

Engine & Cooling

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Automotive Technical
DATA BOOK

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HELP

Engine and cooling system

210 / 310 / 410

1982 to 1995

Type		M102.** OHV
Capacity (cm ³) / number of cylinders		2299 / 4
Compression ratio / pressure	bar	9.0 /
Oil pressure	bar	0.3 [3.0]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.15
Valve clearance - exhaust	mm	0.30
Firing order		1-3-4-2
No 1 cylinder position		F
Thermostat opening temperature	°C	87±2
Radiator cap pressure	bar	1.0

Fuel system

210 / 310 / 410

1982 to 1995

Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	2900±150
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		Solex
Type / ref		1B1
Main jet / needle		130
Injection pressure	bar	—
Pump pressure	bar	0.2 to 0.4
Octane rating	RON	91[R]

Ignition system

210 / 310 / 410

1982 to 1995

Type		Electronic
Ignition coil		Bosch
Primary resistance	ohms	0.5 to 0.9
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	Battery
Distributor		Bosch
Points gap (air gap)	mm	—
Dwell angle	° (%)	7 to 34 @ starter speed
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	10 BTDC @ 800
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	11 @ 1500
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	29 to 36 @ 4500
Vacuum range check	mbar	—
Maximum vacuum advance	° Crankshaft	8 to 12
Spark plugs		Bosch/Champion
Type		H7D / S9YC
Electrode gap	mm	0.80

Electrical system

210 / 310 / 410

1982 to 1995

Battery	V / CC / RC	12 / 66Ah
Alternator voltage / full load current / engine rpm		13.0 to 14.5 / _ / 3000
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear

210 / 310 / 410

1982 to 1995

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	3.5

Tyres		
Saloon	Size	—
Estate / Van	Size	175x14: 185x14: 215x14
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	Refer to vehicle decal

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	0
Camber		+1°
Castor		+2°30'±20'
King pin inclination		+5°

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	—
Camber		0±20'

Torque wrench settings

210 / 310 / 410

1982 to 1995

Cylinder head - stage 1	Nm	55 ¹
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	60 + 90 to 100°
Main bearings	Nm	90
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	35 + 90 to 100°
Front hubs	Nm	WSM
Rear hubs	Nm	—
Wheel nuts / bolts	Nm	170
Spark plugs	Nm	20

Capacities

210 / 310 / 410

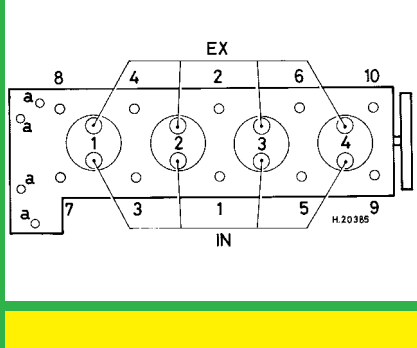
1982 to 1995

Engine oil & filter	litres	4.5
Gearbox - 4-speed [5-speed]	litres	2.3
Automatic transmission - refill	litres	—
Final drive	litres	1.8
Cooling system	litres	8.5
Fuel tank	litres	70

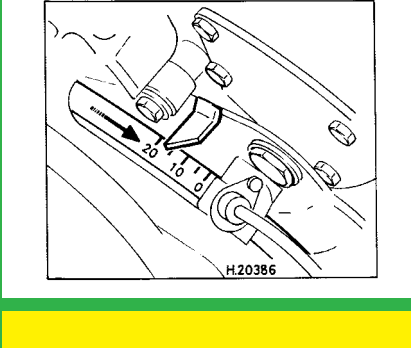
Notes and Illustrations

¹Bolts marked “a” on diagram: 21

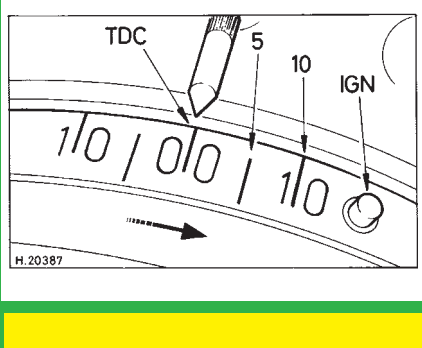
1: Idle speed 2: CO / Mixture



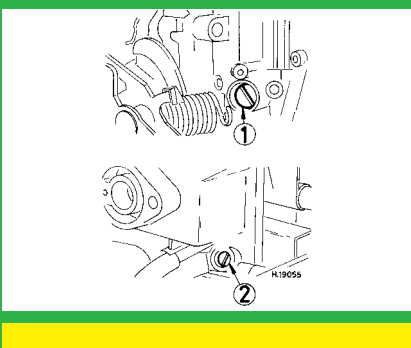
2299 cm³



2299 cm³



2299 cm³, alternative



Solex 1B1