

Contents

01 - Self-diagnosis	1
1 Self-diagnosis	1
1.1 Self-diagnosis	1
1.2 Technical data of self-diagnosis	1
1.3 Safety precautions	1
1.4 Connecting vehicle diagnostic, testing and information system VAS 5051/ fault reader V.A.G 1551 and selecting functions	1
2 Interrogating and erasing fault memory	4
2.1 Interrogating and erasing fault memory	4
2.2 Fault table	6
3 Final control diagnosis	10
3.1 Final control diagnosis	10
4 Basic setting	11
4.1 Basic setting	11
5 Encoding control unit	13
5.1 Encoding control unit	13
6 Reading measured value block	14
6.1 Reading measured value block	14
6.2 List of display groups	15
7 Checking wiring of diagnostic connectors	23
7.1 Checking wiring of diagnostic connectors	23
7.2 Checking power supply for "black" diagnostic connector	24
7.3 Checking wiring between "white" diagnostic connector and engine control unit	24
7.4 Checking wiring of encoding connector	26
24 - Mixture preparation, Injection	27
1 Servicing Digifant injection system	27
1.1 Servicing Digifant injection system	27
1.2 Safety precautions	27
1.3 Rules for cleanliness	27
1.4 Technical data	28
1.5 Exploded view of fitting locations	29
1.6 Removing and installing injection system components	33
1.7 Dismantling and assembling air cleaner	36
1.8 Wiring and component check with test box V.A.G 1598 A and adapter 1598/9	38
1.9 Replacing engine control unit	39
1.10 Checking idling speed	42
1.11 Checking system pressure, fuel pressure regulator and holding pressure	44
1.12 Dismantling and assembling fuel rail with injectors	47
1.13 Checking injectors	49
1.14 Removing and installing injectors	53
1.15 Checking freedom from leaks and spray pattern of injectors	56
1.16 Checking fuel pump relay -J17 and actuation	58
1.17 Checking cold start valve -N17	62
1.18 Checking idling-speed stabilisation valve -N71	68
1.19 Checking acceleration/full throttle enrichment and overrun shutoff	71
1.20 Checking air-flow meter potentiometer -G19	73
1.21 Checking intake system for leaks (unmetered air)	76
2 Checking Lambda control	77
2.1 Checking Lambda control	77
2.2 Engine running problems following cold start	77
2.3 Checking Lambda probe -G39 and Lambda control	79
2.4 Checking Lambda probe heater -Z19	81



3	Checking fuel tank breather system	83
3.1	Checking fuel tank breather system	83
3.2	Checking activated charcoal filter solenoid valve -N80	84
4	Checking throttle valve potentiometer -G69	88
4.1	Checking throttle valve potentiometer -G69	88
4.2	Matching Digifant control unit -J169 and throttle valve potentiometer -G69	91
4.3	Basic setting of throttle valve	91
4.4	Checking and adjusting throttle damper	92
5	Checking intake air preheating	92
5.1	Checking intake air preheating	92
6	Checking additional signals	94
6.1	Checking additional signals	94
6.2	Checking air-conditioner compressor signal and air-conditioner compressor shutoff	94
6.3	Checking engine-speed signal	96
6.4	Checking fuel consumption signal	96
6.5	Checking vehicle-speed signal	97
6.6	Checking start signal	99
7	Vacuum diagram	100
7.1	Vacuum diagram	100
28 - Ignition system	103	
1	Checking ignition system	103
1.1	Checking ignition system	103
1.2	Safety precautions	103
1.3	Adjustment data, spark plugs	103
1.4	Servicing ignition system	104
1.5	Installing ignition distributor	107
1.6	Checking and adjusting ignition point	108
1.7	Checking ignition transformer -N152	110
1.8	Checking output stage for ignition transformer	112
1.9	Checking intake-air temperature sender -G42	116
1.10	Checking coolant temperature sender -G62	118
1.11	Checking power supply for control unit	121
1.12	Checking current supply relay for Digifant control unit -J176	123
1.13	Checking knock sensor	127
1.14	Checking Hall sender -G40	129