

Engine & Cooling

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Automotive Technical
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Engine and cooling system850 CSi (E31)1993 to 1996

Type	S70/B56. 280kW SOHC 24V	
Capacity (cm ³) / number of cylinders	5576 / 12	
Compression ratio / pressure	bar	9.8 / ≥11.0
Oil pressure	bar	≥0.5 [4.3±0.2]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order	1-7-5-11-3-9-6-12-2-8-4-10	
No 1 cylinder position	PER	
Thermostat opening temperature	°C	85
Radiator cap pressure	bar	2.0±0.1

Fuel system850 CSi (E31)1993 to 1996

Idle speed - manual [auto]	rpm	700±50 N/A
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
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection	Bosch	
Type / ref	DME M1.7-Motronic	
Main jet / needle	—	
Injection pressure	bar	3.0±0.06
Pump pressure	bar	3.0±0.06
Octane rating	RON	95[U]

Ignition system850 CSi (E31)1993 to 1996

Type	DME Motronic	
Ignition coil	—	
Primary resistance	ohms	a: 0.50. b: 0.37
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 V = Vacuum NV = No Vacuum	° Crankshaft @ rpm	Computer control
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	F8LCR2	
Electrode gap	mm	0.70+0.10

Electrical system850 CSi (E31)1993 to 1996

Battery	V / CC / RC	12 / 130Ah
Alternator voltage / full load current / engine rpm	14.2 to 14.4 / 140 / 3000	
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear850 CSi (E31)1993 to 1996

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

Tyres		
Saloon	Size	235/45x17: 265/40x17
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.9 / 2.9
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+26'±5']
Camber	-24'±30'	
Castor	+8°53'±30'	
King pin inclination	+13°4'±30'	

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+20'±5']
Camber	-1°23'±15'	

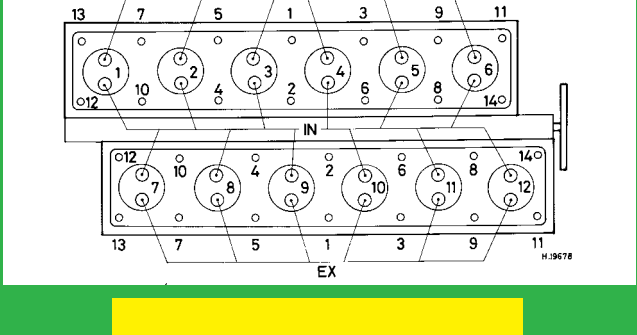
Torque wrench settings850 CSi (E31)1993 to 1996

Cylinder head - stage 1	Nm	30±2 N
- stage 2	Nm	+ 60°
Cylinder head - stage 3	Nm	+ 60°
- stage 4	Nm	—
Big-end bearings	Nm	20 + 70° 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

Capacities850 CSi (E31)1993 to 1996

Engine oil & filter	litres	8.25
Gearbox - 4-speed [5-speed]	litres	2.3
Automatic transmission - refill	litres	—
Final drive	litres	2.7
Cooling system	litres	13.0
Fuel tank	litres	90

Notes and Illustrations



5576 cm³, S70