

## Contents

<b>00</b>	<b>Technical data</b>	<b>1</b>
1	<b>Technical data</b>	1
1.1	Technical data	1
1.2	Brakes	1
2	<b>Brake test</b>	2
2.1	Brake test	2
2.2	General information	2
2.3	Vehicles with front-wheel drive	2
2.4	Vehicles with four-wheel drive (Torsen differential)	2
3	<b>Contact corrosion</b>	2
3.1	Contact corrosion	2
<b>45</b>	<b>Anti-locking brake system</b>	<b>4</b>
1	<b>Anti-lock brake system (ABS) and electronic stability program (ESP)</b>	4
1.1	Anti-lock brake system (ABS) and electronic stability program (ESP)	4
1.2	General notes	4
1.3	Road test	4
1.4	High- and low pressure test	5
2	<b>Component overview for ABS/ESP system</b>	6
2.1	Component overview for ABS/ESP system	6
3	<b>Anti-lock brake system (ABS) Bosch 5.0</b>	11
3.1	Anti-lock brake system (ABS) Bosch 5.0	11
3.2	Hydraulic unit and brake pipes	11
3.3	Removing and installing bracket for hydraulic unit	19
3.4	Removing and installing control unit -J104 (LHD)	20
3.5	Removing and installing control unit for ABS/EDL or TCS (RHD)	21
4	<b>Anti-lock brake system (ABS) Bosch 5.3</b>	23
4.1	Anti-lock brake system (ABS) Bosch 5.3	23
4.2	Assembly overview: Hydraulic control unit	23
4.3	Removing and installing hydraulic control unit	26
5	<b>Electronic stability program (ESP) Bosch 5.3</b>	28
5.1	Electronic stability program (ESP) Bosch 5.3	28
5.2	Assembly overview: Hydraulic control unit with ESP hydraulic pump	28
5.3	Brake pipe connections: Hydraulic control unit with ESP hydraulic pump	32
5.4	Removing and installing hydraulic control unit	33
5.5	Removing and installing ESP (electronic stability program) hydraulic pump	35
6	<b>Removing and installing components of the ABS/ESP system</b>	38
6.1	Removing and installing components of the ABS/ESP system	38
6.2	Removing and installing brake light switch (F)	38
6.3	Removing and installing steering angle sensor -G85	38
6.4	Removing and installing lateral acceleration sender -G200 and yaw rate sender -G202	41
7	<b>Removing and installing components of the ABS/ESP system on the front axle</b>	43
7.1	Removing and installing components of the ABS/ESP system on the front axle	43
7.2	Removing and installing speed sensor	45
7.3	Checking rotor	45
8	<b>Removing and installing components of the ABS/ESP system on the rear axle</b>	47
8.1	Removing and installing components of the ABS/ESP system on the rear axle	47
8.2	Removing and installing speed sensor	48
8.3	Checking rotor	49
<b>46</b>	<b>Brakes, Brake mechanics</b>	<b>50</b>
1	<b>Front brake FN-3</b>	50



