



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	3
1 Removing and installing engine	3
1.1 Removing and installing engine	3
1.2 Notes on removing	3
1.3 Securing engine to repair stand	5
1.4 Notes on installing	6
1.5 Tightening torques	6
1.6 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 Installing toothed belt	23
1.3 Adjusting alternator V-belt tension	25
1.4 Removing and installing ribbed belt	25
2 Dismantling and assembling cylinder block, crankshaft and flywheel	27
2.1 Dismantling and assembling cylinder block, crankshaft and flywheel	27
2.2 Renewing crankshaft oil seal - pulley end -	33
2.3 Crankshaft dimensions	34
2.4 Removing and installing drive plate	35
3 Dismantling and assembling pistons and conrods	37
3.1 Dismantling and assembling pistons and conrods	37
3.2 Piston and cylinder dimensions	41
15 - Cylinder head, Valve gear	43
1 Removing and installing cylinder head	43
1.1 Removing and installing cylinder head	43
1.2 Removing and installing cylinder head	48
1.3 Checking compressions	49
2 Servicing valve gear	50
2.1 Servicing valve gear	50
2.2 Reworking valve seats	56
2.3 Checking hydraulic bucket tappets	58
2.4 Removing and installing camshaft oil seal	59
2.5 Removing and installing camshaft	60
2.6 Checking valve guides	60
2.7 Renewing valve guides	61
2.8 Renewing valve stem seals	61
17 - Lubrication	63
1 Removing and installing parts of the lubrication system	63
1.1 Removing and installing parts of the lubrication system	63
1.2 Checking oil pressure and oil pressure switch	69
19 - Cooling system	70
1 Removing and installing parts of cooling system	70
1.1 Removing and installing parts of cooling system	70



1.2	Parts of cooling system body side	71
1.3	Parts of cooling system - engine side	75
1.4	Draining and filling cooling system	78
1.5	Removing radiator	80
1.6	Checking radiator fan run-on thermo-switch	81
1.7	Checking coolant circulation thermo-switch	81
20	- Fuel supply system	83
1	Removing and installing parts of fuel supply system	83
1.1	Removing and installing parts of fuel supply system	83
1.2	Removing and installing fuel tank with its attachments	84
1.3	Servicing fuel delivery unit	88
1.4	Safety precautions when working on the fuel supply system	92
1.5	Rules for cleanliness	92
1.6	Removing and installing fuel delivery unit	92
1.7	Dismantling and assembling fuel delivery unit	93
1.8	Checking fuel pump	95
1.9	Checking fuel pumps relay	98
1.10	Servicing accelerator mechanism	99
1.11	Servicing the activated charcoal filter system	101
1.12	Checking regulation of the activated charcoal filter system	102
26	- Exhaust system	104
1	Removing and installing parts of exhaust system	104
1.1	Removing and installing parts of exhaust system	104
1.2	Removing and installing clamping springs	110
1.3	Tensioning or releasing spring clamps	111
1.4	Retrofitting front exhaust pipe stop plate	112