12. Inspection Mode S078510

A: OPERATION S078510A16

Carry out trouble diagnosis shown in the following DTC table.

When performing trouble diagnosis which is not shown in the DTC table, refer to the next item Drive cycle. <Ref. to EN-53, Drive Cycle.>

DTC No.	Item
P0031	Front oxygen (A/F) sensor heater circuit low input
P0032	Front oxygen (A/F) sensor heater circuit high input
P0037	Rear oxygen sensor heater circuit low input
P0038	Rear oxygen sensor heater circuit high input
P0066	Air assist injector solenoid valve circuit low input
P0067	Air assist injector solenoid valve circuit high input
P0106	Pressure sensor circuit range/performance problem (low input)
P0107	Pressure sensor circuit low input
P0108	Pressure sensor circuit high input
P0112	Intake air temperature sensor circuit low input
P0113	Intake air temperature sensor circuit high input
P0117	Engine coolant temperature sensor circuit low input
P0118	Engine coolant temperature sensor circuit high input
P0122	Throttle position sensor circuit low input
P0123	Throttle position sensor circuit high input
P0131	Front oxygen (A/F) sensor circuit malfunction (open circuit)
P0132	Front oxygen (A/F) sensor circuit malfunction (short circuit)
P0137	Rear oxygen sensor circuit low input
P0138	Rear oxygen sensor circuit high input
P0182	Fuel temperature sensor A circuit low input
P0183	Fuel temperature sensor A circuit high input
P0327	Knock sensor circuit low input
P0328	Knock sensor circuit high input
P0335	Crankshaft position sensor circuit malfunction
P0336	Crankshaft position sensor circuit range/performance problem
P0340	Camshaft position sensor circuit malfunction
P0341	Camshaft position sensor circuit range/performance problem
P0447	Evaporative emission control system vent control low input
P0448	Evaporative emission control system vent control high input
P0452	Evaporative emission control system pressure sensor low input
P0458	Evaporative emission control system purge control valve circuit low input
P0462	Fuel level sensor circuit low input
P0463	Fuel level sensor circuit high input
P0500	Vehicle speed sensor malfunction
P0512	Starter switch circuit high input
P0604	Internal control module memory check sum error
P0691	Cooling fan relay 1 circuit low input
P0692	Cooling fan relay 1 circuit high input
P0703	Brake switch input malfunction
P0705	Transmission range sensor circuit malfunction
P0710	Transmission fluid temperature sensor circuit malfunction
P0715	Torque converter turbine speed sensor circuit malfunction
P0720	Output speed sensor (vehicle speed sensor 2) circuit malfunction
P0725	Engine speed input circuit malfunction
P0731	Gear 1 incorrect ratio

