

Engine & Cooling

Fuel

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Automotive Technical
DATA BOOK

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Engine and cooling systemMetro 1.3 van1985 to 1992

Type		12HA / HB / HC / HD ¹
Capacity (cm ³) / number of cylinders		1275 / 4
Compression ratio / pressure	bar	9.75 / $\bar{}$
Oil pressure	bar	1.0 [4.1]
Oil temperature	°C	$\bar{}$
Valve clearance - inlet	mm	0.30 to 0.35 ²
Valve clearance - exhaust	mm	0.30 to 0.35 ²
Firing order		1-3-4-2
No 1 cylinder position		TCE
Thermostat opening temperature	°C	88
Radiator cap pressure	bar	1.04

Fuel systemMetro 1.3 van1985 to 1992

Idle speed - manual [auto]	rpm	650±50 (86 ►: 880±50)
Fast idle speed - manual [auto]	rpm	1050 to 1150
CO @ idle speed [3000 rpm] - see page VI	%	1.5 to 3.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO2 @ idle speed [3000 rpm] - see page VI	%	$\bar{}$
O2 @ idle speed [3000 rpm] - see page VI	%	$\bar{}$
Carburettor / fuel injection		SU
Type / ref		HIF44
Main jet / needle		0.100 / BER
Injection pressure	bar	$\bar{}$
Pump pressure	bar	0.4
Octane rating	RON	97[L]

Ignition systemMetro 1.3 van1985 to 1992

Type		Contact breaker - CIS
Ignition coil		Ducellier / Bosch / GCL144
Primary resistance	ohms	1.2 to 1.5
Ballast resistor	ohms	1.3 to 1.5
Voltage - Tmnl 15(+) to earth	V	6.0 to 8.0
Distributor		Lucas
Points gap (air gap)	mm	0.38±0.03
Dwell angle	° (%)	49 to 59
Condenser capacity	µF	0.18 to 0.25
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	7 to 9 BTDC @ 1500
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	$\bar{}$
	° Crankshaft @ rpm	$\bar{}$
	° Crankshaft @ rpm	$\bar{}$
Centrifugal check.	° Crankshaft @ rpm	2 to 7 @ 1000
	° Crankshaft @ rpm	21 to 26 @ 3000
	° Crankshaft @ rpm	29 to 35 @ 4500
Vacuum range check	mbar	120 to 453
Maximum vacuum advance	° Crankshaft	16 to 20
Spark plugs		Unipart/Champion
Type		GSP4362 / N9YC
Electrode gap	mm	0.90

Electrical systemMetro 1.3 van1985 to 1992

Battery	V / CC / RC	12 / $\bar{}$
Alternator voltage / full load current / engine rpm		14.0 / $\bar{}$ / 3000
Starter motor current / voltage - cranking	A / V	65 to 75 / 12 (no load)
- locked	A / V	350 to 380 / $\bar{}$

Running gearMetro 1.3 van1985 to 1992

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

Tyres		
Saloon	Size	$\bar{}$
Estate / Van	Size	160/65x315: 160/60x315
Pressure - front / rear - Saloon	bar	$\bar{}$
- Estate / Van	bar	2.0 / 2.2

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	[0-25']
Camber		0±30'
Castor		+2°6'±2°
King pin inclination		+10°38'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	[0±30'.86 ►: +10' to 50']
Camber		-1°±30'

Torque wrench settingsMetro 1.3 van1985 to 1992

Cylinder head - stage 1	Nm	38
- stage 2	Nm	75
Cylinder head - stage 3	Nm	$\bar{}$
- stage 4	Nm	$\bar{}$
Big-end bearings	Nm	Bolts: 50. Nuts: 45
Main bearings	Nm	85
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	Centre bolt: 152
Front hubs	Nm	2 hole shaft: 271 ³
Rear hubs	Nm	88
Wheel nuts / bolts	Nm	57
Spark plugs	Nm	25

CapacitiesMetro 1.3 van1985 to 1992

Engine oil & filter	litres	4.8
Gearbox - 4-speed [5-speed]	litres	With engine
Automatic transmission - refill	litres	$\bar{}$
Final drive	litres	With engine
Cooling system	litres	4.8
Fuel tank	litres	33

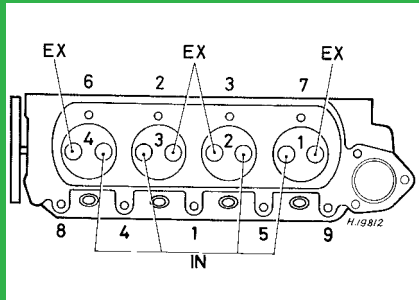
Notes and Illustrations

¹12HC09AA/10AA/12HD14AA/15AA

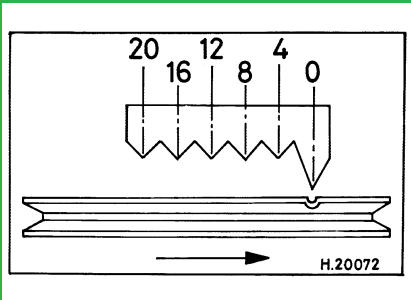
²1986 ►: 0.27 to 0.33

³1 hole shaft: 262

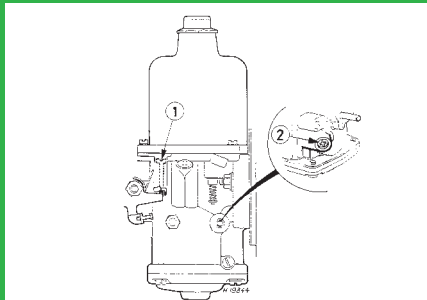
1: Idle speed 2: CO / Mixture



1275 cm³



1275 cm³



SU HIF