

Contents

00 - Technical data	1
1 Safety information	1
1.1 Safety precautions when working in the vicinity of high-voltage components	1
1.2 Safety precautions when working on the high-voltage system	1
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	3
2 Repair instructions	4
2.1 Safety precautions when working on the subframe	4
2.2 Identification plates	4
2.3 Use of impact wrenches	5
2.4 Routing and attachment of pipes, hoses and wiring	5
2.5 Leaks at shock absorbers	6
2.6 Noises from shock absorbers	6
2.7 Checking shock absorbers when removed	7
2.8 Checking shock absorbers on shock tester	7
2.9 Maximum values "a" in mm	8
2.10 Rules for cleanliness	8
2.11 General repair instructions	9
2.12 Contact corrosion	9
2.13 Gaskets, seals	10
2.14 Nuts, bolts	10
2.15 Electrical components	10
2.16 Repairing damaged threads in longitudinal member (subframe to body)	11
2.17 Lifting suspension to unladen position - vehicles with coil springs	11
3 Disposal	14
3.1 Releasing gas and draining front gas-filled shock absorbers	14
3.2 Releasing gas and draining rear gas-filled shock absorbers	16
4 Electrical components	18
4.1 Starting diagnosis	18
40 - Front suspension	20
1 Safety information	20
2 Front axle	21
2.1 Overview - front axle	21
3 Subframe	22
3.1 Assembly overview - subframe	22
3.2 Fixing subframe in position	24
3.3 Lowering subframe	26
3.4 Removing and installing subframe without steering rack	32
3.5 Removing and installing subframe with steering rack	36
3.6 Servicing subframe	44
3.7 Removing and installing anti-roll bar	52
3.8 Removing and installing coupling rod	52
4 Suspension strut, upper suspension links	53
4.1 Assembly overview - suspension strut, upper suspension links	53
4.2 Removing and installing suspension strut	55
4.3 Servicing suspension strut	59
4.4 Lowering suspension strut	61
5 Lower wishbone, swivel joint	63
5.1 Assembly overview - lower wishbone, swivel joint	63
5.2 Removing and installing lower wishbone	65
5.3 Renewing bonded rubber bushes for lower wishbone	67



5.4	Removing and installing swivel joint	72
6	Wheel bearing	75
6.1	Assembly overview - wheel bearing	75
6.2	Removing and installing wheel bearing housing	76
6.3	Removing and installing wheel bearing unit	80
7	Drive shaft	83
7.1	Assembly overview - drive shaft	83
7.2	Loosening and tightening nut/bolt securing drive shaft	91
7.3	Removing and installing heat shield for drive shaft	93
7.4	Removing and installing drive shaft	94
7.5	Dismantling and assembling drive shaft	103
7.6	Checking outer constant velocity joint	117
7.7	Checking inner constant velocity joint	118
42	Rear suspension	121
1	Safety information	121
2	Rear axle	122
2.1	Overview of fitting locations - rear axle	122
2.2	Removing and installing rear axle	122
3	Subframe	131
3.1	Assembly overview - subframe	131
3.2	Fixing subframe in position	131
3.3	Servicing subframe	141
4	Anti-roll bar	150
4.1	Assembly overview - anti-roll bar	150
4.2	Removing and installing anti-roll bar	150
4.3	Removing and installing coupling rod	152
5	Suspension links, track rod	154
5.1	Assembly overview - transverse links	154
5.2	Assembly overview - track rod	156
5.3	Removing and installing upper transverse link	156
5.4	Removing and installing lower transverse links	158
5.5	Removing and installing track rod	160
6	Suspension strut/shock absorber, spring	162
6.1	Assembly overview - suspension strut/shock absorber, spring	162
6.2	Removing and installing shock absorber	164
6.3	Servicing shock absorber	166
6.4	Removing and installing spring	169
7	Wheel bearing, trailing arm	171
7.1	Assembly overview - wheel bearing	171
7.2	Assembly overview - trailing arm	176
7.3	Removing and installing wheel bearing housing	176
7.4	Removing and installing wheel bearing unit	183
7.5	Renewing bonded rubber bush for wheel bearing housing	186
7.6	Removing and installing trailing arm with mounting bracket	190
7.7	Servicing trailing arm	193
8	Drive shaft	196
8.1	Assembly overview - drive shaft	196
8.2	Loosening and tightening nut/bolt securing drive shaft	198
8.3	Removing and installing drive shaft	200
8.4	Dismantling and assembling drive shaft	203
8.5	Checking outer constant velocity joint	207
8.6	Checking inner constant velocity joint	208

43 - Self-levelling suspension	210
1 Safety information	210
2 Electronic damping control	211
2.1 Assembly overview - electronic damping control	211
2.2 Basic setting of electronic damper control	213
2.3 Removing and installing electronically controlled damping control unit J250	213
2.4 Removing and installing front body acceleration sender G341 / G342	214
2.5 Removing and installing rear body acceleration sender G343	214
3 Vehicle level senders	215
3.1 Assembly overview - front vehicle level senders	215
3.2 Assembly overview - rear vehicle level senders	215
3.3 Removing and installing front vehicle level sender G78 / G289	216
3.4 Removing and installing rear vehicle level sender G76	217
44 - Wheels, tyres, vehicle geometry	218
1 Safety information	218
2 Wheels, tyres	219
3 Tyre Pressure Monitoring System	220
3.1 Assembly overview - tyre pressure sensor	220
3.2 Removing and installing Tyre Pressure Monitoring System control unit J502	222
3.3 Changing tyres on vehicles with Tyre Pressure Monitoring System	222
3.4 Removing and installing metal valve body	223
4 Wheel alignment	225
4.1 Notes on wheel alignment	225
4.2 Test requirements for wheel alignment	225
4.3 Preparations	226
4.4 When does wheel alignment have to be checked?	228
4.5 Wheel alignment procedure	229
4.6 Explanatory notes on production control numbers (PR numbers)	229
4.7 Wheel runout compensation	230
4.8 Checking maximum steering angle	230
4.9 Checking unladen position for wheel alignment - vehicles with coil springs	230
4.10 Wheel alignment specifications	232
4.11 Adjusting camber at rear wheels	233
4.12 Adjusting toe setting at rear wheels	235
4.13 Adjusting camber at front wheels	235
4.14 Adjusting toe setting at front wheels	236
4.15 Basic setting for steering angle sender G85	237
5 Adaptive cruise control	238
6 Front camera for driver assist systems	239
48 - Steering	240
1 Safety information	240
2 Steering wheel	241
2.1 Assembly overview - steering wheel	241
2.2 Removing and installing steering wheel	243
3 Steering column	244
3.1 Assembly overview - steering column	244
3.2 Handling and transporting steering column	245
3.3 Checking steering column for damage	246
3.4 Removing and installing steering column	246
3.5 Removing and installing control unit for electronic steering column lock J764	251
4 Steering rack	252



4.1	Assembly overview - steering rack	252
4.2	Handling and transporting steering rack	256
4.3	Removing and installing steering rack	256
4.4	Removing and installing boot	257
4.5	Removing and installing track rod	260
4.6	Removing and installing track rod ball joint	262