

## Contents

<b>00 - Technical data</b> .....	<b>1</b>
<b>1 Identification of gearbox</b> .....	<b>1</b>
1.1 Identification of gearbox .....	1
<b>2 Code letters, mechanical unit assignment, transmission ratios, capacities</b> .....	<b>2</b>
2.1 Code letters, mechanical unit assignment, transmission ratios, capacities .....	2
<b>3 Rear final drive identification</b> .....	<b>4</b>
3.1 Rear final drive identification .....	4
<b>4 Code letters, mechanical unit assignment, transmission ratios, capacities</b> .....	<b>5</b>
4.1 Code letters, mechanical unit assignment, transmission ratios, capacities .....	5
<b>5 Transmission layout</b> .....	<b>6</b>
5.1 Transmission layout .....	6
<b>6 Calculations</b> .....	<b>10</b>
6.1 Calculations .....	10
6.2 Calculating transmission ratios "i" .....	10
6.3 Calculating speed "V" .....	10
<b>7 Instructions for performance and brake check and for towing</b> .....	<b>10</b>
7.1 Instructions for performance and brake check and for towing .....	10
<b>8 Repair instructions</b> .....	<b>11</b>
8.1 Repair instructions .....	11
<b>30 - Clutch</b> .....	<b>14</b>
<b>1 Servicing clutch mechanism</b> .....	<b>14</b>
1.1 Servicing clutch mechanism .....	14
1.2 Assembly overview, pedal cluster - LHD vehicles .....	14
1.3 Assembly overview, pedal cluster - RHD vehicles .....	22
1.4 Assembly overview, hydraulics .....	30
1.5 Bleeding clutch system .....	33
<b>2 Servicing clutch release mechanism</b> .....	<b>35</b>
2.1 Servicing clutch release mechanism .....	35
<b>3 Servicing clutch</b> .....	<b>40</b>
3.1 Servicing clutch .....	40
<b>34 - Controls, Housing</b> .....	<b>46</b>
<b>1 Servicing shift mechanism</b> .....	<b>46</b>
1.1 Servicing shift mechanism .....	46
1.2 Dismantling and assembling shift mechanism .....	47
1.3 Servicing selector rod and front push rod .....	48
1.4 Servicing gear stick and rear push rod .....	51
1.5 Removing and installing selector rods .....	55
1.6 Removing and installing push rods .....	55
1.7 Removing and installing boot .....	56
1.8 Replacing shaft seal for selector shaft .....	57
<b>2 Adjusting and checking selector mechanism</b> .....	<b>58</b>
2.1 Adjusting and checking selector mechanism .....	58
2.2 Basic adjustment (adjustment instructions) .....	58
2.3 Checking gear stick alignment .....	60
2.4 Fine adjustment instructions .....	61
<b>3 Removing and installing gearbox - Vehicles with 5-cylinder engine</b> .....	<b>61</b>
3.1 Removing and installing gearbox - Vehicles with 5-cylinder engine .....	61
<b>4 Removing and installing gearbox - Vehicles with 8-cylinder engine</b> .....	<b>65</b>
4.1 Removing and installing gearbox - Vehicles with 8-cylinder engine .....	65



<b>5</b>	<b>Removing and installing oil pressure pipes - Vehicles with 8-cylinder engine</b> . . . . .	<b>75</b>
5.1	Removing and installing oil pressure pipes - Vehicles with 8-cylinder engine . . . . .	75
5.2	Removing and installing oil pump . . . . .	78
<b>6</b>	<b>Checking oil level in manual gearbox</b> . . . . .	<b>81</b>
6.1	Checking oil level in manual gearbox . . . . .	81
<b>7</b>	<b>Dismantling and assembling gearbox</b> . . . . .	<b>82</b>
7.1	Dismantling and assembling gearbox . . . . .	82
7.2	Removing and installing bearing housing, Torsen differential and end cover . . . . .	83
7.3	Removing and installing manual gearbox and selector shaft . . . . .	85
7.4	Removing and installing 5th gear (5-speed gearbox) . . . . .	87
7.5	Removing and installing 5th and 6th gear (6-speed gearbox) . . . . .	91
7.6	Removing and installing input shaft, drive pinion, hollow shaft and internal selector mechanism from bearing plate . . . . .	96
<b>8</b>	<b>Removing and installing bearing housing, Torsen differential, end cover, internal selector mechanism, input shaft, drive pinion and hollow shaft - work sequence</b> . . . . .	<b>99</b>
8.1	Removing and installing bearing housing, Torsen differential, end cover, internal selector mechanism, input shaft, drive pinion and hollow shaft - work sequence . . . . .	99
8.2	Removing . . . . .	99
8.3	Installation . . . . .	108
<b>9</b>	<b>Dismantling and assembling bearing housing</b> . . . . .	<b>122</b>
9.1	Dismantling and assembling bearing housing . . . . .	122
<b>10</b>	<b>Servicing mounting for Torsen differential</b> . . . . .	<b>127</b>
10.1	Servicing mounting for Torsen differential . . . . .	127
<b>11</b>	<b>Servicing end cover</b> . . . . .	<b>131</b>
11.1	Servicing end cover . . . . .	131
<b>12</b>	<b>Servicing bearing plate</b> . . . . .	<b>136</b>
12.1	Servicing bearing plate . . . . .	136
12.2	Re-determining shim "S4" . . . . .	144
<b>13</b>	<b>Servicing gearbox housing</b> . . . . .	<b>148</b>
13.1	Servicing gearbox housing . . . . .	148
13.2	Dismantling and assembling complete selector shaft . . . . .	163
<b>35 - Gears, Shafts</b> . . . . .		<b>167</b>
<b>1</b>	<b>Dismantling and assembling input shaft</b> . . . . .	<b>167</b>
1.1	Dismantling and assembling input shaft . . . . .	167
<b>2</b>	<b>Dismantling and assembling drive pinion and hollow shaft</b> . . . . .	<b>178</b>
2.1	Dismantling and assembling drive pinion and hollow shaft . . . . .	178
<b>39 - Final drive, Differential rear</b> . . . . .		<b>193</b>
<b>1</b>	<b>Replacing flange shaft oil seal</b> . . . . .	<b>193</b>
1.1	Replacing flange shaft oil seal . . . . .	193
<b>2</b>	<b>Removing and installing speedometer sender -G22 and drive wheel for speedometer sender</b> . . . . .	<b>194</b>
2.1	Removing and installing speedometer sender -G22 and drive wheel for speedometer sender . . . . .	194
<b>3</b>	<b>Replacing oil seal and grooved ball bearing for flange of propshaft and gearbox</b> . . . . .	<b>195</b>
3.1	Replacing oil seal and grooved ball bearing for flange of propshaft and gearbox . . . . .	195
<b>4</b>	<b>Removing and installing differential</b> . . . . .	<b>199</b>
4.1	Removing and installing differential . . . . .	199
<b>5</b>	<b>Dismantling and assembling differential</b> . . . . .	<b>201</b>
5.1	Dismantling and assembling differential . . . . .	201
<b>6</b>	<b>Adjusting pinion shaft and crown wheel</b> . . . . .	<b>212</b>
6.1	Adjusting pinion shaft and crown wheel . . . . .	212
6.2	Adjusting final drive sets; identification . . . . .	212
6.3	Sequence for re-adjusting final drive set . . . . .	213

