

Engine & Cooling

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Automotive Technical  
**DATA BOOK**

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HELP

Engine and cooling system19 1.8 MPI CAT (X538)1993 to 1996

|                                                   |     |              |
|---------------------------------------------------|-----|--------------|
| Type                                              |     | F3P-7-00     |
| Capacity (cm <sup>3</sup> ) / number of cylinders |     | 1794 / 4     |
| Compression ratio / pressure                      | bar | 9.8 / _      |
| Oil pressure                                      | bar | [2.0 to 3.5] |
| Oil temperature                                   | °C  | 80           |
| Valve clearance - inlet                           | mm  | 0.20         |
| Valve clearance - exhaust                         | mm  | 0.40         |
| Firing order                                      |     | 1-3-4-2      |
| No 1 cylinder position                            |     | FE           |
| Thermostat opening temperature                    | °C  | 89           |
| Radiator cap pressure                             | bar | 1.2          |

Fuel system19 1.8 MPI CAT (X538)1993 to 1996

|                                           |     |                |
|-------------------------------------------|-----|----------------|
| Idle speed - manual [auto]                | rpm | 780±50 N/A     |
| Fast idle speed - manual [auto]           | rpm | _              |
| CO @ idle speed [3000 rpm] - see page VI  | %   | ≤0.3 N/A Ex    |
| HC @ idle speed [3000 rpm] - see page VI  | ppm | ≤100 Ex        |
| CO2 @ idle speed [3000 rpm] - see page VI | %   | ≥14.5          |
| O2 @ idle speed [3000 rpm] - see page VI  | %   | _              |
| Carburettor / fuel injection              |     | Siemens Bendix |
| Type / ref                                |     | Multipoint MPI |
| Main jet / needle                         |     | _              |
| Injection pressure                        | bar | 2.5±0.2        |
| Pump pressure                             | bar | 3.0            |
| Octane rating                             | RON | 95[U]          |

Ignition system19 1.8 MPI CAT (X538)1993 to 1996

|                                 |                    |                  |
|---------------------------------|--------------------|------------------|
| Type                            |                    | Computerized     |
| Ignition coil                   |                    | Renix            |
| Primary resistance              | ohms               | 0.4 to 0.8       |
| Ballast resistor                | ohms               | _                |
| Voltage - Tmnl 15(+) to earth   | V                  | _                |
| Distributor                     |                    | _                |
| Points gap (air gap)            | mm                 | _                |
| Dwell angle                     | ° (%)              | _                |
| Condenser capacity              | µF                 | _                |
| Rotation                        |                    | _                |
| Ignition timing - basic [static | ° Crankshaft @ rpm | Computer control |
| V = Vacuum NV = No Vacuum       |                    | _                |
| 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                     |                    | Bosch/Champion   |
| Type                            |                    | W7DCO / N7YCX    |
| Electrode gap                   | mm                 | 0.90±0.05        |

Electrical system19 1.8 MPI CAT (X538)1993 to 1996

|                                                     |             |                         |
|-----------------------------------------------------|-------------|-------------------------|
| Battery                                             | V / CC / RC | 12 / 50Ah               |
| Alternator voltage / full load current / engine rpm |             | 13.5 to 15.0 / _ / 3000 |
| Starter motor current / voltage - cranking          | A / V       | _                       |
| - locked                                            | A / V       | 350 to 460 / _          |

Running gear19 1.8 MPI CAT (X538)1993 to 1996

|                                          |    |                  |
|------------------------------------------|----|------------------|
| Brakes -                                 |    |                  |
| Front (min. friction material thickness) | mm | 6.0 with backing |
| Rear (min. friction material thickness)  | mm | 2.5              |

|                                  |      |                      |
|----------------------------------|------|----------------------|
| Tyres                            |      |                      |
| Saloon                           | Size | 175/70x13: 175/65x14 |
| Estate / Van                     | Size | _                    |
| Pressure - front / rear - Saloon | bar  | 2.0 / 2.2            |
| - Estate / Van                   | bar  | _                    |

|                                    |        |             |
|------------------------------------|--------|-------------|
| Front suspension / wheel alignment |        |             |
| Toe-in (+) / Toe-out (-)           | mm [°] | -1.0±1.0    |
| Camber                             |        | -5'±30'     |
| Castor                             |        | +4°         |
| King pin inclination               |        | +12°55'±30' |

|                                   |        |             |
|-----------------------------------|--------|-------------|
| Rear suspension / wheel alignment |        |             |
| Toe-in (+) / Toe-out (-)          | mm [°] | +1.0 to 3.0 |
| Camber                            |        | -50'±30'    |

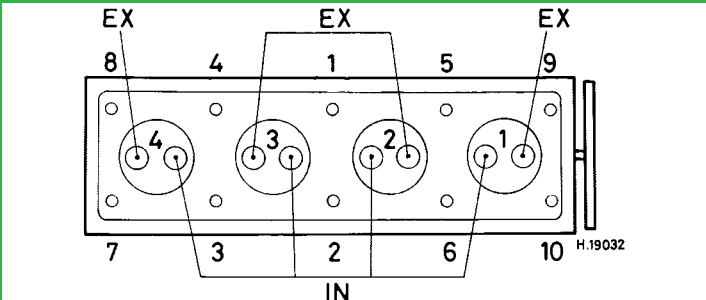
Torque wrench settings19 1.8 MPI CAT (X538)1993 to 1996

|                         |    |                      |
|-------------------------|----|----------------------|
| Cylinder head - stage 1 | Nm | 30                   |
| - stage 2               | Nm | 70                   |
| Cylinder head - stage 3 | Nm | Wait 3 mins. Slacken |
| - stage 4               | Nm | 20 + 123±2°          |
| Big-end bearings        | Nm | 45 to 50             |
| Main bearings           | Nm | 60 to 65             |
| Clutch cover            | Nm | 25                   |
| Flywheel [driveplate]   | Nm | 50 to 55             |
| Front hubs              | Nm | 250                  |
| Rear hubs               | Nm | 160                  |
| Wheel nuts / bolts      | Nm | 80                   |
| Spark plugs             | Nm | _                    |

Capacities19 1.8 MPI CAT (X538)1993 to 1996

|                                 |        |     |
|---------------------------------|--------|-----|
| Engine oil & filter             | litres | 6.0 |
| Gearbox - 4-speed [5-speed]     | litres | 3.4 |
| Automatic transmission - refill | litres | _   |
| Final drive                     | litres | WT  |
| Cooling system                  | litres | 6.1 |
| Fuel tank                       | litres | 55  |

Notes and Illustrations



1794 cm³