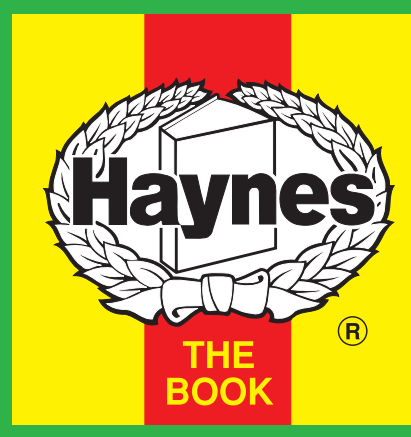


Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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# Automotive Technical DATA BOOK

Click on one of the buttons above to view data for this car. To return to this screen and make another choice, click anywhere on the data screen.

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## Engine and cooling system Shuttle 1.6i 4x4 1988 to 1990

Type		D16A7 SOHC 16V
Capacity (cm <sup>3</sup> ) / number of cylinders		1590 / 4
Compression ratio / pressure	bar	9.1 / ≥9.3
Oil pressure	bar	1.7 [5.1]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.17 to 0.22
Valve clearance - exhaust	mm	0.22 to 0.27
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	76 to 80
Radiator cap pressure	bar	0.74 to 1.03

## Fuel system Shuttle 1.6i 4x4 1988 to 1990

Idle speed - manual [auto]	rpm	780±50
Fast idle speed - manual [auto]	rpm	1000 to 2000
CO @ idle speed [3000 rpm] - see page VI	%	≤0.1
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO <sub>2</sub> @ idle speed [3000 rpm] - see page VI	%	-
O <sub>2</sub> @ idle speed [3000 rpm] - see page VI	%	-
Carburettor / fuel injection		Honda
Type / ref		PGM-Fi
Main jet / needle		-
Injection pressure	bar	2.3 to 2.7
Pump pressure	bar	4.4 to 5.9
Octane rating	RON	97[RA]

## Ignition system Shuttle 1.6i 4x4 1988 to 1990

Type		Electronic
Ignition coil		-
Primary resistance	ohms	0.3 to 0.5
Ballast resistor	ohms	-
Voltage - Tmnl 15(+) to earth	V	-
Distributor		Hitachi
Points gap (air gap)	mm	-
Dwell angle	° (%)	-
Condenser capacity	µF	-
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	18±2 BTDC @ idle
V = Vacuum    NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	2 BTDC @ idle (NV)
	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
Centrifugal check.	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
Vacuum range check	mbar	-
Maximum vacuum advance	° Crankshaft	-
Spark plugs		NGK/Champion
Type		BCPR6E-11 / RN9YC
Electrode gap	mm	1.00 to 1.10

## Electrical system Shuttle 1.6i 4x4 1988 to 1990

Battery	V / CC / RC	12 / 47Ah
Alternator voltage / full load current / engine rpm		13.9 to 15.1 / _ / 3000
Starter motor current / voltage - cranking	A / V	-
- locked	A / V	-

## Running gear Shuttle 1.6i 4x4 1988 to 1990

<b>Brakes -</b>		
Front (min. friction material thickness)	mm	3.0
Rear (min. friction material thickness)	mm	2.0

<b>Tyres</b>		
Saloon	Size	-
Estate / Van	Size	165x13: 175/65x14
Pressure - front / rear - Saloon	bar	-
- Estate / Van	bar	1.9 / 1.9

## Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	0±3.0 <sup>1</sup>
Camber		+35'±1°
Castor		+2°56'±1°
King pin inclination		+6°58'

## Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	+2.0±2.0 <sup>2</sup>
Camber		0±1°

## Torque wrench settings Shuttle 1.6i 4x4 1988 to 1990

Cylinder head - stage 1	Nm	30 oiled
- stage 2	Nm	65
Cylinder head - stage 3	Nm	-
- stage 4	Nm	-
Big-end bearings	Nm	32
Main bearings	Nm	58 oiled
Clutch cover	Nm	26
Flywheel [driveplate]	Nm	120
Front hubs	Nm	185
Rear hubs	Nm	185
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	18

## Capacities Shuttle 1.6i 4x4 1988 to 1990

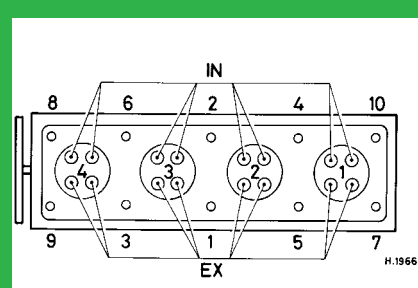
Engine oil & filter	litres	3.5
Gearbox - 4-speed [5-speed]	litres	2.3
Automatic transmission - refill	litres	-
Final drive	litres	Rear: 0.7
Cooling system	litres	5.4
Fuel tank	litres	45

## Notes and Illustrations

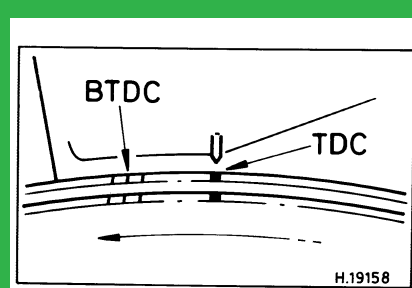
<sup>1</sup>1989 ▶: 0±2.0

<sup>2</sup>1989 ▶: +2.0±2.0-1.0

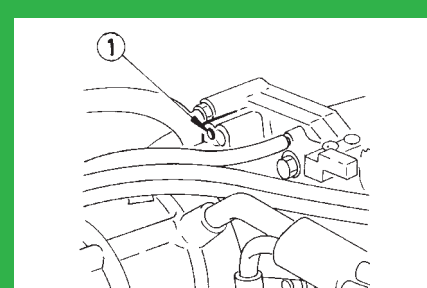
1: Idle speed      2: CO / Mixture



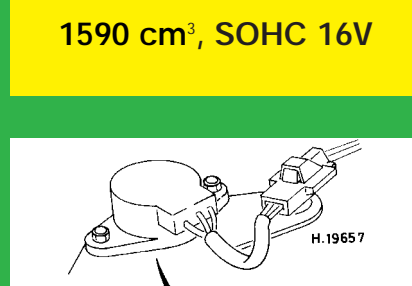
1590 cm<sup>3</sup>, SOHC 16V



1590 cm<sup>3</sup>, SOHC 16V



PGM-Fi



PGM-Fi