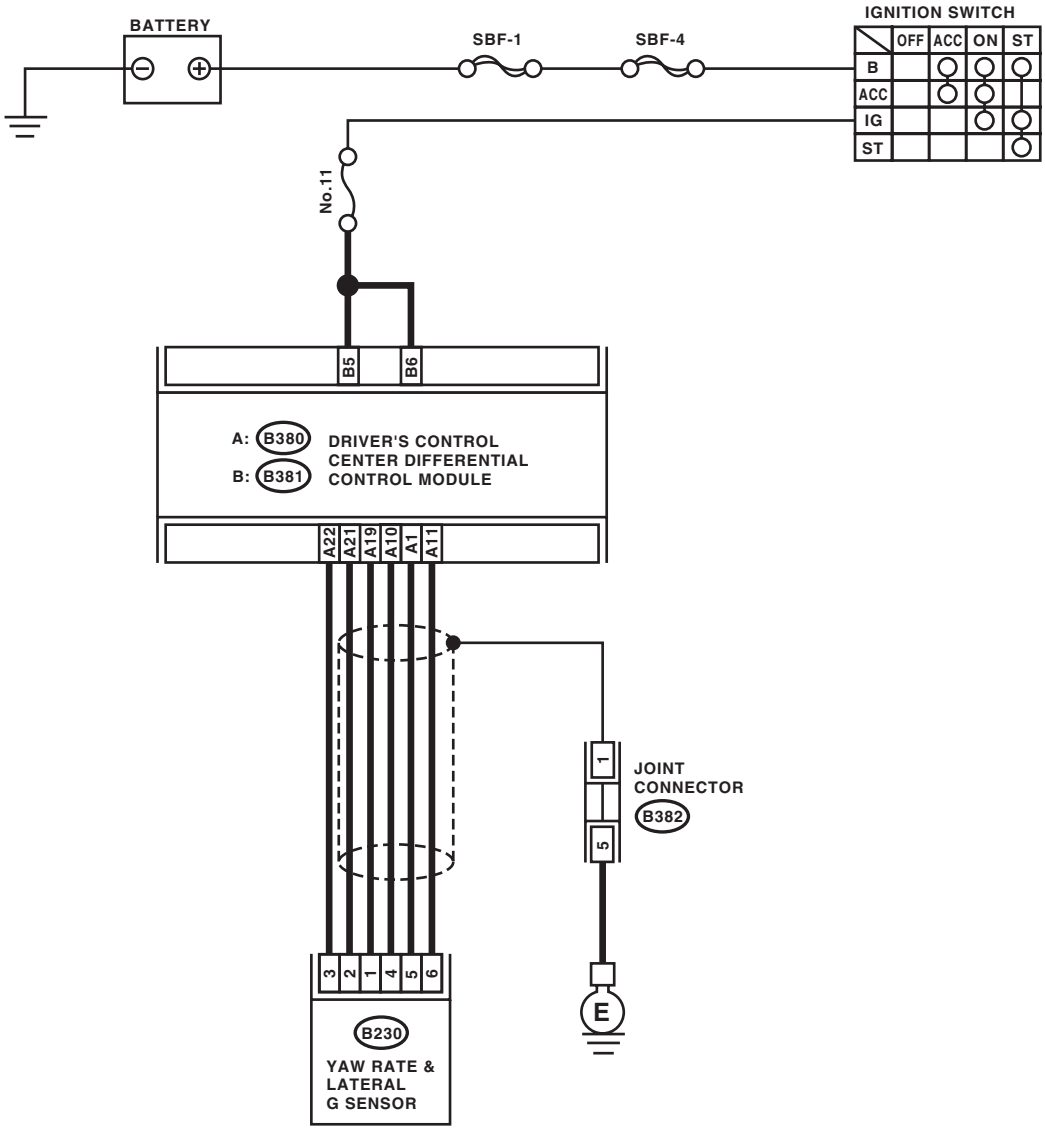
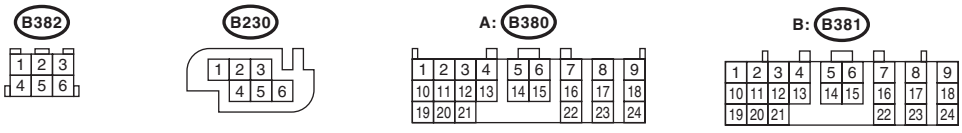
	Step	Check	Yes	No
1	**CHECK YAW RATE & LATERAL G SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. (engine OFF) 4) Measure the voltage between yaw rate & lateral G sensor harness connector and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Go to step **4**.	Go to step **2**.
2	**POWER OUTPUT CHECK OF THE DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** Measure the voltage between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 22 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Repair the open or short circuit between the driver's control center differential control module and yaw rate & lateral G sensor.	Go to step **3**.
3	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE POWER SUPPLY VOLTAGE.** Measure the voltage between the driver's control center differential control module harness connector and chassis ground. ***Connector & terminal*** ***(B381) No. 5 (+) — Chassis ground (–):*** ***(B381) No. 6 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Repair the poor contact.	Check the harness connectors between the driver's control center differential control module power supply circuit, battery, and driver's control center differential control module, and replace or charge the battery.
4	**CHECK THE YAW RATE & LATERAL G SENSOR GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of the driver's control center differential control module. 3) Measure resistance between the harness connectors of the driver's control center differential control module and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B380) No. 11 — (B230) No. 6:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
5	**CHECK THE YAW RATE & LATERAL G SENSOR GROUND CIRCUIT.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 11 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Repair the short circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
6	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND YAW RATE & LATERAL G SENSOR.** Measure resistance between the harness connectors of the driver's control center differential control module and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B380) No. 1 — (B230) No. 5:***	Is the resistance less than 1 Ω?	Go to step **7**.	Repair the open circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.

	Step	Check	Yes	No
7	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND YAW RATE & LATERAL G SENSOR.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 1 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **8**.	Repair the short circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
8	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Remove the yaw rate & lateral G sensors from vehicle. 2) Connect the connector to the yaw rate & lateral G sensor. 3) Connect the driver's control center differential control module connector. 4) Turn the ignition switch to ON. 5) Measure the voltage between connector terminals of the yaw rate & lateral G sensor when the yaw rate & lateral G sensor is horizontally positioned. ***Connector & terminal*** ***(B230) No. 5 (+) — No. 6 (–):***	Is the voltage 2.35 — 2.65 V?	Go to step **9**.	Replace the yaw rate & lateral G sensor.
9	**CHECK YAW RATE & LATERAL G SENSOR.** Measure the voltage between connector terminals of the yaw rate & lateral G sensor when the yaw rate & lateral G sensor is inclined 90° to the right from its install position. ***Connector & terminal*** ***(B230) No. 5 (+) — No. 6 (–):***	Is the voltage 3.3 — 3.7 V?	Go to step **10**.	Replace the yaw rate & lateral G sensor.
10	**CHECK YAW RATE & LATERAL G SENSOR.** Measure the voltage between connector terminals of the yaw rate & lateral G sensor when the yaw rate & lateral G sensor is inclined 90° to the left from its install position. ***Connector & terminal*** ***(B230) No. 5 (+) — No. 6 (–):***	Is the voltage 1.3 — 1.7 V?	The lateral G sensor circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connectors between the driver's control center differential control module and yaw rate & lateral G sensor.	Replace the yaw rate & lateral G sensor.

