

Engine & Cooling

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Automotive Technical  
**DATA BOOK**

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Engine and cooling systemSierra & Sapphire 1.8i CAT1992 to 1993

|                                                   |     |                     |
|---------------------------------------------------|-----|---------------------|
| Type                                              |     | R6A (CVH) 64kW US83 |
| Capacity (cm <sup>3</sup> ) / number of cylinders |     | 1769 / 4            |
| Compression ratio / pressure                      | bar | 9.3 / 11 to 13      |
| Oil pressure                                      | bar | 1.0 [2.5]           |
| Oil temperature                                   | °C  | 80                  |
| Valve clearance - inlet                           | mm  | 0: Hyd.             |
| Valve clearance - exhaust                         | mm  | 0: Hyd.             |
| Firing order                                      |     | 1-3-4-2             |
| No 1 cylinder position                            |     | TBE                 |
| Thermostat opening temperature                    | °C  | 88                  |
| Radiator cap pressure                             | bar | 1.00 to 1.25        |

Fuel systemSierra & Sapphire 1.8i CAT1992 to 1993

|                                           |     |                 |
|-------------------------------------------|-----|-----------------|
| Idle speed - manual [auto]                | rpm | 850±50 N/A      |
| Fast idle speed - manual [auto]           | rpm | —               |
| CO @ idle speed [3000 rpm] - see page VI  | %   | —               |
| 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              |     | Bosch           |
| Type / ref                                |     | EFHD CFI EEC IV |
| Main jet / needle                         |     | —               |
| Injection pressure                        | bar | 1.0±0.1         |
| Pump pressure                             | bar | ≥3.0            |
| Octane rating                             | RON | 95[U]           |

Ignition systemSierra & Sapphire 1.8i CAT1992 to 1993

|                                 |                    |                  |
|---------------------------------|--------------------|------------------|
| Type                            |                    | DIS              |
| Ignition coil                   |                    | 37kV High output |
| Primary resistance              | ohms               | 0.50±0.05        |
| Ballast resistor                | ohms               | —                |
| Voltage - Tmnl 15(+) to earth   | V                  | —                |
| Distributor                     |                    | Motorcraft       |
| Points gap (air gap)            | mm                 | —                |
| Dwell angle                     | ° (%)              | —                |
| Condenser capacity              | µF                 | —                |
| Rotation                        |                    | Clockwise        |
| Ignition timing - basic [static | ° Crankshaft @ rpm | —                |
| 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                     |                    | Motorcraft       |
| Type                            |                    | AGPR32CD1        |
| Electrode gap                   | mm                 | 1.00             |

Electrical systemSierra & Sapphire 1.8i CAT1992 to 1993

|                                                     |             |                           |
|-----------------------------------------------------|-------------|---------------------------|
| Battery                                             | V / CC / RC | 12 / 200 / 70 or 250 / 80 |
| Alternator voltage / full load current / engine rpm |             | 13.5 / _ / 3000           |
| Starter motor current / voltage - cranking          | A / V       | —                         |
| - locked                                            | A / V       | —                         |

Running gearSierra & Sapphire 1.8i CAT1992 to 1993

|                                          |    |     |
|------------------------------------------|----|-----|
| Brakes -                                 |    |     |
| Front (min. friction material thickness) | mm | 1.5 |
| Rear (min. friction material thickness)  | mm | 1.0 |

|                                  |      |                      |
|----------------------------------|------|----------------------|
| Tyres                            |      |                      |
| Saloon                           | Size | 195/65x14: 185/65x14 |
| Estate / Van                     | Size | 195/65x14: 185/65x14 |
| Pressure - front / rear - Saloon | bar  | 1.8 / 1.8            |
| - Estate / Van                   | bar  | 1.8 / 1.8            |

|                                    |        |                                |
|------------------------------------|--------|--------------------------------|
| Front suspension / wheel alignment |        |                                |
| Toe-in (+) / Toe-out (–)           | mm [°] | +2.0±1.0                       |
| Camber                             |        | -21'±1°. Est: -19'±1°          |
| Castor                             |        | +1°52'.Est: +1°50' (+1°30'-1°) |
| King pin inclination               |        | —                              |

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

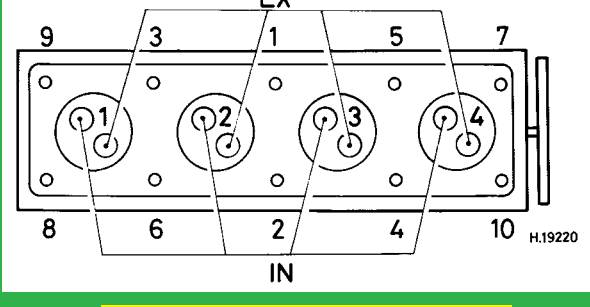
Torque wrench settingsSierra & Sapphire 1.8i CAT1992 to 1993

|                         |    |                |
|-------------------------|----|----------------|
| Cylinder head - stage 1 | Nm | 40 to 60 N     |
| - stage 2               | Nm | - 180°         |
| Cylinder head - stage 3 | Nm | 40 to 60 + 90° |
| - stage 4               | Nm | + 90°          |
| Big-end bearings        | Nm | 35 to 41       |
| Main bearings           | Nm | 90 to 108      |
| Clutch cover            | Nm | 20 to 25       |
| Flywheel [driveplate]   | Nm | 73 to 91       |
| Front hubs              | Nm | 310 to 350     |
| Rear hubs               | Nm | 250 to 290     |
| Wheel nuts / bolts      | Nm | 70 to 100      |
| Spark plugs             | Nm | 17 to 33       |

CapacitiesSierra & Sapphire 1.8i CAT1992 to 1993

|                                 |        |      |
|---------------------------------|--------|------|
| Engine oil & filter             | litres | 4.0  |
| Gearbox - 4-speed [5-speed]     | litres | 1.25 |
| Automatic transmission - refill | litres | 8.5  |
| Final drive                     | litres | 0.9  |
| Cooling system                  | litres | 8.7  |
| Fuel tank                       | litres | 60   |

Notes and Illustrations



1769 cm³