13. Diagnostic Procedure with Diagnostic Trouble Code (DTC) A: DTC P0705 TRANSMISSION RANGE SENSOR CIRCUIT (PRNDL INPUT) DTC DETECTING CONDITION:

• Inhibitor switch is faulty.

• More than 2 range signal is input.

TROUBLE SYMPTOM:

• Shift characteristics are erroneous.

• The range position of the select lever and the AT select lever position indicator light on the combination meter do not match.



	Step	Check	Yes	No
1	 CHECK INDICATOR LIGHT. 1) Turn the ignition switch to ON. 2) Shift the select lever to shift to the "P" range. 	Does the "P" range indicator light on combination meter illu- minate?	Go to step 2.	Go to step 12 .
2	CHECK INDICATOR LIGHT.	Does the "P" range indicator light on combination meter illu- minate?	Go to step 26 .	Go to step 3.

	Step	Check	Yes	No
3	CHECK INDICATOR LIGHT.	Does the "N" range indicator	Go to step 33.	Go to step 4.
		light on combination meter illu- minate?		
4	CHECK INDICATOR LIGHT.	Does the "D" range indicator light on combination meter illu- minate?	Go to step 40 .	Go to step 5 .
5	 CHECK "P" RANGE SWITCH. 1) Connect the Subaru Select Monitor to the data link connector. 2) Shift the select lever to "R" range. 	Does the "P" range LED of Subaru Select Monitor illumi- nate?	Go to step 19.	Go to step 6 .
6	CHECK INDICATOR LIGHT.	Does the "P" range indicator light on combination meter illu- minate?	Go to step 8.	Go to step 7 .
7	CHECK "R" RANGE SWITCH.	Does the "R" range LED of Subaru Select Monitor illumi- nate?	Go to step 23.	Go to step 20 .
8	CHECK INDICATOR LIGHT. Shift the select lever to "N" range.	Does the "P" range indicator light on combination meter illu- minate?	Go to step 10 .	Go to step 9 .
9	CHECK "N" RANGE SWITCH.	Does the "N" range LED of Subaru Select Monitor illumi- nate?	Go to step 30.	Go to step 27.
10	CHECK INDICATOR LIGHT. Shift the select lever to "D" range.	Does the "D" range indicator light on combination meter illu- minate?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in TCM and transmission.	Go to step 11.
11	CHECK "D" RANGE SWITCH.	Does the "D" range LED of Subaru Select Monitor illumi- nate?	Go to step 37.	Go to step 34 .
12	 CHECK HARNESS CONNECTOR BETWEEN INHIBITOR SWITCH AND CHASSIS GROUND. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from inhibitor switch. 3) Measure the resistance of harness between inhibitor switch and chassis ground. Connector & terminal (T7) No. 5 — Chassis ground: 	Is the resistance more than 1 Ω ?	Go to step 13.	Repair the open circuit of harness between inhibitor switch and chas- sis ground, and poor contact of the connector.
13	 CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from TCM and inhibitor switch. 3) Measure the resistance of the harness between TCM and inhibitor switch connector. <i>Connector & terminal</i> (B54) No. 5 — (T7) No. 9: 	Is the resistance less than 1 Ω ?	Go to step 14.	Repair the open circuit of harness between TCM and inhibitor switch connector, and poor contact of the connector.

	0.4	Ob a ala	N	Na
	Step	Спеск	Yes	NO
14	CHECK INPUT SIGNAL FOR TCM.	Is the voltage less than 1 V?	Go to step 15.	Go to step 41.
	1) Iurn the ignition switch to OFF.			
	2) Connect the connector to TCM and inhibitor			
	switch.			
	3) Turn the ignition switch to ON.			
	4) Shift the select lever to "P" range.			
	5) Measure the voltage between TCM and			
	chassis ground.			
	(B54) No. 5 (+) — Chassis ground (–):			
15	CHECK INPUT SIGNAL FOR TCM.	Is the voltage more than 8 V?	Go to step 16.	Replace the TCM.
	I) Shift the select lever to any range other			<ref. 4a1-62,<="" td="" to=""></ref.>
	(nan P.			Transmission Con-
	2) Measure the voltage between TCM and			
	Connector & terminal			(10101).>
	(PE4) No. 5 (1) Chapping ground ()			
10	(B34) No. 5 (+) — Chassis ground (-):		Cata stan 17	Cheely the hedy
10	CHECK THE BODY INTEGRATED UNIT.	is 7 displayed?	Go to step 17.	Check the body
	Soloot Monitor Pof to LAN(diag) 12 OPEP			integrated unit.
	ATION Subaru Salast Manitors			
17		In DTC of CAN communication	Darfarm the diag	Co to stan 19
11	Check The BODT INTEGRATED UNIT.	displayed?	Periorni the diag-	
	Check DTC of body integrated unit.	displayed?		
10		le the "D" renerative director light	DIC.	Develope the same
10	Check COMBINATION METER.	bulb OK2	Go to step 41.	hipotion motor
	IDL 2 INSPECTION Combination Mater Syc			accombly Pof to
	tom >			IDI 14 Combine
	lem.>			tion Meter >
10	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 12	Repair ground
13		MO?		short circuit in "P"
	1) Turn the ignition switch to OFF	10122 :		range circuit
	2) Disconnect the connectors from TCM			lango onoun.
	inhibitor switch and combination meter.			
	3) Measure the resistance of the harness			
	between TCM connector and chassis ground.			
	Connector & terminal			
	(B54) No. 5 — Chassis ground:			
20	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 21.	Repair the open
	TCM AND INHIBITOR SWITCH.	Ω?	, i	circuit of harness
	1) Turn the ignition switch to OFF.			between TCM and
	2) Disconnect the connector from TCM and			inhibitor switch
	inhibitor switch.			connector, and
	Measure the resistance of the harness			poor contact of the
	between TCM and inhibitor switch connector.			connector.
	Connector & terminal			
	(B54) No. 14 — (T7) No. 8:			
21	CHECK INPUT SIGNAL FOR TCM.	Is the voltage less than 1 V?	Go to step 22.	Go to step 41.
	 Turn the ignition switch to OFF. 			
	2) Connect the connector to TCM and inhibitor			
	switch.			
	3) Turn the ignition switch to ON.			
	4) Shift the select lever to "R" range.			
	5) Measure the voltage between TCM and			
	chassis ground.			
	Connector & terminal			
	(B54) No. 14 (+) — Chassis ground (–):			

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

	Step	Check	Yes	No
22	CHECK INPUT SIGNAL FOR TCM.	Is the voltage more than 8 V?	Go to step 41.	Replace the TCM.
	1) Shift the select lever to other than "R"	C C	•	<ref. 4at-62,<="" td="" to=""></ref.>
	range.			Transmission Con-
	2) Measure the voltage between TCM and			trol Module
	chassis ground.			(TCM).>
	Connector & terminal			
	(B54) No. 14 (+) — Chassis ground (–):			
23	CHECK THE BODY INTEGRATED UNIT.	Is "6" displayed?	Go to step 24.	Check the body
	Read the data of shift position from Subaru			integrated unit.
	Select Monitor. <ref. lan(diag)-12,="" oper-<="" td="" to=""><td></td><td></td><td></td></ref.>			
	ATION, Subaru Select Monitor.>			
24	CHECK THE BODY INTEGRATED UNIT.	Is DTC of CAN communication	Perform the diag-	Go to step 25.
	Check DTC of body integrated unit.	displayed?	nosis according to	
			DTC.	
25	CHECK COMBINATION METER.	Is the "R" range indicator light	Go to step 41.	Replace the com-
	Check the "R" range indicator light. < Ref. to	OK?		bination meter
	IDI-3, INSPECTION, Combination Meter Sys-			assembly. <ref. td="" to<=""></ref.>
	tem.>			IDI-14, Combina-
				tion Meter.>
26	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 41.	Repair ground
	1) Turn the implifien quites to OFF	MC2?		short circuit in "R"
	 1) Turn the ignition switch to OFF. 2) Discompart the compactant from TCM 			range circuit.
	2) Disconnect the connectors from TCM,			
	2) Measure the registered of the hernese			
	between TCM connector and chassis around			
	Connector & terminal			
	(B54) No 14 — Chassis ground:			
27	CHECK HABNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to sten 28	Repair the open
	TCM AND INHIBITOR SWITCH.	Ω ?		circuit of harness
	1) Turn the ignition switch to OFF.			between TCM and
	2) Disconnect the connector from TCM and			inhibitor switch
	inhibitor switch.			connector, and
	3) Measure the resistance of the harness			poor contact of the
	between TCM and inhibitor switch connector.			connector.
	Connector & terminal			
	(B54) No. 22 — (T7) No. 10:			
28	CHECK INPUT SIGNAL FOR TCM.	Is the voltage less than 1 V?	Go to step 29 .	Go to step 41.
	1) Turn the ignition switch to OFF.			
	2) Connect the connector to TCM and inhibitor			
	switch.			
	 a) Turn the ignition switch to ON. b) Shift the select lever to "Ni" renge 			
	 5) Moscure the voltage between TCM and 			
	chassis ground			
	Connector & terminal			
	(B54) No. 22 (+) — Chassis ground (–):			
29	CHECK INPUT SIGNAL FOR TCM.	Is the voltage more than 8 V?	Go to sten 41	Beplace the TCM
	1) Shift the select lever to any range other			<bef. 4at-62.<="" td="" to=""></bef.>
	than"N" range.			Transmission Con-
	2) Measure the voltage between TCM and			trol Module
	chassis ground.			(TCM).>
	Connector & terminal			· ,
	(B54) No. 22 (+) — Chassis ground (–):			
30	CHECK THE BODY INTEGRATED UNIT.	Is "5" displayed?	Go to step 31.	Check the body
	Read the data of shift position from Subaru			integrated unit.
	Select Monitor. < Ref. to LAN(diag)-12, OPER-			-
	ATION, Subaru Select Monitor.>			

