

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

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Engine and cooling system Carlton/Omega/Senator 3.0i 1988 to 1994

Type	C30NE CIH. 130kW. US83	
Capacity (cm ³) / number of cylinders	2969 / 6	
Compression ratio / pressure	bar	9.2 / _
Oil pressure	bar	_
Oil temperature	°C	_
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
Radiator cap pressure	bar	1.2 to 1.3

Fuel system Carlton/Omega/Senator 3.0i 1988 to 1994

Idle speed - manual [auto]	rpm	670 to 830
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
CO ₂ @ idle speed [3000 rpm] - see page VI	%	_
O ₂ @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection	Bosch	
Type / ref	ML4.1-Motronic. 90 ▶: M1.5	
Main jet / needle	_	
Injection pressure	bar	2.5
Pump pressure	bar	2.5±0.2
Octane rating	RON	95[U]

Ignition system Carlton/Omega/Senator 3.0i 1988 to 1994

Type	DME Motronic	
Ignition coil	Bosch 1 227 020 009	
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	° (%)	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	WR7BC / RL82YC	
Electrode gap	mm	0.70 to 0.80

Electrical system Carlton/Omega/Senator 3.0i 1988 to 1994

Battery	V / CC / RC	12 / 44, 55 or 66Ah
Alternator voltage / full load current / engine rpm	13.8 to 14.8 / _ / 2000	
Starter motor current / voltage - cranking	A / V	50 / 11.5 (no load)
- locked	A / V	310 to 400 / 7.5

Running gear Carlton/Omega/Senator 3.0i 1988 to 1994

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	195/65x15: 205/65x15
Pressure - front / rear - Saloon	bar	2.5 / 2.5 ¹
- Estate / Van	bar	2.3 / 2.5

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 Carlton/Omega/Senator 3.0i 1988 to 1994

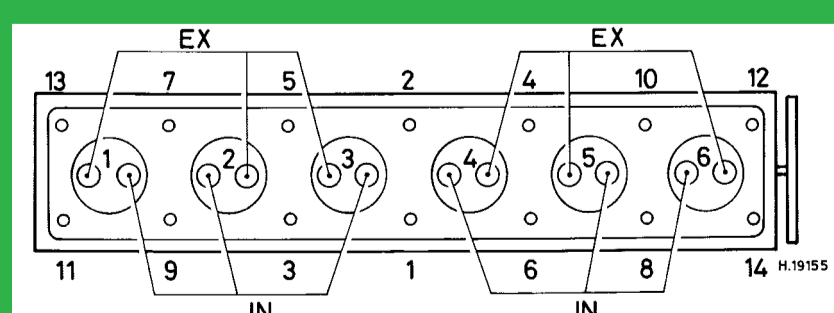
Cylinder head - stage 1	Nm	60
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	Warm up
- stage 4	Nm	+ 30°
Big-end bearings	Nm	45
Main bearings	Nm	110
Clutch cover	Nm	22
Flywheel [driveplate]	Nm	60
Front hubs	Nm	320
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	90
Spark plugs	Nm	40

Capacities Carlton/Omega/Senator 3.0i 1988 to 1994

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	10.2 [AT: 10.1] ³
Fuel tank	litres	4D: 75. 5D: 70

Notes and Illustrations

- ¹Senator: 2.2 / 2.2
- ²Senator: +4°30' to 6°30'
- ³A/C: 11.3. AT: 11.2



2969 cm³, 12V