

VOLKSWAGEN

Passat/Santana 1.6

1983 to 1988

Engine & Cooling

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Automotive Technical
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Engine and cooling system

Passat/Santana 1.6

1983 to 1988

Type		DT. 55kW
Capacity (cm ³) / number of cylinders		1595 / 4
Compression ratio / pressure	bar	9.0 / ≥7.0
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		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	87
Radiator cap pressure	bar	1.2 to 1.5

Fuel system

Passat/Santana 1.6

1983 to 1988

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
CO ₂ @ idle speed [3000 rpm] - see page VI	%	—
O ₂ @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Solex/Pierburg
Type / ref		2E2
Main jet / needle		107.5, 127.5
Injection pressure	bar	—
Pump pressure	bar	0.20 to 0.25
Octane rating	RON	91[E 91 RON]

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
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 850 to 1200
	° Crankshaft @ rpm	4 to 8 @ 1600
	° Crankshaft @ rpm	27 to 31 @ 4500
Vacuum range check	mbar	160 to 310
Maximum vacuum advance	° Crankshaft	13 to 17
Spark plugs		Bosch/Champion
Type		W8DTC / N9BYC4
Electrode gap	mm	0.90 to 1.10

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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1983 to 1988

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 ²
Main bearings	Nm	65 ³
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	30

Capacities

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1983 to 1988

Engine oil & filter	litres	3.0
Gearbox - 4-speed [5-speed]	litres	1.7 [2.0]
Automatic transmission - refill	litres	—
Final drive	litres	WT
Cooling system	litres	6.0
Fuel tank	litres	68

Notes and Illustrations

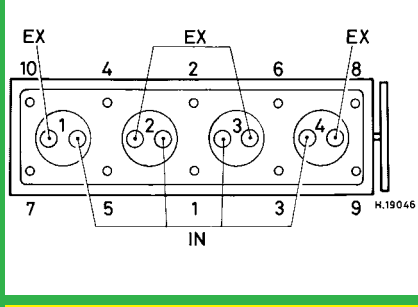
¹86 ►: 0: Hydraulic adjusters

²M8: 30 + 90°

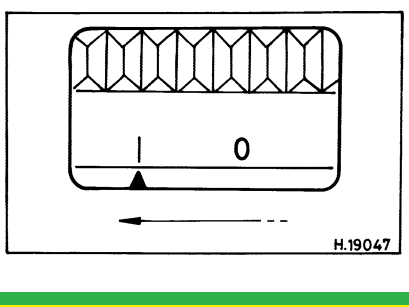
³Replace with fully threaded shank bolts: 65 + 90°

1: Idle speed

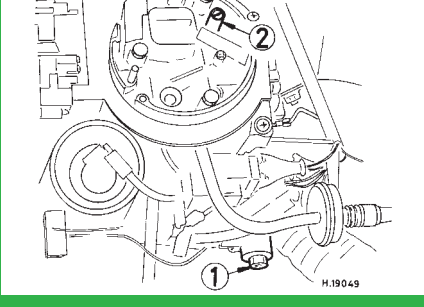
2: CO / Mixture



1595 cm³



1595 cm³



Solex / Pierburg 2E2