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

	Step	Check	Yes	No
31	CHECK THE BODY INTEGRATED UNIT.	Is DTC of CAN communication	Perform the diag-	Go to step 32.
	Check DTC of body integrated unit.	displayed?	nosis according to DTC.	
32	CHECK COMBINATION METER. Check the "N" range indicator light. <ref. to<br="">IDI-3, INSPECTION, Combination Meter Sys- tem.></ref.>	Is the "N" range indicator light OK?	Go to step 41.	Replace the com- bination meter assembly. <ref. to<br="">IDI-14, Combina- tion Meter.></ref.>
33	 CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from TCM, inhibitor switch and combination meter. 3) Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B54) No. 22 — Chassis ground: 	Is the resistance more than 1 MΩ?	Go to step 41.	Repair the ground short circuit in "N" range circuit.
34	 CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from TCM and inhibitor switch. 3) Measure the resistance of the harness between TCM and inhibitor switch connector. Connector & terminal (B54) No. 4 - (T7) No. 3: 	Is the resistance less than 1 Ω ?	Go to step 35.	Repair the open circuit of harness between TCM and inhibitor switch connector, and poor contact of the connector.
35	 CHECK INPUT SIGNAL FOR TCM. 1) Turn the ignition switch to OFF. 2) Connect the connector to TCM and inhibitor switch. 3) Turn the ignition switch to ON. 4) Shift the select lever to "D" range. 5) Measure the voltage between TCM and chassis ground. Connector & terminal (B54) No. 4 (+) — Chassis ground (-): 	Is the voltage less than 1 V?	Go to step 36 .	Go to step 41 .
36	 CHECK INPUT SIGNAL FOR TCM. 1) Shift the select lever to any range other than "D" range. 2) Measure the voltage between TCM and chassis ground. Connector & terminal (B54) No. 4 (+) — Chassis ground (-): 	Is the voltage more than 8 V?	Go to step 41 .	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>
37	CHECK THE BODY INTEGRATED UNIT. Read the data of inhibitor switch from Subaru Select Monitor. <ref. lan(diag)-12,="" oper-<br="" to="">ATION, Subaru Select Monitor.></ref.>	Is "4" displayed?	Go to step 38.	Check the body integrated unit.
38	CHECK THE BODY INTEGRATED UNIT. Check DTC of body integrated unit.	Is DTC of CAN communication displayed?	Perform the diag- nosis according to DTC.	Go to step 39 .
39	CHECK COMBINATION METER. Check the "D"range indicator light. <ref. idi-<br="" to="">3, INSPECTION, Combination Meter System.></ref.>	Is the "D" range indicator light OK?	Go to step 41.	Replace the com- bination meter assembly. <ref. to<br="">IDI-14, Combina- tion Meter.></ref.>

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	Step	Check	Yes	No
40	 CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from TCM, inhibitor switch and combination meter. 3) Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B54) No. 4 — Chassis ground: 	Is the resistance more than 1 MΩ?	Go to step 41.	Repair ground short circuit in "D" range circuit.
41	CHECK POOR CONTACT.	Is there poor contact in the inhibitor switch circuit?	Repair the poor contact.	Go to step 42.
42	CHECK INHIBITOR SWITCH.	Is the inhibitor switch in the normal position?	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>	Adjust inhibitor switch and select cable. <ref. to<br="">4AT-46, Inhibitor Switch.> <ref. to<br="">CS-23, Select Cable.></ref.></ref.>

B: DTC P0712 TRANSMISSION FLUID TEMPERATURE SENSOR CIRCUIT LOW INPUT

DTC DETECTING CONDITION: Input signal circuit to ATF temperature sensor is open or shorted. TROUBLE SYMPTOM: Excessive shift shock WIRING DIAGRAM:



AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Step	Check	Yes	No
 CHECK HARNESS CONNECTOR BETWEEN TCM AND ATF TEMPERATURE SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from transmission and TCM. 3) Measure the resistance of harness between TCM and transmission connector. Connector & terminal (BE4) No. 21 	Is the resistance less than 1 Ω ?	Go to step 2.	Repair the open circuit of harness between TCM and transmission con- nector.
(B34) NO. 21 — (B11) NO. 11. 2 CHECK HADNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to stop 3	Benair the open
TCM AND ATF TEMPERATURE SENSOR. Measure the resistance of harness between TCM and transmission connector. Connector & terminal (B54) No. 9 — (B11) No. 15:	Ω ?	GO IO SIEP 3 .	circuit of harness between TCM and transmission con- nector.
 3 CHECK ATF TEMPERATURE SENSOR. 1) Turn the ignition switch to OFF. 2) Connect the connectors to transmission and TCM. 3) Turn the ignition switch to ON and start engine. 4) Warm-up the transmission until the ATF temperature reaches to 80°C (176°F). NOTE: If the ambient temperature is below 0°C (32°F), drive the vehicle until the ATF reaches its operating temperature. 5) Disconnect the connector from transmission. 6) Measure the resistance between transmission connector terminals. Connector & terminal (T4) No. 11 — No. 15: 	Is the resistance between 300 — 800 Ω?	Go to step 4.	Go to step 7.
4 CHECK ATF TEMPERATURE SENSOR. Measure the resistance between transmission connector terminals. Connector & terminal (T4) No. 11 — No. 15:	Does the resistance value increase while the ATF temper- ature decreases?	Go to step 5 .	Go to step 7.
 5 CHECK INPUT SIGNAL FOR TCM USING SUBARU SELECT MONITOR. 1) Connect the connector to transmission. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON (engine OFF). 4) Read the data of ATF temperature using Subaru Select Monitor. 	Does the ATF temperature gradually decrease?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness and poor contact of ATF temperature sen- sor and transmis- sion connector.	Go to step 6.
6 CHECK POOR CONTACT.	Is there poor contact in ATF temperature sensor circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

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	Step	Check	Yes	No
7	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 8.	Repair the open
	TRANSMISSION AND ATF TEMPERATURE	Ω?	,	circuit of harness
	SENSOR.			between ATF tem-
	1) Turn the ignition switch to OFF.			perature sensor
	2) Disconnect the connector from transmis-			and transmission
	sion.			connector.
	3) Remove the transmission connector from			
	bracket.			
	Lift up the vehicle and support with rigid			
	racks.			
	NOTE:			
	Raise all wheels off the floor.			
	5) Drain the automatic transmission fluid.			
	CAUTION:			
	Do not drain ATF until it cools down.			
	6) Remove the oil pan, and disconnect the			
	control valve connector.			
	Measure the resistance of harness			
	between ATF temperature sensor and trans-			
	mission connector.			
	Connector & terminal			
	(T4) No. 11 — (AT11) No. 1:		-	
8	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 9.	Repair the open
		<u>()</u> ?		circuit of narness
	SENSOR. Massure the registeres of herness between			pereture concer
	ATE temperature concer and transmission con			perature sensor
	ATF temperature sensor and transmission con-			
	Connector & terminal			connector.
	(T4) No 15 — $(AT11)$ No 3'			
9	CHECK HABNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 10	Repair the short
Ŭ	TRANSMISSION AND ATF TEMPERATURE	MQ?		circuit of harness
	SENSOR.			between ATF tem-
	Measure the resistance of harness between			perature sensor
	transmission connector and transmission			and transmission
	ground.			connector.
	Connector & terminal			
	(T4) No. 11 — Transmission ground:			
10	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Replace the con-	Repair the short
	TRANSMISSION AND ATF TEMPERATURE	ΜΩ?	trol valve body.	circuit of harness
	SENSOR.		<ref. 4at-57,<="" th="" to=""><th>between ATF tem-</th></ref.>	between ATF tem-
	Measure the resistance of harness between		Control Valve	perature sensor
	transmission connector and transmission		Body.>	and transmission
	ground.			connector.
	Connector & terminal			
	(T4) No. 15 — Transmission ground:			

C: DTC P0713 TRANSMISSION FLUID TEMPERATURE SENSOR CIRCUIT HIGH INPUT

DTC DETECTING CONDITION: Input signal circuit to ATF temperature sensor is shorted. TROUBLE SYMPTOM: Excessive shift shock WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than	Go to step 2.	Go to step 4.
	TCM AND ATF TEMPERATURE SENSOR.	500 Ω?		
	 Turn the ignition switch to OFF. 			
	2) Disconnect the connector from TCM.			
	3) Measure the resistance between TCM con-			
	nector terminals.			
	Connector & terminal			
	(B54) No. 21 — No. 9:			
2	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 3.	Go to step 4.
	TCM AND ATF TEMPERATURE SENSOR.	ΜΩ?		
	Measure the resistance of the harness			
	between TCM connector and chassis ground.			
	Connector & terminal			
-	(B54) No. 21 — Chassis ground:			
3	CHECK HARNESS.	Does the resistance change?	Go to step 4.	Replace the TCM.
	Measure the resistance between TCM connec-			<ref. 4a1-62,<="" td="" to=""></ref.>
	tor terminals while shaking the harness.			Transmission Con-
	Connector & terminal			trol Module
	(B54) NO. 21 — NO. 9:		Os ta star E	(ICM).>
4	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 5.	Repair the short
	1) Turn the ignition quited to OEE	IVIS 2 ?		circuit of namess
	2) Disconnect the connector from transmis			transmission bar
	z) Disconnect the connector norm transmis-			nocc
	3) Measure the resistance of the harness			11033.
	between TCM connector and chassis ground			
	Connector & terminal			
	(B54) No. 21 — Chassis ground:			
5	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 6.	Repair the short
	TCM AND ATF TEMPERATURE SENSOR.	ΜΩ?		circuit of harness
	Measure the resistance of the harness			between TCM and
	between TCM connector and chassis ground.			transmission har-
	Connector & terminal			ness.
	(B54) No. 9 — Chassis ground:			
6	CHECK ATF TEMPERATURE SENSOR.	Is the resistance more than	Even if the SPORT	Go to step 7.
	Measure the resistance between transmission	500 Ω?	indicator light is	
	connector terminals.		blinking, the cir-	
	Connector & terminal		cuit is in normal	
	(T4) No. 11 — No. 15:		condition at this	
			time. A temporary	
			snort circuit of	
			connector or har-	
			ness may be the	
			barnoss or oon	
			namess of com-	
			nector.	

	Step	Check	Yes	No
7	CHECK TRANSMISSION HARNESS.	Is the resistance more than 1	Go to step 8.	Replace the trans-
	 Lift up the vehicle and place it on rigid 	ΜΩ?		mission harness.
	racks.			
	Drain the automatic transmission fluid.			
	CAUTION:			
	Do not drain ATF until it cools down.			
	Remove the oil pan.			
	Disconnect the harness connector from			
	control valve.			
	5) Measure the resistance between ATF tem-			
	perature sensor connector terminals.			
	6) Measure the resistance between transmis-			
	sion connector and transmission ground.			
	Connector & terminal			
-	(14) NO. 11 — Transmission ground:			
8	CHECK TRANSMISSION HARNESS.	Is the resistance more than 1	Go to step 9.	Replace the trans-
	Measure the resistance between transmission	IVIS 2 ?		mission namess.
	(TA) No. 15 — Transmission ground:			
٥	CHECK ATE TEMPERATURE SENSOR	Is the resistance more than	Even if the SPORT	Poplace the con
5	Measure the resistance between control valve		indicator light is	trol valve body
	connector terminals	500 22!	hlinking the cir-	$\sim Bef$ to $1\Delta T_{-}57$
	Terminal		cuit is in normal	Control Valve
	No. $1 - No. 3$		condition at this	Body >
			time. A temporary	Dough
			short circuit of	
			connector or har-	
			ness may be the	
			cause. Repair the	
			harness or con-	
			nector.	

D: DTC P0715 INPUT/TURBINE SPEED SENSOR CIRCUIT

DTC DETECTING CONDITION: Input signal circuit of TCM is open or shorted.

