

VAUXHALL/OPEL

Astra-F 1.6i CAT

1991 to 1995

Engine & Cooling

Fuel

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Automotive Technical
DATA BOOK

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Engine and cooling system			Astra-F 1.6i CAT	1991 to 1995
Type			C16NZ SOHC 55kW 91/441/EEC	
Capacity (cm³) / number of cylinders			1598 / 4	
Compression ratio / pressure		bar	9.2 / _	
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 CAT	1991 to 1995
Idle speed - manual [auto]			rpm	830 to 900
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-ZE CFI	
Main jet / needle			_	
Injection pressure		bar	0.76	
Pump pressure		bar	_	
Octane rating		RON	95[U]	

Ignition system			Astra-F 1.6i CAT	1991 to 1995
Type			Multec-MSTS-i	
Ignition coil			Delco. Bosch	
Primary resistance		ohms	0.6 to 0.9	
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 @ 830 to 990	
V = Vacuum NV = No Vacuum			NV	
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 CAT	1991 to 1995
Battery		V / CC / RC	12V 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	
		A / V	350 to 500 / 5.7 to 8.2	

Running gear			Astra-F 1.6i CAT	1991 to 1995
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: 175/65x14¹	
Estate / Van		Size	155x13: 175/70x13: 175/65x14²	
Pressure - front / rear - Saloon		bar	2.0 / 1.7	
		bar	2.0 / 1.8	
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/A³	
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			Astra-F 1.6i CAT	1991 to 1995
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	28⁵	
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 CAT	1991 to 1995
Engine oil & filter		litres	3.5	
Gearbox - 4-speed [5-speed]		litres	1.6	
Automatic transmission - refill		litres	_	
Final drive		litres	WT	
Cooling system		litres	5.6	
Fuel tank		litres	52. Estate: 50	

Notes and Illustrations		
¹185/60x14: 195/60x14 ²185/60x14. Van: 175/60x13: 185/60x14 ³Estate: +1°30'±1° L ⁵40mm bolt: 25 + 30°		

1598 cm³, 8V

1598 cm³