Automotive Technical DATA BOOK

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MENU HELP

Engine and cooling system

M5 CAT (E34) 1991 to 1993

Type		S38/B36 36 6S1 232kW
Capacity (cm³) / number of cylinders		3535 / 6
Compression ratio / pressure	bar	10.0 / 10 to 11
Oil pressure	bar	0.5 [3.0]
Oil temperature	ºC	80
Valve clearance - inlet	mm	0.28 to 0.33
Valve clearance - exhaust	mm	0.28 to 0.33
Firing order		1-5-3-6-2-4
No 1 cylinder position		TCE
Thermostat opening temperature	ºC	79
Radiator cap pressure	bar	2.0±0.15

Fuel system

M5 CAT (E34) 1991 to 1993

Idle speed - manual [auto]	rpm	970±40
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	0.8±0.4
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		M1.2-Motronic
Main jet / needle		_
Injection pressure	bar	3.0
Pump pressure	bar	2.8 to 3.2
Octane rating	RON	95[U]

Ignition system

M5 CAT (E34) 1991 to 1993

Type		DME Motronic
Ignition coil		Bosch
Primary resistance	ohms	a: 0.50. b: 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		Y6DC / A6G
Electrode gap	mm	0.60+0.10

Electrical system

M5 CAT (E34) 1991 to 1993

Battery	V / CC / RC	12 / 85Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 140 / 1500
Starter motor current / voltage - cranking	A / V	200 / 9.0
- locked	A / V	_

Running gear

M5 CAT (E34) 1991 to 1993

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
Tyres		
Saloon	Size	235/45x17
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]	[+20'±5'] L
Camber		-30'±30' L
Castor		+8°28'±30' L
King pin inclination		+12°46'±30' L
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+16'±4']
Camber		-2°15'±30'

Torque wrench settings

M5 CAT (E34) 1991 to 1993

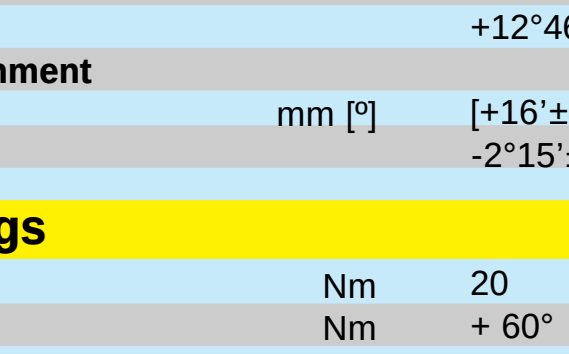
Cylinder head - stage 1	Nm	20
- stage 2	Nm	+ 60°
Cylinder head - stage 3	Nm	+ 70°
- stage 4	Nm	_
Big-end bearings	Nm	15, 30 + 60° N
Main bearings	Nm	22.5±2.5 + 50±3°
Clutch cover	Nm	24
Flywheel [driveplate]	Nm	113 to 130 N
Front hubs	Nm	WSM
Rear hubs	Nm	247.6 ±5%
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	24 to 28

Capacities

M5 CAT (E34) 1991 to 1993

Engine oil & filter	litres	5.75
Gearbox - 4-speed [5-speed]	litres	1.25
Automatic transmission - refill	litres	_
Final drive	litres	1.9
Cooling system	litres	13.3
Fuel tank	litres	90

Notes and Illustrations



3535 cm³, S38