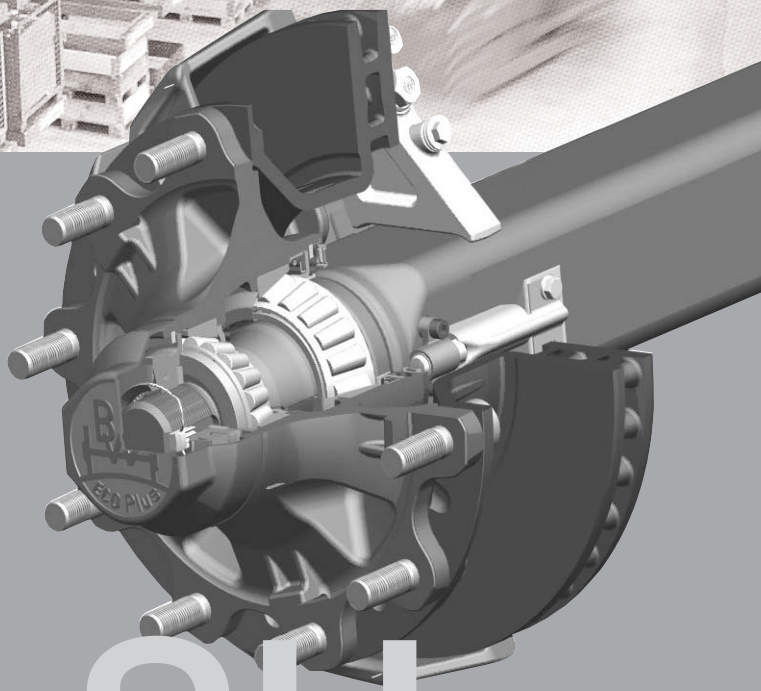
BPW BERGISCHE ACHSEN

BPW Original spare parts

Series SH..; SK..; S..LL..



SH

SK

BPW ORIGINAL SPARE PARTS

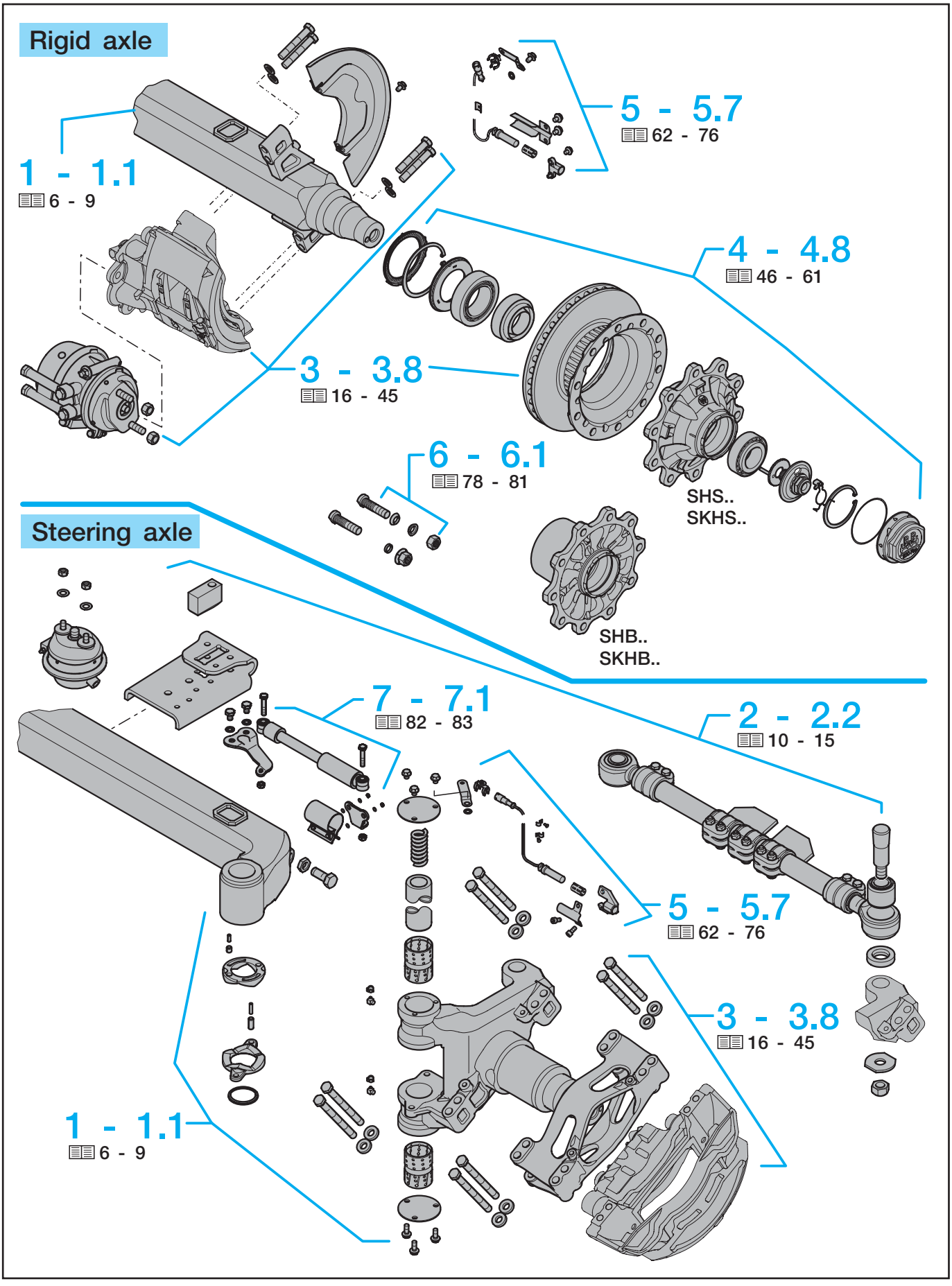
S..LL

Contents

Valid: **1.7.2008**

This spare parts list shows fast moving parts for BPW trailer axles and steering axles **series SH.. / SK.. 8 - 12 tons** from 1996 onwards.
Additional spare parts as per spare parts catalogue.

Subject to change (without notice).


Rigid axle
1 - 1.1
6 - 9
5 - 5.7
62 - 76
4 - 4.8
46 - 61
3 - 3.8
16 - 45
6 - 6.1
78 - 81
SHS..
SKHS..
Steering axle
SHB..
SKHB..
7 - 7.1
82 - 83
2 - 2.2
10 - 15
5 - 5.7
62 - 76
3 - 3.8
16 - 45
1 - 1.1
6 - 9

Explanation of BPW axle type codes (extract)

Example:

SKH	S	F	A	LL	9010	-15	ECO

	Axle series	Brake	Tyre	Year of manuf.
SH	SH..	SB 4309	22.5"	5/2003 -
	SH..	SB 4345	22.5" / 24"	1996 -
SKH	SKH..	SB 3745	19.5" (22.5")	1998 -
SM	SM..	SB 4309 SB 4345	22.5"	5/2003 -
SKM	SKM..	SB 3745	19.5" (22.5")	1998 -

B	For single wheels, wheels with offset
S	For single wheels, wheels without offset
Z	For twin wheels
F	Wheel studs M 22 x 1.5 without wheel nuts, order wheel nuts for stud or spigot alignment separately
M	For spigot alignment
A	With alloy hubs
LL	Self steering axle, series LL, steering angle max. 20°
8008 to 12010	Axle load (kg) + quantity of wheel studs per hub
-15	Axle beam - wall thickness, e.g. 15 mm
12° to 40°	Steering angle of steering axle
ECO	Trailer axle with ECO Unit - since 1996 (1998)
ECO-MAXX	Trailer axle with ECO Unit (weight optimized) - up to 2003
ECO Plus	Trailer axle with ECO Plus Unit - since 2003
ECO Plus 2	Trailer axle with ECO Plus 2 Unit - since 2007

Explanation of BPW axle code numbers (extract)

Example:

27.	48.	612.	000

	Axle type
25.	Trailer axle without suspension parts
26.	Steering axle without suspension parts
27.	Trailer axle without suspension parts

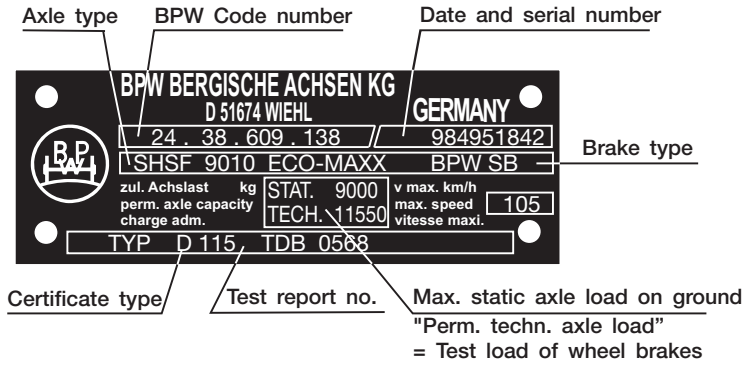
	Axle load	Roller bearings	Bearing generation
38.	8000 - 9000 kg	33116 / 32310	ECO
40.	10000 - 12000 kg	33118 / 33213	
48.	8000 - 9000 kg	33118 / 33213	ECO Plus
50.	10000 - 12000 kg	33118 / 33213	
58.	8000 - 9000 kg	33116 / 32310	ECO Plus 2

	Wheel brake type	Dimension	Year of manufacture
610.	SB 3745, axial bolted connection	Ø 370 x 45	1998 up to 4 / 2003
612.	SB 3745, tangential bolted connection	Ø 370 x 45	since 5 / 2003
613.	SB 4309, tangential bolted connection	Ø 430 x 45	since 5 / 2003
609.	SB 4345, axial bolted connection	Ø 430 x 45	1996 up to 4 / 2003
614.	SB 4345, tangential bolted connection	Ø 430 x 45	since 5 / 2003

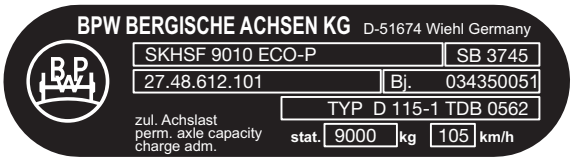
000	Consecutive number 000 - 999

BPW Type plate

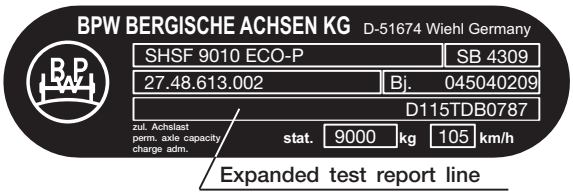
Type plate up to year of manufacture 1999
(Rivited type plate)



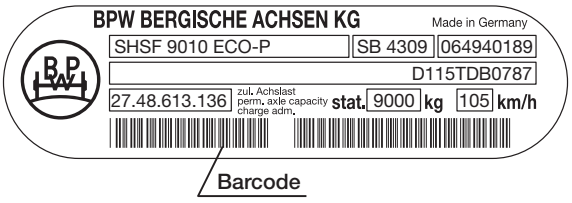
Type plate from year of manufacture 2000
(Adhesive type plate)



Type plate from year of manufacture 10/2004
(Adhesive type plate)



Type plate from year of manufacture 11/2006
(Adhesive type plate)



	Example:		
The BPW type name is composed of a letter group and a number group.	SHSF 9010 ECO-P		
The letter group identifies the type of axle and suspension version as well as defining the hub version.	SHSF	-	BPW axle series SH for single wheels (without offset), wheel studs M 22 x 1.5, without wheel nuts
The number group specifies the axle load on the ground in kilograms and the number of wheel studs per wheel hub (for disc wheel connection).	9010	-	9000 kg axle load - 10 wheel studs per wheel
The group of letters at the end of the model name defines the type of hub bearing.	ECO-P	-	ECO^{Plus} bearing generation
The number group specifies the axle load on the ground in kilograms and the number of wheel studs per wheel hub (for disc wheel connection). You can view the brake certificate referenced by certificate type/test report number on the type plate by logging onto the BPW website at www.bpw.de (Download Centre in the German version of the website - "Bremsgutachten"). Please note that as of 10/2004, multiple entries are possible in brake certificates.	D115TDB0787	- -	D115 Certificate type TDB0787 Test report no.

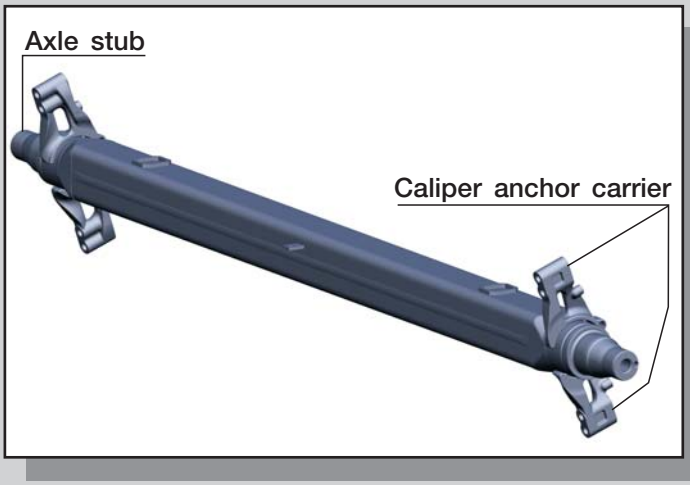
All BPW components and assemblies have a 10-digit "speaking" code number.

1 Axle beam, steering axle beam

General

BPW Axle beams

Square, reliable, light – the BPW axle beam. It's the stable foundation for a long vehicle life. And in combination with our brakes and suspension systems, the square axle produces axle systems which offer convincing all round performance with long service life and maintenance intervals.

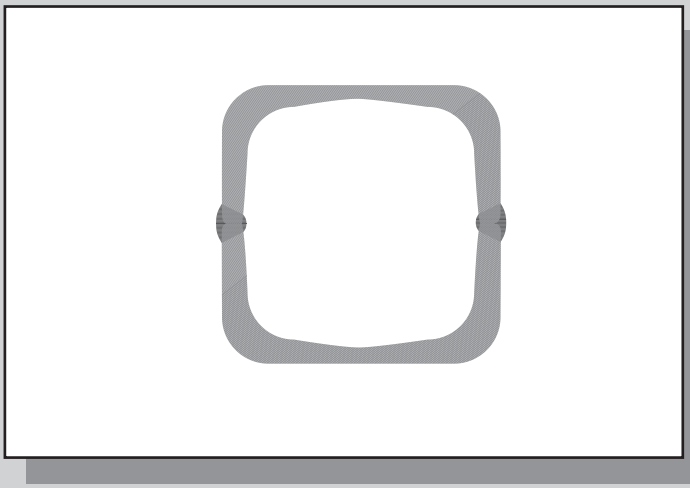


The BPW square axle beam consists of two high-quality, specially rolled "U" sections which are welded together inside and out.

This profile features more material at the corner radii and less material in the top and bottom areas. As a result, the axle cross-sections are reinforced at the points where the force is applied and are optimally shaped to cope with the load.

The construction ensures a long service life.

BPW axle tubes are available with various cross-sections and wall thickness values depending on the axle load and the application conditions.



BPW axle stubs are forged, quenched and tempered.
They have two stepped bearing seats.

The axle stubs and axle tube are flash butt welded together to produce the one piece BPW axle beam.
In this welding process, the axle tube and the ends of the axle stubs are heated up to welding temperature by an electric current applied at their joining faces, whilst at the same time being forced together.
This produces an absolutely homogeneous connection without any inclusions. In contrast to conventional welding processes, no filler metals are needed.

At the same time, the axle beam is given its camber and toe-in.

Axle beam after flash butt-welding

Axle beam after removing the welding flash

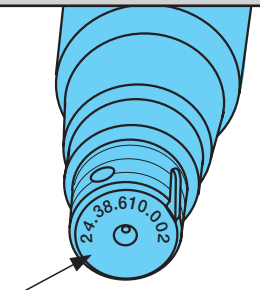
Determining replacement axle beams

The BPW axle number is shown on the type plate.

Should this not be present or no longer be legible, in the case of rigid axles the BPW axle number can be found on the front of the axle stub.

When ordering the axle beam, quote this BPW axle number with the reference to a replacement axle beam.

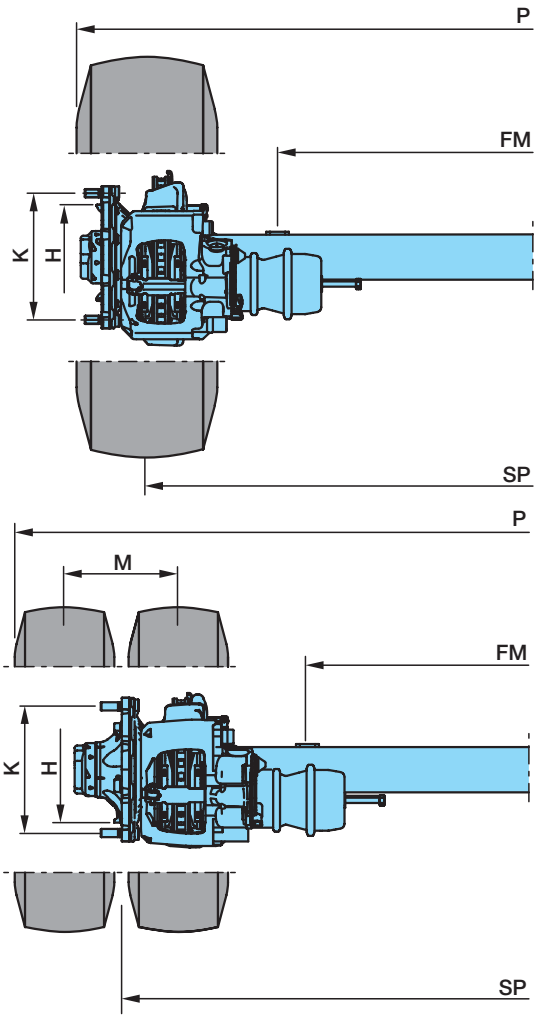
In the case of steering axles there is no part number stamped on the front of the steering axle stub.



BPW axle number punched into the front end of the axle stub

If there is no BPW axle number or none is known, the axle beam or the axle can be identified on the basis of the dimensions.

1. **Axle beam cross section** (□ 120 / 150)
2. **Axle beam wall thickness** (if known)
3. **Spring centre** (FM)
4. **Track** (SP)
5. **Overall width** (P)
6. **Leaf spring width**
7. **Spring pad hole pattern** (if present)
8. **Wheel seat** (H)
9. **Pitch circle** and **number** of wheel studs (K)
10. **With steering axles steering pivot centre**



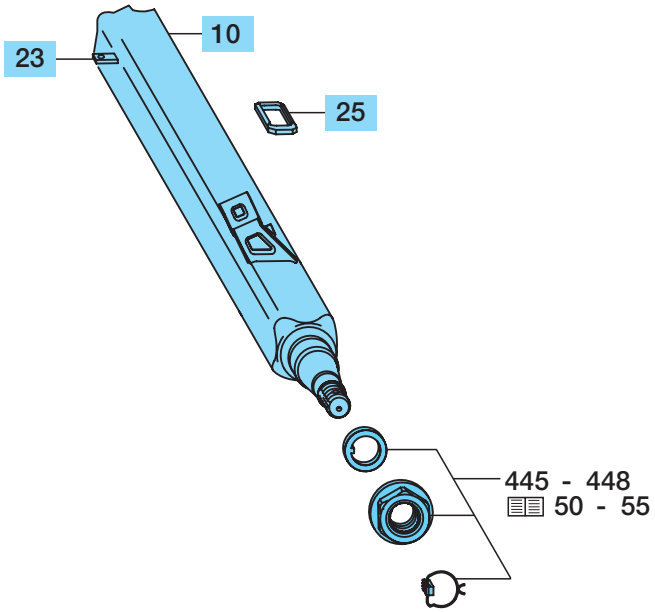
In addition to which the **type of tyres**, the **wheel size** and the **brake size** should also be specified, as well as the approximate year of manufacture (initial registration).

As a result of the general changeover to tangentially bolted disc brakes (from 5/2003), replacement axle beams for rigid axles are no longer available for axially bolted brakes!

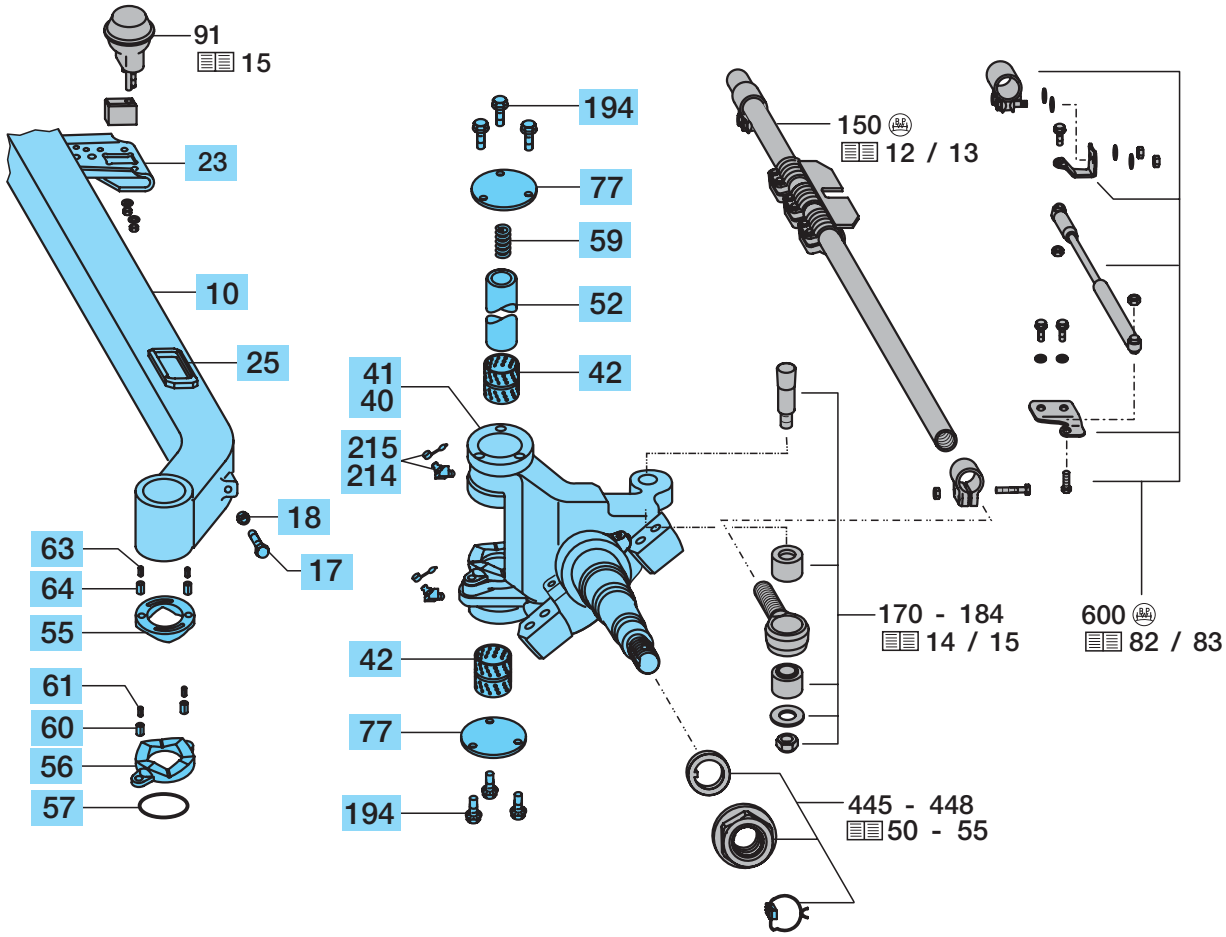
As a result of the general changeover to the ECO Plus 2 wheel bearing system (from 9/2007), replacement axle beams and steering axle stubs are no longer available in the ECO^{Plus} version up to 9 tonnes!

1 Axle beam, steering axle beam, steering pivots, steering pivot bearing

Rigid axles



Steering axles (Series LL)



Item	Designation (Remark)	BPW Code no.	Dimension	
Rigid axles				
10	Axle beam assembly	When ordering axle beam assembly, please state axle type and BPW code-no. (axle type plate).		
23	Plate (Attachment air suspension valve)	03.281.42.03.0		
25	Centering frame (for clamped axle spring seat assembly)	03.295.46.20.0 [1)] **03.295.46.21.0**	72.5 x 60 x 12 72.5 x 60 x 8	For other spring plate designs, see the spares catalogues for the corresponding suspension units.
		[1)] Replaced by 03.295.46.21.0 Note the modified shape of the spring pads!		
Steering axles (Series LL)				
10	Steering axle beam assembly	When ordering steering axle beam assembly, please state axle type and BPW code-no. (axle type plate).		
17	Hexagon bolt	02.5026.64.80 02.5037.61.80 02.5026.69.80 03.340.13.19.0	M 20 x 50 - 8.8 M 20 x 60 - 8.8 M 20 x 70 - 8.8 M 20 x 70 - 8.8	
18	Hexagon nut	02.5205.09.04	M 20	
23	Shaped plate (Attachment steering lock cylinder)	upon request		
25	Centering frame	03.295.46.20.0 [1)] **03.295.46.21.0**	72.5 x 60 x 12 72.5 x 60 x 8	For other spring plate designs, see the spares catalogues for the corresponding suspension units.
40 41	Steering pivot assembly, right Steering pivot assembly, left	When ordering steering pivot assembly, please state axle type, BPW code-no. (axle type plate) and side (right or left).		[1)] Replaced by 03.295.46.21.0 Note the modified shape of the spring pads!
42	Bush	03.112.76.08.0	Ø 60 / 65 x 90	
45	Repair kit steering bolt (item 42 , 52 - 64, 214)	09.801.02.35.0	for 1 axle side	
52	Steering bolt	03.240.08.04.0	Ø 39 / 60 x 331	
55	Thrust washer, upper	03.128.05.07.0	Ø 64 / 99 x 18.5	
56	Thrust washer, lower	03.128.05.06.0	Ø 64 / 99 x 18.5	
57	Seal	02.5681.03.00	Ø 70 / 62 / 59 x 5	
59	Pressure spring	03.125.07.10.1	Ø 30 / 38 x 86 / Ø 8	
60	Adapter sleeve	02.6006.95.90	Ø 12 x 28	
61	Adapter sleeve	02.6016.01.90	Ø 7 x 28	
63	Adapter sleeve	02.6016.00.90	Ø 7 x 18	
64	Adapter sleeve	02.6016.11.90	Ø 12 x 12	
77	Washer	03.320.66.04.0	Ø 100 x 4.75 / 3xØ11	
194	Locking bolt	02.5070.63.02	M 10 x 25	
214	Grease nipple	02.6802.06.50	BM 10 x 1 / 45°	
215	Cap	02.3505.20.00		

2 Tracking rods, tracking rod attachments, steering lock

General

BPW Steering axles series LL

No-one wants to loose rubber from their tyres every time they turn a corner.
So we've developed an axle which allows your tyres to roll instead of slide.

