

VOLKSWAGEN

Passat 2.0i & 4x4 CAT

1990 to 1994

Engine & Cooling

Fuel

Ignition

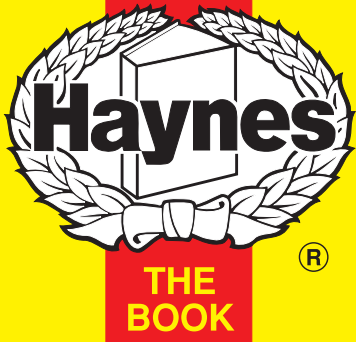
Electrical

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Automotive Technical
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Engine and cooling system

Passat 2.0i & 4x4 CAT

1990 to 1994

Type		2E SOHC 85kW. 4x4 RHD: 82kW
Capacity (cm ³) / number of cylinders		1984 / 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 to 105
Radiator cap pressure	bar	1.2 to 1.5

Fuel system

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Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0.7±0.4
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		Volkswagen
Type / ref		Digifant
Main jet / needle		—
Injection pressure	bar	2.5
Pump pressure	bar	3.0
Octane rating	RON	95[U]

Ignition system

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Type		Digifant
Ignition coil		Transformer 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		—
Ignition timing - basic [static	° Crankshaft @ rpm	6±1 BTDC @ 2000 to 2500 ¹
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	30±3 BTDC @ 2300 ²
	° 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		Champion
Type		N7BMC
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	2.5

Tyres		
Saloon	Size	185/65x14:195/60x14:205/50x15
Estate / Van	Size	195/60x14:195/55x15:205/50x15
Pressure - front / rear - Saloon	bar	2.3 / 2.3
- Estate / Van	bar	2.3 / 2.3

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'] ³ . 4x4: [+15'±20°]
Camber		-1°40'±20' ⁴ . 4x4: -1°15'±30'

Torque wrench settings

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Cylinder head - stage 1	Nm	40 N
- stage 2	Nm	60
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	+ 90°
Big-end bearings	Nm	30 + 90°
Main bearings	Nm	65 ⁵
Clutch cover	Nm	20
Flywheel [driveplate]	Nm	60 + 90° N
Front hubs	Nm	265 + WSM
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. 4x4: 2.4
Automatic transmission - refill	litres	3.0
Final drive	litres	AT & 4x4: 0.75
Cooling system	litres	6.5
Fuel tank	litres	70

Notes and Illustrations

¹80°C temperature sender plug disconnected

²80°C temperature sender plug connected

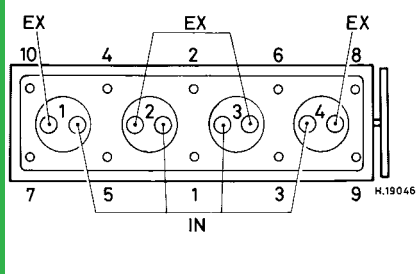
³Chassis no. 31LE222 111 or 31LB108 393 ►: [+20'±10°]

⁴Chassis no. 31LE222 111 or 31LB108 393 ►: -1°30'±10'

⁵Replace with fully threaded shank bolts: 65+90°

1: Idle speed

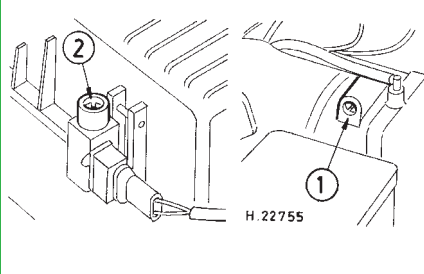
2: CO / Mixture



1984 cm³, 8V



1984 cm³, 8V



Digifant, 2E