Automotive Technical DATA BOOK

Click on one of the buttons above to view data for this car. To return to this screen and make another choice, click anywhere on the data screen.

MENU HELP

Engine and cooling system

M5 (E28) 1986 to 1988

Type		S38/B35 191kW
Capacity (cm³) / number of cylinders		3453 / 6
Compression ratio / pressure	bar	9.8 / 10 to 11
Oil pressure	bar	0.5 [4.0]
Oil temperature	ºC	_
Valve clearance - inlet	mm	0.30 to 0.35
Valve clearance - exhaust	mm	0.30 to 0.35
Firing order		1-5-3-6-2-4
No 1 cylinder position		TCE
Thermostat opening temperature	ºC	80
Radiator cap pressure	bar	1.4±0.1

Fuel system

M5 (E28) 1986 to 1988

Idle speed - manual [auto]	rpm	850±50
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	0.3 to 1.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO2 @ idle speed [3000 rpm] - see page VI	%	_
O2 @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Bosch
Type / ref		M3.3-Motronic
Main jet / needle		_
Injection pressure	bar	3.0
Pump pressure	bar	2.5 to 3.0
Octane rating	RON	98[R]

Ignition system

M5 (E28) 1986 to 1988

Type		DME Motronic
Ignition coil		Bosch 0 221 118 335
Primary resistance	ohms	0.5 or 0.37
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		Clockwise
Ignition timing - basic [static	º Crankshaft @ rpm	Computer control
V = Vacuum NV = No Vacuum		NV
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		X5DC / A6G
Electrode gap	mm	0.60+0.10

Electrical system

M5 (E28) 1986 to 1988

Battery	V / CC / RC	12 / 90Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / _ / 1500
Starter motor current / voltage - cranking	A / V	200 / 9.0
- locked	A / V	_

Running gear

M5 (E28) 1986 to 1988

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
Tyres		
Saloon	Size	220/55x390
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.3 / 2.5
- Estate / Van	bar	_
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	+1.4±0.6
Camber		-27'±30'
Castor		+8°8'±30' (10° lock)
King pin inclination		+12°15'±30' (10° lock)
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	+3.4±0.8
Camber		-2°32'±30'

Torque wrench settings

M5 (E28) 1986 to 1988

Cylinder head - stage 1	Nm	50±2
- stage 2	Nm	80±2
Cylinder head - stage 3	Nm	Wait 15 mins.
- stage 4	Nm	100±2
Big-end bearings	Nm	10, 30 + 60+2°
Main bearings	Nm	23±3 + 50±3°
Clutch cover	Nm	24. 10.9 hex: 35
Flywheel [driveplate]	Nm	105±7 locked threads
Front hubs	Nm	WSM
Rear hubs	Nm	234 to 260
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	20±5

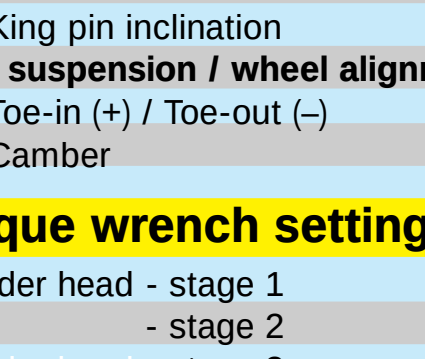
Capacities

M5 (E28) 1986 to 1988

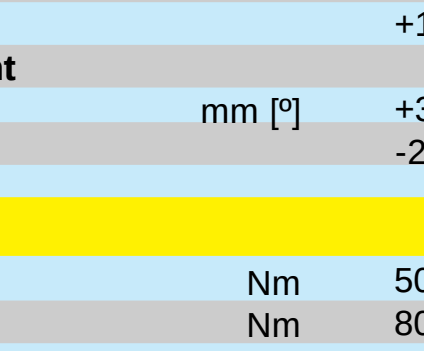
Engine oil & filter	litres	5.75
Gearbox - 4-speed [5-speed]	litres	1.3
Automatic transmission - refill	litres	_
Final drive	litres	1.9
Cooling system	litres	10.5
Fuel tank	litres	70

Notes and Illustrations

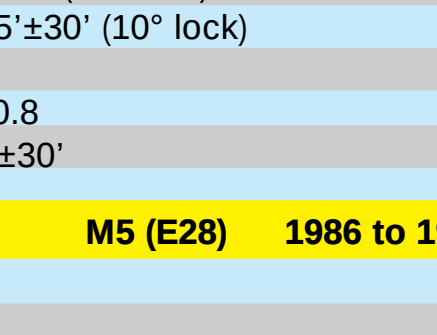
1: Idle speed 2: CO / Mixture



3453 cm³, S38



M3.3-Motronic



M3.3-Motronic