# CO/HC (w/ TWC)

EM0TF–01

## INSPECTION

HINT:

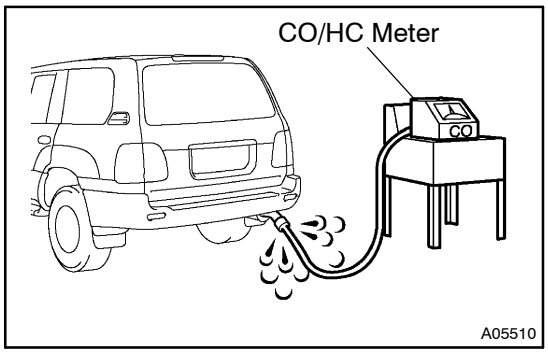
This check is used only to determine whether or not the idle CO/HC complies with specifications.

**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 check correctly
(h) Transmission in neutral position
(i) Tachometer and CO/HC meter calibrated by hand

**2. START ENGINE**

**3. RACE ENGINE AT 2,500 RPM FOR APPOROX. 180 SECONDS**




**4. INSERT CO/HC METER TESTING PROBE INTO TAILPIPE AT LEAST 40 cm (1.3 ft) DURING IDLING**

**5. CHECK CO/HC CONCENTRATION AT IDLE**

**Idle CO concentration: 0 – 0.5 %**

**Idle HC concentration: Applicable local regulation**

If the CO/HC concentration does not conform to specifications, perform troubleshooting in the order given below.

See the table next page for possible causes, and then inspect and correct the applicable causes if necessary.

| HC | CO | Problems | Causes |
|---|---|---|---|
| Normal | High | Rough idle | 1. Faulty ignition:<br>• Incorrect timing<br>• Fouled, shorted or improperly gapped plugs<br>• Open or crossed high–tension cords<br>2. Incorrect valve clearance<br>3. Leaky EGR valve<br>4. Leaky intake and exhaust valves<br>5. Leaky cylinders |
| Low | High | Rough idle<br>(Fluctuating HC reading) | 1. Vacuum leaks:<br>• PCV hoses<br>• Intake manifold<br>• Throttle body<br>• Brake booster line<br>2. Lean mixture causing misfire |
| High | High | Rough idle<br>(Black smoke from exhaust) | 1. Restricted air filter<br>2. Plugged PCV valve<br>3. Faulty EFI systems:<br>• Faulty pressure regulator<br>• Defective water temperature sensor<br>• Faulty engine ECU<br>• Faulty injectors<br>• Faulty throttle position sensor<br>• Faulty vacuum sensor |