18.Diagnostic Procedure with Diagnostic Trouble Code (DTC) A: DTC P0026 INTAKE VALVE CONTROL SOLENOID CIRCUIT RANGE/PER-FORMANCE (BANK 1)

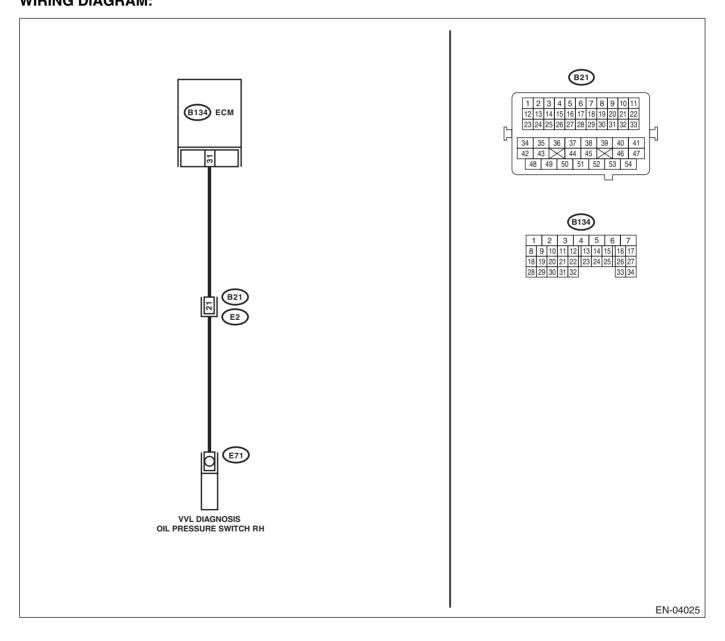
DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-9, DTC P0026 INTAKE VALVE CONTROL SOLE-NOID CIRCUIT RANGE/PERFORMANCE (BANK 1), Diagnostic Trouble Code (DTC) Detecting Criteria.> TROUBLE SYMPTOM:

Erroneous idling

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2 .
2	 CHECK HARNESS BETWEEN ECM AND VARIABLE VALVE LIFT DIAGNOSIS OIL PRESSURE SWITCH CONNECTOR. 1) Warm-up the engine. 2) Turn the ignition switch to OFF. 3) Disconnect the connectors from ECM and variable valve lift diagnosis oil pressure switch connector. 4) Measure the resistance of harness between variable valve lift diagnosis oil pres- sure switch connector and engine ground. Connector & terminal (E71) No. 1 — Engine ground: 	Is the resistance more than 1 MΩ?	Go to step 3.	Repair the ground short circuit of har- ness between ECM and variable valve lift diagnosis oil pressure switch connector.
3	CHECK HARNESS BETWEEN ECM AND VARIABLE VALVE LIFT DIAGNOSIS OIL PRESSURE SWITCH CONNECTOR. Measure the resistance of harness between ECM and variable valve lift diagnosis oil pres- sure switch connector. Connector & terminal (B134) No. 31 — (E71) No. 1:	Is the resistance less than 1 Ω?	Replace the vari- able valve lift diag- nosis oil pressure switch. <ref. to<br="">FU(H4SO)-30, Variable Valve Lift Diagnosis Oil Pressure Switch.> Go to step 4.</ref.>	Repair the open circuit of harness between ECM and variable valve lift diagnosis oil pres- sure switch con- nector.
4	 CHECK DTC. 1) Clear the memory. <ref. clear="" en(h4so="" memory="" mode.="" to="" u5)(diag)-46,=""></ref.> 2) Check the DTC after idling the engine. 	Is DTC displayed?	Replace the oil switching solenoid valve. <ref. to<br="">ME(H4SO)-83, Oil Switching Sole- noid Valve.> Go to step 5.</ref.>	END
5	CHECK DTC. 1) Clear the memory. <ref. en(h4so<br="" to="">U5)(diag)-46, Clear Memory Mode.> 2) Check the DTC after idling the engine.</ref.>	Is DTC displayed?	Check for oil rout- ing. Contact your SOA Service Center.	END

B: DTC P0028 INTAKE VALVE CONTROL SOLENOID CIRCUIT RANGE/PER-FORMANCE (BANK 2)

DTC DETECTING CONDITION:

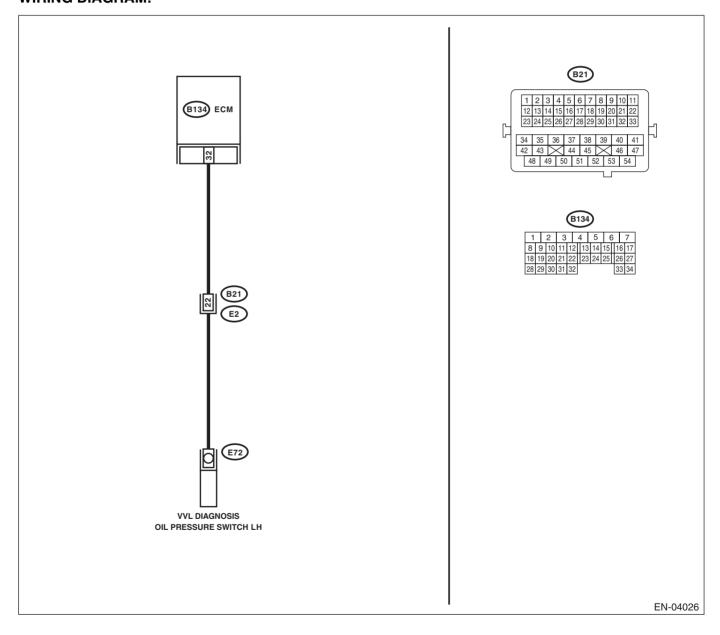
• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-11, DTC P0028 INTAKE VALVE CONTROL SOLE-NOID CIRCUIT RANGE/PERFORMANCE (BANK 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:



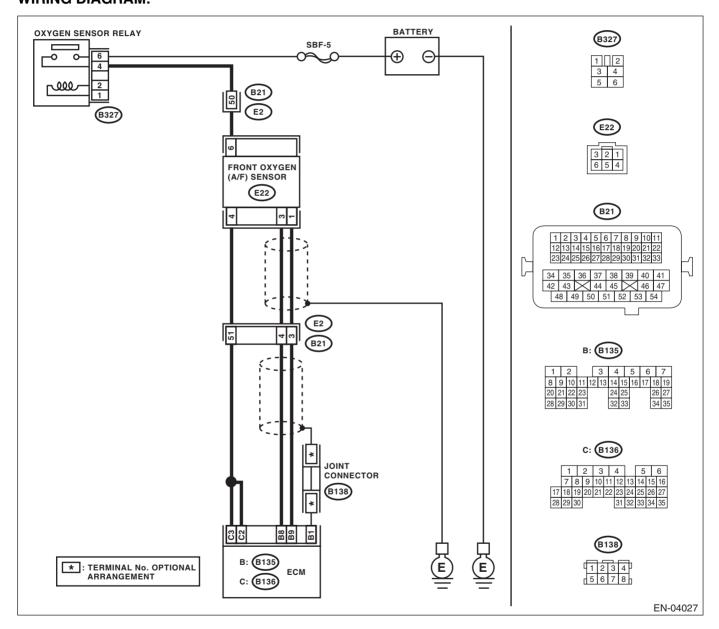
	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	 CHECK HARNESS BETWEEN ECM AND VARIABLE VALVE LIFT DIAGNOSIS OIL PRESSURE SWITCH CONNECTOR. 1) Warm-up the engine. 2) Turn the ignition switch to OFF. 3) Disconnect the connectors from ECM and variable valve lift diagnosis oil pressure switch connector. 4) Measure the resistance of harness between variable valve lift diagnosis oil pres- sure switch connector and engine ground. Connector & terminal (E72) No. 1 — Engine ground: 	Is the resistance more than 1 MΩ?	Go to step 3.	Repair the ground short circuit of har- ness between ECM and variable valve lift diagnosis oil pressure switch connector.
3	CHECK HARNESS BETWEEN ECM AND VARIABLE VALVE LIFT DIAGNOSIS OIL PRESSURE SWITCH CONNECTOR. Measure the resistance of harness between ECM and variable valve lift diagnosis oil pres- sure switch connector. Connector & terminal (B134) No. 32 — (E72) No. 1:	Is the resistance less than 1 Ω?	Replace the vari- able valve lift diag- nosis oil pressure switch. <ref. to<br="">FU(H4SO)-30, Variable Valve Lift Diagnosis Oil Pressure Switch.> Go to step 4.</ref.>	Repair the open circuit of harness between ECM and variable valve lift diagnosis oil pres- sure switch con- nector.
4	CHECK DTC. 1) Clear the memory. <ref. en(h4so<br="" to="">U5)(diag)-46, Clear Memory Mode.> 2) Check the DTC after idling the engine.</ref.>	Is DTC displayed?	Replace the oil switching solenoid valve. <ref. to<br="">ME(H4SO)-83, Oil Switching Sole- noid Valve.> Go to step 5.</ref.>	END
5	CHECK DTC. 1) Clear the memory. <ref. en(h4so<br="" to="">U5)(diag)-46, Clear Memory Mode.> 2) Check the DTC after idling the engine.</ref.>	Is DTC displayed?	Check for oil rout- ing. Contact your SOA Service Center.	END

C: DTC P0030 HO2S HEATER CONTROL CIRCUIT (BANK 1 SENSOR 1) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-11, DTC P0030 HO2S HEATER CONTROL CIRCUIT (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. 1) Start and warm-up the engine. 2) Turn the ignition switch to OFF. 3) Disconnect the connectors from ECM and front oxygen (A/F) sensor. 4) Measure the resistance of harness between ECM and front oxygen (A/F) sensor connector. Connector & terminal (B136) No. 2 — (E22) No. 4: (B136) No. 3 — (E22) No. 4: 	Is the resistance less than 1 Ω?	Go to step 2 .	Repair the open circuit of harness between ECM and front oxygen (A/F) sensor connector.
2	CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. Measure the resistance of harness between ECM and front oxygen (A/F) sensor connector. Connector & terminal (B135) No. 9 — (E22) No. 1: (B135) No. 8 — (E22) No. 3:	Is the resistance less than 1 Ω ?	Go to step 3.	Repair the open circuit of harness between ECM and front oxygen (A/F) sensor connector.
3	CHECK HARNESS BETWEEN OXYGEN SENSOR RELAY AND FRONT OXYGEN (A/F) SENSOR CONNECTOR. Measure the resistance of harness between oxygen sensor relay and front oxygen (A/F) sensor connector. Connector & terminal (B327) No. 4 — (E22) No. 6:	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit of harness between oxygen sensor relay and front oxygen (A/F) sensor connector.
4	CHECK FRONT OXYGEN (A/F) SENSOR. Measure the resistance between front oxygen (A/F) sensor connector terminals. Terminals No. 4 — No. 6:	Is the resistance less than 5 Ω ?	Go to step 5.	Replace the front oxygen (A/F) sen- sor. <ref. to<br="">FU(H4SO)-32, Front Oxygen (A/F) Sensor.></ref.>
5	CHECK POOR CONTACT. Check poor contact of ECM and front oxygen (A/F) sensor connector.	Is there poor contact in ECM or front oxygen (A/F) sensor con- nector?	Repair the poor contact of ECM or front oxygen (A/F) sensor connector.	Replace the front oxygen (A/F) sen- sor. <ref. to<br="">FU(H4SO)-32, Front Oxygen (A/F) Sensor.></ref.>

D: DTC P0031 HO2S HEATER CONTROL CIRCUIT LOW (BANK 1 SENSOR 1) DTC DETECTING CONDITION:

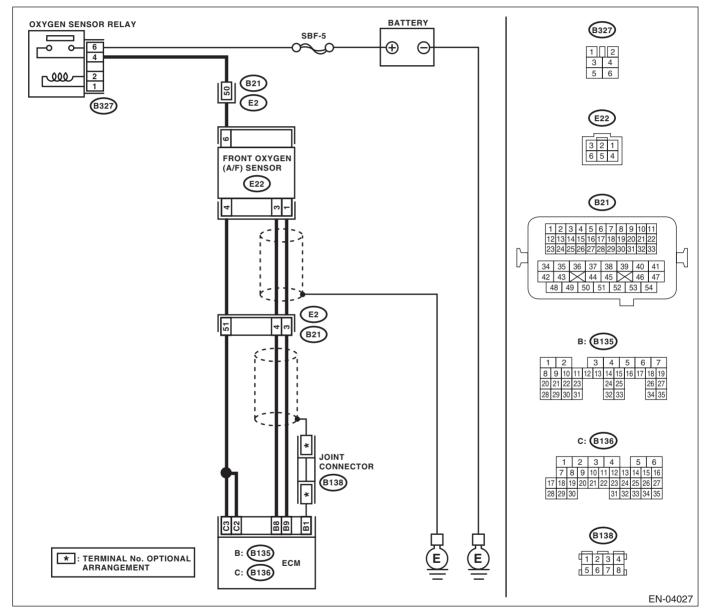
• Immediately at fault recognition

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-13, DTC P0031 HO2S HEATER CONTROL CIRCUIT LOW (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1		Are other DTCs displayed on the Subaru Select Monitor and general scan tool?	Go to step 2.	Go to step 3 .

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
2	 CHECK POWER SUPPLY TO FRONT OXY-GEN (A/F) SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from front oxygen (A/F) sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between front oxygen (A/F) sensor connector and engine ground. Connector & terminal (E22) No. 6 (+) — Engine ground (-): 	Is the voltage more than 10 V?	Go to step 3 .	Repair the power supply line or replace the main relay. NOTE: In this case, repair the following item: • Open circuit in harness between oxygen sensor relay and front oxygen (A/ F) sensor connector • Poor contact in oxygen sensor relay connector • Poor contact in coupling connector
3	 CHECK CURRENT DATA. 1) Start the engine. 2) Read the data of front oxygen (A/F) sensor heater current using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the current more than 0.2 A?	Repair the poor contact of connec- tor. NOTE: In this case, repair the following item: • Poor contact in front oxygen (A/F) sensor connector • Poor contact in ECM connector	Go to step 4.
4	 CHECK INPUT SIGNAL OF ECM. 1) Start and idle the engine. 2) Measure the voltage between ECM connector and chassis ground. Connector & terminal (B136) No. 3 (+) — Chassis ground (-): (B136) No. 2 (+) — Chassis ground (-): 	Is the voltage less than 1 V?	Go to step 6 .	Go to step 5.
5	CHECK OUTPUT SIGNAL OF ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B136) No. 3 (+) — Chassis ground (-): (B136) No. 2 (+) — Chassis ground (-):	Does the voltage change by shaking the ECM harness and connector?	Repair the poor contact of ECM connector.	Go to step 6 .
6	 CHECK FRONT OXYGEN (A/F) SENSOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between front oxygen (A/F) sensor connector terminals. Terminals No. 4 — No. 6: 	Is the resistance less than 10 Ω?	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open or ground short circuit of har- ness between front oxygen (A/F) sen- sor and ECM con- nector • Poor contact in front oxygen (A/F) sensor connector • Poor contact in ECM connector	Sensor.>

E: DTC P0032 HO2S HEATER CONTROL CIRCUIT HIGH (BANK 1 SENSOR 1) DTC DETECTING CONDITION:

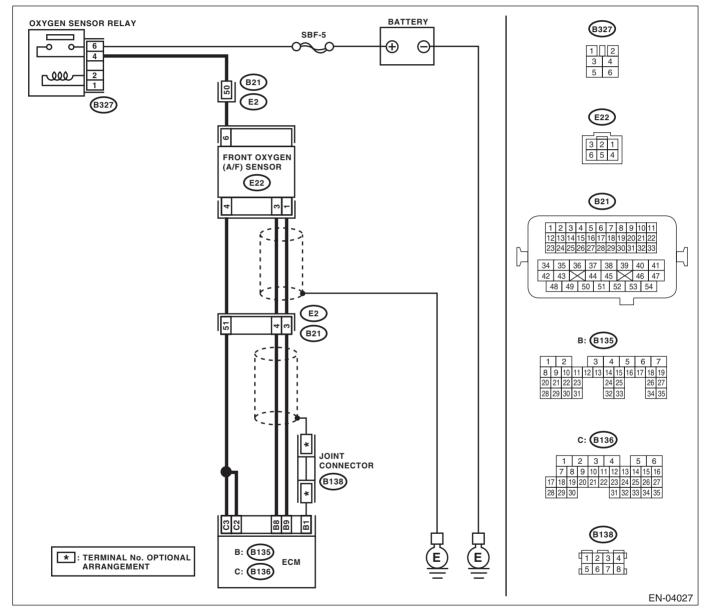
• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-15, DTC P0032 HO2S HEATER CONTROL CIRCUIT HIGH (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



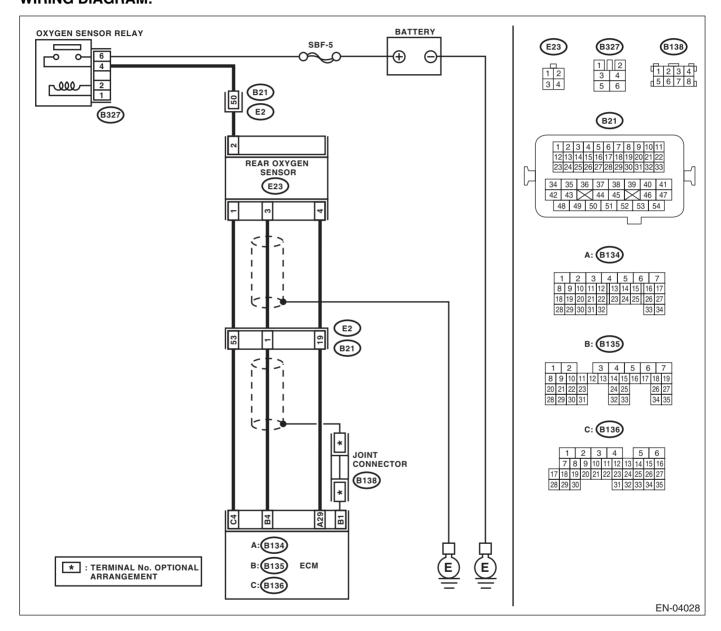
	Step	Check	Yes	No
1	 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector and chassis ground. Connector & terminal (B136) No. 2 (+) — Chassis ground (-): (B136) No. 3 (+) — Chassis ground (-): 	Is the voltage more than 8 V?	Go to step 2.	Go to step 3.
2	 CHECK FRONT OXYGEN (A/F) SENSOR HEATER CURRENT. 1) Turn the ignition switch to OFF. 2) Repair the battery short circuit of harness between ECM and front oxygen (A/F) sensor connector. 3) Turn the ignition switch to ON. 4) Read the data of front oxygen (A/F) sensor heater current using Subaru Select Monitor or general scan tool. NOTE: • Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the current more than 2.3 A?	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	END
3	CHECK OUTPUT SIGNAL OF ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B136) No. 2 (+) — Chassis ground (–): (B136) No. 3 (+) — Chassis ground (–):	Does the voltage change by shaking the ECM harness and connector?	Repair the battery short circuit of har- ness between ECM and front oxygen (A/F) sen- sor connector.	END

F: DTC P0037 HO2S HEATER CONTROL CIRCUIT LOW (BANK 1 SENSOR 2) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-17, DTC P0037 HO2S HEATER CONTROL CIRCUIT LOW (BANK 1 SENSOR 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK CURRENT DATA. 1) Start the engine.	Is the current more than 0.2 A?	Repair the con- nector.	Go to step 2.
	2) Read the data of rear oxygen (A/F) sensor		NOTE:	
	heater current using Subaru Select Monitor or		In this case, repair	
	general scan tool.		the following item:	
	NOTE:		 Poor contact of 	
	Subaru Select Monitor		the rear oxygen	
	For detailed operation procedure, refer to		sensor connector	
	"READ CURRENT DATA FOR ENGINE". <ref.< td=""><td></td><td> Poor contact in </td><td></td></ref.<>		 Poor contact in 	
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-		rear oxygen sen-	
	itor.>		sor connecting	
	 General scan tool 		harness connector	
	For detailed operation procedure, refer to the		• Poor contact in	
	general scan tool operation manual.		ECM connector	
2	CHECK OUTPUT SIGNAL OF ECM.	Is the voltage less than 1 V?	Go to step 5.	Go to step 3.
	 Start and idle the engine. 	-		
	2) Measure the voltage between ECM con-			
	nector and chassis ground.			
	Connector & terminal			
	(B136) No. 4 (+) — Chassis ground (–):			
3	CHECK OUTPUT SIGNAL OF ECM.	Does the voltage change by	Repair the poor	Go to step 4.
	Measure the voltage between ECM connector	shaking the ECM harness and	contact of ECM	
	and chassis ground.	connector?	connector.	
	Connector & terminal			
	(B136) No. 4 (+) — Chassis ground (–):			
4	CHECK OUTPUT SIGNAL OF ECM.	Is the voltage less than 1 V?		Repair the battery
	 Disconnect the connector from the rear 		<ref. td="" to<=""><td>short circuit of har-</td></ref.>	short circuit of har-
	oxygen sensor.		FU(H4SO)-36,	ness between
	2) Measure the voltage between ECM con-		Engine Control	ECM and rear oxy-
	nector and chassis ground.		Module (ECM).>	gen sensor con-
	Connector & terminal			nector. After
	(B136) No. 4 (+) — Chassis ground (–):			repair, replace the ECM. <ref. td="" to<=""></ref.>
				FU(H4SO)-36,
				Engine Control
				Module (ECM).>
5	CHECK POWER SUPPLY TO REAR OXY-	Is the voltage more than 10 V?	Go to sten 6	Repair the power
Ŭ	GEN SENSOR.			supply line or
	1) Turn the ignition switch to OFF.			replace the main
	2) Disconnect the connector from the rear			relay.
	oxygen sensor.			NOTE:
	3) Turn the ignition switch to ON.			In this case, repair
	4) Measure the voltage between rear oxygen			the following item:
	sensor connector and engine ground or chas-			 Open circuit in
	sis ground.			harness between
	Connector & terminal			oxygen sensor re-
	(E23) No. 2 (+) — Chassis ground (–):			lay and rear oxygen
	,			sensor connector
				 Poor contact in
				oxygen sensor re-
				lay connector
				 Poor contact of
				coupling connector

ENGINE (DIAGNOSTICS)

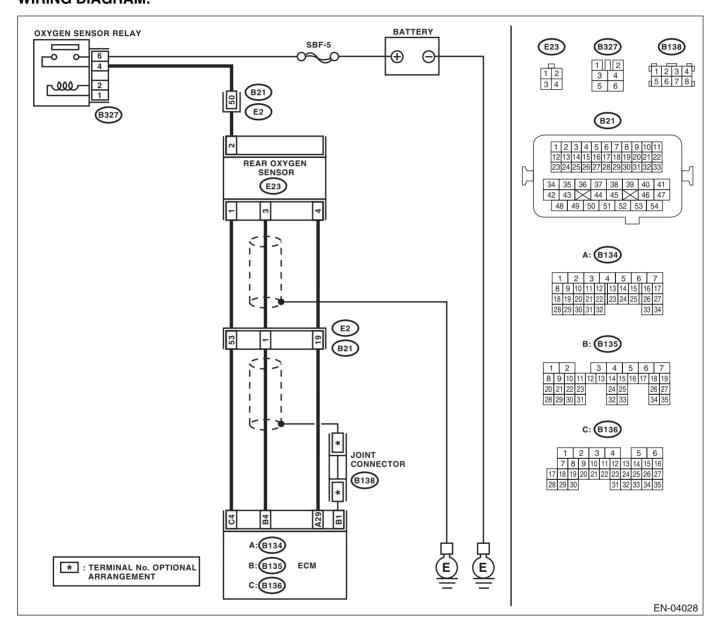
	Step	Check	Yes	No
6	CHECK REAR OXYGEN SENSOR.	Is the resistance less than 30	Repair the har-	Replace the rear
	 Turn the ignition switch to OFF. 	Ω?	ness and connec-	oxygen sensor.
	2) Measure the resistance between rear oxy-		tor.	<ref. th="" to<=""></ref.>
	gen (A/F) sensor connector terminals.			FU(H4SO)-34,
	Terminals		In this case, repair	Rear Oxygen Sen-
	No. 1 — No. 2:		the following item:	
			 Open circuit of 	
			harness between	
			rear oxygen sen-	
			sor and ECM con-	
			nector	
			 Poor contact of 	
			the rear oxygen	
			sensor connector	
			 Poor contact in 	
			ECM connector	
			 Poor contact of 	
			coupling connector	

G: DTC P0038 HO2S HEATER CONTROL CIRCUIT HIGH (BANK 1 SENSOR 2) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-19, DTC P0038 HO2S HEATER CONTROL CIRCUIT HIGH (BANK 1 SENSOR 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



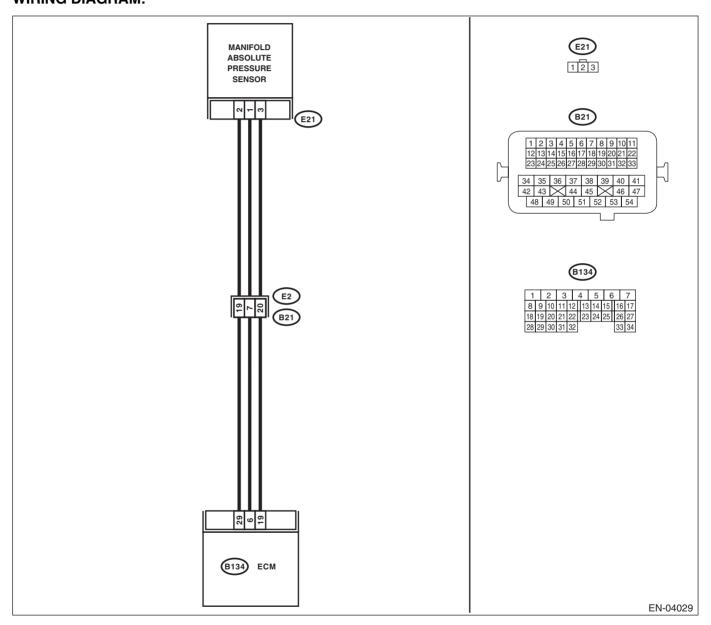
	Step	Check	Yes	No
1	CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B136) No. 4 (+) — Chassis ground (–):	Is the voltage more than 8 V?	Go to step 2.	Go to step 3.
2	 CHECK CURRENT DATA. 1) Turn the ignition switch to OFF. 2) Repair the battery short circuit of harness between ECM and rear oxygen sensor connector. 3) Turn the ignition switch to ON. 4) Read the data of rear oxygen (A/F) sensor heater current using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	END
3	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	END

H: DTC P0068 MAP/MAF - THROTTLE POSITION CORRELATION DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-21, DTC P0068 MAP/MAF - THROTTLE POSITION CORRELATION, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	CHECK AIR INTAKE SYSTEM.	Are there holes, loose bolts or disconnection of hose on air intake system?	Repair the air intake system.	Go to step 3.
3	SENSOR. 1) Start the engine and warm-up engine until coolant temperature is greater than 60°C (140°F).	Is the measured value 73.3 — 106.6 kPa (550 — 800 mmHg, 21.65 — 31.50 inHg) when the ignition is turned ON, and 20.0 — 46.7 kPa (150 — 350 mmHg, 5.91 — 13.78 inHg) during idling?	Go to step 4.	Replace the mani- fold absolute pres- sure sensor. <ref. to FU(H4SO)-24, Manifold Absolute Pressure Sensor.></ref.
4	 CHECK THROTTLE OPENING ANGLE. Read the data of throttle position signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedures, refer to the "General Scan Tool Instruction Manual". 	Is the measured value less than 5% when throttle is fully closed?	Go to step 5.	Adjust or replace the throttle posi- tion sensor. <ref. to FU(H4SO)-23, Throttle Position Sensor.></ref.
5	CHECK THROTTLE OPENING ANGLE.	Is the measured value more than 85% when throttle is fully open?	Replace the mani- fold absolute pres- sure sensor. <ref. to FU(H4SO)-24, Manifold Absolute Pressure Sensor.></ref. 	Replace the throt- tle position sen- sor. <ref. to<br="">FU(H4SO)-23, Throttle Position Sensor.></ref.>

I: DTC P0076 INTAKE VALVE CONTROL SOLENOID CIRCUIT LOW (BANK 1) DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-23, DTC P0076 INTAKE VALVE CONTROL SOLE-NOID CIRCUIT LOW (BANK 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B137) ECM (B137) 1 2 3 4 5 6 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17

 18
 19
 20
 21
 22
 23
 24
 25
 25 24 30 31 26 27 28 29 (B21) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 ~
 34
 35
 36
 37
 38
 39
 40
 41

 42
 43
 44
 45
 46
 47
 48 49 50 51 52 53 54 (в2 E67 27 E2 12 E67 OIL SWITCHING SOLENOID VALVE RH EN-04030

	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN ECM AND OIL SWITCHING SOLENOID VALVE. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and oil switching solenoid valve. 3) Measure the resistance between ECM and oil switching solenoid valve. Connector & terminal (B137) No. 25 — (E67) No. 1: (B137) No. 24 — (E67) No. 2: 	Is the resistance less than 1 Ω ?	Go to step 2.	Repair the open circuit of harness between ECM and oil switching sole- noid valve connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and oil switching solenoid valve connector • Poor contact of coupling connector
2	 CHECK OIL SWITCHING SOLENOID VALVE. 1) Remove the oil switching solenoid valve connector. 2) Measure the resistance between oil switching solenoid valve terminals. Terminals No. 1 — No. 2: 	Is the resistance between 6 and 12 Ω ?	Repair the poor contact of ECM and oil switching solenoid valve.	Replace the oil switching solenoid valve. <ref. to<br="">ME(H4SO)-83, Oil Switching Sole- noid Valve.></ref.>

J: DTC P0077 INTAKE VALVE CONTROL SOLENOID CIRCUIT HIGH (BANK 1) DTC DETECTING CONDITION:

• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-24, DTC P0077 INTAKE VALVE CONTROL SOLE-NOID CIRCUIT HIGH (BANK 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B137) ECM (B137) 1 2 3 4 5 6 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17

 18
 19
 20
 21
 22
 23
 24
 25
 25 24 30 31 26 27 28 29 (B21) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 ~
 34
 35
 36
 37
 38
 39
 40
 41

 42
 43
 44
 45
 46
 47
 48 49 50 51 52 53 54 (в2 E67 27 E2 12 E67 OIL SWITCHING SOLENOID VALVE RH EN-04030

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN ECM AND OIL SWITCHING SOLENOID VALVE. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and oil switching solenoid valve. 3) Measure the resistance between oil switch- ing solenoid valve and engine ground. Connector & terminal (E67) No. 1 — Engine ground: (E67) No. 2 — Engine ground: 	Is the resistance more than 1 $M\Omega$?	Go to step 2.	Repair the short circuit between ECM and oil switching solenoid valve connector.
2	 CHECK OIL SWITCHING SOLENOID VALVE. 1) Remove the oil switching solenoid valve connector. 2) Measure the resistance between oil switching solenoid valve terminals. Terminals No. 1 — No. 2: 	and 12 Ω?	Repair the poor contact of ECM and oil switching solenoid valve.	Replace the oil switching solenoid valve. <ref. to<br="">ME(H4SO)-83, Oil Switching Sole- noid Valve.></ref.>

K: DTC P0082 INTAKE VALVE CONTROL SOLENOID CIRCUIT LOW (BANK 2) DTC DETECTING CONDITION:

· Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-25, DTC P0082 INTAKE VALVE CONTROL SOLE-NOID CIRCUIT LOW (BANK 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B137) ECM (B137) 1 2 3 4 5 6 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17

 18
 19
 20
 21
 22
 23
 24
 25
 31 30 30 31 26 27 28 29 (B21) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 ~
 34
 35
 36
 37
 38
 39
 40
 41

 42
 43
 44
 45
 46
 47
 48 49 50 51 52 53 54 (в2 E68 27 E2 12 E68 OIL SWITCHING SOLENOID VALVE LH EN-04031

	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN ECM AND OIL SWITCHING SOLENOID VALVE. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and oil switching solenoid valve. 3) Measure the resistance between ECM and oil switching solenoid valve. Connector & terminal (B137) No. 31 — (E68) No. 1: (B137) No. 30 — (E68) No. 2: 	Is the resistance less than 1 Ω?	Go to step 2.	Repair the open circuit of harness between ECM and oil switching sole- noid valve connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and oil switching solenoid valve connector • Poor contact of coupling connector
2	 CHECK OIL SWITCHING SOLENOID VALVE. 1) Remove the oil switching solenoid valve connector. 2) Measure the resistance between oil switching solenoid valve terminals. Terminals No. 1 — No. 2: 	Is the resistance between 6 and 12 Ω ?	Repair the poor contact of ECM and oil switching solenoid valve.	Replace the oil switching solenoid valve. <ref. to<br="">ME(H4SO)-83, Oil Switching Sole- noid Valve.></ref.>

L: DTC P0083 INTAKE VALVE CONTROL SOLENOID CIRCUIT HIGH (BANK 2) DTC DETECTING CONDITION:

• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-25, DTC P0083 INTAKE VALVE CONTROL SOLE-NOID CIRCUIT HIGH (BANK 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B137) ECM (B137) 1 2 3 4 5 6 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17

 18
 19
 20
 21
 22
 23
 24
 25
 31 30 30 31 26 27 28 29 (B21) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 ~
 34
 35
 36
 37
 38
 39
 40
 41

 42
 43
 44
 45
 46
 47
 48 49 50 51 52 53 54 (в2 E68 27 E2 12 E68 OIL SWITCHING SOLENOID VALVE LH EN-04031

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN ECM AND OIL SWITCHING SOLENOID VALVE. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and oil switching solenoid valve. 3) Measure the resistance between oil switch- ing solenoid valve and engine ground. Connector & terminal (E68) No. 1 — Engine ground: (E68) No. 2 — Engine ground: 	Is the resistance more than 1 $M\Omega$?	Go to step 2.	Repair the short circuit between ECM and oil switching solenoid valve connector.
2	 CHECK OIL SWITCHING SOLENOID VALVE. 1) Remove the oil switching solenoid valve connector. 2) Measure the resistance between oil switching solenoid valve terminals. Terminals No. 1 — No. 2: 	and 12 Ω?	Repair the poor contact of ECM and oil switching solenoid valve.	Replace the oil switching solenoid valve. <ref. to<br="">ME(H4SO)-83, Oil Switching Sole- noid Valve.></ref.>

M: DTC P0101 MASS OR VOLUME AIR FLOW CIRCUIT RANGE/PERFOR-MANCE

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

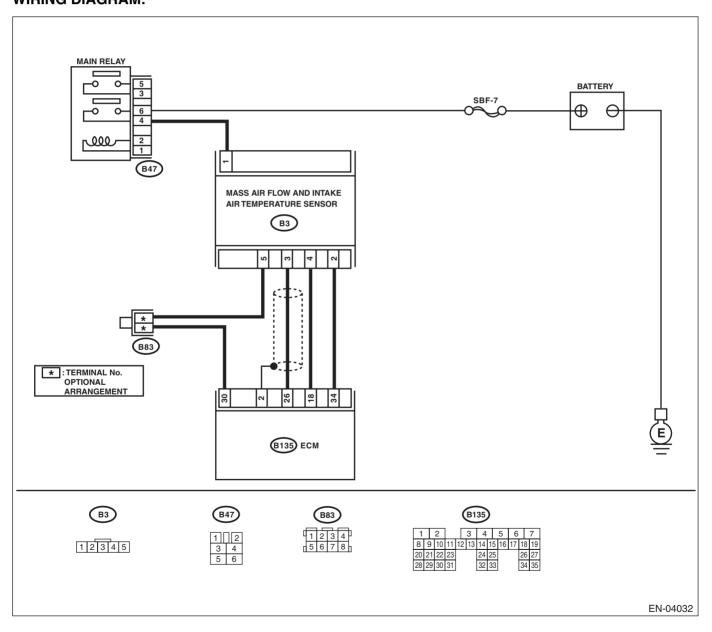
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-26, DTC P0101 MASS OR VOLUME AIR FLOW CIR-CUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Engine stalls.
- Poor driving performance

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	priate DTC using	Replace the mass air flow and intake air temperature
			nostic Trouble	sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and Intake Air Temper-</ref.>
			NOTE: In this case, it is not necessary to inspect DTC P0101.	

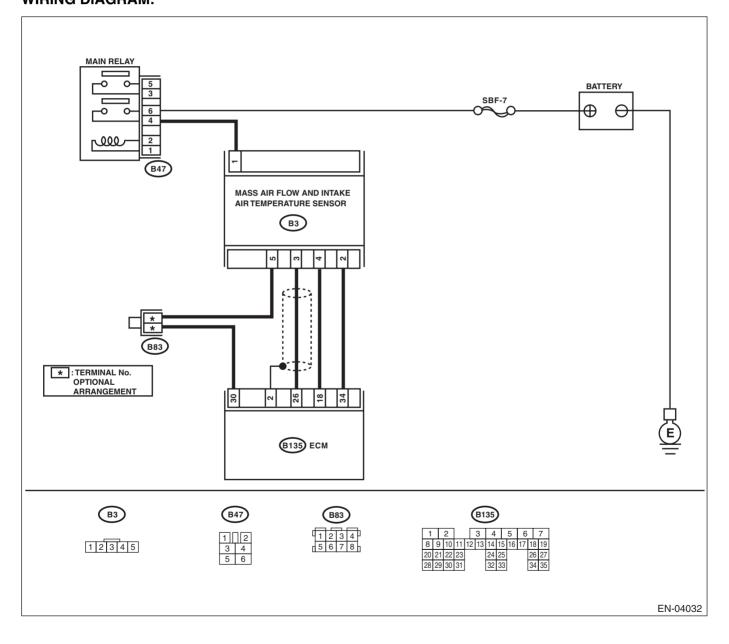
N: DTC P0102 MASS OR VOLUME AIR FLOW CIRCUIT LOW INPUT

- DTC DETECTING CONDITION:
- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-29, DTC P0102 MASS OR VOLUME AIR FLOW CIR-CUIT LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Engine stalls.
- Poor driving performance

CAUTION:



ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	CONNECT SUBARU SELECT MONITOR OR	Is the voltage 0.2 — 4.7 V?	Even if the mal-	Go to step 2.
	THE GENERAL SCAN TOOL, AND READ		function indicator	
	DATA.		light illuminates,	
	 Turn the ignition switch to OFF. 		the circuit has	
	2) Connect the Subaru Select Monitor or gen-		returned to a nor-	
	eral scan tool to data link connector.		mal condition at	
	3) Turn the ignition switch to ON, and the Sub-		this time. Tempo-	
	aru Select Monitor or general scan tool power		rary poor contact	
	switch to ON.		of connector or	
	4) Start the engine.		harness may be	
	5) Read the voltage of mass air flow sensor		the cause. Repair	
	using Subaru Select Monitor or general scan		the harness or	
	tool.		connector in mass	
	NOTE:		air flow sensor.	
	Subaru Select Monitor		NOTE:	
	For detailed operation procedure, refer to		In this case, repair	
	"READ CURRENT DATA FOR ENGINE". < Ref.		the following item:	
	to EN(H4SO U5)(diag)-73, List of Diagnostic		• Open or ground	
	Trouble Code (DTC).>		short circuit of har-	
	General scan tool		ness between	
	For detailed operation procedure, refer to the		mass air flow sen-	
	general scan tool operation manual.		sor and ECM con-	
	3		nector	
			 Poor contact of 	
			mass air flow sen-	
			sor or ECM con-	
			nector	
2	CHECK INPUT SIGNAL OF ECM.	Is the voltage more than 0.2 V?	Go to step 4.	Go to step 3.
	Measure the voltage between ECM connector			
	and chassis ground while engine is idling.			
	Connector & terminal			
	(B135) No. 26 (+) — Chassis ground (–):			
3	CHECK INPUT SIGNAL FOR ECM (USING	Does the voltage change by	Repair the poor	Contact your SOA
	SUBARU SELECT MONITOR).	shaking the harness and con-	contact of ECM	Service Center.
		nector of ECM while monitor-	connector.	
	and chassis ground while engine is idling.	ing the value with Subaru		
		Select Monitor?		
1	CHECK POWER SUPPLY TO MASS AIR	Is the voltage more than 5 V?	Go to step 5.	Repair the open
	FLOW SENSOR.			circuit between
	 Turn the ignition switch to OFF. 			mass air flow sen-
	 Disconnect the connector from mass air 			sor and main relay.
	flow sensor.			
	Turn the ignition switch to ON.			
	Measure the voltage between mass air flow			
	sensor connector and chassis ground.			
	Connector & terminal			
	(B3) No. 1 (+) — Chassis ground (–):			
5	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 6.	Repair the open
		Ω?		circuit between
	1) Turn the ignition switch to OFF.			ECM and mass air
	Disconnect the connectors from ECM.			flow sensor con-
	Measure the resistance of harness			nector.
	between ECM and mass air flow sensor con-			
	nector.			
	Connector & terminal			
	(B135) No. 26 — (B3) No. 3:			
	(P125) No. 24 (P2) No. 2;		1	1
	(B135) No. 34 — (B3) No. 2: (B135) No. 30 — (B3) No. 5:			

	Step	Check	Yes	No
6	CHECK HARNESS BETWEEN ECM AND MASS AIR FLOW SENSOR CONNECTOR. Measure the resistance of harness between ECM and chassis ground. <i>Connector & terminal</i> (B135) No. 26 — Chassis ground: (B135) No. 34 — Chassis ground: (B135) No. 30 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 7 .	Repair the ground short circuit between ECM and mass air flow sen- sor connector.
7	CHECK POOR CONTACT. Check poor contact of mass air flow sensor connector.	Is there poor contact in mass air flow sensor connector?	Repair the poor contact of mass air flow sensor con- nector.	Replace the mass air flow and intake air temperature sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and Intake Air Temper- ature Sensor.></ref.>

O: DTC P0103 MASS OR VOLUME AIR FLOW CIRCUIT HIGH INPUT

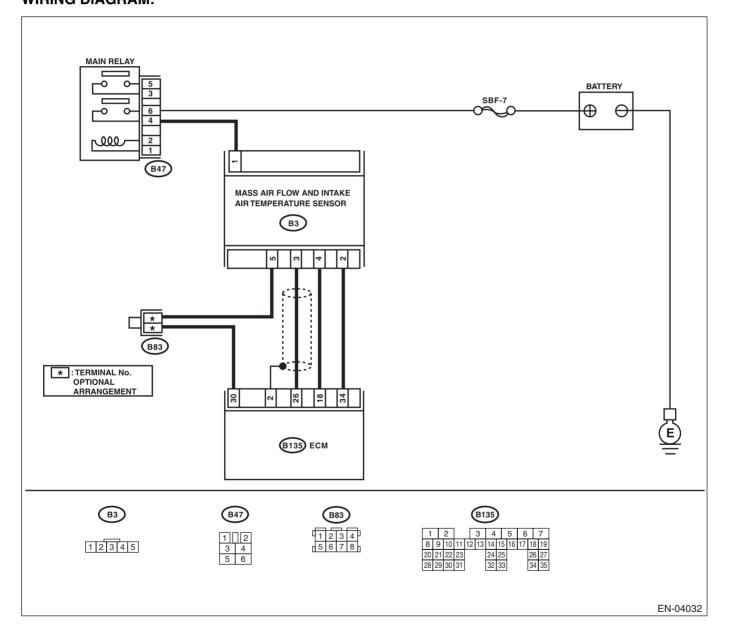
DTC DETECTING CONDITION:

- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-31, DTC P0103 MASS OR VOLUME AIR FLOW CIR-CUIT HIGH INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Engine stalls.
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	 CONNECT SUBARU SELECT MONITOR OR THE GENERAL SCAN TOOL, AND READ DATA. 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor or gen- eral scan tool to data link connector. 3) Turn the ignition switch to ON, and the Sub- aru Select Monitor or general scan tool power switch to ON. 4) Start the engine. 5) Read the voltage of mass air flow sensor using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the voltage 0.2 — 4.7 V?	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time.	Go to step 2.
2	 CHECK HARNESS BETWEEN ECM AND MASS AIR FLOW SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from mass air- flow sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between mass air flow sensor connector and chassis ground. <i>Connector & terminal</i> (B3) No. 3 (+) — Chassis ground (-): 	Is the voltage more than 5 V?	Repair the battery short circuit of har- ness between mass air flow sen- sor connector and ECM connector.	Go to step 3.
3	 CHECK HARNESS BETWEEN ECM AND MASS AIR FLOW SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance of harness between ECM connector and mass air flow sensor connector. Connector & terminal (B3) No. 2 — (B135) No. 34: 	Is the resistance less than 1 Ω?	Replace the mass air flow sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and Intake Air Temper- ature Sensor.></ref.>	Repair the open circuit of harness between mass air flow sensor con- nector and ECM connector.

P: DTC P0107 MANIFOLD ABSOLUTE PRESSURE/BAROMETRIC PRESSURE CIRCUIT LOW INPUT

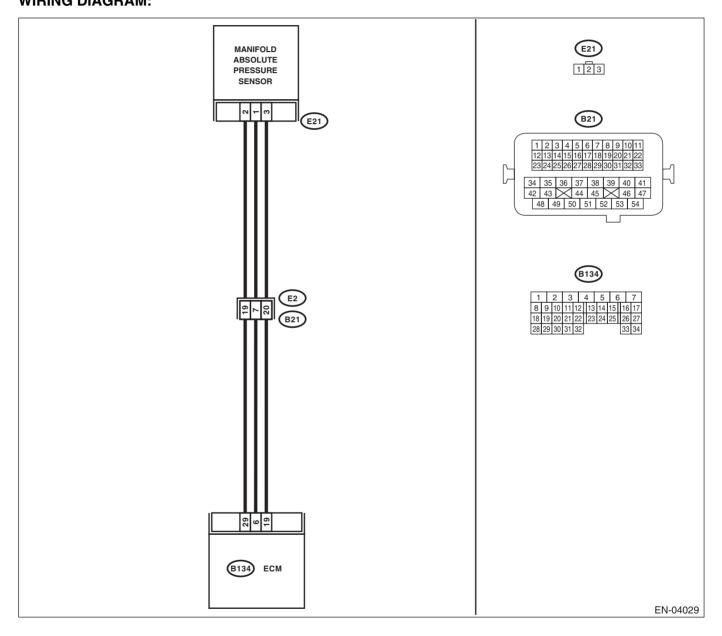
DTC DETECTING CONDITION:

Immediately at fault recognition

GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-33, DTC P0107 MANIFOLD ABSOLUTE PRESSURE/

BAROMETRIC PRESSURE CIRCUIT LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	 CHECK CURRENT DATA. 1) Start the engine. 2) Read the data of intake manifold absolute pressure signal using Subaru Select Monitor or 	Is the measured value less than 13.3 kPa (100 mmHg, 3.94 inHg) ?	Go to step 3.	Go to step 2.
	general scan tool. NOTE:			
	 Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 			
	 General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 			
2	CHECK POOR CONTACT. Check the poor contact in ECM and manifold absolute pressure sensor connector.	Is there poor contact in ECM or manifold absolute pressure sensor connector?	Repair the poor contact in ECM or manifold absolute pressure sensor connector.	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time.
3	CHECK OUTPUT SIGNAL OF ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B134) No. 19 (+) — Chassis ground (-):	Is the voltage more than 4.5 V?	Go to step 5.	Go to step 4.
4	CHECK OUTPUT SIGNAL OF ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B134) No. 19 (+) — Chassis ground (-):	Does the voltage change by shaking the ECM harness and connector?	Repair the poor contact of ECM connector.	Contact the SOA service center.
5	CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Connector & terminal (B134) No. 6 (+) — Chassis ground (-):	Is the voltage less than 0.2 V?	Go to step 7 .	Go to step 6 .
6	CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of atmospheric absolute pres- sure signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 	Is the measured value more than 13.3 kPa (100 mmHg, 3.94 inHg) when shaking the ECM harness and connector?	Repair the poor contact of ECM connector.	Go to step 7.
7	 CHECK HARNESS BETWEEN ECM AND MANIFOLD ABSOLUTE PRESSURE SEN- SOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from manifold absolute pressure sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between manifold absolute pressure sensor connector and engine ground. Connector & terminal (E21) No. 3 (+) — Engine ground (-): 	Is the voltage more than 4.5 V?	Go to step 8 .	Repair the open circuit of harness between ECM and manifold absolute pressure sensor connector.

	Step	Check	Yes	No
8	 CHECK HARNESS BETWEEN ECM AND MANIFOLD ABSOLUTE PRESSURE SEN- SOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance of harness between ECM and manifold absolute pressure sensor connector. Connector & terminal (B134) No. 29 — (E21) No. 2: 	Is the resistance less than 1 Ω ?	Go to step 9 .	Repair the open circuit of harness between ECM and manifold absolute pressure sensor connector.
9	CHECK POOR CONTACT. Check poor contact of manifold absolute pres- sure sensor connector.	Is there poor contact in mani- fold absolute pressure sensor connector?	Repair the poor contact of manifold absolute pressure sensor connector.	Replace the mani- fold absolute pres- sure sensor. <ref. to FU(H4SO)-24, Manifold Absolute Pressure Sensor.></ref.

Q: DTC P0108 MANIFOLD ABSOLUTE PRESSURE/BAROMETRIC PRESSURE **CIRCUIT HIGH INPUT**

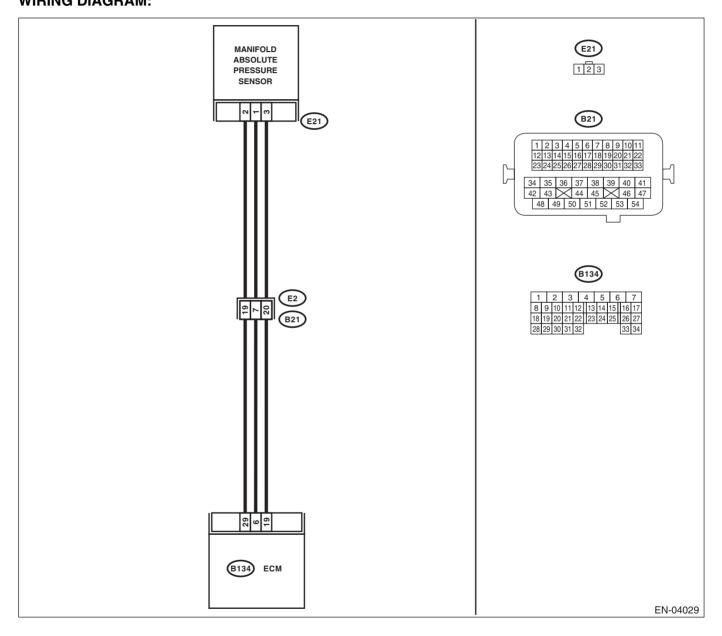
DTC DETECTING CONDITION:

Immediately at fault recognition

GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-35, DTC P0108 MANIFOLD ABSOLUTE PRESSURE/

BAROMETRIC PRESSURE CIRCUIT HIGH INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK CURRENT DATA.	Is the measured value more	Go to step 10.	Go to step 2.
	1) Start the engine.	than 119.5 kPa (896.5 mmHg,		
	2) Read the data of intake manifold absolute	35.29 inHg) ?		
	pressure signal using Subaru Select Monitor or	-		
	general scan tool.			
	NOTE:			
	 Subaru Select Monitor 			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	General scan tool			
	For detailed operation procedure, refer to the			
	general scan tool operation manual.		-	-
2	CHECK OUTPUT SIGNAL OF ECM.	Is the voltage more than 4.5 V?	Go to step 4.	Go to step 3.
	Measure the voltage between ECM connector			
	and chassis ground.			
	Connector & terminal			
0	(B134) No. 19 (+) — Chassis ground (–):		Danain tha na ann	
3	CHECK OUTPUT SIGNAL OF ECM. Measure the voltage between ECM connector	Does the voltage change by	Repair the poor contact of ECM	Contact the SOA
	and chassis ground.	shaking the ECM harness and connector?	connector.	service center.
	Connector & terminal		connector.	
	(B134) No. 19 (+) — Chassis ground (–):			
4	CHECK INPUT SIGNAL OF ECM.	Is the voltage less than 0.2 V?	Go to step 6.	Go to step 5.
1	Measure the voltage between ECM connector			
	and chassis ground.			
	Connector & terminal			
	(B134) No. 6 (+) — Chassis ground (–):			
5	CHECK INPUT SIGNAL FOR ECM (USING	Is the measured value more	Repair the poor	Go to step 6.
	SUBARU SELECT MONITOR).	than 13.3 kPa (100 mmHg,	contact of ECM	
	Read the data of atmospheric absolute pres-	3.94 inHg) when shaking the	connector.	
	sure signal using Subaru Select Monitor.	ECM harness and connector?		
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
6	itor.> CHECK HARNESS BETWEEN ECM AND	Is the voltage more than 4.5 V?	Go to step 7	Repair the open
ľ	MANIFOLD ABSOLUTE PRESSURE SEN-			circuit of harness
	SOR CONNECTOR.			between ECM and
	1) Turn the ignition switch to OFF.			manifold absolute
	2) Disconnect the connector from manifold			pressure sensor
	absolute pressure sensor.			connector.
	3) Turn the ignition switch to ON.			
	4) Measure the voltage between manifold			
	absolute pressure sensor connector and			
	engine ground.			
	Connector & terminal			
	(E21) No. 3 (+) — Engine ground (–):			

	Step	Check	Yes	No
7	 CHECK HARNESS BETWEEN ECM AND MANIFOLD ABSOLUTE PRESSURE SEN- SOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance of harness between ECM and manifold absolute pressure sensor connector. Connector & terminal (B134) No. 6 — (E21) No. 1: 	Is the resistance less than 1 Ω ?	Go to step 8.	Repair the open circuit of harness between ECM and manifold absolute pressure sensor connector.
8	CHECK HARNESS BETWEEN ECM AND MANIFOLD ABSOLUTE PRESSURE SEN- SOR CONNECTOR. Measure the resistance of harness between ECM and manifold absolute pressure sensor connector. Connector & terminal (B134) No. 29 — (E21) No. 2:	Is the resistance less than 1 Ω ?	Go to step 9 .	Repair the open circuit of harness between ECM and manifold absolute pressure sensor connector.
9	CHECK POOR CONTACT. Check poor contact of manifold absolute pres- sure sensor connector.	Is there poor contact in mani- fold absolute pressure sensor connector?	Repair the poor contact of manifold absolute pressure sensor connector.	Replace the mani- fold absolute pres- sure sensor. <ref. to FU(H4SO)-24, Manifold Absolute Pressure Sensor.></ref.
10	 CHECK HARNESS BETWEEN ECM AND MANIFOLD ABSOLUTE PRESSURE SEN- SOR CONNECTOR. 1) Turn the ignition switch to OFF and Subaru Select Monitor or the general scan tool switch to OFF. 2) Disconnect the connector from manifold absolute pressure sensor. 3) Turn the ignition switch to ON, and the Sub- aru Select Monitor or general scan tool power switch to ON. 4) Read the data of intake manifold absolute pressure signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		Repair the battery short circuit of har- ness between ECM and mani- fold absolute pres- sure sensor connector.	Replace the mani- fold absolute pres- sure sensor. <ref. to FU(H4SO)-24, Manifold Absolute Pressure Sensor.></ref.

