

Engine & Cooling

Fuel

Ignition

Electrical

Running gear

Torque settings

Capacities

Notes & Illustrations



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 systemM635 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	°C	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	°C	80
Radiator cap pressure	bar	1.0±0.1

Fuel systemM635 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 systemM635 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	° (%)	—
Condenser capacity	µF	—
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	Computer control
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	Computer control
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	Computer control
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Vacuum range check	mbar	Computer control
Maximum vacuum advance	° Crankshaft	—
Spark plugs		Bosch/Champion
Type		X5DTC / A6G
Electrode gap	mm	0.60+0.10

Electrical systemM635 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 gearM635 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 [°]	[+10'±5']
Camber		-27'±30'
Castor		+8°8'±30'
King pin inclination		+12°15'±30'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+28'±7']
Camber		-2°32'±30'

Torque wrench settingsM635 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

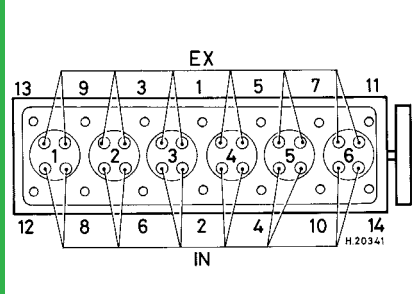
CapacitiesM635 CSi (E24)1986 to 1990

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

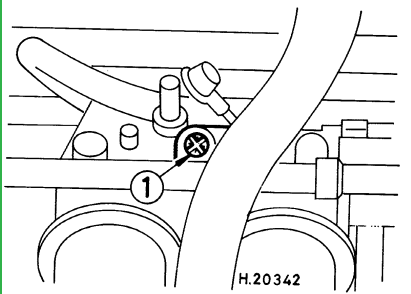
Notes and Illustrations



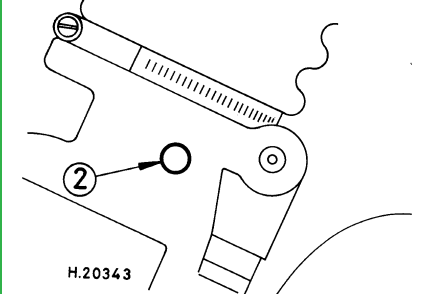
1: Idle speed 2: CO / Mixture



3453 cm³, S38



Motronic, S38



Motronic, S38