1974-79 TUNE-UP PROCEDURES
Audi 4-Cylinder

Fox, 100 LS

ENGINE IDENTIFICATION

Engine number is stamped on left side of engine block, near distributor (near clutch housing on 100 LS).

ENGINE IDENTIFICATION CODE

ENGINE CODES

Application	Code
1977	
Fox	
Man. Trans.	[1] YC, YR
Auto. Trans.	YD
100LS	
Man. Trans.	YG
Auto. Trans.	YH, [1] YK
1978-79	
Man. Trans.	YG
Auto. Trans.	YH

[1] - California models.

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Vehicle may be identified by chassis number which is embossed on rear wall of engine compartment, on left windshield pillar (visible through windshield), and on safety sticker on left door jamb.

ENGINE COMPRESSION

Check compression pressure with engine at normal operating temperature, throttle wide open, and engine at cranking speed.

COMPRESSION SPECIFICATIONS [1]

Application	Normal Pressure psi (kg/cm²)	Minimum Pressure psi (kg/cm²)
Fox	142-184 (10-13)	107 (7.5)
100LS	120-170 (8.45-12)	98 (7.0)

[1] - Maximum difference between cylinders is 42 psi (2.95 kg/cm²).

VALVE CLEARANCE

1974-77 Fox & 100 LS - 1) Adjust valves with engine at normal operating temperature. Clearance adjustments are to be checked and made according to firing order sequence (1-3-4-2). See VALVE ADJUSTMENT SEQUENCE table. Remove air cleaner and rocker cover prior to adjustment.

2) Place No. 1 cylinder at TDC position of compression stroke (both valves closed) and rocker arms of No. 4 cylinder in overlap position (both rocker arms move in opposite directions).

3) On Fox, valve clearance is obtained by replacing adjusting discs. If adjustment is necessary, use Disc Remover (10-208) and Tappet Depressor (VW 546) to remove and install adjusting discs. On 100 LS, adjust valve clearance by turning self-locking adjustment nuts on rocker arms.

VALVE ADJUSTMENT SEQUENCE

Adjust Valves Of Cylinder Number	When Valves Overlap At Cylinder Number
1	4
3	2
4	1
2	3

1978-79 Fox - 1) Adjust valves with engine at normal operating temperature. Clearance adjustments are to be checked and made according to firing order sequence (1-3-4-2). Rotate crankshaft until cam lobes for No. 1 cylinder valves point upward, then measure valve clearances of No. 1 cylinder.

2) If adjustment is necessary, use Disc Remover (10-208) and Tappet Depressor (VW 546) to remove and install adjusting discs. Rotate camshaft until cam lobes no longer rest on adjusting discs of cylinder to be adjusted.

3) Turn tappet until notches are at 90 degrees to camshaft. Insert tappet depressor and depress tappet. Using disc remover, grasp tappet disc and rotate it out from under camshaft.

4) Thickness is stamped on bottom side disc. Using clearance measurement, determine thickness of adjusting disc necessary to bring valve clearances within specifications.

5) Discs are available in .0019" (.05 mm) increments from .1181" (3.0 mm) to .1673" (4.25 mm). Reverse removal procedure to install proper disc. Repeat procedure as required for remaining valves.

VALVE CLEARANCE [1]

Application	Specification
Fox	
Intake	.008-.012" (.20-.30 mm)
Exhaust	.016-.020" (.40-.50 mm)
100 LS	
Intake	[2] .008-.012" (.20-.30 mm)
Exhaust	.016-.020" (.40-.50 mm)

[1] - Adjust valve clearance with engine at normal operating temperature.

[2] - Set to .006" (.15 mm) on 1976-77 models.

VALVE ARRANGEMENT

Fox

E-I-E-I-I-E-I-E - Front-to-rear.

100 LS

I-E-I-E-I-E-I-E - Front-to-rear.

SPARK PLUGS SPECIFICATIONS

SPARK PLUGS

Application	Specification
Gap	[1] .028" (.7 mm)
Torque	22 ft. lbs. (30 N.m)

[1] - On 100 LS automatic transmission equipped models, set gap to .035" (.9 mm).

