



Contents

00 - Technical data	1
1 Notes on safety	1
1.1 Safety precautions during a road test using test and measuring equipment	1
1.2 Safety precautions when working on vehicles with Start/Stop system	2
2 Identification	3
2.1 Allocation of PR number - brakes	3
3 Technical data	5
3.1 Technical data for brakes	5
4 Brake test	8
4.1 General information	8
4.2 Checking vehicles with front-wheel drive	8
45 - Anti-lock brake system	9
1 General information	9
1.1 Repair instructions for repair work on ABS	9
1.2 Vehicle diagnosis, testing and information system	10
2 Overview of fitting locations	13
2.1 Overview of fitting locations - ABS/ESP	13
3 Control unit and hydraulic unit	15
3.1 Assembly overview - control unit and hydraulic unit	15
3.2 Removing and installing ABS control unit J104 / ABS hydraulic unit N55	21
3.3 Separating control unit from hydraulic unit	32
3.4 Fitting control unit to hydraulic unit	33
3.5 Connecting brake lines to hydraulic unit	35
4 Sensors	37
4.1 Assembly overview - speed sensor on front axle	37
4.2 Assembly overview - speed sensor on rear axle	38
4.3 Removing and installing ESP sensor unit G419	41
4.4 Removing and installing speed sensors on front axle G45 / G47	41
4.5 Removing and installing speed sensors on rear axle G44 / G46	42
4.6 Removing and installing steering angle sender G85	43
46 - Brakes - mechanism	44
1 Front brakes	44
1.1 Assembly overview - front brakes	44
1.2 Removing and installing brake pads or linings	48
1.3 Removing and installing brake caliper	53
2 Rear brakes	58
2.1 Assembly overview - rear brakes	58
2.2 Removing and installing brake pads or linings	63
2.3 Removing and installing brake caliper	66
2.4 Removing and installing brake shoes	67
2.5 Retracting drum brakes	70
3 Handbrake	71
3.1 Assembly overview - parking brake	71
3.2 Adjusting parking brake	72
3.3 Removing and installing rear brake cable	74
4 Brake pedal	80
4.1 Assembly overview - brake pedal	80
4.2 Removing and installing mounting bracket	83
4.3 Separating brake pedal from brake servo	84



4.4	Connecting brake pedal to brake servo	85
4.5	Removing and installing brake pedal	86
47	Brakes - hydraulics	87
1	Front brake caliper	87
1.1	Assembly overview - front brake caliper	87
1.2	Removing and installing brake caliper piston	88
2	Rear brake caliper	94
2.1	Assembly overview - rear brake caliper	94
2.2	Removing and installing brake caliper piston	95
3	Brake servo and brake master cylinder	97
3.1	Assembly overview - brake servo/brake master cylinder	97
3.2	Removing and installing brake light switch	100
3.3	Removing and installing brake servo	102
3.4	Removing and installing brake master cylinder	140
4	Vacuum system	148
4.1	Assembly overview - vacuum pump	148
4.2	Checking non-return valve	149
4.3	Removing and installing brake servo pressure sensor	150
4.4	Checking vacuum system	150
4.5	Removing and installing electrical vacuum pump for brakes	155
5	Brake lines	157
5.1	Repairing brake lines	157
6	Hydraulic system	162
6.1	General notes on brake fluid	162
6.2	Pre-bleeding hydraulic system	162
6.3	Bleeding hydraulic system following standard procedure	163
6.4	Subsequent bleeding of hydraulic system	164
6.5	Testing for leaks	165