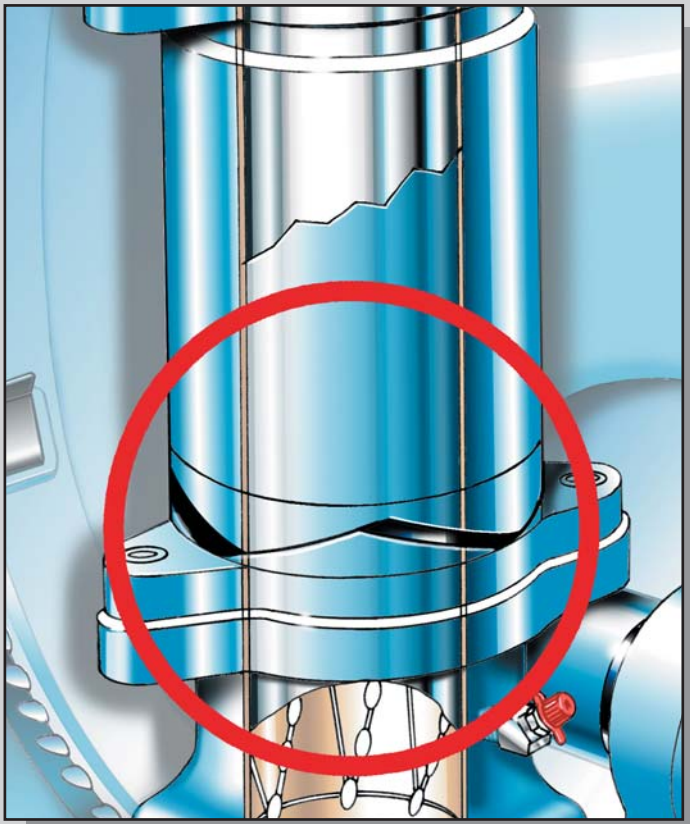
The **BPW LL self-steering axle.**

The enormous advantages of the steering axle come to the fore when manoeuvring: Better manoeuvrability, reduced wear on all tyres and less fuel consumption.

As a result, the BPW self-steering axle is the right economical solution for delivery and distribution traffic chiefly consisting of journeys in congested conurbations and cities.

Function

LL stands for "**load-dependent steering stabilisation**" and it describes the unique functional principle of the BPW self-steering axle.



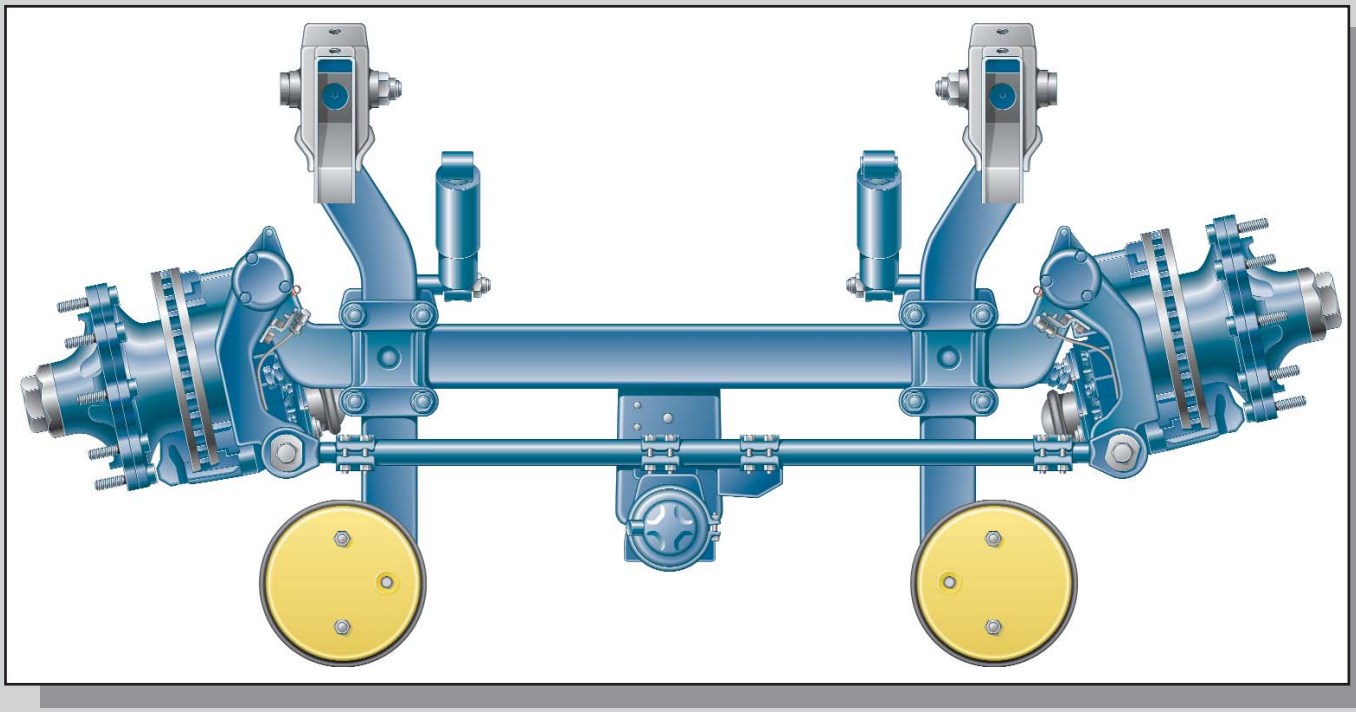
Conventional steering axle designs require steering stabilisers powered from an external source – this is not the case with the BPW self-steering axle. The axle beam and axle stub are connected to undulating thrust bearings via steering pivots.

When driving straight ahead (zero position), the undulations in the thrust washers keep the wheels on track. The weight of the vehicle presses the undulating contours of the upper and lower thrust washers together. The wheels remain stable in the correct straight-ahead position.

When the semi-trailer follows the tractor unit into a curve, the wheel castor action ensures the wheels turn in accordance with the curve radius (the thrust washers slide over one another).

The frictional resistance changes according to the load on the axle. As a result, a steering angle (of 8 to 27°, depending on the axle type) is achieved according to the load, and is entirely controlled by mechanical means.

The link connecting the wheels uses a steering lock to prevent the wheels from steering when the vehicle is reversing.



The effect of the steering axle is that the suspension unit steers into to corner better and virtually follows in the tracks of the tractor unit.

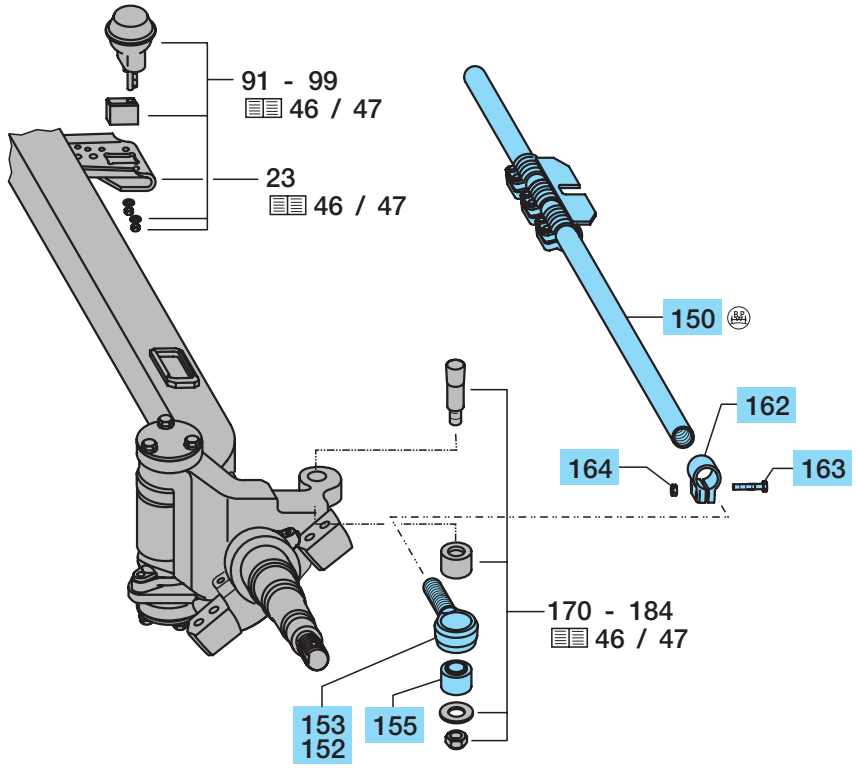
The lateral forces on the tyres, occurring for example in the case of a three-axle trailer, are thus ideally distributed between all the axles.

As a result of the fact that each axle experiences considerably lower lateral forces, the mileage covered by the tyres is demonstrably increased by up to 50 % on the front axle and actually up to 70 % on the rear axle.

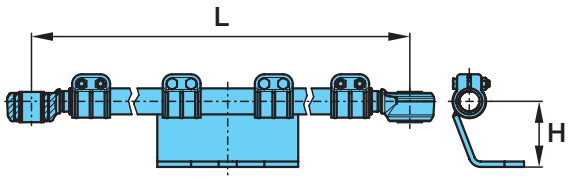
The use of the BPW steering axle delivers absolutely even wear.

2.1 Steering rods

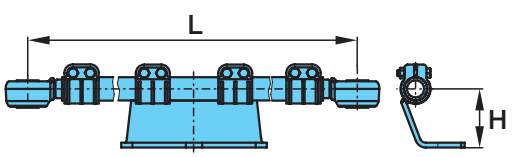
Steering rods, spare parts for steering rods



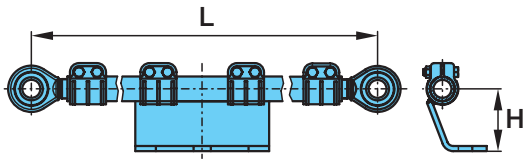
A



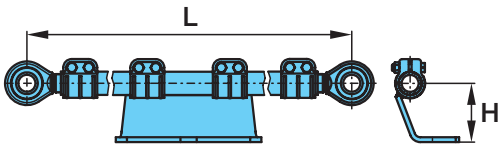
B



C



D



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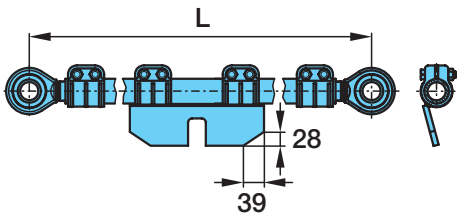

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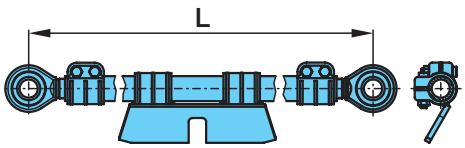
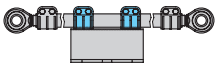
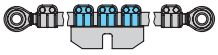
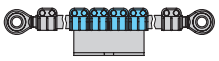


Steering rods, spare parts for steering rods

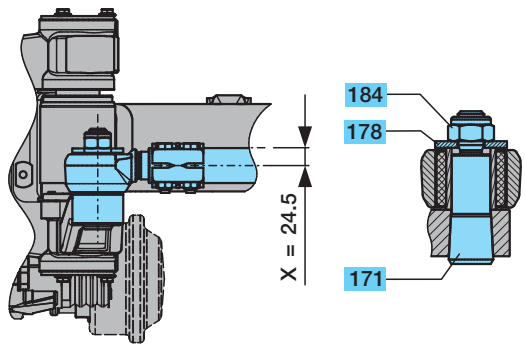
Item	Designation (Remark)	Dimension / Remark		BPW Code no.		
						
		L	H	2 clamps	3 clamps	4 clamps
150	Steering rod complete incl. item 152, 153, 162 - 164	1180 (1160 - 1199)	121	05.256.46.55.0 A		
			129	05.246.46.30.0 A		
		1220 (1200 - 1239)	129	05.246.46.34.0 A		
		1260 (1240 - 1279)	121	05.246.46.64.0 A		
			129	05.246.46.39.0 A		
		1300 (1280 - 1319)	121	05.246.46.54.0 A		
			129	05.246.46.29.0 A		
		1340 (1320 - 1359)	-	05.246.41.06.0 E	05.246.40.06.0 E	
			121	05.246.46.56.0 A		05.246.42.40.0 C
			129	05.246.46.31.0 A		
		1380 (1360 - 1399)	-	05.246.41.02.0 E	05.246.40.02.0 E	
			121	05.246.46.52.0 A		
			129	05.246.46.27.0 A		
		1420 (1400 - 1439)	-	05.246.41.01.0 E		
			-	05.246.49.26.0 F	05.246.40.01.0 E	
			121	05.246.46.51.0 A		
			121	05.246.49.51.0 D		
			129	05.246.46.26.0 A		
			129	05.246.49.77.0 D		
			150	05.246.46.77.0 C		
		1460 (1440 - 1479)	-	05.246.41.05.0 E	05.246.40.05.0 E	
			121	05.246.46.61.0 A		
			129	05.246.46.36.0 A		
			129	05.246.46.81.0 D		
		1500 (1480 - 1519)	-	05.246.41.03.0 E		
			-	05.246.49.28.0 F		
			121	05.246.46.53.0 A		
			129	05.246.46.28.0 A		
			129	05.246.49.79.0 D		
		1520 (1520 - 1559)	-	05.246.49.38.0 F		
		1540 (1520 - 1559)	-	05.246.41.13.0 E		
			121	05.246.46.63.0 A		
			121	05.246.49.63.0 D		
			129	05.246.46.38.0 A		
			129	05.246.49.69.0 D		

152	Track rod end assy. incl. item 155	left threaded	05.353.68.27.0
153	Track rod end assy. incl. item 155	right threaded	05.353.68.26.0
155	Bush	Ø 35 / 64 x 56	05.113.92.04.0
162	Clamp		02.3507.25.00
163	Hexagon bolt	M 12 x 1.5 x 60 - 8.8	02.5029.35.80
164	Lock nut	VM 12 x 1.5 - 8	02.5220.15.82

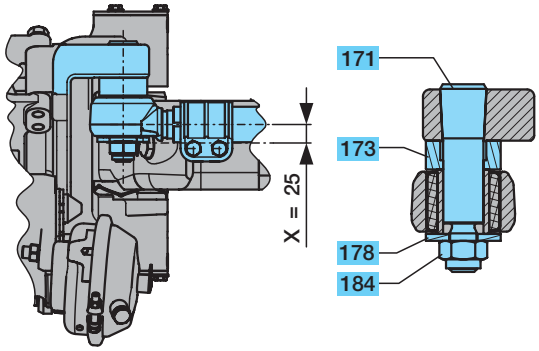
2.2 Steering rod attachments

Steering rod attachments

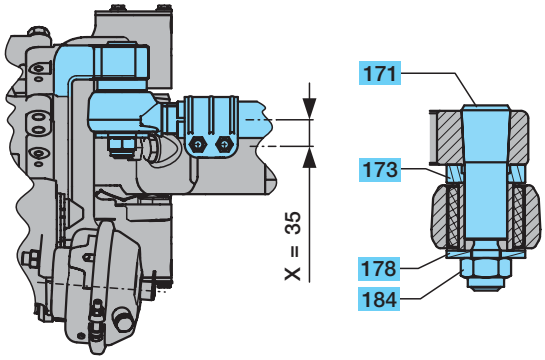
Track rod position 24.5 mm **A**



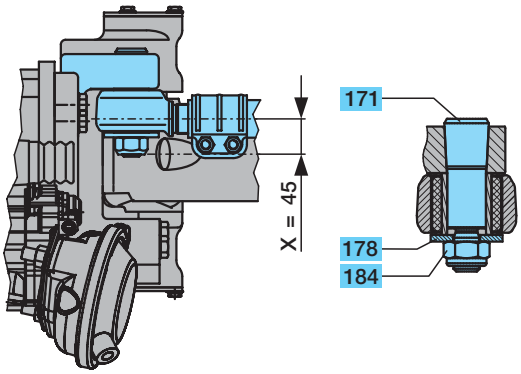
Track rod position 25 mm **B**



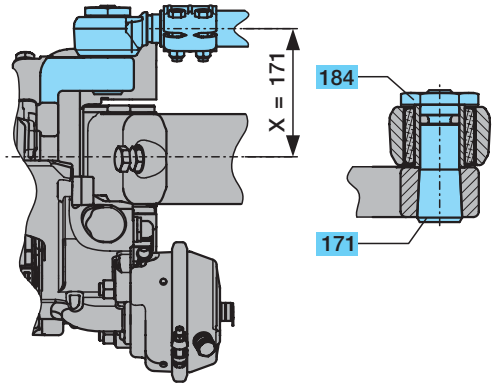
Track rod position 35 mm **C**



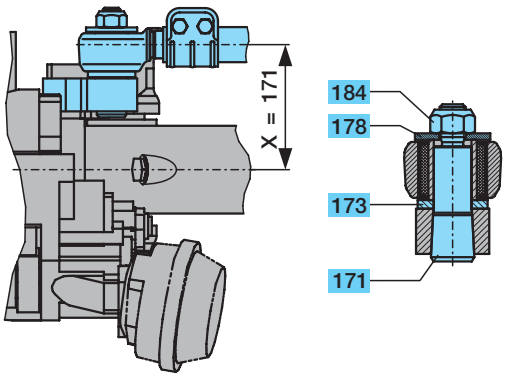
Track rod position 45 mm **D**



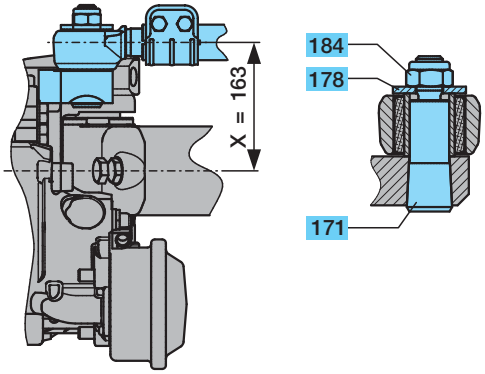
Track rod position 171 mm **E**



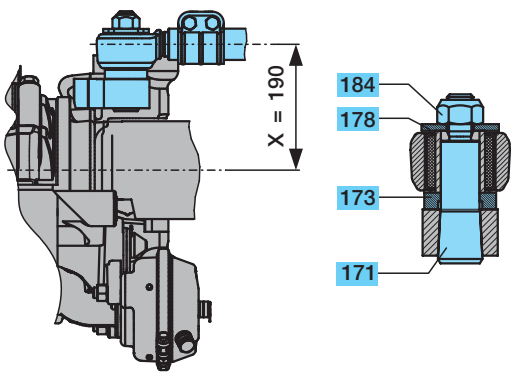
Track rod position 171 mm **F**



Track rod position 163 mm **G**

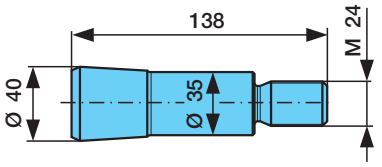


Track rod position 190 mm **H**

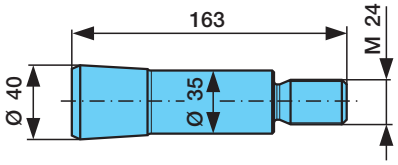


Steering rod attachments

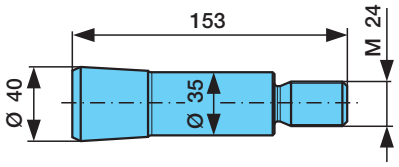
Item	Designation (Remark)	BPW Code no.	Dimension
		Track rod position 24.5 mm	**A**
		Track rod position 45 mm	**D**
		Track rod position 163 mm	**G**
170	Assembly kit item 171 - 184	05.801.43.18.1	
171	Threaded bolt	03.177.04.05.0	Ø 40 / 35 / M 24 x 138
178	Washer	03.320.24.05.0	Ø 24.5 / 70 x 65 x 6
184	Lock nut	02.5220.74.12	VM 24 / 980 - 10



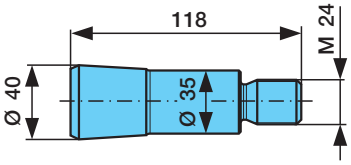
		Track rod position 25 mm	**B**
170	Assembly kit item 181 - 184	05.801.43.51.1	
171	Threaded bolt	03.177.04.14.0	Ø 40 / 35 / M 24 x 163
173	Ring	03.310.03.22.0	Ø 35 / 40 / 65 x 25
178	Washer	03.320.24.05.0	Ø 24.5 / 70 x 65 x 6
184	Lock nut	02.5220.74.12	VM 24 / 980 - 10



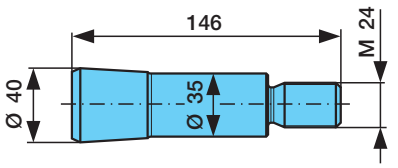
		Track rod position 35 mm	**C**
		Track rod position 190 mm	**H**
170	Assembly kit item 181 - 184	05.801.43.19.1	
171	Threaded bolt	03.177.04.06.0	Ø 40 / 35 / M 24 x 153
173	Ring	03.310.03.06.0	Ø 35 / 40 / 65 x 15
178	Washer	03.320.24.05.0	Ø 24.5 / 70 x 65 x 6
184	Lock nut	02.5220.74.12	VM 24 / 980 - 10



		Track rod position 171 mm	**E**
170	Assembly kit item 171 - 184	05.801.43.50.1	
171	Threaded bolt	03.177.14.40.0	Ø 40 / 35 / M 24 x 118
184	Lock nut	03.260.56.03.0	M 24 - 10



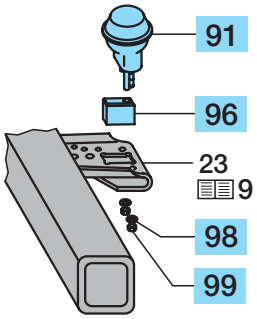
		Track rod position 171 mm	**F**
170	Assembly kit item 181 - 184	05.801.43.47.1	
171	Threaded bolt	03.177.04.13.0	Ø 40 / 35 / M 24 x 146
173	Washer	03.320.33.24.0	Ø 35 / 64 x 8
178	Washer	03.320.24.05.0	Ø 24.5 / 70 x 65 x 6
184	Lock nut	02.5220.74.12	VM 24 / 980 - 10



Track rod position = Distance axle centre - steering rod centre

Steering lock

Item	Designation (Remark)	BPW Code no.	Dimension
		SH..LL.. / SK..LL..	
91	Cylinder incl. item 98 + 99	02.0327.38.00	
96	Lock	03.060.00.13.0	
98	Spring washer	02.5601.12.90	A 12
99	Hexagon nut	02.5202.16.80	M 12 - 8



3 Brake parts

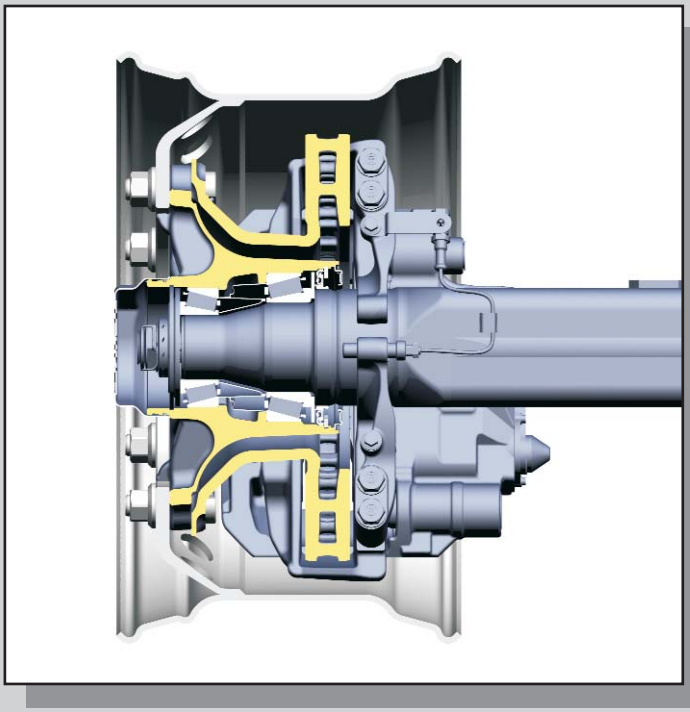
General

Brakes that are under-stressed glaze up, and their braking effect is reduced. Brakes that get too hot are subject to disproportionate wear. Correct dimensioning is therefore of crucial significance. BPW offers you the right brake for every application.

Disc brake SB 3745 (Ø 370)

For versatile deployment in the haulage business under normal conditions
(e.g. long-distance road haulage in Western Europe)

Axle load:	9 – 10 t
Tyre size:	19.5" (9 + 10 t) 22.5" (9 t)
Wheel exec.:	E, Z, ET 0 ET 120 (only 9 t)



Disc brake SB 4309 (Ø 430)

For conditions that demand greater disc and pad volume, such as mountainous routes or frequently changing tractor-trailer combinations (e.g. when deployed in Eastern Europe or in regional distribution).

Axle load:	9 – 10 t
Tyre size:	22.5"
Wheel exec.:	E, Z, ET 0; ET 120 (only 9 t)

Advantage: Large-diameter discs with tensioning unit matching the axle load.

Disc brake SB 4345 (Ø 430)

For extreme demands - see SB 4309 - and axle loads above 10 tonnes

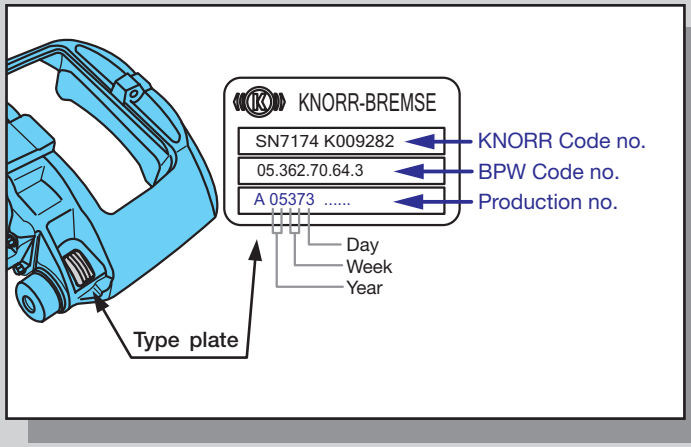
Axle load:	11 – 12 t
Tyre size:	22.5"
Wheel exec.:	E, Z, ET 0

ET = Offset

Type plate

There is a manufacturer's nameplate fixed onto each brake caliper, on which are stamped the data necessary for the identification of the brake in question.

