Brought to you by Eris Studios NOT FOR RESALE

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

BASIC DIAGNOSTICS PROCEDURE MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK PRE-INSPECTION. 1)Ask the customer when and how trouble occurred using the check list for interview. <ref. 6mt-3,="" check="" for="" interview.="" list="" to=""> 2)Before performing diagnosis, inspect the unit which might influence the driver's control cen- ter differential. <ref. 6mt-4,="" inspection,<br="" to="">General Information.></ref.></ref.>	Is unit that might influence the driver's control center differen- tial problem normal?	Go to step 2.	Repair the faulty unit.
2	CALLING UP THE DTC. Check the DTC. <ref. 6mt-12,="" stored<br="" to="">DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: For DTC, refer to "List of Diagnostic Trouble Code (DTC)". <ref. 6mt-17,="" diagnos-<br="" list="" of="" to="">tic Trouble Code (DTC).></ref.></ref.>	Is the DTC called up?	Go to step 3. NOTE: Record all DTC (Include: normal code).	Inspect using "Can not calling up DTC". NOTE: After the inspec- tion, read the DTC again. <ref. to<br="">6MT-12, STORED DIAGNOSTIC TROUBLE CODE (DTC), OPERA- TION, Read Diag- nostic Trouble Code (DTC).></ref.>
3	PERFORM THE DIAGNOSIS. 1)Inspect and repair the all DTC using "Diag- nostic Procedure with Diagnostic Trouble Code (DTC)". <ref. 6mt-18,="" diagnostic<br="" to="">Procedure with Diagnostic Trouble Code (DTC).> NOTE: For DTC, refer to "List of Diagnostic Trouble Code (DTC)". <ref. 6mt-17,="" diagnos-<br="" list="" of="" to="">tic Trouble Code (DTC).> 2)Perform the inspection mode. <ref. 6mt-<br="" to="">14, Inspection Mode.></ref.></ref.></ref.>	Is the DTC displayed?	Record all DTC, and inspect using "Diagnostic Proce- dure with Diagnos- tic Trouble Code (DTC)" <ref. to<br="">6MT-18, Diagnos- tic Procedure with Diagnostic Trou- ble Code (DTC).> Repeat "PER- FORM THE DIAG- NOSIS" until normal code called up.</ref.>	Inspect using "General Diagnos- tic Table".

CHECK LIST FOR INTERVIEW MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS) erview

2. Check List for Interview

A: INSPECTION

Check the following items when problem has occurred.

NOTE:

Use copies of this page for interviewing customers.

Customer's name				
Date of purchase				
Date of repair				
Trans. model	TRANSMISSION		VIN	
Odometer reading				km or miles
Frequency	Continuous La Intermitte	nt (times a	ı day)	
Weather	□ Fine □ Cloudy □ Rain □ Various/Others ()	ny □ Snowy		
Place	☐ High ☐ Suburbs ☐ Inr ☐ Others ()	ner city 🛛 Uph	nill 🗅 Rough r	road
Outdoor temperature	🗅 Hot 🗅 Warm 🗅 Cool 🗅 Cold			
Vehicle speed				km/h (MPH)
Driver's control center differential indicator light	G Flashing		Except flas	hing
Driving condition	 Not affected While decelerating 	 At starting While accel 	lerating	☐ While turning (☐ RH/☐ LH) ☐ While cruising
Symptoms	□ No change to AUTO or MA	ANUAL		
	No change of front and real	ar torque distrib	ution	
	No change to differential fr	ree		
	No change to differential lock			
	Tight cornering condition is occurred in AUTO or MANUAL mode with differential free			
	Noise or vibration			
	Contract Others			

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

3. General Information

A: CAUTION

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

CAUTION:

· All airbag system wiring harness and connectors are colored yellow. Do not use the electrical test equipment on these circuits.

• Be careful not to damage the airbag system wiring harness when performing diagnostics and servicing the driver's control center differential control module.

When measuring the voltage or resistance of ٠ ECM or each sensor, use a tapered pin with diameter of less than 0.64 mm (0.025 in) in order to avoid poor contact. Do not insert the pin with diameter of more than 0.65 mm (0.026 in).

C: PREPARATION TOOL

1. GENERAL PURPOSE TOOL

1) Measure battery voltage and specific gravity of electrolyte.

Standard of voltage: More than 12 V

Standard of gravity: More than 1.260

2) Check the condition of fuse.

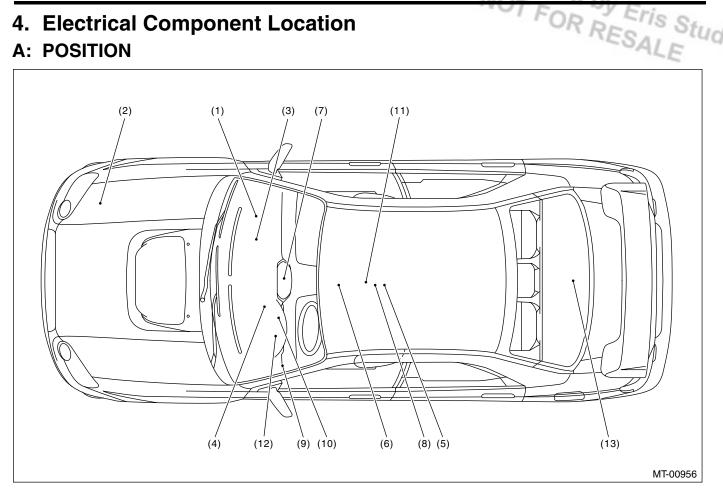
3) Check the condition of harness and harness connector.

TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance, voltage and ampere.
Oscilloscope	Used for measuring sensor.

Bro **ELECTRICAL COMPONENT LOCATION** MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

4. Electrical Component Location

A: POSITION

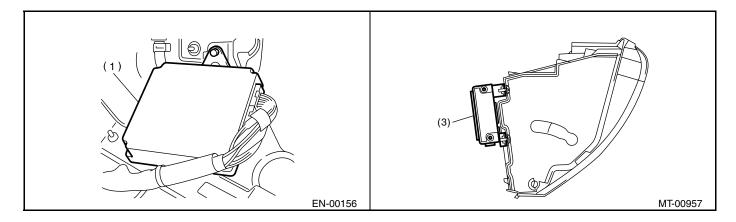


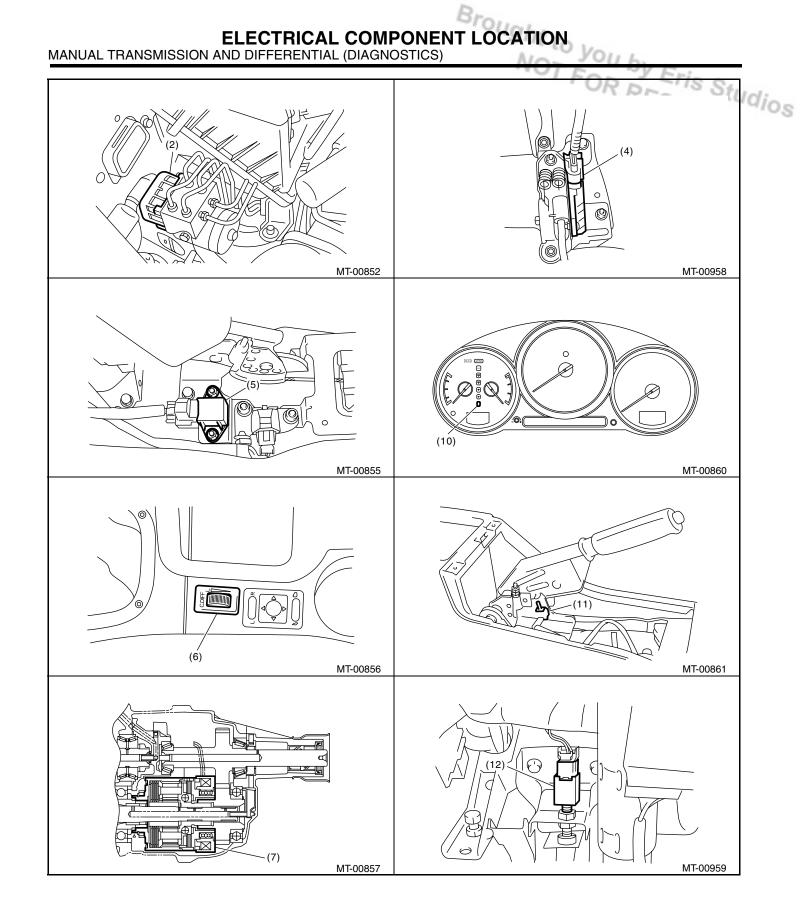
- Engine control module (ECM) (1)
- (2) ABS control module & hydraulic control unit (ABSCM&H/U)
- Driver's control center differential (3) control module
- Accelerator position sensor (4)
- (5) Lateral G sensor
- (6) Center differential control dial

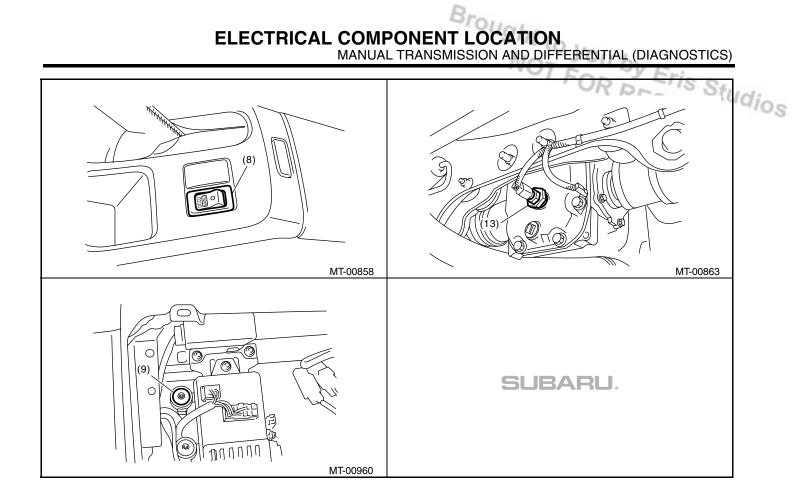
- (7) Center differential
- (8) Manual mode switch
- (9) Driver's control center differential relay
- Driver's control center differential (10) indicator (driver's control center differential diagnostic indicator)
- (11) Parking brake switch

- Brake light switch (12)
- (13) Rear differential oil temperature switch

'is Studios



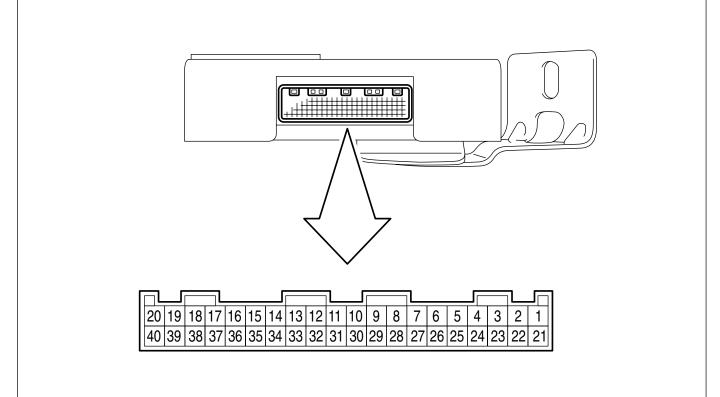




Bro **DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE I/O SIGNAL** MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS) hi-OLL

