

Test Report

No. TDB 0562 dated 05.07.2001

for application of Annex 11, ECE Regulation No. 13

1 IDENTIFICATION

1.1 Axle

Manufacturer: BPW Bergische Achsen
Kommanditgesellschaft
D-51674 Wiehl

Make: BPW

Type: D 115-1

Model: -

Technically permissible axle load P_e ¹⁾: 11550 daN

1.2 Brake

Manufacturer: See 1.1

Make: BPW

Type: SB 3745

Method of construction: Floating caliper brake (pneumatic)
with internally ventilated brake disc

Technically permissible input
torque at brake lever $C_{max,e}$: 1220 Nm
(for calculation: 930 Nm at 6,5 bar)

Automatic brake adjustment device: Integrated

Brake disc

- Outside diameter: 377 mm
- Effective radius r_e : 149 mm
- Thickness: 45 mm
- Mass: 30,5 kg
- Material: Cast iron (grey cast iron)

Brake pad

- Make, -Type: FER/BER, 4550
- Identification: Type indication at back plate
- Width: 210,7 mm
- Thickness: 30 mm (incl. 7 or 9 mm back plate)
- Surface area: 2 x 148 cm²
- Method of attachment: Friction material pressed on back plate

Brake lever

- Ratio l_e/e_e : 76 mm / 4,9 mm

Schematic representation: See appendix 2 dated 30.10.1998

1.3 Wheel (Single/twin):

See appendix 1 dated 30.10.1998

Rim diameter D_e : See appendix 1 dated 30.10.1998

Dimensions: See appendix 1 dated 30.10.1998

¹⁾ See sheet 3/3



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Manufacturer : BPW
Type of axle : D 115-1

1.4 Tyres

Reference rolling radius R_e
at reference load P_e :

See appendix 1 dated 30.10.1998

1.5 Actuation

Brake actuator - Manufacturer: WABCO
- Type: Diaphragm brake actuator
- Model: 30 (423 107 900 0)

1.6 Automatic brake adjustment device: Not applicable (see 1.2)

2 RECORD OF TEST RESULTS ²⁾

(corrected to take account of rolling resistance $\hat{=} 0,01P_e$)

2.1 In the case of vehicles of categories O₂ and O₃

Test type:		0	I	
Annex 11, Appendix 2, paragraph:		3.5.1.2	3.5.2.2/3	3.5.2.4
Test speed	km/h	40	40	40
Brake actuator pressure p_e	bar	6,5	-	6,5
Braking time	min	-	2,55	-
Brake force developed T_e	daN	6980	884	6923
Brake efficiency T_e/P_e	-	0,60	0,08	0,60
Actuator stroke s_e	mm	43	-	41
Input torque at brake lever C_e	Nm	937	-	937
	$C_{0,e}$ Nm	10	-	10

2.2 In the case of vehicles of category O₄

Test type:		0	III	
Annex 11, Appendix 2, paragraph:		3.5.1.2	3.5.3.1.3	3.5.3.2
Test speed	km/h	60	30	60
Brake actuator pressure p_e	bar	6,5	-	6,5
Number of brake applications	-	-	20	-
Duration of braking cycle	s	-	60	-
Brake force developed T_e	daN	6636	757	6321
Brake efficiency T_e/P_e	-	0,57	0,07	0,55
Actuator stroke s_e	mm	43	-	39
Input torque at brake lever C_e	Nm	937	-	937
	$C_{0,e}$ Nm	10	-	10

²⁾ See sheet 3/3



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Manufacturer : BPW
Type of axle : D 115-1

2.3 Performance of the automatic brake adjustment device

- 2.3.1 Free running according to paragraphs
3.6.1. and 3.6.3. of Annex 11,
Appendix 2: Yes

3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST

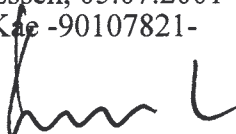
RWTÜV Fahrzeug GmbH
Technischer Dienst für Bremsanlagen
D-45307 Essen

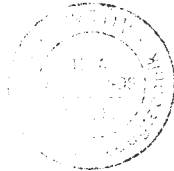
4 DATE OF TEST: 26.08.1996

5 This test has been carried out and the results reported in accordance with ECE Regulation No. 13, Supplement 5 to the 09 series of amendments, paragraph 4 and Annex 11, Appendix 2.