- KNORR Code no.
- BPW Code no.
- Date of manufacture (production code number)



BPW Disc brakes - Series / BPW Code numbers

Disc brake light SB 3745	Rigid axles	Steering axles	Disc brake medium SB 4309	Rigid axles	Steering axles	Disc brake heavy duty SB 4345	Rigid axles	Steering axles
Axial screw connection, conventional brake								
05.362.70.16.0 / 17.0	●					05.362.70.12.0 / 13.0	●	
05.362.70.22.0 / 23.0		●				05.362.70.24.0 / 25.0	●	●
05.362.70.22.1 / 23.1		●						
05.362.70.22.2 / 23.2		●						
05.362.70.26.0 / 27.0	●							
05.362.70.26.1 / 27.1	●	●						
05.362.70.26.2 / 27.2	●	●						
05.362.70.28.0 / 29.0 SBR	●							
Axial screw connection, monoblock brake								
05.362.70.30.0 / 31.0 SBR	●					05.362.70.32.0 / 33.0	●	●
05.362.70.36.0 / 37.0	●	●				05.362.70.34.0 / 35.0	●	
05.362.70.36.1 / 37.1	●	●				05.362.70.38.0 / 39.0	●	●
05.362.70.36.2 / 37.2	●					05.362.70.38.1 / 39.1	●	●
05.362.70.40.0 / 41.0		●				05.362.70.38.2 / 39.2	●	●
05.362.70.40.1 / 41.1		●				05.362.70.42.0 / 43.0	●	
						05.362.70.42.1 / 43.1	●	●
						05.362.70.42.2 / 43.2	●	●
						05.362.70.42.3 / 43.3	●	●
Tangential screw connection, monoblock brake								
05.362.70.60.0 / 61.0	●	●	05.362.70.62.0 / 63.0		●	05.362.70.64.0 / 65.0	●	
05.362.70.60.2 / 61.2	●	●	05.362.70.62.1 / 63.1	●	●	05.362.70.64.2 / 65.2	●	
05.362.70.60.3 / 61.3	●	●	05.362.70.70.0 / 71.0	●		05.362.70.64.3 / 65.3	●	●
05.362.70.66.0 / 67.0 V	●	●	05.362.70.70.1 / 71.1 V	●	●	05.362.70.68.0 / 69.0 V	●	
						05.362.70.68.1 / 69.1 V	●	●

SBR = SB 3745 with radial adapter
V = with wear indicator

3 Brake parts

General

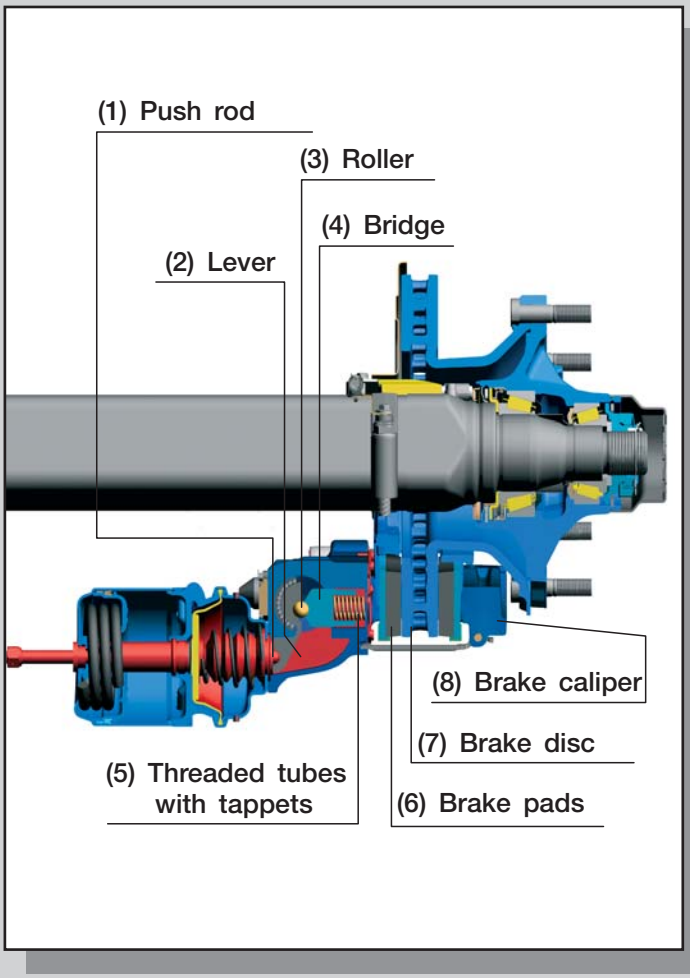
BPW Disc brakes - Function

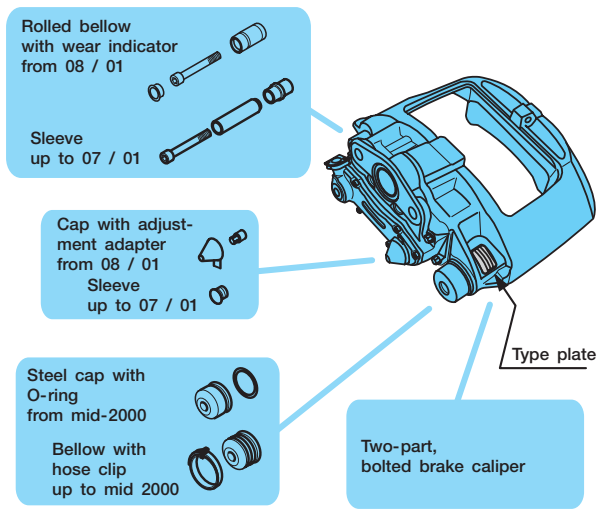
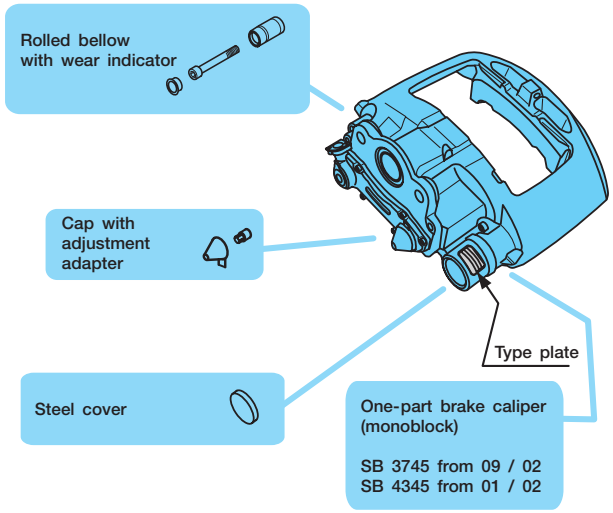
When the brake pedal is pressed, the push rod (1) of the brake cylinder presses against the lever (2) of the brake caliper.

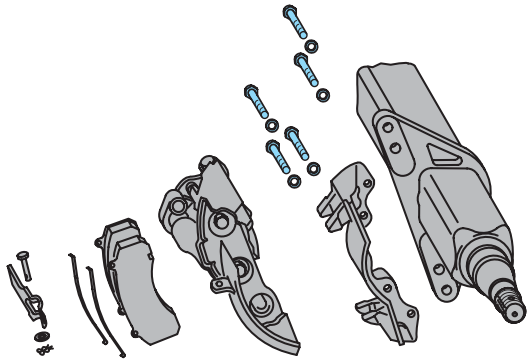
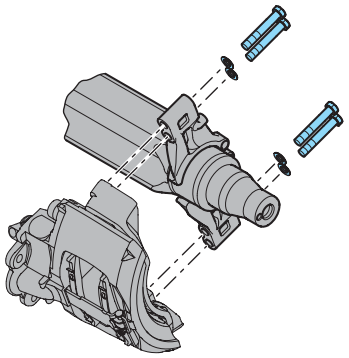
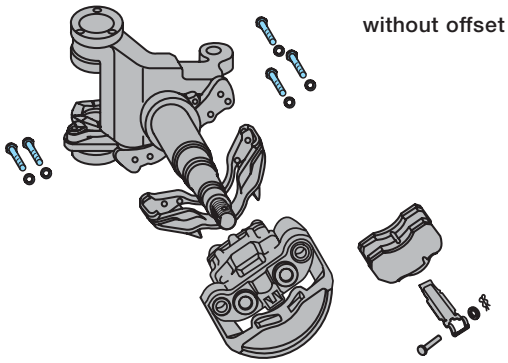
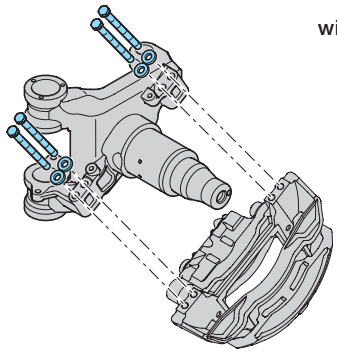
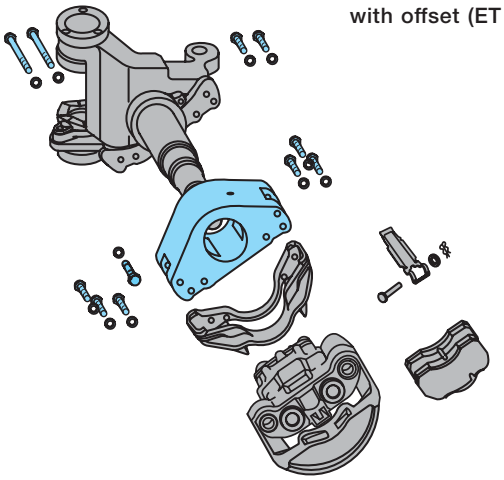
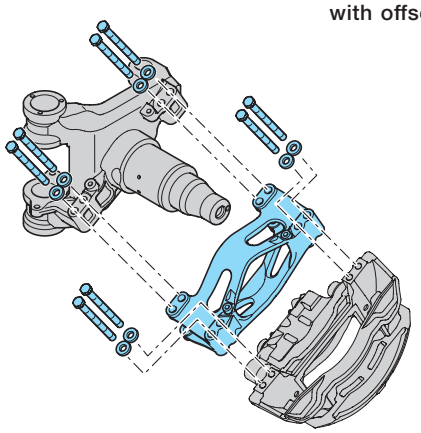
The roller (3) mounted eccentrically in the brake transfers the force onto the bridge (4). The clamping force acts on the internal brake pad (6) via the threaded tubes and tappets (5). As a result, the brake pad (6) is forced against the brake disc (7).

The reaction force which now arises on the caliper (8) is transferred to the opposite brake pad by means of the sliding carrier, so that the opposite pad (6) is also pressed against the brake disc with the same force.

When the brake pressure is reduced, the spring force returns the bridge (4) the threaded tubes (5) and lever (2) to their original position.



Features of the conventional disc brake	Features of the monoblock disc brake
	

Axle beam / Steering pivot - Disc brake connection	
Axial bolted connection	**Tangential bolted connection**
Rigid axles	
	
Steering axles	
without offset (ET 0) 	without offset (ET 0) 
with offset (ET 120) 	with offset (ET 120) 
Disc brakes are bolted onto the brake anchor plate of the axle beam / steering pivot <u>axially</u> (in the direction of the axle beam)	Disc brakes are bolted onto the brake anchor plate of the axle beam / steering pivot <u>tangentially</u>

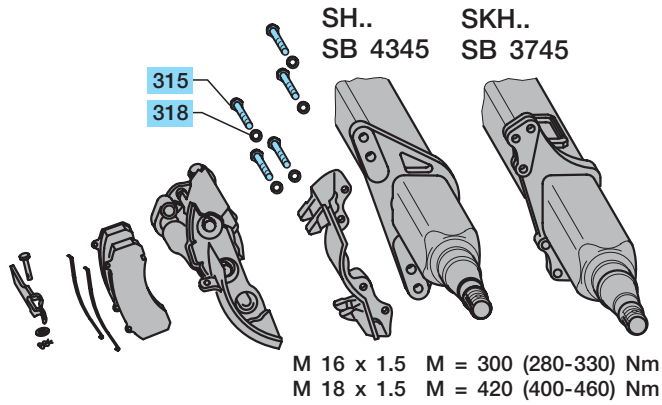
☞ All axle beams / steering pivots were changed over to disc brakes with tangential bolted connections in 5/2003. This means axle beams and steering pivots for axially bolted disc brakes are no longer available!

3.1 Brake attachments SB 3745 / 4309 / 4345

SB 3745 / 4345 - Axial bolted connection

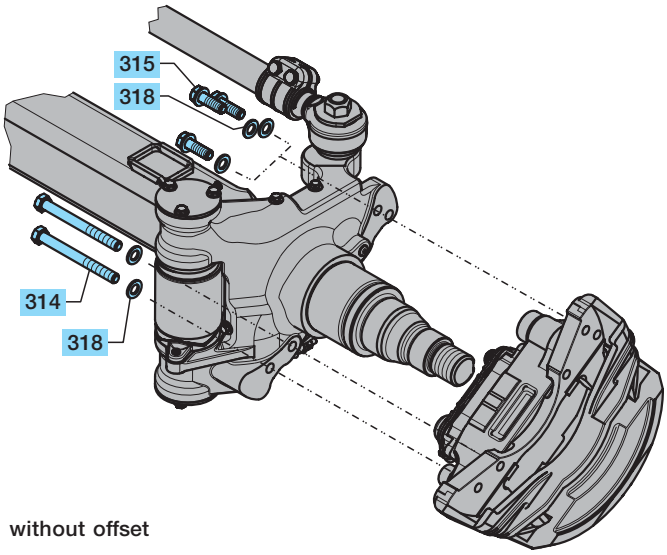
Rigid axles

Item	Designation	Dimension	BPW Code no.
SB 3745			
315	Hexagon bolt	M 16 x 1.5 x 60	02.5029.87.20
318	Washer	A 17	02.5401.16.08
SB 4345			
315	Hexagon bolt	M 18 x 1.5 x 60	02.5030.03.21
318	Washer	A 19	02.5401.19.09



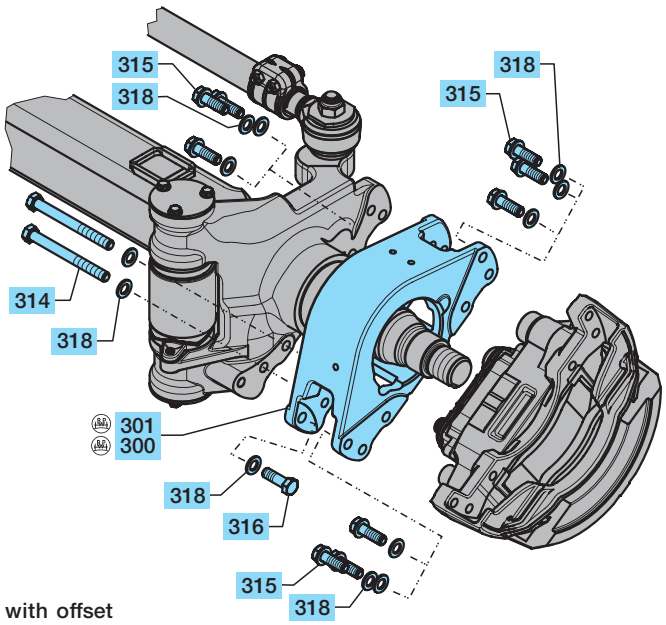
Steering axles

Item	Designation	Dimension	BPW Code no.
SB 3745			
314	Hexagon bolt	M 16 x 1.5 x 155 M 16 x 1.5 x 160	02.5029.89.21 02.5029.88.21
315	Hexagon bolt	M 16 x 1.5 x 50 M 16 x 1.5 x 60	02.5029.78.21 02.5029.87.20
316	Adjusting bolt	M 16 x 1.5 x 60	02.5051.10.21
318	Washer	A 17	02.5401.16.08
SB 4345			
315	Hexagon bolt	M 18 x 1.5 x 60	02.5030.03.21
318	Washer	A 19	02.5401.19.09



without offset

300	Support, right		upon request
301	Support, left		upon request
314	Hexagon bolt	M 16 x 1.5 x 155	02.5029.89.21
315	Hexagon bolt	M 16 x 1.5 x 50	02.5029.78.21
316	Adjusting bolt	M 16 x 1.5 x 50	02.5051.11.21
318	Washer	A 17	02.5401.16.08

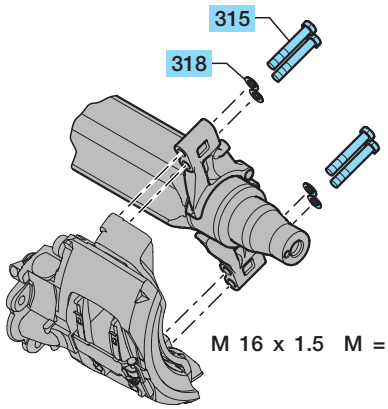


with offset

SB 3745 / 4309 / 4345 - Tangential bolted connection

Rigid axles

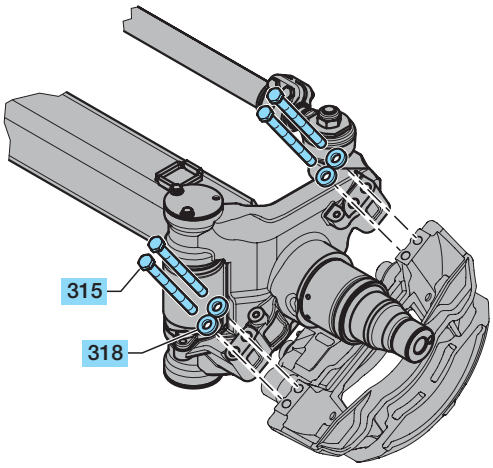
Item	Designation	Dimension	BPW Code no.
315	Hexagon bolt	M 16 x 1.5 x 97	03.340.12.26.0
318	Washer	A 17	02.5401.16.08



M 16 x 1.5 M = 320 (300-350) Nm

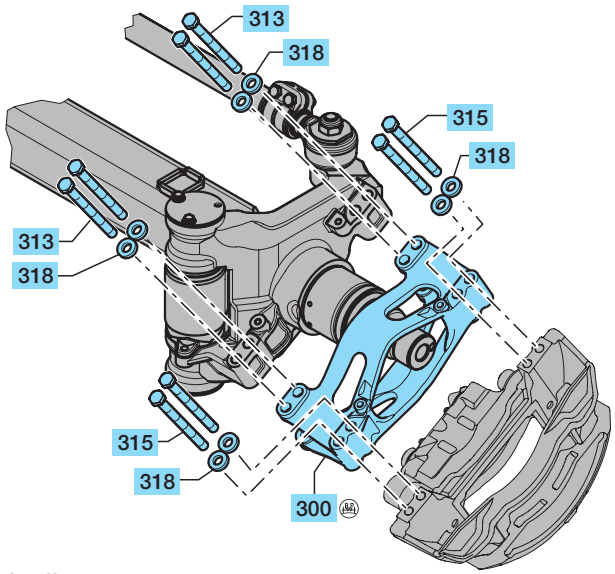
Steering axles

Item	Designation	Dimension	BPW Code no.
315	Hexagon bolt	M 16 x 1.5 x 97	03.340.12.26.0
318	Washer	A 17	02.5401.16.08



without offset

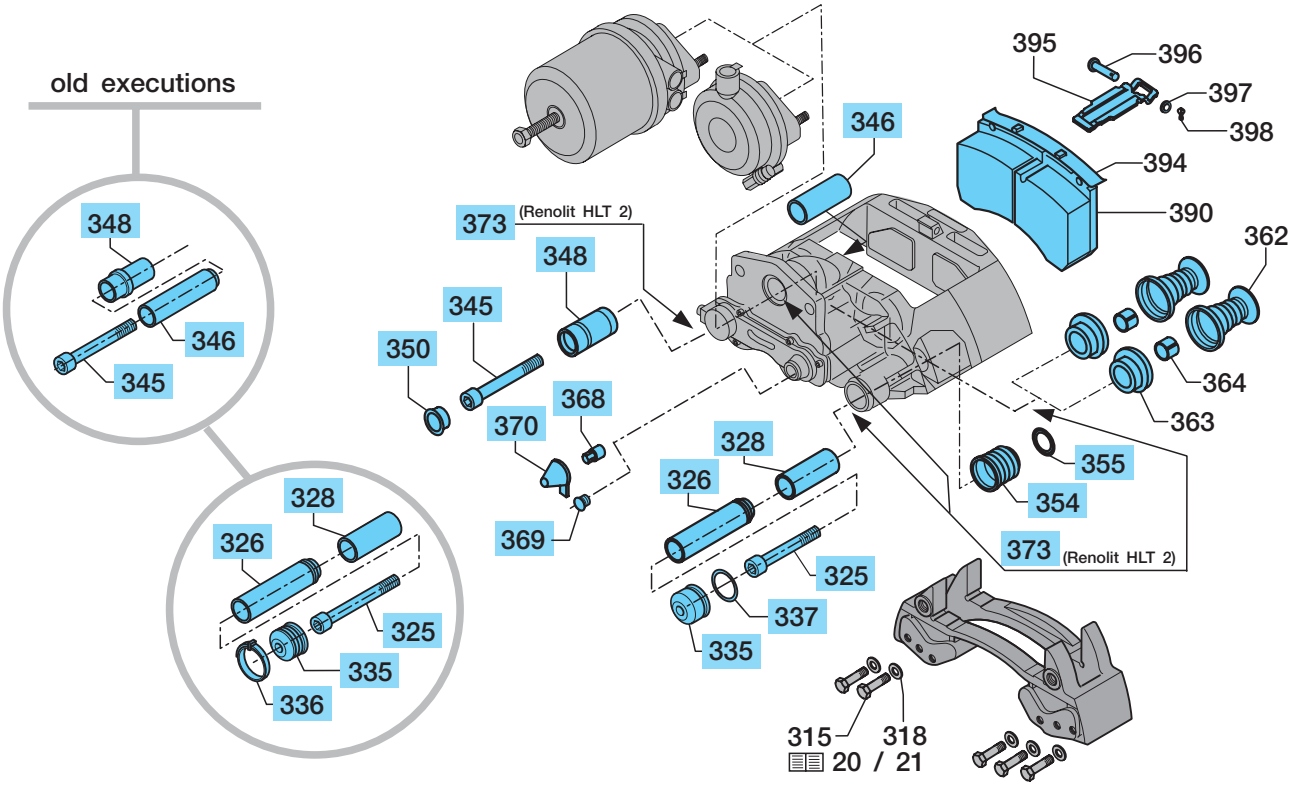
300	Support		upon request
313	Hexagon bolt	M 16 x 1.5 x 120	03.340.02.02.0
315	Hexagon bolt	M 16 x 1.5 x 97	03.340.12.26.0
318	Washer	A 17	02.5401.16.08



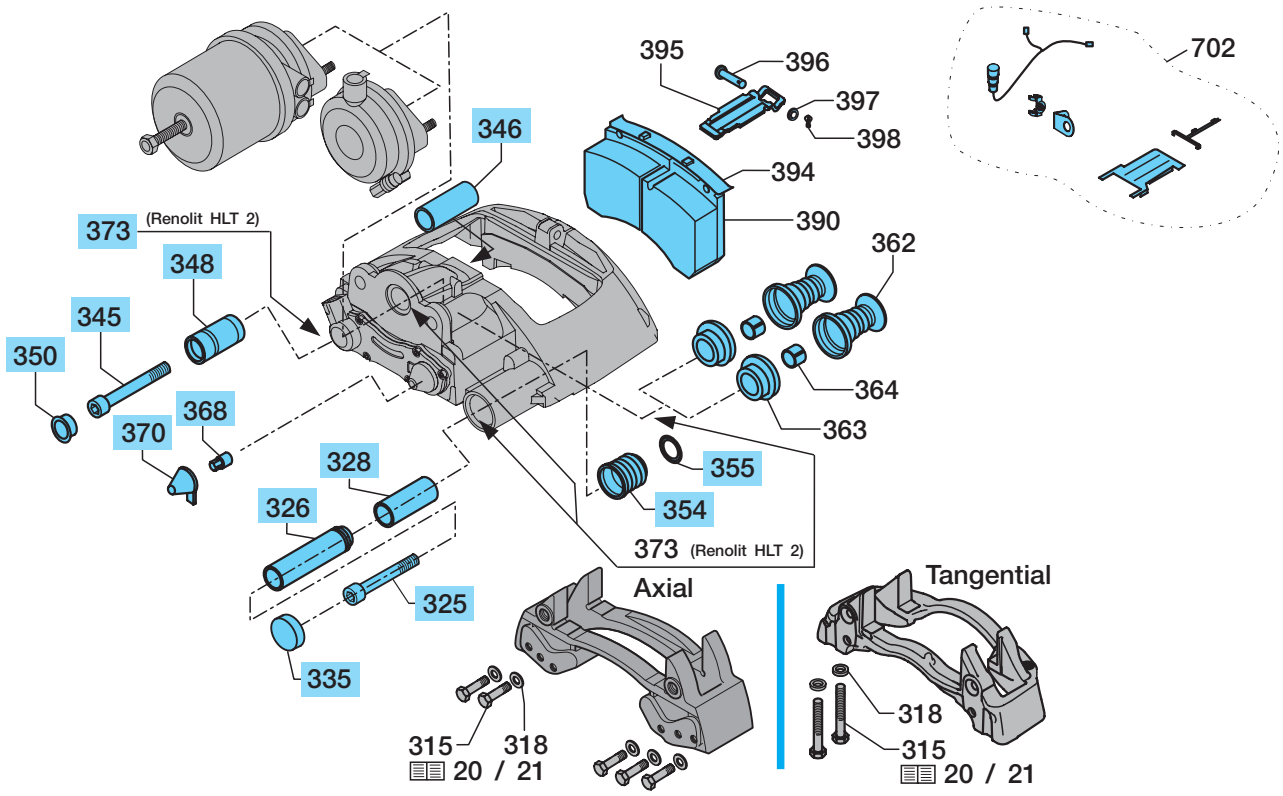
with offset

3.2 Brake parts SB 3745

SB 3745, conventional brake



SB 3745, Monoblock brake



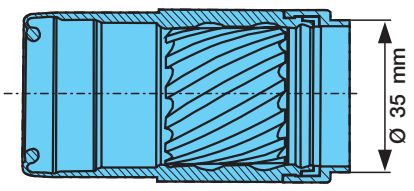
SB 3745

			SB 3745 Axial Conv. brake		SB 3745 Axial Monoblock brake	SB 3745 Tangential Monoblock brake
	Disc brake cpl.	05.362.	70.16.0 / 17.0	A	70.30.0 / 31.0	70.60.0 / 61.0
			70.22.0 / 23.0	A	70.36.0 / 37.0	70.60.2 / 61.2 [1]
			70.22.1 / 23.1	A	70.36.1 / 37.1	70.60.3 / 61.3 [2]
			70.22.2 / 23.2	B	70.36.2 / 37.2	70.66.0 / 67.0 V
			70.26.0 / 27.0	A	70.40.0 / 41.0	
			70.26.1 / 27.1	A	70.40.1 / 41.1	
			70.26.2 / 27.2	B		
			70.28.0 / 29.0	B		

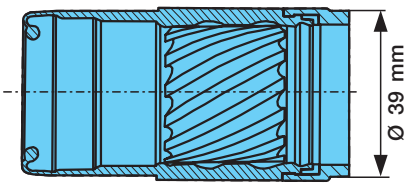
[1] Only initial equipment 7 mm backing plate
[2] 9 mm backing plate
V with wear indicator

Item	Designation (Remark)	Dimension / Remark	BPW Code no.		
315	Hexagon bolt		see page 20 / 21		
318	Washer		see page 20 / 21		
323	Repair kit - guide pin / seal parts item 325, 326, 328, 345, 346, 348, 350, 352, 373	for 1 axle side	09.801.06.31.0 09.801.06.24.0	A B	09.801.06.33.0
325	Cylinder cap bolt	M 16 x 1.5 x 86	02.5015.72.15		02.5015.72.15
326	Bush (guide sleeve)	Ø 17 x 36 x 116	02.0316.97.00		02.0316.97.00
328	Guide bush	Ø 36 / 40 x 82	02.0315.36.00		02.0315.36.00
345	Cylinder cap bolt	M 16 x 1.5 x 80	02.5015.73.15		02.5015.73.15
346	Bush	Ø 17 / 32 x 80	02.0314.06.00		02.0314.06.00
348	Guide sleeve (see below)	Ø Stop ring = Ø 35 Ø Stop ring = Ø 39	02.1410.22.00 02.1410.21.00	A B	- 02.1410.21.00
350	Cap		02.1827.07.00		02.1827.07.00
352	Repair kit - seal for guide pins		09.801.06.11.0		09.801.06.34.0
373	Renolit HLT 2	5 g tube	02.1040.40.00		02.1040.40.00
333	Repair kit - bellow / hose clip item 335, 336	for 1 axle	09.801.02.58.0	A	
335	Bellow	Ø 46 x 38	02.1011.25.00		-
336	Hose clip		02.3502.38.00		-
344	Repair kit - loose bearing item 345, 346, 348, 350, 373	for 1 axle side	09.801.06.90.0 09.801.06.91.0	A B	09.801.06.91.0
345	Cylinder cap bolt	M 16 x 1.5 x 80	02.5015.73.15		02.5015.73.15
346	Bush	Ø 17 / 32 x 80	02.0314.06.00		02.0314.06.00
348	Guide sleeve (see below)	Ø Stop ring = Ø 35 Ø Stop ring = Ø 39	02.1410.22.00 02.1410.21.00	A B	- 02.1410.21.00
350	Cap		02.1827.07.00		02.1827.07.00
373	Renolit HLT 2	5 g tube	02.1040.40.00		02.1040.40.00

