08833–00080	Adhesive 1344, THREE BOND 1344, LOCTITE 242 or equivalent	Oil pressure switch

IDLE CO CHECK AND ADJUST (3RZ–FE)

EG6HV–02

HINT: This check is used only to determine whether or not the idle CO complies with regulations.

1. INITIAL CONDITIONS

(a) Engine at normal operating temperature
(b) Air cleaner installed
(c) All pipes and hoses of air induction system connected
(d) All accessories switched OFF
(e) All vacuum lines properly connected
(f) EFI system wiring connectors fully plugged
(g) Ignition timing set correctly
(h) Transmission in neutral position
(i) Tachometer and CO meter calibrated by hand

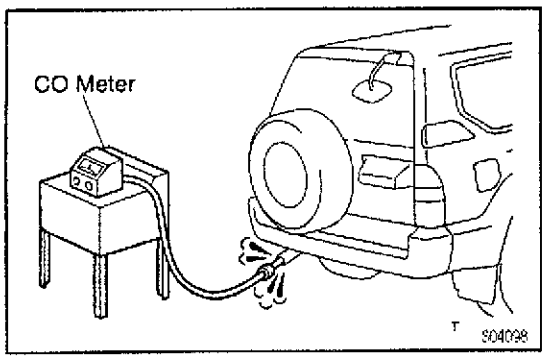
2. CHECK AND ADJUST CO CONCENTRATION AT IDLE

NOTICE: Always use a CO meter when adjusting the idle mixture. It is not necessary to adjust with the idle mixture screw in most vehicles if they are in good condition. If a CO meter is not available, DO NOT ATTEMPT TO ADJUST IDLE MIXTURE.

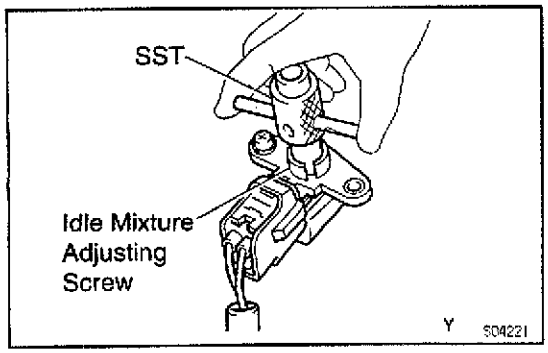
(a) Race the engine at 2,500 rpm for approx. 180 seconds.
(b) Insert a tester probe at least 40 cm (1.3 ft) into the tailpipe.
(c) Wait at least 1 minute before measuring to allow the concentration to stabilize. Complete the measuring within 3 minutes.

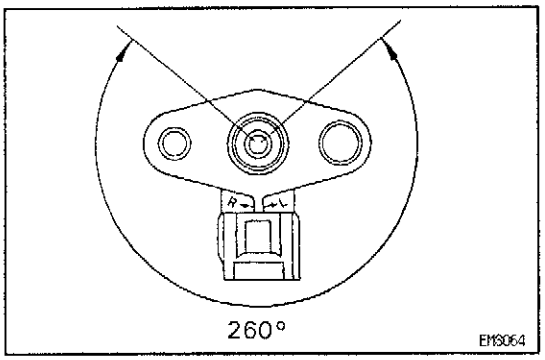
Idle CO concentration:

1.5 ± 0.5 %



If the CO concentration does not conform to regulations, adjust by turning the IDLE MIXTURE ADJUSTING SCREW in the variable resistor with SST.
SST 09243–00020





HINT: The idle mixture adjusting screw can be tightened through on angle of 260°.

- If the CO concentration is within specification, this adjustment is complete.
- If the CO concentration cannot be corrected by idle mixture adjustment, see the table below for other possible causes.

Troubleshooting

CO	Phenomenon	Causes
High	Rough idle (Black smoke from exhaust)	1. Clogged air filter 2. Plugged PCV valve 3. Faulty EFI systems: • Faulty pressure regulator • Clogged fuel return line • Defective water temperature sensor • Faulty engine ECU • Faulty injectors • Faulty throttle position sensor • Faulty air flow meter

V06463

EG078E–01

A. METHOD WITH CO METER (3RZ–F)

1. VISUALLY INSPECT CARBURETOR

(a) Check for loose screws or a loose mounting to the manifold.

(b) Check for wear in the linkage, missing snap rings or excessive looseness in the throttle shaft. Correct any problems found.

