READINESS MONITOR DRIVE PATTERN

1. PURPOSE OF READINESS TESTS

- The On-Board Diagnostic (OBD II) system is designed to monitor the performance of emission related components, and indicate any detected abnormalities using DTCs (Diagnostic Trouble Codes). Since various components need to be monitored during different driving conditions, the OBD II system is designed to run separate monitoring programs called Readiness Monitors.
- To view the status, enter the following menus: Powertrain / Engine and ECT / Monitor / Status2.
- When the status of a Readiness Monitor reads Complete, the necessary conditions have been met for running the performance tests for that Readiness Monitor.
- A generic OBD II scan tool can also be used to view the Readiness Monitor status.

HINT:

Many state Inspection and Maintenance (I/M) programs require the status of vehicle Readiness Monitors to show Complete before beginning emission tests.

- The Readiness Monitors will be reset to Incomplete if:

  - The ECM has lost battery power or blown a fuse.
  - DTCs have been cleared.
  - The conditions for running the Readiness Monitor have not been met.

- If a Readiness Monitor status shows Incomplete, follow the appropriate Readiness Monitor Drive Pattern to change the status to Complete.

CAUTION:

Strictly observe posted speed limits, traffic laws, and road conditions when performing these drive patterns.

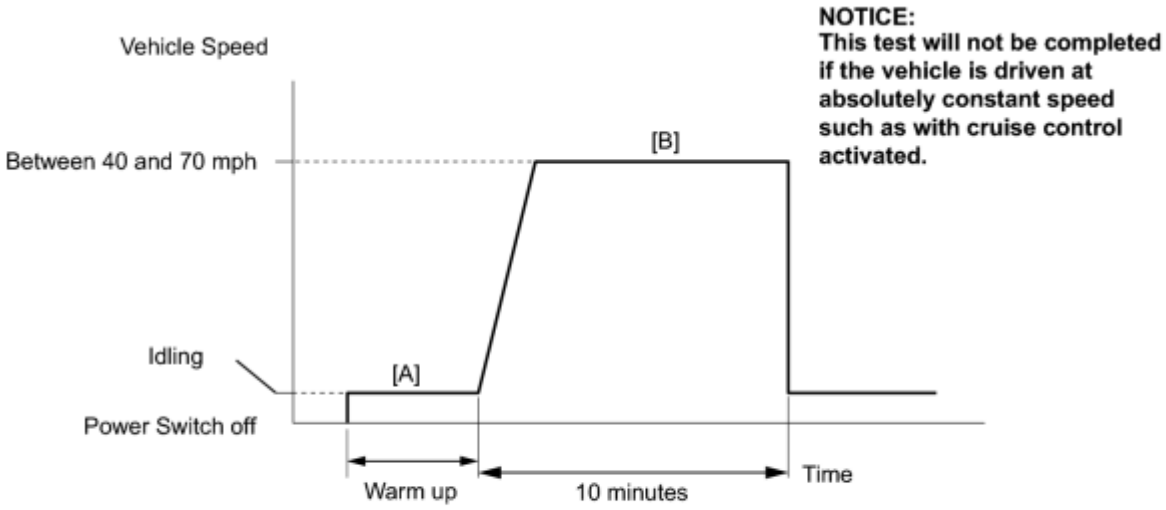
NOTICE:

These drive patterns represent the fastest method of satisfying all conditions necessary to achieve complete status for each specific Readiness Monitor.

In the event of a drive pattern being interrupted (possibly due to factors such as traffic conditions), the drive pattern can be resumed. In most cases, the Readiness Monitor will still achieve complete status upon completion of the drive pattern.

To ensure completion of the Readiness Monitors, avoid sudden changes in vehicle load and speed (driving up and down hills and/or sudden acceleration).

2. CATALYST MONITOR (ACTIVE AIR FUEL RATIO CONTROL TYPE)



(Note: Even when vehicle stops during drive pattern, test can be resumed.)

