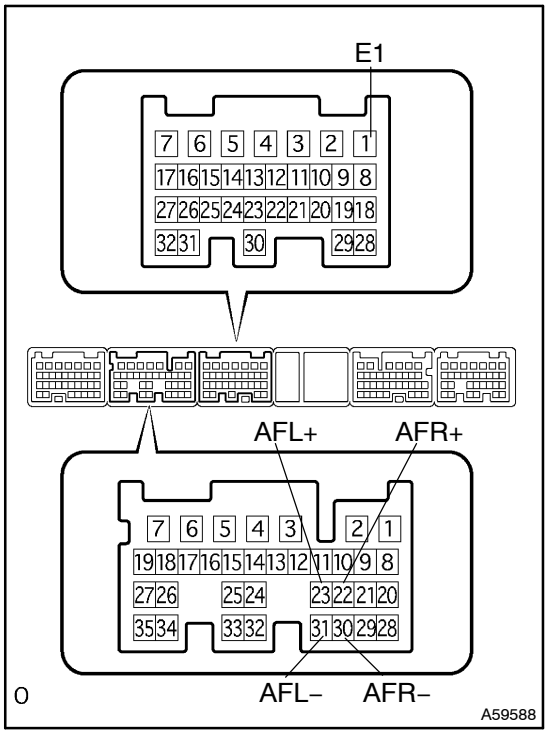
EMISSION CONTROL SYSTEM (1MZ–FE)

12036–01

ON–VEHICLE INSPECTION



1. INSPECT AIR–FUEL RATIO COMPENSATION SYSTEM

(a) Measure voltage between terminals of the engine ECM.
Standard voltage:

Terminal	Condition	Voltage
AFR+ ⇔ E1	IG switch ON	3.3V
AFR– ⇔ E1	IG switch ON	3.0V
AFL+ ⇔ E1	IG switch ON	3.3V
AFL– ⇔ EI	IG switch ON	3.0V

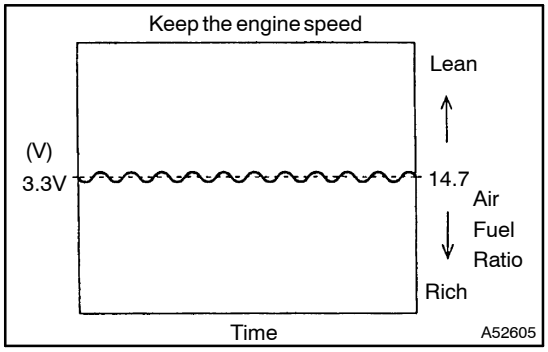
CAUTION:
Connect test leads from the back side of the connector with the ECM connected.
HINT:
Voltage between terminals of the engine ECM is kept constant regardless of the voltage of A/F sensor.

(b) Connect the hand–held tester to the DLC3.

(c) Select ”DATA MONITOR” – ”A/FS B1 S1”, ”A/FS B2 S1” and ”O2S B1 S2” to display the monitor.

(d) Warm up the A/F sensor with the engine speed at 2,500 r.p.m for approx. 2 minutes.

(e) Keep the engine speed at 2,500 r.p.m and confirm that the displays of ”A/FS B1 S1” and ”A/FS B2 S1” are as shown in the illustration.



CAUTION:
- **The illustration differs from the real display.**
- **Only hand–held tester displays the waveform of A/F sensor.**

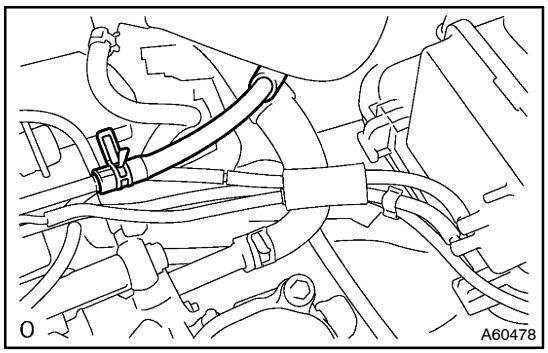
(f) Confirm that the display of ”O2S B1 S2” changes between 0V to 1V with the engine speed at 2,500 r.p.m.

2. INSPECT FUEL CUT OFF RPM

(a) Increase the engine speed to at least 3,500 r.p.m.

(b) Use a sound scope to check for injector operating noise.

(c) Check that when the throttle lever is released, injector operation noise stops momentarily and then resumes.



3. INSPECT EVAPORATIVE EMISSION CONTROL SYSTEM

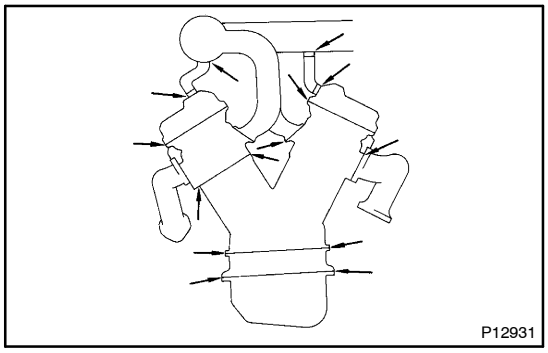
(a) After starting the engine, disconnect the vacuum hose shown in the illustration.

(b) Confirm vacuum occurs at the vsv port, when choosing ”ACTIVE TEST” and ”PURGE VSV” according to the display on hand–held tester.

(c) Finish ”ACTIVE TEST”, then connect the vacuum hose again.

(d) After going to ”ECM DATA MONITOR” on the hand–held tester, choose ”PURGE VSV” to check the operation of the purge VSV.

(e) After warm up the engine and drive the vehicle, confirm the VSV turns on from off.



4. VISUALLY INSPECT HOSES, CONNECTIONS AND GASKETS

(a) Check for cracks, leaks or damage.