

Contents

24 - Mixture preparation - injection	1
1 Safety precautions and rules for cleanliness	1
1.1 General notes on self-diagnosis	1
1.2 Safety precautions when using testers and measuring instruments during a road test	2
1.3 Safety precautions for vehicles with start/stop system	2
1.4 Rules for cleanliness and instructions for working on fuel system	2
1.5 Safety precautions when working on the ignition system	3
1.6 Reducing pressure in high-pressure section of injection system	4
1.7 Checking vacuum system	5
2 Technical data	7
3 Overview of fitting locations	8
4 Air cleaner	20
4.1 Air cleaner - exploded view	20
4.2 Removing and installing engine cover panel	21
4.3 Removing and installing air filter element	21
4.4 Removing and installing air cleaner housing	22
5 Intake manifold	24
5.1 Intake manifold - exploded view	24
5.2 Fuel rail - exploded view	25
5.3 Removing and installing intake manifold with fuel rail	26
5.4 Removing and installing throttle valve module J338	33
5.5 Cleaning throttle valve module J338	34
5.6 Checking intake manifold change-over function	34
5.7 Checking dual non-return valve	36
6 High-pressure pump	38
6.1 High-pressure pump - exploded view	38
6.2 Removing and installing high-pressure pump	39
7 Injectors	42
7.1 Removing and installing injectors	42
7.2 Cleaning injectors	46
8 Senders and sensors	48
8.1 Removing and installing air mass meter G70	48
8.2 Removing and installing fuel pressure sender G247	48
8.3 Checking fuel pressure sender G247	50
8.4 Checking fuel pressure and residual pressure (up to high-pressure pump)	52
9 Lambda probe	55
9.1 Lambda probes - overview	55
9.2 Removing and installing Lambda probe G39 and Lambda probe heater Z19 before catalytic converter (engine code CAWB)	58
9.3 Removing and installing Lambda probe G39 and Lambda probe heater Z19 before catalytic converter (engine codes CCTA and CCZA)	59
9.4 Removing and installing Lambda probe G39 and Lambda probe heater Z19 before catalytic converter (engine code CBFA)	61
9.5 Removing and installing Lambda probe after catalytic converter G130 and Lambda probe 1 heater after catalytic converter Z29 (engine codes CCTA and CCZA)	61
9.6 Removing and installing Lambda probe after catalytic converter G130 and Lambda probe 1 heater after catalytic converter Z29 (engine code CBFA)	62
9.7 Removing and installing Lambda probe 3 after catalytic converter G287 and Lambda probe heater 3 after catalytic converter Z64 (engine code CBFA)	63
10 Engine control unit	65
10.1 Wiring and component check with test box V.A.G 1598/42	65
10.2 Renewing engine control unit J623	67



28 - Ignition system	71
1 General notes and safety precautions	71
1.1 General notes on ignition system	71
1.2 Safety precautions	71
2 Servicing ignition system	72
2.1 Test data	72
2.2 Ignition system - exploded view	72
2.3 Removing and installing ignition coils with output stages	73
2.4 Removing and installing knock sensor 1 G61	74