13. Drive Cycle S078812

A: OPERATION S078812A16

There are 3 drive patterns for trouble diagnosis. Driving in the specified pattern allows to diagnose the malfunctioning items listed below. After the malfunctioning items listed below are repaired, always check whether they correctly resume their functions by driving in the required drive pattern.

1. PREPARATION FOR THE DRIVE CYCLE S078812A1601

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) After performing diagnostics and cleaning the memory, check for any remaining unresolved trouble data. <Ref. to EN-55, Clear Memory Mode.>
3) Separate test mode connector.

NOTE:
- Except for water temperature specified items at starting, diagnosis is carried out after engine warm up.
- Carry out diagnosis which is marked * on DTC twice, Then, after finishing 1st diagnosis, stop engine and do the second time at the same condition.

2. AFTER RUNNING 20 MINUTES AT 80 KM/H (50 MPH), IDLE ENGINE FOR 1 MINUTE.

S078812A1602

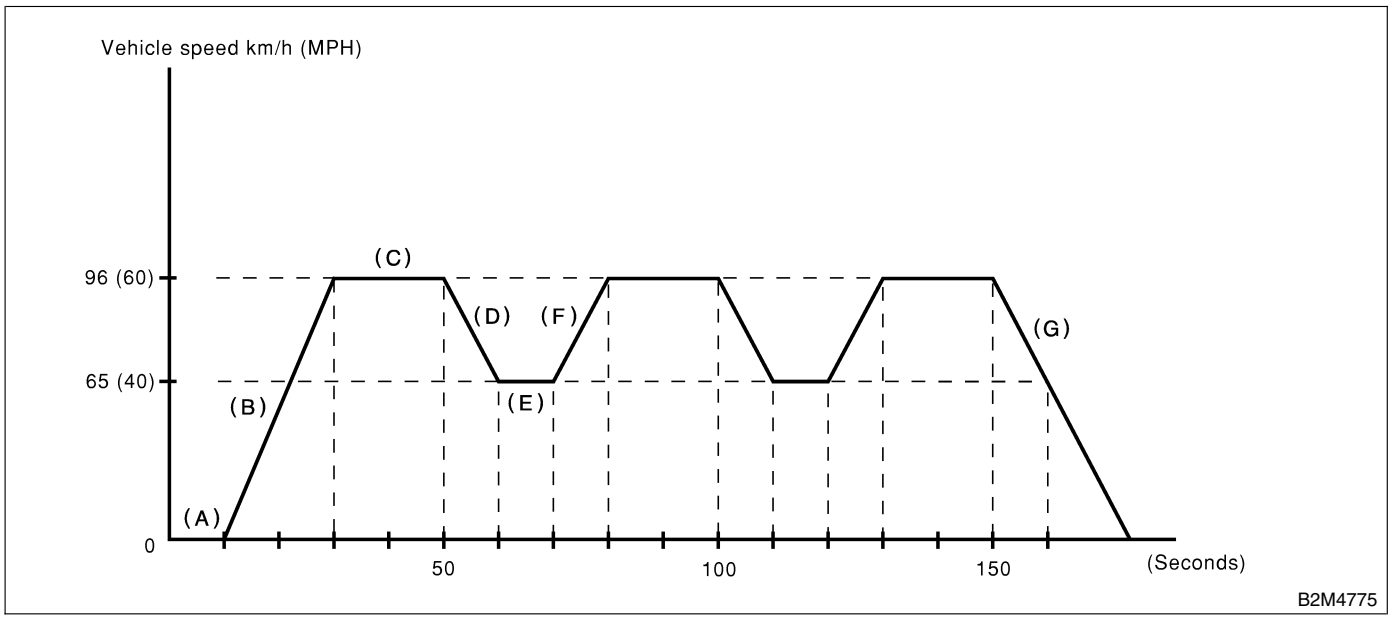
DTC No.	Item	Condition
*P0111	Intake air temperature sensor circuit range/ performance problem	Coolant temperature at start is less than 30°C (86°F).
*P0125	Insufficient coolant temperature for closed loop fuel control	Coolant temperature at start is less than 20°C (68°F).
*P0128	Thermostat malfunction	Coolant temperature at start is less than 55°C (131°F).
*P0130	Front oxygen (A/F) sensor circuit range/ performance problem (Lean)	—
*P0133	Front oxygen (A/F) sensor circuit slow response	—
*P0181	Fuel temperature sensor A circuit range/ performance problem	—
*P0420	Catalyst system efficiency below threshold	—
*P0442	Evaporative emission control system malfunction	—
*P0451	Evaporative emission control system pressure sensor range/performance problem	—
P0453	Evaporative emission control system pressure sensor high input	—
*P0456	Evaporative emission control system malfunction	—
*P0457	Evaporative emission control system malfunction	—
P0459	Evaporative emission control system purge control valve circuit high input	—
*P0464	Fuel level sensor intermittent input	—
*P1137	Front oxygen (A/F) sensor circuit range/ performance problem	—
*P1442	Fuel level sensor circuit range/performance problem 2	—
P1443	Evaporative emission control system vent control function problem	—
*P1448	Atmospheric pressure solenoid valve circuit range/performance problem	—

3. IDLE FOR 10 MINUTES S078812A1603

NOTE:
Before diagnosis, drive vehicle at 4 km/h (6 MPH) or more.

DTC No.	Item	Condition
*P0483	Cooling fan function problem	—
*P0506	Idle control system RPM lower than expected	—
*P0507	Idle control system RPM higher than expected	—

4. DRIVE ACCORDING TO THE FOLLOWING DRIVE PATTERN S078812A1604



(A) Idle engine for 1 minute.
(B) Accelerate to 97 km/h (60 MPH) within 20 seconds.
(C) Drive vehicle at 97 km/h (60 MPH) for 20 seconds.
(D) Decelerate with fully closed throttle to 64 km/h (40 MPH).
(E) Drive vehicle at 64 km/h (40 MPH) for 10 seconds.
(F) Accelerate to 97 km/h (60 MPH) within 10 seconds.
(G) Stop vehicle with throttle fully closed.

DTC No.	Item	Condition
*P0065	Air assist injector solenoid valve malfunction	—
*P0121	Throttle position sensor circuit range/performance problem (high input)	—
*P0139	Rear oxygen sensor circuit slow response	—
*P0171	Fuel trim malfunction (Lean)	—
*P0172	Fuel trim malfunction (Rich)	—
*P0301	Cylinder 1 misfire detected	—
*P0302	Cylinder 2 misfire detected	—
*P0303	Cylinder 3 misfire detected	—
*P0304	Cylinder 4 misfire detected	—
*P1142	Throttle position sensor circuit range/performance problem (low input)	—