

Contents

00 - Technical data	1
1 Safety information	1
1.1 Safety precautions when working on the high-voltage system	1
1.2 Safety precautions when working in the vicinity of high-voltage components	2
1.3 Safety precautions when working on vehicles with start/stop system	2
1.4 Safety precautions when using testers and measuring instruments during a road test	2
1.5 Safety information for handling gas discharge bulbs	3
1.6 Notes on use and safety for LED headlights and Audi laser lights	3
2 Repair instructions	4
2.1 Rules for cleanliness	4
2.2 General notes	4
2.3 Contact corrosion	4
2.4 ESD (electrostatic discharge) workplace	5
2.5 Routing and attachment of pipes, hoses and wiring	5
2.6 Use of impact wrenches	5
2.7 Identification plates	6
3 Battery	7
3.1 Battery - general notes	7
3.2 Battery types	7
27 - Starter, current supply, CCS	8
1 Safety information	8
2 Battery	9
2.1 Assembly overview - battery	9
2.2 Disconnecting and connecting battery	15
2.3 Removing and installing earth cable with battery monitor control unit J367	21
2.4 Removing and installing wiring junction for positive cable	22
2.5 Removing and installing battery	23
2.6 Removing and installing protective housing for battery, 48 V A6 (0K4 + VH2)	33
2.7 Charging battery	33
2.8 Removing and installing battery cut-off relay/battery isolation igniter	34
2.9 Inspecting and classifying second battery A1	34
2.10 Inspecting and classifying battery, 48 V A6	35
3 Voltage converter	38
3.1 Assembly overview - voltage converter	38
3.2 Removing and installing voltage converter (48 V/12 V) A7	38
4 Jump-start connection point	41
4.1 Assembly overview - jump-start connection point	41
5 Alternator	42
5.1 Assembly overview - alternator	42
5.2 Removing and installing alternator	50
5.3 Checking alternator	66
6 Starter	68
6.1 Assembly overview - starter	68
6.2 Removing and installing starter	69
7 Adaptive cruise control	73
7.1 Overview of fitting locations - adaptive cruise control	73
7.2 Removing and installing adaptive cruise control unit	75
90 - Gauges, instruments	79
1 Safety information	79



2	Dash panel insert	80
2.1	Assembly overview - dash panel insert	80
2.2	Assembly overview - head-up display	82
2.3	Removing and installing dash panel insert with control unit in dash panel insert J285	84
2.4	Removing and installing control unit for head-up display	88
2.5	Calibrating control unit for head-up display	91
3	Horn	93
3.1	Assembly overview - horn	93
3.2	Removing and installing treble horn H2 / bass horn H7	94
92	- Windscreen wash/wipe system	96
1	Safety information	96
2	Windscreen wiper system	97
2.1	Overview of fitting locations - windscreen wiper system	97
2.2	Assembly overview - windscreen wiper system	98
2.3	Moving wipers to service position	100
2.4	Removing and installing wiper blade	101
2.5	Removing and installing wiper arms	101
2.6	Adjusting wiper arms	103
2.7	Removing and installing wiper motor V	104
2.8	Removing and installing rain and light sensor	104
3	Windscreen washer system	109
3.1	Assembly overview - windscreen washer system	109
3.2	Removing and installing washer fluid reservoir	110
3.3	Removing and installing windscreen washer fluid level sender	111
3.4	Removing and installing washer pump	112
3.5	Removing and installing washer jets	112
3.6	Adjusting washer jets	112
4	Rear window wiper system	114
4.1	Overview of fitting locations - rear window wiper system	114
4.2	Assembly overview - rear window wiper system	114
4.3	Removing and installing wiper blade	115
4.4	Removing and installing wiper arm	115
4.5	Adjusting wiper arm	117
4.6	Removing and installing rear window wiper motor V12	117
5	Rear window washer system	118
5.1	Assembly overview - rear window washer system	118
5.2	Removing and installing washer jet	119
5.3	Adjusting washer jet	120
6	Headlight washer system	121
6.1	Assembly overview - headlight washer system	121
6.2	Removing and installing headlight washer system pump V11	122
6.3	Removing and installing washer jets	122
94	- Lights, bulbs, switches - exterior	124
1	Safety information	124
2	Headlights	125
2.1	Assembly overview - headlight	125
2.2	Removing and installing headlights	133
2.3	Adjusting headlights	139
2.4	Removing and installing front turn signal bulb M5 / M7	154
2.5	Removing and installing fog light bulb L22 / L23	154
2.6	Removing and installing gas discharge bulb L13 / L14	155
2.7	Removing and installing output module for headlight	156