TROUBLE SYMPTOM:

Excessive shift shock



Step	Check	Yes	No
 CHECK TORQUE CONVERTER TURBINE SPEED SENSOR. Turn the ignition switch to OFF. Disconnect the connector from transmission. Measure the resistance between transmission connector receptacle's terminals. Connector & terminal (T4) No. 5 - No. 10: 	Is the resistance between 450 — 650 Ω?	Go to step 2.	Replace the torque converter turbine speed sen- sor. <ref. 4at-<br="" to="">54, Torque Con- verter Turbine Speed Sensor.></ref.>
 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. 1) Disconnect the connector from TCM. 2) Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B54) No. 7 — (B11) No. 5: 	Is the resistance less than 1 Ω?	Go to step 3.	Repair the open circuit of harness between TCM and transmission con- nector.
3 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and transmission connector. <i>Connector & terminal</i> (B54) No. 16 — (B11) No. 10:	Is the resistance less than 1 Ω?	Go to step 4.	Repair the open circuit of harness between TCM and transmission con- nector, and poor contact of the con- nector.
4 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and chassis ground. <i>Connector & terminal</i> (B54) No. 16 — Chassis ground:	Is the resistance more than 1 M Ω ?	Go to step 5 .	Repair the short circuit of harness between TCM and transmission con- nector.
5 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and chassis ground. <i>Connector & terminal</i> (B54) No. 7 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 6.	Repair the short circuit of the har- ness between TCM and trans- mission connec- tor, and poor contact of connec- tor.
 6 CHECK INPUT SIGNAL FOR TCM USING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM and transmission. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON, and the Subaru Select Monitor power switch to ON. 4) Start the engine. 5) Shift the select lever to "P" or "N" range. 6) Read the data of "Turbine Revolution Speed" using Subaru Select Monitor. Compare the tachometer with Subaru Select Monitor indications. 	Is the revolution value same as the tachometer reading shown on the combination meter?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in TCM and transmission.	Go to step 7.
7 CHECK POOR CONTACT.	Is there poor contact in torque converter turbine speed sensor circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

E: DTC P0719 TORQUE CONVERTER/BRAKE SWITCH "B" CIRCUIT LOW DTC DETECTING CONDITION:

Brake switch malfunction, open input signal circuit

TROUBLE SYMPTOM:

Gear is not shifted down when driving a down hill.

WIRING DIAGRAM:





AT-03408

	Ctor	Chaoli	Vaa	Ne
	Step		Yes	NO
1	CHECK DIC.	Does the DTC of CAN commu-	Perform the diag-	Go to step 2.
		nication appear in the on-board	nosis according to	
_		diagnostics test mode?	DIC.	
2	CHECK FUSE (NO. 8).	Is the fuse (No. 8) blown out?	Replace the fuse	Go to step 3.
	1) Turn the ignition switch to OFF.		(No. 8). If the	
	2) Remove the fuse (No. 8).		replaced fuse (No.	
			8) has blown out	
			easily, repair the	
			short circuit of har-	
			ness between tuse	
			(NO. 8) and stop	
			light switch.	<u> </u>
3	CHECK THE BODY INTEGRATED UNIT.	IS ON displayed?	Go to step 4.	Go to step 5.
	1) Turn the ignition switch to OFF.			
	2) Connect the Subaru Select Monitor to the			
	data link connector.			
	UFF) (1) Turn the Subaru Select Meniter switch to			
	5) Depress the brake pedal			
	6) Read the data of "Stop Light Switch" using			
	Subaru Select Monitor, <ref. lan(diag)-12.<="" td="" to=""><td></td><td></td><td></td></ref.>			
	OPERATION, Subaru Select Monitor.>			
4	CHECK TCM.	Is ON displayed?	A temporary poor	Replace the TCM.
	Read the data of "Stop Light Switch" using		contact of connec-	<ref. 4at-62,<="" th="" to=""></ref.>
	Subaru Select Monitor. <ref. 4at(diag)-14,<="" th="" to=""><th></th><th>tor or harness may</th><th>Transmission Con-</th></ref.>		tor or harness may	Transmission Con-
	OPERATION, Subaru Select Monitor.>		be the cause.	trol Module
			Check the poor	(TCM).>
			contact.	
5	CHECK BODY INTEGRATED UNIT INPUT	Is the voltage more than 10 V?	Go to step 8.	Go to step 6.
	SIGNAL.	_		
	 Depress the brake pedal. 			
	Disconnect the connector from body inte-			
	grated unit.			
	Measure the voltage of harness between			
	body integrated unit and stop light switch.			
	Connector & terminal			
	(B281) No. 23 (+) — (B65) No. 3 (–):			
6	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 7.	Repair the open
	BODY INTEGRATED UNIT AND STOP LIGHT	Ω?		circuit of harness
	SWIICH.			between body inte-
	1) Turn the ignition switch to OFF.			grated unit and
	2) Disconnect the connector from stop light			stop light switch.
	Switch.			
	between body integrated unit and stop light			
	switch			
	Connector & terminal			
	(B281) No. 23 — (B65) No. 3:			
7	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 8.	Repair the short
	BODY INTEGRATED UNIT AND STOP LIGHT	ΜΩ?		circuit of harness
	SWITCH.			between body inte-
	Measure the resistance of harness between			grated unit and
	body integrated unit and stop light switch.			stop light switch.
	Connector & terminal			
	(B281) No. 23 — Chassis ground:			
8	CHECK POOR CONTACT.	Is there poor contact in input	Repair the poor	Check the body
		signal of brake switch?	contact.	integrated unit.

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F: DTC P0720 OUTPUT SPEED SENSOR CIRCUIT

DTC DETECTING CONDITION:

- The vehicle speed signal is abnormal.
- The harness connector between TCM and vehicle speed sensor is shorted or open.

TROUBLE SYMPTOM:

Driving performance is poor.



Step	Check	Yes	No
1 CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 2.	Repair the open
TCM AND TRANSMISSION.	Ω?		circuit of harness
 Turn the ignition switch to OFF. 			between TCM and
2) Disconnect the connectors from TCM and			transmission con-
transmission.			nector.
Measure the resistance of the harness			
between TCM connector and transmission			
connector.			
Connector & terminal			
(B54) No. 6 — (B11) No. 14:			

Step	Check	Yes	No
2 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B54) No. 15 — (B11) No. 18:	Is the resistance less than 1 Ω ?	Go to step 3.	Repair the open circuit of harness between TCM and transmission con- nector, and poor contact of the con- nector.
3 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B54) No. 6 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 4.	Repair the short circuit of harness between TCM and transmission con- nector.
4 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B54) No. 15 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 5.	Repair the short circuit of the har- ness between TCM and trans- mission connec- tor, and poor contact of connec- tor.
5 CHECK FRONT VEHICLE SPEED SENSOR. Measure the resistance between transmission connector receptacle's terminals. <i>Connector & terminal</i> (T4) No. 14 — No. 18:	Is the resistance between 450 — 650 Ω?	Go to step 6 .	Replace the front vehicle speed sen- sor. <ref. 4at-<br="" to="">50, Front Vehicle Speed Sensor.></ref.>
 6 CHECK INPUT SIGNAL FOR TCM USING SUBARU SELECT MONITOR. 1) Connect all connectors. 2) Connect the Subaru Select Monitor to the data link connector. 3) Lift up the vehicle and support with rigid racks. NOTE: Raise all wheels off the floor. 4) Turn the ignition switch to ON, and the Subaru Select Monitor power switch to ON. 5) Start the engine. 6) Read the data of vehicle speed using Subaru Select Monitor. Compare the speedometer with Subaru Select Monitor indications. Vehicle speed is indicated in "km/h" or "MPH" 7) Slowly increase the vehicle speed to 60 km/ h (37 MPH). NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this does not indicate a malfunction. When AT control diagnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <ref. abs(diag)-25,="" clear="" memory="" mode.="" to=""></ref.> 	Does the speedometer indica- tion increase as the Subaru Select Monitor front wheel speed data increases?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness in of front vehicle speed sen- sor circuit.	Go to step 7.
7 CHECK POOR CONTACT.	Is there poor contact in front vehicle speed sensor circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

G: DTC P0724 TORQUE CONVERTER/BRAKE SWITCH "B" CIRCUIT HIGH DTC DETECTING CONDITION:

Brake switch malfunction, open input signal circuit

TROUBLE SYMPTOM:

Gear is not shifted down when driving a down hill.

WIRING DIAGRAM:



AT-03408

	Step	Check	Yes	No
1	CHECK DTC.	Does the DTC of CAN commu- nication appear in the on-board diagnostics test mode?	Perform the diag- nosis according to DTC.	Go to step 2 .
2	 CHECK THE BODY INTEGRATED UNIT. 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON. (engine OFF) 4) Turn the Subaru Select Monitor switch to ON. 5) Read the data of "Stop Light Switch" using Subaru Select Monitor. <ref. lan(diag)-12,="" monitor.="" operation,="" select="" subaru="" to=""></ref.> 	Is OFF displayed?	Go to step 3 .	Go to step 4.
3	CHECK TCM. Read the data of "Stop Light Switch" using Subaru Select Monitor. <ref. 4at(diag)-14,<br="" to="">OPERATION, Subaru Select Monitor.></ref.>	Is OFF displayed?	A temporary poor contact of connec- tor or harness may be the cause. Check the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>
4	 CHECK BODY INTEGRATED UNIT INPUT SIGNAL. 1) Disconnect the harness connector of body integrated unit. 2) Measure the voltage of harness between body integrated unit and stop light switch. Connector & terminal (B281) No. 23 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Go to step 5.	Go to step 7.
5	 CHECK STOP LIGHT SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from stop light switch. 3) Measure the resistance of harness between stop light switch connectors. Terminal No. 2 - No. 3: 	Is the resistance more than 1 $M\Omega$?	Go to step 6.	Replace the stop light switch.
6	 CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND STOP LIGHT SWITCH. 1) Turn the ignition switch to ON. 2) Measure the voltage of harness between the body integrated unit and chassis ground. <i>Connector & terminal</i> (B281) No. 23 (+) — Chassis ground (-): 	Is the voltage less than 1 V?	Go to step 7.	Repair the short circuit of harness between TCM and stop light switch.
7	CHECK POOR CONTACT.	Is there poor contact in input signal of brake switch?	Repair the poor contact.	Check the body integrated unit.

H: DTC P0725 ENGINE SPEED INPUT CIRCUIT

DTC DETECTING CONDITION:

Engine speed input signal circuit is open or shorted.

TROUBLE SYMPTOM:

- No lock-up occurs. (After engine is warmed-up)
- SPORT indicator light remains ON when the vehicle speed is "0".



AUTOMATIC TRANSMISSION (DIAGNOSTICS)

	Step	Check	Yes	No
1	 CHECK HARNESS CONNECTOR BETWEEN TCM AND ECM. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from TCM and ECM. 3) Measure the resistance of harness between TCM and ECM. Connector & terminal (B54) No. 13 — (B136) No. 22: 	Is the resistance less than 1 Ω ?	Go to step 2.	Repair the open circuit of harness between TCM and ECM connector.
2	CHECK HARNESS CONNECTOR BETWEEN TCM AND ECM. Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B54) No. 13 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 3 .	Repair the short circuit of harness between TCM and ECM connector.
3	 CHECK INPUT SIGNAL FOR TCM USING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM and ECM. 2) Connect the Subaru Select Monitor to the data link connector. 3) Start the engine, and turn the Subaru Select Monitor power switch ON. 4) Run the engine at idle. 5) Read the data of "Engine Speed" using Subaru Select Monitor. • Display shows engine speed signal value sent from ECM. 	Is the revolution value same as the tachometer reading shown on the combination meter?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in the TCM and ECM.	Go to step 4.
4	CHECK POOR CONTACT.	Is there poor contact in engine speed signal circuit?	Repair the poor contact.	Go to step 5.
5	CONFIRM DTC P0725. Replace the ECM with a new part.	Does the DTC appear again, after the memory has been cleared?	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>	Replace the ECM.

