

Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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# 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 220, 420 CAT 1991 to 1993

Type		20M4 DOHC 16V M16
Capacity (cm <sup>3</sup> ) / number of cylinders		1994 / 4
Compression ratio / pressure	bar	10.0 / _
Oil pressure	bar	1.0 [7.0]
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	0.9 to 1.0

## Fuel system 220, 420 CAT 1991 to 1993

Idle speed - manual [auto]	rpm	875±50 ECU control
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5 Ex
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO <sub>2</sub> @ idle speed [3000 rpm] - see page VI	%	_
O <sub>2</sub> @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Rover
Type / ref		MPI (H) with MEMS
Main jet / needle		_
Injection pressure	bar	3.0±0.2
Pump pressure	bar	5.0
Octane rating	RON	95[U]

## Ignition system 220, 420 CAT 1991 to 1993

Type		MEMS
Ignition coil		NEC10002 or 10003
Primary resistance	ohms	0.30 to 0.50
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±5 BTDC @ 875±50
V = Vacuum NV = No Vacuum		V
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		Unipart/Champion
Type		GSP6662 / RC9YC
Electrode gap	mm	0.85

## Electrical system 220, 420 CAT 1991 to 1993

Battery	V / CC / RC	12 / 480 / 90
Alternator voltage / full load current / engine rpm		13.9 to 15.1 / 80 / 3000
Starter motor current / voltage - cranking	A / V	_
- locked	A / V	_

## Running gear 220, 420 CAT 1991 to 1993

<b>Brakes -</b>		
Front (min. friction material thickness)	mm	3.0
Rear (min. friction material thickness)	mm	3.0

<b>Tyres</b>		
Saloon	Size	175/70x13:185/60x14: 185/55x15
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.1 / 2.1
- Estate / Van	bar	_

## Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[-10'±15'] U/L
Camber		-20'±10' U/L
Castor		+1°59'±30' U/L
King pin inclination		+12° U/L

## Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[+11'±7.5'] PW
Camber		-50' to +50'

## Torque wrench settings 220, 420 CAT 1991 to 1993

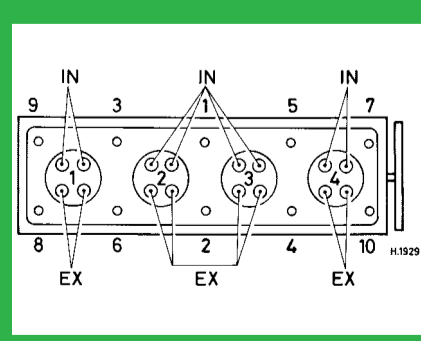
Cylinder head - stage 1	Nm	45
- stage 2	Nm	80
Cylinder head - stage 3	Nm	+ 60°, or 108
- stage 4	Nm	_
Big-end bearings	Nm	55
Main bearings	Nm	105
Clutch cover	Nm	26
Flywheel [driveplate]	Nm	85 [110]
Front hubs	Nm	185
Rear hubs	Nm	185
Wheel nuts / bolts	Nm	100
Spark plugs	Nm	25

## Capacities 220, 420 CAT 1991 to 1993

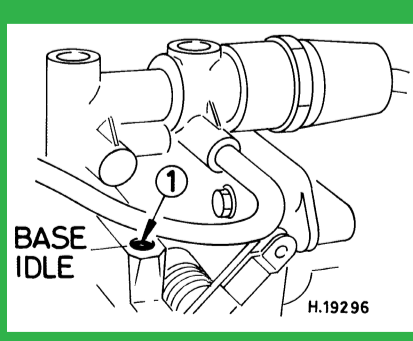
Engine oil & filter	litres	4.5
Gearbox - 4-speed [5-speed]	litres	2.3
Automatic transmission - refill	litres	_
Final drive	litres	WT
Cooling system	litres	7.0
Fuel tank	litres	55

## Notes and Illustrations

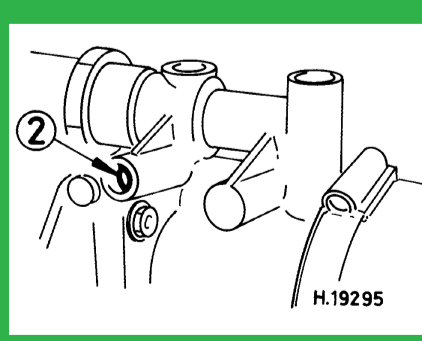
1: Idle speed 2: CO / Mixture



1994 cm<sup>3</sup>, 16V



MPI (H) 20M4



MPI (H) 20M4