



Contents

00 - Technical data	1
1 Safety information	1
1.1 Safety precautions when working on subframe	1
2 Evaluating accident vehicles	2
2.1 Check list for evaluating running gear on accident vehicles	2
3 General information	4
3.1 Tyre types	4
3.2 Vehicle data sticker	4
3.3 General notes on tyre pressure indicator	4
4 Repair instructions	5
4.1 Leaks at shock absorbers	5
4.2 Noises from shock absorbers	5
4.3 Checking shock absorbers when removed	6
4.4 Steering rack	6
4.5 Gaskets and seals	7
4.6 Nuts and bolts	7
4.7 Electrical components	7
4.8 Raising wheel suspension to unladen position	7
5 Waste disposal	12
5.1 Releasing gas and draining front gas-filled shock absorbers	12
5.2 Releasing gas and draining rear gas-filled shock absorbers	12
40 - Front suspension	13
1 Front axle	13
1.1 Overview - front axle	13
2 Subframe	14
2.1 Assembly overview - subframe	14
2.2 Removing and installing anti-roll bar	14
2.3 Renewing anti-roll bar bushes	15
2.4 Removing and installing coupling rod	17
3 Wheel bearing	18
3.1 Assembly overview - wheel bearing	18
3.2 Removing and installing wheel bearing housing	19
3.3 Removing and installing wheel bearing	21
4 Suspension strut, upper suspension link	26
4.1 Assembly overview - suspension strut, upper suspension link	26
4.2 Assembly overview - suspension strut	28
4.3 Removing and installing suspension strut	29
4.4 Removing and installing upper links	30
4.5 Renewing bushes for upper suspension link	32
4.6 Repairing front suspension strut	34
4.7 Removing and installing suspension strut mounting	37
5 Lower suspension link, swivel joint	39
5.1 Removing and installing lower suspension link	39
5.2 Renewing bonded rubber bush for lower suspension link	40
5.3 Checking swivel joint	44
6 Drive shaft	46
6.1 Assembly overview - drive shaft	46
6.2 Removing and installing drive shaft	48
6.3 Dismantling and assembling drive shaft	50
6.4 Checking outer constant velocity joint	54



42 - Rear suspension	56
1 Rear axle	56
1.1 Overview - rear axle	56
1.2 Assembly overview - rear axle	57
1.3 Assembly overview - rear axle shafts	59
1.4 Removing and installing leaf spring stop buffer	60
1.5 Removing and installing rear axle	60
1.6 Removing and installing leaf spring	64
1.7 Renewing leaf spring rubber bush	67
1.8 Removing and installing plastic insert for leaf spring	69
1.9 Removing and installing shackle	69
1.10 Aligning leaf spring	72
1.11 Removing and installing rear axle shaft	73
2 Suspension strut, shock absorber, spring	76
2.1 Removing and installing shock absorbers	76
44 - Wheels, tyres, vehicle geometry	78
1 Wheels, tyres	78
1.1 Specified torques for wheel bolts	78
1.2 Pressing tyre off wheel rim	78
1.3 Removing tyre from wheel	79
1.4 Fitting tyres	80
1.5 Wheel change, protecting wheel centring seat against corrosion	80
1.6 Wheel change, installation requirements	81
1.7 Wheel change, installation instructions for wheel change	82
1.8 Wheel change, wheel installation	84
1.9 Removing and installing spare wheel	84
2 Tyre Pressure Monitoring System	85
2.1 System description - tyre pressure monitoring system with autolocation	85
2.2 Overview of fitting locations - tyre pressure monitoring system	85
2.3 Assembly overview - tyre pressure sensor	87
2.4 Removing and installing tyre pressure monitoring system control unit J502	87
2.5 Removing and installing tyre pressure sensor	88
3 Wheel alignment	90
3.1 Notes for wheel alignment	90
3.2 Necessity of wheel alignment	90
3.3 Conditions for testing	91
3.4 Test preparations	92
3.5 Specifications for wheel alignment	93
3.6 Wheel alignment procedure	94
3.7 Measuring vehicle longitudinal inclination	95
3.8 Adjusting camber and caster at front wheels	96
3.9 Adjusting front axle toe	96
3.10 Vehicle data sticker	97
3.11 Steering angle sender - basic setting	98
4 Vibration due to wheels/tyres - causes and rectification	99
4.1 Causes of rough running	99
4.2 Conducting a road test before balancing wheels	99
4.3 Balancing wheel	100
4.4 Vibration control system	104
4.5 Checking radial and lateral runout of wheels and tyres	104
4.6 Checking radial and lateral run-out on wheel rim	105
4.7 Matching wheels and tyres	106
4.8 Determining flat spots on tyres	107



48 - Steering	109
1 Steering wheel	109
1.1 Assembly overview - steering wheel	109
1.2 Removing and installing steering wheel	109
2 Steering column	111
2.1 Assembly overview - steering column	111
2.2 Removing and installing steering column	112
2.3 Handling and transporting steering column	116
2.4 Checking steering column for damage	117
2.5 Removing and installing sealing boot	117
3 Steering rack	119
3.1 Assembly overview - steering rack	119
3.2 Removing and installing steering rack	120
3.3 Repairing steering rack	122
3.4 Checking shock absorber mountings	123
3.5 Removing and installing shock absorber mountings	124
3.6 Removing and installing track rod	126
3.7 Removing and installing track rod ball joint	129
3.8 Removing and installing bellows	131
4 Hydraulic power steering	133
4.1 Assembly overview - vane pump	133
4.2 Assembly overview - hydraulic lines, reservoir	135
4.3 Checking delivery pressure of vane pump	135
4.4 Removing and installing vane pump	138
4.5 Checking hydraulic fluid level of power steering	145
4.6 Bleeding steering system	145
4.7 Check steering for leaks	146