

1982 Audi Diesel 4 & 5 Tune-Up

TUNE-UP

4000 Diesel, 4000 Turbo Diesel,
5000 Diesel, 5000 Turbo Diesel

ENGINE IDENTIFICATION

Engine number is stamped into left side of block near No. 3 cylinder.

ENGINE CODE

Application	Code
4000 (4-Cyl.)	
All Except Turbo	CR
Turbo	CY
5000 (5-Cyl.)	
All Except Turbo	CN
Turbo	DE

COMPRESSION PRESSURE

Remove electrical wire from fuel shut-off solenoid on injection pump. Remove injector pipes, injector and heat shields. Insert oil heat shield into head. Insert adapter (US 1110/2A on Turbo models, VW 1323/2 on all others) and compression tester. Check compression while cranking engine through at least 6 strokes.

COMPRESSION SPECIFICATIONS

Compression Ratio	23.0:1
Compression Pressure	
Normal (New Engine)	406-493 psi (29-34 kg/cm ²)
Minimum	400-406 psi (28-29 kg/cm ²)
Max. Variation Between Cylinders ...	73 psi (5 kg/cm ²)

VALVE CLEARANCE

1) Turn engine clockwise until camshaft lobes for No. 1 cylinder valves point upward. Check valve clearance. If not within tolerance, adjusting disc must be changed.

2) Turn crankshaft 1/4 turn after TDC so valves will not hit piston top. Depress cam followers with depressor tool (VW2078). Remove disc with special pliers (VW4476). Calculate thickness of disc needed, coat with oil, and install with marks down. Replacement discs are available in thicknesses of .120-.167" (3.00-4.25 mm), in increments of .002" (.05 mm).

3) Check valve clearance on remaining cylinders. Check in same sequences as firing order. Be sure to check valve clearance at TDC, then turn 1/4 turn after TDC before depressing valves.

VALVE CLEARANCE SPECIFICATIONS

Application	Clearance In. (mm)
Intake & Exhaust (Cold)008-.016 (.2-.4)
Intake & Exhaust (Warm)010-.018 (.3-.5)

VALVE ARRANGEMENT

4000 — E-I-E-I-I-E-I-E (Front to rear)
5000 — E-I-E-I-I-E-I-E-I-E (Front to rear)

Fig. 1: Audi 4-Cyl. Diesel & Turbo Diesel Firing Order

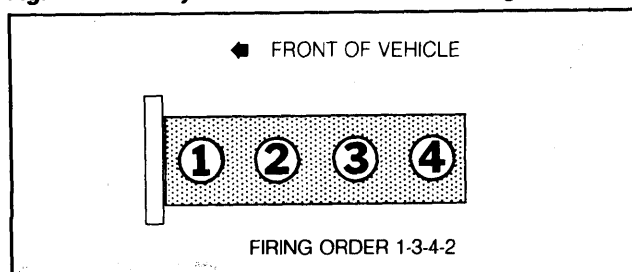
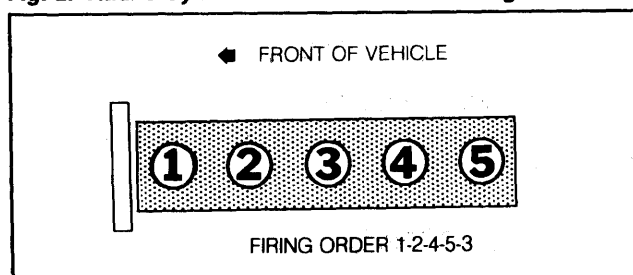


Fig. 2: Audi 5-Cyl. Diesel & Turbo Diesel Firing Order



GLOW PLUGS

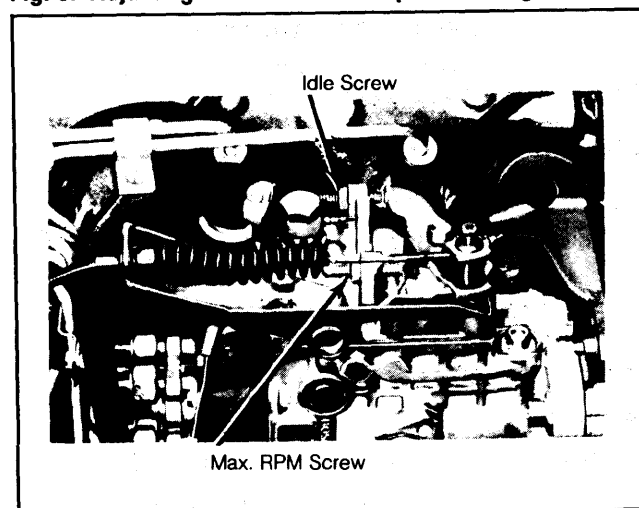
GLOW PLUG TYPE

Application	Bosch
All Models	N 019 100 6

IDLE SPEED

1) With the engine at normal operating temperature, turn idle speed control knob on dash panel counterclockwise to stop.

Fig. 3: Adjusting Idle & Maximum Speed Settings



Adjust maximum speed setting quickly to avoid unnecessary strain on engine.

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TUNE-UP (Cont.)

IDLE SPEED SPECIFICATIONS

Application	Idle RPM
4-Cyl.	
Diesel	770-870
Turbo Diesel	920-980
5-Cyl.	
Diesel	720-880
Turbo Diesel	720-780

2) Connect diesel tachometer (VW 1367) according to manufacturer instructions. Adjust idle speed with idle adjusting screw. Tighten lock nut. See Fig. 3.

3) Open throttle fully and quickly adjust maximum speed using maximum RPM screw. Tighten lock nut.

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

FUEL SYSTEMS

FUEL INJECTION

All models use the Bosch mechanical diesel fuel injection system.

ELECTRICAL

BATTERY

BATTERY SPECIFICATIONS

Application	Amp. Hr. Rating
All Models	88

STARTER

All models equipped with Bosch starters.

ALTERNATOR

All models equipped with Bosch alternators.

ALTERNATOR SPECIFICATIONS

Application	Rated Amp. Output
All Models	75

ALTERNATOR REGULATOR

All models are equipped with Bosch non-adjustable voltage regulators.

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

Application	Voltage
All Models	13.9-14.8

SERVICE SPECIFICATIONS

BELT ADJUSTMENTS

Application	¹ Deflection In. (mm)
All Belts3-.5 (10-15 mm)

¹ — With moderate pressure applied halfway between pulley.

REPLACEMENT INTERVALS

Component	Miles
Oil Filter	15,000
Fuel Filter	7500
Air Filter	30,000
PCV Valve	30,000

FLUID CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	4.5 qts. (4.2L)
Cooling System (Includes Heater)	9.9 qts. (9.3L)
Manual Transaxle (SAE 80)	2.0 qts. (1.9L)
Automatic Transaxle (Dexron)	3.2 qts. (3.0L)
Fuel Tank	19.8 gals. (37.0L)