(a) Preconditions

- The monitor will not run unless:
  - The MIL is OFF.

(b) Drive Pattern

(1) Connect the Techstream to the DLC3.

(2) Turn the power switch on (IG).

(3) Turn the Techstream on.

(4) Clear DTCs (if set) INFO.

(5) Put the engine in inspection mode INFO.

(6) Start the engine and warm it up [A].

(7) Drive the vehicle at between 40 mph and 70 mph (64 km/h and 113 km/h) for at least 10 minutes [B].

(c) Monitor Status

Check the Readiness Monitor status displayed on the Techstream.

If the status does not switch to Complete, extend the driving time.

3. EVAP SYSTEM MONITOR (KEY OFF TYPE)

(a) Preconditions

- The monitor will not run unless:

  - The fuel tank is less than 90% full.
  - The altitude is less than 8000 ft. (2438 m).
  - The vehicle is stationary.
  - The engine coolant temperature is between 4.4°C and 35°C (40°F and 95°F).
  - The intake air temperature is between 4.4°C and 35°C (40°F and 95°F).
  - The vehicle was driven in a city area (or on a free-way) for 10 minutes or more.

(b) Monitor Conditions

(1) Turn the power switch off and wait for 5 to 10 hours.

HINT:

Do not start the engine until checking Readiness Monitor status. If the engine is started, the step described above must be repeated.

(c) Monitor Status

(1) Connect the Techstream to the DLC3.

(2) Turn the power switch on (IG).

(3) Turn the Techstream on.

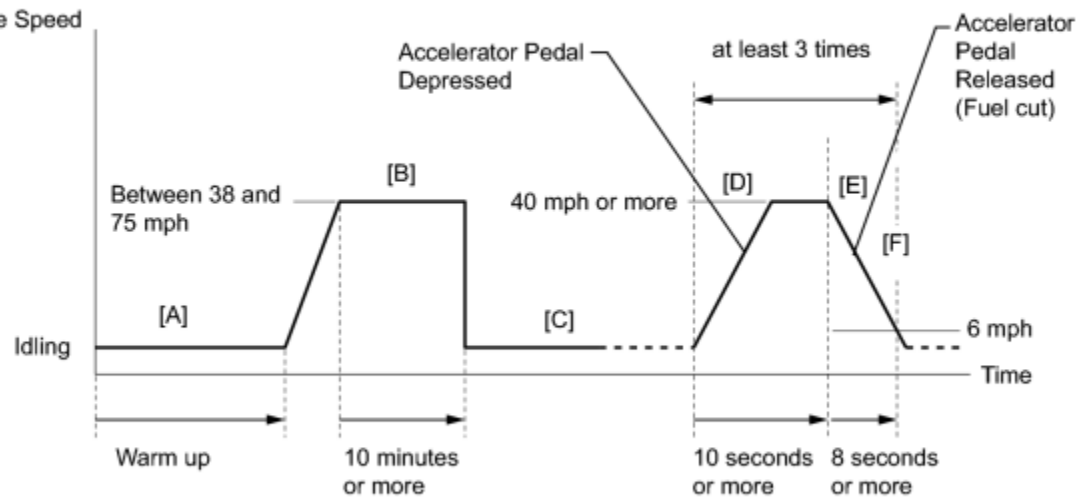
(4) Check the Readiness Monitor status displayed on the Techstream.

- If the status does not switch to Complete, restart the engine, make sure that the preconditions have been met, and then perform the Monitor Conditions again.

4. AIR FUEL RATIO AND HEATED OXYGEN SENSOR MONITORS (ACTIVE AIR FUEL RATIO CONTROL TYPE)

Monitor Drive Pattern

Engine Coolant Temperature: 75°C or more



P

(a) Preconditions

- The monitor will not run unless:
  - 2 minutes or more have elapsed since the engine was started.
  - The engine coolant temperature is 75°C (167°F) or more.
  - Cumulative driving time at a vehicle speed of 30 mph (48 km/h) or more exceeds 6 minutes.
  - Air fuel ratio feedback control is performed.

