

Engine & Cooling

Fuel

Ignition

Electrical

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Automotive Technical
DATA BOOK

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HELP

Engine and cooling system309, 1.11986 to 1990

Type	E1 (1E1A) (40kW)	
Capacity (cm³) / number of cylinders	1118 / 4	
Compression ratio / pressure	bar	9.6 / _
Oil pressure	bar	1.2 [3.6]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.25
Valve clearance - exhaust	mm	0.30
Firing order	1-3-4-2	
No 1 cylinder position	FE	
Thermostat opening temperature	°C	89
Radiator cap pressure	bar	1.0

Fuel system309, 1.11986 to 1990

Idle speed - manual [auto]	rpm	900±50
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	1.0 to 2.0
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	Bressel-Weber/Solex	
Type / ref	B-W: 32 IBSH. S: 32 BISA	
Main jet / needle	130	
Injection pressure	bar	_
Pump pressure	bar	0.25
Octane rating	RON	97[E 95 RON]

Ignition system309, 1.11986 to 1990

Type	Electronic - Hall effect	
Ignition coil	Bosch, Ducellier BTR01	
Primary resistance	ohms	0.7
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor	Bosch/Ducellier	
Points gap (air gap)	mm	_
Dwell angle	° (%)	_
Condenser capacity	µF	_
Rotation	Clockwise	
Ignition timing - basic [static	° Crankshaft @ rpm	8 BTDC @ 650
V = Vacuum NV = No Vacuum	NV	
Total ignition advance	° Crankshaft @ rpm	C002-D002
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Centrifugal check.	° Crankshaft @ rpm	5 to 9 @ 1100
	° Crankshaft @ rpm	22 to 26 @ 2600
	° Crankshaft @ rpm	30 to 34 @ 4400
Vacuum range check	mbar	227 to 400
Maximum vacuum advance	° Crankshaft	10 to 14
Spark plugs	Eyquem/Champion	
Type	FC52LS / C9YCX	
Electrode gap	mm	0.80

Electrical system309, 1.11986 to 1990

Battery	V / CC / RC	12 / 210 / 65
Alternator voltage / full load current / engine rpm	13.8 to 14.8 / _ / 3000	
Starter motor current / voltage - cranking	A / V	_
- locked	A / V	_

Running gear309, 1.11986 to 1990

Brakes -		
Front (min. friction material thickness)	mm	1.0
Rear (min. friction material thickness)	mm	_

Tyres		
Saloon	Size	145x13
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	1.9 / 2.1
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+0.5±0.5 PW
Camber	-30'±30'	
Castor	+2°±30'	
King pin inclination	+10°15'±30'	

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+1.6±0.8 PW
Camber	-50'±30'	

Torque wrench settings309, 1.11986 to 1990

Cylinder head - stage 1	Nm	50
- stage 2	Nm	70
Cylinder head - stage 3	Nm	Warm up, then cool down
- stage 4	Nm	Slacken, then 70
Big-end bearings	Nm	38
Main bearings	Nm	65
Clutch cover	Nm	15
Flywheel [driveplate]	Nm	55 LkC
Front hubs	Nm	265
Rear hubs	Nm	215
Wheel nuts / bolts	Nm	85
Spark plugs	Nm	20 to 30

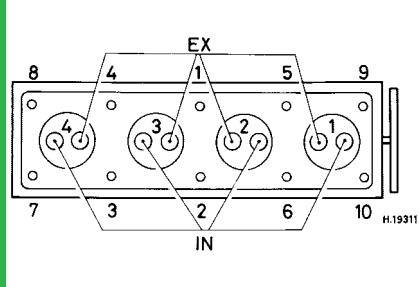
Capacities309, 1.11986 to 1990

Engine oil & filter	litres	3.3
Gearbox - 4-speed [5-speed]	litres	2.0
Automatic transmission - refill	litres	_
Final drive	litres	WT
Cooling system	litres	6.6
Fuel tank	litres	50 or 55

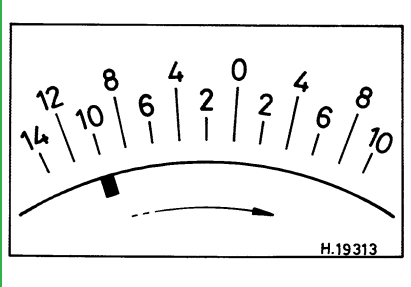
Notes and Illustrations



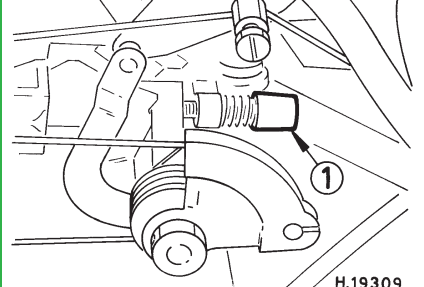
1: Idle speed 2: CO / Mixture



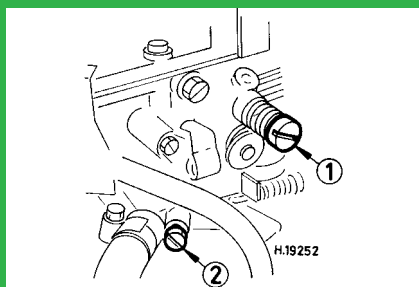
1118 cm³



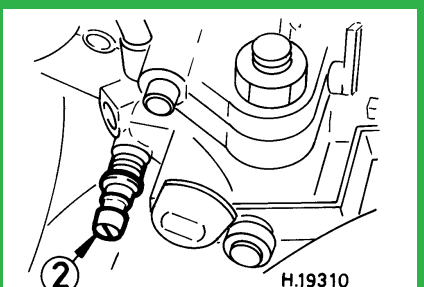
1118 cm³



Weber IBSH



Solex BISA



Weber IBSH