



Contents

00 - Technical data	1
1 Safety information	1
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
2 Identification	4
2.1 Gearbox identification	4
3 Repair notes	5
3.1 General repair instructions	5
4 Technical data	8
4.1 Allocation gearbox - engine	8
4.2 Capacities	9
4.3 Calculation of gear ratios	9
5 Overview - power transmission	10
6 Electrical components	12
6.1 Overview of fitting locations - electrical components	12
30 - Clutch	14
1 Clutch operation	14
1.1 Assembly overview - clutch actuator	14
1.2 Removing and installing clutch actuator VX64	15
2 Clutch	18
34 - Controls, housing	19
1 Selector mechanism	19
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
2 Removing and installing gearbox	36
2.1 Specified torques for gearbox	36
2.2 Removing gearbox	36
2.3 Installing gearbox	43
3 Assembly mounting	47
3.1 Assembly overview - assembly mountings	47
4 Gear oil	49
4.1 Checking gear oil level	49
4.2 Draining and filling gear oil	49
35 - Gears, shafts	51
1 Input shaft	51
2 Output shaft	52
3 Reverse shaft	53
39 - Final drive - differential	54



1	Oil seals	54
1.1	Overview of fitting locations - seals	54
1.2	Renewing left oil seal	55
1.3	Renewing right oil seal	56
2	Differential	57
3	Adjustment overview	58
4	Gearbox control system	59
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