

11. Inspection Mode

A: PROCEDURE

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(H4DOTC)(diag)-40, Drive Cycle.>

DTC	Item	Condition
P0011	Intake Camshaft Position Timing - Over-Advanced (Bank 1)	—
P0021	Intake Camshaft Position Timing - Over-Advanced (Bank 2)	—
P0031	HO2S Heater Control Circuit Low (Bank 1 Sensor 1)	—
P0032	HO2S Heater Control Circuit High (Bank 1 Sensor 1)	—
P0037	HO2S Heater Control Circuit Low (Bank 1 Sensor 2)	—
P0038	HO2S Heater Control Circuit High (Bank 1 Sensor 2)	—
P0102	Mass or Volume Air Flow Circuit Low Input	—
P0103	Mass or Volume Air Flow Circuit High Input	—
P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low Input	—
P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High Input	—
P0112	Intake Air Temperature Circuit Low Input	—
P0113	Intake Air Temperature Circuit High Input	—
P0117	Engine Coolant Temperature Circuit Low Input	—
P0118	Engine Coolant Temperature Circuit High Input	—
P0122	Throttle/Pedal Position Sensor/Switch "A" Circuit Low Input	—
P0123	Throttle/Pedal Position Sensor/Switch "A" Circuit High Input	—
P0131	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1)	—
P0132	O2 Sensor Circuit High Voltage (Bank 1 Sensor 1)	—
P0137	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2)	—
P0138	O2 Sensor Circuit High Voltage (Bank 1 Sensor 2)	—
P0171	Fuel system 1 (Lean)	—
P0172	Fuel system 2 (Rich)	—
P0181	Fuel Temperature Sensor A Performance Problem	—
P0182	Fuel Temperature Sensor "A" Circuit Low Input	—
P0183	Fuel Temperature Sensor "A" Circuit High Input	—
P0222	Throttle/Pedal Position Sensor/Switch "B" Circuit Low Input	—
P0223	Throttle/Pedal Position Sensor/Switch "B" Circuit High Input	—
P0230	Fuel Pump Primary Circuit	—
P0245	Turbo/Super Charger Wastegate Solenoid "A" Low	—
P0301	Cylinder 1 Misfire Detected	—
P0302	Cylinder 2 Misfire Detected	—
P0303	Cylinder 3 Misfire Detected	—
P0304	Cylinder 4 Misfire Detected	—
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor)	—
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)	—
P0335	Crankshaft Position Sensor "A" Circuit	—
P0336	Crankshaft Position Sensor "A" Circuit Range/Performance	—
P0340	Camshaft Position Sensor "A" Circuit (Bank 1 or Single Sensor)	—
P0345	Camshaft Position Sensor "A" Circuit (Bank 2)	—
P0447	Evaporative Emission Control System Vent Control Circuit Open	—
P0448	Evaporative Emission Control System Vent Control Circuit Shorted	—
P0452	Evaporative Emission Control System Pressure Sensor Low Input	—
P0453	Evaporative Emission Control System Pressure Sensor High Input	—
P0458	Evaporative Emission Control System Purge Control Valve Circuit Low	—
P0461	Fuel Level Sensor Property	—

Inspection Mode

ENGINE (DIAGNOSTICS)

