

TUNE-UP

450 Series

ENGINE IDENTIFICATION

First 6 digits of engine identification number (located on left rear side of block) are used to identify engine as follows:

Application	Code
450 SEL	117.986
450 SL	117.985
450 SLC	117.985

COMPRESSION PRESSURE

Check compression pressure with engine at normal operating temperature and throttle valve fully open. Crank engine a minimum of eight revolutions to obtain following specifications:

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

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-I-E-I-E-I-E (front to rear).

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (mkg)
All Models032 (.8)	22 (3.0)

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

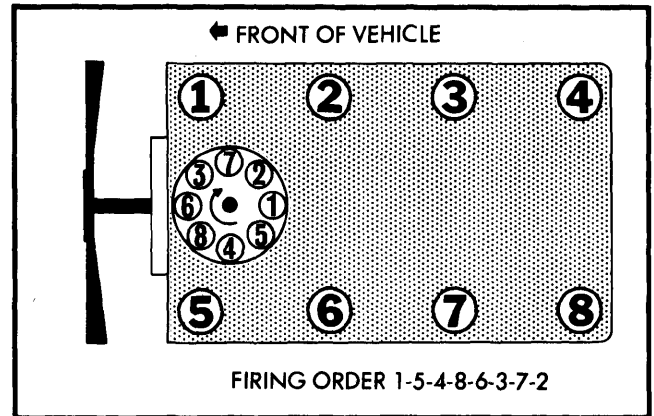


Fig. 1 Firing Order and Distributor Rotation

DISTRIBUTOR

All models feature a breakerless, transistorized ignition system.

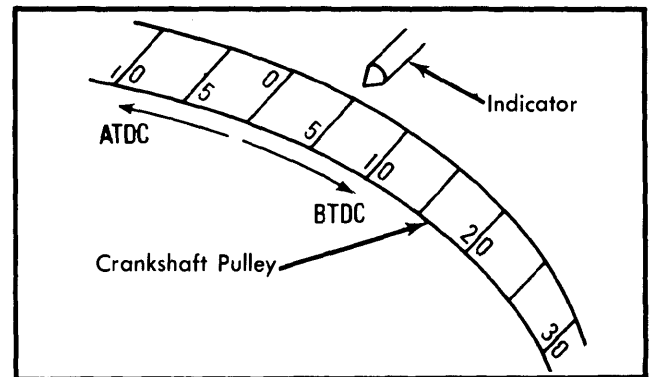


Fig. 2 450 Series Ignition Timing Marks

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

Application	RPM	Timing
All Models	600-700	5° BTDC

IDLE SPEED & MIXTURE

NOTE — Be sure spark plug gap and ignition timing are to specifications, and check air intake system for leaks. Turn off air conditioning system when making adjustments.

1) Connect tachometer and oil temperature gauge. Start engine and run in neutral with all accessories off.

2) Remove cover from diagnostic plug and connect negative lead of needle-type voltmeter to pin "3". Connect positive lead to battery voltage. Check to ensure that throttle valve lever is against stop, and cruise control cable is tension free. If not, adjust as necessary.

TUNE-UP (Cont.)

3) Run engine until oil temperature is at least 176° F (80° C). Check idle speed and adjust using idle air adjustment screw.



Fig. 3 450 Series Idle Air Adjustment Screw

4) Disconnect plug from oxygen sensor. Note indicated value on voltmeter and mark dial with tape or ink. Reconnect oxygen sensor and check voltmeter reading.

5) Remove rubber plug in air cleaner top and insert Allen wrench. Press down on wrench until screw is engaged, then adjust until voltmeter needle fluctuates evenly around the mark on voltmeter dial. Remove wrench, accelerate engine, and recheck. Adjust speed and mixture again if both are not correct.

Idle Speed

Application	RPM
All Models	600-700

FUEL PUMP PRESSURE & VOLUME

Pressure	72-81 psi (5.0-5.6 kg/cm ²)
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.

Other Data & Specifications – See Tune-Up article and appropriate article in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

Coil Resistance (Ohms@68° F)

Application	Primary	Secondary
All Models38-.42	8000-11,000

FUEL SYSTEMS

FUEL INJECTION

All models use Bosch Lambda Continuous Injection System fuel injection.

Other Data & Specifications – See Tune-Up and Bosch Lambda CIS Fuel Injection in FUEL SYSTEMS Section.

ELECTRICAL

BATTERY

Application	Amp. Hr. Rating
450SL, 450SLC	88
450SEL	88

Battery Location – Battery is located in engine compartment on 450SEL models, and in right side of trunk on 450SL and 450SLC models.

STARTER

All models are equipped with Bosch starters.

Starter Specifications

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

ALTERNATOR

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 Belt40" (10 mm)
All Other Belts20" (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 30,000
Auto. Trans. Filter	Replace every 30,000

CAPACITIES	
Application	Quantity
Crankcase (Includes Filter)	8.4 qts.
Cooling System (Includes Heater)	15.8 qts.
Auto. Trans. (Dexron)	8.3 qts.
Rear Axle (SAE 90)	2.7 pts.
Fuel Tank	
450SL, 450SLC	23.8 gals.
450SEL	25.4 gals.