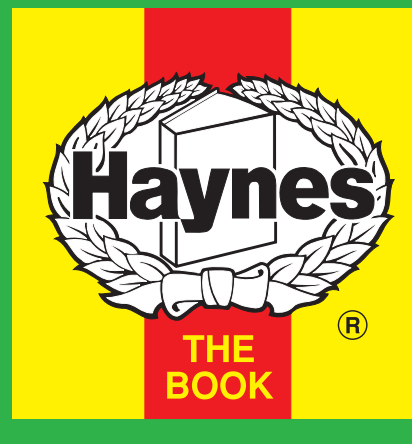


Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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Automotive Technical DATA BOOK

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 system 311, 511 1986 to 1991

Type		128A. 064
Capacity (cm ³) / number of cylinders		1116 / 4
Compression ratio / pressure	bar	9.2 / _
Oil pressure	bar	[3.5 to 4.8]
Oil temperature	°C	100
Valve clearance - inlet	mm	0.35 to 0.55
- exhaust	mm	0.45 to 0.55
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	82±2
Radiator cap pressure	bar	0.8

Fuel system 311, 511 1986 to 1991

Idle speed - manual [auto]	rpm	850±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
CO ₂ @ idle speed [3000 rpm] - see page VI	%	_
O ₂ @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		IPM
Type / ref		32 MGV 12 (Weber type)
Main jet / needle		117
Injection pressure	bar	_
Pump pressure	bar	0.20 to 0.25
Octane rating	RON	97[RA] ¹

Ignition system 311, 511 1986 to 1991

Type		Contact breaker - CIS
Ignition coil		Iskra
Primary resistance	ohms	2.6 to 4.0 (typical)
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Rudi Cajavec
Points gap (air gap)	mm	0.37 to 0.43
Dwell angle	° (%)	55±3
Condenser capacity	µF	0.22 to 0.27
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	10 BTDC @ 850±50 ¹
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Centrifugal check.	° Crankshaft @ rpm	0 @ 1000 to 1400
	° Crankshaft @ rpm	10 to 14 @ 2800
	° Crankshaft @ rpm	22 to 26 @ 4400
Vacuum range check	mbar	160 to 333
Maximum vacuum advance	° Crankshaft	10 to 14
Spark plugs		Marelli/Champion
Type		CW240LP / RN9YC
Electrode gap	mm	0.50 to 0.60

Electrical system 311, 511 1986 to 1991

Battery	V / CC / RC	12 / 45Ah
Alternator voltage / full load current / engine rpm		14.0 / _ / 2500
Starter motor current / voltage - cranking	A / V	198 / 9.1
- locked	A / V	315 / 7±0.3

Running gear 311, 511 1986 to 1991

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	2.0
Tyres		
Saloon	Size	145x13
Estate / Van	Size	145x13
Pressure - front / rear - Saloon	bar	1.6 / 1.8
- Estate / Van	bar	1.6 / 1.8
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	0±1.0 L
Camber		+1°25'±30' L
Castor		+2°15'±30' L
King pin inclination		_
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+3.0 to 7.0
Camber		-3°±30'

Torque wrench settings 311, 511 1986 to 1991

Cylinder head - stage 1	Nm	93 ²
- stage 2	Nm	_
- stage 3	Nm	_
- stage 4	Nm	_
Big-end bearings	Nm	51
Main bearings	Nm	80
Clutch cover	Nm	16
Flywheel [driveplate]	Nm	83
Front hubs	Nm	137
Rear hubs	Nm	137
Wheel nuts / bolts	Nm	79
Spark plugs	Nm	37

Capacities 311, 511 1986 to 1991

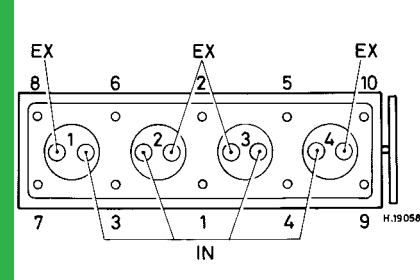
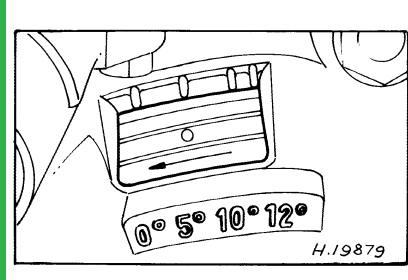
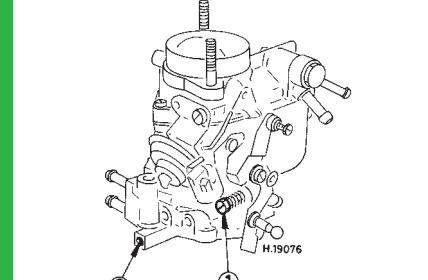
Engine oil & filter	litres	4.5
Gearbox - 4-speed [5-speed]	litres	3.2
Automatic transmission - refill	litres	_
Final drive	litres	WT
Cooling system	litres	6.5
Fuel tank	litres	38

Notes and Illustrations

¹[E 95 RON]: 5° BTDC

²Engine no. 951668 ▶: S1: 20. S2: 40. S3: + 90° S4: + 90°. New bolts after 4 removals

1: Idle speed 2: CO / Mixture


 1116 cm³

 1116 cm³


IPM 32 MGV 12