Guide sleeve 02.1410.22.00 - Ø Stop ring = 35 mm

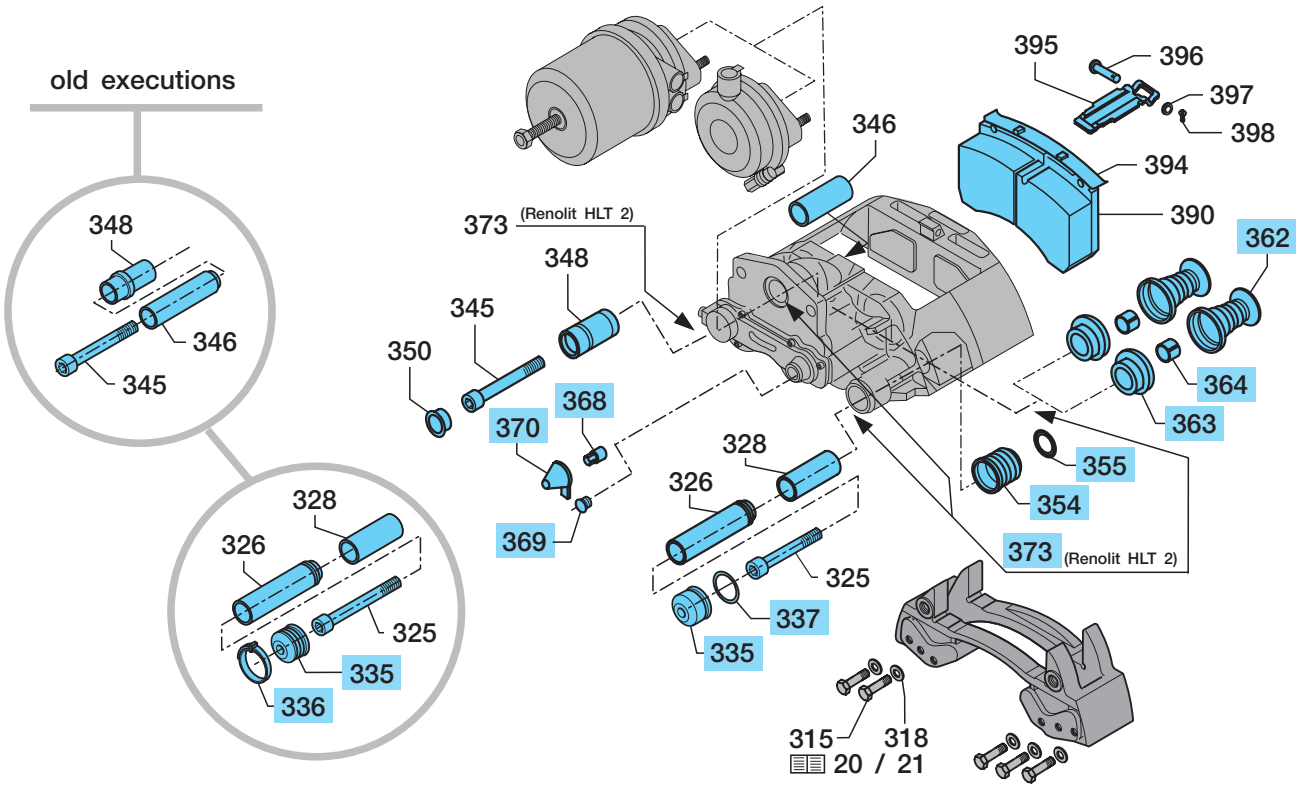


Guide sleeve 02.1410.21.00 - Ø Stop ring = 39 mm

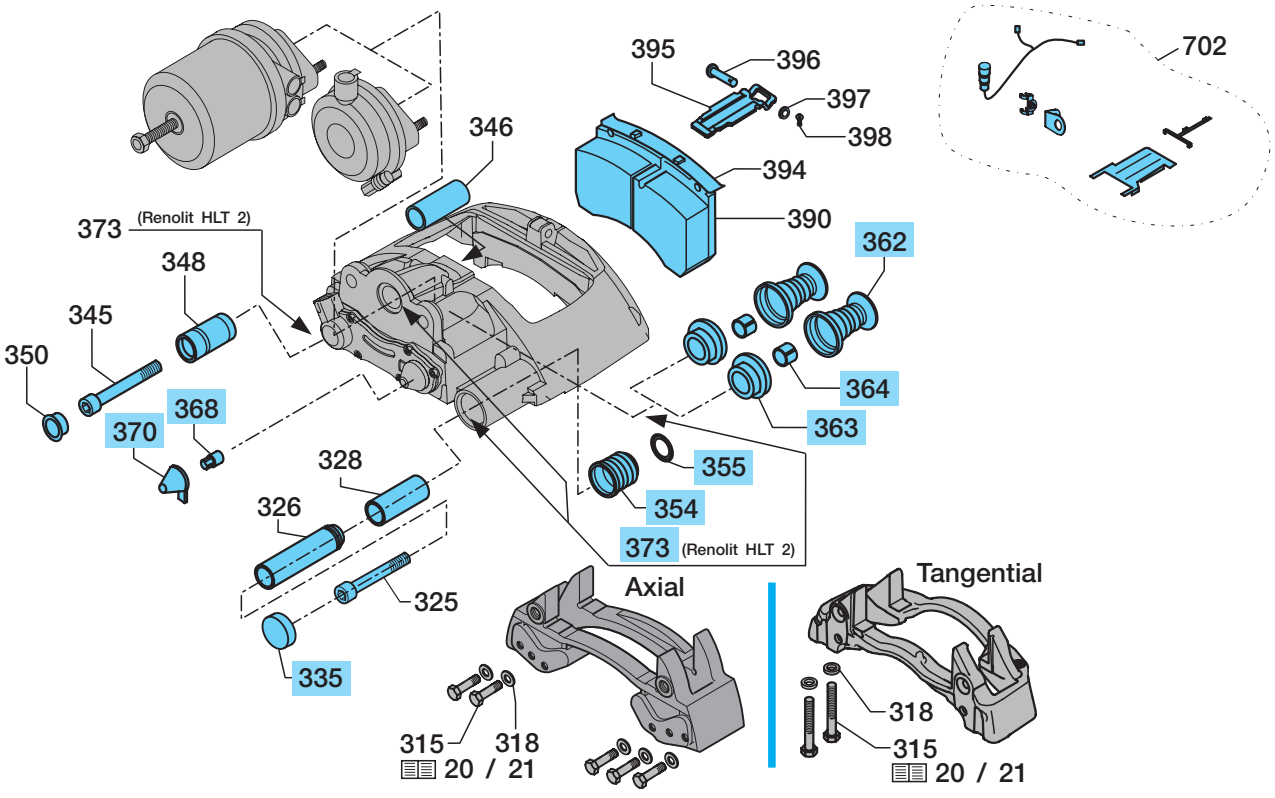


3.2 Brake parts SB 3745

SB 3745, conventional brake



SB 3745, Monoblock brake



SB 3745

			SB 3745 Axial Conv. brake	SB 3745 Axial Monoblock brake	SB 3745 Tangential Monoblock brake
	Disc brake cpl.	05.362.	70.16.0 / 17.0	70.30.0 / 31.0	70.60.0 / 61.0
			70.22.0 / 23.0	70.36.0 / 37.0	70.60.2 / 61.2 [1]
			70.22.1 / 23.1	70.36.1 / 37.1	70.60.3 / 61.3 [2]
			70.22.2 / 23.2	70.36.2 / 37.2	70.66.0 / 67.0 V
			70.26.0 / 27.0	70.40.0 / 41.0	
			70.26.1 / 27.1	70.40.1 / 41.1	
			70.26.2 / 27.2		
			70.28.0 / 29.0		

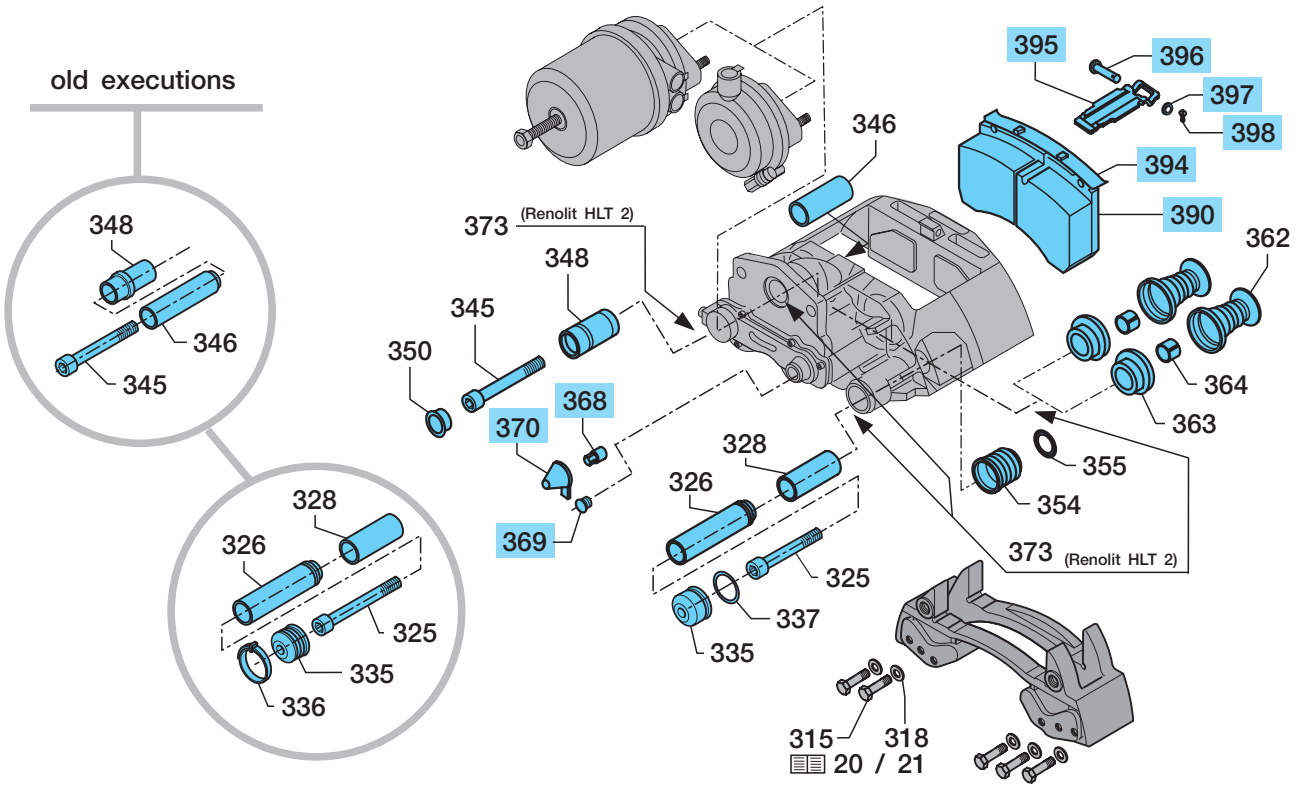
[1] Only initial equipment 7 mm backing plate
[2] 9 mm backing plate
V with wear indicator

Item	Designation (Remark)	Dimension / Remark	BPW Code no.	
352	Repair kit - seal für guide pins	for 1 axle side		
	with bellow item 335, 336, 354, 355, 369		09.801.02.60.0	-
	with steel cap item 335, 337, 354, 355, 369		09.801.06.11.0	-
	with cover plate item 335, 354, 355		-	09.801.06.34.0
335	Bellow		02.1011.25.00	-
	Steel cap		02.1827.06.00	-
	Cover plate		-	02.0601.19.00
336	Hose clip		02.3502.38.00	-
337	'O'-Ring	Ø 47 x 2.6	02.5677.98.00	-
354	Bellow	Ø 44 / 30 x 37.8	02.1011.24.00	02.1011.24.00
355	Ring	Ø 50 / 36.5 x 5.4	02.5683.74.00	02.5683.74.00
369	Cap		02.1827.04.00	-
360	Repair kit - tappet parts with bellows item 362, 363, 364, 373	for 1 axle side	09.801.02.63.0	09.801.06.32.0
362	Tappet part with bellow		02.0608.14.00	02.0608.15.00
363	Seal		02.0611.06.00 *	02.0611.05.00 *
364	Bush	Ø 16 / 18 x 10	02.0315.56.00	02.0315.56.00
373	Renolit HLT2	5 g tube	02.1040.40.00	02.1040.40.00
367	Repair kit - adjuster adapter (interchangeable adapter) item 368, 370	for 1 axle side	09.801.06.25.0	
368	Adjuster adapter		02.2400.11.00	
370	Cap	Ø 38	02.1827.08.00	
		Ø 35	02.1827.09.00	

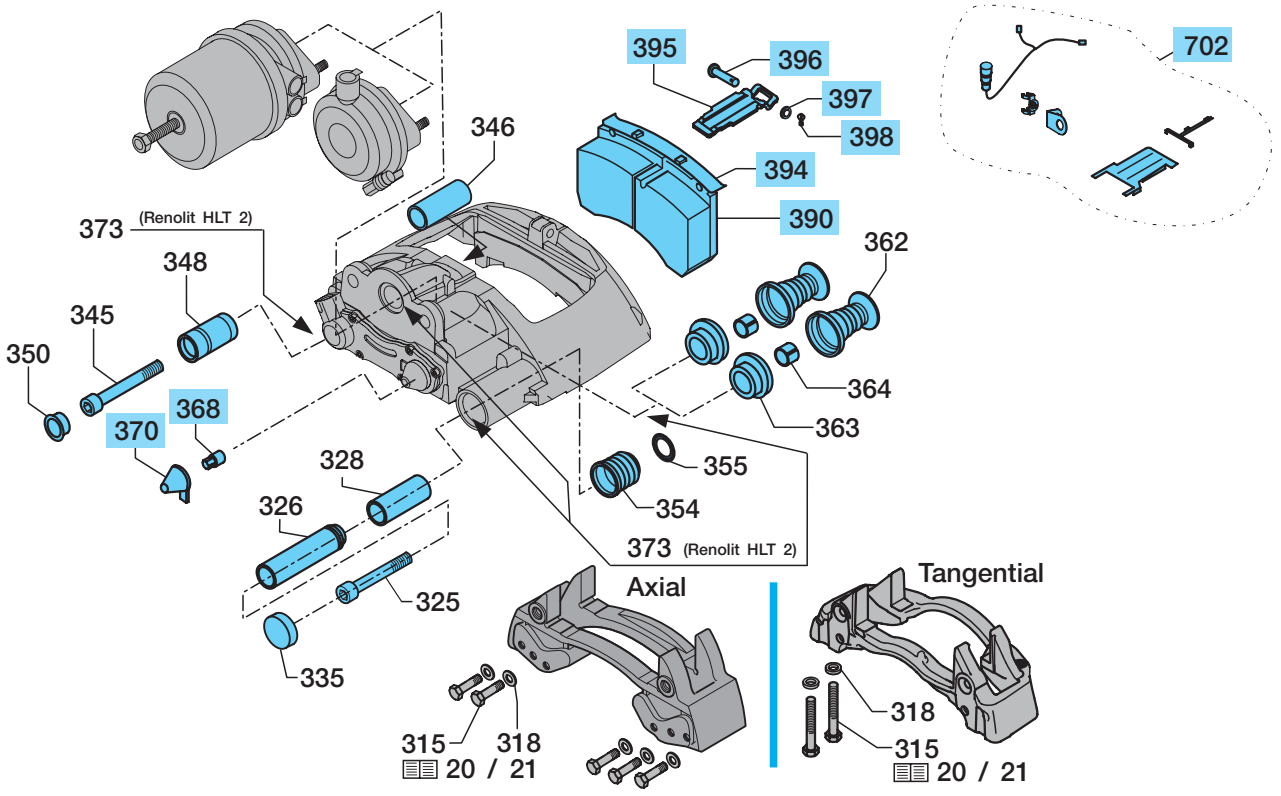
* If the disc brake is equipped with a black "inside seal" (item 363) then do not fit the set with the white "inside seal" under any circumstances!

3.2 Brake parts SB 3745

SB 3745, conventional brake



SB 3745, Monoblock brake



SB 3745

			SB 3745 Axial Conv. brake	SB 3745 Axial Monoblock brake	SB 3745 Tangential Monoblock brake
	Disc brake cpl.	05.362.	70.16.0 / 17.0	70.30.0 / 31.0	70.60.0 / 61.0
			70.22.0 / 23.0	70.36.0 / 37.0	70.60.2 / 61.2 1)
			70.22.1 / 23.1	70.36.1 / 37.1	70.60.3 / 61.3 2)
			70.22.2 / 23.2	70.36.2 / 37.2	70.66.0 / 67.0 V
			70.26.0 / 27.0	70.40.0 / 41.0	
			70.26.1 / 27.1	70.40.1 / 41.1	
			70.26.2 / 27.2		
			70.28.0 / 29.0		

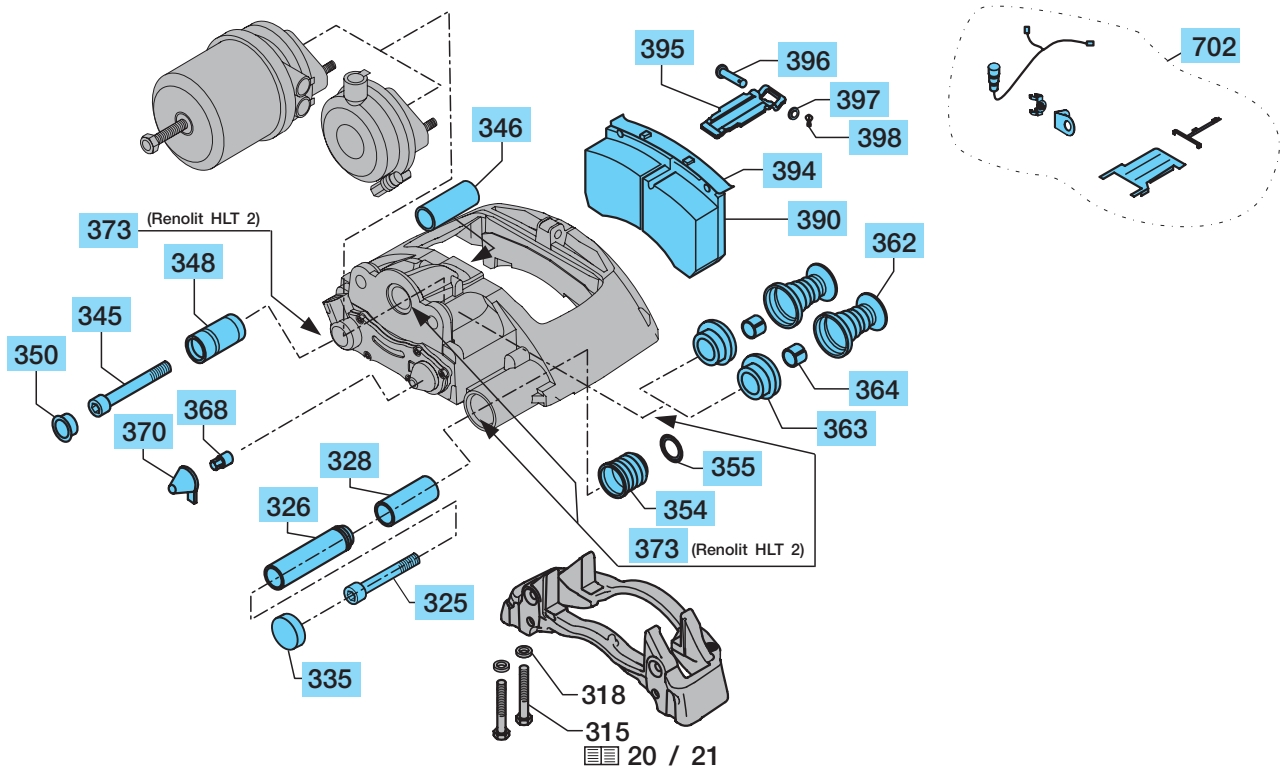
1) Only initial equipment 7 mm backing plate
2) 9 mm backing plate
V with wear indicator

Item	Designation (Remark)	Dimension / Remark	BPW Code no.	
388	Repair kit - brake pads item 368, 369, 370, 390, 394, 396, 397, 398	for 1 axle	09.801.06.43.0 Brake pads Textar T 3030 09.801.07.09.0 Brake pads Jurid 539	
368	Adjuster adapter		02.2400.11.00	
369	Cap		02.1827.04.00	
370	Cap	Ø 38 Ø 35	02.1827.08.00 02.1827.09.00	
390	Brake pad		05.092.....	not available loose *
394	Brake pad retension clip		02.3319.01.00	
396	Bolt		02.5829.22.31	
397	Washer	Ø 10 x 48 / 52	02.5404.10.04	
398	Lock	10.5 / 433	02.3301.31.00	
393	Repair kit - brake pad retension clip item 395, 396, 397, 398	for 1 axle	09.801.02.76.0	
395	Brake pad retension clip		02.0305.22.00	
396	Bolt		02.5829.22.31	
397	Washer		02.5404.10.04	
398	Lock		02.3301.31.00	
702	Wear sensor kit cpl.	for 1 axle	-	05.801.51.70.0
-	Support		-	03.189.15.03.0
-	Support for ABS connector		-	02.1421.11.00
-	Wear sensor kit (Cable, cable duct, protective plate a.a.)		-	05.801.51.74.0

* not available loose - see repair kit brake pads (item 388)

3.3 Brake parts SB 4309

SB 4309, Monoblock brake



SB 4309, tangential screw connection, monoblock brake

			SB 4309 Tangential Monoblock brake
	Disc brake cpl.		05.362.70.62.0 / 63.0 05.362.70.62.1 / 63.1 05.362.70.70.0 / 71.0 V (with wear indicator) 05.362.70.70.1 / 71.1 V (with wear indicator)

Item	Designation (Remark)	Dimension / Remark	BPW Code no.
315	Hexagon bolt		see page 20 / 21
318	Washer		see page 20 / 21
323	Repair kit - guide pin / seal parts item 325, 326, 328, 345, 346, 348, 350, 352, 373	for 1 axle side	09.801.06.33.0
325	Cylinder cap bolt	M 16 x 1.5 x 86	02.5015.72.15
326	Bush (guide sleeve)	Ø 17 x 36 x 116	02.0316.97.00
328	Guide bush	Ø 36 / 40 x 82	02.0315.36.00
345	Cylinder cap bolt	M 16 x 1.5 x 80	02.5015.73.15
346	Bush	Ø 17 / 32 x 80	02.0314.06.00
348	Guide sleeve	Ø Stop ring = Ø 39	02.1410.21.00
350	Cap		02.1827.07.00
352	Repair kit - seal für guide pins		09.801.06.34.0
373	Renolit HLT 2	5 g tube	02.1040.40.00

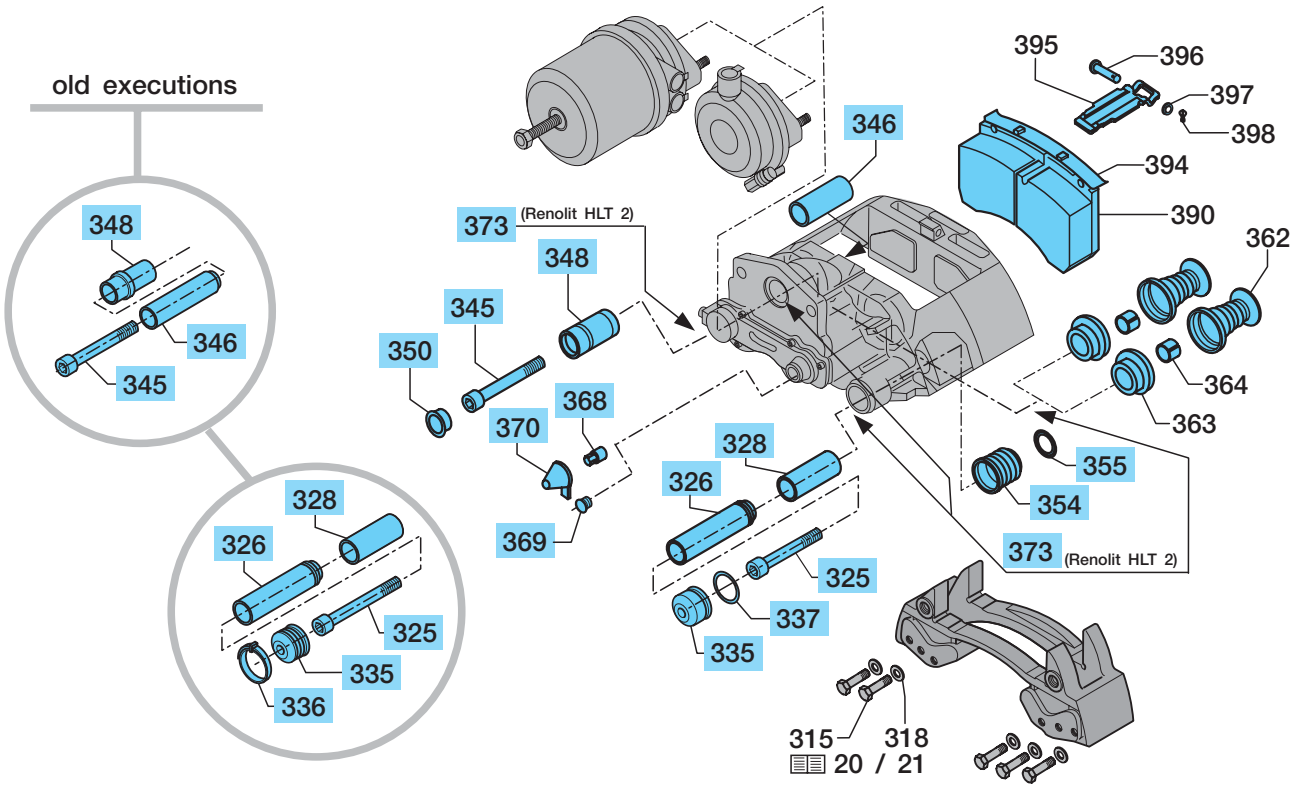
SB 4309

Item	Designation (Remark)	Dimension / Remark	BPW Code no.	
344	Repair kit - loose bearing item 345, 346, 348, 350, 373	for 1 axle side	09.801.06.91.0	
345	Cylinder cap bolt	M 16 x 1.5 x 80	02.5015.73.15	
346	Bush	Ø 17 / 32 x 80	02.0314.06.00	
348	Guide sleeve	Ø Stop ring = Ø 39	02.1410.21.00	
350	Cap		02.1827.07.00	
373	Renolit HLT 2		02.1040.40.00	
352	Repair kit - seal für guide pins item 335, 354, 355	for 1 axle side	09.801.06.34.0	
335	Cover plate		02.0601.19.00	
354	Bellow	Ø 44 / 30 x 37.8	02.1011.24.00	
355	Ring	Ø 50 / 36.5 x 5.4	02.5683.74.00	
360	Repair kit - tappet parts with bellows item 362, 363, 364, 373	for 1 axle side	09.801.06.32.0	
362	Tappet part with bellow		02.0608.15.00	
363	Seal		02.0611.05.00 [1)]	
364	Bush	Ø 16 / 18 x 10	02.0315.56.00	
373	Renolit HLT2	5 g tube	02.1040.40.00	
367	Repair kit - adjuster adapter (interchangeable adapter) (item 368, 370	for 1 axle side	09.801.06.25.0	
368	Adjuster adapter		02.2400.11.00	
370	Cap	Ø 38 Ø 35	02.1827.08.00 02.1827.09.00	
388	Repair kit - brake pads (item 368, 370, 390, 394, 396, 397, 398	for 1 axle	09.801.06.44.0 09.801.06.95.0	Brake pads Textar T 3030 Brake pads Jurid 539
368	Adjuster adapter		02.2400.11.00	
370	Cap	Ø 35	02.1827.09.00	
390	Brake pad		05.092.....	not available loose *
394	Brake pad retension clip		02.3319.01.00	
396	Bolt	Ø 10 x 48 / 52	02.5829.22.31	
397	Washer	10.5 / 433	02.5404.10.04	
398	Lock		02.3301.31.00	
393	Repair kit - brake pad retension clip item 395, 396, 397, 398	for 1 axle	09.801.02.76.0	
395	Brake pad retension clip		02.0305.22.00	
396	Bolt		02.5829.22.31	
397	Washer		02.5404.10.04	
398	Lock		02.3301.31.00	
702	Wear sensor kit cpl.	for 1 axle	05.801.51.70.0	
-	Support		03.189.15.03.0	
-	Support for ABS connector		02.1421.11.00	
-	Wear sensor kit (Cable, cable duct, protective plate a.a.)		05.801.51.74.0	

