

Engine & Cooling

Fuel

Ignition

Electrical

Running gear

Torque settings

Capacities

Notes & Illustrations



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 2.3 CAT (201.028)

1989 to 1993

Type		102.985 KE 97kW
Capacity (cm ³) / number of cylinders		2299 / 4
Compression ratio / pressure	bar	9.0 / ≥8.5
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		1-3-4-2
No 1 cylinder position		F
Thermostat opening temperature	°C	87±2
Radiator cap pressure	bar	1.4±0.1

Fuel system

190E 2.3 CAT (201.028)

1989 to 1993

Idle speed - manual [auto]	rpm	720 to 820
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5. [1.5 to 5.0]
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 (KE-Jetronic)
Main jet / needle		—
Injection pressure	bar	3.7 to 4.3
Pump pressure	bar	5.3 to 5.5
Octane rating	RON	95[U]

Ignition system

190E 2.3 CAT (201.028)

1989 to 1993

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	22 to 26 BTDC @ 3200
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	8 to 12 @ idle
	° Crankshaft @ rpm	39 to 43 @ 3200
	° 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 2.3 CAT (201.028)

1989 to 1993

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 2.3 CAT (201.028)

1989 to 1993

Brakes -		
Front (min. friction material thickness)	mm	3.5
Rear (min. friction material thickness)	mm	2.0

Tyres		
Saloon	Size	185/65x15: 205/55x15
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.0 / 2.2
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+20'±10']
Camber		-25'+10'-20'. Sport: -50'
Castor		+10°25'±30'. Sport: +10°40'
King pin inclination		—

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

Torque wrench settings

190E 2.3 CAT (201.028)

1989 to 1993

Cylinder head - stage 1	Nm	55 ¹
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	30 + 90 to 100°
Main bearings	Nm	M12: 90 ²
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	40 + 90 to 100°
Front hubs	Nm	WSM
Rear hubs	Nm	200 to 240
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	20

Capacities

190E 2.3 CAT (201.028)

1989 to 1993

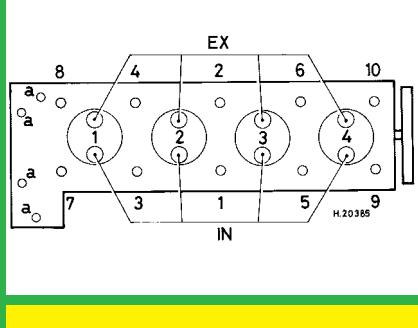
Engine oil & filter	litres	5.0
Gearbox - 4-speed [5-speed]	litres	1.5
Automatic transmission - refill	litres	6.0
Final drive	litres	1.1
Cooling system	litres	8.5
Fuel tank	litres	55. Opt: 70

Notes and Illustrations

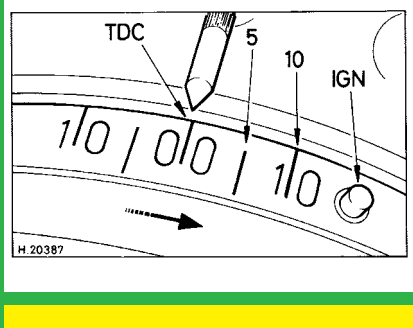
¹Bolts marked “a” on diagram: 21

²M11: 55 + 90 to 100°

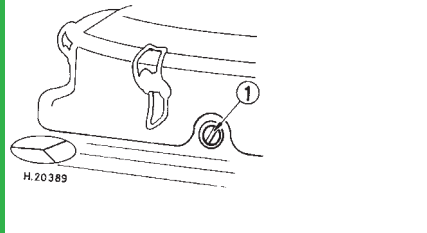
1: Idle speed 2: CO / Mixture



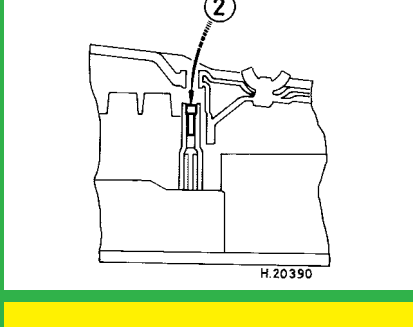
2299 cm³, 8V



2299 cm³, 8V



KE-Jetronic



KE-Jetronic