6 At the end of test defined in paragraph 3.6 of Annex 11, Appendix 2 the requirements of paragraph 5.2.2.8.1 of ECE Regulation No. 13 were deemed to be fulfilled.

Essen, 05.07.2001
Kae -90107821-


Dipl.-Ing. Kaesler



LABORATORY FOR VEHICLE TECHNOLOGY
Testing Laboratory for Braking Systems
according to ECE Regulation No. 13

7 TEST DOCUMENTS

- / Appendix 1: Representation brake/wheel/tyre (3 sheet)
- / Appendix 2: Schematic representation of brake

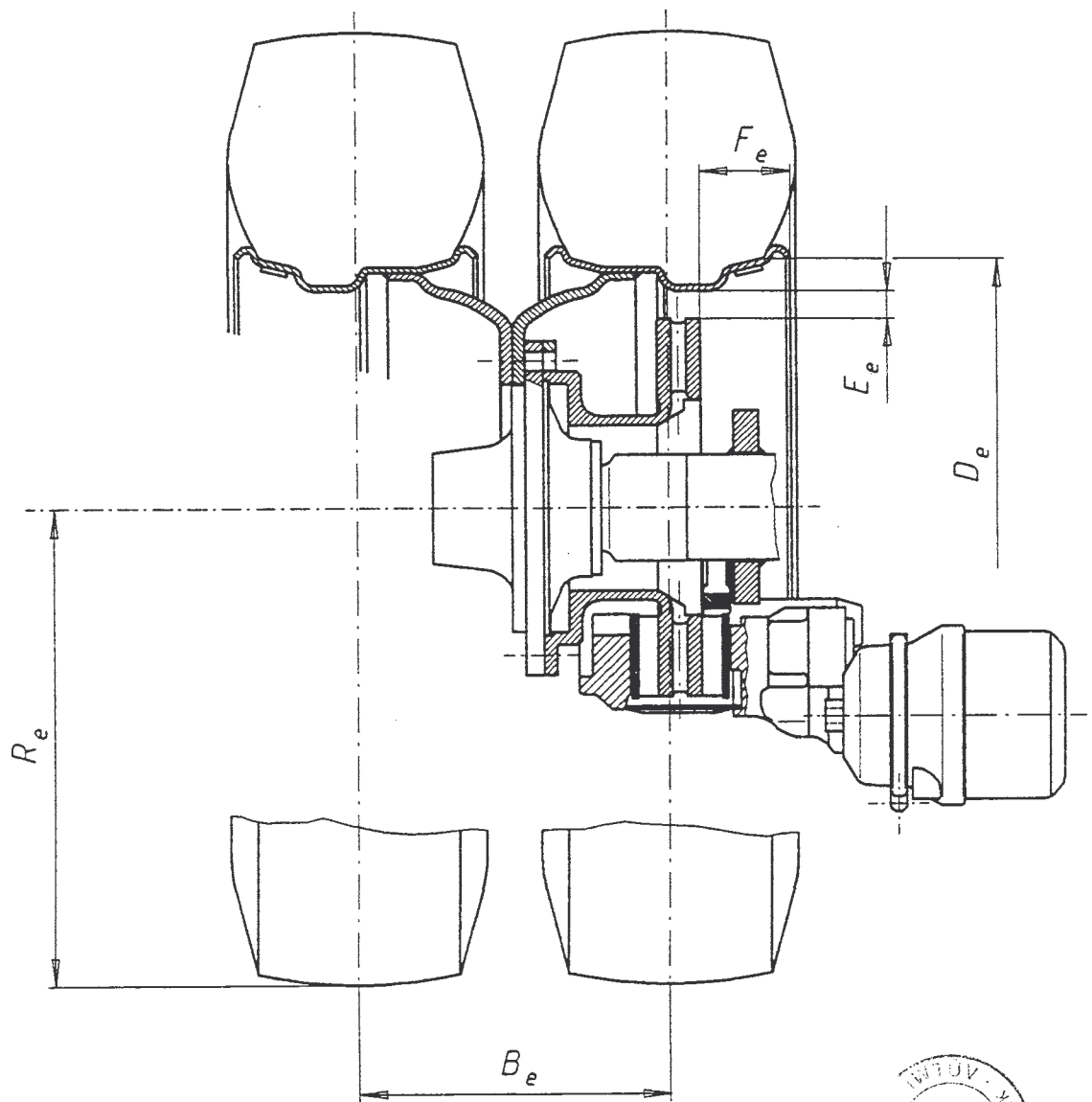
1) Calculation with $g = 10 \text{ m/s}^2$

