Automotive Technical DATA BOOK

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MENU HELP

Engine and cooling system — 740i (E38) — 1996 to 1997

Type		M60 4.0 210kW DOHC 32V
Capacity (cm³) / number of cylinders		4398 / 8
Compression ratio / pressure	bar	10.0 / ≥10.0
Oil pressure	bar	≥0.5 [4.5]
Oil temperature	ºC	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	ºC	85
Radiator cap pressure	bar	2.0±0.1

Fuel system — 740i (E38) — 1996 to 1997

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		M5.2-Motronic
Main jet / needle		_
Injection pressure	bar	_
Pump pressure	bar	3.5±0.06
Octane rating	RON	95[U]

Ignition system — 740i (E38) — 1996 to 1997

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	º (%)	_
Condenser capacity	µF	_
Rotation		_
Ignition timing - basic [static	º Crankshaft @ rpm	Computer control N/A
V = Vacuum NV = No Vacuum		_
Total ignition advance	º Crankshaft @ rpm	Computer control
	º Crankshaft @ rpm	_
	º Crankshaft @ rpm	_
Centrifugal check.	º Crankshaft @ rpm	Computer control
	º Crankshaft @ rpm	_
	º Crankshaft @ rpm	_
Vacuum range check	mbar	Computer control
Maximum vacuum advance	º Crankshaft	_
Spark plugs		NGK/Bosch
Type		BKR6EK / F7LDCR
Electrode gap	mm	0.70+0.10

Electrical system — 740i (E38) — 1996 to 1997

Battery	V / CC / RC	12 / 90Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 140 / 3000
Starter motor current / voltage - cranking	A / V	_
- locked	A / V	_

Running gear — 740i (E38) — 1996 to 1997

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
Tyres		
Saloon	Size	235/60x16
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	Refer to vehicle
- Estate / Van	bar	_
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+14'±5']
Camber		-13'±30'
Castor		+6°6'±30'
King pin inclination		_
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+18'±10']
Camber		-1°30'±20'

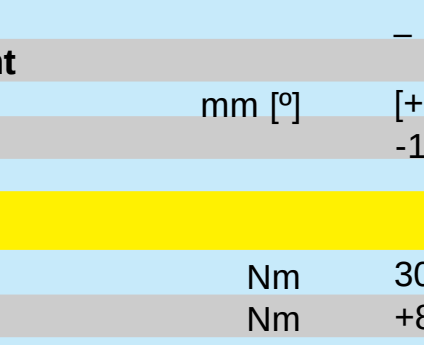
Torque wrench settings — 740i (E38) — 1996 to 1997

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 — 740i (E38) — 1996 to 1997

Engine oil & filter	litres	7.5
Gearbox - 4-speed [5-speed]	litres	1.9
Automatic transmission - refill	litres	3.3 Filled for life
Final drive	litres	1.6
Cooling system	litres	12.0
Fuel tank	litres	85. iL: 95

Notes and Illustrations



3982 cm³, M60