

VAUXHALL/OPEL

Manta-B GT/E

1983 to 1988

Engine & Cooling

Fuel

Ignition

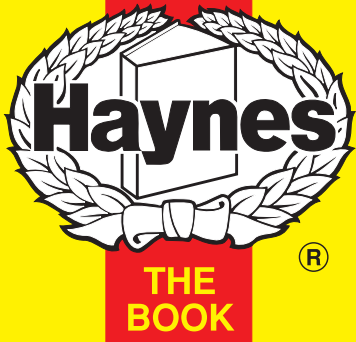
Electrical

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

Manta-B GT/E

1983 to 1988

Type		20E CIH. 81kW
Capacity (cm ³) / number of cylinders		1979 / 4
Compression ratio / pressure	bar	9.4 / _
Oil pressure	bar	1.0
Oil temperature	°C	60
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-3-4-2
No 1 cylinder position		TCE
Thermostat opening temperature	°C	85
Radiator cap pressure	bar	1.0 to 1.2

Fuel system

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Idle speed - manual [auto]	rpm	850 to 900
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤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		Bosch
Type / ref		LE-Jetronic
Main jet / needle		_
Injection pressure	bar	_
Pump pressure	bar	2.5
Octane rating	RON	98[R] ¹

Ignition system

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Type		HEI
Ignition coil		Bosch
Primary resistance	ohms	0.6 to 0.9
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Bosch
Points gap (air gap)	mm	_
Dwell angle	° (%)	Electronic control
Condenser capacity	µF	_
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	10 BTDC @ idle
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Centrifugal check.	° Crankshaft @ rpm	0 to 5 @ 1200
	° Crankshaft @ rpm	8 to 13 @ 1600
	° Crankshaft @ rpm	16 to 20 @ 2600
Vacuum range check	mbar	110 to 260
Maximum vacuum advance	° Crankshaft	12.5 to 16.5
Spark plugs		Champion
Type		RL82YC
Electrode gap	mm	0.70

Electrical system

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Battery	V / CC / RC	12 / 210 / 65 or 255 / 85
Alternator voltage / full load current / engine rpm		13.7 to 14.75 / _ / 2000
Starter motor current / voltage - cranking	A / V	250 / 9.7 (AC only)
- locked	A / V	400 to 500 / 7.6 to 7.7

Running gear

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

Tyres		
Saloon	Size	195/60x14
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	1.9 / 1.9
- Estate / Van	bar	_

Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[+10' to 40']
Camber		²
Castor		+4° to 6°30'
King pin inclination		_

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	0
Camber		0

Torque wrench settings

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Cylinder head - stage 1	Nm	60
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	Warm up
- stage 4	Nm	+ 30°
Big-end bearings	Nm	45
Main bearings	Nm	110
Clutch cover	Nm	22
Flywheel [driveplate]	Nm	60
Front hubs	Nm	WSM
Rear hubs	Nm	_
Wheel nuts / bolts	Nm	Steel & alloy+ bush: 90°
Spark plugs	Nm	40

Capacities

Manta-B GT/E

1983 to 1988

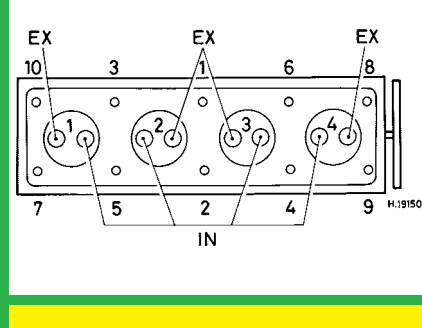
Engine oil & filter	litres	3.8
Gearbox - 4-speed [5-speed]	litres	1.4
Automatic transmission - refill	litres	2.1
Final drive	litres	1.2
Cooling system	litres	6.8 [AT: 6.7]
Fuel tank	litres	50

Notes and Illustrations

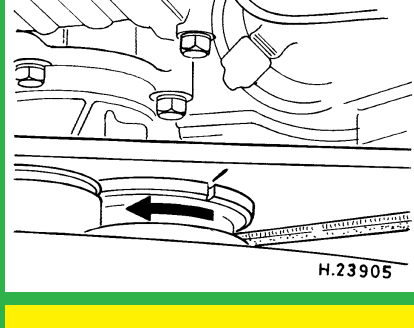
- ¹03.85 ►: retard ignition by 3°
- ²Upper control arm without marking: -45' to +45'. With marking: -1°15' to +15'
- ³Alloy, without steel bush: 130 to 150

1: Idle speed

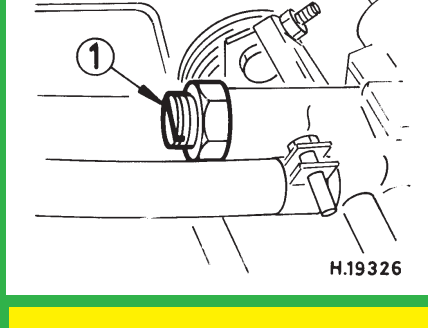
2: CO / Mixture



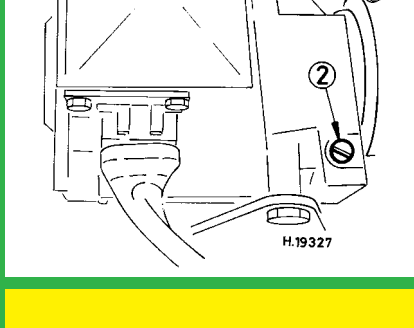
1979 cm³



1979 cm³



LE-Jetronic, 1979 cm³



LE-Jetronic