2. INITIAL CONDITIONS

(a) Air cleaner installed

(b) Normal operating coolant temperature

(c) Choke fully open

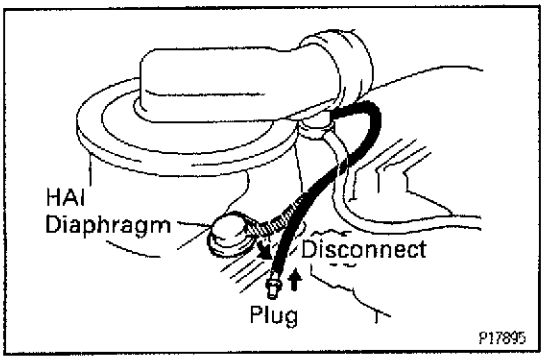
(d) All accessories switched off

(e) All vacuum lines connected

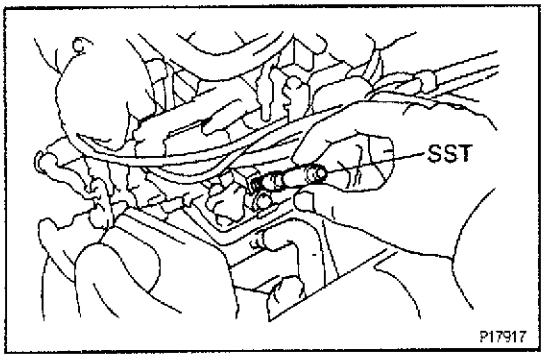
(f) Ignition timing set correctly

(g) Transmission in the neutral range

(h) CO meter operates normally

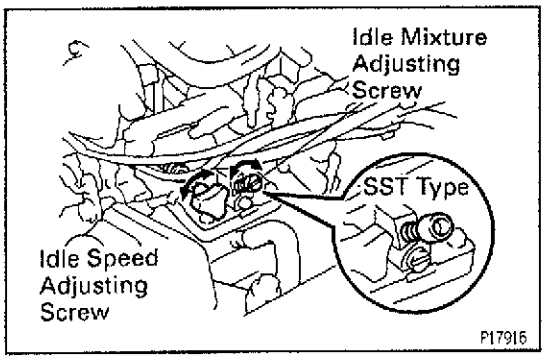


3. DISCONNECT HOT AIR INTAKE (HAI) VACUUM HOSE AND PLUG HOSE END



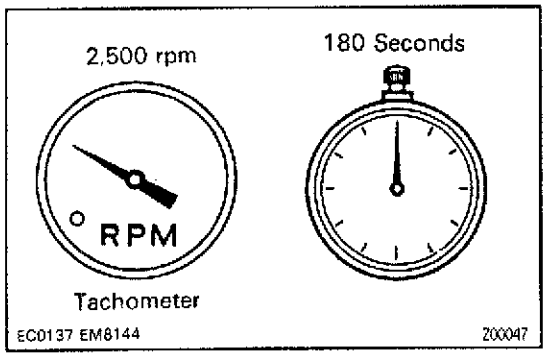
4. ADJUST IDLE SPEED AND IDLE MIXTURE

HINT: Use SST if necessary.
SST 09243—00020



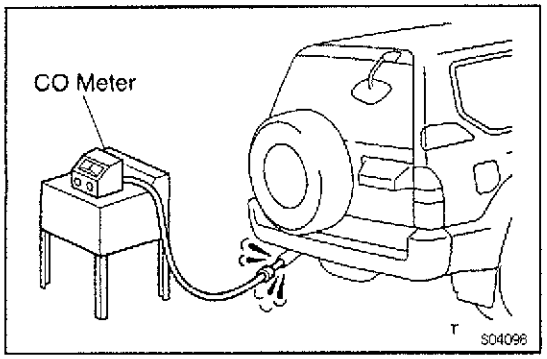
(a) Start the engine.
(b) Using a CO meter to measure the CO concentration in the exhaust, turn the idle speed and idle mixture adjusting screws to obtain the specified concentration value at idle speed.

Idle speed:
800 rpm



4. INSPECT CO CONCENTRATION

(a) Check that the CO meter is properly calibrated.
(b) Race the engine 180 seconds at about 2,500 rpm before measuring concentration.
(c) Wait 1—3 minutes after racing the engine to allow the concentration to stabilize.



(d) Insert a testing probe at least 40 cm (1.3 ft) into the tailpipe, and measure the CO concentration within a short time.

Idle CO concentration:

1.5 ± 0.5 %

- If the CO concentration is within specification this adjustment is complete.
- If the CO concentration is not within specification, turn the idle mixture adjusting screw to obtain the specified concentration value.
- If the CO concentration cannot be corrected by adjusting the idle mixture, see table below for other possible causes.

(c) Reconnect the HAI vacuum hose.

TROUBLESHOOTING

CO	Problems	Causes
High	Rough idle (Black smoke from exhaust)	1. Restricted air filter 2. Plugged PCV valve 3. Faulty carburetion: • Faulty choke action • Incorrect float setting • Leaking needle or seat • Leaking power valve

V08001

EG0V7–03

B. ALTERNATIVE METHOD (3RZ–F)

To be used only if CO meter is not available.

1. VISUALLY INSPECT CARBURETOR

(a) Check for loose screws or loose a mounting to the manifold.

(b) Check for wear in the linkage, missing snap rings or excessive looseness in the throttle shaft. Correct any problems found.

2. INITIAL CONDITIONS

(a) Air cleaner installed

(b) Normal operating coolant temperature

(c) Choke fully open

(d) All accessories switched off

(e) All vacuum lines connected

(f) Ignition timing set correctly

(g) Transmission in neutral range