

Contents

00 - Technical data	1
1 Identification	1
1.1 PR number and type of brake system	1
2 Safety information	2
2.1 Safety precautions when working on the high-voltage system	2
2.2 Safety precautions when working in the vicinity of high-voltage components	3
2.3 Safety precautions when working on vehicles with start/stop system	3
2.4 Safety precautions when using testers and measuring instruments during a road test	3
2.5 Safety precautions when working on vehicles with active suspension	4
3 Repair instructions	5
3.1 Identification plates	5
3.2 Use of impact wrenches	5
3.3 Rules for cleanliness	6
3.4 General repair instructions	6
3.5 Contact corrosion	6
4 Technical data	8
4.1 Technical data for brakes	8
5 Brake test	10
5.1 General notes	10
5.2 Testing vehicles with all-wheel drive	10
5.3 Checking parking brake	10
5.4 Checking brake discs	11
6 Electrical components	17
6.1 Starting diagnosis	17
45 - Anti-lock brake system	19
1 General notes	19
1.1 Notes for repair work on ABS	19
2 Overview of fitting locations	20
2.1 Overview of fitting locations - ABS/ESP	20
3 Control unit and hydraulic unit	23
3.1 Assembly overview - control unit and hydraulic unit	23
3.2 Removing and installing ABS control unit J104 / ABS hydraulic unit N55	26
3.3 Separating control unit from hydraulic unit	31
3.4 Attaching control unit to hydraulic unit	32
4 Sensors	34
4.1 Assembly overview - speed sensors on front axle	34
4.2 Assembly overview - speed sensors on rear axle	34
4.3 Removing and installing brake pedal position sender G100	35
4.4 Removing and installing front wheel speed sensor G45 / G47	36
4.5 Removing and installing rear wheel speed sensor G44 / G46	37
4.6 Checking ABS sensor ring	37
46 - Brakes - mechanism	39
1 Front brakes	39
1.1 Assembly overview - front brakes	39
1.2 Removing and installing brake pads	45
1.3 Removing and installing brake caliper	52
1.4 Renewing brake caliper	56
1.5 Removing and installing brake disc	59
1.6 Removing and installing splash plate	61
1.7 Removing and installing pad wear indicator wire	61



2	Rear brakes	64
2.1	Assembly overview - rear brakes	64
2.2	Removing and installing brake pads	71
2.3	Removing and installing brake caliper	79
2.4	Renewing brake caliper	82
2.5	Removing and installing brake carrier	85
2.6	Removing and installing brake disc	86
2.7	Removing and installing splash plate	88
2.8	Removing and installing pad wear indicator wire	88
3	Parking brake	90
3.1	Assembly overview - parking brake	90
3.2	Removing and installing parking brake motor V282 / V283	90
3.3	Releasing parking brake manually	92
4	Brake pedal	94
4.1	Assembly overview - brake pedal	94
4.2	Removing and installing mounting bracket	97
4.3	Separating brake pedal from brake servo	100
4.4	Connecting brake pedal to brake servo	101
4.5	Removing and installing brake pedal	102
47 - Brakes - hydraulics	104	
1	Front brake caliper	104
1.1	Assembly overview - front brake caliper	104
1.2	Removing and installing brake caliper piston	105
2	Rear brake caliper	109
2.1	Assembly overview - rear brake caliper	109
2.2	Removing and installing brake caliper piston	109
3	Brake servo/brake master cylinder	114
3.1	Assembly overview - brake servo/brake master cylinder	114
3.2	Removing and installing brake servo	119
3.3	Removing and installing brake master cylinder	125
3.4	Removing and installing brake fluid reservoir	129
3.5	Removing and installing brake fluid level warning contact F34	132
3.6	Removing and installing brake system pressure accumulator VX70	132
4	Vacuum system	136
4.1	Assembly overview - vacuum pump	136
4.2	Checking non-return valve	142
4.3	Removing and installing non-return valve	142
4.4	Removing and installing vacuum pump	145
4.5	Removing and installing brake servo pressure sensor	148
4.6	Checking vacuum system	149
5	Hydraulic system	154
5.1	General notes on brake fluid	154
5.2	Bleeding hydraulic system	155
5.3	Pre-bleeding brake system pressure accumulator VX70	160
5.4	Leak test	162