R: DTC P0111 INTAKE AIR TEMPERATURE SENSOR 1 CIRCUIT RANGE/PER-FORMANCE

DTC DETECTING CONDITION:

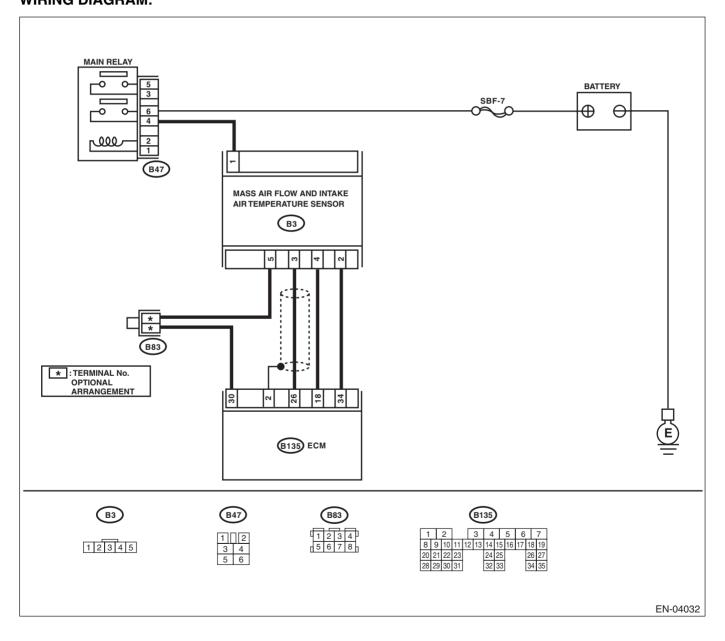
• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-37, DTC P0111 INTAKE AIR TEMPERATURE SEN-SOR 1 CIRCUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	EN(H4SO	

S: DTC P0112 INTAKE AIR TEMPERATURE SENSOR 1 CIRCUIT LOW

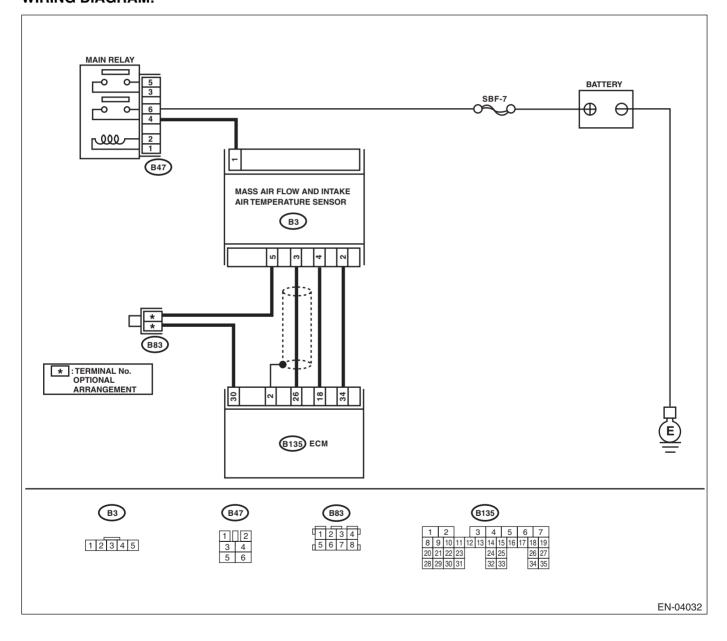
DTC DETECTING CONDITION:

- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-39, DTC P0112 INTAKE AIR TEMPERATURE SEN-SOR 1 CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	 CHECK CURRENT DATA. 1) Start the engine. 2) Read the data of intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		Go to step 2.	Repair the poor contact. NOTE: In this case, repair the following item: • Poor contact in intake air tempera- ture sensor • Poor contact in ECM • Poor contact of coupling connector • Poor contact of joint connector
2	 CHECK HARNESS BETWEEN INTAKE AIR TEMPERATURE SENSOR AND ECM CON- NECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from intake air temperature sensor. 3) Turn the ignition switch to ON. 4) Read the data of intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		air temperature sensor. <ref. to<br="">FU(H4SO)-25,</ref.>	Repair the ground short circuit of har- ness between intake air tempera- ture sensor and ECM connector.

T: DTC P0113 INTAKE AIR TEMPERATURE SENSOR 1 CIRCUIT HIGH

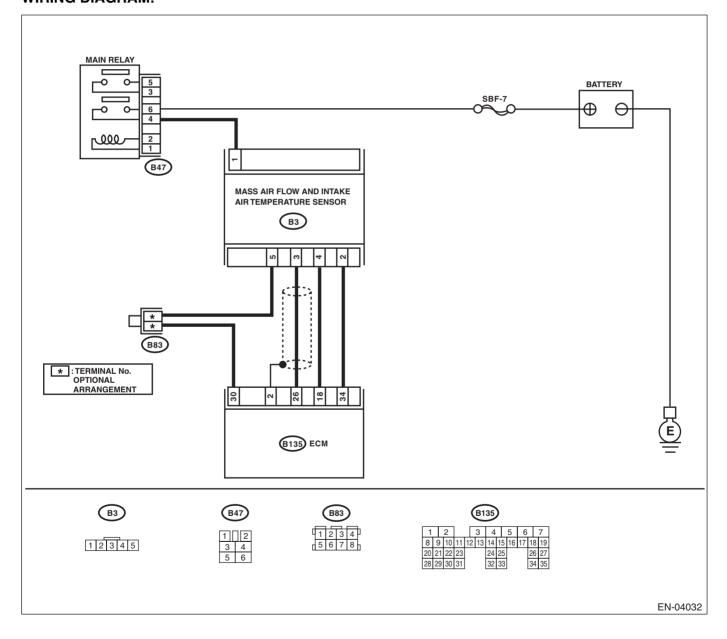
- DTC DETECTING CONDITION:
- Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-41, DTC P0113 INTAKE AIR TEMPERATURE SEN-SOR 1 CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	CHECK CURRENT DATA.	Is the intake air temperature	Go to step 2.	Repair the poor
	1) Start the engine.	less than -40°C (-40°F) ?		contact.
	2) Read the data of intake air temperature			NOTE:
	sensor signal using Subaru Select Monitor or			In this case, repair
	general scan tool.			the following item:
	NOTE:			• Poor contact in
	Subaru Select Monitor			intake air tempera-
	For detailed operation procedure, refer to			ture sensor
	"READ CURRENT DATA FOR ENGINE". < Ref.			 Poor contact in
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			ECM
	itor.>			 Poor contact of
	 General scan tool 			coupling connector
	For detailed operation procedure, refer to the			 Poor contact of
	general scan tool operation manual.			joint connector
2	CHECK HARNESS BETWEEN INTAKE AIR	Is the voltage more than 10 V?	Repair the battery	Go to step 3.
	TEMPERATURE SENSOR AND ECM CON-		short circuit of har-	
	NECTOR.		ness between	
	 Turn the ignition switch to OFF. 		intake air tempera-	
	Disconnect the connector from intake air		ture sensor and	
	temperature sensor.		ECM connector.	
	Measure the voltage between intake air			
	temperature sensor connector and engine			
	ground.			
	Connector & terminal			
	(B3) No. 4 (+) — Engine ground (–):			
3	CHECK HARNESS BETWEEN INTAKE AIR	Is the voltage more than 10 V?		Go to step 4.
	TEMPERATURE SENSOR AND ECM CON-		short circuit of har-	
	NECTOR.		ness between	
	1) Turn the ignition switch to ON.		intake air tempera-	
	2) Measure the voltage between intake air		ture sensor and	
	temperature sensor connector and engine		ECM connector.	
	ground. Connector & terminal			
	(B3) No. 4 (+) — Engine ground (–):			
4	CHECK HARNESS BETWEEN INTAKE AIR	Is the voltage more than 3 V?	Go to step 5.	Repair the har-
17	TEMPERATURE SENSOR AND ECM CON-	is the voltage more than 5 v?	Go to step 3 .	ness and connec-
	NECTOR.			tor.
	Measure the voltage between intake air tem-			NOTE:
	perature sensor connector and engine ground.			In this case, repair
	Connector & terminal			the following item:
	(B3) No. 4 (+) — Engine ground (–):			 Open circuit in
				harness between
				intake air tempera-
				ture sensor and
				ECM connector
				 Poor contact in
				intake air tempera-
				ture sensor
				 Poor contact in
				ECM
				 Poor contact of
				coupling connector
1			1	 Poor contact of
1				1 001 contact of

Step	Check	Yes	No
 5 CHECK HARNESS BETWEEN INTAKE AIR TEMPERATURE SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between intake air temperature sensor connector and engine ground. Connector & terminal (B3) No. 5 — Engine ground: 	Is the resistance less than 5 Ω ?	air temperature sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and</ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between intake air tempera- ture sensor and ECM connector • Poor contact in intake air tempera- ture sensor • Poor contact in ECM • Poor contact of coupling connector • Poor contact of joint connector

U: DTC P0117 ENGINE COOLANT TEMPERATURE CIRCUIT LOW

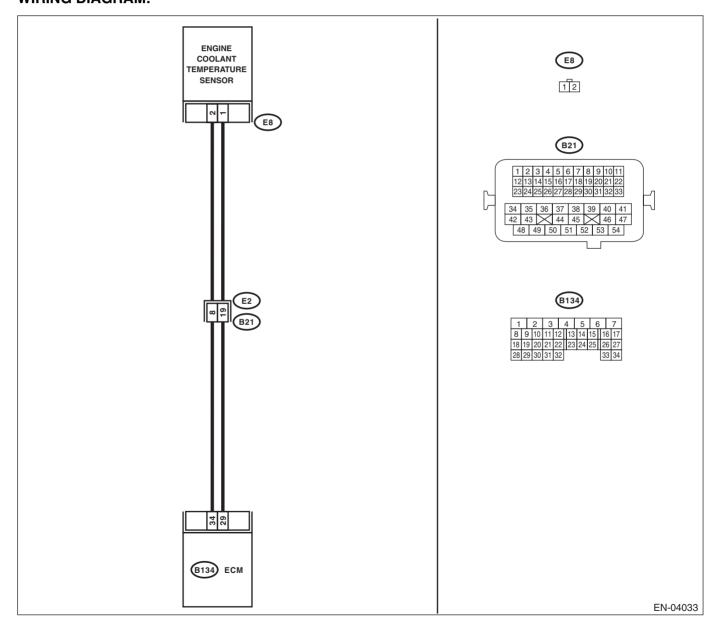
DTC DETECTING CONDITION:

- Immediately at fault recognition
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-43, DTC P0117 ENGINE COOLANT TEMPERATURE CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- · Hard to start
- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	 CHECK CURRENT DATA. 1) Start the engine. 2) Read the data of engine coolant temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the engine coolant tempera- ture above 150°C (302°F) ?	Go to step 2.	Repair the poor contact. NOTE: In this case, repair the following item: • Poor contact of engine coolant temperature sen- sor • Poor contact in ECM • Poor contact of coupling connector • Poor contact of joint connector
2	 CHECK HARNESS BETWEEN ENGINE COOLANT TEMPERATURE SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from the engine coolant temperature sensor. 3) Turn the ignition switch to ON. 4) Read the data of engine coolant tempera- ture sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the engine coolant tempera- ture less than -40°C (-40°F) ?	Replace the engine coolant temperature sen- sor. <ref. to<br="">FU(H4SO)-19, Engine Coolant Temperature Sen- sor.></ref.>	Repair the ground short circuit of har- ness between engine coolant temperature sen- sor and ECM con- nector.

V: DTC P0118 ENGINE COOLANT TEMPERATURE CIRCUIT HIGH

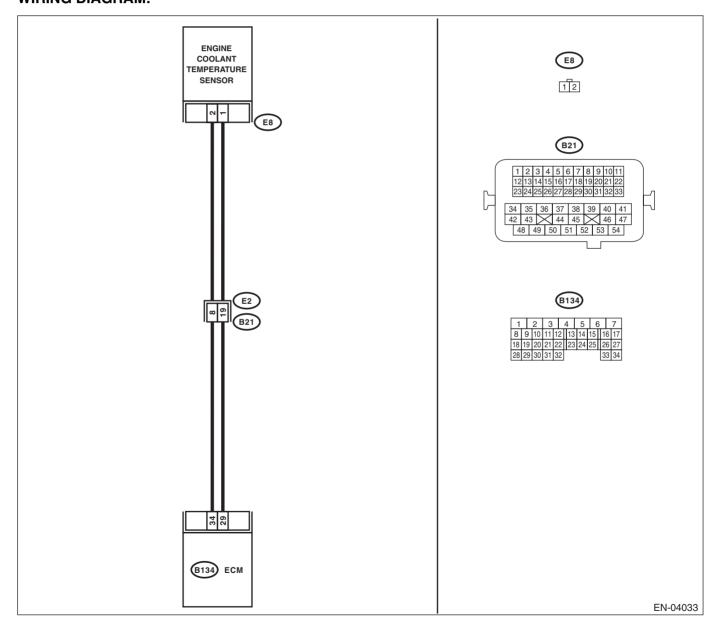
DTC DETECTING CONDITION:

- Immediately at fault recognition
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-45, DTC P0118 ENGINE COOLANT TEMPERATURE CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Hard to start
- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	CHECK CURRENT DATA.	Is the engine coolant tempera-	Go to step 2.	Repair the poor
	1) Start the engine.	ture less than -40°C (-40°F) ?		contact.
	2) Read the data of engine coolant tempera-			NOTE:
	ture sensor signal using Subaru Select Monitor			In this case, repair
	or general scan tool.			the following item:
	NOTE:			 Poor contact of
	Subaru Select Monitor			engine coolant
	For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE", <ref.< td=""><td></td><td></td><td>temperature sen- sor</td></ref.<>			temperature sen- sor
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			 Poor contact in
	itor.>			ECM
	General scan tool			 Poor contact of
	For detailed operation procedure, refer to the			coupling connector
	general scan tool operation manual.			 Poor contact of
				joint connector
2	CHECK HARNESS BETWEEN ENGINE	Is the voltage more than 10 V?	Repair the battery	Go to step 3.
	COOLANT TEMPERATURE SENSOR AND		short circuit of har-	
	ECM CONNECTOR.		ness between	
	1) Turn the ignition switch to OFF.		ECM and engine	
	2) Disconnect the connectors from the engine		coolant tempera-	
	coolant temperature sensor. 3) Measure the voltage between engine cool-		ture sensor con- nector.	
	ant temperature sensor connector and engine			
	ground.			
	Connector & terminal			
	(E8) No. 2 (+) — Engine ground (–):			
3	CHECK HARNESS BETWEEN ENGINE	Is the voltage more than 10 V?	Repair the battery	Go to step 4.
	COOLANT TEMPERATURE SENSOR AND		short circuit of har-	
	ECM CONNECTOR.		ness between	
	1) Turn the ignition switch to ON.		ECM and engine	
	2) Measure the voltage between engine cool- ant temperature sensor connector and engine		coolant tempera- ture sensor con-	
	ground.		nector.	
	Connector & terminal			
	(E8) No. 2 (+) — Engine ground (–):			
4	CHECK HARNESS BETWEEN ENGINE	Is the voltage more than 4 V?	Go to step 5.	Repair the har-
	COOLANT TEMPERATURE SENSOR AND			ness and connec-
	ECM CONNECTOR.			tor.
	Measure the voltage between engine coolant			NOTE:
	temperature sensor connector and engine ground.			In this case, repair
	Connector & terminal			the following item: • Open circuit of
	(E8) No. 2 (+) — Engine ground (–):			harness between
	(<u></u>), ioi <u>_</u> (') <u></u> , <u>_</u> , <u></u>			ECM and engine
				coolant tempera-
				ture sensor con-
				nector
				 Poor contact of
				engine coolant
				temperature sen-
				sor connector
				Poor contact in
				ECM connector
				 Poor contact of coupling connector
				 Poor contact of
				joint connector
ļ			l	

W: DTC P0122 THROTTLE/PEDAL POSITION SENSOR/SWITCH "A" CIRCUIT LOW

DTC DETECTING CONDITION:

• Immediately at fault recognition

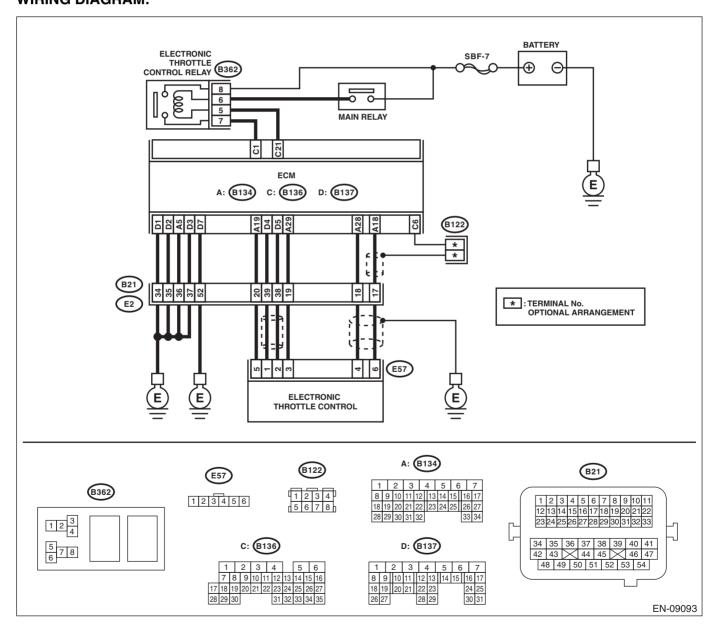
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-47, DTC P0122 THROTTLE/PEDAL POSITION SEN-SOR/SWITCH "A" CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Engine stalls.
- Poor driving performance

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



EN(H4SO U5)(diag)-129

	Step	Check	Yes	No
1	 CHECK SENSOR OUTPUT. 1) Turn the ignition switch to ON. 2) Read the data of main throttle sensor signal using Subaru Select Monitor. 	Is the voltage more than 0.4 V?	Go to step 2 .	Go to step 3 .
	NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 			
2	CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control.	Is there poor contact in con- nector between ECM and elec- tronic throttle control?	Repair the poor contact.	Temporary poor contact occurred, but it is normal at present.
3	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. <i>Connector & terminal</i> (B134) No. 18 — (E57) No. 6: (B134) No. 19 — (E57) No. 5: 	Is the resistance less than 1 Ω?	Go to step 4.	Repair the open circuit of harness connector.
4	CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground. Connector & terminal (B134) No. 18 — Chassis ground: (B134) No. 19 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 5.	Repair the chas- sis short circuit of harness.
5	 CHECK POWER SUPPLY OF ELECTRONIC THROTTLE CONTROL. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 5 (+) — Engine ground (-): 	Is the voltage 4.5 — 5.5 V?	Go to step 6 .	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref.
6	 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 6 — Engine ground: 	Is the resistance more than 10 Ω ?	Repair the poor contact of elec- tronic throttle con- trol connector. Replace the elec- tronic throttle con- trol if defective.	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref.

X: DTC P0123 THROTTLE/PEDAL POSITION SENSOR/SWITCH "A" CIRCUIT HIGH

DTC DETECTING CONDITION:

• Immediately at fault recognition

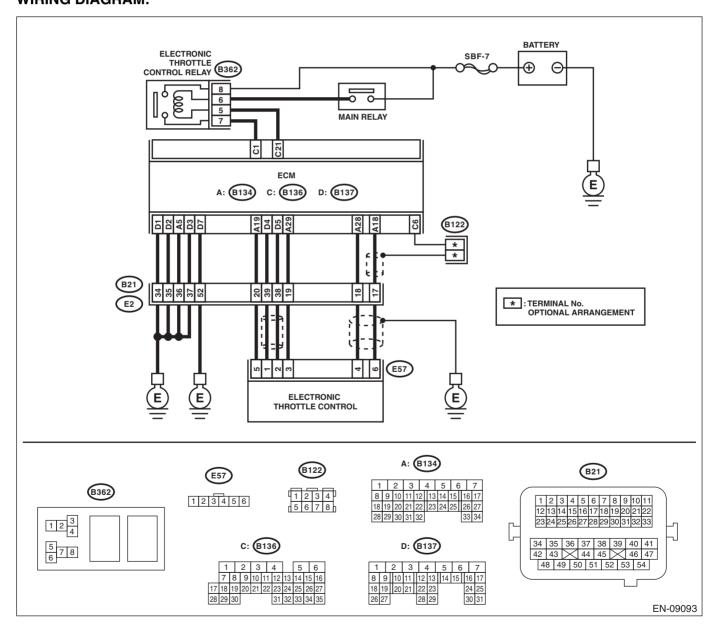
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-49, DTC P0123 THROTTLE/PEDAL POSITION SEN-SOR/SWITCH "A" CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Engine stalls.
- Poor driving performance

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



EN(H4SO U5)(diag)-131

	Step	Check	Yes	No
1	CHECK SENSOR OUTPUT. 1) Turn the ignition switch to ON. 2) Read the data of main throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 	Is the voltage less than 4.63 V?	Go to step 2 .	Go to step 3.
2	CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control.	Is there poor contact in con- nector between ECM and elec- tronic throttle control?	Repair the poor contact.	Temporary poor contact occurred, but it is normal at present.
3	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B134) No. 18 — (E57) No. 6: (B134) No. 29 — (E57) No. 3: 	Is the resistance less than 1 Ω?	Go to step 4.	Repair the open circuit of harness connector.
4	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Connect the ECM connector. 2) Measure the resistance between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 3 — Engine ground: 	Is the resistance less than 1 Ω ?	Go to step 5.	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref.
5	CHECK SENSOR OUTPUT POWER SUP- PLY. Measure the voltage between electronic throt- tle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 6 (+) — Engine ground (–):	Is the voltage less than 10 V?	Go to step 6 .	Repair the battery short circuit of har- ness between ECM connector and electronic throttle control connector.
6	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between ECM connectors. Connector & terminal (B134) No. 18 — (B134) No. 19: 	Is the resistance more than 1 MΩ?	Repair the poor contact of har- ness. Replace the electronic throttle control.	Repair the short circuit to sensor power supply.

Y: DTC P0125 INSUFFICIENT COOLANT TEMPERATURE FOR CLOSED LOOP FUEL CONTROL

DTC DETECTING CONDITION:

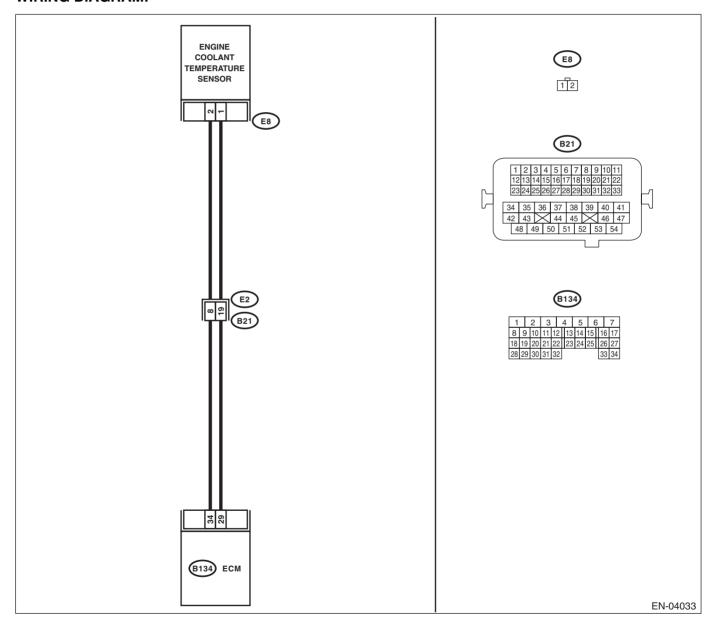
- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-51, DTC P0125 INSUFFICIENT COOLANT TEMPER-

ATURE FOR CLOSED LOOP FUEL CONTROL, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Engine does not return to idle.

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0125.</ref.>	
2	CHECK THERMOSTAT.	Does the thermostat remain opened?	Replace the ther- mostat. <ref. to<br="">CO(H4SO)-17, Thermostat.></ref.>	Replace the engine coolant temperature sen- sor. <ref. to<br="">FU(H4SO)-19, Engine Coolant Temperature Sen- sor.></ref.>

Z: DTC P0126 INSUFFICIENT ENGINE COOLANT TEMPERATURE FOR STA-BLE OPERATION

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

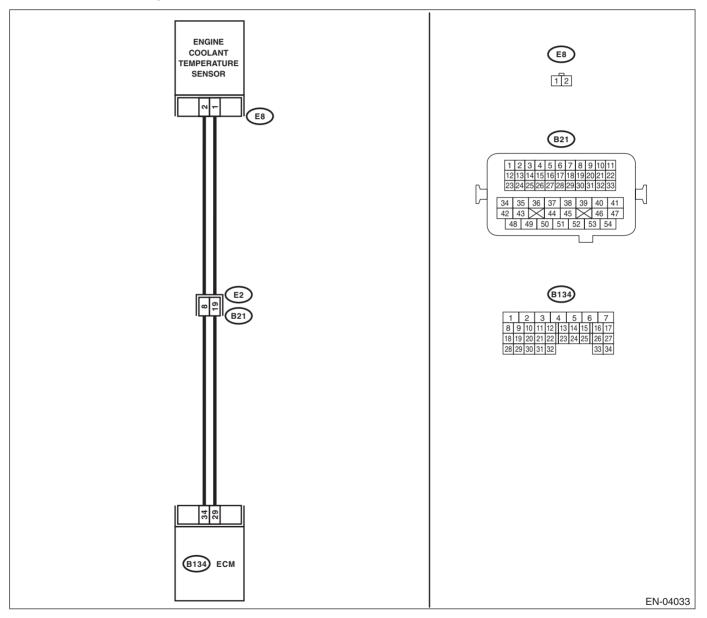
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-53, DTC P0126 INSUFFICIENT ENGINE COOLANT

TEMPERATURE FOR STABLE OPERATION, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Engine does not return to idle.

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	CHECK ENGINE COOLANT TEMPERATURE SENSOR. Measure the resistance between engine cool- ant temperature sensor terminals when the engine coolant is cold and after warmed-up. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Is the resistance of engine coolant temperature sensor dif- ferent between when engine coolant is cold and after warmed-up?	,	Replace the engine coolant temperature sen- sor. <ref. to<br="">FU(H4SO)-19, Engine Coolant Temperature Sen- sor.></ref.>

AA:DTC P0128 COOLANT THERMOSTAT (ENGINE COOLANT TEMPERATURE BELOW THERMOSTAT REGULATING TEMPERATURE)

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-55, DTC P0128 COOLANT THERMOSTAT (ENGINE COOLANT TEMPERATURE BELOW THERMOSTAT REGULATING TEMPERATURE), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Thermostat remains open.

CAUTION:

	Step	Check	Yes	No
1	CHECK VEHICLE.	Was the vehicle driven or idled with the engine partially sub- merged under water?	In this case, it is not necessary to inspect DTC P0128.	Go to step 2 .
2	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 3 .
3	CHECK ENGINE COOLANT.	Are the engine coolant level and mixture ratio of cooling water to antifreeze solution correct?	Go to step 4.	Replace the engine coolant. <ref. to<br="">CO(H4SO)-12, REPLACEMENT, Engine Coolant.></ref.>
4	 CHECK RADIATOR FAN. 1) Start the engine. 2) Check the radiator fan operation. 	Does the radiator fan continu- ously rotate for more than 3 minutes during idling?	Repair radiator fan circuit. <ref. to<br="">CO(H4SO)-23, Radiator Main Fan and Fan Motor.> and <ref. to<br="">CO(H4SO)-25, Radiator Sub Fan and Fan Motor.></ref.></ref.>	Replace the ther- mostat. <ref. to<br="">CO(H4SO)-17, Thermostat.></ref.>

AB:DTC P0131 O2 SENSOR CIRCUIT LOW VOLTAGE (BANK 1 SENSOR 1) DTC DETECTING CONDITION:

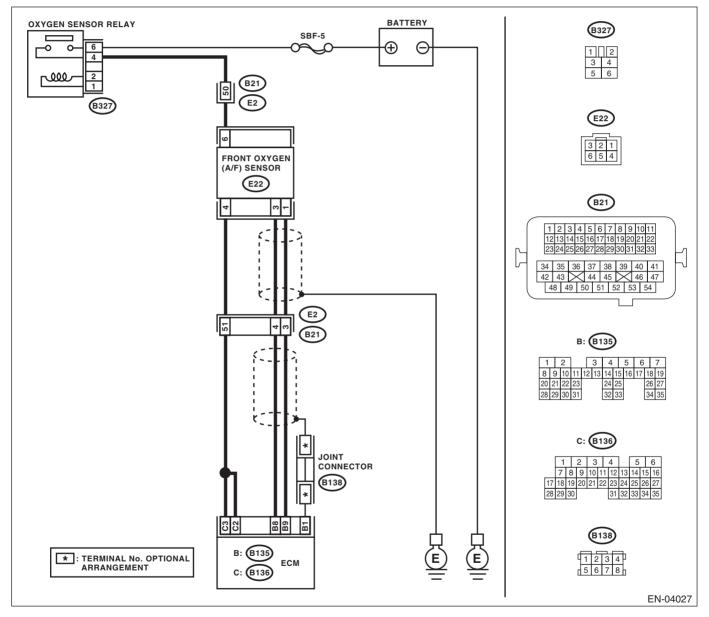
• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-57, DTC P0131 O2 SENSOR CIRCUIT LOW VOLT-AGE (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK FRONT OXYGEN (A/F) SENSOR	Does water enter the connec-	Dry the water thor-	Go to step 2.
	CONNECTOR AND COUPLING CONNEC-	tor?	oughly.	-
	TOR.			
2	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Replace the front	Repair the ground
	FRONT OXYGEN (A/F) SENSOR CONNEC-	ΜΩ?	oxygen (A/F) sen-	short circuit of har
	TOR.		sor. <ref. td="" to<=""><td>ness between</td></ref.>	ness between
	 Turn the ignition switch to OFF. 		FU(H4SO)-32,	ECM and front
	2) Disconnect the connector from ECM and		Front Oxygen (A/F)	oxygen (A/F) sen-
	front oxygen (A/F) sensor connector.		Sensor.>	sor connector.
	3) Measure the resistance of harness			
	between ECM and front oxygen (A/F) sensor			
	connector.			
	Connector & terminal			
	(B135) No. 9 — Chassis ground:			
	(B135) No. 8 — Chassis ground:			

AC:DTC P0132 O2 SENSOR CIRCUIT HIGH VOLTAGE (BANK 1 SENSOR 1) DTC DETECTING CONDITION:

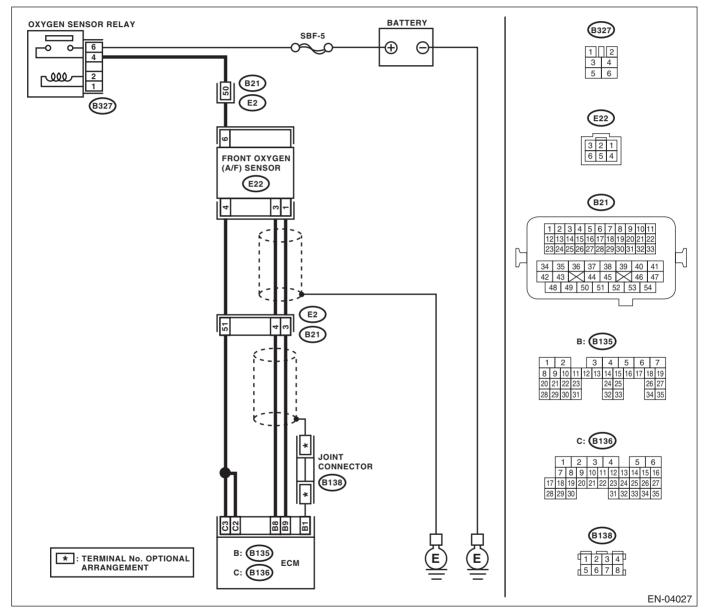
• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-59, DTC P0132 O2 SENSOR CIRCUIT HIGH VOLT-AGE (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK FRONT OXYGEN (A/F) SENSOR CONNECTOR AND COUPLING CONNEC- TOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 2 .
2	 CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. 1) Turn the ignition switch to ON. 2) Disconnect the connector from front oxygen (A/F) sensor. 3) Measure the voltage of harness between ECM connector and chassis ground. Connector & terminal (B135) No. 9 (+) — Chassis ground (-): (B135) No. 8 (+) — Chassis ground (-): 	Is the voltage more than 8 V?	, ,	Repair the battery short circuit of har- ness between ECM and front oxygen (A/F) sen- sor connector.

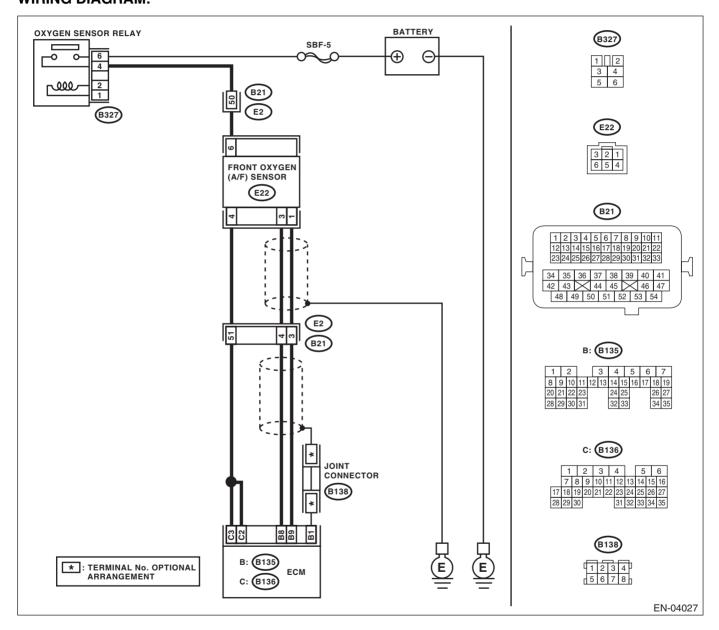
EN(H4SO U5)(diag)-141

AD:DTC P0133 O2 SENSOR CIRCUIT SLOW RESPONSE (BANK 1 SENSOR 1) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-61, DTC P0133 O2 SENSOR CIRCUIT SLOW RE-SPONSE (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0133.</ref.>	
2	 CHECK EXHAUST SYSTEM. NOTE: Check the following items. Loose installation of front portion of exhaust pipe onto cylinder heads Loose connection between front exhaust pipe and front catalytic converter Damage of exhaust pipe resulting in a hole 		Repair the exhaust system.	Replace the front oxygen (A/F) sen- sor. <ref. to<br="">FU(H4SO)-32, Front Oxygen (A/F) Sensor.></ref.>

AE:DTC P0134 O2 SENSOR CIRCUIT NO ACTIVITY DETECTED (BANK 1 SEN-SOR 1)

DTC DETECTING CONDITION:

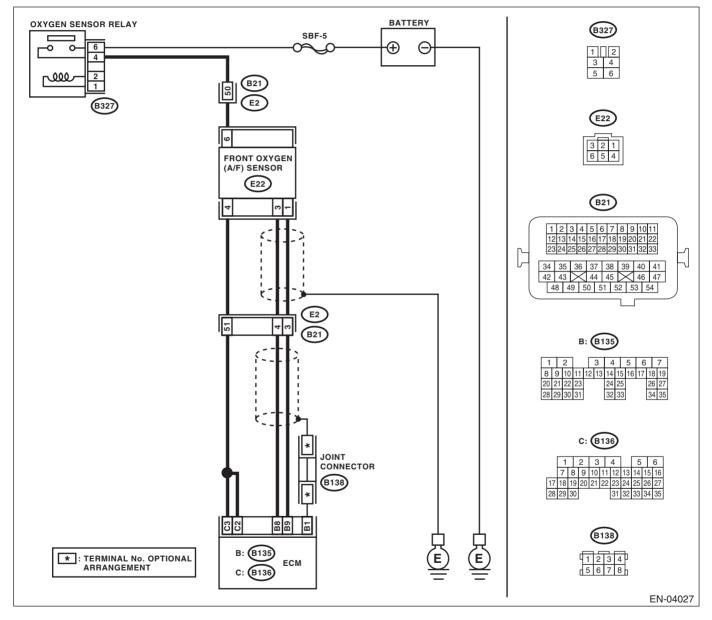
Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-64, DTC P0134 O2 SENSOR CIRCUIT NO ACTIVITY DETECTED (BANK 1 SENSOR 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



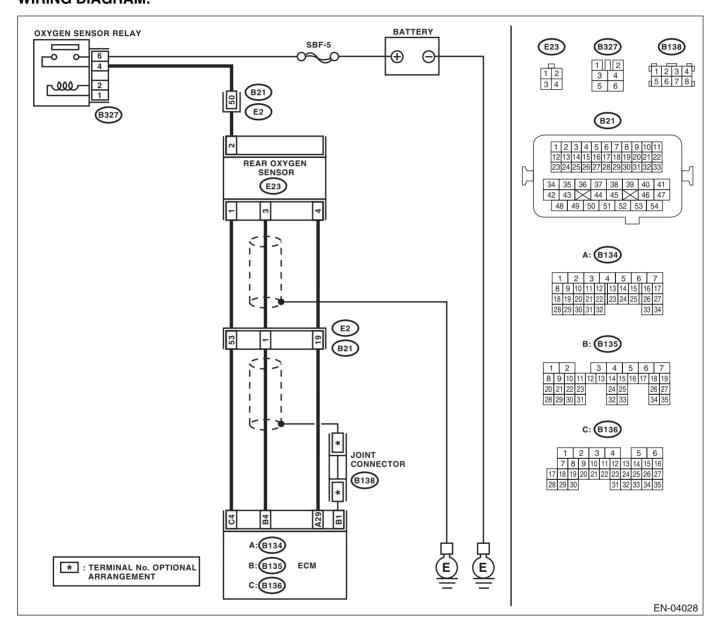
	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and front oxygen (A/F) sensor connector. 3) Measure the resistance of harness between ECM and front oxygen (A/F) sensor connector. Connector & terminal (B135) No. 9 — (E22) No. 1: (B135) No. 8 — (E22) No. 3: 	Is the resistance less than 1 Ω?	Go to step 2.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and front ox- ygen (A/F) sensor connector • Poor contact in front oxygen (A/F) sensor connector • Poor contact in ECM connector
2	CHECK POOR CONTACT. Check poor contact of front oxygen (A/F) sen- sor connector.	Is there poor contact in front oxygen (A/F) sensor connec- tor?	Repair the poor contact of the front oxygen (A/F) sen- sor connector.	Replace the front oxygen (A/F) sen- sor. <ref. to<br="">FU(H4SO)-32, Front Oxygen (A/F) Sensor.></ref.>

AF:DTC P0137 O2 SENSOR CIRCUIT LOW VOLTAGE (BANK 1 SENSOR 2) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-66, DTC P0137 O2 SENSOR CIRCUIT LOW VOLT-AGE (BANK 1 SENSOR 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0137.</ref.>	
2	 CHECK REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and keep the engine speed at 3,000 rpm. (Max. 2 minutes) 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		Go to step 6 .	Go to step 3.
3	CHECK REAR OXYGEN SENSOR CONNEC- TOR AND COUPLING CONNECTOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 4.
4	 CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 – (E23) No. 3: (B134) No. 29 – (E23) No. 4: CHECK HARNESS BETWEEN REAR OXY- 	Is the resistance more than 3 Ω ?	Repair the open circuit of harness between ECM and rear oxygen sen- sor connector.	Go to step 5.
5	 CHECK HARNESS BETWEEN REAR OXY- GEN SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the rear oxygen sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between rear oxygen sensor harness connector and engine ground or chassis ground. Connector & terminal (E23) No. 3 (+) — Engine ground (-): 	Is the voltage 0.2 — 0.5 V?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between rear oxygen sen- sor and ECM con- nector • Poor contact of the rear oxygen sensor connector • Poor contact in ECM connector

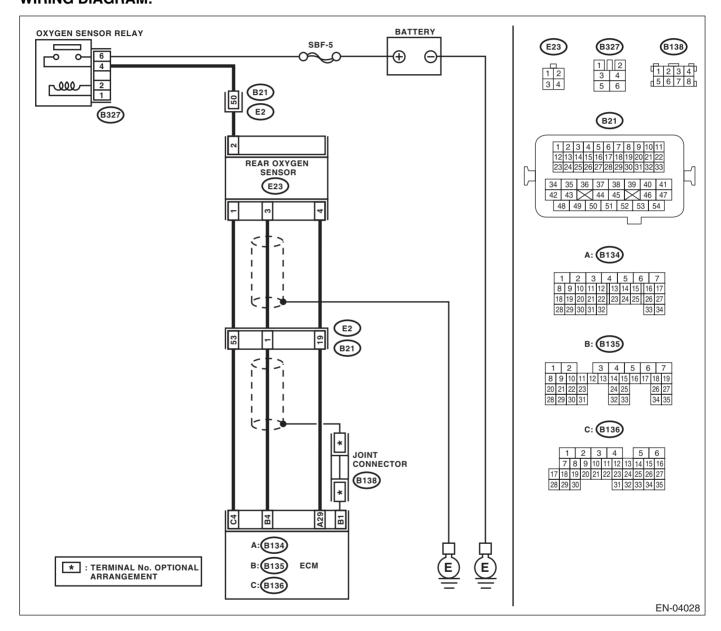
	Step	Check	Yes	No
6	 CHECK EXHAUST SYSTEM. Check exhaust system parts. NOTE: Check the following items. Loose installation of portions Damage (crack, hole etc.) of parts Looseness and improper fitting of parts between front oxygen (A/F) sensor and rear oxygen sensor 		Repair or replace faulty parts.	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>

AG:DTC P0138 O2 SENSOR CIRCUIT HIGH VOLTAGE (BANK 1 SENSOR 2) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-68, DTC P0138 O2 SENSOR CIRCUIT HIGH VOLT-AGE (BANK 1 SENSOR 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0138.</ref.>	
2	 CHECK REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and rapidly reduce the engine speed from 3,000 rpm. 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the voltage 250 mV or less?	Go to step 6 .	Go to step 3.
3	CHECK REAR OXYGEN SENSOR CONNEC- TOR AND COUPLING CONNECTOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 4.
4	 CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 — (E23) No. 3: (B134) No. 29 — (E23) No. 4: 	Is the resistance more than 3 Ω ?	Repair the open circuit of harness between ECM and rear oxygen sen- sor connector.	Go to step 5.
5	 CHECK HARNESS BETWEEN REAR OXY- GEN SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the rear oxygen sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between rear oxygen sensor harness connector and engine ground or chassis ground. Connector & terminal (E23) No. 3 (+) — Engine ground (-): 	Is the voltage 0.2 — 0.5 V?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between rear oxygen sen- sor and ECM con- nector • Poor contact of the rear oxygen sensor connector • Poor contact in ECM connector

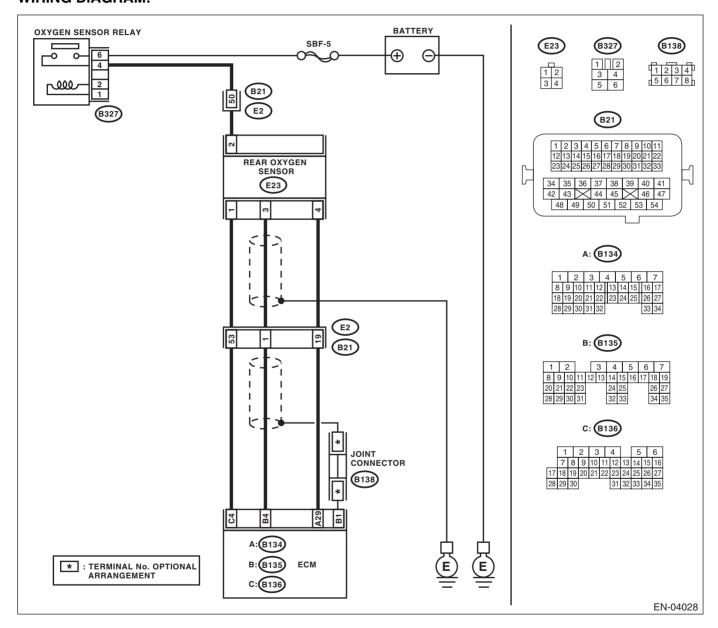
	Step	Check	Yes	No
6		system?	Repair or replace faulty parts.	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>

AH:DTC P0139 O2 SENSOR CIRCUIT SLOW RESPONSE (BANK 1 SENSOR 2) DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-69, DTC P0139 O2 SENSOR CIRCUIT SLOW RE-SPONSE (BANK 1 SENSOR 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0139.</ref.>	
2	 CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 – (E23) No. 3: 	Is the resistance less than 1 Ω ?	Go to step 3.	Repair the open circuit of harness between ECM and rear oxygen sen- sor connector.
3	CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. Measure the resistance between rear oxygen sensor harness connector and chassis ground. Connector & terminal (E23) No. 3 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 4.	Repair the chas- sis short circuit of harness.
4	CHECK REAR OXYGEN SENSOR. Measure the resistance between the rear oxy- gen sensor connectors. <i>Terminals</i> <i>No. 3 — No. 4:</i>	Is the resistance less than 1 Ω ?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Temporary poor contact occurs. Check poor con- tact of connector.

AI: DTC P0140 O2 SENSOR CIRCUIT NO ACTIVITY DETECTED (BANK1 SENSOR2)

DTC DETECTING CONDITION:

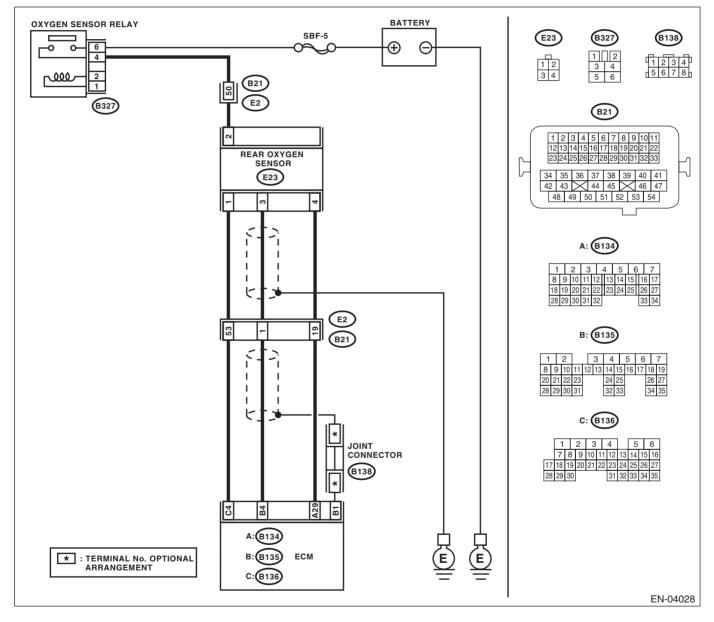
• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-69, DTC P0139 O2 SENSOR CIRCUIT SLOW RE-SPONSE (BANK 1 SENSOR 2), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0140.</ref.>	Go to step 2 .
2	 CHECK REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and keep the engine speed at 3,000 rpm. (Max. 2 minites) 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedures, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool 	Is the voltage more than 490 mV?	Go to step 7.	Go to step 3.
3	 CHECK REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and rapidly reduce the engine speed from 3,000 rpm. 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedures, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool 		Go to step 7.	Go to step 4.
4	CHECK REAR OXYGEN SENSOR CONNEC- TOR AND COUPLING CONNECTOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 5.

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
5	 CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 — (E23) No. 3: (B134) No. 29 — (E23) No. 4: 	Is the resistance more than 3Ω ?	Repair the open circuit of harness between ECM and rear oxygen sen- sor connector.	Go to step 6 .
6	 CHECK HARNESS BETWEEN REAR OXY-GEN SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from rear oxygen sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between rear oxygen sensor harness connector and chassis ground. Connector & terminal (E23) No. 3 (+) — Chassis ground (-): 	Is the voltage 0.2 — 0.5 V?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between rear oxygen sen- sor and ECM con- nector • Poor contact in rear oxygen sen- sor connector • Poor contact in ECM connector
7	 CHECK EXHAUST SYSTEM. Check exhaust system parts. NOTE: Check the following items. Looseness and improper fitting of exhaust system parts Damage (crack, hole etc.) of parts Looseness and improper fitting of parts between front oxygen (A/F) sensor and rear oxygen sensor 	Is there any fault in exhaust system?	Repair or replace faulty parts.	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>

AJ:DTC P0171 SYSTEM TOO LEAN (BANK 1)

Refer to DTC P0172 for diagnostic procedure. <Ref. to EN(H4SO U5)(diag)-157, DTC P0172 SYSTEM TOO RICH (BANK 1), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AK:DTC P0172 SYSTEM TOO RICH (BANK 1)

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-78, DTC P0172 SYSTEM TOO RICH (BANK 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Engine stalls.
- Poor driving performance

CAUTION:

	Step	Check	Yes	No
1	CHECK EXHAUST SYSTEM.	Are there holes or loose bolts on exhaust system?	Repair the exhaust system.	Go to step 2.
2	CHECK AIR INTAKE SYSTEM.	Are there holes, loose bolts or disconnection of hose on air intake system?	Repair the air intake system.	Go to step 3 .
3	 CHECK FUEL PRESSURE. WARNING: Place "NO FIRE" signs near the working area. Be careful not to spill fuel. Measure the fuel pressure. <ref. fuel="" inspection,="" me(h4so)-25,="" pressure.="" to=""></ref.> WARNING: Release fuel pressure before removing the fuel pressure gauge. 		Go to step 4.	Repair the follow- ing item. Fuel pressure is too high: • Clogged fuel line or bent hose Fuel pressure is too low: • Improper fuel pump discharge • Clogged fuel line
4	 CHECK ENGINE COOLANT TEMPERATURE SENSOR. 1) Start the engine and warm-up completely. 2) Read the data of engine coolant temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		Go to step 5.	Replace the engine coolant temperature sen- sor. <ref. to<br="">FU(H4SO)-19, Engine Coolant Temperature Sen- sor.></ref.>

	Step	Check	Yes	No
5	 CHECK MASS AIR FLOW AND INTAKE AIR TEMPERATURE SENSOR. 1) Start the engine and warm-up engine until coolant temperature is greater than 60°C (140°F). 2) Place the select lever in "N" or "P" position. 3) Turn the A/C switch to OFF. 4) Turn all the accessory switches to OFF. 5) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the 	Is the measured value 2.1 — 3.4 g/s (0.28 — 0.45 lb/m)?	Go to step 6.	Replace the mass air flow and intake air temperature sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and Intake Air Temper- ature Sensor.></ref.>
6	 general scan tool operation manual. CHECK MASS AIR FLOW AND INTAKE AIR TEMPERATURE SENSOR. 1) Start the engine and warm-up engine until coolant temperature is greater than 60°C (140°F). 2) Place the shift lever in neutral position. 3) Turn the A/C switch to OFF. 4) Turn all the accessory switches to OFF. 5) Open the front hood. 6) Measure the ambient temperature. 7) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	(-18 — 90°F)?	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Check the mass air flow and intake air temperature sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and Intake Air Temper- ature Sensor.></ref.>

AL:DTC P0181 FUEL TEMPERATURE SENSOR "A" CIRCUIT RANGE/PERFOR-MANCE

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

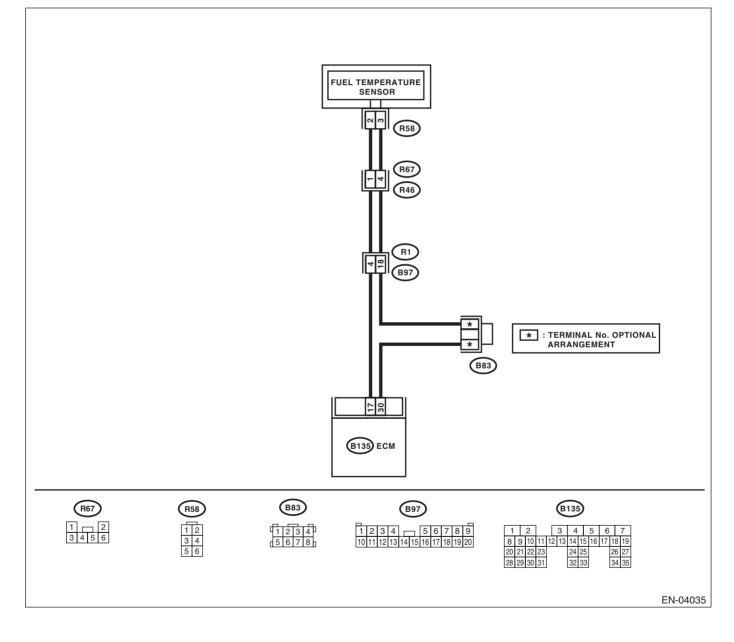
GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-80, DTC P0181 FUEL TEMPERATURE SENSOR "A"

CIRCUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



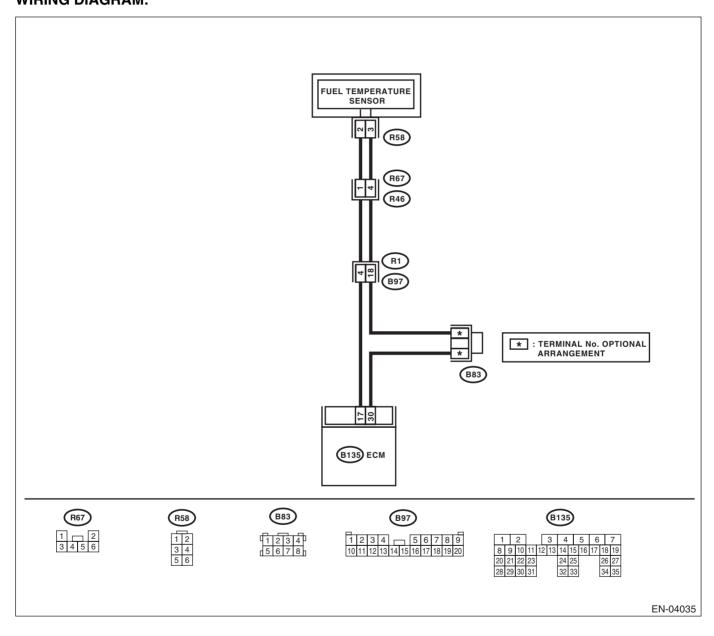
Step	Check	Yes	No
1 CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0181.</ref.>	

AM:DTC P0182 FUEL TEMPERATURE SENSOR "A" CIRCUIT LOW INPUT DTC DETECTING CONDITION:

· Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-83, DTC P0182 FUEL TEMPERATURE SENSOR "A" CIRCUIT LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



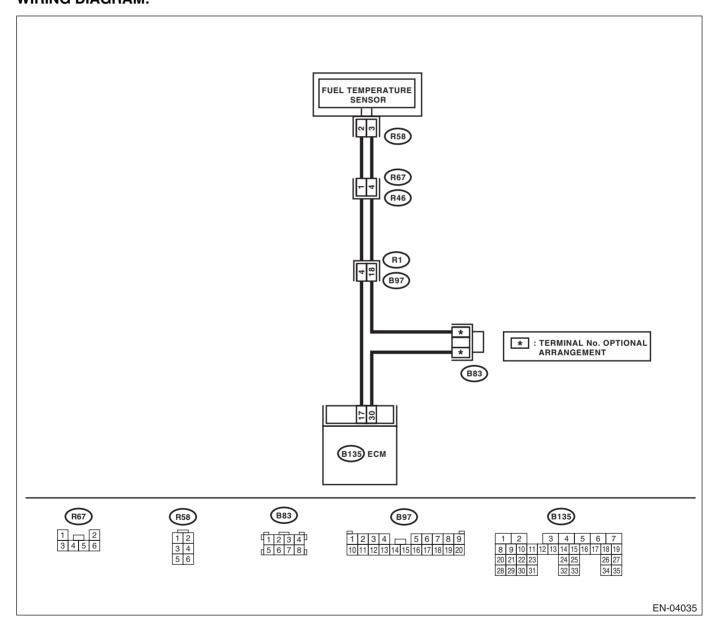
	Step	Check	Yes	No
1	 CHECK CURRENT DATA. 1) Start the engine. 2) Read the data of fuel temperature sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> 		Go to step 2.	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time.
2	 CHECK CURRENT DATA. 1) Turn the ignition switch to OFF. 2) Remove the access hole lid. 3) Disconnect the connector from fuel pump. 4) Turn the ignition switch to ON. 5) Read the data of fuel temperature sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" li="" monitor.<="" select="" subaru="" to="" u5)(diag)-27,=""> </ref.>		Replace the fuel temperature sen- sor. <ref. to<br="">EC(H4SO)-9, Fuel Temperature Sen- sor.></ref.>	Repair the ground short circuit of the harness between fuel injector and ECM connector.