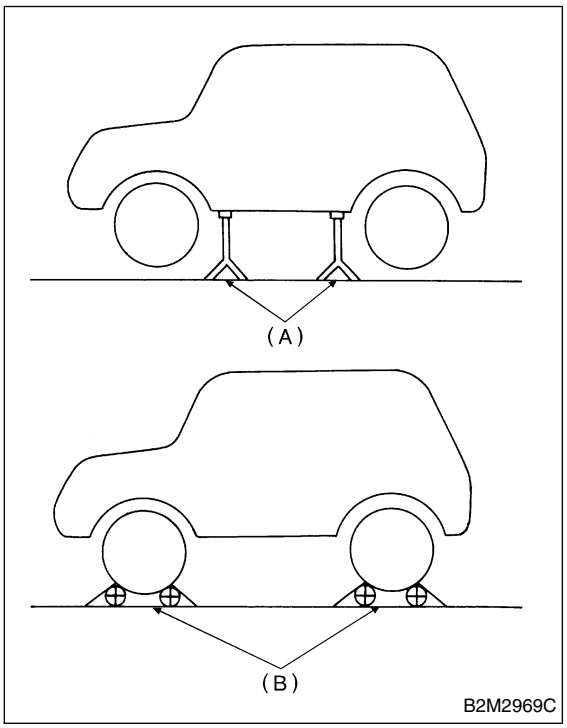
DTC No.	Item
P0732	Gear 2 incorrect ratio
P0733	Gear 3 incorrect ratio
P0734	Gear 4 incorrect ratio
P0741	Torque converter clutch system malfunction
P0743	Torque converter clutch system (Lock-up duty solenoid) electrical
P0748	Pressure control solenoid (Line pressure duty solenoid) electrical
P0753	Shift solenoid A (Shift solenoid 1) electrical
P0758	Shift solenoid B (Shift solenoid 2) electrical
P0778	2-4 brake pressure control solenoid valve circuit malfunction
P0785	2-4 brake timing control solenoid valve circuit malfunction
P0851	Neutral position switch circuit low input
P0852	Neutral position switch circuit high input
P0864	Automatic transmission diagnosis input signal circuit malfunction
P0865	Automatic transmission diagnosis input signal circuit low input
P0866	Automatic transmission diagnosis input signal circuit high input
P1110	Atmospheric pressure sensor low input
P1111	Atmospheric pressure sensor high input
P1112	Atmospheric pressure sensor range/performance problem
P1146	Pressure sensor circuit range/performance problem (high input)
P1400	Fuel tank pressure control solenoid valve circuit low input
P1420	Fuel tank pressure control solenoid valve circuit high input
P1446	Evaporatie emission control system atmospheric pressure solenoid valve circuit low input
P1447	Evaporatie emission control system atmospheric pressure solenoid valve circuit high input
P1507	Idle control system malfunction (fail-safe)
P1510	Idle air control solenoid valve signal 1 circuit low input
P1511	Idle air control solenoid valve signal 1 circuit high input
P1512	Idle air control solenoid valve signal 2 circuit low input
P1513	Idle air control solenoid valve signal 2 circuit high input
P1514	Idle air control solenoid valve signal 3 circuit low input
P1515	Idle air control solenoid valve signal 3 circuit high input
P1516	Idle air control solenoid valve signal 4 circuit low input
P1517	Idle air control solenoid valve signal 4 circuit high input
P1518	Starter switch circuit low input
P1540	Vehicle speed sensor malfunction 2
P1560	Back-up voltage circuit malfunction
P1698	Engine torque control cut signal circuit low input
P1699	Engine torque control cut signal circuit high input
P1700	Throttle position sensor circuit malfunction for automatic transmission
P1701	Cruise control set signal circuit malfunction for automatic transmission
P1703	Low clutch timing control solenoid valve circuit malfunction
P1711	Engine torque control signal 1 circuit malfunction
P1712	Engine torque control signal 2 circuit malfunction

1. PREPARATION FOR THE INSPECTION MODE *S078510A1601*

1) Make sure that fuel remains approx. half amount [20 to 40 ℓ (5.3 — 10.6 US gal, 4.4 — 8.8 Imp gal)], and battery voltage is 12V or more.
2) Raise the vehicle using a garage jack and place on safety stands or drive the vehicle onto free rollers.

WARNING:
• Before raising the vehicle, ensure parking brakes are applied.
• Do not use a pantograph jack in place of a safety stand.
• Secure a rope or wire to the front and rear towing or tie-down hooks to prevent the lateral runout of front wheels.

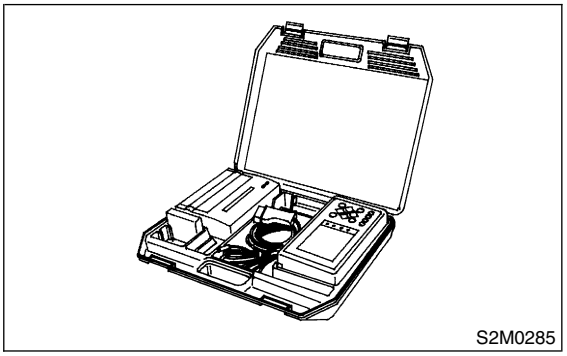
● Do not abruptly depress/release clutch pedal or accelerator pedal during works even when engine is operating at low speeds since this may cause vehicle to jump off free rollers.
● In order to prevent the vehicle from slipping due to vibration, do not place any wooden blocks or similar items between the safety stands and the vehicle.
● Since the rear wheels will also rotate, do not place anything near them. Also, make sure that nobody goes in front of the vehicle.