I: DTC P0731 GEAR 1 INCORRECT RATIO

NOTE:

Refer to DTC P0736 for diagnostic procedure. <Ref. to 4AT(diag)-52, DTC P0736 REVERSE INCORRECT RATIO, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC P0732 GEAR 2 INCORRECT RATIO

NOTE:

Refer to DTC P0736 for diagnostic procedure. <Ref. to 4AT(diag)-52, DTC P0736 REVERSE INCORRECT RATIO, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC P0733 GEAR 3 INCORRECT RATIO

NOTE:

Refer to DTC P0736 for diagnostic procedure. <Ref. to 4AT(diag)-52, DTC P0736 REVERSE INCORRECT RATIO, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

L: DTC P0734 GEAR 4 INCORRECT RATIO

NOTE:

Refer to DTC P0736 for diagnostic procedure. <Ref. to 4AT(diag)-52, DTC P0736 REVERSE INCORRECT RATIO, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

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M: DTC P0736 REVERSE INCORRECT RATIO

DTC DETECTING CONDITION:

Vehicle sensor, torque converter turbine speed sensor or control valve malfunction

TROUBLE SYMPTOM:

- Shift point is too high or too low.
- Excessive shift shock
- Tight corner braking phenomenon occurs.
- Gear is not shifted to reverse.
- Gear position is held by fail safe function.

Step	Check	Yes	No
 CHECK ACCELERATOR PEDAL POSITION SENSOR. Connect the Subaru Select Monitor to the data link connector. Turn the ignition switch to ON. Read the value of "Accel. opening angle" on Subaru Select Monitor display. 	Does the value of "Accel. opening angle" change from 0% to 100% smoothly when throttle is operated from fully closed to fully open?	Go to step 2.	Check the acceler- ator pedal position sensor circuit. <ref. 4at(diag)-<br="" to="">79, DTC P1708 THROTTLE POSI- TION SENSOR CIRCUIT LOW INPUT, Diagnostic Procedure with Diagnostic Trou- ble Code (DTC).></ref.>
 2 CHECK FRONT VEHICLE SPEED SENSOR. Lift up the vehicle and support with rigid racks. Start the engine. Shift the select lever to "D" range and slowly increase vehicle speed. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this indicates no malfunction. When AT control diagnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <ref. abs(diag)-25,="" clear="" memory="" mode.="" to=""></ref.> 	Does the vehicle speed dis- played by Subaru Select Moni- tor roughly correspond with vehicle speed indicated by the combination meter?	Go to step 3.	Check the front vehicle speed sen- sor circuit.
 3 CHECK TORQUE CONVERTER TURBINE SPEED SENSOR. 1) Shift the select lever to "P" or "N" range. 2) Idle the engine. 	Does the value of torque con- verter turbine speed sensor displayed by Subaru Select Monitor roughly correspond with the value of tachometer in combination meter?	There are mal- functions in TCM, TCM connector poor contact, or transmission assembly mechan- ical malfunction.	Check the torque converter turbine speed sensor cir- cuit.

N: DTC P0741 TORQUE CONVERTER CLUTCH CIRCUIT PERFORMANCE OR STUCK OFF

- DTC DETECTING CONDITION:
- Lock up clutch malfunction

Sticky valve

TROUBLE SYMPTOM:

No lock-up occurs.

	Step	Check	Yes	No
1	CHECK LOCK-UP DUTY SOLENOID CIR- CUIT. Diagnose according to DTC P0743 procedure.	Is there any fault?	Repair or replace the lock up duty solenoid circuit.	Go to step 2 .
2	CHECK INHIBITOR SWITCH CIRCUIT. Diagnose according to DTC P0705 procedure.	Is there any fault?	Repair or replace the inhibitor switch circuit.	Go to step 3 .
3	CHECK STOP LIGHT SWITCH CIRCUIT. Diagnose according to DTC P0719 and P0724 procedures.	Is there any fault?	Repair or replace the stop light switch circuit.	Go to step 4 .
4	CHECK ATF TEMPERATURE SENSOR CIR- CUIT. Diagnose according to DTC P0712 AND P0713 procedure.	Is there any fault?	Repair or replace the ATF tempera- ture sensor circuit.	Go to step 5 .
5	 CHECK ACCELERATOR PEDAL POSITION SENSOR. 1) Connect the Subaru Select Monitor to the data link connector. 2) Turn the ignition switch to ON. 3) Read the value of "Accel. opening angle" on Subaru Select Monitor display. 	Does the value of accelerator pedal position sensor change from 0% to 100% smoothly when throttle is operated from fully closed to fully open?	Go to step 6 .	Check the acceler- ator pedal position sensor circuit.
6	 CHECK TORQUE CONVERTER TURBINE SPEED SENSOR. 1) Shift the select lever to "P" or "N" range. 2) Idle the engine. 	Does the value of turbine speed displayed by Subaru Select Monitor almost corre- spond with the value of the tachometer?	Go to step 7.	Check the torque converter turbine speed sensor cir- cuit.
7	CHECK ENGINE SPEED SIGNAL. Idle the engine.	Does the value of turbine speed displayed by Subaru Select Monitor almost corre- spond with the value of the tachometer?	There is transmis- sion assembly mechanical mal- function.	Check the engine speed signal cir- cuit.

O: DTC P0743 TORQUE CONVERTER CLUTCH CIRCUIT ELECTRICAL

DTC DETECTING CONDITION:

Output signal circuit of lock-up duty solenoid is open or shorted.

TROUBLE SYMPTOM:

No lock-up occurs. (After engine is warmed-up) **WIRING DIAGRAM:**



	Step	Check	Yes	No
1	CHECK DTC.	Do multiple DTCs appear in the on-board diagnostics test mode?	Go to other DTC.	Go to step 2 .
2	 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from TCM and transmission. 3) Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B55) No. 5 - (B11) No. 12: 	Is the resistance less than 1 Ω?	Go to step 3.	Repair the open circuit of harness between TCM and transmission con- nector.
3	CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness con- nector between TCM connector and chassis ground. Connector & terminal (B55) No. 5 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 4.	Repair the short circuit of harness between TCM and transmission con- nector.
4	CHECK LOCK-UP DUTY SOLENOID. Measure the resistance between transmission connector receptacle's terminals. Connector & terminal (T4) No. 12 — No. 20:	Is the resistance between 2.0 -6.0Ω ?	Go to step 5.	Go to step 8.
5	CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM and trans- mission. 2) Lift up the vehicle and support with rigid racks. NOTE: Raise all wheels off the floor. 3) Connect the Subaru Select Monitor to the data link connector. 4) Start the engine, and turn the Subaru Select Monitor power switch ON. 5) Start the engine and warm-up the engine until the ATF temperature exceeds 80°C (176°F). NOTE: If the ambient temperature is below 0°C (32°F), drive the vehicle until the ATF reaches its oper- ating temperature. 6) Read the data of "Lock Up Duty Ratio" using Subaru Select Monitor. • Lock-up duty solenoid is indicated in "%." 7) Shift the select lever to "D", and slowly increase vehicle speed to 60 km/h (37 MPH). NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this does not indicate a malfunction. When AT con- trol diagnosis is finished, perform the ABS memory clearance procedure of on-board diag- nostics system. <ref. abs(diag)-25,="" clear<br="" to="">Memory Mode.></ref.>	Is the measured value 95%?	Go to step 6.	Go to step 7.

	Step	Check	Yes	No
6	CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. Return the engine to idling speed, shift the select lever to "N" range and read the data. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this does not indicate a malfunction. When AT con- trol diagnosis is finished, perform the ABS memory clearance procedure of on-board diag- nostics system. <ref. abs(diag)-25,="" clear<br="" to="">Memory Mode.></ref.>	Is the measured value 5%?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in TCM and transmission.	Go to step 7 .
		duty solenoid circuit?	contact.	<ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>
8	 CHECK LOCK-UP DUTY SOLENOID (IN TRANSMISSION). 1) Disconnect the transmission connector. 2) Drain the automatic transmission fluid. CAUTION: Do not drain ATF until it cools down. 3) Remove the oil pan, and disconnect the connector from control valve body. 4) Measure the resistance between lock-up duty solenoid and transmission ground. Connector & terminal (AT12) No. 4 — Transmission ground: 	Is the resistance between 2.0 — 6.0 Ω?	Go to step 9 .	Replace the con- trol valve body. <ref. 4at-57,<br="" to="">Control Valve Body.></ref.>
9	CHECK HARNESS CONNECTOR BETWEEN LOCK-UP DUTY SOLENOID AND TRANS- MISSION. Measure the resistance of harness between lock-up duty solenoid and transmission con- nector. Connector & terminal (T4) No. 12 — (AT12) No. 4:	Is the resistance less than 1 Ω?	Go to step 10.	Repair the open circuit of harness between TCM and transmission con- nector.
10	CHECK HARNESS CONNECTOR BETWEEN LOCK-UP DUTY SOLENOID AND TRANS- MISSION. Measure the resistance of harness between transmission connector and transmission ground. Connector & terminal (T4) No. 12 — Transmission ground:	Is the resistance more than 1 MΩ?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in lock-up duty solenoid and transmission.	Repair the short circuit of harness between lock-up duty solenoid and transmission con- nector.

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

P: DTC P0748 PRESSURE CONTROL SOLENOID "A" ELECTRICAL

DTC DETECTING CONDITION:

Output signal circuit of line pressure linear solenoid is open or shorted.

TROUBLE SYMPTOM:

Excessive shift shock



	Step	Check	Yes	No
1	 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from transmission and TCM. 3) Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B55) No. 19 – (B11) No. 2: (B55) No. 20 – (B11) No. 1: 	Is the resistance less than 1 Ω?	Go to step 2.	Repair the open circuit of harness between TCM and transmission con- nector.
2	CHECK HARNESS CONNECTOR BETWEEN TCM AND CHASSIS GROUND. Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B55) No. 19 — Chassis ground: (B55) No. 20 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 3.	Repair the short circuit of harness between TCM and transmission con- nector.
3	CHECK LINE PRESSURE LINEAR SOLE- NOID. Measure the resistance between transmission connector receptacle's terminals. <i>Connector & terminal</i> (T4) No. 1 — No. 2:	Is the resistance between 4 — 8 Ω?	Go to step 5.	Go to step 4.

