

Contents

23 - Mixture preparation - injection	1
1 Safety precautions and rules for cleanliness	1
1.1 Safety precautions when using testers and measuring instruments during a road test	1
1.2 Safety precautions for vehicles with start/stop system	2
1.3 Safety precautions when working on the fuel system	2
1.4 Safety precautions when working on the injection and glow plug system	4
1.5 Safety precautions when working on the exhaust system	4
1.6 Checking vacuum system	4
2 Overview of fitting locations - injection system	6
3 Overview - fuel system	14
4 Filling and bleeding fuel system	16
5 Air filter	17
5.1 Assembly overview - air filter	17
5.2 Removing and installing engine cover panel	19
5.3 Removing and installing air filter element	19
5.4 Removing and installing air filter housing	20
5.5 Removing and installing air mass meter G70	22
6 Intake manifold	23
6.1 Exploded view - intake manifold	23
6.2 Removing and installing intake manifold	25
6.3 Removing and installing throttle valve module J338	28
6.4 Cleaning throttle valve module J338	30
7 High-pressure pump	32
7.1 Assembly overview - high-pressure pump	32
7.2 Removing and installing high-pressure pump	34
7.3 Performing first fuel filling after installing high-pressure pump	37
7.4 Checking fuel pressure regulating valve N276 for dirt/swarf if high-pressure pump is defective	38
7.5 Checking fuel system for leaks	39
8 Injectors	41
8.1 Assembly overview - injectors	41
8.2 Checking injectors	45
8.3 Performing adaptation of correction values for injectors	45
8.4 Checking for injectors sticking open	46
8.5 Checking return flow rate of injectors with engine running	48
8.6 Checking return flow rate of injectors at starter cranking speed	51
8.7 Removing and installing injectors	53
9 Senders and sensors	58
9.1 Installing high-pressure pipes	58
9.2 Checking fuel pressure regulating valve N276	59
9.3 Checking fuel pressure (low pressure)	60
9.4 Checking delivery rate of fuel pumps	62
9.5 Removing and installing fuel pressure regulating valve N276	64
9.6 Removing and installing fuel pressure sender G247	66
9.7 Removing and installing fuel rail	69
10 Lambda probe	72
10.1 Exploded view - Lambda probe and exhaust gas temperature senders	72
10.2 Removing and installing Lambda probe G39 with Lambda probe heater Z19	73
10.3 Removing and installing pressure differential sender G505	74
11 Engine control unit	76
11.1 Wiring and component check with test box V.A.G 1598/42	76



11.2	Removing and installing motor control unit J623	77
28	- Glow plug system	82
1	82
1.1	Removing and installing glow plugs	82
1.2	Removing and installing automatic glow period control unit J179	84
1.3	Removing and installing Hall sender G40	85
1.4	Removing and installing engine speed sender G28	86