Automotive Technical DATA BOOK

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MENU HELP

Engine and cooling system

320i & Touring & CAT (E30) 1988 to 1993

Type		M20/B20 20 6EE 95kW
Capacity (cm³) / number of cylinders		1990 / 6
Compression ratio / pressure	bar	9.4 / ≥10.0[1]
Oil pressure	bar	0.5 [4.0]
Oil temperature	ºC	80
Valve clearance - inlet	mm	0.25
Valve clearance - exhaust	mm	0.25
Firing order		1-5-3-6-2-4
No 1 cylinder position		TBE
Thermostat opening temperature	ºC	80
Radiator cap pressure	bar	1.0±0.1

Fuel system

320i & Touring & CAT (E30) 1988 to 1993

Idle speed - manual [auto]	rpm	760±40
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤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		M1.1 or M1.3-Motronic
Main jet / needle		_
Injection pressure	bar	2.5±0.05
Pump pressure	bar	3.0
Octane rating	RON	98[E 95 RON][1]

Ignition system

320i & Touring & CAT (E30) 1988 to 1993

Type		DME Motronic
Ignition coil		Bosch 0 221 122 319
Primary resistance	ohms	0.82
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	≥10.8
Distributor		Bosch
Points gap (air gap)	mm	[0.30 to 0.70]
Dwell angle	º (%)	_
Condenser capacity	µF	_
Rotation		_
Ignition timing - basic [static	º Crankshaft @ rpm	Computer control
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		W8LCR / N9YCX
Electrode gap	mm	0.70+0.10

Electrical system

320i & Touring & CAT (E30) 1988 to 1993

Battery	V / CC / RC	12 / 50Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 80 or 90 / 1500
Starter motor current / voltage - cranking	A / V	170 / 9.0
- locked	A / V	_

Running gear

320i & Touring & CAT (E30) 1988 to 1993

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	1.5
Tyres		
Saloon	Size	195/65x14
Estate / Van	Size	195/65x14
Pressure - front / rear - Saloon	bar	1.9 / 2.0[2]
- Estate / Van	bar	1.9 / 2.0
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']. Conv: [+23'±7']
Camber		-2°±30'. Conv: -1°50'±30'

Torque wrench settings

320i & Touring & CAT (E30) 1988 to 1993

Cylinder head - stage 1	Nm	TORX: 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	58 to 63
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	110
Spark plugs	Nm	30 to 33

Capacities

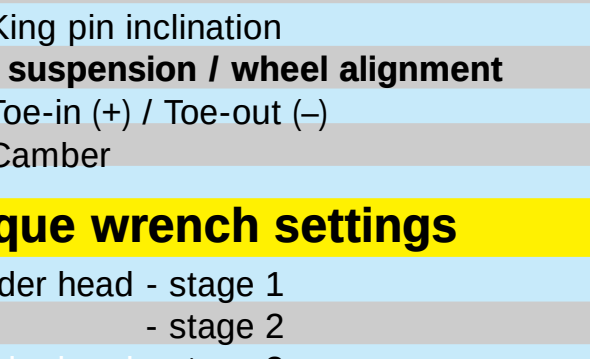
320i & Touring & CAT (E30) 1988 to 1993

Engine oil & filter	litres	4.25
Gearbox - 4-speed [5-speed]	litres	1.1
Automatic transmission - refill	litres	3.0
Final drive	litres	0.9
Cooling system	litres	10.5
Fuel tank	litres	63 or 70

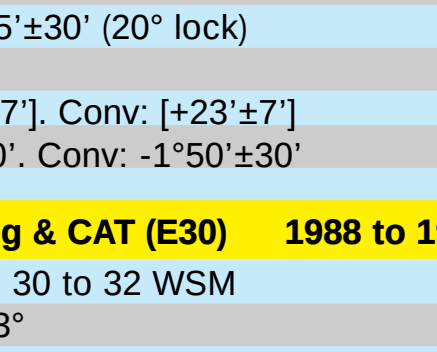
Notes and Illustrations

[1]**CAT: 8.8 / _10.0**
[2]**CAT: 95 [U]**
[3]**Convertible: 2.1 / 2.3**

1: Idle speed 2: CO / Mixture



1990 cm³, 12V



M1.1 / M1.3-Motronic