

Engine & Cooling

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Engine and cooling system

500 SL CAT (129.066)

1989 to 1994

Type		119.960 DOHC 32V 245 kW
Capacity (cm³) / number of cylinders		4973 / 8
Compression ratio / pressure	bar	10.0 / ≥12.0
Oil pressure	bar	0.3 [3.0]
Oil temperature	°C	90
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-5-4-8-6-3-7-2
No 1 cylinder position		FR
Thermostat opening temperature	°C	84±2
Radiator cap pressure	bar	1.4±0.1

Fuel system

500 SL CAT (129.066)

1989 to 1994

Idle speed - manual [auto]	rpm	600 to 750
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5¹
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Bosch
Type / ref		CIS-E (KE5-Jetronic)
Main jet / needle		—
Injection pressure	bar	4.3 to 4.6
Pump pressure	bar	6.2 to 6.4
Octane rating	RON	95[U]

Ignition system

500 SL CAT (129.066)

1989 to 1994

Type		EZL
Ignition coil		Bosch
Primary resistance	ohms	0.3 to 0.6
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	Battery
Distributor		Bosch
Points gap (air gap)	mm	—
Dwell angle	° (%)	9 to 49 @ starter speed
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	1 ATDC to 3 BTDC @ idle
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	14 to 18 BTDC @ idle
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	Computer control
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Vacuum range check	mbar	Computer control
Maximum vacuum advance	° Crankshaft	—
Spark plugs		Bosch/Champion
Type		F7DCO / C9YCC
Electrode gap	mm	0.80

Electrical system

500 SL CAT (129.066)

1989 to 1994

Battery	V / CC / RC	12 / 280 / 92Ah
Alternator voltage / full load current / engine rpm		14.0 / 100 / 2160
Starter motor current / voltage - cranking	A / V	95 / 11.5 (no load)
- locked	A / V	650 to 840 / 3.8

Running gear

500 SL CAT (129.066)

1989 to 1994

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0

Tyres		
Saloon	Size	225/55x16
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+20'±10']
Camber		-50'+10'-20'
Castor		+10°30'±30'
King pin inclination		—

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+25'+10'-5']
Camber		-1°30'±30'

Torque wrench settings

500 SL CAT (129.066)

1989 to 1994

Cylinder head - stage 1	Nm	55²
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	45 + 90 to 100°
Main bearings	Nm	50
Clutch cover	Nm	—
Flywheel [driveplate]	Nm	35 + 90 to 100°
Front hubs	Nm	WSM
Rear hubs	Nm	200 to 240
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	30

Capacities

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1989 to 1994

Engine oil & filter	litres	8.0
Gearbox - 4-speed [5-speed]	litres	—
Automatic transmission - refill	litres	7.7
Final drive	litres	1.3
Cooling system	litres	13.0
Fuel tank	litres	80

Notes and Illustrations

¹Regenerating line disconnected and plugged

²Bolts marked “a” on diagram: 25