

VOLKSWAGEN

Passat 1.8i CAT

1991 to 1993

Engine & Cooling

Fuel

Ignition

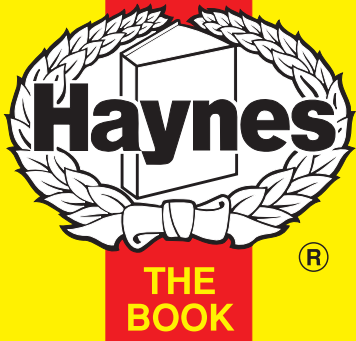
Electrical

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Automotive Technical
DATA BOOK

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Engine and cooling system

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1991 to 1993

| | | |
|---|-----|--------------------|
| Type | | ABS. SOHC 8V. 66kW |
| Capacity (cm ³) / number of cylinders | | 1781 / 4 |
| Compression ratio / pressure | bar | 10.0 / ≥7.5 |
| Oil pressure | bar | [2.0] |
| 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 | 85 |
| Radiator cap pressure | bar | 1.2 to 1.5 |

Fuel system

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| | | |
|---|-----|-----------------|
| Idle speed - manual [auto] | rpm | 825 to 1025 N/A |
| Fast idle speed - manual [auto] | rpm | – |
| CO @ idle speed [3000 rpm] - see page VI | % | 0.2 to 1.2 N/A |
| 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 | | Mono-Motronic |
| Main jet / needle | | – |
| Injection pressure | bar | 0.8 to 1.2 |
| Pump pressure | bar | – |
| Octane rating | RON | 95[U] |

Ignition system

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| | | |
|---------------------------------|--------------------|------------------------|
| Type | | Motronic |
| Ignition coil | | Bosch N152 |
| Primary resistance | ohms | 0.5 to 0.7 |
| Ballast resistor | ohms | – |
| Voltage - Tmnl 15(+) to earth | V | – |
| Distributor | | Bosch |
| Points gap (air gap) | mm | – |
| Dwell angle | ° (%) | – |
| Condenser capacity | µF | – |
| Rotation | | Anticlockwise |
| Ignition timing - basic [static | ° Crankshaft @ rpm | 6±1 BTDC @ 825 to 1025 |
| V = Vacuum NV = No Vacuum | | NV |
| Total ignition advance | ° Crankshaft @ rpm | 30 to 38 BTDC @ 3000 |
| | ° 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 | | NGK |
| Type | | BUR6ET |
| Electrode gap | mm | 0.70 to 0.90 |

Electrical system

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| | | |
|---|-------------|---------------------------|
| Battery | V / CC / RC | 12 / 265 / 80, 280 / 60Ah |
| Alternator voltage / full load current / engine rpm | | 12.5 to 14.5 / _ / 3000 |
| Starter motor current / voltage - cranking | A / V | – |
| - locked | A / V | – |

Running gear

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| | | |
|--|----|------------------|
| Brakes - | | |
| Front (min. friction material thickness) | mm | 7.0 with backing |
| Rear (min. friction material thickness) | mm | 7.0 with backing |

| | | |
|----------------------------------|------|--------------------------------|
| Tyres | | |
| Saloon | Size | 185/65x14: 195/60x14:195/55x15 |
| Estate / Van | Size | 185/65x14: 195/60x14:205/50x15 |
| Pressure - front / rear - Saloon | bar | 2.1 / 2.1 |
| - Estate / Van | bar | 2.1 / 2.1 |

| | | |
|------------------------------------|--------|----------------|
| Front suspension / wheel alignment | | |
| Toe-in (+) / Toe-out (–) | mm [°] | [0±10'] |
| Camber | | -1°20'±20' |
| Castor | | +1°40'±30' N/A |
| King pin inclination | | – |

| | | |
|-----------------------------------|--------|-------------------------|
| Rear suspension / wheel alignment | | |
| Toe-in (+) / Toe-out (–) | mm [°] | [+25'±15'] ¹ |
| Camber | | -1°40'±20' ² |

Torque wrench settings

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| | | |
|-------------------------|----|-----------------|
| Cylinder head - stage 1 | Nm | 40 |
| - stage 2 | Nm | 60 |
| Cylinder head - stage 3 | Nm | + 90° |
| - stage 4 | Nm | + 90° |
| Big-end bearings | Nm | 30 + 90° |
| Main bearings | Nm | 65 ³ |
| Clutch cover | Nm | 20 |
| Flywheel [driveplate] | Nm | 60 + 90° N |
| Front hubs | Nm | 265 |
| Rear hubs | Nm | WSM |
| Wheel nuts / bolts | Nm | 110 |
| Spark plugs | Nm | 25 |

Capacities

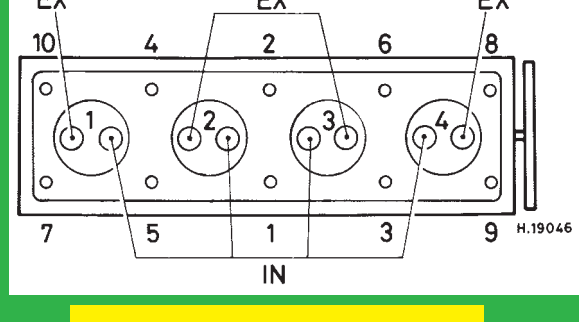
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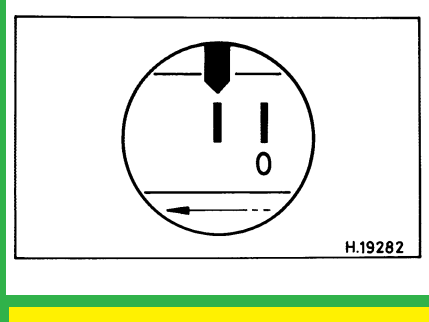
| | | |
|---------------------------------|--------|----------|
| Engine oil & filter | litres | 4.0 |
| Gearbox - 4-speed [5-speed] | litres | 2.0 |
| Automatic transmission - refill | litres | 3.0 |
| Final drive | litres | AT: 0.75 |
| Cooling system | litres | 6.5 |
| Fuel tank | litres | 70 |

Notes and Illustrations

- ¹Chassis no. 31LE222 111 or 31LB108 393 ►: [+20'±10']
- ²Chassis no. 31LE222 111 or 31LB108 393 ►: -1°30'±10'
- ³Replace with fully threaded shank bolts: 65+90°



1781 cm³, 8V



1781 cm³, ABS