	Step	Check	Yes	No
4	CHECK LINE PRESSURE LINEAR SOLE-	Is the resistance between 4 —	Go to step 5.	Replace the con-
	NOID (IN TRANSMISSION).	8 Ω?		trol valve body.
	1) Remove the transmission connector from			<ref. 4at-57,<="" th="" to=""></ref.>
	bracket.			Control Valve
	Drain the automatic transmission fluid.			Body.>
	CAUTION:			
	Do not drain ATF until it cools down.			
	3) Remove the oil pan, and disconnect the			
	connector from control valve body.			
	4) Measure the resistance of line pressure lin-			
	ear solenoid connector terminals.			
	Connector & terminal			
	(AT11) No. 2 — No. 4:			
5	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 6.	Repair the open
	TRANSMISSION AND LINE PRESSURE LIN-	Ω?		circuit of harness
	EAR SOLENOID.			between line pres-
	Measure the resistance of harness between			sure linear sole-
	line pressure linear solenoid and transmission			noid and
	connector.			transmission con-
	Connector & terminal			nector.
	(T4) No. 2 — (AT11) No. 4:			
	(T4) No. 1 — (AT11) No. 2:			
6	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Even if the SPORT	Repair the short
	TRANSMISSION AND LINE PRESSURE LIN-	ΜΩ?	indicator light is	circuit of harness
	EAR SOLENOID.		blinking, the cir-	between line pres-
	Measure the resistance of harness between		cuit is in normal	sure linear sole-
	transmission connector and transmission		condition at this	noid and
	ground.		time. A temporary	transmission con-
	Connector & terminal		poor contact of	nector.
	(14) No. 1 — Transmission ground:		connector or har-	
	(14) No. 2 — Transmission ground:		ness may be the	
			cause. Repair the	
			namess or con-	
			nector in line pres-	
			sure inteal	
			tranomiacian	
			transmission.	

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Q: DTC P0753 SHIFT SOLENOID "A" ELECTRICAL

DTC DETECTING CONDITION:

Output signal circuit of low clutch duty solenoid is open or shorted.

TROUBLE SYMPTOM:

Excessive shift shock



AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Step	Check	Yes	No
 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Turn the ignition switch to OFF. Disconnect the connectors from TCM and transmission. Measure the resistance of harness between TCM and transmission connector. Connector & terminal (B55) No. 9 — (B11) No. 4: 	Is the resistance less than 1 Ω ?	Go to step 2.	Repair the open circuit of harness between TCM and transmission con- nector.
2 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of harness between TCM connector and transmission ground. Connector & terminal (B55) No. 9 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 3.	Repair the short circuit of harness between TCM and transmission con- nector.
3 CHECK LOW CLUTCH DUTY SOLENOID. Measure the resistance between transmission connector terminals. Connector & terminal (T4) No. 4 — No. 20:	Is the resistance between 2.0 $-$ 6.0 Ω ?	Go to step 4.	Go to step 7.
 4 CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM and trans- mission. 2) Connect the Subaru Select Monitor to the data link connector. 3) Start the engine, and turn the Subaru Select Monitor power switch ON. 4) Warm-up the transmission until the ATF temperature reaches approximately 80°C (176°F). NOTE: If the ambient temperature falls below 0°C (32°F), drive the vehicle until the ATF reaches its operating temperature. 5) Stop the engine and turn the ignition switch to ON (with engine OFF). 6) Shift the select lever to "P" or "N" range, and depress the accelerator pedal. 7) Read the data of "Low Clutch Duty Ratio" using Subaru Select Monitor. Low clutch duty solenoid is indicated in "%." 	Is the measured value 100%?	Go to step 5.	Go to step 6 .
 5 CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. 1) Turn the ignition switch to ON (engine OFF). 2) Shift the select lever to "D" range. 3) Read the data of "Low Clutch Duty Ratio". 	Is the measured value 0%?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in transmis- sion.	Go to step 6 .
6 CHECK POOR CONTACT.	Is there poor contact in low clutch duty solenoid circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

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Step	Check	Yes	No
 7 CHECK LOW CLUTCH DUTY SOLENOID (IN TRANSMISSION). 1) Remove the transmission connector from bracket. 2) Drain the automatic transmission fluid. CAUTION: Do not drain ATF until it cools down. 3) Remove the oil pan, and disconnect the connector from control valve body. 4) Measure the resistance between low clutch duty solenoid connector and transmission ground. Connector & terminal (AT12) No. 2 — Transmission ground: 	Is the resistance between 2.0 — 6.0 Ω?	Go to step 8.	Replace the con- trol valve body. <ref. 4at-57,<br="" to="">Control Valve Body.></ref.>
 8 CHECK HARNESS CONNECTOR BETWEEN TRANSMISSION AND LOW CLUTCH DUTY SOLENOID. Measure the resistance of harness between low clutch duty solenoid and transmission con- nector. Connector & terminal (T4) No. 4 — (AT12) No. 2: 	Is the resistance less than 1 Ω ?	Go to step 9 .	Repair the open circuit of harness between low clutch duty solenoid and transmission con- nector.
 9 CHECK HARNESS CONNECTOR BETWEEN TRANSMISSION AND LOW CLUTCH DUTY SOLENOID. Measure the resistance of harness between transmission connector and transmission ground. Connector & terminal (T4) No. 4 — Transmission ground: 	Is the resistance more than 1 MΩ?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector of the low clutch duty sole- noid and transmis- sion.	Repair the short circuit of harness between low clutch duty solenoid and transmission con- nector.

R: DTC P0758 SHIFT SOLENOID "B" ELECTRICAL

DTC DETECTING CONDITION:

Output signal circuit of 2-4 brake duty solenoid is open or shorted.

TROUBLE SYMPTOM:

Excessive shift shock



	Step	Check	Yes	No
1	 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from TCM and transmission. 3) Measure the resistance of the harness between TCM connector and transmission connector. Connector & terminal (B55) No. 6 — (B11) No. 3: 	Is the resistance less than 1 Ω ?	Go to step 2.	Repair the open circuit of harness between TCM and transmission con- nector.
2	CHECK HARNESS CONNECTOR BETWEEN TCM AND CHASSIS GROUND. Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B55) No. 6 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 3 .	Repair the short circuit of harness between TCM and transmission con- nector.
3	CHECK 2-4 BRAKE DUTY SOLENOID. Measure the resistance between transmission connector terminals. Connector & terminal (T4) No. 3 — No. 20:	Is the resistance between 2.0 -6.0Ω ?	Go to step 4.	Go to step 7.

	Step	Check	Yes	No
4	CHECK OUTPUT SIGNAL FROM TCM US-	Is the measured value 100%?	Go to step 5.	Go to step 6.
	 ING SUBARU SELECT MONITOR. 1) Connect all connectors. 2) Connect the Subaru Select Monitor to the data link connector. 3) Start the engine, and turn the Subaru Select Monitor power switch ON. 4) Warm-up the transmission until the ATF temperature reaches approximately 80°C (176°F). NOTE: If the ambient temperature falls below 0°C (32°F), drive the vehicle until the ATF reaches its operating temperature. 5) Stop the engine and turn the ignition switch to ON (with engine OFF). 6) Shift the select lever to "N" range, and depress the accelerator pedal. 7) Read the data of "Brake Clutch Duty Ration" using Subaru Select Monitor. 			
5	2-4 brake duty solenoid is indicated in "%." CHECK OUTPUT SIGNAL FROM TCM US-	Is the measured value 0%?	Even if the SPORT	Go to step 6 .
	ING SUBARU SELECT MONITOR. Shift the select lever to 2nd on manual mode.		indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in TCM and transmission.	
6	CHECK POOR CONTACT.	Is there poor contact in 2-4 brake duty solenoid circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>
7	 CHECK 2-4 BRAKE DUTY SOLENOID (IN TRANSMISSION). 1) Remove the transmission connector from bracket. 2) Drain the automatic transmission fluid. CAUTION: Do not drain ATF until it cools down. 3) Remove the oil pan, and disconnect the connector from 2-4 brake duty solenoid. 4) Measure the resistance of harness between 2-4 brake duty solenoid connector and transmission ground. Connector & terminal (AT3) No. 6 — Transmission ground: 	Is the resistance between 2.0 — 6.0 Ω?	Go to step 8.	Replace the con- trol valve body. <ref. 4at-57,<br="" to="">Control Valve Body.></ref.>

Step	Check	Yes	No
 8 CHECK HARNESS CONNECTOR BETWEEN 2-4 BRAKE DUTY SOLENOID AND TRANS- MISSION. Measure the resistance of harness between 2- 4 brake duty solenoid and transmission con- nector. Connector & terminal (T4) No. 3 — (AT12) No. 6: 	Is the resistance less than 1 Ω ?	Go to step 9 .	Repair the open circuit of harness between 2-4 brake duty solenoid and transmission con- nector.
 9 CHECK HARNESS CONNECTOR BETWEEN 2-4 BRAKE DUTY SOLENOID AND TRANS- MISSION. Measure the resistance of harness between transmission connector and transmission ground. Connector & terminal (T4) No. 3 — Transmission ground: 	Is the resistance more than 1 MΩ?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in 2-4 brake duty solenoid and transmission.	Repair the short circuit of harness between 2-4 brake duty solenoid and transmission con- nector.

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

S: DTC P0763 SHIFT SOLENOID "C" ELECTRICAL

DTC DETECTING CONDITION:

Output signal circuit of high clutch duty solenoid is open or shorted.

TROUBLE SYMPTOM:

Excessive shift shock

WIRING DIAGRAM:



	Ston	Chaok	Vee	No
	Step	Check	res	NO
1	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 2.	Repair the open
	TCM AND TRANSMISSION.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			between TCM and
	2) Disconnect the connectors from TCM and			transmission con-
	transmission.			nector.
	Measure the resistance of the harness			
	between TCM connector and transmission			
	connector.			
	Connector & terminal			
	(B55) No. 8 — (B11) No. 7:			
2	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 3.	Repair the short
	TCM AND TRANSMISSION.	ΜΩ?		circuit of harness
	Measure the resistance of the harness con-			between TCM and
	nector between TCM connector and chassis			transmission con-
	ground.			nector.
	Connector & terminal			
	(B55) No. 8 — Chassis ground:			
3	CHECK HIGH CLUTCH DUTY SOLENOID.	Is the resistance between 2.0	Go to step 4.	Go to step 7.
	Measure the resistance between transmission	— 6.0 Ω?		
	connector receptacle's terminals.			
	Connector & terminal			
	(T4) No. 7 — No. 20:			

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	Step	Check	Yes	No
4	CHECK OUTPUT SIGNAL FROM TCM US-	Is the measured value 0%?	Go to step 5.	Go to step 6.
4	 CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM and transmission. 2) Lift up the vehicle and support with rigid racks. NOTE: Raise all wheels off the floor. 3) Connect the Subaru Select Monitor to the data link connector. 4) Start the engine, and turn the Subaru Select Monitor power switch ON. 5) Start the engine and warm-up the engine until the ATF temperature exceeds 80°C (176°F). NOTE: If the ambient temperature is below 0°C (32°F), drive the vehicle until the ATF reaches its operating temperature. 6) Read the data of "High Clutch Duty Ratio" using Subaru Select Monitor. High clutch duty solenoid is indicated in "%." 7) Shift the select lever to "D", and slowly increase vehicle speed to measure at 3rd or 4th. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this does not indicate a malfunction. When AT control diagnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <ref. abs(diag)-25,="" clear<="" li="" to=""> </ref.>	Is the measured value 0%?	Go to step 5.	Go to step 6.
5	CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. Return the engine to idling speed and shift the select lever to "N" range. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this does not indicate a malfunction. When AT con- trol diagnosis is finished, perform the ABS memory clearance procedure of on-board diag- nostics system. <ref. abs(diag)-25,="" clear<br="" to="">Memory Mode.></ref.>	Is the measured value 100%?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in TCM and transmission.	Go to step 6 .
6	CHECK POOR CONTACT.	Is there poor contact in high clutch duty solenoid circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

Step		Check	Yes	No
 CHECK HIGH CLUTCH TRANSMISSION). Remove the transmiss bracket. Drain the automatic t CAUTION: Do not drain ATF until Remove the oil pan, a control valve body connect Measure the resistan clutch duty solenoid connect Measure the resistan clutch duty solenoid connect Connector & terminal (AT12) No. 3 — Trans 	DUTY SOLENOID (IN sion connector from ransmission fluid. it cools down. and disconnect the sector. ce between high nector and transmis- smission ground:	Is the resistance between 2.0 — 6.0 Ω?	Go to step 8.	Replace the con- trol valve body. <ref. 4at-57,<br="" to="">Control Valve Body.></ref.>
8 CHECK HARNESS CON HIGH CLUTCH DUTY S TRANSMISSION. Measure the resistance of high clutch duty solenoic connector. Connector & terminal (T4) No. 7 — (AT12)	INECTOR BETWEEN OLENOID AND of harness between I and transmission No. 3:	Is the resistance less than 1 Ω?	Go to step 9.	Repair the open circuit of harness between TCM and transmission con- nector.
9 CHECK HARNESS CON HIGH CLUTCH DUTY S TRANSMISSION. Measure the resistance of transmission connector a ground. <i>Connector & terminal</i> <i>(T4) No. 7 — Transm</i>	INECTOR BETWEEN OLENOID AND of harness between and transmission hission ground:	Is the resistance more than 1 MΩ?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in high clutch duty sole- noid and transmis- sion.	Repair the short circuit of harness between high clutch duty sole- noid and transmis- sion connector.

