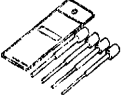
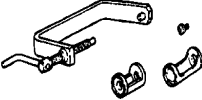
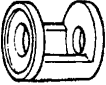
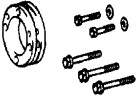
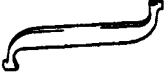
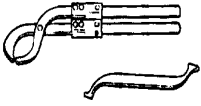
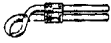
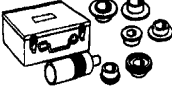
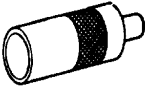
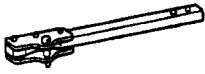
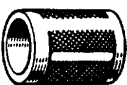
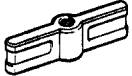
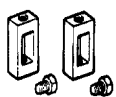
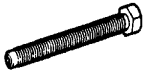
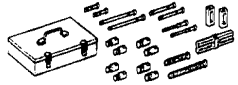
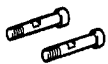
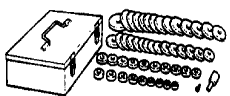
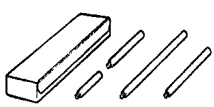

ENGINE

ENGINE MECHANICAL PREPARATION

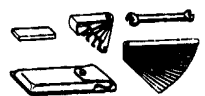
SST (SPECIAL SERVICE TOOLS)

	09201-10000	Valve Guide Bushing Remover & Replacer Set	
	(09201-01070)	Valve Guide Bushing Remover & Replacer 7	
	09202-70020	Valve Spring Compressor	
	(09202-00010)	Attachment	
	09213-58012	Crankshaft Pulley Holding Tool	
	09223-15030	Oil Seal & Bearing Replacer	Crankshaft rear oil seal
	09236-00101	Water Pump Overhaul Tool Set	
	(09236-15010)	Bearing Stay	Valve stem oil seal
	09248-06020	Valve Lifter Stopper	
	09248-55050	Valve Clearance Adjust Tool Set	
	(09248-05510)	Valve Lifter Press	
	09316-60010	Transmission & Transfer Bearing Replacer	

	(09316-00010)	Replacer Pipe	Crankshaft front oil seal
	(09316-00050)	Replacer "D"	Crankshaft front oil seal
	09330-00021	Companion Flange Holding Tool	Crankshaft pulley
	09636-20010	Upper Ball Joint Dust Cover Replacer	Crankshaft timing gear
	09816-30010	Oil Pressure Switch Socket	Knock sensor
	09843-18020	Diagnosis Check Wire	
	09950-40010	Puller B Set	Crankshaft timing gear
	(09951-04010)	Hanger 150	
	(09952-04010)	Slide Arm	
	(09953-04020)	Center Bolt 150	
	(09954-04010)	Arm 25	
	(09955-04060)	Claw No. 6	
	09950-50010	Puller C Set	Crankshaft pulley
	(09951-05010)	Hanger 150	

	(09952-05010)	Slide Arm	
	(09953-05010)	Center Bolt 100	
	(09953-05020)	Center Bolt 150	
	(09954-05020)	Claw No.2	
	09950-60010	Replacer Set	
	(09951-00280)	Replacer 28	Connecting rod bushing
	(09951-00350)	Replacer 35	Crankshaft timing gear
	(09951-00480)	Replacer 48	Spark plug tube gasket
	09950-70010	Handle Set	
	(09951-07100)	Handle 100	
	(09951-07150)	Handle 150	

RECOMMENDED TOOLS

	09082-00050	TOYOTA Electrical Tester Set.	
	09200-00010	Engine Adjust Kit.	

	09258-00030	Hose Plug Set.	Plug for the vacuum hose, fuel hose etc.
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EQUIPMENT

Caliper gauge	
CO/HC meter	
Compression gauge	
Connecting rod aligner	
Cylinder gauge	
Dial indicator	
Dye penetrant	
Engine tune-up tester	
Heater	
Magnetic finger	
Micrometer	
OBD II scan tool	Engine speed
Piston ring compressor	
Piston ring expander	
Plastigage	
Precision straight edge	
Soft brush	
Spring tester	Valve spring
Steel square	Valve spring
Thermometer	
Torque wrench	
Valve seat cutter	
Vernier calipers	

SSM (SPECIAL SERVICE MATERIALS)

08826-00080	Seal Packing Back or equivalent (FIPG)	Over the space between the cylinder block and timing chain case Timing chain cover
08826-00080	Seal Packing Black or equivalent (FIPG)	Semi-circular plug Oil pan Rear oil seal retainer
08833-00070	Adhesive 1324, THREE BOND 1324 or equivalent	Plug tube
08833-00080	Adhesive 1344, THREE BOND 1344, LOCTITE 242 or equivalent	TVV

IDLE AND/OR 2,500 RPM CO/HC CHECK

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

1. INITIAL CONDITIONS

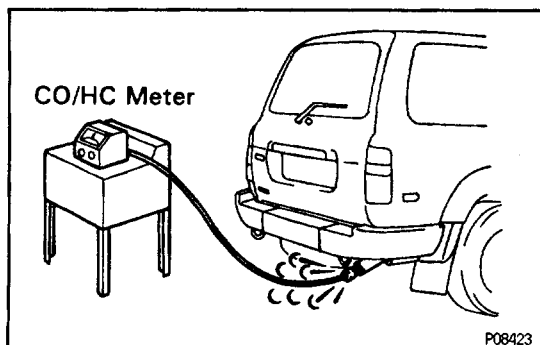
- Engine at normal operating temperature
- Air cleaner installed
- All pipes and hoses of air induction system connected
- All accessories switched OFF
- All vacuum lines properly connected

HINT: All vacuum hoses for EGR systems, etc. should be properly connected.

- SFI system wiring connectors fully plugged
- Ignition timing set correctly
- Transmission in neutral position
- Tachometer and CO/HC meter calibrated by hand

2. START ENGINE

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



- 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.