

VAUXHALL/OPEL

Astra-F 1.6i E-Drive CAT

1993 to 1996

Engine & Cooling

Fuel

Ignition

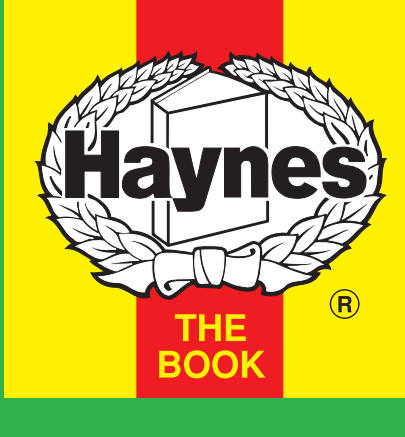
Electrical

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Automotive Technical
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Engine and cooling system

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Type		X16SZ SOHC 52kW 94/12/EC
Capacity (cm³) / 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	770 to 930 [750 to 910]
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	≤0.3 N/A
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		GM
Type / ref		Rochester Multec-ZE CFI
Main jet / needle		_
Injection pressure	bar	0.76
Pump pressure	bar	_
Octane rating	RON	95[U]

Ignition system

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Type		Multec-DIS
Ignition coil		Dual spark
Primary resistance	ohms	0.56±0.05
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		_
Points gap (air gap)	mm	_
Dwell angle	° (%)	Electronic control
Condenser capacity	µF	_
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	N/A
V = Vacuum NV = No Vacuum		_
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		WR7DC / RN7YC
Electrode gap	mm	0.70 to 0.80

Electrical system

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Battery	V / CC / RC	12 / 44Ah
Alternator voltage / full load current / engine rpm		14.1 to 15.2 / 70 / 3000
Starter motor current / voltage - cranking	A / V	30 to 65 / 10.6 to 12.2
- locked	A / V	350 to 500 / 5.7 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	155x13: 175/70x13: 175/65x14 ¹
Estate / Van	Size	155x13: 175/70x13: 175/65x14 ²
Pressure - front / rear - Saloon	bar	2.0 / 1.7 (155x13: 2.1 / 1.8)
- Estate / Van	bar	2.1 / 1.9

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	-2.5 to -0.5 L
Camber		-1°5'±45' N/A
Castor		+2°15'±1°N/A
King pin inclination		_

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	-1.0 to +4.0
Camber		-1°40'±30' N/A

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 ³
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

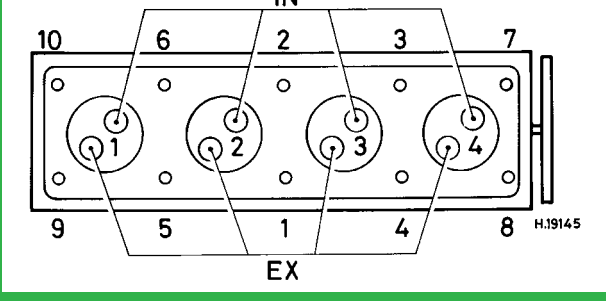
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Engine oil & filter	litres	3.5
Gearbox - 4-speed [5-speed]	litres	1.6
Automatic transmission - refill	litres	3.0 to 3.5
Final drive	litres	WT
Cooling system	litres	5.6
Fuel tank	litres	52

Notes and Illustrations

- ¹195/55x15: 185/60x14
- ²195/55x15
- ³40mm bolt: 25 + 30°



1598 cm³, 8V