

Engine & CoolingFuelIgnitionElectricalRunning gearTorque settingsCapacitiesNotes & Illustrations



Automotive Technical
DATA BOOK

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Engine and cooling system

XJ-S V12 HE1981 to 1988

Type		V12 HE
Capacity (cm³) / number of cylinders		5343 / 12
Compression ratio / pressure	bar	12.5 / 13.8
Oil pressure	bar	[2.8]
Oil temperature	°C	—
Valve clearance - inlet	mm	0.25 to 0.30
Valve clearance - exhaust	mm	0.25 to 0.30
Firing order		1-12-5-8-3-10-6-7-2-11-4-9
No 1 cylinder position		FR
Thermostat opening temperature	°C	82 or 88
Radiator cap pressure	bar	1.4. Tank: 1.0

Fuel system

XJ-S V12 HE1981 to 1988

Idle speed - manual [auto]	rpm	750±25
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	1.0 to 2.0
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Lucas
Type / ref		Digital P
Main jet / needle		—
Injection pressure	bar	—
Pump pressure	bar	2.5
Octane rating	RON	98[L]

Ignition system

XJ-S V12 HE1981 to 1988

Type		Electronic
Ignition coil		Lucas 2x 35C6
Primary resistance	ohms	0.9 to 1.1
Ballast resistor	ohms	0.9 to 1.0
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Lucas
Points gap (air gap)	mm	[0.15 to 0.20]
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	18 BTDC @ 3000
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 900
	° Crankshaft @ rpm	12 to 16 @ 2000
	° Crankshaft @ rpm	20 to 24 @ 6200
Vacuum range check	mbar	169 to 508
Maximum vacuum advance	° Crankshaft	12
Spark plugs		NGK/Champion
Type		BR7EFS / RS5C
Electrode gap	mm	0.60

Electrical system

XJ-S V12 HE1981 to 1988

Battery	V / CC / RC	12 / 68Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.0 / _ / 3000
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	940 / 6.5

Running gear

XJ-S V12 HE1981 to 1988

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

Tyres		
Saloon	Size	215/70x15
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	1.8 / 1.7
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (—)	mm [°]	0 to +1.6²
Camber		-30'±15'
Castor		+3°30'±15'
King pin inclination		+1°30'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (—)	mm [°]	0±0.8²
Camber		-45'±15'

Torque wrench settings

XJ-S V12 HE1981 to 1988

Cylinder head - stage 1	Nm	0.438 in. nut: 68
- stage 2	Nm	0.375 in. nut: 38
Cylinder head - stage 3	Nm	—
- stage 4	Nm	—
Big-end bearings	Nm	55
Main bearings	Nm	0.5 in. nut: 83¹
Clutch cover	Nm	—
Flywheel [driveplate]	Nm	88
Front hubs	Nm	WSM
Rear hubs	Nm	136 to 163
Wheel nuts / bolts	Nm	61
Spark plugs	Nm	—

Capacities

XJ-S V12 HE1981 to 1988

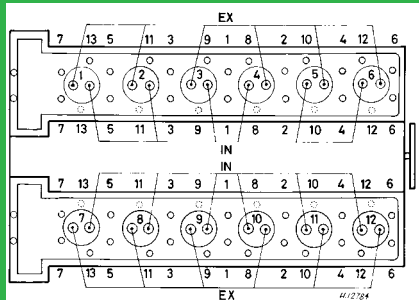
Engine oil & filter	litres	10.7
Gearbox - 4-speed [5-speed]	litres	—
Automatic transmission - refill	litres	9.1
Final drive	litres	1.6
Cooling system	litres	19.5
Fuel tank	litres	91

Notes and Illustrations

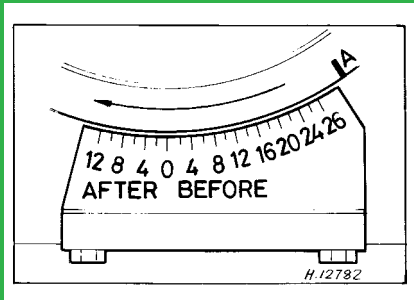
¹0.375 in. nut: 38

²Laden

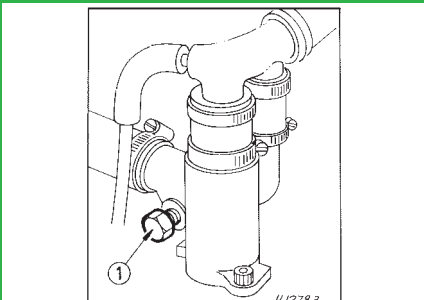
1: Idle speed 2: CO / Mixture



5343 cm³



5343 cm³



Digital P, 5343 cm³