1974-79 TUNE-UP PROCEDURES
Alfa Romeo 4-Cylinder

1974-75 Alfetta 2000 Berlina, GT & Spider Veloce

ENGINE IDENTIFICATION

Engine identification number is located on left rear side of cylinder block.

ENGINE CODES

Application	Code
1975 Models	016.29

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Vehicle Identification Number is located on right side of firewall, in engine compartment; and on upper left side of dash near windshield pillar. Number is also located on certification label attached to left side door post.

1975 VIN CODES

Application	Code
Alfetta 2000 Berlina	116.33
Alfetta 2000 GT	116.29

ENGINE COMPRESSION

Compression check should be made with engine at normal operating temperature. Variation between cylinders should not exceed 10% of highest reading.

VALVE CLEARANCE

1) With engine cold, carefully measure clearance between valve and cam. If clearances are not within specifications, rotate crankshaft until detachable link in timing chain is accessible.
2) Move chain tensioner rearward and secure in position. Disconnect chain and tie ends to keep chain from falling into engine. Remove camshaft journals and camshafts. Remove valve cups and adjusting pads.
3) Measure pads thickness and select correct replacement pad to bring clearance within specifications. Repeat procedure with all valves requiring adjustment. Reinstall valve cups, camshaft and timing chain. Recheck valve clearances.

NOTE: Adjustment pads are supplied in a series of thicknesses ranging from .05-.14" (1.3-3.5 mm) in increments of .001" (.025 mm).

VALVE CLEARANCE SPECIFICATIONS

Application	Clearance In. (mm)
Intake	.018-.019 (.45-.48)
Exhaust	.020-.022 (.50-.55)

VALVE ARRANGEMENT

Right Side - All Intake.
Left Side - All Exhaust.

SPARK PLUGS

Surface gap type plugs are used. If electrodes are excessively worn, replace plugs. When installing plugs, lubricate plug threads with graphite grease and torque to 18-25 ft. lbs. (24-34 N.m).

SPARK PLUG TYPE

Application	Lodge No.
All Models	[1] HL

[1] - Use Lodge 2HL plugs if vehicle is driven at sustained high speeds.

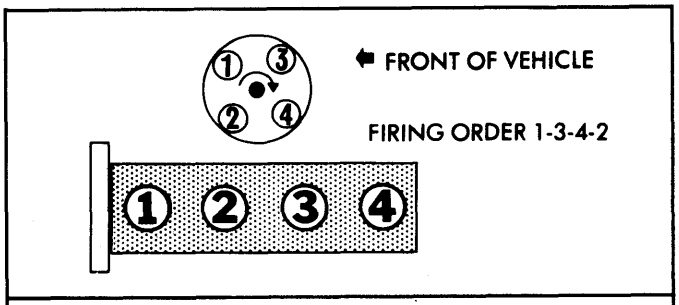

Fig. 1: Firing Order & Distributor Rotation

DISTRIBUTOR

DISTRIBUTOR SPECIFICATIONS

Application	Specification
Point Gap	.017-.019" (.43-.48 mm)
Cam Angle	57-63°
Breaker Arm Spring Tension	18-21 ozs. (510-595 g)
Condenser Capacity	.25 mfd.

IGNITION TIMING

Ignition timing should be checked or adjusted with engine at normal operating temperature. At idle speed, timing should be set to "F" on pulley. With engine speed at 5000 RPM, timing should advance to "M" mark, or within .12" (3 mm) of mark.

IGNITION TIMING SPECIFICATIONS

Application	Idle	5000 RPM
1974 Models		
Federal	2°ATDC	27-33°BTDC
Calif.	8°ATDC	25-31°BTDC
1975 Models		
Federal	5-7°ATDC	27-33°BTDC
Calif.	[1]	[1]

[1] - See emission control/tune-up decal for specifications.

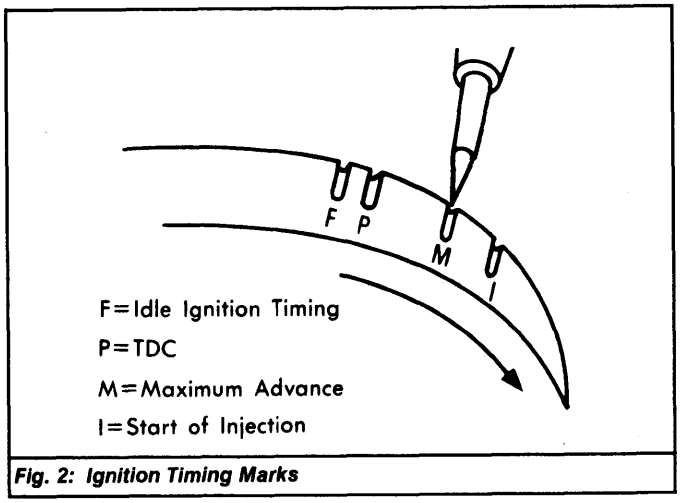

Fig. 2: Ignition Timing Marks

IDLE SPEED & MIXTURE

NOTE: Operating mixture can only be set by road test or on engine dynamometer. Adjust CO% level immediately after road test.

