

Contents

24 - Mixture preparation - injection	1
1 Safety precautions and rules for cleanliness	1
1.1 General notes on self-diagnosis	1
1.2 Rules for cleanliness and instructions for working on fuel system	1
1.3 Safety precautions when working on the fuel system	2
1.4 Safety precautions when working on the cooling system	2
1.5 Safety precautions when working on vehicles with start/stop system	2
1.6 Safety precautions when using testers and measuring instruments during a road test	3
1.7 Safety precautions when working on the ignition system	3
1.8 Checking vacuum system	3
2 Technical data	5
3 Overview of fitting locations	6
4 Air cleaner	16
4.1 Exploded view - air cleaner	16
4.2 Removing and installing engine cover panel	17
4.3 Removing and installing air filter element	17
4.4 Removing and installing air cleaner housing	18
5 Intake manifold	20
5.1 Intake manifold (part 1) - exploded view	20
5.2 Intake manifold (part 2) - exploded view	21
5.3 Intake manifold (part 3) - exploded view	22
5.4 Intake manifold (bottom section) - exploded view	24
5.5 Removing and installing intake manifold	24
5.6 Removing and installing intake manifold (bottom section)	26
6 Throttle valve module J338	29
6.1 Removing and installing throttle valve module J338	29
6.2 Cleaning throttle valve module J338	30
7 High-pressure pump	32
7.1 Exploded view - high-pressure pump	32
7.2 Removing and installing high-pressure pump	34
8 Injectors	38
8.1 Removing and installing injectors	38
8.2 Renewing combustion chamber ring seal (teflon ring seal)	40
8.3 Cleaning injectors	43
9 Lambda probe	45
9.1 Lambda probe - overview	45
9.2 Removing and installing Lambda probe G39 and Lambda probe heater Z19 before catalytic converter	46
9.3 Removing and installing Lambda probe after catalytic converter G130 and Lambda probe 1 heater after catalytic converter Z29	47
10 Components of injection system	49
10.1 Removing and installing fuel pressure sender G247	49
10.2 Checking fuel pressure and residual pressure (up to high-pressure pump)	50
11 Engine control unit	54
11.1 Wiring and component check with test box V.A.G 1598/42	54
11.2 Renewing engine control unit J623	56
28 - Ignition system	59
1 General notes and safety precautions	59
1.1 General notes on ignition system	59
1.2 Safety precautions when working on the ignition system	59



2	Servicing ignition system	60
2.1	Test data	60
2.2	Exploded view - ignition system	60
2.3	Removing and installing ignition coils with output stages	61
2.4	Removing and installing knock sensor 1 G61	63
2.5	Removing and installing Hall sender G40	63
2.6	Removing and installing engine speed sender G28	63