2) Rolling road dynamometer test; twin, $R_e = 543 \text{ mm}$



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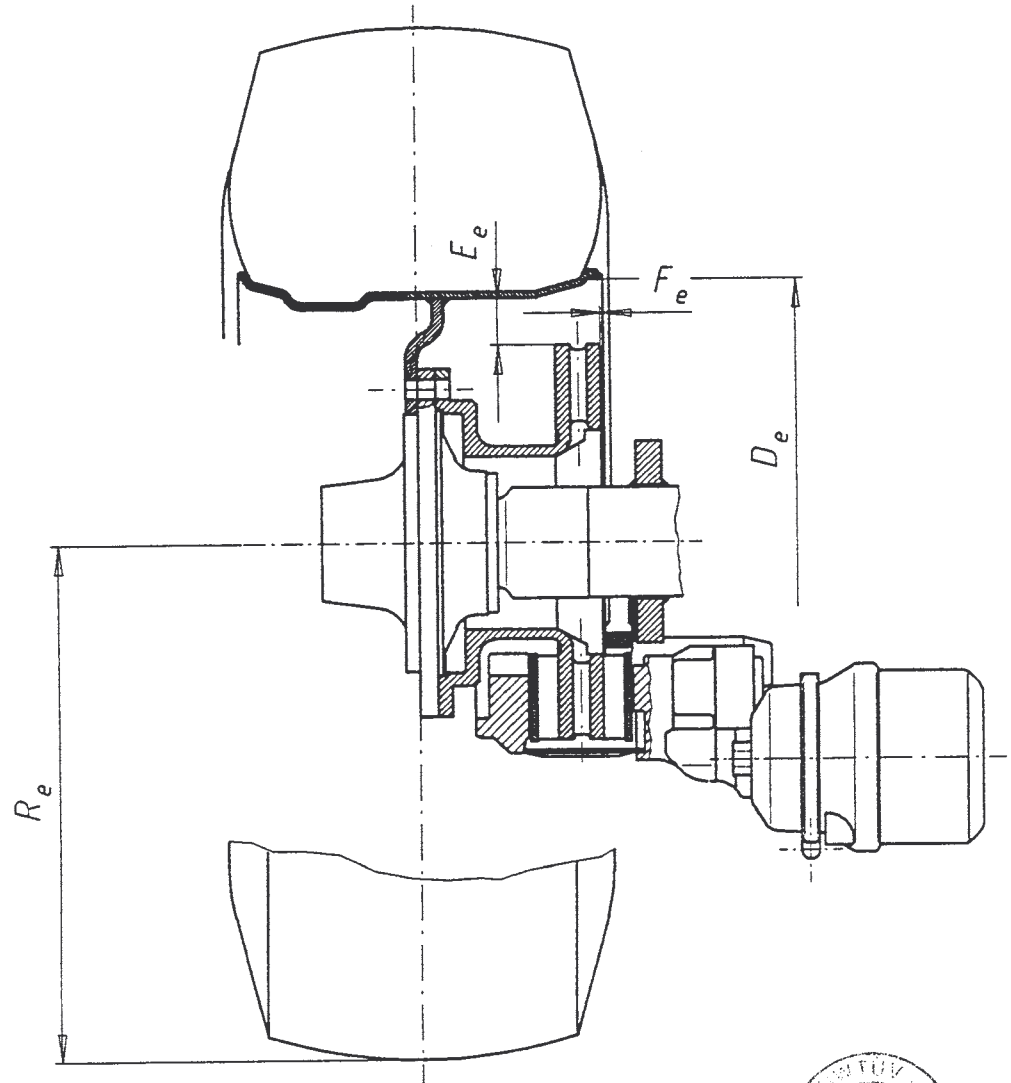
Axle load P_e (da N)	Tyre	Rim	B_e	R_e	D_e	E_e	F_e
			[mm]				
11550	285/70 R 19.5	8.25×19.5	320	432	495	24	-105
11550	10.00 R 20	7.5-20	330	508	508	59	-92
11550	12.00 R 20	8.5-20	344	543	508	59	-113
11550	12 R 22.5	9.00×22.5	350	526	571	56	-124
11550	13 R 22.5	9.00×22.5	350	546	571	56	-124

