

VAUXHALL/OPEL

Manta-B 1.8

1982 to 1988

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling system

Manta-B 1.8

1982 to 1988

Type		18S SOHC. 66kW
Capacity (cm ³) / number of cylinders		1796 / 4
Compression ratio / pressure	bar	9.2 / _
Oil pressure	bar	1.5
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		TBE
Thermostat opening temperature	°C	91
Radiator cap pressure	bar	1.3 to 1.4

Fuel system

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1982 to 1988

Idle speed - manual [auto]	rpm	900 to 950 [800 to 850]
Fast idle speed - manual [auto]	rpm	2000±50
CO @ idle speed [3000 rpm] - see page VI	%	1.0 to 1.5
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		GM
Type / ref		Varajet II
Main jet / needle		195, 220 / G
Injection pressure	bar	_
Pump pressure	bar	_
Octane rating	RON	98[RA] ¹

Ignition system

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1982 to 1988

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		Anticlockwise
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 1 @ 1000
	° Crankshaft @ rpm	12 to 17 @ 3000
	° Crankshaft @ rpm	18 to 22 @ 4500
Vacuum range check	mbar	120 to 350
Maximum vacuum advance	° Crankshaft	13 to 17
Spark plugs		Champion
Type		RN7YC
Electrode gap	mm	0.70

Electrical system

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Battery	V / CC / RC	12 / 210 / 65
Alternator voltage / full load current / engine rpm		13.7 to 14.25 / _ / 3000
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	185/70x13
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	1.6 / 1.6
- Estate / Van	bar	_

Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[+10' to 40']
Camber		²
Castor		H'back: +3°45' to 6°15' ³
King pin inclination		_

Rear suspension / wheel alignment

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

Torque wrench settings

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1982 to 1988

Cylinder head - stage 1	Nm	25 N
- stage 2	Nm	+90°
Cylinder head - stage 3	Nm	+90°
- stage 4	Nm	+90°
Big-end bearings	Nm	50
Main bearings	Nm	70
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	25

Capacities

Manta-B 1.8

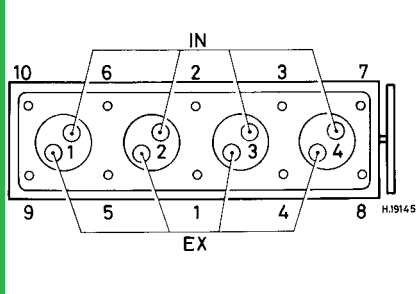
1982 to 1988

Engine oil & filter	litres	3.75
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

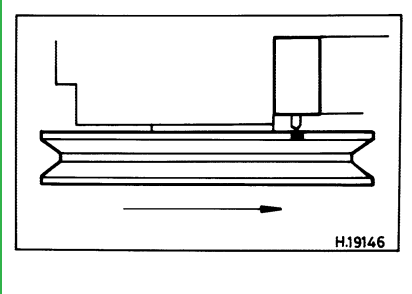
Notes and Illustrations

¹ Retard ignition by 3°
² Upper control arm without marking: -45' to +45'. With marking: -1°15' to +15'
³ Coupé: +4° to 6°30'
⁵ Alloy, without steel bush: 130 to 150

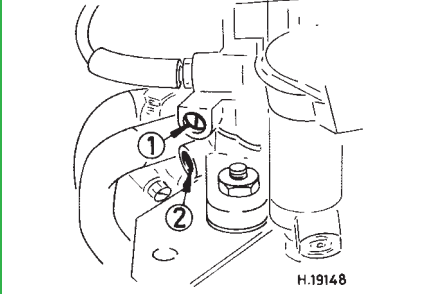
1: Idle speed 2: CO / Mixture



1796 cm³, 8V



1796cm³, 8V



GM Varajet II