

VOLKSWAGEN

Passat/Santana 2.0

1983 to 1988

Engine & Cooling

Fuel

Ignition

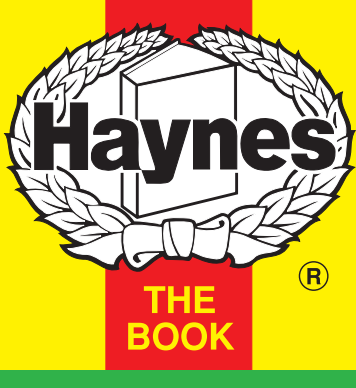
Electrical

Running gear

Torque settings

Capacities

Notes & Illustrations



Automotive Technical
DATA BOOK

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Engine and cooling system

Passat/Santana 2.0

1983 to 1988

Type		JS. 85kW
Capacity (cm ³) / number of cylinders		1994 / 5
Compression ratio / pressure	bar	10.0 / ≥8.0
Oil pressure	bar	[2.0]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.20 to 0.30 ¹
Valve clearance - exhaust	mm	0.40 to 0.50 ¹
Firing order		1-2-4-5-3
No 1 cylinder position		TBE
Thermostat opening temperature	°C	87
Radiator cap pressure	bar	1.2 to 1.4

Fuel system

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Idle speed - manual [auto]	rpm	850±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	1.0±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		Bosch
Type / ref		K-Jetronic
Main jet / needle		—
Injection pressure	bar	3.86 ►: 4.3 to 4.6
Pump pressure	bar	4.7 to 5.4 ²
Octane rating	RON	98[E 98 RON] ³

Ignition system

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Type		TCI-H
Ignition coil		Bosch
Primary resistance	ohms	0.52 to 0.76
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	18±1 BTDC @ 850±50 ³
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	7 to 11 @ 1600
	° Crankshaft @ rpm	16 to 20 @ 2400
	° Crankshaft @ rpm	22 to 28 @ 6200
Vacuum range check	mbar	118 to 260
Maximum vacuum advance	° Crankshaft	11 to 13
Spark plugs		Bosch/Champion
Type		W7DTC / N7BYC
Electrode gap	mm	0.70 to 0.90

Electrical system

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Battery	V / CC / RC	12 / 220 / 75
Alternator voltage / full load current / engine rpm		—
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
Rear (min. friction material thickness)	mm	2.5

Tyres		
Saloon	Size	185/70x13:195/60x14
Estate / Van	Size	185/70x13
Pressure - front / rear - Saloon	bar	1.9 / 1.9
- Estate / Van	bar	1.9 / 1.9

Front suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	[+10'±10']
Camber		-40'±30'
Castor		+30'[PAS 84 ►: +1°25']±30'
King pin inclination		—

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (–)	mm [°]	[+25'±15']
Camber		-1°40'±20'

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	50
Main bearings	Nm	65
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	75
Front hubs	Nm	230
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	20

Capacities

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Engine oil & filter	litres	4.0
Gearbox - 4-speed [5-speed]	litres	2.4
Automatic transmission - refill	litres	3.0
Final drive	litres	AT: 1.0
Cooling system	litres	8.0
Fuel tank	litres	68

Notes and Illustrations

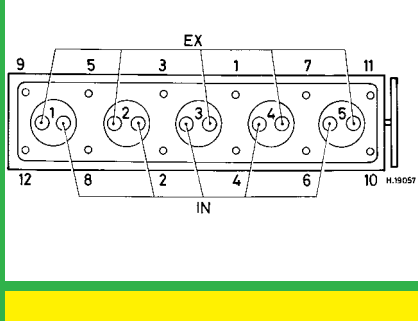
¹86 ►: 0: Hydraulic adjusters

²3.86 ►: 5.6 to 6.0

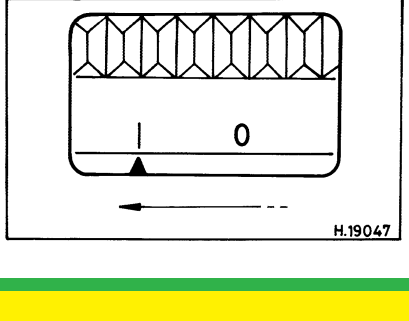
³[E 95 RON], 10-1 BTDC @ 750 to 850

1: Idle speed

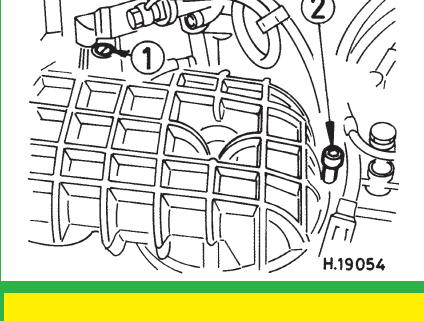
2: CO / Mixture



1994 cm³



1994 cm³



K-Jetronic, JS