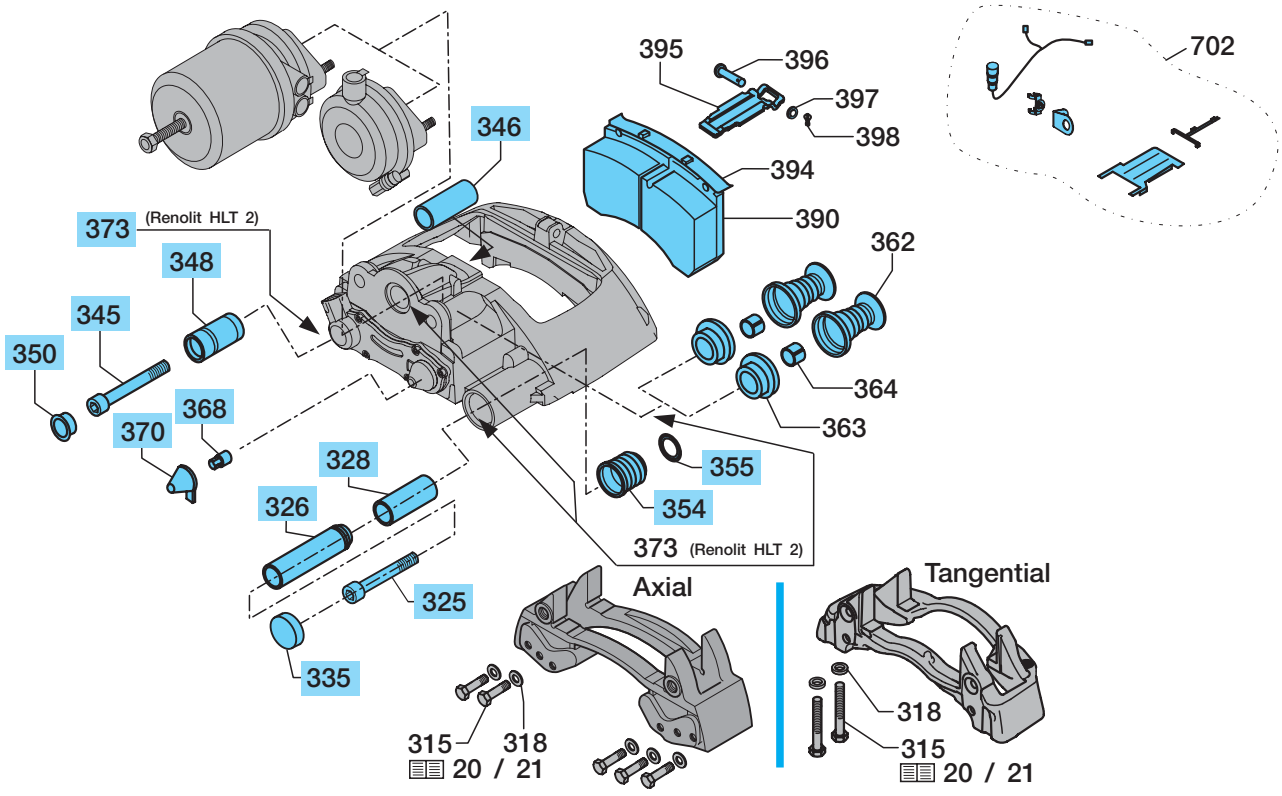
* not available loose - see repair kit brake pads (item 388)

3.4 Brake parts SB 4345

SB 4345, conventional brake



SB 4345, Monoblock brake

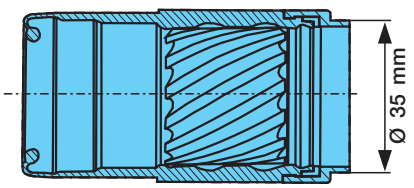


SB 4345

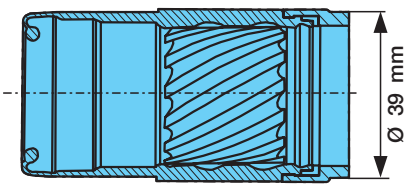
			SB 4345 Axial Conv. brake	SB 4345 Axial Monoblock brake	SB 4345 Tangential Monoblock brake
	Disc brake cpl.	05.362.	70.12.0 / 13.0	70.32.0 / 33.0	70.64.0 / 65.0
			70.24.0 / 25.0	70.34.0 / 35.0	70.64.2 / 65.2
				70.38.0 / 39.0	70.64.3 / 65.3
	V with wear indicator			70.38.1 / 39.1	70.68.0 / 69.0 V
				70.38.2 / 39.2	70.68.1 / 69.1 V
				70.42.0 / 43.0	
				70.42.1 / 43.1	
				70.42.2 / 43.2	
				70.42.3 / 43.3	

Item	Designation (Remark)	Dimension / Remark	BPW Code no.	
315	Hexagon bolt		see page 20 / 21	
318	Washer		see page 20 / 21	
323	Repair kit - guide pin / seal parts item 325, 326, 328, 345, 346, 348, 350, 352, 373	for 1 axle side	09.801.06.31.0	09.801.06.33.0
325	Cylinder cap bolt	M 16 x 1.5 x 86	02.5015.72.15	02.5015.72.15
326	Bush (guide sleeve)	Ø 17 x 36 x 116	02.0316.97.00	02.0316.97.00
328	Guide bush	Ø 36 / 40 x 82	02.0315.36.00	02.0315.36.00
345	Cylinder cap bolt	M 16 x 1.5 x 80	02.5015.73.15	02.5015.73.15
346	Bush	Ø 17 / 32 x 80	02.0314.06.00	02.0314.06.00
348	Guide sleeve	Ø Stop ring = Ø 35 Ø Stop ring = Ø 39	02.1410.22.00 -	- 02.1410.21.00
350	Cap		02.1827.07.00	02.1827.07.00
352	Repair kit - seal for guide pin		09.801.06.11.0	09.801.06.34.0
373	Renolit HLT 2	5 g tube	02.1040.40.00	02.1040.40.00
333	Repair kit - bellow / hose clip item 335, 336	for 1 axle	09.801.02.58.0	
335	Bellow	Ø 46 x 38	02.1011.25.00	-
336	Hose clip		02.3502.38.00	-
344	Repair kit - loose bearing item 345, 346, 348, 350, 373	for 1 axle side	09.801.06.90.0	09.801.06.91.0
345	Cylinder cap bolt	M 16 x 1.5 x 80	02.5015.73.15	02.5015.73.15
346	Bush	Ø 17 / 32 x 80	02.0314.06.00	02.0314.06.00
348	Guide sleeve	Ø Stop ring = Ø 35 Ø Stop ring = Ø 39	02.1410.22.00 -	- 02.1410.21.00
350	Cap		02.1827.07.00	02.1827.07.00
373	Renolit HLT 2		02.1040.40.00	02.1040.40.00

Guide sleeve 02.1410.22.00 - Ø Stop ring = 35 mm

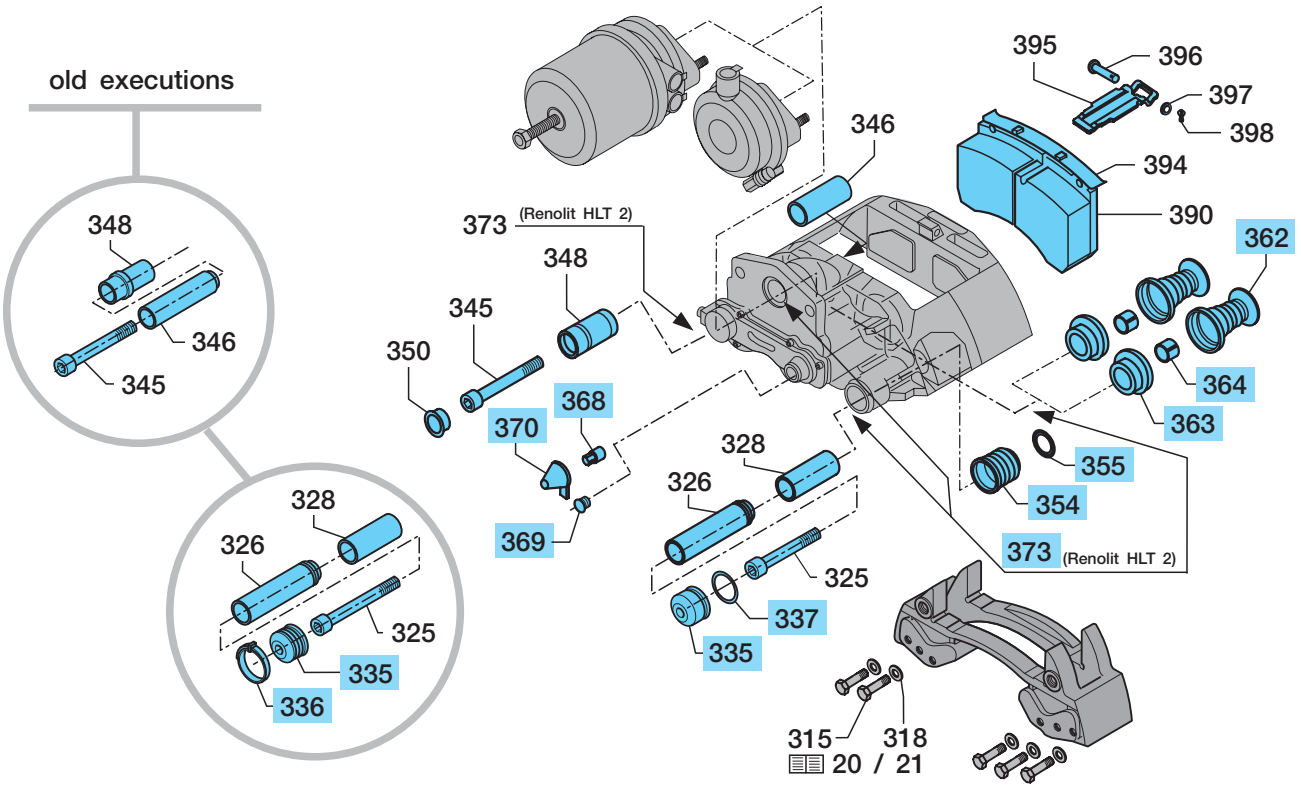


Guide sleeve 02.1410.21.00 - Ø Stop ring = 39 mm

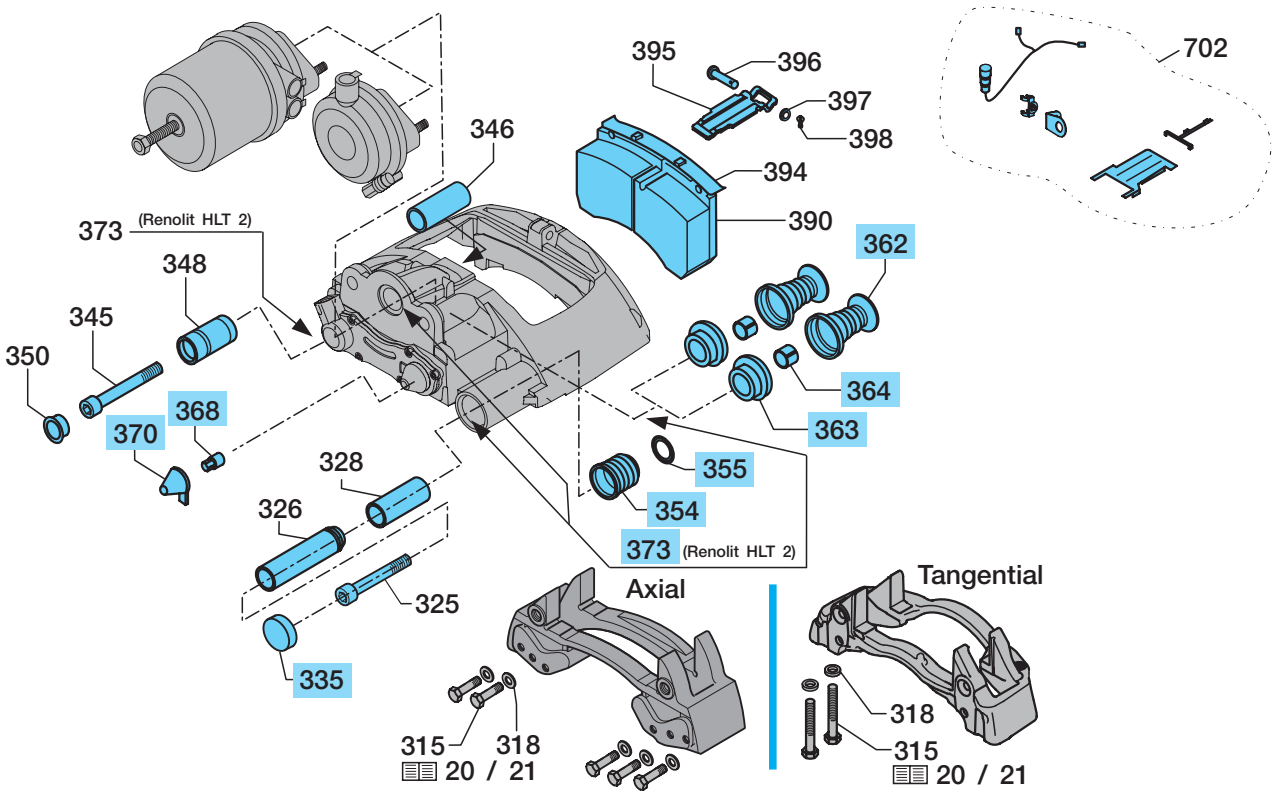


3.4 Brake parts SB 4345

SB 4345, conventional brake



SB 4345, Monoblock brake



SB 4345

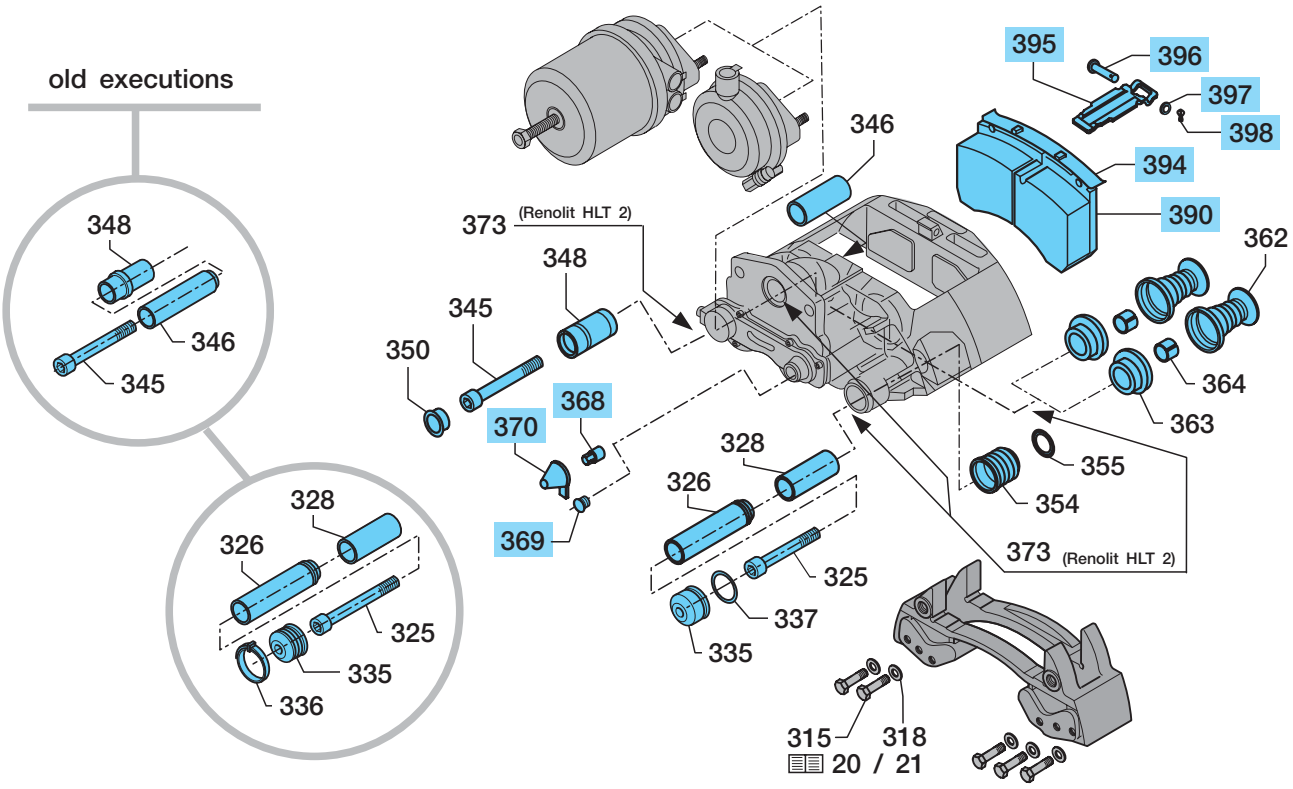
			SB 4345 Axial Conv. brake	SB 4345 Axial Monoblock brake	SB 4345 Tangential Monoblock brake
	Disc brake cpl.	05.362.	70.12.0 / 13.0 70.24.0 / 25.0	70.32.0 / 33.0 70.34.0 / 35.0 70.38.0 / 39.0 70.38.1 / 39.1 70.38.2 / 39.2 70.42.0 / 43.0 70.42.1 / 43.1 70.42.2 / 43.2 70.42.3 / 43.3	70.64.0 / 65.0 70.64.2 / 65.2 70.64.3 / 65.3 70.68.0 / 69.0 V 70.68.1 / 69.1 V
	V with wear indicator				

Item	Designation (Remark)	Dimension / Remark	BPW Code no.	
352	Repair kit - seal für guide pins	for 1 axle side		
	with bellow item 335, 336, 354, 355, 369		09.801.02.60.0	-
	with steel cap item 335, 337, 354, 355, 369		09.801.06.11.0	-
	with cover plate item 335, 354, 355			09.801.06.34.0
335	Bellow		02.1011.25.00	-
	Steel cap		02.1827.06.00	02.0601.19.00
	Cover plate		-	-
336	Hose clip		02.3502.38.00	-
337	'O'-Ring	Ø 47 x 2.6	02.5677.98.00	-
354	Bellow	Ø 44 / 30 x 37.8	02.1011.24.00	02.1011.24.00
355	Ring	Ø 50 / 36.5 x 5.4	02.5683.74.00	02.5683.74.00
369	Cap		02.1827.04.00	-
360	Repair kit - tappet parts with bellows item 362, 363, 364, 373	for 1 axle side	09.801.02.63.0	09.801.06.32.0
362	Tappet part with bellow		02.0608.14.00	02.0608.15.00
363	Seal		02.0611.06.00 *	02.0611.05.00 *
364	Bush	Ø 16 / 18 x 10	02.0315.56.00	02.0315.56.00
373	Renolit HLT2	5 g tube	02.1040.40.00	02.1040.40.00
367	Repair kit - adjuster adapter (interchangeable adapter) item 368, 370	for 1 axle side	09.801.06.25.0	
368	Adjuster adapter		02.2400.11.00	
370	Cap	Ø 38 Ø 35	02.1827.08.00 02.1827.09.00	

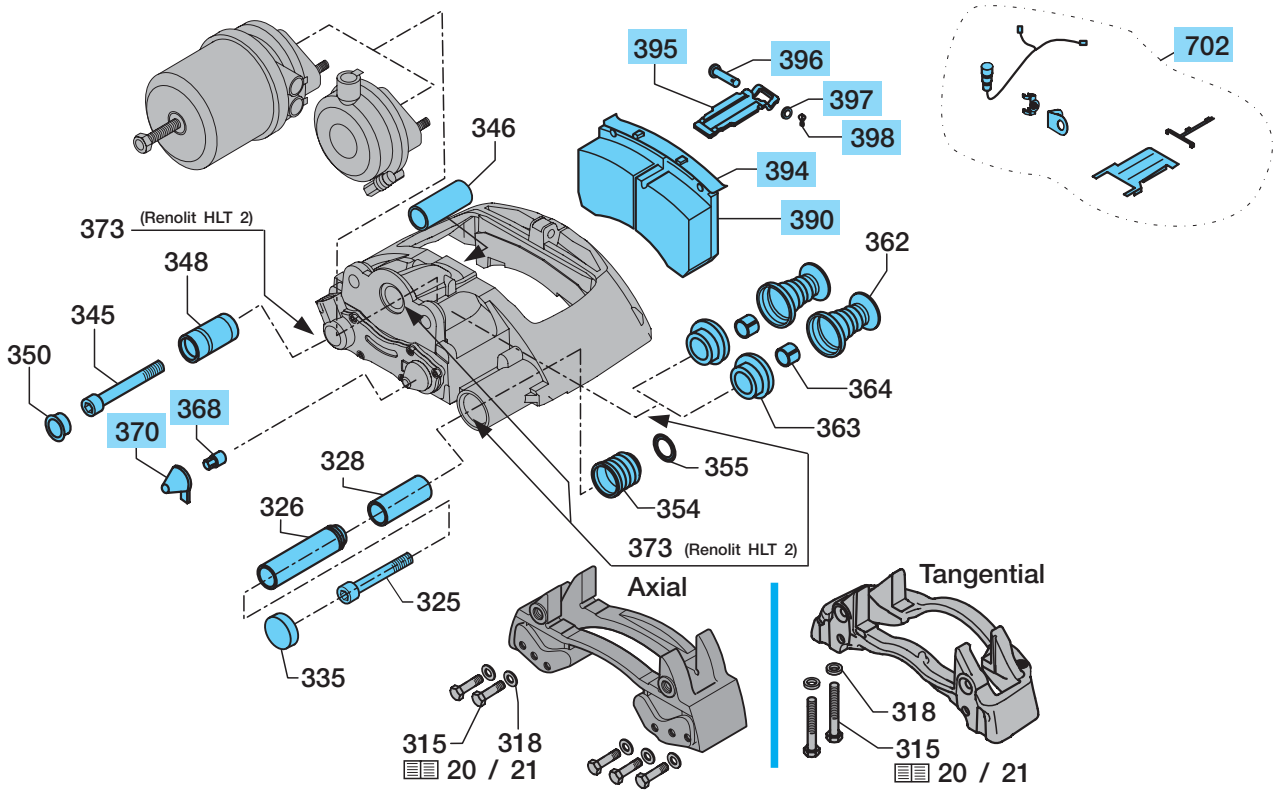
* If the disc brake is equipped with a black "inside seal" (item 363) then do not fit the set with the white "inside seal" under any circumstances!

3.4 Brake parts SB 4345

SB 4345, conventional brake



SB 4345, Monoblock brake



SB 4345

			SB 4345 Axial Conv. brake	SB 4345 Axial Monoblock brake	SB 4345 Tangential Monoblock brake
	Disc brake cpl.	05.362.	70.12.0 / 13.0	70.32.0 / 33.0	70.64.0 / 65.0
			70.24.0 / 25.0	70.34.0 / 35.0	70.64.2 / 65.2
				70.38.0 / 39.0	70.64.3 / 65.3
				70.38.1 / 39.1	70.68.0 / 69.0 V
	with wear indicator			70.38.2 / 39.2	70.68.1 / 69.1 V
				70.42.0 / 43.0	
				70.42.1 / 43.1	
				70.42.2 / 43.2	
				70.42.3 / 43.3	

Item	Designation (Remark)	Dimension / Remark	BPW Code no.
388	Repair kit - brake pads item 368, 369, 370, 390, 394, 396, 397, 398	for 1 axle	09.801.06.45.0 Brake pads Textar T 3030 09.801.06.96.0 Brake pads Jurid 539
368	Adjuster adapter		02.2400.11.00
369	Cap		02.1827.04.00
370	Cap	Ø 38	02.1827.08.00
		Ø 35	02.1827.09.00
390	Brake pad		05.092..... not available loose *
394	Clamping spring for brake pad		02.3319.01.00
396	Bolt	Ø 10 x 48 / 52	02.5829.22.31
397	Washer	10.5 / 433	02.5404.10.04
398	Lock		02.3301.31.00
393	Repair kit - brake pad retaining clip item 395, 396, 397, 398	for 1 axle	09.801.02.76.0
395	Brake pad retaining clip		02.0305.22.00
396	Bolt		02.5829.22.31
397	Washer		02.5404.10.04
398	Lock		02.3301.31.00
702	Wear sensor kit cpl.	for 1 axle	- 05.801.51.70.0
-	Support		- 03.189.15.03.0
-	Support for ABS connector		- 02.1421.11.00
-	Wear sensor kit (Cable, cable duct, protective plate a.a.)		- 05.801.51.74.0

* not available loose - see repair kit brake pads (item 388)

3.5 Brake discs

BPW Brake discs

With the changeover to tangentially bolted disc brakes, brake pads and brake discs with improved wear characteristics have been introduced as standard.

With the introduction of IBD brake discs, the proven BPW design of the collar disc has been further improved.

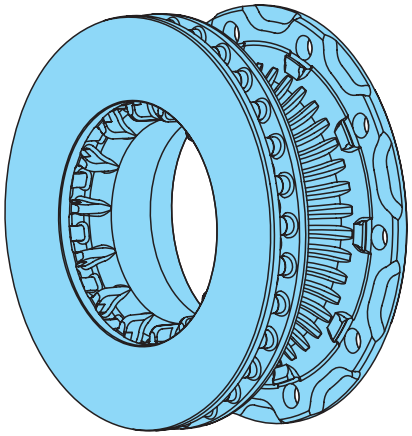
Further development has focused on the regulation of thermal efficiency in order to optimise wear characteristics and to improve reliability.

The quality of brake discs is the result of a combination of the shape of the design, the materials used and the quality of the mechanical machining.

The chemical composition of the material alloy is in particular responsible for a large number of properties, and hence determines some essential product features.

BPW has taken these technological influences into account for many years in the development of brake discs, matching them to the requirements on the trailer.