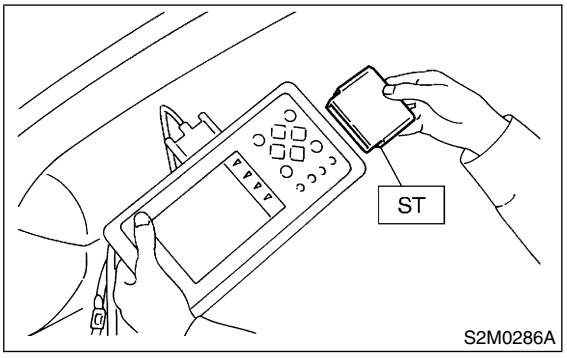
(A) Safety stand
(B) Free rollers

2. SUBARU SELECT MONITOR S078510A1602

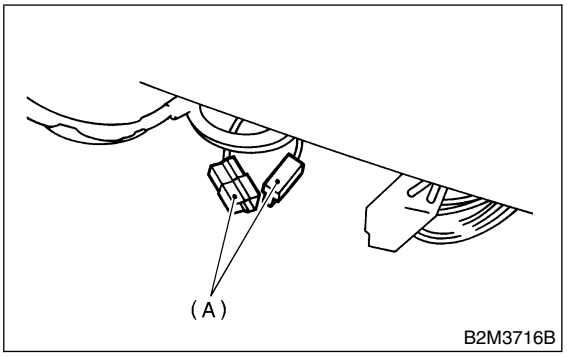
1) After performing diagnostics and clearing the memory, check for any remaining unresolved trouble data. <Ref. to EN-55, Clear Memory Mode.>
2) Warm up engine.
3) Prepare Subaru Select Monitor kit. <Ref. to EN-8, PREPARATION TOOL, General Description.>



4) Connect diagnosis cable to Subaru Select Monitor.
5) Insert cartridge into Subaru Select Monitor. <Ref. to EN-8, PREPARATION TOOL, General Description.>

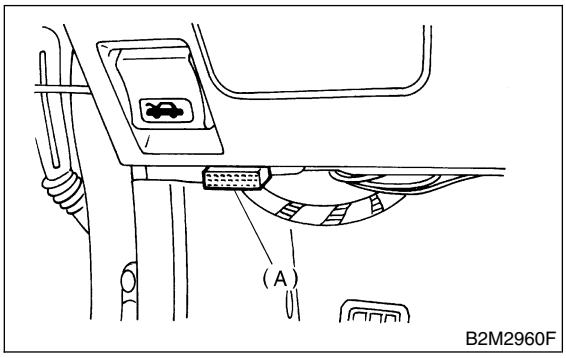


6) Connect test mode connector (A) at the lower portion of instrument panel (on the driver's side), to the side of the center console box.



7) Connect Subaru Select Monitor to data link connector.

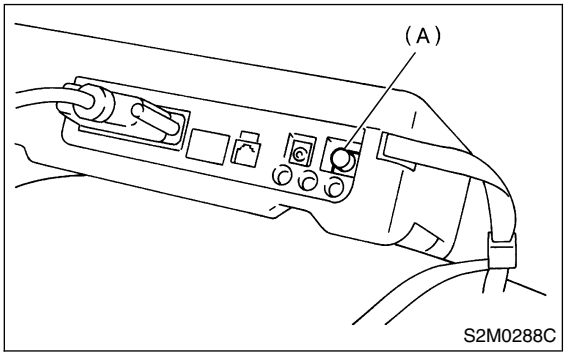
(1) Connect Subaru Select Monitor to data link connector (A) located in the lower portion of the instrument panel (on the driver's side).



(2) Connect diagnosis cable to data link connector.

CAUTION:
Do not connect scan tools except for Subaru Select Monitor and OBD-II general scan tool.

8) Turn ignition switch to ON (engine OFF) and Subaru Select Monitor switch to ON.



