Automotive Technical DATA BOOK

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MENU HELP

Engine and cooling system

M635 CSi (E24) 1986 to 1990

Type		S38/B35 35 6EY 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	80
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	1.0±0.1

Fuel system

M635 CSi (E24) 1986 to 1990

Idle speed - manual [auto]	rpm	850±50
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	1.0±0.5
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		DME-Motronic
Main jet / needle		_
Injection pressure	bar	2.8 to 3.2
Pump pressure	bar	2.5 to 3.0
Octane rating	RON	98[R]

Ignition system

M635 CSi (E24) 1986 to 1990

Type		DME Motronic
Ignition coil		Bosch 0 221 118 335
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		X5DTC / A6G
Electrode gap	mm	0.60+0.10

Electrical system

M635 CSi (E24) 1986 to 1990

Battery	V / CC / RC	12 / 90Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / _ / 3000
Starter motor current / voltage - cranking	A / V	200 / 9
- locked	A / V	_

Running gear

M635 CSi (E24) 1986 to 1990

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
Tyres		
Saloon	Size	220/55x390: 240/45x415
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.6 / 2.6
- Estate / Van	bar	_
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+10'±5']
Camber		-27'±30'
Castor		+8°8'±30'
King pin inclination		+12°15'±30'
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[+28'±7']
Camber		-2°32'±30'

Torque wrench settings

M635 CSi (E24) 1986 to 1990

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 to 62° 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	400 to 470
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	24 to 28

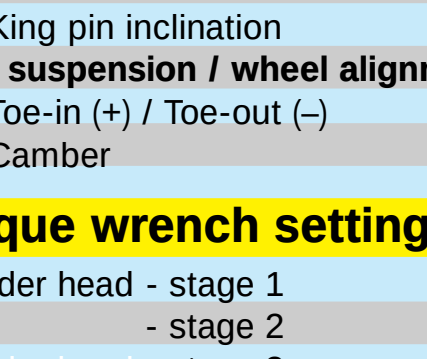
Capacities

M635 CSi (E24) 1986 to 1990

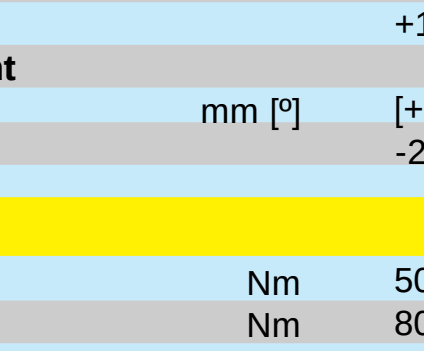
Engine oil & filter	litres	5.75
Gearbox - 4-speed [5-speed]	litres	1.25
Automatic transmission - refill	litres	_
Final drive	litres	1.9
Cooling system	litres	10.5
Fuel tank	litres	70

Notes and Illustrations

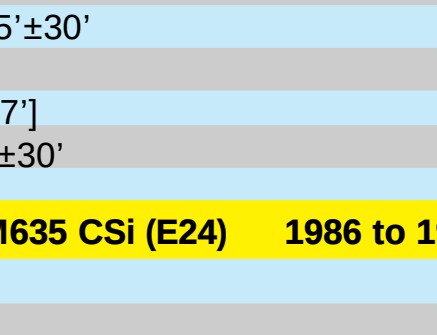
1: Idle speed 2: CO / Mixture



3453 cm³, S38



Motronic, S38



Motronic, S38