



Contents

00 - Technical data	1
1 Technical data	1
1.1 Technical data	1
1.2 Engine number	1
1.3 Engine data	1
10 - Removing and installing engine	2
1 Removing and installing engine	2
1.1 Removing and installing engine	2
1.2 Notes on removing	2
1.3 Notes on installing	3
1.4 Tightening torques	4
1.5 Assembly mountings	5
1.6 Renewing engine carrier rubber mounting	6
1.7 Additional information and removal instructions for vehicles with air conditioner	7
13 - Crankshaft group	8
1 Dismantling and assembling engine	8
1.1 Dismantling and assembling engine	8
1.2 Removing and installing ribbed belt	18
1.3 Removing and installing toothed belt	19
1.4 Checking semi-automatic toothed belt tensioning roller	21
2 Removing and installing sealing flange and flywheel	22
2.1 Removing and installing sealing flange and flywheel	22
2.2 Renewing crankshaft oil seal - pulley end -	24
3 Removing and installing crankshaft	26
3.1 Removing and installing crankshaft	26
3.2 Crankshaft dimensions	28
4 Dismantling and assembling pistons and conrods	29
4.1 Dismantling and assembling pistons and conrods	29
4.2 Piston and cylinder dimensions	34
15 - Cylinder head, Valve gear	35
1 Removing and installing cylinder head	35
1.1 Removing and installing cylinder head	35
1.2 Removing and installing cylinder head	38
1.3 Checking compressions	40
2 Servicing valve gear	41
2.1 Servicing valve gear	41
2.2 Reworking valve seats	46
2.3 Removing and installing camshaft oil seal	48
2.4 Checking hydraulic bucket tappets	49
2.5 Removing and installing camshaft	50
2.6 Checking valve guides	52
2.7 Renewing valve guides	52
2.8 Renewing valve stem seals	54
17 - Lubrication	56
1 Removing and installing parts of the lubrication system	56
1.1 Removing and installing parts of the lubrication system	56
1.2 Checking oil pressure and oil pressure switch	63
19 - Cooling system	65



1	Removing and installing parts of cooling system	65
1.1	Removing and installing parts of cooling system	65
1.2	Parts of cooling system body side	66
1.3	Parts of cooling system - engine side	69
1.4	Dismantling and assembling coolant pump	72
1.5	Draining and filling cooling system	73
1.6	Removing and installing radiator and radiator fan	75
20	Fuel supply system	77
1	Removing and installing parts of fuel supply system	77
1.1	Removing and installing parts of fuel supply system	77
1.2	Removing and installing fuel tank with its attachments	78
1.3	Safety precautions when working on the fuel supply system	84
1.4	Rules for cleanliness	84
1.5	Adjusting throttle cable	85
1.6	Removing and installing fuel delivery unit	85
1.7	Checking fuel pump	86
1.8	Removing and installing parts of the activated charcoal filter system	91
1.9	Checking fuel tank breather	92
26	Exhaust system	95
1	Removing and installing parts of exhaust system	95
1.1	Removing and installing parts of exhaust system	95