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

A: ELECTRICAL SPECIFICATION



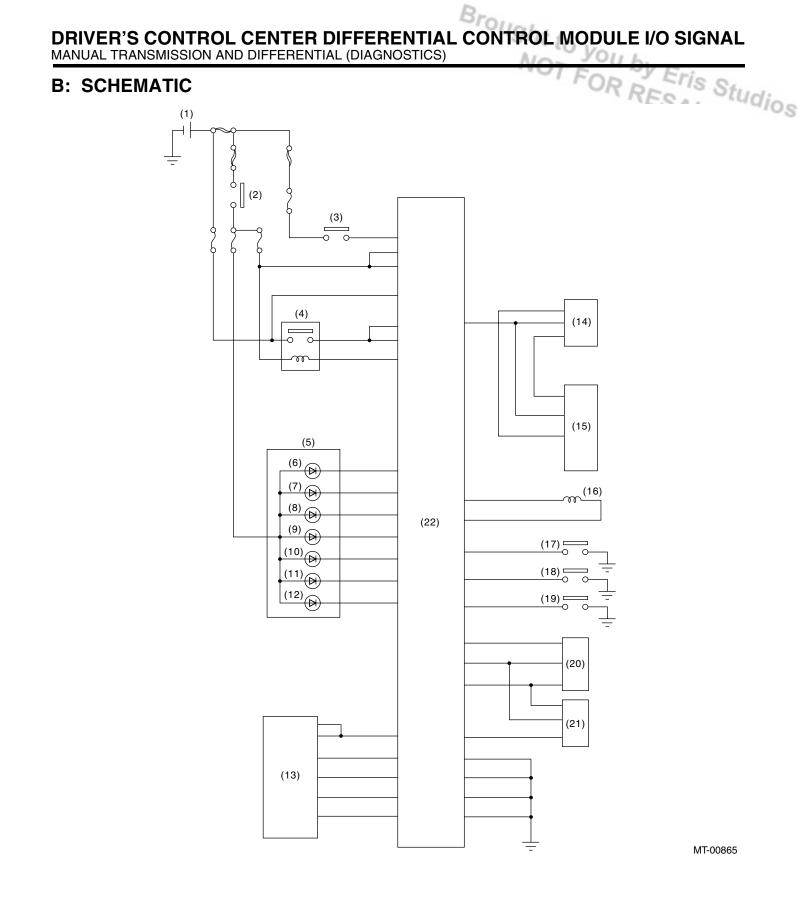
MT-00864

E

	Ch	eck with ignition switch ON.			
Content	Terminal No.	Measuring conditions	Voltage (V)	To body resis- tance (ohm)	
Back-up power supply	17	Ignition switch ON or OFF	10 — 13	—	
Ignition nowor oundly	15			—	
Ignition power supply	16	Ignition switch ON	10 — 13	—	
Driver's control center differential	18	(engine OFF)	10 — 13	—	
power supply	19			—	
Driver's control relay	21	Ignition switch ON	Less than 1	—	
Accelerator position concer	32	Accelerator pedal is released.	0.3 — 1.8		
Accelerator position sensor	32	Accelerator pedal is fully depressed.	2.8 — 4.7		
Center differential control dial power supply	13	Ignition switch ON	Approx. 5	_	
Center differential control dial ground line	34	Ignition switch ON	0	_	
Center differential control dial input	12	When differential is locked	Approx. 5		
signal		When differential is free	Less than 0.5	1 —	
Lateral G sensor	33	Ignition switch ON (When lateral G sensor is horizontal)	2.3 — 2.7	_	
Driver's control center differential	20	When differential is locked (When driver's control center differential indica- tor light is in differential lock)	6.0 — 7.0	1.0 — 2.0	
output		When differential is free (When parking brake is applied)	Less than 0.5	(between connector terminals)	
Driver's control center differential ground line	40	When differential is free	Less than 0.5		

DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE I/O SIGNAL MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

	Ch	eck with ignition switch ON.	FORRE	Eris Sh	
Content	Terminal No.	Measuring conditions	Voltage (V)	To body resis- tance (ohm)	
Parking brake switch	11	When parking brake is applied	Less than 0.4		
Parking brake switch		When parking brake is released	More than 8	_	
Driver's control center differential	4	When illuminates	Less than 1		
ndicator light (Lock ratio 0%)	4	When turned off	More than 8	—	
Driver's control center differential	3	When illuminates	Less than 1		
ndicator light (Lock ratio 15%)	3	When turned off	More than 8	_	
Driver's control center differential	2	When illuminates	Less than 1		
ndicator light (Lock ratio 35%)	2	When turned off	More than 8	_	
Driver's control center differential	1	When illuminates	Less than 1		
ndicator light (Lock ratio 65%)	1	When turned off	More than 8	_	
Driver's control center differential	24	When illuminates	Less than 1		
ndicator light (Lock ratio 85%)	24	When turned off	More than 8		
Driver's control center differential	23	When illuminates	Less than 1		
ndicator light (Lock ratio 100%)	23	When turned off	More than 8		
AUTO indicator light	22	When illuminates	Less than 1		
to to indicator light	22	When turned off	More than 8	_	
ABSCM&H/U	10	When ABS control operates	Less than 1		
	10	When ABS control does not operate	More than 8		
Rear LH ABS wheel speed sensor		When stopped	Less than 1		
ignal	26	When driving	Less than 1 $\leftarrow \rightarrow$ More than 8		
		When stopped	Less than 1		
Rear RH ABS wheel speed sensor ignal	27	When driving	Less than $1 \leftarrow \rightarrow$	—	
		W/hop stopped	More than 8		
Front LH ABS wheel speed sensor	28	When stopped	Less than 1		
ignal	20	When driving	Less than 1 $\leftarrow \rightarrow$ More than 8	_	
ront RH ABS wheel speed sensor		When stopped	Less than 1		
ignal	29	When driving	Less than 1 $\leftarrow \rightarrow$ More than 8	—	
Stop light switch	0	Brake pedal depressed.	More than 8		
top light switch	9	Brake pedal released.	Less than 1		
Rear differential oil temperature	_	Rear differential oil temperature switch OFF	More than 8		
witch	7	Rear differential oil temperature switch ON	Less than 0.4		
	0	Switch is released	More than 4.3		
Ianual mode switch	8	Switch is depressed	Less than 0.1	1 — I	
Data link signal (Subaru Select	5				
<i>I</i> onitor)	6	1 —	_		
	36				
Driver's control center differential	37	1			
ontrol module ground line	38	1 —	0		
	39	1			



DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE I/O SIGNAL MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

- Battery (1)
- (2) Ignition relay
- Stop light switch (3)
- (4) Driver's control center differential relay
- **Combination Meter** (5)
- (6) Driver's control center differential indicator light (Lock ratio 0%)
- Driver's control center differential (7) 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%)
- Driver's control center differential (10) indicator light (Lock ratio 85%)
- (11) Driver's control center differential indicator light (Lock ratio 100%)
- AUTO indicator light (12)
- ABS control module & hydraulic (13) control unit (ABSCM&H/U)
- (14) Accelerator position sensor
- (15) Engine control module (ECM)
- (16) Driver's control center differential

- Parking brake switch (17)
- is Studios (18) Manual mode switch
- (19) Rear differential oil temperature switch
- (20) Center differential control dial
- (21)Lateral G sensor
- (22) Driver's control center differential control module

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

6. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. STORED DIAGNOSTIC TROUBLE CODE (DTC)

1) Securely apply the parking brake.

2) Turn the ignition switch to ON.

3) Set the driver's control dial to differential lock or differential free.

4) Hold the accelerator pedal depressed fully. NOTE:

Hold the accelerator pedal depressed fully until reading of DTC is completed.

5) Set the driver's control dial to differential lock and differential free for ten times each.

NOTE:

• Repeat the step from the beginning when DTC is not displayed or diagnostic indicator light does not blink.

• Refer to "HOW TO READ DIAGNOSTIC TROU-BLE CODE (DTC)" for reading DTC. <Ref. to 6MT-13, HOW TO READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Read Diagnostic Trouble Code (DTC).>

2. SELF-DIAGNOSIS DIAGNOSTIC TROU-BLE CODE (DTC)

NOTE:

Perform the following step 4) to 8) within 30 sec.

1) Securely apply the parking brake.

2) Set the center differential control dial to differential free.

3) Start the engine.

Br,

- 4) Set the center differential control dial to differential lock.
- 5) Release the parking brake.
- 6) Set the center differential control dial to differential free.
- 7) Securely apply the parking brake.
- 8) Repeat the step 4) to 7) for twice.
- NOTE:

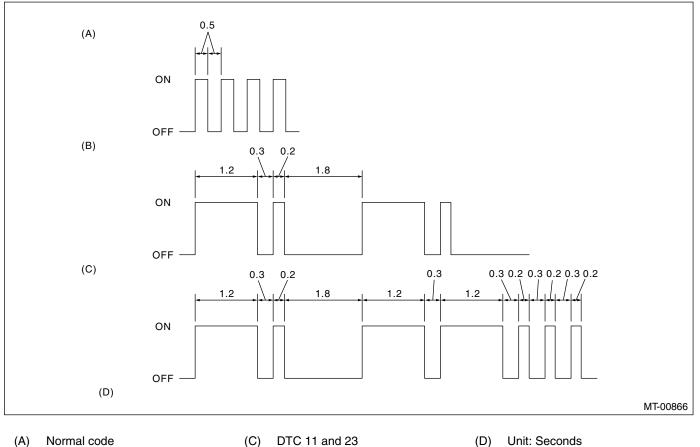
• ABS wheel speed sensor DTC is displayed. Do not judge it as a problem. Perform the inspection mode.

• Repeat the step from the beginning when DTC is not displayed or diagnostic indicator light does not blink.

• Refer to "HOW TO READ DIAGNOSTIC TROU-BLE CODE (DTC)" for reading DTC. <Ref. to 6MT-13, HOW TO READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Read Diagnostic Trouble Code (DTC).>

3. HOW TO READ DIAGNOSTIC TROUBLE CODE (DTC)

DTC for faulty part is indicated by blinking of driver's control center differential indicator. Long blink (1.2 sec.) means ten's place, short blink (0.2 sec.) means one's place.



Normal code (A)

DTC 11 (B)

NOTE:

• The codes which are memorized in control module as previous DTC by occurring the trouble in the past, and the codes which are appeared to inform the trouble to driver in normal driving condition; are only "11", "12", "13", "14", "21", "22" and "23".

• For details of DTC, refer to "List of Diagnostic Trouble Code (DTC)". < Ref. to 6MT-17, List of Diagnostic Trouble Code (DTC).>

7. Inspection Mode

A: OPERATION

WARNING:

Observe the road traffic law.

1) Call up the Self-diagnosis diagnostic trouble code (DTC). <Ref. to 6MT-12, SELF-DIAGNOSIS DIAGNOSTIC TROUBLE CODE (DTC), OPERA-TION, Read Diagnostic Trouble Code (DTC).>

2) Apply the parking brake.

3) Depress the brake pedal.

4) Operate the Manual mode switch once or more, and then set to Manual mode.

5) Turn the center differential control dial to differential lock and differential free for once, and turn it to differential lock, and then wait three seconds.

6) Drive the vehicle in 15 km/h (9 MPH) for more than 5 sec.

8. Clear Memory Mode

A: OPERATION

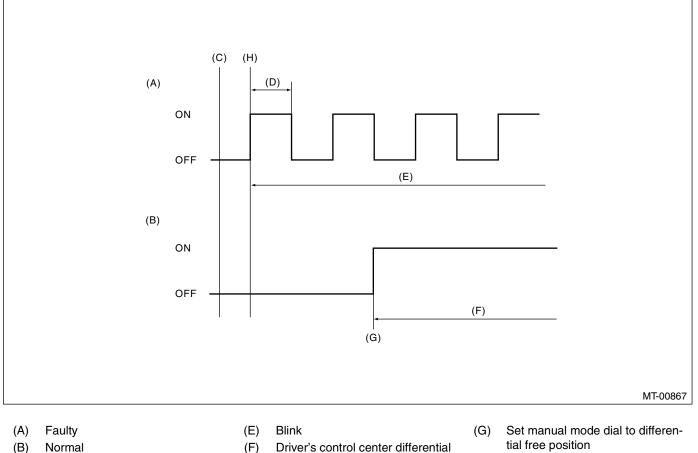
Stored DTC is cleared when ignition switch turns on next time, if there is no malfunction on each I/O signal at the time when finishing inspection mode after calling up the Self-diagnosis DTC (all Self-diagnosis DTC is cleared).

INDICATOR LIGHT DISPLAY DRIVER'S CONTROL CENTER DIFFERENTIA MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS) A + .

9. Driver's Control Center Differential Indicator Light Display

A: INSPECTION

When the malfunction occurs on part or unit, the control module performs self diagnosis and driver's control center differential indicator light (at the bottom differential free light) keep blinking until detect the malfunction and the ignition switch is turned to OFF. Faulty part or unit can be identified by calling up DTC. Indicator display is as shown in the figure.



- (C) Ignition switch ON
- (D) 1 sec.

