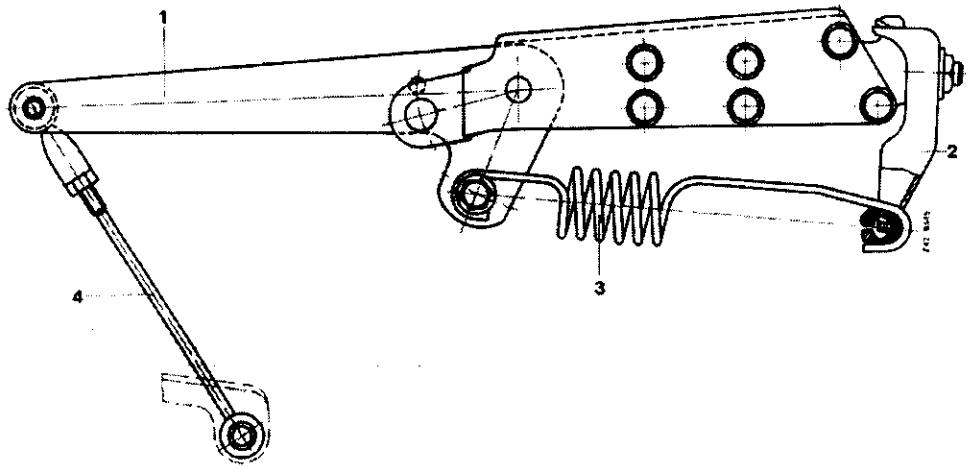
Workshop equipment

Combi pressure tester 3.9305 – 1020.4	Alfred Teves GmbH 6000 Frankfurt/Main



Arrangement of automatic load proportioning brake pressure regulator (full load position)

1 Double lever
2 Regulator lever (brake pressure regulator)
3 Regulator spring
4 Linkage

Adjusting brake pressure regulator

The brake pressure regulator must be correctly adjusted to achieve optimum brake pressure distribution in the different load conditions of the vehicle.

Two adjustment methods exist:

I. **Indirect adjustment with adjustment dimension (42.61 – 725/2)**

II. **Direct adjustement with pressure test (42.61 – 725/4)**

Note: In both cases adjustment is performed with a fully equipped and unloaded vehicle (with spare wheel).
Before starting adjustment work, check that the rear axle springs and the spring on the brake pressure regulator tally by checking the color markings or the spring dimensions (refer to table Installation Survey 42.61 – 725/2).

42.61 Adusting load proportioning brake pressure regulator

Installation survey

Type	Type of suspension	Rear axle springs		Spring on brake pressure regulator		
		Color code	Spring wire∅ mm	Color code	OD (TOT) mm	Number of coils
Open vehicle wheel base 2.4 m	Standard version Special version	green yellow	15.8 17.6	green yellow/ blue	39 36.5	7
Box body vehicle wheel base 2.4 m	Standard version Special version	green yellow	15.8 17.6	green yellow/ blue	39 36.5	7
Station wagon wheel base 2.4 m	Standard version Special version	green yellow	15.8 17.6	green yellow/ blue	39 36.5	7
Box body vehicle wheel base 2.85 m Station wagon wheel base 2.85 m	Standard version Standard version	yellow	17.6	yellow	36.5	6

If the color coding on the **spring of the brake pressure regulator** is not legible, the spring can be determined from the table by measuring the outer diameter in the untensioned state and counting the number of coils.

If the color coding of the **rear axle springs** is missing, the spring should be determined by measuring the thickness of the spring wire in the center of spring.

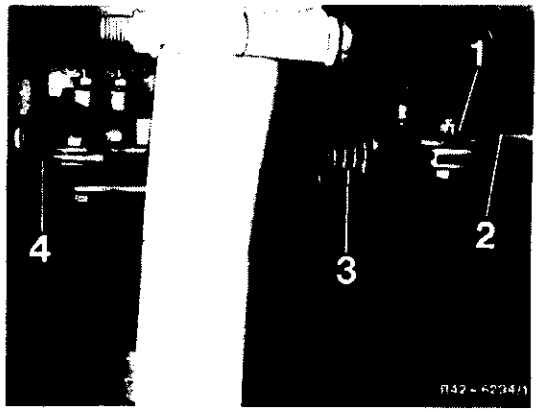
I. Indirect adjustment with adjustment dimension

1 Place vehicle on an even surface or pit.

2 Disconnect linkage rod on axle housing.

3 Depress brake pedal vigorously and hold in this position.

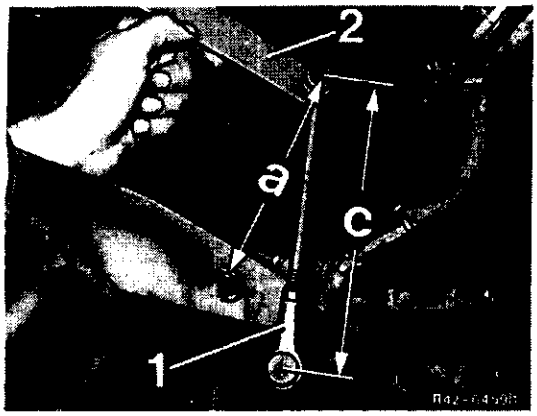
4 Press regulator lever toward regulator spring as far as it will go.



