

VAUXHALL/OPEL

Kadett/Astra/Belmont 1.6S

1986 to 1991

Engine & Cooling

Fuel

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Automotive Technical
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Engine and cooling system

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1986 to 1991

Type		16SV SOHC. 60kW. 15.04
Capacity (cm ³) / number of cylinders		1598 / 4
Compression ratio / pressure	bar	10.0 / _
Oil pressure	bar	1.5
Oil temperature	°C	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	°C	92
Radiator cap pressure	bar	1.2 to 1.5

Fuel system

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Idle speed - manual [auto]	rpm	900 to 950 [800 to 850]
Fast idle speed - manual [auto]	rpm	2000 to 2400 [2500 to 2900]
CO @ idle speed [3000 rpm] - see page VI	%	1.5±0.5 WSM
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		Pierburg
Type / ref		2E3
Main jet / needle		95, 105
Injection pressure	bar	_
Pump pressure	bar	0.18 to 0.25
Octane rating	RON	98[E 95 RON] ¹

Ignition system

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Type		MSTS-h
Ignition coil		Delco Remy 3 474 233
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±2 BTDC @ idle
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Centrifugal check.	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Vacuum range check	mbar	_
Maximum vacuum advance	° 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 / 175 / 130 or 210 / 150
Alternator voltage / full load current / engine rpm		14.5±0.25 / _ / 3500
Starter motor current / voltage - cranking	A / V	_
- locked	A / V	475 to 600 / 12

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	155x13: 165x13: 175/70x13 ²
Estate / Van	Size	155x13: 165x13: 175/70x13
Pressure - front / rear - Saloon	bar	2.0 / 1.8 ³
- Estate / Van	bar	2.0 / 2.0 ⁴

Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	-2.0 to 0 L
Camber		-1°15' to +15'
Castor		+45' to 2°45'. Est: 0 to +2°
King pin inclination		_

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	[-10' to +40']
Camber		-30'±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	35 + 45°
Main bearings	Nm	50 + 40° to 50°
Clutch cover	Nm	15
Flywheel [driveplate]	Nm	35 + 30° to 45°
Front hubs	Nm	WSM
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	90
Spark plugs	Nm	25

Capacities

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Engine oil & filter	litres	3.5
Gearbox - 4-speed [5-speed]	litres	1.7 [1.8]
Automatic transmission - refill	litres	6.3
Final drive	litres	WT
Cooling system	litres	6.4 [AT: 6.2]
Fuel tank	litres	52. Est/Van: 50

Notes and Illustrations

¹Octane rating plug = 95 RON. 89 ►: [E 95 RON]

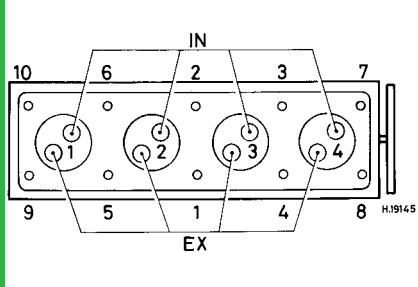
²175/65x14: 185/60x14

³185/60x14: 1.9 / 1.9, 90 ►: 1.7 / 1.7

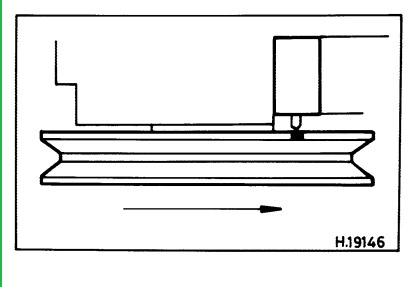
⁴Astramax: 1.8 / 2.2. 165x13: 1.9 / 1.9. 90 ►: 1.8 / 1.8

1: Idle speed

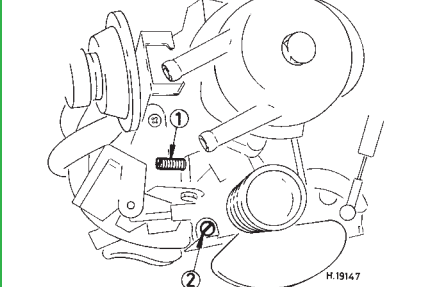
2: CO / Mixture



1598 cm³, 8V



1598 cm³, not DIS



Pierburg 2E3