1982 Mercedes-Benz V8 Tune-Up

TUNE-UP

380 Series

ENGINE IDENTIFICATION

The engine identification number is located on left rear side of engine crankcase.

ENGINE CODE

Application	Code
380SL	116.962
380SEL & 380SEC	116.963

ENGINE COMPRESSION

Check compression pressure with engine at normal operating temperature, throttle valve fully open and all spark plugs removed. Crank engine at least 8 "puffs" per cylinder.

COMPRESSION SPECIFICATIONS

Compression Ratio	8.3:1
Compression Pressure	
Normal	123 psi (8.6 kg/cm²)
Minimum	109 psi (7.7 kg/cm²)
Maximum Variation	
Between Cylinders	22 psi (1.5 kg/cm²)

VALVE CLEARANCE

Mercedes-Benz V8 engines use hydraulic valve lifters and no adjustment is necessary.

VALVE ARRANGEMENT

380 Series
Right Bank — E-I-E-I-E-I-I-E (Front to rear)
Left Bank — E-I-I-E-I-E-I-E (Front to rear)

SPARK PLUGS

SPARK PLUG TYPE

Application	Bosch	Champion
All models	W9D	N12Y

SPARK PLUG SPECIFICATIONS

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
All Models	.032 (.81)	22 (30)

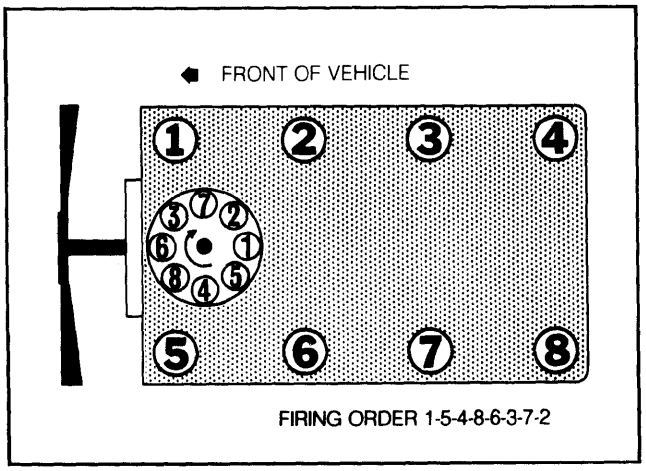
HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, check resistance of wires while gently twisting wire. Resistance should be 25,000-30,000 ohms. If resistance is not as specified, or fluctuates from infinity to any value, replace wire(s).

DISTRIBUTOR

All models are equipped with a Bosch breakerless transistorized distributor. No regular maintenance or adjustments are necessary.

Fig. 1: Firing Order and Distributor Rotation (All Models)



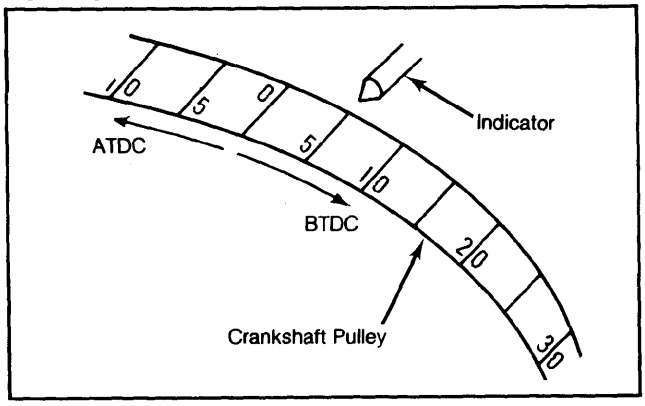
IGNITION TIMING

Check or adjust ignition timing with engine at normal operating temperature, idle speed set to specifications and distributor vacuum lines connected.

IGNITION TIMING (Degrees BTDC @ RPM)

Application	Man. Trans.	Auto. Trans.
All Models		5@500

Fig. 2: Ignition Timing Mark Location



IDLE SPEED & MIXTURE

IDLE SPEED

All models are equipped with electronic idle speed control and no adjustments are necessary.

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TUNE-UP (Cont.)

IDLE MIXTURE

NOTE: Mixture control unit adjustment screw opening is plugged to prevent tampering. Adjustment is not a normal maintenance procedure and should not be performed unless mixture control unit is replaced or vehicle fails emissions testing.

1) Warm engine to normal operating temperature and adjust timing. Remove cover from diagnostic plug (on fender panel near hood hinge). Connect voltmeter negative lead to pin 3 of plug, and positive lead to battery voltage.

2) Disconnect oxygen sensor plug (near sensor under vehicle). Observe voltmeter reading and place a piece of tape on voltmeter dial to indicate needle position. Needle should not be moving.

NOTE: Oxygen sensor plug is inside a holder. Unscrew holder bolt (if necessary), push plug out of holder, and disconnect.

3) Reconnect oxygen sensor. Needle should vibrate and vibrations should be centered around mark on voltmeter. If not, adjustment is necessary.

4) Remove plug from mixture control unit. Insert Allen wrench and adjust mixture screw carefully until needle is centered around mark on voltmeter dial. Remove test equipment and plug adjustment opening.

IDLE SPEED SPECIFICATIONS

Application	Idle RPM
All Models [1]	
Engine Cold	750
Engine Warm	500

[1] — Non-adjustable.

FUEL PUMP

FUEL PUMP PERFORMANCE

Application	Pressure psi (kg/cm²)	Volume in 30 Sec. Pints (Liters)
All Models	72-81 (5.0-5.6)	2 (.9)

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with a Bosch breakerless transistorized distributor. No regular maintenance or adjustments are necessary.

IGNITION COIL

RESISTANCE Ohms @ 68°F (20°C)

Application	Primary	Secondary
All Models	.38-.42	8000-11,000

FUEL SYSTEMS

FUEL INJECTION

All models use Bosch Lambda Continuous Injection System fuel injection.

ELECTRICAL

BATTERY

BATTERY SPECIFICATIONS

Application	Amp. Hr. Rating
380SL	88
380SEC & 380SEL	66

STARTER

All models are equipped with Bosch starters.

STARTER SPECIFICATIONS

Application	Volts	Amps	Test RPM
All Models	11.5	50-80	8300

ALTERNATOR

All models are equipped with Bosch integrally regulated alternators.

ALTERNATOR SPECIFICATIONS

Application	Rated Amp. Output
All Models	70

ALTERNATOR REGULATOR

All models are equipped with Bosch integral alternator regulators.

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

Application	Voltage
All Models	13.0-14.5

SERVICE SPECIFICATIONS

BELT ADJUSTMENT

Application	[1] Deflection In. (mm)
Power Steering Belt	.4 (10)
All Other Belts	.2 (5)

[1] — With moderate thumb pressure applied midway between pulleys.

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GENERAL SERVICING (Cont.)

REPLACEMENT INTERVALS

Component	Miles
Oil Filter	7500
Air Filter	30,000
Fuel Filter	60,000
Spark Plugs	30,000
Oxygen Sensor	30,000
Auto. Trans. Filter	30,000

FLUID CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	8.5 qts. (8.0L)
Cooling System	13.2 qts. (12.5L)
Auto. Trans. (Dexron)	6.5 qts. (6.2L)
Rear Axle (SAE 90)	2.8 pts. (1.3L)
Power Steering (Dexron)	
380SL	3.0 pts. (2.8L)
380SEC & 380SEL	2.6 pts. (1.2L)
Fuel Tank	
380SL	22.5 gals. (85.1L)
380SEC & 380SEL	23.8 gals. (90.1L)