

VAUXHALL/OPEL

Cavalier/Ascona 1.3

1984 to 1988

Engine & Cooling

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Automotive Technical

DATA BOOK

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Engine and cooling system			Cavalier/Ascona 1.3	1984 to 1988
Type			13S SOHC. 55kW. 15.04	
Capacity (cm ³) / number of cylinders			1297 / 4	
Compression ratio / pressure		bar	9.2 / _	
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			Cavalier/Ascona 1.3	1984 to 1988
Idle speed - manual [auto]		rpm	900 to 950 [800 to 850]	
Fast idle speed - manual [auto]		rpm	2300±200 [2600±200]	
CO @ idle speed [3000 rpm] - see page VI		%	1.0 to 1.5. 88: 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	
Main jet / needle			97.5, 112.5	
Injection pressure		bar	_	
Pump pressure		bar	0.25 to 0.36	
Octane rating		RON	98[RA] ¹	

Ignition system			Cavalier/Ascona 1.3	1984 to 1988
Type			HEI	
Ignition coil			Delco-Remy 3 474 221	
Primary resistance		ohms	0.3 to 0.6	
Ballast resistor		ohms	_	
Voltage - Tmnl 15(+) to earth		V	_	
Distributor			AC Delco	
Points gap (air gap)		mm	_	
Dwell angle		° (%)	Electronic control	
Condenser capacity		µF	_	
Rotation			Anticlockwise	
Ignition timing - basic [static		° Crankshaft @ rpm	10 BTDC @ idle	
V = Vacuum NV = No Vacuum			NV	
Total ignition advance		° Crankshaft @ rpm	_	
		° Crankshaft @ rpm	_	
		° Crankshaft @ rpm	_	
Centrifugal check.		° Crankshaft @ rpm	0 to 1 @ 1000	
		° Crankshaft @ rpm	9 to 14 @ 1800	
		° Crankshaft @ rpm	18 to 22 @ 4200	
Vacuum range check		mbar	100 to 240 ²	
Maximum vacuum advance		° Crankshaft	12.5 to 16.5 ²	
Spark plugs			AC/Champion	
Type			CR42CXLS / RN7YC	
Electrode gap		mm	0.70 to 0.80	

Electrical system			Cavalier/Ascona 1.3	1984 to 1988
Battery		V / CC / RC	12 / 175 / 60	
Alternator voltage / full load current / engine rpm			13.6 to 14.5 / _ / 2000	
Starter motor current / voltage - cranking		A / V	360 to 440 / 7.8 to 9.6 (AC)	
- locked		A / V	380 to 460 / 8.0 (Bosch)	

Running gear			Cavalier/Ascona 1.3	1984 to 1988
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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	155x13: 165x13	
Estate / Van		Size	_	
Pressure - front / rear - Saloon		bar	2.0 / 1.8 ³	
- 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			Cavalier/Ascona 1.3	1984 to 1988
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	
Main bearings		Nm	65	
Clutch cover		Nm	15	
Flywheel [driveplate]		Nm	60	
Front hubs		Nm	100 ⁴	
Rear hubs		Nm	WSM	
Wheel nuts / bolts		Nm	90	
Spark plugs		Nm	25	

Capacities			Cavalier/Ascona 1.3	1984 to 1988
Engine oil & filter		litres	3.0	
Gearbox - 4-speed [5-speed]		litres	2.0	
Automatic transmission - refill		litres	7.0	
Final drive		litres	WT	
Cooling system		litres	6.3 [AT: 7.1] ⁵	
Fuel tank		litres	61	

Notes and Illustrations

¹Retard ignition by 3°

²MT. AT: 120 to 200 @ 6° to 10°

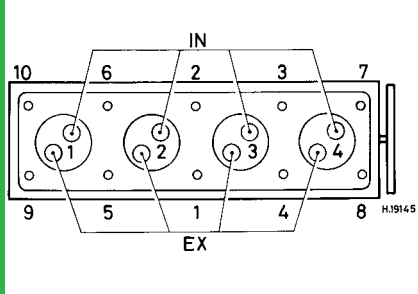
³165x13: 1.9 / 1.7

⁴Slacken, then 20 + 90°

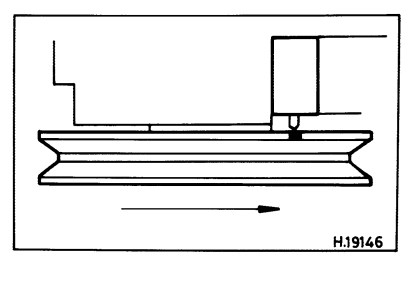
⁵1987 ►: 6.7

1: Idle speed

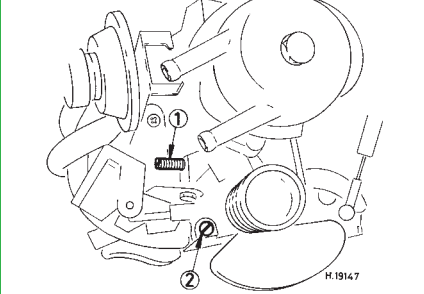
2: CO / Mixture



1297 cm³



1297 cm³



Pierburg 2E3