

Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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Automotive Technical DATA BOOK

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HELP

Engine and cooling system Range Rover 3.9 EFi 1989 to 1992

Type		3.9L V8 134kW
Capacity (cm ³) / number of cylinders		3947 / 8
Compression ratio / pressure	bar	9.35 / ≥9.3
Oil pressure	bar	[2.1 to 2.8]
Oil temperature	°C	–
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	88
Radiator cap pressure	bar	1.04

Fuel system Range Rover 3.9 EFi 1989 to 1992

Idle speed - manual [auto]	rpm	525±25 Base idle
Fast idle speed - manual [auto]	rpm	–
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5 N/A
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO ₂ @ idle speed [3000 rpm] - see page VI	%	–
O ₂ @ idle speed [3000 rpm] - see page VI	%	–
Carburettor / fuel injection		Lucas
Type / ref		Hot Wire
Main jet / needle		–
Injection pressure	bar	–
Pump pressure	bar	2.3 to 2.6
Octane rating	RON	95[E 95 RON]

Ignition system Range Rover 3.9 EFi 1989 to 1992

Type		Electronic
Ignition coil		Bosch 0221 122 392
Primary resistance	ohms	–
Ballast resistor	ohms	–
Voltage - Tmnl 15(+) to earth	V	–
Distributor		Lucas
Points gap (air gap)	mm	[0.20 to 0.36]
Dwell angle	° (%)	–
Condenser capacity	µF	–
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	4±1 @ 800
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	–
	° Crankshaft @ rpm	–
	° Crankshaft @ rpm	–
Centrifugal check.	° Crankshaft @ rpm	2 to 6 @ 1300
	° Crankshaft @ rpm	15 to 20 @ 2800
	° Crankshaft @ rpm	14 to 20 @ 4400
Vacuum range check	mbar	–
Maximum vacuum advance	° Crankshaft	–
Spark plugs		Champion
Type		RN9YCC
Electrode gap	mm	0.80

Electrical system Range Rover 3.9 EFi 1989 to 1992

Battery	V / CC / RC	12 / 210 / 85 or / 380 / 120
Alternator voltage / full load current / engine rpm		13.6 to 14.4 / _ / 3000
Starter motor current / voltage - cranking	A / V	–
- locked	A / V	–

Running gear Range Rover 3.9 EFi 1989 to 1992

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

Tyres		
Saloon	Size	–
Estate / Van	Size	205x16
Pressure - front / rear - Saloon	bar	–
- Estate / Van	bar	1.9 / 2.1

Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	-1.2 to -2.4
Camber		0
Castor		+3°
King pin inclination		+7°

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	–
Camber		–

Torque wrench settings Range Rover 3.9 EFi 1989 to 1992

Cylinder head - stage 1	Nm	No 1 to 10: 88 to 95
- stage 2	Nm	No11 to 14: 54 to 61
Cylinder head - stage 3	Nm	–
- stage 4	Nm	–
Big-end bearings	Nm	47 to 54
Main bearings	Nm	¹
Clutch cover	Nm	24 to 30
Flywheel [driveplate]	Nm	74 to 81
Front hubs	Nm	41 to 52
Rear hubs	Nm	41 to 52
Wheel nuts / bolts	Nm	Steel: 102 to 115 ²
Spark plugs	Nm	19 to 22

Capacities Range Rover 3.9 EFi 1989 to 1992

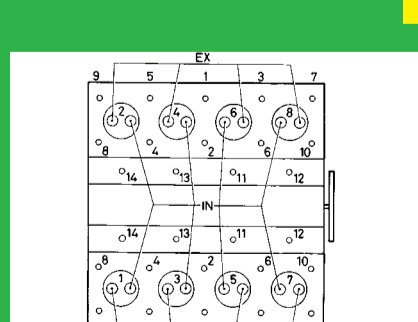
Engine oil & filter	litres	5.7
Gearbox - 4-speed [5-speed]	litres	2.7. Transfer:2.5
Automatic transmission - refill	litres	9.1. Transfer: 2.5
Final drive	litres	Front & rear: 1.7
Cooling system	litres	11.3
Fuel tank	litres	76.4. 91 MY: 81.8

Notes and Illustrations

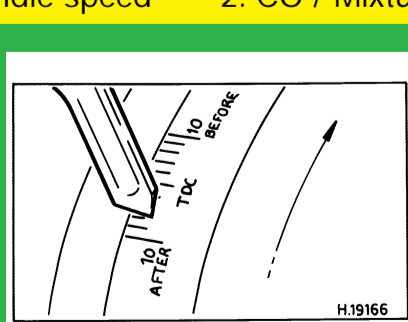
¹No 1 to 4: 68 to 75. Others: 88 to 95

²Alloy: 122 to 129

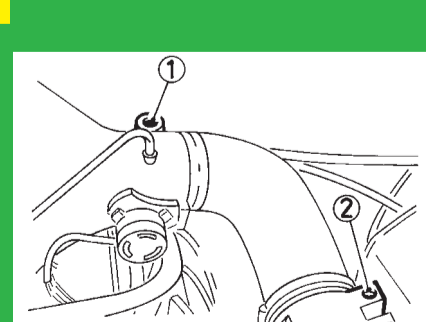
1: Idle speed 2: CO / Mixture



3947 cm³



3947 cm³



Hot wire injection