T: DTC P0768 SHIFT SOLENOID "D" ELECTRICAL

DTC DETECTING CONDITION:

The output signal circuit of low & reverse duty solenoid is open or shorted.

TROUBLE SYMPTOM:

Gear is not changed.



	Step	Check	Yes	No
1	 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from transmission and TCM. 3) Measure the resistance of the harness between TCM connector and transmission 	Is the resistance less than 1 Ω ?	Go to step 2.	Repair the open circuit of harness between TCM and transmission con- nector.
2	connector. Connector & terminal (B55) No. 7 — (B11) No. 6: CHECK HARNESS CONNECTOR BETWEEN TCM AND CHASSIS GROUND. Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B56) No. 7 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 3.	Repair the short circuit of harness between TCM and transmission con- nector.
3	CHECK LOW & REVERSE DUTY SOLENOID. Measure the resistance between transmission connector terminals. Connector & terminal (T4) No. 6 — No. 20:	Is the resistance between 2.0 $-$ 6.0 Ω ?	Go to step 4 .	Go to step 7.

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

	Step	Check	Yes	No
4	CHECK OUTPUT SIGNAL FROM TCM US-	Is the measured value 100%?	Go to step 5.	Go to step 6.
	ING SUBARU SELECT MONITOR.			
	1) Connect all connectors.			
	2) Connect the Subaru Select Monitor to the			
	3) Start the engine and turn the Subaru			
	Select Monitor power switch ON.			
	4) Warm-up the transmission until the ATF			
	temperature reaches approximately 80°C			
	(176°F).			
	NOTE:			
	(32°F) drive the vehicle until the ATE reaches			
	its operating temperature.			
	5) Stop the engine and turn the ignition switch			
	to ON (with engine OFF).			
	6) Shift the select lever to "N" range.			
	Subaru Select Monitor			
	 Low & reverse duty solenoid is indicated in 			
	"%."			
5	CHECK OUTPUT SIGNAL FROM TCM US-	Is the measured value 55%?	Even if the SPORT	Go to step 6.
	ING SUBARU SELECT MONITOR.		Indicator light is	
	racks.		cuit is in normal	
	NOTE:		condition at this	
	Raise all wheels off the floor.		time. A temporary	
	2) Shift the select lever to manual mode, and		poor contact of	
	then hold it on 1st. Slowly increase the vehicle		connector or har-	
	speed up to 15 km/n (9 MPH), and then return		cause Repair the	
	NOTE:		harness or con-	
	The speed difference between front and rear		nector in TCM and	
	wheels may light the ABS warning light, but this		transmission.	
	does not indicate a malfunction. When AT con-			
	trol diagnosis is finished, perform the ABS			
	nostics system < Ref to ABS(diag)-25 Clear			
	Memory Mode.>			
	3) Read the data of "L&R/B duty ratio".			
6	CHECK POOR CONTACT.	Is there poor contact in the low	Repair the poor	Replace the TCM.
		& reverse duty solenoid circuit?	contact.	<ref. 4at-62,<="" td="" to=""></ref.>
				trol Module
				(TCM).>
7	CHECK LOW & REVERSE BRAKE DUTY	Is the resistance between 2.0	Go to step 8.	Replace the con-
	SOLENOID (IN TRANSMISSION).	— 6.0 Ω?		trol valve body.
	I) Remove the transmission connector from bracket			<ref. 4a1-57,<="" td="" to=""></ref.>
	2) Drain the automatic transmission fluid.			Body.>
	CAUTION:			- ,
	Do not drain ATF until it cools down.			
	3) Remove the oil pan, and disconnect the			
	connector from control valve body.			
	reverse duty solenoid connector and transmis-			
	sion ground.			
	Connector & terminal			
	(AT12) No. 1 — Transmission ground:			

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Step	Check	Yes	No
 8 CHECK HARNESS CONNECTOR BETWEEN TRANSMISSION AND LOW & REVERSE DUTY SOLENOID. Measure the resistance of harness between low & reverse duty solenoid and transmission connector. Connector & terminal (T4) No. 6 — (AT12) No. 1: 	Is the resistance less than 1 Ω?	Go to step 9.	Repair open circuit of harness between low & reverse duty sole- noid and transmis- sion connector.
 9 CHECK HARNESS CONNECTOR BETWEEN TRANSMISSION AND LOW & REVERSE DUTY SOLENOID. Measure the resistance of harness between transmission connector and transmission ground. Connector & terminal (T4) No. 6 — Transmission ground: 	Is the resistance more than 1 MΩ?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair har- ness or connector in low & reverse duty solenoid and transmission.	Repair the short circuit of the har- ness between the low & reverse duty solenoid and the transmission con- nector.

U: DTC P0801 REVERSE INHIBIT CONTROL CIRCUIT

DTC DETECTING CONDITION:

Shift lock solenoid malfunction, open or short reverse inhibitor control circuit

TROUBLE SYMPTOM:

- Gear is shifted from "N" range to "P" range during driving at 20 km/h (12 MPH) or more.
- Gear cannot be shifted from "N" range to "R" range.



	Step	Check	Yes	No
1	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 2.	Repair the open
	TCM AND SHIFT LOCK SOLENOID.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			between TCM and
	2) Disconnect the connector from TCM and			shift lock solenoid
	shift lock solenoid.			connector.
	Measure the resistance of harness			
	between TCM and shift lock solenoid connec-			
	tor.			
	Connector & terminal			
	(B55) No. 18 — (B116) No. 3:			

	Step	Check	Yes	No
2	CHECK HABNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 3	Renair the short
-	TCM AND SHIFT I OCK SOL ENOID	MO?		circuit of harness
	Measure the resistance of the harness			between TCM and
	between TCM and chassis ground.			shift lock solenoid
	Connector & terminal			connector.
	(B55) No. 18 — Chassis ground:			
3	CHECK HARNESS BETWEEN SHIFT LOCK	Is the resistance less than 1	Go to step 4.	Repair the open
-	SOLENOID AND CHASSIS GROUND TERMI-	Ω?		circuit of harness
	NAL.			between chassis
	Measure the resistance of harness between			ground and shift
	shift lock solenoid and chassis ground.			lock solenoid con-
	Connector & terminal			nector.
	(B116) No. 4 — Chassis ground:			
4	CHECK SHIFT LOCK SOLENOID.	Is the resistance between 12	Go to step 5.	Replace the shift
	Measure the resistance of shift lock solenoid	— 18 Ω?		lock solenoid.
	terminals.	-		
	Connector & terminal			
	(B116) No. 3 — No. 4:			
5	CHECK OUTPUT SIGNAL OF TCM.	Is the voltage more than 10.5	Go to step 6.	Go to step 7.
	1) Connect all connectors.	V?	•	
	2) Turn the ignition switch to ON.			
	3) Shift the select lever to "D" range.			
	4) Measure the voltage between TCM and			
	chassis ground.			
	Connector & terminal			
	(B55) No. 18 (+) — Chassis ground (–):			
6	CHECK OUTPUT SIGNAL OF TCM.	Is the voltage less than 1 V?	Even if the SPORT	Go to step 7.
	 Lift up the vehicle and support with rigid 		indicator light is	
	racks.		blinking, the cir-	
	NOTE:		cuit is in normal	
	Raise all wheels off the floor.		condition at this	
	2) Start the engine.		time. A temporary	
	Shift the select lever to "D" range and		poor contact of	
	slowly increase vehicle speed to over 20 km/h		connector or har-	
	(12 MPH).		ness may be the	
	NOTE:		cause. Repair the	
	The speed difference between front and rear		harness or con-	
	wheels may light the ABS warning light, but this		nector in the	
	does not indicate a malfunction. When AT con-		reverse inhibitor	
	trol diagnosis is finished, perform the ABS		control circuit.	
	memory clearance procedure of on-board diag-			
	nostics system. <ref. abs(diag)-25,="" clear<="" th="" to=""><th></th><th></th><th></th></ref.>			
	Memory Mode.>			
	4) Measure the voltage between ICM and			
	chassis ground.			
	Connector & terminal			
L	(B35) NO. 18 $(+)$ — Chassis ground $(-)$:			Devices # TOP1
1	CHECK POOR CONTACT.	Is there poor contact in the	Repair the poor	Replace the ICM.
		reverse inhibitor control circuit?	contact.	<hei. -62,<="" 4ai="" io="" th=""></hei.>
				trol Modulo
1				(1010).>

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

V: DTC P1706 AT VEHICLE SPEED SENSOR CIRCUIT MALFUNCTION (REAR WHEEL)

DTC DETECTING CONDITION:

Input signal circuit of TCM is open or shorted.

TROUBLE SYMPTOM:

No lock up or tight corner braking phenomenon is occurred.



	Step	Check	Yes	No
1	CHECK IGNITION POWER SUPPLY CIR- CUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from rear vehicle speed sensor. Turn the ignition switch to ON. 3) Measure the ignition power supply voltage between rear vehicle speed sensor connector and transmission ground. Connector & terminal (AT13) No. 3 (+) — Transmission ground (-):	Is the voltage more than 10 V?	Go to step 2.	Check harness between rear vehi- cle speed sensor and battery for open circuit, short or poor contact. Repair the har- ness if required.
2	 CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between TCM connector and rear vehicle speed sensor connector. Connector & terminal (B54) No. 23 — (AT13) No. 1: 	Is the resistance less than 1 Ω?	Go to step 3.	Repair the open circuit or poor con- tact of the connec- tor in harness between TCM and rear vehicle speed sensor connector.
3	CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of harness between TCM connector and rear vehicle speed sensor connector. Connector & terminal (B54) No. 24 — (AT13) No. 2:	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit or poor con- tact of the connec- tor in harness between TCM and rear vehicle speed sensor connector.
4	CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and chassis ground. Connector & terminal (B54) No. 23 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 5.	Repair the short circuit of harness between TCM and rear vehicle speed sensor connector.
5	CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION. Measure the resistance of the harness between TCM connector and chassis ground. <i>Connector & terminal</i> (B54) No. 24 — Chassis ground: PREPARE OSCILLOSCOPE.	Is the resistance more than 1 MΩ? Do you have an oscilloscope?	Go to step 6 . Go to step 8 .	Repair the short circuit of harness between TCM and rear vehicle speed sensor connector. Go to step 7 .