AN:DTC P0183 FUEL TEMPERATURE SENSOR "A" CIRCUIT HIGH INPUT DTC DETECTING CONDITION:

• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-85, DTC P0183 FUEL TEMPERATURE SENSOR "A" CIRCUIT HIGH INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:



	Step	Check	Yes	No
1	 CHECK CURRENT DATA. 1) Start the engine. 2) Read the data of fuel temperature sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> 	Is the fuel temperature less than –40°C (–40°F) ?	Go to step 2.	Repair the poor contact. NOTE: In this case, repair the following item: • Poor contact in fuel pump connec- tor • Poor contact in ECM connector • Poor contact of coupling connector • Poor contact of joint connector
2	 CHECK HARNESS BETWEEN FUEL TEM- PERATURE SENSOR AND ECM CONNEC- TOR. 1) Turn the ignition switch to OFF. 2) Remove the access hole lid. 3) Disconnect the connector from fuel pump. 4) Measure the voltage between fuel pump connector and chassis ground. Connector & terminal (R58) No. 2 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Repair the battery short circuit of har- ness between ECM and fuel pump connector.	Go to step 3.
3	 CHECK HARNESS BETWEEN FUEL TEM- PERATURE SENSOR AND ECM CONNEC- TOR. 1) Turn the ignition switch to ON. 2) Measure the voltage between fuel pump connector and chassis ground. <i>Connector & terminal</i> (R58) No. 2 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Repair the battery short circuit of har- ness between ECM and fuel pump connector.	Go to step 4.
4	CHECK HARNESS BETWEEN FUEL TEM- PERATURE SENSOR AND ECM CONNEC- TOR. Measure the voltage between fuel pump con- nector and chassis ground. <i>Connector & terminal</i> <i>(R58) No. 2 (+) — Chassis ground ():</i>	Is the voltage more than 4 V?	Go to step 5.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and fuel pump connector • Poor contact in fuel pump connec- tor • Poor contact in ECM connector • Poor contact of coupling connector

	Step	Check	Yes	No
5	CHECK HARNESS BETWEEN FUEL TEM-	Is the resistance less than 1	Replace the fuel	Repair the har-
	PERATURE SENSOR AND ECM CONNEC-	Ω?	temperature sen-	ness and connec-
	TOR.		sor. <ref. td="" to<=""><td>tor.</td></ref.>	tor.
	 Turn the ignition switch to OFF. 		EC(H4SO)-9, Fuel	NOTE:
	2) Disconnect the connectors from ECM.			In this case, repair
	Measure the resistance of harness		sor.>	the following item:
	between fuel pump connector and ECM.			 Open circuit of
	Connector & terminal			harness between
	(R58) No. 3 — (B135) No. 30:			ECM and fuel
				pump connector
				· Poor contact in
				fuel pump connec-
				tor
				· Poor contact in
				ECM connector
				· Poor contact of
				coupling connector
				· Poor contact of
				joint connector

AO:DTC P0196 ENGINE OIL TEMPERATURE SENSOR CIRCUIT RANGE/PER-FORMANCE

DTC DETECTING CONDITION:

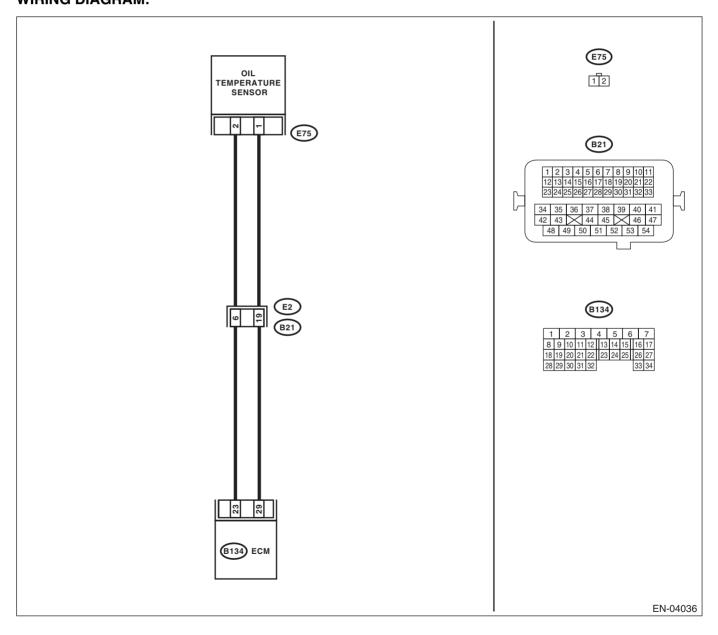
• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-87, DTC P0196 ENGINE OIL TEMPERATURE SEN-SOR CIRCUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- · Hard to start
- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	"List of Diagnostic Trouble Code	Replace the oil temperature sen- sor. <ref. to<br="">FU(H4SO)-31, Oil Temperature Sen- sor.></ref.>
			NOTE: In this case, it is not necessary to inspect DTC P0196.	

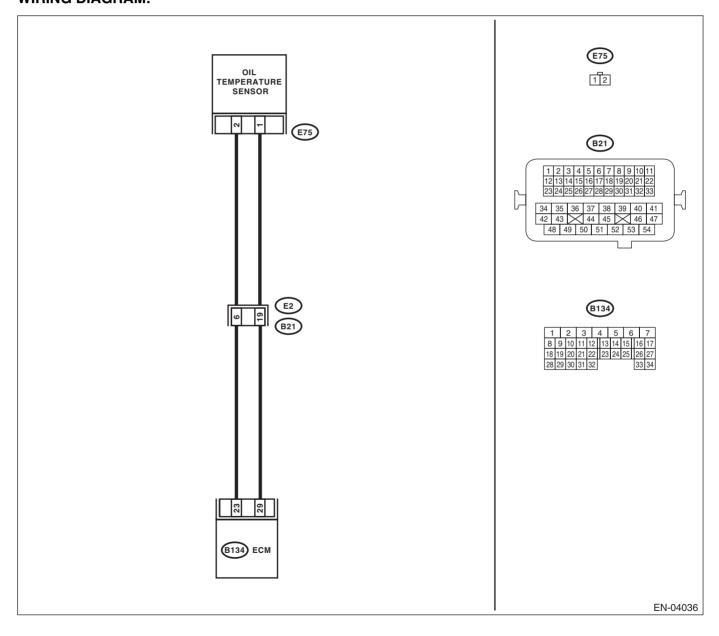
AP:DTC P0197 ENGINE OIL TEMPERATURE SENSOR LOW

- DTC DETECTING CONDITION:
- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-89, DTC P0197 ENGINE OIL TEMPERATURE SEN-SOR LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Hard to start
- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN OIL TEMPER- ATURE SENSOR AND ECM CONNECTOR. 1) Disconnect the ECM connector and oil temperature sensor connector. 2) Measure the resistance of harness between oil temperature sensor connector and engine ground. Connector & terminal (B134) No. 23 — Engine ground: (B134) No. 29 — Engine ground: 	ΜΩ?	Go to step 2.	Repair the ground short circuit between ECM and oil temperature sensor connector.
2	CHECK POOR CONTACT. Check poor contact of oil temperature sensor connector.	Is there poor contact in oil tem- perature sensor connector?	Repair the poor contact.	Replace the oil temperature sen- sor. <ref. to<br="">FU(H4SO)-31, Oil Temperature Sen- sor.></ref.>

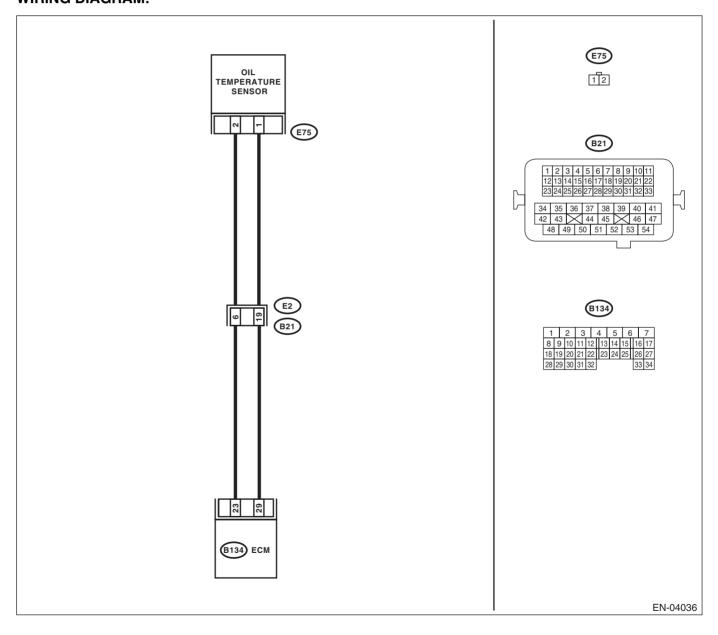
AQ:DTC P0198 ENGINE OIL TEMPERATURE SENSOR HIGH

- DTC DETECTING CONDITION:
- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-90, DTC P0198 ENGINE OIL TEMPERATURE SEN-SOR HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Hard to start
- Erroneous idling
- Poor driving performance

CAUTION:



	Step	Check	Yes	No
1		Is the voltage more than 10 V?	Repair the battery	Go to step 2.
	ATURE SENSOR AND ECM CONNECTOR.		short circuit of har-	
	1) Turn the ignition switch to OFF.		ness between	
	2) Disconnect the connector from the oil tem-		ECM and oil tem-	
	perature sensor.		perature sensor	
	3) Measure the voltage between oil tempera-		connector.	
	ture sensor connector and engine ground.			
	Connector & terminal			
	(E75) No. 2 (+) — Engine ground (–):			
2	CHECK HARNESS BETWEEN OIL TEMPER-	Is the voltage more than 10 V?		Go to step 3.
	ATURE SENSOR AND ECM CONNECTOR.		short circuit of har-	
	1) Turn the ignition switch to ON.		ness between	
	2) Measure the voltage between oil tempera-		ECM and oil tem-	
	ture sensor connector and engine ground. Connector & terminal		perature sensor	
	(E75) No. 2 (+) — Engine ground (–):		connector.	
3		Is the voltage more than 4 V?	Go to step 4 .	Repair the har-
Ŭ	ATURE SENSOR AND ECM CONNECTOR.		do to step 4.	ness and connec-
	Measure the voltage between oil temperature			tor.
	sensor connector and engine ground.			NOTE:
	Connector & terminal			In this case, repair
	(E75) No. 2 (+) — Engine ground (–):			the following item:
				 Open circuit of
				harness between
				ECM and oil tem-
				perature sensor
				connector
				 Poor contact of
				oil temperature
				sensor connector
				Poor contact in
				ECM connector
				 Poor contact of
4			Devices the sil	coupling connector
4	CHECK HARNESS BETWEEN OIL TEMPER- ATURE SENSOR AND ECM CONNECTOR.	Is the resistance less than 5 Ω ?	Replace the oil	Repair the har- ness and connec-
	 Turn the ignition switch to OFF. 	527	temperature sen- sor. <ref. th="" to<=""><th>tor.</th></ref.>	tor.
	2) Measure the resistance of harness			
	between oil temperature sensor connector and			NOTE: In this case, repair
	engine ground.		sor.>	the following item:
	Connector & terminal		00112	 Open circuit of
	(E75) No. 1 — Engine ground:			harness between
	(, , , , , , , , , , , , , , , , , , ,			ECM and oil tem-
				perature sensor
				connector
				 Poor contact of
				oil temperature
				sensor connector
				 Poor contact in
				ECM connector
				 Poor contact of
				coupling connector
				 Poor contact of
				joint connector

AR:DTC P0222 THROTTLE/PEDAL POSITION SENSOR/SWITCH "B" CIRCUIT LOW

DTC DETECTING CONDITION:

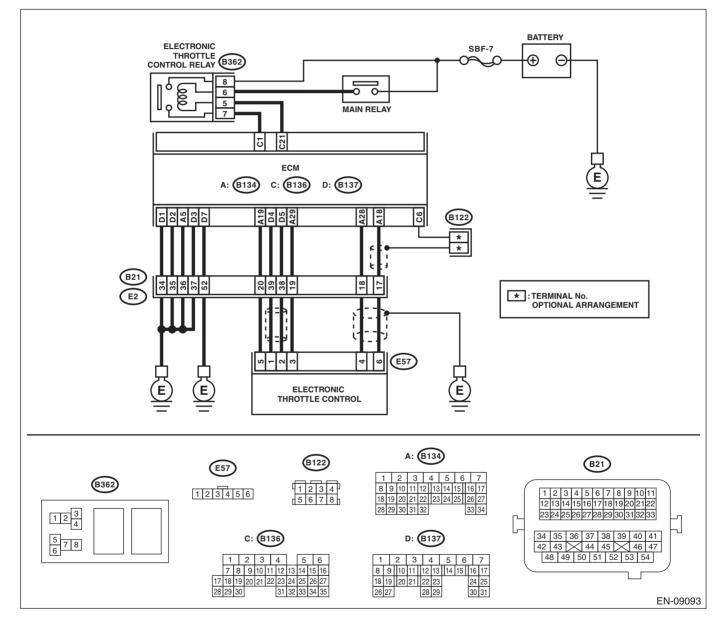
Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-91, DTC P0222 THROTTLE/PEDAL POSITION SEN-SOR/SWITCH "B" CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance
- · Engine stalls.

WIRING DIAGRAM:



1 CHECK SENSOR OUTPUT. 1) Turn the ignition switch to ON. 2) Read the data of sub throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE"Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> is there poor contact? Repair the poor contact. Temporary poor contact. 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor contact. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from electronic throttle control. Is the resistance less than 1 0? Go to step 4. Repair the con- contact. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM con- nector and electronic throttle control. Is the resistance more than 1 0? Go to step 5. Repair the chas- sis short circuit harmes. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM con- tor and chassis ground. Connector & terminal (B134) No. 28 - Chassis ground: (B134) No. 28 - Chassis ground: (B134) No. 19 - Chassis ground: (B134) No. 28 - Chassis ground: (B134) No. 28 - Chassis ground: (B134) No. 19 - Chassis ground: (B134) Ko 19 - Chassis ground		Step	Check	Yes	No
1) Turn the ignition switch to ON. 2) Read the data of sub throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor. For detailed operation procedure, refer to eff. to EN(H4S0 U5)(diag)-27, Subaru Select Monitor. 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 4) Measure the resistance between FGM connector. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM and electronic throttle control. 4) Measure the resistance between ECM connector. Connector & terminal (B134) No. 28 – (E57) No. 5: 4 CHECK FARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Masaure the resistance between ECM connector and electronic throttle control. Masaure thar esistance between ECM connector and electronic throttle control. Masaure thar esistance between ECM connector and electronic throttle CONTROL. Masaure thar esistance between ECM connector and electronic throttle control. March and (B134) No. 29 – Chassis ground: (E57) No. 5 (+) – Engine ground (-): 5 CHECK SENGAR DWERE SUPPLY.	1	•			-
using Subaru Select Monitor. NOTE: Subaru Select Monitor Image: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Image: Subaru Select Monitor 2 CHECK POOR CONTACT. Check poor contact in connector between 		 Turn the ignition switch to ON. 			
NOTE: Subaru Select Monitor For detailed operation procedure, refer to 'READ CURRENT DATA FOR ENGINE". <ref.< td=""> to EN(H4S0 U5)(diag)-27, Subaru Select Monitor. 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM connector. Connector & terminal (B134) No. 19 – (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1 State connectors. 1 State connector. 2 Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM connector. Connector & terminal (B134) No. 19 – (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1 Connector & terminal (B134) No. 19 – Chassis ground: 1 State sterninal (B134) No. 28 – Chassis ground: 1 Connector a terminal (E57) No. 5(+) – Engine ground (-): 5 CHECK SENSOR POWER SUPPLY. 1</ref.<>		2) Read the data of sub throttle sensor signal			
Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Repair the poor contact. Temporary poor contact. 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor contact. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 0.1 Turn the ignition switch to OFF. Go to step 4. Repair the open circuit of harnes connector. 1) Turn the ignition switch to OFF. Disconnect the connectors from ECM. Ω? Go to step 5. Repair the cons- contact. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B134) No. 19 - (E57) No. 5: Is the resistance more than 1 (B134) No. 28 - (E57) No. 5: Is the resistance more than 1 (B134) No. 28 - Chassis ground: (B134) No. 29 - Chassis ground: (B134) No. 19 - Chassis ground: (B134) No. 19 - Chassis ground: (B134) No. 29 - Chassis ground: (B134) No. 20 - Chassis ground: (B134) No. 20 - Chassis ground: (B134) No. 20 - Chassis ground. Is the voltage 4.5 - 5.5 V? Go to step 6. Repair the poor contact of ECM contact of ECM contact of ECM contact of ECM contact of ECM. 5 CHECK SHORT CIRCUIT INSIDE THE ECM. (1) Turn the ignition switch to ON.</ref. 		using Subaru Select Monitor.			
For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO US)(diag)-27, Subaru Select Mon- itor.> Repair the poor Temporary poor Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor Check HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. Is the resistance less than 1 Go to step 4. Repair the open circuit of harnes connector. 3) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. Is the resistance less than 1 Go to step 5. Repair the chas- sis short circuit of harness. 4) Measure the resistance between ECM con- nector and electronic throttle control. Is the resistance more than 1 (B134) No. 28 – (E57) No. 4: (B134) No. 28 – Chassis ground: (B134) No. 26 (-) — Engine ground (-): Is the voltage 4.5 – 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 5 CHECK HARNES DETWEEN ECM (Connector & terminal (E57) No. 5 (-) — Engine ground (-): Is the resistance more than 10 (Connector & terminal (E57) No. 5 (-) — Engine ground (-): Is th</ref. 		NOTE:			
"READ CURRENT DATA FOR ENGINE", <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Temporary poor contact. 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor contact. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. Is the resistance less than 1 Ω? Go to step 4. Repair the poor contact. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. <i>Connector & terminal</i> (B134) No. 28 – (E57) No. 4: (B134) No. 19 – (E57) No. 5: Is the resistance more than 1 (B134) No. 28 – (E57) No. 5: Is the resistance more than 1 MΩ? Go to step 5. Repair the chas- sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector. Is the voltage 4.5 – 5.5 V? Go to step 6. Repair the poor contact of ECM connector. Replace the ECI if defective. <re to FU(H4SO)-36 Engine Control (E57) No. 5 (+) – Engine ground (-): 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 2) Measure the resistance between electronic 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Q? Repair the poor contact of elec.</re </ref. 					
to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Image: Subaru Select Mon- itor.> Temporary poor contact. 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor contact. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 Ω? Go to step 4. Repair the open circuit of harnes connector. 3 Disconnect the connectors from ECM. Is the resistance less than 1 Ω? Go to step 4. Repair the open circuit of harnes connector. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM con- nector and electronic throttle control connector. Is the resistance more than 1 MΩ? Go to step 5. Repair the chas- sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground. Is the resistance more than 1 MΩ? Go to step 5. Repair the chas- sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. Is the voltage 4.5 - 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to ON. 2) Measure the resistance between electronic 1) Turn the resistance between electronic 1) Turn the resistance between electr					
itor.> 2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor contact occurrec but it is normal a present. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 (B134) No. 28 — (E57) No. 5: Is the voltage 4.5 — 5.5 V? Go to step 5. Repair the chas- sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-):					
2 CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control. Is there poor contact? Repair the poor contact. Temporary poor contact courrect but it is normal a present. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 Go to step 4. Repair the open circuit of harnes connector and electronic throttle control. Repair the open circuit of harnes 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 (B134) No. 28 – (E57) No. 5: Go to step 5. Repair the open circuit of harnes connector & terminal (B134) No. 28 – (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground: (B134) No. 28 – Chassis ground: (B134) No. 28 – Chassis ground: (B134) No. 29 – Chassis ground: (B134) No. 20 – Chassis ground: (Connector & terminal (E57) No. 5 (+) – Eng					
Check poor contact in connector between ECM and electronic throttle control. contact. contact. contact occurred but it is normal a present. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 Go to step 4. Repair the open circuit of harnes connector. 1) Turn the ignition switch to OFF. Disconnect the connectors from ECM. So to step 4. Repair the open circuit of harnes connector. 4) Measure the resistance between ECM con- nector and electronic throttle control. 4. CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance more than 1 (B134) No. 28 – (E57) No. 5: Is the resistance more than 1 (B134) No. 28 – (E57) No. 5: So to step 5. Repair the chas- sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground: (B134) No. 28 – (E57) No. 5: Is the resistance more than 1 (B134) No. 28 – Chassis ground: (B134) No. 28 – Chassis ground: (B13					
ECM and electronic throttle control. but it is normal a present. 3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 Go to step 4. Repair the open circuit of harnes connector. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from electronic throttle control. and electronic throttle control connector. Go to step 4. Repair the open circuit of harnes connector. 4) Measure the resistance between ECM connector at terminal (B134) No. 28 — (E57) No. 4: Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM Connector. Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 3) Measure the voltage between electronic throttle control connector and engine ground . Connector & terminal (H4SQ)-36 Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 5 CHECK SENSOR POWER SUPPLY. Is the voltage 4.5 — 5.5 V? Go to step 6.	2		Is there poor contact?		
3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Is the resistance less than 1 Go to step 4. Repair the open circuit of harnes connector. 3) Disconnect the connectors from ECM. 3) Disconnect the connectors from ECM. Go to step 4. Repair the open circuit of harnes connector. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Go to step 5. Repair the chas- sis short circuit of harness. 6 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM con- tor and chassis ground. Is the resistance more than 1 (B134) No. 28 – (E57) No. 5: Is the resistance more than 1 (B134) No. 28 – Chassis ground: (B134) No. 28 – Chassis ground: (Connector & terminal (B134) No. 28 – Chassis ground: (Connector & terminal (B134) No. 28 – Chassis grou		•		contact.	
3 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B134) No. 28 — (E57) No. 4: (B134) No. 19 — (E57) No. 5: Go to step 4. Repair the open circuit of harnes connector. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground. Connector & terminal (B134) No. 28 — (E57) No. 5: Is the resistance more than 1 MΩ? Go to step 5. Repair the chas- sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector at erminal (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) — Engine ground (-): Repair the poor contact of ECM. 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 (2) Measure the resistance between electronic Repair the poor contact of elec- tronic throttle con- contact of ECM.		ECM and electronic throttle control.			
ELECTRONIC THROTTLE CONTROL. Ω? circuit of harnes 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM connector. Connector & terminal (B134) No. 28 — (E57) No. 4: Is the resistance more than 1 Go to step 5. Repair the chass is ground. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. MΩ? Go to step 5. Repair the chass is is short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 3) Measure the voltage between electronic throttle control connector. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 5 CHECK SENSOR POWER SUPPLY. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 3) Measure the voltage between electronic throttle control connector at erminal (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 Repair the poor contact of ECM is engine Control Module (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. Is the resistance more than 10 Repair the poor contact of electronic throttle control connector at erminal (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 Repa					1
 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM connector & terminal (B134) No. 28 – (E57) No. 4: (B134) No. 28 – (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector and chassis ground. Connector & terminal (B134) No. 19 – (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector and chassis ground. Connector & terminal (B134) No. 19 – Chassis ground: (B134) No. 19 – Chassis ground: 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. Connector & terminal (E57) No. 5 (+) – Engine ground (-): 6 CHECK SHORT CIRCUIT INSIDE THE ECM. Is the resistance more than 10 (H4SQ)-36 Engine Control (H4SQ)-36 Engine Control (Module (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. No. 20 (PHECM) (3			Go to step 4.	
 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM connector and electronic throttle control connector. <i>Connector & terminal</i> (B134) No. 28 – (E57) No. 4: (B134) No. 28 – (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector tor and chassis ground. <i>Connector & terminal</i> (B134) No. 28 – Chassis ground: (B134) No. 56 – Chassis ground: (B134) No. 56 – Chassis ground: (B134) No. 57 – Chassis ground: (B134) No. 58 – Chassis ground: (B134) No. 56 (-) – Engine ground (-): (D) Connector & terminal (E57) No. 5 (+) – Engine ground (-): (E57) No. 5 (+) – Engine ground (-): (B) the resistance more than 10 (E57) No. 5 (+) – Engine ground (-): (D) Turn the ignition switch to OFF: (D) Measure the resistance between electronic (D) Turn the ignition switch to OFF: (D) Measure the resistance between electronic (D) Turn the ignition switch to OFF: (D) Measure the resistance between electronic (D) Measure the resist			Ω?		
 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM connector and electronic throttle control connector. Connector & terminal (B134) No. 28 — (E57) No. 4: (B134) No. 28 — (E57) No. 5: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector and chassis ground. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Measure the voltage between electronic throttle control connector and engine ground. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic 3) Measure the resistance between electronic 4 CHECK SHORT CIRCUIT INSIDE THE ECM. 2) Measure the resistance between electronic 4 Sthe resistance more than 10 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic 					connector.
throttle control. 4) Measure the resistance between ECM connector and electronic throttle control connector. Connector & terminal (B134) No. 28 — (E57) No. 4: (B134) No. 19 — (E57) No. 5: Is the resistance more than 1 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector and chassis ground. (B134) No. 28 — Chassis ground: (B134) No. 28 — Chassis ground: (B134) No. 28 — Chassis ground: Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. (E57) No. 5 (+) — Engine ground (-): Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. Replace the ECI if defective. <re to FU(H4SO)-36 Engine Control Module (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Ω? Repair the poor contact of ECM connect of ECM connect of ECM</re 					
 4) Measure the resistance between ECM connector and electronic throttle control connector. <i>Connector & terminal</i> (B134) No. 28 – (E57) No. 4: (B134) No. 55: 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector tor and chassis ground: (B134) No. 28 – Chassis ground: (B134) No. 19 – Chassis ground: (B134) No. 56 – Chassis ground: (B134) No. 56 – Chassis ground: (B134) No. 57 – Chassis ground: (B134) No. 56 – Chassis ground: (B134) No. 57 – Chassis ground: (B134) Connector ad engine ground. (Connector & terminal (E57) No. 57 (+) – Engine ground (-): (E57) No. 57 (+) – Engine ground (-): (Connector & terminal (E57) No. 57 (+) – Engine ground (-): (Connector) (Notel (Connect		,			
nector and electronic throttle control connector. Connector & terminal (B134) No. 28 — (E57) No. 4: (B134) No. 19 — (E57) No. 5: Repair the chas- sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground. (B134) No. 28 — Chassis ground: (B134) No. 19 — Chassis ground: (Connector the ECM connector. (Connector and engine ground. (Connector and engine ground. (Connector at the colicitation of the CM (Connector at the colicitation of the c					
Connector & terminal (B134) No. 28 — (E57) No. 4: (B134) No. 19 — (E57) No. 5: Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connec- tor and chassis ground. (B134) No. 28 — Chassis ground: (B134) No. 28 — Chassis ground: (B134) No. 28 — Chassis ground: (B134) No. 19 — Chassis ground: (Connector. (Connector & terminal (E157) No. 5 (+) — Engine ground (-): (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Connector & terminal (Connector & terminal (Connector & terminal (Connector & terminal (Connector & terminal (Connector) (Connector & terminal (Connector) (Con					
(B134) No. 28 (E57) No. 4: (B134) No. 19 (E57) No. 5: Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector tor and chassis ground. (B134) No. 28 Chassis ground: (B134) No. 28 Chassis ground: (B134) No. 28 Chassis ground: Is the resistance more than 1 MΩ? Go to step 5. Repair the chassis sis short circuit of harness. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. (E57) No. 5 (+) Engine ground (-): Is the resistance more than 10 (E57) No. 5 (+) Engine ground (-): Is the resistance more than 10 (257) No. 5 (+) Engine ground (-): Is the resistance more than 10 (257) No. 5 (+) Engine ground (-): Repair the poor contact of elec- tronic throttle con- Repair the poor contact of elec- tronic throttle con- 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 (27) Repair the poor contact of elec- tronic throttle con- Repair the poor contact of ECM connector.					
(B134) No. 19 - (E57) No. 5: Is the resistance more than 1 Go to step 5. Repair the chassis short circuit of harness. 4 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector tor and chassis ground. Is the resistance more than 1 Go to step 5. Repair the chassis sis short circuit of harness. Connector & terminal (B134) No. 28 - Chassis ground: (B134) No. 19 - Chassis ground: Is the voltage 4.5 - 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. (E57) No. 5 (+) - Engine ground (-): Is the voltage 4.5 - 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Repair the poor contact of ECM connector. Repair the poor contact of ECM. 2) Measure the resistance between electronic Is the resistance more than 10 Repair the poor contact of electronic throttle control connector. Repair the poor contact of ECM. 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 2) Measure the resistance between electronic Is the resistance more than 10 Repair the poor contact of ECM connector.					
 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the resistance between ECM connector and chassis ground. Connector & terminal (B134) No. 28 — Chassis ground: (B134) No. 19 — Chassis ground: (Chassis the voltage between electronic (Chassis the voltage between electronic (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Connector & terminal (E57) No. 5 (+) — Engine ground (-): (Chassis the resistance more than 10 (Connector for the terminal (Connector for the terminal (E57) No. 5 (+) — Engine ground (-): (Chassis the resistance more than 10 (Chassis the resistance between electronic (Chassis the resistance more than 10 (Chassis the resistance between electronic (Chassis the resistance more than 10 (Chassis the resistance between electronic (Chassis the resistance more than 10 (Chassis the resistance between electronic (Chassis the resistance more					
ELECTRONIC THROTTLE CONTROL. MΩ? Measure the resistance between ECM connector and chassis ground. Connector & terminal harness. Connector & terminal (B134) No. 28 — Chassis ground: Image: Chassis gro	4		Is the resistance more than 1	Go to step 5.	Repair the chas-
tor and chassis ground. Connector & terminal B134) No. 28 — Chassis ground: Go to step 6. Repair the poor contact of ECM 5 CHECK SENSOR POWER SUPPLY. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM Connector & terminal (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 Repair the poor contact of electronic throttle control switch to OFF. Is the resistance more than 10 Repair the poor contact of ECM 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Repair the poor contact of ECM		ELECTRONIC THROTTLE CONTROL.	ΜΩ?		sis short circuit of
Connector & terminal (B134) No. 28 — Chassis ground: (B134) No. 19 — Chassis ground: Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 5 CHECK SENSOR POWER SUPPLY. 1) Connect the ECM connector. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 2) Turn the ignition switch to ON. Is the voltage between electronic throttle control connector and engine ground. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. Connector & terminal (E57) No. 5 (+) — Engine ground (-): Is the resistance more than 10 Repair the poor contact of elec- tronic throttle con- Repair the poor contact of elec- tronic throttle con- 1) Turn the ignition switch to OFF. Is the resistance more than 10 Repair the poor contact of elec- tronic throttle con- Repair the poor contact of elec- tronic throttle con-		Measure the resistance between ECM connec-			harness.
(B134) No. 28 — Chassis ground: Image: the second sec					
(B134) No. 19 — Chassis ground: Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 2) Turn the ignition switch to ON. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 3) Measure the voltage between electronic throttle control connector and engine ground. Is the voltage 4.5 — 5.5 V? Go to step 6. Repair the poor contact of ECM connector. 6 CHECK SHORT CIRCUIT INSIDE THE ECM. Is the resistance more than 10 Repair the poor contact of electronic throttle contact of ECM. 1) Turn the ignition switch to OFF. Is the resistance between electronic Is the resistance more than 10 Repair the poor contact of electronic throttle contact of ECM.					
 5 CHECK SENSOR POWER SUPPLY. Connect the ECM connector. Turn the ignition switch to ON. Measure the voltage between electronic throttle control connector and engine ground. Connector & terminal (E57) No. 5 (+) — Engine ground (-): 6 CHECK SHORT CIRCUIT INSIDE THE ECM. the resistance more than 10 Turn the ignition switch to OFF. Measure the resistance between electronic 					
1) Connect the ECM connector. contact of ECM 2) Turn the ignition switch to ON. connector. 3) Measure the voltage between electronic throttle control connector and engine ground. Replace the ECL if defective. <re fu(h4so)-36<="" td="" to=""> <i>Connector & terminal (E57) No. 5 (+) — Engine ground (-):</i> Is the resistance more than 10 Repair the poor contact of electronic throttle control wodule (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. Is the resistance more than 10 Repair the poor contact of electronic throttle contact of ECM contact of ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Repair the poor contact of ECM contact of ECM.</re>		· · · · · ·		-	
 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. Connector & terminal (E57) No. 5 (+) — Engine ground (-): 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic 	5		Is the voltage 4.5 — 5.5 V?	Go to step 6.	
3) Measure the voltage between electronic throttle control connector and engine ground. Replace the ECL if defective. <re (+)="" (-):<="" (e57)="" 5="" engine="" fu(h4so)-36="" ground="" no.="" td="" to="" —=""> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Ω? Repair the poor contact of electronic throttle control connector. Repair the poor contact of electronic throttle control connector.</re>					
throttle control connector and engine ground. if defective. <re< td=""> Connector & terminal to FU(H4SO)-36 (E57) No. 5 (+) — Engine ground (-): Engine Control Module (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. Is the resistance more than 10 2) Measure the resistance between electronic Ω?</re<>					
Connector & terminal (E57) No. 5 (+) — Engine ground (-): to FU(H4SO)-36 Engine Control Module (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic Is the resistance more than 10 Ω? Repair the poor contact of elec- tronic throttle con- connector. Repair the poor contact of elec- tronic throttle con-					-
(E57) No. 5 (+) — Engine ground (–): Engine Control Module (ECM).> 6 CHECK SHORT CIRCUIT INSIDE THE ECM. Is the resistance more than 10 Repair the poor contact of electronic tronic throttle control contact of electronic throttle control contact of contact of electronic 1) Turn the ignition switch to OFF. Ω? Contact of electronic throttle control contact of electronic contact of electronic throttle contact of electronic throttle contact of electronic contact of electronic throttle contact of electroni					
6 CHECK SHORT CIRCUIT INSIDE THE ECM. Is the resistance more than 10 Repair the poor contact of electronic Repoir the poor contact of electronic					
6CHECK SHORT CIRCUIT INSIDE THE ECM. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronicIs the resistance more than 10 Ω?Repair the poor contact of elec- tronic throttle con- connector.Repair the poor contact of ECM		(E57) No. 5 (+) — Engine ground (–):			0
1) Turn the ignition switch to OFF. 2) Measure the resistance between electronicΩ?contact of electroniccontact of ECM connector.	6		ls the resistance more than 10	Benair the poor	
2) Measure the resistance between electronic tronic throttle con- connector.	ľ				
		throttle control connector and engine ground.		trol connector.	Replace the ECM
		.			if defective. <ref.< td=""></ref.<>
					to FU(H4SO)-36,
trol if defective. Engine Control					
					Module (ECM).>

AS:DTC P0223 THROTTLE/PEDAL POSITION SENSOR/SWITCH "B" CIRCUIT HIGH

DTC DETECTING CONDITION:

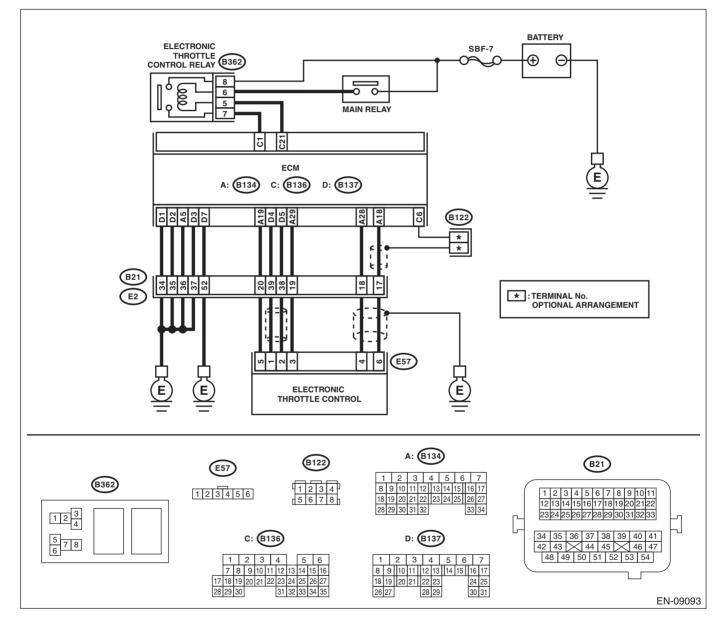
Immediately at fault recognition

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-93, DTC P0223 THROTTLE/PEDAL POSITION SEN-SOR/SWITCH "B" CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance
- Engine stalls.

WIRING DIAGRAM:



	04	0 h a a h	Vaa	Na
	Step	Check	Yes	No
1	CHECK SENSOR OUTPUT. 1) Turn the ignition switch to ON. 2) Read the data of sub throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon-</ref. 	Is the voltage less than 4.73 V?	Go to step 2.	Go to step 3.
	itor.>			
2	CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control.	Is there poor contact in con- nector between ECM and elec- tronic throttle control?	Repair the poor contact.	Temporary poor contact occurred, but it is normal at present.
3	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B134) No. 29 — (E57) No. 3: (B134) No. 28 — (E57) No. 4: 	Is the resistance less than 1 Ω?	Go to step 4.	Repair the open circuit of harness connector.
4	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Connect the ECM connector. 2) Measure the resistance between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 3 — Engine ground: 	Is the resistance less than 5 Ω?	Go to step 5.	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref.
5	CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the voltage between electronic throt- tle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 4 (+) — Engine ground (–):	Is the voltage less than 10 V?	Go to step 6 .	Repair the battery short circuit of har- ness between ECM connector and electronic throttle control connector.
6	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between connector terminals. Connector & terminal (B134) No. 28 — (B134) No. 19: 	Is the resistance more than 1 MΩ?	Repair the poor contact. Replace the electronic throttle control.	Sensor power sup- ply circuit may be shorted.

AT:DTC P0301 CYLINDER 1 MISFIRE DETECTED

NOTE:

For the diagnostic procedure, refer to DTC P0304. <Ref. to EN(H4SO U5)(diag)-177, DTC P0304 CYLIN-DER 4 MISFIRE DETECTED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AU:DTC P0302 CYLINDER 2 MISFIRE DETECTED

NOTE:

For the diagnostic procedure, refer to DTC P0304. <Ref. to EN(H4SO U5)(diag)-177, DTC P0304 CYLIN-DER 4 MISFIRE DETECTED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AV:DTC P0303 CYLINDER 3 MISFIRE DETECTED

NOTE:

For the diagnostic procedure, refer to DTC P0304. <Ref. to EN(H4SO U5)(diag)-177, DTC P0304 CYLIN-DER 4 MISFIRE DETECTED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AW:DTC P0304 CYLINDER 4 MISFIRE DETECTED

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- Immediately at fault recognition (A misfire which could damage catalyst occurs.)

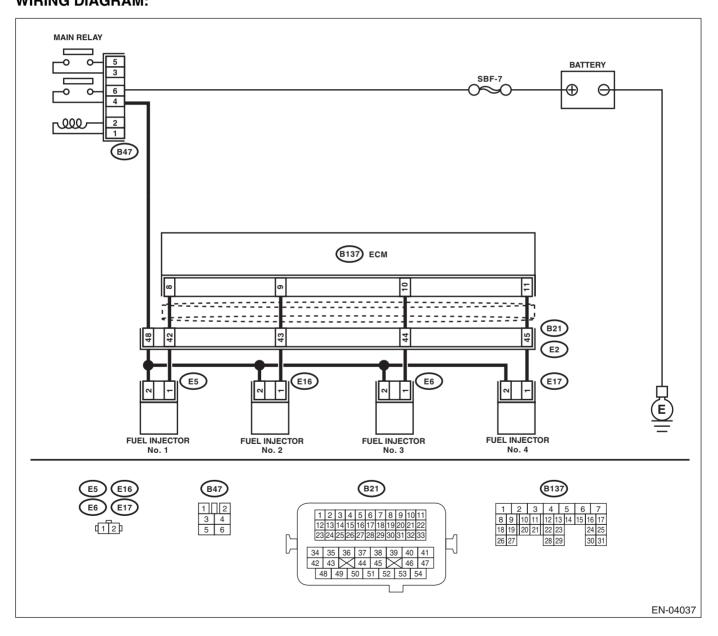
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-100, DTC P0304 CYLINDER 4 MISFIRE DETECTED, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- · Engine stalls.
- Erroneous idling
- Rough driving

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



EN(H4SO U5)(diag)-177

	Step	Check	Yes	No
4	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using	Go to step 2.
1	CHECK ANT OTHER DIC ON DISPLAT.	is any other DTC displayed?	"List of Diagnostic	
			Trouble Code	
			(DTC)". <ref. th="" to<=""><th></th></ref.>	
			EN(H4SO	
			U5)(diag)-73, List	
			of Diagnostic Trou-	
			ble Code (DTC).>	
			NOTE:	
			In this case, it is	
			not necessary to inspect DTC	
			inspect DTC P0301, P0302,	
2	CHECK OUTPUT SIGNAL OF ECM.	Is the voltage more than 10 V?	P0303 and P0304. Go to step 7 .	Go to step 3 .
 	1) Turn the ignition switch to ON.	is the voltage more than 10 V?		Go io siep 3 .
	 Measure the voltage between ECM con- 			
	nector and chassis ground on faulty cylinders.			
	Connector & terminal			
	#1 (B137) No. 8 (+) — Chassis ground (–):			
	#2 (B137) No. 9 (+) — Chassis ground (-):			
	#3 (B137) No. 10 (+) — Chassis ground (-):			
	#4 (B137) No. 11 (+) — Chassis ground (-):			
3	CHECK HARNESS BETWEEN FUEL INJEC-	Is the resistance more than 1	Go to step 4.	Repair the ground
Ī	TOR AND ECM CONNECTOR.	$M\Omega$?		short circuit of har-
	1) Turn the ignition switch to OFF.			ness between fuel
	2) Disconnect the connector from fuel injector			injector and ECM
	on faulty cylinders.			connector.
	3) Measure the resistance between ECM con-			
	nector and engine ground on faulty cylinders.			
	Connector & terminal			
	#1 (E5) No. 1 — Engine ground:			
	#2 (E16) No. 1 — Engine ground:			
	#3 (E6) No. 1 — Engine ground:			
	#4 (E17) No. 1 — Engine ground:			
4	CHECK HARNESS BETWEEN FUEL INJEC-	Is the resistance less than 1	Go to step 5.	Repair the har-
	TOR AND ECM CONNECTOR.	Ω?		ness and connec-
	Measure the resistance of harness connector			tor.
	between ECM connector and fuel injector on			NOTE:
	faulty cylinders.			In this case, repair
	Connector & terminal			the following item:
	#1 (B137) No. 8 — (E5) No. 1:			 Open circuit of
	#2 (B137) No. 9 — (E16) No. 1:			harness between
	#3 (B137) No. 10 — (E6) No. 1:			ECM and fuel in-
	#4 (B137) No. 11 — (E17) No. 1:			jector connector
				 Poor contact of
				coupling connector
5	CHECK FUEL INJECTOR.	Is the resistance between 5	Go to step 6.	Replace the faulty
	Measure the resistance between fuel injector	and 20 Ω?		fuel injector. <ref.< td=""></ref.<>
	terminals on faulty cylinder.			to FU(H4SO)-27,
	Terminals			Fuel Injector.>
	No. 1 — No. 2:			

	Step	Check	Yes	No
6	CHECK HADNESS DETWEEN EVEL IN JEC	Is the voltage more than 10 V?	Repair the poor contact of all con- nectors in fuel injector circuit.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between main relay and fuel injector connector on faulty cylinders • Poor contact of coupling connector • Poor contact of main relay connec- tor • Poor contact of fuel injector con- nector on faulty cylinders
7	 CHECK HARNESS BETWEEN FUEL INJECTOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM connector and chassis ground on faulty cylinders. Connector & terminal #1 (B137) No. 8 (+) — Chassis ground (-): #2 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): 		Repair the battery short circuit of har- ness between ECM and fuel injector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Go to step 8.
8	 CHECK FUEL INJECTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between fuel injector terminals on faulty cylinder. Terminals No. 1 — No. 2: 	Is the resistance less than 1 Ω ?	Replace the faulty fuel injector <ref. to FU(H4SO)-27, Fuel Injector.> and ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.></ref. 	Go to step 9 .
9	CHECK INSTALLATION OF CAMSHAFT PO- SITION SENSOR/CRANKSHAFT POSITION SENSOR.	Is the camshaft position sensor or crankshaft position sensor loosely installed?	Tighten the cam- shaft position sen- sor or crankshaft position sensor.	Go to step 10 .
10	CHECK CRANK SPROCKET. Remove the timing belt cover.	Is the crank sprocket rusted or does it have damaged teeth?	Replace the crank sprocket. <ref. to<br="">ME(H4SO)-46, Crank Sprocket.></ref.>	Go to step 11.
11	CHECK INSTALLATION CONDITION OF TIMING BELT. Turn the crankshaft, and align alignment mark on crank sprocket with alignment mark on cyl- inder block.	Is the timing belt dislocated from its proper position?	Repair the installa- tion condition of timing belt. <ref. to ME(H4SO)-40, Timing Belt.></ref. 	Go to step 12 .
12	CHECK FUEL LEVEL.	Is the fuel meter indication higher than the "Lower" level?	Go to step 13 .	Refill the fuel so that fuel meter indication is higher than the "Lower" level. After filling fuel, Go to step 13 .

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
13	CHECK STATUS OF MALFUNCTION INDI- CATOR LIGHT. 1) Clear the memory using Subaru Select Monitor.	Does the malfunction indicator light illuminate or blink?	Go to step 16.	Go to step 14.
	<ref. clear="" en(h4so="" mem-<br="" to="" u5)(diag)-46,="">ory Mode.> 2) Start the engine, and drive the vehicle more</ref.>			
	than 10 minutes.			
14	CHECK CAUSE OF MISFIRE.	Has the cause of misfire been detected while running the engine? Ex.: Disconnection of spark plug cord	Finish diagnostics operation, if the engine has no abnormality.	Go to step 15.
15	CHECK POOR CONTACT.	Is there poor contact in the ignition coil, fuel injector, ECM and coupling connector?	Repair the poor contact.	Contact your SOA Service Center after checking fol- lowings. NOTE: In this case, check the following: • Condition of fuel • Fuel additive used or not • Visually check spark plug • Visually check spark plug cord • Condition of en- gine oil
16	CHECK AIR INTAKE SYSTEM.	Is there any fault in air intake system?	Repair the air intake system. NOTE: Check the follow- ing items. • Are there air leaks or air suction caused by loose or dislocated nuts and bolts? • Are there cracks or any disconnec- tion of hoses?	Go to step 17.
17	 CHECK MISFIRE SYMPTOM. 1) Turn the ignition switch to ON. 2) Read the DTC. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. Perform the diagnosis according to following items. 	Does the Subaru Select Moni- tor or general scan tool display only one DTC?	Go to step 22 .	Go to step 18.
18	CHECK DTC.	Are DTCs P0301 and P0302 displayed on the Subaru Select Monitor or general scan tool?	Go to step 23.	Go to step 19.

EN(H4SO U5)(diag)-180

	Step	Check	Yes	No
19	CHECK DTC.	Are DTCs P0303 and P0304 displayed on the Subaru Select Monitor or general scan tool?	Go to step 24.	Go to step 20 .
20	CHECK DTC.	Are DTCs P0301 and P0303 displayed on the Subaru Select Monitor or general scan tool?	Go to step 25.	Go to step 21 .
21	CHECK DTC.	Are DTCs P0302 and P0304 displayed on the Subaru Select Monitor or general scan tool?	Go to step 26.	Go to step 27 .
22	ONLY ONE CYLINDER.	Is there any fault in the cylin- der?	Repair or replace faulty parts. NOTE: Check the follow- ing items. • Spark plug • Spark plug cord • Fuel injector • Compression ra- tio	TEM TOO LEAN (BANK 1), Diag- nostic Procedure with Diagnostic
23	GROUP OF #1 AND #2 CYLINDERS.	Are there any faults in #1 and #2 cylinders?	Repair or replace faulty parts. NOTE: • Check the fol- lowing items. • Spark plug • Fuel injector • Ignition coil • Compression ratio • If any fault are not found, check the "IGNITION CONTROL SYS- TEM" of #1 and #2 cylinders side. <ref. en(h4so<br="" to="">U5)(diag)-65, IG- NITION CON- TROL SYSTEM, Diagnostics for En- gine Starting Fail- ure.></ref.>	Go to DTC P0171. <ref. en(h4so<br="" to="">U5)(diag)-156, DTC P0171 SYS- TEM TOO LEAN (BANK 1), Diag- nostic Procedure with Diagnostic Trouble Code (DTC).></ref.>

	Step	Check	Yes	No
24	GROUP OF #3 AND #4 CYLINDERS.	Are there any faults in #3 and #4 cylinders?	Repair or replace faulty parts. NOTE: • Check the fol- lowing items. • Spark plug • Fuel injector • Ignition coil • If any fault are not found, check the "IGNITION CONTROL SYS- TEM" of #3 and #4 cylinders side. <ref. en(h4so<br="" to="">U5)(diag)-65, IG- NITION CON- TROL SYSTEM, Diagnostics for En- gine Starting Fail- ure.></ref.>	TEM TOO LEAN (BANK 1), Diag- nostic Procedure with Diagnostic Trouble Code
25	GROUP OF #1 AND #3 CYLINDERS.	Are there any faults in #1 and #3 cylinders?	Repair or replace faulty parts. NOTE: Check the follow- ing items. • Spark plug • Fuel injector	Go to DTC P0171. <ref. en(h4so<br="" to="">U5)(diag)-156, DTC P0171 SYS- TEM TOO LEAN (BANK 1), Diag- nostic Procedure with Diagnostic Trouble Code (DTC).></ref.>
26	GROUP OF #2 AND #4 CYLINDERS.	Are there any faults in #2 and #4 cylinders?	Repair or replace faulty parts. NOTE: Check the follow- ing items. • Spark plug • Fuel injector • Compression ra- tio • Skipping timing belt teeth	Go to DTC P0171. <ref. en(h4so<br="" to="">U5)(diag)-156, DTC P0171 SYS- TEM TOO LEAN (BANK 1), Diag- nostic Procedure with Diagnostic Trouble Code</ref.>
27	CYLINDER AT RANDOM.	Is the engine idle rough?	Go to DTC P0171. <ref. en(h4so<br="" to="">U5)(diag)-156, DTC P0171 SYS- TEM TOO LEAN (BANK 1), Diag- nostic Procedure with Diagnostic Trouble Code (DTC).></ref.>	Repair or replace faulty parts. NOTE: Check the follow- ing items. • Spark plug • Fuel injector • Compression ra- tio

AX:DTC P0327 KNOCK SENSOR 1 CIRCUIT LOW (BANK 1 OR SINGLE SEN-SOR)

DTC DETECTING CONDITION:

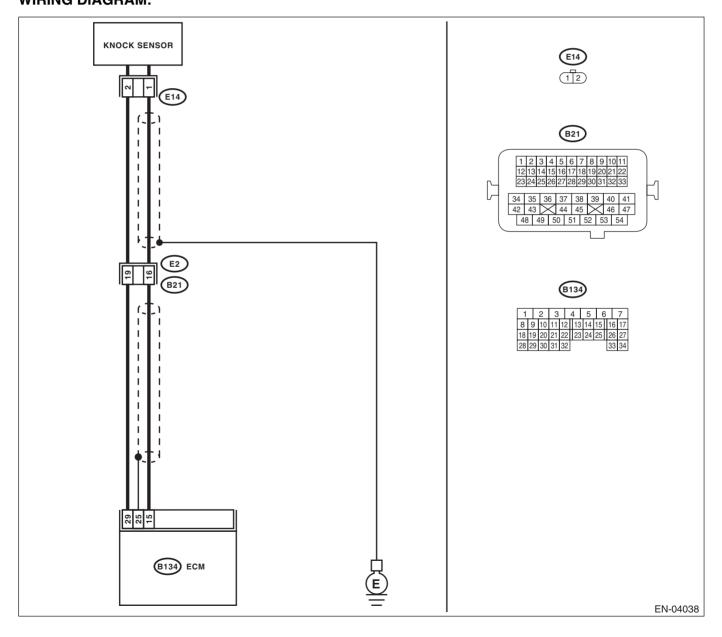
• Immediately at fault recognition

GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-101, DTC P0327 KNOCK SENSOR 1 CIRCUIT LOW (BANK 1 OR SINGLE SENSOR), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Poor driving performance
- Knocking occurs.

CAUTION:



	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN KNOCK SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between ECM harness connector and chassis ground. <i>Connector & terminal</i> (B134) No. 15 — Chassis ground: 	700 kΩ?	Go to step 2 .	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between knock sensor and ECM connector • Poor contact of knock sensor con- nector • Poor contact of coupling connector
2	CHECK HARNESS BETWEEN KNOCK SEN- SOR AND ECM CONNECTOR. Measure the resistance between ECM and knock sensor connector. <i>Connector & terminal</i> (B134) No. 15 — (E14) No. 1: (B134) No. 29 — (E14) No. 2:	Is the resistance less than 1 Ω?	Go to step 3.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between knock sensor and ECM connector • Poor contact of knock sensor con- nector • Poor contact of coupling connector
3	 CHECK KNOCK SENSOR. 1) Disconnect the connector from knock sensor. 2) Measure the resistance between knock sensor connector terminals. Terminals No. 1 — No. 2: 	Is the resistance more than 700 kΩ?	Replace the knock sensor. <ref. to<br="">FU(H4SO)-22, Knock Sensor.></ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Poor contact of knock sensor con- nector

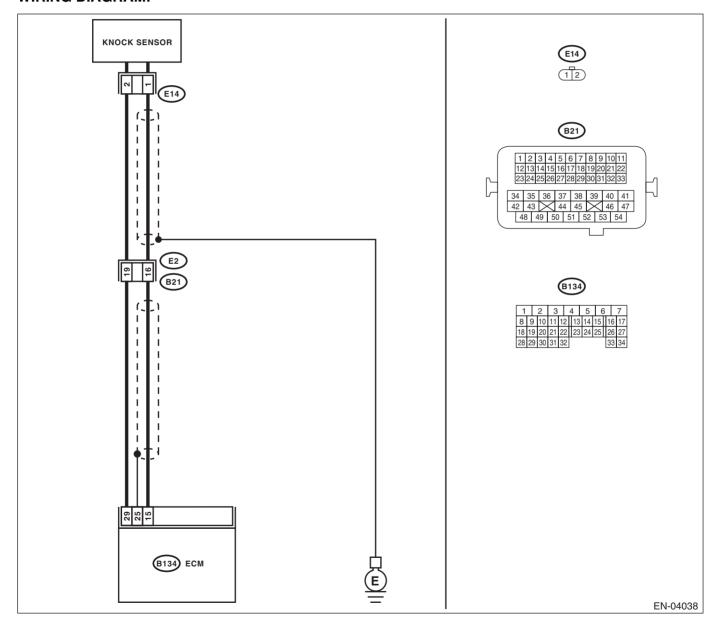
AY:DTC P0328 KNOCK SENSOR 1 CIRCUIT HIGH (BANK 1 OR SINGLE SENSOR) DTC DETECTING CONDITION:

- Immediately at fault recognition
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-103, DTC P0328 KNOCK SENSOR 1 CIRCUIT HIGH (BANK 1 OR SINGLE SENSOR), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Poor driving performance
- Knocking occurs.