- Driver's control center differential indicator light illuminates
- tial free position

Studios

Malfunction is detected (H)

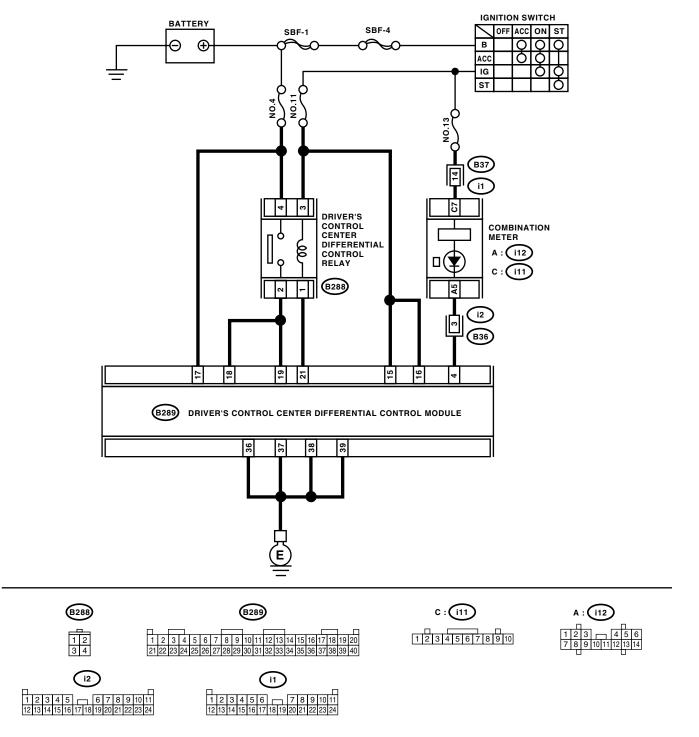
10.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Index
_	Diagnosis indicator light, Center differential control dial, Parking brake switch, accelera- tor position sensor	Diagnosis indicator light does not illuminate. Can not calling up the DTC.	<ref. 6mt-18,="" diag-<br="" diagnostic="" procedure="" to="" with="">nostic Trouble Code (DTC).></ref.>
_	Rear differential gear oil temperature switch	Diagnosis indicator light blinks at 2 Hz, but driver's control center differential does not operate.	<ref. 6mt-23,="" check="" differential<br="" rear="" to="">OIL TEMPERATURE SWITCH, Diagnostic Proce- dure with Diagnostic Trouble Code (DTC).></ref.>
11	Front ABS wheel speed sensor RH	Open or short circuit in front ABS wheel speed sensor RH circuit	<ref. 11="" 6mt-26,="" abs="" dtc="" front="" to="" wheel<br="">SPEED SENSOR RH SIGNAL, Diagnostic Proce- dure with Diagnostic Trouble Code (DTC).></ref.>
12	Front ABS wheel speed sensor LH	Open or short circuit in front ABS wheel speed sensor LH circuit	<ref. 12="" 6mt-29,="" abs="" dtc="" front="" to="" wheel<br="">SPEED SENSOR LH SIGNAL, Diagnostic Proce- dure with Diagnostic Trouble Code (DTC).></ref.>
13	Rear ABS wheel speed sensor RH	Open or short circuit in rear ABS wheel speed sensor RH circuit	<ref. 13="" 6mt-32,="" abs="" dtc="" rear="" to="" wheel<br="">SPEED SENSOR RH SIGNAL, Diagnostic Proce- dure with Diagnostic Trouble Code (DTC).></ref.>
14	Rear ABS wheel speed sensor LH	Open or short circuit in rear ABS wheel speed sensor LH circuit	<ref. 14="" 6mt-35,="" abs="" dtc="" rear="" to="" wheel<br="">SPEED SENSOR LH SIGNAL, Diagnostic Proce- dure with Diagnostic Trouble Code (DTC).></ref.>
21	Accelerator position sensor	Open or short circuit in accel- erator position sensor circuit	<ref. 21="" 6mt-38,="" accelerator="" dtc="" posi-<br="" to="">TION SENSOR, Diagnostic Procedure with Diag- nostic Trouble Code (DTC).></ref.>
22	Lateral G sensor	Open or short circuit in lateral G sensor circuit	<ref. 22="" 6mt-41,="" dtc="" g="" lateral="" sensor,<br="" to="">Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>
23	Driver's control center differential output	Open or short circuit in driver's control center differential out- put circuit	<ref. 23="" 6mt-43,="" center="" check="" dif-<br="" dtc="" to="">FERENTIAL., Diagnostic Procedure with Diagnos- tic Trouble Code (DTC).></ref.>
24	Center differential con- trol dial	Open or short circuit in center differential control dial circuit	<ref. 24="" 6mt-45,="" center="" check="" dif-<br="" dtc="" to="">FERENTIAL CONTROL DIAL., Diagnostic Proce- dure with Diagnostic Trouble Code (DTC).></ref.>
31	Manual mode switch	Open or short circuit in manual mode switch circuit	<ref. 31="" 6mt-47,="" dtc="" manual="" mode<br="" to="">SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>
32	Parking brake switch	Open or short circuit in parking brake switch circuit	<ref. 32="" 6mt-51,="" check="" dtc="" parking<br="" to="">BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>
33	Brake switch	Open or short circuit in brake switch circuit	<ref. 33="" 6mt-53,="" dtc="" light="" stop="" switch,<br="" to="">Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>
34	ABS switch	Open or short circuit in ABS switch circuit	<ref. 34="" 6mt-55,="" abs="" dtc="" signal,<br="" switch="" to="">Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>

11.Diagnostic Procedure with Diagnostic Trouble Code (DTC) A: DTC CANNOT BE CALLED UP

WIRING DIAGRAM:



MT-00961

		VI For	y Eria	7
Step	Check	Yes	RE No Sti	Id:
1 CHECK THE AUTO INDICATOR LIGHT. Turn the ignition switch to ON.	Does the AUTO indicator light illuminate?	Go to step 14.	Go to step 2.	Idios
 CHECK THE GROUND CIRCUIT OF DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE. Turn the ignition switch to OFF. Disconnect the connector of driver's control center differential control module. Measure the resistance between driver's control center differential control module har- ness connector and chassis ground. Connector & terminal	Is the resistance less than 1 Ω?	Go to step 3 .	Repair the open circuit of driver's control center dif- ferential control module ground cir- cuit.	
3 CHECK FUSE (No. 4). Remove the fuse (No. 4).	Is the fuse (No. 4) is blown out?	Replace fuse (No.4). If the replaced fuse (No.4) is blown out easily, repair short circuit in harness between fuse (No.4) and driver's control center dif- ferential control module.	Go to step 4.	
4 CHECK FUSE (No. 11). Remove the fuse (No. 11).	Is the fuse (No. 11) is blown out?	Replace fuse (No.11). If the replaced fuse (No.11) is blown out easily, repair short circuit in har- ness between fuse (No.11) and driver's control center differential control module.	Go to step 5.	
 5 CHECK POWER SUPPLY CIRCUIT OF DRIV ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE. Measure the voltage between driver's control center differential control module harness con- nector and chassis ground. Connector & terminal (B289) No. 17 (+) — Chassis ground (-): 	-	Go to step 6 .	Repair the open circuit in harness between fuse (No. 4) and driver's control center dif- ferential control module, or fuse (No. 4) and bat- tery.	
 6 CHECK POWER SUPPLY CIRCUIT OF DRIV ER'S CONTROL CENTER DIFFERENTIAL RELAY. 1)Disconnect the harness connector of driver's control center differential relay. 2)Measure the voltage between driver's contro center differential relay harness connector and chassis ground. Connector & terminal (B288) No. 4 (+) — Chassis ground (-): 		Go to step 7.	Repair the open circuit between fuse (No. 4) and driver's control center differential relay.	

	- 1	VIFOR	Y Eria	
Step	Check	Yes	Pro No Sti	I.d.
 CHECK IGNITION POWER SUPPLY CIRCUIT OF DRIVER'S CONTROL CENTER DIFFER- ENTIAL CONTROL MODULE. 1)Turn the ignition switch to ON. (engine OFF) 2)Measure the voltage between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 15 (+) — Chassis ground (-): (B289) No. 16 (+) — Chassis ground (-): 	ŭ		Repair the open circuit in harness between fuse (No. 11) and driver's control center dif- ferential control module, or fuse (No. 11) and bat- tery.	^{rq} ios
8 CHECK IGNITION POWER SUPPLY CIRCUIT OF DRIVER'S CONTROL CENTER DIFFER- ENTIAL RELAY. Measure the voltage between driver's control center differential relay and chassis ground. <i>Connector & terminal</i> (B288) No. 3 (+) — Chassis ground (–):	Is the voltage more than 10 V?		Repair the open circuit between fuse (No. 11) and driver's control center differential control module.	
	Is the resistance less than 1 Ω?	Go to step 10 .	Repair the open circuit between driver's control center differential control module harness connec- tor and driver's control relay har- ness connector.	
CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND DRIVER'S CONTROL RELAY. Measure the resistance of harness between driver's control center differential control mod- ule harness connector and chassis ground. <i>Connector & terminal</i> (B289) No. 18 — Chassis ground: (B289) No. 19 — Chassis ground: (B289) No. 21 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 11.	Repair the short circuit between driver's control center differential control module harness connec- tor and driver's control relay har- ness connector.	
	Is the resistance more than 1 $M\Omega$?	Go to step 12.	Replace the driver's control relay.	
	Is the resistance less than 1 Ω ?	Go to step 13.	Replace the driver's control relay.	

			VI For	Y Eni	-
	Step	Check	Yes	No St	I.d.
13	CHECK IGNITION POWER SUPPLY CIRCUIT OF DRIVER'S CONTROL CENTER DIFFER- ENTIAL CONTROL MODULE. 1)Connect all connectors. 2)Turn the ignition switch to ON. (engine OFF) 3)Measure the voltage between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 18 (+) — Chassis ground (-): (B289) No. 19 (+) — Chassis ground (-): (B289) No. 21 (+) — Chassis ground (-):		Go to step 14.	Go to step 23.	^{ra} ios
14	CHECK MANUAL MODE SWITCH. Push the manual mode switch to enter the manual mode.	Is the manual mode obtained?	Go to step 15.	Repair the switch. <ref. 6mt-47,<br="" to="">DTC 31 MANUAL MODE SWITCH, Diagnostic Proce- dure with Diagnos- tic Trouble Code (DTC).></ref.>	
15	CHECK DRIVER'S CONTROL CENTER DIF- FERENTIAL INDICATOR LIGHT. Operate the center differential control dial.	indicator light illuminate according to center differential control dial?	Go to step 17.	Go to step 16.	
16	CHECK THE CENTER DIFFERENTIAL CON- TROL DIAL <ref. 24="" 6mt-45,="" center<br="" check="" dtc="" to="">DIFFERENTIAL CONTROL DIAL., Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>	Is the center differential control dial circuit normal?	Go to step 17.	Repair it.	
17	CHECK THE PARKING BRAKE SWITCH <ref. 32="" 6mt-51,="" check="" dtc="" parking<br="" to="">BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>	Is the parking brake switch cir- cuit normal?	Go to step 18 .	Repair it.	
18	CHECK THE ACCELERATOR POSITION SENSOR <ref. 21="" 6mt-38,="" accelerator<br="" dtc="" to="">POSITION SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>	Is the accelerator position sen- sor circuit normal?	Go to step 19.	Repair it.	
19	READ THE DTC Read the DTC. <ref. 6mt-12,="" opera-<br="" to="">TION, Read Diagnostic Trouble Code (DTC).></ref.>	Is the DTC called up?	Go back to the Basic Diagnostic Procedure. <ref. to 6MT-2, PRO- CEDURE, Basic Diagnostics Proce- dure.></ref. 	Go to step 20.	
20	CHECK THE DRIVER'S CONTROL CENTER DIFFERENTIAL INDICATOR LIGHT. 1)Turn the ignition switch to OFF. 2)Disconnect harness connector from combi- nation meter. 3)Turn the ignition switch to ON. (engine OFF) 4)Short between the combination meter har- ness connector and chassis ground. Connector & terminal (i12) No. 5 — Chassis ground:	Does the lowest light of driver's control center differential indi- cator illuminate?	Go to step 21.	Check the combi- nation meter.	

	For Phina			
	Step	Check	Yes	REG'NOS Studi
21	CHECK THE HARNESS BETWEEN COMBI- NATION METER AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MOD- ULE. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector from driver's control center differential control mod- ule. 3)Measure the resistance of harness between combination meter harness connector and driver's control center differential control mod- ule harness connector. Connector & terminal (i12) No. 5 — (B289) No. 4:	Is the resistance less than 1 Ω?	Go to step 22.	Repair the open circuit and connec- tor of harness between combina- tion meter har- ness connector and driver's con- trol center differen- tial control module harness connec- tor.
22	CHECK THE HARNESS BETWEEN COMBI- NATION METER AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MOD- ULE. Measure the resistance of harness between driver's control center differential control mod- ule harness connector and chassis ground. <i>Connector & terminal</i> (B289) No. 4 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 23.	Repair the open circuit and connec- tor of harness between combina- tion meter har- ness connector and driver's con- trol center differen- tial control module harness connec- tor.
23	CHECK THE POOR CONTACT IN HARNESS CONNECTOR	Is there any poor contact in harness connectors of each circuit?	Repair the poor contact.	Replace the driver's control center differential control module.