DTC	Item	Condition
P0462	Fuel Level Sensor Circuit Low Input	—
P0463	Fuel Level Sensor Circuit High Input	—
P0500	Vehicle Speed Sensor	—
P0513	Incorrect Immobilizer Key	—
P0512	Starter Request Circuit	—
P0519	Idle Control System Malfunction (Fail-Safe)	—
P0545	Exhaust Gas Temperature Sensor Circuit Low-Bank 1	—
P0600	Serial Communication Link	—
P0604	Internal Control Module Random Access Memory (RAM) Error	—
P0605	Internal Control Module Read Only Memory (ROM) Error	—
P0607	Control Module Performance	—
P0638	Throttle Actuator Control Range/Performance (Bank 1)	—
P0691	Cooling Fan 1 Control Circuit Low	—
P0700	Transmission Control System (MIL Request)	—
P0851	Neutral Switch Input Circuit Low	—
P0852	Neutral Switch Input Circuit High	—
P1152	O2 Sensor Circuit Range/Performance (Low) (Bank1 Sensor1)	—
P1153	O2 Sensor Circuit Range/Performance (High) (Bank1 Sensor1)	—
P1160	Return Spring Failure	—
P1301	Misfire Detected (High Temperature Exhaust)	—
P1400	Fuel Tank Pressure Control Solenoid Valve Circuit Low	—
P1420	Fuel Tank Pressure Control Sol. Valve Circuit High	—
P1446	Fuel Tank Sensor Control Valve Circuit Low	—
P1447	Fuel Tank Sensor Control Valve Circuit High	—
P1491	Positive Crankcase Ventilation (Blow-by) Function Problem	—
P1518	Starter Switch Circuit Low Input	—
P1544	Exhaust Gas Temperature Too High	—
P1560	Back-up Voltage Circuit Malfunction	—
P1570	Antenna	—
P1571	Reference Code Incompatibility	—
P1572	IMM Circuit Failure (Except Antenna Circuit)	—
P1574	Key Communication Failure	—
P1576	EGI Control Module EEPROM	—
P1577	IMM Control Module EEPROM	—
P1578	Meter Failure	—
P2006	Intake Manifold Runner Control Stuck Closed (Bank 1)	—
P2007	Intake Manifold Runner Control Stuck Closed (Bank 2)	—
P2008	Intake Manifold Runner Control Circuit / Open (Bank 1)	—
P2009	Intake Manifold Runner Control Circuit Low (Bank 1)	—
P2011	Intake Manifold Runner Control Circuit / Open (Bank 2)	—
P2012	Intake Manifold Runner Control Circuit Low (Bank 2)	—
P2016	Intake Manifold Runner Position Sensor/Switch Circuit Low (Bank 1)	—
P2017	Intake Manifold Runner Position Sensor/Switch Circuit High (Bank 1)	—
P2021	Intake Manifold Runner Position Sensor/Switch Circuit Low (Bank 2)	—
P2022	Intake Manifold Runner Position Sensor/Switch Circuit High (Bank 2)	—
P2088	OCV Solenoid Valve Signal A Circuit Open (Bank 1)	—
P2089	OCV Solenoid Valve Signal A Circuit Short (Bank 1)	—
P2092	OCV Solenoid Valve Signal A Circuit Open (Bank 2)	—
P2093	OCV Solenoid Valve Signal A Circuit Short (Bank 2)	—
P2101	Throttle Actuator Control Motor Circuit Range/Performance	—

DTC	Item	Condition
P2102	Throttle Actuator Control Motor Circuit Low	—
P2103	Throttle Actuator Control Motor Circuit High	—
P2109	Throttle/Pedal Position Sensor A Minimum Stop Performance	—
P2122	Throttle/Pedal Position Sensor/Switch “D” Circuit Low Input	—
P2123	Throttle/Pedal Position Sensor/Switch “D” Circuit High Input	—
P2127	Throttle/Pedal Position Sensor/Switch “E” Circuit Low Input	—
P2128	Throttle/Pedal Position Sensor/Switch “E” Circuit High Input	—
P2135	Throttle/Pedal Position Sensor/Switch “A” / “B” Voltage Rationality	—
P2138	Throttle/Pedal Position Sensor/Switch “D” / “E” Voltage Rationality	—
P2227	Barometric Pressure Circuit Range/Performance	—
P2228	Barometric Pressure Circuit Low Input	—
P2229	Barometric Pressure Circuit High Input	—

