

Engine & Cooling

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Automotive Technical
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Engine and cooling system4x4 Wagon 3.0i CAT (D21)1990 to 1994

Type		VG30E SOHC
Capacity (cm³) / number of cylinders		2960 / 6
Compression ratio / pressure	bar	9.0 / ≥8.8
Oil pressure	bar	[3.6 to 4.5]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-2-3-4-5-6
No 1 cylinder position		FR
Thermostat opening temperature	°C	76.5
Radiator cap pressure	bar	0.78 to 0.98

Fuel system4x4 Wagon 3.0i CAT (D21)1990 to 1994

Idle speed - manual [auto]	rpm	750±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0.2 to 8.0 N/A
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		Nissan
Type / ref		MPI ECCS
Main jet / needle		—
Injection pressure	bar	2.4
Pump pressure	bar	2.99
Octane rating	RON	91[U]

Ignition system4x4 Wagon 3.0i CAT (D21)1990 to 1994

Type		Electronic
Ignition coil		—
Primary resistance	ohms	1.0
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	12.0
Distributor		Mitsubishi
Points gap (air gap)	mm	[0.30 to 0.50]
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	15±2 BTDC @ 750±50
V = Vacuum NV = No Vacuum		V
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		NGK
Type		BKR6EY
Electrode gap	mm	0.80 to 0.90

Electrical system4x4 Wagon 3.0i CAT (D21)1990 to 1994

Battery	V / CC / RC	12 / 210 / 70Ah
Alternator voltage / full load current / engine rpm		14.1 to 14.7 / 70 / 2500
Starter motor current / voltage - cranking	A / V	90 / 11.0
- locked	A / V	—

Running gear4x4 Wagon 3.0i CAT (D21)1990 to 1994

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

Tyres		
Saloon	Size	—
Estate / Van	Size	205x16: 215x15
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	WSM

Front suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	+4.0±1.0
Camber		+40’±30’
Castor		+1°18’±30’
King pin inclination		+8°6’±30’

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	245 to 294
Camber		—

Torque wrench settings4x4 Wagon 3.0i CAT (D21)1990 to 1994

Cylinder head - stage 1	Nm	29
- stage 2	Nm	59
Cylinder head - stage 3	Nm	Loosen, then 29
- stage 4	Nm	+ 60 to 65°
Big-end bearings	Nm	15 + 60 to 65°
Main bearings	Nm	90 to 100
Clutch cover	Nm	22 to 29
Flywheel [driveplate]	Nm	83 to 93
Front hubs	Nm	WSM
Rear hubs	Nm	—
Wheel nuts / bolts	Nm	118 to 147
Spark plugs	Nm	20 to 29

Capacities4x4 Wagon 3.0i CAT (D21)1990 to 1994

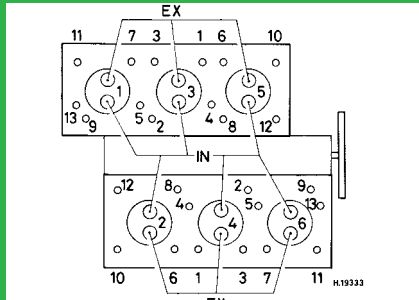
Engine oil & filter	litres	3.4
Gearbox - 4-speed [5-speed]	litres	3.6 ¹
Automatic transmission - refill	litres	8.5
Final drive	litres	Front: 1.5 ²
Cooling system	litres	10.9
Fuel tank	litres	80

Notes and Illustrations

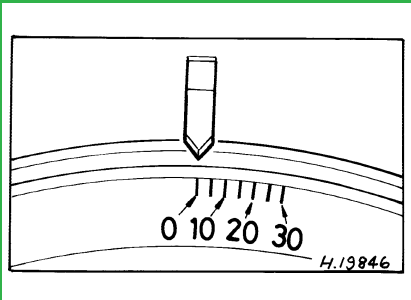
¹Transfer: 2.2

²Rear: 2.8

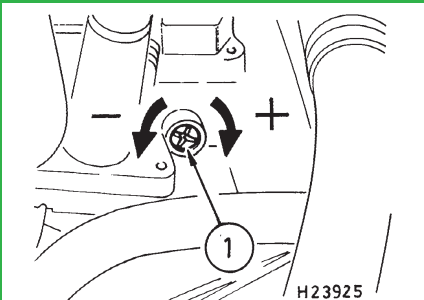
1: Idle speed 2: CO / Mixture



2960 cm³



2960 cm³



Nissan MPi ECCS