

Inspection/Maintenance Complete System Set Procedure

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Diagnostic Instructions

- Perform the [Diagnostic System Check - Vehicle](#) prior to using this diagnostic procedure.
- Review [Strategy Based Diagnosis](#) for an overview of the diagnostic approach.
- [Diagnostic Procedure Instructions](#) provides an overview of each diagnostic category.

Description

The purpose of the Inspection/Maintenance (I/M) Complete System Set Procedure is to satisfy the enable criteria necessary to execute all of the I/M readiness diagnostics and complete the drive cycles for those particular diagnostics. When all I/M monitored diagnostic tests are completed, the I/M System Status indicators are set to YES. Perform the I/M Complete System Set Procedure if any I/M System Status indicators are set to NO.

Conditions for Meeting a Cold Start

- The ignition voltage between 11–18 volts.
- The barometric pressure (BARO) is more than 75 kPa.
- The start-up engine coolant temperature (ECT) is between 4–30°C (39–86°F).
- The start-up intake air temperature (IAT) is between 4–30°C (39–86°F).
- The difference between the IAT and the ECT is less than or equal to 6°C (10.8°F).
- The ambient air temperature is between 4–30°C (39–86°F).
- The fuel level is between 15–85 percent.

Circuit/System Verification

1. Verify that all I/M System Status indicators report YES, and that no I/M Test DTCs are present.
 - **If any I/M Test DTCs are set**
Refer to [Diagnostic Trouble Code \(DTC\) List - Vehicle](#).
 - **If no I/M Test DTCs are set**
2. All OK.

Inspection/Maintenance (I/M) System Set Procedure

1. NOTE

Note

Whenever the ignition is turned ON, ignition positive voltage is supplied to the heated oxygen sensor (HO2S) heaters. After verifying the enable criteria, turn OFF the ignition for approximately 5 minutes to allow the sensors to cool before continuing with the test. Once the engine is started, do NOT turn the engine OFF for the remaining portion of the set procedure.

Ensure that the vehicle meets the conditions for a cold start listed above.

2. The evaporative emission (EVAP) I/M System Status indicator should display YES.
 - If the EVAP I/M System Status indicator displays NO, perform the EVAP Service Bay Test, if applicable. If the EVAP Service Bay Test is NOT available, it may take up to 6 drive cycles, with up to 17 hours between drive cycles, for the EVAP I/M System Status indicator to transition to YES.
3. The O2S Heater I/M System Status indicator should display YES.
 - If the O2S Heater I/M System Status indicator displays NO, ensure that the ignition has been turned OFF for at least 10 hours.
4. Turn OFF all accessories; HVAC system, other electrical loads, including aftermarket/add-on equipment, etc.
5. Set the vehicle parking brake and ensure the vehicle is in Park for automatic transmission or Neutral for manual transmission.
6. Turn OFF all accessories; HVAC system, other electrical loads, including aftermarket/add-on equipment, etc.

7. Start and idle the engine for at least 2 minutes and until 65°C (149°F) is achieved.
8. Run the engine for 6.5 minutes within the following conditions:
 - MAF parameter between 4–30 g/s
 - Engine speed steady between 1,000–3,000 RPM
9. Return the engine to idle for 1 minute.
10. Apply and hold the brake pedal, and shift to Drive for automatic transmission, or apply the clutch pedal for manual transmission and operate the vehicle within the following conditions for 2 minutes:
 - Depress the accelerator pedal until throttle position (TP) sensor angle is more than 2 percent.
 - Mass air flow (MAF) signal between 15–30 g/s
 - RPM steady between 1,200–2,000 RPM

11. **NOTE**

Note

DO NOT touch the accelerator pedal during the idle period. A change in TP sensor angle or an increase in engine speed may invalidate this portion of the test.

Release the accelerator pedal and shift the vehicle to Park for automatic transmission, or Neutral and release the clutch pedal for manual transmission, and allow the engine to idle for 2 minutes.

12. Quickly depress the accelerator pedal until TP sensor angle is more than 8 percent and return to idle, repeat 3 times.
13. Allow engine to idle for at least 2 minutes.

14. **WARNING**

Warning

Refer to [Road Test Warning](#).

Release the parking brake and drive vehicle at 24 km/h (15 mph) or slower for 2 minutes.

15. Continue to drive the vehicle for at least 5.5 miles between 45–112 km/h (28–70 mph) with the vehicle reaching at least 80 km/h (50 mph).

16. Release the accelerator pedal for at least 2 seconds. This will allow the vehicle to enter decel fuel cut-off.
17. Depress the accelerator pedal until the TP sensor angle is increased 3–20 percent and maintain a safe speed for 1 minute.
18. Safely stop the vehicle, with the engine in Drive for automatic transmission or in Neutral with the clutch pedal depressed and parking brake applied for manual transmission, idle for 2 minutes.
19. Shift to Park for automatic and apply the parking brake, or neutral and release clutch pedal for manual.

20. **NOTE**

Note

Do NOT disturb the vehicle or turn ON the ignition until told to do so. Disturbing the vehicle may invalidate this portion of the test.

Turn OFF the ignition and exit the vehicle. Do NOT disturb the vehicle for 60 minutes.

21. Observe the Inspection/Maintenance (I/M) System Status with a scan tool. All of the I/M System Status indicators should display YES.
 - If the EVAP I/M System Status indicator displays NO, turn OFF the ignition for 17 hours, ensure that the vehicle meets the conditions for a cold start, and repeat steps 12–18 six more times, or until the EVAP I/M System Status indicator transitions to YES. If the indicator continues to display NO, refer to the [Inspection/Maintenance \(I/M\) System DTC Table](#) to identify the DTCs that did not run. Follow the Conditions for Running the DTC in order to set the EVAP I/M System Status indicator
 - If any of the I/M System Status indicators display NO, refer to the [Inspection/Maintenance \(I/M\) System DTC Table](#) for the indicator which did not display YES. The I/M System DTC Table identifies the DTCs associated with each I/M System Status Indicator. Follow the Conditions for Running the DTC in order to set the associated status indicator.
22. Observe the engine DTC information with a scan tool. Verify no DTCs are present.
 - If a DTC is set, diagnose using the [Diagnostic Trouble Code \(DTC\) List - Vehicle](#). After repairs, perform the [Inspection/Maintenance Complete System Set Procedure](#) to verify no further DTCs are set.