

## 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 Safety precautions when working on vehicle	2
2.2 Safety precautions when working on vehicles with start/stop system	3
2.3 Safety precautions when using testers and measuring instruments during a road test	3
2.4 Safety precautions when working on the subframe	3
2.5 Safety precautions when tow-starting and towing	4
<b>3 Repair instructions</b>	<b>5</b>
3.1 Rules for cleanliness	5
3.2 General notes	5
3.3 General repair instructions	6
3.4 Contact corrosion	8
3.5 Safety functions of gearbox control unit	8
3.6 Routing and attachment of pipes, hoses and wiring	9
<b>4 Technical data</b>	<b>10</b>
4.1 Capacities	10
4.2 Allocation of gearbox to engine	11
4.3 Calculating gear ratios	13
<b>30 - Clutch</b>	<b>14</b>
<b>1 Clutch</b>	<b>14</b>
1.1 Assembly overview - flywheel and dual clutch	14
1.2 Removing and installing flywheel	16
1.3 Removing dual clutch	16
<b>34 - Controls, housing</b>	<b>17</b>
<b>1 Selector mechanism</b>	<b>17</b>
1.1 Assembly overview - selector lever handle	17
1.2 Assembly overview - selector mechanism	19
1.3 Assembly overview - selector lever cable	21
1.4 Manual release from position P	22
1.5 Removing and installing selector lever handle	23
1.6 Bringing interlock button in handle into installation position	30
1.7 Removing and installing selector mechanism	32
1.8 Checking selector mechanism	39
1.9 Removing and installing selector lever cable	41
1.10 Checking and adjusting selector lever cable	49
1.11 Removing and installing selector lever lock solenoid N110	54
1.12 Removing and installing selector lever sensors control unit J587	57
1.13 Removing and installing gear selector position P switch F305	58
1.14 Renewing selector shaft oil seal	58
<b>2 Removing and installing gearbox</b>	<b>62</b>
2.1 Removing gearbox	62
2.2 Installing gearbox	125
2.3 Tightening torques for gearbox	136
<b>3 Assembly mountings</b>	<b>140</b>
3.1 Assembly overview - assembly mountings	140
3.2 Removing and installing tunnel cross member	141
<b>4 Transporting gearbox</b>	<b>144</b>
<b>5 Securing to engine and gearbox support</b>	<b>145</b>



<b>6</b>	<b>Mechatronic unit</b> .....	<b>146</b>
6.1	Assembly overview - mechatronic unit .....	146
6.2	Removing and installing oil pan .....	149
6.3	Removing and installing mechatronic unit .....	152
<b>7</b>	<b>ATF circuit</b> .....	<b>155</b>
7.1	Assembly overview - ATF circuit .....	155
7.2	Removing and installing ATF cooler .....	157
7.3	Removing and installing ATF filter .....	159
7.4	Removing and installing ATF lines .....	169
<b>8</b>	<b>ATF</b> .....	<b>174</b>
8.1	Checking ATF level .....	174
8.2	Draining and filling ATF .....	177
<b>35 - Gears, shafts</b> .....		<b>181</b>
<b>1</b>	<b>Input shaft</b> .....	<b>181</b>
1.1	Renewing ball bearing for input shaft .....	181
1.2	Renewing input shaft oil seal .....	181
<b>39 - Final drive - front differential</b> .....		<b>182</b>
<b>1</b>	<b>Final drive</b> .....	<b>182</b>
1.1	Assembly overview - final drive .....	182
<b>2</b>	<b>Gear oil</b> .....	<b>185</b>
2.1	Checking gear oil level .....	185
2.2	Draining and filling gear oil .....	187
<b>3</b>	<b>ATF</b> .....	<b>193</b>
3.1	Overview of fitting locations - drain and inspection plugs .....	193
<b>4</b>	<b>Oil seals</b> .....	<b>194</b>
4.1	Overview of fitting locations - oil seals .....	194
4.2	Renewing left oil seal .....	194
4.3	Renewing right oil seal .....	195
<b>5</b>	<b>Differential</b> .....	<b>196</b>
5.1	Removing and installing left flange shaft .....	196
5.2	Removing and installing right flange shaft .....	196
<b>6</b>	<b>Centre differential</b> .....	<b>200</b>
6.1	Assembly overview - centre differential .....	200
6.2	Removing and installing centre differential .....	202
6.3	Renewing oil seal for rear splined shaft .....	207
<b>7</b>	<b>Gearbox control system</b> .....	<b>208</b>
7.1	Overview of fitting locations - gearbox control system .....	208
7.2	Guided Functions for gearbox .....	214