TUNE-UP

XJ6L

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. Suffix following engine number indicates compression ratio, "L" — Low.

COMPRESSION PRESSURE

Check compression pressure with engine at normal operating temperature, throttle valve wide open, all spark plugs removed and coil wire disconnected. Compression pressure is normal if all cylinders are within 5 psi (.35 kg/cm²) of each other.

VALVE CLEARANCE

Valve Clearance Specifications

Application	Clearance (Cold)
Intake	.012-.014" (.30-.35 mm)
Exhaust	.012-.014" (.30-.35 mm)

VALVE ADJUSTMENT

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 camshaft and install valve timing gauge (C.3993) before removing final camshaft retaining nut. If required, 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 requires adjustment and note its location for reassembly in its original position. Remove adjusting pad and measure thickness.

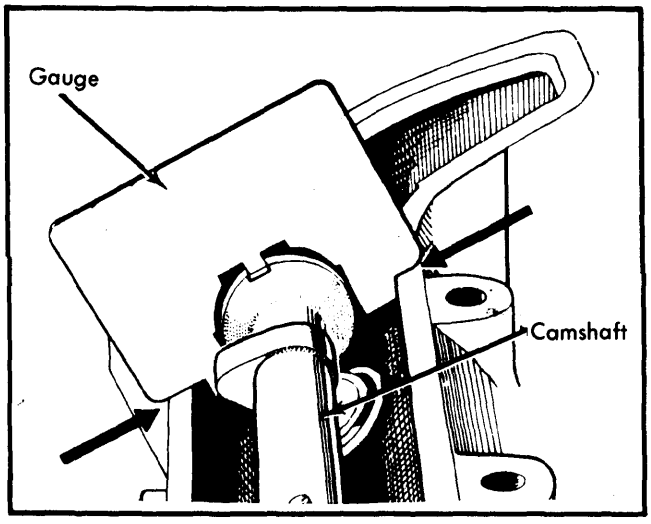

Fig. 1 Position of Valve Timing Gauge

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. Attach camshafts (using timing gauge). Torque camshaft bearing cap nuts to 9 ft. lbs. (1.2 mkg), connect camshaft sprockets, and install camshaft covers.

VALVE ARRANGEMENT

Left Side — All Exhaust
Right Side — All Intake

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (mkg)
All Models	.035 (.9)	27 (3.7)

Spark Plug Type

Application	Champion No.
All Models	N12Y

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, check resistance of each wire while gently twisting wire. If resistance is not to specifications, or fluctuates from infinity to any value, replace wire.

Resistance (Ohms) Per Wire

Application	Resistance
All Models	25,000-30,000

DISTRIBUTOR

All models are equipped with a breakerless, electronic ignition system.

Air Gap	①.014-.016" (.36-.41 mm)

① — Measured between timing rotor and pick-up module.

IGNITION TIMING

Check or adjust ignition timing with engine at normal operating temperature, idle speed set to specification and distributor vacuum line connected. If timing is not correct, loosen distributor clamp bolt and rotate distributor to achieve specified timing. Then tighten clamp bolt.

Ignition Timing Specifications

Application	Timing
All Models	4°BTDC

TUNE-UP (Cont.)

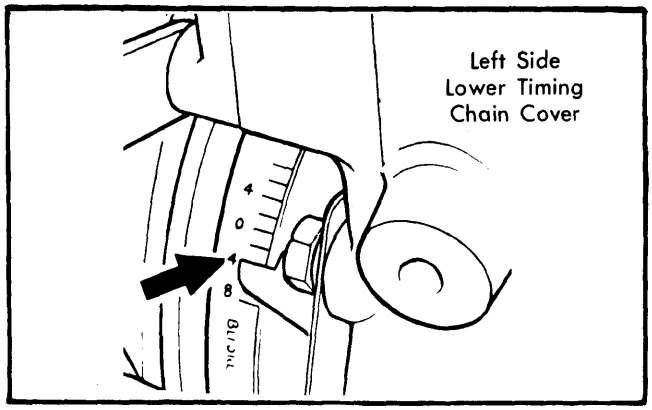

Fig. 2 Ignition Timing Mark Location

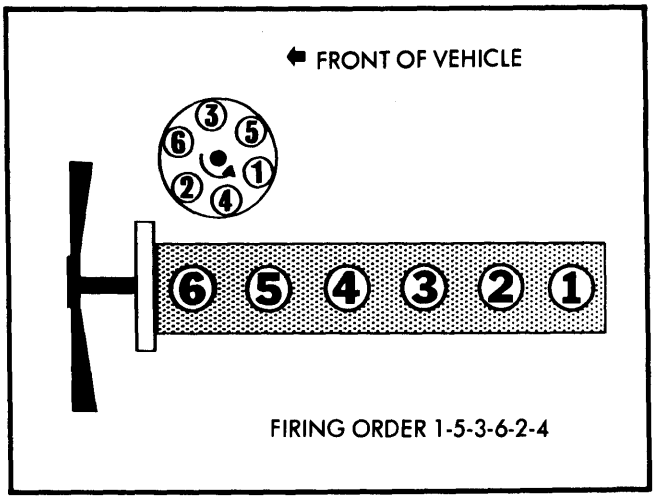

Fig. 3 Firing Order and Distributor Rotation

IDLE SPEED & MIXTURE

1) Connect a tachometer and CO% meter to engine (at exhaust manifold test points). Run engine until normal operating temperature is reached.

2) Adjust idle with air volume screw at overrun valve housing. Use 7/32" Allen wrench and turn clockwise to lower idle; counterclockwise to raise engine idle.

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

4) Turn mixture screw clockwise to richen mixture and counterclockwise to lean mixture. If correct setting cannot be attained, check all electrical connections and all hoses for proper location.

5) Replace oxygen sensor lead and disconnect test instruments.

Idle Speed & CO Level

Application	Idle RPM	CO %
All Models	750-850	.5-1.5

FUEL PUMP PRESSURE

Pressure	36 psi (2.5 kg/cm²)

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with Lucas Opus Electronic Ignition System.

Other Data & Specifications – *See Tune-Up article and appropriate article in DISTRIBUTORS & IGNITION SYSTEMS section.*

FUEL SYSTEMS

FUEL INJECTION

All models are equipped with Lucas-Bosch fuel injection.

Other Data & Specifications – *See Tune-Up and Bosch Fuel Injection in FUEL SYSTEMS Section.*

ELECTRICAL

BATTERY

Battery Location – Battery is located in right rear corner of engine compartment.

Application	Amp. Hr. Capacity
All Models	66

STARTER

All models are equipped with Lucas pre-engaged Starters.

Free Speed Amperage	
All Models	100 at 5000-6000 RPM

GENERAL SERVICING (Cont.)

ALTERNATOR

Application	Rated Amp. Output
All Models	65

ALTERNATOR REGULATOR

Lucas — Non-Adjustable; Integral with Alternator.

BELT ADJUSTMENT

Belt	① Deflection
Fan/Steering Pump	Self-Adjusting
Alternator	.15" (3.8 mm)
A/C Compressor	.17" (4.3 mm)

① — Deflection is with pressure applied midway on longest belt run.

CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	8.7 qts.
Cooling System	19.5 qts.
Auto. Trans. (ATF Type F)	7.5 qts.
Rear Axle (SAE 90 EP)	3.3 pts.
Fuel Tank	
Right Side	12.6 gals.
Left Side	12.6 gals.

FILTERS

Filter	Service Intervals (Miles)
Oil Filter	Replace every 6000
Air Filter	Replace every 12,000
Engine Breather Filter	Replace every 12,000
Fuel Filter	Replace every 12,000