BPW Brake disc - IBD version



The latest generation of BPW brake discs offers the following advantages:

- Increased surface area for effective heat dissipation
- Optimisation of material for improved heat distribution over the surface of the disc
- Venuri contour for improved internal air flow
- Optimally matched friction pairing (Pads / Brake disc)
- High resistance to wear
- Simplified spare parts provision thanks to uniform brake discs for 0 and 120 offsets

Brake discs

Brake	BPW Code no.	Pitch circle / hole pattern	Wheel hub	Offset	Series	Remark
SB 3745	03.088.34.01.7	275 / 8-hole	S-hub	0		
	03.088.34.03.7	275 / 8-hole	S-hub	0		with mounting for exciter ring
	03.088.34.04.7	335 / 10-hole	S-hub	0		
	03.088.34.06.7	335 / 10-hole	S-hub	0		
	03.088.34.08.7	335 / 10-hole	B-hub	120		
	03.088.34.10.7	335 / 10-hole	S + B-hub	0 / 120	IBD (from 05/2003)	
	03.088.34.13.7	335 / 10-hole	S-hub	0	IBD (from 05/2003)	with mounting for exciter ring
SB 4309	03.088.35.05.7	335 / 10-hole	S + B-hub	0 / 120	IBD (from 05/2003)	
SB 4345	03.088.35.01.7	335 / 10-hole	S-hub	0		with mounting for exciter ring
	03.088.35.05.7	335 / 10-hole	S-hub	0	IBD (from 05/2003)	.. 05.7 replaces .. 03.7

Wear status of the brake disc

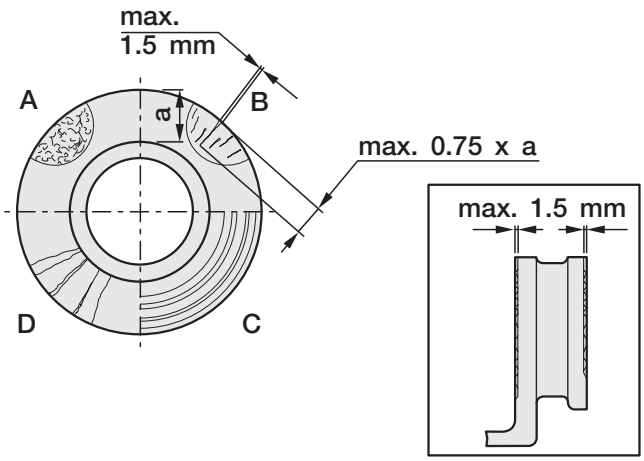
The brake disc is to be regularly checked for its residual thickness and any damage to the braking surface.

The residual thickness of the brake disc must not be less than the permissible minimum in any area of the disc.

Network-like heat cracking (A), radial cracks up to 1.5 mm in width and depth (B) and pitting of the braking surface less than 1.5 mm (C) are permissible.

Continuous cracks (D) are not permissible.

If the brake disc has reached its wear limit or its braking surface shows inadmissible damage, it must be replaced.



Technical details:

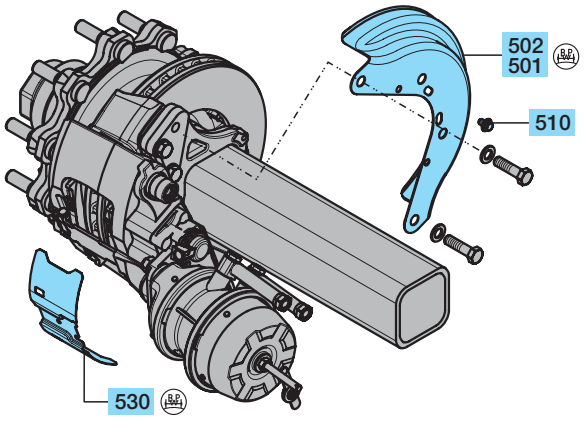
- disc thickness, new = 45 mm
- minimum permissible disc thickness = 37 mm (check with slide gauge)

In the case of surface conditions **A - C**, the brake disc can be used until the minimum permissible disc thickness has been reached.

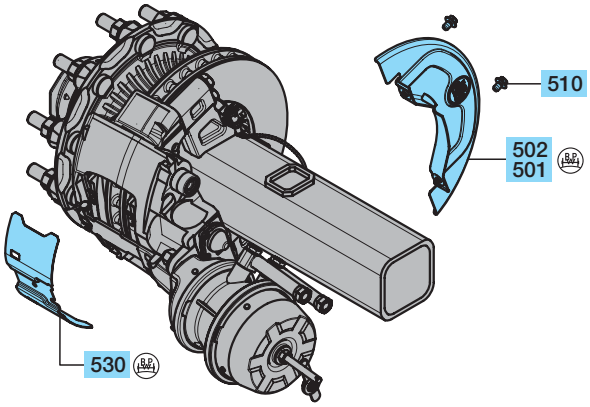
3.6 Disc covers, brake pad protectors

Rigid axles

Axial

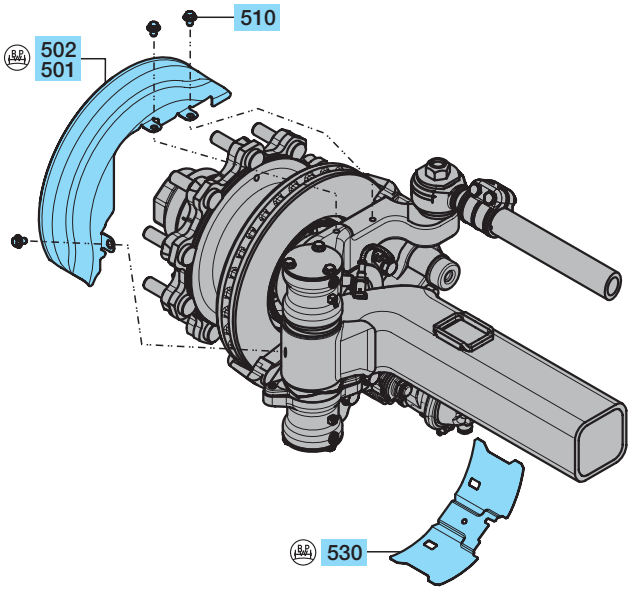


Tangential

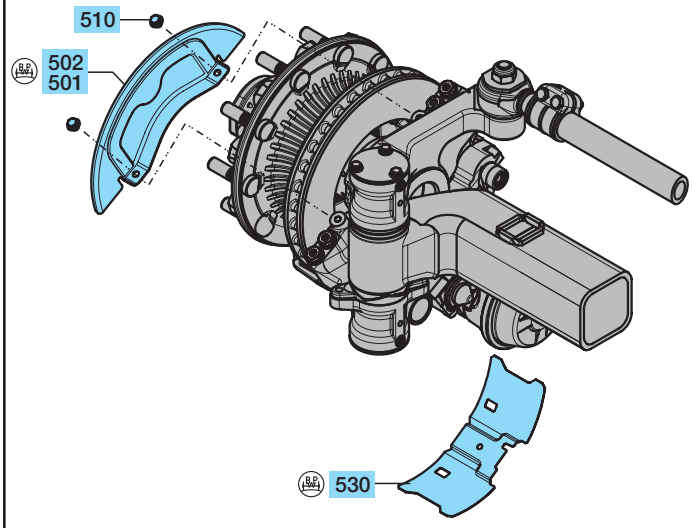


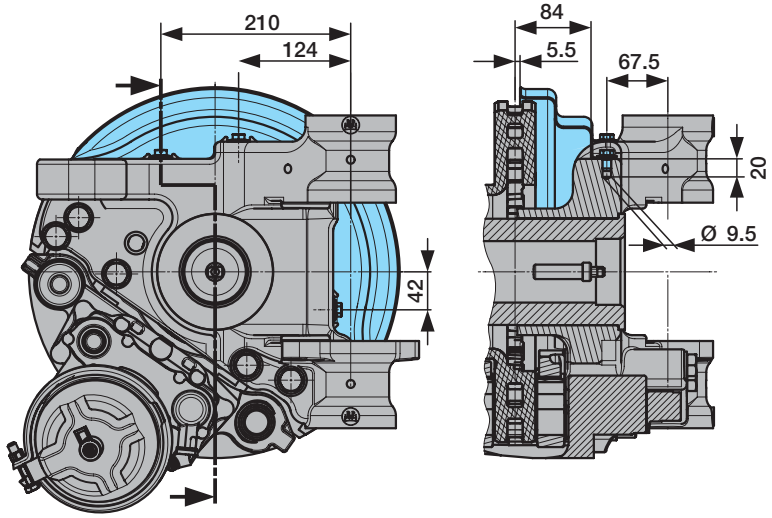
Steering axles

Axial



Tangential





Disc covers

						SB 3745		SB 4309	SB 4345	
					Brake connection					
					Axial	●			●	
					Tangential		●	●		●
				BPW Code no.						
Axle type	Axle load	Offset	Axle beam	Disc covers cpl. (Retrofit kit) item 500 (item 501 - 510)	Disc covers item 501 / 502					
Rigid axles										
SKHB.. SKHS.. SKHZ..	9 t 9 - 10 t 9 - 10 t	0 / 120	☐ 120	09.801.06.16.0	03.010.91.53.0	●		Retrofit with offset 120 since 3/2001		
SKH..	9 t	0	☐ 120	09.801.06.38.0	03.010.91.74.0		●			
SKH..	10 t	0	☐ 120	09.801.06.49.0	03.010.91.79.0 03.010.91.80.0		●			
SKHB..	9 t	120	☐ 120	09.801.06.39.0	03.010.91.75.0		●			
				09.801.07.30.0 *	03.010.71.05.0 *		●			
SH..	9 - 10 t	0	☐ 120	09.801.06.40.0	03.010.91.76.0			●		●
SHB..	9 t	120	☐ 120	09.801.06.41.0	03.010.91.77.0			●		
				09.801.07.31.0 *	03.010.71.06.0 *			●		
SH..	9 - 10 t	0	☐ 120	09.801.06.17.1	03.010.91.62.0				●	
SH..	12 t	0	☐ 150	09.801.06.18.1	03.010.91.63.0				●	
SH..	12 t	0	☐ 150	09.801.06.42.0	03.010.91.78.0					●
Hexagon bolts M 10 x 15 (item 510)					02.5071.22.00	●	●	●	●	●
Steering axles										
SKH..LL SKM..LL	9 t 9 - 10 t	0	☐ 120	09.801.06.19.0	03.010.91.58.0 L	●		Threaded holes necessary in the steering housing (see drawing)		
					03.010.91.59.0 R	●				
SKH..LL SKM..LL	9 t 9 - 10 t	0	☐ 120	09.801.06.38.0	03.010.91.74.0		●			
SKHB..LL	9 t	120	☐ 120	09.801.06.39.0	03.010.91.75.0		●			
				09.801.07.30.0 *	03.010.71.05.0 *		●			
S..LL	9 - 10 t	0	☐ 120	09.801.06.40.0	03.010.91.76.0			●		
SHB..LL	9 t	120	☐ 120	09.801.06.41.0	03.010.91.77.0			●		
				09.801.07.31.0 *	03.010.71.06.0 *			●		
S..LL	9 - 10 t	0	☐ 120	09.801.06.40.0	03.010.91.76.0					●
S..LL	9 - 10 t	0	☐ 120	05.801.51.52.0	03.010.91.60.0 L				●	
					03.010.91.61.0 R				●	
SH..LL	9 - 12	0	☐ 150	09.801.06.42.0	03.010.91.78.0					●
Hexagon bolts M 10 x 15 (item 510)					02.5071.22.00	●	●	●	●	●

* = ECO Plus 2

Brake pad protectors*

Item	Designation	Dimension	BPW Code no.	Utilisation
530	Brake pad protectors*	140 x 350 x 1	03.010.95.21.0	SB 3745 SB 4309 SB 4345

* is mounted under the pad retaining clip without any additional attachment parts

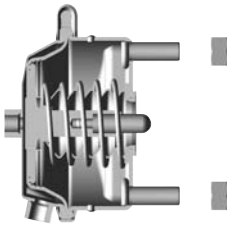
3.7 Brake cylinder

General

BPW Brake cylinder

BPW Brake cylinders come with a range of special features justifying their high quality level:

- The cylinder size and part number are indelibly embossed on the unit
- Parts which are critical to function can be traced back through the QA system by means of their type plate data
- The extended compressed air connection makes them easy to install
- Double seals on the twin compartment
- Effective anti-corrosion protection by powder and Delta Tone coating
- Shot-peened, epoxy-coated compression springs
- Spring-type accumulator chamber in permanent, positive connection
- Long service life thanks to high-performance rubber diaphragms
- Closely sealing bellows
- Chromated aluminium housing

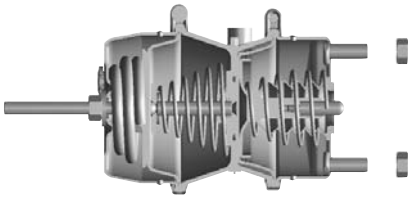


Diaphragm cylinders

Executions:

Diaphragm cylinders

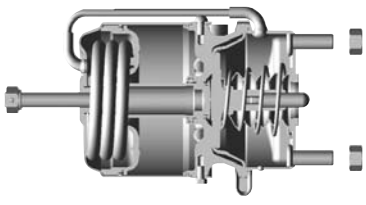
These act as a service brake and are characterised by their compact external dimensions and low weight.



Diaphragm-diaphragm cylinders (M - M)

Diaphragm-diaphragm cylinders (M - M)

These act both as a service brake and an auxiliary and parking brake. They are lighter than the diaphragm-piston cylinder.



Diaphragm-piston cylinders (M - K)

Diaphragm-piston cylinders (M - K)

These have the same function as a diaphragm-diaphragm cylinder.
Their greater spring accumulator force means they are particularly suitable for vehicles with higher axle loads.

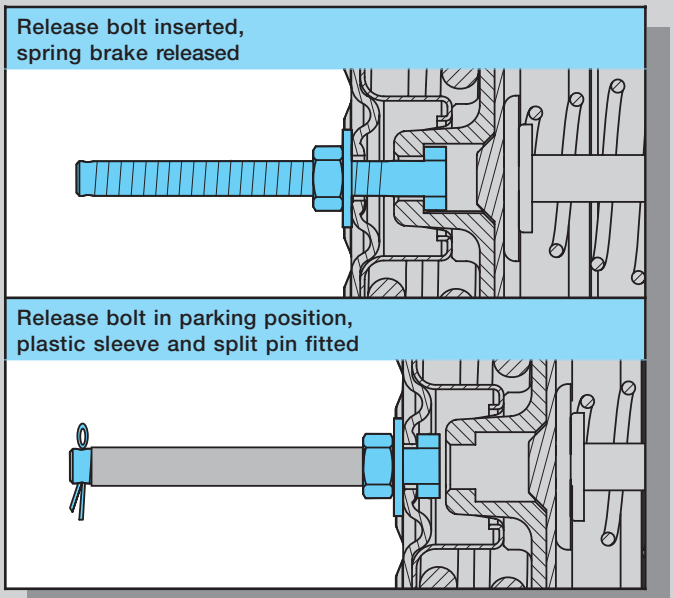
Release device

As of March 2004 the release bolt for M/M brake cylinders on axles with disc brakes will have a new parking position. The release bolt will no longer be accommodated in the parking pocket on the outside of the cylinder, but can be left in the cylinder cover plate.

All that is needed to use the parking position is to turn the release bolt through 90° and then lock it in place with a hex. nut.

In addition to which it is still also possible to remove the release bolt completely.

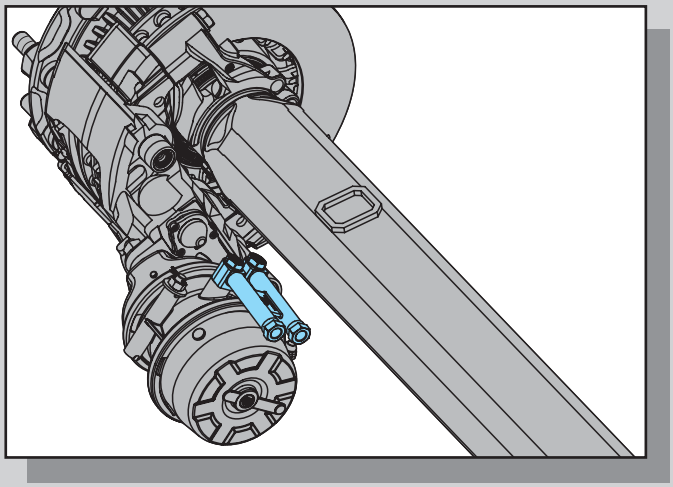
Further information can be found under the heading Aktuell / BPW NEWS / News SB 04/01 on the BPW website www.bpw.de.



Compressed air connection extension (DLAV)

Spring-type cylinders for disc brakes are fitted with a compressed air connection extension (DLAV) as standard.

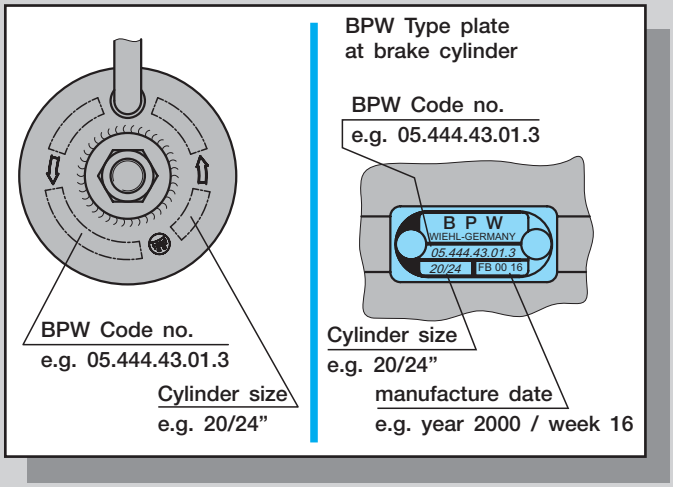
A feature of DLAV is that it enables additional compressed air systems to be mounted on the axle quickly and easily.



Identification

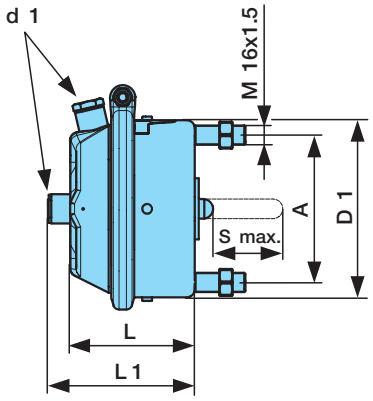
The BPW part number and the cylinder model are stamped on the front of every brake cylinder.

Each brake cylinder also has a manufacturer's nameplate riveted onto it, with the details of the BPW part number, cylinder type and production date.

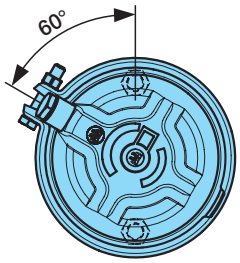


3.7 Brake cylinder

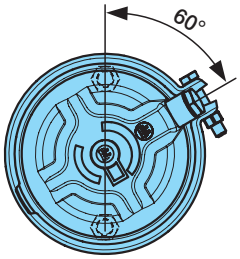
Diaphragm cylinder



Execution A



Execution B



Brake cylinder size	BPW Code no.	Execution	Air connection thread d 1	L (mm)	L 1 (mm)	D 1 (mm)	A (mm) Connection dimension	Piston stroke S max. (mm)
14"	05.444.30.01.0 05.444.30.02.0	A B	M 16 x 1.5	101	116	143	120.7	60
15"	05.444.31.01.0 05.444.31.02.0	A B		101	116	143		60
16"	05.444.32.01.0 05.444.32.02.0	A B		101	116	145		60
18"	05.444.33.01.0 05.444.33.02.0	A B		115	130	150		68
20"	05.444.34.01.0 05.444.34.02.0	A B		115	130	150		68
22"	05.444.35.01.0 05.444.35.02.0	A B		120	135	160		68
24"	05.444.36.01.0 05.444.36.02.0	A B						68

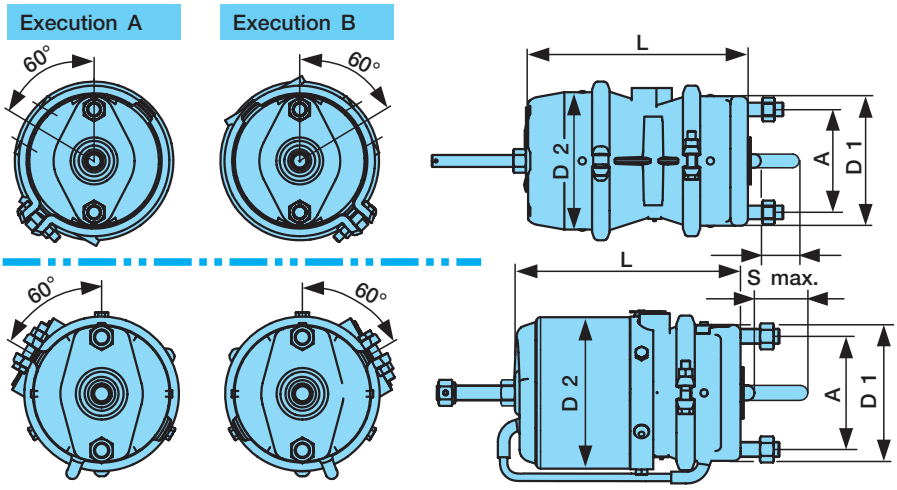
Lock nuts for brake cylinder

Thread	BPW Code no.
M 16 x 1.5	02.5202.21.80

Diaphragm - diaphragm brake cylinder / Diaphragm - piston brake cylinder

Diaphragm - diaphragm brake cylinder (M-M)

Diaphragm - piston brake cylinder (M-K)



Brake cylinder size	BPW Code no. Brake cylinder without air connection fittings	Execution	BPW Code no. Mounting kit with standard air connection fittings	BPW Code no. Brake cylinder with compressed air connection extension (DLAV)	Air connection thread	L (mm)	D 1 (mm)	D 2 (mm)	A (mm) Connection dimension	Piston stroke S max. (mm)
Diaphragm - diaphragm brake cylinder (M-M)										
14 / 24”	05.444.38.01.0 05.444.38.02.0	A B	05.801.09.77.0	05.444.38.01.3 05.444.38.02.3	M 16 x 1.5	232	145	162	120.7	57
15 / 24”	05.444.39.01.0 05.444.39.02.0	A B	05.801.09.78.0	05.444.39.01.3 05.444.39.02.3						
16 / 24”	05.444.40.01.0 05.444.40.02.0	A B	05.801.09.79.0	05.444.40.01.3 05.444.40.02.3		233		161		66
18 / 24”	05.444.42.01.0 05.444.42.02.0	A B	05.801.09.80.0	05.444.42.01.3 05.444.42.02.3						
20 / 24”	05.444.44.01.0 05.444.44.02.0	A B	05.801.09.81.0	05.444.44.01.3 05.444.44.02.3		258	152			
Diaphragm - piston brake cylinder (M-K)										
16 / 16”	05.444.41.01.0 05.444.41.02.0	A B	05.801.21.38.0	05.444.41.01.3 05.444.41.02.3	M 16 x 1.5	255	145	162	120.7	60
	05.444.41.03.0 [1] 05.444.41.04.0 [1]	A B	05.801.21.39.0	05.444.41.03.3 [1] 05.444.41.04.3 [1]						
20 / 24”	05.444.43.01.0 05.444.43.02.0	A B	05.801.09.82.0	05.444.43.01.3 05.444.43.02.3		280	152	174		66
	05.444.43.03.0 [1] 05.444.43.04.0 [1]	A B	05.801.09.97.0	05.444.43.03.3 [1] 05.444.43.03.4 [1]						
22 / 24”	05.444.45.01.0 05.444.45.02.0	A B	05.801.09.83.0	05.444.45.01.3 05.444.45.02.3		282	162			68
	05.444.45.03.0 [1] 05.444.45.04.0 [1]	A B	05.801.09.98.0	05.444.45.03.3 [1] 05.444.45.04.3 [1]						
24 / 24”	05.444.46.01.0 05.444.46.02.0	A B	05.801.09.84.0	05.444.46.01.3 05.444.46.02.3						
	05.444.46.03.0 [1] 05.444.46.04.0 [1]	A B	05.801.09.99.0	05.444.46.03.3 [1] 05.444.46.04.3 [1]						

[1] for top trailing arm

Lock nuts for brake cylinder

Thread	BPW Code no.
M 16 x 1.5	02.5202.21.80

3.8 BPW Brake Monitor

BPW Brake Monitor

With the BPW Brake Monitor retrofit kit for our disc brakes, you can check your vehicle from the outside at any time to see if the wear limit has been reached.

As soon as only one of the brake pads has worn down by approx. 80% the yellow “WARNING” LED on the BPW Brake Monitor starts flashing.

Once the minimum pad thickness of 2 mm has been reached, the “SERVICE” indicator changes to red, while the green and yellow LEDs flash alternately.

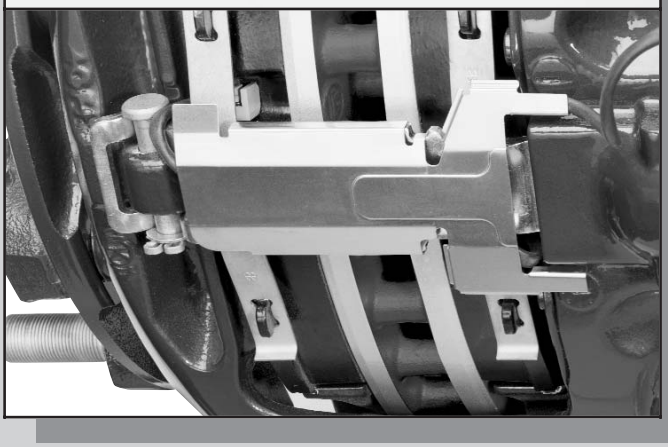
The red SERVICE indicator remains visible even if you have parked the vehicle and there is no electrical power supply to the trailer.
This means you can still tell if the wear limit has been reached on at least one brake pad.
If this is the case, you should change the brake pads as soon as possible.

Warning:
At least one brake pad is approx. 80% worn down!

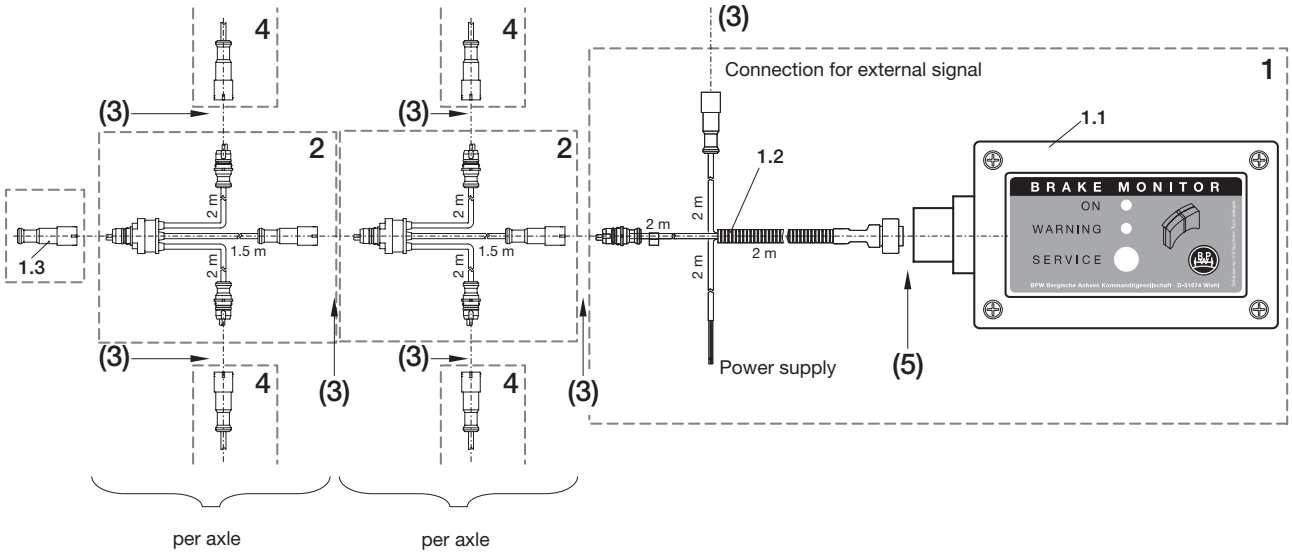
Service:
At least one brake pad as reached the minimum pad thickness of approx. 2 mm.
Have the pads replaced immediately!

