

Subaru Select Monitor

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

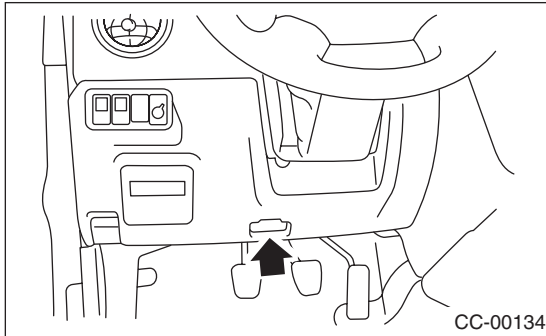
6. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

- 1) Prepare the Subaru Select Monitor kit.
- 2) Connect the diagnosis cable to the Subaru Select Monitor.
- 3) Connect the Subaru Select Monitor to the data link connector.

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



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

NOTE:

Do not connect scan tools except for Subaru Select Monitor.

- 4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.

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

Contents	Display	Unit of measure
Battery voltage	Battery Voltage	V
Rear vehicle speed sensor signal	Rear Wheel Speed	km/h or MPH
Front vehicle speed sensor signal	Front Wheel Speed	km/h or MPH
Engine speed signal	Engine Speed	rpm
ATF temperature	ATF Temp.	°C or °F
Gear position	Gear Position	—
Line pressure control duty ratio	Line Pressure Duty Ratio	%
Lock up clutch duty ratio	Lock Up Duty Ratio	%
Transfer clutch duty ratio	Transfer Duty Ratio	%
Torque converter turbine speed signal	Turbine Revolution Speed	rpm
2-4 brake duty ratio	Brake Clutch Duty Ratio	%
Low clutch duty ratio	L/C Duty	%
High clutch duty ratio	H/C Duty	%
Low & reverse brake duty ratio	L&R/B Duty	%
Accelerator position	Accel. Opening Angle	%
ATF temperature light	ATF Temperature Lamp	ON or OFF
Stop light switch signal	Stop Light Switch Signal	ON or OFF
Parking range signal	P Range Signal	ON or OFF
Neutral range signal	N Range Signal	ON or OFF
Reverse range signal	R Range Signal	ON or OFF

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

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

7) Select the [OK] after the information of transmission type is displayed.

8) On the «Transmission Diagnosis» screen, select {DTC Display}.

NOTE:

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

- For details concerning the diagnostic trouble codes (DTC), refer to the List of DTC. <Ref. to 4AT(D)(diag)-29, List of Diagnostic Trouble Code (DTC).>

2. READ CURRENT DATA

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

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

3) Select the [OK] after the information of transmission type is displayed.

4) On the «Transmission Diagnosis» display screen, select the {Current Data Display & Save}.

5) On the «Transmission Diagnosis» display screen, select the {Data Display}.

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

Subaru Select Monitor

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Contents	Display	Unit of measure
Drive range signal	D Range Signal	ON or OFF
3rd range signal	3rd Range Signal	ON or OFF
2nd range signal	2nd Range Signal	ON or OFF
1st range signal	1st Range Signal	ON or OFF
AT diagnosis light output signal	Diagnosis Lamp	ON or OFF
FWD switch signal	FWD SW	ON or OFF
Shift lock solenoid signal	Shift Lock Solenoid	ON or OFF
Cruise control signal	Cruise Control Signal	ON or OFF

NOTE:

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

3. CLEAR MEMORY MODE

- 1) On the «Main Menu» display screen, select the {Each System Check}.
- 2) On the «System Selection Menu» display screen, select the {Transmission Control System}.
- 3) Select the [OK] after the information of transmission type is displayed.
- 4) On the «Transmission Diagnosis» display screen, select the {Clear Memory}.
- 5) When “Done” and “Turn ignition switch OFF” are shown on the display screen, turn the ignition switch to OFF and then close the Subaru Select Monitor.

NOTE:

- If {Clear Memory 2} is selected and performed, DTC and learned control memory are cleared. If Clear Memory 2 is performed, execute the advance operation of learning control. <Ref. to 4AT(D)(diag)-15, FACILITATION OF LEARNING CONTROL, OPERATION, Subaru Select Monitor.>
- For details concerning the operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

4. FACILITATION OF LEARNING CONTROL

NOTE:

When the following services are performed, or when the shifting shock is occurred in total check with vehicle driving, perform the learning with following procedures.

- Replacement of TCM
 - Replacement of transmission assembly
 - Replacement of clutches
 - Replacement of control valve body
 - When {Clear Memory 2} is performed;
- 1) Shift the select lever to “P” range, and apply the parking brake.
 - 2) Lift-up the vehicle.
 - 3) Connect the Subaru Select Monitor to the data link connector, and then turn the ignition switch to ON.

4) Perform {Clear Memory 2} using the Subaru Select Monitor. <Ref. to 4AT(D)(diag)-15, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

5) Using the Subaru Select Monitor, check that there is no DTC displayed. <Ref. to 4AT(D)(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

6) Warm-up the engine until the ATF temperature displayed on the Subaru Select Monitor reaches 60 — 90°C (140 — 194°F). <Ref. to 4AT(D)(diag)-14, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>

7) Shift the select lever to “R” range.

8) Turn all switches including headlight, air conditioner, seat heater, rear defogger and etc. OFF.

9) Turn the ignition switch to OFF, and wait more than 30 seconds with the accessory OFF.

10) When “Communication Failed!” is displayed on Subaru Select Monitor, press the brake pedal fully until the learning control promotion is completed.

11) Turn the ignition switch to ON.

12) Check that the Subaru Select Monitor is returned to normal operation.

13) Shift the select lever to “P” range, and then wait for more than 3 seconds.

14) Shift the select lever to “R” range, and then wait for more than 3 seconds.

15) Shift the select lever to “N” range, and then wait for more than 3 seconds.

16) Shift the select lever to “D” range, and then wait for more than 3 seconds.

17) Shift the select lever to “N” range, and then wait for more than 3 seconds.

18) Slowly depress the accelerator pedal to full throttle.

19) Slowly release the accelerator pedal completely.

20) Start the engine, and idle it.

21) Shift the select lever to “D” range.

Subaru Select Monitor

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

22) Start learning control promotion. At this time, the AT OIL TEMP warning light in the combination meter will start blinking at 2 Hz. When the AT OIL TEMP warning light does not blink, turn the ignition switch to OFF and repeat the procedures from step 4). When the AT OIL TEMP warning light which blinking at 2 Hz changes to blink at 0.5 Hz, learning control promotion is completed.

NOTE:

When blinking of AT OIL TEMP warning light changes from 2 Hz to 4 Hz during learning control promotion, repeat the procedure from step 4).

23) Shift the select lever to "N" range, and then turn the ignition switch to OFF.

24) Shift the select lever to "P" range to complete the learning control promotion.