Step	Check	Yes	No
 7 CHECK INPUT SIGNAL FOR TCM. Connect the connectors to TCM and transission. Lift up the vehicle and support with rigid racks. NOTE: Raise all wheels off the floor. Start the engine and set vehicle in 20 km (12 MPH) condition. NOTE: The speed difference between front and rewheels may light the ABS warning light, but the does not indicate a malfunction. When AT control diagnosis is finished, perform the AB memory clearance procedure of on-board dianostics system. <ref. abs(diag)-25,="" clear="" memory="" mode.="" to=""></ref.> Measure the AC voltage between TCM connector terminals. 	Is the voltage approx. 2 V or more? h ar n: SS g- ar	Go to step 9.	Replace the rear vehicle speed sen- sor.
 8 CHECK INPUT SIGNAL FOR TCM USING OSCILLOSCOPE. Connect the connectors to TCM and tran mission. Lift up the vehicle and support with rigid racks. NOTE: Raise all wheels off the floor. Set the oscilloscope to TCM connector to minals. Connector & terminal Positive probe; (B54) No. 24: Ground lead; (B54) No. 23: Start the engine and set vehicle in 20 km (12 MPH) condition. NOTE: The speed difference between front and rewheels may light the ABS warning light, but the does not indicate a malfunction. When AT control diagnosis is finished, perform the Alford memory clearance procedure of on-board diagnostics system. <ref. abs(diag)-25,="" clear="" memory="" mode.="" to=""></ref.> Measure the signal voltage indicated on oscilloscope. 	Is the pulse voltage approx. 5 V? r- h ar iis n- BS g- ar	Go to step 9.	Replace the rear vehicle speed sen- sor.
9 CHECK POOR CONTACT.	Is there poor contact in rear vehicle speed sensor circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

W: DTC P1707 AT AWD SOLENOID VALVE CIRCUIT MALFUNCTION

DTC DETECTING CONDITION:

Output signal circuit of transfer duty solenoid is open or shorted.

TROUBLE SYMPTOM:

- Tight corner braking phenomenon is occurred.
- Front wheel slips on the slippery road.



	•	.		i
	Step	Check	Yes	No
1 C	HECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 2.	Repair the open
т	CM AND TRANSMISSION.	Ω?		circuit of harness
1) Turn the ignition switch to OFF.			between TCM and
2) Disconnect the connectors from TCM and			transmission con-
tr	ansmission.			nector.
3) Measure the resistance of the harness			
b	etween TCM connector and transmission			
C	onnector.			
	Connector & terminal			
	(B55) No. 4 — (B11) No. 8:			
2 C	HECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 3.	Repair the short
Т	CM AND TRANSMISSION.	ΜΩ?		circuit of harness
N	leasure the resistance of harness connector			between TCM and
b	etween TCM and chassis ground.			transmission con-
	Connector & terminal			nector.
	(B55) No. 4 — Chassis ground:			
3 C	HECK TRANSFER DUTY SOLENOID.	Is the resistance between 2.0	Go to step 4.	Go to step 7.
N	leasure the resistance between transmission	— 6.0 Ω?		
C	onnector and transmission terminals.			
	Connector & terminal			
	(T4) No. 8 — No. 20:			

	Step	Check	Yes	No
4	Step CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM and trans- mission. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON (engine OFF) and Subaru Select Monitor switch ON. 4) Shift the select lever to the "N" range, and fully close the throttle pedal. (Vehicle speed is 0 km/h (0 MPH))	Check Is the value approx. 5%?	Yes Go to step 5.	No Go to step 6.
	Subaru Select Monitor. Transfer duty solenoid is indicated in "%."			
5	 CHECK OUTPUT SIGNAL FROM TCM US- ING SUBARU SELECT MONITOR. 1) Shift the select lever to "D" range. 2) Read the data of "Transfer duty Ratio" using Subaru Select Monitor. Transfer duty solenoid is indicated in "%." 	Is the measured value approx. 18 — 35%?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in TCM and transmission.	Go to step 6 .
6	CHECK POOR CONTACT.	Is there poor contact in transfer duty solenoid circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>
7	CHECK TRANSFER DUTY SOLENOID (IN TRANSMISSION). 1) Lift up the vehicle and support with rigid racks. NOTE: Raise all wheels off the floor. 2) Drain the automatic transmission fluid. CAUTION: Do not drain ATF until it cools down. 3) Remove the extension case, and discon- nect the connector from transfer duty solenoid. 4) Measure the resistance between transfer duty solenoid connector and transmission ground. Connector & terminal (AT12) No. 5 — Transmission ground:	Is the resistance between 2.0 — 6.0 Ω?	Go to step 8.	Replace the con- trol valve body. <ref. 4at-57,<br="" to="">Control Valve Body.></ref.>
8	CHECK HARNESS CONNECTOR BETWEEN TRANSFER DUTY SOLENOID AND TRANS- MISSION. Measure the resistance of harness between transfer duty solenoid and transmission con- nector. Connector & terminal (T4) No. 8 — (AT12) No. 5:	Is the resistance less than 1 Ω?	Go to step 9 .	Repair the open circuit of harness between transfer duty solenoid and transmission con- nector.

	Step	Check	Yes	No
9	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Even if the SPORT	Repair short circuit
	TRANSFER DUTY SOLENOID AND TRANS-	ΜΩ?	indicator light is	of the harness
	MISSION.		blinking, the cir-	between the trans-
	Measure the resistance of harness between		cuit is in normal	fer duty solenoid
	transmission connector and transmission		condition at this	and transmission
	ground.		time. A temporary	connector.
	Connector & terminal		poor contact of	
	(T4) No. 8 — Transmission ground:		connector or har-	
			ness may be the	
			cause. Repair the	
			harness or poor	
			contact in the	
			transfer duty sole-	
			noid and transmis-	
			sion.	

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

X: DTC P1708 THROTTLE POSITION SENSOR CIRCUIT LOW INPUT

DTC DETECTING CONDITION:

The input signal circuit of accelerator pedal position sensor is open or shorted.

TROUBLE SYMPTOM:

- Shift point is too high or too low.
- Excessive shift shock
- Tight corner braking phenomenon is occurred.



	Step	Check	Yes	No
1	CHECK ENGINE GROUND TERMINALS.	Is the engine ground terminals	Go to step 2.	Tighten the engine
		tightened securely?		ground terminals.
2	CHECK GROUND CIRCUIT FOR ECM.	Is the resistance less than 5	Go to step 3.	Repair the open
	1) Turn the ignition switch to OFF.	Ω?	•	circuit of harness
	2) Disconnect the connectors from ECM.			between ECM
	3) Measure the resistance of harness			connector and
	between ECM and engine ground.			engine grounding
	Connector & terminal			terminal.
	(B134) No. 5 — Engine ground :			
	(B136) No. 15 — Engine ground :			
	(B137) No. 1 — Engine ground :			
	(B137) No. 2 — Engine ground :			
	(B137) No. 3 — Engine ground :			
	(B137) No. 7 — Engine ground :			
3	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.75	Go to step 4.	Replace the accel-
	SENSOR.	— 3.15 kΩ?		erator pedal posi-
	1) Disconnect the connectors from accelerator			tion sensor.
	pedal position sensor.			
	2) Measure the resistance between accelera-			
	col pedal position sensor connector recepta-			
	Connector & terminal			
	No $1 - No 2$			
4	CHECK ACCELEBATOR PEDAL POSITION	Is the resistance between 0.15	Go to sten 5	Benlace the accel-
-	SENSOR.	-0.63 kO^2		erator pedal posi-
	Measure the resistance between accelerator	0.00 1321		tion sensor.
	pedal position sensor connector receptacle's			
	terminals.			
	Connector & terminal			
	No. 3 — No. 2:			
5	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 6.	Repair the open
	TCM AND ACCELERATOR PEDAL POSI-	Ω?		circuit of harness
	TION SENSOR.			between TCM and
	 Disconnect the connector from TCM. 			accelerator pedal
	2) Measure the resistance of harness			position sensor
	between ICM and accelerator pedal position			connector, and the
	sensor connector.			poor contact of the
	Connector & terminal			connector.
c	(B34) NO. 19 – $(B313)$ NO. 3:	le the registeres more than 1	Co to otop 7	Densir the short
0				nepair the short
	TION SENSOR	1015.2 ?		between TCM and
	Measure the resistance of the harness			accelerator pedal
	between TCM connector and chassis ground			position sensor
	Connector & terminal			connector.
	(B54) No. 19 — Chassis ground:			
7	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 8.	Repair the short
	ECM AND ACCELERATOR PEDAL POSI-	$M\Omega?$		circuit of harness
	TION SENSOR.			between ECM and
	1) Remove the connectors from ECM.			accelerator pedal
	2) Measure the resistance of harness			position sensor.
	between the accelerator pedal position sensor			
	connector and chassis ground.			
	Connector & terminal			
	(B315) No. 2 — Chassis ground:			

	Step	Check	Yes	No
8	 CHECK INPUT SIGNAL FOR TCM USING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM, accelerator pedal position sensor, and ECM. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON (engine OFF). 4) Turn the Subaru Select Monitor switch to ON. 5) Fully close the throttle. 6) Read the data of "Throttle Sensor Voltage" using Subaru Select Monitor. Accelerator pedal position sensor input signal is indicated. 	Is the voltage more than 0.2 V?	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in accelera- tor pedal position sensor circuit.	Go to step 9.
9	CHECK POOR CONTACT.	Is there poor contact in accel- erator pedal position sensor circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

Y: DTC P1709 THROTTLE POSITION SENSOR CIRCUIT HIGH INPUT DTC DETECTING CONDITION:

The input signal circuit of accelerator pedal position sensor is shorted.

TROUBLE SYMPTOM:

- Shift point is too high or too low.
- Excessive shift shock
- Tight corner braking phenomenon occurs.