Bre **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)**

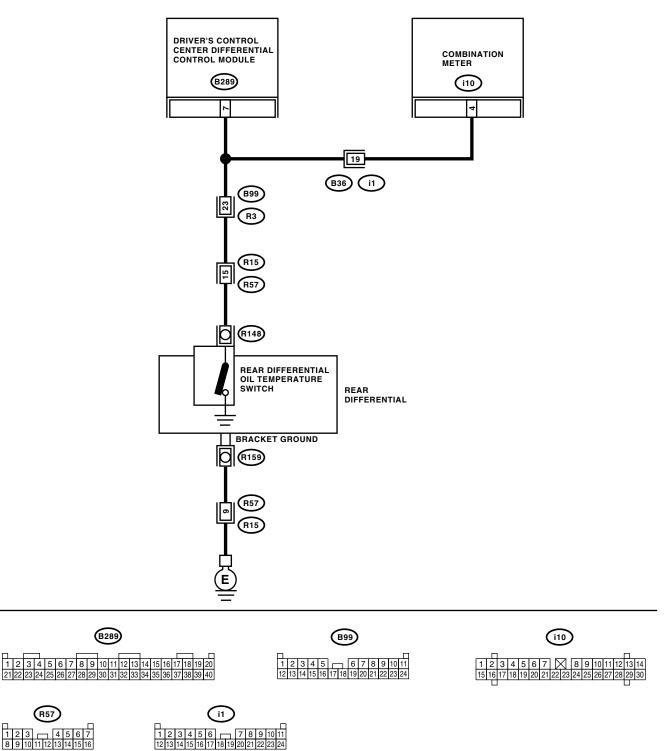
MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS) Eris Studios

B: CHECK REAR DIFFERENTIAL OIL TEMPERATURE SWITCHR RESALE

Input signal circuit of rear differential oil temperature switch is open or shorted. **TROUBLE SYMPTOM:**

- Center differential stays free.
- Handling tends to oversteer. •
- Rear differential oil temperature switch warning light illuminates. •

WIRING DIAGRAM:



			VI For	Y Fri	
	Step	Check	Yes	Pro No Stud	
1	CHECK REAR DIFFERENTIAL OIL TEMPER- ATURE SWITCH WARNING LIGHT CIRCUIT. 1)Turn the ignition switch to OFF. 2)Disconnect the connector of driver's control center differential control module harness con- nector. 3)Turn the ignition switch to ON. (engine OFF) 4)Measure the power supply voltage of rear differential oil temperature switch. Connector & terminal (B289) No. 7 (+) — Chassis ground (-):			Go to step 2.	io _s
2	CHECK THE HARNESS BETWEEN DRIV- ER'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)Measure the resistance between combina- tion meter and driver's control center differen- tial control module harness connector. Connector & terminal (B289) No. 7 — (i10) No. 4:	Is the resistance less than 1 Ω?	Go to step 3.	Repair the open circuit between driver's control center differential control module and combination meter.	
3	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND REAR DIFFEREN- TIAL OIL TEMPERATURE SWITCH. 1)Disconnect the connector from the rear dif- ferential oil temperature switch. 2)Measure the resistance between driver's control center differential control module har- ness connector and rear differential oil temper- ature switch harness connector. Connector & terminal (B289) No. 7 — (R148) No. 1:	Is the resistance less than 1 Ω?	Go to step 4 .	Repair the open circuit between driver's control center differential control module and rear differen- tial oil tempera- ture switch.	
4	CHECK REAR DIFFERENTIAL OIL TEMPER- ATURE SWITCH GROUND CIRCUIT. 1)Disconnect the harness connector from bracket ground of rear differential. 2)Measure the resistance between the rear dif- ferential oil temperature switch ground harness connector and chassis ground. <i>Connector & terminal</i> (R159) No. 1 — Chassis ground:	ΜΩ?	Repair the open circuit of rear dif- ferential oil tem- perature switch ground circuit and poor contact of harness connec- tor.	Go to step 5.	
5	CHECK REAR DIFFERENTIAL OIL TEMPER- ATURE SWITCH. Measure the resistance between rear differen- tial oil temperature switch terminal and rear dif- ferential oil temperature switch body. <i>Terminals</i> <i>No. 1 — Rear differential oil temperature</i> <i>switch body:</i>	Ω?	Go to step 6 .	Replace the rear differential oil tem- perature switch.	
6	CHECK REAR DIFFERENTIAL OIL TEMPER- ATURE SWITCH WARNING LIGHT. 1)Turn the ignition switch to ON. 2)Short between the combination meter har- ness connector and chassis ground. Terminals No. 4 (+) — Chassis ground (–):	Does the rear differential oil temperature switch warning light turn OFF?	Go to step 7.	Replace the com- bination meter.	

Step Check Yes No Sti Idios CHECK POOR CONTACT. Is there any poor contact in the Repair the poor 7 Replace the driver's control circuit of rear differential oil contact. temperature switch? center differential control module.

Bro **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)**

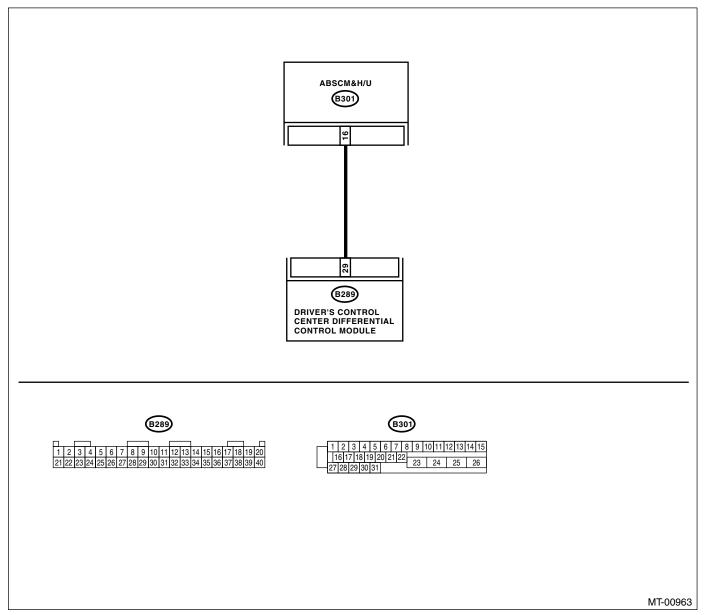
MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

Front ABS wheel speed sensor RH signal circuit is open or shorted.

TROUBLE SYMPTOM:

Tight corner braking condition occurs.

WIRING DIAGRAM:



Step	Check	Yes	No
1 CHECK ABSCM&H/U.	Is the DTC of front ABS wheel		Go to step 2.
	speed sensor RH displayed on		
	ABS self diagnosis test mode?	tion of ABS. <ref.< th=""><th></th></ref.<>	
		to ABS-23, LIST,	
		List of Diagnostic	
		Trouble Code	
		(DTC).>	

2 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. is the resistance less than 1 Ω? Go to step 3. Repair the open harness between driver's control center differential control module and ABSCM&H/U. 3) Genetic at the resistance of harness between driver's control center differential control mod- ule and ABSCM&H/U harness connector. Is the resistance more than 1 (B289) No. 29 – (B301) No. 16: Is the resistance more than 1 MΩ? Go to step 4. Repair the short of harness between driver's control. 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Is the resistance more than 1 MΩ? Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)// Connect at terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V (-) more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 <th></th> <th></th> <th>VI For</th> <th>Y Frie</th> <th>•</th>			VI For	Y Frie	•
CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Ω? harness between driver's control center differential control center differential control module and ABSCM&H/U. harness between driver's control center differential control module and ABSCM&H/U. harness between driver's control center differential control module and ABSCM&H/U. harness between driver's control center differential control mod- ule and ABSCM&H/U. harness between driver's control center differential control mod- ule and ABSCM&H/U. harness between driver's control center differential control mod- ule and ABSCM&H/U. 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Is the resistance more than 1 MΩ? Go to step 4. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground. (-): Is the voltage less than 1 V? Go to step 6. Check the ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V e→ more than 8 V? Go	•	Check	Yes	PE No St	Id:
TROL MODULE AND ABSCM&H/U. i)Turn the ignition switch to OFF. (2)Disconnect the harmess connector of driver's control center differential control module and ABSCM&H/U. and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control module and ABSCM&H/U. is the resistance more than 1 Go to step 4. 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL OLETER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and ABSCM&H/U. Is the voltage less than 1 V? Go to step 6. Check the ABSCM&H/U.			Go to step 3.		'4/0s
1)Turn the ignition switch to OFF. Center differential 2)Disconnect the hamess connector of driver's control center differential control module and ABSCM&H/U. Center differential control module and ABSCM&H/U. 3)Measure the resistance of hamess between driver's control center differential control module and ABSCM&H/U. Second ABSCM&H/U. 3 CHECK HARNESS BETWEEN DRIVER'S Is the resistance more than 1 Go to step 4. CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. MΩ? MΩ? Measure the resistance of hamess between hamess connector of driver's control center differential control module and chassis ground. Connector & terminal Control module (B289) No. 29 — Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of hamess between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 — Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of hamess between driver's control center differential control module and chassis ground. 3)Measure the voltage of hamess between hamess connectors. 2)Turn the ignition switch to ON. Si the voltage less than 1 V? Go to step 5. Repair the short of center differential control module and ABSCM&H/U. 3)Measure the voltage of hamess between hamess connector of driver's control center differential control module and ABSCM&H/U. So to s		Ω?			
2)Disconnect the harness connector of driver's control center differential control module and ABSCM&H/U. control center differential control module and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control module and ABSCM&H/U harness connector. control module and ABSCM&H/U harness connector. 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. Mc2 Measure the resistance of harness between tharness connector of driver's control center differential control module and chassis ground. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground (-): 5 CHECK ABS WHEEL SPEED SENSOR SIG (B289) No. 29 (-) — Chassis ground (-): Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG control center differential control module and chassis ground (-): Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5					
control center differential control module and ABSCM&H/U. and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control module and ABSCM&H/U harness connector. and ABSCM&H/U. Connector & terminal (B289) No. 29 - (B301) No. 16: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. TROL MODULE AND ABSCM&H/U. M62? M62? Control center differential control module and chassis ground. Connector & terminal (B289) No. 29 - Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground: 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. 4 CHECK BATTERY SHORT OF HARNESS Between harness connector of . Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness connectors d driver's control center differential (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V Go to step 6. <td< th=""><th></th><th>20</th><th></th><th></th><th></th></td<>		20			
ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control module and ABSCM&H/U harness connector. Connector & terminal (B289) No. 29 — (B301) No. 16: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 — Chassis ground: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 — Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS ETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL control module and chassis ground. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. Interview of the differential control module and ABSCM&H/U. Interview of the differential control module and chassis ground. Context to the differential control module and ABSCM&H/U. Interview of t					
3)Measure the resistance of harness between driver's control center differential control module and ABSCM&H/U harness connector. Connector & terminal (B289) No. 29 - (B301) No. 16: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 - Chassis ground: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 - Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 - Chassis ground: 4 CHECK BATTERY SHORT OF HARNESS Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 (-) - Chassis ground. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 (-) - Chassis ground (-): 5 CHECK ABS WHEEL SPEED SENSOR SiG-NAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U.					
driver's control center differential control module and ABSCM&H/U harness connector. Connector & terminal (B289) No. 29 (B301) No. 16: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. 3)Measure the voltage of harness between harness connectors driver's control center differential control module and chassis ground. Is the voltage less than 1 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ig		n			
ule and ABSCM&H/U harness connector. Connector & terminal Base (B289) No. 29 — (B301) No. 16: 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3) Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Is the voltage less than 1 V ← more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V ← more than 8 V? Go to step 6. Check the ABSCM&H/U. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 1 V ← more than 8 V? Go to step 6. C					
Connector & terminal (B289) No. 29 – (B301) No. 16: Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and chassis ground. 3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Is the resistance more than 1 Go to step 4. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V ↔ more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 3)Lift-up the vehice and place safety stands. NOTE: Is the voltage less than 1 V ↔ more than 8 V? Go to step 6. Check the ABSCM&H/U.					
3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Is the resistance more than 1 MΩ? Go to step 4. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER (2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V ← more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NOTE: Is the voltage less than 1 V ← more than 8 V? Go to step 6. Check the ABSCM&H/U.					
3 CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Is the resistance more than 1 MΩ? Go to step 4. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER DIFFERENTIAL CONTROL CENTER (2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V ← more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NOTE: Is the voltage less than 1 V ← more than 8 V? Go to step 6. Check the ABSCM&H/U.	(B289) No. 29 — (B301) No. 16:				
CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. MΩ? harness between driver's control center differential control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground (-): Is the voltage less than 1 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Is the voltage less than 1 V ←→ more than 8 V? Go to step 6. Check the ABSCM&H/U.		Is the resistance more than 1	Go to step 4.	Repair the short of	1
Measure the resistance of harness between harness connector of driver's control center differential control module and chassis ground. Center differential control module and ABSCM&H/U. Connector & terminal (B289) No. 29 — Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NOT is contert of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module.	CONTROL CENTER DIFFERENTIAL CON	ΜΩ?	•		
harness connector of driver's control center differential control module and chassis ground. connector & terminal control module and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG. NAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG. Control center differential control module. Is the voltage less than 8 V? Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control module. She voltage less than 8 V? Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control module. She voltage less than 8 V? Go to step 6. Check the ABSCM&H/U.	TROL MODULE AND ABSCM&H/U.			driver's control	
ferential control module and chassis ground. and ABSCM&H/U. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. SMeasure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Ferential Connector & terminal (B289) No. 29 (+) — Chassis ground (-): 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5) CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Si the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 3)Lift-up the vehicle and place safety stands. NOTE: Si the voltage less than 1 V Si the voltage less than 1 V Si the voltage less than 1 V	Measure the resistance of harness between			center differential	
Connector & terminal (B289) No. 29 — Chassis ground: Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and chassis ground. 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. <i>Connector & terminal (B289) No. 29 (+)</i> — <i>Chassis ground (-):</i> Is the voltage less than 1 V ←→ more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Is the voltage less than 1 V ←→ more than 8 V? Check the ABSCM&H/U.	harness connector of driver's control center	lif-			
(B289) No. 29 — Chassis ground: 4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Is the voltage less than 1 V commer than 8 V? Go to step 6. Check the ABSCM&H/U.				and ABSCM&H/U.	
4 CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. Is the voltage less than 1 V? Go to step 5. Repair the short of harness between driver's control center differential control module and ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Is the voltage less than 1 V ←→ more than 8 V? Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Is the voltage less than 1 V ←→ more than 8 V? Go to step 6. Check the ABSCM&H/U.					
BETWEEN DRIVER'S CONTROL CENTER harness between DIFFERENTIAL CONTROL MODULE AND harness between ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE:					1
DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. driver's control center differential control module and ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. <i>Connector & terminal</i> (B289) No. 29 (+) — Chassis ground (-): and ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V (-> more than 8 V? Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 8 V? Go to step 6. Check the ABSCM&H/U. 0)Lift-up the vehicle and place safety stands. NOTE: NOTE: Check the control center differential control module.			Go to step 5.		
ABSCM&H/U. 1)Connect all the harness connectors. center differential control module and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and chassis ground. and ABSCM&H/U. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): set the voltage less than 1 V Go to step 6. Check ABS WHEEL SPEED SENSOR SIG-NAL. 1)Turn the ignition switch to OFF. ls the voltage less than 1 V Go to step 6. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control module. she voltage less than 8 V? Go to step 6. Check the ABSCM&H/U. NOTE: NOTE: Set the vehicle and place safety stands.					
1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and chassis ground. control module and ABSCM&H/U. 5 CHECK ABS WHEEL SPEED SENSOR SIGNAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control module. Is the voltage less than 8 V? Go to step 6. Check the ABSCM&H/U. 0)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: NOTE: Check the ABSCM&H/U.					
2)Turn the ignition switch to ON. and ABSCM&H/U. 3)Measure the voltage of harness between harness connector of driver's control center differential control module and chassis ground. and ABSCM&H/U. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): state of the second secon					
3)Measure the voltage of harness between harness connector of driver's control center differential control module and chassis ground. Image: Connector & terminal (B289) No. 29 (+) — Chassis ground (-): 5 CHECK ABS WHEEL SPEED SENSOR SIGNAL. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 5 CHECK ABS where the harness connector of driver's control center differential control module. Is the voltage less than 1 V Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 8 V? ABSCM&H/U. NOTE: NOTE: Image: the voltage less than 1 V					
harness connector of driver's control center differential control module and chassis ground. Connector & terminal Image: Conne Image: Connector & terminal					
ferential control module and chassis ground. Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Image: Chassis ground (-): Image: Chassis ground (-): 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. Is the voltage less than 1 V ← → more than 8 V? Go to step 6. Check the ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. Is the voltage less than 8 V? ABSCM&H/U. 3)Lift-up the vehicle and place safety stands. NOTE: NOTE: Image: Chassis ground (-): Image: Chassis ground (-):	· · ·	tif-			
Connector & terminal (B289) No. 29 (+) — Chassis ground (-): Second Control Control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Is the voltage less than 1 V ←→ more than 8 V? Go to step 6. Check the ABSCM&H/U.					
 5 CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of driver's control center differential control module. 3) Lift-up the vehicle and place safety stands. NOTE: 	-				
NAL. ←→ more than 8 V? ABSCM&H/U. 1)Turn the ignition switch to OFF. ⇒)Disconnect the harness connector of driver's control center differential control module. ABSCM&H/U. 3)Lift-up the vehicle and place safety stands. NOTE: ABSCM&H/U.	(B289) No. 29 (+) — Chassis ground (-):			
1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE:	5 CHECK ABS WHEEL SPEED SENSOR SI	3- Is the voltage less than 1 V	Go to step 6.	Check the	1
2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE:		$\leftarrow \rightarrow$ more than 8 V?		ABSCM&H/U.	
control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE:					
3)Lift-up the vehicle and place safety stands. NOTE:	· · · · · · · · · · · · · · · · · · ·	's			
NOTE:					
Paice all wheels off floor					
Raise all wheels off floor.					
4)Connect the oscilloscope to terminal of driver's control center differential control mod-		4_			
ule connector.		a -			
Connector & terminal					
Positive probe; (B289) No. 29:					
Ground lead; (B289) No. 36:					
5)Start the engine, and drive the wheels					
slowly.					
NOTE:					
The speed difference between front and rear		ar			
wheels may light the ABS warning light, but this					
indicates no malfunction. When AT control di-		-			
agnosis is finished, perform the ABS memory					
clearance procedure of on-board diagnostics					
system. <ref. abs-21,="" clear="" memory<="" th="" to=""><th></th><td>əry</td><td></td><td></td><td></td></ref.>		əry			
Mode.>					
6)Measure the signal voltage indicated on	· · · ·				
oscilloscope.	oscilloscope.				J