BPW Brake Monitor - Features and benefitts

- Optimum use of the brake pad wear volume
- Longer service life for the brake discs and brake
- No unscheduled downtime
- No expensive follow-on costs (e.g. due to a complete failure)
- The service indicator tells you exactly when a brake pad needs changing, even if there is no operating voltage
- Operates without a separate ECU and does not need EBS
- Individual composition of kits possible because of modules (e.g. for four-axle vehicles)
- Quick and easy to install
- Can easily be retrofitted
- No technical inspection is required, since a general EU certification and hazchem approval have already been obtained
- Can be connected to EBS for indication in tractor vehicle



Component list for BPW brake lining wear indicator



			Vehicle - Execution						
Item	BPW Code no.	Designation	Quantity						
1	05.801.60.07.0	Basic set	1	1	1	1	1	1	1
	incl.								
	1.1 02.0339.01.00	Brake Monitor							
	1.2 02.4312.58.00	Connecting cable							
	1.3 02.3713.08.00	Connecting plug							
2	02.4312.57.00	Connection modul	1	2	3	4	2	3	4
3	Extension								
	3-pin K/E-connector system								
	02.1819.26.00	1 m							
	02.1819.25.00	3 m					1	1	1
	02.1819.22.00	5 m							
4	05.801.51.70.0	Wear indicator axle set	1	2	3	4	2	3	4
5	Extension								
	7-pin DIN bayonet connector system								
	02.1819.29.00	2 m							
	02.1819.30.00	10 m							

4 Hub bearings, hub seals

General

BPW hub bearings

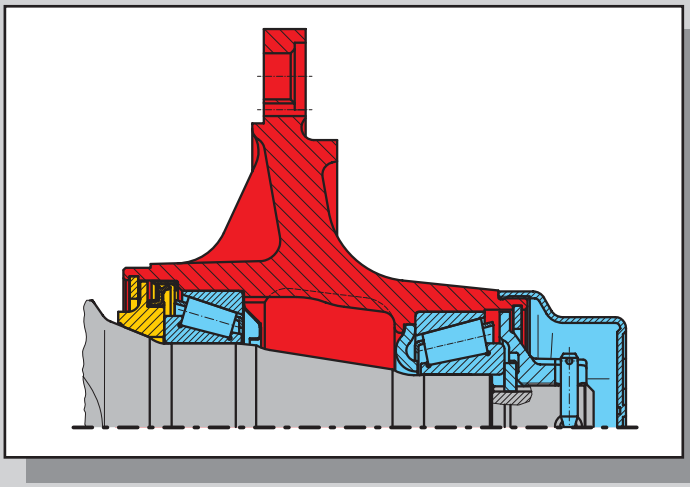
BPW ECO hub bearing

The ECO bearing is the first version of the ECO unit.

Disassembly is extremely easy with the patented BPW ECO hub bearing (European patent 0 407 719 B1).

The stepped bearing means there is no need to use a puller or other special tools.
The roller bearings remain in the hub where they are well protected against dirt and moisture.

Installation is also quick and easy:
Box spanners are all that are required for the hubcap and axle nuts.



ECO^{Plus} hub bearing

If you require long service life, rapid maintenance and low maintenance costs from your axle, there is only one option for you: ECO^{Plus}.
Working on the basis of the special BPW ECO hub system, the ECO unit has been further developed to create the trendsetting ECO^{Plus} bearing system.
The maintenance-free hub has an integrated multi-seal system for protecting the tapered roller bearings against dust and dirt.
A central threaded connection with integrated torque limiting function ensures the bearing preload is always optimum.

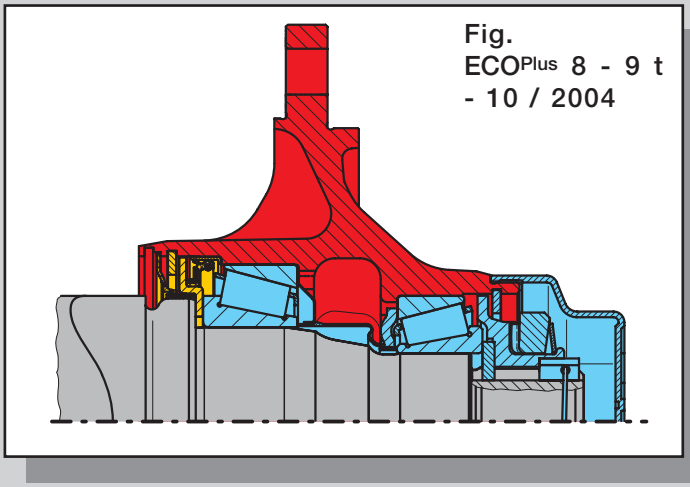
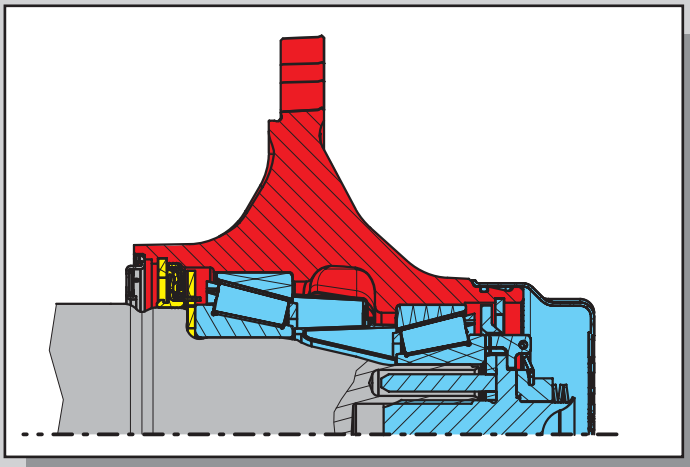


Fig.
ECO^{Plus} 8 - 9 t
- 10 / 2004

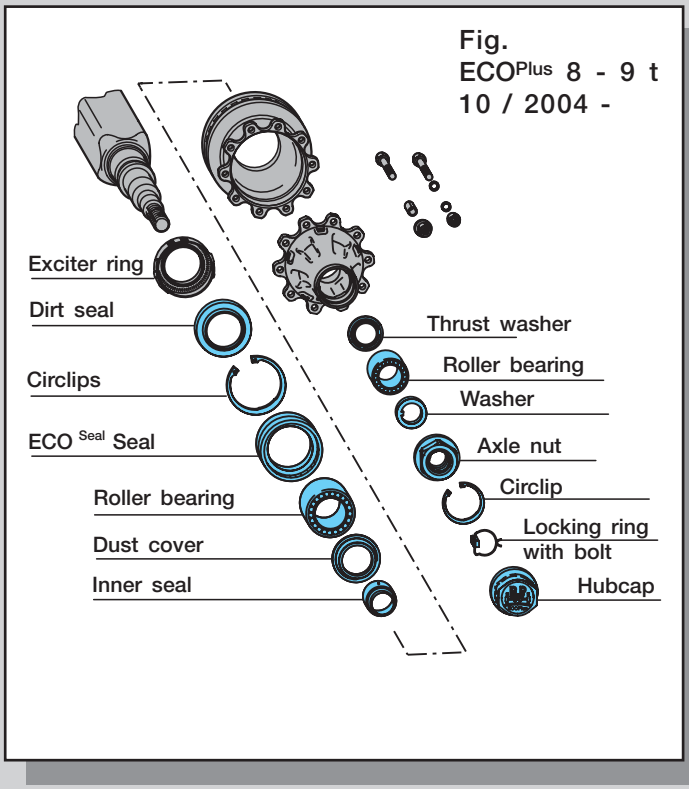
ECO Plus 2 - the new generation of the tried and tested BPW ECO unit

The BPW ECO unit, proven a million times over in its ECO^{Plus} version, will be replaced from September 2007 by the still further improved, new **ECO Plus 2** design.
A rigorous upgrade of the components has resulted in a significant weight reduction compared with the current ECO^{Plus} unit.
In the case of the **ECO Plus 2** the hubcap has a bayonet fitting, enabling convenient fitting and removal of the cap.
Grease is supplied to the wheel bearings by means of a grease cartridge located between the bearings.
The axle nut previously used is replaced by an axle bolt with integrated torque limiter.



BPW ECO Plus bearing – Features and benefits

- Maintenance-free, encapsulated bearing unit (ECO unit) with integrated multi-seal system to protect the taper roller bearings from dust and dirt.
- Integrated torque limiter in the axle nut (ECO^{Plus}) / axle bolt (ECO Plus 2) prevents improper use when tightening
- Bearings are precisely adjusted again after every disc replacement
- 5+3 years ECO Plus warranty (on-road) without mileage limit
- Compact bearing system with DIN-ISO taper roller bearings available worldwide for excellent availability and rapid service
- Removal of the complete hub unit - thanks to central threaded connection - with simple tools
- Excellent bearing service life with minimal lifecycle costs



New seals for ECO^{Plus} hub bearing system

Starting in October 2004, BPW will be introducing the new ECO^{Seal} hub bearing sealing system.

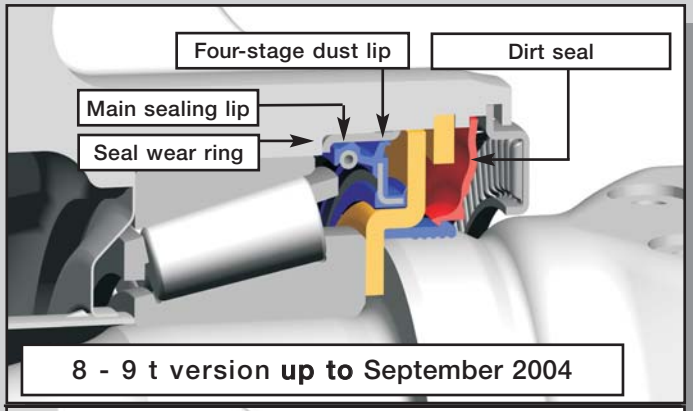
With a larger dirt seal and new two stage dust seal, the proven concept of the ECO^{Plus} seal has clearly been further improved in a number of areas.

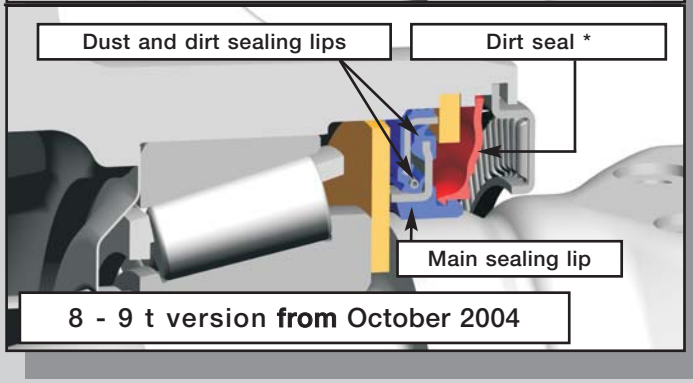
For example, the primary sealing lip is no longer fitted directly against the hub bearing, but instead fits against a special thrust race integrated into the seal assembly.
This new design enables the circumferential velocity of the seal to be significantly reduced, and with that, the amount of wear. In addition, the wheel bearing is provided with even better protection against dirt penetration by means of the covering dust and dirt sealing lips.

The seal wear ring remains in the hub when changing over to the new seal.

New ECO^{Plus} bearings are supplied without a race.

* The dirt seal is dropped for the ECO^{Seal} from 7 / 07

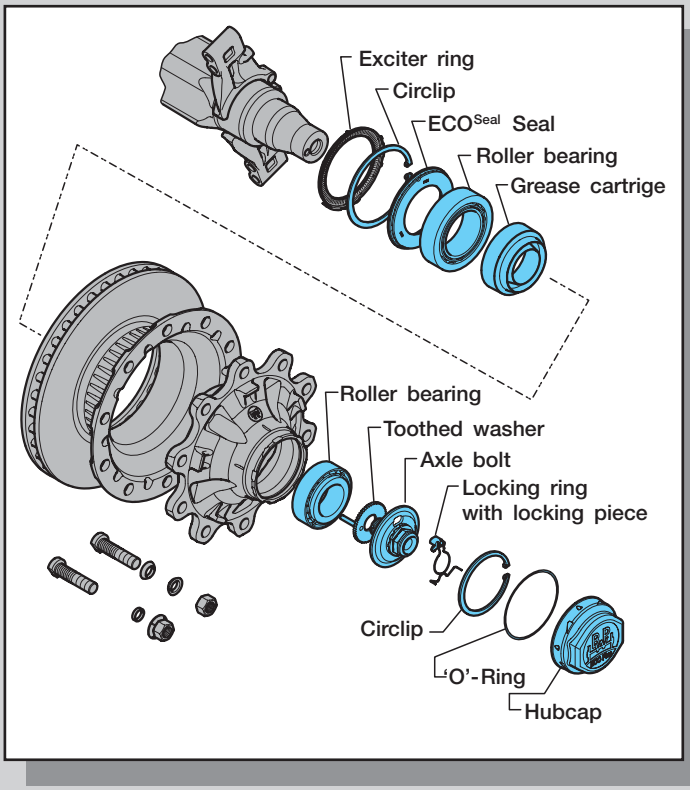




4 Hub bearings, hub seals

ECO Plus 2 bearing - Features and benefits

- In conjunction with the revised air suspension system there are weight-savings of up to 25 kg, depending on the axle model.
- Axle bolt with torque limiter for optimum bearing adjustment
- Simple greasing of the bearing by means of a grease cartridge
- Existing approvals and homologations remain in force

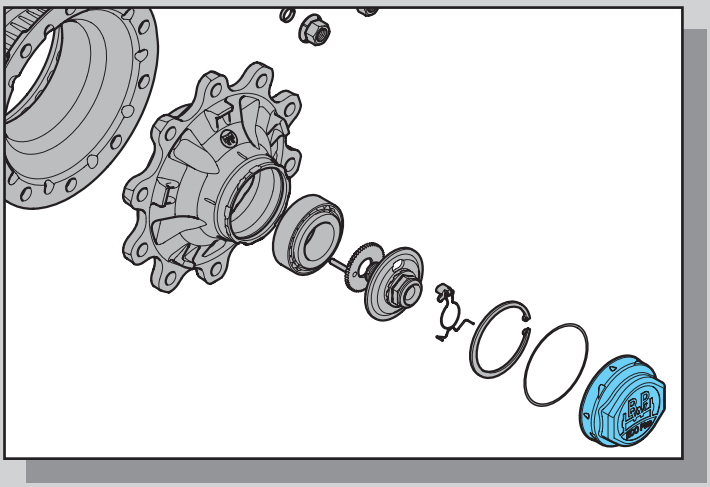


ECO Plus 2
Hubcap / ECOMETER

BPW trailer axles with the ECO Plus 2 unit have hubcaps (and ECOMETERS) with a bayonet fitting.

The bayonet fitting replaces the previously usual threaded connection.

A 120 mm installation spanner (BPW part number 03.339.05.02.0, see also BPW tool catalogue) is needed for fitting or removing the new hubcaps with the bayonet fitting.



An impact driver must not be used for fitting / removing hubcaps or ECOMETERS with a bayonet fitting!

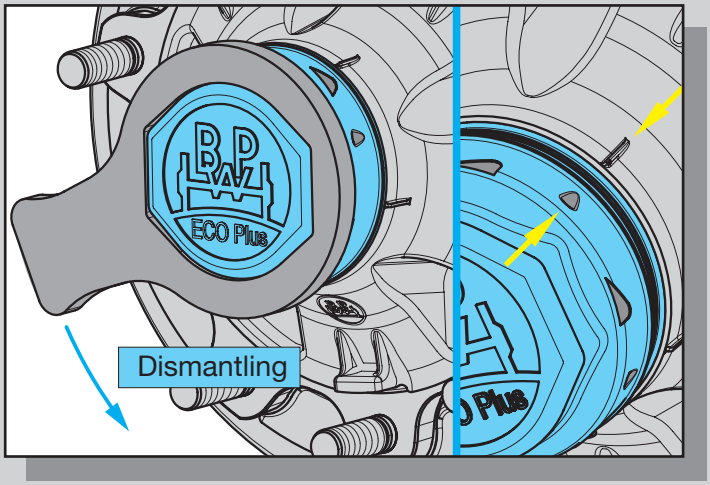
Removal

To remove the hubcap it is turned anticlockwise through approx. 30 degrees with the installation spanner (Fig.).

When turned further, the hubcap lifts clearly away from the hub seat.

The released position is also indicated by markings on the hubcap and on the wheel hub (Fig. / Arrows).

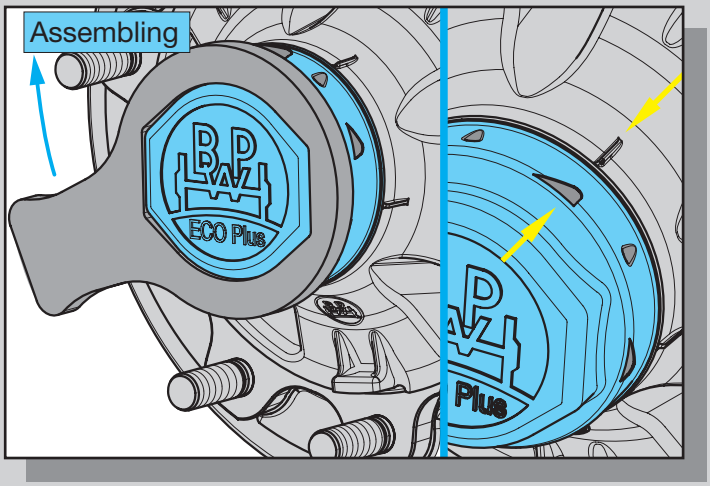
In the released position the hubcap can be removed from the wheel hub by pulling it away.



Assembly

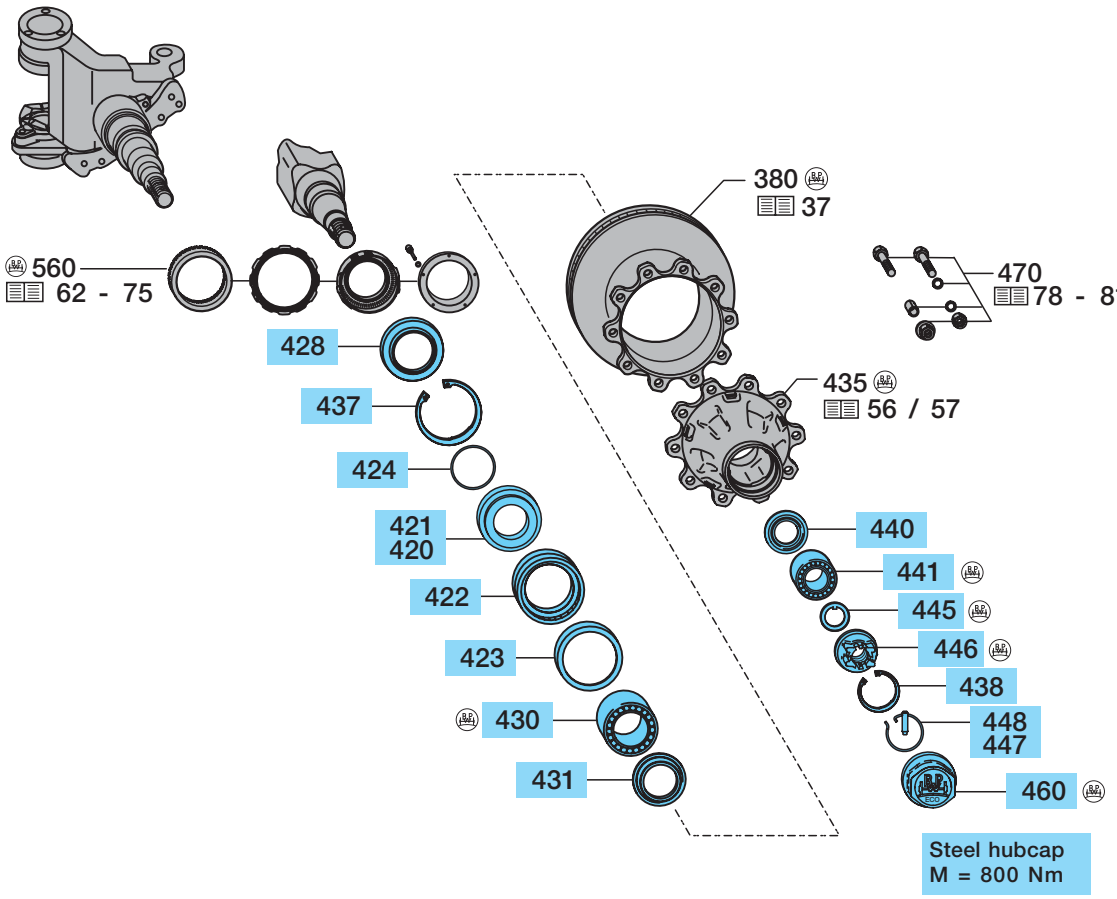
The seal between the hubcap and the wheel hub takes the form of an 'O'-ring in the case of the ECO Plus 2 unit.
The 'O'-ring is inserted in the groove on the hub collar of the wheel hub, and **is to be replaced every time**. The hubcap itself is to be given a thin coating of **BPW ECO-Li^{Plus} special long-life grease** inside in the area of the bayonet fitting, before assembly.

Corresponding markings in the hubcap and on the hub make it easier to fit the hubcap. The figure shows the hubcap in the correct position for fitting, with the spanner engaged. After been placed in position, the hubcap is pressed onto the hub and at the same time turned in clockwise direction.
The hubcap is firmly in place when the position shown in Fig. (arrows) has been reached.



4.1 Hub bearings, hub seals

ECO- / ECO MAXX bearing



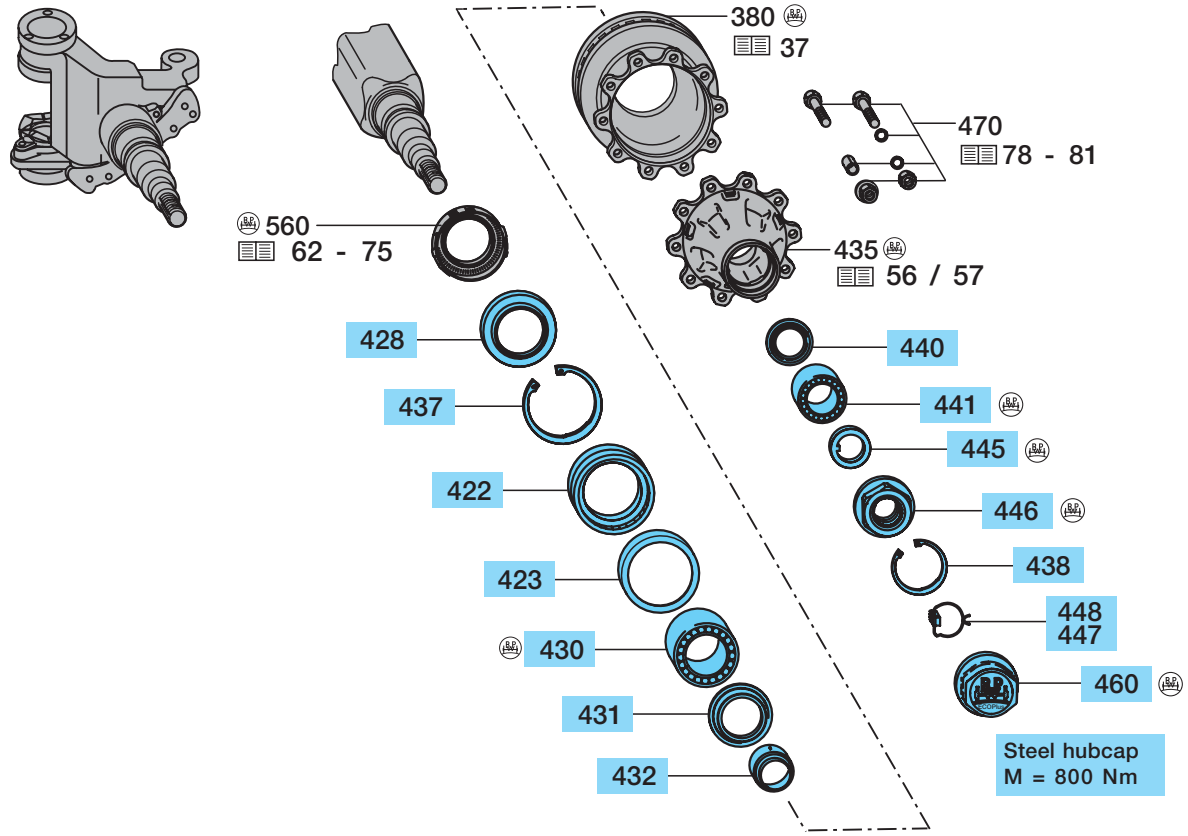
ECO- / ECO MAXX bearing

Item	Designation (Remark)		BPW Code no. Dimension			
			SH.. / SKH.. ECO / ECO MAXX 8 - 9 t --.38.---.---		SH.. / SKH.. ECO / ECO MAXX 10 - 12 t --.40.---.---	
380	Brake disc		see page 37		see page 37	
418	Repair kit roller bearing **with** axle nut and hubcap (item 420, 423, 428 - 431, 437 - 460)		**09.801.02.33.0** for 1 axle side		09.801.02.34.0 **09.801.07.21.0** for 1 axle side	M 135 x 2 M 136 x 2.5
	Repair kit roller bearing **without** axle nut and hubcap (item 420, 423, 430, 431, 441 - 445)		09.801.02.72.0 for 1 axle side		09.801.06.89.0 for 1 axle side	
420	Thrust washer cpl. (item 421, 422, 424)		05.370.07.67.0		05.370.07.65.0	
421	Thrust washer		03.370.07.60.0	Ø 86 / 115 / 139 x 22	03.370.07.62.0	Ø 96 / 135 / 159 x 22
422	Lip seal		02.5664.57.00	137-115-10.5	02.5664.58.00	Ø 157-135-8
423	Ring		02.5683.62.00	Ø 131 / 140 x 12	02.5683.63.00	Ø 151 / 160 x 12
424	'O'-Ring		02.5677.90.40	Ø 90 x 3	02.5678.00.00	Ø 100 x 3
428	Dirt seal		02.5681.98.00	Ø 103 / 147 x 15	03.120.48.13.0	Ø 133 / 168 x 15
430	Roller bearing		**02.6410.24.00**	33116	**02.6410.23.00**	33118
431	Dust cover		03.010.93.33.0	Ø 84 / 129 x 8.5	03.010.93.34.0	Ø 94 / 149 x 8.5
435	Hub		see page 56 / 57		see page 56 / 57	
437	Circlip		02.5606.40.90	140 x 4 / 472	02.5606.60.90	160 x 4 / 472
438	Circlip		02.5606.12.90	112 x 4 / 472	02.5606.22.90	122 x 4 / 472
440	Thrust washer		03.370.25.16.0	Ø 54 / 98 x 9	03.370.26.24.0	Ø 71 / 108 x 9.5
441	Roller bearing		**02.6410.25.00**	32310	**02.6410.22.00**	33213
445	Washer		03.320.73.13.0	Ø 43 / 61 x 5.8	03.320.64.01.0	Ø 53 / 76 x 5.8
446	Axle nut		03.266.46.02.0	M 42 x 2/ SW 65 / Ø 110	03.266.47.03.0	M 52 x 2 / SW 80 / Ø 120
447	Bolt		03.084.71.17.0	Ø 8 x 45	03.084.71.17.0	Ø 8 x 45
448	Locking ring		03.188.03.06.0	Ø 54 x 2	03.188.04.08.0	Ø 66 x 2
460	Hubcap	(normal) (chrome)	03.212.24.25.0 03.212.24.26.0	M 125 x 2 / SW 110	03.212.25.08.0* 03.212.25.23.0*	M 135 x 2 / SW 110
					03.212.25.33.0*	M 136 x 2.5 SW 110
		(Alloy, for alloy hub)	03.212.25.27.0	M 135 x 2 / SW 110	-	

