VAUXHALL/OPEL

Cavalier/Vectra-A 1.6

1988 to 1994

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Automotive Technical DATA BOOK

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Engine and cooling system

Cavalier/Vectra-A 1.6 1988 to 1994

Type		16SV SOHC. 60kW. 15.04[1]
Capacity (cm³) / number of cylinders		1598 / 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	91 to 107
Radiator cap pressure	bar	1.20 to 1.35

Fuel system

Cavalier/Vectra-A 1.6 1988 to 1994

Idle speed - manual [auto]	rpm	900 to 950 [800 to 850]
Fast idle speed - manual [auto]	rpm	2000 to 2400 [2700]
CO @ idle speed [3000 rpm] - see page VI	%	0.5 to 1.5
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 90 107 522/580[2]
Main jet / needle		95, 105. 90 ▶: 92.5, 105
Injection pressure	bar	_
Pump pressure	bar	0.25 to 0.33
Octane rating	RON	98[RA][3]

Ignition system

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Type		MSTS-h
Ignition coil		Bosch
Primary resistance	ohms	_
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		_
Ignition timing - basic [static	º Crankshaft @ rpm	10±2 BTDC @ 700 to 1100[4]
V = Vacuum NV = No Vacuum		NV
Total ignition advance	º Crankshaft @ rpm	_
	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 / 210 / 65
Alternator voltage / full load current / engine rpm		13.6 to 14.0 / 70, 90 / 3000
Starter motor current / voltage - cranking	A / V	40 to 65 / 10.6
- locked	A / V	400 to 500 / 7.0 to 8.2

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	175/70x14: 195/60x14:195/60x15
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	89: 1.9 / 1.7 91: 1.8 / 1.7
- Estate / Van	bar	_
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[-15'±10']
Camber		-40'±45' L
Castor		+2°±1° L
King pin inclination		_
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [º]	[-10'+30'-20']
Camber		-1°40'±30'

Torque wrench settings

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Cylinder head - stage 1	Nm	25 N
- stage 2	Nm	+ 60°
Cylinder head - stage 3	Nm	+ 60°
- stage 4	Nm	+ 60°
Big-end bearings	Nm	28[5]
Main bearings	Nm	50 + 45° +15° N
Clutch cover	Nm	15
Flywheel [driveplate]	Nm	35 + 30° +15° N
Front hubs	Nm	WSM
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	25

Capacities

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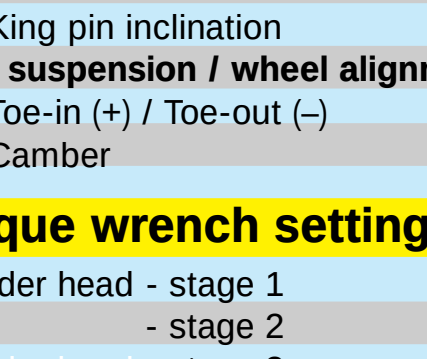
Engine oil & filter	litres	3.5
Gearbox - 4-speed [5-speed]	litres	1.6
Automatic transmission - refill	litres	3.0 to 3.5
Final drive	litres	WT
Cooling system	litres	5.8 [AT: 5.6]
Fuel tank	litres	61

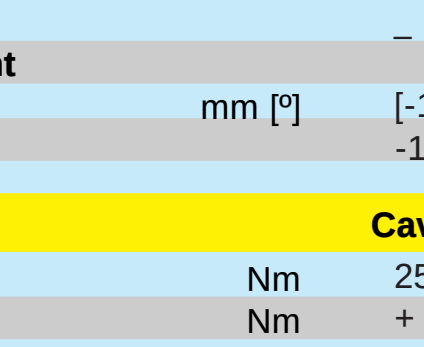
Notes and Illustrations

[1]**94 ▶: ECE R 83A**
[2]**90 ▶: 90 107 903 [AT: 90 107 909]**
[3]**Octane rating plug = 95 RON. 89 ▶: [E 95 RON]**
[4]**AT: N/A**
[5]**40mm bolt: 28 + 30° N**

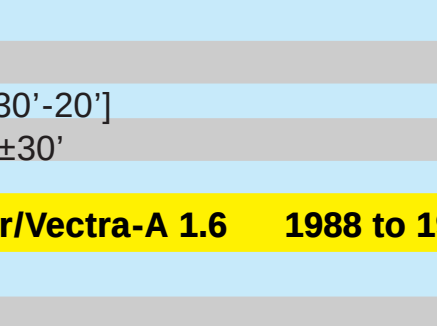
1: Idle speed 2: CO / Mixture



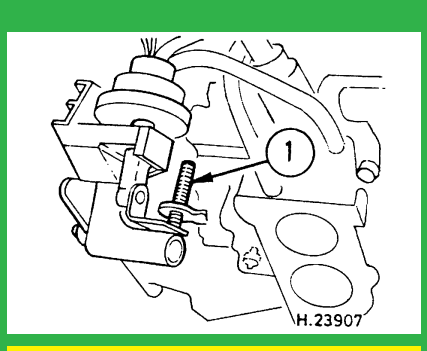
1598 cm³, 8V



1598 cm³, 8V



Pierburg 2E3



Pierburg 2E3, AT