

VAUXHALL/OPEL

Cavalier/Ascona SRi 130

1987 to 1988

Engine & Cooling

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Automotive Technical
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Engine and cooling system

Cavalier/Ascona SRi 130

1987 to 1988

Type		20SEH SOHC. 95kW. 15.04
Capacity (cm ³) / number of cylinders		1998 / 4
Compression ratio / pressure	bar	10.0 / _
Oil pressure	bar	1.5
Oil temperature	°C	60
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	°C	92
Radiator cap pressure	bar	1.30 to 1.35

Fuel system

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Idle speed - manual [auto]	rpm	720 to 880
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤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		Bosch
Type / ref		Motronic ML4.1
Main jet / needle		_
Injection pressure	bar	2.5±0.2
Pump pressure	bar	2.5±0.2
Octane rating	RON	98[E 95 RON] ¹

Ignition system

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Type		DME Motronic
Ignition coil		Bosch 90 240 252
Primary resistance	ohms	0.6 to 0.9
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Bosch
Points gap (air gap)	mm	_
Dwell angle	° (%)	Electronic control
Condenser capacity	µF	_
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	10±2 BTDC @ idle
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		AC/Champion
Type		CR42XLS / RN7YC
Electrode gap	mm	0.70 to 0.80

Electrical system

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Battery	V / CC / RC	12 / 210 / 65
Alternator voltage / full load current / engine rpm		13.7 to 14.5 / _ / 2000
Starter motor current / voltage - cranking	A / V	400 to 500 / 7.0 to 8.2 (AC)
- locked	A / V	475 to 600 / 12 (Bosch)

Running gear

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Brakes -		
Front (min. friction material thickness)	mm	7.0 with backing
Rear (min. friction material thickness)	mm	0.5 above rivets

Tyres		
Saloon	Size	195/60x14
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.1 / 1.9
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+1.0 to 3.0
Camber		-1°15' to +15'
Castor		0 to +2°
King pin inclination		_

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+2.0 to 6.0
Camber		0 to -1°

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°
Main bearings	Nm	60 + 40° to 50°
Clutch cover	Nm	15
Flywheel [driveplate]	Nm	65 + 30° to 45°
Front hubs	Nm	100 ²
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	90
Spark plugs	Nm	25

Capacities

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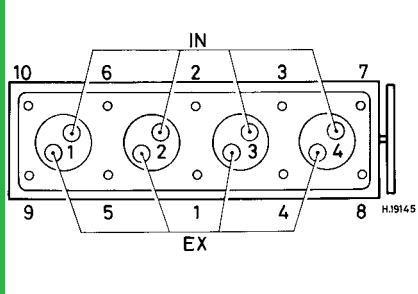
Engine oil & filter	litres	4.0
Gearbox - 4-speed [5-speed]	litres	[2.1]
Automatic transmission - refill	litres	_
Final drive	litres	WT
Cooling system	litres	6.9
Fuel tank	litres	61

Notes and Illustrations

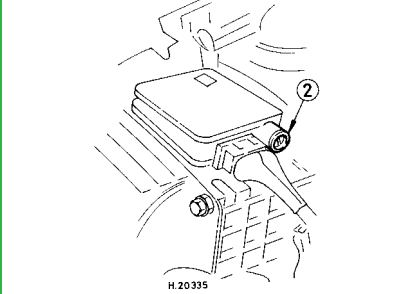
¹Octane rating plug = 95 RON

²Slacken, then 20 + 90°

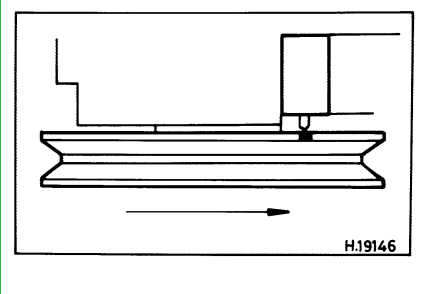
1: Idle speed 2: CO / Mixture



1998 cm³, 8V



ML4.1-Motronic



ML4.1-Motronic