

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemMaestro 2.0i & CAT1989 to 1992

Type		20HE 99 SOHC
Capacity (cm ³) / number of cylinders		1994 / 4
Compression ratio / pressure	bar	9.0 / _
Oil pressure	bar	0.7 [3.8]
Oil temperature	°C	_
Valve clearance - inlet	mm	0.31±0.01 ¹
Valve clearance - exhaust	mm	0.31±0.01 ¹
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	88
Radiator cap pressure	bar	1.04

Fuel systemMaestro 2.0i & CAT1989 to 1992

Idle speed - manual [auto]	rpm	745±45 (ECU control) ²
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	2.0 to 2.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO ₂ @ idle speed [3000 rpm] - see page VI	%	_
O ₂ @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Lucas-Bosch
Type / ref		MPI LH type
Main jet / needle		_
Injection pressure	bar	2.5 to 3.0
Pump pressure	bar	4.1
Octane rating	RON	97[E 95 RON] ³

Ignition systemMaestro 2.0i & CAT1989 to 1992

Type		Computerized
Ignition coil		Unipart GCL 143
Primary resistance	ohms	0.71 to 0.81
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Lucas
Points gap (air gap)	mm	_
Dwell angle	° (%)	_
Condenser capacity	µF	_
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	17 BTDC @ 1500
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	40 BTDC @ 1500
	° 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		Unipart/Champion
Type		GSP4452 / RN7YC
Electrode gap	mm	0.85

Electrical systemMaestro 2.0i & CAT1989 to 1992

Battery	V / CC / RC	12 / 360 / 60
Alternator voltage / full load current / engine rpm		14.0 / 55, 65 / 3000
Starter motor current / voltage - cranking	A / V	65 / 12
- locked	A / V	360 / 7.0

Running gearMaestro 2.0i & CAT1989 to 1992

Brakes -		
Front (min. friction material thickness)	mm	3.0
Rear (min. friction material thickness)	mm	1.5

Tyres		
Saloon	Size	175/65x14: 185/55x15
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.0 / 2.0 ⁴
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	[0±8']
Camber		A: -15'±21'. B: +30'±21' ⁵
Castor		+37'±30'
King pin inclination		A: +12°30'±30'. B:+12°33'±30 ⁵

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	[+30' to 1°]
Camber		-0.5°±0.5°

Torque wrench settingsMaestro 2.0i & CAT1989 to 1992

Cylinder head - stage 1	Nm	45
- stage 2	Nm	80
Cylinder head - stage 3	Nm	+ 90° or to 108°
- stage 4	Nm	_
Big-end bearings	Nm	55 Lightly oiled
Main bearings	Nm	105 Lightly oiled
Clutch cover	Nm	23
Flywheel [driveplate]	Nm	58 bolts marked H ⁷
Front hubs	Nm	203
Rear hubs	Nm	68
Wheel nuts / bolts	Nm	72
Spark plugs	Nm	18

CapacitiesMaestro 2.0i & CAT1989 to 1992

Engine oil & filter	litres	4.9
Gearbox - 4-speed [5-speed]	litres	[2.2]
Automatic transmission - refill	litres	_
Final drive	litres	WT
Cooling system	litres	8.5
Fuel tank	litres	50

Notes and Illustrations

¹Adjust only if less than 0.20

²625±25, setting with air valve closed

³CAT: 95 [U]

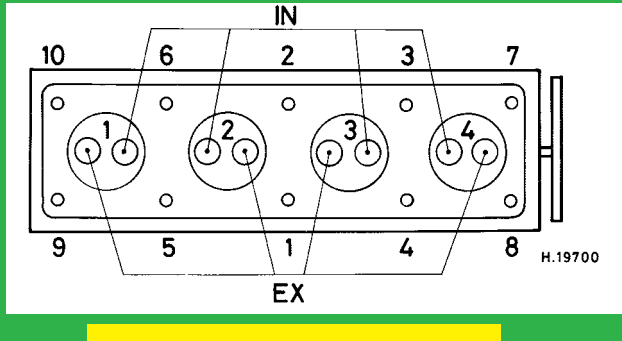
⁴185/55x15: 2.1 / 2.1

⁵A = early, B = later models

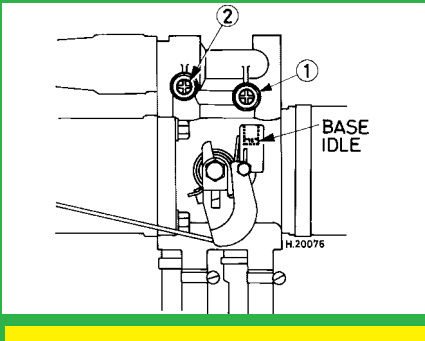
⁶Whichever occurs first

⁷Bolts marked X: 85

1: Idle speed 2: CO / Mixture



1994 cm³



MPI