Automotive Technical DATA BOOK

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MENU HELP

Engine and cooling system — 316i & Touring & CAT (E30) — 1988 to 1993

Type		M40/B16 164E1 75kW CAT:73kW
Capacity (cm³) / number of cylinders		1596 / 4
Compression ratio / pressure	bar	9.0 / ≥10.0
Oil pressure	bar	1.3 [4.0]
Oil temperature	ºC	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-3-4-2
No 1 cylinder position		F
Thermostat opening temperature	ºC	88
Radiator cap pressure	bar	1.0±0.1

Fuel system — 316i & Touring & CAT (E30) — 1988 to 1993

Idle speed - manual [auto]	rpm	800±40
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	0.7±0.5 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		M1.3-Motronic
Main jet / needle		_
Injection pressure	bar	2.3 to 2.7
Pump pressure	bar	3.0±0.06
Octane rating	RON	95[E 95 RON]¹

Ignition system — 316i & Touring & CAT (E30) — 1988 to 1993

Type		DME Motronic
Ignition coil		Bosch 0 221 118 335
Primary resistance	ohms	0.82
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Bosch
Points gap (air gap)	mm	[0.30 to 0.70]
Dwell angle	º (%)	_
Condenser capacity	µF	_
Rotation		Clockwise
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		Bosch/Champion
Type		F8LCR / C9YCC
Electrode gap	mm	0.70 to 0.80

Electrical system — 316i & Touring & CAT (E30) — 1988 to 1993

Battery	V / CC / RC	12 / 46Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 65 or 80 / 1500
Starter motor current / voltage - cranking	A / V	_
- locked	A / V	_

Running gear — 316i & Touring & CAT (E30) — 1988 to 1993

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	1.5. Discs: 2.0
Tyres		
Saloon	Size	175/70x14: 195/65x14
Estate / Van	Size	195/65x14
Pressure - front / rear - Saloon	bar	2.0 / 2.1
- Estate / Van	bar	2.0 / 2.2
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+18'±5']
Camber		-40'±30'
Castor		+8°46'±30'
King pin inclination		+14°15'±30' (20° lock)
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+22'±7']
Camber		-2°±30'

Torque wrench settings — 316i & Touring & CAT (E30) — 1988 to 1993

Cylinder head - stage 1	Nm	30 to 32 WSM
- stage 2	Nm	+ 90±3°
Cylinder head - stage 3	Nm	+ 90±3°
- stage 4	Nm	_
Big-end bearings	Nm	23 + 70° N
Main bearings	Nm	22.5±2.5 + 50±3°
Clutch cover	Nm	24. 10.9 hex: 35
Flywheel [driveplate]	Nm	113 to 130 N
Front hubs	Nm	290
Rear hubs	Nm	195 to 210
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	30 to 33

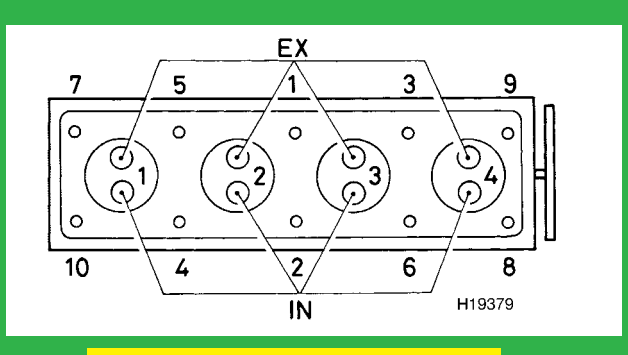
Capacities — 316i & Touring & CAT (E30) — 1988 to 1993

Engine oil & filter	litres	4.0
Gearbox - 4-speed [5-speed]	litres	1.1
Automatic transmission - refill	litres	3.0
Final drive	litres	0.9
Cooling system	litres	7.0
Fuel tank	litres	55. Later: 64

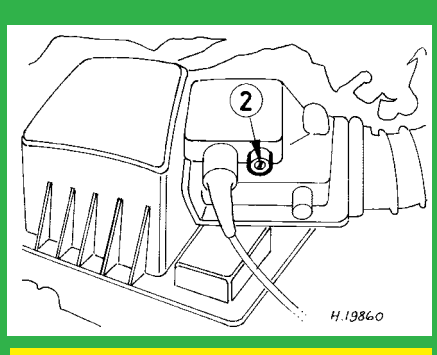
Notes and Illustrations

[1]**CAT: [U]**

1: Idle speed 2: CO / Mixture



1596 cm³



M1.3-Motronic