

Contents

00 - Technical data	1
1 General notes	1
1.1 Running gear	1
1.2 Steering	1
1.3 General notes on drive shaft	1
2 Safety information	2
2.1 Safety precautions when working on the high-voltage system	2
2.2 Safety precautions when working in the vicinity of high-voltage components	2
2.3 Safety precautions when working on vehicles with start/stop system	3
2.4 Safety precautions when using testers and measuring instruments during a road test	3
3 Repair instructions	4
3.1 Identification plates	4
3.2 Use of impact wrenches	4
3.3 Working on the subframe	5
3.4 Leaks at shock absorbers	5
3.5 Checking shock absorbers when removed	6
3.6 Checking shock absorbers on shock tester	7
3.7 Maximum values "a" in mm	8
3.8 Rules for cleanliness	8
3.9 General notes	9
3.10 General repair instructions	10
3.11 Contact corrosion	10
3.12 Gaskets, seals	10
3.13 Nuts, bolts	10
3.14 Electrical components	11
3.15 Repairing damaged threads in longitudinal member (subframe to body)	11
3.16 Lifting suspension to unladen position - vehicles with coil springs	11
3.17 Lifting suspension to normal level - vehicles with air suspension	13
3.18 Raising and lowering vehicle when air spring system has/has not been opened	15
4 Disposal	17
4.1 Releasing gas and draining front gas-filled shock absorbers	17
4.2 Releasing gas and draining rear gas-filled shock absorbers	17
4.3 Discharging front suspension strut (air suspension)	18
4.4 Discharging accumulator	18
5 Electrical components	20
5.1 Starting diagnosis	20
40 - Front suspension	23
1 Safety information	23
2 Front axle	24
2.1 Overview - front axle	24
3 Subframe	25
3.1 Assembly overview - subframe	25
3.2 Fixing position of subframe	29
3.3 Lowering subframe	35
3.4 Removing and installing subframe with steering rack	38
3.5 Removing and installing subframe cross brace	46
3.6 Removing and installing subframe shield	52
3.7 Removing and installing anti-roll bar	53
3.8 Removing and installing coupling rod	54
4 Suspension strut, upper suspension links	56
4.1 Assembly overview - suspension strut, upper suspension links	56



4.2	Removing and installing suspension strut	63
4.3	Servicing suspension strut	65
4.4	Removing and installing upper links	67
4.5	Renewing bush for upper suspension link	69
4.6	Renewing boot	71
4.7	Charging suspension strut	72
4.8	Removing and installing shock absorber fork	74
4.9	Removing and installing strut brace	77
5	Lower suspension links, swivel joint	78
5.1	Assembly overview - lower suspension links, swivel joint	78
5.2	Removing and installing track control link	80
5.3	Removing and installing guide link	84
5.4	Renewing bush for track control link	86
5.5	Removing and installing swivel joint	91
5.6	Removing and installing bonded rubber bush for guide link	92
6	Wheel bearing	95
6.1	Assembly overview - wheel bearing	95
6.2	Removing and installing wheel bearing housing	96
6.3	Removing and installing wheel bearing unit	100
6.4	Servicing wheel bearing unit	101
7	Drive shaft	105
7.1	Assembly overview - drive shaft	105
7.2	Removing and installing drive shaft	107
7.3	Removing and installing heat shield for drive shaft	108
7.4	Loosening and tightening nut/bolt securing drive shaft	108
7.5	Dismantling and assembling drive shaft	110
7.6	Servicing constant velocity joint	122
7.7	Checking outer constant velocity joint	123
7.8	Tightening hose clip on triple roller joint and outer joint	124
42	Rear suspension	126
1	Safety information	126
2	Rear axle	127
2.1	Overview - rear axle	127
3	Subframe	128
3.1	Assembly overview - subframe	128
3.2	Fixing subframe in position	130
3.3	Removing and installing subframe	134
3.4	Servicing subframe	137
4	Anti-roll bar	148
4.1	Assembly overview - anti-roll bar	148
4.2	Removing and installing anti-roll bar	148
4.3	Removing and installing coupling rod	149
5	Suspension links, track rod	150
5.1	Assembly overview - transverse links	150
5.2	Removing and installing upper transverse links	154
5.3	Removing and installing lower transverse links	159
5.4	Removing and installing track rod	162
6	Suspension strut/shock absorber, spring	165
6.1	Assembly overview - suspension strut/shock absorber, spring	165
6.2	Removing and installing shock absorber	169
6.3	Removing and installing spring	171
7	Wheel bearing, trailing arm	182
7.1	Assembly overview - wheel bearing	182

