# CO/HC INSPECTION

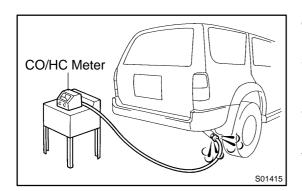
EM01C-05

### HINT:

This check is used only to determine whether or not the idle CO/HC 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) SFI system wiring connectors fully plugged
- (g) Ignition timing checked 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 APPROX. 180 SE-CONDS



- 4. INSERT CO/HC METER TESTING PROBE AT LEAST 40 cm (1.3 ft) INTO TAILPIPE DURING IDLING
- 5. IMMEDIATELY CHECK CO/HC CONCENTRATION AT IDLE AND/OR 2,500 RPM

## HINT:

When doing the 2 mode (2,500 rpm and idle) test, follow the measurement order prescribed by the applicable local regulations.

2002 4RUNNER (RM887U)

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## 6. TROUBLESHOOTING

If the CO/HC concentration does not comply with regulations, troubleshoot in the order given below.

- (1) Check oxygen sensor operation (See page DI-48 ).
- (2) Check A/F sensor operation (See page DI-122).
- (3) See the table below for possible causes, then inspect and correct the applicable causes if necessary.

СО	HC	Symptom	Causes
Normal	High	Rough idle	3. Faulty ignitions:
			Incorrect timing
			Fouled, shorted or improperly gapped plugs
			Open or crossed high-tension cords
			4. Incorrect valve clearance
			5. Leaky intake and exhaust valves
			6. Leaky cylinder
Low	High	Rough idle	1. Vacuum leaks:
		(Fluctuating HC reading)	• PCV hose
			• EGR valve
			Intake manifold
			Throttle body
			• IAC Valve
			Brake booster line
			Lean mixture causing misfire
High	High	Rough idle	1. Clogged air filter
		(Black smoke from exhaust)	2. Plugged PCV valve
			3. Faulty SFI system
			Faulty fuel pressure regulator
			Clogged fuel return line
			Defective ECT sensor
			• Faulty ECM
			• Faulty injectors
			Faulty throttle position sensor
			• Faulty MAF meter

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