

Engine & Cooling

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Automotive Technical
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Engine and cooling systemMini 1.3i CAT1991 to 1996

Type		12A2D F75 [AT: F76] 37kW ¹
Capacity (cm ³) / number of cylinders		1275 / 4
Compression ratio / pressure	bar	9.4 (F76/F77: 10.0) / _
Oil pressure	bar	1.0 [4.1]
Oil temperature	°C	_
Valve clearance - inlet	mm	0.27 to 0.33
Valve clearance - exhaust	mm	0.27 to 0.33
Firing order		1-3-4-2
No 1 cylinder position		TCE
Thermostat opening temperature	°C	85 to 88
Radiator cap pressure	bar	1.04

Fuel systemMini 1.3i CAT1991 to 1996

Idle speed - manual [auto]	rpm	850±25 N/A
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5 N/A
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO2 @ idle speed [3000 rpm] - see page VI	%	_
O2 @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Rover
Type / ref		Indirect SPI MNE10025 [26] ²
Main jet / needle		_
Injection pressure	bar	1.00 to 1.10
Pump pressure	bar	2.7
Octane rating	RON	95[U]

Ignition systemMini 1.3i CAT1991 to 1996

Type		MEMS
Ignition coil		AUU1326, ADU8779
Primary resistance	ohms	0.71 to 0.81
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Lucas
Points gap (air gap)	mm	[0.20±0.05]
Dwell angle	° (%)	_
Condenser capacity	µF	_
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	15±1 BTDC @ 850±25 N/A
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	Computer control
	° 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
Type		GSP4462
Electrode gap	mm	0.85±0.05

Electrical systemMini 1.3i CAT1991 to 1996

Battery	V / CC / RC	12 / 265 / 45
Alternator voltage / full load current / engine rpm		13.6 to 14.4 / 45 / 3000
Starter motor current / voltage - cranking	A / V	_
- locked	A / V	380 / 7.0±0.1

Running gearMini 1.3i CAT1991 to 1996

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

Tyres		
Saloon	Size	145/70x12: 165/60x12
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.0 / 2.0 ³
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	-1.6
Camber		+2°±1°
Castor		+3°±1°
King pin inclination		_

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+3.2
Camber		+1°+1°30'-30'

Torque wrench settingsMini 1.3i CAT1991 to 1996

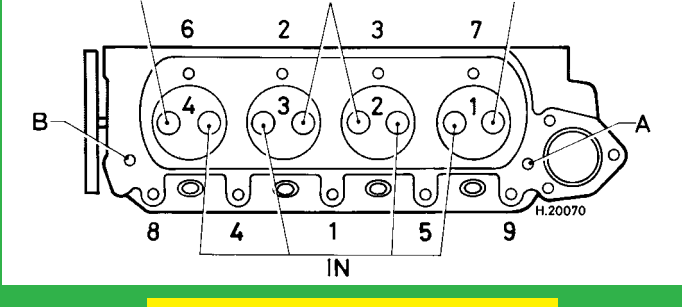
Cylinder head - stage 1	Nm	34
- stage 2	Nm	68
Cylinder head - stage 3	Nm	_
- stage 4	Nm	_
Big-end bearings	Nm	45
Main bearings	Nm	85
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	152
Front hubs	Nm	260
Rear hubs	Nm	80
Wheel nuts / bolts	Nm	60
Spark plugs	Nm	25

CapacitiesMini 1.3i CAT1991 to 1996

Engine oil & filter	litres	4.8 [AT: 5.1]
Gearbox - 4-speed [5-speed]	litres	With engine
Automatic transmission - refill	litres	With engine
Final drive	litres	With engine
Cooling system	litres	3.55
Fuel tank	litres	34

Notes and Illustrations

¹Cooper: 12A2E F77 47kW
²12A2E F77: MNE 10027. Later: MNE 101040/101070 [101060]
³165/60x12: 2.0 / 2.1



1275 cm³