

Engine & Cooling

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Automotive Technical
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Engine and cooling system

730i (E38)

1994 to 1996

Type	M60/B30 160kW DOHC 32V	
Capacity (cm³) / number of cylinders	2997 / 8	
Compression ratio / pressure	bar	10.5 / ≥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

730i (E38)

1994 to 1996

Idle speed - manual [auto]	rpm	600±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0.5±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	M3.3-Motronic	
Main jet / needle	—	
Injection pressure	bar	—
Pump pressure	bar	3.5±0.06
Octane rating	RON	95[U]

Ignition system

730i (E38)

1994 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	—
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	NGK/Bosch	
Type	BKR6EK / F7LDCR	
Electrode gap	mm	0.70+0.10

Electrical system

730i (E38)

1994 to 1996

Battery	V / CC / RC	12 / 85Ah
Alternator voltage / full load current / engine rpm	≤14.2 / 92, 100, 140 / 3000	
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear

730i (E38)

1994 to 1996

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

Tyres		
Saloon	Size	215/65x16
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.0 / 2.2
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+14'±5']
Camber	-13'±30'	
Castor	+6°6'±30'	
King pin inclination	—	

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+18'±10']
Camber	-1°30'±20'	

Torque wrench settings

730i (E38)

1994 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
Front hubs	Nm	290
Rear hubs	Nm	247.6±5%
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	30 to 33

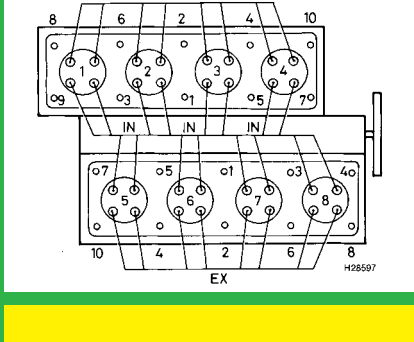
Capacities

730i (E38)

1994 to 1996

Engine oil & filter	litres	6.0 to 7.5. Oil cooler: +1.0
Gearbox - 4-speed [5-speed]	litres	1.2
Automatic transmission - refill	litres	3.3
Final drive	litres	1.4
Cooling system	litres	12.0
Fuel tank	litres	85. iL: 95

Notes and Illustrations



2997 cm³, M60