

VOLKSWAGEN

Passat/Santana 1.8

1983 to 1988

Engine & Cooling

Fuel

Ignition

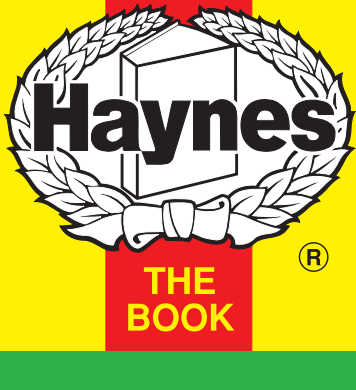
Electrical

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Automotive Technical
DATA BOOK

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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		Passat/Santana 1.8	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	
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		Passat/Santana 1.8	1983 to 1988
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		Passat/Santana 1.8	1983 to 1988
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		Passat/Santana 1.8	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	

Torque wrench settings		Passat/Santana 1.8	1983 to 1988
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		Passat/Santana 1.8	1983 to 1988
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

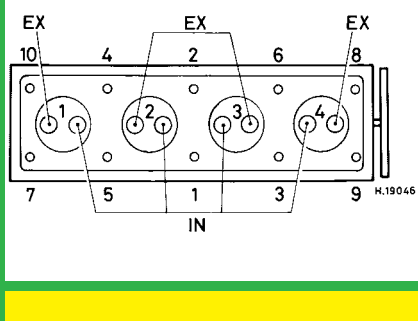
²[E 95 RON], 14-1 BTDC @ 750±50

³M8: 30 + 90°

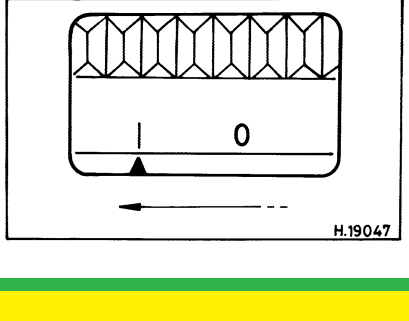
⁴Replace with fully threaded shank bolts: 65 + 90°

1: Idle speed

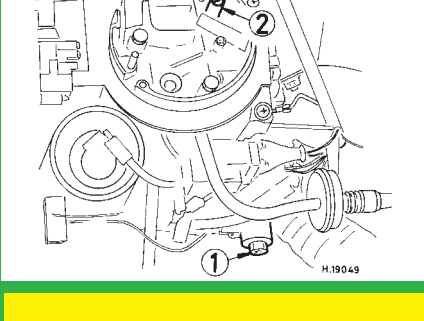
2: CO / Mixture



1781 cm³, 8V



1781 cm³, DS



Solex / Pierburg 2E2