

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemSierra 2.9i 4x41989 to 1991

Type		B4A (OHV) 110kW 15.04
Capacity (cm ³) / number of cylinders		2933 / 6
Compression ratio / pressure	bar	9.5 / ≥11.5
Oil pressure	bar	1.0 [2.5]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.35
Valve clearance - exhaust	mm	0.40
Firing order		1-4-2-5-3-6
No 1 cylinder position		FR
Thermostat opening temperature	°C	79 to 83
Radiator cap pressure	bar	0.85 to 1.10

Fuel systemSierra 2.9i 4x41989 to 1991

Idle speed - manual [auto]	rpm	900±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0.75±0.25
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO ₂ @ idle speed [3000 rpm] - see page VI	%	—
O ₂ @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Bosch
Type / ref		L-Jetronic (Ford EEC IV)
Main jet / needle		—
Injection pressure	bar	3.0
Pump pressure	bar	≥5.0
Octane rating	RON	97[E 95 RON]

Ignition systemSierra 2.9i 4x41989 to 1991

Type		EEC IV
Ignition coil		Bosch, Femsa, Polmot 25kV
Primary resistance	ohms	0.72 to 0.88
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Motorcraft
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	12 BTDC @ ≤900
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		Motorcraft/Champion
Type		AGPR32C / RC7YC
Electrode gap	mm	0.75

Electrical systemSierra 2.9i 4x41989 to 1991

Battery	V / CC / RC	12 / 250 / 80
Alternator voltage / full load current / engine rpm		13.7 to 14.6 / _ / 3000
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gearSierra 2.9i 4x41989 to 1991

Brakes -		
Front (min. friction material thickness)	mm	1.5
Rear (min. friction material thickness)	mm	1.5

Tyres		
Saloon	Size	195/60x14
Estate / Van	Size	195/60x14
Pressure - front / rear - Saloon	bar	2.0 / 2.0
- Estate / Van	bar	2.0 / 2.0

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+1.0±1.0
Camber		-1°20'±1°
Castor		+3°53'±1°
King pin inclination		—

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	—
Camber		—

Torque wrench settingsSierra 2.9i 4x41989 to 1991

Cylinder head - stage 1	Nm	35 to 40
- stage 2	Nm	70 to 75
Cylinder head - stage 3	Nm	Wait 5 min.
- stage 4	Nm	+ 90°
Big-end bearings	Nm	26 to 33
Main bearings	Nm	90 to 104
Clutch cover	Nm	17 to 21
Flywheel [driveplate]	Nm	68 to 74
Front hubs	Nm	205 to 235
Rear hubs	Nm	250 to 290
Wheel nuts / bolts	Nm	70 to 100
Spark plugs	Nm	30 to 40

CapacitiesSierra 2.9i 4x41989 to 1991

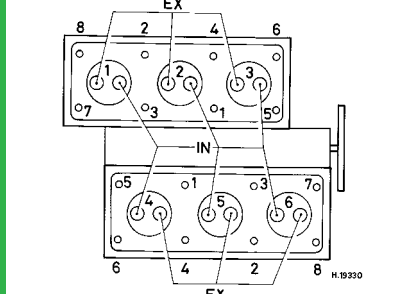
Engine oil & filter	litres	4.65
Gearbox - 4-speed [5-speed]	litres	1.2 ¹
Automatic transmission - refill	litres	—
Final drive	litres	Centre: 1.0. Rear ²
Cooling system	litres	8.5
Fuel tank	litres	60

Notes and Illustrations

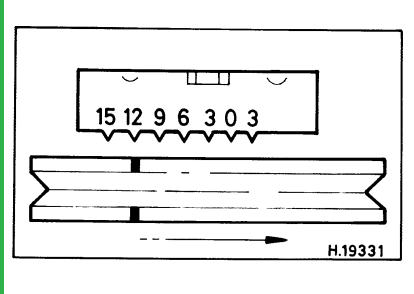
¹Transfer box: 0.5

²0.9

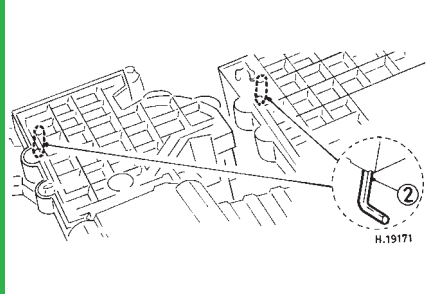
1: Idle speed 2: CO / Mixture



2933 cm³



2933 cm³



L-Jetronic