

VAUXHALL/OPEL

Carlton/Omega/Senator 24V

1989 to 1994

Engine & Cooling

Fuel

Ignition

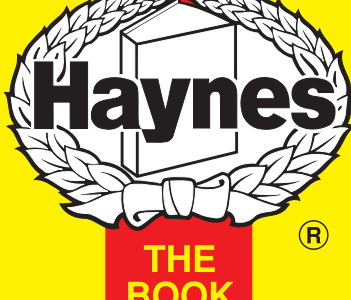
Electrical

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Automotive Technical
DATA BOOK

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Engine and cooling system

Carlton/Omega/Senator 24V

1989 to 1994

Type		C30SE DOHC 24V. 150kW. US83
Capacity (cm ³) / number of cylinders		2969 / 6
Compression ratio / pressure	bar	10.0 / _
Oil pressure	bar	[3.0 to 3.5]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-5-3-6-2-4
No 1 cylinder position		TCE
Thermostat opening temperature	°C	92±2 to 107
Radiator cap pressure	bar	1.2 to 1.5

Fuel system

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Idle speed - manual [auto]	rpm	570 to 730
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO2 @ idle speed [3000 rpm] - see page VI	%	_
O2 @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Bosch
Type / ref		Motronic M1.5, knock control
Main jet / needle		_
Injection pressure	bar	2.3 to 2.7
Pump pressure	bar	3.0 to 3.5
Octane rating	RON	95[U]

Ignition system

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Type		DME Motronic
Ignition coil		Bosch 1 227 020 009
Primary resistance	ohms	0.72±0.07
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Bosch
Points gap (air gap)	mm	_
Dwell angle	° (%)	18 to 20 [16 to 18]
Condenser capacity	µF	_
Rotation		_
Ignition timing - basic [static	° Crankshaft @ rpm	8 to 12 BTDC @ idle N/A
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	_
	° 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		FR7DTC / RC7YCC
Electrode gap	mm	0.70 to 0.80

Electrical system

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Battery	V / CC / RC	12 / 44, 55 or 66Ah
Alternator voltage / full load current / engine rpm		13.8 to 14.8 / 90, 120 / 2000
Starter motor current / voltage - cranking	A / V	75 / 11.5 (no load)
- locked	A / V	475 to 600 / 3.5

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	195/65x15: 205/65x15
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.5 / 2.5 ¹
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	[0 to +20'] L
Camber		-2°15' to -45'
Castor		+4°45' to 6°45' ²
King pin inclination		_

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+1.0 to 4.0
Camber		-2°40' to -1°20'

Torque wrench settings

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Cylinder head - stage 1	Nm	60 N
- stage 2	Nm	+ 90° +10°
Cylinder head - stage 3	Nm	Wait 10 minutes
- stage 4	Nm	+ 30° +10°
Big-end bearings	Nm	45
Main bearings	Nm	110
Clutch cover	Nm	22
Flywheel [driveplate]	Nm	55 + 30° + 45°
Front hubs	Nm	320
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	90
Spark plugs	Nm	25

Capacities

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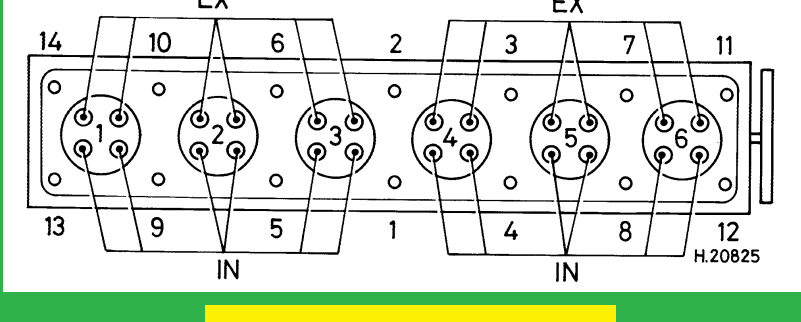
Engine oil & filter	litres	5.5
Gearbox - 4-speed [5-speed]	litres	1.9
Automatic transmission - refill	litres	2.6
Final drive	litres	1.1
Cooling system	litres	10.0 [AT: 9.8] ¹
Fuel tank	litres	75

Notes and Illustrations

¹Senator: 2.4 / 2.4

²Senator: +4°30' to 6°30'

³A/C: 10.4 [AT + A/c: 10.2]



2969 cm³, 24V