SPARK PLUG TYPE

Application	Champion
Fox	N8Y
100 LS	N7Y

HIGH TENSION WIRE RESISTANCE

Carefully remove ends of wire from spark plug and distributor. Using an ohmmeter, check resistance of wire while gently twisting wire. If resistance is not to specification, or fluctuates from infinity to any value, replace wire.

HIGH TENSION WIRE RESISTANCE

Application	Resistance (Ohms)
All Models	25,000-30,000

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

DISTRIBUTOR

DISTRIBUTOR SPECIFICATIONS

Application	Specification
Point Gap	.016" (.4 mm)
Dwell Angle	47-50°
Condenser Capacity	.22 mfd.

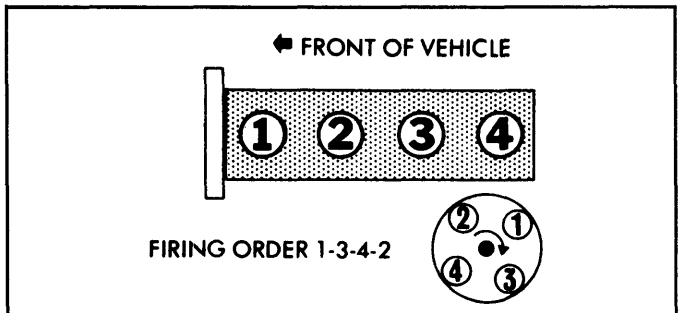

Fig. 1: Fox Firing Order & Distributor Rotation

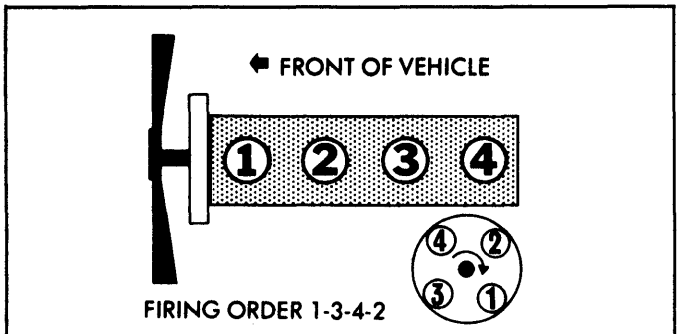

Fig. 2: 100 LS Firing Order & Distributor Rotation

IGNITION TIMING

Connect timing light to No. 1 spark plug wire. With engine speed set to specified idle RPM and vacuum hoses connected, rotate distributor until specified timing is obtained. *See Fig. 3.*

IGNITION TIMING SPECIFICATIONS

Application	RPM	Timing
Fox	850-1000	3°ATDC
100 LS	850-1000	6°ATDC

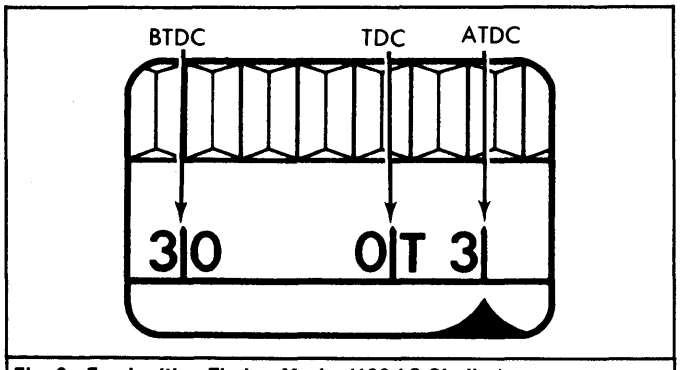

Fig. 3: Fox Ignition Timing Marks (100 LS Similar)

IDLE SPEED & MIXTURE

1974 Models - Ensure engine is at normal operating temperature, air cleaner is installed, and ignition timing is set to specification. Disconnect and plug air injection hose at check valve (if equipped). Set idle speed and CO% level to specification. Reconnect air injection hose and check that CO% level drops to specification.

1975-79 Models - **1)** With engine at normal operating temperature, check and make sure that ignition timing, valve clearance, spark plug gap and compression pressures are within specifications.

