

## Contents

|   |          |
|---|----------|
| <b>01 - Self-diagnosis, electrical checks</b>   | <b>1</b> |
| 1 <b>Self-diagnosis function</b>  | 1        |
| 1.1    Gearbox control unit safety functions  | 2        |
| 2 <b>Electrical/electronic components and fitting locations</b>   | 4        |
| 3 <b>Self-diagnosis procedure</b>   | 9        |
| 3.1    Safety precautions   | 9        |
| 3.2    Connecting up vehicle diagnostic, testing and information system VAS 5051 A and selecting functions                  | 9        |
| 3.3    List of available functions  | 11       |
| 4 <b>Interrogating fault memory</b>   | 12       |
| 4.1    Interrogating fault memory   | 12       |
| 4.2    Fault tables   | 13       |
| 4.3    Fault tables for faults 16889 / P0505 to 18159 / P1751   | 13       |
| 4.4    Fault tables for faults 18161 / P1753 to 18260 / P1852   | 24       |
| 5 <b>Final control diagnosis</b>  | 36       |
| 6 <b>Erasing fault memory</b>   | 38       |
| 7 <b>End of output</b>  | 39       |
| 8 <b>Encoding control unit</b>  | 40       |
| 9 <b>Reading measured value block</b>   | 42       |
| 9.1    List of available display groups   | 42       |
| 9.2    Test table   | 45       |
| 10 <b>Adaption of clutch characteristic curve</b>   | 57       |
| 11 <b>Electrical checks</b>   | 59       |
| 11.1    Connecting adapter V.A.G 1598/21 (test box) to automatic gearbox control unit J217 - vehicles up to Model Year 2003 | 60       |
| 11.2    Connecting adapter V.A.G 1598/37 (test box) to automatic gearbox control unit J217 - Model Year 2004 vehicles       | 62       |
| 11.3    Electrical checking - Model Year 2001 vehicles  | 64       |
| 11.4    Electrical checking - Model Year 2002 and 2003 vehicles   | 68       |
| 11.5    Electrical checking - Model Year 2004 vehicles  | 71       |
| 11.6    Checking selector lever lock solenoid N110  | 73       |
| 11.7    Checking power supply for shift mechanism cover   | 74       |
| 11.8    Electrical checking of solenoid valves and pressure regulating valves   | 74       |
| 12 <b>CAN bus</b>   | 76       |
| 12.1    Checking "two-wire bus system"  | 76       |
| 12.2    Two control units communicating via a "two-wire bus system"   | 77       |
| 12.3    Three or more control units communicating via a "two-wire bus system"   | 78       |