6.4	Adjustment overview . . . . .	213
6.5	Position of shims . . . . .	214
<b>7</b>	<b>Adjusting drive pinion . . . . .</b>	<b>214</b>
7.1	Adjusting drive pinion . . . . .	214
<b>8</b>	<b>Adjusting crown wheel . . . . .</b>	<b>221</b>
8.1	Adjusting crown wheel . . . . .	221
<b>9</b>	<b>Servicing propshaft . . . . .</b>	<b>227</b>
9.1	Servicing propshaft . . . . .	227
9.2	Removing and installing propshaft . . . . .	229
9.3	Adjusting propshaft . . . . .	233
9.4	Balancing propshaft/flange at rear final drive . . . . .	236
<b>10</b>	<b>Checking oil level in rear final drive . . . . .</b>	<b>240</b>
10.1	Checking oil level in rear final drive . . . . .	240
<b>11</b>	<b>Replacing seal and grooved ball bearing for propshaft flange . . . . .</b>	<b>241</b>
11.1	Replacing seal and grooved ball bearing for propshaft flange . . . . .	241
11.2	Measuring and marking radial run-out at propshaft flange . . . . .	252
<b>12</b>	<b>Removing and installing flange shaft oil seals . . . . .</b>	<b>253</b>
12.1	Removing and installing flange shaft oil seals . . . . .	253
12.2	Renewing flange shaft oil seal (right) . . . . .	253
12.3	Renewing flange shaft oil seal (left) . . . . .	255
<b>13</b>	<b>Removing and installing rear final drive . . . . .</b>	<b>260</b>
13.1	Removing and installing rear final drive . . . . .	260
<b>14</b>	<b>Dismantling and assembling rear final drive . . . . .</b>	<b>269</b>
14.1	Dismantling and assembling rear final drive . . . . .	269
14.2	Assembly overview . . . . .	270
14.3	Removing and installing differential together with differential lock . . . . .	272
14.4	Removing and installing differential without differential lock . . . . .	277
14.5	Dismantling and assembling differential . . . . .	283
14.6	Removing and installing drive pinion . . . . .	294
<b>15</b>	<b>Servicing mechanism of differential lock - Vehicles &gt; 05.94 . . . . .</b>	<b>303</b>
15.1	Servicing mechanism of differential lock - Vehicles > 05.94 . . . . .	303
15.2	Removing and installing differential lock control switch . . . . .	303
15.3	Routing diagram for piping and hoses . . . . .	304
15.4	Removing and installing vacuum element . . . . .	307
15.5	Dismantling and assembling differential lock . . . . .	309
15.6	Adjusting flange shaft, left . . . . .	315
<b>16</b>	<b>Adjusting drive pinion and crown wheel . . . . .</b>	<b>316</b>
16.1	Adjusting drive pinion and crown wheel . . . . .	316
16.2	Adjusting final drive sets; identification . . . . .	317
16.3	Sequence for re-adjusting final drive set . . . . .	317
16.4	Adjustment overview . . . . .	318
16.5	Position of shims . . . . .	319
<b>17</b>	<b>Adjusting drive pinion . . . . .</b>	<b>319</b>
17.1	Adjusting drive pinion . . . . .	319
<b>18</b>	<b>Adjusting crown wheel . . . . .</b>	<b>326</b>
18.1	Adjusting crown wheel . . . . .	326