2.8	Removing and installing headlight fan V407 / V408 - from product upgrade onwards	158
2.9	Removing and installing headlight range control motor V48 / V49 - from product upgrade onwards	159
2.10	Installing repair kit for headlight housing	161
2.11	Adapting headlights for driving on the left side of the road	161
2.12	Adapting headlights for driving on the right side of the road	161
3	Daytime running lights	162
3.1	Removing and installing LED module for daytime running light and side light L176 / L177 .	162
3.2	Assembly overview - signature lighting	163
3.3	Removing and installing signature lighting	164
3.4	Removing and installing light for signature lighting L275 / L276	165
4	Side marker lights	166
4.1	Assembly overview - side marker lights	166
4.2	Removing and installing rear side marker bulb	167
5	Lights in exterior mirror	168
5.1	Assembly overview - lights in exterior mirror	168
5.2	Removing and installing turn signal	169
6	Lights in exterior door handle	170
6.1	Assembly overview - lights in exterior door handle	170
6.2	Removing and installing exterior door handle illumination bulb	170
7	Lights in sill panel moulding	172
7.1	Assembly overview - entry light	172
8	Tail light clusters	173
8.1	Assembly overview - tail light cluster on body	173
8.2	Assembly overview - tail light cluster on rear lid	177
8.3	Removing and installing tail light cluster	178
8.4	Removing and installing tail light cluster on rear lid	179
8.5	Removing and installing bulbs on tail light cluster in bumper cover	180
8.6	Removing and installing rear lid closed sender G525 / G526	181
9	High-level brake light	182
9.1	Assembly overview - high-level brake light	182
9.2	Removing and installing high-level brake light	182
10	Number plate light	184
10.1	Removing and installing number plate light X4 / X5	184
11	Entry and start authorisation	185
11.1	Overview of fitting locations - entry and start authorisation system	185
11.2	Overview of fitting locations - keyless entry system	186
11.3	Assembly overview - exterior door handle for keyless entry system	187
11.4	Removing and installing front exterior door handle switches	189
11.5	Removing and installing rear exterior door handle switches	190
11.6	Removing and installing aerial for entry and start system	191
11.7	Alcohol interlock	192
12	Steering column switch module	202
12.1	Assembly overview - steering column switch module	202
12.2	Removing and installing steering column switch module	202
13	Parking aid	204
13.1	Assembly overview - parking aid	204
13.2	Removing and installing front parking aid warning buzzer H22	206
13.3	Removing and installing rear parking aid warning buzzer H15	206
13.4	Removing and installing front parking aid sender	207
13.5	Removing and installing rear parking aid sender	209
14	Park assist steering	211
14.1	Assembly overview - park assist steering	211
14.2	Removing and installing front sender	212

14.3	Removing and installing rear sender	212
15	Towing bracket	213
15.1	Removing and installing trailer socket U10	213
96	- Lights, bulbs, switches - interior	214
1	Safety information	214
2	Lights	216
2.1	Overview of fitting locations - lights in dash panel	217
2.2	Overview of fitting locations - lights in front doors	219
2.3	Overview of fitting locations - lights in rear doors	220
2.4	Overview of fitting locations - background lighting in doors	221
2.5	Overview of fitting locations - lights in centre console	223
2.6	Overview of fitting locations - lights in luggage compartment	225
2.7	Overview of fitting locations - lights in roof trim	226
2.8	Removing and installing glove compartment light W6	228
2.9	Renewing bulb for glove compartment light W6	228
2.10	Removing and installing light 1 for dash panel contour lighting L243	228
2.11	Removing and installing front footwell light K268 / K269	229
2.12	Removing and installing bulb for storage compartment	229
2.13	Removing and installing central locking SAFELOCK function warning lamp K133	230
2.14	Removing and installing light for interior door handle illumination L219 / L220	231
2.15	Removing and installing entry light W92 / W93	231
2.16	Removing and installing front exit warning lamp	231
2.17	Removing and installing light for rear interior door handle illumination	232
2.18	Removing and installing rear entry light	232
2.19	Removing and installing rear exit warning lamp	232
2.20	Removing and installing front door background lighting bulb L164 / L165	233
2.21	Removing and installing light for left door storage compartment illumination L255 / light for right door storage compartment illumination L256	234
2.22	Removing and installing rear door background lighting bulb	235
2.23	Removing and installing light for centre console background lighting L193 / L194	236
2.24	Removing and installing light for rear door storage compartment illumination L257 / L258	237
2.25	Removing and installing selector lever position display Y5	237
2.26	Removing and installing rear footwell light W45 / W46	238
2.27	Removing and installing luggage compartment light	238
2.28	Removing and installing illuminated vanity mirror W20 / W14	239
3	Controls	241
3.1	Overview of fitting locations - controls in dash panel	242
3.2	Overview of fitting locations - controls in front doors	244
3.3	Overview of fitting locations - controls in rear doors	246
3.4	Overview of fitting locations - controls in centre console	247
3.5	Overview of fitting locations - controls in luggage compartment	248
3.6	Overview of fitting locations - controls in roof trim	249
3.7	Assembly overview - controls in roof trim	251
3.8	Removing and installing light switch E1	252
3.9	Removing and installing steering column adjustment switch E167	252
3.10	Removing and installing buttons/switches in dash panel	252
3.11	Removing and installing hazard warning lights button E229	253
3.12	Removing and installing glove compartment light switch E26	254
3.13	Removing and installing mirror adjustment switch E43 / E168	254
3.14	Removing and installing operating unit for window regulator in driver door E512	254
3.15	Removing and installing window regulator switch in front passenger door E107	255
3.16	Removing and installing driver side interior locking button for central locking system E308	255
3.17	Removing and installing operating unit for memory settings E464 / E465	255
3.18	Removing and installing rear lid remote release button E233	256

