

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemShuttle 2.2i1995 to 1997

Type	F22B8 SOHC 16V 112kW	
Capacity (cm ³) / number of cylinders	2156 / 4	
Compression ratio / pressure	bar	9.8 / ≥9.5
Oil pressure	bar	[3.5]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.24 to 0.28
Valve clearance - exhaust	mm	0.28 to 0.32
Firing order	1-3-4-2	
No 1 cylinder position	TBE	
Thermostat opening temperature	°C	76 to 80
Radiator cap pressure	bar	1.00 to 1.20

Fuel systemShuttle 2.2i1995 to 1997

Idle speed - manual [auto]	rpm	770±50
Fast idle speed - manual [auto]	rpm	1400±200
CO @ idle speed [3000 rpm] - see page VI	%	≤0.1
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection	_ Honda	
Type / ref	PGM-Fi MPI	
Main jet / needle	—	
Injection pressure	bar	—
Pump pressure	bar	—
Octane rating	RON	95[U]

Ignition systemShuttle 2.2i1995 to 1997

Type	Computerized	
Ignition coil	Hitachi, TEC	
Primary resistance	ohms	0.40 to 0.80
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor	—	
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation	—	
Ignition timing - basic [static	° Crankshaft @ rpm	15±2 BTDC @ 770±50
V = Vacuum NV = No Vacuum	—	
Total ignition advance	° Crankshaft @ rpm	Computer control
	° 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	NGK/Nippon Denso	
Type	ZFR6F-11 / KJ20CR-L11	
Electrode gap	mm	1.00 to 1.10

Electrical systemShuttle 2.2i1995 to 1997

Battery	V / CC / RC	12 / 65Ah
Alternator voltage / full load current / engine rpm	13.5 to 14.5 / 80 / _	
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gearShuttle 2.2i1995 to 1997

Brakes -		
Front (min. friction material thickness)	mm	1.6
Rear (min. friction material thickness)	mm	1.6

Tyres		
Saloon	Size	—
Estate / Van	Size	206/65x15
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	Refer to vehicle

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	0±2.0
Camber	0±1°	
Castor	+3°±1°	
King pin inclination	—	

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+2.0±2.0
Camber	-30'±30'	

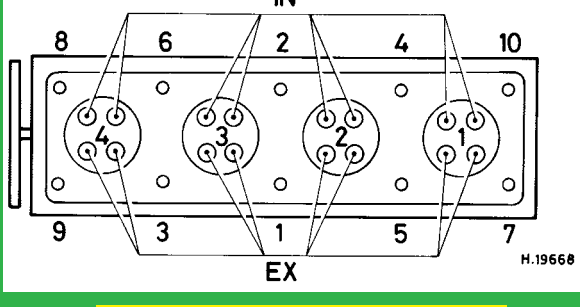
Torque wrench settingsShuttle 2.2i1995 to 1997

Cylinder head - stage 1	Nm	40
- stage 2	Nm	70
Cylinder head - stage 3	Nm	98
- stage 4	Nm	—
Big-end bearings	Nm	45
Main bearings	Nm	30, 75
Clutch cover	Nm	—
Flywheel [driveplate]	Nm	75
Front hubs	Nm	245
Rear hubs	Nm	185
Wheel nuts / bolts	Nm	108
Spark plugs	Nm	18

CapacitiesShuttle 2.2i1995 to 1997

Engine oil & filter	litres	3.8
Gearbox - 4-speed [5-speed]	litres	—
Automatic transmission - refill	litres	2.4
Final drive	litres	WT
Cooling system	litres	7.8
Fuel tank	litres	65

Notes and Illustrations



2156 cm³