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Automotive Technical DATA BOOK

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HELP

Engine and cooling system Sierra & Sapphire 2000 1987 to 1989

| | | |
|---|-----|----------------------|
| Type | | NES (OHC) 77kW 15.04 |
| Capacity (cm ³) / number of cylinders | | 1993 / 4 |
| Compression ratio / pressure | bar | 9.2 / 11 to 13 |
| Oil pressure | bar | 1.0 [2.5] |
| Oil temperature | °C | 80 |
| Valve clearance - inlet | mm | 0.20±0.03 |
| Valve clearance - exhaust | mm | 0.25±0.03 |
| Firing order | | 1-3-4-2 |
| No 1 cylinder position | | TBE |
| Thermostat opening temperature | °C | 85 to 89 |
| Radiator cap pressure | bar | 1.00 to 1.25 |

Fuel system Sierra & Sapphire 2000 1987 to 1989

| | | |
|---|-----|--------------------------------------|
| Idle speed - manual [auto] | rpm | 875±50 |
| Fast idle speed - manual [auto] | rpm | — |
| CO @ idle speed [3000 rpm] - see page VI | % | 1.25±0.5 |
| HC @ idle speed [3000 rpm] - see page VI | ppm | ≤1200 |
| CO ₂ @ idle speed [3000 rpm] - see page VI | % | — |
| O ₂ @ idle speed [3000 rpm] - see page VI | % | — |
| Carburettor / fuel injection | | Weber |
| Type / ref | | 2V (DFTH) |
| Main jet / needle | | 112, 135 [AT: 110, 135] ¹ |
| Injection pressure | bar | — |
| Pump pressure | bar | 0.24 to 0.38 |
| Octane rating | RON | 97[R] |

Ignition system Sierra & Sapphire 2000 1987 to 1989

| | | |
|---------------------------------|--------------------|----------------------|
| Type | | ESC II |
| Ignition coil | | Bosch, Femsa, Polmot |
| Primary resistance | ohms | 0.7 to 0.9 |
| Ballast resistor | ohms | — |
| Voltage - Tmnl 15(+) to earth | V | — |
| Distributor | | Bosch |
| Points gap (air gap) | mm | — |
| Dwell angle | ° (%) | — |
| Condenser capacity | µF | — |
| Rotation | | Clockwise |
| Ignition timing - basic [static | ° Crankshaft @ rpm | 10 BTDC @ idle |
| V = Vacuum NV = No Vacuum | | NV |
| 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/Champion |
| Type | | BRF32C / F7YC |
| Electrode gap | mm | 0.75 |

Electrical system Sierra & Sapphire 2000 1987 to 1989

| | | |
|---|-------------|---------------------------|
| 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 gear Sierra & Sapphire 2000 1987 to 1989

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

| | | |
|----------------------------------|------|-------------------|
| Tyres | | |
| Saloon | Size | 165x13: 195/65x14 |
| Estate / Van | Size | 175x13: 195/65x14 |
| 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 settings Sierra & Sapphire 2000 1987 to 1989

| | | |
|-------------------------|----|-------------|
| Cylinder head - stage 1 | Nm | 35 to 40 |
| - stage 2 | Nm | 70 to 75 |
| Cylinder head - stage 3 | Nm | Wait 5 min. |
| - stage 4 | Nm | + 90° |
| Big-end bearings | Nm | 40 to 47 |
| Main bearings | Nm | 88 to 102 |
| Clutch cover | Nm | 17 to 21 |
| Flywheel [driveplate] | Nm | 64 to 70 |
| Front hubs | Nm | 310 to 350 |
| Rear hubs | Nm | 250 to 290 |
| Wheel nuts / bolts | Nm | 70 to 100 |
| Spark plugs | Nm | 20 to 28 |

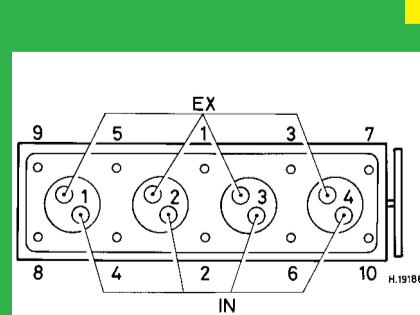
Capacities Sierra & Sapphire 2000 1987 to 1989

| | | |
|---------------------------------|--------|------|
| Engine oil & filter | litres | 3.75 |
| Gearbox - 4-speed [5-speed] | litres | 1.25 |
| Automatic transmission - refill | litres | 8.5 |
| Final drive | litres | 0.9 |
| Cooling system | litres | 8.0 |
| Fuel tank | litres | 60 |

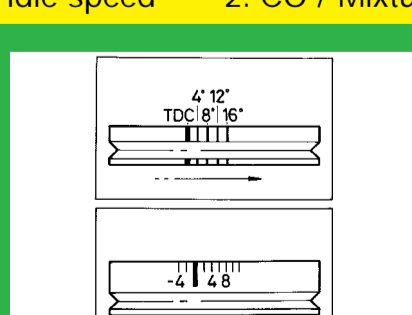
Notes and Illustrations

¹85HF-9510-CB / DB carburettors: 110, 130

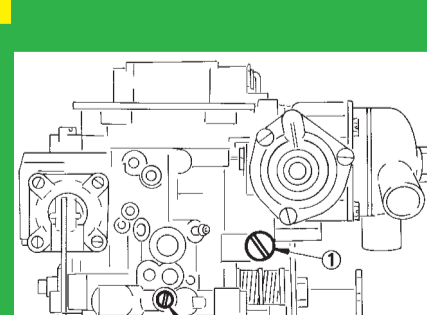
1: Idle speed 2: CO / Mixture



1993 cm³, 8V



1993 cm³, 8V



Weber DFTH