



## Contents

<b>00 - Technical data</b> .....	<b>1</b>
<b>1 Technical data</b> .....	<b>1</b>
1.1 Technical data .....	1
1.2 Engine number .....	1
1.3 Engine data .....	1
<b>10 - Removing and installing engine</b> .....	<b>3</b>
<b>1 Removing and installing engine</b> .....	<b>3</b>
1.1 Removing and installing engine .....	3
1.2 Notes on removing .....	4
1.3 Securing engine to assembly stand .....	8
1.4 Notes on installing .....	8
1.5 Tightening torques .....	10
1.6 Assembly mountings .....	10
1.7 Additional information and removal instructions for vehicles with air conditioner .....	11
<b>13 - Crankshaft group</b> .....	<b>13</b>
<b>1 Dismantling and assembling engine</b> .....	<b>13</b>
1.1 Dismantling and assembling engine .....	13
1.2 Removing and installing ribbed belt .....	22
1.3 Checking valve timing .....	23
1.4 Removing, installing and tensioning toothed belts .....	25
1.5 Checking semi-automatic toothed belt tensioning roller .....	32
<b>2 Dismantling and assembling cylinder block, crankshaft and flywheel</b> .....	<b>36</b>
2.1 Dismantling and assembling cylinder block, crankshaft and flywheel .....	36
2.2 Crankshaft dimensions .....	39
2.3 Renewing crankshaft oil seal -belt pulley end- .....	40
2.4 Renewing crankshaft sealing flange -flywheel end- .....	42
<b>3 Dismantling and assembling pistons and conrods</b> .....	<b>51</b>
3.1 Dismantling and assembling pistons and conrods .....	51
3.2 Piston and cylinder dimensions .....	56
<b>15 - Cylinder head, Valve gear</b> .....	<b>57</b>
<b>1 Removing and installing cylinder head</b> .....	<b>57</b>
1.1 Removing and installing cylinder head .....	57
1.2 Removing and installing camshaft housing .....	61
1.3 Removing and installing cylinder head .....	64
1.4 Checking compression pressures .....	71
<b>2 Servicing valve gear</b> .....	<b>73</b>
2.1 Servicing valve gear .....	73
2.2 Reworking valve seats .....	81
2.3 Renewing camshaft oil seals .....	83
2.4 Checking valve guides .....	85
2.5 Renewing valve guides .....	86
2.6 Renewing valve stem seals .....	88
<b>17 - Lubrication</b> .....	<b>91</b>
<b>1 Removing and installing parts of the lubrication system</b> .....	<b>91</b>
1.1 Removing and installing parts of the lubrication system .....	91
1.2 Removing and installing oil sump .....	97
1.3 Removing and installing oil pump .....	99
1.4 Checking oil pressure and oil pressure switch .....	102
<b>19 - Cooling system</b> .....	<b>104</b>



<b>1</b>	<b>Removing and installing parts of cooling system</b> . . . . .	<b>104</b>
1.1	Removing and installing parts of cooling system . . . . .	104
1.2	Parts of cooling system body side . . . . .	105
1.3	Parts of cooling system engine side . . . . .	108
1.4	Coolant hose connection diagram . . . . .	113
1.5	Draining and filling cooling system . . . . .	115
1.6	Removing and installing radiator . . . . .	117
1.7	Removing and installing coolant pump . . . . .	119
<b>20</b>	<b>Fuel supply system</b> . . . . .	<b>121</b>
<b>1</b>	<b>Removing and installing parts of fuel supply system</b> . . . . .	<b>121</b>
1.1	Removing and installing parts of fuel supply system . . . . .	121
1.2	Removing and installing fuel tank with its attachments and fuel filter . . . . .	122
1.3	Safety precautions when working on the fuel supply system . . . . .	127
1.4	Rules for cleanliness . . . . .	127
1.5	Removing and installing fuel delivery unit . . . . .	128
1.6	Removing and installing fuel tank . . . . .	129
1.7	Checking fuel pump . . . . .	130
<b>2</b>	<b>Accelerator mechanism</b> . . . . .	<b>137</b>
2.1	Accelerator mechanism . . . . .	137
2.2	Servicing accelerator mechanism . . . . .	137
2.3	Adjusting throttle cable . . . . .	138
<b>3</b>	<b>Activated charcoal filter system</b> . . . . .	<b>138</b>
3.1	Activated charcoal filter system . . . . .	138
3.2	Removing and installing parts of the activated charcoal filter system . . . . .	139
3.3	Checking fuel tank breather . . . . .	141
<b>26</b>	<b>Exhaust system</b> . . . . .	<b>143</b>
<b>1</b>	<b>Removing and installing parts of exhaust system</b> . . . . .	<b>143</b>
1.1	Removing and installing parts of exhaust system . . . . .	143
1.2	Exhaust manifold, front exhaust pipe and catalyst with attachments . . . . .	143