Replacement for
Replaced by.



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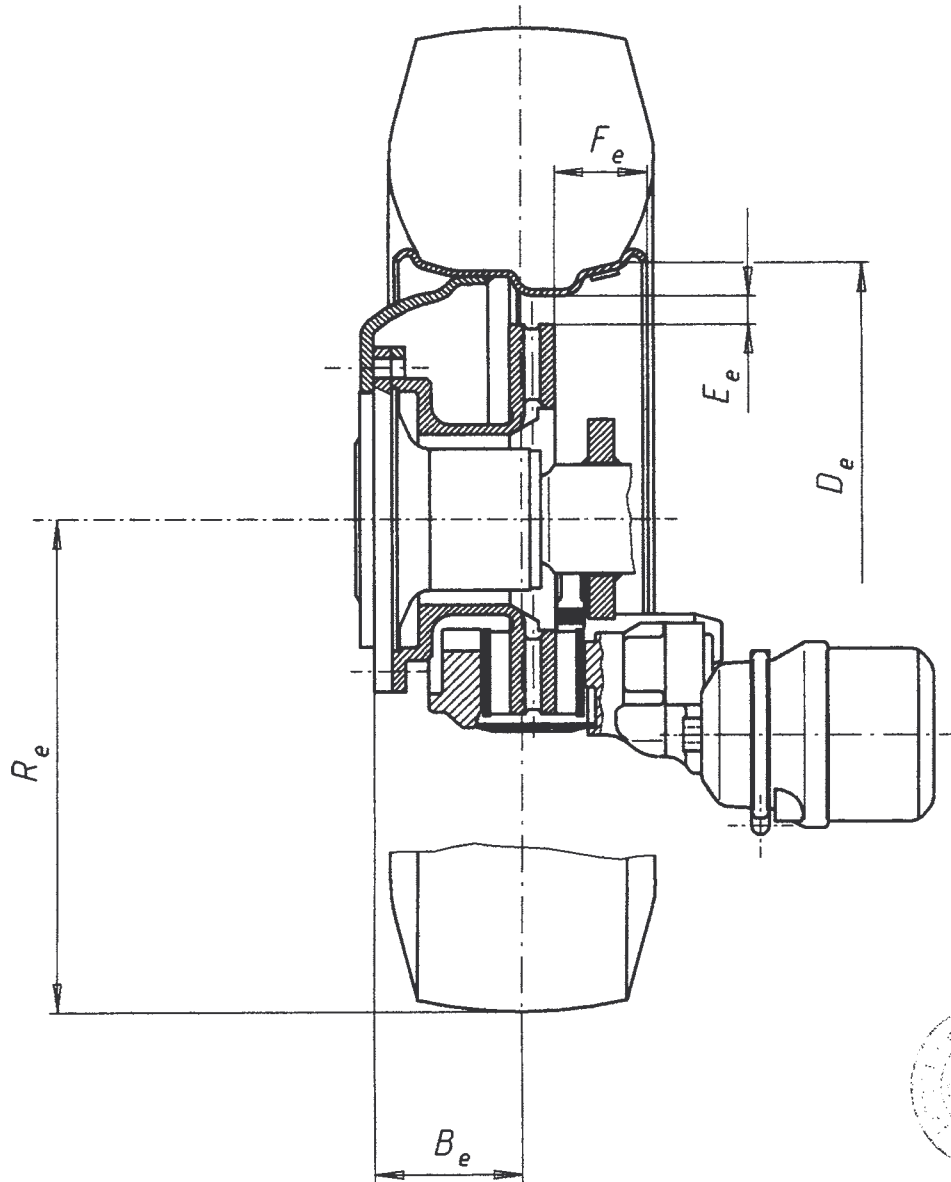
Axle load, P_e (da N)	Tyre	Rim	R_e D_e E_e F_e [mm]			
			R_e	D_e	E_e	F_e
11550	445/65 R22.5	14.00×22.5	558	571	76	18
11550	18 R 22.5	14.00×22.5	554	571	76	18
11550	14.00 R 20	10.00-20	600	508	59	24
11550	14/80 R 20	10.00V-20	527	508	59	30
11550	365/80 R 20	10.00V-20	535	508	59	30
11550	385/65 R 22.5	12.25×22.5	519	571	76	3
11550	285/70 R 19.5	8.25×19.5	432	495	44	46
11550	18 R 19.5	14.00×19.5	516	495	38	17
11550	425/55 R 19.5	13.00×19.5	474	495	40	-5

