5. Brakes

Brake discs

Make	Girling	ATE	Girling
Location	Front wheels	Front wheels	Rear wheels
Type	Non-ventilated	Ventilated	Non-ventilated
Disc diameter mm	260	256	228
Thickness, new disc mm	11.85-12	21.8-22	9
Reconditioned thickness, minimum mm	11	20	8.5
Thickness, minimum mm	10.35	19.30	7.5
Max. lateral throw mm (measured with disc removed)	0.05	0.05	0.05
Max. permissible thickness variation over entire swept surface of any single disc mm	0.02	0.02	0.02

Brake pads

Type (non-asbestos)	Textar T473	Textar T473	Textar T456
Thickness, new mm	12/10*	12	10
Thickness, minimum mm	2	2	2

* 440 CH-006386, 480 CH-538519

Brake drum

Make		Girling
Diameter, new	mm	203
Reconditioned diameter, maximum	mm	204.2
Diameter, maximum	mm	204.7

Brake shoes

Type (non-asbestos)		Energit 550
Number per brake drum		2
Brake lining thickness, new	mm	4.65 - 3.30
Lining thickness, minimum	mm	1.0
Lining width	mm	36.3
Swept area, both brake drums	cm^2	484
Brake cylinder diameter	mm	20.64

Tightening torques

	Nm
Front caliper - retaining pins	27
- retaining bolts	110
Rear caliper - retaining pins	27
- retaining bolts	70
Lock nut, rear brake hub	180
Front/rear brake disc, cross-slotted bolt	10
Brake drum, cross-slotted bolt	10
Brake cylinder on backplate	7
Handbrake adjustment sealing plug, brake disc	14
Bleedscrew	5

52. Hydraulic braking system

Master cylinder

Make and type	Bendix, tandem master cylinder
Bore x stroke ... mm	20.64 x 30
Stroke, primary/secondary ... mm	14 / 16
Brake fluid quality	Minimum requirement: DOT 4+
Brake fluid, 1 litre ... P/N	1381073-4

Brake booster (servo)

	RHD + LHD -'87	LHD '88-
Make and type	Bendix ISO vac	Bendix ISO vac
Diameter	7"	8"
Boost factor	2.5	2.5

Pressure reducing valve on rear axle

Type	ATE BVL 8/5
Operation	Load-conscious
Static reduction factor	0.49
Stroke, open-closed ... mm	4.6 ±1.8

Pressure reducing valves on master cylinder

Type	ATE
Operation	Pressure-conscious
Braking pressure reduces at ... MPa (bar)	2.5 (25)
Static reduction factor	0.30
Renewal	Only as a set

Tightening torques

	Nm
Flexible brake hoses	18
Brake pipe unions	14
Brake pedal pivot pin	18
Master cylinder, nuts	24
Load conscious reducing valve, bolts	21
Reducing valve on master cylinder	14
Nuts, brake booster	24
Vacuum hose, brake booster to manifold	19

55. Handbrake

Type	Mechanical, operating on the rear wheels
Clearance at brake caliper (disc brake)	Just clear of the stop pin
Clearance at drum brake	Stop pin just free to rotate

59. Anti-lock Braking System (ABS) Mark II -'92

General

Make	ATE
Type	Mark II
Brake fluid	Minimum requirement: DOT 4+
Total capacity of braking system ... dm^3	1.1
Cap. of brake fluid reservoir at 0.05 MPa dm^3	0.5

Change brake fluid every 2 years.

Hydraulic pump unit

Maximum voltage ... V	18
Minimum voltage ... V	9
Operating pressure ... MPa(bar)	14-18 (140-180)
Pressure build-up from 0-18 MPa(0-180 Bar) ... sec	Max. 60

Pressure/warning switch

Pressure section:	
- disengaging pressure ... MPa(bar)	18 ± 0.4 (180 ± 4)
- engaging pressure ... MPa(bar)	14 ± 0.4 (140 ± 4)
Warning section:	
- engaging pressure ... MPa(bar)	10.5(105)

ABS Electronic Control Unit

ABS disengaged below ... V	<5

Wheel sensors

Positioning, front	Axial
Positioning, rear	Radial
Resistance ... kOhms	0.4-1.8

Tightening torques

	Nm
Hydraulic accumulator	40
Brake fluid reservoir (socket-head screw)	5
Pressure/warning switch	23
Brake pipes, front axle	14
Brake pipes, rear axle	14
Pump unit (socket-head screw)	9
Motor to pump unit, bolt	17
High-pressure brake pipe	14
Plug, connecting nipple	20
Nuts, unit to bulkhead	27
Braking force, reducing valve	14
Plug seal, hydraulic section	25
Nipples, wheel cylinders	14
Bolts, sensor attachment	11
Bolt, earth connection	25

59. Anti-lock Braking System (ABS) Mk IV '93-

General

Make	ATE
Type	Mark IV
Brake fluid Part No.	1381073-4
	Do not mix with other brake fluids!
Total capacity of braking system dm^3	1.1
Capacity of brake fluid reservoir at 0.05 MPa dm^3	0.5

Change brake fluid every 2 years.

Master cylinder

Type	ATE, tandem type
Primary cylinder, diameter mm	20.64
Secondary cylinder, diameter mm	20.64

Vacuum brake booster

Type	ATE T5/
Boost factor	2.5:1

Voltage levels

Operating voltage V	10-15
Max. voltage V	18
Min. voltage V	9

Current consumption

Pump (maximum, at 200 bar) A	26
Outlet valve A	2
Inlet valve A	3.8

Tightening torques

	Nm
Master cylinder, assembly nuts	25
Vacuum brake booster, retaining nuts (fire-resistant material on inside surface)	25
Brake pipes	14
Flexible brake hoses	18
Retaining bolts, wheel sensors	11
Retaining bolts, Electronic Control Unit	5