

Contents

01 - Self-diagnosis	1
1 Motronic self-diagnosis	1
1.1 Motronic self-diagnosis	1
1.2 Technical data of self-diagnosis	1
1.3 Connecting fault reader V.A.G 1551 and selecting functions	2
1.4 Interrogating and erasing fault memory	4
1.5 Fault table	5
1.6 Fault codes 00515 - 01251	5
1.7 Fault codes 01252 - 18020	11
1.8 Final control diagnosis	17
1.9 Reading measured value block	19
1.10 Display group overview	20
1.11 Display groups 00 - 07	23
1.12 Display groups 08 - 98	33
1.13 Perform basic setting of engine	44
1.14 Replacing Motronic control unit	45
1.15 Coding the Motronic control unit	46
1.16 Coding variants for the engine control unit	47
1.17 Connecting test box V.A.G 1598	48
24 - Mixture preparation, Injection	49
1 Servicing Motronic fuel injection system	49
1.1 Servicing Motronic fuel injection system	49
1.2 Safety precautions	49
1.3 Rules for cleanliness	49
1.4 Technical data	49
1.5 Overview of fitting locations - engine code ADP	50
1.6 Overview of fitting locations - engine code ADR	52
1.7 Overview of fitting locations - engine code AEB	54
1.8 Checking idling speed and CO content	56
1.9 Testing fuel pressure, pressure regulator and holding pressure	57
1.10 Testing injection quantity, leak tightness and spray pattern of injectors	59
1.11 Removing and installing injectors	60
1.12 Checking injectors	61
1.13 Testing fuel pump relay and activation	63
2 Checking lambda control	65
2.1 Checking lambda control	65
2.2 Engine running problems after cold start	65
2.3 Checking function	66
2.4 Checking lambda probe heating	67
2.5 Testing lambda probe signal wiring and activation	69
2.6 Removing and installing lambda probe	70
3 Testing boost pressure control (engine code AEB only)	71
3.1 Testing boost pressure control (engine code AEB only)	71
3.2 Function of boost pressure control	71
3.3 Checking solenoid valve for boost pressure control -N75	71
4 Testing throttle valve control part J338	73
4.1 Testing throttle valve control part J338	73
4.2 Function	73
4.3 Performing basic setting of throttle valve control part J338	74
4.4 Testing idling switch	75
4.5 Testing throttle valve positioner sender and throttle valve potentiometer	76
5 Testing control unit input values	77

5.1	Testing control unit input values	77
5.2	Testing wiring of immobiliser	77
5.3	Checking activated charcoal filter system solenoid valve 1 -N80	78
5.4	Checking air mass meter -G70	81
5.5	Testing altitude sender - engine code AEB	84
6	Checking auxiliary signals	86
6.1	Checking auxiliary signals	86
28 - Ignition system		95
1	Checking ignition system	95
1.1	Checking ignition system	95
1.2	Technical data for ignition system	95
1.3	Safety precautions for the Motronic system	96
2	Testing distributor ignition system (ADO engine)	97
2.1	Testing distributor ignition system (ADO engine)	97
2.2	Installing distributor	97
2.3	Testing and adjusting basic setting of distributor	98
2.4	Checking output stages for ignition coils	99
2.5	Checking ignition coil -N	101
3	Testing double spark ignition system with two ignition coils (ADR engine)	101
3.1	Testing double spark ignition system with two ignition coils (ADR engine)	101
3.2	Checking power supply	102
3.3	Testing actuation of power output stage -N122	102
4	Testing individual coil ignition system (AEB engine)	103
4.1	Testing individual coil ignition system (AEB engine)	103
4.2	Checking ignition coils	103
4.3	Testing primary wiring and voltage supply	104
4.4	Checking output stages for ignition coils	105
5	Testing supply voltage of Motronic control unit	107
5.1	Testing supply voltage of Motronic control unit	107
6	Checking engine speed sender -G28	108
6.1	Checking engine speed sender -G28	108
7	Checking coolant temperature sender -G62	109
7.1	Checking coolant temperature sender -G62	109
8	Checking knock senders -G61 and -G66	111
8.1	Checking knock senders -G61 and -G66	111
9	Checking Hall sender -G40	113
9.1	Checking Hall sender -G40	113
10	Testing intake air temperature sender -G42 (AEB engine only)	115
10.1	Testing intake air temperature sender -G42 (AEB engine only)	115