

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemSportrak EFI CAT1990 to 1997

Type		HD-E SOHC 16V 70kW
Capacity (cm³) / number of cylinders		1589 / 4
Compression ratio / pressure	bar	9.5 / ≥13.7
Oil pressure	bar	0.19 [4.4]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.25 H
Valve clearance - exhaust	mm	0.33 H
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	82 to 86
Radiator cap pressure	bar	1.0

Fuel systemSportrak EFI CAT1990 to 1997

Idle speed - manual [auto]	rpm	850±50
Fast idle speed - manual [auto]	rpm	1400
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5 N/A
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO2 @ idle speed [3000 rpm] - see page VI	%	≥14.0
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Nippon Denso
Type / ref		EFI
Main jet / needle		—
Injection pressure	bar	2.5
Pump pressure	bar	—
Octane rating	RON	95[U]

Ignition systemSportrak EFI CAT1990 to 1997

Type		Electronic
Ignition coil		Nippon Denso
Primary resistance	ohms	1.4 to 1.7
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	12.0
Distributor		Nippon Denso
Points gap (air gap)	mm	[0.20 to 0.40]
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	3±2 BTDC @ 800±50
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 600
	° Crankshaft @ rpm	9.5 @ 2077
	° Crankshaft @ rpm	12.0 @ 3000
Vacuum range check	mbar	493 to 587
Maximum vacuum advance	° Crankshaft	7
Spark plugs		NGK/Champion
Type		BKR6E-11 / RC9YC4
Electrode gap	mm	1.00 to 1.10

Electrical systemSportrak EFI CAT1990 to 1997

Battery	V / CC / RC	12 / 28Ah
Alternator voltage / full load current / engine rpm		14.2 to 14.8 / 50 / 3000
Starter motor current / voltage - cranking	A / V	50 / 11.0
- locked	A / V	—

Running gearSportrak EFI CAT1990 to 1997

Brakes -		
Front (min. friction material thickness)	mm	1.0
Rear (min. friction material thickness)	mm	1.0

Tyres		
Saloon	Size	—
Estate / Van	Size	195x15: 225/70x15
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	1.6 / 1.6

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+1.0 to 4.0
Camber		+1°±30'
Castor		+2°±30'
King pin inclination		+9°30'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	—
Camber		—

Torque wrench settingsSportrak EFI CAT1990 to 1997

Cylinder head - stage 1	Nm	60
- stage 2	Nm	—
Cylinder head - stage 3	Nm	—
- stage 4	Nm	—
Big-end bearings	Nm	40
Main bearings	Nm	49
Clutch cover	Nm	19
Flywheel [driveplate]	Nm	88
Front hubs	Nm	122
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	95
Spark plugs	Nm	18

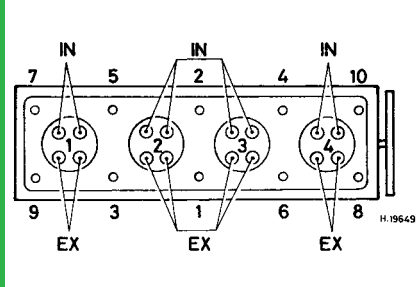
CapacitiesSportrak EFI CAT1990 to 1997

Engine oil & filter	litres	3.5
Gearbox - 4-speed [5-speed]	litres	1.7. Transfer: 1.4
Automatic transmission - refill	litres	—
Final drive	litres	Front: 0.9. Rear: 2.0
Cooling system	litres	5.1
Fuel tank	litres	60

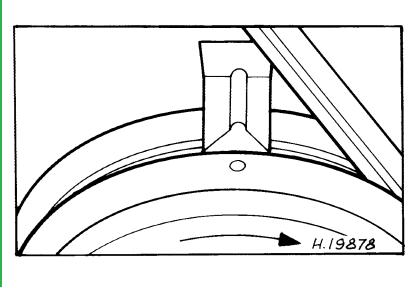
Notes and Illustrations

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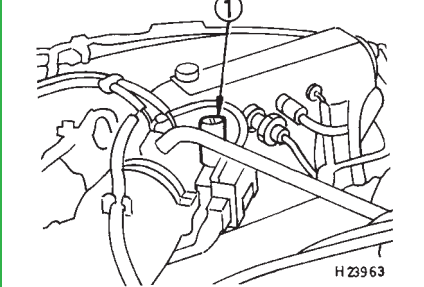
1: Idle speed2: CO / Mixture



1589 cm³



1589 cm³



EFi, 1589 cm³