3.19	Removing and installing button for deactivating interior monitoring and vehicle inclination sensor E616	256
3.20	Removing and installing rear window regulator button in rear door	256
3.21	Removing and installing rear interior locking button for central locking system E717 / E718	257
3.22	Removing and installing entry and start authorisation button E408	258
3.23	Removing and installing electromechanical parking brake button E540 / auto hold button E538	258
3.24	Removing and installing operating unit for lowering load sill E682 / button for electric swivelling towing bracket E474	258
3.25	Removing and installing rear lid handle release button E234	259
3.26	Removing and installing button to close rear lid in luggage compartment E406	260
3.27	Removing and installing rear lid warning buzzer H32	260
3.28	Removing and installing sunroof button E325	261
3.29	Removing and installing front interior light/reading light	261
3.30	Removing and installing rear interior light/reading light	264
3.31	Removing and installing garage door operating unit E284	265
4	Anti-theft alarm system	266
4.1	Assembly overview - interior monitoring	266
4.2	Removing and installing alarm horn H12	267
4.3	Removing and installing anti-theft alarm sensor G578	267
5	Lane change assist	268
5.1	Assembly overview - lane change assist	268
5.2	Removing and installing lane change assist warning lamp in exterior mirror K233 / K234	269
5.3	Removing and installing lane change assist control unit J769 / J770	269
5.4	Calibrating lane change assist	269
6	Front camera for driver assist systems	277
6.1	Overview of fitting locations - front camera for driver assist systems	277
6.2	Removing and installing front camera for driver assist systems	278
7	Cigarette lighter, socket	283
7.1	Assembly overview - cigarette lighter, 12 V socket	283
7.2	Removing and installing cigarette lighter illumination bulb L28	285
7.3	Removing and installing socket illumination bulb L42	285
7.4	Removing and installing cigarette lighter U1 / 12 V socket U5	285
7.5	Removing and installing 12 V socket 2 U18	287
7.6	Removing and installing 12 V socket 4 U20	288
7.7	Renewing 12 V socket 4 U20	288
97 - Wiring		291
1	Safety information	291
2	Relay carriers, fuse carriers, electronics boxes	292
2.1	Overview of fitting locations - relay carriers, fuse carriers, electronics boxes	292
2.2	Assembly overview - main fuse carrier	300
2.3	Removing and installing relay and fuse carrier (front left)	302
2.4	Removing and installing suppression capacitor C24	306
2.5	Removing and installing wiring junction	306
2.6	Removing and installing fuse holder C SC	312
2.7	Removing and installing relay and fuse holders in luggage compartment (left-side)	313
3	Control units	316
3.1	Overview of fitting locations - control units	316
3.2	Assembly overview - data bus diagnostic interface	316
3.3	Removing and installing onboard supply control unit J519	318
3.4	Removing and installing garage door operation control unit	320
3.5	Removing and installing data bus diagnostic interface J533	320
4	Connectors	323



4.1	Overview of fitting locations - connectors	323
4.2	Unplugging door coupling point	324
4.3	Removing and installing coupling station at right A-pillar	324
4.4	Repairing electrical wiring harnesses and electrical connectors	324
5	Releasing and dismantling connector housings	325
6	Cleaning contact surfaces	326
7	Repairing aerial wires	327
8	Fibre optic cables	328
9	Vehicle diagnostic, testing and information systems	329