



Contents

00 - Technical data	1
1 Identification	1
1.1 Engine number, engine data	1
2 Safety instructions	2
2.1 Safety precautions when working on fuel supply system	2
2.2 Safety precautions when working on vehicles with a Start/Stop system	2
2.3 Safety precautions during road tests in which test and measuring equipment is used	3
2.4 Safety precautions when working on cooling system	3
2.5 Safety precautions when working on ignition system	3
3 Repair instructions	4
3.1 Rules for cleanliness	4
3.2 Foreign objects in engine	4
3.3 Contact corrosion	4
3.4 Routing and securing lines	4
3.5 Installing coolers, condensers and radiators	5
10 - Removing and installing engine	6
1 Removing and installing engine	6
1.1 Removing engine	6
1.2 Installing engine	15
2 Assembly mountings	19
2.1 Assembly overview - assembly mountings	19
13 - Crankshaft group	21
1 Cylinder block (pulley end)	21
1.1 Assembly overview - poly V-belt drive	21
1.2 Assembly overview - cylinder block (pulley end)	23
1.3 Removing and installing poly V-belt	26
1.4 Removing and installing ancillary bracket	28
1.5 Removing and installing belt pulley	29
1.6 Renewing crankshaft oil seal - belt pulley end	31
2 Cylinder block, gearbox end	35
2.1 Assembly overview - cylinder block, gearbox end	35
2.2 Removing and installing sealing flange on gearbox side	36
3 Crankshaft	45
3.1 Assembly overview - crankshaft	45
3.2 Renewing needle bearing in crankshaft	46
3.3 Crankshaft dimensions	47
4 Pistons and conrods	48
4.1 Assembly overview - pistons and conrods	48
4.2 Removing and installing pistons	49
4.3 Removing and installing oil spray jets	50
4.4 Checking piston and cylinder bore	52
4.5 Separating new conrod	53
15 - Cylinder head, valve gear	54
1 Cylinder head	54
1.1 Assembly overview - cylinder head	54
1.2 Removing and installing cylinder head	57
1.3 Removing and installing camshaft housing	59
1.4 Checking compression	65
2 Cover for timing chain	68



2.1	Removing and installing valve timing housing	68
3	Chain drive	72
3.1	Removing and installing timing chain and chain drive for oil pump	72
3.2	Checking valve timing	80
3.3	Adjusting valve timing	83
3.4	Checking timing chain	90
4	Valve gear	98
4.1	Assembly overview - valve gear	98
4.2	Measuring axial play of camshaft	99
4.3	Removing and installing valve stem seals	100
5	Inlet and exhaust valves	103
5.1	Reworking valve seats	103
5.2	Checking valve guides	104
17	Lubrication	105
1	Sump, oil pump	105
1.1	Assembly overview - sump / oil pump	105
1.2	Engine oil	108
1.3	Removing and installing oil sump	108
1.4	Removing and installing oil pump	110
2	Oil filter, oil pressure switch	114
2.1	Checking oil pressure and oil pressure switch	114
19	Cooling	116
1	Cooling system, coolant	116
1.1	Coolant hose schematic diagram	116
1.2	Checking cooling system for leaks	118
1.3	Draining and filling coolant	119
2	Coolant pump, regulation of cooling system	125
2.1	Assembly overview - thermostat	125
2.2	Removing and installing electric coolant pump	126
2.3	Removing and installing coolant pump	127
2.4	Removing and installing coolant pump pulley	134
3	Radiator, radiator fan	141
3.1	Assembly overview - radiator/radiator fan	141
3.2	Removing and installing radiator	142
3.3	Removing and installing radiator cowling	144
3.4	Removing and installing radiator module	145
21	Turbocharging/supercharging	146
1	Turbocharger	146
1.1	Assembly overview - turbocharger	146
1.2	Removing and installing turbocharger	150
1.3	Checking vacuum unit for turbocharger	155
1.4	Adjusting vacuum unit for turbocharger	157
1.5	Renewing vacuum unit for turbocharger	162
2	Charge air system	165
2.1	Assembly overview - charge air system	165
2.2	Removing and installing charge air cooler	168
2.3	Checking charge air system for leaks	171
3	Supercharger	175
3.1	Assembly overview - supercharger	175
3.2	Removing and installing supercharger	177
3.3	Removing and installing supercharger input shaft seal	184



24 - Mixture preparation - injection	188
1 Injection system	188
1.1 Releasing high pressure in fuel system	188
2 Injectors	189
2.1 Assembly overview - fuel rail with injectors	189
2.2 Removing and installing injectors	191
2.3 Renewing seals on injectors	193
3 Air filter	198
3.1 Assembly overview - air filter housing	198
3.2 Removing and installing air filter housing	199
4 Intake manifold	200
4.1 Assembly overview - intake manifold	200
4.2 Removing and installing throttle valve module J338	205
4.3 Cleaning throttle valve module	207
4.4 Removing and installing regulating flap control unit J808	208
5 Senders and sensors	211
5.1 Checking fuel pressure sender G247	211
6 Engine control unit	215
6.1 Removing and installing engine control unit J623	215
6.2 Removing and installing engine control unit J623 with protective housing	216
7 High-pressure pump	219
7.1 Assembly overview - high-pressure pump	219
7.2 Removing and installing high-pressure pump	220
26 - Exhaust system	224
1 Exhaust pipes, silencers	224
1.1 Assembly overview - silencers	224
1.2 Removing and installing front exhaust pipe	225
1.3 Separating exhaust pipes, silencers	227
1.4 Aligning exhaust system free of stress	228
1.5 Installation position of clamp	229
2 Emission control	231
2.1 Assembly overview - emission control	231
2.2 Removing and installing catalytic converter	232
28 - Ignition system	235
1 Ignition system	235
1.1 Assembly overview - ignition system	235
1.2 Test data, spark plugs	236
1.3 Removing and installing ignition coils with output stage	236
1.4 Removing and installing engine speed sender G28	238



Scirocco 2015 ➤

4-cylinder injection engine (1.4 l direct injection engine, turbocharger and supercharger) - Edition
05.2015
