

## TUNE-UP

### 380 Series

#### ENGINE IDENTIFICATION

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

#### Engine Code

Application	Code
380SEL .....	116.961
380SL & 380SLC .....	116.960

#### COMPRESSION PRESSURE

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

#### Compression Pressure Specifications

Application	Pressure psi (kg/cm <sup>2</sup> )
Normal .....	130-144 (9-10)
Minimum .....	108 (7.5)
Maximum Variation .....	21 (1.5)

#### VALVE CLEARANCE

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

#### VALVE ARRANGEMENT

450 Series  
 Right Bank - E-I-E-I-E-I-E (front to rear).  
 Left Bank - E-I-E-I-E-I-E (front to rear).

#### SPARK PLUGS

Application	Gap In. (mm)	Torque Fr. Lbs. (N·m)
All Models .....	.031 (0.8)	22 (30)

#### Spark Plug Type

Application	Bosch No.	Champion No.
All Models .....	W9D	N12Y

#### 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. If resistance is not to specifications, or fluctuates from infinity to any value, replace wire(s).

#### Resistance (Ohms) Per Wire

Application	Ohms
All Models .....	25,000-30,000

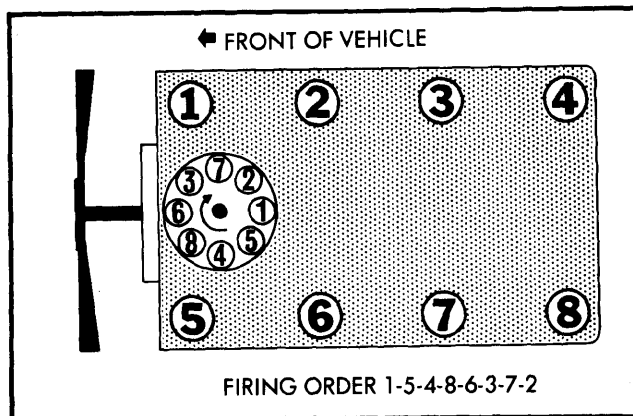


Fig. 1 Firing Order and Distributor Rotation

#### DISTRIBUTOR

All models feature a breakerless, transistorized ignition system.

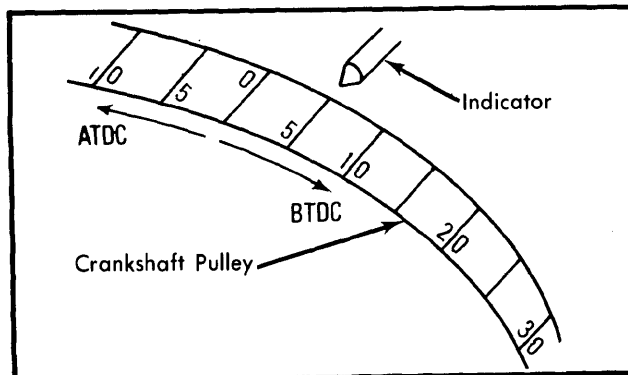


Fig. 2 Ignition Timing Mark Location

#### 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 Specifications (Degrees BTDC@RPM)

Application	Timing
All Models .....	5@500

#### IDLE SPEED & MIXTURE

##### IDLE SPEED

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

## 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 hex wrench and adjust mixture screw carefully until needle is centered around mark on voltmeter dial. Remove test equipment and plug adjustment opening.

### Idle Speed

Application	RPM
All Models <sup>⓪</sup>	
Engine Cold .....	750
Engine Warm .....	500

<sup>⓪</sup> — Non-adjustable.

### FUEL PUMP PRESSURE & VOLUME

Pressure .....	72-81 psi (5.0-5.6 kg/cm <sup>2</sup> )
Volume .....	1 qt. in 30 sec.

### EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

## GENERAL SERVICING

### IGNITION

#### DISTRIBUTOR

All models are equipped with Bosch breakerless ignition system.

#### IGNITION COIL

#### Resistance Specifications (Ohms@68°F)

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

Application	Amp. Hr. Rating
380SEL .....	55
380SL & 380SLC .....	88

**Battery Location** — Battery is located in engine compartment on 380SEL models, and in right side of trunk on 380SL and 380SLC models.

#### 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 alternators.

Application	Rated Amp. Output
All Models .....	70

#### ALTERNATOR REGULATOR

All models use Bosch integral alternator regulators with an operating voltage of 13.0-14.5 volts.

## GENERAL SERVICING (Cont.)

### BELT ADJUSTMENT

Application	① Deflection
Power Steering Belt .....	.40" (10 mm)
All Other Belts .....	.20" (5 mm)

① — Deflection with 12 lbs. pressure applied midway on belt run.

### FILTERS

Filter	Service Interval (Miles)
Oil Filter .....	Replace every 7500
Air Filter .....	Replace every 30,000
Fuel Filter .....	Replace every 60,000
Auto. Trans. Filter .....	Replace every 30,000

### CAPACITIES

Application	Quantity
Crankcase (Includes Filter) .....	8.0 qts.
Cooling System (Includes Heater) .....	13.0 qts.
Auto. Trans. (Dexron) .....	7.3 qts.
Rear Axle (SAE 90) .....	2.6 pts.
Fuel Tank	
380SEL .....	25.6 gals.
380SL & 380SLC .....	24.7 gals.