

Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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Automotive Technical DATA BOOK

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HELP

Engine and cooling system 190E 2.5-16 Evolution¹ 1989 to 1992

Type		102.991 KE 16V 143kW
Capacity (cm ³) / number of cylinders		2498 / 4
Compression ratio / pressure	bar	9.7 / ≥10.5
Oil pressure	bar	0.3 [3.0]
Oil temperature	°C	–
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	°C	87±2
Radiator cap pressure	bar	1.4±0.1

Fuel system 190E 2.5-16 Evolution¹ 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
CO ₂ @ idle speed [3000 rpm] - see page VI	%	–
O ₂ @ 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 Evolution¹ 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	° (%)	7 to 49 @ starter speed
Condenser capacity	µF	–
Rotation		–
Ignition timing - basic [static	° Crankshaft @ rpm	17 to 21 BTDC @ 4200
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	14 to 18 BTDC @ idle
	° Crankshaft @ rpm	28 to 32 BTDC @ 4200
	° 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		H7DCO / S9YCC
Electrode gap	mm	0.80

Electrical system 190E 2.5-16 Evolution¹ 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 Evolution¹ 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 [°]	[+20'±10']
Camber		-1°35'+10'-20'
Castor		+11°20'±30'
King pin inclination		–

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[+20' to 35']
Camber		-1°30'±30'

Torque wrench settings 190E 2.5-16 Evolution¹ 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°
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 Evolution¹ 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

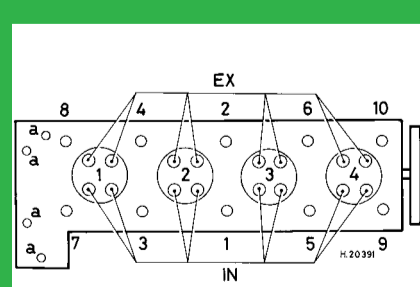
Notes and Illustrations

¹201.036

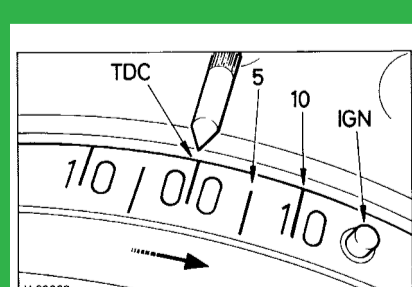
²Bolts marked "a" on diagram: 21

³M11: 55 + 90 to 100°

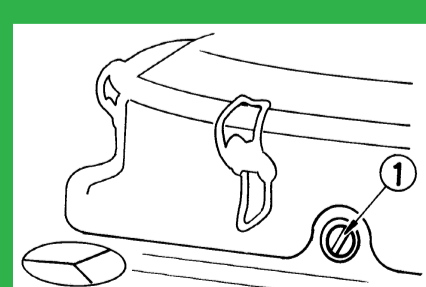
1: Idle speed 2: CO / Mixture



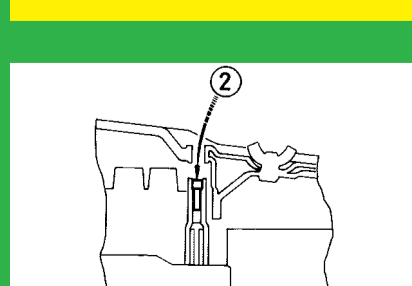
2498 cm³, 16V



2498 cm³, 16V



KE-Jetronic



KE-Jetronic