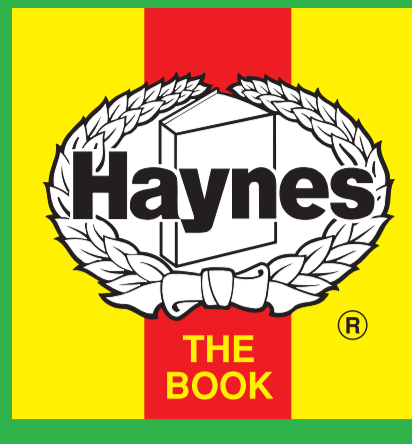


Engine & Cooling Fuel Ignition Electrical Running gear Torque settings Capacities Notes & Illustrations



Automotive Technical DATA BOOK

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Engine and cooling system Defender 90, 110, 130 V8 1990 to 1994

Type	V8 OHV 100kW	
Capacity (cm ³) / number of cylinders	3528 / 8	
Compression ratio / pressure	bar	8.13 / ≥9.3
Oil pressure	bar	[2.1 to 2.8]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order	1-8-4-3-6-5-7-2	
No 1 cylinder position	FL	
Thermostat opening temperature	°C	82
Radiator cap pressure	bar	1.0

Fuel system Defender 90, 110, 130 V8 1990 to 1994

Idle speed - manual [auto]	rpm	700 to 750
Fast idle speed - manual [auto]	rpm	1050 to 1150
CO @ idle speed [3000 rpm] - see page VI	%	1.5 to 3.0
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	Zenith-Stromberg	
Type / ref	2x 175 CDSE	
Main jet / needle	_ / B1FK	
Injection pressure	bar	-
Pump pressure	bar	0.31
Octane rating	RON	90[E 91 RON]

Ignition system Defender 90, 110, 130 V8 1990 to 1994

Type	Electronic	
Ignition coil	AC Delco.	
Primary resistance	ohms	1.2 to 1.4
Ballast resistor	ohms	-
Voltage - Tmnl 15(+) to earth	V	7.0
Distributor	Lucas	
Points gap (air gap)	mm	[0.20 to 0.35]
Dwell angle	° (%)	-
Condenser capacity	µF	-
Rotation	Clockwise	
Ignition timing - basic [static	° Crankshaft @ rpm	6±1 BTDC @ 700
V = Vacuum NV = No Vacuum	V	
Total ignition advance	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
Centrifugal check.	° Crankshaft @ rpm	2 to 4 @ 750
	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	12 to 14 @ 2300
Vacuum range check	mbar	339 to 677
Maximum vacuum advance	° Crankshaft	5 to 7
Spark plugs	Unipart/Champion	
Type	GSP131 / RN9YCC	
Electrode gap	mm	0.70 to 0.84

Electrical system Defender 90, 110, 130 V8 1990 to 1994

Battery	V / CC / RC	12 / 180 / 78, 12 / 370 / 120
Alternator voltage / full load current / engine rpm	13.6 to 14.4 / 45 / 3000	
Starter motor current / voltage - cranking	A / V	-
- locked	A / V	-

Running gear Defender 90, 110, 130 V8 1990 to 1994

Brakes -		
Front (min. friction material thickness)	mm	-
Rear (min. friction material thickness)	mm	-
Tyres		
Saloon	Size	-
Estate / Van	Size	205x16: 750x16
Pressure - front / rear - Saloon	bar	-
- Estate / Van	bar	1.9 / 3.3
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+1.2 to 2.4 ¹
Camber		0
Castor		+3°
King pin inclination		+7°
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	-
Camber		-

Torque wrench settings Defender 90, 110, 130 V8 1990 to 1994

Cylinder head - stage 1	Nm	No 1 to 10: 88 to 95
- stage 2	Nm	No 11 to 14: 54 to 61
Cylinder head - stage 3	Nm	-
- stage 4	Nm	-
Big-end bearings	Nm	47 to 54
Main bearings	Nm	68 to 75 ²
Clutch cover	Nm	27
Flywheel [driveplate]	Nm	74 to 81
Front hubs	Nm	-
Rear hubs	Nm	-
Wheel nuts / bolts	Nm	108
Spark plugs	Nm	16

Capacities Defender 90, 110, 130 V8 1990 to 1994

Engine oil & filter	litres	5.7
Gearbox - 4-speed [5-speed]	litres	2.2 ³
Automatic transmission - refill	litres	-
Final drive	litres	1.7 ⁴
Cooling system	litres	12.8
Fuel tank	litres	54.5. 110/130: 80

Notes and Illustrations

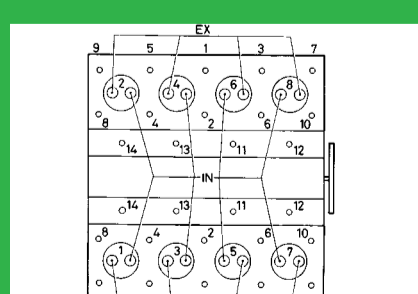
¹Permanent 4 wheel drive: -1.2 to -2.4

²Rear bearing: 88 to 95

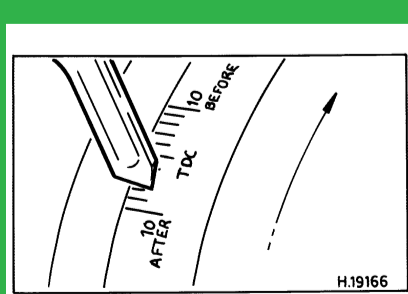
³Transfer box: 2.8

⁴Rear, 90: 1.7. 110: 2.3

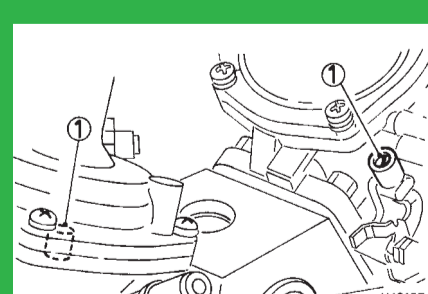
1: Idle speed 2: CO / Mixture



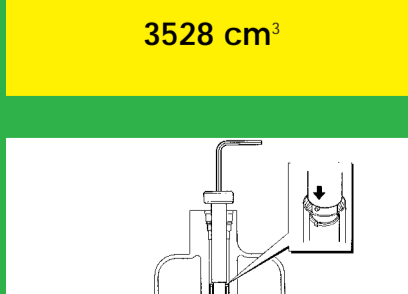
3528 cm³



3528 cm³



Zenith-Stromberg



Zenith-Stromberg