CAUTION:



	Step	Check	Yes	No
1	CHECK HARNESS BETWEEN KNOCK SEN- SOR AND ECM CONNECTOR. Measure the resistance of harness between ECM connector and chassis ground. Connector & terminal (B134) No. 15 — Chassis ground:	Is the resistance less than 400 kΩ?	Go to step 2.	Go to step 3.
2	 CHECK KNOCK SENSOR. 1) Disconnect the connector from knock sensor. 2) Measure the resistance between knock sensor connector terminals. Terminals No. 1 — No. 2: 	Is the resistance less than 400 kΩ?	Replace the knock sensor. <ref. to<br="">FU(H4SO)-22, Knock Sensor.></ref.>	Repair the ground short circuit of har- ness between knock sensor con- nector and ECM connector. NOTE: The harness be- tween both con- nectors are shielded. Repair the short circuit of harness covered with shield.
3	 CHECK INPUT SIGNAL OF ECM. 1) Connect the connectors to ECM and knock sensor. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM and chassis ground. Connector & terminal (B134) No. 15 (+) — Chassis ground (-): 	Is the voltage more than 2 V?	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time. (How- ever, the possibility of poor contact still remains.) NOTE: In this case, repair the following item: • Poor contact of knock sensor con- nector • Poor contact in ECM connector • Poor contact of coupling connector	Repair the poor contact of ECM connector.

ENGINE (DIAGNOSTICS)

AZ:DTC P0335 CRANKSHAFT POSITION SENSOR "A" CIRCUIT

DTC DETECTING CONDITION:

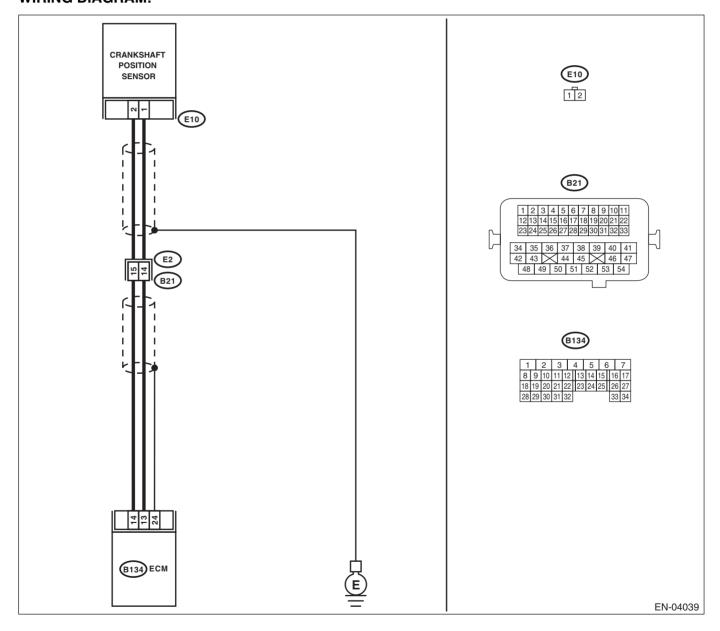
- Immediately at fault recognition
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-105, DTC P0335 CRANKSHAFT POSITION SENSOR "A" CIRCUIT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine stalls.
- Failure of engine to start

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK HARNESS BETWEEN CRANK-	Is the resistance more than	Repair the har-	Go to step 2.
•	SHAFT POSITION SENSOR AND ECM CON-		ness and connec-	
	NECTOR.	100 1321	tor.	
	 Turn the ignition switch to OFF. 		NOTE:	
	 Disconnect the connector from crankshaft 		In this case, repair	
	position sensor.		the following item:	
	 Measure the resistance of harness 		 Open circuit of 	
	between crankshaft position sensor connector		harness between	
	and engine ground.		crankshaft posi-	
	Connector & terminal		tion sensor and	
	(E10) No. 1 — Engine ground:		ECM connector	
			Poor contact in	
			ECM connector	
			 Poor contact of 	
			coupling connector	
2	CHECK HARNESS BETWEEN CRANK-	Is the resistance less than 10		Go to step 3.
	SHAFT POSITION SENSOR AND ECM CON-		short circuit of har-	
	NECTOR.		ness between	
	Measure the resistance of harness between		crankshaft posi-	
	crankshaft position sensor connector and		tion sensor and	
	engine ground.		ECM connector.	
	Connector & terminal		NOTE:	
	(E10) No. 1 — Engine ground:		The harness be-	
			tween both con-	
			nectors are	
			shielded. Repair	
			the ground short	
			circuit of harness	
			with shield.	
3	CHECK HARNESS BETWEEN CRANK-	Is the resistance less than 5	Go to step 4.	Repair the har-
	SHAFT POSITION SENSOR AND ECM CON-	Ω?		ness and connec-
	NECTOR.			tor.
	Measure the resistance of harness between			NOTE:
	crankshaft position sensor connector and			In this case, repair
	engine ground.			the following item:
	Connector & terminal			 Open circuit of
	(E10) No. 2 — Engine ground:			harness between
				crankshaft posi-
				tion sensor and
				ECM connector
				 Poor contact in
				ECM connector
				 Poor contact of
				coupling connector
4		Is the crankshaft position sen-	Go to step 5.	Tighten the crank-
	SITION SENSOR.	sor installation bolt tightened		shaft position sen-
		securely?		sor installation bolt
				securely.
5	CHECK CRANKSHAFT POSITION SENSOR.		Repair the poor	Replace the crank-
	1) Remove the crankshaft position sensor.	and 4 kΩ?	contact of crank-	shaft position sen-
	2) Measure the resistance between connector		shaft position sen-	sor. <ref. th="" to<=""></ref.>
	terminals of crankshaft position sensor.		sor connector.	FU(H4SO)-20,
	Terminals			Crankshaft Posi-
	No. 1 — No. 2:			tion Sensor.>

BA:DTC P0336 CRANKSHAFT POSITION SENSOR "A" CIRCUIT RANGE/PER-FORMANCE

DTC DETECTING CONDITION:

• Immediately at fault recognition

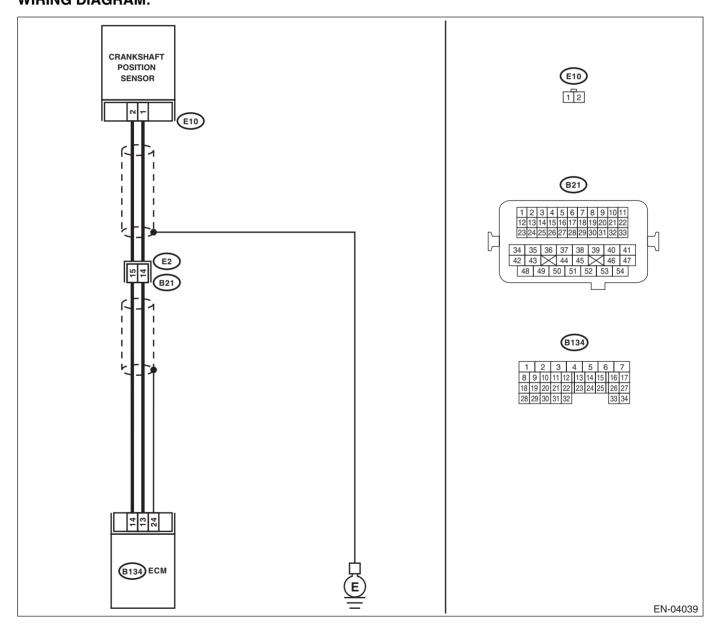
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-107, DTC P0336 CRANKSHAFT POSITION SENSOR "A" CIRCUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine stalls.
- Failure of engine to start

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	CHECK CONDITION OF CRANKSHAFT PO- SITION SENSOR. Turn the ignition switch to OFF.	Is the crankshaft position sen- sor installation bolt tightened securely?	Go to step 3 .	Tighten the crank- shaft position sen- sor installation bolt securely.
3	CHECK CRANK SPROCKET. Remove the timing belt cover.	Are crank sprocket teeth cracked or damaged?	Replace the crank sprocket. <ref. to<br="">ME(H4SO)-46, Crank Sprocket.></ref.>	Go to step 4.
4	CHECK INSTALLATION CONDITION OF TIMING BELT. Turn the crankshaft, and align alignment mark on crank sprocket with alignment mark on cyl- inder block.	Is the timing belt dislocated from its proper position?	Repair the installa- tion condition of timing belt. <ref. to ME(H4SO)-40, Timing Belt.></ref. 	Replace the crank- shaft position sen- sor. <ref. to<br="">FU(H4SO)-20, Crankshaft Posi- tion Sensor.></ref.>

BB:DTC P0340 CAMSHAFT POSITION SENSOR "A" CIRCUIT (BANK 1 OR SIN-GLE SENSOR)

DTC DETECTING CONDITION:

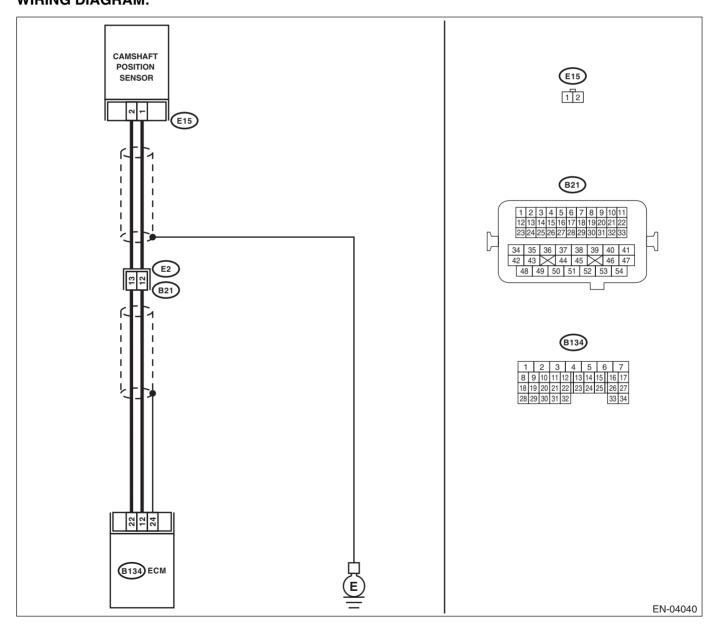
- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-109, DTC P0340 CAMSHAFT POSITION SENSOR "A" CIRCUIT (BANK 1 OR SINGLE SENSOR), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine stalls.
- · Failure of engine to start

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK HARNESS BETWEEN CAMSHAFT POSITION SENSOR AND ECM CONNEC- TOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from camshaft position sensor. 3) Measure the resistance of harness between camshaft position sensor connector and engine ground. Connector & terminal (E15) No. 1 — Engine ground: 	Is the resistance more than 100 kΩ?	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between camshaft position sensor and ECM connector • Poor contact in ECM connector • Poor contact of coupling connector	Go to step 2.
2	CHECK HARNESS BETWEEN CAMSHAFT POSITION SENSOR AND ECM CONNEC- TOR. Measure the resistance of harness between camshaft position sensor connector and engine ground. <i>Connector & terminal</i> <i>(E15) No. 1 — Engine ground:</i>	Is the resistance less than 10 Ω ?	Repair the ground short circuit of har- ness between camshaft position sensor and ECM connector. NOTE: The harness be- tween both con- nectors are shielded. Repair the ground short circuit of harness with shield.	Go to step 3.
3	CHECK HARNESS BETWEEN CAMSHAFT POSITION SENSOR AND ECM CONNEC- TOR. Measure the resistance of harness between camshaft position sensor connector and engine ground. <i>Connector & terminal</i> (E15) No. 2 — Engine ground:	Is the resistance less than 5 Ω?	Go to step 4.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between camshaft position sensor and ECM connector • Poor contact in ECM connector • Poor contact of coupling connector
4	CHECK CONDITION OF CAMSHAFT POSI- TION SENSOR.	Is the camshaft position sensor installation bolt tightened securely?	Go to step 5.	Tighten the cam- shaft position sen- sor installation bolt securely.
5	 CHECK CAMSHAFT POSITION SENSOR. 1) Remove the camshaft position sensor. 2) Measure the resistance between connector terminals of camshaft position sensor. Terminals No. 1 — No. 2: 	Is the resistance between 1 and 4 $k\Omega$?	Repair the poor contact of cam- shaft position sen- sor connector.	Replace the cam- shaft position sen- sor. <ref. to<br="">FU(H4SO)-21, Camshaft Position Sensor.></ref.>

BC:DTC P0341 CAMSHAFT POSITION SENSOR "A" CIRCUIT RANGE/PERFOR-MANCE (BANK 1 OR SINGLE SENSOR)

DTC DETECTING CONDITION:

Immediately at fault recognition

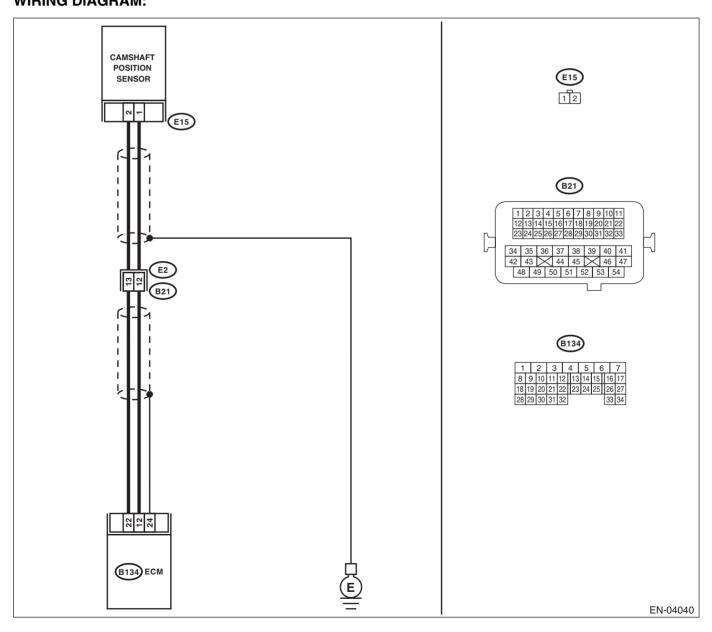
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-111, DTC P0341 CAMSHAFT POSITION SENSOR "A" CIRCUIT RANGE/PERFORMANCE (BANK 1 OR SINGLE SENSOR), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine stalls.
- · Failure of engine to start

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO</ref.>	Go to step 2.
2	CHECK HARNESS BETWEEN CAMSHAFT	Is the resistance more than	U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).>	Co to stop 2
2	 POSITION SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from camshaft position sensor. 3) Measure the resistance of harness between camshaft position sensor connector and engine ground. Connector & terminal (E15) No. 1 — Engine ground: 	100 kΩ?	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between camshaft position sensor and ECM connector • Poor contact in ECM connector • Poor contact of coupling connector	
3	CHECK HARNESS BETWEEN CAMSHAFT POSITION SENSOR AND ECM CONNEC- TOR. Measure the resistance of harness between camshaft position sensor connector and engine ground. <i>Connector & terminal</i> <i>(E15) No. 1 — Engine ground:</i>	Is the resistance less than 10 Ω ?	Repair the ground short circuit of har- ness between camshaft position sensor and ECM connector. NOTE: The harness be- tween both con- nectors are shielded. Repair the ground short circuit of harness with shield.	Go to step 4.
4	TOR. Measure the resistance of harness between camshaft position sensor connector and engine ground. <i>Connector & terminal</i> <i>(E15) No. 2 — Engine ground:</i>	Is the resistance less than 5 Ω ?	Go to step 5 .	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between camshaft position sensor and ECM connector • Poor contact in ECM connector • Poor contact of coupling connector
5	CHECK CONDITION OF CAMSHAFT POSI- TION SENSOR.	Is the camshaft position sensor installation bolt tightened securely?	Go to step 6 .	Tighten the cam- shaft position sen- sor installation bolt securely.

	Step	Check	Yes	No
6	 CHECK CAMSHAFT POSITION SENSOR. 1) Remove the camshaft position sensor. 2) Measure the resistance between connector terminals of camshaft position sensor. Terminals No. 1 — No. 2: 	Is the resistance between 1 and 4 k Ω ?	Go to step 7.	Replace the cam- shaft position sen- sor. <ref. to<br="">FU(H4SO)-21, Camshaft Position Sensor.></ref.>
7	CHECK CONDITION OF CAMSHAFT POSI- TION SENSOR. Turn the ignition switch to OFF.	Is the camshaft position sensor installation bolt tightened securely?	Go to step 8 .	Tighten the cam- shaft position sen- sor installation bolt securely.
8	CHECK CAM SPROCKET. Remove the timing belt cover. <ref. to<br="">ME(H4SO)-39, Timing Belt Cover.></ref.>	Are cam sprocket teeth cracked or damaged?	Replace the cam- shaft position sen- sor. <ref. to<br="">ME(H4SO)-45, Cam Sprocket.></ref.>	Go to step 9 .
9	CHECK INSTALLATION CONDITION OF TIMING BELT. Turn the crankshaft, and align alignment marks on cam sprocket and timing belt cover LH.	Is the timing belt dislocated from its proper position?	Repair the installa- tion condition of timing belt. <ref. to ME(H4SO)-40, Timing Belt.></ref. 	Replace the cam- shaft position sen- sor. <ref. to<br="">FU(H4SO)-21, Camshaft Position Sensor.></ref.>

ENGINE (DIAGNOSTICS)

BD:DTC P0400 EXHAUST GAS RECIRCULATION FLOW

DTC DETECTING CONDITION:

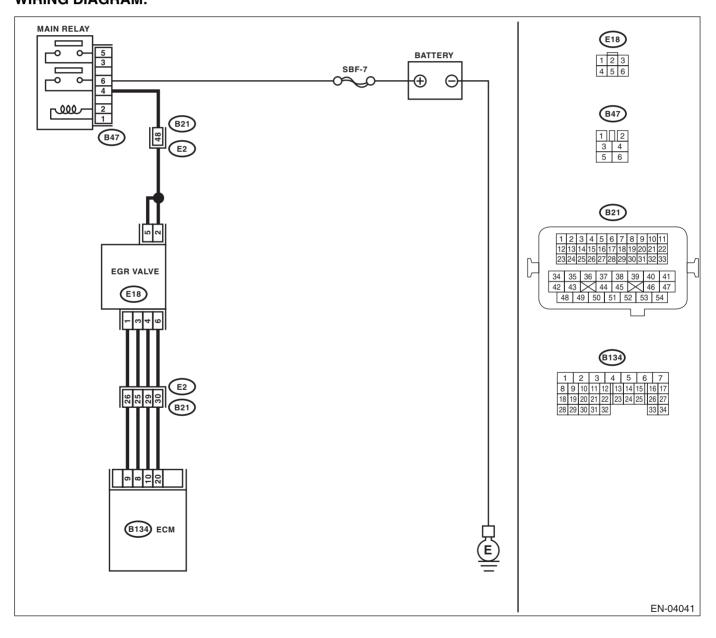
- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-113, DTC P0400 EXHAUST GAS RECIRCULATION FLOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Movement performance problem when engine is low speed.
- Erroneous idling
- Movement performance problem

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-46, Clear Memory Mode.></ref.>	Go to step 2.
2	 CHECK CURRENT DATA. 1) Start the engine. 2) Read data of intake manifold absolute pressure signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedures, refer to "READ CURRENT DATA FOR ENGINE". <ref. clear="" en(h4so="" memory="" mode.="" to="" u5)(diag)-46,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the measured value more than 53.3 kPa (400 mmHg, 15.75 inHg)?	EGR valve, mani- fold absolute pres- sure sensor and throttle body are installed securely.	Go to step 3.
3	 CHECK POWER SUPPLY OF EGR VALVE. 1) Disconnect the connector from EGR valve. 2) Turn the ignition switch to ON. 3) Measure the voltage between EGR valve connector and engine ground. Connector & terminal: (E18) No. 2 — Engine ground: (E18) No. 5 — Engine ground: 	Is the voltage more than 10 V?	Go to step 4.	Repair the open circuit of harness between main relay and EGR valve connector.
4	CHECK EGR VALVE. Measure the resistance between EGR valve terminals. NOTE: Make sure there is no foreign material between EGR valve and valve seat. <i>Terminals</i> No. 1 — No. 2: No. 3 — No. 2: No. 4 — No. 5: No. 6 — No. 5:	Is the resistance between 20 and 30 Ω?	Go to step 5.	Replace the EGR valve. <ref. to<br="">FU(H4SO)-26, EGR Valve.></ref.>
5	 CHECK OUTPUT SIGNAL FROM ECM. 1) Turn the ignition switch to OFF. 2) Connect the connector to ECM and EGR valve. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM and chassis ground. Connector & terminal: (B134) No. 10 (+) — Chassis ground (-): (B134) No. 8 (+) — Chassis ground (-): (B134) No. 20 (+) — Chassis ground (-): 	Is the voltage 0 — 10 V?	Repair the poor contact portion of ECM connector.	Go to step 6.

	Step	Check	Yes	No
6	 CHECK HARNESS BETWEEN EGR VALVE AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from EGR valve and ECM. 3) Measure the resistance of harness between EGR valve and ECM connector. <i>Connector & terminal:</i> (B134) No. 10 – (E18) No. 4: (B134) No. 9 – (E18) No. 1: (B134) No. 8 – (E18) No. 3: (B134) No. 20 – (E18) No. 6: 	Is the resistance less than 1 Ω?	Go to step 7.	Repair the open circuit of harness between ECM and EGR valve con- nector. <ref. to<br="">FU(H4SO)-26, EGR Valve.></ref.>
7	CHECK HARNESS BETWEEN EGR VALVE AND ECM CONNECTOR. Measure the resistance of harness between EGR valve and chassis ground. Connector & terminal: (B134) No. 10 — Chassis ground: (B134) No. 9 — Chassis ground: (B134) No. 8 — Chassis ground: (B134) No. 20 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 8.	Repair the short circuit of harness between main relay and EGR valve connector.
8	CHECK POOR CONTACT. Check poor contact of ECM and EGR valve connectors.	Is there poor contact in ECM and EGR valve connector?	Repair the poor contact of ECM and EGR valve connectors.	Even if the mal- function indicator light illuminates, the circuit has returned to the specified condi- tion at this time.

BE:DTC P0420 CATALYST SYSTEM EFFICIENCY BELOW THRESHOLD (BANK 1) DTC DETECTING CONDITION:

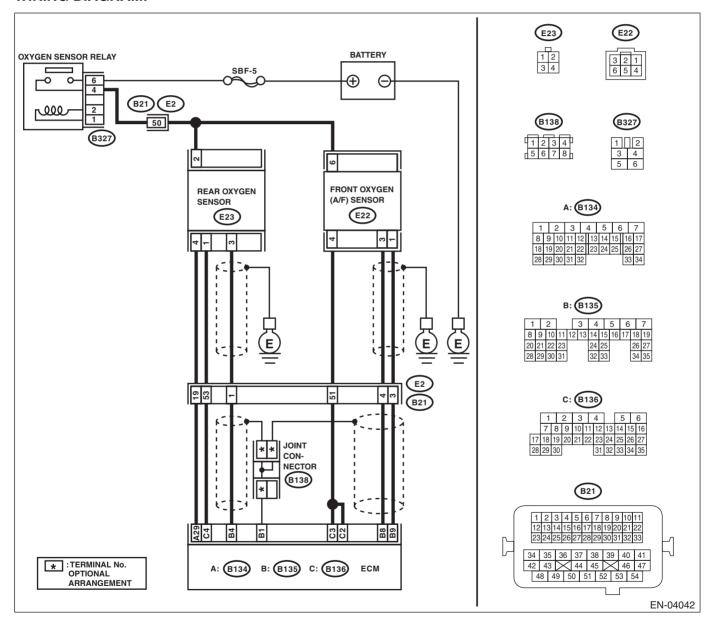
- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-117, DTC P0420 CATALYST SYSTEM EFFICIENCY BELOW THRESHOLD (BANK 1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine stalls.
- Idle mixture is out of specifications.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



ENGINE (DIAGNOSTICS)

1 CHECK ANY OTHER DTC ON DISPLAY. Is any other DTC displayed? Check the appro- close to the spin- product of the spin- content of the spin- sector Touble Code (DTC).> Colo step 2. 2 CHECK EXHAUST SYSTEM. Is there any fault in exhaust of Diagnostic Touble Code (DTC).> Colo step 3. 2 Check to rg as leaks or air suction caused by loose or dislocated nuts and bolts, and open hole at exhaust pipes. Is there any fault in exhaust pipe Repair or replace meets of the Software of the Software power and improper installation of front exhaust pipes. Go to step 3. 3 SELECT MONITOR OF TABLEY ON SUBARU Sensor 1) Drive the vehicle at a constant speed of 80 — 112 kmh (50 — 70 MPH). Is normal waveform pattern displayed? Contact your SOA displayed? Go to step 4. 3 SELECT MONITOR MAIL DRIVING), 1) Drive the vehicle at a constant speed of 80 — 112 kmh (50 — 70 MPH). Is normal waveform pattern displayed? Contact your SOA displayed? Go to step 4. 3 SELECT MONITOR MAIL DRIVING), 1) Drive the vehicle at a constant speed of 80 — 112 kmh (50 — 70 MPH). Is normal waveform pattern displayed? Contact your SOA displayed? Go to step 4. 4 Femor #1 — add to avaform data in a driving condi- tion using Subaru Select Monitor. Is normal waveform pattern or spin of the spin		Step	Check	Yes	No
2 CHECK EXHAUST SYSTEM. Check for gas leaks or air suction caused by loose or dislocated nuls and bolts, and open hole at exhaust pipes. NOTE: Check the following positions. Is there any fault in exhaust system? Repair for replace the exhaust system? Go to step 3. • Between cylinder head and front exhaust pipe • Extern front exhaust pipe and front catalyt- ic converter • Extern front exhaust pipe and front catalyt- ic converter • Contact your SOA Service Center. Go to step 4. 3 CHECK WAVEFORM DATA ON SUBARU SELECT MONITOR (WHLE DRIVING). 1) Drive the vehicle at a constant speed of 80 — 112 km/h (50 — 70 MPH). Is normal waveform pattern displayed? Contact your SOA Service Center. NOTE: The probable ered as the deteri- oration of multiple area on the waveform data in a driving condi- tion using Subaru Select Monitor. Is normal waveform pattern displayed? Contact your SOA Service Center. NOTE: The probable ered as the deteri- oration of multiple parts.	1 (Is any other DTC displayed?	priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC</ref.>	Go to step 2.
 CHECK WAVEFORM DATA ON SUBARU SELECT MONITOR (WHILE DRIVING). 1) Drive the vehicle at a constant speed of 80 — 112 km/h (50 — 70 MPH). 2) Keep the condition of step 1) for 5 minutes, then read the waveform data in a driving condi- tion using Subaru Select Monitor. 		 Check for gas leaks or air suction caused by loose or dislocated nuts and bolts, and open hole at exhaust pipes. NOTE: Check the following positions. Between cylinder head and front exhaust pipe Between front exhaust pipe and front catalytic converter Between front catalytic converter and rear catalytic converter Loose part and improper installation of front 	system?	the exhaust sys- tem. <ref. to<br="">EX(H4SO)-2, Gen-</ref.>	Go to step 3.
EN-04680		SELECT MONITOR (WHILE DRIVING). 1) Drive the vehicle at a constant speed of 80 – 112 km/h (50 – 70 MPH). 2) Keep the condition of step 1) for 5 minutes, then read the waveform data in a driving condition using Subaru Select Monitor. $ \frac{1}{Rear O2} + \frac{1}{O} + \frac$		Service Center. NOTE: The probable cause is consid- ered as the deteri- oration of multiple	Go to step 4.

EN(H4SO U5)(diag)-200

	Step	Check	Yes	No
4	CHECK WAVEFORM DATA ON SUBARU	Is normal waveform pattern	Go to step 10.	Go to step 5.
	SELECT MONITOR (WHILE IDLING).	displayed?		
	1) Idle the engine.			
	2) Under the condition of step 1), read the			
	waveform data using Subaru Select Monitor.			
	Rear 02			
	Sensor			
	TIME[5] 0 10 20 30 40			
	Rear 02 Sensor			
	0 TIME[≤] Ø 1Ø 2Ø 3Ø 4Ø			
	EN-04681			
5	CHECK REAR OXYGEN SENSOR VOLT-	Is the voltage more than 490	Go to step 9 .	Go to step 6 .
5	AGE.	mV?	do to step 3 .	
	1) Warm-up the engine until engine coolant			
	temperature is above 70°C (158°F), and keep			
	the engine speed at 3,000 rpm. (Max. 2 min-			
	utes)			
	Read the voltage of rear oxygen sensor			
	using Subaru Select Monitor.			
	NOTE:			
	For MT model, depress the clutch pedal.			
	Subaru Select Monitor For detailed operation procedure refer to			
	For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
6	CHECK REAR OXYGEN SENSOR CONNEC-	Does water enter the connec-	Dry the water thor-	Go to step 7.
	TOR AND COUPLING CONNECTOR.	tor?	oughly.	·
7	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 3	Repair the open	Go to step 8.
	REAR OXYGEN SENSOR CONNECTOR.	Ω?	circuit of harness	
	1) Turn the ignition switch to OFF.		between ECM and	
	Disconnect the connector from ECM and		rear oxygen sen-	
	rear oxygen sensor.		sor connector.	
	3) Measure the resistance of harness			
	between ECM and rear oxygen sensor con- nector.			
	Connector & terminal			
	(B135) No. 4 — (E23) No. 3:			
	(B135) No. 29 — (E23) No. 3. (B135) No. 29 — (E23) No. 4:			
		1	I	

EN(H4SO U5)(diag)-201

	Step	Check	Yes	No
8	CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to ON. 2) Measure the voltage between rear oxygen sensor connector and chassis ground. Connector & terminal (E23) No. 3 (+) — Chassis ground (-):	Is the voltage 0.2 — 0.5 V?	Go to step 11.	Repair the har- ness and connec- tor. NOTE: Repair the follow- ing. • Open circuit in harness between rear oxygen sen- sor and ECM con- nector • Poor contact in rear oxygen sen- sor and ECM con- nector • Poor contact in rear oxygen sen- sor and ECM con- nector
9	 CHECK REAR OXYGEN SENSOR VOLT-AGE. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and rapidly reduce the engine speed from 3,000 rpm. 2) Read the voltage of rear oxygen sensor using Subaru Select Monitor. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" li="" monitor.<="" select="" subaru="" to="" u5)(diag)-27,=""> </ref.>	Is the voltage 250 mV or less?	Contact your SOA Service Center. NOTE: The probable cause is consid- ered as the deteri- oration of multiple parts.	Go to step 6 .
10	CHECK CATALYTIC CONVERTER.	Is the catalytic converter dam- aged?	Replace the cata- lytic converter. <ref. to<br="">EC(H4SO)-3, Front Catalytic Converter.></ref.>	Contact your SOA Service Center. NOTE: The probable cause is consid- ered as the deteri- oration of multiple parts.
11	 CHECK REAR OXYGEN SENSOR SHIELD. 1) Turn the ignition switch to OFF. 2) Bare the harness sensor shield on the body side of rear oxygen sensor connector. 3) Measure the resistance between sensor shield and chassis ground. 	Is resistance less than 1 Ω?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Repair the open circuit of rear oxy- gen sensor har- ness.

BF:DTC P0442 EVAPORATIVE EMISSION CONTROL SYSTEM LEAK DETECT-ED (SMALL LEAK)

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

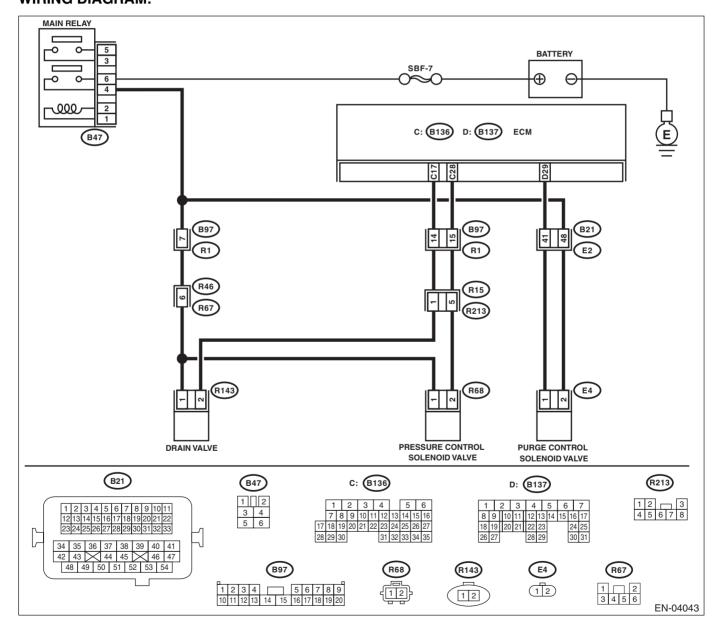
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-119, DTC P0442 EVAPORATIVE EMISSION CON-

TROL SYSTEM LEAK DETECTED (SMALL LEAK), Diagnostic Trouble Code (DTC) Detecting Criteria.> **TROUBLE SYMPTOM:**

- Fuel odor
- There is a hole of more than 1.0 mm (0.04 in) dia. in evaporation system or fuel tank.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



EN(H4SO U5)(diag)-203

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	 CHECK FUEL FILLER CAP. 1) Turn the ignition switch to OFF. 2) Check the fuel filler cap. NOTE: The DTC is stored in memory if fuel filler cap is or was loose or if the cap chain was caught while tightening. 	Is the fuel filler cap tightened securely?	Go to step 3 .	Securely install the fuel filler cap.
3	CHECK FUEL FILLER CAP.	Is the fuel filler cap genuine?	Go to step 4.	Replace with a genuine fuel filler cap.
4	CHECK FUEL FILLER PIPE PACKING.	Is there any damage to the seal between fuel filler cap and fuel filler pipe?	Repair or replace the fuel filler cap and fuel filler pipe. <ref. to<br="">FU(H4SO)-47, Fuel Filler Pipe.></ref.>	Go to step 5.
5	 CHECK DRAIN VALVE. 1) Connect the test mode connector. 2) Turn the ignition switch to ON. 3) Operate the drain valve. NOTE: Drain valve operation can be executed using Subaru Select Monitor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. compulsory<br="" en(h4so="" to="" u5)(diag)-47,="">Valve Operation Check Mode.></ref.> 	Does the drain valve operate?	Go to step 6 .	Replace the drain valve. <ref. to<br="">EC(H4SO)-15, Drain Valve.></ref.>
6	CHECK PURGE CONTROL SOLENOID VALVE. Operate the purge control solenoid valve. NOTE: Purge control solenoid valve operation can be executed using Subaru Select Monitor. For pro- cedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so="" to="" u5)(diag)-47,<br="">Compulsory Valve Operation Check Mode.></ref.>	Does the purge control sole- noid valve operate?	Go to step 7 .	Replace the purge control solenoid valve. <ref. to<br="">EC(H4SO)-6, Purge Control Solenoid Valve.></ref.>
7	CHECK PRESSURE CONTROL SOLENOID VALVE. Operate the pressure control solenoid valve. NOTE: The pressure control solenoid valve operation can be executed using the Subaru Select Mon- itor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so<br="" to="">U5)(diag)-47, Compulsory Valve Operation Check Mode.></ref.>	Does the pressure control solenoid valve operate?	Go to step 8 .	Replace the pres- sure control sole- noid valve. <ref. to EC(H4SO)-12, Pressure Control Solenoid Valve.></ref.

	Step	Check	Yes	No
8	CHECK EVAPORATIVE EMISSION CON- TROL SYSTEM LINE. Turn the ignition switch to OFF.	Is there a hole of more than 1.0 mm (0.04 in) dia. in evapora- tion line?	Repair or replace the evaporation line. <ref. to<br="">FU(H4SO)-56, Fuel Delivery and Evaporation Lines.></ref.>	Go to step 9.
9	CHECK CANISTER.	Is the canister damaged or is there a hole of more than 1.0 mm (0.04 in) dia. in it?	Repair or replace the canister. <ref. to EC(H4SO)-5, Canister.></ref. 	Go to step 10 .
10	CHECK FUEL TANK. Remove the fuel tank. <ref. fu(h4so)-41,<br="" to="">Fuel Tank.></ref.>	Is the fuel tank damaged or is there a hole of more than 1.0 mm (0.04 in) dia. in it?	Repair or replace the fuel tank. <ref. to FU(H4SO)-41, Fuel Tank.></ref. 	Go to step 11.
11	CHECK ANY OTHER MECHANICAL TROU- BLE IN EVAPORATIVE EMISSION CON- TROL SYSTEM.	Are there holes of more than 1.0 mm (0.04 in) dia., cracks, clogging, disconnections or bend of hoses or pipes in evap- orative emission control sys- tem?	Repair or replace the hoses or pipes.	Contact the SOA service center.

ENGINE (DIAGNOSTICS)

BG:DTC P0447 EVAPORATIVE EMISSION CONTROL SYSTEM VENT CONTROL CIRCUIT OPEN

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

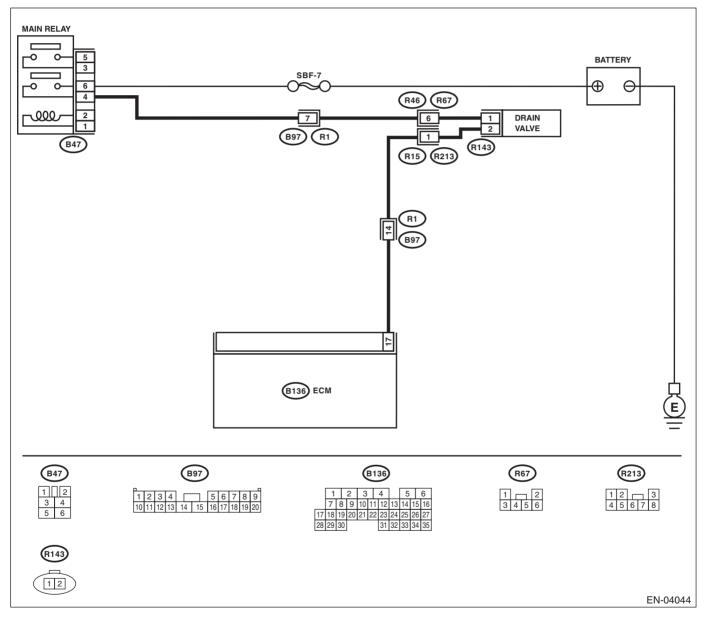
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-134, DTC P0447 EVAPORATIVE EMISSION CON-

TROL SYSTEM VENT CONTROL CIRCUIT OPEN, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK OUTPUT SIGNAL OF ECM.	Is the voltage more than 10 V?	Go to step 2.	Go to step 3.
•	1) Turn the ignition switch to ON.			
	2) Measure the voltage between ECM and			
	chassis ground.			
	Connector & terminal			
	(B136) No. 17 (+) — Chassis ground (–):			
2	CHECK POOR CONTACT.	Is there poor contact in ECM	Repair the poor	Even if the mal-
	Check poor contact of ECM connector.	connector?	contact of ECM connector.	function indicator light illuminates, the circuit has returned to a nor- mal condition at this time. (How- ever, the possibility of poor contact still remains.) NOTE: In this case, repair the following item: • Poor contact in drain valve con- nector • Poor contact in ECM connector • Poor contact of coupling connector
3	CHECK HARNESS BETWEEN DRAIN	Is the resistance more than 1	Go to step 4.	Repair the ground
	 VALVE AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from drain valve and ECM. 3) Measure the resistance of harness between drain valve connector and chassis ground. Connector & terminal (R143) No. 2 — Chassis ground: 	ΜΩ?		short circuit of har- ness between ECM and drain valve connector.
4	CHECK HARNESS BETWEEN DRAIN VALVE AND ECM CONNECTOR. Measure the resistance of harness between ECM and drain valve connector. Connector & terminal (B136) No. 17 — (R143) No. 2:	Is the resistance less than 1 Ω?	Go to step 5.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and drain valve connector • Poor contact of coupling connector
5	CHECK DRAIN VALVE.	Is the resistance between 10	Go to step 6.	Replace the drain
5	Measure the resistance between drain valve terminals. <i>Terminals</i>	and 100 Ω ?		valve. <ref. to<br="">EC(H4SO)-15, Drain Valve.></ref.>
	No. 1 — No. 2:			

	Step	Check	Yes	No
6	 CHECK POWER SUPPLY TO DRAIN VALVE. 1) Turn the ignition switch to ON. 2) Measure the voltage between drain valve and chassis ground. Connector & terminal (R143) No. 1 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Go to step 7.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between main relay and drain valve • Poor contact of coupling connector • Poor contact of main relay connec- tor
7	CHECK POOR CONTACT. Check poor contact in drain valve connector.	Is there poor contact in drain valve connector?	Repair poor con- tact in drain valve connector.	Contact the SOA service center.

BH:DTC P0448 EVAPORATIVE EMISSION CONTROL SYSTEM VENT CONTROL CIRCUIT SHORTED

DTC DETECTING CONDITION:

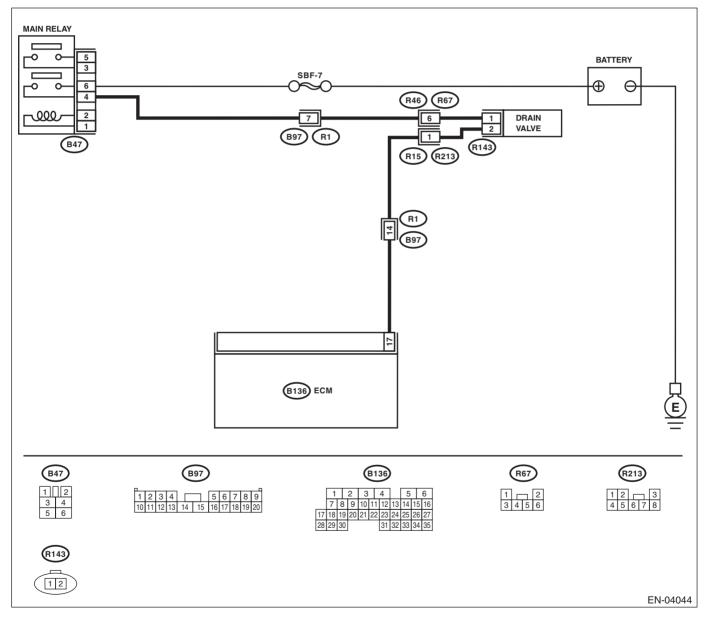
• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-136, DTC P0448 EVAPORATIVE EMISSION CON-TROL SYSTEM VENT CONTROL CIRCUIT SHORTED, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK INPUT SIGNAL OF ECM. 1) Turn the ignition switch to OFF. 2) Connect the test mode connector at the lower portion of instrument panel (on the driver's side). 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM and chassis ground while operating the drain valve. NOTE: Drain valve operation can be executed using Subaru Select Monitor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. check="" compulsory="" en(h4so="" mode.="" operation="" to="" u5)(diag)-47,="" valve=""></ref.> Connector & terminal (B136) No. 17 (+) — Chassis ground (-): 		Go to step 2 .	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time. In this case, repair the poor contact in ECM connector.
2	 CHECK INPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM and chassis ground. Connector & terminal (B136) No. 17 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Go to step 4.	Go to step 3 .
3	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>
4	 CHECK HARNESS BETWEEN DRAIN VALVE AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the drain valve. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM and chassis ground. Connector & terminal (B136) No. 17 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Repair the battery short circuit of har- ness between ECM and drain valve connector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Go to step 5.
5	 CHECK DRAIN VALVE. 1) Turn the ignition switch to OFF. 2) Measure the resistance between drain valve terminals. Terminals No. 1 — No. 2: 	Is the resistance less than 1 Ω ?	Replace the drain valve <ref. to<br="">EC(H4SO)-15, Drain Valve.> and ECM <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).>.</ref.></ref.>	Go to step 6 .
6	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>

BI: DTC P0451 EVAPORATIVE EMISSION CONTROL SYSTEM PRESSURE SEN-SOR

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

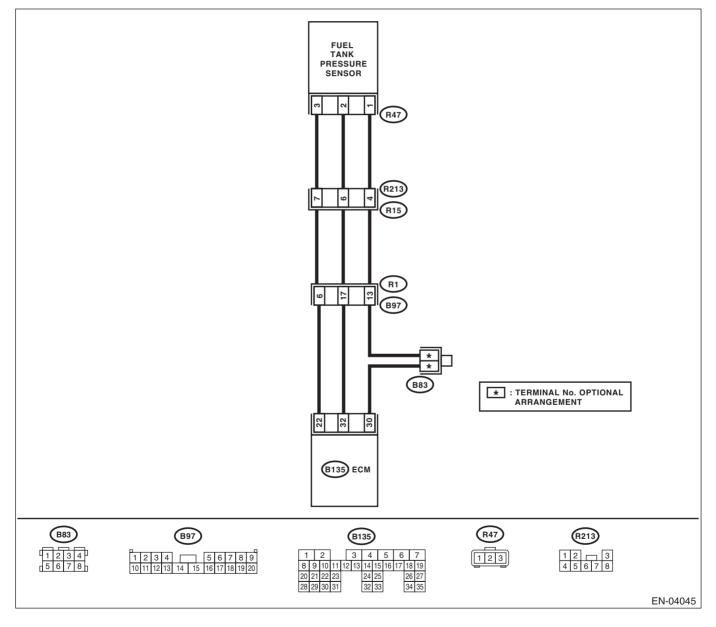
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-138, DTC P0451 EVAPORATIVE EMISSION CON-

TROL SYSTEM PRESSURE SENSOR, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	 CHECK FUEL FILLER CAP. 1) Turn the ignition switch to OFF. 2) Open the fuel flap. 	Is the fuel filler cap tightened securely?	Go to step 3.	Securely install the fuel filler cap.
3	 CHECK PRESSURE/VACUUM LINE. NOTE: Check the following items. Disconnection, leakage and clogging of the vacuum hoses and pipes between fuel tank pressure sensor and fuel tank Disconnection, leakage and clogging of the air ventilation hoses and pipes between fuel filler pipe and fuel tank 		Repair or replace the hoses and pipes.	Replace the fuel tank pressure sen- sor. <ref. to<br="">EC(H4SO)-11, Fuel Tank Pres- sure Sensor.></ref.>

BJ:DTC P0452 EVAPORATIVE EMISSION CONTROL SYSTEM PRESSURE SEN-SOR LOW INPUT

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

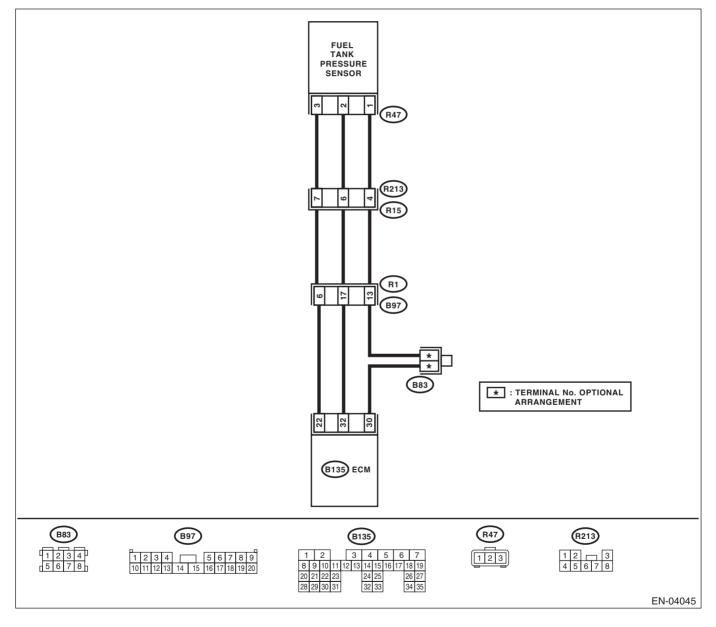
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-140, DTC P0452 EVAPORATIVE EMISSION CON-

TROL SYSTEM PRESSURE SENSOR LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