1 Regulator spring bearing
2 Double lever
3 Regulator spring
4 Regulator lever

5 At the same time press double lever upward until regulator spring is free of play and tension.

6 Measure ball pin distance (dimension a) between double lever and axle.



Dimension a Ball pin distance between double lever and axle
Dimension c Adjustment dimension of linkage rod

1 Linkage rod
2 Double lever

Important: Dimension a must be between 154 mm and 161 mm to enable all adjustment values to be achieved with the linkage rod. Dimension a must not be less than 154 mm. It can be adjusted with the regulator spring bearing in the oblong hole of the double lever.

7 Release service brake.

8 Adjust dimension c (dimension a + dimension b) at linkage rod (refer to table 42.61 –725/6 and calculation example for dimension b).

Calculation example for dimension c

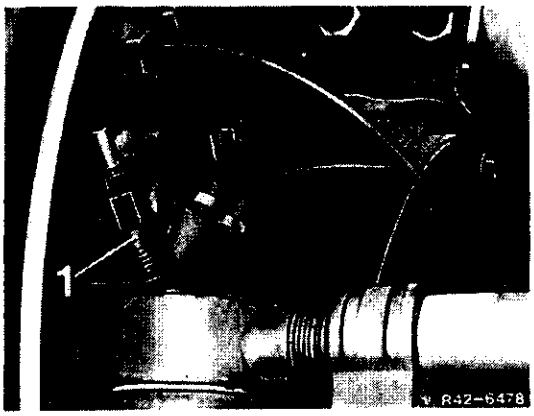
Box body vehicle wheelbase 2.4 m with standard suspension	
Dimension a (measured)	156 mm
Dimension b (from table)	+ 33 mm
Dimension c	189 mm

42.61 Adjusting load proportioning brake pressure regulator

II Direct adjustment with pressure test

This method of adjustment is more exact and should be used if no cause is found for a repeated complaint.

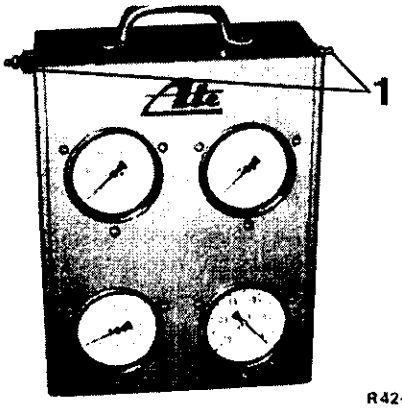
1 Connect a high pressure gauge to a bleeder valve bore of the fixed caliper (front axle).



1 Connection nipple

2 Connect 2nd high pressure gauge (combined with low pressure gauge) to a bleeder valve bore of the wheel cylinder (rear axle).

3 Before performing pressure test, bleed tester at both bleeder valves.

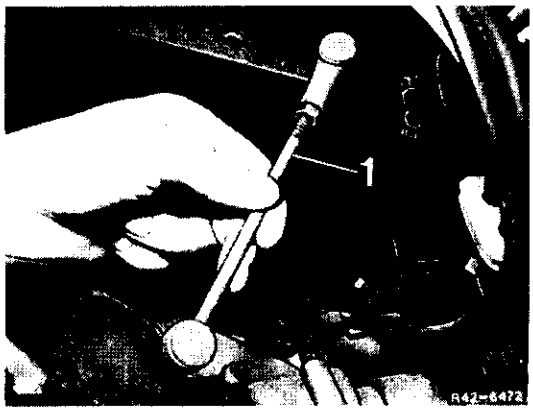


1 Bleeder valves of tester

4 Operate brake pedal until the pressure gauge of the front axle indicates a test pressure of 100 bar. The pressure at the pressure gauge of the rear axle must then correspond to the value stated in the table. (42.61–725/5).

5 If the measured value deviates from the value in the table, correct rear axle control pressure by adjusting the linkage rod.

Shortening linkage = reducing pressure
Lengthening linkage = increasing pressure



1 Linkage

6 Lock nut of linkage rod.

7 With service brake released, the prepressure at the rear wheel brake must be 0.5–1.2 bar.

8 Disconnect tester and bleed wheel brake cylinder of rear axle by operating brake.

Spare parts and adjusting values

Type	Type of suspension	Part No. regulator spring	Dimension b mm	Rear axle control pressure at test presssure 100 bar
Open vehicle Wheelbase 2.4 m	Standard version Standard version	460 427 01 21 460 427 02 21	36 29	42
Box body vehicle Wheelbase 2.4 m	Standard version Special version	460 427 01 21 460 427 02 21	33 27	41
Station wagon Wheelbase 2.4 m	Standard version Special version	460 427 01 21 460 427 02 21	41 33	44
Box body vehicle Wheelbase 2.85 m	Standard version	460 427 03 21	24	42
Station wagon Wheelbase 2.85 m	Standard version		30	45