



Contents

00 - Technical data	1
1 Technical Data	1
1.1 Engine number	1
1.2 Engine characteristics	1
10 - Removing and installing engine	3
1 Engine - remove and install	3
1.1 Removal - recommendations	6
1.2 Engine - fasten to assembly stand	11
1.3 Installation notes	12
1.4 Tightening torques	13
1.5 Engine and gearbox support set - align	14
1.6 Power-drive group supports, (torque)	16
1.7 Additional notes and installation works in vehicles with air conditioning	17
13 - Crankshaft group	19
1 Engine - assembly and disassembly	19
1.1 Seal lid - replace	24
1.2 Poly-V belt - remove and install	24
1.3 Poly-V belt (elastic) - remove and install	28
2 Crankshaft and flywheel flanges - assembly overview	32
2.1 Flywheel - remove and install	33
2.2 Crankshaft seal (pulley side) - replace	34
2.3 Crankshaft flange (flywheel side) - replace	36
3 Crankshaft - remove and install	47
3.1 Identifying engine bearing shells	48
3.2 Colour codes	48
3.3 Crankshaft - dimensions	48
4 Pistons and connecting rods - removal and installation	50
4.1 Piston and cylinder - dimensions	53
15 - Cylinder head, valve gear	55
1 Cylinder head - assembly overview	55
1.1 Toothed belt semi-automatic tensioning pulley - check	58
1.2 Toothed belt - remove and install, adjust	59
1.3 Cylinder head - remove and install	64
1.4 Compression - check	69
2 Camshaft - assembly overview	73
2.1 Camshaft - check axial clearance	75
2.2 Valve seat - trim	76
2.3 Camshaft seal - replace	78
2.4 Camshaft and cylinder head cover - removal and installation	81
2.5 Valve guides - check	85
2.6 Valve stem sealant - replace	85
17 - Lubrication	89
1 Lubrication system components	89
1.1 Lubricating system components - assembly overview	89
1.2 Engine oil	91
1.3 Oil pan- remove and install	92
1.4 Oil filter - replace	94
1.5 Oil pump - remove and install	96



1.6	Oil pressure switch F1 - remove and install	99
1.7	Oil pressure and Oil pressure switch F1 - check	100
19	- Cooling	103
1	Cooling system components - remove and install	103
1.1	Cooling system components on the body side - assembly overview	103
1.2	Cooling system components on the engine side - assembly overview	105
1.3	Hose connection diagram for cooling system	107
1.4	Cooling system - drainage and replenishment	110
1.5	Cooling system - check air-tightness	117
1.6	Radiator - remove and install	119
1.7	Water pump - remove and install	122
20	- Fuel supply system	125
1	Fuel supply system components - removal and installation	125
1.1	Fuel tank components with accessories and fuel filter - assembly overview	125
1.2	Safety measures regarding work on the fuel supply systems	128
1.3	Cleaning rules	129
1.4	Quick connection "Pop Top" - disconnection and connection	129
1.5	Fuel pump for cold start V263 - removal and installation	131
1.6	Fuel pump (pre-supply pump) G6 - remove and install	135
1.7	Fuel gauge sensor G - remove and install	138
1.8	Fuel reservoir - remove and install	138
1.9	Fuel pump (pre-supply pump) G6 - check	141
2	Engine power electronic adjustment (electronic accelerator) - check	150
2.1	Electronic accelerator system operation	150
3	Activated charcoal filter system	152
3.1	Operation	152
3.2	Activated charcoal filter system components - repair	152
3.3	Fuel tank ventilation - check	153
24	- Mixture preparation - injection	155
1	Injection system - repair	155
1.1	General instructions regarding the injection system	155
1.2	Component location	155
1.3	Injection components - remove and install	159
1.4	Intake manifold - remove and install	165
1.5	Fuel distributor with injectors - removal and installation	166
1.6	Air filter - disassembly and assembly	166
1.7	Safety measures	170
1.8	Cleaning rules	171
1.9	Technical Data	171
2	Component checks	173
2.1	Injection valves - check	173
2.2	Residual pressure and fuel pressure regulator - check	175
3	READINESS code	180
3.1	Creating and Interpreting the READINESS code	180
4	Engine control unit J623	181
4.1	Engine control unit J623 - remove and install	181
4.2	Components - adjust	182
4.3	Event memory in Engine control unit J623 - reference and erase	182
26	- Exhaust system	185
1	Removing and installing exhaust system parts	185
1.1	Intake manifold, front exhaust tube with catalytic converter and installation parts	185



1.2	Muffler with supports	188
28	- Ignition system	190
1	Ignition system: repair	190
1.1	General instructions regarding the ignition system	190
1.2	Ignition system components - remove and install	190
1.3	Safety measures	191
1.4	Test data, spark plugs	192