1982 Jaguar 6 Tune-Up

TUNE-UP

XJ6

ENGINE IDENTIFICATION

Engine number is stamped on top of cylinder block at rear of engine. Number is also stamped on Commission Plate which is located in the engine compartment.

ENGINE COMPRESSION

Check compression pressure with engine at normal operating temperature, throttle valve wide open, all spark plugs removed and coil wire disconnected.

COMPRESSION SPECIFICATIONS

Compression Ratio	8.1:1
Compression Pressure	[1]
Max. Variation Between Cylinders	5 psi (.35 kg/cm²)

[1] — Compression pressures vary from engine to engine. The critical factor is pressure variation between cylinders.

VALVE CLEARANCE

1) With camshaft covers removed, rotate camshafts and record clearance between heel of each cam lobe and its respective tappet. If adjustment is necessary, rotate cam shaft and align with valve timing gauge (C 3993) before removing final camshaft retaining nut. Disconnect sprockets from camshafts.

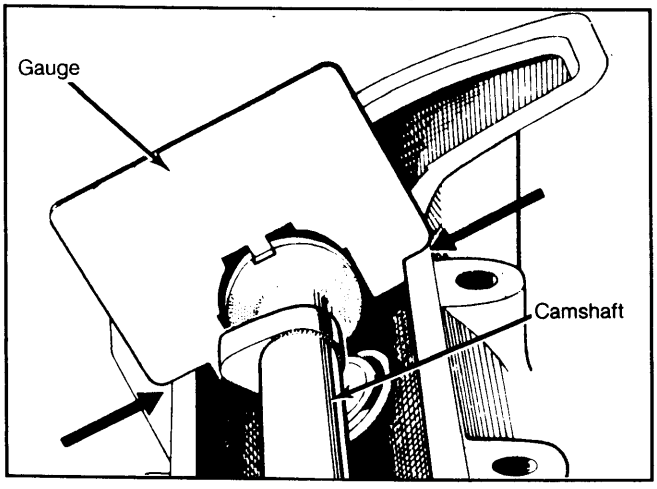
NOTE: DO NOT rotate engine while camshaft sprockets are disconnected.

2) Remove camshaft bearing caps and lift off camshaft. Remove each tappet that required adjustment and note its location for reassembly in its original position. Remove adjusting pad and measure thickness.

3) Use measured pad thickness and difference between measured valve clearance and specified clearance to calculate required thickness of new adjusting pad. Adjusting pads are available in increments of .001" (.03 mm) from .085" (2.16 mm) to .110" (2.79 mm) and are marked with letters from "A" to "Z", respectively.

4) Insert correct adjusting pads and install tappets. Install camshafts and align with timing gauge. Torque camshaft bearing cap nuts to 9 ft. lbs. (12.2 N.m). Connect camshaft sprockets and install camshaft covers.

Fig. 1: Position of Valve Timing Gauge



Use gauge to position camshaft before final sprocket removal and installation.

VALVE CLEARANCE SPECIFICATIONS

Application	[1] Clearance In. (mm)
Intake & Exhaust	.012-.014 (.30-.35)

[1] — Clearance measured with engine cold.

VALVE ARRANGEMENT

Left Side — All Exhaust
Right Side — All Intake

SPARK PLUGS

SPARK PLUG TYPE

Application	Champion No.
All Models	N12Y

SPARK PLUG SPECIFICATIONS

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
All Models	.035 (.89)	27 (36)

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from plugs and distributor cap. Using an ohmmeter, check resistance of each wire while gently twisting wire. If resistance is incorrect, or fluctuates from infinity to any value, replace wire.

WIRE RESISTANCE

Application	Ohms
All Models	30,000

DISTRIBUTOR

All models are equipped with breakerless, electronic ignition systems. Under normal operating conditions, no adjustments are necessary. If distributor has been disassembled or parts have been replaced, check gap between the timing rotor and pick-up module and adjust as needed.

PICK-UP COIL AIR GAP

Application	Gap In. (mm)
All Models	.008-.014 (.20-.35)

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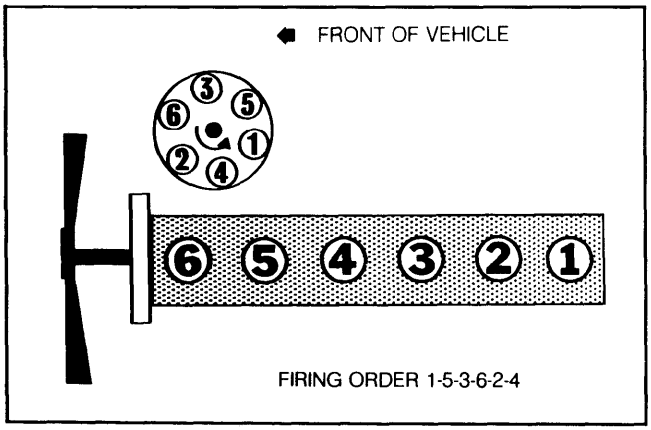
TUNE-UP (Cont.)