1) With engine at normal operating temperature, remove air cleaner-to-equalizer hose. Loosen idle speed adjuster lock screw. Connect tachometer and exhaust gas analyzer to vehicle. Using Adjuster (A.2.0183), set idle speed to smoothest RPM. *See Fig. 3*. Tighten lock screw and reattach hose.

1974-79 TUNE-UP PROCEDURES
Alfa Romeo 4-Cylinder (Cont.)

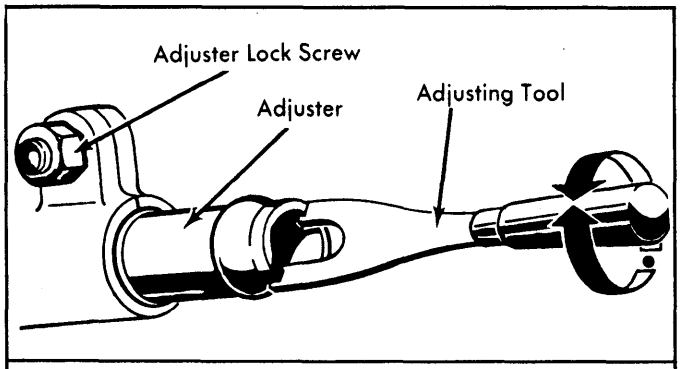

Fig. 3: Idle Speed Adjustment

2) Road test vehicle. Drive vehicle several miles at high RPM in low gear to clean spark plugs, then drive vehicle at constant 20-30 MPH in 3rd gear and accelerate very slowly to 40 MPH.
3) If any hesitation is felt, mixture is too lean. Unscrew fuel cut-off solenoid to obtain a richer mixture. If acceleration is sluggish and vehicle shows signs of an overrich mixture, fuel cut-off solenoid must be screwed in until a lean mixture condition results and then out until lean hesitation disappears.
4) On top of fuel cut-off solenoid are 8 notches, mark one of them with respect to a fixed point on control unit housing (for reference). Disconnect solenoid feed wire. Loosen ring nut at bottom of solenoid, using Wrench (A.5.0177). DO NOT rotate solenoid while loosening ring nut.

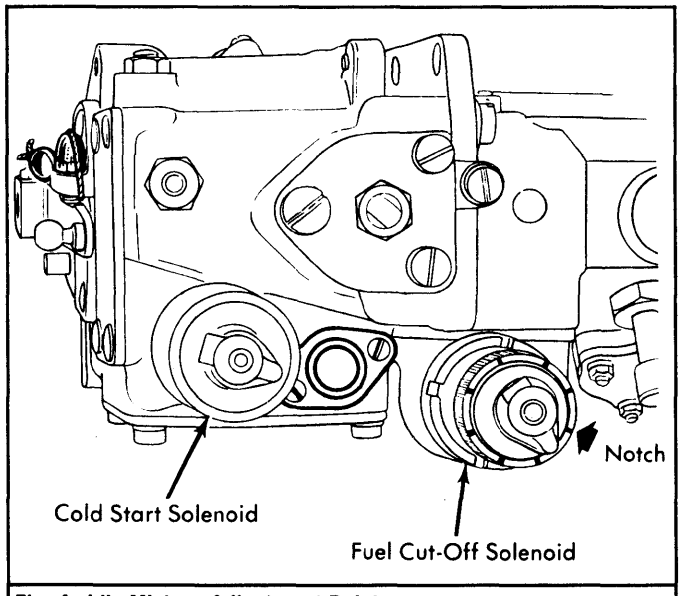

Fig. 4: Idle Mixture Adjustment Points

5) Move solenoid one notch (1/8 turn) in or out, depending on whether mixture is lean or rich. Retighten ring nut and connect solenoid feed wire. Check reference mark to be sure that solenoid has been moved one notch only. Install air cleaner, idle air tubes, crankcase breather tubes, air inlet and road test vehicle.

6) With engine at normal operating temperature, adjust idle speed and CO% level to specifications. If adjustment is necessary, final mixture adjustment is obtained by repeating idle speed adjustment. If after final adjustment procedure is performed there is difficulty in obtaining correct CO% level and idle RPM, repeat complete idle speed and mixture adjustment procedure.

NOTE: Turning idle speed adjuster in will decrease RPM and increase CO% level, while turning adjuster out will increase RPM and decrease CO% level.

IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	CO%
1974 Models	650	1.0-2.0
1975 Models		
Federal	600	.4-1.2
Calif.	[1]	[1]

[1] - See emission control/tune-up decal for specifications.

FUEL PUMP

FUEL PUMP SPECIFICATIONS

Application	Specification
Pressure	
1974 Models	16-18 psi (1.1-1.3 kg/cm²)
1975 Models	28-35 psi (2.0-2.5 kg/cm²)

EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

IGNITION SYSTEM

DISTRIBUTOR

All models are equipped with Marelli single-point distributors.
Other Data & Specifications - See Marelli Distributors in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

IGNITION COIL SPECIFICATIONS

Application	Resistance (Ohms)
Primary	3.0-3.4
Secondary	6400-7800

FUEL SYSTEM

FUEL INJECTION

All models are equipped with Spica fuel injection.
Other Data & Specifications - See Spica Fuel Injection article in FUEL SYSTEMS section.