



## Contents

<b>00 - Technical data</b>	<b>1</b>
<b>1 Identification</b>	<b>1</b>
1.1 Gearbox identification	1
<b>2 Safety information</b>	<b>2</b>
2.1 General safety provisions	2
2.2 Safety precautions when working on high-voltage vehicles	2
2.3 Safety precautions when using testers and measuring instruments during a road test	4
2.4 Safety precautions when working on the mechatronic unit	4
2.5 Notes on tow-starting/towing	6
<b>3 Repair notes</b>	<b>7</b>
3.1 General information	7
3.2 Rules for cleanliness	8
3.3 General repair instructions	9
<b>4 Technical data</b>	<b>14</b>
4.1 Capacities	14
4.2 Allocation gearbox - engine	15
4.3 Calculation of gear ratios	16
<b>5 Overview - power transmission</b>	<b>17</b>
5.1 Overview - power transmission - front-wheel drive	17
<b>30 - Clutch</b>	<b>18</b>
<b>1 Clutch operation</b>	<b>18</b>
1.1 Assembly overview - clutch engagement	18
1.2 Removing and installing clutch engagement	19
1.3 Adjusting clutch engagement	22
<b>2 Clutch</b>	<b>35</b>
2.1 Assembly overview - dual clutch	35
2.2 Removing dual clutch	37
2.3 Installing dual clutch	41
2.4 Renewing input shaft seal	45
2.5 Renewing oil seal for inner input shaft	47
<b>34 - Controls, housing</b>	<b>50</b>
<b>1 Mechatronic unit</b>	<b>50</b>
1.1 Overview - mechatronic unit	50
1.2 Removing and installing mechatronic unit	52
1.3 Setting mechatronic unit to removal position by hand	72
1.4 Renewing bellows with clutch actuator	74
<b>2 Selector mechanism</b>	<b>79</b>
2.1 Assembly overview - selector mechanism	79
2.2 Emergency release from position P	81
2.3 Removing and installing selector lever handle	82
2.4 Moving push-button in the handle to installation position	83
2.5 Removing and installing selector mechanism	85
2.6 Checking selector mechanism	93
2.7 Checking and adjusting selector lever cable	94
2.8 Renewing selector shaft seal	98
<b>3 Removing and installing gearbox</b>	<b>99</b>
3.1 Removing gearbox	99
3.2 Installing gearbox	104
3.3 Specified torques for gearbox	107
<b>4 Assembly mountings</b>	<b>108</b>



4.1	Assembly overview - assembly mountings	108
<b>5</b>	<b>Transporting gearbox</b>	<b>117</b>
<b>6</b>	<b>Dismantling and assembling gearbox</b>	<b>120</b>
6.1	Schematic overview - gearbox	120
6.2	Dismantling and assembling gearbox	121
<b>7</b>	<b>Gearbox housing, clutch housing</b>	<b>143</b>
7.1	Assembly overview - gearbox housing	143
7.2	Assembly overview - clutch housing	144
7.3	Repairing gearbox housing	145
7.4	Repairing clutch housing	150
<b>8</b>	<b>Securing to engine and gearbox support</b>	<b>155</b>
<b>9</b>	<b>Gear oil</b>	<b>157</b>
9.1	Draining and filling gear oil	157
9.2	Draining and filling hydraulic fluid for mechatronic unit	162
<b>35</b>	<b>- Gears, shafts</b>	<b>166</b>
<b>1</b>	<b>Input shaft</b>	<b>166</b>
1.1	Dismantling and assembling input shaft	166
<b>2</b>	<b>Output shaft</b>	<b>173</b>
2.1	Assembly overview - output shaft	173
2.2	Dismantling and assembling output shaft 1	177
2.3	Dismantling and assembling output shaft 2	189
2.4	Dismantling and assembling output shaft 3	199
2.5	Adjusting output shaft	205
<b>3</b>	<b>Parking lock</b>	<b>240</b>
3.1	Removing and installing cover for parking lock	240
3.2	Removing and installing parking lock	242
<b>39</b>	<b>- Final drive - differential</b>	<b>244</b>
<b>1</b>	<b>Oil seals</b>	<b>244</b>
1.1	Overview of fitting locations - seals	244
1.2	Renewing left seal	244
1.3	Renewing right oil seal	248