

Engine and cooling system

Tigra 1.6i 16V

1994 to 1997

Type		X16XE 16V 78kW 94/12/EC
Capacity (cm ³) / number of cylinders		1598 / 4
Compression ratio / pressure	bar	10.5/_
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	88
Radiator cap pressure	bar	1.3

Fuel system

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1994 to 1997

Idle speed - manual [auto]	rpm	820 to 890
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		Multec-S MPi
Main jet / needle		—
Injection pressure	bar	—
Pump pressure	bar	3.0
Octane rating	RON	95[U]

Ignition system

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1994 to 1997

Type		Multec-DIS
Ignition coil		—
Primary resistance	ohms	—
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		—
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	Computer control N/A
V = Vacuum NV = No Vacuum		—
Total ignition advance	° Crankshaft @ rpm	Computer control
	° 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
Type		FR8LDC
Electrode gap	mm	0.7 to 0.8

Electrical system

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1994 to 1997

Battery	V / CC / RC	12V 44Ah
Alternator voltage / full load current / engine rpm		14.5 / 70 / 6000
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear

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

Tyres		
Saloon	Size	185/55x15:185/60x14:165/65x14
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.3 / 2.1 (165: 2.5 / 2.3) ¹
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	-10'±10' UL
Camber		-55±45'
Castor		1°55'±1°
King pin inclination		—

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	10'+30'-15'
Camber		-1°30'±30'

Torque wrench settings

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Cylinder head - stage 1	Nm	25 N
- stage 2	Nm	+90°
Cylinder head - stage 3	Nm	+90°
- stage 4	Nm	+90° +45°
Big-end bearings	Nm	25 +30°
Main bearings	Nm	50 +45° +15°
Clutch cover	Nm	15
Flywheel [driveplate]	Nm	35 +30° +15°
Front hubs	Nm	²
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	25

Capacities

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1994 to 1997

Engine oil & filter	litres	3.25
Gearbox - 4-speed [5-speed]	litres	1.6
Automatic transmission - refill	litres	—
Final drive	litres	WT
Cooling system	litres	5.6 A/c: 5.8
Fuel tank	litres	46

Notes and Illustrations

¹Comfort (not M+S): 2.0 / 1.8

²Pretighten to 100 Nm, slacken, then 20 Nm +90°