1 CHECK CURRENT DATA. Is the measured value less. Go to step 2. Even if the maining without of DFE. 1) Turn the ignition switch to OFF. Barnove the fuel filler cap. Barnove fuel fuel fuel fuel fuel fuel fuel fue		Step	Check	Yes	No
1) Turn the ignition switch to OFF. is Herowe the fuel filler cap. than -2.8 kPa (-21.0 mmHg, - lunction indicator 2) Remove the fuel filler cap. 0.827 inHg)? lunction indicator 3) Install the fuel filler cap. 0.827 inHg)? lunction indicator 4) Turn the ignition switch to ON. 5) Read the data of fuel tank pressure sensor signal using Subaru Select Monitor. lunction indicator NOTE: Subaru Select Monitor fuel tank pressure sensor iteration procedure, refer to "READ CURRENT DATA FOR ENGINE" - Reft. ls the voltage more than 4.5 V? Go to step 4. Go to step 3. 2 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground (-): bes the voltage change by shaking the ECM harness and connector. connector. Go to step 3. 3 CHECK FOWER SUPPLY TO FUEL TANK PRESSURE SENSOR. bes the voltage change by shaking the ECM harness and connector. connector. connector. Go to step 5. 4 CHECK INPUT SIGNAL OF ECM. is the voltage less than 0.2 V? Go to step 6. Go to step 5. Go to step 6. Go to step 6. 5 CHECK INPUT SIGNAL FOR ECM (USING - Afeet to TARIAD CURRENT DATA FOR ENGINE" - Afeet to TARAD CURRENT DATA FOR EN	1		Is the measured value less	Go to step 2.	Even if the mal-
 4) Turn the ignition switch to ON. 5) Read the data of fuel tank pressure sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE"Ref. to EN(HASO U5)(diag)-27, Subaru Select Monitor. 2 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B133) No. 22 (+) — Chassis ground (-): 3 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B133) No. 22 (+) — Chassis ground (-): 4 CHECK INPUT SIGNAL OF ECM. Is the voltage less than 0.2 V? Go to step 6. Go to step 5. Go to step 6. Go to step 7. Repair the poor contact of ECM (using Data of the step step step step staking the ECM harness and connector? Go to step 7. Repair the harness and connector? Turn the ignition switch to OFF. Remove the rear seat cusinon. Turn the ignition switch to OFF. Remove the rear seat cusinon. Disconnect the connector		2) Remove the fuel filler cap.			function indicator light illuminates,
signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to TREAD CURRENT DATA FOR ENGINET, -Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> 2 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (8138) No. 22 (+) — Chassis ground (-): 3 CHECK POWER SUPPLY TO FUEL TANK Measure the voltage between ECM connector and chassis ground. Connector & terminal (8138) No. 22 (+) — Chassis ground (-): 4 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Connector & terminal (8138) No. 32 (+) — Chassis ground (-): 5 CHECK INPUT SIGNAL OF ECM (USING SUBARU Select Monitor. NOTE: Subaru Select Monitor. Sor. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cusino. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to OFN. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to OFN. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to OFN. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground (-): 4) Turn the ignition switch to OFN. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground (-):					
NOTE: Subaru Solect Monitor For detailed operation procedure, refer to READ CURRENT DATA FOR ENGINE"Ref. to EN(H4SO US)(dig):27, Subaru Select Monitor. 2 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 22 (+) - Chassis ground (-): 3 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 22 (+) - Chassis ground (-): 4 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Connector & terminal (B135) No. 32 (+) - Chassis ground (-): 5 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Connector & terminal (B135) No. 32 (+) - Chassis ground (-): 5 CHECK INPUT SIGNAL FOR ECM (USING NOTE: Subaru Select Monitor. NOTE: Subaru Select Monitor. NOTE: 1) Turn the ignition switch to OFF. 2) Remove the rear seat custion. 3) Disconnector Result of ON. 5) Measure the voltage between the rear wir- ing harness connector & terminal (B139) No. 7 (+) - Chassis ground (-): 6 CHECK HANNESS CONNECTOR BETWEEN Subaru Select Monitor Repair the par- ress and connector (R15) and (R57). 4) Turn the ignition switch to OFF. 2) Remove the rear seat custion. 3) Disconnector & terminal (R15) No. 7 (+) - Chassis ground (-)		5) Read the data of fuel tank pressure sensor			
Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.<="" select="" subaru="" td="" to="" u5)(diag)-27.=""> Go to step 4. Go to step 3. 2 CHECK POWER SUPPLY TO FUEL TANK Measure the voltage between ECM connector and chassis ground. Is the voltage more than 4.5 V? Go to step 4. Go to step 3. 2 CHECK POWER SUPPLY TO FUEL TANK Measure the voltage between ECM connector and chassis ground. Does the voltage change by shaking the ECM harness and connector. Go to step 4. Go to step 5. 3 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Does the voltage change by shaking the ECM harness and connector. Connector. Contact of ECM connector and chassis ground (-): 4 CHECK NOWER SUPPLY TO FUEL TANK Measure the voltage between ECM and chassis ground. Is the voltage less than 0.2 V? Go to step 6. Go to step 5. 4 CHECK INPUT SIGNAL OF ECM. Is the voltage less than 0.2 V? Go to step 6. Go to step 6. Go to step 6. 5 CHECK INPUT SIGNAL FOR ECM (USING Marine Subaru Select Monitor. Does the measured value having the ECM connector? Connector. Go to step 6. Go to step 6. 6 CHECK INPUT SIGNAL FOR ECM (ISING MARINE". <ref. en(haso="" monitor.<="" select="" subaru="" td="" to="" u5)(diag)-27.=""> For the part the part ness and connector? Go to step 7. Repair the harness an</ref.></ref.>					this time.
 "READ CURRENT DATA FOR ENGINE", «Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR, Measure the voltage between ECM connector and chassis ground. (B139) No. 22 (+) — Chassis ground (-): CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR, Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 22 (+) — Chassis ground (-): CHECK NOWER SUPPLY TO FUEL TANK PRESSURE SENSOR, Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 22 (+) — Chassis ground (-): the voltage less than 0.2 V? Go to step 6. Go to step 5. Go to step 6. Go to step 7. Fer AD CURRENT DATA FOR ENGINE", «Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Turn the ignition switch to OFF. Remove the rear seat cushion. Disconnect rear outor (H15) and (R57). Turn the ignition switch to OFF. Remove the rear seat cushion. Disconnect reand chassis ground.(-): Turn the ignition switch to		-			
to EN(H4S0 U5)(diag)-27, Subaru Select Mon- itor.> is the voltage more than 4.5 V? Go to step 4. Go to step 5. 2 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. <i>Connector & terminal</i> (8135) No. 22 (+) - Chassis ground (-): Is the voltage change by shaking the ECM harness and connector? Repair the poor contact of ECM connector. Contact the SOA service center. 4 CHECK INPUT SIGNAL OF ECM Measure the voltage between ECM connector. and chassis ground. Connector & terminal (8135) No. 32 (+) - Chassis ground (-): Is the voltage less than 0.2 V? Go to step 6. Go to step 5. 4 CHECK INPUT SIGNAL OF ECM Measure the voltage between ECM and chas- sis ground. Connector & terminal (8135) No. 32 (+) - Chassis ground (-): Is the voltage less than 0.2 V? Go to step 6. Go to step 6. 5 CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor. For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINEC"Ref. to ECM AND FUEL TANK PRESSURE SEN- SOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnector R terminal (R15) No. 7 (+) - Chassis ground (-): Is the voltage more than 4.5 V? Go to step 7. Repair the har- neess and connector. NOTE: In this case, repair the following iterm: • Open circuit of NOTE: In this case, repair the following iterm: • Open circuit of NOTE: In this case, repair the following iterm: • Open circuit of Nore contact of NOTE; • Poor contact of • Poor					
itor CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (8133) No. 22 (+) — Chassis ground (-): Is the voltage more than 4.5 V? Go to step 4. Go to step 3. 3 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (8135) No. 22 (+) — Chassis ground (-): Does the voltage change by shaking the ECM harness and connector? Repair the poor contact of ECM connector. Contact the SOA service center. 4 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Connector & terminal (B135) No. 22 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Go to step 6. Go to step 5. 5 CHECK INPUT SIGNAL OF ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR EIGNINE". <ref. to EN(H4SO U5)(dig)-27, subaru Select Mon- itor.> Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connector? 6 CHECK HARNESS CONNECTOR BETWEEN IS buscente the connector (R15) and (R57). 4) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wir- ingh famess connector at terminal (R15) No. 7 (+) — Chassis ground (-): Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connector. NOTE: In this c</ref. 					
PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 22 (+) — Chassis ground (-): Does the voltage change by shaking the ECM harness and connector & terminal (B135) No. 22 (+) — Chassis ground (-): Does the voltage change by shaking the ECM harness and connector & terminal (B135) No. 22 (+) — Chassis ground (-): Contact the SOA service center. 4 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Is the voltage less than 0.2 V? Go to step 6. Go to step 5. 5 CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE"Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Does the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connector. NOTE: 1 Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground (-): Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: 4) Turn the ignition switch to OFF. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground (-): Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wir- ing harness connector and chass					
and chassis ground. Connector & terminal Bits) No. 22 (+) — Chassis ground (-): Dees the voltage change by shaking the ECM harness and connector. Repair the poor contact of ECM connector. Service center. 3 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Does the voltage change by shaking the ECM harness and connector. Repair the poor contact of ECM connector. Service center. 4 CHECK INPUT SIGNAL OF ECM. Does the voltage less than 0.2 V? Go to step 6. Go to step 5. 4 CHECK INPUT SIGNAL FOR ECM (USING (B135) No. 32 (+) — Chassis ground (-): Does the measured value (harness and connector?) Does the measured value (harness and connector?) Go to step 6. Go to step 6. 5 CHECK INPUT SIGNAL FOR ECM (USING (B135) No. 32 (+) — Chassis ground (-): Does the measured value (harness and connector?) Repair the poor contact of ECM connector. Go to step 6. 5 CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Does the measured value (harness and connector?) Repair the poor contact of ECM connector. Go to step 7. Go to step 6. 6 CHECK HARNESS CONNECTOR BETWEEN INFOR ECM (H4SO US)(diag)-27, Subaru Select Monitor. Is the voltage more than 4.5 V? Go to step 7. Repair the harness and connector. 1 Turn the ignition switch to OFF. Premove the rear seat cushion. Is	2		Is the voltage more than 4.5 V?	Go to step 4.	Go to step 3.
(B135) No. 22 (+) — Chassis ground (-): Peressure (++++++++++++++++++++++++++++++++++++					
 CHECK POWER SUPPLY TO FUEL TANK PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 32 (+) — Chassis ground (-): the voltage less than 0.2 V? Go to step 6. Go to step 7. <l< td=""><td></td><td></td><td></td><td></td><td></td></l<>					
 PRESSURE SENSOR. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 22 (+) — Chassis ground (-): the voltage less than 0.2 V? Go to step 6. Go to step 7. Repair the poor repair the	2		Doos the voltage change by	Popair the poor	Contact the SOA
Measure the voltage between ECM connector and chassis ground. connector? connector. Connector & terminal (B135) No. 22 (+) — Chassis ground (-): connector? connector? Got of the connector & terminal (B135) No. 32 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Got of the connector. Got of the connector & terminal (B135) No. 32 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Got of the connector. Got of the connector & terminal (B135) No. 32 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Got of the connector. Got of the connector & terminal (B135) No. 32 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Got of the connector. Got of the connector & terminal (B135) No. 32 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Got of the connector. Got of the connector & terminal (B135) No. 32 (+) — Chassis ground (-): Does the measured value change by shaking the ECM the connector? Repair the poor contact of ECM connector. Got the connector. Got of the connector is the connector of the connector is connector. Is the voltage more than 4.5 V? Got the step 7. Got connector & terminal (R15) No. 7 (+) — Chassis ground (-): Is the voltage more than 4.5 V? Got the parameter witting harness connector and chassis ground (-): Not the following iterm: ing harness connector and chassis ground (-): <td< td=""><td>3</td><td></td><td></td><td></td><td></td></td<>	3				
Connector & terminal (B135) No. 22 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Go to step 6. Go to step 5. 4 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chas- sis ground. Connector & terminal (B135) No. 32 (+) — Chassis ground (-): Is the voltage less than 0.2 V? Go to step 6. Go to step 5. 5 CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Does the measured value charge by shaking the ECM harness and connector? Go to step 7. Repair the har- ness and connector. 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): Is the voltage more than 4.5 V? 6) Poor contact of 6 Go to step 7. Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit oo harness between ECM and rear wir- ing harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): Is the voltage more than 4.5 V? 6 Go to step 7. Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit oo harness between ECM and rear wir- ing harness connector and chassis ground (-): <td></td><td></td><td></td><td></td><td></td></ref. 					
 (B135) No. 22 (+) — Chassis ground (-): CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chassis ground. Connector & terminal (B135) No. 32 (+) — Chassis ground (-): CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". https://www.net.org. Ste voltage more than 4.5 V? Go to step 7. Repair the har- ness and connector? Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connector for. Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connector for. It the ignition switch to OFF. Remove the rear seat cushion. Disconnect the connector (R15) and (R57). Turn the ignition switch to ON. Measure the voltage between the rear wir- ing harness connector and chassis ground. <i>Connector & terminal</i> (<i>R15</i>) No. 7 (+) — Chassis ground (-): 					
 CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chassis ground. Connector & terminal (B135) No. 32 (+) — Chassis ground (-): CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Moni- itor.></ref. CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. Turn the ignition switch to OFF. Remove the rear seat cushion. Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. Measure the voltage between the rear wir- ing harness connector and chassis ground (-): 					
 sis ground. Connector & terminal (B135) No. 32 (+) — Chassis ground (-): CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground. <i>Connector & terminal</i> (<i>R15) No. 7 (+) — Chassis ground (-):</i> 	4	CHECK INPUT SIGNAL OF ECM.	Is the voltage less than 0.2 V?	Go to step 6.	Go to step 5.
Connector & terminal (B135) No. 32 (+) — Chassis ground (-): Dees the measured value change by shaking the ECM contact of ECM connector. Repair the poor contact of ECM connector. Go to step 6. 5 CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> Dees the measured value change by shaking the ECM harness and connector? Repair the poor contact of ECM connector. Go to step 6. 6 CHECK HARNESS CONNECTOR BETWEEN SOR. Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connec- tor. 1) Turn the ignition switch to OFF. Permove the rear seat cushion. Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connec- tor. 3) Disconnect the connector (R15) and (R57). Turn the ignition switch to ON. NOTE: In this case, repair the following item: • Open circuit of harness connector at chassis ground. <i>Connector & terminal</i> (<i>R15) No. 7 (+) — Chassis ground (-):</i> Note: • Poor contact of • Poor contact of</ref. 					
 5 CHECK INPUT SIGNAL FOR ECM (USING SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Monitor.</ref. 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN-SOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wiring harness connector and chassis ground. <i>Connector & terminal</i> <i>(R15) No. 7 (+) — Chassis ground (-):</i> 					
 SUBARU SELECT MONITOR). Read the data of fuel tank pressure sensor sig- nal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. Turn the ignition switch to OFF. Remove the rear seat cushion. Disconnect the connector (R15) and (R57). Turn the ignition switch to ON. Measure the voltage between the rear wir- ing harness connector at drassis ground. <i>Connector & terminal</i> <i>(R15) No. 7 (+) — Chassis ground (-):</i> 					-
Read the data of fuel tank pressure sensor signal using Subaru Select Monitor. harness and connector? connector. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""> for CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SENSOR. Is the voltage more than 4.5 V? Go to step 7. Repair the harness and connector to r. NOTE: 2) Remove the rear seat cushion. Is the voltage more than 4.5 V? Go to step 7. Repair the harness and connector to r. NOTE: 1) Turn the ignition switch to OFF. 1) Bisconnect the connector (R15) and (R57). Is the voltage between the rear wirring harness connector and chassis ground. Open circuit of harness connector and chassis ground. Open circuit on harness connector Poor contact on ector <i>(R15) No. 7 (+) — Chassis ground (-):</i> Poor contact on ector Poor contact on ector Poor contact on ector</ref.>	5	•			Go to step 6 .
 NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground. <i>Connector & terminal</i> (<i>R15</i>) No. 7 (+) — Chassis ground (-): 		Read the data of fuel tank pressure sensor sig-	• • •		
Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref.< td=""> to EN(H4SO U5)(diag)-27, Subaru Select Monitor.> 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SENSOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wiring harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-):</ref.<>					
 "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN-SOR. 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wiring harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): 					
to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.> 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connec- tor. 1) Turn the ignition switch to OFF. Premove the rear seat cushion. Is the voltage more than 4.5 V? Go to step 7. NOTE: In this case, repair the following item: 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. Open circuit of harness connector and chassis ground. • Open circuit of harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): • Poor contact of • Poor contact of					
itor.> 6 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. Is the voltage more than 4.5 V? Go to step 7. Repair the har- ness and connec- tor. 1) Turn the ignition switch to OFF. Premove the rear seat cushion. NOTE: NOTE: 3) Disconnect the connector (R15) and (R57). Turn the ignition switch to ON. Open circuit of harness connector and chassis ground. • Open circuit of harness connector & terminal (R15) No. 7 (+) — Chassis ground (-):					
ECM AND FUEL TANK PRESSURE SEN- SOR. ness and connec- tor. 1) Turn the ignition switch to OFF. NOTE: 2) Remove the rear seat cushion. In this case, repair In this case, repair the following item: 3) Disconnect the connector (R15) and (R57). • Open circuit of harness connector and chassis ground. 5) Measure the voltage between the rear wir- ing harness connector and chassis ground. • Open circuit of harness connector & terminal (R15) No. 7 (+) — Chassis ground (-):					
 1) Turn the ignition switch to OFF. 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wiring harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): 	6		Is the voltage more than 4.5 V?	Go to step 7.	
 2) Remove the rear seat cushion. 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wiring harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): 					
 3) Disconnect the connector (R15) and (R57). 4) Turn the ignition switch to ON. 5) Measure the voltage between the rear wiring harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): * Open circuit of harness connector and chassis ground (-): * Poor contact of the connector of the con		· •			-
5) Measure the voltage between the rear wir- ing harness connector and chassis ground. <i>Connector & terminal</i> <i>(R15) No. 7 (+) — Chassis ground (–):</i> • Poor contact of		3) Disconnect the connector (R15) and (R57).			the following item:
ing harness connector and chassis ground. Connector & terminal (R15) No. 7 (+) — Chassis ground (-): • Poor contact of					Open circuit of
Connector & terminal ing harness con (R15) No. 7 (+) — Chassis ground (-): nector • Poor contact of					harness between ECM and rear wir-
Poor contact o		Connector & terminal			ing harness con-
		(R15) No. 7 (+) — Chassis ground (–):			
					 Poor contact of coupling connector

		i	i	i
	Step	Check	Yes	No
7	 CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance of harness between ECM and connector (R15). <i>Connector & terminal</i> (B135) No. 30 — (R15) No. 4: 	Is the resistance less than 1 Ω?	Go to step 8.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and rear wir- ing harness con- nector • Poor contact of coupling connector • Poor contact of joint connector
8	CHECK HARNESS CONNECTOR BETWEEN ECM AND FUEL TANK PRESSURE SEN- SOR. Measure the resistance of harness between connector (R15) and chassis ground. <i>Connector & terminal</i> (R15) No. 4 (+) — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 9 .	Repair the ground short circuit of har- ness between ECM and rear wir- ing harness con- nector.
9	 CHECK FUEL TANK HARNESS. 1) Disconnect the connector from fuel tank pressure sensor. 2) Measure the resistance of fuel tank harness. Connector & terminal (R213) No. 7 — (R47) No. 3: 	Is the resistance less than 1 Ω ?	Go to step 10 .	Repair the open circuit in fuel tank cord.
10	CHECK FUEL TANK HARNESS. Measure the resistance of fuel tank harness. Connector & terminal (R213) No. 4 — (R47) No. 1:	Is the resistance less than 1 Ω ?	Go to step 11.	Repair the open circuit in fuel tank cord.
11	CHECK FUEL TANK HARNESS. Measure the resistance of harness between fuel tank pressure sensor connector and engine ground. Connector & terminal (R47) No. 2 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 12.	Repair the ground short circuit of fuel tank cord.
12	CHECK POOR CONTACT. Check poor contact in fuel tank pressure sen- sor connector.	Is there poor contact in fuel tank pressure sensor connec- tor?	Repair the poor contact in fuel tank pressure sensor connector.	Replace the fuel tank pressure sen- sor. <ref. to<br="">EC(H4SO)-11, Fuel Tank Pres- sure Sensor.></ref.>

ENGINE (DIAGNOSTICS)

BK:DTC P0453 EVAPORATIVE EMISSION CONTROL SYSTEM PRESSURE SENSOR HIGH INPUT

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

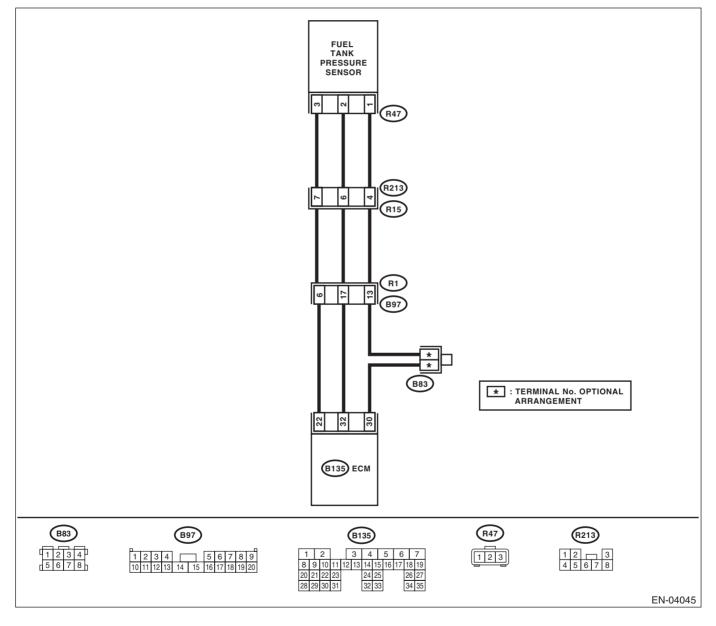
• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-142, DTC P0453 EVAPORATIVE EMISSION CON-

TROL SYSTEM PRESSURE SENSOR HIGH INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK CURRENT DATA.	Is the measured value 2.8 kPa	Go to step 11.	Go to step 2.
	1) Turn the ignition switch to OFF.	(21.0 mmHg, 0.827 inHg) or		
	2) Remove the fuel filler cap.	more?		
	3) Install the fuel filler cap.			
	4) Turn the ignition switch to ON.			
	5) Read the data of fuel tank pressure sensor			
	signal using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
2	CHECK POWER SUPPLY TO FUEL TANK	Is the voltage more than 4.5 V?	Go to step 4.	Go to step 3.
	PRESSURE SENSOR.			
	Measure the voltage between ECM connector			
	and chassis ground.			
	Connector & terminal			
	(B135) No. 22 (+) — Chassis ground (–):			
3	CHECK POWER SUPPLY TO FUEL TANK	Does the voltage change by	Repair the poor	Replace the ECM.
°	PRESSURE SENSOR.	shaking the ECM harness and	contact of ECM	<ref. td="" to<=""></ref.>
	Measure the voltage between ECM connector	connector?	connector.	FU(H4SO)-36,
	and chassis ground.			Engine Control
	Connector & terminal			Module (ECM).>
	(B135) No. 22 (+) — Chassis ground (–):			
4	CHECK INPUT SIGNAL OF ECM.	Is the voltage less than 0.2 V?	Go to step 6.	Go to step 5.
7	Measure the voltage between ECM and chas-			
	sis ground.			
	Connector & terminal			
	(B135) No. 32 (+) — Chassis ground (–):			
5	CHECK INPUT SIGNAL FOR ECM (USING	Does the measured value	Repair the poor	Go to step 6.
ľ	SUBARU SELECT MONITOR).	change by shaking the ECM	contact of ECM	
	•	harness and connector?	connector.	
	nal using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". <ref.< td=""><td></td><td></td><td></td></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
6	CHECK HARNESS BETWEEN ECM AND	Is the voltage more than 4.5 V?	Go to step 7.	Repair the har-
[COUPLING CONNECTOR IN REAR WIRING			ness and connec-
	HARNESS.			tor.
	 Turn the ignition switch to OFF. 			NOTE:
	2) Remove the rear seat cushion.			In this case, repair
	3) Separate rear wiring harness and fuel tank			the following item:
	cord.			 Open circuit of
	4) Turn the ignition switch to ON.			harness between
	5) Measure the voltage between the rear wir-			ECM and rear wir-
	ing harness connector and chassis ground.			
	Connector & terminal			ing harness con- nector
	(R15) No. 7 (+) — Chassis ground (–):			 Poor contact of
				coupling connector

	Step	Check	Yes	No
7	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 8.	Repair the har-
	COUPLING CONNECTOR IN REAR WIRING			ness and connec-
	HARNESS.			tor.
	1) Turn the ignition switch to OFF.			NOTE:
	2) Disconnect the connectors from ECM.			In this case, repair
	3) Measure the resistance of harness			the following item:
	between ECM and rear wiring harness con-			 Open circuit of
	nector.			harness between
	Connector & terminal			ECM and rear wir-
	(B135) No. 32 — (R15) No. 6:			ing harness con-
	(B135) No. 30 — (R15) No. 4:			nector
				 Poor contact of
				coupling connector
8	CHECK FUEL TANK HARNESS.	Is the resistance less than 1	Go to step 9.	Repair the open
	1) Disconnect the connector from the fuel tank	Ω?		circuit in fuel tank
	pressure sensor.			cord.
	Measure the resistance of fuel tank har-			
	ness.			
	Connector & terminal			
	(R213) No. 6 — (R47) No. 2:			
9	CHECK FUEL TANK HARNESS.	Is the resistance less than 1	Go to step 10.	Repair the open
	Measure the resistance of fuel tank harness.	Ω?		circuit in fuel tank
	Connector & terminal			cord.
	(R213) No. 4 — (R47) No. 1:			
10	CHECK POOR CONTACT.	Is there poor contact in fuel	Repair the poor	Replace the fuel
	Check poor contact in fuel tank pressure sen-	tank pressure sensor connec-	contact in fuel tank	tank pressure sen-
	sor connector.	tor?	pressure sensor	sor. <ref. th="" to<=""></ref.>
			connector.	EC(H4SO)-11,
				Fuel Tank Pres-
4.4		Is the measured value 0.0 kDs	Densinhetten	sure Sensor.>
11	CHECK HARNESS BETWEEN ECM AND	Is the measured value 2.8 kPa	Repair battery	Replace the fuel
	FUEL TANK PRESSURE SENSOR CONNEC- TOR.	(21.0 mmg, 0.827 mmg) or more?	short circuit of har- ness between	tank pressure sen- sor. <ref. th="" to<=""></ref.>
	1) Turn the ignition switch to OFF.	more?		EC(H4SO)-11,
	 Disconnect the connector from fuel tank 		pressure sensor	Fuel Tank Pres-
	pressure sensor.		connector.	sure Sensor.>
	3) Turn the ignition switch to ON.		connector.	
	4) Read the data of fuel tank pressure sensor			
	signal using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". <ref.< th=""><th></th><th></th><th></th></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
L				1

BL:DTC P0456 EVAPORATIVE EMISSION CONTROL SYSTEM LEAK DETECT-ED (VERY SMALL LEAK)

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-144, DTC P0456 EVAPORATIVE EMISSION CON-TROL SYSTEM LEAK DETECTED (VERY SMALL LEAK), Diagnostic Trouble Code (DTC) Detecting Criteria.>

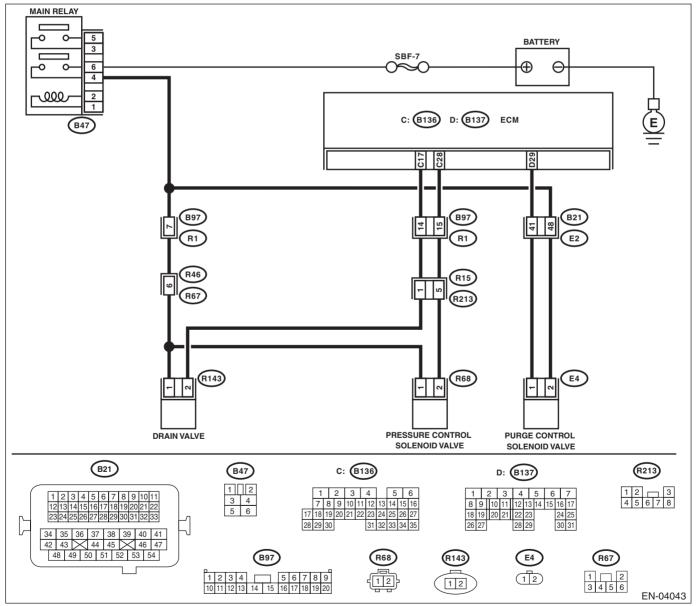
TROUBLE SYMPTOM:

- Fuel odor
- There is a hole of more than 0.5 mm (0.020 in) dia. in evaporation system or fuel tank.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.





EN(H4SO U5)(diag)-219

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	 CHECK FUEL FILLER CAP. 1) Turn the ignition switch to OFF. 2) Check the fuel filler cap. NOTE: The DTC is stored in memory if fuel filler cap is or was loose or if the cap chain was caught while tightening. 	Is the fuel filler cap tightened securely?	Go to step 3 .	Securely install the fuel filler cap.
3	CHECK FUEL FILLER CAP.	Is the fuel filler cap genuine?	Go to step 4.	Replace with a genuine fuel filler cap.
4	CHECK FUEL FILLER PIPE PACKING.	Is there any damage to the seal between fuel filler cap and fuel filler pipe?	Repair or replace the fuel filler cap and fuel filler pipe. <ref. to<br="">FU(H4SO)-47, Fuel Filler Pipe.></ref.>	Go to step 5.
5	 CHECK DRAIN VALVE. 1) Connect the test mode connector. 2) Turn the ignition switch to ON. 3) Check the drain valve. NOTE: Drain valve operation can be executed using Subaru Select Monitor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. check="" compulsory="" en(h4so="" mode.="" operation="" to="" u5)(diag)-47,="" valve=""></ref.> 		Go to step 6.	Replace the drain valve. <ref. to<br="">EC(H4SO)-15, Drain Valve.></ref.>
6	CHECK PURGE CONTROL SOLENOID VALVE. Operate the purge control solenoid valve. NOTE: Purge control solenoid valve operation can be executed using Subaru Select Monitor. For pro- cedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so="" to="" u5)(diag)-47,<br="">Compulsory Valve Operation Check Mode.></ref.>		Go to step 7.	Replace the purge control solenoid valve. <ref. to<br="">EC(H4SO)-6, Purge Control Solenoid Valve.></ref.>
7	CHECK PRESSURE CONTROL SOLENOID VALVE. Operate the pressure control solenoid valve. NOTE: The pressure control solenoid valve operation can be executed using the Subaru Select Mon- itor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so<br="" to="">U5)(diag)-47, Compulsory Valve Operation Check Mode.></ref.>	Does the pressure control solenoid valve operate?	Go to step 8.	Replace the pres- sure control sole- noid valve. <ref. to EC(H4SO)-6, Purge Control Solenoid Valve.></ref.

	Step	Check	Yes	No
8	CHECK EVAPORATIVE EMISSION CON- TROL SYSTEM LINE. Turn the ignition switch to OFF.	Is there a hole of more than 0.5 mm (0.020 in) dia. in evapora- tion line?	Repair or replace the evaporation line. <ref. to<br="">FU(H4SO)-56, Fuel Delivery and Evaporation Lines.></ref.>	Go to step 9.
9	CHECK CANISTER.	Is the canister damaged or is there a hole of more than 0.5 mm (0.020 in) dia. in it?	Repair or replace the canister. <ref. to EC(H4SO)-5, Canister.></ref. 	Go to step 10 .
10	CHECK FUEL TANK. Remove the fuel tank. <ref. fu(h4so)-41,<br="" to="">Fuel Tank.></ref.>	Is the fuel tank damaged or is there a hole of more than 0.5 mm (0.020 in) dia. in it?	Repair or replace the fuel tank. <ref. to FU(H4SO)-41, Fuel Tank.></ref. 	Go to step 11.
11	CHECK ANY OTHER MECHANICAL TROU- BLE IN EVAPORATIVE EMISSION CON- TROL SYSTEM.	Are there holes of more than 0.5 mm (0.020 in) dia., cracks, clogging, disconnections or bend of hoses or pipes in evap- orative emission control sys- tem?	Repair or replace the hoses or pipes.	Contact the SOA service center.

ENGINE (DIAGNOSTICS)

BM:DTC P0457 EVAPORATIVE EMISSION CONTROL SYSTEM LEAK DETECT-ED (FUEL CAP LOOSE/OFF)

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

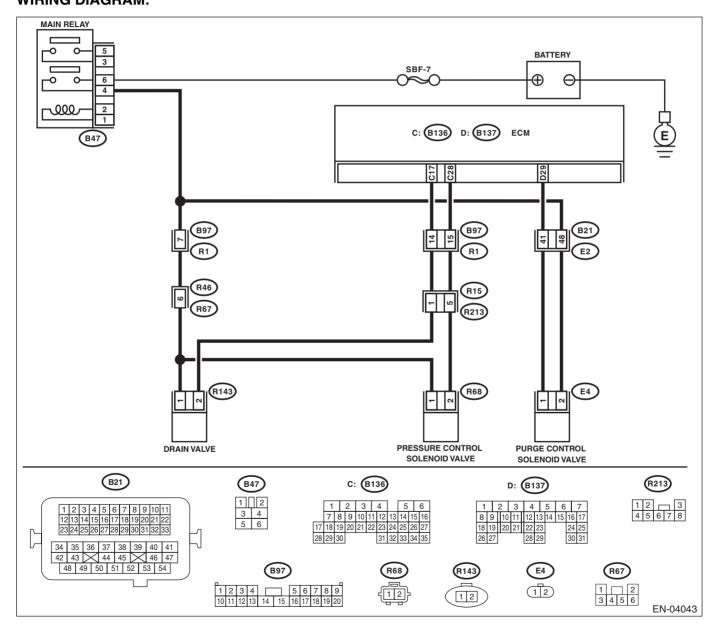
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-119, DTC P0442 EVAPORATIVE EMISSION CON-

TROL SYSTEM LEAK DETECTED (SMALL LEAK), Diagnostic Trouble Code (DTC) Detecting Criteria.> **TROUBLE SYMPTOM:**

- Fuel odor
- Fuel filler cap is loose or not installed.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



EN(H4SO U5)(diag)-222

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	 CHECK FUEL FILLER CAP. 1) Turn the ignition switch to OFF. 2) Check the fuel filler cap. NOTE: The DTC is stored in memory if fuel filler cap is or was loose or if the cap chain was caught while tightening. 		Go to step 3 .	Securely install the fuel filler cap.
3	CHECK FUEL FILLER CAP.	Is the fuel filler cap genuine?	Go to step 4.	Replace with a genuine fuel filler cap.
4	CHECK FUEL FILLER PIPE PACKING.	Is there any damage to the seal between fuel filler cap and fuel filler pipe?	Repair or replace the fuel filler cap and fuel filler pipe. <ref. to<br="">FU(H4SO)-47, Fuel Filler Pipe.></ref.>	Go to step 5.
5	 CHECK DRAIN VALVE. 1) Connect the test mode connector. 2) Turn the ignition switch to ON. 3) Check the drain valve. NOTE: Drain valve operation can be executed using Subaru Select Monitor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. compulsory<br="" en(h4so="" to="" u5)(diag)-47,="">Valve Operation Check Mode.></ref.> 		Go to step 6 .	Replace the drain valve. <ref. to<br="">EC(H4SO)-15, Drain Valve.></ref.>
6	CHECK PURGE CONTROL SOLENOID VALVE. Operate the purge control solenoid valve. NOTE: Purge control solenoid valve operation can be executed using Subaru Select Monitor. For pro- cedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so="" to="" u5)(diag)-47,<br="">Compulsory Valve Operation Check Mode.></ref.>		Go to step 7.	Replace the purge control solenoid valve. <ref. to<br="">EC(H4SO)-6, Purge Control Solenoid Valve.></ref.>
7	CHECK PRESSURE CONTROL SOLENOID VALVE. Operate the pressure control solenoid valve. NOTE: The pressure control solenoid valve operation can be executed using the Subaru Select Mon- itor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so<br="" to="">U5)(diag)-47, Compulsory Valve Operation Check Mode.></ref.>		Go to step 8.	Replace the pres- sure control sole- noid valve. <ref. to EC(H4SO)-6, Purge Control Solenoid Valve.></ref.
8	CHECK CANISTER.	Is the canister damaged?	Repair or replace the canister. <ref. to EC(H4SO)-5, Canister.></ref. 	Go to step 9 .

	Step	Check	Yes	No
9	CHECK FUEL TANK. Remove the fuel tank. <ref. fu(h4so)-41,<br="" to="">Fuel Tank.></ref.>	Is the fuel tank damaged?	Repair or replace the fuel tank. <ref. to FU(H4SO)-41, Fuel Tank.></ref. 	Go to step 10 .
10	BLE IN EVAPORATIVE EMISSION CON- TROL SYSTEM.	Are there holes of more than 0.5 mm (0.020 in) dia., cracks, clogging or disconnections of hoses or pipes in evaporative emission control system?	Repair or replace the hoses or pipes.	Contact the SOA service center.

BN:DTC P0458 EVAPORATIVE EMISSION SYSTEM PURGE CONTROL VALVE CIRCUIT LOW

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-145, DTC P0458 EVAPORATIVE EMISSION SYS-

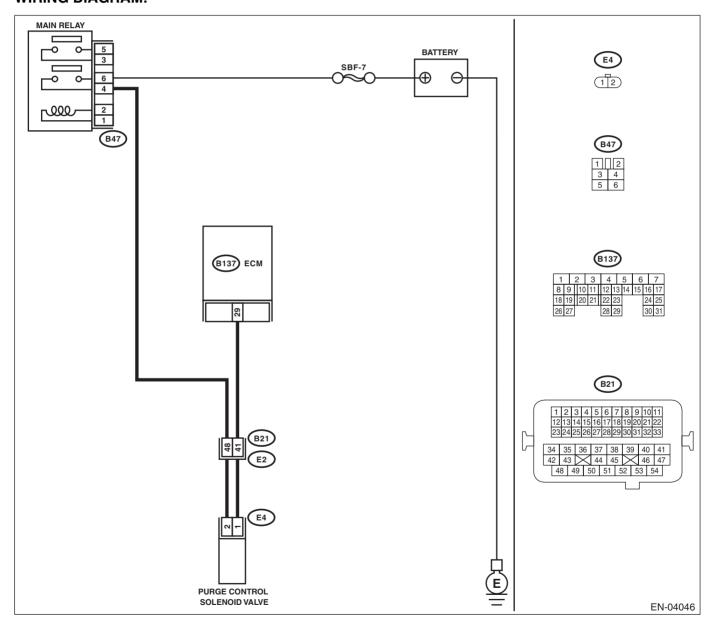
TEM PURGE CONTROL VALVE CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM and chassis ground. Connector & terminal (B137) No. 29 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time. Contact your SOA Service Center.	Go to step 2.
2	 CHECK HARNESS BETWEEN PURGE CONTROL SOLENOID VALVE AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from purge control solenoid valve and ECM. 3) Measure the resistance of harness between purge control solenoid valve connector and engine ground. Connector & terminal (E4) No. 1 — Engine ground: 	Is the resistance more than 1 MΩ?	Go to step 3.	Repair the ground short circuit of har- ness between ECM and purge control solenoid valve connector.
3	CHECK HARNESS BETWEEN PURGE CON- TROL SOLENOID VALVE AND ECM CON- NECTOR. Measure the resistance of harness between ECM and purge control solenoid valve. Connector & terminal (B137) No. 29 — (E4) No. 1:	Is the resistance less than 1 Ω?	Go to step 4 .	Repair the open circuit of harness between ECM and purge control sole- noid valve connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and purge control solenoid valve connector • Poor contact of coupling connector
4	 CHECK PURGE CONTROL SOLENOID VALVE. 1) Remove the purge control solenoid valve. 2) Measure the resistance between purge control solenoid valve terminals. Terminals No. 1 — No. 2: 	Is the resistance between 10 and 100 Ω?	Go to step 5.	Replace the purge control solenoid valve. <ref. to<br="">EC(H4SO)-6, Purge Control Solenoid Valve.></ref.>
5	 CHECK POWER SUPPLY TO PURGE CONTROL SOLENOID VALVE. 1) Turn the ignition switch to ON. 2) Measure the voltage between purge control solenoid valve and engine ground. Connector & terminal (E4) No. 2 (+) — Engine ground (-): 	Is the voltage more than 10 V?	Go to step 6 .	Repair the open circuit of harness between main relay and purge control solenoid valve connector.
6	CHECK POOR CONTACT. Check poor contact of purge control solenoid valve connector.	Is there poor contact of purge control solenoid valve connec- tor?	Repair the poor contact of purge control solenoid valve connector.	Contact the SOA service center.

BO:DTC P0459 EVAPORATIVE EMISSION SYSTEM PURGE CONTROL VALVE CIRCUIT HIGH

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-147, DTC P0459 EVAPORATIVE EMISSION SYS-

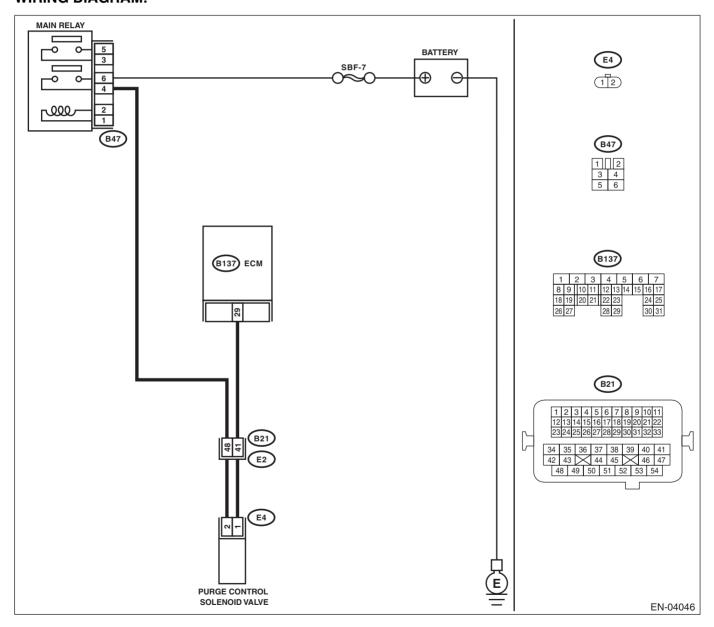
TEM PURGE CONTROL VALVE CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to OFF. 2) Connect the test mode connector at the lower portion of instrument panel (on the 	Is the voltage 0 — 10 V?	Go to step 2 .	Even if the mal- function indicator light illuminates, the circuit has
	 driver's side). 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM and chassis ground while operating the purge control solenoid valve. 			returned to a nor- mal condition at this time. In this case, repair the poor contact in
	NOTE: Purge control solenoid valve operation can be executed using Subaru Select Monitor. For pro- cedure, refer to "Compulsory Valve Operation Check Mode". <ref. en(h4so="" to="" u5)(diag)-47,<br="">Compulsory Valve Operation Check Mode.> Connector & terminal (B137) No. 29 (+) — Chassis ground (-):</ref.>			ECM connector.
2	 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM and chassis ground. Connector & terminal (B137) No. 29 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Go to step 4.	Go to step 3 .
3	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>
4	 CHECK HARNESS BETWEEN PURGE CONTROL SOLENOID VALVE AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from purge control solenoid valve. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM and chassis ground. Connector & terminal (B137) No. 29 (+) — Chassis ground (-): 		short circuit of har- ness between ECM and purge control solenoid valve connector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Go to step 5.
5	 CHECK PURGE CONTROL SOLENOID VALVE. 1) Turn the ignition switch to OFF. 2) Measure the resistance between purge control solenoid valve terminals. <i>Terminals</i> <i>No. 1 — No. 2:</i> 	Is the resistance less than 1 Ω?	Replace the purge control solenoid valve <ref. to<br="">EC(H4SO)-6, Purge Control Solenoid Valve.> and ECM <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).>.</ref.></ref.>	Go to step 6 .
6	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>

BP:DTC P0461 FUEL LEVEL SENSOR "A" CIRCUIT RANGE/PERFORMANCE DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-149, DTC P0461 FUEL LEVEL SENSOR "A" CIRCUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

NOTE:

For the diagnostic procedure, refer to DTC P0464. <Ref. to EN(H4SO U5)(diag)-229, DTC P0464 FUEL LEVEL SENSOR CIRCUIT INTERMITTENT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BQ:DTC P0462 FUEL LEVEL SENSOR "A" CIRCUIT LOW

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-151, DTC P0462 FUEL LEVEL SENSOR "A" CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

NOTE:

For the diagnostic procedure, refer to DTC P0464. <Ref. to EN(H4SO U5)(diag)-229, DTC P0464 FUEL LEVEL SENSOR CIRCUIT INTERMITTENT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BR:DTC P0463 FUEL LEVEL SENSOR "A" CIRCUIT HIGH

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-153, DTC P0463 FUEL LEVEL SENSOR "A" CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

NOTE:

For the diagnostic procedure, refer to DTC P0464. <Ref. to EN(H4SO U5)(diag)-229, DTC P0464 FUEL LEVEL SENSOR CIRCUIT INTERMITTENT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BS:DTC P0464 FUEL LEVEL SENSOR CIRCUIT INTERMITTENT DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-155, DTC P0464 FUEL LEVEL SENSOR CIRCUIT IN-TERMITTENT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

CHECK ANY OTHER DTC ON DISPLAY. Is DTC P0461, P0462, P0463 Check the combi- nation meter. Temporary contact oc Subaru Select Monitor? <ref. idi-9,<="" td="" to=""></ref.>
CHECK FUEL LEVEL SENSOR, INSPECTION, Combination

BT:DTC P0483 FAN RATIONALITY CHECK

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-158, DTC P0483 FAN RATIONALITY CHECK, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Occurrence of noise
- Overheating

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

NOTE:

If the vehicle, with the engine idling, is placed very close to a wall or another vehicle, preventing normal cooling function, the OBD system may detect malfunction.

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<="" th="" to=""><th>and <ref. to<br="">CO(H4SO)-25,</ref.></th></ref.>	and <ref. to<br="">CO(H4SO)-25,</ref.>

BU:DTC P0500 VEHICLE SPEED SENSOR "A"

DTC DETECTING CONDITION:

- · Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-159, DTC P0500 VEHICLE SPEED SENSOR "A", Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repair or replacement of faulty parts, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, Inspection Mode.>.

	Step	Check	Yes	No
1	CHECK DTC OF ABS. Check DTC of ABS.	Is DTC of ABS displayed?	Perform the diag- nosis according to DTC. <ref. to<br="">ABS(diag)-34, List of Diagnostic Trou- ble Code (DTC).></ref.>	

BV:DTC P0506 IDLE AIR CONTROL SYSTEM RPM LOWER THAN EXPECTED DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-161, DTC P0506 IDLE AIR CONTROL SYSTEM RPM LOWER THAN EXPECTED, Diagnostic Trouble Code (DTC) Detecting Criteria.>

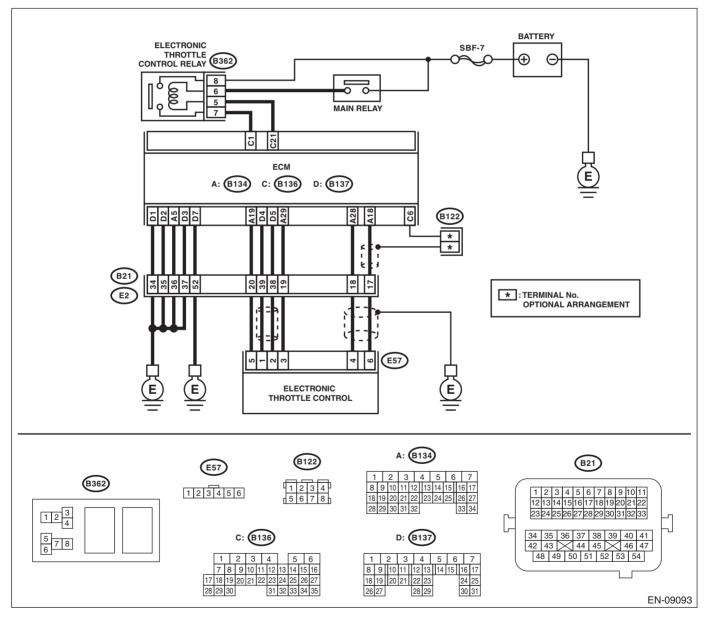
TROUBLE SYMPTOM:

- Engine is difficult to start.
- · Engine does not start.
- Erroneous idling
- Engine stalls.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.





EN(H4SO U5)(diag)-231

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0506.</ref.>	
2	CHECK AIR CLEANER ELEMENT.1) Turn the ignition switch to OFF.2) Check the air cleaner element.	Is the air cleaner element excessively clogged?	Replace the air cleaner element. <ref. to<br="">IN(H4SO)-4, Air Cleaner Element.></ref.>	Go to step 3.
3	 CHECK ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Remove the electronic throttle control. 3) Check the electronic throttle control. 	Are foreign matter found inside electronic throttle control?	Remove foreign matter from elec- tronic throttle con- trol.	Perform the diag- nosis of DTC P2101.

BW:DTC P0507 IDLE AIR CONTROL SYSTEM RPM HIGHER THAN EXPECTED DTC DETECTING CONDITION:

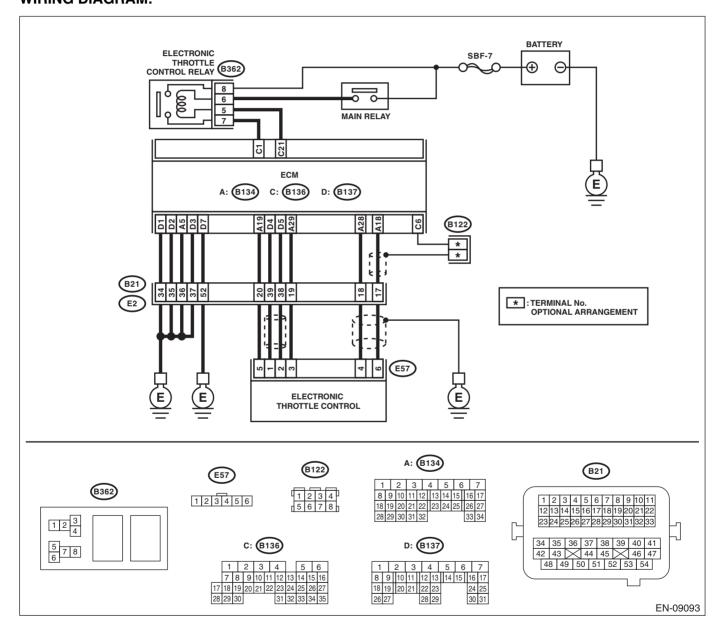
- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-163, DTC P0507 IDLE AIR CONTROL SYSTEM RPM HIGHER THAN EXPECTED, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Engine keeps running at higher speed than specified idle speed.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0507.</ref.>	
2	 CHECK AIR INTAKE SYSTEM. 1) Turn the ignition switch to ON. 2) Start and idle the engine. 3) Check the following items. Loose installation of intake manifold and throttle body Cracks of intake manifold gasket and throttle body gasket Disconnection of vacuum hoses 	Is there any fault in air intake system?	Repair air suction and leaks.	Go to step 3 .
3	 CHECK ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Remove the electronic throttle control. 3) Check the electronic throttle control. 	Are foreign matter found inside electronic throttle control?	Remove foreign matter from elec- tronic throttle con- trol.	Perform the diag- nosis of DTC P2101.

BX:DTC P0512 STARTER REQUEST CIRCUIT

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-165, DTC P0512 STARTER REQUEST CIRCUIT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

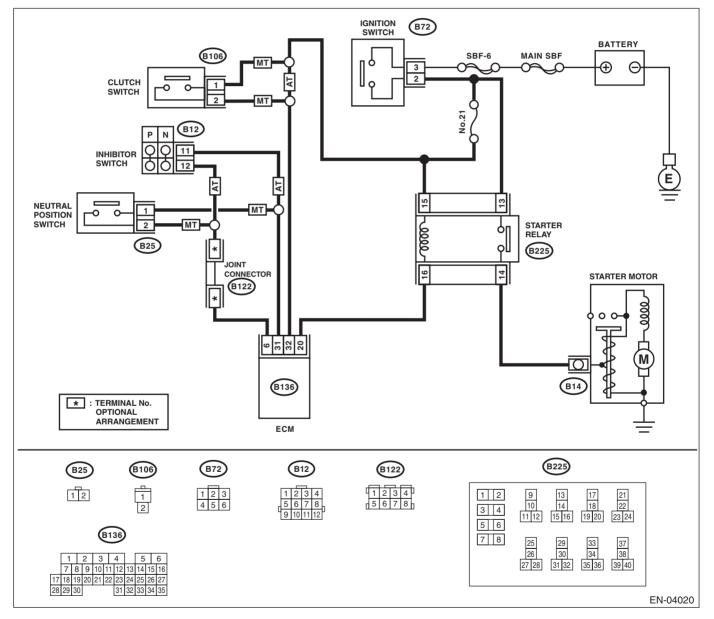
TROUBLE SYMPTOM:

Failure of engine to start

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK OPERATION OF STARTER MOTOR. Turn the ignition switch to ON. NOTE: Place the inhibitor switch in each position. (AT model) Depress and release the clutch pedal. (MT model) Check the security alarm is not sounding. 	ate?	short circuit in starter motor cir- cuit.	Check the starter motor circuit. <ref. to EN(H4SO U5)(diag)-59, STARTER MOTOR CIRCUIT, Diagnostics for Engine Starting Failure.></ref.

BY:DTC P0519 IDLE AIR CONTROL SYSTEM PERFORMANCE

DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-167, DTC P0519 IDLE AIR CONTROL SYSTEM PER-FORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Engine keeps running at higher speed than specified idle speed.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

BATTERY ELECTRONIC SBF-7 THROTTLE CONTROL RELAY Ð E 8 Ċ n 0 6 5 ü 5 ECM C: (B136) A: (B134) D: (B137) 03 A5 D1 A19 D4 D5 A29 A28 C6 (B122 * ۶ ۱ Ł B21 E2 35 35 37 37 52 ∞ * TERMINAL No. OPTIONAL ARRANGEMENT 4 0 E57 2 0 Ε ELECTRONIC THROTTLE CONTROL A: (B134) (B122) (B21) (E57)
 1
 2
 3
 4
 5
 6
 7

 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 B362 1234 5678 123456 1 2 3 4 5 6 7 8 9 10 11 18 19 20 21 22 23 24 25 26 27 12 13 14 15 16 17 18 19 20 21 22 28 29 30 31 32 33 34 123 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 C: (B136) D: (B137) 578 42 43 44 45 46 47 48 49 50 51 52 53 54 1 2 3 4 5 6 7 2 3 4 56
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16

 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 28 29 30 31 32 33 34 35 26 27 28 29 30 31 EN-09093

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0519.</ref.>	Go to step 2.
2	 CHECK AIR INTAKE SYSTEM. 1) Turn the ignition switch to ON. 2) Start and idle the engine. 3) Check the following items. Loose installation of intake manifold and throttle body Cracks of intake manifold gasket and throttle body gasket Disconnection of vacuum hoses 	Is there any fault in air intake system?	Repair air suction and leaks.	Go to step 3.
3	 CHECK ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Remove the electronic throttle control. 3) Check the electronic throttle control. 	Are foreign matter found inside electronic throttle control?	Remove foreign matter from elec- tronic throttle con- trol.	Perform the diag- nosis of DTC P2101.

BZ:DTC P0600 SERIAL COMMUNICATION LINK

NOTE:

For the diagnostic procedure, refer to LAN section. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

CA:DTC P0602 CONTROL MODULE PROGRAMMING ERROR

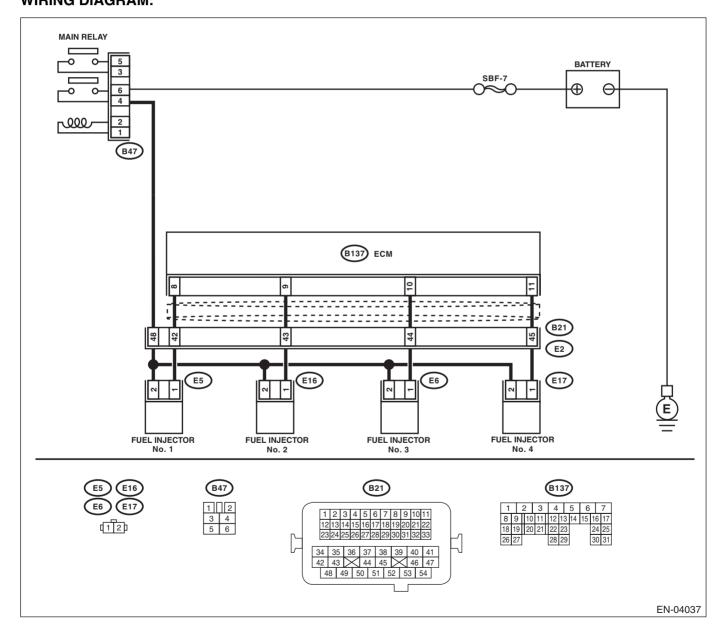
- DTC DETECTING CONDITION:
- Immediately at fault recognition
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-169, DTC P0602 CONTROL MODULE PROGRAM-MING ERROR, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine keeps running at higher speed than specified idle speed.
- Engine keeps running at lower speed than specified idle speed.
- Engine stalls.

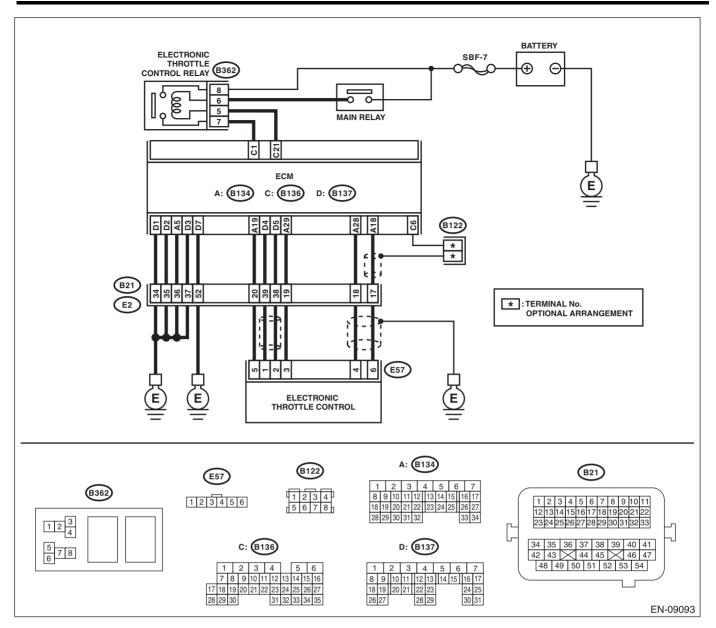
CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



EN(H4SO U5)(diag)-239

Diagnostic Procedure with Diagnostic Trouble Code (DTC) ENGINE (DIAGNOSTICS)



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the appro- priate DTC using the "List of Diag- nostic Trouble Code (DTC)". <ref. en(h4so<br="" to="">U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	CHECK ENGINE OIL.	Is the engine oil filled to the specified level?	Go to step 3.	Replace the engine oil. <ref. to<br="">LU(H4SO)-8, REPLACEMENT, Engine Oil.></ref.>
3	CHECK EXHAUST SYSTEM.	Are there holes or loose bolts on exhaust system?	Repair the exhaust system.	Go to step 4.