		For Fringe			
	Step	Check	Yes	Pro No Sti	I.d.
6	CHECK POOR CONTACT IN HARNESS CONNECTORS.	Is there any poor contact in harness connector?	Repair the poor contact.	Replace the driver's control center differential control module.	^{rq} ios

Bro **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)**

MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS) Eris Studios

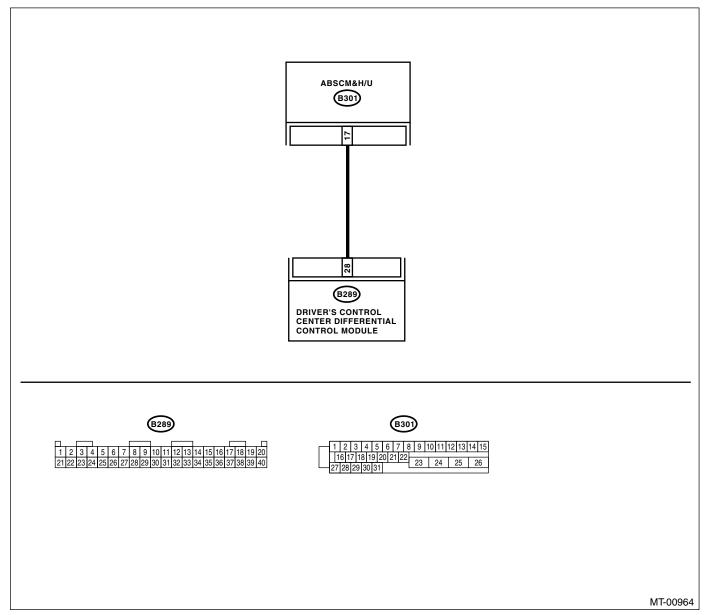
D: DTC 12 FRONT ABS WHEEL SPEED SENSOR LH SIGNALOR RESALE

Front ABS wheel speed sensor LH signal circuit is open or shorted.

TROUBLE SYMPTOM:

Tight corner braking condition occurs.

WIRING DIAGRAM:



Step	Check	Yes	No
CHECK ABSCM&H/U.	Is the DTC of front ABS wheel	Check with refer-	Go to step 2.
	speed sensor LH displayed on	ring to DTC sec-	
	ABS self diagnosis test mode?	tion of ABS. <ref.< td=""><td></td></ref.<>	
		to ABS-23, LIST,	
		List of Diagnostic	
		Trouble Code	
		(DTC).>	

For Fris a					
	Step	Check	Yes	RES'NOS Sti	ld.
2	CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control mod- ule and ABSCM&H/U harness connector. Connector & terminal (B289) No. 28 — (B301) No. 17:	Is the resistance less than 1 Ω?	Go to step 3 .	Repair the open harness between driver's control center differential control module and ABSCM&H/U.	rd ios
3	CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. <i>Connector & terminal</i> (B289) No. 28 — Chassis ground:		Go to step 4.	Repair the short of harness between driver's control center differential control module and ABSCM&H/U.	
4	CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 28 (+) — Chassis ground (-):	Is the voltage less than 1 V?	Go to step 5 .	Repair the short of harness between driver's control center differential control module and ABSCM&H/U.	
5	CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Raise all wheels off floor. 4)Connect the oscilloscope to terminal of driver's control center differential control mod- ule connector. Connector & terminal Positive probe; (B289) No. 28: Ground lead; (B289) No. 36: 5)Start the engine, and drive the wheels slowly. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this indicates no malfunction. When AT control di- agnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <ref. abs-21,="" clear="" memory<br="" to="">Mode.> 6)Measure the signal voltage indicated on oscilloscope.</ref.>		Go to step 6 .	Check the ABSCM&H/U.	

	I FOR SY				
	Step	Check	Yes	RE No St	I.d.
6	CHECK POOR CONTACT IN HARNESS CONNECTORS.	Is there any poor contact in harness connector?	Repair the poor contact.	Replace the driver's control center differential control module.	^{(Q} /O

Bro **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)** A 1 -VON R RESALE

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

E: DTC 13 REAR ABS WHEEL SPEED SENSOR RH SIGNAL

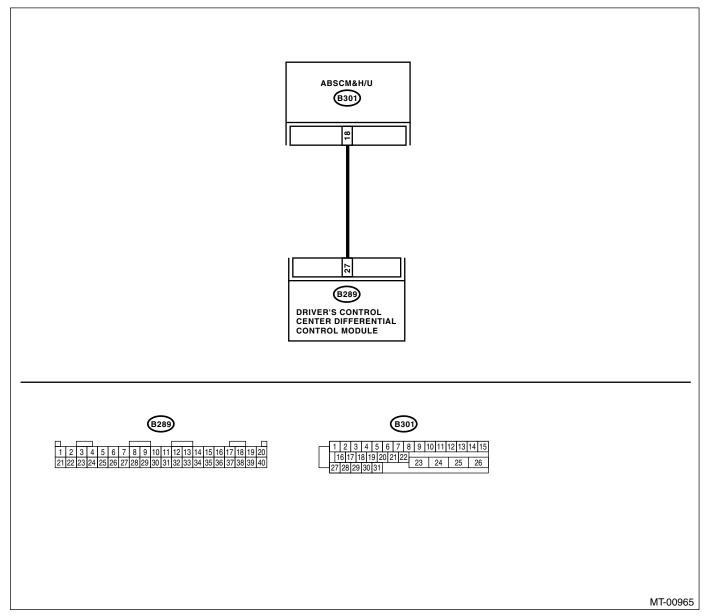
DIAGNOSIS:

Rear ABS wheel speed sensor RH signal circuit is open or shorted.

TROUBLE SYMPTOM:

Tight corner braking condition occurs.

WIRING DIAGRAM:



Step	Check	Yes	No
CHECK ABSCM&H/U.	Is the DTC of rear ABS wheel	Check with refer-	Go to step 2.
	speed sensor RH displayed on	ring to DTC sec-	
	ABS self diagnosis test mode?	tion of ABS. <ref.< td=""><td></td></ref.<>	
		to ABS-23, LIST,	
		List of Diagnostic	
		Trouble Code	
		(DTC).>	

For y Eris					
	Step	Check	Yes	No St	lel:
2	Step CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control mod- ule and ABSCM&H/U harness connector. Connector & terminal (B289) No. 27 — (B301) No. 18:	Check Is the resistance less than 1 Ω?	Go to step 3.	No Repair the open harness between driver's control center differential control module and ABSCM&H/U.	Idios
3	CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. Connector & terminal (B289) No. 27 — Chassis ground:		Go to step 4.	Repair the short of harness between driver's control center differential control module and ABSCM&H/U.	
4	CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. <i>Connector & terminal</i> (B289) No. 27 (+) — Chassis ground (-):	Is the voltage less than 1 V?	Go to step 5 .	Repair the short of harness between driver's control center differential control module and ABSCM&H/U.	
5	CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Raise all wheels off floor. 4)Connect the oscilloscope to terminal of driver's control center differential control mod- ule connector. Connector & terminal Positive probe; (B289) No. 27: Ground lead; (B289) No. 36: 5)Start the engine, and drive the wheels slowly. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this indicates no malfunction. When AT control di- agnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <ref. abs-21,="" clear="" memory<br="" to="">Mode.> 6)Measure the signal voltage indicated on oscilloscope.</ref.>		Go to step 6 .	Check the ABSCM&H/U.	

