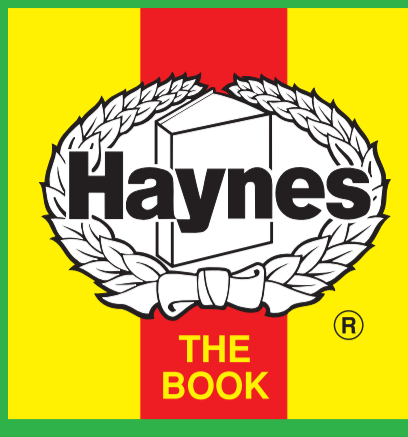


- Engine & Cooling
- Fuel
- Ignition
- Electrical
- Running gear
- Torque settings
- Capacities
- Notes & Illustrations



Automotive Technical DATA BOOK

Click on one of the buttons above to view data for this car. To return to this screen and make another choice, click anywhere on the data screen.

MENU

HELP

Engine and cooling system 320i 24V CAT (E36) 1991 to 1993

| | | |
|---------------------------------------------------|-----|------------------------------|
| Type | | M50/B20 20 6S1 110kW |
| Capacity (cm ³) / number of cylinders | | 1990 / 6 |
| Compression ratio / pressure | bar | 10.5 / ≥10.0 |
| Oil pressure | bar | 2.0 [4.0] |
| Oil temperature | °C | 80 |
| Valve clearance - inlet | mm | 0: Hyd. |
| Valve clearance - exhaust | mm | 0: Hyd. |
| Firing order | | 1-5-3-6-2-4 |
| No 1 cylinder position | | TBE |
| Thermostat opening temperature | °C | 80. MS-40 engine control: 88 |
| Radiator cap pressure | bar | 2.0±0.15 |

Fuel system 320i 24V CAT (E36) 1991 to 1993

| | | |
|-------------------------------------------------------|-----|---------------|
| Idle speed - manual [auto] | rpm | 700±40 N/A |
| Fast idle speed - manual [auto] | rpm | — |
| CO @ idle speed [3000 rpm] - see page VI | % | ≤0.3 |
| HC @ idle speed [3000 rpm] - see page VI | ppm | ≤200 |
| CO ₂ @ idle speed [3000 rpm] - see page VI | % | — |
| O ₂ @ idle speed [3000 rpm] - see page VI | % | — |
| Carburettor / fuel injection | | Bosch |
| Type / ref | | M3.1-Motronic |
| Main jet / needle | | — |
| Injection pressure | bar | 3.0±0.06 |
| Pump pressure | bar | 3.5 to 4.0 |
| Octane rating | RON | 95[U] |

Ignition system 320i 24V CAT (E36) 1991 to 1993

| | | |
|---------------------------------|--------------------|-------------------|
| Type | | Direct electronic |
| Ignition coil | | Bosch |
| Primary resistance | ohms | 0.8±0.1 |
| Ballast resistor | ohms | — |
| Voltage - Tmnl 15(+) to earth | V | — |
| Distributor | | Bosch |
| Points gap (air gap) | mm | [0.30 to 0.70] |
| Dwell angle | ° (%) | — |
| Condenser capacity | µF | — |
| Rotation | | Clockwise |
| Ignition timing - basic [static | ° Crankshaft @ rpm | Computer control |
| V = Vacuum NV = No Vacuum | | — |
| Total ignition advance | ° Crankshaft @ rpm | Computer control |
| | ° 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 | | F03DAR / C9YCC |
| Electrode gap | mm | 0.90-0.10 |

Electrical system 320i 24V CAT (E36) 1991 to 1993

| | | |
|-----------------------------------------------------|-------------|--------------------------|
| Battery | V / CC / RC | 12 / 65Ah |
| Alternator voltage / full load current / engine rpm | | 13.5 to 14.2 / 90 / 1500 |
| Starter motor current / voltage - cranking | A / V | 160 / 9.0 |
| - locked | A / V | — |

Running gear 320i 24V CAT (E36) 1991 to 1993

| | | |
|------------------------------------------|----|-----|
| Brakes - | | |
| Front (min. friction material thickness) | mm | 2.0 |
| Rear (min. friction material thickness) | mm | 1.5 |

| | | |
|----------------------------------|------|-----------|
| Tyres | | |
| Saloon | Size | 205/60x15 |
| Estate / Van | Size | — |
| Pressure - front / rear - Saloon | bar | 1.9 / 2.0 |
| - Estate / Van | bar | — |

Front suspension / wheel alignment

| | | |
|--------------------------|--------|--------------------------------|
| Toe-in (+) / Toe-out (-) | mm [°] | [+18'±5'] |
| Camber | | -40'±30'. Sport: -58'±30' L |
| Castor | | +3°52'±30'. Sport: +3°57'±30'L |
| King pin inclination | | +15°44'±30'. Sport: +15°56' |

Rear suspension / wheel alignment

| | | |
|--------------------------|--------|------------------------------|
| Toe-in (+) / Toe-out (-) | mm [°] | [+24'±6'] |
| Camber | | -1°30'±15'.92 ▶: -1°40'±15'' |

Torque wrench settings 320i 24V CAT (E36) 1991 to 1993

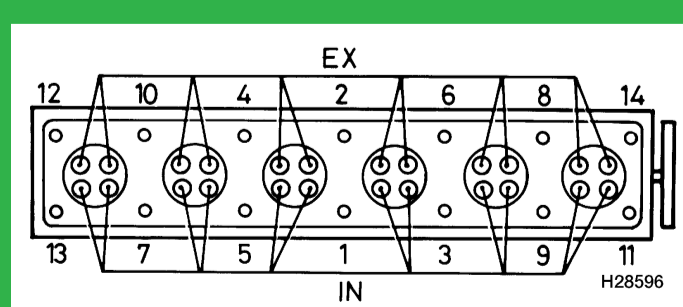
| | | |
|-------------------------|----|------------------|
| Cylinder head - stage 1 | Nm | 30 to 32 WSM |
| - stage 2 | Nm | + 90±3° |
| Cylinder head - stage 3 | Nm | + 90±3° |
| - stage 4 | Nm | — |
| Big-end bearings | Nm | 23 + 70° N |
| Main bearings | Nm | 22.5±2.5 + 50±3° |
| Clutch cover | Nm | 24. 10.9 hex: 35 |
| Flywheel [driveplate] | Nm | 113 to 130 N |
| Front hubs | Nm | 290 |
| Rear hubs | Nm | 300 |
| Wheel nuts / bolts | Nm | 100±10 |
| Spark plugs | Nm | 30 to 33 |

Capacities 320i 24V CAT (E36) 1991 to 1993

| | | |
|---------------------------------|--------|------|
| Engine oil & filter | litres | 6.5 |
| Gearbox - 4-speed [5-speed] | litres | 1.1 |
| Automatic transmission - refill | litres | 3.3 |
| Final drive | litres | 1.1 |
| Cooling system | litres | 10.5 |
| Fuel tank | litres | 65 |

Notes and Illustrations

¹Sport: -2°±15'



1990 cm³, 24V