

VAUXHALL/OPEL

Astra-F 1.6i

1996 to 1997

Engine & Cooling

Fuel

Ignition

Electrical

Running gear

Torque settings

Capacities

Notes & Illustrations



Automotive Technical
DATA BOOK

Click on one of the buttons above to view data for this car. To return to this screen and make another choice, click anywhere on the data screen.

MENU

HELP

Engine and cooling system

Astra-F 1.6i

1996 to 1997

Type		X16SZR 8V 55kW 94/12/EC
Capacity (cm ³) / number of cylinders		1598 / 4
Compression ratio / pressure	bar	9.6 / _
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

Astra-F 1.6i

1996 to 1997

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	%	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		GM
Type / ref		Rochester Multec (F) CFI
Main jet / needle		_
Injection pressure	bar	0.76
Pump pressure	bar	_
Octane rating	RON	95[U]

Ignition system

Astra-F 1.6i

1996 to 1997

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

Astra-F 1.6i

1996 to 1997

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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1996 to 1997

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

Tyres		
Saloon	Size	175/65x14: 195/55x14
Estate / Van	Size	175/65x14: 195/55x14
Pressure - front / rear - Saloon	bar	Refer to vehicle
- Estate / Van	bar	Refer to vehicle

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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1996 to 1997

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. 40mm bolt: 25 + 30°
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

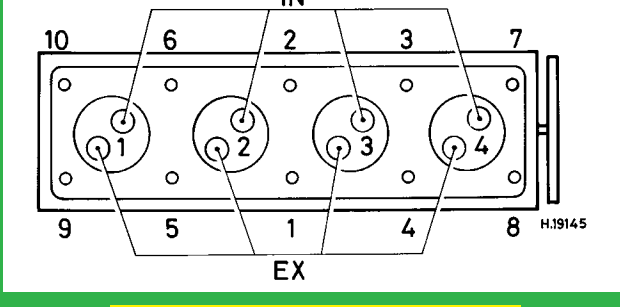
Capacities

Astra-F 1.6i

1996 to 1997

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



The diagram illustrates the crankshaft positions and valve timing for the Astra-F 1.6i engine. It shows a sequence of 10 crankshaft positions, numbered 1 through 10. The intake valve (IN) and exhaust valve (EX) timing is indicated for each position. The diagram is labeled H.1914.5.

1598 cm³, 8V