DISTRIBUTOR

All models are equipped with breakerless, electronic ignition systems. Under normal operating conditions, no adjustments are necessary. Check the gap between the timing rotor and pick-up module. If gap is not .008-.014" (.20-.35 mm), it should be adjusted.

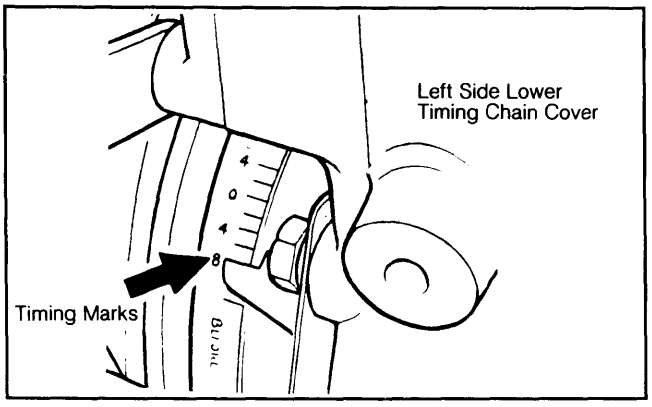
Fig. 2: Firing Order and Distributor Rotation



IGNITION TIMING

1) Check or adjust ignition timing with engine at normal operating temperature, idle speed set to specification and distributor vacuum line connected.

Fig. 3: Ignition Timing Mark Location



2) If timing is not correct, loosen distributor clamp bolt and rotate distributor until correct timing is obtained. Tighten clamp bolt.

IGNITION TIMING (Degrees BTDC@RPM)

Application	Timing
All Models	8@800

IDLE SPEED & MIXTURE

NOTE: Mixture adjustment is NOT a part of normal tune-up procedure and should not be performed unless fuel injection parts are replaced or vehicle fails emissions testing.

1) Connect a tachometer and CO% meter to engine (at exhaust manifold test points). Run engine until normal operating temperature is reached. Check idle speed and adjust, if needed, with air volume screw at air distribution block.

2) Remove plug on airflow meter to locate mixture adjustment screw. Disconnect oxygen sensor and allow engine to idle for 1 minute to stabilize mixture.

3) Turn mixture screw clockwise to richen mixture and counterclockwise to lean mixture. If correct setting cannot be attained, check that all electrical connections and all hoses are in good condition and properly located.

4) Replace oxygen sensor lead and disconnect test instruments.

IDLE SPEED & CO LEVEL

Application	Idle RPM	[1] CO%
All Models	800	.5-1.5

[1] — With oxygen sensor disconnected.

FUEL PUMP

FUEL PUMP PERFORMANCE

Application	Pressure psi (kg/cm²)
All Models	36 (2.5)

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with Lucas Constant Energy Ignition System.

DISTRIBUTOR PICK-UP COIL RESISTANCE (Ohms)

Application	Resistance
All Models	2.2-4.8

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GENERAL SERVICING (Cont.)

FUEL SYSTEMS

FUEL INJECTION

All models are equipped with Lucas-Bosch L-Jetronic fuel injection.

ELECTRICAL

BATTERY

BATTERY SPECIFICATIONS

Application	Amp. Hr. Rating
All Models	75

STARTER

All 6-cylinder models are equipped with Lucas pre-engaged starters.

STARTER SPECIFICATIONS

Application	Amps	Test RPM
All Models	100	5500

ALTERNATORS

There are 3 different alternators used in 6-cylinder Jaguars. Air conditioned models use either a Lucas Model 25ACR, or a Motorola Model 9AR 25 12P. Non-air conditioned models use a Lucas Model 18ACR alternator.

ALTERNATOR SPECIFICATIONS

Application	Rated Amp. Output
Lucas	
18ACR	45
25ACR	66
Motorola	
9AR 25 12P	70

ALTERNATOR REGULATOR

All models use Lucas or Motorola regulators.

REGULATOR OPERATING VOLTAGE@68°F (20°C)

Application	Voltage
Lucas	13.6-14.4
Motorola	13.7-14.7

SERVICE SPECIFICATIONS

BELT ADJUSTMENT

Application	[1] Deflection In. (mm)
Alternator Belt	.15 (3.8)
Power Steering Belt	Self-Adjusting
Air Conditioning Belt	.17 (4.3)

[1] — With 3.0 lbs. (1.4 kg) pressure applied midway between pulleys on longest belt run.

REPLACEMENT INTERVALS

Component	Miles
Oil Filter	7500
Air Filter	30,000
Fuel Filter	30,000
Auto. Trans. Fluid Filter	30,000
Oxygen Sensor	30,000
Spark Plugs	30,000

FLUID CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	8.7 qts. (8.3L)
Cooling System	19.5 qts. (18.2L)
Auto. Trans. (ATF Type F)	16.8 pts. (8.0L)
Rear Axle (SAE 90)	3.3 pts. (1.6L)
Fuel Tank	
Right Side	13 gals. (48L)
Left Side	13 gals. (48L)