MERCEDES-BENZ

190E 2.5-16 Evolution[1]

1989 to 1992

Haynes THE BOOK ®

Automotive Technical DATA BOOK

Click on one of the buttons above to view data for this car. To return to this screen and make another choice, click anywhere on the data screen.

MENU HELP

Engine and cooling system

		190E 2.5-16 Evolution[1] 1989 to 1992
Type		102.991 KE 16V 143kW
Capacity (cm³) / number of cylinders		2498 / 4
Compression ratio / pressure	bar	9.7 / ≥10.5
Oil pressure	bar	0.3 [3.0]
Oil temperature	ºC	_
Valve clearance - inlet	mm	0.10 to 0.20
Valve clearance - exhaust	mm	0.25 to 0.35
Firing order		1-3-4-2
No 1 cylinder position		F
Thermostat opening temperature	ºC	87±2
Radiator cap pressure	bar	1.4±0.1

Fuel system

		190E 2.5-16 Evolution[1] 1989 to 1992
Idle speed - manual [auto]	rpm	890 to 990
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤0.3
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO2 @ idle speed [3000 rpm] - see page VI	%	_
O2 @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Bosch
Type / ref		CIS-E (KE-Jetronic)
Main jet / needle		_
Injection pressure	bar	3.7 to 4.3
Pump pressure	bar	5.7 to 5.9
Octane rating	RON	95[U]

Ignition system

		190E 2.5-16 Evolution[1] 1989 to 1992
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	º (%)	7 to 49 @ starter speed
Condenser capacity	µF	_
Rotation		_
Ignition timing - basic [static	º Crankshaft @ rpm	17 to 21 BTDC @ 4200
V = Vacuum NV = No Vacuum		NV
Total ignition advance	º Crankshaft @ rpm	14 to 18 BTDC @ idle
	º Crankshaft @ rpm	28 to 32 BTDC @ 4200
	º Crankshaft @ rpm	_
Centrifugal check.	º Crankshaft @ rpm	Computer control
	º Crankshaft @ rpm	_
	º Crankshaft @ rpm	_
Vacuum range check	mbar	Computer control
Maximum vacuum advance	º Crankshaft	_
Spark plugs		Bosch/Champion
Type		H7DCO / S9YCC
Electrode gap	mm	0.80

Electrical system

		190E 2.5-16 Evolution[1] 1989 to 1992
Battery	V / CC / RC	12 / 190 / 62Ah
Alternator voltage / full load current / engine rpm		14.0 / 70 / 2480
Starter motor current / voltage - cranking	A / V	75 / 11.5 (no load)
- locked	A / V	430 to 550 / 3.2

Running gear

		190E 2.5-16 Evolution[1] 1989 to 1992
Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
Tyres		
Saloon	Size	225/50x16
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.3 / 2.5
- Estate / Van	bar	_
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+20'±10']
Camber		-1°35'+10'-20'
Castor		+11°20'±30'
King pin inclination		_
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+20' to 35']
Camber		-1°30'±30'

Torque wrench settings

		190E 2.5-16 Evolution[1] 1989 to 1992
Cylinder head - stage 1	Nm	55[2]
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	_
Big-end bearings	Nm	60 + 90 to 100°
Main bearings	Nm	M12: 90[3]
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	50 + 90 to 100°
Front hubs	Nm	WSM
Rear hubs	Nm	200 to 240
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	20

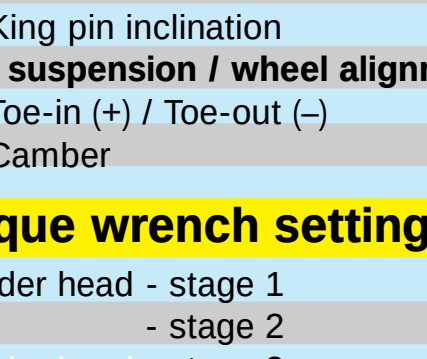
Capacities

		190E 2.5-16 Evolution[1] 1989 to 1992
Engine oil & filter	litres	5.0
Gearbox - 4-speed [5-speed]	litres	1.6
Automatic transmission - refill	litres	_
Final drive	litres	1.1
Cooling system	litres	8.0
Fuel tank	litres	70

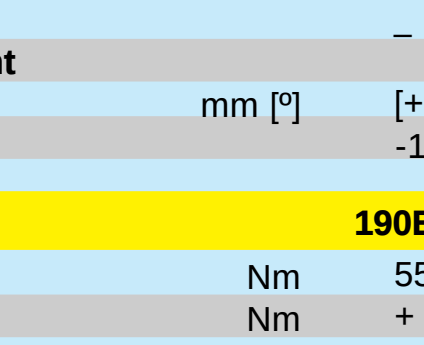
Notes and Illustrations

[1]**201.036**
[2]**Bolts marked "a" on diagram: 21**
[3]**M11: 55 + 90 to 100°**

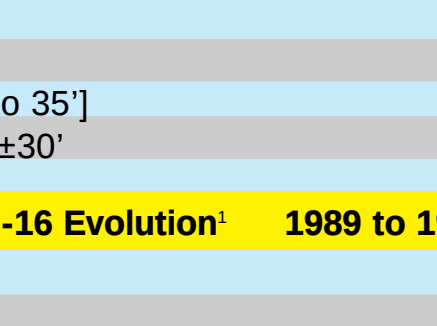
1: Idle speed 2: CO / Mixture



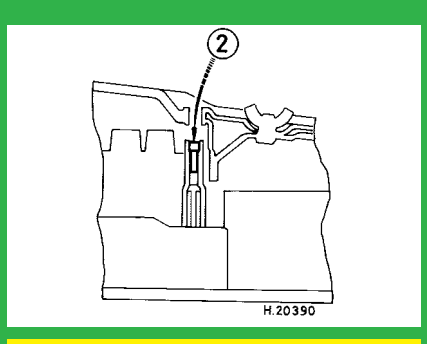
2498 cm³, 16V



2498 cm³, 16V



KE-Jetronic



KE-Jetronic