EN(H4SO U5)(diag)-240

	Step	Check	Yes	No
4	CHECK AIR INTAKE SYSTEM.	Are there holes, loose bolts or disconnection of hose on air intake system?	Repair the air intake system.	Go to step 5 .
5	 CHECK FUEL PRESSURE. WARNING: Place "NO FIRE" signs near the working area. Be careful not to spill fuel. Measure the fuel pressure. <ref. fuel="" inspection,="" me(h4so)-25,="" pressure.="" to=""></ref.> WARNING: Release fuel pressure before removing the fuel pressure gauge. 	Is the fuel pressure 339.5 — 360.5 kPa (3.5 — 3.7 kgf/cm ² , 49 — 52 psi)?	Go to step 6 .	Repair the follow- ing item. Fuel pressure is too high: • Clogged fuel line or bent hose Fuel pressure is too low: • Improper fuel pump discharge • Clogged fuel line
6	 CHECK ENGINE COOLANT TEMPERATURE SENSOR. 1) Start the engine and warm-up completely. 2) Read the data of engine coolant tempera- ture sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	ture above 60°C (140°F)?	Go to step 7.	Replace the engine coolant temperature sen- sor. <ref. to<br="">FU(H4SO)-19, Engine Coolant Temperature Sen- sor.></ref.>
7	 CHECK MASS AIR FLOW AND INTAKE AIR TEMPERATURE SENSOR. 1) Start the engine and warm-up engine until coolant temperature is greater than 60°C (140°F). 2) Place the select lever in "N" or "P" position. 3) Turn the A/C switch to OFF. 4) Turn all the accessory switches to OFF. 5) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 		Go to step 8.	Replace the mass air flow and intake air temperature sensor. <ref. to<br="">FU(H4SO)-25, Mass Air Flow and Intake Air Temper- ature Sensor.></ref.>

TEMPERATURE SENSOR. inform intake air temperature. Is the obtained value -10 - 50°C inform intake air temperature. Is the obtained value -10 - 50°C inform intake air temperature. inform intake air temperatur		Step	Check	Yes	No
1) Start the engine and warm-up engine until coolant temperature is greater than 60°C (140°F), air temperature (-18 - 90°F)? air temperature (-18 - 90°F)? 2) Place the shift lever in neutral position. in the A/C switch to OFF. (-18 - 90°F)? 3) Turn the A/C switch to OFF. (-16 - 90°F)? 4) Turn all the accessory switches to OFF. (-18 - 90°F)? 7) Flead the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENDINE"fet. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. is the voltage bortween ECM con- nector and chassis ground (-): #2 (B137) No. 9 (+) - Chassis ground (-): #2 (B137) No. 1 (+) - Chassis ground (-): #2 (B137) No. 1 (+) - Chassis ground (-): #3 (B137) No. 1 (+) - Chassis ground (-): #3 (B137) No. 1 (+) - Chassis ground (-): #3 (E137) No. 1 (-) - Engine ground: #1 (E5) No. 1 - Engine ground: #3 (E137) No. 1 - Engine ground: #3 (E137) No. 1 - Engine ground: #3 (E137) No. 1 - Engine ground: #1 (E137) No. 8 - (E5) No. 1: #2 (B137) No. 9 - (E5) No. 1: #2 (B137) No. 9 - (E5) No. 1: #3 (B137) No. 1 - (E7) No. 1: Is the resistance less than 1 Or chass and con tor. NOTE: In this case, In this case, In this case, In thiolowing) • Open cricult aresistance in the indivention	8	CHECK MASS AIR FLOW AND INTAKE AIR	Subtract ambient temperature	Go to step 9.	Check the mass
 coolant temporature is greater than 60°C (140°F). (140°F). (110°F). (110°F).<td></td><td>TEMPERATURE SENSOR.</td><td>from intake air temperature. Is</td><td></td><td>air flow and intake</td>		TEMPERATURE SENSOR.	from intake air temperature. Is		air flow and intake
 (140°F). Place the shift lever in neutral position. Turn the A/C switch to OFF. Open the front hood. Open the front hood. Measure the ambient temperature. Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor or general scan tool Departion manual. 9 CHECK OUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. Go to step 14. H (B137) No. 11 (-) Chassis ground (-): #4 (B137) No. 11 (-) Chassis ground (-): #2 (E16) No. 1 - Engine ground: #2 (E16) No. 1 - Engine ground: #2 (E17) No. 1 - Engine ground: #2 (E16) No. 1 - Engine ground: #2 (E17) No. 1 - Engine ground:<!--</td--><td></td><td>1) Start the engine and warm-up engine until</td><td>the obtained value –10 — 50°C</td><td></td><td>air temperature</td>		1) Start the engine and warm-up engine until	the obtained value –10 — 50°C		air temperature
 2) Place the shift lever in neutral position. 3) Turn the AC which to OFF. 4) Turn all the accessory switches to OFF. 5) Open the front hood. 6) Measure the ambient temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor Tor General scan tool. NOTE: Subaru Select Monitor or general scan tool. NOTE: General scan tool operation procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector at terminal #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #1 (+) = Chassis ground (-): #1 (+) =		coolant temperature is greater than 60°C	(-18 - 90°F)?		sensor. <ref. td="" to<=""></ref.>
 2) Place the shift lever in neutral position. 3) Turn the A/C which to OFF. 6) Measure the ambient temperature. 7) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to TREAD CURRENT DATA FOR ENGINE". <afe. en(h4so="" li="" monitor.<="" select="" subaru="" to="" u5)(diag)-27.=""> 6. General scan tool operation procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SigNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #1 (+) = Chassis</afe.>		(140°F).			FU(H4SO)-25,
 3) Turn the A/C switch to OFF. 4) Turn all the accessory switches to OFF. 5) Open the front hood. 6) Measure the ambient temperature. 7) Read the data of mass air low and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor or general scan tool. 8) CHECK OUTPUT DATA FOR ENGINE"Ref. to EN(H4SO U5)(diag)-27. Subaru Select Monitor: -> General scan tool operation procedure, refer to the general scan tool operation manual. 9) CHECK OUTPUT SIGNAL OF ECM. 10) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector at terminal #1 (B137) No. 9 (-) - Chassis ground (-): #3 (B137) No. 0 (+) - Chassis ground (-): #3 (B137) No. 10 (+) - Chassis ground (-): #3 (E137) No. 10 (+) - Chassis ground (-): #4 (E17) No. 1 - Engine ground: #2 (E16) No. 1: #2 (E16) No. 1 - Engine ground: #2 (Mass Air Flow and
 4) Turn all the accessory switches to OFF. 5) Open the from hood. 6) Measure the ambient temperatures ain flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: • Subaru Select Monitor • General scan tool operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" li="" monitor.<="" select="" subaru="" to="" u5)(diag)-27.=""> • General scan tool operation procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector at chassis ground (-): #2 (B137) No. 9 (+) - Chassis ground (-): #2 (B137) No. 9 (+) - Chassis ground (-): #2 (B137) No. 11 (+) - Chassis ground (-): #2 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (+) - Chassis ground (-): #3 (B137) No. 11 (-) Engine ground: #3 (E1) No. 1 - (E2) No. 1: #3 (B137) No. 10 - (E6) No. 1: #3 (B137) No. 11 - (E17) No. 1: </ref.>					Intake Air Temper-
 5) Open the front hood. 6) Measure the ambient temperature. 7) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor procedure, refer to TREAD CURRENT DATA FOR ENGINE". <ref.< li=""> to EN(H4SO US)(diag)-27. Subaru Select Monitor.> General scan tool Operation monuel. </ref.<> 9 CHECK OUTPUT SIGNAL OF ECM. Turn the ignition switch to ON. Bassure the voltage between ECM connector and chassis ground (-): #2 (B137) No. 8 (+) = Chassis ground (-): #2 (B137) No. 9 (+) = Chassis ground (-): #4 (B137) No. 11 (+) = Chassis ground (-): #3 (B137) No. 11 (+) = Chassis ground (-):					ature Sensor.>
 6) Measure the ambient temperature. 7) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE", «Ref. to EN(H4SO U5)(diag)-27, Subaru Select Monitor. Check COUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. Go to step 10. Turn the ignition switch to ON. Massure the voltage between ECM connector at demasis ground (-): #2 (B137) No. 9 (+) - Chassis ground (-): #2 (B137) No. 9 (+) - Chassis ground (-): #2 (B137) No. 9 (+) - Chassis ground (-): #2 (B137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 9 (+) - Chassis ground (-): #2 (E137) No. 9 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #2 (E137) No. 11 (+) - Chassis ground (-): #3 (E1 No. 1 - Engine ground: #3 (E1 No. 1 - Engine grou					
7) Read the data of mass air flow and intake air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: • Subaru Select Monitor or General scan tool. NOTE: • Subaru Select Monitor or General scan tool. • General scan tool procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. is the voltage between ECM connector at terminal ff (B137) No. 8 (+) - Chassis ground (-): # (B137) No. 8 (+) - Chassis ground (-): # (B137) No. 8 (+) - Chassis ground (-): # (B137) No. 10 (+) - Chassis ground (-): # (B137) No. 10 (+) - Chassis ground (-): # (B137) No. 10 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+) - Chassis ground (-): # (B137) No. 11 (+)					
air temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: • Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATAFOR ENGINE", «Ref. to EN(H4SO U5)(diag)-27, Subaru Select Monitor.» • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector and chassis ground. <i>Connector & terminal</i> #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #2 (E16) No. 11 (+) — Chassis ground (-): #3 (E6) No. 11 (-) — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E137) No. 8 — (E5) No. 1: #3 (B137) No. 8 — (E5)					
Select Monitor or general scan tool. NOTE: • Subaru Select Monitor For detailed operation procedure, refer to the general scan tool • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. Is the voltage more than 10 V? Go to step 14. 2) Measure the voltage between ECM connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 10 (+) — Chassis ground (-): #3 (E3) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): M2? Market the injector on nector form fuel injector on faulty oplinders. Go to step 11. Repair the grinic switch to OFF. 2) Disconnect the connector form fuel injector on faulty oplinders. Connector A terminal M2? More the sistance between ECM connector form fuel injector on faulty oplinders. Go to step 12. Repair the han ness and con tor. 11 CHECK HARNESS BETWEEN FUEL INJEC- Is the resistance less than 1 Go to step 12. Repair the han ness and con tor. 11 CHECK HARNESS BETWEEN FUEL INJEC- Is the resistance less than 1 <t< td=""><td></td><td></td><td></td><td></td><td></td></t<>					
NOTE: • Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE" Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM con- nector and chassis ground. Connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): 10 CHECK HARNESS BETWEEN FUEL INJEC- on faulty cylinders. Connector & terminal Is the resistance more than 1 M2? 11 CHECK HARNESS BETWEEN FUEL INJEC- ingle ground: 12 Disconnect the connector from fuel injector on faulty cylinders. Connector & terminal Is the resistance less than 1 COR AND ECM CONNECTOR. 11 CHECK HARNESS BETWEEN FUEL INJEC- between ECM connector and fuel injector on faulty cylinders. Is the resistance less than 1 C? Go to step 12. 11 CHECK HARNESS BETWEEN FUEL INJEC- between ECM connector and fuel injector on faulty cylinders. Is the resistance less than 1 C? Go to step 12. 11 C					
 Subaru Select Monitor For detailed operation procedure, refer to 'READ CURRENT DATA FOR ENGINE''. «Ref. to EN(H4SO US)(diag)-27, Subaru Select Mon- itor.» General scan tool For detailed operation procedure, refer to the general scan tool operation manual. CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM con- nector and chassis ground. <i>Connector & terminal</i> #1 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): B the resistance more than 1 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E137) No. 9 — (EF) No. 1: #3 (B137) No. 9 — (EF) No. 1: #3 (B137) No. 9 — (EF) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: 					
For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO US)(diag)-27, Subaru Select Mon- itor.> • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. Is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM con- nector and chassis ground. Connector & terminal #11 (B137) No. 8 (+) — Chassis ground (-): #2 (B137) No. 10 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E17) No. 1 — Engine ground: #3 (E18) No. 1 — Engine ground: #3 (E197) No. 1 — Engine ground: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 10 — (E16) No. 1: #3 (B137) No. 10 — (E16) No. 1: #3 (B137) No. 10 — (E16) No. 1: #3 (B137) No. 11 — (E17) No. 1: Is the resistance less than 1 Connector & terminal #1 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 10 — (E16) No. 1: #3 (B137) No. 10 — (E16) No. 1: #3 (B137) No. 11 — (E17) No. 1: Is the resistance less than 1 Connector Go to step 12. Connector</ref. 					
 "READ CURRENT DATA FOR ENGINE". «Ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- litor.» General scan tool peration procedure, refer to the general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM con- nector and chassis ground. (-): #2 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #10 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. Connector at terminal #1 (E5) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E17) No. 1 — Engine ground: #3 (E17) No. 1 — Engine ground: #3 (E18) No. 1 — Engine ground: #3 (E17) No. 1 — Engine ground: #3 (E18) No. 1 — Engine ground: #3 (E137) No. 9 — (E5) No. 1: #3 (B137) No. 9 — (E6) No. 1: #3 (B137) No. 9 — (E6) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: 					
to EN(H4SO U5)(diag)-27, Subaru Select Mon- tior.> • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. • 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM con- nector and chassis ground. Connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): Is the resistance more than 1 MO2? Go to step 11. Repair the gre short circuit o ness between injector and engine ground o fully cylinders. 3) Measure the resistance between ECM con- nector and engine ground: #2 (E16) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #2 (E17) No. 1 — Engine ground: #2 (E17) No. 1 — Engine ground: #2 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #2 (E18) No. 8 — (E5) No. 1: #2 (B137) No. 8 — (E18) No. 1: #2 (B137) No. 9 — (E18) No. 1: #2 (B137) No. 9 — (E18) No. 1: #3 (B137) No. 9 — (E18) No. 1: #3 (B137) No. 10 — (E18) No. 1:					
itor.> • General scan tool For detailed operation procedure, refer to the general scan tool operation manual. Is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. 9 CHECK OUTPUT SIGNAL OF ECM. Is the voltage more than 10 V? Go to step 14. 9 CHECK HARNESS BETWEEN Sig ground (-): #2 (B137) No. 9 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): Is the resistance more than 1 Go to step 11. 10 CHECK HARNESS BETWEEN FUEL INJECT on faulty cylinders. Is the resistance the resistance between ECM connector at erminal #1 (E15) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #1 (E15) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: Is the resistance less than 1 Go to step 12. Repair the ha ness and con tor.					
 General scan tool For detailed operation procedure, refer to the general scan tool operation manual. CHECK OUTPUT SIGNAL OF ECM. Turn the ignition switch to ON. Measure the voltage between ECM con- nector and chassis ground. Connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) = Chassis ground (-): #3 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — (E17) No. 1: #4 (B137) No. 1 — (E17) No. 1: #4 (B137) No. 1 — (E17) No. 1: 					
For detailed operation procedure, refer to the general scan tool operation manual. Image: Check CoUPTUT SIGNAL OF ECM. Image: Check Check CouptUt Check					
general scan tool operation manual. general scan tool operation manual. 9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM con- nector and chassis ground. <i>Connector & terminal</i> #1 (B137) No. 8 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 9 — (E5) No. 1: #3 (B137) No. 11 — (E17) No. 1: #4 (B137) No. 11 — (E17) No. 1: Is the resistance less than 1 \$2 (Particle Arrows Detween ECM con- nector at terminal #1 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 11 — (E17) No. 1: Is the resistance less than 1 \$2 (Particle Arrows Detween ECM con- nector at terminal #1 (B137) No. 11 — (E17) No. 1: Go to step 12. Repair the ha ness and con tor. NOTE: In this case, 1 the following i • Open circo harmess bet ECM and fu i jector connector • Poor conte					
9 CHECK OUTPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector and chassis ground. Connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): Bit he resistance more than 1 OCHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Measure the resistance between ECM con- nector at engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E137) No. 9 — (E5) No. 1: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: Is the resistance less than 1 Ω? Go to step 12. Go to step 12. No 2 Repair the han ness and con tor. NOTE: In this case, I the following i • Open circle harness between ECM and fu jector connector		• •			
 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector and chassis ground. Connector & terminal #1 (B137) No. 8 (+) — Chassis ground (-): #2 (B137) No. 10 (+) — Chassis ground (-): #3 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): 10 CHECK HARNESS BETWEEN FUEL INJECTIOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. Connector & terminal #1 (E15) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E137) No. 8 – (E5) No. 1: #2 (B137) No. 8 – (E5) No. 1: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E17) No. 1: 	٩		Is the voltage more than 10 V2	Go to stan 11	Go to step 10
 2) Measure the voltage between ECM connector and chassis ground. Connector & terminal #1 (B137) No. 9 (+) — Chassis ground (-): #2 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): 10 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. Connector & terminal #1 (E15) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: 11 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 9 — (E16) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E16) No. 1: #4 (B137) No. 10 — (E16) No. 1: #4 (B137) No. 10 — (E17) No. 1: 	3		is the voltage more than to v:		
nector and chassis ground. Connector & terminal #1 (B137) No. 8 (+) — Chassis ground (-): #2 (B137) No. 1 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #5 (B137) No. 11 (+) — Chassis ground (-): #5 (B137) No. 11 (+) — Chassis ground (-): #5 (B137) No. 1 (+) — Chassis ground (-): #6 (E17) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #1 (E13) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1:					
Connector & terminal #1 (B137) No. 8 (+) — Chassis ground (-): #2 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): #0 CHECK HARNESS BETWEEN FUEL INJEC- Is the resistance more than 1 Go to step 11. No assure the connector from fuel injector on faulty cylinders. MΩ? Short circuit on ness between injector and engine ground: #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: Is the resistance less than 1 Go to step 12. Repair the ha ness and con tor. Neasure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Is the resistance less than 1 Go to step 12. Repair the ha ness and con tor. 11 CHECK HARNESS BETWEEN FUEL INJEC- Is the resistance less than 1 Ω? Go to step 12. Repair the ha ness and con tor. 11 CHECK HARNESS DETWEEN FUEL INJEC- Is the resistance less than 1 Ω? Go to step 12. NoTE: 11 CHECK HARNESS BETWEEN FUEL <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		•			
 #2 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Measure the resistance between ECM con- nector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #1 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. 11 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector a fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 11 — (E17) No. 1: 					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					
 #4 (B137) No. 11 (+) — Chassis ground (-): CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Is the resistance more than 1 MΩ? Go to step 11. Go to step 11. Hepair the grous short circuit o ness between injector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: Is the resistance less than 1 COR AND ECM CONNECTOR. Is the resistance less than 1 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: 					
 10 CHECK HARNESS BETWEEN FUEL INJECTOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Measure the resistance between ECM connector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: Is the resistance less than 1 CHECK HARNESS BETWEEN FUEL INJECTOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: 					
TOR AND ECM CONNECTOR. MΩ? 1) Turn the ignition switch to OFF. Disconnect the connector from fuel injector on faulty cylinders. MΩ? 3) Measure the resistance between ECM connector and engine ground on faulty cylinders. connector & terminal for the connector from fuel injector on faulty cylinders. connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: stort circuit on ness between injector and E connector. #3 (E6) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: Is the resistance less than 1 Go to step 12. TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Is the resistance less than 1 Go to step 12. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: stort circuit on tor. NOTE: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: Poor conta	10			Go to step 11	Repair the ground
 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Measure the resistance between ECM connector at terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: 11 CHECK HARNESS BETWEEN FUEL INJEC-TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector at terminal #1 (B137) No. 8 — (E5) No. 1: #3 (E137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1: 					short circuit of har-
 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Measure the resistance between ECM connector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: 11 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1: 					ness between fuel
 on faulty cylinders. 3) Measure the resistance between ECM connector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: Is the resistance less than 1 Go to step 12. Repair the han ness and contor. NOTE: In this case, it the following if a (B137) No. 8 — (E5) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1: 					injector and ECM
3) Measure the resistance between ECM connector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: Base and the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1:					-
nector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground: #1 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #3 (B137) No. 10 — (E6) No. 1: #3 (B137) No. 11 — (E17) No. 1:					
Connector & terminal #1 (E5) No. 1 — Engine ground: #2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground:Is the resistance less than 1Go to step 12.Repair the ha ness and con tor.11CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1:Is the resistance less than 1 Ω?Go to step 12.Repair the ha ness and con tor. NOTE: In this case, if • Open circu harness bet ECM and fu jector connec • Poor conta					
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $					
#2 (E16) No. 1 — Engine ground: #3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground:Is the resistance less than 1Go to step 12.Repair the ha ness and con tor.11CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders.Is the resistance less than 1 Ω ?Go to step 12.Repair the ha ness and con tor. $Measure the resistance of harness connectorbetween ECM connector and fuel injector onfaulty cylinders.Is the resistance less than 1\Omega?Go to step 12.NOTE:In this case, Ithe following i• Open circuharness betECM and fujector connec• Poor conta$					
#3 (E6) No. 1 — Engine ground: #4 (E17) No. 1 — Engine ground:Is the resistance less than 1 Ω?Go to step 12.Repair the ha ness and con tor.11CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1:Is the resistance less than 1 Ω?Go to step 12.Repair the ha ness and con tor. NOTE: In this case, n the following i • Open circu harness bet ECM and fu jector connect • Poor conta					
#4 (E17) No. 1 — Engine ground: Is the resistance less than 1 Go to step 12. Repair the had ness and contour tor. 11 CHECK HARNESS BETWEEN FUEL INJEC-TOR AND ECM CONNECTOR. Is the resistance less than 1 Ω? Go to step 12. Repair the had ness and contour tor. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Is the resistance less than 1 Ω? NOTE: In this case, 1 #1 (B137) No. 8 — (E5) No. 1: #1 (B137) No. 9 — (E16) No. 1: Open circut harness bet ECM and fue jector connector start (B137) No. 10 — (E6) No. 1: Poor contained Poor contained					
11 CHECK HARNESS BETWEEN FUEL INJEC- TOR AND ECM CONNECTOR. Is the resistance less than 1 Ω? Go to step 12. Repair the had ness and con tor. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders. Monector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1: Is the resistance less than 1 Ω? Go to step 12. Repair the had ness and con tor.					
TOR AND ECM CONNECTOR. Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders.Ω?ness and con tor.Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1:Ω?ness and con tor.	11	. ,	Is the resistance less than 1	Go to step 12.	Repair the har-
Measure the resistance of harness connector between ECM connector and fuel injector on faulty cylinders.tor.Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1:tor.					ness and connec-
between ECM connector and fuel injector on faulty cylinders. Connector & terminal #1 (B137) No. 8 — (E5) No. 1: #2 (B137) No. 9 — (E16) No. 1: #3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1: Poor conta		Measure the resistance of harness connector			
faulty cylinders. In this case, in the following in the follow					
Connector & terminal the following if #1 (B137) No. 8 — (E5) No. 1: • Open circulation #2 (B137) No. 9 — (E16) No. 1: + Arness bet #3 (B137) No. 10 — (E6) No. 1: ECM and full #4 (B137) No. 11 — (E17) No. 1: • Poor contain		-			In this case, repair
#1 (B137) No. 8 — (E5) No. 1: • Open circulation of the circul					the following item:
#2 (B137) No. 9 — (E16) No. 1: harness bet #3 (B137) No. 10 — (E6) No. 1: ECM and fu #4 (B137) No. 11 — (E17) No. 1: ietor connec • Poor conta					 Open circuit of
#3 (B137) No. 10 — (E6) No. 1: #4 (B137) No. 11 — (E17) No. 1: • Poor conta					harness between
#4 (B137) No. 11 — (E17) No. 1: • Poor contec					ECM and fuel in-
• Poor conta					jector connector
					 Poor contact of
					coupling connector
	12	CHECK FUEL INJECTOR	Is the resistance between 5	Go to sten 13	Replace the faulty
				ao to step 10.	fuel injector. <ref.< td=""></ref.<>
					to FU(H4SO)-27,
					Fuel Injector.>
No. 1 — No. 2:					

	Step	Check	Yes	No
13	 CHECK POWER SUPPLY LINE. 1) Turn the ignition switch to ON. 2) Measure the voltage between fuel injector and engine ground on faulty cylinders. Connector & terminal #1 (E5) No. 2 (+) — Engine ground (-): #2 (E16) No. 2 (+) — Engine ground (-): #3 (E6) No. 2 (+) — Engine ground (-): #4 (E17) No. 2 (+) — Engine ground (-): 	Is the voltage more than 10 V?	Repair the poor contact of all con- nectors in fuel injector circuit.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between main relay and fuel injector connector on faulty cylinders • Poor contact of coupling connector • Poor contact of main relay connec- tor • Poor contact of fuel injector con- nector on faulty cylinders
14	 CHECK HARNESS BETWEEN FUEL INJECTOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from fuel injector on faulty cylinders. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM connector and chassis ground on faulty cylinders. Connector & terminal #1 (B137) No. 8 (+) — Chassis ground (-): #2 (B137) No. 9 (+) — Chassis ground (-): #3 (B137) No. 10 (+) — Chassis ground (-): #4 (B137) No. 11 (+) — Chassis ground (-): 		Repair the battery short circuit of har- ness between ECM and fuel injector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Go to step 15 .
15	 CHECK FUEL INJECTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between fuel injector terminals on faulty cylinder. Terminals No. 1 — No. 2: 	Is the resistance less than 1 Ω? Is the camshaft position sensor	Replace the faulty fuel injector <ref. to FU(H4SO)-27, Fuel Injector.> and ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).> Tighten the cam-</ref.></ref. 	Go to step 16 .
	SITION SENSOR/CRANKSHAFT POSITION SENSOR.	or crankshaft position sensor loosely installed?	shaft position sen- sor or crankshaft position sensor.	
17	CHECK CRANK SPROCKET. Remove the timing belt cover.	Is the crank sprocket rusted or does it have damaged teeth?	Replace the crank sprocket. <ref. to<br="">ME(H4SO)-46, Crank Sprocket.></ref.>	Go to step 18.
18	CHECK INSTALLATION CONDITION OF TIMING BELT. Turn the crankshaft, and align alignment mark on crank sprocket with alignment mark on cyl- inder block.	Is the timing belt dislocated from its proper position?	Repair the installa- tion condition of timing belt. <ref. to ME(H4SO)-40, Timing Belt.></ref. 	Go to step 19 .

	Step	Check	Yes	No
19	CHECK ELECTRONIC THROTTLE CON- TROL RELAY.	Is the resistance less than 1 Ω ?	Go to step 20.	Replace the elec- tronic throttle con-
	1) Turn the ignition switch to OFF.			trol relay.
	2) Remove the electronic throttle control relay.			
	3) Connect the battery to terminals No. 5 and			
	No. 6 of electronic throttle control relay.			
	4) Measure the resistance between electronic			
	throttle control relay terminals. Terminals			
	No. 8 – No. 7:			
20		Is the voltage more than 5 V?	Go to step 21.	Repair the open or
20	THROTTLE CONTROL RELAY.			ground short cir-
	Measure the voltage between electronic throt-			cuit of power sup-
	tle control relay connector and chassis ground.			ply circuit.
	Connector & terminal			pry circuit.
	(B362) No. 8 (+) — Chassis ground (–):			
	(B362) No. 6 (+) — Chassis ground (-):			
21	CHECK HARNESS BETWEEN ECM AND	Is the voltage less than 5 V?	Go to step 22.	Repair the power
	ELECTRONIC THROTTLE CONTROL RE-			supply short cir-
	LAY.			cuit of harness
	 Disconnect the connectors from ECM. 			between ECM and
	2) Turn the ignition switch to ON.			electronic throttle
	3) Measure the voltage between electronic			control.
	throttle control relay connector and chassis			
	ground.			
	Connector & terminal			
	(B362) No. 5 (+) — Chassis ground (–):			
22	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 23.	Repair the ground
	ELECTRONIC THROTTLE CONTROL RE-	ΜΩ?		short circuit of har-
	LAY.			ness between
	 Turn the ignition switch to OFF. 			ECM and elec-
	2) Measure the resistance between electronic			tronic throttle con-
	throttle control relay connector and chassis			trol relay.
	ground.			
	Connector & terminal			
	(B362) No. 5 — Chassis ground:			
	(B362) No. 7 — Chassis ground:			
23	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 24.	Repair the open
		Ω?		circuit of harness
	LAY.			between ECM and
	Measure the resistance between ECM connec-			electronic throttle
	tor and electronic throttle control relay connec-			control relay.
	tor. Connector & terminal			
	(B136) No. 21 — (B362) No. 5:			
	(B136) No. 1 — (B362) No. 7:			
24	CHECK SENSOR OUTPUT.	Is the voltage more than 0.4 V?	Go to sten 25	Go to step 27.
	1) Connect all connectors.			
	2) Turn the ignition switch to ON.			
	3) Read the data of main throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	NUTE.			
	Subaru Select Monitor			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			

	Step	Check	Yes	No
25	CHECK SENSOR OUTPUT.	Is the voltage more than 0.8 V?	Go to step 26.	Go to step 27.
	 Connect all connectors. 			
	Turn the ignition switch to ON.			
	Read the data of sub throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
26	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Go to step 31.
l	Check poor contact in connector between		contact.	
	ECM and electronic throttle control.			
27	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 28.	Repair the open
	ELECTRONIC THROTTLE CONTROL.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	Disconnect the connectors from electronic			
	throttle control.			
	Measure the resistance between ECM con-			
	nector and electronic throttle control connector.			
	Connector & terminal			
	(B134) No. 18 — (E57) No. 6:			
	(B134) No. 28 — (E57) No. 4:			
	(B134) No. 19 — (E57) No. 5:			
28	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 29.	Repair the ground
	ELECTRONIC THROTTLE CONTROL.	ΜΩ?		short circuit of har-
	Measure the resistance between ECM connec-			ness.
	tor and chassis ground.			
	Connector & terminal			
	(B134) No. 18 — Chassis ground:			
	(B134) No. 19 — Chassis ground:			
00	(B134) No. 28 — Chassis ground:		Co to stop 20	Densinthe neer
29	CHECK SENSOR POWER SUPPLY.	Is the voltage 4.5 — 5.5 V?	Go to step 30 .	Repair the poor contact of ECM
	1) Connect the ECM connector.			
	 2) Turn the ignition switch to ON. 2) Measure the voltage between electronic 			connector.
	3) Measure the voltage between electronic			Replace the ECM if defective. <ref.< td=""></ref.<>
	throttle control connector and engine ground. Connector & terminal			to FU(H4SO)-36,
	(E57) No. 5 (+) — Engine ground (–):			Engine Control
	(ES7) No. $S(7) = Engine ground (-).$			Module (ECM).>
30	CHECK SHORT CIRCUIT IN ECM.	Is the resistance more than 10	Go to step 21	Repair the poor
30	1) Turn the ignition switch to OFF.	Ω ?		contact of ECM
	2) Measure the resistance between electronic	22:		connector.
	throttle control connector and engine ground.			Replace the ECM
	Connector & terminal			if defective. <ref.< td=""></ref.<>
	(E57) No. 6 — Engine ground:			to FU(H4SO)-36,
	(E57) No. 6 — Engine ground: (E57) No. 4 — Engine ground:			Engine Control
				Module (ECM).>

	Step	Check	Yes	No
31	CHECK SENSOR OUTPUT.	Is the voltage less than 4.63	Go to step 32.	Go to step 34.
	1) Connect all connectors.	V?	-	
	Turn the ignition switch to ON.			
	3) Read the data of main throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
32	CHECK SENSOR OUTPUT.	Is the voltage less than 4.73	Go to step 33.	Go to step 34.
	Read the data of sub throttle sensor signal	V?		
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
33	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Go to step 39.
	Check poor contact in connector between		contact.	
	ECM and electronic throttle control.			
34	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 35.	Repair the open
	ELECTRONIC THROTTLE CONTROL.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	Disconnect the connectors from electronic			
	throttle control.			
	Measure the resistance between ECM con-			
	nector and electronic throttle control connector.			
	Connector & terminal			
	(B134) No. 29 — (E57) No. 3:			
	(B134) No. 18 — (E57) No. 6:			
	(B134) No. 28 — (E57) No. 4:			
35	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 5	Go to step 36.	Repair the poor
	ELECTRONIC THROTTLE CONTROL.	Ω?		contact of ECM
	1) Connect the ECM connector.			connector.
	2) Measure the resistance between electronic			Replace the ECM
	throttle control connector and engine ground.			if defective.
	Connector & terminal			
00	(E57) No. 3 — Engine ground:		O a ta star 07	Denetistical II
36	CHECK HARNESS BETWEEN ECM AND	Is the voltage more than 10 V?	Go to step 37.	Repair the battery
	ELECTRONIC THROTTLE CONTROL.			short circuit of har-
	 Turn the ignition switch to ON. Measure the voltage between electronic 			ness between ECM connector
	throttle control connector and engine ground.			and electronic
	Connector & terminal			throttle control
				connector.
27	(E57) No. 5 (+) — Engine ground (–): CHECK HARNESS BETWEEN ECM AND	le the voltage less than 10.1/2	Go to stop 29	
37	ELECTRONIC THROTTLE CONTROL.	Is the voltage less than 10 V?	Go to step 38.	Repair the short
				circuit of harness
	Measure the voltage between electronic throt-			between ECM
	tle control connector and engine ground.			connector and
	Connector & terminal			electronic throttle
	(E57) No. 6 (+) — Engine ground (–):			control connector.
	(E57) No. 4 (+) — Engine ground (–):			1

	Step	Check	Yes	No
38	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Remove the ECM. 3) Measure the resistance between ECM connectors. Connector & terminal (B134) No. 18 — (B134) No. 19: (B134) No. 28 — (B134) No. 19: 	Is the resistance more than 1 MΩ?	Go to step 39 .	Repair the short circuit to sensor power supply.
39	 CHECK SENSOR OUTPUT. 1) Turn the ignition switch to OFF. 2) Connect the connectors except for electric throttle control relay. 3) Turn the ignition switch to ON. 4) Read the data of main throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> 	Is the voltage 0.81 — 0.87 V?	Go to step 40 .	Repair the poor contact of elec- tronic throttle con- trol connector. Replace the elec- tronic throttle con- trol if defective.
40	CHECK SENSOR OUTPUT. Read the data of sub throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 	Is the voltage 1.64 — 1.70 V?	Go to step 41.	Repair the poor contact of ECM connector. Replace the elec- tronic throttle con- trol if defective.
41	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL MO- TOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B137) No. 5 - (E57) No. 2: (B137) No. 4 - (E57) No. 1: 	Is the resistance less than 1 Ω ?	Go to step 42 .	Repair the open circuit of harness connector.
42	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL MO- TOR. 1) Connect the connector to ECM. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (<i>E57</i>) No. 2 (+) — Engine ground (-): (<i>E57</i>) No. 1 (+) — Engine ground (-): 	Is the voltage less than 5 V?	Go to step 43 .	Repair the power supply short cir- cuit of harness between ECM and electronic throttle control.

	Step	Check	Yes	No
43	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL MO- TOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 2 — Engine ground: (E57) No. 1 — Engine ground: 	Is the resistance more than 1 $M\Omega$?	Go to step 44.	Repair the short circuit of harness.
44	CHECK ELECTRONIC THROTTLE CON- TROL MOTOR HARNESS. Measure the resistance between electronic throttle control connector terminals. Connector & terminal (E57) No. 2 — (E57) No. 1:	Is the resistance more than 1 $M\Omega$?	Go to step 45 .	Repair the short circuit of harness.
45	CHECK ELECTRONIC THROTTLE CON- TROL GROUND CIRCUIT. Measure the resistance between ECM connec- tor and chassis ground. <i>Connector & terminal</i> (B134) No. 5 — Chassis ground: (B136) No. 15 — Chassis ground: (B137) No. 1 — Chassis ground: (B137) No. 2 — Chassis ground: (B137) No. 3 — Chassis ground: (B137) No. 7 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 46 .	Repair the open circuit of harness.
46	CHECK ELECTRONIC THROTTLE CON- TROL. Measure the resistance between electronic throttle control terminals. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Is the resistance 50 Ω or less?	Go to step 47 .	Replace the elec- tronic throttle con- trol.
47	CHECK ELECTRONIC THROTTLE CON- TROL. Move the throttle valve to the fully open and fully closed positions with fingers. Check that the valve returns to the specified position when releasing fingers.	Does the valve return to the specified position? Standard value: 3 mm (0.12 in) from fully closed position	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref. 	Replace the elec- tronic throttle con- trol.

CB:DTC P0604 INTERNAL CONTROL MODULE RANDOM ACCESS MEMORY (RAM) ERROR

DTC DETECTING CONDITION:

• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-173, DTC P0604 INTERNAL CONTROL MODULE RANDOM ACCESS MEMORY (RAM) ERROR, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Engine does not start.
- Engine stalls.

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?		Temporary poor
			priate DTC using	contact occurs.
			the "List of Diag-	
			nostic Trouble	
			Code (DTC)".	
			<ref. en(h4so<="" th="" to=""><th></th></ref.>	
			U5)(diag)-73, List	
			of Diagnostic Trou-	
			ble Code (DTC).>	

CC:DTC P0605 INTERNAL CONTROL MODULE READ ONLY MEMORY (ROM) ERROR

NOTE:

For the diagnostic procedure, refer to DTC P0607. <Ref. to EN(H4SO U5)(diag)-250, DTC P0607 CONTROL MODULE PERFORMANCE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CD:DTC P0607 CONTROL MODULE PERFORMANCE

DTC DETECTING CONDITION:

Immediately at fault recognition

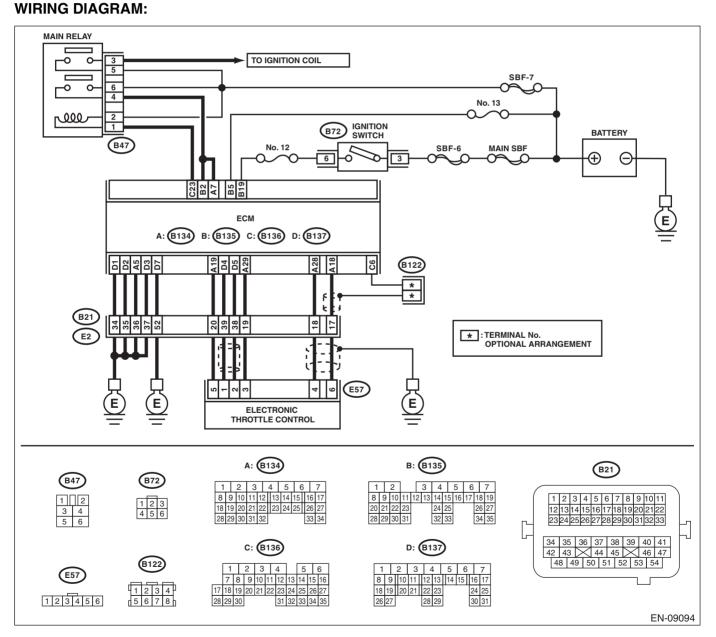
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-175, DTC P0605 INTERNAL CONTROL MODULE READ ONLY MEMORY (ROM) ERROR, Diagnostic Trouble Code (DTC) Detecting Criteria.> and <Ref. to GD(H4SO U5)-176, DTC P0607 CONTROL MODULE PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



EN(H4SO U5)(diag)-250

	Step	Check	Yes	No
1	 CHECK INPUT VOLTAGE OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector and ground. Connector & terminal (B135) No. 2 (+) — Chassis ground (-): (B134) No. 7 (+) — Chassis ground (-): 	Is the voltage 10 — 13 V?	Go to step 2.	Repair the open or ground short cir- cuit of power sup- ply circuit.
2	 CHECK INPUT VOLTAGE OF ECM. 1) Start the engine. 2) Measure the voltage between ECM connector and ground. Connector & terminal (B135) No. 2 (+) — Chassis ground (-): (B134) No. 7 (+) — Chassis ground (-): 	Is the voltage 13 — 15 V?	Go to step 3 .	Repair the open or ground short cir- cuit of power sup- ply circuit.
3	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from the ECM and electronic throttle control. 3) Measure the resistance of harness between ECM and electronic throttle control connector. Connector & terminal (E57) No. 5 — (B134) No. 19: (E57) No. 3 — (B134) No. 29: 	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit of harness between ECM and electronic throttle control connector.
4	CHECK ECM GROUND HARNESS. Measure the voltage between ECM connector and ground. <i>Connector & terminal</i> (B134) No. 5 (+) — Chassis ground (–): (B137) No. 1 (+) — Chassis ground (–): (B137) No. 2 (+) — Chassis ground (–): (B137) No. 3 (+) — Chassis ground (–): (B137) No. 7 (+) — Chassis ground (–):	Is the voltage less than 1 V?	Replace the ECM. <ref. to<br="">FU(H4SO)-36, INSTALLATION, Engine Control Module (ECM).></ref.>	Repair the follow- ing items. • Further tighten the engine ground terminals. • Poor contact in ECM connector • Poor contact in coupling connector

CE:DTC P0638 THROTTLE ACTUATOR CONTROL RANGE/PERFORMANCE (BANK 1)

NOTE:

For the diagnostic procedure, refer to DTC P2101. <Ref. to EN(H4SO U5)(diag)-296, DTC P2101 THROT-TLE ACTUATOR CONTROL MOTOR CIRCUIT RANGE/PERFORMANCE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CF:DTC P0691 FAN 1 CONTROL CIRCUIT LOW

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-182, DTC P0691 FAN 1 CONTROL CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Radiator fan does not operate properly.
- Overheating

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is DTC P0691 displayed on the	Check the radiator	Temporary poor
			fan system. <ref. to CO(H4SO)-7, Radiator Fan Sys-</ref. 	contact occurs.
			tem.>	

CG:DTC P0692 FAN 1 CONTROL CIRCUIT HIGH

DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-183, DTC P0692 FAN 1 CONTROL CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Radiator fan does not operate properly.
- Overheating

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

Step	Check	Yes	No
1 CHECK ANY OTHER DTC ON DISPLAY.	Is DTC P0692 displayed on the	Check the radiator	Temporary poor
		fan system. <ref. to CO(H4SO)-7, Radiator Fan Sys-</ref. 	contact occurs.
		tem.>	

CH:DTC P0700 TRANSMISSION CONTROL SYSTEM (MIL REQUEST)

GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-184, DTC P0700 TRANSMISSION CONTROL SYSTEM (MIL REQUEST), Diagnostic Trouble Code (DTC) Detecting Criteria.>

NOTE:

For the diagnostic procedure, refer to AT section. <Ref. to 4AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

EN(H4SO U5)(diag)-252

CI: DTC P0851 PARK/NEUTRAL SWITCH INPUT CIRCUIT LOW (AT MODEL) DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-185, DTC P0851 PARK/NEUTRAL SWITCH INPUT CIRCUIT LOW (AT MODEL), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B25) 12 (B136) ECM 9 ۳ B12 T7 123456 7 8 9 10 11 12 JOINT CONNECTOR B122 (B122) ¥ * : TERMINAL No. OPTIONAL 1234 ARRANGEMENT 5678 B136 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 NEUTRAL POSITION INHIBITOR SWITCH 18 19 20 21 22 23 24 25 26 27 SWITCH 28 29 30 31 32 33 34 35 R N D 3 2 Ρ 1 0 0 M Ò Ċ 12 B12 T3 T7 T2 B25 EN-04047

	Step	Check	Yes	No
1	CHECK SELECT CABLE.	Is there any fault in the select cable?	Repair or adjust the select cable. <ref. cs-26,<br="" to="">INSPECTION, Select Cable.></ref.>	Go to step 2.
2	 CHECK INPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Place the select lever other than "N" and "P" range. 3) Measure the voltage between ECM and chassis ground. Connector & terminal (B136) No. 31 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Even if the mal- function indicator light illuminates, the circuit has returned to a nor- mal condition at this time.	Go to step 3 .
3	 CHECK HARNESS BETWEEN ECM AND TRANSMISSION HARNESS CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM and transmission harness connector (T3). 3) Measure the resistance of harness between ECM connector and chassis ground. Connector & terminal (B136) No. 31 — Chassis ground: (B136) No. 6 — Chassis ground: 	Is the resistance more than 1 MΩ?	Go to step 4.	Repair the ground short circuit of har- ness between ECM and transmis- sion harness con- nector.
4	 CHECK TRANSMISSION HARNESS CONNECTOR. 1) Disconnect the connector from inhibitor switch. 2) Measure the resistance of harness between transmission harness connector and engine ground. Connector & terminal (T3) No. 11 — Engine ground: 	Is the resistance more than 1 MΩ?	Go to step 5.	Repair the ground short circuit of har- ness between transmission har- ness connector and inhibitor switch connector.
5	CHECK INHIBITOR SWITCH. Measure the resistance between inhibitor switch connector receptacles terminals with select lever at other than "N" or "P" range. <i>Terminals</i> <i>No. 7 — No. 12:</i>	Is the resistance more than 1 $M\Omega$?	Contact the SOA service center.	Replace the inhibi- tor switch. <ref. to<br="">4AT-46, Inhibitor Switch.></ref.>

CJ:DTC P0851 NEUTRAL SWITCH INPUT CIRCUIT LOW (MT MODEL) DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-186, DTC P0851 NEUTRAL SWITCH INPUT CIR-CUIT LOW (MT MODEL), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B25) 12 (B136) ECM 9 ۳ B12 **(**T7 123456 7 8 9 10 11 12 JOINT CONNECTOR B122 (B122) ¥ * : TERMINAL No. OPTIONAL 1234 ARRANGEMENT 5678 B136 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 NEUTRAL POSITION INHIBITOR SWITCH 18 19 20 21 22 23 24 25 26 27 SWITCH 28 29 30 31 32 33 34 35 R N D 3 2 Ρ 1 0 0 МТ Ò Ċ 12 B12 T3 T7 T2 B25 EN-04047

	Step	Check	Yes	No
1	CHECK INPUT SIGNAL OF ECM.	Is the voltage more than 10 V?	Go to step 2.	Go to step 4.
	 Turn the ignition switch to ON. 			
	Place the shift lever in neutral.			
	Measure the voltage between ECM and			
	chassis ground.			
	Connector & terminal			
	(B136) No. 31 (+) — Chassis ground (–):			
2	CHECK INPUT SIGNAL OF ECM.	Is the voltage less than 1 V?	Go to step 3.	Go to step 4.
	 Place the shift lever except in neutral. 			
	Measure the voltage between ECM and			
	chassis ground.			
	Connector & terminal			
	(B136) No. 31 (+) — Chassis ground (–):			
3	CHECK POOR CONTACT.	Is there poor contact in ECM	Repair the poor	Contact the SOA
	Check poor contact of ECM connector.	connector?	contact of ECM	service center.
			connector.	
4	CHECK NEUTRAL POSITION SWITCH.	Is the resistance more than 1	Go to step 5.	Repair the short
	 Turn the ignition switch to OFF. 	ΜΩ?		circuit in transmis-
	Disconnect the connector from the trans-			sion harness, or
	mission harness.			replace the neu-
	Place the shift lever in neutral.			tral position switch.
	Measure the resistance between transmis-			
	sion harness and connector terminals.			
	Connector & terminal			
	(T2) No. 1 — No. 2:			
5	CHECK NEUTRAL POSITION SWITCH.	Is the resistance less than 1	Go to step 6.	Repair the short
	 Place the shift lever except in neutral. 	Ω?		circuit in transmis-
	2) Measure the resistance between transmis-			sion harness, or
	sion harness connector terminals.			replace the neu-
	Connector & terminal			tral position switch.
	(T2) No. 1 — No. 2:			
6	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 7.	Repair the ground
	NEUTRAL POSITION SWITCH CONNEC-	ΜΩ?		short circuit of har-
	TOR.			ness between
	Measure the resistance between ECM and			ECM and trans-
	chassis ground.			mission harness
	Connector & terminal			connector.
	(B136) No. 31 — Chassis ground:			
	(B136) No. 6 — Chassis ground:			
7	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 8.	Repair the open
	NEUTRAL POSITION SWITCH CONNEC-	Ω?		circuit of harness
	TOR.			between ECM and
	1) Disconnect the connectors from ECM.			transmission har-
	2) Measure the resistance of harness			ness connector.
	between ECM and transmission harness con-			
	nector.			
	Connector & terminal			
	(B136) No. 31 — (B25) No. 1:		-	-
8	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 5	Go to step 9.	Repair the open
	NEUTRAL POSITION SWITCH CONNEC-	Ω?		circuit between
	TOR.			transmission har-
	Measure the resistance of harness between			ness connector
	transmission harness connector and engine			and engine ground
	ground.			terminal.
		1	1	
	Connector & terminal			
	(B25) No. 2 — Engine ground:			-
9	(B25) No. 2 — Engine ground: CHECK POOR CONTACT.	Is there poor contact in trans-	Repair the poor	Contact the SOA
9	(B25) No. 2 — Engine ground: CHECK POOR CONTACT. Check poor contact of transmission harness	Is there poor contact in trans- mission harness connector?	contact of trans-	Contact the SOA service center.
9	(B25) No. 2 — Engine ground: CHECK POOR CONTACT.	-		

CK:DTC P0852 PARK/NEUTRAL SWITCH INPUT CIRCUIT HIGH (AT MODEL) DTC DETECTING CONDITION:

- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-187, DTC P0852 PARK/NEUTRAL SWITCH INPUT CIRCUIT HIGH (AT MODEL), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:

(B25) 12 (B136) ECM 9 ۳ B12 T7 123456 7 8 9 10 11 12 JOINT CONNECTOR B122 (B122) ¥ * : TERMINAL No. OPTIONAL 1234 ARRANGEMENT 5678 B136 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 NEUTRAL POSITION INHIBITOR SWITCH 18 19 20 21 22 23 24 25 26 27 SWITCH 28 29 30 31 32 33 34 35 R N D 3 2 Ρ 1 0 0 МТ Ò Ċ 12 B12 T3 T7 T2 B25 EN-04047

	Step	Check	Yes	No
1	CHECK SELECT CABLE.	Is there any fault in the select cable?	Repair or adjust the select cable. <ref. cs-26,<br="" to="">INSPECTION, Select Cable.></ref.>	Go to step 2.
2	 CHECK INPUT SIGNAL OF ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM and chassis ground with select lever at "N" and "P" range. Connector & terminal (B136) No. 31 (+) — Chassis ground (-): 	Is the voltage less than 1 V?	Go to step 3 .	Go to step 5.
3	CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chassis ground with select lever at other than "N" and "P" range. Connector & terminal (B136) No. 31 (+) — Chassis ground (–):	Is the voltage more than 10 V?	Go to step 4.	Go to step 5.
4	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	Contact the SOA service center.
5	CHECK INPUT SIGNAL OF ECM. Measure the voltage between ECM and chassis ground. Connector & terminal (B136) No. 31 (+) — Chassis ground (–):	Is the voltage more than 10 V?	Repair the battery short circuit of har- ness between ECM and inhibitor switch connector.	Go to step 6 .
6		Is the resistance less than 1 Ω?	Go to step 7.	Repair the harness and connector. NOTE: In this case, repair the following item: • Open circuit in harness between ECM and inhibitor switch connector • Poor contact of coupling connector • Poor contact of inhibitor switch connector • Poor contact in ECM connector

	04	Observis	V	NI-
_	Step	Check	Yes	No
7		Is the resistance less than 5 Ω ?	Go to step 8.	Repair open circuit
	Measure the resistance of harness between			of harness
	inhibitor switch connector and engine ground.			between inhibitor
	Connector & terminal			switch connector
	(T7) No. 12 — Engine ground:			and starter motor
				ground line.
				NOTE:
				In this case, repair
				the following item:
				 Open circuit in
				harness between
				inhibitor switch
				connector and
				starter motor
				ground line
				 Poor contact in
				starter motor con-
				nector
				 Poor contact in
				starter motor
				ground
				 Starter motor
8	CHECK INHIBITOR SWITCH.	Is the resistance less than 1 Ω ?	Contact the SOA	Replace the inhibi-
	Measure the resistance between inhibitor		service center.	tor switch. <ref. td="" to<=""></ref.>
	switch connector receptacle's terminals with			4AT-46, Inhibitor
	select lever at "N" and "P" range.			Switch.>
	Terminals			
	No. 7 — No. 12:			

CL:DTC P0852 NEUTRAL SWITCH INPUT CIRCUIT HIGH (MT MODEL) DTC DETECTING CONDITION:

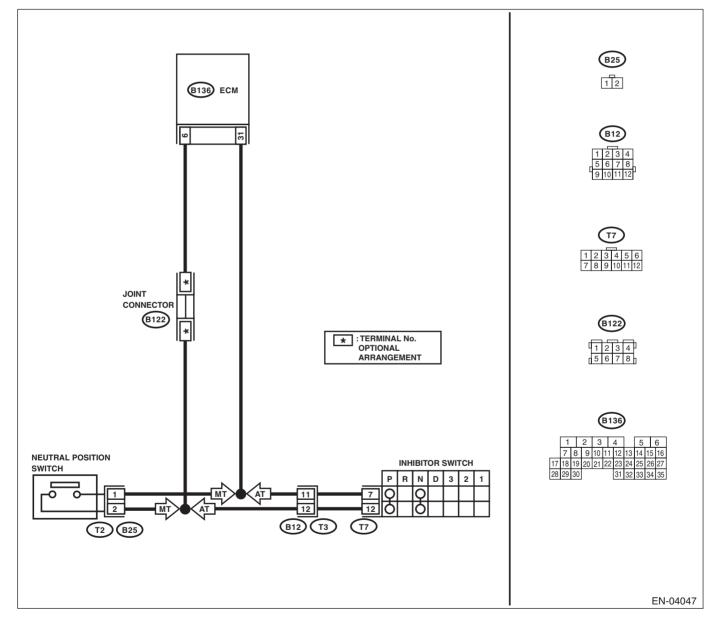
- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-188, DTC P0852 NEUTRAL SWITCH INPUT CIR- CUIT HIGH (MT MODEL), Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idlina

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



	Step	Check	Yes	No
1	CHECK INPUT SIGNAL OF ECM.	Is the voltage more than 10 V?		Go to step 4.
	 Turn the ignition switch to ON. Place the shift lever in neutral. Measure the voltage between ECM and chassis ground. Connector & terminal 	is the voltage more than 10 v?	Go to step 2.	Go to step 4.
	(B136) No. 31 (+) — Chassis ground (–):			
2	 CHECK INPUT SIGNAL OF ECM. 1) Place the shift lever except in neutral. 2) Measure the voltage between ECM and chassis ground. Connector & terminal (B136) No. 31 (+) — Chassis ground (-): 	Is the voltage less than 1 V?	Go to step 3 .	Go to step 5.
3	CHECK POOR CONTACT. Check poor contact of ECM connector.	Is there poor contact in ECM connector?	Repair the poor contact of ECM connector.	Contact the SOA service center.
4	 CHECK NEUTRAL SWITCH. 1) Place the shift lever except in neutral. 2) Measure the resistance between transmission harness connector terminals. Connector & terminal (T2) No. 1 — No. 2: 	Is the resistance less than 1 Ω ?	Go to step 5.	Repair the open circuit in transmis- sion harness or replace neutral switch.
5	 CHECK HARNESS BETWEEN ECM AND NEUTRAL SWITCH CONNECTOR. 1) Disconnect the connector from ECM. 2) Measure the resistance of harness between ECM and transmission harness con- nector. Connector & terminal (B136) No. 31 — (B25) No. 1: (B136) No. 6 — (B25) No. 2: 	Is the resistance less than 1 Ω ?	Go to step 6 .	Repair open circuit of harness between ECM and transmission har- ness connector.
6	CHECK HARNESS BETWEEN ECM AND NEUTRAL SWITCH CONNECTOR. Measure the resistance of harness between transmission harness connector and engine ground. Connector & terminal (B25) No. 2 — Engine ground:	Is the resistance less than 5 Ω?	Go to step 7.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between transmission har- ness connector and engine ground • Poor contact in coupling connector
7	CHECK POOR CONTACT. Check poor contact of transmission harness connector.	Is there a poor contact in the transmission harness connector?	Repair the poor contact in trans- mission harness connector.	Contact the SOA service center.

CM:DTC P1152 O2 SENSOR CIRCUIT RANGE/PERFORMANCE (LOW) (BANK1 SENSOR1)

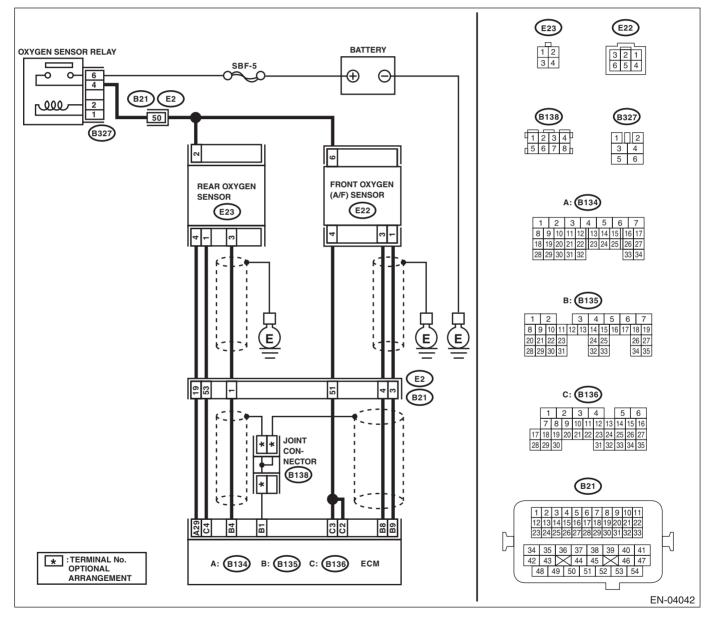
DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-189, DTC P1152 O2 SENSOR CIRCUIT RANGE/ PERFORMANCE (LOW) (BANK1 SENSOR1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



	Step	Check	Yes	No
1	CHECK FRONT OXYGEN (A/F) SENSOR CONNECTOR AND COUPLING CONNEC- TOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 2.
2	 CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and front oxygen (A/F) sensor connector. 3) Measure the resistance of harness between ECM and front oxygen (A/F) sensor connector. Connector & terminal (B135) No. 8 – (E22) No. 3: (B135) No. 9 – (E22) No. 1: 	Is the resistance less than 1 Ω?	Go to step 3 .	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between ECM and front ox- ygen (A/F) sensor connector • Poor contact in front oxygen (A/F) sensor connector • Poor contact in ECM connector
3	CHECK POOR CONTACT. Check poor contact of front oxygen (A/F) sen- sor connector.	Is there poor contact in the front oxygen (A/F) sensor connector?	Repair the poor contact of the front oxygen (A/F) sen- sor connector.	Replace the front oxygen (A/F) sen- sor. <ref. to<br="">FU(H4SO)-32, Front Oxygen (A/F) Sensor.></ref.>

CN:DTC P1153 O2 SENSOR CIRCUIT RANGE/PERFORMANCE (HIGH) (BANK1 SENSOR1)

DTC DETECTING CONDITION:

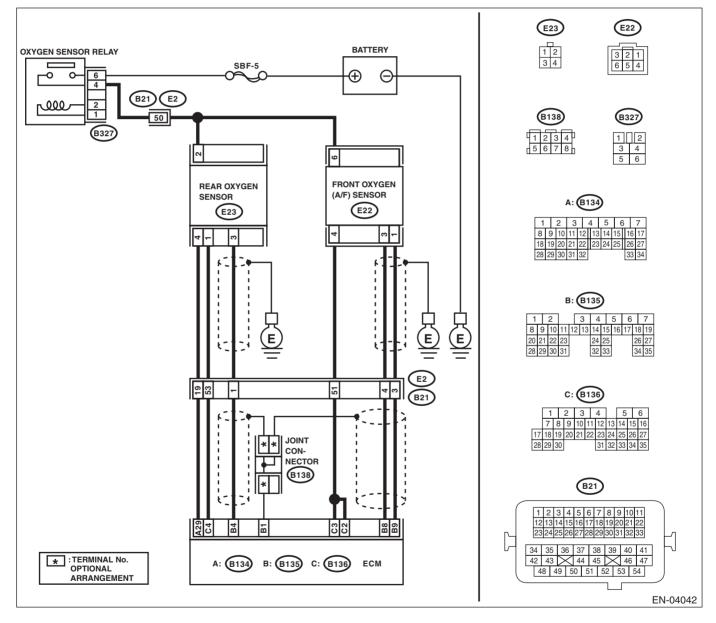
• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-192, DTC P1153 O2 SENSOR CIRCUIT RANGE/ PERFORMANCE (HIGH) (BANK1 SENSOR1), Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

WIRING DIAGRAM:



Step	Check	Yes	No
1 CHECK FRONT OXYGEN (A/F) SENSOR CONNECTOR AND COUPLING CONNEC- TOR.		Dry the water thor- oughly.	Go to step 2 .