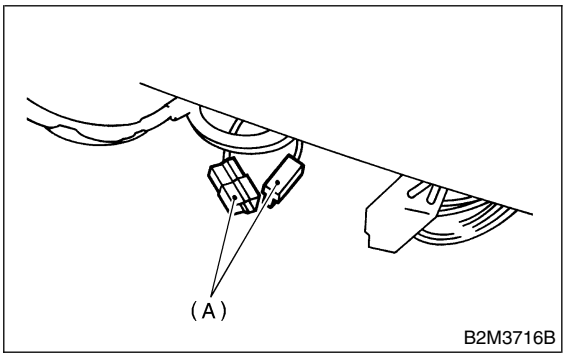
(A) Power switch

9) On the ≪Main Menu≫ display screen, select the {2. Each System Check} and press the [YES] key.
10) On the ≪System Selection Menu≫ display screen, select the {Engine Control System} and press the [YES] key.
11) Press the [YES] key after displayed the information of engine type.
12) On the ≪Engine Diagnosis≫ display screen, select the {Dealer Check Mode Procedure} and press the [YES] key.
13) When the "Perform Inspection (Dealer Check) Mode?" is shown on the display screen, press the [YES] key.
14) Perform subsequent procedures as instructed on the display screen.
● If trouble still remains in the memory, the corresponding diagnostic trouble code (DTC) appears on the display screen.

NOTE:
● For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
● For detailed concerning diagnostic trouble codes, refer to the List of Diagnostic Trouble Code (DTC).
<Ref. to EN-88, List of Diagnostic Trouble Code (DTC).>
● Release the parking brake.
● The speed difference between front and rear wheels may light either the ABS warning light, but this indicates no malfunctions. When engine control diagnosis is finished, perform the ABS memory clearance procedure of self-diagnosis system.

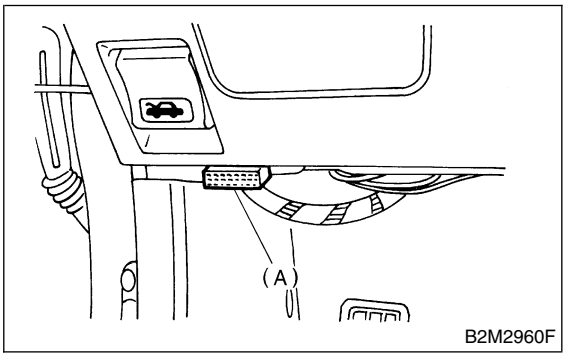
3. OBD-II GENERAL SCAN TOOL *S078510A1603*

1) After performing diagnostics and clearing the memory, check for any remaining unresolved trouble data: <Ref. to EN-55, Clear Memory Mode.>
2) Warm up engine.
3) Connect test mode connector (A) at the lower side of the instrument panel (on the driver's side), to the side of the center console box.



4) Connect the OBD-II general scan tool to its data link connector (A) in the lower portion of the instrument panel (on the driver's side).

CAUTION:
Do not connect the scan tools except for Subaru Select Monitor and OBD-II general scan tool.



5) Start the engine.

NOTE:
● Ensure the selector lever is placed in the “P” position before starting. (AT vehicles)
● Depress clutch pedal when starting the engine. (MT vehicles)

6) Using the selector lever or shift lever, turn the “P” position switch and the “N” position switch to ON.
7) Depress the brake pedal to turn the brake switch ON. (AT vehicles)
8) Keep engine speed in the 2,500 — 3,000 rpm range for 40 seconds.
9) Place the selector lever or shift lever in the “D” position (AT vehicles) or “1st” gear (MT vehicles) and drive the vehicle at 5 to 10 km/h (3 to 6 MPH).

NOTE:
● On AWD vehicles, release the parking brake.
● The speed difference between front and rear wheels may light the ABS warning light, but this indicates no malfunctions. When engine control diagnosis is finished, perform the ABS memory clearance procedure of self-diagnosis system.

10) Using the OBD-II general scan tool, check for diagnostic trouble code(s) and record the result(s).

NOTE:
● For detailed operation procedures, refer to the OBD-II General Scan Tool Instruction Manual.
● For detailed concerning diagnostic trouble codes, refer to the List of Diagnostic Trouble Code (DTC).
<Ref. to EN-88, List of Diagnostic Trouble Code (DTC).>