



Contents

00 - Technical data	1
1 Safety information	1
1.1 General safety provisions	1
1.2 Safety measures when working on vehicles with a start/stop system	1
1.3 Notes on tow-starting/towing	2
1.4 Safety precautions when using testers and measuring instruments during a road test	2
2 Identification	3
2.1 Gearbox identification	3
3 Repair instructions	4
3.1 General information	4
3.2 Rules for cleanliness	4
3.3 General repair instructions	4
3.4 Gaskets and seals	5
3.5 Nuts and bolts	6
4 Technical data	7
4.1 Capacities	7
5 Electrical components	8
5.1 Overview of fitting locations - electrical components	8
30 - Clutch	10
1 Clutch	10
1.1 Assembly overview - dual clutch	10
1.2 Removing and installing clutch end cover	10
1.3 Removing dual clutch	15
1.4 Installing dual clutch	19
34 - Controls, housing	29
1 Mechatronic unit	29
1.1 Assembly overview - mechatronic unit	29
1.2 Removing and installing sump	30
1.3 Removing and installing mechatronic unit	33
2 Bevel box	36
2.1 Assembly overview - bevel box	36
2.2 Distinguishing between different types of bevel boxes	37
2.3 Removing bevel box	38
2.4 Installing bevel box	46
3 Selector mechanism	52
3.1 Assembly overview - selector mechanism	52
3.2 Emergency release from position P	54
3.3 Removing and installing selector lever handle	57
3.4 Moving push-button in the handle to installation position	73
3.5 Removing and installing selector mechanism	75
3.6 Removing and installing gear selector cable	79
3.7 Checking selector mechanism	82
3.8 Checking and adjusting selector lever cable	83
3.9 Renewing selector shaft seal	85
4 Removing and installing gearbox	88
4.1 Specified torques for gearbox	88
4.2 Removing gearbox	90
4.3 Installing gearbox	183
5 Assembly mountings	187
5.1 Assembly overview - assembly mountings	187



6	Transporting gearbox	190
6.1	Transporting gearbox	190
6.2	Transporting front differential lock	191
7	Securing to engine and gearbox support	192
7.1	Installing gearbox to engine and gearbox support	192
7.2	Securing front differential lock to engine and gearbox support	193
8	Gear oil circuit	195
8.1	Assembly overview - gear oil circuit	195
8.2	Removing and installing gear oil cooler	195
8.3	Removing and installing gear oil filter	198
8.4	Removing and installing motor for auxiliary hydraulic pump 1 for gearbox oil V475	200
9	Gear oil	203
9.1	Overview of oil drain and inspection plugs	203
9.2	Tools for gear oil change	203
9.3	Checking gear oil level	205
9.4	Draining and filling gear oil	209
10	Front differential lock	213
10.1	Assembly overview - front differential lock	213
10.2	Removing front differential lock	213
10.3	Installing front differential lock	218
10.4	Removing and installing differential lock control unit J647	220
35 - Gears, shafts		222
1	Currently, no repairs can be made to gears and shafts	222
39 - Final drive - differential		223
1	Gear oil	223
1.1	Checking gear oil level	223
1.2	Draining and filling gear oil	224
2	Oil for front differential lock	229
2.1	Checking oil level for front differential lock	229
2.2	Draining and filling oil for front differential lock	230
3	Seals	235
3.1	Overview of fitting locations - seals	235
3.2	Renewing left seal	235
3.3	Renewing right seal	238
4	Differential	244
4.1	Removing and installing right flange shaft	244
5	Components of front differential lock	247
5.1	Assembly overview - components of front differential lock	247
5.2	Checking function	249
5.3	Removing and installing pump for front differential lock V181	249
5.4	Removing and installing coupling for front differential lock	251
5.5	Renewing seals for front differential lock	251
5.6	Renewing ball bearing for flange shaft	260
6	Components of bevel box	263
6.1	Assembly overview - components of bevel box	263
6.2	Renewing bevel box seals	268
6.3	Renewing output flange and redetermining thickness of shim	296