

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling system

Tipo 1.8ie 1990 to 1992

Type		159 A4.000 DOHC 8V (80kW)
Capacity (cm ³) / number of cylinders		1756 / 4
Compression ratio / pressure	bar	9.5±0.15 / _
Oil pressure	bar	1.5 [4.6]
Oil temperature	°C	100
Valve clearance - inlet	mm	0.43±0.04
Valve clearance - exhaust	mm	0.48±0.04
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	83±2
Radiator cap pressure	bar	0.98

Fuel system

Tipo 1.8ie 1990 to 1992

Idle speed - manual [auto]	rpm	820±50
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	1.5±0.5
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		Weber-Marelli
Type / ref		IAW MPI
Main jet / needle		_
Injection pressure	bar	3.0±0.2
Pump pressure	bar	≤4.5
Octane rating	RON	97[E 95 RON]

Ignition system

Tipo 1.8ie 1990 to 1992

Type		IAW
Ignition coil		Marelli BAE 504DK
Primary resistance	ohms	0.405 to 0.495
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Marelli
Points gap (air gap)	mm	_
Dwell angle	° (%)	_
Condenser capacity	µF	_
Rotation		_
Ignition timing - basic [static	° Crankshaft @ rpm	15±2 BTDC @ 820±50
V = Vacuum NV = No Vacuum		_
Total ignition advance	° Crankshaft @ rpm	_
	° 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		WR6D / RN7YC
Electrode gap	mm	0.70 to 0.80

Electrical system

Tipo 1.8ie 1990 to 1992

Battery	V / CC / RC	12 / 225 / 55, 60, 70Ah
Alternator voltage / full load current / engine rpm		14.0 to 14.6 / 65, 90 / 3500
Starter motor current / voltage - cranking	A / V	360 to 380 / 8.15
- locked	A / V	680 to 700 / 4.9

Running gear

Tipo 1.8ie 1990 to 1992

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

Tyres		
Saloon	Size	175/65x14: 185/60x14
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.2 / 2.2
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	-1.0 to +1.0
Camber		+25'±30' N/A
Castor		+2°50'±30' N/A
King pin inclination		_

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	-3.0 to +1.0
Camber		-1°±30' N/A

Torque wrench settings

Tipo 1.8ie 1990 to 1992

Cylinder head - stage 1	Nm	20
- stage 2	Nm	40
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	+ 90°
Big-end bearings	Nm	25 + 50°
Main bearings	Nm	Centre: 20 + 130° ¹
Clutch cover	Nm	38
Flywheel [driveplate]	Nm	142
Front hubs	Nm	275
Rear hubs	Nm	320
Wheel nuts / bolts	Nm	86
Spark plugs	Nm	25 to 30

Capacities

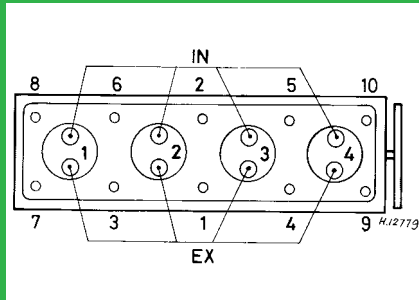
Tipo 1.8ie 1990 to 1992

Engine oil & filter	litres	5.2
Gearbox - 4-speed [5-speed]	litres	2.0
Automatic transmission - refill	litres	_
Final drive	litres	WT
Cooling system	litres	6.9
Fuel tank	litres	55

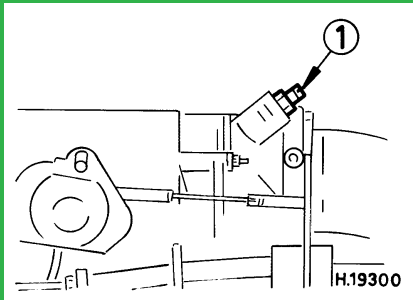
Notes and Illustrations

¹Side: 20 + 90°

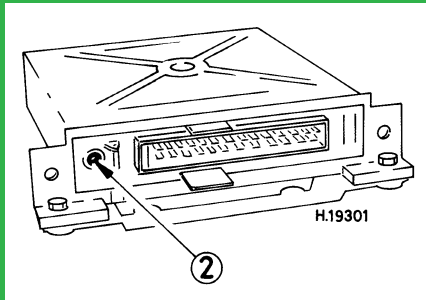
1: Idle speed 2: CO / Mixture



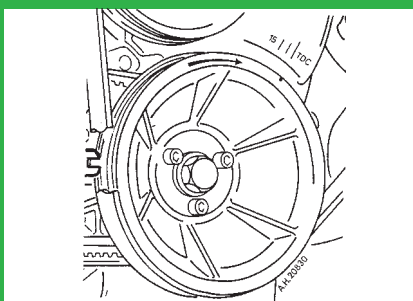
1756 cm³, 8V



Weber-Marelli IAW



Weber-Marelli IAW



1756 cm³