

Engine & Cooling

Fuel

Ignition

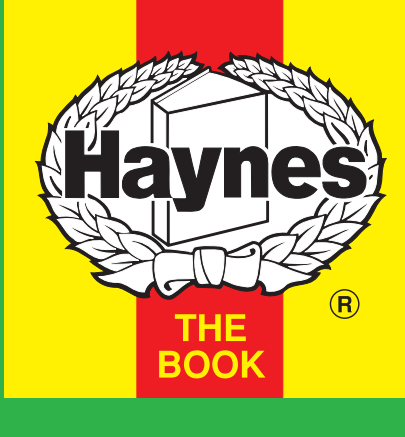
Electrical

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Automotive Technical
DATA BOOK

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Engine and cooling system

M3 (E36)

1993 to 1996

Type	S50/B30 210kW	
Capacity (cm ³) / number of cylinders	2990 / 6	
Compression ratio / pressure	bar	10.8 / ≥10.0
Oil pressure	bar	1.0 to 1.5 [4.0 to 5.0]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.28 to 0.33
Valve clearance - exhaust	mm	0.28 to 0.33
Firing order	1-5-3-6-2-4	
No 1 cylinder position	TCE	
Thermostat opening temperature	°C	80
Radiator cap pressure	bar	2.0±0.15

Fuel system

M3 (E36)

1993 to 1996

Idle speed - manual [auto]	rpm	800±40
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	≤0.3
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	Bosch	
Type / ref	DME-Motronic	
Main jet / needle	—	
Injection pressure	bar	—
Pump pressure	bar	—
Octane rating	RON	95[U]

Ignition system

M3 (E36)

1993 to 1996

Type	Direct electronic	
Ignition coil	—	
Primary resistance	ohms	0.82
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor	—	
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation	—	
Ignition timing - basic [static	° Crankshaft @ rpm	Computer control N/A
V = Vacuum NV = No Vacuum	—	
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	Bosch	
Type	Y5DDC	
Electrode gap	mm	0.9-0.1

Electrical system

M3 (E36)

1993 to 1996

Battery	V / CC / RC	12 / 65Ah
Alternator voltage / full load current / engine rpm	13.5 to 14.2 / 90 / 1500	
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear

M3 (E36)

1993 to 1996

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0

Tyres		
Saloon	Size	235/40x17
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.5 / 2.5
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+10'±5']
Camber	-55'±30'	
Castor	+6°38'±30' (10° lock)	
King pin inclination	+15°21'±30' (10° lock)	

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+30'±5']
Camber	-1°45'±10'	

Torque wrench settings

M3 (E36)

1993 to 1996

Cylinder head - stage 1	Nm	30 N
- stage 2	Nm	+90°
Cylinder head - stage 3	Nm	+90°
- stage 4	Nm	—
Big-end bearings	Nm	20 + 65° N
Main bearings	Nm	20 + 50° N
Clutch cover	Nm	34
Flywheel [driveplate]	Nm	105 N
Front hubs	Nm	290
Rear hubs	Nm	300
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	—

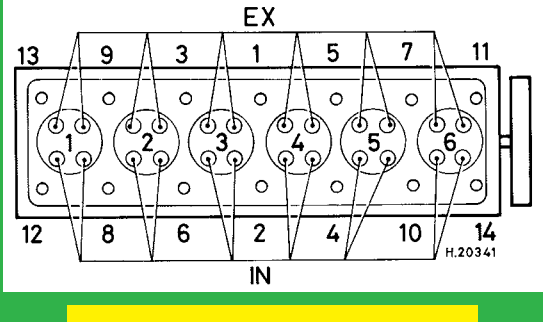
Capacities

M3 (E36)

1993 to 1996

Engine oil & filter	litres	7.2
Gearbox - 4-speed [5-speed]	litres	1.2
Automatic transmission - refill	litres	—
Final drive	litres	1.7
Cooling system	litres	12.0
Fuel tank	litres	65

Notes and Illustrations



2990 cm³, 24V