EN(H4SO U5)(diag)-264

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
2	CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC-	Is the resistance more than 1 $M\Omega$?	Repair the ground short circuit of har-	Go to step 3.
	TOR.		ness between	
	1) Turn the ignition switch to OFF.		ECM and front	
	2) Disconnect the connectors from ECM.		oxygen (A/F) sen-	
	3) Measure the resistance of harness		sor connector.	
	between ECM connector and chassis ground.			
	Connector & terminal			
	(B135) No. 8 — Chassis ground:			
3	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Repair the ground	Go to step 4.
	FRONT OXYGEN (A/F) SENSOR CONNEC-	ΜΩ?	short circuit of har-	
	TOR.		ness between	
	Measure the resistance of harness between		ECM and front	
	ECM connector and chassis ground.		oxygen (A/F) sen-	
	Connector & terminal		sor connector.	
4	(B135) No. 9 — Chassis ground: CHECK OUTPUT SIGNAL FOR ECM.	Is the voltage more than 4.5 V?	Go to stop F	Go to step 6 .
-	1) Connect the connector to ECM.			
	2) Turn the ignition switch to ON.			
	 Measure the voltage between ECM con- 			
	nector and chassis ground.			
	Connector & terminal			
	(B135) No. 8 (+) — Chassis ground (–):			
5	CHECK OUTPUT SIGNAL FOR ECM.	Is the voltage more than 10 V?	Repair the battery	Repair the poor
	Measure the voltage between ECM connector	_	short circuit of har-	contact of ECM
	and chassis ground.		ness between	connector.
	Connector & terminal		ECM and front	
	(B135) No. 8 (+) — Chassis ground (–):		oxygen (A/F) sen-	
			sor connector.	
			After repair,	
			replace the ECM.	
			<ref. th="" to<=""><th></th></ref.>	
			FU(H4SO)-36,	
			Engine Control Module (ECM).>	
6	CHECK OUTPUT SIGNAL FOR ECM.	Is the voltage more than 4.95	Go to step 7.	Replace the front
Ŭ	Measure the voltage between ECM connector	V?		oxygen (A/F) sen-
	and chassis ground.	• •		sor. <ref. th="" to<=""></ref.>
	Connector & terminal			FU(H4SO)-32,
	(B135) No. 9 (+) — Chassis ground (–):			Front Oxygen (A/F)
				Sensor.>
7	CHECK OUTPUT SIGNAL FOR ECM.	Is the voltage more than 10 V?	Repair the battery	Repair the poor
	Measure the voltage between ECM connector	-	short circuit of har-	contact of ECM
	and chassis ground.		ness between	connector.
	Connector & terminal		ECM and front	
	(B135) No. 9 (+) — Chassis ground (–):		oxygen (A/F) sen-	
			sor connector.	
			After repair,	
			replace the ECM.	
			<ref. th="" to<=""><th></th></ref.>	
			FU(H4SO)-36,	
			Engine Control	
			Module (ECM).>	

CO:DTC P1160 RETURN SPRING FAILURE

NOTE:

For the diagnostic procedure, refer to DTC P2101. <Ref. to EN(H4SO U5)(diag)-296, DTC P2101 THROT-TLE ACTUATOR CONTROL MOTOR CIRCUIT RANGE/PERFORMANCE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

EN(H4SO U5)(diag)-265

CP:DTC P1400 FUEL TANK PRESSURE CONTROL SOLENOID VALVE CIRCUIT LOW

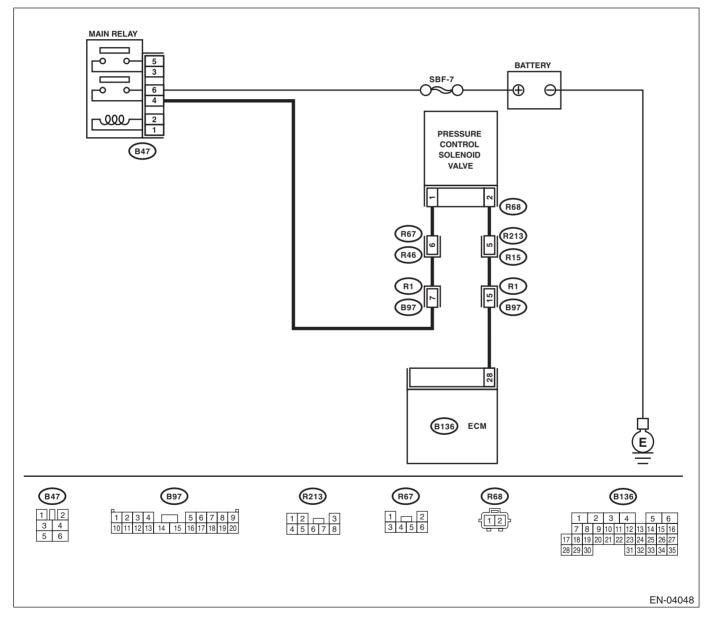
DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-197, DTC P1400 FUEL TANK PRESSURE CONTROL SOLENOID VALVE CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



	Step	Check	Yes	No
1	CHECK OUTPUT SIGNAL OF ECM.	Is the voltage more than 10 V?	Go to step 2.	Go to step 3.
	1) Turn the ignition switch to ON.			
	2) Measure the voltage between ECM and			
	chassis ground. Connector & terminal			
	(B136) No. 28 (+) — Chassis ground (–):			
2	CHECK POOR CONTACT.	Is there poor contact in ECM	Repair the poor	Contact the SOA
	Check poor contact of ECM connector.	connector?	contact of ECM	service center.
			connector.	
3	CHECK HARNESS BETWEEN PRESSURE	Is the resistance less than 10		Go to step 4.
	CONTROL SOLENOID VALVE AND ECM	Ω?	short circuit of har-	
	CONNECTOR.		ness between	
	 Turn the ignition switch to OFF. Disconnect the connectors from the pres- 		ECM and pressure control solenoid	
	sure control solenoid valve and ECM.		valve connector.	
	3) Measure the resistance of harness			
	between pressure control solenoid valve con-			
	nector and chassis ground.			
	Connector & terminal			
	(R68) No. 2 — Chassis ground:			
4	CHECK HARNESS BETWEEN PRESSURE CONTROL SOLENOID VALVE AND ECM	Is the resistance less than 1 Ω ?	Go to step 5.	Repair the har- ness and connec-
	CONNECTOR.	\$2 !		tor.
	Measure the resistance of harness between			NOTE:
	ECM and pressure control solenoid valve con-			In this case, repair
	nector.			the following item:
	Connector & terminal			 Open circuit in
	(B136) No. 28 — (R68) No. 2:			harness between
				ECM and pressure
				control solenoid valve connector
				 Poor contact of
				coupling connector
5	CHECK PRESSURE CONTROL SOLENOID	Is the resistance between 10	Go to step 6.	Replace the pres-
	VALVE.	and 100 Ω?		sure control sole-
	Measure the resistance between pressure			noid valve. <ref.< td=""></ref.<>
	control solenoid valve terminals. Terminals			to EC(H4SO)-12, Pressure Control
	No. 1 — No. 2:			Solenoid Valve.>
6	CHECK POWER SUPPLY TO PRESSURE	Is the voltage more than 10 V?	Go to step 7.	Repair the harness
ſ	CONTROL SOLENOID VALVE.			and connector.
	1) Turn the ignition switch to ON.			NOTE:
	Measure the voltage between pressure			In this case, repair
	control solenoid valve and chassis ground.			the following item:
	Connector & terminal			Open circuit in
	(R68) No. 1 (+) — Chassis ground (–):			harness between
				main relay and pressure control
				pressure control solenoid valve
				connector
				 Poor contact of
				coupling connector
				 Poor contact of
				main relay connec-
-			Demoin II	tor
7	CHECK POOR CONTACT.	Is there poor contact of the	Repair the poor	Contact the SOA
	Check poor contact of pressure control sole- noid valve connector.	pressure control solenoid valve connector?	contact of pres- sure control sole-	service center.
			noid valve	
			connector.	
			connector.	

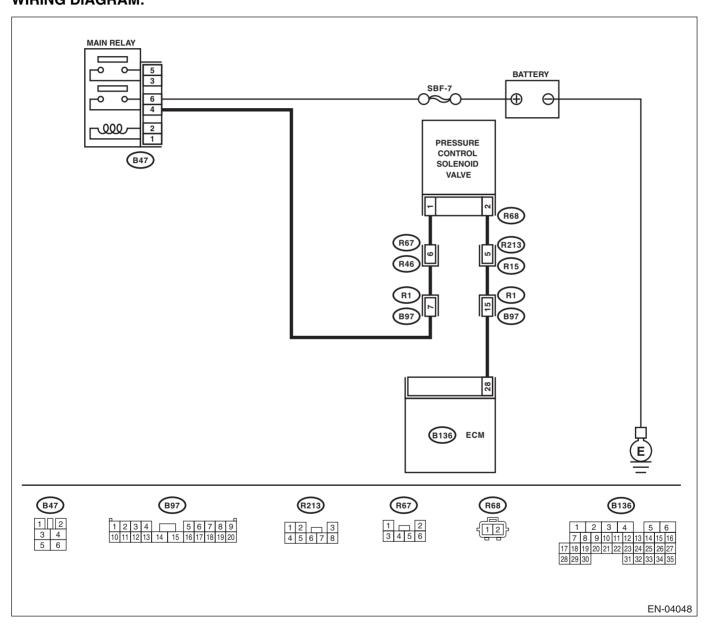
CQ:DTC P1420 FUEL TANK PRESSURE CONTROL SOL. VALVE CIRCUIT HIGH DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-199, DTC P1420 FUEL TANK PRESSURE CONTROL SOL. VALVE CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK INPUT SIGNAL OF ECM.	Is the voltage 0 — 10 V?	Go to step 2.	Even if the mal-
	1) Turn the ignition switch to OFF.	5		function indicator
	2) Connect the test mode connector at the			light illuminates,
	lower portion of instrument panel (on the			the circuit has
	driver's side).			returned to a nor-
	3) Turn the ignition switch to ON.			mal condition at
	4) Measure the voltage between ECM and			this time. In this
	chassis ground while operating the pressure control solenoid valve.			case, repair the
				poor contact in
	NOTE:			ECM connector.
	The pressure control solenoid valve operation			
	can be executed using the Subaru Select Mon-			
	itor. For procedure, refer to "Compulsory Valve			
	Operation Check Mode". <ref. en(h4so<="" th="" to=""><th></th><th></th><th></th></ref.>			
	U5)(diag)-47, Compulsory Valve Operation			
	Check Mode.>			
	Connector & terminal			
	(B136) No. 28 (+) — Chassis ground (–):			
2	CHECK INPUT SIGNAL OF ECM.	Is the voltage more than 10 V?	Go to step 4.	Go to step 3.
	 Turn the ignition switch to ON. 			
	2) Measure the voltage between ECM and			
	chassis ground.			
	Connector & terminal			
	(B136) No. 28 (+) — Chassis ground (–):			
3	CHECK POOR CONTACT.	Is there poor contact in ECM	Repair the poor	Replace the ECM.
5	Check poor contact of ECM connector.	connector?	contact of ECM	<ref. th="" to<=""></ref.>
	Check poor contact of EOM connector.		connector.	FU(H4SO)-36,
			connector.	Engine Control
4		Is the velterie mere then 10 V/2	Densistes hottom	Module (ECM).>
4	CHECK HARNESS BETWEEN PRESSURE	Is the voltage more than 10 V?	Repair the battery	Go to step 5.
	CONTROL SOLENOID VALVE AND ECM		short circuit of har-	
	CONNECTOR.		ness between	
	1) Turn the ignition switch to OFF.		ECM and pressure	
	Disconnect the connector from the pres-		control solenoid	
	sure control solenoid valve.		valve connector.	
	Turn the ignition switch to ON.		After repair,	
	Measure the voltage between ECM and		replace the ECM.	
	chassis ground.		<ref. td="" to<=""><td></td></ref.>	
	Connector & terminal		FU(H4SO)-36,	
	(B136) No. 28 (+) — Chassis ground (–):		Engine Control	
			Module (ECM).>	
5	CHECK PRESSURE CONTROL SOLENOID	Is the resistance less than 1	Replace the pres-	Go to step 6.
	VALVE.	Ω?	sure control sole-	
	 Turn the ignition switch to OFF. 		noid valve <ref. td="" to<=""><td></td></ref.>	
	2) Measure the resistance between pressure		EC(H4SO)-12,	
	control solenoid valve terminals.		Pressure Control	
	Terminals		Solenoid Valve.>	
	No. 1 — No. 2:		and ECM <ref. th="" to<=""><th></th></ref.>	
			FU(H4SO)-36,	
			Engine Control	
			Module (ECM).>.	
		Is there poor contact in ECM	Repair the poor	Replace the ECM.
6	CHECK POOR CONTACT			
6	CHECK POOR CONTACT.	-		-
6	CHECK POOR CONTACT. Check poor contact of ECM connector.	connector?	contact of ECM	<ref. td="" to<=""></ref.>
6		-		<ref. to<br="">FU(H4SO)-36,</ref.>
6		-	contact of ECM	<ref. td="" to<=""></ref.>

CR:DTC P1443 VENT CONTROL SOLENOID VALVE FUNCTION PROBLEM DTC DETECTING CONDITION:

Immediately at fault recognition

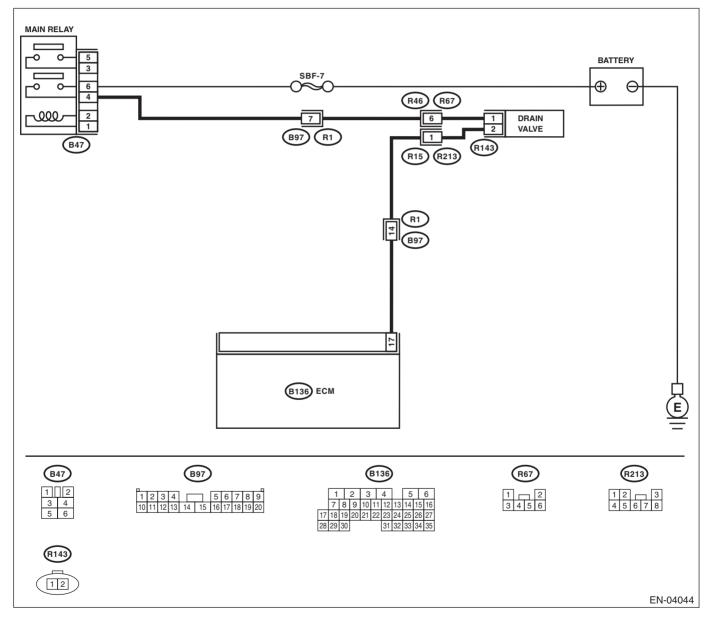
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-201, DTC P1443 VENT CONTROL SOLENOID VALVE FUNCTION PROBLEM, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Improper fuel supply

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check the rele- vant DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
2	CHECK DRAIN HOSE. Check the drain hose for clogging.	Is there clogging in the drain hose?	Replace the drain hose.	Go to step 3.
3	 CHECK DRAIN VALVE OPERATION. 1) Turn the ignition switch to OFF. 2) Connect the test mode connector at the lower portion of instrument panel (on the driver's side). 3) Turn the ignition switch to ON. 4) Check the drain valve. NOTE: Drain valve operation can be executed using Subaru Select Monitor. For procedure, refer to "Compulsory Valve Operation Check Mode". <ref. check="" compulsory="" en(h4so="" mode.="" operation="" to="" u5)(diag)-47,="" valve=""></ref.> 		Contact the SOA service center.	Replace the drain valve. <ref. to<br="">EC(H4SO)-15, Drain Valve.></ref.>

CS:DTC P1491 POSITIVE CRANKCASE VENTILATION (BLOW-BY) FUNCTION PROBLEM

DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-203, DTC P1491 POSITIVE CRANKCASE VENTILA-

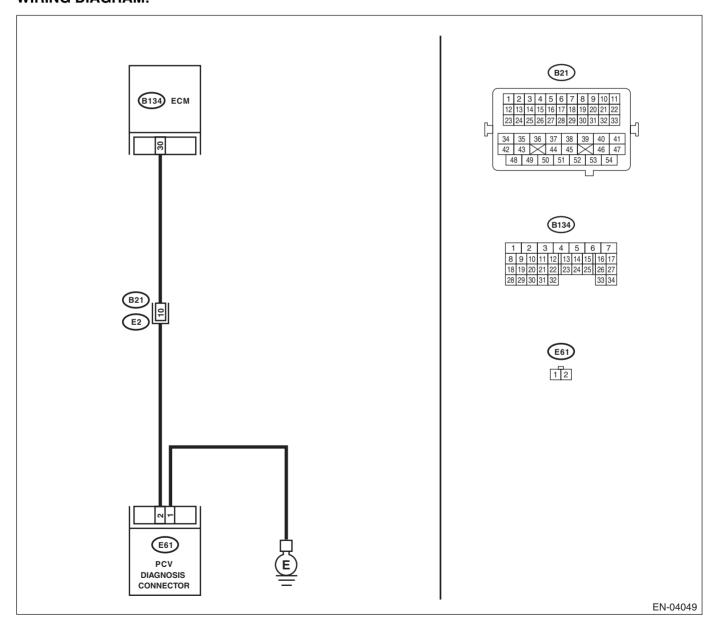
TION (BLOW-BY) FUNCTION PROBLEM, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Erroneous idling

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK BLOW-BY HOSE.	Is there any disconnection or	Replace or repair	Go to step 2.
•	Check the condition of the blow-by hose.	crack in blow-by hose?	the blow-by hose.	
2	CHECK HARNESS BETWEEN PCV DIAGNO-	Is the resistance less than 1 Ω ?	Go to step 3 .	Repair the open circuit of harness between PCV diagnosis connec- tor and ECM con- nector.
3	CHECK HARNESS BETWEEN PCV DIAGNO-	Is the resistance more than 1 $M\Omega$?	Go to step 4.	Repair the ground short circuit of har- ness between PCV diagnosis connector and ECM connector.
4	CHECK GROUND CIRCUIT OF PCV DIAG- NOSIS CONNECTOR. Measure the resistance of harness between PCV diagnosis connector and engine ground. Connector & terminal (E61) No. 1 — Engine ground:	Is the resistance less than 5 Ω ?	Go to step 5.	Repair the ground circuit of PCV diagnosis connec- tor.
5	CHECK PCV DIAGNOSIS CONNECTOR. Measure the resistance between PCV diagno- sis connector terminals. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Is the resistance less than 1 Ω ?	Repair the poor contact in ECM connector and PCV diagnosis connector.	Replace the PCV diagnosis connec- tor.

CT:DTC P1492 EGR SOLENOID VALVE SIGNAL #1 CIRCUIT MALFUNCTION (LOW INPUT)

NOTE:

For the diagnostic procedure, refer to DTC P1498. <Ref. to EN(H4SO U5)(diag)-275, DTC P1498 EGR SO-LENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (LOW INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CU:DTC P1493 EGR SOLENOID VALVE SIGNAL #1 CIRCUIT MALFUNCTION (HIGH INPUT)

NOTE:

For the diagnostic procedure, refer to DTC P1499. <Ref. to EN(H4SO U5)(diag)-278, DTC P1499 EGR SO-LENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (HIGH INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CV:DTC P1494 EGR SOLENOID VALVE SIGNAL #2 CIRCUIT MALFUNCTION (LOW INPUT)

NOTE:

For the diagnostic procedure, refer to DTC P1498. <Ref. to EN(H4SO U5)(diag)-275, DTC P1498 EGR SO-LENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (LOW INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CW:DTC P1495 EGR SOLENOID VALVE SIGNAL #2 CIRCUIT MALFUNCTION (HIGH INPUT)

NOTE:

For the diagnostic procedure, refer to DTC P1499. <Ref. to EN(H4SO U5)(diag)-278, DTC P1499 EGR SO-LENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (HIGH INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CX:DTC P1496 EGR SOLENOID VALVE SIGNAL #3 CIRCUIT MALFUNCTION (LOW INPUT)

NOTE:

For the diagnostic procedure, refer to DTC P1498. <Ref. to EN(H4SO U5)(diag)-275, DTC P1498 EGR SO-LENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (LOW INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CY:DTC P1497 EGR SOLENOID VALVE SIGNAL #3 CIRCUIT MALFUNCTION (HIGH INPUT)

NOTE:

For the diagnostic procedure, refer to DTC P1499. <Ref. to EN(H4SO U5)(diag)-278, DTC P1499 EGR SO-LENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (HIGH INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CZ:DTC P1498 EGR SOLENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (LOW INPUT)

DTC DETECTING CONDITION:

• Immediately at fault recognition

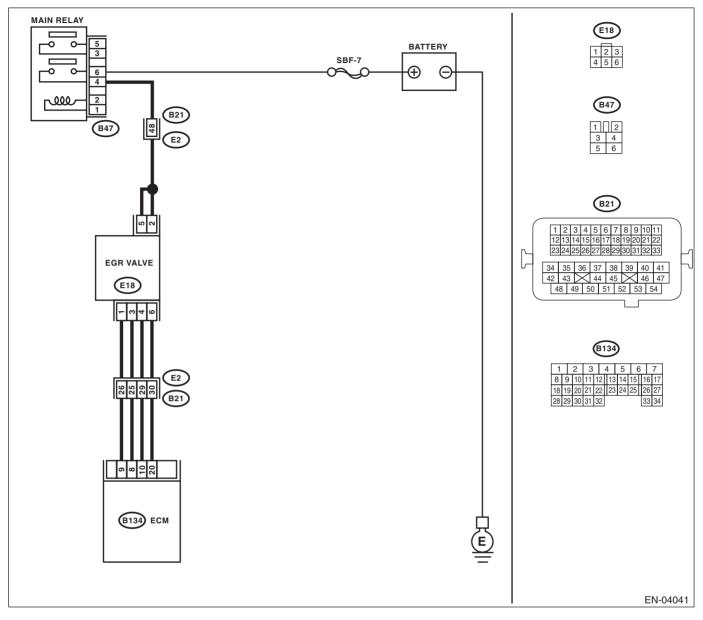
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-205, DTC P1492 EGR SOLENOID VALVE SIGNAL #1 CIRCUIT MALFUNCTION (LOW INPUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-209, DTC P1494 EGR SOLENOID VALVE SIGNAL #2 CIRCUIT MALFUNCTION (LOW IN-PUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-209, DTC P1496 EGR SOLENOID VALVE SIGNAL #3 CIRCUIT MALFUNCTION (LOW INPUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-209, DTC P1498 EGR SOLENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (LOW INPUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance
- Engine breathing

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

Diagnostic Procedure with Diagnostic Trouble Code (DTC) ENGINE (DIAGNOSTICS)



	Step	Check	Yes	No
1	 CHECK POWER SUPPLY TO EGR VALVE. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from EGR valve. 3) Turn the ignition switch to ON. 4) Measure the voltage between EGR valve connector and engine ground. Connector & terminal (E18) No. 2 (+) — Engine ground (-): (E18) No. 5 (+) — Engine ground (-): 	Is the voltage more than 10 V?	Go to step 2.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between EGR valve and main relay connec- tor • Poor contact of coupling connector
2	 CHECK HARNESS BETWEEN ECM AND EGR VALVE CONNECTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between ECM and EGR valve connector. Connector & terminal DTC P1492; (B134) No. 8 — (E18) No. 3: DTC P1494; (B134) No. 9 — (E18) No. 1: DTC P1496; (B134) No. 10 — (E18) No. 4: DTC P1498; (B134) No. 20 — (E18) No. 6: 	Is the resistance less than 1 Ω?	Go to step 3 .	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between ECM and EGR valve connector • Poor contact of coupling connector
3	CHECK HARNESS BETWEEN ECM AND EGR VALVE CONNECTOR. 1) Disconnect the connectors from ECM. 2) Measure the resistance between ECM con- nector and chassis ground. Connector & terminal DTC P1492; (B134) No. 8 — Chassis ground: DTC P1494; (B134) No. 9 — Chassis ground: DTC P1496; (B134) No. 10 — Chassis ground: DTC P1498; (B134) No. 20 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 4.	Repair the ground short in harness between ECM and EGR valve con- nector.
4	CHECK POOR CONTACT. Check poor contact in ECM connector and EGR valve connector.	Is there poor contact in ECM connector or EGR valve con- nector?	Repair the poor contact in ECM connector or EGR alve connector.	Replace the EGR valve. <ref. to<br="">FU(H4SO)-26, EGR Valve.></ref.>

DA:DTC P1499 EGR SOLENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (HIGH INPUT)

DTC DETECTING CONDITION:

• Immediately at fault recognition

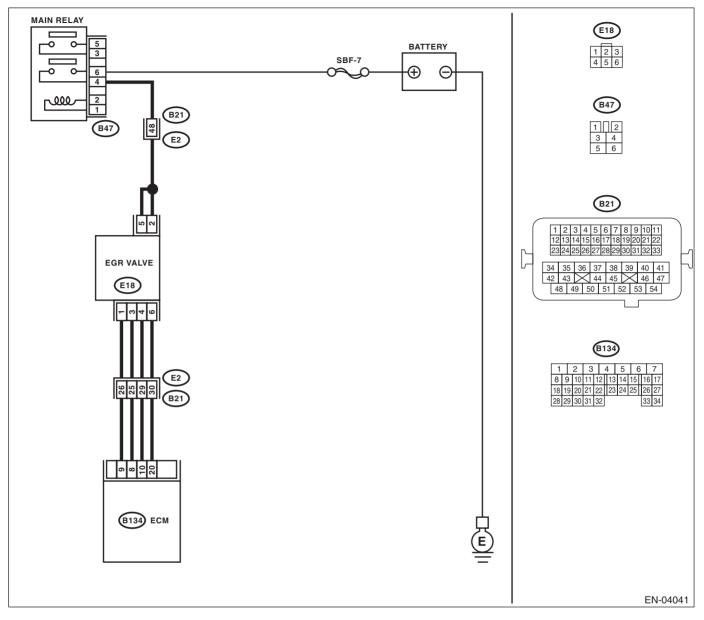
• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-207, DTC P1493 EGR SOLENOID VALVE SIGNAL #1 CIRCUIT MALFUNCTION (HIGH INPUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-209, DTC P1495 EGR SOLENOID VALVE SIGNAL #2 CIRCUIT MALFUNCTION (HIGH IN-PUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-209, DTC P1497 EGR SOLENOID VALVE SIGNAL #3 CIRCUIT MALFUNCTION (HIGH INPUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-209, DTC P1499 EGR SOLENOID VALVE SIGNAL #4 CIRCUIT MALFUNCTION (HIGH INPUT), Diagnostic Trouble Code (DTC) Detecting Criteria.> TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance
- Engine breathing

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

ENGINE (DIAGNOSTICS)



Step	Check	Yes	No
1 CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).></ref.>	Go to step 2.
 CHECK HARNESS BETWEEN ECM AND EGR VALVE CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from EGR valve. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM connector and chassis ground. Connector & terminal DTC P1493; (B134) No. 8 (+) — Chassis ground (-): DTC P1495; (B134) No. 9 (+) — Chassis ground (-): DTC P1497; (B134) No. 10 (+) — Chassis ground (-): DTC P1499; (B134) No. 20 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Repair the battery short in harness between ECM and EGR valve con- nector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>

DB:DTC P1518 STARTER SWITCH CIRCUIT LOW INPUT

DTC DETECTING CONDITION:

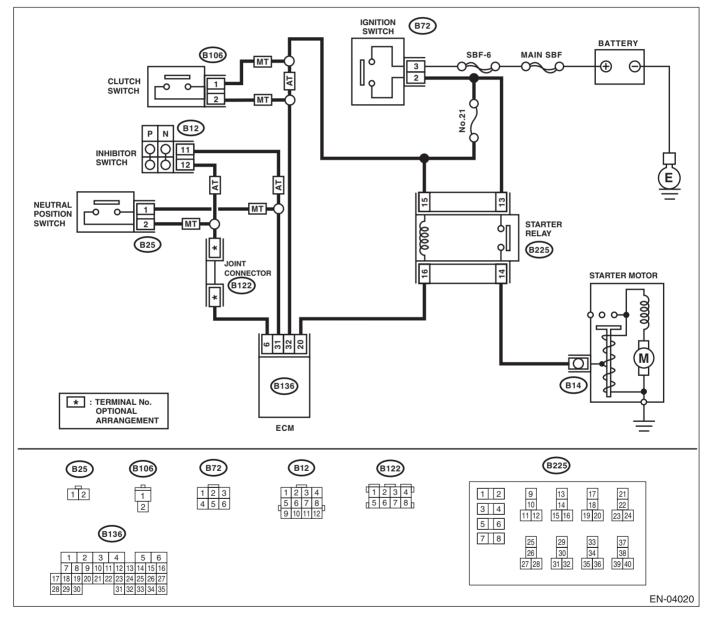
- Detected when two consecutive driving cycles with fault occur.
- GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-210, DTC P1518 STARTER SWITCH CIRCUIT LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

Failure of engine to start

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



Step	Check	Yes	No
 CHECK OPERATION OF STARTER MOTOR. Place the inhibitor switch in "P" or "N" range. (AT model) Depress the clutch pedal. (MT model) Check the security alarm is not sounding. 	when ignition switch is turned to "ST"?	ness and connec- tor.	MOTOR CIRCUIT, Diagnostics for Engine Starting Failure.>

DC:DTC P1560 BACK-UP VOLTAGE CIRCUIT MALFUNCTION

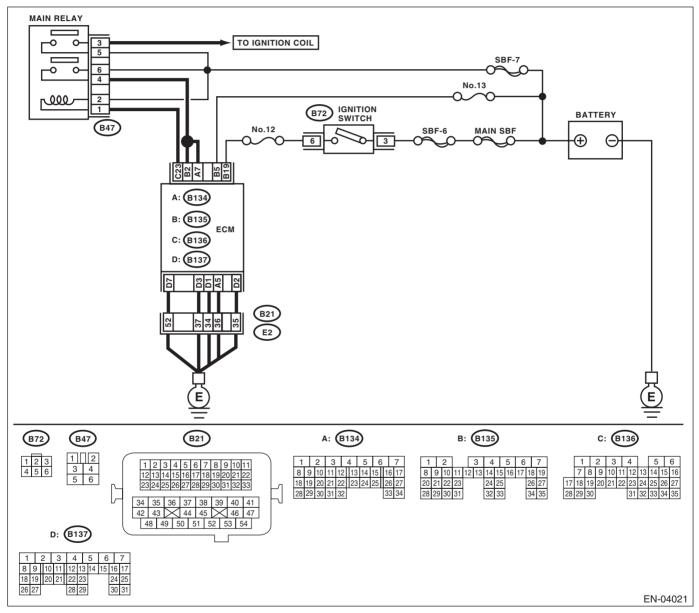
DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-211, DTC P1560 BACK-UP VOLTAGE CIRCUIT MAL-FUNCTION, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.



	Step	Check	Yes	No
1	 CHECK INPUT SIGNAL OF ECM. 1) Turn the ignition switch to OFF. 2) Measure the voltage between ECM and chassis ground. Connector & terminal 	Is the voltage more than 10 V?	Repair the poor contact of ECM connector.	Go to step 2.
	(B135) No. 5 (+) — Chassis ground (–):			
2	 CHECK HARNESS BETWEEN ECM AND MAIN FUSE BOX CONNECTOR. 1) Disconnect the connectors from ECM. 2) Measure the resistance of harness between ECM and chassis ground. Connector & terminal (B135) No. 5 — Chassis ground: 	Is the resistance less than 10 Ω ?	Repair the ground short circuit of har- ness between ECM connector and battery termi- nal.	Go to step 3 .
3	CHECK FUSE No. 13.	Is the fuse blown out?	Replace the fuse.	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between ECM and battery • Poor contact in ECM connector • Poor contact of battery terminal

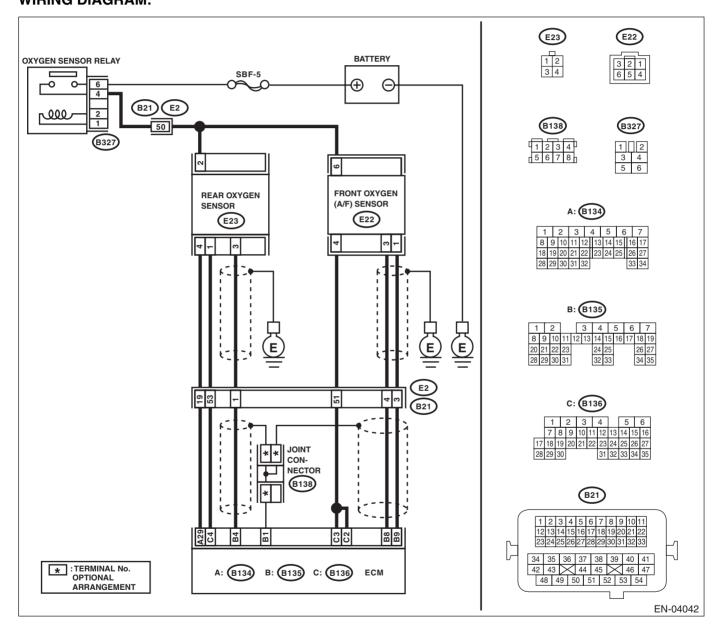
DD:DTC P2096 POST CATALYST FUEL TRIM SYSTEM TOO LEAN BANK 1 DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-213, DTC P2096 POST CATALYST FUEL TRIM SYS-TEM TOO LEAN BANK 1, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P2096.</ref.>	
2	CHECK FRONT OXYGEN (A/F) SENSOR CONNECTOR AND COUPLING CONNEC- TOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 3 .
3	CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and front oxygen (A/F) sensor connector. 3) Measure the resistance of harness between ECM and front oxygen (A/F) sensor connector. Connector & terminal (B135) No. 8 — (E22) No. 3: (B135) No. 9 — (E22) No. 1:	Is the resistance less than 1 Ω?	Go to step 4 .	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between ECM and front ox- ygen (A/F) sensor connector • Poor contact in front oxygen (A/F) sensor connector • Poor contact in ECM connector
4	CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. Measure the resistance of harness between ECM connector and chassis ground. <i>Connector & terminal</i> (B135) No. 8 — Chassis ground: (B135) No. 9 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 5.	Repair the ground short circuit of har- ness between ECM and front oxygen (A/F) sen- sor connector.
5	 CHECK OUTPUT SIGNAL FOR ECM. 1) Connect the connector to ECM. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 8 (+) — Chassis ground (-): 	Is the voltage more than 4.5 V?		Go to step 7.
6	CHECK OUTPUT SIGNAL FOR ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 8 (+) — Chassis ground (–):	Is the voltage more than 10 V?	Repair the battery short circuit of har- ness between ECM and front oxygen (A/F) sen- sor connector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Repair the poor contact of ECM connector.

EN(H4SO U5)(diag)-286

	Step	Check	Yes	No
7	CHECK OUTPUT SIGNAL FOR ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 9 (+) — Chassis ground (-):	Is the voltage more than 4.95 V?	Go to step 8.	Go to step 9 .
8	CHECK OUTPUT SIGNAL FOR ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 9 (+) — Chassis ground (-):	Is the voltage more than 10 V?	•	Repair the poor contact of ECM connector.
9	CHECK EXHAUST SYSTEM.	Are there holes or loose bolts on exhaust system?	Repair the exhaust system.	Go to step 10.
10	CHECK AIR INTAKE SYSTEM.	Are there holes, loose bolts or disconnection of hose on air intake system?	Repair the air intake system.	Go to step 11.
11	 CHECK FUEL PRESSURE. WARNING: Place "NO FIRE" signs near the working area. Be careful not to spill fuel. Measure the fuel pressure. <ref. fuel="" inspection,="" me(h4so)-25,="" pressure.="" to=""></ref.> WARNING: Release fuel pressure before removing the fuel pressure gauge. 	Is the measured value 339.5 — 360.5 kPa (3.5 — 3.7 kgf/cm ² , 49 — 52 psi)?	Go to step 12.	Repair the follow- ing item. Fuel pressure is too high: • Clogged fuel line or bent hose Fuel pressure is too low: • Improper fuel pump discharge • Clogged fuel line
12	 CHECK ENGINE COOLANT TEMPERATURE SENSOR. 1) Start the engine and warm-up completely. 2) Read the data of engine coolant temperature sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	(140°F)?	Go to step 13 .	Replace the engine coolant temperature sen- sor. <ref. to<br="">FU(H4SO)-19, Engine Coolant Temperature Sen- sor.></ref.>

	Step	Check	Yes	No
13	CHECK MASS AIR FLOW AND INTAKE AIR	Is the measured value 2.1 —	Go to step 14.	Replace the mass
	TEMPERATURE SENSOR.	3.4 g/s (0.28 — 0.45 lb/m)?		air flow and intake
	1) Start the engine and warm-up engine until			air temperature
	coolant temperature is greater than 60°C			sensor. <ref. td="" to<=""></ref.>
	(140°F).			FU(H4SO)-25,
	2) Place the shift lever in neutral position.			Mass Air Flow and
	3) Turn the A/C switch to OFF.			Intake Air Temper-
	4) Turn all the accessory switches to OFF.			ature Sensor.>
	5) Read the data of mass air flow and intake			
	air temperature sensor signal using Subaru			
	Select Monitor or general scan tool.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	General scan tool			
	For detailed operation procedure, refer to the			
	general scan tool operation manual.			
14		Subtract ambient temperature	Go to step 15.	Check the mass
	TEMPERATURE SENSOR.	from intake air temperature. Is		air flow and intake
	1) Start the engine and warm-up engine until	the obtained value $-10 - 50^{\circ}$ C		air temperature
	coolant temperature is greater than 60°C	(–18 — 90°F)?		sensor. <ref. td="" to<=""></ref.>
	(140°F).			FU(H4SO)-25,
	2) Place the shift lever in neutral position.			Mass Air Flow and
	 Turn the A/C switch to OFF. Turn all the approximation of the OFF. 			Intake Air Temper-
	4) Turn all the accessory switches to OFF.			ature Sensor.>
	5) Open the front hood.			
	6) Measure the ambient temperature.7) Read the data of mass air flow and intake			
	air temperature sensor signal using Subaru			
	Select Monitor or general scan tool.			
	-			
	NOTE: • Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". <ref.< td=""><td></td><td></td><td></td></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	General scan tool			
	For detailed operation procedure, refer to the			
	general scan tool operation manual.			
15	CHECK REAR OXYGEN SENSOR DATA.	Is the voltage 490 mV or	Go to step 19.	Go to step 16.
	1) Warm-up the engine until engine coolant	more?		5.0 10 010p 10.
	temperature is above 70°C (158°F), and keep			
	the engine speed at 3,000 rpm. (Max. 2 min-			
	utes)			
	2) Read the data of rear oxygen sensor signal			
	using Subaru Select Monitor or general scan			
	tool.			
	NOTE:			
	 For MT model, depress the clutch pedal. 			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". <ref.< td=""><td></td><td></td><td></td></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	 itor.> General scan tool For detailed operation procedure, refer to the 			

Step	Check	Yes	No
	Does water enter the connec-		Go to step 17.
TOR AND COUPLING CONNECTOR.	tor?	oughly.	
CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 3	Repair the open	Go to step 18.
REAR OXYGEN SENSOR CONNECTOR.	Ω?	circuit of harness	
 Turn the ignition switch to OFF. 		between ECM and	
Disconnect the connector from ECM and		rear oxygen sen-	
rear oxygen sensor.		sor connector.	
between ECM and rear oxygen sensor con-			
nector.			
 CHECK HARNESS BETWEEN REAR OXY-GEN SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the rear oxygen sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between rear oxygen sensor harness connector and engine ground or chassis ground. <i>Connector & terminal</i> (E23) No. 3 (+) — Engine ground (-): 	Is the voltage 0.2 — 0.5 V?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between rear oxygen sen- sor and ECM con- nector • Poor contact of the rear oxygen sensor connector • Poor contact in ECM connector
 "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the 		Go to step 20 .	Go to step 16 .
	 CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 — (E23) No. 3: (B134) No. 29 — (E23) No. 4: CHECK HARNESS BETWEEN REAR OXY- GEN SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the rear oxygen sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between rear oxygen sensor harness connector and engine ground or chassis ground. Connector & terminal (E23) No. 3 (+) — Engine ground (-): CHECK REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and rap- idly reduce the engine speed from 3,000 rpm. 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. General scan tool 	CHECK REAR OXYGEN SENSOR CONNECTOR. Does water enter the connector for AND COUPLING CONNECTOR. CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. is the resistance more than 3 Ω ? Disconnect the connector from ECM and rear oxygen sensor. Ω ? 3) Measure the resistance of harness between ECM and rear oxygen sensor. Ω ? <i>Connector & terminal</i> (B135) No. 4 — (E23) No. 3: (B134) No. 29 — (E23) No. 4: Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR AND ECM CONNECTOR. Is the voltage $0.2 - 0.5$ V? GEN SENSOR OPATA. Is the voltage between rear oxygen sensor sore oxygen sensor. I) Warm-up the engine until engine coolant temperature is above 70° C (158° F), and rapi	CHECK REAR OXYGEN SENSOR CONNECT TOR AND COUPLING CONNECTOR. Does water enter the connec- tor? Dry the water thor- oughly. CHECK HARNESS BETWEEN ECKI AND REAR OXYGEN SENSOR CONNECTOR. Is the resistance more than 3 Repair the open circuit of harness between ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Sensor And rear oxygen sensor con- nector. Repair the open circuit of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 (E23) No. 3: (B134) No. 29 (E23) No. 4: Is the voltage 0.2 0.5 V? Replace the rear oxygen sensor. 1) Turn the ignition switch to OFF. Is the voltage 0.2 0.5 V? Replace the rear oxygen sensor. 2) Disconnect the connector from the rear oxygen sensor. Is the voltage 0.2 0.5 V? Replace the rear oxygen sensor. 3) Turn the ignition switch to ON. 4 Heasure the voltage between rear oxygen sensor harness connector and engine ground or chassis ground. Is the voltage less than 250 Go to step 20. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and rap- idly reduce the engine speed from 3,000 rpm. Is the voltage less than 250 Mo? 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor Is the voltage less than 250 Go to step 20. NOTE: • For MT model, depress the clutch pedal. Subaru Selec

Step	Check	Yes	No
 CHECK FRONT OXYGEN (A/F) SENSOR AND REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and leave it for 5 minutes or more with idling. 2) Read the data of rear oxygen sensor signa using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer "READ CURRENT DATA FOR ENGINE". <re to EN(H4SO U5)(diag)-27, Subaru Select Moni itor.></re General scan tool For detailed operation procedure, refer to th general scan tool operation manual. 	Is the voltage more than 0.8 V for more than 5 minutes during idling?	Replace the front	Go to step 17 .

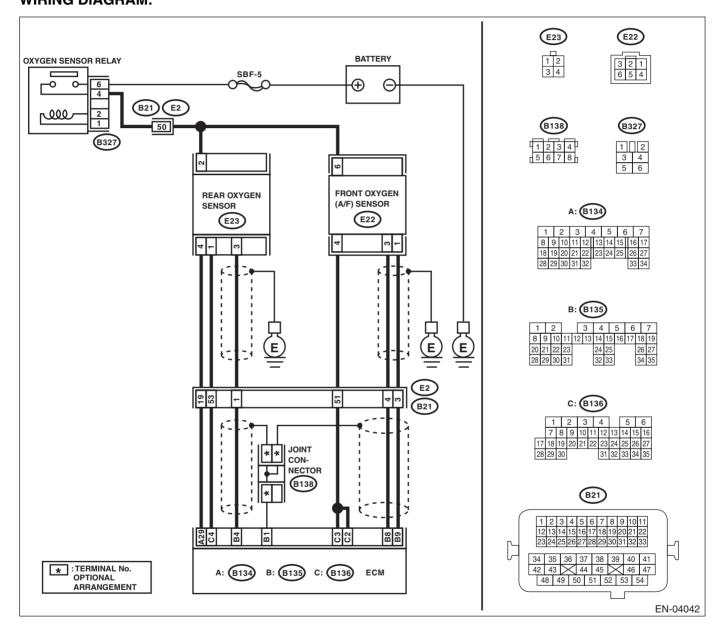
DE:DTC P2097 POST CATALYST FUEL TRIM SYSTEM TOO RICH BANK 1 DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-215, DTC P2097 POST CATALYST FUEL TRIM SYS-TEM TOO RICH BANK 1, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P2097.</ref.>	
2	CHECK FRONT OXYGEN (A/F) SENSOR CONNECTOR AND COUPLING CONNEC- TOR.	Does water enter the connec- tor?	Dry the water thor- oughly.	Go to step 3 .
3	 CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and front oxygen (A/F) sensor connector. 3) Measure the resistance of harness between ECM and front oxygen (A/F) sensor connector. Connector & terminal (B135) No. 8 – (E22) No. 3: (B135) No. 9 – (E22) No. 1: 	Is the resistance less than 1 Ω?	Go to step 4 .	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit in harness between ECM and front ox- ygen (A/F) sensor connector • Poor contact in front oxygen (A/F) sensor connector • Poor contact in ECM connector
4	CHECK HARNESS BETWEEN ECM AND FRONT OXYGEN (A/F) SENSOR CONNEC- TOR. Measure the resistance of harness between ECM connector and chassis ground. <i>Connector & terminal</i> (B135) No. 8 — Chassis ground: (B135) No. 9 — Chassis ground:	Is the resistance more than 1 $M\Omega$?	Go to step 5.	Repair the ground short circuit of har- ness between ECM and front oxygen (A/F) sen- sor connector.
5	 CHECK OUTPUT SIGNAL FOR ECM. 1) Connect the connector to ECM. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 8 (+) — Chassis ground (-): 	Is the voltage more than 4.5 V?		Go to step 7.
6	CHECK OUTPUT SIGNAL FOR ECM. Measure the voltage between ECM connector and chassis ground. Connector & terminal (B135) No. 8 (+) — Chassis ground (–):	Is the voltage more than 10 V?	Repair the battery short circuit of har- ness between ECM and front oxygen (A/F) sen- sor connector. After repair, replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>	Repair the poor contact of ECM connector.

EN(H4SO U5)(diag)-292

Step CHECK OUTPUT SIGNAL FO Measure the voltage between E		Check	Yes	No
Measure the voltage between F	R ECM.	Is the voltage more than 4.95	Go to step 8.	Go to step 9.
Measure the voltage between E	CM connector	V?	•	·
and chassis ground.				
Connector & terminal				
(B135) No. 9 (+) — Chassis				D
8 CHECK OUTPUT SIGNAL FO Measure the voltage between E		Is the voltage more than 10 V?		Repair the poor contact of ECM
and chassis ground.			ness between	connector.
Connector & terminal			ECM and front	
(B135) No. 9 (+) — Chassis	s ground (–):		oxygen (A/F) sen-	
			sor connector.	
			After repair,	
			replace the ECM. <ref. th="" to<=""><th></th></ref.>	
			FU(H4SO)-36,	
			Engine Control	
			Module (ECM).>	
9 CHECK EXHAUST SYSTEM.		Are there holes or loose bolts	Repair the exhaust	Go to step 10.
		on exhaust system?	system.	
10 CHECK AIR INTAKE SYSTEM	l.		Repair the air	Go to step 11.
		disconnection of hose on air	intake system.	
11 CHECK FUEL PRESSURE.		intake system? Is the measured value 339.5 —	Go to step 12.	Repair the follow-
WARNING:		$360.5 \text{ kPa} (3.5 - 3.7 \text{ kgf/cm}^2)$		ing item.
Place "NO FIRE" signs near	ar the working	300.5 kPa (3.5 - 3.7 kgl/cm), 49 - 52 nsi)?		Fuel pressure is
area.	5			too high:
Be careful not to spill fuel.				 Clogged fuel
1) Measure the fuel pressure.				line or bent hose
ME(H4SO)-25, INSPECTION, I	-uel Pressure.>			Fuel pressure is too low:
WARNING: Release fuel pressure before	romoving the			 Improper fuel
fuel pressure gauge.	removing me			pump discharge
				 Clogged fuel
				line
	EMPERATURE	Is the temperature above 60°C	Go to step 13.	Replace the
SENSOR.		(140°F)?		engine coolant
 Start the engine and warm- 2) Read the data of engine cod 				temperature sen- sor. <ref. td="" to<=""></ref.>
ture sensor signal using Subaru				FU(H4SO)-19,
or general scan tool.				Engine Coolant
NOTE:				Temperature Sen-
 Subaru Select Monitor 				sor.>
For detailed operation proce				
"READ CURRENT DATA FOR				
to EN(H4SO U5)(diag)-27, Sub- itor.>	aru Select Mon-			
General scan tool				
For detailed operation procedu	ire, refer to the			
general scan tool operation ma				

	Step	Check	Yes	No
13	CHECK MASS AIR FLOW AND INTAKE AIR	Is the measured value 2.1 —	Go to step 14.	Replace the mass
	TEMPERATURE SENSOR.	3.4 g/s (0.28 — 0.45 lb/m)?		air flow and intake
	 Start the engine and warm-up engine until 			air temperature
	coolant temperature is greater than 60°C			sensor. <ref. td="" to<=""></ref.>
	(140°F).			FU(H4SO)-25,
	Place the shift lever in neutral position.			Mass Air Flow and
	Turn the A/C switch to OFF.			Intake Air Temper-
	Turn all the accessory switches to OFF.			ature Sensor.>
	5) Read the data of mass air flow and intake			
	air temperature sensor signal using Subaru			
	Select Monitor or general scan tool.			
	NOTE:			
	 Subaru Select Monitor 			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	General scan tool			
	For detailed operation procedure, refer to the			
	general scan tool operation manual.			
14	CHECK MASS AIR FLOW AND INTAKE AIR	Subtract ambient temperature	Go to step 15.	Check the mass
	TEMPERATURE SENSOR.	from intake air temperature. Is		air flow and intake
	1) Start the engine and warm-up engine until	the obtained value $-10 - 50^{\circ}$ C		air temperature
	coolant temperature is greater than 60°C	(-18 — 90°F)?		sensor. <ref. td="" to<=""></ref.>
	(140°F).			FU(H4SO)-25,
	2) Place the shift lever in neutral position.			Mass Air Flow and
	3) Turn the A/C switch to OFF.			Intake Air Temper-
	4) Turn all the accessory switches to OFF.5) On an the fourth and			ature Sensor.>
	5) Open the front hood.			
	6) Measure the ambient temperature.			
	7) Read the data of mass air flow and intake			
	air temperature sensor signal using Subaru			
	Select Monitor or general scan tool.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE", <ref.< td=""><td></td><td></td><td></td></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	General scan tool			
	For detailed operation procedure, refer to the			
	general scan tool operation manual.			
15	CHECK REAR OXYGEN SENSOR DATA.	Is the voltage more than 490	Go to step 19 .	Go to step 16.
15	1) Warm-up the engine until engine coolant	mV?		
	temperature is above 70°C (158°F), and keep			
	the engine speed at 3,000 rpm. (Max. 2 min-			
	utes)			
	2) Read the data of rear oxygen sensor signal			
	using Subaru Select Monitor or general scan			
	tool.			
	NOTE:			
	 For MT model, depress the clutch pedal. 			
	 Subaru Select Monitor 			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". <ref.< td=""><td></td><td></td><td></td></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
	General scan tool			
	For detailed operation procedure, refer to the			
	general scan tool operation manual.			
	general court cor operation manual.	1	1	l

	Step	Check	Yes	No
16	CHECK REAR OXYGEN SENSOR CONNEC-	Does water enter the connec-	Dry the water thor-	Go to step 17.
	TOR AND COUPLING CONNECTOR.	tor?	oughly.	
17	 CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor con- nector. Connector & terminal (B135) No. 4 – (E23) No. 3: (B134) No. 29 – (E23) No. 4: 	Is the resistance more than 3 Ω?	Repair the open circuit of harness between ECM and rear oxygen sen- sor connector.	Go to step 18 .
18	 CHECK HARNESS BETWEEN REAR OXY- GEN SENSOR AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the rear oxygen sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between rear oxygen sensor harness connector and engine ground or chassis ground. Connector & terminal (E23) No. 3 (+) — Engine ground (-): 	Is the voltage 0.2 — 0.5 V?	Replace the rear oxygen sensor. <ref. to<br="">FU(H4SO)-34, Rear Oxygen Sen- sor.></ref.>	Repair the har- ness and connec- tor. NOTE: In this case, repair the following item: • Open circuit of harness between rear oxygen sen- sor and ECM con- nector • Poor contact of the rear oxygen sensor connector • Poor contact in ECM connector
19	 CHECK REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and rapidly reduce the engine speed from 3,000 rpm. 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: For MT model, depress the clutch pedal. Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the voltage less than 250 mV?	Go to step 20 .	Go to step 16 .
20	 CHECK FRONT OXYGEN (A/F) SENSOR AND REAR OXYGEN SENSOR DATA. 1) Warm-up the engine until engine coolant temperature is above 70°C (158°F), and leave it for 5 minutes or more with idling. 2) Read the data of rear oxygen sensor signal using Subaru Select Monitor or general scan tool. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to<br="">EN(H4SO U5)(diag)-27, Subaru Select Monitor.></ref.> General scan tool For detailed operation procedure, refer to the general scan tool operation manual. 	Is the voltage more than 0.8 V for more than 5 minutes during idling?	Replace the front oxygen (A/F) sen- sor. <ref. to<br="">FU(H4SO)-32, Front Oxygen (A/F) Sensor.></ref.>	Go to step 17.

