

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 (E28) 1983 to 1988

Type		M20 / B20 6EB
Capacity (cm <sup>3</sup> ) / number of cylinders		1990 / 6
Compression ratio / pressure	bar	9.8 / 10 to 11
Oil pressure	bar	0.5 to 2.0
Oil temperature	°C	–
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	°C	80
Radiator cap pressure	bar	1.0±0.1

## Fuel system 520i (E28) 1983 to 1988

Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	–
CO @ idle speed [3000 rpm] - see page VI	%	≤1.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
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		L-Jetronic
Main jet / needle		–
Injection pressure	bar	2.5
Pump pressure	bar	4.5 to 5.2
Octane rating	RON	98[R]

## Ignition system 520i (E28) 1983 to 1988

Type		TSZi
Ignition coil		Bosch 1 221 312 008
Primary resistance	ohms	0.82
Ballast resistor	ohms	–
Voltage - Tmnl 15(+) to earth	V	≥10.8
Distributor		Bosch
Points gap (air gap)	mm	–
Dwell angle	° (%)	–
Condenser capacity	µF	–
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	23 BTDC @ 5000 <sup>1</sup>
V = Vacuum  NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	–
	° Crankshaft @ rpm	–
	° Crankshaft @ rpm	–
Centrifugal check.	° Crankshaft @ rpm	6 to 10 @ 1000 <sup>2</sup>
	° Crankshaft @ rpm	13 to 22 @ 1500 <sup>2</sup>
	° Crankshaft @ rpm	23 to 29 @ 2500 <sup>2</sup>
Vacuum range check	mbar	30 to 460 <sup>3</sup>
Maximum vacuum advance	° Crankshaft	12 to 17 <sup>3</sup>
Spark plugs		Bosch/Champion
Type		W8DC / N9YCX
Electrode gap	mm	0.70+0.10

## Electrical system 520i (E28) 1983 to 1988

Battery	V / CC / RC	12 / 55Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / _ / 1500
Starter motor current / voltage - cranking	A / V	160 / 9.0
- locked	A / V	–

## Running gear 520i (E28) 1983 to 1988

<b>Brakes -</b>		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	3.0

<b>Tyres</b>		
Saloon	Size	175x14: 195/70x14
Estate / Van	Size	–
Pressure - front / rear - Saloon	bar	2.0 / 2.0
- Estate / Van	bar	–

<b>Front suspension / wheel alignment</b>		
Toe-in (+) / Toe-out (-)	mm [°]	+2.0±0.6
Camber		-20'±30'
Castor		+8'±30' (10° lock)
King pin inclination		+11°57'±30' (10° lock)

<b>Rear suspension / wheel alignment</b>		
Toe-in (+) / Toe-out (-)	mm [°]	+2.0±0.8
Camber		WSM

## Torque wrench settings 520i (E28) 1983 to 1988

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	20 + 70°
Main bearings	Nm	58 to 63
Clutch cover	Nm	24. 10.9 hex: 35
Flywheel [driveplate]	Nm	105±7 locked threads
Front hubs	Nm	WSM
Rear hubs	Nm	175 to 210
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	26±2

## Capacities 520i (E28) 1983 to 1988

Engine oil & filter	litres	4.3
Gearbox - 4-speed [5-speed]	litres	1.0 <sup>4</sup>
Automatic transmission - refill	litres	2.0 [4 speed: 3.0]
Final drive	litres	1.7
Cooling system	litres	10.5
Fuel tank	litres	70

## Notes and Illustrations

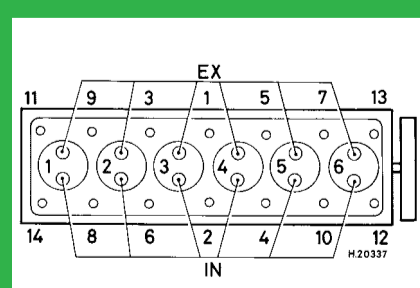
<sup>1</sup>Distributor 237 302 037: 26 BTDC @ 3000±50

<sup>2</sup>Distributor 237 302 037: 7 to 11 @ 1000, 21 to 27 @ 2000, 24 to 30 @ 2500

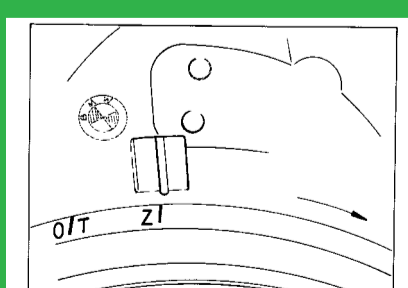
<sup>3</sup>Distributor 237 302 037: 140 to 390 @ 12 to 18°

<sup>4</sup>245 type: 1.5

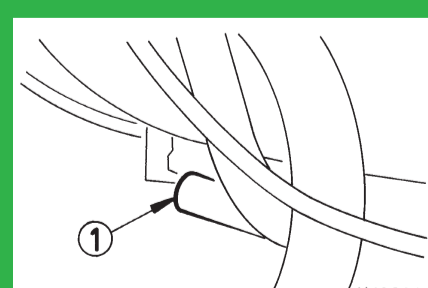
1: Idle speed    2: CO / Mixture



1990 cm<sup>3</sup>, 12V



1990 cm<sup>3</sup>, L-Jetronic



L-Jetronic, 1990 cm<sup>3</sup>



L-Jetronic