Brou DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC) Mai YOUL

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

			En-	Y Fri-		
	Step	Check	Yes	Pro No St	I.d.	
6	CHECK POOR CONTACT IN HARNESS CONNECTORS.	Is there any poor contact in harness connector?	Repair the poor contact.	Replace the driver's control center differential control module.	10/03	

Bro **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)**

MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS) Eris Studios

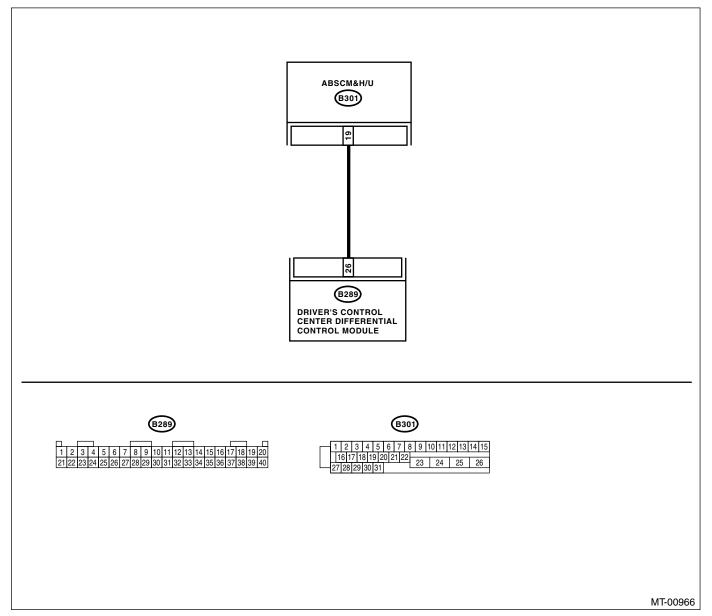
F: DTC 14 REAR ABS WHEEL SPEED SENSOR LH SIGNAL OR RESALE

Rear ABS wheel speed sensor LH signal circuit is open or shorted.

TROUBLE SYMPTOM:

Tight corner braking condition occurs.

WIRING DIAGRAM:



Step	Check	Yes	No
1 CHECK ABSCM&H/U.		ring to DTC sec-	Go to step 2.
		Trouble Code (DTC).>	

For Fris a					
	Step	Check	Yes	No Stu	d:
2	Step CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control mod- ule and ABSCM&H/U harness connector. Connector & terminal (B289) No. 26 — (B301) No. 19: CHECK HARNESS BETWEEN DRIVER'S	Check Is the resistance less than 1 Ω? Is the resistance more than 1	Yes Go to step 3. Go to step 4.	No Repair the open harness between driver's control center differential control module and ABSCM&H/U.	dios
	CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance of harness between harness connector of driver's control center dif- ferential control module and chassis ground. <i>Connector & terminal</i> (B289) No. 26 — Chassis ground:			harness between driver's control center differential control module and ABSCM&H/U.	
4	CHECK BATTERY SHORT OF HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ABSCM&H/U. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. 3)Measure the voltage of harness between harness connector of driver's control center dif- ferential control module and chassis ground. <i>Connector & terminal</i> (B289) No. 26 (+) — Chassis ground (-):	Is the voltage less than 1 V?	Go to step 5.	Repair the short of harness between driver's control center differential control module and ABSCM&H/U.	
5	CHECK ABS WHEEL SPEED SENSOR SIG- NAL. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Lift-up the vehicle and place safety stands. NOTE: Raise all wheels off floor. 4)Connect the oscilloscope to terminal of driver's control center differential control mod- ule connector. Connector & terminal Positive probe; (B289) No. 26: Ground lead; (B289) No. 36: 5)Start the engine, and drive the wheels slowly. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this indicates no malfunction. When AT control di- agnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <ref. abs-21,="" clear="" memory<br="" to="">Mode.> 6)Measure the signal voltage indicated on oscilloscope.</ref.>		Go to step 6.	Check the ABSCM&H/U.	

		E FOR Y Fri			
	Step	Check	Yes	RE No St	I.d.
6	CHECK POOR CONTACT IN HARNESS CONNECTORS.	Is there any poor contact in harness connector?	Repair the poor contact.	Replace the driver's control center differential control module.	^{(Q} /0)

Bro DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC) OR RESALE A1-

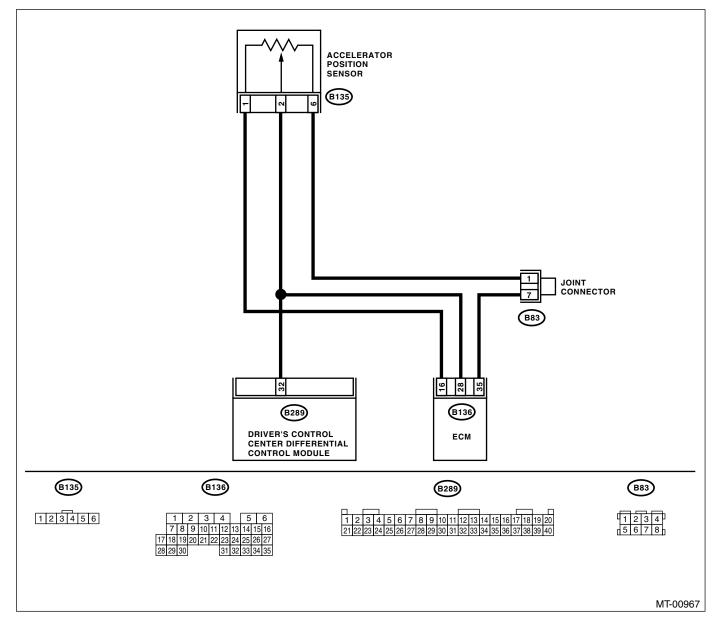
MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

G: DTC 21 ACCELERATOR POSITION SENSOR

DIAGNOSIS:

The accelerator position sensor input signal circuit is open or shorted. **TROUBLE SYMPTOM:**

- Tight corner braking condition occurs.
- Handling tends to oversteer. ٠



Step	Check	Yes	No
CHECK DTC.	Is the DTC displayed on engine self diagnosis test mode?	Check with refer- ring to DTC sec- tion of engine. <ref. to<br="">EN(H4DOTC)-71, LIST, List of Diag- nostic Trouble Code (DTC).></ref.>	Go to step 2.

TT		For	y Eris
Step	Check	Yes	No Studi
 2 CHECK THE HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND ACCELERATOR POSITION SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of driver's control center differential control module and accelerator position sensor. 3) Measure the resistance of harness between driver's control center differential control module and accelerator position sensor. 3) Measure the resistance of harness between driver's control center differential control module harness connector and accelerator position sensor. Connector & terminal (B289) No. 32 — (B135) No. 2: 	Is the resistance less than 1 Ω?	Go to step 3.	Repair the open circuit of harness between driver's control center dif- ferential control module and accel- erator position sensor.
	Is the resistance less than 1 Ω?	Go to step 4.	Repair the open circuit of harness between driver's control center dif- ferential control module and ECM.
	Is the resistance more than 1 MΩ?	Go to step 5.	Repair the short circuit of harness between driver's control center dif- ferential control module and accel- erator position sensor and ECM.
 5 CHECK INPUT SIGNAL OF DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE. 1)Connect the connectors to driver's control center differential control module and accelerator position sensor. 2)Turn the ignition switch to ON (engine OFF). 3)Release the accelerator pedal. 4)Measure the voltage between driver's control center differential control module harness connector and chassis ground. Connector & terminal (B289) No. 32 (+) — Chassis ground (-): 	Is the voltage 0.3 — 1.8 V?	Go to step 6.	Go to step 7 .
 6 CHECK INPUT SIGNAL OF DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE. 1)Fully depress the accelerator pedal. 2)Measure the voltage between driver's control center differential control module harness connector and chassis ground. Connector & terminal (B289) No. 32 (+) — Chassis ground (-): 	Is the voltage 2.8 — 4.7 V?	Go to step 8.	Go to step 7.
7 CHECK THE POOR CONTACT.	Is there any poor contact in accelerator position sensor cir- cuit?	Repair the poor contact.	Replace the driver's control center differential control module.

		I FOR Y FRI			
	Step	Check	Yes	REC'No St	Id.
8	CHECK THE POOR CONTACT.	Is there any poor contact in accelerator position sensor cir- cuit?	Repair the poor contact.	Check the ECM.	I'IIOS

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS)

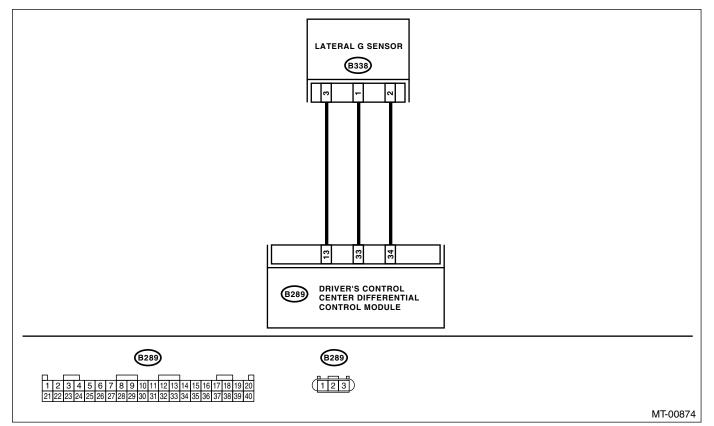
H: DTC 22 LATERAL G SENSOR

DIAGNOSIS:

The lateral G sensor input signal circuit is open or shorted.

TROUBLE SYMPTOM:

Handling tends to understeer at high speed cornering.



	Step	Check	Yes	No
1	CHECK HARNESS BETWEEN DRIVER'S	Is the resistance less than 1	Go to step 2.	Repair the open
	CONTROL CENTER DIFFERENTIAL CON-	Ω?		harness between
	TROL MODULE CONNECTOR AND LATER-			driver's control
	AL G SENSOR CONNECTOR.			center differential
	 Turn the ignition switch to OFF. 			control module
	2)Disconnect the connector from driver's con-			connector and lat-
	trol center differential control module and lat-			eral G sensor con-
	eral G sensor.			nector.
	3)Measure the resistance of harness between			
	driver's control center differential control mod-			
	ule connector and lateral G sensor connector.			
	Connector & terminal			
	(B289) No. 33 — (B338) No. 1:			
	(B289) No. 34 — (B338) No. 2:			
	(B289) No. 13 — (B338) No. 3:			

		-	VI For	Y Eria	-
	Step	Check	Yes	No Sti	Int:
2	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE CONNECTOR AND LATERAL G SENSOR CONNECTOR. Measure the resistance between driver's con- trol center differential control module harness connector and chassis ground. <i>Connector & terminal</i> (B289) No. 33 — Chassis ground: (B289) No. 34 — Chassis ground: (B289) No. 13 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 3 .	Repair the short of harness between driver's control center differential control module connector and lat- eral G sensor con- nector.	14105
3	 CHECK THE LATERAL G SENSOR. 1)Remove the lateral G sensor from body. 2)Connect the connector to lateral G sensor. 3)Connect the connector to driver's control center differential control module. 4)Turn the ignition switch to ON. 5)Measure the voltage between lateral G sensor terminals when the lateral G sensor is horizontal. Connector & terminal (B338) No. 1 (+) - No. 2 (-): 	Is the voltage 2.3 — 2.7 V?	Go to step 4.	Replace the lateral G sensor.	
4	CHECK THE G SENSOR. Measure the voltage between lateral G sensor terminals when the lateral G sensor connector is tilted 90° to right. Connector & terminal (B338) No. 1 (+) — No. 2 (-):	Is the voltage 3.5 — 4.1 V?	Go to step 5.	Replace the lateral G sensor.	
5	CHECK THE G SENSOR. Measure the voltage between lateral G sensor terminals when lateral G sensor connector is tilted 90° to left. Connector & terminal (B338) No. 1 (+) — No. 2 (–):	Is the voltage 0.8 — 1.5 V?	Go to step 6.	Replace the lateral G sensor.	
6	CHECK THE POOR CONTACT OF CONNEC- TOR.	Is there any poor contact in connector between driver's control center differential con- trol module and lateral G sen- sor.	Repair the poor contact.	Replace the driver's control center differential control module.	

