

Engine & Cooling

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Automotive
Technical
DATA BOOK

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Engine and cooling system4x4 Pick-up (D21)1986 to 1994

Type		Z24S SOHC
Capacity (cm³) / number of cylinders		2389 / 4
Compression ratio / pressure	bar	8.3 / ≥9.0
Oil pressure	bar	[2.9 to 3.9]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.30 H
Valve clearance - exhaust	mm	0.30 H
Firing order		1-3-4-2
No 1 cylinder position		F
Thermostat opening temperature	°C	88
Radiator cap pressure	bar	0.78 to 1.00

Fuel system4x4 Pick-up (D21)1986 to 1994

Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	2300±100
CO @ idle speed [3000 rpm] - see page VI	%	1.0±0.5
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		Hitachi
Type / ref		DCR384-37. LHD: -36
Main jet / needle		108, 170. RHD: 107, 170
Injection pressure	bar	—
Pump pressure	bar	0.20 to 0.27¹
Octane rating	RON	88[E 91 RON]

Ignition system4x4 Pick-up (D21)1986 to 1994

Type		Contact breaker - CIS
Ignition coil		Hanshin HP5-13E25
Primary resistance	ohms	1.4 to 1.7
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Mitsubishi
Points gap (air gap)	mm	0.45 to 0.55
Dwell angle	° (%)	49 to 55
Condenser capacity	µF	0.20 to 0.24
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	3±2 BTDC @ 800±50
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	15±5 BTDC @ 800±50
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 1300
	° Crankshaft @ rpm	14 @ 2700
	° Crankshaft @ rpm	19 @ 4200
Vacuum range check	mbar	133 to 307
Maximum vacuum advance	° Crankshaft	16
Spark plugs		NGK/Champion
Type		BPR6ES / RN9YC
Electrode gap	mm	0.80 to 0.90

Electrical system4x4 Pick-up (D21)1986 to 1994

Battery	V / CC / RC	12 / 180 / 60Ah
Alternator voltage / full load current / engine rpm		14.1 to 14.7 / 50 / 2500
Starter motor current / voltage - cranking	A / V	100 / 11.5
- locked	A / V	—

Running gear4x4 Pick-up (D21)1986 to 1994

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	1.5

Tyres		
Saloon	Size	—
Estate / Van	Size	205x16
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	1.8 / 2.2

Front suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	+3.0 to 5.0²
Camber		-10' to +1°10'³
Castor		+48' to +1°48'⁴
King pin inclination		+7°36' to 8°36'⁵

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	—
Camber		—

Torque wrench settings4x4 Pick-up (D21)1986 to 1994

Cylinder head - stage 1	Nm	29
- stage 2	Nm	78
Cylinder head - stage 3	Nm	Loosen, then 29
- stage 4	Nm	+ 90 to 95°
Big-end bearings	Nm	37 to 45
Main bearings	Nm	44 to 54
Clutch cover	Nm	22 to 29
Flywheel [driveplate]	Nm	137 to 157
Front hubs	Nm	WSM
Rear hubs	Nm	—
Wheel nuts / bolts	Nm	118 to 147
Spark plugs	Nm	20 to 29

Capacities4x4 Pick-up (D21)1986 to 1994

Engine oil & filter	litres	4.3
Gearbox - 4-speed [5-speed]	litres	4.0⁶
Automatic transmission - refill	litres	—
Final drive	litres	Front: 1.3⁷
Cooling system	litres	8.2
Fuel tank	litres	60, 80

Notes and Illustrations

¹PAS: 0.15

²87 ►: +2.0 to 6.0. 90 ►: +4.0±1.0

³87 ►: -5' to +1°25'. 90 ►: +36'±30'

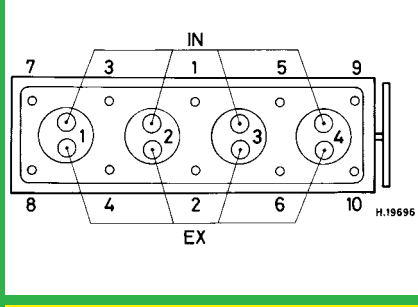
⁴87 ►: +33' to 2°3'. 90 ►: +1°18'±30'

⁵87 ►: +7°21' to 8°51'. 90 ►: +8°5'±30'

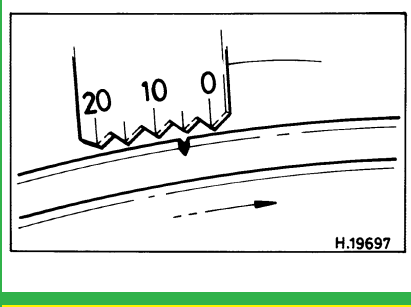
⁶Transfer: 2.2

⁷Rear: 2.8

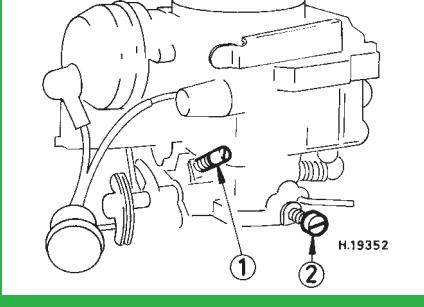
1: Idle speed 2: CO / Mixture



2389 cm³, 8V



2389 cm³, 8V



Hitachi DCR