

Contents

23 - Mixture preparation - injection	1
1 Servicing diesel direct injection system	1
1.1 Safety precautions when using testers and measuring instruments during a road test	1
1.2 Safety precautions when working on the fuel system	1
1.3 Safety precautions when working on the cooling system	2
1.4 Safety precautions when working on the exhaust system	2
1.5 Rules for cleanliness	3
1.6 General notes	4
1.7 General repair instructions	4
1.8 Cleaning engine	5
1.9 Nuts, bolts	5
1.10 Identification plates	5
1.11 Use of impact wrenches	5
1.12 Foreign material in engine	6
1.13 Contact corrosion	6
1.14 Routing and attachment of pipes, hoses and wiring	6
1.15 Installing radiators and condensers	6
1.16 Checking vacuum system	7
2 Injection system	8
2.1 Overview of fitting locations - injection system	8
2.2 Overview - fuel system	15
2.3 Assembly overview - fuel system	17
2.4 Assembly overview - air filter	20
2.5 Removing and installing engine cover panel	21
2.6 Removing and installing air filter element	21
2.7 Removing and installing air mass meter G70	23
2.8 Assembly overview - intake manifold	24
2.9 Removing and installing upper part of intake manifold	26
2.10 Removing and installing lower part of intake manifold (left-side)	27
2.11 Removing and installing lower part of intake manifold (right-side)	33
2.12 Removing and installing intake manifold flap motor V157 or intake manifold flap 2 motor V275	39
2.13 Checking injectors	50
2.14 Performing adaption of correction values for injectors	50
2.15 Checking for injectors sticking open	51
2.16 Checking return flow rate of injectors with engine running	53
2.17 Checking return flow rate of injectors at starter cranking speed	57
2.18 Checking pressure retention valve in fuel return line	60
2.19 Removing and installing injectors	61
2.20 Assembly overview - toothed belt for high-pressure pump	68
2.21 Removing and installing toothed belt for high-pressure pump - vehicles up to 02.2006	71
2.22 Removing and installing toothed belt for high-pressure pump - vehicles from 02.2006 onwards	78
2.23 Assembly overview - high-pressure pump, vehicles up to 09.2005	83
2.24 Removing and installing high-pressure pump - vehicles up to 09.2005	86
2.25 Assembly overview - high-pressure pump, vehicles from 09.2005 onwards	89
2.26 Removing and installing high-pressure pump - vehicles from 09.2005 onwards	92
2.27 Bleeding fuel system and checking for leaks	96
2.28 Bleeding fuel system after installing high-pressure pump	96
2.29 Checking fuel pressure regulating valve N276	98
2.30 Removing and installing fuel pressure regulating valve N276	99
2.31 Removing and installing fuel pressure sender G247	102
2.32 Removing and installing Lambda probe G39 with Lambda probe heater Z19	104



2.33	Removing and installing exhaust gas pressure sensor 1 G450	105
3	Engine control unit	108
3.1	Renewing engine control unit J623	108
28 - Glow plug system	114	
1	Checking glow plug system	114
1.1	Removing and installing glow plugs	114