

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling system

Plus 4 M16 & CAT

1988 to 1992

Type		Rover M16 20HD DOHC 16V 103kW
Capacity (cm³) / number of cylinders		1994 / 4
Compression ratio / pressure	bar	10.0 / ≥10.3
Oil pressure	bar	0.7 [3.8 to 5.2]
Oil temperature	°C	80
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	88
Radiator cap pressure	bar	1.04

Fuel system

Plus 4 M16 & CAT

1988 to 1992

Idle speed - manual [auto]	rpm	750±25 (Base idle only)
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	1.0±0.5. CAT: 0.25 to 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		Lucas-Hitachi
Type / ref		H. MPI (Hot wire)
Main jet / needle		—
Injection pressure	bar	3.0
Pump pressure	bar	3.0
Octane rating	RON	97[E 95 RON] ¹

Ignition system

Plus 4 M16 & CAT

1988 to 1992

Type		Computerized
Ignition coil		GCL 141
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	12 BTDC @ 1500 ²
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	22 to 28 @ 1500
	° Crankshaft @ rpm	CAT: 24 to 28 @ 1500
	° 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		GSP4662 or 3662 / RC9YC
Electrode gap	mm	1.0. CAT: 0.85

Electrical system

Plus 4 M16 & CAT

1988 to 1992

Battery	V / CC / RC	12 / 48Ah
Alternator voltage / full load current / engine rpm		13.6 to 14.4 / 55 / 2500
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear

Plus 4 M16 & CAT

1988 to 1992

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

Tyres		
Saloon	Size	195/60x15
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	1.5 / 1.5
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	0 to +3.2
Camber		-1°
Castor		+4°
King pin inclination		+2°

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	0
Camber		0

Torque wrench settings

Plus 4 M16 & CAT

1988 to 1992

Cylinder head - stage 1	Nm	45
- stage 2	Nm	80
Cylinder head - stage 3	Nm	+ 60° or 108 ³
- stage 4	Nm	—
Big-end bearings	Nm	55
Main bearings	Nm	105
Clutch cover	Nm	26
Flywheel [driveplate]	Nm	85
Front hubs	Nm	WSM
Rear hubs	Nm	—
Wheel nuts / bolts	Nm	Centre locking wire wheels
Spark plugs	Nm	18

Capacities

Plus 4 M16 & CAT

1988 to 1992

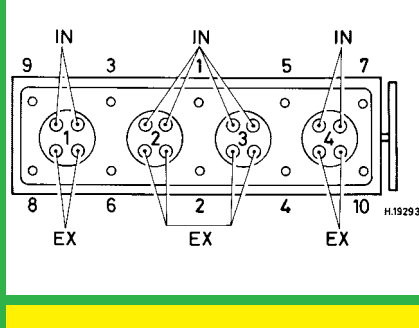
Engine oil & filter	litres	4.5
Gearbox - 4-speed [5-speed]	litres	1.6
Automatic transmission - refill	litres	—
Final drive	litres	1.4
Cooling system	litres	11.4
Fuel tank	litres	56

Notes and Illustrations

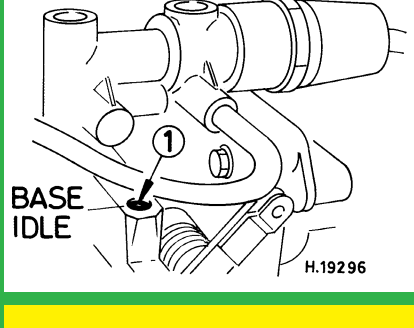
- ¹CAT: 95 [U]
- ²CAT: 9 to 11 BTDC @ 1500
- ³Whichever occurs first

1: Idle speed

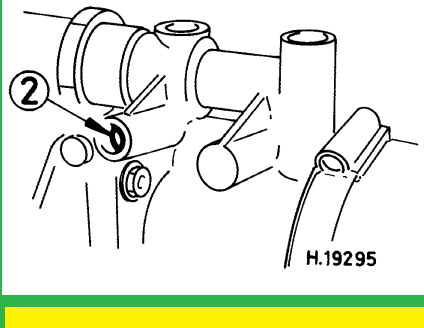
2: CO / Mixture



1994 cm³



Plus 4, MPI



Plus 4, MPI