

Engine Tune-up Preparation**Note**

- If the accelerator pedal is depressed continuously for a specified time, the engine speed may decrease to the idle speed. This is due to the fuel cut control operation, which prevents overheating, and it does not indicate a malfunction. The engine speed returns to normal control when the accelerator pedal is released.

1. Connect the M-MDS to the DLC-2.
2. Shift the selector lever (ATX) or shift lever (MTX) to the following position:
 - MTX: Shift lever is in neutral position.
 - ATX: Selector lever is in P or N position.

Note

- The engine coolant temperature and oil temperature can be verified by M-MDS PID "ECT" and "OIL_TEMP".

3. Run the engine speed at a constant **2,500 to 3,000 rpm** and warm up the engine (engine coolant temperature: **80 °C {176 °F}** or more, oil temperature: **60 °C {140 °F}** or more).
4. Turn off all electrical loads with the engine idling.
5. If the cooling fan is operating, wait until it stops.

Idle Speed Inspection**Note**

- The idle speed cannot be adjusted.
- The M-MDS is required to verify the idle speed.

1. Complete the engine tune-up preparation. (See Engine Tune-up Preparation.)
2. Verify that the difference between the target idle speed (PID: ARPMDES) and the engine speed (PID: RPM) is within **50 rpm** using the M-MDS data monitor function. (See PCM INSPECTION [SKYACTIV-D 2.2].)
 - If there is a malfunction, refer to "ENGINE SYMPTOM TROUBLESHOOTING". (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-D 2.2].)

**Difference between target idle speed and the engine speed
Within 50 rpm****Target idle speed (reference)****[MTX]**

Normal: 750 rpm
DPF auto regeneration: 775 rpm
Injector learning: 775 rpm

[ATX]

Normal: 800 rpm
DPF auto regeneration: 800 rpm
Injector learning: 775 rpm