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

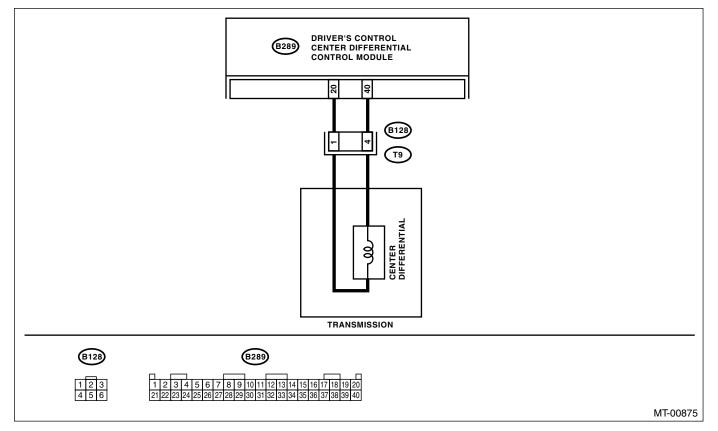
MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS) ERENTIAL.

I: DTC 23 CHECK CENTER DIFFERENTIAL.

DIAGNOSIS:

Output signal circuit of center differential is open or shorted. **TROUBLE SYMPTOM:**

- Center differential does not operate.
- Lock ratio of center differential does not operate, or malfunction occurs.
- Tight corner braking condition occurs.
- Handling tends to oversteer.



	Step	Check	Yes	No
1	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND TRANSMISSION HARNESS. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Disconnect the transmission harness con- nector and bulk harness connector. 4)Measure the resistance of harness between driver's control center differential control mod- ule harness connector and transmission har- ness connector. Connector & terminal (B289) No. 20 — (B128) No. 1: (B289) No. 40 — (B128) No. 4:	Is the resistance less than 1 Ω?	Go to step 2.	Repair the open circuit of bulk har- ness between driver's control center differential control module and transmission harness.

En Friend			-		
Ste	р	Check	Yes	No Sti	Id:
ER'S CONTROL C CONTROL MODUL HARNESS. Measure the resistant trol center differenti connector and chass <i>Connector & terr</i> (B289) No. 20 – (B289) No. 40 – 3 CHECK THE CENT	minal – Chassis ground: – Chassis ground: TER DIFFERENTIAL.	Is the resistance more than 1 M Ω ?	Go to step 3 . Go to step 4 .	Repair the short circuit of bulk har- ness between driver's control center differential control module and transmission harness. Replace the center	I VIOS
Measure the resista harness connector to Connector & terr (T9) No. 1 — No	minal			differential.	
CONTROL CENTE TROL MODULE. 1)Connect all the ha 2)Turn the ignition s 3)Release the parki 4)Set the center diff ferential lock. 5)Measure the volta center differential co connector. Connector & terr (B289) No. 20 (+	ER DIFFERENTIAL CON- arness connectors. switch to ON. (engine OFF) ing brake. ferential control dial to dif- age between driver's control control module and harness minal +) — (B289) No. 40 (–):		Go to step 5.	Check the power supply circuit. <ref. 6mt-18,<br="" to="">DTC CANNOT BE CALLED UP, Diagnostic Proce- dure with Diagnos- tic Trouble Code (DTC).></ref.>	
CONTROL CENTE TROL MODULE. 1)Turn the center di differential lock to d 2)Measure the volta center differential co connector. Connector & term	PUT SIGNAL OF DRIVER'S R DIFFERENTIAL CON- lifferential control dial from differential free position. age between driver's control control module and harness minal +) — (B289) No. 40 (–):	Does the voltage change smoothly?	Circuit is already returned to normal condition this time though the indica- tor light illumi- nates. A temporary poor connector or har- ness may be the case. Repair the poor contact in connec- tor or harness of driver's control center differential control module and transmission harness. Check the poor contact in power supply circuit, too.	Repair the power supply circuit. <ref. 6mt-18,<br="" to="">DTC CANNOT BE CALLED UP, Diagnostic Proce- dure with Diagnos- tic Trouble Code (DTC).></ref.>	

Bro **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)**

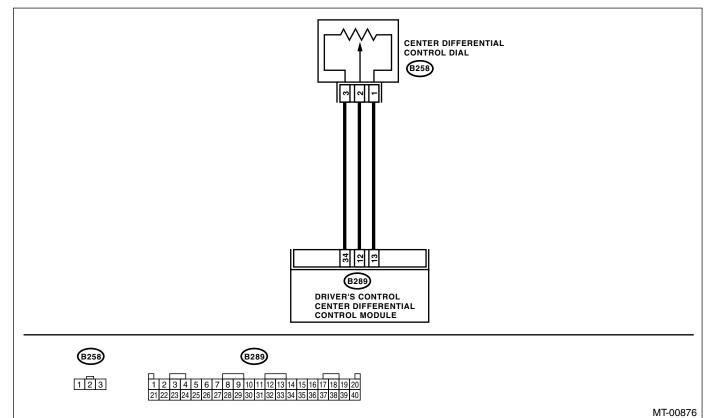
MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS) Eris Studios

J: DTC 24 CHECK CENTER DIFFERENTIAL CONTROL DIALOR RESALE

Input signal circuit of center differential control dial is open or shorted.

TROUBLE SYMPTOM:

- Indicator light does not operate though setting the center differential control dial.
- Torque characteristics do not change. •



	Step	Check	Yes	No
1	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND CENTER DIFFER- ENTIAL CONTROL DIAL. 1)Turn the ignition switch to OFF. 2)Disconnect the connector of driver's control center differential control module and center differential control dial. 3)Measure the resistance of harness between driver's control center differential control mod- ule and center differential control dial harness connector. Connector & terminal (B258) No. 1 — (B289) No. 13: (B258) No. 2 — (B289) No. 12: (B258) No. 3 — (B289) No. 34:	Is the resistance less than 1 Ω?	Go to step 2.	Repair the open circuit between driver's control center differential control module and center differ- ential control dial.

For YEric				-	
	Step	Check	Yes	No St	Id.
2	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND CENTER DIFFER- ENTIAL CONTROL DIAL. Measure the resistance between driver's con- trol center differential control module harness connector and chassis ground. <i>Connector & terminal</i> (B289) No. 13 — Chassis ground: (B289) No. 12 — Chassis ground: (B289) No. 34 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 3 .	Repair the short circuit between driver's control center differential control module and center differ- ential control dial.	14105
3	CHECK THE CENTER DIFFERENTIAL CON- TROL DIAL. 1)Remove the center differential control dial. 2)Measure the resistance between center dif- ferential control dial connectors. <i>Terminals</i> <i>No. 1 — No. 3:</i>	Is the resistance 7.5 — 12.5 $k\Omega$?	Go to step 4.	Replace the driver's control dial.	
4	CHECK THE CENTER DIFFERENTIAL CON- TROL DIAL. Measure the resistance between center differ- ential control dial connectors. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Dose the resistance change smoothly when setting the dial from differential lock to differ- ential free?	Go to step 5.	Replace the center differential control dial.	
5	CHECK THE OUTPUT POWER SUPPLY OF DRIVER'S CONTROL CENTER DIFFEREN- TIAL CONTROL MODULE. 1)Connect all the harness connectors. 2)Turn the ignition switch to ON. (engine OFF) 3)Set the manual mode switch to manual mode. 4)Measure the voltage between driver's control center differential control module harness con- nector and chassis ground. <i>Connector & terminal</i> (B289) No. 13 (+) — (B289) No. 34 (-):	Is the voltage approx. 5 V?	Go to step 6 .	Replace the driver's control center differential control module.	
6	CHECK POOR CONTACT IN HARNESS CONNECTORS.	Is there any poor contact in harness connector of center differential control dial circuit?	Repair the poor contact of harness connector.	Replace the driver's control center differential control module.	

Eris Studios

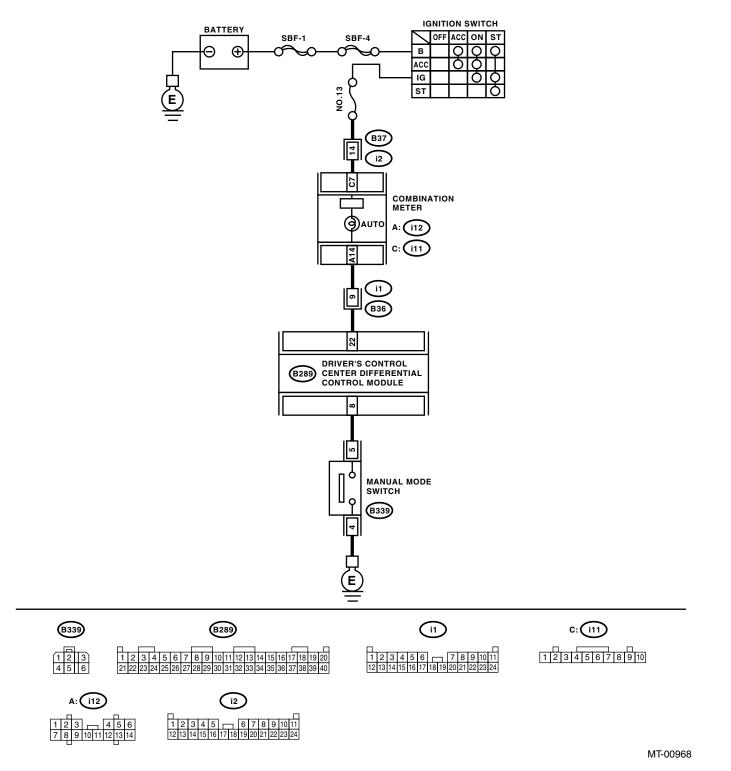
RRESALE

K: DTC 31 MANUAL MODE SWITCH

DIAGNOSIS:

Input signal circuit of manual mode switch circuit is open or shorted. **TROUBLE SYMPTOM:**

- Driver's control center differential can not be manual mode. Or can not be auto mode.
- AUTO indicator does not illuminate, or does not go off. ٠



DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

No

YOIL

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

			VI Far	Y Fri-	-
	Step	Check	Yes	Pro No Sti	lel:
1	CHECK OPERATION OF MANUAL MODE SWITCH. Set the manual mode switch to auto mode.	Does the AUTO indicator light in combination meter illumi- nate?	Go to step 8.	Go to step 2.	^{Idios}
2	 CHECK AUTO INDICATOR LIGHT. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module. 3)Turn the ignition switch to ON. (Engine OFF) 4)Short between the driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 22 — Chassis ground: 	Does the AUTO indicator light in combination meter illumi- nate?	Go to step 8 .	Go to step 3 .	
3	 CHECK POWER SUPPLY OF COMBINA- TION METER. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of combi- nation meter. 3)Turn the ignition switch to ON. (Engine OFF) 4)Measure the voltage between combination meter harness connector and chassis ground. Connector & terminal (i11) No. 7 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Go to step 4.	Check and repair the open and short of harness between battery and combination meter, and poor contact of harness connector.	
4	CHECK THE HARNESS BETWEEN COMBI- NATION METER AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MOD- ULE. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of combi- nation meter. 3)Measure the resistance between combina- tion meter harness connector and driver's con- trol center differential control module harness connector. Connector & terminal (i12) No. 14 — (B289) No. 22:	Is the resistance less than 1 Ω?	Go to step 5 .	Repair the open circuit of harness between combina- tion meter har- ness connector and driver's con- trol center differen- tial control module harness connec- tor, and poor con- tact of harness connector.	•
5	CHECK THE HARNESS BETWEEN COMBI- NATION METER AND DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MOD- ULE. Measure the resistance between driver's con- trol center differential control module harness connector and chassis ground. <i>Connector & terminal</i> (B289) No. 22 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 6 .	Repair the short circuit of harness between combina- tion meter har- ness connector and driver's con- trol center differen- tial control module harness connec- tor.	
6	CHECK HARNESS CONNECTOR POOR CONTACT.	Is there any poor contact in the circuit between combination meter and driver's control mod- ule?	contact.	Go to step 7.	
7	 CHECK AUTO INDICATOR LIGHT. 1)Connect the harness connector of combination meter. 2)Short between the driver's control center differential control module harness connector and chassis ground. Connector & terminal (B289) No. 22 — Chassis ground: 	Does the AUTO indicator light light up?	Replace the driver's control center differential control module.	Replace the com- bination meter.	