Replacement for
Replaced by



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Date *30.10.98*
Drawn *Schöler*

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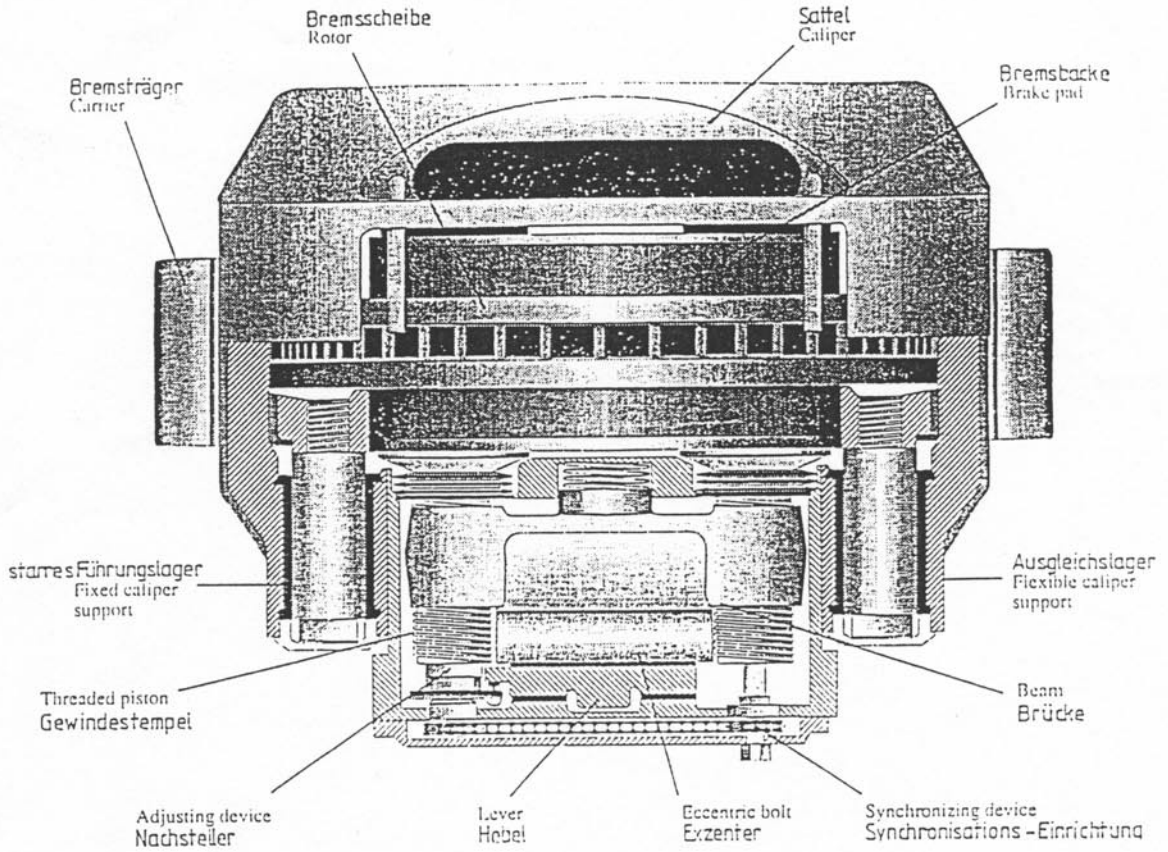
Axle load P_e (da N)	Tyre	Rim	B_e	R_e	D_e	E_e	F_e
			[mm]				
11550	445/65 R 19,5	19,5×14,00	120	520	495	24	-103
11550	445/45 R 19,5	19,5×14,00	120	432	495	24	-103

