

Engine & Cooling

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Automotive Technical  
**DATA BOOK**

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Engine and cooling systemVanette 2.4i CAT (C22)1987 to 1994

|                                                   |     |              |
|---------------------------------------------------|-----|--------------|
| Type                                              |     | Z24i SOHC    |
| Capacity (cm <sup>3</sup> ) / 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 systemVanette 2.4i CAT (C22)1987 to 1994

|                                           |     |          |
|-------------------------------------------|-----|----------|
| Idle speed - manual [auto]                | rpm | 800±50   |
| Fast idle speed - manual [auto]           | rpm | —        |
| CO @ idle speed [3000 rpm] - see page VI  | %   | N/A      |
| HC @ idle speed [3000 rpm] - see page VI  | ppm | ≤100     |
| CO2 @ idle speed [3000 rpm] - see page VI | %   | —        |
| O2 @ idle speed [3000 rpm] - see page VI  | %   | —        |
| Carburettor / fuel injection              |     | Nissan   |
| Type / ref                                |     | TBI ECCS |
| Main jet / needle                         |     | —        |
| Injection pressure                        | bar | 2.5      |
| Pump pressure                             | bar | —        |
| Octane rating                             | RON | 91[U]    |

Ignition systemVanette 2.4i CAT (C22)1987 to 1994

|                                 |                    |                         |
|---------------------------------|--------------------|-------------------------|
| Type                            |                    | Electronic              |
| Ignition coil                   |                    | Hanshin MCC-110A & 110B |
| Primary resistance              | ohms               | 0.8 to 1.0              |
| Ballast resistor                | ohms               | —                       |
| Voltage - Tmnl 15(+) to earth   | V                  | —                       |
| Distributor                     |                    | Hitachi                 |
| Points gap (air gap)            | mm                 | —                       |
| Dwell angle                     | ° (%)              | —                       |
| Condenser capacity              | µF                 | —                       |
| Rotation                        |                    | Anticlockwise           |
| Ignition timing - basic [static | ° Crankshaft @ rpm | 10±2 BTDC @ 800±50      |
| V = Vacuum NV = No Vacuum       |                    | —                       |
| Total ignition advance          | ° Crankshaft @ rpm | —                       |
|                                 | ° Crankshaft @ rpm | —                       |
|                                 | ° Crankshaft @ rpm | —                       |
| Centrifugal check.              | ° Crankshaft @ rpm | ECCS control            |
|                                 | ° Crankshaft @ rpm | —                       |
|                                 | ° Crankshaft @ rpm | —                       |
| Vacuum range check              | mbar               | ECCS control            |
| Maximum vacuum advance          | ° Crankshaft       | —                       |
| Spark plugs                     |                    | NGK/Champion            |
| Type                            |                    | BPR5ES / RN9YC          |
| Electrode gap                   | mm                 | 0.80 to 0.90            |

Electrical systemVanette 2.4i CAT (C22)1987 to 1994

|                                                     |             |                          |
|-----------------------------------------------------|-------------|--------------------------|
| Battery                                             | V / CC / RC | 12 / 65Ah                |
| Alternator voltage / full load current / engine rpm |             | 14.1 to 14.7 / 70 / 2500 |
| Starter motor current / voltage - cranking          | A / V       | 100 / 11.0 (no load)     |
| - locked                                            | A / V       | —                        |

Running gearVanette 2.4i CAT (C22)1987 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 | 195/70x14 |
| Pressure - front / rear - Saloon | bar  | —         |
| - Estate / Van                   | bar  | 3.0 / 3.0 |

Front suspension / wheel alignment

|                          |        |                            |
|--------------------------|--------|----------------------------|
| Toe-in (+) / Toe-out (–) | mm [°] | -1.0 to +1.0 <sup>1</sup>  |
| Camber                   |        | -15' to +45' <sup>2</sup>  |
| Castor                   |        | +1°5' to 2°5' <sup>3</sup> |
| King pin inclination     |        | +9° to 10° <sup>4</sup>    |

Rear suspension / wheel alignment

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

Torque wrench settingsVanette 2.4i CAT (C22)1987 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 | 265 to 353      |
| Rear hubs               | Nm | —               |
| Wheel nuts / bolts      | Nm | 98 to 118       |
| Spark plugs             | Nm | 20 to 29        |

CapacitiesVanette 2.4i CAT (C22)1987 to 1994

|                                 |        |     |
|---------------------------------|--------|-----|
| Engine oil & filter             | litres | 4.1 |
| Gearbox - 4-speed [5-speed]     | litres | 2.0 |
| Automatic transmission - refill | litres | —   |
| Final drive                     | litres | 1.3 |
| Cooling system                  | litres | 9.1 |
| Fuel tank                       | litres | 55  |

Notes and Illustrations

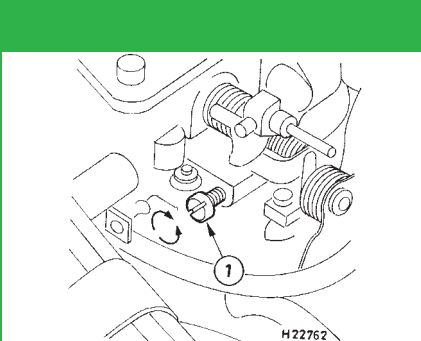
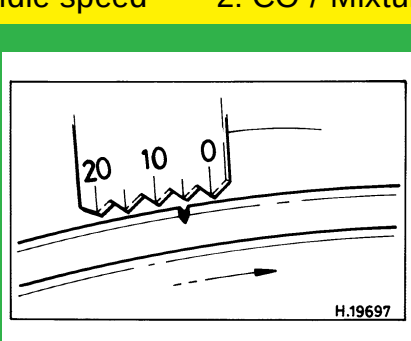
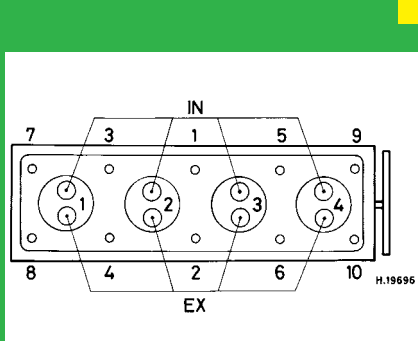
<sup>1</sup>90 ►: -1.0 to +3.0

<sup>2</sup>90 ►: -30' to +1°

<sup>3</sup>90 ►: +50' to 2°20'

<sup>4</sup>90 ►: +8°45' to 10°15'

1: Idle speed      2: CO / Mixture



2389 cm³

2389 cm³

Nissan TBi ECCS