

## Contents

<b>01 - Self-diagnosis</b> .....	<b>1</b>
<b>1 Connecting vehicle diagnostic, testing and information system VAS 5051</b> .....	<b>1</b>
1.1 Safety precautions .....	1
<b>2 Instrument cluster self-diagnosis up to model year 1999</b> .....	<b>3</b>
2.1 General notes .....	3
2.2 Starting instrument cluster self-diagnosis .....	4
2.3 Interrogating fault memory .....	5
2.4 Fault tables .....	7
2.5 Final control diagnosis .....	9
2.6 Erasing fault memory .....	11
2.7 Ending output .....	12
2.8 Coding control unit .....	13
2.9 Reading measured value block .....	15
2.10 Adaption .....	17
2.11 Adaption channels 02 ... 09 .....	20
2.12 Adaption channels 10 ... 30 .....	30
2.13 Input values when renewing instrument cluster .....	35
2.14 Service interval display reset on completion of service without VAS 5051 .....	36
<b>3 Instrument cluster self-diagnosis with extended service interval from model year 2000 onwards</b> .....	<b>37</b>
3.1 General notes .....	37
3.2 Starting instrument cluster self-diagnosis .....	38
3.3 Interrogating fault memory .....	39
3.4 Fault tables .....	41
3.5 Final control diagnosis .....	47
3.6 Erasing fault memory .....	49
3.7 Ending output .....	50
3.8 Coding control unit .....	51
3.9 Reading measured value block .....	53
3.10 Adaption .....	60
3.11 Adaption channels 02 ... 09 .....	64
3.12 Adaption channels 18 ... 35 .....	70
3.13 Adaption channels 40 ... 48 .....	77
3.14 Adaption channels 60 ... 62 .....	87
3.15 Input values when renewing instrument cluster .....	93
3.16 Service interval display reset on completion of service without VAS 5051 .....	94
<b>4 Immobilizer self-diagnosis - "Immobilizer I"</b> .....	<b>96</b>
4.1 General notes .....	97
4.2 Starting immobilizer self-diagnosis .....	98
4.3 Interrogating fault memory .....	99
4.4 Fault tables .....	101
4.5 Erasing fault memory .....	102
4.6 Ending output .....	103
4.7 Reading measured value block .....	104
4.8 Adaption .....	105
4.9 Establishing PIN .....	106
4.10 Matching vehicle keys .....	106
4.11 Lost key procedure .....	111
4.12 Matching following renewal of instrument cluster .....	111
4.13 Matching following renewal of engine control unit .....	112
4.14 Emergency start using VAS 5051 .....	115
<b>5 Immobilizer self-diagnosis - "Immobilizer II" (as of week 27/1999)</b> .....	<b>119</b>



5.1	General notes	120
5.2	Starting immobilizer self-diagnosis	121
5.3	Interrogating fault memory	122
5.4	Fault tables	124
5.5	Erasing fault memory	125
5.6	Ending output	126
5.7	Reading measured value block	127
5.8	Adaption	129
5.9	Establishing PIN	129
5.10	Matching vehicle keys	130
5.11	Lost key procedure	135
5.12	Matching following renewal of instrument cluster	135
5.13	Matching following renewal of engine control unit	135
5.14	Emergency start using VAS 5051	139
<b>6</b>	<b>Immobilizer self-diagnosis - "Immobilizer III" as of week 18/2000</b>	<b>142</b>
6.1	General notes	143
6.2	Starting immobilizer self-diagnosis	144
6.3	Interrogating fault memory	145
6.4	Fault tables	147
6.5	Erasing fault memory	148
6.6	Ending output	149
6.7	Reading measured value block	150
6.8	Adaption	152
6.9	Establishing PIN	152
6.10	Matching vehicle keys	153
6.11	Lost key procedure	158
6.12	Matching following renewal of instrument cluster	158
6.13	Matching following renewal of engine control unit	163
6.14	Matching following renewal of instrument cluster and engine control unit	167
6.15	Enabling control units	170
<b>7</b>	<b>Cruise control system (CCS) self-diagnosis</b>	<b>174</b>
7.1	Checking cruise control system - petrol engines with electronic throttle	174
7.2	Checking cruise control system - TDI engines	177
7.3	Checking wiring and components using adapter cable V.A.G 1598/22 (text box), V.A.G 1598/30 or V.A.G 1598/31	180
7.4	Activating/deactivating cruise control system	181
<b>8</b>	<b>Acoustic Parking System (APS) self-diagnosis</b>	<b>183</b>
8.1	General notes	183
8.2	Performing parking aid self-diagnosis	184
8.3	Interrogating fault memory	185
8.4	Fault tables	186
8.5	Final control diagnosis	190
8.6	Erasing fault memory	191
8.7	Ending output	192
8.8	Coding control unit	192
8.9	Reading measured value block	194
8.10	Adaption	198
8.11	Adaption channels 01 ... 04	201
<b>9</b>	<b>Automatic headlight range control self-diagnosis</b>	<b>206</b>
9.1	General notes	206
9.2	Starting automatic headlight range control self-diagnosis	206
9.3	Interrogating fault memory	208
9.4	Fault tables	209
9.5	Final control diagnosis	211
9.6	Basic setting	212

9.7	Erasing fault memory .....	214
9.8	Ending output .....	215
9.9	Coding control unit .....	216
9.10	Reading measured value block .....	217
<b>10</b>	<b>Checking data exchange between control units .....</b>	<b>220</b>
10.1	Checking "two-wire bus system" .....	220