G: DTC P1764 YAW RATE SENSOR SYSTEM CIRCUIT

DIAGNOSIS:
Open, short or stuck in the yaw rate & lateral G sensor circuit
TROUBLE SYMPTOM:
A tendency to understeer occurs during high speed cornering.
WIRING DIAGRAM:





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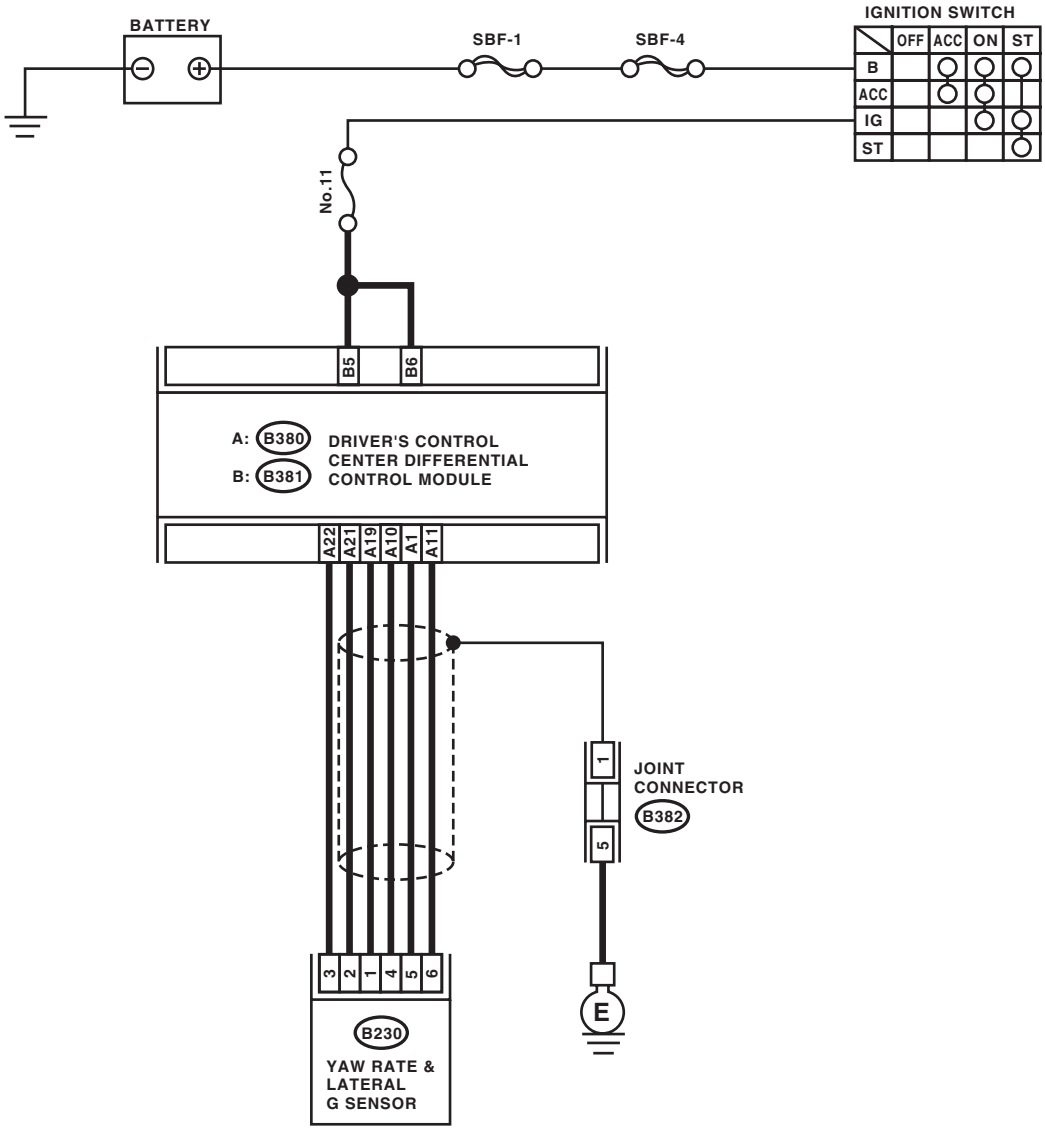
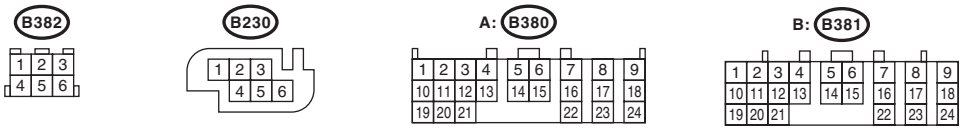
	Step	Check	Yes	No
1	**CHECK YAW RATE & LATERAL G SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. (engine OFF) 4) Measure the voltage between yaw rate & lateral G sensor harness connector and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Go to step **4**.	Go to step **2**.
2	**POWER OUTPUT CHECK OF THE DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** Measure the voltage between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 22 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Repair the open or short circuit between the driver's control center differential control module and yaw rate & lateral G sensor.	Go to step **3**.
3	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE POWER SUPPLY VOLTAGE.** Measure the voltage between the driver's control center differential control module harness connector and chassis ground. ***Connector & terminal*** ***(B381) No. 5 (+) — Chassis ground (–):*** ***(B381) No. 6 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Go to step **10**.	Check the harness connectors between the driver's control center differential control module power supply circuit, battery, and driver's control center differential control module, and replace or charge the battery.
4	**CHECK THE YAW RATE & LATERAL G SENSOR GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of the driver's control center differential control module. 3) Measure resistance between the harness connectors of the driver's control center differential control module and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B380) No. 11 — (B230) No. 6:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
5	**CHECK THE YAW RATE & LATERAL G SENSOR GROUND CIRCUIT.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 11 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Repair the short circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
6	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND YAW RATE & LATERAL G SENSOR.** Measure resistance between the harness connectors of the driver's control center differential control module and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B380) No. 10 — (B230) No. 4:***	Is the resistance less than 1 Ω?	Go to step **7**.	Repair the open circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.

	Step	Check	Yes	No
7	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND YAW RATE & LATERAL G SENSOR.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 10 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **8**.	Repair the short circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
8	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL INPUT SIGNAL.** 1) Connect all the connectors. 2) Connect the Subaru Select Monitor to the vehicle. 3) Turn the ignition switch to ON. 4) Turn on the Subaru Select Monitor. 5) Read the yaw rate sensor voltage using the Subaru Select Monitor. <Ref. to 6MT(diag)-15, OPERATION, Subaru Select Monitor.>	Does the voltage indicate 2.0 V ←→ 2.5 V ←→ 3.0 V?	Repair the poor contact.	Go to step **9**.
9	**CHECK YAW RATE & LATERAL G SENSOR OUTPUT.** 1) Turn the ignition switch to OFF. 2) Check the oscilloscope signal pattern between the driver's control center differential control module connector terminals. ***Connector & terminal*** ***Positive lead: (B380) No. 10*** ***Negative lead: (B380) No. 20*** 3) Turn the ignition switch to ON.	Is the oscilloscope wave form the same waveform as shown in the figure? <Ref. to 6MT(diag)-14, WAVEFORM, MEASUREMENT, Driver's Control Center Differential Control Module I/O Signal.>	Go to step **10**.	Repair the poor contact.
10	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE OUTPUT.** 1) Turn the ignition switch to OFF. 2) Check the oscilloscope signal pattern between the driver's control center differential control module connector terminals. ***Connector & terminal*** ***Positive lead: (B380) No. 19*** ***Negative lead: (B380) No. 20*** 3) Turn the ignition switch to ON.	Is the oscilloscope wave form the same waveform as shown in the figure? <Ref. to 6MT(diag)-14, WAVEFORM, MEASUREMENT, Driver's Control Center Differential Control Module I/O Signal.>	The yaw rate sensor circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connectors between the driver's control center differential control module and yaw rate & lateral G sensor.	Replace the yaw rate & lateral G sensor.

H: DTC P1765 YAW RATE SIDE G SENSOR REFERENCE SYSTEM CIRCUIT

DIAGNOSIS:
Open or short in the yaw rate & lateral G sensor reference circuit
TROUBLE SYMPTOM:
A tendency to understeer occurs during high speed cornering.
WIRING DIAGRAM:





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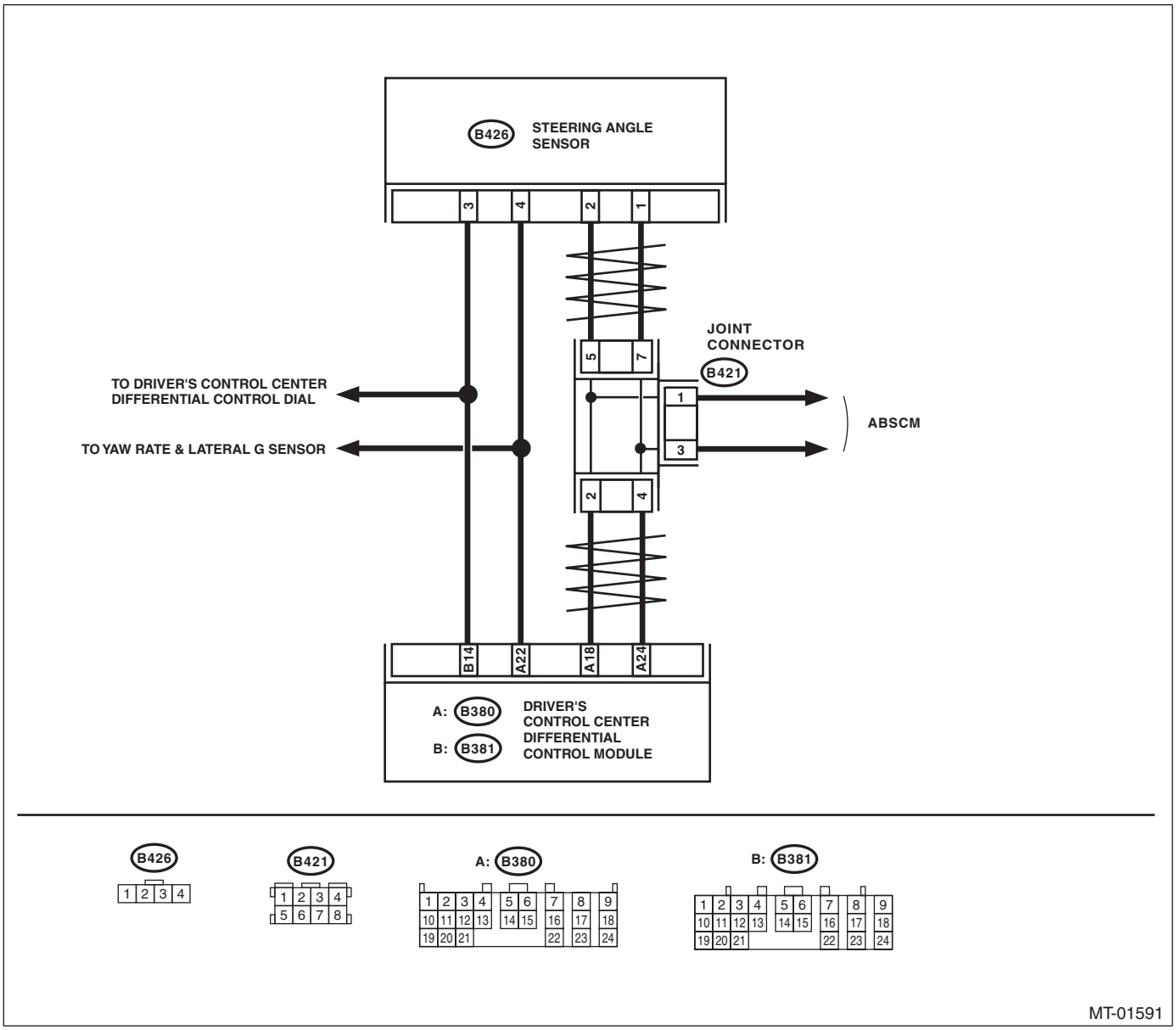
	Step	Check	Yes	No
1	**CHECK YAW RATE & LATERAL G SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. (engine OFF) 4) Measure the voltage between yaw rate & lateral G sensor harness connector and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Go to step **4**.	Go to step **2**.
2	**CHECK POWER OUTPUT OF THE DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** Measure the voltage between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 22 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Repair the open or short circuit between the driver's control center differential control module and yaw rate & lateral G sensor.	Go to step **3**.
3	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE POWER SUPPLY VOLTAGE.** Measure the voltage between the driver's control center differential control module harness connector and chassis ground. ***Connector & terminal*** ***(B381) No. 5 (+) — Chassis ground (–):*** ***(B381) No. 6 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Repair the poor contact.	Check the harness connectors between the driver's control center differential control module power supply circuit, battery, and driver's control center differential control module, and replace or charge the battery.
4	**CHECK THE YAW RATE & LATERAL G SENSOR GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of the driver's control center differential control module. 3) Measure resistance between the harness connectors of the driver's control center differential control module and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B380) No. 11 — (B230) No. 6:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuits or poor contact between the driver's control center differential control module and yaw rate & lateral G sensor.
5	**CHECK THE YAW RATE & LATERAL G SENSOR GROUND CIRCUIT.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 11 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Repair the short circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
6	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND YAW RATE & LATERAL G SENSOR.** Measure resistance between the harness connectors of the driver's control center differential control module and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B380) No. 19 — (B230) No. 1:***	Is the resistance less than 1 Ω?	Go to step **7**.	Repair the open circuits or poor contact between the driver's control center differential control module and yaw rate & lateral G sensor.

	Step	Check	Yes	No
7	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND YAW RATE & LATERAL G SENSOR.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 19 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **8**.	Repair the short circuit of the harness between the driver's control center differential control module and yaw rate & lateral G sensor.
8	**CHECK LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Connect the Subaru Select Monitor to the data link connector. 4) Turn the ignition switch and run the Subaru Select Monitor. Use the Subaru Select Monitor to read "yaw rate & lateral G sensor reference" data. <Ref. to 6MT(diag)-16, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>	Is the data 2.1 — 2.9V?	The lateral G sensor circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connectors between the driver's control center differential control module and yaw rate & lateral G sensor.	Go to step **9**.
9	**CHECK YAW RATE & LATERAL G SENSOR.** Measure the voltage between the driver's control center differential control module harness connectors. ***Connector & terminal*** ***(B380) No. 19 (+) — No. 20 (–):***	Is the voltage 2.1 — 2.9 V?	Repair the poor contact.	Replace the yaw rate & lateral G sensor.

I: DTC P1767 DCCD STEERING ANGLE SENSOR

DIAGNOSIS:
Open, short or communication failure of the steering angle sensor circuit
TROUBLE SYMPTOM:
A tight corner braking phenomenon is occurred.
WIRING DIAGRAM:

