Automotive Technical DATA BOOK

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MENU HELP

Engine and cooling system

		320i 24V CAT (E36) 1991 to 1993
Type		M50/B20 20 6S1 110kW
Capacity (cm³) / number of cylinders		1990 / 6
Compression ratio / pressure	bar	10.5 / ≥10.0
Oil pressure	bar	2.0 [4.0]
Oil temperature	ºC	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-5-3-6-2-4
No 1 cylinder position		TBE
Thermostat opening temperature	ºC	80. MS-40 engine control: 88
Radiator cap pressure	bar	2.0±0.15

Fuel system

		320i 24V CAT (E36) 1991 to 1993
Idle speed - manual [auto]	rpm	700±40 N/A
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		M3.1-Motronic
Main jet / needle		_
Injection pressure	bar	3.0±0.06
Pump pressure	bar	3.5 to 4.0
Octane rating	RON	95[U]

Ignition system

		320i 24V CAT (E36) 1991 to 1993
Type		Direct electronic
Ignition coil		Bosch
Primary resistance	ohms	0.8±0.1
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
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		F03DAR / C9YCC
Electrode gap	mm	0.90-0.10

Electrical system

		320i 24V CAT (E36) 1991 to 1993
Battery	V / CC / RC	12 / 65Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 90 / 1500
Starter motor current / voltage - cranking	A / V	160 / 9.0
- locked	A / V	_

Running gear

		320i 24V CAT (E36) 1991 to 1993
Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	1.5
Tyres		
Saloon	Size	205/60x15
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	1.9 / 2.0
- Estate / Van	bar	_
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+18'±5']
Camber		-40'±30'. Sport: -58'±30' L
Castor		+3°52'±30'. Sport: +3°57'±30'L
King pin inclination		+15°44'±30'. Sport: +15°56'
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+24'±6']
Camber		-1°30'±15'.92 ▸: -1°40'±15'[1]

Torque wrench settings

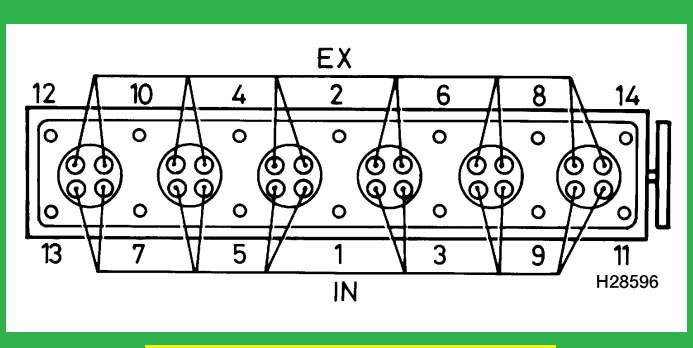
		320i 24V CAT (E36) 1991 to 1993
Cylinder head - stage 1	Nm	30 to 32 WSM
- stage 2	Nm	+ 90±3°
Cylinder head - stage 3	Nm	+ 90±3°
- stage 4	Nm	_
Big-end bearings	Nm	23 + 70° N
Main bearings	Nm	22.5±2.5 + 50±3°
Clutch cover	Nm	24. 10.9 hex: 35
Flywheel [driveplate]	Nm	113 to 130 N
Front hubs	Nm	290
Rear hubs	Nm	300
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	30 to 33

Capacities

		320i 24V CAT (E36) 1991 to 1993
Engine oil & filter	litres	6.5
Gearbox - 4-speed [5-speed]	litres	1.1
Automatic transmission - refill	litres	3.3
Final drive	litres	1.1
Cooling system	litres	10.5
Fuel tank	litres	65

Notes and Illustrations

[1]**Sport: -2°±15'**



1990 cm³, 24V