

Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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# Automotive Technical DATA BOOK

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HELP

## Engine and cooling system 520i & Touring 24V (E34) 1993 to 1996

Type		M50 2.0 Vanos 110kW
Capacity (cm <sup>3</sup> ) / number of cylinders		1990 / 6
Compression ratio / pressure	bar	11.0 / ≥10.0
Oil pressure	bar	≥0.5 [4.0]
Oil temperature	°C	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		TCE
Thermostat opening temperature	°C	88
Radiator cap pressure	bar	2.0±0.15

## Fuel system 520i & Touring 24V (E34) 1993 to 1996

Idle speed - manual [auto]	rpm	700±40 N/A
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0.5±0.3 N/A
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO <sub>2</sub> @ idle speed [3000 rpm] - see page VI	%	—
O <sub>2</sub> @ 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 520i & Touring 24V (E34) 1993 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		Bosch
Points gap (air gap)	mm	[0.30 to 0.70]
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	Computer control
V = Vacuum  NV = No Vacuum		—
Total ignition advance	° Crankshaft @ rpm	Computer control
Centrifugal check.	° 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 520i & Touring 24V (E34) 1993 to 1996

Battery	V / CC / RC	12 / 65, 75Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 80,140 / 1500
Starter motor current / voltage - cranking	A / V	160 / 9.0
- locked	A / V	—

## Running gear 520i & Touring 24V (E34) 1993 to 1996

<b>Brakes -</b>		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0

<b>Tyres</b>		
Saloon	Size	205/65x15: 225/60x15
Estate / Van	Size	205/65x15: 225/60x15
Pressure - front / rear - Saloon	bar	2.0 / 2.1
- Estate / Van	bar	2.1 / 2.4

## Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[+18'±5']
Camber		-13'±30'. Sport: -30'±30'
Castor		+8°8'±30'. Sport: +8°26'±30'
King pin inclination		+12°4'±30'. Sport: +12°38'±30'

## Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[+25'±7']. Sport: [+28'±7'] <sup>1</sup>
Camber		-2°20'±30'. Sport: -2°35' <sup>2</sup>

## Torque wrench settings 520i & Touring 24V (E34) 1993 to 1996

Cylinder head - stage 1	Nm	30 N
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	20 + 70° N
Main bearings	Nm	20 + 50° N
Clutch cover	Nm	24. 10.9 hex: 35
Flywheel [driveplate]	Nm	105 N
Front hubs	Nm	290
Rear hubs	Nm	247.6 ±5%
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	30 to 33

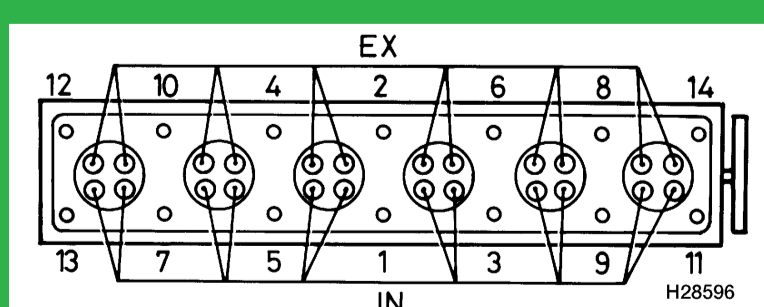
## Capacities 520i & Touring 24V (E34) 1993 to 1996

Engine oil & filter	litres	5.75
Gearbox - 4-speed [5-speed]	litres	1.25. S5D: 1.00
Automatic transmission - refill	litres	3.0. A5S: 3.3
Final drive	litres	1.7
Cooling system	litres	10.5. A/C: 11.0
Fuel tank	litres	81

## Notes and Illustrations

<sup>1</sup>Touring Sport: [+29'±7']

<sup>2</sup>Touring Sport: -2°45'±30'



1990 cm<sup>3</sup>, 24V