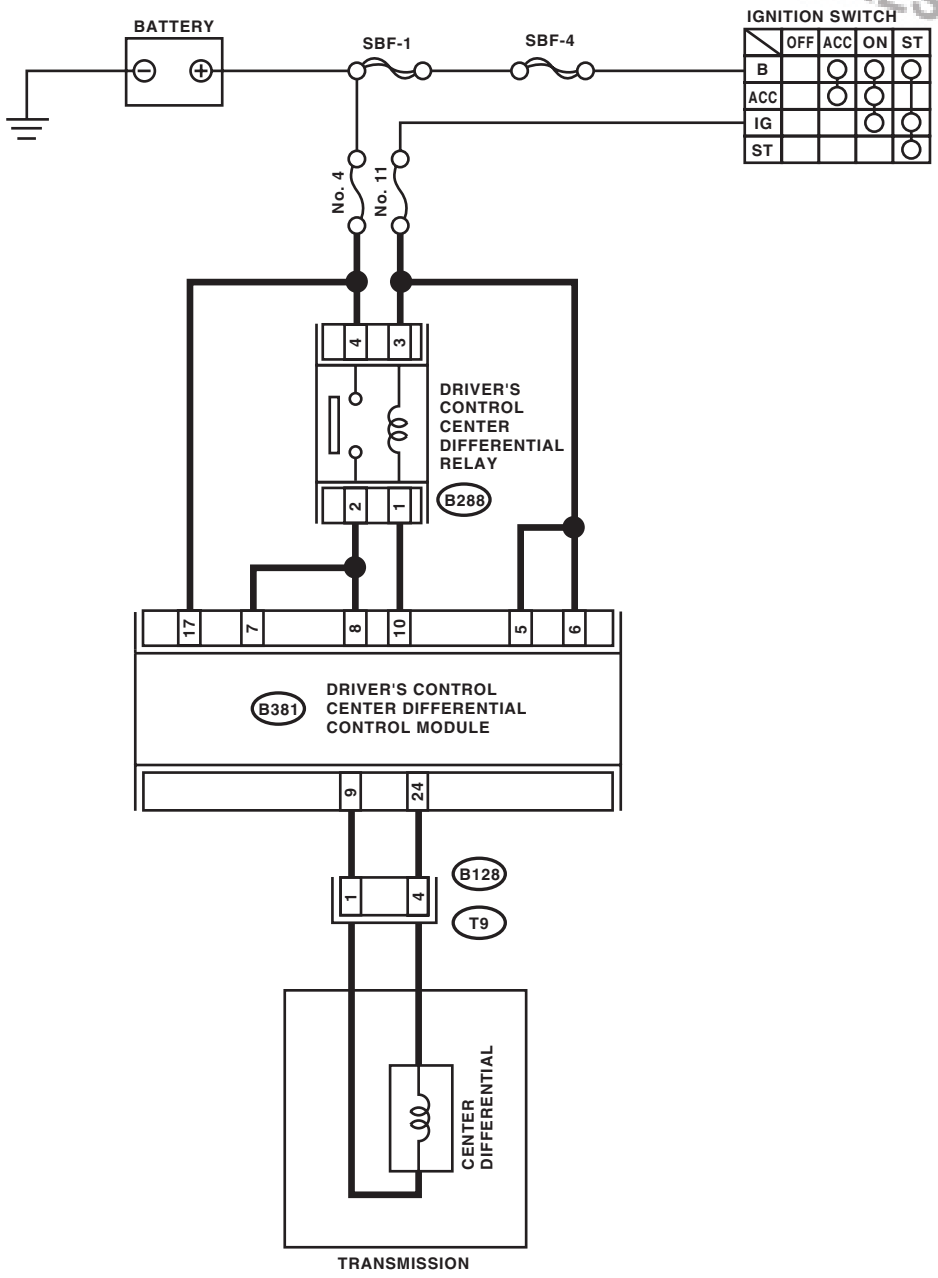


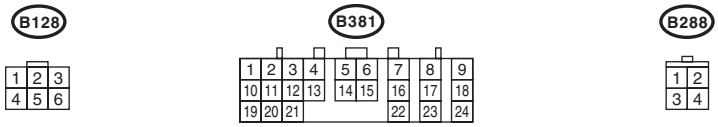
	Step	Check	Yes	No
1	**CHECK DTC.**	Is DTC P1720 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK POWER SUPPLY FOR STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from steering angle sensor. 3) Turn the ignition switch to ON. (engine OFF) 4) Measure the voltage between the steering angle sensor and chassis ground. ***Connector & terminal*** ***(B426) No. 4 (+) — Chassis ground (–):***	Is the voltage 12 V or more?	Go to step **3**.	Repair the open circuit of the harness between the steering angle sensor and driver's control center differential control module.
3	**CHECK GROUND CIRCUIT OF STEERING ANGLE SENSOR.** Measure the resistance between steering angle sensor and chassis ground. ***Connector & terminal*** ***(B426) No. 3 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the open circuit of the harness between the steering angle sensor and driver's control center differential control module.
4	**CHECK HARNESS BETWEEN STEERING ANGLE SENSOR AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE.** Measure the resistance between the steering angle sensor and driver's control center differential control module. ***Connector & terminal*** ***(B426) No. 2 — (B380) No. 18:*** ***(B426) No. 1 — (B380) No. 24:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of the harness between the steering angle sensor and driver's control center differential control module.
5	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL INPUT SIGNAL.** 1) Connect all the connectors. 2) Connect the Subaru Select Monitor to the vehicle. 3) Turn the ignition switch to ON. (engine OFF) 4) Using the Subaru Select Monitor, read "deg" of the rudder angle sensor data. <Ref. to 6MT(diag)-15, OPERATION, Subaru Select Monitor.>	Does the Subaru select monitor value change according to the input from the steering to the right and left?	Even if the center differential indicator light (differential free position) is blinking, the circuit operating properly at this time. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module and steering angle sensor.	Repair the poor contact.

J: DTC P1875 CIRCUIT OF CENTER DIFF

DIAGNOSIS:
Open or short in the driver's control center differential circuit
TROUBLE SYMPTOM:
- Center differential does not operate.
- The lock ratio of the center differential does not change, or malfunction occurs.
- A tight corner braking condition occurs.
- An oversteer tendency will become apparent.
- A tendency to understeer occurs during high speed cornering.

WIRING DIAGRAM:





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	Step	Check	Yes	No
1	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND TRANSMISSION HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the driver's control center differential control module harness connector. 3) Disconnect the transmission harness connector and the bulk harness connector. 4) Measure resistance of the harness between driver's control center differential control module harness connector and the transmission harness connector. ***Connector & terminal*** ***(B381) No. 9 — (B128) No. 1:*** ***(B381) No. 24 — (B128) No. 4:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair the bulk harness open circuit between the driver's control center differential control module and transmission harness.
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND TRANSMISSION HARNESS.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B381) No. 9 — Chassis ground:*** ***(B381) No. 24 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Repair the bulk harness short circuit between the driver's control center differential control module and transmission harness.
3	**CHECK CENTER DIFFERENTIAL.** Measure the resistance between transmission harness connector terminals. ***Connector & terminal*** ***(T9) No. 1 — No. 4:***	Is the resistance 1.2 — 2.5 Ω?	Go to step **4**.	Replace the center differential.
4	**DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE OUTPUT SIGNAL CHECK.** 1) Connect all harness connectors. 2) Turn the ignition switch to ON. (engine OFF) 3) Release the parking brake. 4) Press the manual mode switch, and change the driver's control center differential to manual mode. 5) Switch the center differential control dial in the differential lock position. 6) Measure the voltage between the driver's control center differential control module harness connectors. ***Connector & terminal*** ***(B381) No. 9 (+) — (B381) No. 24 (–):***	Is the voltage 7.0 — 9.0 V?	Go to step **5**.	Go to step **6**.

	Step	Check	Yes	No
5	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE OUTPUT SIGNAL.** 1) Move the center differential control dial from the differential lock position to the differential free position. 2) Read the voltage between the driver's control center differential control module harness connectors. ***Connector & terminal*** ***(B381) No. 9 (+) — (B381) No. 24 (–):***	Does the voltage drop smoothly?	Even though the indicator light flashed, the circuit is normal. A temporary poor contact of connector or harness may be the cause. Repair poor contact of the driver's control center differential control module or transmission harness or connectors. Also, check for poor contact in the power supply circuit.	Go to step **6**.
6	**CHECK FUSE (NO. 4).** Remove the fuse (No. 4).	Is the fuse (No. 4) blown out?	Replace the fuse (No. 4). If the replaced fuse (No. 4) has blown out easily, repair the short circuit of harness between fuse (No. 4) and driver's control center differential control module.	Go to step **7**.
7	**CHECK POWER SUPPLY CIRCUIT OF DRIVER'S CONTROL CENTER DIFFERENTIAL RELAY.** 1) Install the fuse. 2) Disconnect the driver's control center differential relay harness connector. 3) Measure the voltage between the driver's control center differential relay harness connector and chassis ground. ***Connector & terminal*** ***(B288) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **8**.	Repair the open or short circuit between fuse (No. 4), driver's control center differential relay, and battery.
8	**CHECK IGNITION POWER SUPPLY CIRCUIT OF DRIVER'S CONTROL CENTER DIFFERENTIAL RELAY.** Measure the voltage between the driver's control center differential relay and chassis ground. ***Connector & terminal*** ***(B288) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **9**.	Repair the open circuit between fuse (No. 11), driver's control center differential relay, and battery.

