SFI SYSTEM (2AZ−FE)

10068−06

ON−VEHICLE INSPECTION

1. CHECK THROTTLE BODY

(a) Listen to the throttle control motor operating sounds.
  (1) Turn the ignition switch ON.
  (2) When pressing the accelerator pedal position sensor lever, listen to the running motor. Make sure no friction noise comes from the motor.

If friction noise exists, replace the throttle body.

(b) Check the throttle position sensor.
  (1) Connect the hand−held tester or OBD II scan tool to the DLC3.
  (2) Turn the ignition switch ON.
  (3) Check that the check engine warning light does not light up.
  (4) Under CURRENT DATA, the throttle valve opening percentage (THROTTLE POS) should be within the standard value range below.

  Standard throttle valve opening percentage: 60% or more

If the percentage is less than 60%, replace the throttle body.

NOTICE:

When checking the standard throttle valve opening percentage, the transmission should be in the neutral position.

2. CHECK ACCELERATOR PEDAL POSITION SENSOR

(a) Turn the ignition switch ON. Under CURRENT DATA, the voltage of the throttle position sensor should be within the standard value range below.

  Standard: 0.6 to 1.0 V

If the result is not as specified, replace the accelerator pedal position sensor.

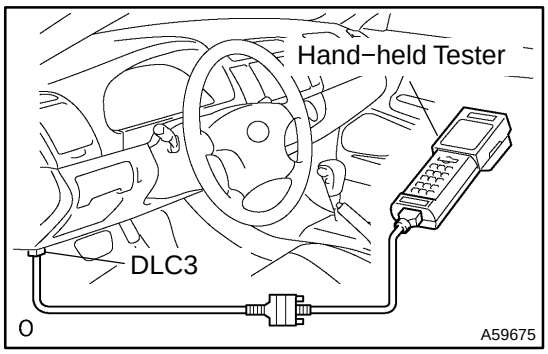
3. CHECK CAMSHAFT TIMING OIL CONTROL VALVE ASSY

(a) Connect the hand−held tester or OBD II scan tool to the DLC3.
(b) Turn the ignition switch ON.
(c) Start the engine and warmed it up.
(d) Select the VVT from the ACTIVE TEST menu.
(e) Check the engine speed when the OCV is operated by the hand−held tester.

  Standard:

Condition	Specified Condition
VVT system is OFF (OCV is OFF)	Normal engine speed
VVT system is ON (OCV is ON)	Rough idle or engine stalled

If the result is not as specified, replace the OCV assy.