2) Turn headlights on high beam and air conditioning on (if equipped). On 100 LS, disconnect and plug air injection hose at check valve (if equipped). On all models, adjust idle speed to specifications by means of the idle control screw at throttle plate housing.

3) To adjust CO% level, remove plug from mixture control unit between fuel distributor and venturi. Insert Mixture Adjustment Wrench (P 377) and turn clockwise to raise CO% level, or counterclockwise to decrease CO% level until the specified level is obtained.

4) Remove mixture adjustment wrench and accelerate engine briefly. *See Fig. 4.* Wait until CO% meter has stabilized for idle speed reading. Check idle speed and CO% level and adjust if necessary.

NOTE: Engine will stall if pressure is exerted on mixture adjustment wrench. Use very small adjustments, or CO% level will be changed greatly.

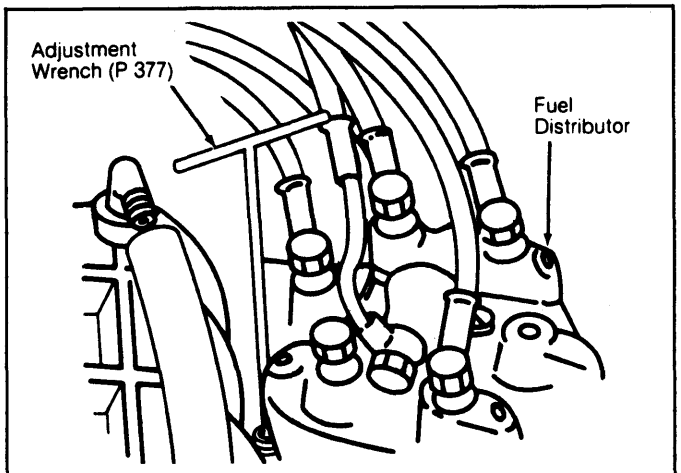

Fig. 4: Adjusting Idle Speed & Mixture

IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	[1] CO%
1974		
Fox	950	[2] 1.5
100 LS	950	[3] 1.5
1975		
All Models	850-1000	[4] 0.5-1.5
1976-79		
Fox		
Federal		
Man. Trans.	850-1000	1.5 Max.
Auto. Trans.	850-1000	1.0 Max.
Calif.	850-1000	0.5 Max.
100 LS		
Federal	850-1000	0.9 Max.
Calif.	850-1000	0.5 Max.

[1] - With vacuum hoses connected and air conditioning on (if equipped).
[2] - On air injection equipped models, CO% level must drop to less than 1 percent with air injection hose connected.
[3] - On 100 LS models, CO% level must drop to less than .5 percent with air injection hose connected.
[4] - On 100 LS models, CO% level must drop to less than .8 percent with air injection hose connected.

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

AUTOMATIC CHOKE SETTING

1974 Models - Automatic choke is set correctly if marks on choke cover and intermediate ring are aligned with center mark on carburetor housing.

FUEL PUMP

FUEL PUMP SPECIFICATIONS

Application	Specification
Pressure	
Carbureted	3.6 psi (.25 kg/cm²)
Fuel Injected	64-74 psi (4.5-5.2 kg/cm²)
Volume	
Fuel Injected	1 qt. in 40 seconds

EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

IGNITION SYSTEM

DISTRIBUTOR

All models are equipped with Bosch single point distributors.

Other Data & Specifications - See Bosch Single Point Distributor article in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

IGNITION COIL SPECIFICATIONS

Application	Primary (Ohms)	Secondary (Ohms)
Fox	1.7-2.1	7000-12,000
100 LS	1.8-1.9	.....

FUEL SYSTEMS

CARBURETORS

CARBURETORS

Application	Model
1974	
Fox	Solex 32/35 DIDTA
100 LS	Solex 32/35 TDID

Other Data & Specifications - See apropppriate Solex Carburetor article in FUEL SYSTEMS section.

FUEL INJECTION

All 1975-79 models are equipped with Bosch CIS Fuel Injection system.

Other Data & Specifications - See appropriate Solex Carburetor article in FUEL SYSTEMS section.