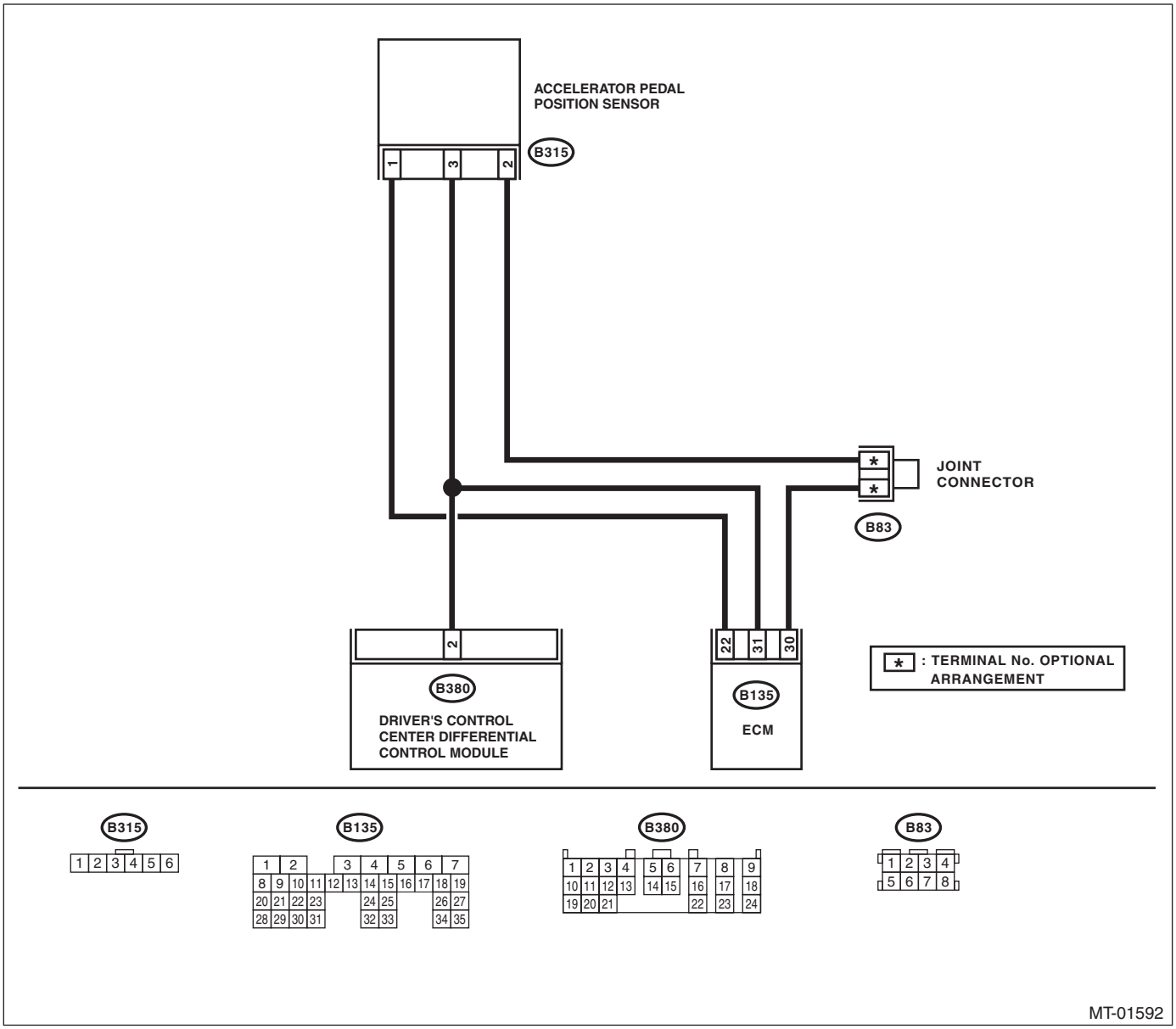
	Step	Check	Yes	No
9	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND DRIVER'S CONTROL RELAY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of the driver's control center differential control module. 3) Measure resistance of the harness between the driver's control center differential control module harness connector and the driver's control relay harness connector. ***Connector & terminal*** ***(B381) No. 7 — (B288) No. 2:*** ***(B381) No. 8 — (B288) No. 2:*** ***(B381) No. 10 — (B288) No. 1:***	Is the resistance less than 1 Ω?	Go to step **10**.	Repair the open circuit between the driver's control center differential control module harness connector and driver's control relay harness connector.
10	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND DRIVER'S CONTROL RELAY.** Measure resistance of the harness between the driver's control center differential control module harness connector and the chassis ground ***Connector & terminal*** ***(B381) No. 7 — Chassis ground:*** ***(B381) No. 8 — Chassis ground:*** ***(B381) No. 10 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **11**.	Repair the short circuit between the driver's control center differential control module harness connector and driver's control relay harness connector.
11	**CHECK DRIVER'S CONTROL RELAY.** Measure the resistance between driver's control relay terminals. ***Terminals*** ***No. 4 — No. 2:***	Is the resistance 1 MΩ or more?	Go to step **12**.	Replace the driver's control relay.
12	**CHECK DRIVER'S CONTROL RELAY.** Connect the battery positive lead to terminal No. 3 and the negative lead to terminal No. 1, then measure the resistance between driver's control relay terminals. ***Terminals*** ***No. 4 — No. 2:***	Is the resistance less than 1 Ω?	Go to step **13**.	Replace the driver's control relay.
13	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE IGNITION POWER SUPPLY CIRCUIT.** 1) Connect all the connectors. 2) Turn the ignition switch to ON. 3) Measure the voltage between the driver's control center differential control module and chassis ground. ***Connector & terminal*** ***(B381) No. 10 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **14**.	Go to step **16**.
14	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE IGNITION POWER SUPPLY CIRCUIT.** Measure the voltage between the driver's control center differential control module and chassis ground. ***Connector & terminal*** ***(B381) No. 7 (+) — Chassis ground (–):*** ***(B381) No. 8 (+) — Chassis ground (–):***	Is the voltage 8 V or more?	Go to step **15**.	Go to step **16**.

	Step	Check	Yes	No
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 and run the Subaru Select Monitor. 4) Change the driver's control center differential to manual mode. 5) Release the parking brake. 6) Switch the center differential control dial in the lock position. 7) In the Subaru Select Monitor, read "center differential indicated current" and "center differential actual 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**.	Repair the poor contact.
16	**CHECK CENTER DIFFERENTIAL.** 1) Operate the center differential control dial so that the "center differential indicated current" becomes "2A". 2) Read the data of the "center differential actual current" data using the Subaru Select Monitor.	Is the center differential actual current about the same as the center differential indicated current?	The center differential circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector in the center differential circuit.	Repair the poor contact.

K: DTC P2125 ACCELERATOR POSITION SENSOR E

DIAGNOSIS:
Open or short in the accelerator pedal position sensor circuit
TROUBLE SYMPTOM:
- A tight corner braking condition occurs.
- An oversteer tendency will become apparent.

WIRING DIAGRAM:



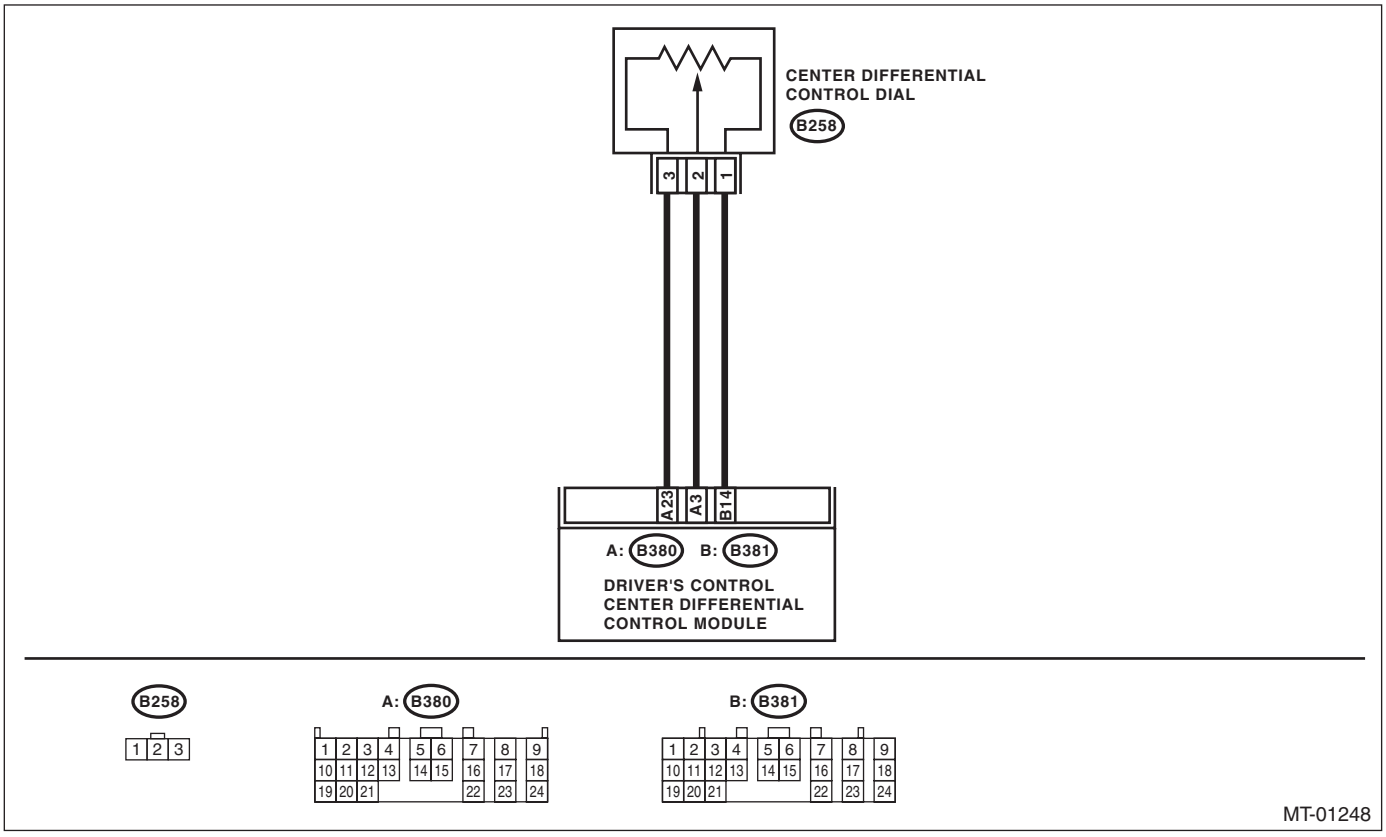
	Step	Check	Yes	No
1	**CHECK DTC.**	Is a DTC displayed in the engine self diagnosis test mode?	Refer to the section on engine DTCs, and perform inspection. <Ref. to EN(H4DOTC)(diag)-76, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **2**.
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ACCELERATOR PEDAL POSITION SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connectors of the driver's control center differential control module, ECM, and accelerator pedal position sensor. 3) Measure resistance of the harness between driver's control center differential control module harness connector and the accelerator pedal position sensor harness connector. ***Connector & terminal*** ***(B380) No. 2 — (B135) No. 2:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the harness open circuit between the driver's control center differential control module and the accelerator pedal position sensor.
3	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ECM.** Measure resistance between the driver's control center differential control module harness connector and the ECM harness connector. ***Connector & terminal*** ***(B380) No. 2 — (B136) No. 28:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the harness open circuit between the driver's control center differential control module and the ECM.
4	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ACCELERATOR PEDAL POSITION SENSOR.** Measure resistance of the harness between the driver's control center differential control module harness connector and the chassis ground ***Connector & terminal*** ***(B380) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Repair the short circuit of the harness between the driver's control center differential control module, accelerator pedal position sensor, and ECM.
5	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Connect all the connectors. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch and run the Subaru Select Monitor. 4) Read the data of "sub accelerator sensor voltage" using the Subaru Select Monitor. Check whether the data is within the specification when the accelerator pedal is not pressed.	Does the data read 0.1 — 1.3 V?	Go to step **6**.	Go to step **7**.

