

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemXJ6 & Sovereign 2.91986 to 1989

Type		AJ-6
Capacity (cm ³) / number of cylinders		2919 / 6
Compression ratio / pressure	bar	12.6 / 14.5
Oil pressure	bar	2.1
Oil temperature	°C	80
Valve clearance - inlet	mm	0.30 to 0.34
Valve clearance - exhaust	mm	0.30 to 0.34
Firing order		1-5-3-6-2-4
No 1 cylinder position		TCE
Thermostat opening temperature	°C	88
Radiator cap pressure	bar	1.0

Fuel systemXJ6 & Sovereign 2.91986 to 1989

Idle speed - manual [auto]	rpm	650±50 (500 to 550 base idle)
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-Bosch
Type / ref		LH Electronic
Main jet / needle		—
Injection pressure	bar	3.0 above manifold pres.
Pump pressure	bar	2.5
Octane rating	RON	98[L]

Ignition systemXJ6 & Sovereign 2.91986 to 1989

Type		Computerized
Ignition coil		Bosch TC1
Primary resistance	ohms	0.45 to 0.55
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Bosch
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	6 to 8 BTDC @ idle
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		Champion
Type		N3C
Electrode gap	mm	0.64

Electrical systemXJ6 & Sovereign 2.91986 to 1989

Battery	V / CC / RC	12 / 65Ah
Alternator voltage / full load current / engine rpm		13.8 to 15.0 / _ / 3000
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gearXJ6 & Sovereign 2.91986 to 1989

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

Tyres		
Saloon	Size	220/65x390
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.3 / 2.3
- Estate / Van	bar	—

Front suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	0 to +1.6
Camber		0 to -30’
Castor		+3°30’ to 4°30’
King pin inclination		+8°5’

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	[-10’]
Camber		-30’ to -1°

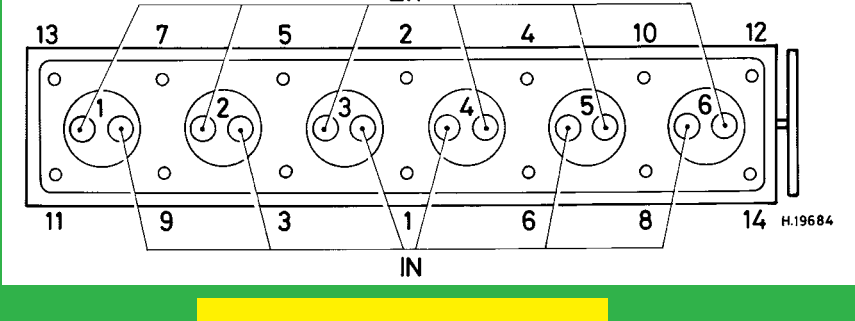
Torque wrench settingsXJ6 & Sovereign 2.91986 to 1989

Cylinder head - stage 1	Nm	Nuts: 82 to 86
- stage 2	Nm	Bolts: 23 to 27
Cylinder head - stage 3	Nm	—
- stage 4	Nm	—
Big-end bearings	Nm	52 to 55
Main bearings	Nm	136 to 142
Clutch cover	Nm	23 to 27
Flywheel [driveplate]	Nm	98 [49 to 54]
Front hubs	Nm	WSM
Rear hubs	Nm	—
Wheel nuts / bolts	Nm	75. Alloy: 95
Spark plugs	Nm	—

CapacitiesXJ6 & Sovereign 2.91986 to 1989

Engine oil & filter	litres	8.0
Gearbox - 4-speed [5-speed]	litres	1.4
Automatic transmission - refill	litres	7.4
Final drive	litres	2.1
Cooling system	litres	12.3
Fuel tank	litres	86.6

Notes and Illustrations



2919 cm³