1.1	Front brake FN-3	50
1.2	Servicing front brakes	50
1.3	Removing and installing brake pads	55
<b>2</b>	<b>Front brake HP-2 double-piston brake/steel</b>	<b>57</b>
2.1	Front brake HP-2 double-piston brake/steel	57
2.2	Servicing front brakes	57
2.3	Removing and installing brake pads	64
<b>3</b>	<b>Front brake HP-2 double-piston brake/aluminium</b>	<b>68</b>
3.1	Front brake HP-2 double-piston brake/aluminium	68
3.2	Servicing front brakes	68
3.3	Removing and installing brake pads	71
<b>4</b>	<b>Front brake, Brembo brake caliper</b>	<b>74</b>
4.1	Front brake, Brembo brake caliper	74
4.2	Servicing front brakes	74
4.3	Removing and installing brake pads	77
<b>5</b>	<b>Front brake FN-2</b>	<b>80</b>
5.1	Front brake FN-2	80
5.2	Servicing front brakes	81
5.3	Removing and installing brake pads	86
<b>6</b>	<b>Servicing rear brakes</b>	<b>91</b>
6.1	Servicing rear brakes	91
6.2	Removing and installing brake pads	95
6.3	Basic setting of rear wheel brake	97
<b>7</b>	<b>Handbrake lever - Exploded view</b>	<b>99</b>
7.1	Handbrake lever - Exploded view	99
7.2	Removing and installing handbrake lever	102
7.3	Adjusting handbrake	103
7.4	Removing and installing handbrake cables	105
<b>8</b>	<b>Assembly overview of pedal cluster, LHD</b>	<b>107</b>
8.1	Assembly overview of pedal cluster, LHD	107
8.2	Removing and installing pedal cluster, LHD	112
<b>9</b>	<b>Assembly overview of pedal cluster, RHD</b>	<b>117</b>
9.1	Assembly overview of pedal cluster, RHD	117
9.2	Removing and installing pedal cluster, RHD	120
<b>47 - Brakes, Brake hydraulics</b>		<b>122</b>
<b>1</b>	<b>Pressurised leak test</b>	<b>122</b>
1.1	Pressurised leak test	122
<b>2</b>	<b>Brake caliper FN-3</b>	<b>123</b>
2.1	Brake caliper FN-3	123
2.2	Servicing brake caliper	123
2.3	Removing and installing piston for front brake caliper	125
<b>3</b>	<b>Brake caliper HP-2 double-piston brake caliper/steel</b>	<b>128</b>
3.1	Brake caliper HP-2 double-piston brake caliper/steel	128
3.2	Servicing brake caliper	128
3.3	Removing and installing piston for front brake caliper	131
<b>4</b>	<b>Brake caliper HP-2 brake caliper/aluminium</b>	<b>133</b>
4.1	Brake caliper HP-2 brake caliper/aluminium	133
4.2	Servicing brake caliper	134
4.3	Removing and installing piston for front brake caliper	136
<b>5</b>	<b>Brembo brake caliper</b>	<b>139</b>
5.1	Brembo brake caliper	139
5.2	Servicing brake caliper	139
5.3	Removing and installing piston for front brake caliper	143

<b>6</b>	<b>Brake caliper FN-2</b> .....	<b>147</b>
6.1	Brake caliper FN-2 .....	147
6.2	Servicing brake caliper .....	147
6.3	Removing and installing piston for front brake caliper .....	150
<b>7</b>	<b>Servicing rear brake caliper</b> .....	<b>154</b>
7.1	Servicing rear brake caliper .....	154
7.2	Removing and installing rear brake caliper piston .....	158
<b>8</b>	<b>Bleeding brake system</b> .....	<b>161</b>
8.1	Bleeding brake system .....	161
8.2	Bleeding sequence for vehicles with Electronic Stability Program (ESP) .....	161
8.3	Changing brake fluid (every 2 years) .....	165
<b>9</b>	<b>Assembly overview: Servo unit/tandem brake master cylinder</b> .....	<b>167</b>
9.1	Assembly overview: Servo unit/tandem brake master cylinder .....	167
9.2	Removing and installing brake master cylinder .....	174
9.3	Removing and installing brake servo .....	175
<b>10</b>	<b>Electric vacuum pump</b> .....	<b>177</b>
10.1	Electric vacuum pump .....	177
10.2	Description and function .....	177
10.3	Connecting vehicle diagnostic, testing and information system VAS 5051 or Connect fault reader V.A.G 1551 .....	177
10.4	Selecting functions .....	179
10.5	Basic setting (perform short trip) .....	179
10.6	Performing final control diagnosis .....	180
10.7	Reading measured value block .....	181
10.8	Fault table .....	181
<b>11</b>	<b>Brake lines and brake pipes</b> .....	<b>182</b>
11.1	Brake lines and brake pipes .....	182
11.2	Routing of lines .....	182
11.3	Tightening torques .....	182