	Step	Check	Yes	No
6	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Fully depress the accelerator pedal. 2) Read the data of "sub accelerator sensor voltage" using the Select Monitor. Check whether the data is within the specification when the accelerator pedal is pressed.	Does the data read 2.0 — 4.3 V?	Throttle position sensor E circuit is normal at present. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module, accelerator pedal position sensor and ECM.	Go to step **7**.
7	**CHECK ACCELERATOR PEDAL POSITION SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of the driver's control center differential control module. 3) Turn the ignition switch to ON. 4) Measure the voltage of accelerator pedal position sensor. ***Connector & terminal*** ***(B380) No. 2 (+) — Chassis ground (–):***	Is the voltage 0.1 — 1.3 V?	Go to step **8**.	Repair the poor contact.
8	**CHECK ACCELERATOR PEDAL POSITION SENSOR.** 1) Step on the accelerator pedal all the way and hold. 2) Measure the voltage of accelerator pedal position sensor. ***Connector & terminal*** ***(B380) No. 2 (+) — Chassis ground (–):***	Is the voltage 2.0 — 4.3 V?	The accelerator pedal position sensor circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module, accelerator pedal position sensor and ECM.	Repair the poor contact.

L: DTC 24 CHECK CENTER DIFFERENTIAL CONTROL DIAL

DIAGNOSIS:
Open or short in the center differential control dial circuit.
TROUBLE SYMPTOM:
- The indicator light does not operate even when the center differential control dial is operated.
- Torque characteristics do not change.

WIRING DIAGRAM:



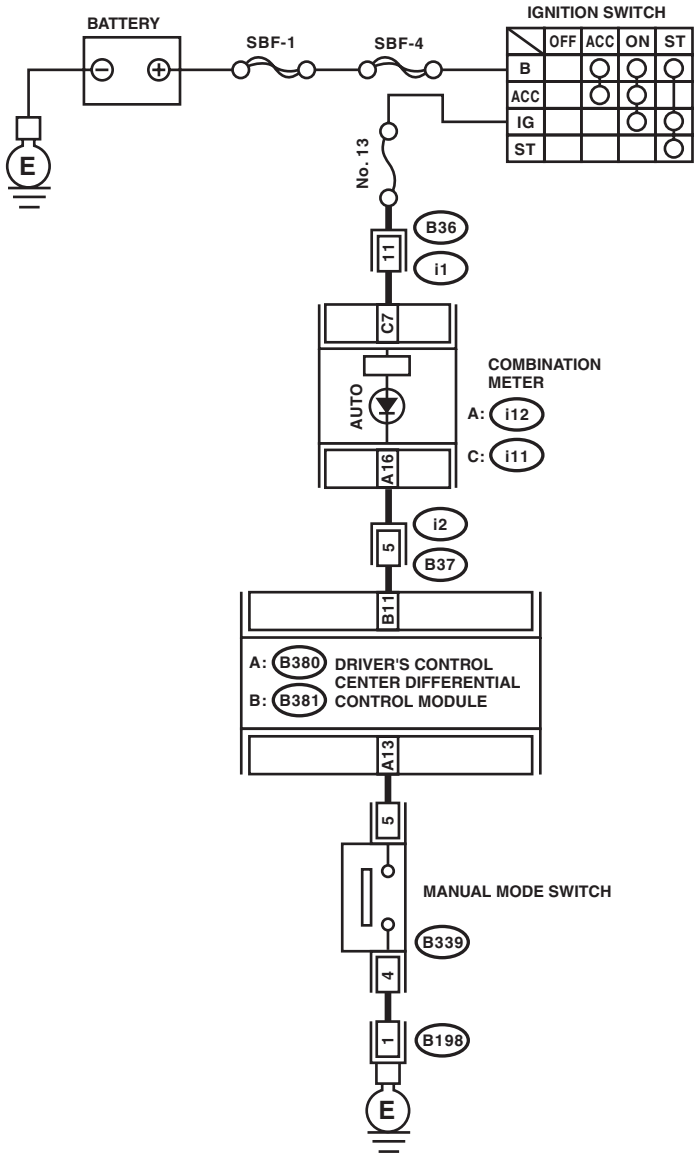
Step		Check	Yes	No
1	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND CENTER DIFFERENTIAL CONTROL DIAL.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors of the driver's control center differential control module and center differential control dial. 3) Measure resistance of the harness between the driver's control center differential control module and the center differential control dial harness connector. ***Connector & terminal*** ***(B380) No. 3 — (B258) No. 2:*** ***(B380) No. 23 — (B258) No. 3:*** ***(B381) No. 14 — (B258) No. 1:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair the open circuit between the driver's control center differential control module and the center differential control dial.

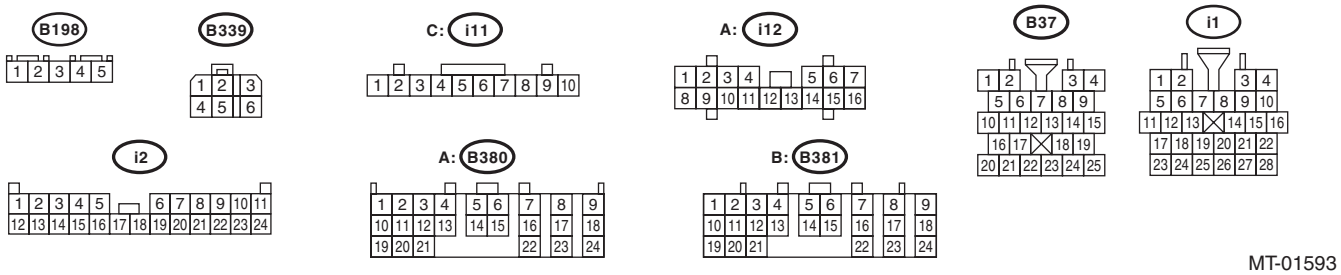
	Step	Check	Yes	No
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND CENTER DIFFERENTIAL CONTROL DIAL.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 3 — Chassis ground:*** ***(B380) No. 23 — Chassis ground:*** ***(B381) No. 14 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Repair the short circuit between the driver's control center differential control module and the center differential control dial.
3	**CHECK CENTER DIFFERENTIAL CONTROL DIAL.** 1) Remove the center differential control dial. 2) Measure the resistance between the center differential control dial connectors. ***Terminals*** ***No. 1 — No. 3:***	Is the resistance between 7.5 and 12.5 kΩ?	Go to step **4**.	Replace the driver's control dial.
4	**CHECK CENTER DIFFERENTIAL CONTROL DIAL.** Measure the resistance between the center differential control dial connectors. ***Terminals*** ***No. 1 — No. 2:***	Does the resistance drop smoothly when the dial is turned from the differential lock to the differential free position?	Go to step **5**.	Replace the center differential control dial.
5	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE OUTPUT POWER SUPPLY.** 1) Connect all the connectors. 2) Turn the ignition switch to ON. (engine OFF) 3) Measure the voltage between the driver's control center differential control module harness connectors. ***Connector & terminal*** ***(B380) No. 23 (+) — (B380) No. 14 (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Replace the driver's control center differential control module.
6	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 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 (engine OFF) and run the Subaru Select Monitor. 4) Read the data of "center differential switch voltage" using the Subaru Select Monitor.	Does the voltage drop smoothly from 5 V to 0 V when turning the dial from the differential lock to the differential free position?	The center differential control dial circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module and center differential control dial.	Repair the poor contact of harness.