(b) Drive Pattern for front air fuel ratio sensor and heated oxygen sensor

(1) Connect the Techstream to the DLC3.

(2) Turn the power switch on (IG).

(3) Turn the Techstream on.

(4) Clear DTCs INFO.

(5) Put the engine in inspection mode INFO.

(6) Start the engine and warm it up until the engine coolant temperature reaches 75°C (167°F) [A].

(7) Drive the vehicle at between 38 mph (60 km/h) and 75 mph (120 km/h) for at least 10 minutes [B].

(8) Move the shift lever to B [C].

(9) Accelerate the vehicle to 40 mph (64 km/h) or more by depressing the accelerator pedal for at least 10 seconds [D].

(10) Soon after performing step [D] above, release the accelerator pedal for at least 8 seconds without depressing the brake pedal, in order to execute fuel-cut control [E].

(11) Allow the vehicle to decelerate until the vehicle speed declines to less than 6 mph (10 km/h) [F].

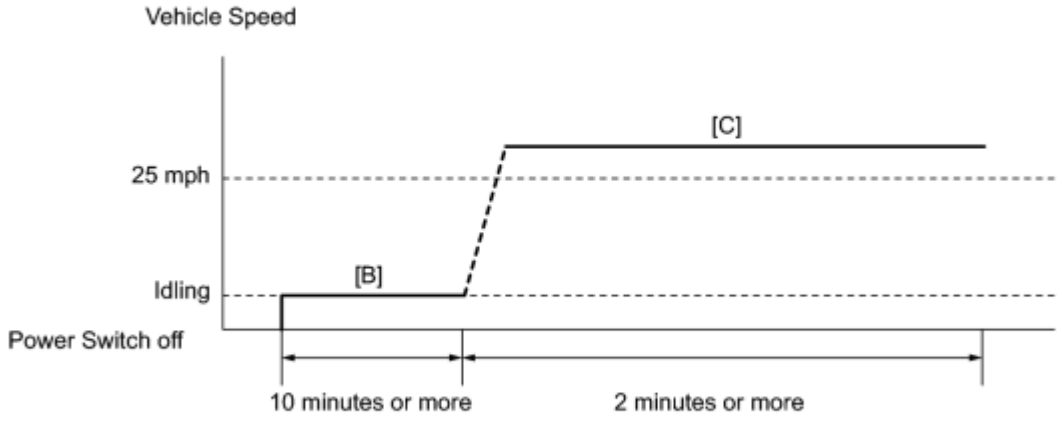
(12) Repeat steps from [D] through [F] above at least 3 times in one driving cycle [G].

(c) Monitor Status

(1) Check the Readiness Monitor status displayed on the Techstream.

(2) If the status does not switch to Complete, make sure that the preconditions have been met, and then perform steps from [A] through [G] in Drive Pattern above.

5. AIR FUEL RATIO AND HEATED OXYGEN SENSOR HEATER MONITORS (FRONT AIR FUEL RATIO AND REAR HEATED OXYGEN SENSOR TYPE)



Y

(a) Preconditions

- The monitor will not run unless:
  - The MIL is OFF.

(b) Drive Pattern

(1) Connect the Techstream to the DLC3.

(2) Turn the power switch on (IG).

(3) Turn the Techstream on.

(4) Clear DTCs (if set) INFO.

(5) Put the engine in inspection mode INFO.

(6) Start the engine [A].

(7) Allow the engine to idle for 10 minutes or more [B].

(8) Drive the vehicle at 25 mph (40 km/h) or more for at least 2 minutes [C].

(c) Monitor Status

(1) Check the Readiness Monitor status displayed on the Techstream.

If the status does not switch to Complete, make sure that the preconditions have been met, and repeat steps [A] to [C] described in the Drive Pattern above.