7.2	Removing and installing wheel bearing housing	184
7.3	Removing and installing wheel bearing unit	186
7.4	Servicing wheel bearing unit	189
8	Drive shaft	194
8.1	Assembly overview - drive shaft	194
8.2	Removing and installing drive shaft	197
8.3	Loosening and tightening nut/bolt securing drive shaft	198
8.4	Dismantling and assembling drive shaft	199
8.5	Checking outer constant velocity joint	205
8.6	Checking inner constant velocity joint	206
43	Self-levelling suspension	208
1	Safety information	208
2	Electronic damping control	209
2.1	Overview of fitting locations - electronic damping control	209
2.2	Basic setting of electronic damper control	210
2.3	Removing and installing running gear control unit J775	211
3	Vehicle level senders	212
3.1	Assembly overview - front vehicle level senders	212
3.2	Assembly overview - rear vehicle level senders	212
3.3	Removing and installing front vehicle level sender G78 / G289	214
3.4	Removing and installing rear vehicle level sender G76 / G77	214
4	Air suspension	215
4.1	Overview of fitting locations - electrical components	215
4.2	Overview of fitting locations - air suspension	217
4.3	Assembly overview - air pipes	217
4.4	Assembly overview - air supply unit	220
4.5	Setting normal level and permanently disabling control	222
4.6	Re-adapting normal level	222
4.7	Bleeding and charging air spring system	223
4.8	Checking air suspension for leaks	223
4.9	Removing and installing adaptive suspension compressor electronics J1135	225
4.10	Servicing air pipe	226
4.11	Renewing connection piece	228
4.12	Removing and installing air supply unit	230
4.13	Removing and installing filter	232
4.14	Removing and installing solenoid valve block	233
4.15	Removing and installing accumulator	234
44	Wheels, tyres, vehicle geometry	236
1	Safety information	236
2	Wheels, tyres	237
3	Wheel alignment	238
3.1	Notes on wheel alignment	238
3.2	Test requirements	238
3.3	Preparations	239
3.4	When does wheel alignment have to be checked?	241
3.5	Wheel alignment procedure	243
3.6	Explanatory notes on production control numbers (PR numbers)	244
3.7	Wheel runout compensation	244
3.8	Checking maximum steering angle	245
3.9	Checking unladen position for wheel alignment - vehicles with coil springs	245
3.10	Checking normal level for wheel alignment - vehicles with air suspension	246
3.11	Wheel alignment specifications	247
3.12	Centralising camber at front wheels	249



3.13	Adjusting camber at rear wheels	250
3.14	Adjusting toe setting at rear wheels	251
3.15	Adjusting toe setting at front wheels	252
3.16	Basic setting for steering angle sender G85	252
4	Dynamic steering	254
4.1	Assembly overview - dynamic steering	254
4.2	Removing and installing active steering control unit J792	255
4.3	Basic setting for dynamic steering	256
5	Adaptive cruise control	258
5.1	Adjusting adaptive cruise control	258
6	Front camera for driver assist systems	263
6.1	Calibrating front camera for driver assist systems	263
48 - Steering		269
1	Safety information	269
2	Steering wheel	270
2.1	Assembly overview - steering wheel	270
2.2	Removing and installing steering wheel	272
3	Steering column	273
3.1	Assembly overview - steering column	273
3.2	Checking steering column for damage	281
3.3	Handling and transporting steering column	281
3.4	Removing and installing steering column	282
3.5	Removing and installing safety lock for active steering (locking solenoid)	285
3.6	Removing and installing intermediate steering shaft	286
3.7	Removing and installing control unit for electrically adjustable steering column J866	288
3.8	Removing and installing control unit for electronic steering column lock J764	288
4	Steering rack	290
4.1	Assembly overview - steering rack	290
4.2	Handling and transporting steering rack	294
4.3	Removing and installing steering rack	295
4.4	Removing and installing boot	298
4.5	Removing and installing track rod	300
4.6	Removing and installing track rod ball joint	301
4.7	Re-adapting end stops of steering rack	304