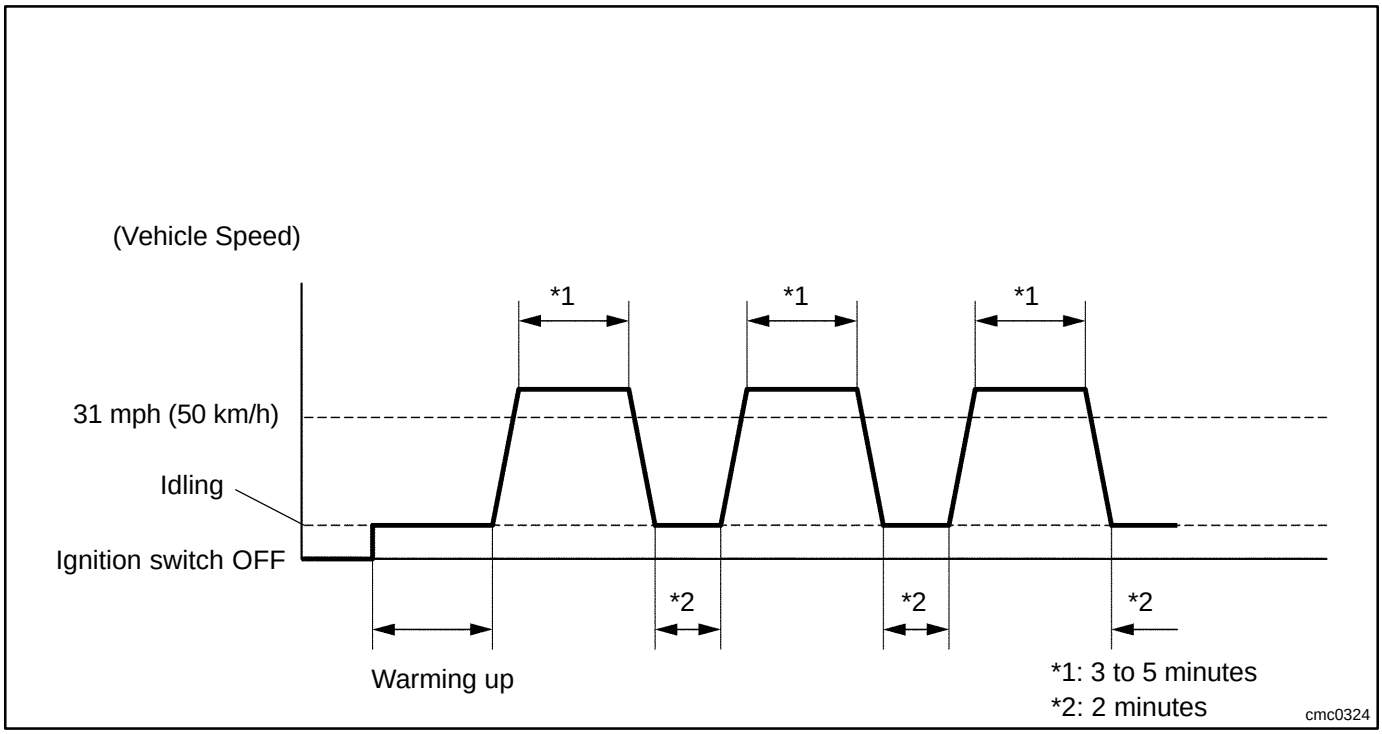
4. CHECK MASS AIR FLOW METER (MAF meter)

NOTICE:

- **Perform the MAF meter inspection by following the procedures below.**
- **Only replace the MAF meter when both the LONG FT#1 value and MAF value in the DATA LIST (with the engine stopped) are not within the normal operating range.**

(a) Perform confirmation driving pattern.

(1) Connect the hand−held tester to the DLC3.
(2) Turn the ignition switch ON.
(3) Turn the tester on.
(4) Clear the DTCs (see page 05−41).
(5) Start the engine and warm it up with all accessory switches off (until the engine coolant temperature is 75°C (167°F) or more).
(6) Drive the vehicle at 31 mph (50 km/h) or more for 3 to 5 minutes. *1
(7) Allow the engine to idle for 2 minutes. *2
(8) Perform steps *1 and *2 at least 3 times.



(b) Read value using the hand−held tester (LONG FT#1).
(1) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / PRIMARY / LONG FT#1.
(2) Read the values displayed on the tester.
Standard value:
Within −15 to +15 %

If the result is not within the specified range, perform the inspection below.

(c) Read value using the hand−held tester (MAF).

NOTICE:

- **Turn off the engine.**
- **Perform the inspection with the vehicle indoors and on a level surface.**
- **Perform the inspection of the MAF meter while it is installed to the air cleaner case (installed to the vehicle).**
- **During the test, do not use the exhaust air duct to perform suction on the exhaust pipe.**

(1) Turn off the engine (do not run the engine).
(2) Turn the ignition switch ON.
(3) Turn the tester on.
(4) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / PRIMARY / PRIMARY / MAF.
(5) Wait 30 seconds, and read the values on the hand−held tester.

Standard condition:
Less than 0.54 g/s

- If the result is not as specified, replace the MAF meter.
- If the result is within the specified range, inspect the cause of the extremely rich or lean air fuel ratio (see page 05−138).