

VOLKSWAGEN

Passat/Santana 1.8

1983 to 1988

Engine & Cooling

Fuel

Ignition

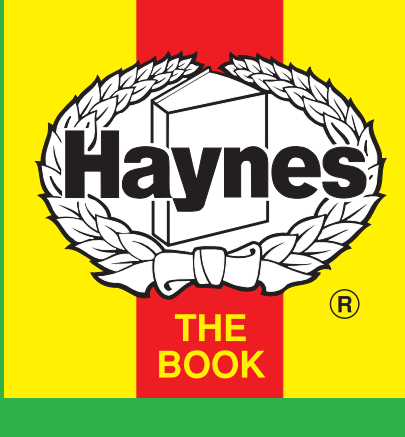
Electrical

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

Passat/Santana 1.8

1983 to 1988

Type		DS. 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	0.20 to 0.30 ¹
Valve clearance - exhaust	mm	0.40 to 0.50 ¹
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	87
Radiator cap pressure	bar	1.2 to 1.5

Fuel system

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Idle speed - manual [auto]	rpm	750±50
Fast idle speed - manual [auto]	rpm	3000±200
CO @ idle speed [3000 rpm] - see page VI	%	1.0±0.5
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		Solex/Pierburg
Type / ref		2E2
Main jet / needle		105, 120
Injection pressure	bar	–
Pump pressure	bar	0.20 to 0.25
Octane rating	RON	98[E 98 RON] ²

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 @ 750±50 ²
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	–
	° Crankshaft @ rpm	–
	° Crankshaft @ rpm	–
Centrifugal check.	° Crankshaft @ rpm	0 @ 900 to 1100
	° Crankshaft @ rpm	14 to 19 @ 2400
	° Crankshaft @ rpm	22 to 26 @ 4700
Vacuum range check	mbar	80 to 413
Maximum vacuum advance	° Crankshaft	13 to 15
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 / 175 / 60
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	165x13: 185/70x13
Estate / Van	Size	165x13: 185/70x13
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 [°]	[+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	M9: 45 ³
Main bearings	Nm	65 ⁴
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	60 + 90° N
Front hubs	Nm	230
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	25

Capacities

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Engine oil & filter	litres	3.0
Gearbox - 4-speed [5-speed]	litres	1.7 [2.0]
Automatic transmission - refill	litres	3.0
Final drive	litres	AT: 0.75
Cooling system	litres	5.4. 7.83 ►:6.0
Fuel tank	litres	68

Notes and Illustrations

¹86 ►: 0: Hydraulic adjusters

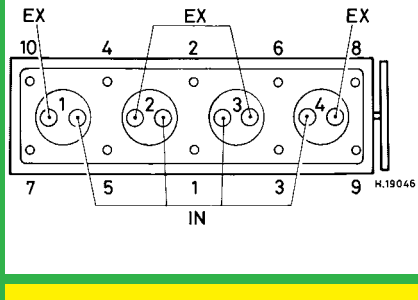
²[E 95 RON], 14-1 BTDC @ 750±50

³M8: 30 + 90°

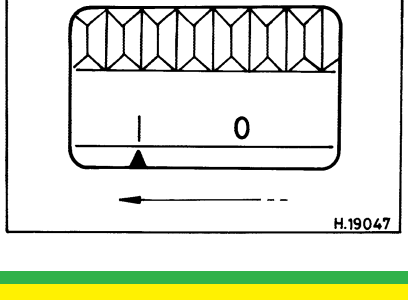
⁴Replace with fully threaded shank bolts: 65 + 90°

1: Idle speed

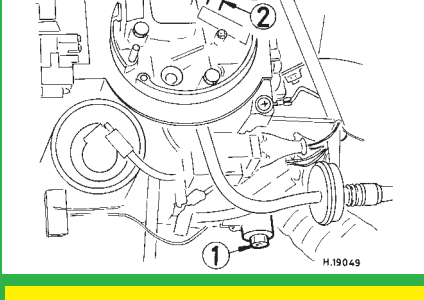
2: CO / Mixture



1781 cm³, 8V



1781 cm³, DS



Solex / Pierburg 2E2