M: DTC 31 MANUAL MODE SWITCH

DIAGNOSIS:
Open or short in the manual mode switch circuit
TROUBLE SYMPTOM:
- The driver's control center differential will not become manual, or will not become auto.
- The AUTO indicator will not light, or will not turn off.

WIRING DIAGRAM:





MT-01593

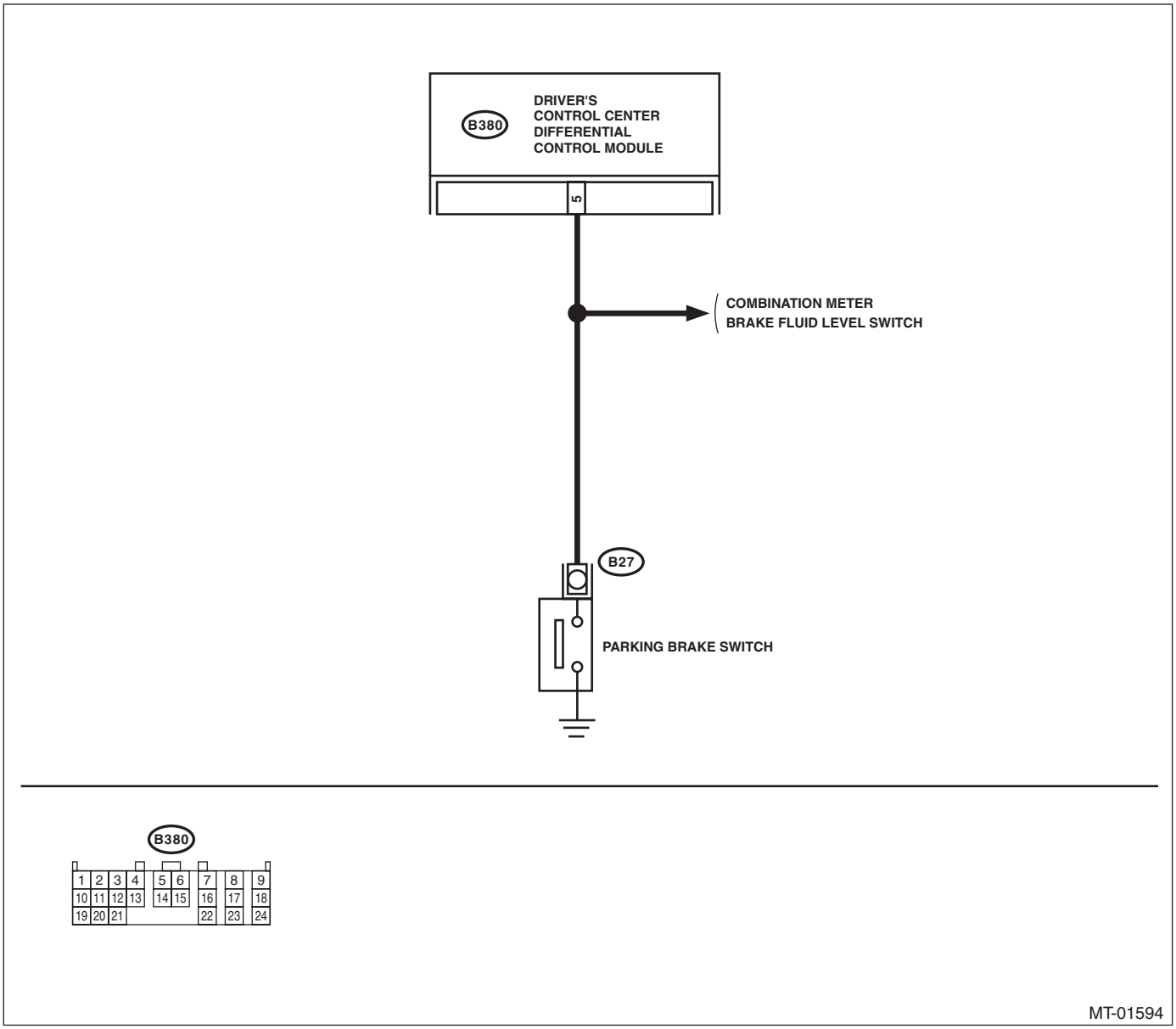
	Step	Check	Yes	No
1	**CHECK GROUND CIRCUIT OF MANUAL MODE SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the manual mode switch connector. 3) Measure the resistance of harness between manual mode switch harness connector and chassis ground. ***Connector & terminal*** ***(B339) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Repair the open circuit of the harness between the manual mode switch harness connector and chassis ground.	Go to step **2**.
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND MANUAL MODE SWITCH.** 1) Disconnect the driver's control center differential control module harness connector. 2) Measure resistance of the harness between the driver's control center differential control module and the manual mode switch. ***Connector & terminal*** ***(B380) No. 13 — (B339) No. 5:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the harness open circuit between the driver's control center differential control module and the manual mode switch.
3	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND MANUAL MODE SWITCH.** Measure resistance of the harness between the driver's control center differential control module and the chassis ground ***Connector & terminal*** ***(B380) No. 13 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Repair the harness short circuit between the driver's control center differential control module and the manual mode switch.
4	**CHECK MANUAL MODE SWITCH.** 1) Remove the manual mode switch. 2) Measure the resistance between the manual mode switch connectors. ***Terminals*** ***No. 4 — No. 5:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the manual mode switch.
5	**CHECK MANUAL MODE SWITCH.** 1) Push and hold down the manual mode switch. 2) Measure the resistance between the manual mode switch connectors. ***Terminals*** ***No. 4 — No. 5:***	Is the resistance less than 1 Ω?	Go to step **6**.	Replace the manual mode switch.
6	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Install the manual mode switch. 2) Connect the harness connector of the driver's control center differential control module. 3) Connect the Subaru Select Monitor to the data link connector. 4) Turn the ignition switch to ON. (engine OFF) 5) Run the Subaru Select Monitor. 6) Read the data of "AUTO/MANUAL mode change switch" using the Subaru Select Monitor.	Is the data "OFF"?	Go to step **7**.	Repair the poor contact.

	Step	Check	Yes	No
7	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Push and hold down the manual mode switch. 2) Read the data of "AUTO/MANUAL mode change switch" using the Subaru Select Monitor.	Is the data "ON"?	The manual mode circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module, manual mode switch and chassis ground.	Repair the poor contact.

N: DTC 32 CHECK PARKING BRAKE SWITCH

DIAGNOSIS:
Open or short in the parking brake switch circuit
TROUBLE SYMPTOM:
- It does not show a differential free tendency even when the parking brake is applied.
- Remains differential free even when the parking brake is released.

WIRING DIAGRAM:



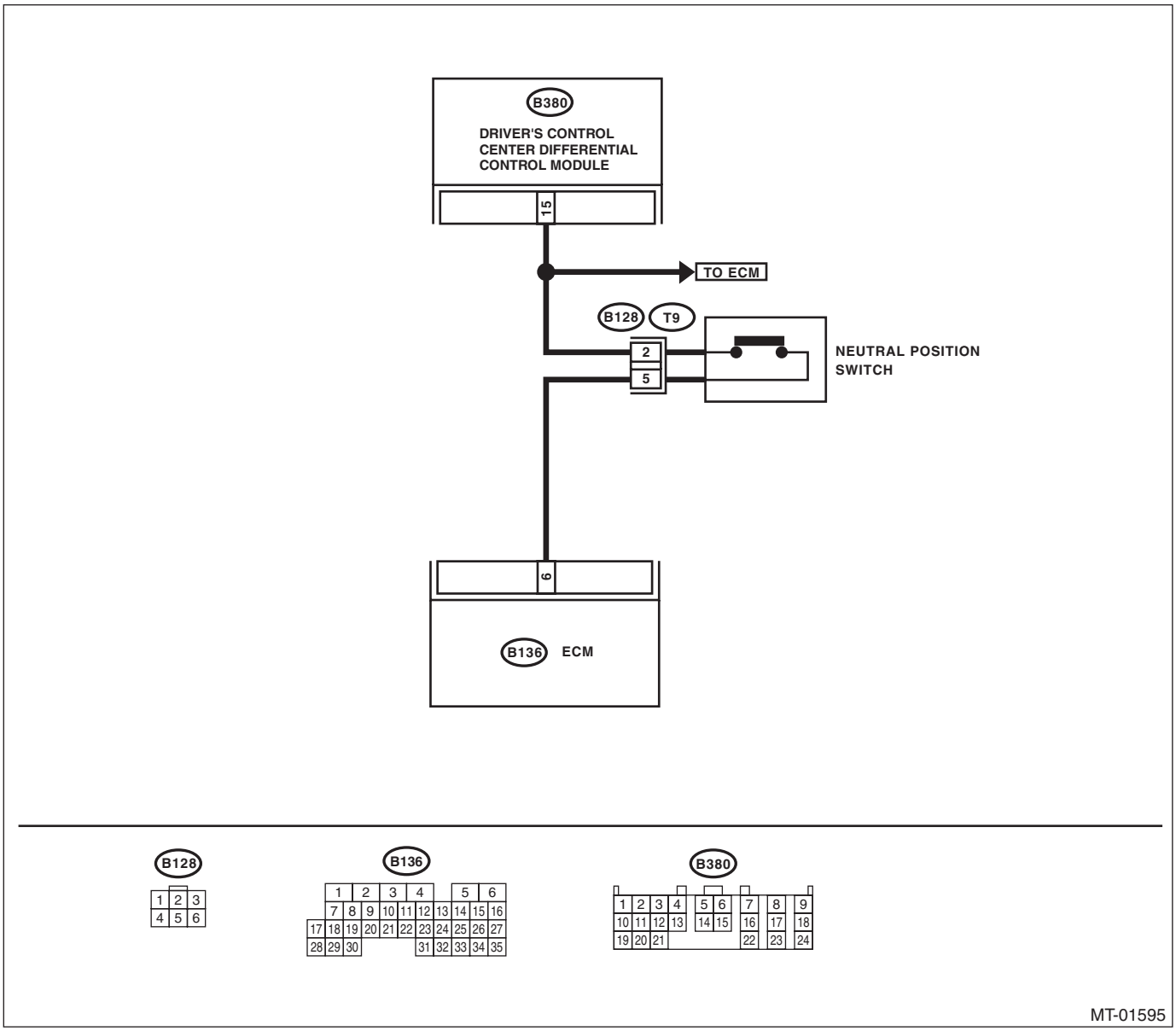
	Step	Check	Yes	No
1	**CHECK PARKING BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to ON. 2) Start the engine. 3) Apply the parking brake.	Does the brake warning light illuminate?	Go to step **2**.	Check the parking pilot & brake fluid warning light circuit.
2	**CHECK PARKING BRAKE SWITCH CIRCUIT.** Release the parking brake.	Does the brake warning light become OFF?	Go to step **3**.	Check the amount of brake fluid, parking pilot & brake fluid warning light circuit and ABS circuit.
3	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND PARKING BRAKE SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connectors from the driver's control center differential control module, combination meter and parking brake switch. 3) Measure resistance of the harness connector between the driver's control center differential control module and the parking brake switch. ***Connector & terminal*** ***(B380) No. 5 — (B27) No. 1:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair open circuits and poor contacts of connectors on the harness.
4	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND PARKING BRAKE SWITCH.** Measure the resistance between the driver's control center differential control module connector and chassis ground. ***Connector & terminal*** ***(B380) No. 5 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Repair short circuits of harness.
5	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Connect all harness connectors. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch and run the Subaru Select Monitor. 4) Release the parking brake. 5) Read the data of "Parking switch" using the Subaru Select Monitor.	Is the data OFF?	Go to step **6**.	Repair the poor contact.

Step		Check	Yes	No
6	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Apply the parking brake. 2) Read the data of "Parking switch" using the Subaru Select Monitor.	Is the data ON?	The parking brake switch circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connectors of the driver's control center differential control module, brake fluid level switch, ABS module, combination meter and parking brake switch. Also check the brake fluid level.	Repair the poor contact.

O: DTC 37 NEUTRAL POSITION SWITCH

DIAGNOSIS:
Open or short in the neutral position switch circuit
TROUBLE SYMPTOM:
- An oversteer tendency will become apparent.
- A tendency to understeer occurs during high speed cornering.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND NEUTRAL POSITION SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from the driver's control center differential control module, ECM and neutral position switch. 3) Measure resistance of the harness between the driver's control center differential control module and the neutral position switch harness connectors. ***Connector & terminal*** ***(B380) No. 15 — (B128) No. 2:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair the open circuit of the harness between the neutral position switch connector and engine ground.
2	**CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND NEUTRAL POSITION SWITCH.** Measure resistance of the harness between the driver's control center differential control module connector and the chassis ground ***Connector & terminal*** ***(B380) No. 15 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Repair the short circuit of the harness between the neutral position switch connector and driver's control center differential control module.
3	**CHECK HARNESS BETWEEN NEUTRAL POSITION SWITCH AND CHASSIS GROUND.** Measure the resistance of the harness between the neutral position switch connector and engine ground. ***Connector & terminal*** ***(B128) No. 5 — Engine ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the open or poor contact of the harness between the neutral position switch connector and engine ground.
4	**CHECK NEUTRAL POSITION SWITCH.** 1) Place the shift lever in neutral. 2) Measure the resistance between transmission harness connector terminals. ***Connector & terminal*** ***(T9) No. 2 — No. 5:***	Is the resistance less than 1 Ω?	Go to step **5**.	Replace the neutral position switch.
5	**CHECK NEUTRAL POSITION SWITCH.** 1) Place the shift lever in a position except for neutral. 2) Measure the resistance between transmission harness connector terminals. ***Connector & terminal*** ***(T9) No. 2 — No. 5:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the neutral position switch.
6	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Connect all the connectors. 2) Turn the ignition switch to ON. 3) Turn on the Subaru Select Monitor. 4) Place the shift lever in neutral. 5) Read the data of "Neutral Switch" using the Subaru Select Monitor.	Is the "ON" displayed?	Go to step **7**.	Repair the poor contact.

	Step	Check	Yes	No
7	**CHECK DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE INPUT SIGNAL.** 1) Place the shift lever in a position except for neutral. 2) Read the data of "Neutral Switch" using the Subaru Select Monitor.	Is the "OFF" displayed?	The neutral switch circuit is currently operating properly. A temporary poor contact of connector or harness may be the cause. Repair the harness or connector between the driver's control center differential control module, neutral switch, and ECM.	Repair the poor contact.

13.General Diagnostic Table

A: INSPECTION

Symptom	Problem parts
Tight cornering conditin	• ABSCM&H/U • ABS wheel speed sensor • Yaw rate & lateral G sensor • CAN communication signal • Steering angle sensor • Center differential • Center differential control dial • Manual mode switch • Tire/Wheel • Driver's control center differential control module
An oversteer tendency will become apparent.	• Accelerator pedal position sensor • ECM • Center differential control dial • Manual mode switch • Tire/Wheel • Driver's control center differential control module • Center differential • Driver's control center differential relay • Rear differential oil temperature switch • Neutral position switch • Steering angle sensor
A tendency to understeer occurs during high speed cornering.	• ABSCM • ABS wheel speed sensor • CAN communication signal • Accelerator pedal position sensor • Yaw rate & lateral G sensor • Center differential • ECM • Engine speed signal • Neutral position switch • Steering angle sensor
Torque characteristics of the center differential do not change.	• Center differential control dial • Driver's control center differential relay • Center differential • Driver's control center differential control module
Driver's control center differential indicator does not operate.	• Combination meter • Driver's control center differential control module
Driver's control center differential indicator does not operate even when the center differential control dial is operated.	• Center differential control dial • Combination meter • Driver's control center differential control module
Will not change to Auto or Manual modes.	• Manual mode switch • Combination meter • Driver's control center differential control module
AUTO indicator light does not illuminate.	• Manual mode switch • Combination meter • Driver's control center differential control module
Will not become differential free or remains differential free	• Parking brake switch • Center differential • Manual mode switch • Center differential control dial • Rear differential • Tire/Wheel • Driver's control center differential relay • Rear differential oil temperature switch • Driver's control center differential control module

Symptom	Problem parts
ABS does not operate.	• ABSCM&H/U • CAN communication signal • Stop light switch • Driver's control center differential control module
Will not lock the differential Or the differential is continually locked.	• ABSCM&H/U • ABS wheel speed sensor • CAN communication signal • Center differential • Center differential control dial • Manual mode switch • Tire/Wheel • Driver's control center differential control module • Driver's control center differential relay