

Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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# Automotive Technical DATA BOOK

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## Engine and cooling system 840 Ci (E31) 1993 to 1996

Type	M60 4.0 210kW DOHC 32V	
Capacity (cm <sup>3</sup> ) / number of cylinders	3982 / 8	
Compression ratio / pressure	bar	10.0 / ≥10.0
Oil pressure	bar	≥0.5 [4.5]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order	1-5-4-8-6-3-7-2	
No 1 cylinder position	PER	
Thermostat opening temperature	°C	85
Radiator cap pressure	bar	2.0±0.1

## Fuel system 840 Ci (E31) 1993 to 1996

Idle speed - manual [auto]	rpm	600±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	≤0.3 N/A
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	Bosch	
Type / ref	M3.3-Motronic	
Main jet / needle	—	
Injection pressure	bar	—
Pump pressure	bar	3.5±0.06
Octane rating	RON	95[U]

## Ignition system 840 Ci (E31) 1993 to 1996

Type	Direct electronic	
Ignition coil	Bosch	
Primary resistance	ohms	0.8±0.1
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor	—	
Points gap (air gap)	mm	[0.30 to 0.70]
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
Centrifugal check.	° Crankshaft @ rpm	Computer control
Vacuum range check	mbar	Computer control
Maximum vacuum advance	° Crankshaft	—
Spark plugs	NGK/Bosch	
Type	BKR6EK / F7LDCR	
Electrode gap	mm	0.70+0.10

## Electrical system 840 Ci (E31) 1993 to 1996

Battery	V / CC / RC	12 / 65Ah
Alternator voltage / full load current / engine rpm	2x14.2 to 14.4 / 140 / 3000	
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

## Running gear 840 Ci (E31) 1993 to 1996

<b>Brakes -</b>		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
<b>Tyres</b>		
Saloon	Size	235/50x16
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.5 / 2.5
- Estate / Van	bar	—
<b>Front suspension / wheel alignment</b>		
Toe-in (+) / Toe-out (-)	mm [°]	[+18'±5']
Camber	-11'±30'. Sport: -25'±30'	
Castor	+8°14'±30'. Sport: +8°53'±30'	
King pin inclination	+12°4'±30'. Sport: +13°4'±30'	
<b>Rear suspension / wheel alignment</b>		
Toe-in (+) / Toe-out (-)	mm [°]	[+18'±6']
Camber	-1°10'±15'. Sport: -1°23'±15'	

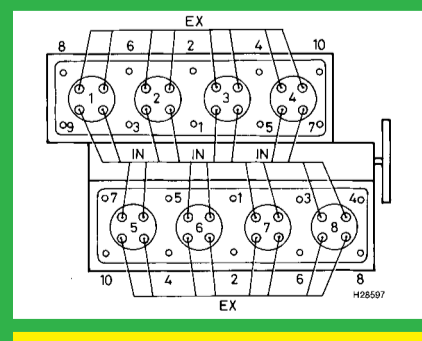
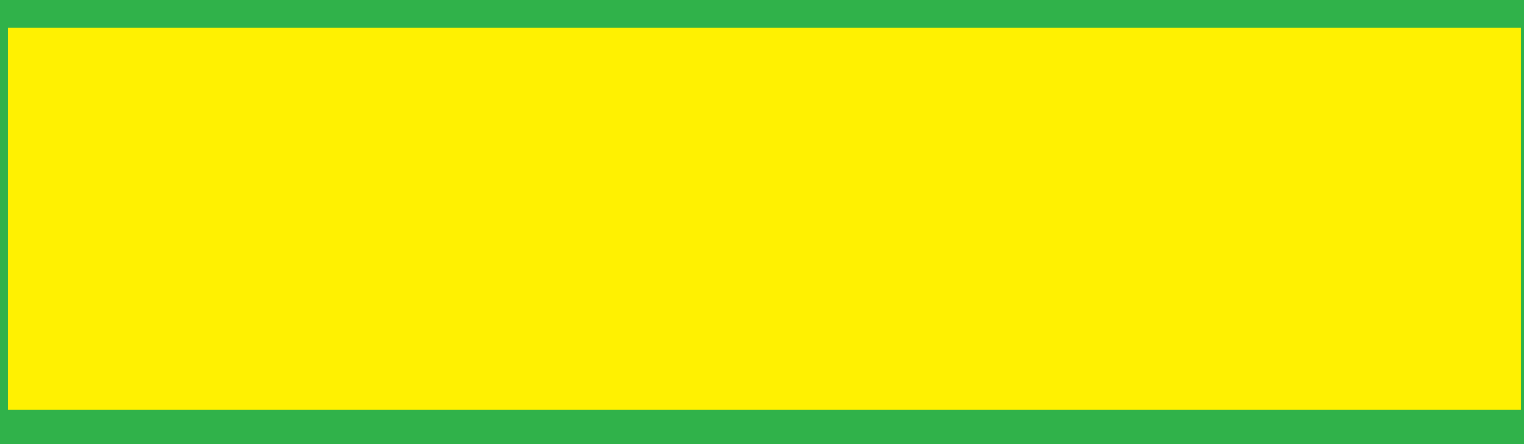
## Torque wrench settings 840 Ci (E31) 1993 to 1996

Cylinder head - stage 1	Nm	30±2 N
- stage 2	Nm	+ 80±5°
Cylinder head - stage 3	Nm	+ 80±5°
- stage 4	Nm	—
Big-end bearings	Nm	5, 20±1 + 80±5° N
Main bearings	Nm	20 + 70° N
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	105±5 N
Front hubs	Nm	290
Rear hubs	Nm	300
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	30 to 33

## Capacities 840 Ci (E31) 1993 to 1996

Engine oil & filter	litres	6.0 to 7.5
Gearbox - 4-speed [5-speed]	litres	1.75
Automatic transmission - refill	litres	5.5
Final drive	litres	1.9
Cooling system	litres	12.5
Fuel tank	litres	91

## Notes and Illustrations



3982 cm<sup>3</sup>, M60