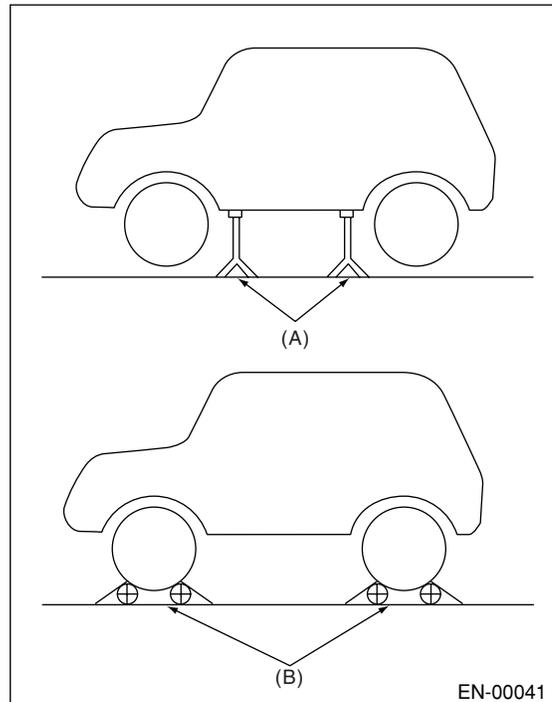
1. PREPARATION FOR THE INSPECTION MODE

- 1) Make sure that the fuel remains approx. half amount [20 — 40 ℓ (5.3 — 10.6 US gal, 4.4 — 8.8 Imp gal)] and the battery voltage is 12 V 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 the parking brake is 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 the 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

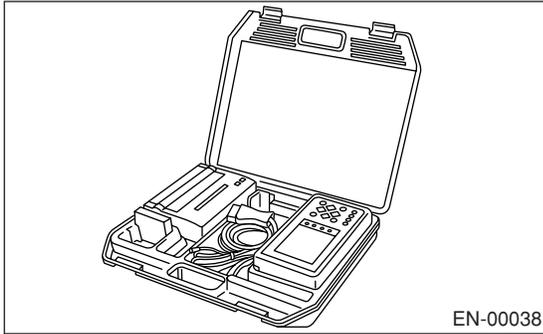
2. SUBARU SELECT MONITOR

- 1) After clearing the memory, check for any remaining trouble data unresolved. <Ref. to EN(H4DOTC)(diag)-43, Clear Memory Mode.>
- 2) Warm up the engine.

Inspection Mode

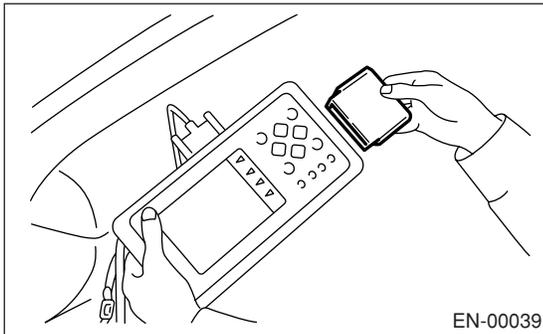
ENGINE (DIAGNOSTICS)

3) Prepare the Subaru Select Monitor kit. <Ref. to EN(H4DOTC)(diag)-7, PREPARATION TOOL, General Description.>

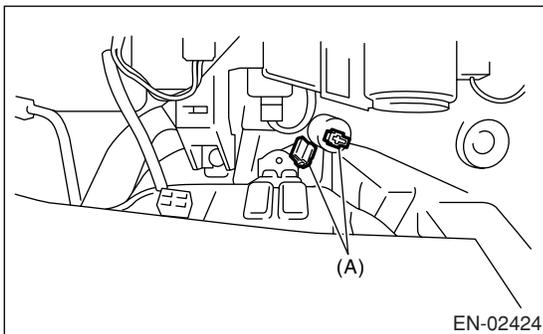


4) Connect the diagnosis cable to Subaru Select Monitor.

