



## Contents

<b>00 - Technical data</b>	<b>1</b>
<b>1 Safety information</b>	<b>1</b>
1.1 General safety provisions	1
1.2 Safety measures when working on vehicles with start/stop system	2
1.3 Notes on tow-starting/towing	2
1.4 Safety precautions when using testers and measuring instruments during a road test	2
<b>2 Identification</b>	<b>4</b>
2.1 Gearbox identification	4
<b>3 Repair notes</b>	<b>5</b>
3.1 General repair instructions	5
<b>4 Technical data</b>	<b>8</b>
4.1 Allocation gearbox - engine	8
4.2 Capacities	9
4.3 Calculation of gear ratios	9
<b>5 Overview - power transmission</b>	<b>10</b>
<b>6 Electrical components</b>	<b>12</b>
6.1 Overview of fitting locations - electrical components	12
<b>30 - Clutch</b>	<b>14</b>
<b>1 Clutch operation</b>	<b>14</b>
1.1 Assembly overview - clutch actuator	14
1.2 Removing and installing clutch actuator VX64	15
<b>2 Clutch</b>	<b>18</b>
<b>34 - Controls, housing</b>	<b>19</b>
<b>1 Selector mechanism</b>	<b>19</b>
1.1 Overview - selector mechanism	19
1.2 Assembly overview - gear knob and cover	21
1.3 Assembly overview - selector mechanism	22
1.4 Assembly overview - gear actuator	23
1.5 Removing and installing gear knob	24
1.6 Removing and installing selector cover	24
1.7 Removing, installing and (if applicable) adjusting gear lever guide	26
1.8 Removing and installing selector mechanism	27
1.9 Removing and installing gear actuator VX65	29
<b>2 Removing and installing gearbox</b>	<b>36</b>
2.1 Specified torques for gearbox	36
2.2 Removing gearbox	36
2.3 Installing gearbox	43
<b>3 Assembly mounting</b>	<b>47</b>
3.1 Assembly overview - assembly mountings	47
<b>4 Gear oil</b>	<b>49</b>
4.1 Checking gear oil level	49
4.2 Draining and filling gear oil	49
<b>35 - Gears, shafts</b>	<b>51</b>
<b>1 Input shaft</b>	<b>51</b>
<b>2 Output shaft</b>	<b>52</b>
<b>3 Reverse shaft</b>	<b>53</b>
<b>39 - Final drive - differential</b>	<b>54</b>



<b>1</b>	<b>Oil seals</b> .....	<b>54</b>
1.1	Overview of fitting locations - seals .....	54
1.2	Renewing left oil seal .....	55
1.3	Renewing right oil seal .....	56
<b>2</b>	<b>Differential</b> .....	<b>57</b>
<b>3</b>	<b>Adjustment overview</b> .....	<b>58</b>
<b>4</b>	<b>Gearbox control system</b> .....	<b>59</b>
4.1	Overview of fitting locations - gearbox control .....	59
4.2	Removing and installing electronic manual gearbox control unit J514 .....	59
4.3	Removing and installing gearbox input speed sender G182 .....	59