-			VI For	Y Eria
	Step	Check	Yes	No Stud
8	CHECK GROUND CIRCUIT OF MANUAL MODE SWITCH. 1)Turn the ignition switch to OFF. 2)Disconnect the manual mode switch connec- tor. 3)Measure the resistance between manual mode switch harness connector and chassis ground. Connector & terminal (B339) No. 4 — Chassis ground:	Is the resistance more than 1 MΩ?	Repair the open circuit of harness between manual mode switch har- ness connector and chassis ground.	Go to step 9.
9	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND MANUAL MODE SWITCH. 1)Disconnect the driver's control center differ- ential control module harness connector. 2)Measure the resistance of harness between driver's control center differential control mod- ule and manual mode switch. Connector & terminal (B289) No. 8 — (B339) No. 5:	Is the resistance less than 1 Ω?	Go to step 10.	Repair the open circuit of harness between driver's control center dif- ferential control module and man- ual mode switch.
10	CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND MANUAL MODE SWITCH. Measure the resistance of harness between driver's control center differential control mod- ule and chassis ground. Connector & terminal (B289) No. 8 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 11.	Repair the short circuit of harness between driver's control center dif- ferential control module and man- ual mode switch.
11	 CHECK THE MANUAL MODE SWITCH. 1)Remove the manual mode switch. 2)Measure the resistance of between manual mode switch connectors. Terminals No. 4 — No. 5: 	Is the resistance more than 1 $M\Omega$?	Go to step 12 .	Replace the man- ual mode switch.
12	CHECK THE MANUAL MODE SWITCH.	Is the resistance less than 1 Ω ?	Go to step 13.	Replace the man- ual mode switch.
13	CHECK THE INPUT SIGNAL OF DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE. 1)Install the manual mode switch. 2)Connect the harness connector of driver's control center differential control module. 3)Turn the ignition switch to ON. (engine OFF) 4)Measure the voltage between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 8 (+) — Chassis ground (-):	Is the voltage more than 4.3 V?	Go to step 14.	Replace the driver's control center differential control module.

<u> </u>			605	Stis o.	1
	Step	Check	Yes	REO NO Sti	IN.
14	CHECK THE INPUT SIGNAL OF DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE. 1)Keep depressing the manual mode switch. 2)Measure the voltage between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 8 (+) — Chassis ground (-):	Is the voltage less than 0.1 V?	Go to step 15 .	Replace the driver's control center differential control module.	
15	CHECK POOR CONTACT IN HARNESS CONNECTOR.	Is there any poor contact in manual mode switch circuit?	Repair the poor contact.	Replace the driver's control center differential control module.	

Bro **DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)**

MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS) Eris Studios

R RESALE

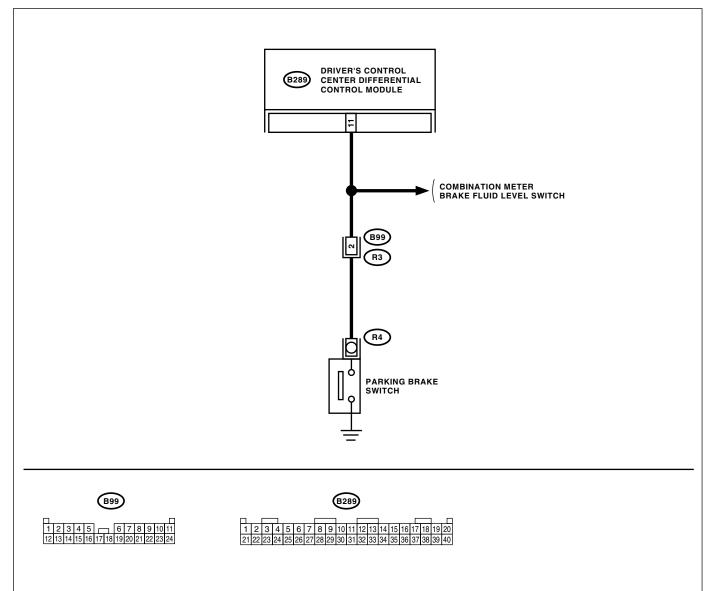
L: DTC 32 CHECK PARKING BRAKE SWITCH

DIAGNOSIS:

Input signal circuit of parking brake switch is open or shorted. **TROUBLE SYMPTOM:**

- Differential does not tend to be free though apply the parking brake.
- Differential stays free by releasing the parking brake.

WIRING DIAGRAM:



MT-00969

	Step	Check	Yes	No
1	CHECK THE PARKING BRAKE SWITCH CIRCUIT. 1)Turn the ignition switch to ON. 2)Start the engine. 3)Apply the parking brake.	Does the parking brake warn- ing light illuminate?	Go to step 2.	Check the parking pilot & brake fluid warning light cir- cuit.
2	CHECK THE PARKING BRAKE SWITCH CIRCUIT. Release the parking brake.	Does the parking brake warn- ing light turn OFF?	Go to step 3.	Check the brake fluid level and ABS circuit.

		V For	Y Eni	
Step	Check	Yes	No Stu	d.
	Is the resistance less than 1 Ω?	Go to step 4.	Repair the open circuit of harness and poor contact of connector.	dios
4 CHECK THE HARNESS BETWEEN DRIV- ER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE AND PARKING BRAKE SWITCH. Measure the resistance between driver's con- trol center differential control module harness connector and chassis ground. <i>Connector & terminal</i> (B289) No. 11 — Chassis ground:	Is the resistance more than 1 M Ω ?	Go to step 5 .	Repair the short circuit of harness.	
 5 CHECK THE INPUT SIGNAL OF DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE. 1)Connect all the harness connectors. 2)Disconnect the harness connector of combi- nation meter. 3)Turn the ignition switch to ON. 4)Release the parking brake. 5)Measure the voltage between driver's control center differential control module harness con- nector and chassis ground. <i>Connector & terminal</i> (B289) No. 11 (+) — Chassis ground (-): 	Is the voltage more than 8 V?	Go to step 6 .	Replace the driver's control center differential control module.	
 6 CHECK THE INPUT SIGNAL OF DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE. 1)Apply the parking brake. 2)Measure the voltage between driver's control center differential control module harness con- nector and chassis ground. Connector & terminal (B289) No. 11 (+) — Chassis ground (-): 	Is the voltage less than 0.4 V?	Go to step 7.	Replace the driver's control center differential control module.	
CONNECTOR.	Is there any poor contact in harness connector of parking brake circuit?	Repair the poor contact of harness connector.	Replace the driver's control center differential control module.	

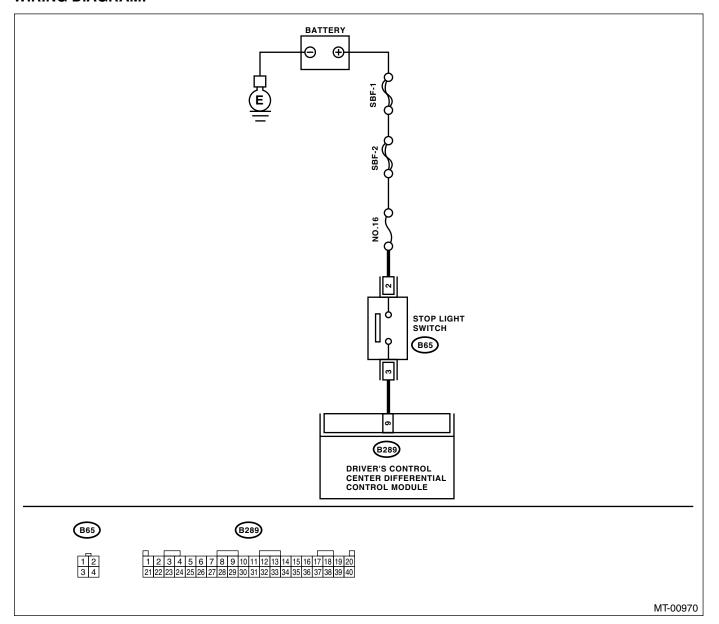
DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS)

M: DTC 33 STOP LIGHT SWITCH

DIAGNOSIS:

Open or short circuit in stop light switch circuit. **TROUBLE SYMPTOM:** Wheels are locked while the ABS operates.



Step	Check	Yes	No
	Is the stop light switch related DTC displayed during ABS self-diagnosis test mode?	Check according to ABS DTC.	Go to step 2.

<u> </u>	Step	Check	Yes	No Ste	
2	CHECK INPUT SIGNAL OF STOP LIGHT SWITCH AND DRIVER'S CONTROL CEN- TER DIFFERENTIAL CONTROL MODULE. 1)Turn the ignition switch to OFF. 2)Disconnect the connector of driver's control center differential control module. 3)Set the brake pedal depressed. 4)Measure the voltage between driver's control center differential control module and chassis ground. Connector & terminal (B289) No. 9 (+) — Chassis ground (-):	Is the voltage more than 8 V?	Go to step 3.	Repair the open or short circuit of har- ness between driver's control center differential control module and stop light switch.	S
3	CHECK POOR CONTACT.	Is there any poor contact?	Repair the poor contact.	Replace the driver's control center differential control module.	

MANUAL TRANSMISSION AND DIFFERENTIAL (DIÀGNOSTICS)

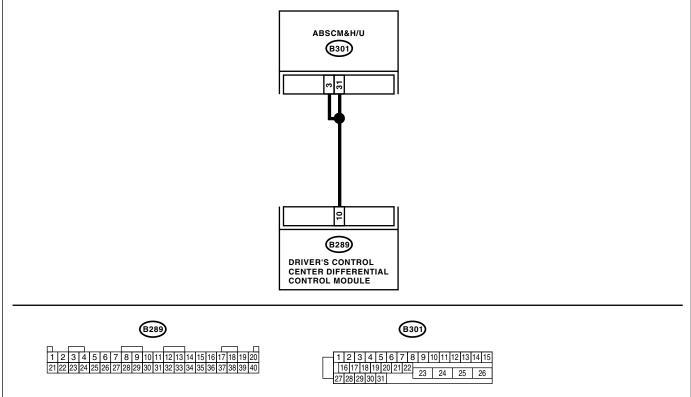
N: DTC 34 ABS SWITCH SIGNAL

DIAGNOSIS:

Open or short in combination signal circuit of driver's control center differential control.

TROUBLE SYMPTOM:

- ABS warning light illuminates.
- Wheels are locked while the ABS operates.



	Step	Check	Yes	No
1	CHECK DTC.	Is DTC code displayed during ABS self-diagnosis test mode?	Check according to ABS DTC.	Go to step 2.
2	CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. 1)Turn the ignition switch to OFF. 2)Disconnect the harness connector of driver's control center differential control module and ABSCM&H/U. 3)Measure the resistance of harness between driver's control center differential control mod- ule and ABSCM&H/U harness connector. Connector & terminal (B289) No. 10 — (B301) No. 31: (B289) No. 10 — (B301) No. 3:	Is the resistance less than 1 Ω?	Go to step 3.	Repair the open circuit of harness connector between driver's control center dif- ferential control module and ABSCM&H/U, and poor contact of harness connec- tor.
3	CHECK HARNESS BETWEEN DRIVER'S CONTROL CENTER DIFFERENTIAL CON- TROL MODULE AND ABSCM&H/U. Measure the resistance between driver's con- trol center differential control module and chas- sis ground. Connector & terminal (B289) No. 10 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 4.	Repair the short of harness between driver's control center differential control module and ABSCM&H/U.

			1 60-	- J Papi
	Step	Check	Yes	RES'NOS Sti
4	CHECK THE DRIVER'S CONTROL CENTER DIFFERENTIAL CONTROL MODULE. 1)Connect driver's control center differential control module connector. 2)Turn the ignition switch to ON. 3)Measure the voltage between driver's control center differential control module harness con- nector and chassis ground. <i>Connector & terminal</i> (B289) No. 10 (+) — Chassis ground (-):		Go to step 5 .	Replace the driver's control center differential control module.
5	CHECK POOR CONTACT IN HARNESS CONNECTOR.	Is there any poor contact in combination circuit of driver's control center differential con- trol?	Repair the poor contact.	Check the ABSCM&H/U.

Bre GENERAL DIAGNOSTIC TABLE MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

12.General Diagnostic Table A: INSPECTION

MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)		
12.General Diagnostic Table A: INSPECTION	AL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)	
Symptom	Abnormal units/parts	
Tight cornering condition	 ABSCM&H/U ABS wheel speed sensor Accelerator position sensor ECM Center differential Center differential control dial Manual mode switch Tire/Wheel Driver's control center differential control module 	
Tendency to oversteer	 Accelerator 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 	
Tendency to understeer at high speed cornering	Lateral G sensor Center differential	
No change in the center differential torque character	 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 meterDriver's control center differential control module	
Driver's control center differential indicator does not operate though setting the center differential control dial	 Center differential control dial Combination meter Driver's control center differential control module 	
No change to AUTO or MANUAL	 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 	
Differential does not become free, or stays 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 	

GENERAL DIAGNOSTIC TABLE MANUAL TRANSMISSION AND DIFFERENTIAL (DIAGNOSTICS)

Symptom	Abnormal units/parts			
Wheel lock at ABS operation	 ABSCM&H/U Stop light switch Driver's control center differential control module 			
Differential does not become lock, or stays lock	 ABSCM&H/U ABS wheel speed sensor Accelerator position sensor ECM Center differential Center differential control dial Manual mode switch Tire/Wheel Driver's control center differential control module Driver's control center differential relay 			