5) Insert the cartridge into Subaru Select Monitor. <Ref. to EN(H4DOTC)(diag)-7, PREPARATION TOOL, General Description.>

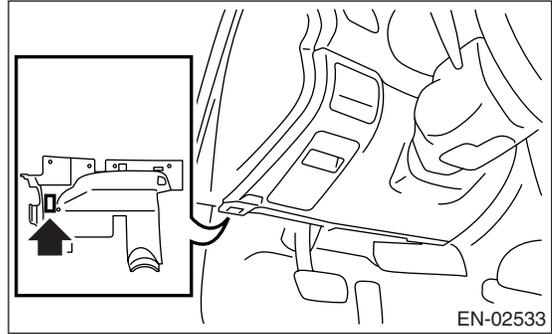


6) Connect the test mode connector (A) at the lower portion of glove box.



(A) Test mode connector

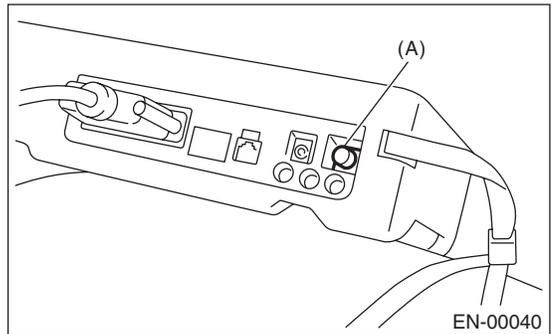
7) Connect the Subaru Select Monitor to data link connector located in the lower portion of the instrument panel (on the driver's side).



CAUTION:

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

8) Turn the 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 the information of engine type is displayed.

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 DTC appears on the display screen.

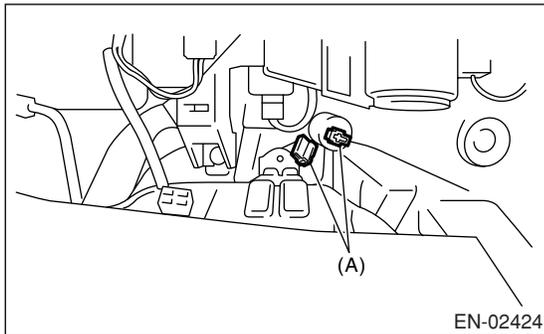
NOTE:

- For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.

- For detailed concerning the DTC, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to EN(H4DOTC)(diag)-69, 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 the engine control diagnosis is finished, perform the ABS memory clearance procedure of self-diagnosis function. <Ref. to ABS(diag)-25, Clear Memory Mode.>

3. OBD-II GENERAL SCAN TOOL

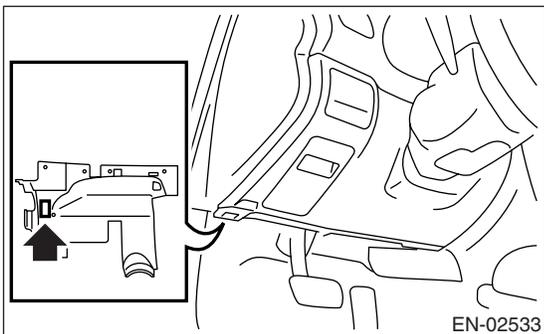
- 1) After clearing the memory, check for any remaining trouble data unresolved. <Ref. to EN(H4DOTC)(diag)-43, Clear Memory Mode.>
- 2) Warm up the engine.
- 3) Connect the test mode connector (A) at the lower side of glove box.



- 4) Connect the OBD-II general scan tool to its data link connector in the lower portion of 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 “P” position before starting. (AT model)
- Depress the clutch pedal when starting engine. (MT model)

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

NOTE:

- On AWD model, release the parking brake.
 - The speed difference between front and rear wheels may light ABS warning light, but this indicates no malfunctions. When the engine control diagnosis is finished, perform the ABS memory clearance procedure of self-diagnosis function. <Ref. to ABS(diag)-25, Clear Memory Mode.>
- 10) Using the OBD-II general scan tool, check for DTC and record the result(s).

NOTE:

- For detailed operation procedures, refer to the OBD-II general scan tool instruction manual.
- For detailed concerning DTC, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to EN(H4DOTC)(diag)-69, List of Diagnostic Trouble Code (DTC).>