	Step	Check	Yes	No
1	CHECK ENGINE GROUND TERMINALS.	Is the engine ground terminals	Go to step 2.	Tighten the engine
		tightened securely?	-	ground terminals.
2	CHECK GROUND CIRCUIT FOR ECM.	Is the resistance less than 5	Go to step 3.	Repair the open
	 Turn the ignition switch to OFF. 	Ω?		circuit of harness
	Disconnect the connectors from ECM.			between ECM
	Measure the resistance of harness			connector and
	between ECM and engine ground.			engine grounding
	Connector & terminal			terminal.
	(B134) No. 5 — Engine ground :			
	(B136) No. 15 — Engine ground :			
	(B137) No. 1 — Engine ground :			
	(B137) No. 2 — Engine ground :			
	(B137) No. 3 — Engine ground :			
_	(B137) No. 7 — Engine ground :		<u> </u>	
3	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.75	Go to step 4.	Replace the accel-
	1) Disconnect the connectors from cooplerator.	— 3.15 K12?		erator pedal posi-
	1) Disconnect the connectors from accelerator			tion sensor.
	2) Massure the resistance between accelera			
	2) Measure the resistance between accelera-			
	clo's terminals			
	Connector & terminal			
	No $1 - No 2$			
4		Is the resistance between 0.15	Go to step 5	Benlace the accel-
7	SENSOR	-1.05 kO^2		erator pedal posi-
	Measure the resistance between accelerator			tion sensor.
	pedal position sensor connector receptacle's			
	terminals.			
	Connector & terminal			
	No. 2 — No. 3:			
5	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance more than 1	Go to step 6.	Repair the short
	TCM AND ACCELERATOR PEDAL POSI-	ΜΩ?	-	circuit of harness
	TION SENSOR.			between TCM and
	 Disconnect the connector from TCM. 			accelerator pedal
	Measure the resistance of the harness			position sensor
	between TCM connector and chassis ground.			connector.
	Connector & terminal			
	(B54) No. 19 — Chassis ground:			
6	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1	Go to step 7.	Repair the open
	ECM AND ACCELERATOR PEDAL POSI-	Ω?		circuit of harness
	TION SENSOR.			between ECM and
	1) Remove the connectors from ECM.			accelerator pedal
	2) Measure the resistance of harness			position sensor.
	between ECM connector and accelerator pedal			
	position sensor connector.			
	Connector & terminal			
	(B315) No. 2 — (B135) No. 30:			

	Step	Check	Yes	No
7	 CHECK INPUT SIGNAL FOR TCM USING SUBARU SELECT MONITOR. 1) Connect the connectors to TCM, accelera- tor pedal position sensor, and ECM. 2) Connect the Subaru Select Monitor to the data link connector. 3) Turn the ignition switch to ON (engine OFF). 4) Turn the Subaru Select Monitor switch to ON. 5) Fully open the throttle. 6) Read the data of "Throttle Sensor Voltage" using Subaru Select Monitor. Accelerator pedal position sensor input sig- nal is indicated. 	Is the voltage less than 4.6 V?	Go to step 8.	Even if the SPORT indicator light is blinking, the cir- cuit is in normal condition at this time. A temporary poor contact of connector or har- ness may be the cause. Repair the harness or con- nector in accelera- tor pedal position sensor circuit.
8	CHECK POOR CONTACT.	Is there poor contact in accel- erator pedal position sensor circuit?	Repair the poor contact.	Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Z: DTC P1714 THROTTLE POSITION SENSOR POWER SUPPLY CIRCUIT

DTC DETECTING CONDITION:

The power supply circuit of accelerator pedal position sensor is open or shorted.

TROUBLE SYMPTOM:

- Shift point is too high or too low.
- Excessive shift shock
- Tight corner braking phenomenon occurs.



	Ston	Check	Vec	No
1		Le the value loss than 4 75 V2	Ge te step 2	NO Go to stop 5
'	1) Connect the Subaru Select Monitor to the		Go to step z .	G0 10 Step 5 .
	data link connector			
	2) Turn the ignition switch to ON			
	3) Bead the data of "Throttle sensor voltage"			
	using Subaru Select Monitor			
2	CHECK HABNESS CONNECTOB BETWEEN	Is the resistance less than 1 O?	Go to step 3	Renair the onen
–	TCM AND ACCELEBATOR PEDAL POSI-			circuit of harness
	TION SENSOR.			between TCM and
	1) Turn the ignition switch to OFF.			accelerator pedal
	2) Disconnect the connector from TCM.			position sensor
	3) Measure the resistance of harness between			, connector, and
	TCM and accelerator pedal position sensor			poor contact of
	connector.			connector.
	Connector & terminal			
	(B54) No. 10 — (B315) No. 1:			
3	CHECK HARNESS CONNECTOR BETWEEN	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open
	TCM AND ECM.			circuit of harness
	 Disconnect the connector from ECM. 			between TCM and
	2) Measure the resistance of harness between			ECM connector,
	TCM and ECM connector.			and poor contact of
	Connector & terminal			connector.
-	(B54) No. 10 — (B135) No. 22:		-	_
4	CHECK HARNESS CONNECTOR AMONG	Is the resistance 1 M Ω or	Go to step 5.	Repair the short
	ICM, ACCELERATOR PEDAL POSITION	more?		circuit of harness
	SENSOR AND ECM.			among ICM,
	Measure the resistance of harness between			accelerator pedal
				and ECM connect
	(B54) No. 10 — Chassis around:			
5	CHECK HARNESS CONNECTOR BETWEEN	le the resistance less than 1 O?	Go to step 6	Benair the open
5	TCM CONNECTOR AND TRANSMISSION			circuit of harness
	GROUND.			between TCM and
	1) Disconnect the connector from transmis-			transmission con-
	sion.			nector, and poor
	2) Measure the resistance of harness between			contact of connec-
	TCM and transmission connector.			tor.
	Connector & terminal			
	(B54) No. 8 — (B11) No. 19:			
	(B54) No. 17 — (B11) No. 19:			
	(B55) No. 2 — (B11) No. 20:			
	(B55) No. 3 — (B11) No. 20:			
6	CHECK CIRCUIT BETWEEN TRANSMIS-	Is the resistance less than 1 Ω ?	Go to step 7.	Repair the open
	SION CONNECTOR AND TRANSMISSION			circuit of harness
	GROUND.			between transmis-
	Measure the resistance of harness between			sion connector and
	transmission connector and transmission case.			transmission
	Connector & terminal			grouna, poor con-
	(B11) No. 19 — Iransmission ground:			act of connector
	(D I I) NO. 20 — Iransmission ground:			and insumcient
				around belt
				ground bolt.

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Step	Check	Yes	No
Step 7 CHECK ECM POWER SUPPLY AND GROUND LINE. Check ECM power supply circuit and ground circuit. <ref. check<br="" en(h4so)(diag)-60,="" to="">POWER SUPPLY AND GROUND LINE OF ENGINE CONTROL MODULE (ECM), Diag- nostics for Engine Starting Failure.> <ref. to<br="">EN(H4SO U5)(diag)-63, CHECK POWER SUPPLY AND GROUND LINE OF ENGINE SUPPLY AND GROUND LINE OF ENGINE</ref.></ref.>	Check Is there any abnormal condi- tion?	Yes Repair the mal- function of ECM power supply cir- cuit and ground cir- cuit.	No Replace the TCM. <ref. 4at-62,<br="" to="">Transmission Con- trol Module (TCM).></ref.>
CONTROL MODULE (ECM), Diagnostics for Engine Starting Failure.> <ref. to<br="">EN(H4DOTC)(diag)-59, CHECK POWER SUP- PLY AND GROUND LINE OF ENGINE CON- TROL MODULE (ECM), Diagnostics for Engine Starting Failure.> <ref. en(h6do)(diag)-61,<br="" to="">CHECK POWER SUPPLY AND GROUND LINE OF ENGINE CONTROL MODULE (ECM), Diagnostics for Engine Starting Fail- ure.></ref.></ref.>			

AA:DTC P1718 CAN COMMUNICATION CIRCUIT

NOTE:

Refer to "Body Integrated Unit" for diagnosis of P1718. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

AB:DTC P1817 SPORT MODE SWITCH CIRCUIT

DTC DETECTING CONDITION:

The input signal circuit of SPORT shift switch is shorted.

TROUBLE SYMPTOM:

- Manual mode can not be set.
- The SPORT indicator light does not illuminate.
- No SPORT mode occurs.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK THE BODY INTEGRATED UNIT. 1) Connect the Subaru Select Monitor to the data link connector. 2) Turn the ignition switch to ON. (engine OFF) 3) Read the DTC of body integrated unit using Subaru Select Monitor.<ref. lan(diag)-12,="" monitor.="" operation,="" select="" subaru="" to=""></ref.> 	Is DTC displayed?	Perform the diag- nosis according to DTC.	Go to step 2.

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

	Step	Check	Yes	No
2	CHECK BODY INTEGRATED UNIT INPUT	Is OFF displayed?	Go to step 3.	Go to step 7.
	SIGNAL. 1) Shift the select lever to shift to the "P"			
	range.			
	2) Read the TIP mode SW data of body inte-			
	grated unit using Subaru Select Monitor. < Ref.			
	to LAN(diag)-12, OPERATION, Subaru Select			
_				
3		OFE2	Go to step 4.	Replace the select
	1) Shift the select lever from "P" to "D" range.			<ref. cs-19.<="" th="" to=""></ref.>
	2) Read the TIP mode SW data of body inte-			Select Lever.>
	grated unit using Subaru Select Monitor. <ref.< th=""><th></th><th></th><th></th></ref.<>			
	to LAN(diag)-12, OPERATION, Subaru Select			
	Monitor.>		• • • •	
4		Is ON displayed?	Go to step 5.	Replace the select
	1) Shift the select lever to SPORT mode			<bef cs-19<="" th="" to=""></bef>
	2) Read the TIP mode SW data of body inte-			Select Lever.>
	grated unit using Subaru Select Monitor. < Ref.			
	to LAN(diag)-12, OPERATION, Subaru Select			
_	Monitor.>			
5	CHECK INHIBITOR SWITCH.	Is the indication of range posi-	Go to step 6.	Adjust the inhibi-
	Similar the select level norm F to D range.	tion meter synchronized with		select cable < Ref
		position of select lever?		to 4AT-46,
				ADJUSTMENT,
				Inhibitor Switch.>
				<ref. cs-27,<="" th="" to=""></ref.>
				ADJUSTMENT,
6	CHECK INPUT SIGNAL FROM TCM.	Is the indication on each range	Even if the SPORT	Beplace the TCM.
-	1) Shift the select lever from "P" to "D" range.	OFF?	indicator light is	<ref. 4at-62,<="" th="" to=""></ref.>
	2) Read the TIP mode SW data of TCM using		blinking, the cir-	Transmission Con-
	Subaru Select Monitor. <ref. 4at(diag)-14,<="" td="" to=""><td></td><td>cuit is in normal</td><td>trol Module</td></ref.>		cuit is in normal	trol Module
	OPERATION, Subaru Select Monitor.>		condition. A tem-	(TCM).>
			cuit of connector	
			or harness may be	
			the cause. Repair	
			the harness or	
			connector.	
ľ		Is the resistance more than 1	Go to step 8.	Repair the short
	1) Turn the ignition switch to OFF.	1712 2 :		between body inte-
	2) Disconnect the harness connector from			grated unit and
	body integrated unit and select lever.			SPORT shift
	3) Measure the resistance between body inte-			switch.
	grated unit and chassis ground.			
	Connector & terminal (B281) No. 26 — Chassis ground:			
8	CHECK SPORT SHIFT SWITCH	Is the resistance more than 1	Check the body	Replace the select
Ĩ	1) Shift the select lever to shift to the "P"	$M\Omega$?	integrated unit.	lever assembly.
	range.		5	<ref. cs-19,<="" td="" to=""></ref.>
	2) Measure the resistance of SPORT shift			Select Lever.>
	switch connector terminals.			
	ierminai No 9 — No 8:			
L				

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