VAUXHALL/OPEL

Carlton/Omega-A 1.8

1986 to 1991

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Automotive Technical DATA BOOK

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Engine and cooling system

Carlton/Omega-A 1.8 1986 to 1991

Type		18SV SOHC. 66kW. 15.04
Capacity (cm³) / number of cylinders		1796 / 4
Compression ratio / pressure	bar	10.0 / _
Oil pressure	bar	1.5
Oil temperature	ºC	≥80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	ºC	92 to 107
Radiator cap pressure	bar	1.2 to 1.3

Fuel system

Carlton/Omega-A 1.8 1986 to 1991

Idle speed - manual [auto]	rpm	850 to 900 [750 to 800]
Fast idle speed - manual [auto]	rpm	1900 to 2300
CO @ idle speed [3000 rpm] - see page VI	%	0.5 to 1.0
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		Pierburg
Type / ref		2E3 90 107 504 [AT: 505]
Main jet / needle		107.5, 132.5
Injection pressure	bar	_
Pump pressure	bar	0.25 to 0.33
Octane rating	RON	98[E 95 RON][1]

Ignition system

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Type		MSTS-i
Ignition coil		Bosch 0 221 600 053
Primary resistance	ohms	0.70 to 0.75
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Bosch
Points gap (air gap)	mm	_
Dwell angle	º (%)	Electronic control
Condenser capacity	µF	_
Rotation		Anticlockwise
Ignition timing - basic [static	º Crankshaft @ rpm	10±2 BTDC @ idle N/A[2]
V = Vacuum NV = No Vacuum		NV
Total ignition advance	º Crankshaft @ rpm	12 to 17 @ 2000
	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		AC/Champion
Type		CR42CXLS / RN7YC
Electrode gap	mm	0.70 to 0.80

Electrical system

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Battery	V / CC / RC	12 / 44Ah
Alternator voltage / full load current / engine rpm		13.8 to 14.8 / 55-90 / 2000
Starter motor current / voltage - cranking	A / V	75 / 11.5 (no load)
- locked	A / V	475 to 600 / 12

Running gear

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Brakes -		
Front (min. friction material thickness)	mm	7.0 with backing
Rear (min. friction material thickness)	mm	7.0 with backing
Tyres		
Saloon	Size	175x14: 185/70x14: 195/65x15
Estate / Van	Size	175x14: 185x14: 185/70x14
Pressure - front / rear - Saloon	bar	2.0 / 2.0
- Estate / Van	bar	2.0 / 2.2
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[0 to +20'] L
Camber		-1°55' to -25'
Castor		[3]
King pin inclination		_
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	-0.5 to +5.5[4]
Camber		4D: -2°20' to -1°. 5D[5]

Torque wrench settings

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Cylinder head - stage 1	Nm	25 N
- stage 2	Nm	+90°
Cylinder head - stage 3	Nm	+90°
- stage 4	Nm	+90°
Big-end bearings	Nm	35 + 45° to 60° N
Main bearings	Nm	50 + 40° to 50° N
Clutch cover	Nm	15
Flywheel [driveplate]	Nm	65 + 30° to 45°[6]
Front hubs	Nm	320
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	90
Spark plugs	Nm	25

Capacities

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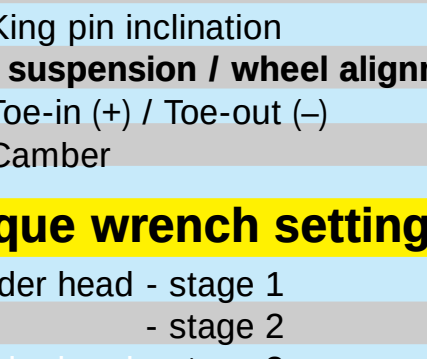
Engine oil & filter	litres	4.5
Gearbox - 4-speed [5-speed]	litres	1.9
Automatic transmission - refill	litres	5.5
Final drive	litres	4D: 0.8. 5D: 1.0
Cooling system	litres	6.4
Fuel tank	litres	4D: 75. 5D: 70

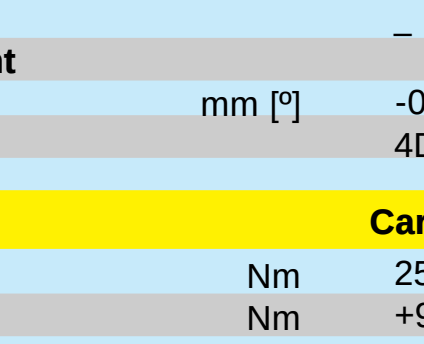
Notes and Illustrations

[1]**Octane rating plug = 95 RON. 89 ▶: [E 95 RON]**
[2]**89 ▶: 14±3 BTDC @ 2000±50 N/A**
[3]**4D manual steering: +2° to 4°. PAS: +4°30' to 6°30' 5D manual steering: +1°30' to 3°30'. PAS: +4° to 6°**
[4]**5D: 0 to +6.0**
[5]**-2°5' to -45'**
[6]**Use locking compound**

1: Idle speed 2: CO / Mixture



1796 cm³, 8V



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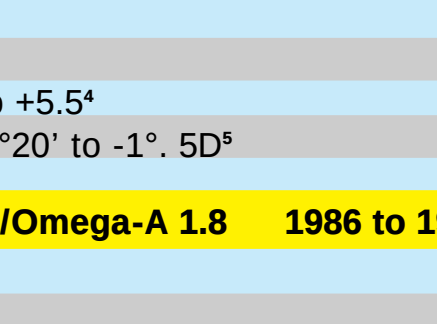

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