DF:DTC P2101 THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT RANGE/ PERFORMANCE

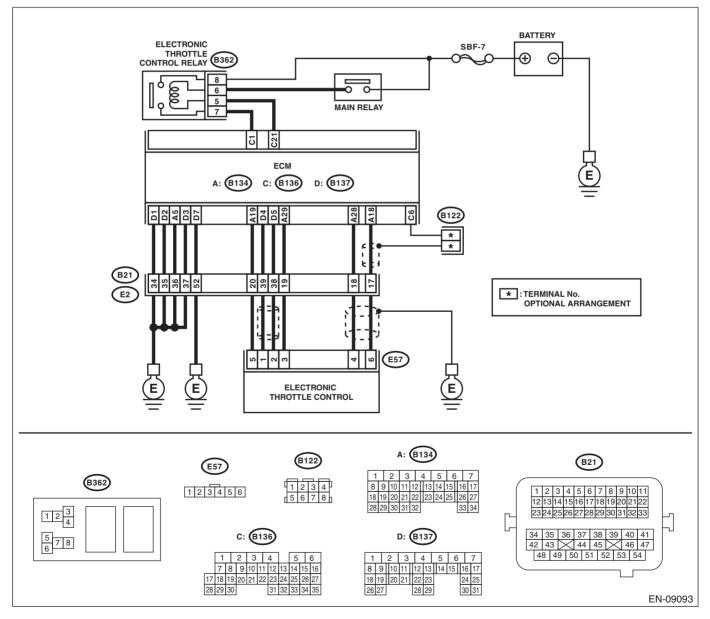
DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-179, DTC P0638 THROTTLE ACTUATOR CONTROL RANGE/PERFORMANCE (BANK 1), Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-195, DTC P1160 RETURN SPRING FAILURE, Diagnostic Trouble Code (DTC) Detecting Criteria.> or <Ref. to GD(H4SO U5)-217, DTC P2101 THROTTLE ACTUATOR CONTROL MOTOR CIR-CUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.> <Ref. to GD(H4SO U5)-223, DTC P2109 THROTTLE/PEDAL POSITION SENSOR "A" MINIMUM STOP PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

- **TROUBLE SYMPTOM:**Erroneous idling
- Enoneous luling
 Door driving porform
- Poor driving performance
- Engine stalls.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK ELECTRONIC THROTTLE CON-	Is the resistance less than 1 Ω ?	Go to step 2.	Replace the elec-
	TROL RELAY.			tronic throttle con-
	1) Turn the ignition switch to OFF.			trol relay.
	2) Remove the electronic throttle control relay.			
	3) Connect the battery to terminals No. 5 and			
	No. 6 of electronic throttle control relay.			
	4) Measure the resistance between electronic			
	hrottle control relay terminals.			
	Terminals			
	No. 8 — No. 7:			
2	CHECK POWER SUPPLY OF ELECTRONIC	Is the voltage more than 10 V?	Go to step 3.	Repair the open or
	THROTTLE CONTROL RELAY.			ground short cir-
	1) Turn the ignition switch to ON.			cuit of power sup-
	2) Measure the voltage between electronic			ply circuit.
	throttle control relay connector and chassis			
	ground.			
	Connector & terminal			
	(B362) No. 8 (+) — Chassis ground (–):			
	(B362) No. 6 (+) — Chassis ground (–):			
3	CHECK HARNESS BETWEEN ECM AND	Is the voltage more than 10 V?	Repair the power	Go to step 4.
	ELECTRONIC THROTTLE CONTROL RE-		supply short circuit	
	LAY.		of harness	
	1) Turn the ignition switch to OFF.		between ECM and	
	2) Disconnect the connectors from ECM.		electronic throttle	
	3) Turn the ignition switch to ON.		control.	
	4) Measure the voltage between electronic			
	throttle control relay connector and chassis			
	ground.			
	Connector & terminal			
	(B362) No. 5 (+) — Chassis ground (–):			
4	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 5.	Repair the ground
	ELECTRONIC THROTTLE CONTROL RE-	ΜΩ?		short circuit of har-
	LAY.			ness between
	1) Turn the ignition switch to OFF.			ECM and elec-
	2) Measure the resistance between electronic			tronic throttle con-
	throttle control relay connector and chassis			trol relay.
	ground.			
	Connector & terminal			
	(B362) No. 5 — Chassis ground:			
	(B362) No. 7 — Chassis ground:			
5	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open
	ELECTRONIC THROTTLE CONTROL RE-			circuit of harness
	LAY.			between ECM and
	Measure the resistance between ECM connec-			electronic throttle
	tor and electronic throttle control relay connec-			control relay.
	tor.			
	Connector & terminal			
	(B136) No. 21 — (B362) No. 5:			
	(B136) No. 1 — (B362) No. 7:			
6	CHECK SENSOR OUTPUT.	Is the voltage more than 0.4 V?	Go to step 7.	Go to step 9.
	1) Connect all connectors.			
	2) Turn the ignition switch to ON.			
	3) Read the data of main throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". <ref.< td=""><td></td><td></td><td></td></ref.<>			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
L		1	1	1

	Step	Check	Yes	No
7	CHECK SENSOR OUTPUT. 1) Connect all connectors.	Is the voltage more than 0.8 V?	Go to step 8.	Go to step 9.
	2) Turn the ignition switch to ON.			
	3) Read the data of sub throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE: Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
8	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Go to step 13.
	Check poor contact in connector between ECM and electronic throttle control.		contact.	
9	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 10.	Repair the open
	ELECTRONIC THROTTLE CONTROL.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	3) Disconnect the connectors from electronic			
	throttle control.			
	4) Measure the resistance between ECM con-			
	nector and electronic throttle control connector.			
	Connector & terminal			
	(B134) No. 18 — (E57) No. 6: (B124) No. 28 — (E57) No. 4:			
	(B134) No. 28 — (E57) No. 4: (B134) No. 19 — (E57) No. 5:			
10	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 11.	Repair the ground
10	ELECTRONIC THROTTLE CONTROL.	$M\Omega$?		short circuit of har-
	Measure the resistance between ECM connec-	17122:		ness.
	tor and chassis ground.			1000.
	Connector & terminal			
	(B134) No. 18 — Chassis ground:			
	(B134) No. 19 — Chassis ground:			
	(B134) No. 28 — Chassis ground:			
11	CHECK SENSOR POWER SUPPLY.	Is the voltage 4.5 — 5.5 V?	Go to step 12.	Repair the poor
	 Connect the ECM connector. 			contact of ECM
	2) Turn the ignition switch to ON.			connector.
	3) Measure the voltage between electronic			Replace the ECM
	throttle control connector and engine ground.			if defective. <ref.< td=""></ref.<>
	Connector & terminal			to FU(H4SO)-36,
	(E57) No. 5 (+) — Engine ground (–):			Engine Control
				Module (ECM).>
12	CHECK SHORT CIRCUIT IN ECM.	Is the resistance more than 10	Go to step 13.	Repair the poor
	1) Turn the ignition switch to OFF.	Ω?		contact of ECM
	2) Measure the resistance between electronic			connector.
	throttle control connector and engine ground.			Replace the ECM
	Connector & terminal			if defective. <ref.< td=""></ref.<>
	(E57) No. 6 — Engine ground:			to FU(H4SO)-36,
	(E57) No. 4 — Engine ground:			Engine Control
l				Module (ECM).>

	Step	Check	Yes	No
13	CHECK SENSOR OUTPUT.	Is the voltage less than 4.63	Go to step 14.	Go to step 16.
	 Connect all connectors. 	V?		
	Turn the ignition switch to ON.			
	3) Read the data of main throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
14	CHECK SENSOR OUTPUT.	Is the voltage less than 4.73	Go to step 15.	Go to step 16.
	Read the data of sub throttle sensor signal	V?		
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
15	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Go to step 21.
	Check poor contact in connector between		contact.	
	ECM and electronic throttle control.			
16	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 17.	Repair the open
	ELECTRONIC THROTTLE CONTROL.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	Disconnect the connectors from electronic			
	throttle control.			
	4) Measure the resistance between ECM con-			
	nector and electronic throttle control connector.			
	Connector & terminal			
	(B134) No. 29 — (E57) No. 3:			
	(B134) No. 18 — (E57) No. 6:			
	(B134) No. 28 — (E57) No. 4:			
17	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 5	Go to step 18.	Repair the poor
	ELECTRONIC THROTTLE CONTROL.	Ω?		contact of ECM
	1) Connect the ECM connector.			connector.
	2) Measure the resistance between electronic			Replace the ECM
	throttle control connector and engine ground. Connector & terminal			if defective.
18	(E57) No. 3 — Engine ground: CHECK HARNESS BETWEEN ECM AND	Is the voltage less than 10 V?	Go to step 19.	Repair the battery
10	ELECTRONIC THROTTLE CONTROL.	IS the voltage less than IU V?		short circuit of har-
	1) Turn the ignition switch to ON.			ness between
	 Measure the voltage between electronic 			ECM connector
	throttle control connector and engine ground.			and electronic
	Connector & terminal			throttle control
	(E57) No. 5 (+) — Engine ground (–):			connector.
19	CHECK HARNESS BETWEEN ECM AND	Is the voltage less than 10 V?	Go to step 20.	Repair the short
	ELECTRONIC THROTTLE CONTROL.			circuit of harness
	Measure the voltage between electronic throt-			between ECM
	tle control connector and engine ground.			connector and
	Connector & terminal			electronic throttle
				control connector.
	(E57) No. 6 (+) — Engine ground (–):			

	Step	Check	Yes	No
20	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Remove the ECM. 3) Measure the resistance between ECM connectors. Connector & terminal (B134) No. 18 — (B134) No. 19: 	Is the resistance more than 1 MΩ?	Go to step 21.	Repair the short circuit to sensor power supply.
	(B134) No. 28 — (B134) No. 19:			
21	 CHECK SENSOR OUTPUT. 1) Turn the ignition switch to OFF. 2) Connect the connectors except for electric throttle control relay. 3) Turn the ignition switch to ON. 4) Read the data of main throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" li="" monitor.<="" select="" subaru="" to="" u5)(diag)-27,=""> </ref.>	Is the voltage 0.81 — 0.87 V?	Go to step 22.	Repair the poor contact of elec- tronic throttle con- trol connector. Replace the elec- tronic throttle con- trol if defective.
22	CHECK SENSOR OUTPUT. Read the data of sub throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 	Is the voltage 1.64 — 1.70 V?	Go to step 23.	Repair the poor contact of ECM connector. Replace the elec- tronic throttle con- trol if defective.
23	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL MO- TOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. Connector & terminal (B137) No. 5 — (E57) No. 2: (B137) No. 4 — (E57) No. 1: 	Is the resistance less than 1 Ω?	Go to step 24.	Repair the open circuit of harness connector.
24	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL MO- TOR. 1) Connect the connector to ECM. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 2 (+) — Engine ground (-): (E57) No. 1 (+) — Engine ground (-): 	Is the voltage less than 5 V?	Go to step 25 .	Repair the power supply short cir- cuit of harness between ECM and electronic throttle control.

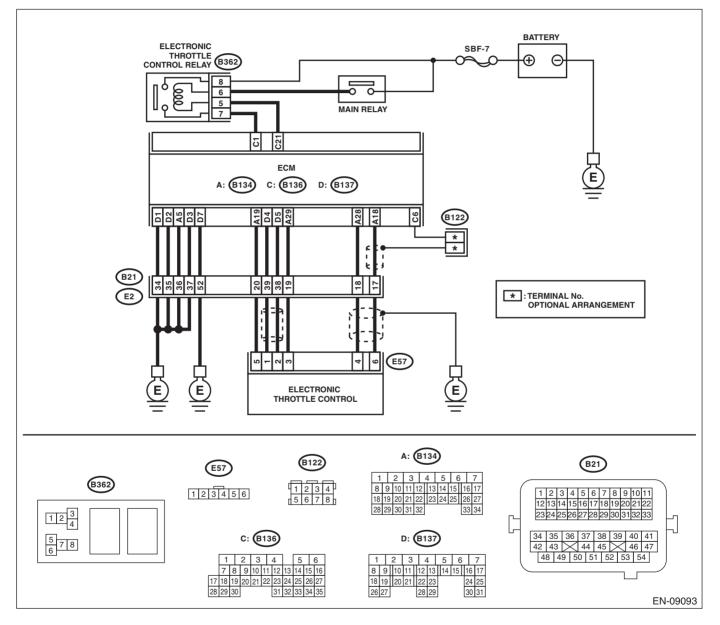
	Step	Check	Yes	No
25	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 26.	Repair the short
	ELECTRONIC THROTTLE CONTROL MO-	ΜΩ?		circuit of harness.
	TOR.			
	 Turn the ignition switch to OFF. 			
	Disconnect the connectors from ECM.			
	3) Measure the resistance between electronic			
	throttle control connector and engine ground.			
	Connector & terminal			
	(E57) No. 2 — Engine ground:			
	(E57) No. 1 — Engine ground:			
26	CHECK ELECTRONIC THROTTLE CON-	Is the resistance more than 1	Go to step 27.	Repair the short
	TROL MOTOR HARNESS.	ΜΩ?		circuit of harness.
	Measure the resistance between electronic			
	throttle control connector terminals.			
	Connector & terminal			
	(E57) No. 2 — (E57) No. 1:			
27	CHECK ELECTRONIC THROTTLE CON-	Is the resistance less than 10	Go to step 28.	Repair the open
	TROL GROUND CIRCUIT.	Ω?		circuit of harness.
	Measure the resistance between ECM connec-			
	tor and chassis ground.			
	Connector & terminal			
	(B134) No. 5 — Chassis ground:			
	(B136) No. 15 — Chassis ground:			
	(B137) No. 1 — Chassis ground:			
	(B137) No. 2 — Chassis ground:			
	(B137) No. 3 — Chassis ground:			
	(B137) No. 7 — Chassis ground:		-	
28	CHECK ELECTRONIC THROTTLE CON-	Is the resistance 50 Ω or less?	Go to step 29.	Replace the elec-
	TROL.			tronic throttle con-
	Measure the resistance between electronic			trol.
	throttle control terminals.			
	Terminals			
	No. 1 — No. 2:			
29	CHECK ELECTRONIC THROTTLE CON-	Does the valve return to the	Repair the poor	Replace the elec-
	TROL.	specified position? Standard	contact of ECM	tronic throttle con-
	Move the throttle valve to the fully open and	value: 3 mm (0.12 in) from fully	connector.	trol.
	fully closed positions with fingers.	closed position	Replace the ECM	
	Check that the valve returns to the specified		if defective. <ref.< td=""><td></td></ref.<>	
	position when releasing fingers.		to FU(H4SO)-36,	
			Engine Control	
			Module (ECM).>	

DG:DTC P2102 THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT LOW DTC DETECTING CONDITION:

- · Immediately at fault recognition
- GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-219, DTC P2102 THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance
- Engine stalls.

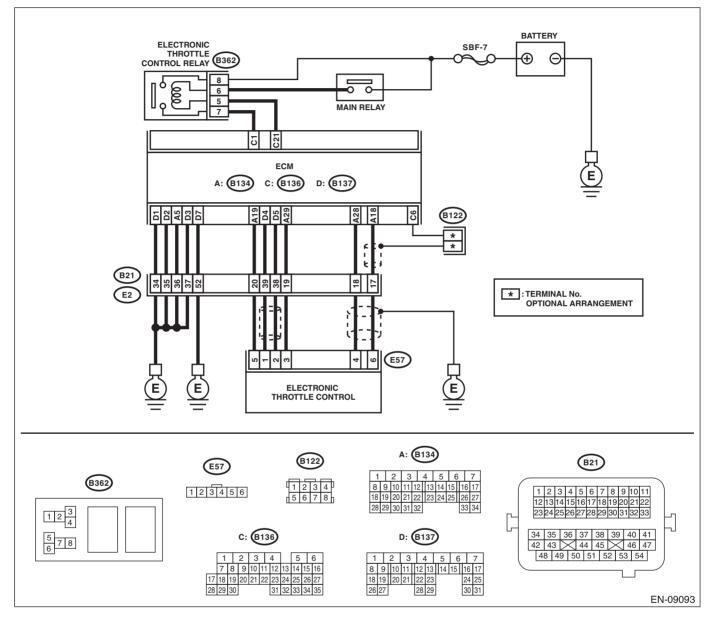


	Step	Check	Yes	No
1	 CHECK ELECTRONIC THROTTLE CONTROL RELAY. 1) Turn the ignition switch to OFF. 2) Remove the electronic throttle control relay. 3) Connect the battery to terminals No. 5 and No. 6 of electronic throttle control relay. 4) Measure the resistance between electronic throttle control terminals. Terminals No. 8 — No. 7: 	Is the resistance less than 1 Ω?	Go to step 2.	Replace the elec- tronic throttle con- trol relay.
2	 THROTTLE CONTROL RELAY. 1) Turn the ignition switch to ON. 2) Measure the voltage between electronic throttle control relay connector and chassis ground. Connector & terminal (B362) No. 8 (+) — Chassis ground (-): (B362) No. 6 (+) — Chassis ground (-): 	Is the voltage more than 10 V?		Repair the open or ground short cir- cuit of power sup- ply circuit.
3	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL RE- LAY. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Turn the ignition switch to ON. 4) Measure the voltage between electronic throttle control relay connector and chassis ground. Connector & terminal (B362) No. 5 (+) — Chassis ground (-): 	Is the voltage more than 10 V?	Repair the power supply short circuit of harness between ECM and electronic throttle control relay.	Go to step 4.
4	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL RE- LAY. 1) Turn the ignition switch to OFF. 2) Measure the resistance between electronic throttle control relay connector and chassis ground. Connector & terminal (B362) No. 5 — Chassis ground: (B362) No. 7 — Chassis ground: 	Is the resistance more than 1 $M\Omega$?	Go to step 5 .	Repair the ground short circuit of har- ness between ECM and elec- tronic throttle con- trol relay.
5	CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL RE- LAY. Measure the resistance between ECM connec- tor and electronic throttle control relay connec- tor. Connector & terminal (B136) No. 21 — (B362) No. 5: (B136) No. 1 — (B362) No. 7:	Is the resistance less than 1 Ω ?	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref. 	Repair the open circuit of harness between ECM and electronic throttle control relay.

DH:DTC P2103 THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT HIGH DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION < Ref. to GD(H4SO U5)-221, DTC P2103 THROTTLE ACTUATOR CONTROL MOTOR CIRCUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>



	Step	Check	Yes	No
1	 CHECK ELECTRONIC THROTTLE CONTROL RELAY. 1) Turn the ignition switch to OFF. 2) Remove the electronic throttle control relay. 3) Measure the resistance between electronic throttle control relay terminals. Terminals No. 8 — No. 7: 	Is the resistance more than 1 $M\Omega$?	Go to step 2.	Replace the elec- tronic throttle con- trol relay.
2	 CHECK SHORT CIRCUIT OF ELECTRONIC THROTTLE CONTROL RELAY POWER SUP- PLY. 1) Turn the ignition switch to ON. 2) Measure the voltage between electronic throttle control relay connector and chassis ground. Connector & terminal (B362) No. 7 (+) — Chassis ground (-): 	Is the voltage more than 5 V?	Go to step 3 .	Repair the power supply short cir- cuit of harness between ECM and electronic throttle control relay.
3	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL RE- LAY. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between ECM con- nector and engine ground. Connector & terminal (B136) No. 21 — Engine ground: 	Is the resistance more than 1 $M\Omega$?	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref. 	Repair the ground short circuit of har- ness between ECM and elec- tronic throttle con- trol relay.

DI: DTC P2109 THROTTLE/PEDAL POSITION SENSOR "A" MINIMUM STOP PERFORMANCE

NOTE:

For the diagnostic procedure, refer to DTC P2101. <Ref. to EN(H4SO U5)(diag)-296, DTC P2101 THROT-TLE ACTUATOR CONTROL MOTOR CIRCUIT RANGE/PERFORMANCE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DJ:DTC P2122 THROTTLE/PEDAL POSITION SENSOR/SWITCH "D" CIRCUIT LOW INPUT

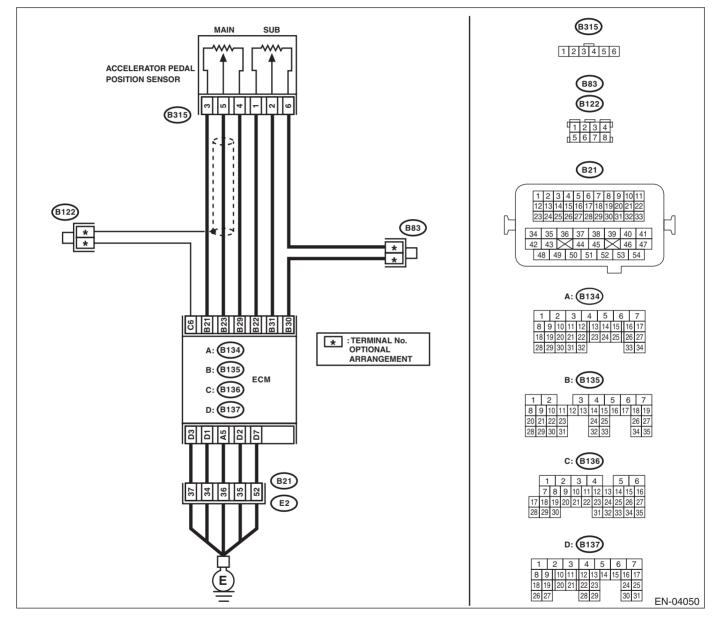
DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-225, DTC P2122 THROTTLE/PEDAL POSITION SENSOR/SWITCH "D" CIRCUIT LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance



	Step	Check	Yes	No
1	CHECK ACCELERATOR PEDAL POSITION	Is the voltage more than 0.4 V?	Go to step 2.	Go to step 3.
	SENSOR OUTPUT.			
	 Turn the ignition switch to ON. 			
	2) Read the data of main accelerator pedal			
	position sensor signal using Subaru Select			
	Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>		-	-
2	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Temporary poor
	Check poor contact of connector between		contact.	contact occurred,
	ECM and accelerator pedal position sensor.			but it is normal at
0			Cata stan A	present.
3	CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR.	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit of harness
	1) Turn the ignition switch to OFF.	22:		connector.
	 Disconnect the connectors from ECM. 			
	3) Disconnect the connectors from accelerator			
	pedal position sensor.			
	4) Measure the resistance of ECM connector			
	and accelerator pedal position sensor connec-			
	tor.			
	Connector & terminal			
	(B135) No. 29 — (B315) No. 4:			
	(B135) No. 31 — (B315) No. 2:			
4	CHECK HARNESS BETWEEN ECM AND AC-		Go to step 5.	Repair the chas-
	CELERATOR PEDAL POSITION SENSOR.	ΜΩ?		sis short circuit of
	Measure the resistance between ECM connec-			harness.
	tor and chassis ground.			
	Connector & terminal (B135) No. 29 — Chassis ground:			
	(B135) No. 31 — Chassis ground:			
5	CHECK POWER SUPPLY OF ACCELERA-	Is the voltage 4.5 — 5.5 V?	Go to step 6.	Repair the poor
5	TOR PEDAL POSITION SENSOR.			contact of ECM
	1) Connect the ECM connector.			connector.
	2) Turn the ignition switch to ON.			Replace the ECM
	3) Measure the voltage between accelerator			if defective. <ref.< td=""></ref.<>
	pedal position sensor connector and chassis			to FU(H4SO)-36,
	ground.			Engine Control
	Connector & terminal			Module (ECM).>
_	(B315) No. 2 (+) — Chassis ground (–):			-
6	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 1.2	Go to step 7.	Replace the accel-
	SENSOR.	and 4.8 kΩ?		erator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor. <ref.< td=""></ref.<>
	position sensor. <i>Terminals</i>			to FU(H4SO)-36, Engine Control
	No. 2 – No. 3:			Module (ECM).>
7	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.2	Go to step 8.	Replace the accel-
	SENSOR.	and 1.0 k Ω ?		erator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor. <ref.< td=""></ref.<>
	position sensor.			to FU(H4SO)-36,
	Terminals			Engine Control
	No. 4 — No. 3:			Module (ECM).>
	Check the measured value is within the specifi-			. ,
	cation without depressing the accelerator			
	pedal.			1

ENGINE (DIAGNOSTICS)

Step	Check	Yes	No
 8 CHECK ACCELERATOR PEDAL POSITION SENSOR. Measure the resistance of accelerator pedal position sensor. <i>Terminals</i> <i>No. 4 — No. 3:</i> Check the measured value is within the specifi- cation with the accelerator pedal depressed. 	Is the resistance between 0.5 and 2.5 kΩ?	Repair the poor contact of ECM connector. Replace the ECM if defective.	Replace the accelerator pedal position sensor.

DK:DTC P2123 THROTTLE/PEDAL POSITION SENSOR/SWITCH "D" CIRCUIT HIGH INPUT

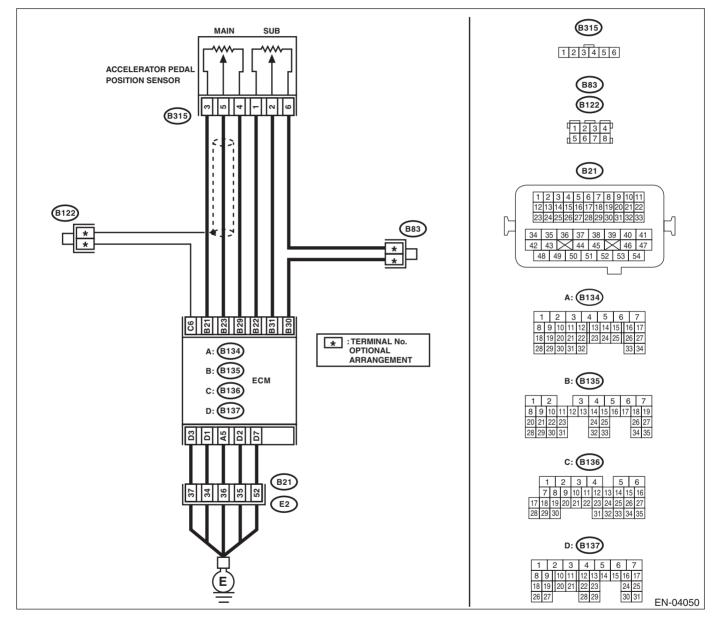
DTC DETECTING CONDITION:

Immediately at fault recognition

GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-227, DTC P2123 THROTTLE/PEDAL POSITION SENSOR/SWITCH "D" CIRCUIT HIGH INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance



	Step	Check	Yes	No
1	CHECK ACCELERATOR PEDAL POSITION	Is the voltage less than 4.8 V?	Go to step 2.	Go to step 3.
	SENSOR OUTPUT.	-		
	 Turn the ignition switch to ON. 			
	2) Read the data of main accelerator pedal			
	position sensor signal using Subaru Select			
	Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
2	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Temporary poor
	Check poor contact of connector between		contact.	contact occurred,
	ECM and accelerator pedal position sensor.			but it is normal at
				present.
3			Go to step 4.	Repair the open
		Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	Disconnect the connectors from accelerator			
	pedal position sensor.			
	4) Measure the resistance between ECM con-			
	nector and accelerator pedal position sensor			
	connector.			
	Connector & terminal			
	(B135) No. 21 — (B315) No. 3:		-	
4		Is the resistance less than 5	Go to step 5.	Repair the poor
	CELERATOR PEDAL POSITION SENSOR.	Ω?		contact of ECM
	1) Connect the ECM connector.			connector.
	2) Measure the resistance between accelera-			Replace the ECM
	tor pedal position sensor connector and chas-			if defective. <ref.< td=""></ref.<>
	sis ground. Connector & terminal			to FU(H4SO)-36,
	(B315) No. 3 — Chassis ground:			Engine Control Module (ECM).>
F		le the voltage less than 6 1/2	Co to stop 6	
5	CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR.	Is the voltage less than 6 V?	Go to step 6.	Repair the battery short circuit of har-
				ness between
	 Connect the ECM connector. Turn the ignition switch to ON. 			ECM connector
	 a) Measure the voltage between accelerator 			and accelerator
	pedal position sensor connector and chassis			pedal position sen-
	ground.			sor connector.
	Connector & terminal			
	(B315) No. 4 (+) — Chassis ground (–):			
6		Is the resistance more than 1	Repair the poor	Repair the short
-		$M\Omega$?	contact of acceler-	circuit to sensor
	1) Turn the ignition switch to OFF.		ator pedal position	power supply.
	2) Disconnect the connectors from ECM.		sensor connector.	
	3) Measure the resistance between ECM con-		Replace the accel-	
	nectors.		erator pedal posi-	
			1	1
			tion sensor if	
	Connector & terminal (B135) No. 23 — (B135) No. 21:		tion sensor if defective.	

DL:DTC P2127 THROTTLE/PEDAL POSITION SENSOR/SWITCH "E" CIRCUIT LOW INPUT

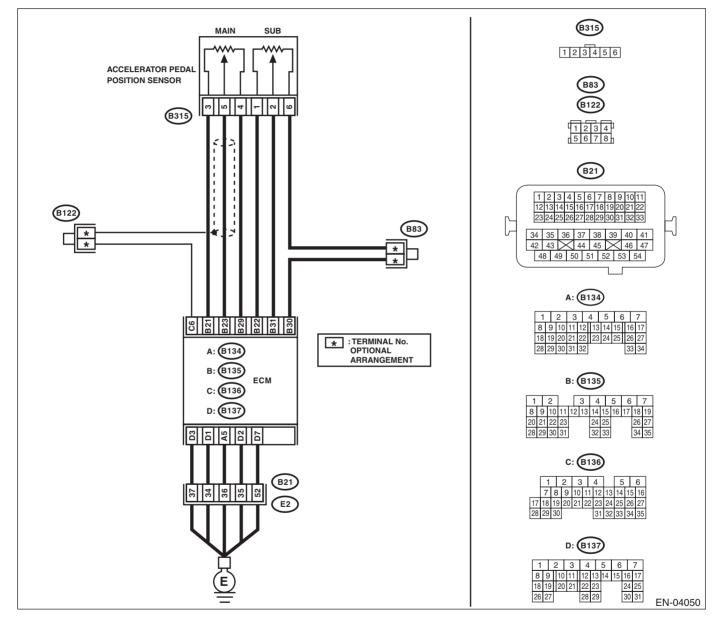
DTC DETECTING CONDITION:

Immediately at fault recognition

GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-229, DTC P2127 THROTTLE/PEDAL POSITION SENSOR/SWITCH "E" CIRCUIT LOW INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance



	Step	Check	Yes	No
1	CHECK ACCELERATOR PEDAL POSITION SENSOR OUTPUT.	Is the voltage more than 0.4 V?	Go to step 2.	Go to step 3.
	1) Turn the ignition switch to ON.			
	2) Read the data of sub accelerator pedal			
	position sensor signal using Subaru Select			
	Monitor.			
	NOTE: Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
2	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Temporary poor
	Check poor contact of connector between		contact.	contact occurred,
	ECM and accelerator pedal position sensor.			but it is normal at
3	CHECK HARNESS BETWEEN ECM AND AC-	Is the resistance less than 1	Go to step 4.	present. Repair the open
3	CELERATOR PEDAL POSITION SENSOR.	Ω ?		circuit of harness
	1) Turn the ignition switch to OFF.			connector.
	2) Disconnect the connectors from ECM.			
	3) Disconnect the connectors from accelerator			
	pedal position sensor.			
	4) Measure the resistance between ECM con-			
	nector and accelerator pedal position sensor connector.			
	Connector & terminal			
	(B135) No. 31 — (B315) No. 2:			
	(B135) No. 22 — (B315) No. 1:			
4	CHECK HARNESS BETWEEN ECM AND AC-		Go to step 5.	Repair the chas-
	CELERATOR PEDAL POSITION SENSOR.	ΜΩ?		sis short circuit of
	Measure the resistance between ECM connec- tor and chassis ground.			harness.
	Connector & terminal			
	(B135) No. 31 — Chassis ground:			
	(B135) No. 22 — Chassis ground:			
5	CHECK POWER SUPPLY OF ACCELERA- TOR PEDAL POSITION SENSOR.	Is the voltage 4.5 — 5.5 V?	Go to step 6.	Repair the poor
	 Connect the ECM connector. 			contact of ECM connector.
	 2) Turn the ignition switch to ON. 			Replace the ECM
	3) Measure the voltage between accelerator			if defective. <ref.< td=""></ref.<>
	pedal position sensor connector and chassis			to FU(H4SO)-36,
	ground.			Engine Control
	Connector & terminal			Module (ECM).>
6	(B315) No. 1 (+) — Chassis ground (–): CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.75	Go to step 7	Replace the accel-
ľ	SENSOR.	and 3.15 k Ω ?		erator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor.
	position sensor.			
	Terminals			
7			O a ta star C	Doplace the set '
ľ	CHECK ACCELERATOR PEDAL POSITION SENSOR.	Is the resistance between 0.15 and 0.63 k Ω ?	Go to step 8.	Replace the accelerator pedal posi-
	 Measure the resistance of accelerator 			tion sensor.
	pedal position sensor.			
	Terminals			
	No. 3 — No. 5:			
	2) Check the measured value is within the			
	specification without depressing the accelera-			
	tor pedal.			

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
8	 CHECK ACCELERATOR PEDAL POSITION SENSOR. 1) Measure the resistance of accelerator pedal position sensor. <i>Terminals</i> <i>No. 3 — No. 5:</i> 2) Check the measured value is within the specification with the accelerator pedal depressed. 	Is the resistance between 0.28 and 1.68 kΩ?	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref. 	Replace the accelerator pedal position sensor.

DM:DTC P2128 THROTTLE/PEDAL POSITION SENSOR/SWITCH "E" CIRCUIT HIGH INPUT

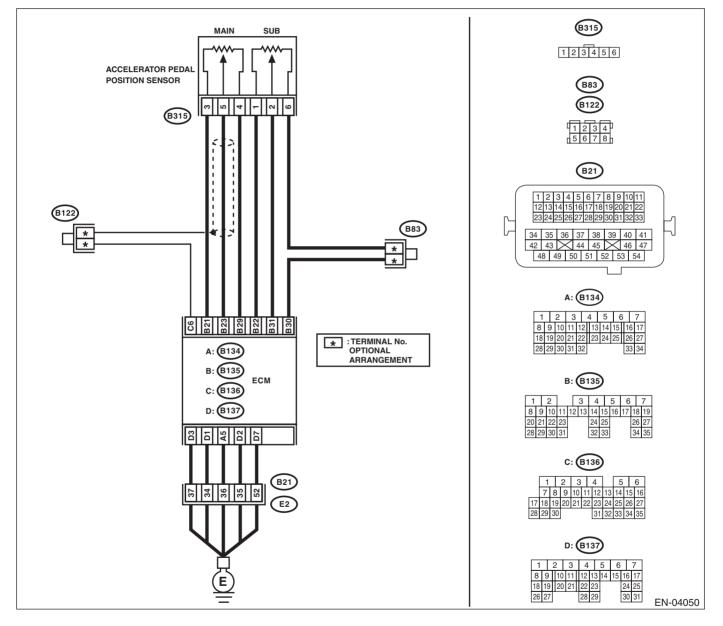
DTC DETECTING CONDITION:

Immediately at fault recognition

GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-231, DTC P2128 THROTTLE/PEDAL POSITION SENSOR/SWITCH "E" CIRCUIT HIGH INPUT, Diagnostic Trouble Code (DTC) Detecting Criteria.>

TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance



	Step	Check	Yes	No
1	-	Is the voltage less than 4.8 V?	Go to step 2.	Go to step 3.
-	SENSOR OUTPUT.		0.0 to 0.0p	
	1) Turn the ignition switch to ON.			
	2) Read the data of sub accelerator pedal			
	position sensor signal using Subaru Select			
	Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			_
2	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Temporary poor
	Check poor contact of connector between		contact.	contact occurred,
	ECM and accelerator pedal position sensor.			but it is normal at
L				present.
3			Go to step 4.	Repair the open
	CELERATOR PEDAL POSITION SENSOR.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	3) Disconnect the connectors from accelerator			
	pedal position sensor.			
	4) Measure the resistance between ECM con-			
	nector and accelerator pedal position sensor			
	connector.			
	Connector & terminal			
	(B135) No. 30 — (B315) No. 6:			
4	CHECK HARNESS BETWEEN ECM AND AC-	Is the resistance less than 5	Go to step 5.	Repair the poor
	CELERATOR PEDAL POSITION SENSOR.	Ω?		contact of ECM
	 Connect the ECM connector. 			connector.
	2) Measure the resistance between accelera-			Replace the ECM
	tor pedal position sensor connector and chas-			if defective. <ref.< td=""></ref.<>
	sis ground.			to FU(H4SO)-36,
	Connector & terminal			Engine Control
	(B315) No. 6 — Chassis ground:			Module (ECM).>
5	CHECK HARNESS BETWEEN ECM AND AC-	Is the voltage less than 6 V?	Go to step 6.	Repair the battery
	CELERATOR PEDAL POSITION SENSOR.			short circuit of har-
	 Connect the ECM connector. 			ness between
	2) Turn the ignition switch to ON.			ECM connector
	3) Measure the voltage between accelerator			and accelerator
	pedal position sensor connector and chassis			pedal position sen-
	ground.			sor connector.
	Connector & terminal			
	(B315) No. 4 (+) — Chassis ground (–):			
6		Is the resistance more than 1	Repair the poor	Repair the short
	CELERATOR PEDAL POSITION SENSOR.	ΜΩ?	contact of acceler-	circuit to sensor
	1) Turn the ignition switch to OFF.		ator pedal position	power supply.
	2) Disconnect the connectors from ECM.		sensor connector.	
	 Measure the resistance between ECM con- 		Replace the accel-	
	nectors.		erator pedal posi-	
	Connector & terminal		tion sensor if	
	(B135) No. 31 — (B135) No. 21:		defective.	
	(B135) No. 31 — (B135) No. 22:			
	(2.00) 10.01 (2100) 10.22.	1		

DN:DTC P2135 THROTTLE/PEDAL POSITION SENSOR/SWITCH "A"/"B" VOLT-AGE CORRELATION

DTC DETECTING CONDITION:

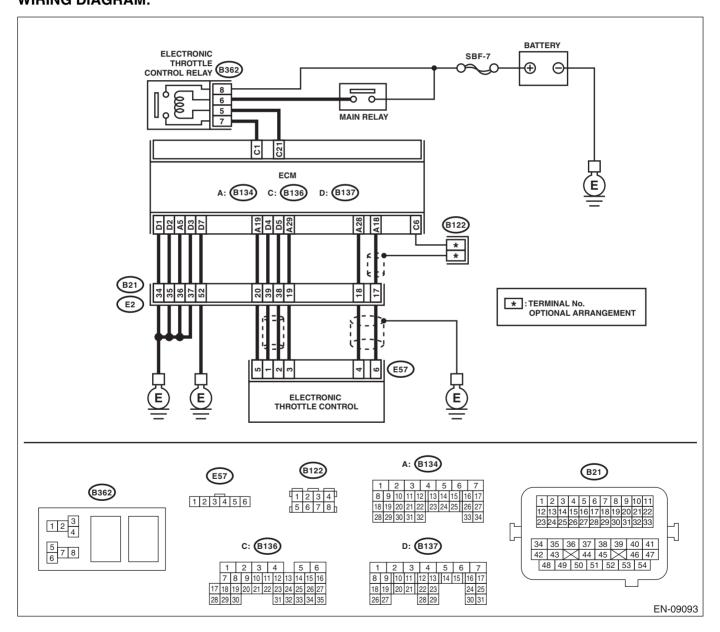
Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-233, DTC P2135 THROTTLE/PEDAL POSITION SENSOR/SWITCH "A"/"B" VOLTAGE CORRELATION, Diagnostic Trouble Code (DTC) Detecting Criteria.> TROUBLE SYMPTOM:

- Erroneous idling
- Poor driving performance

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>. WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK SENSOR OUTPUT.	Is the voltage more than 0.4 V?	Go to step 2.	Go to step 4.
	 Turn the ignition switch to ON. 	-		
	2) Read the data of main throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
2	CHECK SENSOR OUTPUT.	Is the voltage more than 0.8 V?	Go to step 3.	Go to step 4.
	Read the data of sub throttle sensor signal			
	using Subaru Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
	itor.>			
3	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Go to step 14.
	Check poor contact in connector between		contact.	
	ECM and electronic throttle control.			
4	CHECK HARNESS BETWEEN ECM AND	Is the resistance less than 1	Go to step 5.	Repair the open
	ELECTRONIC THROTTLE CONTROL.	Ω?		circuit of harness
	 Turn the ignition switch to OFF. 			connector.
	Disconnect the connectors from ECM.			
	Disconnect the connectors from electronic			
	throttle control.			
	4) Measure the resistance between ECM con-			
	nector and electronic throttle control connector.			
	Connector & terminal			
	(B134) No. 18 — (E57) No. 6:			
	(B134) No. 28 — (E57) No. 4:			
	(B134) No. 19 — (E57) No. 5:			
5	CHECK HARNESS BETWEEN ECM AND	Is the resistance more than 1	Go to step 6.	Repair the ground
	ELECTRONIC THROTTLE CONTROL.	ΜΩ?		short circuit of har-
	Measure the resistance between ECM connec-			ness.
	tor and chassis ground.			
	Connector & terminal			
	(B134) No. 18 — Chassis ground:			
	(B134) No. 28 — Chassis ground:			
-	(B134) No. 19 — Chassis ground:		. .	
6	CHECK SENSOR POWER SUPPLY.	Is the voltage 4.5 — 5.5 V?	Go to step 7.	Repair the poor
	1) Connect the ECM connector.			contact of ECM
	2) Turn the ignition switch to ON.			connector.
	3) Measure the voltage between electronic			Replace the ECM
	throttle control connector and engine ground.			if defective. <ref.< td=""></ref.<>
	Connector & terminal			to FU(H4SO)-36,
	(E57) No. 5 (+) — Engine ground (–):			Engine Control
_				Module (ECM).>
7	CHECK SHORT CIRCUIT IN ECM.	Is the resistance more than 10	Go to step 8.	Repair the poor
	1) Turn the ignition switch to OFF.	Ω?		contact of ECM
	2) Measure the resistance between electronic			connector.
	throttle control connector and engine ground.			Replace the ECM
	Connector & terminal			if defective. <ref.< td=""></ref.<>
	(E57) No. 6 — Engine ground:			to FU(H4SO)-36,
	(E57) No. 4 — Engine ground:			Engine Control
				Module (ECM).>

ENGINE (DIAGNOSTICS)

	Step	Check	Yes	No
8	 CHECK SENSOR OUTPUT. 1) Connect all connectors. 2) Turn the ignition switch to ON. 3) Read the data of main throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. en(h4so="" monitor.="" select="" subaru="" to="" u5)(diag)-27,=""></ref.> 	Is the voltage less than 4.63 V?	Go to step 9.	Go to step 11.
9	CHECK SENSOR OUTPUT. Read the data of sub throttle sensor signal using Subaru Select Monitor. NOTE: Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <ref. to EN(H4SO U5)(diag)-27, Subaru Select Mon- itor.></ref. 	Is the voltage less than 4.73 V?	Go to step 10 .	Go to step 11.
10	CHECK POOR CONTACT. Check poor contact in connector between ECM and electronic throttle control.	Is there poor contact?	Repair the poor contact.	Temporary poor contact occurred, but it is normal at present.
11	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from electronic throttle control. 4) Measure the resistance between ECM con- nector and electronic throttle control connector. <i>Connector & terminal</i> (B134) No. 29 — (E57) No. 3: (B134) No. 18 — (E57) No. 6: (B134) No. 28 — (E57) No. 4: 	Is the resistance less than 1 Ω ?	Go to step 12.	Repair the open circuit of harness connector.
12	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Connect the ECM connector. 2) Measure the resistance between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 3 — Engine ground: 	Is the resistance less than 5 Ω?	Go to step 13.	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref.
13	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between electronic throttle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 5 (+) — Engine ground (-): 	Is the voltage less than 10 V?	Go to step 14.	Repair the battery short circuit of har- ness between ECM connector and electronic throttle control connector.
14	CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. Measure the voltage between electronic throt- tle control connector and engine ground. <i>Connector & terminal</i> (E57) No. 6 (+) — Engine ground (–): (E57) No. 4 (+) — Engine ground (–):	Is the voltage less than 10 V?	Go to step 15 .	Repair the short circuit of harness between ECM connector and electronic throttle control connector.

	Step	Check	Yes	No
15	 CHECK HARNESS BETWEEN ECM AND ELECTRONIC THROTTLE CONTROL. 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Measure the resistance between ECM connectors. Connector & terminal (B134) No. 18 – (B134) No. 19: (B134) No. 28 – (B134) No. 19: 	Is the resistance more than 1 $M\Omega$?	Go to step 16.	Repair the short circuit to sensor power supply.
16	 CHECK ELECTRONIC THROTTLE CONTROL HARNESS. 1) Disconnect the connectors from ECM. 2) Disconnect the connectors from electronic throttle control. 3) Measure the resistance between electronic throttle control connector terminals. Connector & terminal (E57) No. 6 — (E57) No. 4: 	Is the resistance more than 1 $M\Omega$?	Repair the poor contact of ECM connector. Replace the ECM if defective.	Repair the short circuit of harness.

DO:DTC P2138 THROTTLE/PEDAL POSITION SENSOR/SWITCH "D"/"E" VOLT-AGE CORRELATION

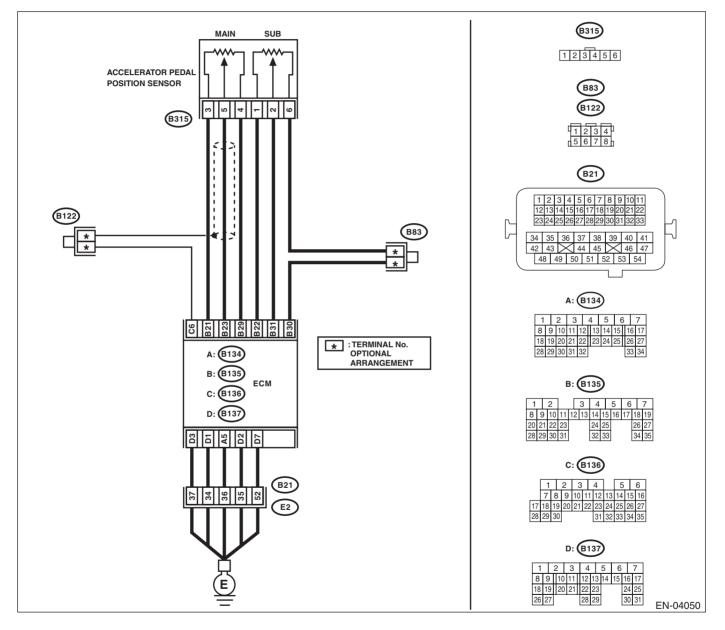
DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-235, DTC P2138 THROTTLE/PEDAL POSITION SENSOR/SWITCH "D"/"E" VOLTAGE CORRELATION, Diagnostic Trouble Code (DTC) Detecting Criteria.> TROUBLE SYMPTOM:

Erroneous idling

Poor driving performance



	Step	Check	Yes	No
1	CHECK ACCELERATOR PEDAL POSITION	Is the voltage more than 0.4 V?	Go to step 2.	Go to step 3.
	SENSOR OUTPUT.			
	 Turn the ignition switch to ON. 			
	Read the data of main accelerator pedal			
	position sensor signal and sub accelerator			
	pedal position sensor signal using Subaru			
	Select Monitor.			
	NOTE:			
	Subaru Select Monitor			
	For detailed operation procedure, refer to			
	"READ CURRENT DATA FOR ENGINE". < Ref.			
	to EN(H4SO U5)(diag)-27, Subaru Select Mon-			
•	itor.> CHECK POOR CONTACT.	la thana na an aonta at 2	Densisthe sees	Co to store 10
2		Is there poor contact?	Repair the poor	Go to step 12.
	Check poor contact of connector between		contact.	
2	ECM and accelerator pedal position sensor.	la tha radiatanaa laad than 1	Cata atan A	Densir the open
3	CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR.	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit of harness
	1) Turn the ignition switch to OFF.	22:		connector.
	 Disconnect the connectors from ECM. 			
	3) Disconnect the connectors from accelerator			
	pedal position sensor.			
	4) Measure the resistance between ECM con-			
	nector and accelerator pedal position sensor			
	connector.			
	Connector & terminal			
	(B135) No. 23 — (B315) No. 5:			
	(B135) No. 21 — (B315) No. 3:			
	(B135) No. 31 — (B315) No. 2:			
	(B135) No. 22 — (B315) No. 1:			
4	CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR.	Is the resistance more than 1 $M\Omega$?	Go to step 5.	Repair the ground
	Measure the resistance between ECM connec-	IVIS 2 ?		short circuit of har- ness.
	tor and chassis ground.			11055.
	Connector & terminal			
	(B135) No. 23 — Chassis ground:			
	(B135) No. 21 — Chassis ground:			
	(B135) No. 31 — Chassis ground:			
	(B135) No. 22 — Chassis ground:			
5	CHECK POWER SUPPLY OF ACCELERA-	Is the voltage 4.5 — 5.5 V?	Go to step 6.	Repair the poor
	TOR PEDAL POSITION SENSOR.	_		contact of ECM
	 Connect the ECM connector. 			connector.
	Turn the ignition switch to ON.			Replace the ECM
	3) Measure the voltage between accelerator			if defective. <ref.< td=""></ref.<>
	pedal position sensor connector and engine			to FU(H4SO)-36,
	ground.			Engine Control
	Connector & terminal			Module (ECM).>
	(B315) No. 2 (+) — Engine ground (–):			
6	(B315) No. 1 (+) — Engine ground (–):			Deples - the -
6	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 1.2	Go to step 7.	Replace the accel-
	SENSOR. Measure the resistance of accelerator pedal	and 4.8 k Ω ?		erator pedal posi- tion sensor.
	Measure the resistance of accelerator pedal			
	position sensor. <i>Terminals</i>			
	No. 2 — No. 3:			
	NO. 2 — NO. J.			

	Step	Check	Yes	No
7	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.75	Go to step 8.	Replace the accel-
	SENSOR.	and 3.15 kΩ?		erator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor.
	position sensor.			
	Terminals			
	No. 1 — No. 6: CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.2	Co to stor 0	Deplese the secol
8	SENSOR.	and 0.8 k Ω ?	Go to step 9.	Replace the accelerator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor.
	position sensor without depressing the accel-			
	erator pedal.			
	Terminals			
	No. 5 — No. 4:			
9	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.15	Go to step 10.	Replace the accel-
	SENSOR.	and 0.63 kΩ?		erator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor.
	position sensor without depressing the accel-			
	erator pedal.			
	Terminals			
	No. 2 — No. 6:			
10	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.5	Go to step 11.	Replace the accel-
	SENSOR.	and 2.5 k Ω ?		erator pedal posi- tion sensor.
	Measure the resistance of accelerator pedal position sensor with depressing the accelera-			tion sensor.
	tor pedal.			
	Terminals			
	No. 2 — No. 4:			
11	CHECK ACCELERATOR PEDAL POSITION	Is the resistance between 0.28	Go to step 12.	Replace the accel-
	SENSOR.	and 1.68 k Ω ?		erator pedal posi-
	Measure the resistance of accelerator pedal			tion sensor.
	position sensor with depressing the accelera-			
	tor pedal.			
	Terminals			
	No. 2 — No. 6:			
12	CHECK ACCELERATOR PEDAL POSITION	Is the voltage less than 4.8 V?	Go to step 13.	Go to step 14.
	SENSOR OUTPUT. 1) Turn the ignition switch to OFF.			
	 Connect all connectors. 			
	3) Turn the ignition switch to ON.			
	4) Read the data of main throttle sensor signal			
	and sub accelerator pedal position sensor sig-			
	nal using Subaru Select Monitor.			
13	CHECK POOR CONTACT.	Is there poor contact?	Repair the poor	Go to step 18.
	Check poor contact of connector between		contact.	
	ECM and accelerator pedal position sensor.			
14	CHECK HARNESS BETWEEN ECM AND AC-		Go to step 15.	Repair the open
	CELERATOR PEDAL POSITION SENSOR.	Ω?		circuit of harness
	1) Turn the ignition switch to OFF.			connector.
	 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from accelerator. 			
	 Disconnect the connectors from accelerator pedal position sensor. 			
	4) Measure the resistance between ECM con-			
	nector and accelerator pedal position sensor			
	connector.			
	Connector & terminal			
	(B135) No. 29 — (B315) No. 4:			
	(B135) No. 30 — (B315) No. 6:			

	Step	Check	Yes	No
15	 CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR. 1) Connect the ECM connector. 2) Measure the resistance between accelera- tor pedal position sensor connector and chas- sis ground. Connector & terminal (B315) No. 4 — Chassis ground: (B315) No. 6 — Chassis ground: 	Is the resistance less than 5 Ω ?	Go to step 16.	Repair the poor contact of ECM connector. Replace the ECM if defective. <ref. to FU(H4SO)-36, Engine Control Module (ECM).></ref.
16	 CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR. 1) Connect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between accelerator pedal position sensor connector and chassis ground. Connector & terminal (B315) No. 5 (+) — Chassis ground (-): (B315) No. 2 (+) — Chassis ground (-): 		Go to step 17.	Repair the battery short circuit of har- ness between ECM connector and accelerator pedal position sen- sor connector.
17	 CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between ECM connectors. Connector & terminal (B135) No. 23 — (B135) No. 21: (B135) No. 23 — (B135) No. 22: (B135) No. 31 — (B135) No. 21: (B135) No. 31 — (B135) No. 22: 	Is the resistance more than 1 MΩ?	Go to step 18.	Repair the short circuit to sensor power supply.
18	 CHECK HARNESS BETWEEN ECM AND AC- CELERATOR PEDAL POSITION SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Disconnect the connectors from accelerator pedal position sensor. 4) Measure the resistance between connector terminals of accelerator pedal position sensor. Connector & terminal (B315) No. 5 — (B315) No. 2: 	Is the resistance more than 1 $M\Omega$?	Repair the poor contact of ECM connector. Replace the ECM if defective.	Repair the short circuit of harness between ECM connector and accelerator pedal position sensor connector.

DP:DTC P2227 BAROMETRIC PRESSURE CIRCUIT RANGE/PERFORMANCE DTC DETECTING CONDITION:

• Detected when two consecutive driving cycles with fault occur.

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-237, DTC P2227 BAROMETRIC PRESSURE CIR-CUIT RANGE/PERFORMANCE, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	"List of Diagnostic Trouble Code (DTC)". <ref. th="" to<=""><th>FU(H4SO)-36, Engine Control Module (ECM).></th></ref.>	FU(H4SO)-36, Engine Control Module (ECM).>

DQ:DTC P2228 BAROMETRIC PRESSURE CIRCUIT LOW

DTC DETECTING CONDITION:

• Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-238, DTC P2228 BAROMETRIC PRESSURE CIR-CUIT LOW, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

Step	Check	Yes	No
1 CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	"List of Diagnostic Trouble Code (DTC)". <ref. th="" to<=""><th></th></ref.>	

DR:DTC P2229 BAROMETRIC PRESSURE CIRCUIT HIGH

DTC DETECTING CONDITION:

Immediately at fault recognition

• GENERAL DESCRIPTION <Ref. to GD(H4SO U5)-239, DTC P2229 BAROMETRIC PRESSURE CIR-CUIT HIGH, Diagnostic Trouble Code (DTC) Detecting Criteria.>

CAUTION:

After repairing or replacing the defective part, perform the Clear Memory Mode <Ref. to EN(H4SO U5)(diag)-46, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO U5)(diag)-36, PROCEDURE, Inspection Mode.>.

	Step	Check	Yes	No
1	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <ref. to<br="">EN(H4SO U5)(diag)-73, List of Diagnostic Trou- ble Code (DTC).> NOTE: It is not necessary</ref.>	Replace the ECM. <ref. to<br="">FU(H4SO)-36, Engine Control Module (ECM).></ref.>
			to inspect DTC P2229.	