Replaced for
Replaced by

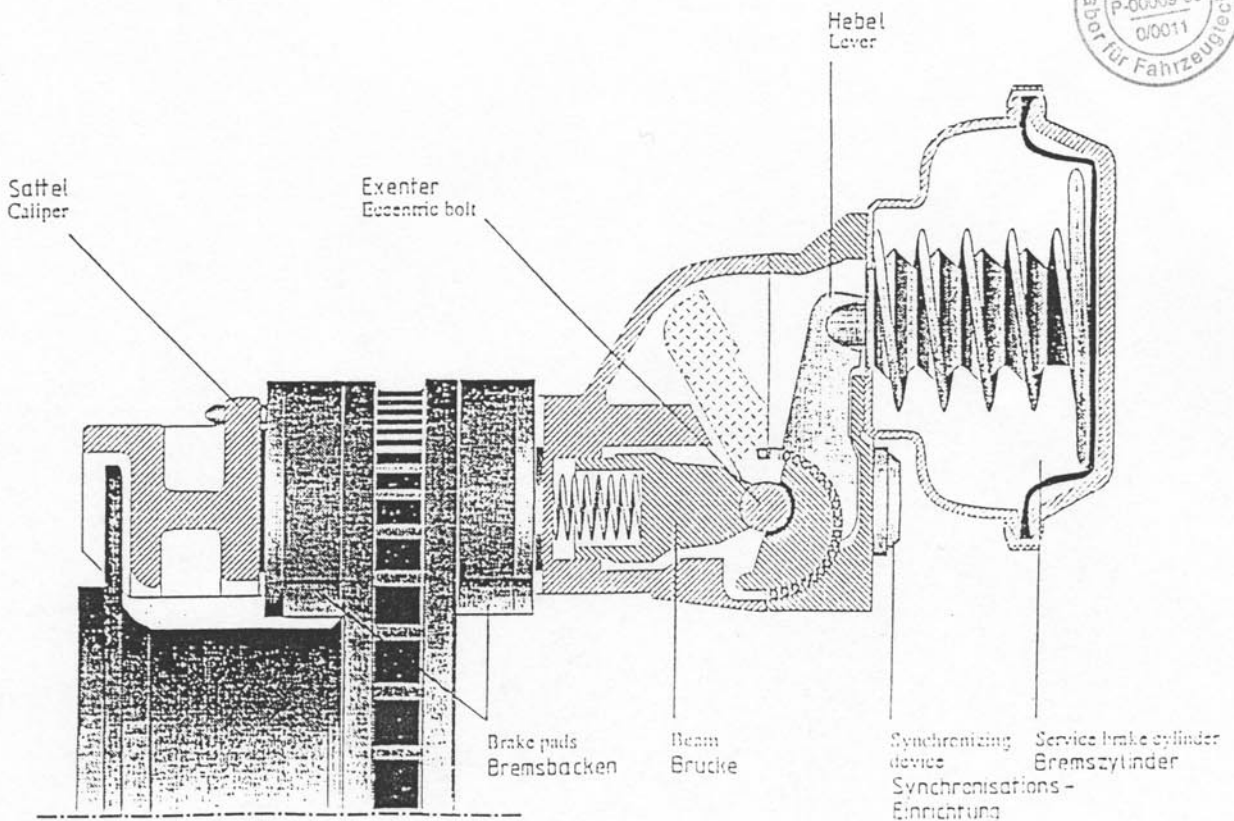


EZ
Abl. 30.10.98
Tag
Bearb. Schöler

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Längsschnitt / Longitudinal Section



Querschnitt / Cross Section



Ersatz für Ersetzt durch