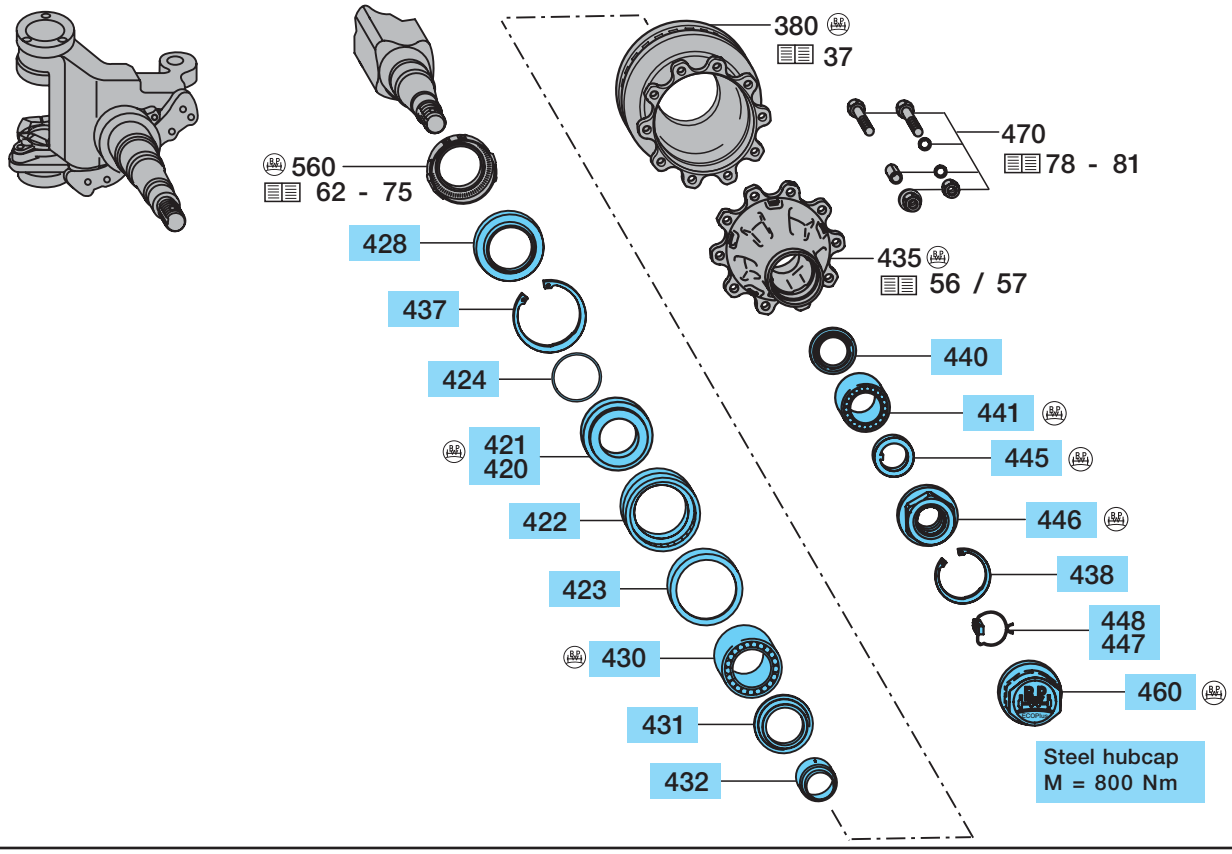
*** Modified cap thread from 09/00**
M 135 x 2 was changed to M 136 x 2.5
Note thread size stamped on the cap!

4.2 Hub bearings, hub seals

ECO^Plus bearing 8 - 9 t



ECO^Plus bearing 10 - 12 t



ECO^{Plus} bearing

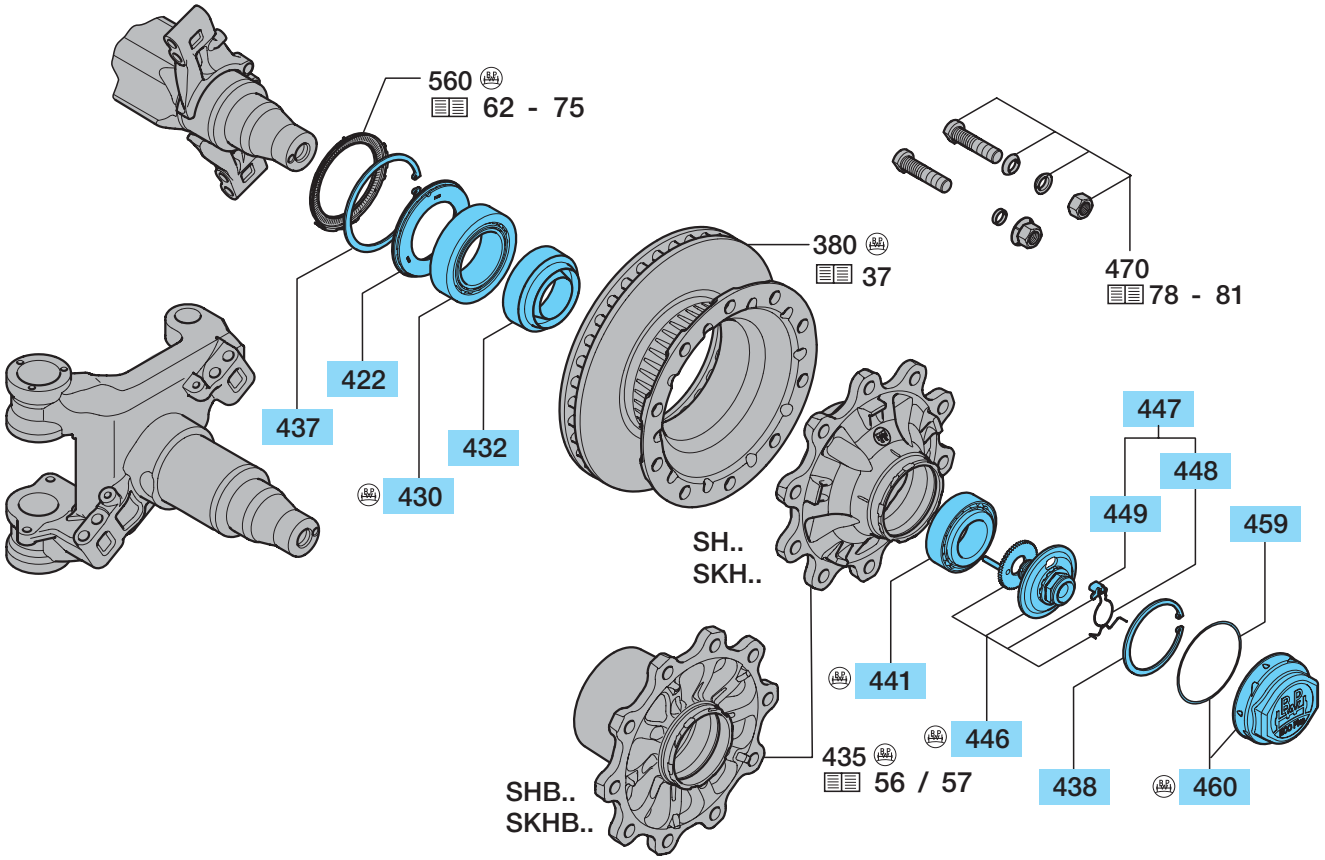
Item	Designation (Remark)	BPW Code no. Dimension			
		SH.. / SKH.. ECO^{Plus} 8 - 9 t --.48.---.---		**SH.. / SKH.. ECO^{Plus} 10 - 12 t --.50.---.---**	
380	Brake disc	see page 37		see page 37	
		ECO^{Plus} sealing system - 10 / 04		**ECO^{Plus} sealing system - 1 / 05**	
418	Repair kit roller bearing **without** axle nut and hubcap (item 420, 423, 428, 430, 431, 432, 440 - 445)	-		**09.801.06.27.0**	for 1 axle side
420	Thrust washer cpl. (item 421, 422, 424)	-		05.370.07.65.0	
421	Thrust washer	-		03.370.07.62.0	Ø 96 / 135 / 159 x 22
422	Lip seal	02.5664.68.00	Ø 120 / 157.5 x 20	02.5664.58.00	Ø 151 / 160 x 12.5
423	Ring (wear ring)	02.5683.80.00	Ø 151 / 157.6 x 20	02.5683.63.00	Ø 151 / 160 x 12.5
424	'O'-Ring	-		02.5678.00.00	Ø 100 x 3
428	Dirt seal	03.120.48.15.0	Ø 117.5 / 160 x 9.5	03.120.48.13.0	Ø 133 / 168 x 15
		ECO^{Seal} sealing system 10 / 04 -		**ECO^{Seal} sealing system 1 / 05 -**	
418	Repair kit roller bearing **without** axle nut and hubcap (item 420, 423, 428, 430, 431, 432, 440 - 445)	**09.801.06.26.0**	for 1 axle side	**09.801.07.04.0**	for 1 axle side
420	Thrust washer cpl. (item 421, 424)	-		05.370.07.73.0	
421	Thrust washer	-		03.370.07.72.0	Ø 96 / 117.5 / 132 x 22
422	ECO^{Seal} seal	02.5664.74.00	Ø 117.5 x 158 x 17.5	02.5664.74.00	Ø 117.5 x 158 x 17.5
424	'O'-Ring	-		02.5678.00.00	Ø 100 x 3
428	Dirt seal [1]	03.120.48.15.0	Ø 117.5 / 160 x 9.5	03.120.48.15.0	Ø 117.5 / 160 x 9.5
430	Roller bearing	02.6410.23.00	33118	02.6410.23.00	33118
431	Dust cover	03.010.93.34.0	Ø 94 / 149 x 8.5	03.010.93.34.0	Ø 94 / 149 x 8.5
432	Seal	03.120.45.15.0	Ø 67 / 95 x 49.5	03.120.45.16.0	Ø 67 / 93 x 90.5
435	Hub	see page 56 / 57		see page 56 / 57	
437	Circlip	02.5606.58.90	158 x 4 / 472	02.5606.60.90 02.5606.58.90	140 x 4 / 472 (**- 1 / 05**) 158 x 4 / 472 (**1 / 05 -**)
438	Circlip	02.5606.22.90	122 x 4 / 472	02.5606.22.90	122 x 4 / 472
440	Thrust washer	03.370.26.24.0	Ø 71 / 108 x 8	03.370.26.24.0	Ø 71 / 108 x 8
441	Roller bearing	02.6410.22.00	33213	02.6410.22.00	33213
445	Washer	03.320.64.01.0	Ø 53 / 76 x 5.8	03.320.64.01.0	Ø 53 / 76 x 5.8
446	Axle nut	05.266.47.06.0	M 52 x 2 / SW 95	05.266.47.06.0	M 52 x 2 / SW 95
447	Locking piece	03.277.00.07.0		03.277.00.07.0	
448	Locking ring	03.188.04.10.0		03.188.04.10.0	
460	Hubcap Observe hub cap thread!	03.212.25.30.0* **03.212.25.31.0***	M 135 x 2 / SW 110 **M 136 x 2.5 / SW 110**	03.212.25.30.0* **03.212.25.31.0***	M 135 x 2 / SW 110 **M 136 x 2.5 / SW 110**

[1] Dropped from 7 / 07 with ECO^{Seal}.

*** Modified cap thread from 09/00**
M 135 x 2 was changed to M 136 x 2.5
Note thread size stamped on the cap!

4.3 Hub bearings, hub seals

ECO Plus 2 bearing



ECO Plus 2 bearing

Item	Designation (Remark)	BPW Code no.	Dimension
		SH.. ECO Plus 2 SKH.. ECO Plus 2 8 - 9 t	**--.58.---.---**
380	Brake disc	see page 37	
416	Repair kit roller bearing **with** axle bolt and hubcap (item 422, 430, 432, 437 - 460)	**09.801.07.33.0**	for 1 axle side
419	Repair kit roller bearing **without** axle bolt and hubcap (item 422, 430, 437, 438, 441, 459)	**09.801.07.34.0**	for 1 axle side
422	ECO^{Seal} seal	02.5664.74.00	Ø 117.5 x 158 x 17.5
430	Roller bearing	02.6410.23.00	33118
432	Grease cartridge	03.120.47.08.0	Ø 101 / 130 x 50
435	Hub	see page 56 / 57	
437	Circlip	02.5606.58.90	158 x 4 / 472
438	Circlip	02.5606.22.90	122 x 4 / 472
441	Roller bearing	02.6410.22.00	33213
446	Axle bolt with toothed washer (incl. item 447)	09.001.37.03.0	M 32 x 2 / SW 46
447	Locking ring cpl. (item 448 + 449)	05.188.03.10.0	
448	Locking ring	03.188.03.09.0	
449	Locking piece	03.277.10.01.0	
459	'O'-Ring	02.5678.65.00	Ø 128 x 3
460	Hubcap (Bayonet) (incl. item 459)	05.212.25.78.0	Ø 137 / 142 x 56 / SW 120

4.4 Hubs

SKH..(LL) ECO / ECO MAXX (SB 3745)

			Hubcap thread	8 - 9 t --.38.---.---	10 - 12 t --.40.---.---	Complete hub BPW Code no.
435	Hub					
	220.8 / 275 / 8 x Ø 22					
	SKH.. ECO / ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.28.71.0		09.801.06.65.0
			M 135 x 2 *		03.272.46.20.0	ers. d. 46.24.0
			M 136 x 2.5		03.272.46.24.0	09.801.06.63.0
	220.8 / 275 / 8 x Ø 22 Alloy hub					
	SKH..MA.. ECO MAXX	**Steel and alloy wheels**	M 135 x 2	03.272.28.72.0		-
	280.8 / 335 / 10 x Ø 22					
	SKHS.. ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.30.97.0		09.801.06.05.0
	SKHB.. ECO / ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.30.99.0		-
	SKH.. ECO / ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.32.03.0		09.801.06.64.0
			M 136 x 2.5		03.272.43.13.0	09.801.06.66.0
	SKHZ.. ECO / ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.32.06.0		-
			M 135 x 2 *		03.272.43.04.0	ers. d. 43.13.0
	SKHZM.. ECO MAXX	**Alloy wheels**	M 136 x 2.5		03.272.43.18.0	-
	280.8 / 335 / 10 x Ø 22 Alloy hub					
	SKH..M(F)A.. ECO MAXX	**Alloy wheels**	M 135 x 2	03.272.32.04.0		09.801.06.74.0

SKH..(LL) ECO^{Plus} (SB 3745)

			Hubcap thread	8 - 9 t --.48.---.---	10 - 12 t --.50.---.---	Complete hub BPW Code no.
435	Hub					
	220.8 / 275 / 8 x Ø 22					
	SKH.. ECO^{Plus}	**Steel and alloy wheels**	M 136 x 2.5	03.272.46.28.2	-	09.801.06.69.0
			M 136 x 2.5		03.272.46.24.0	09.801.06.59.0
	280.8 / 335 / 10 x Ø 22					
	SKH.. ECO^{Plus}	**Steel and alloy wheels**	M 135 x 2 *	03.272.32.05.0		ers. d. 43.10.2
			M 136 x 2.5	03.272.43.10.2		09.801.06.07.0
			M 136 x 2.5		03.272.43.24.2	09.801.06.22.0
	SKHB.. ECO^{Plus}	**Steel and alloy wheels**	M 136 x 2.5	03.272.43.14.2		09.801.06.58.0
	SKHZM.. ECO^{Plus}	**Alloy wheels**	M 136 x 2.5		03.272.43.18.0	-

SKH..(LL) ECO Plus 2 (SB 3745)

			Hubcap thread	8 - 9 t --.58.---.---		Complete hub BPW Code no.
435	Hub					
	220.8 / 275 / 8 x Ø 22					
	SKH.. ECO Plus 2 **SKMZ..LL ECO Plus 2** **SKHZMLL ECO Plus 2**	**Steel and alloy wheels** **Steel wheels** **Alloy wheels**	Bayonet lock	03.272.46.33.0		09.801.07.36.0
	280.8 / 335 / 10 x Ø 22					
	SKH.. ECO Plus 2 **SKMS..LL ECO Plus 2**	**Steel and alloy wheels** **Steel wheels**	Bayonet lock	03.272.43.29.0		09.801.07.35.0
	SKHB.. ECO Plus 2	**Steel and alloy wheels**		03.272.43.28.0		09.801.07.32.0

SH..(LL) ECO / ECO MAXX (SB 4309 / SB 4345)

			Hubcap thread	8 - 9 t --.38.---.---	10 - 12 t --.40.---.---	Complete hub BPW Code no.
435	Hub					
	280.8 / 335 / 10 x Ø 22					
	SH.. ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.30.97.0		09.801.06.05.0
	SHZ.. ECO MAXX	**Steel and alloy wheels**	M 125 x 2	03.272.30.98.0		-
	SH.. ECO MAXX	**Steel and alloy wheels**	M 135 x 2 *		03.272.48.99.0	ers. d. 43.11.0
	SHS.. ECO MAXX **SHZ.. ECO MAXX**	**Steel and alloy wheels** **Steel wheels**	M 136 x 2.5		03.272.43.11.0	09.801.06.84.0
	SHZM.. ECO MAXX	**Alloy wheels**	M 135 x 2 *		03.272.48.96.0	ers. d. 43.17.0
	SHZM.. ECO MAXX	**Alloy wheels**	M 136 x 2.5		03.272.43.17.0	-
	280.8 / 335 / 10 x Ø 22	**Alloy hub**				
	SH..M(F)A.. ECO MAXX	**Alloy wheels**	M 135 x 2	03.272.30.94.0		09.801.06.74.0

SH..(LL) ECO^{Plus} (SB 4309 / SB 4345)

			Hubcap thread	8 - 9 t --.48.---.---	10 - 12 t --.50.---.---	Complete hub BPW Code no.
435	Hub					
	280.8 / 335 / 10 x Ø 22					
	SH.. ECO^{Plus}	**Steel and alloy wheels**	M 136 x 2.5	03.272.43.10.2		09.801.06.07.0
	SHB.. ECO^{Plus}	**Steel and alloy wheels**	M 136 x 2.5	03.272.43.14.2		09.801.06.58.0
	SHS.. ECO^{Plus}	**Steel and alloy wheels**	M 136 x 2.5		03.272.43.11.0	09.801.06.62.0
	SHZM.. ECO^{Plus}	**Alloy wheels**	M 136 x 2.5		03.272.43.17.0	09.801.06.23.0

SH..(LL) ECO Plus 2 (SB 4309 / SB 4345)

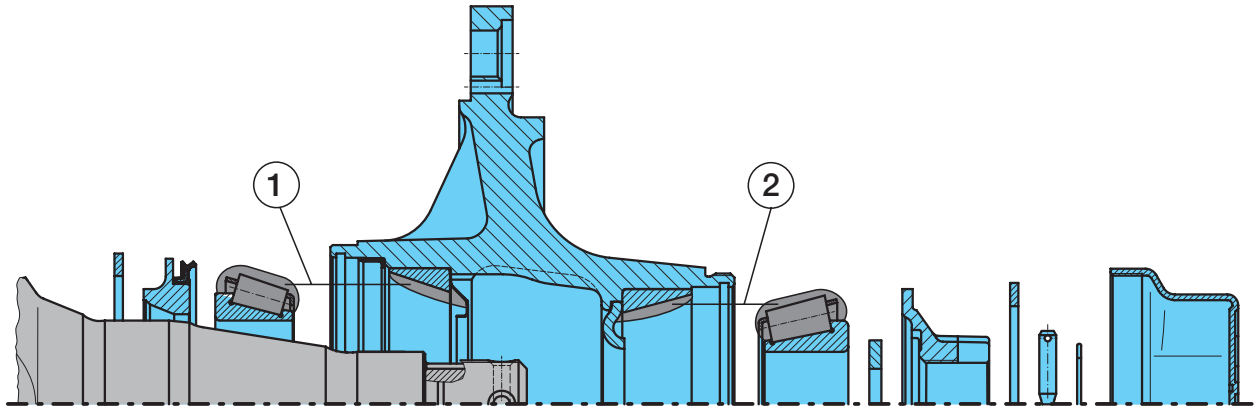
			Hubcap thread	8 - 9 t --.58.---.---		Complete hub BPW Code no.
435	Hub					
	280.8 / 335 / 10 x Ø 22					
	SH.. ECO Plus 2 **SHS..LL ECO Plus 2** **SMS..LL ECO Plus 2** **SMZ..LL ECO Plus 2**	**Steel and alloy wheels** **Steel and alloy wheels** **Steel wheels** **Steel wheels**	Bayonet lock	03.272.43.29.0		09.801.07.35.0
	SHB.. ECO Plus 2 **SHB..LL ECO Plus 2** **SMB..LL ECO Plus 2**	**Steel and alloy wheels** **Steel and alloy wheels** **Steel wheels**	Bayonet lock	03.272.43.28.0		09.801.07.32.0

*** Modified cap thread from 09/00**
M 135 x 2 was changed to M 136 x 2.5
Note thread size stamped on the cap!
03.212.25.31.0 = M 136 x 2.5 ECO^{Plus}
03.212.25.33.0 = M 136 x 2.5 ECO MAXX

4.5 Grease filling, bearing adjustment

ECO- / ECO MAXX bearing

Grease filling per wheel hub



The BPW ECO hub system is designed for longlife lubrication (500,000 km or 3 years under normal conditions). Thereafter taper roller bearings (using diesel oil) are to be cleaned, dried, checked for serviceability and regreased (observe the current BPW maintenance instructions).

		BPW longlife roller bearing grease ECO-Li 91, quantity per tapered roller bearing			
		① inner		② outer	
Axle load	**Axle type**	**Roller bearing**	**Quantity**	**Roller bearing**	**Quantity**
6000 - 9000 kg	**SH.. 8 - 9 t ECO** **SK.. 8 - 9 t ECO**	33116	120 g	32310	120 g
10000 - 12000 kg	**SH.. 10 - 12 t ECO** **SK.. 10 - 12 t ECO**	33118	170 g	33213	120 g

① and ② Work **BPW longlife roller bearing grease ECO-Li 91** thoroughly into the spaces between the tapered rollers and the races. Apply remainder to outer races in the hub.
Renew the lip seal and smear contact area with **BPW longlife roller bearing grease ECO-Li 91**.

Bearing adjustment

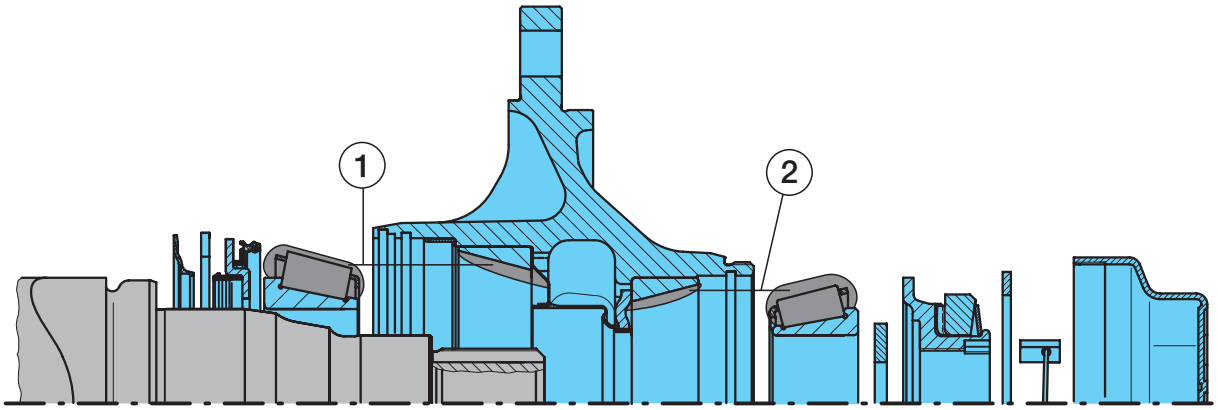
1. Unscrew the hubcap.
2. Remove the locking bolt with spring ring.
3. By turning wheel hub simultaneously, tighten axle nut with torque wrench to 150 Nm and turn back to the next possible securing hole, max. 15°. - Because of the asymmetric crown of the axle nut the next securing hole will be reached after max. 15°.
4. Re-assemble locking bolt with spring ring.
5. Grease thread of the hubcap alround with ECO-Li 91, screw on hubcap and tighten to the prescribed tightening torque (steel hubcap 800 Nm, alloy hubcap 350 Nm).

BPW longlife roller bearing grease ECO-Li 91	**Container**	**BPW Code no.**
	0.4 kg Cartridge	02.1040.34.00
	2.5 kg Bucket	02.1040.30.00
	5 kg Bucket	02.1040.31.00
	15 kg Bucket	02.1040.52.00
	50 kg Drum	02.1040.33.00

ECO^{Plus} bearing

Grease filling per wheel hub

Fig. ECO^{Plus} 8 - 9 t



The ECO^{Plus} hub system is designed for the use of longlife grease. On expiry of the guarantee, the roller bearings, the inside of the hub and the seals are to be thoroughly cleaned (with diesel oil), dried, checked to see if they can be re-used; and regreased every three years when used off-road, or every 5 years when used on the road, within Europe (or every year when off-road and every two years when on the road outside of Europe) (observe the current BPW maintenance instructions).
Spray the stub-axle bearing seats with **BPW ECO Assembly and Protection Spray** (BPW no. 02.3521.12.00).

		BPW longlife roller bearing grease ECO-Li^{Plus}, quantity per tapered roller bearing			
		① inner		② outer	
Axle load	**Axle type**	**Roller bearing**	**Quantity**	**Roller bearing**	**Quantity**
8000 - 12000 kg	**SH.. 8 - 12 t ECO^{Plus}** **SK.. 8 - 12 t ECO^{Plus}**	33118	170 g 130 g *	33213	120 g 90 g *

① and ② **Work BPW longlife roller bearing grease ECO-Li^{Plus}** thoroughly into the spaces between the tapered rollers and the races. Apply remainder to outer races in the hub.
Renew the lip seal and smear contact area with **BPW longlife roller bearing grease ECO-Li^{Plus}.**

* Greasing with grease cartridge (see page 61).

Bearing adjustment

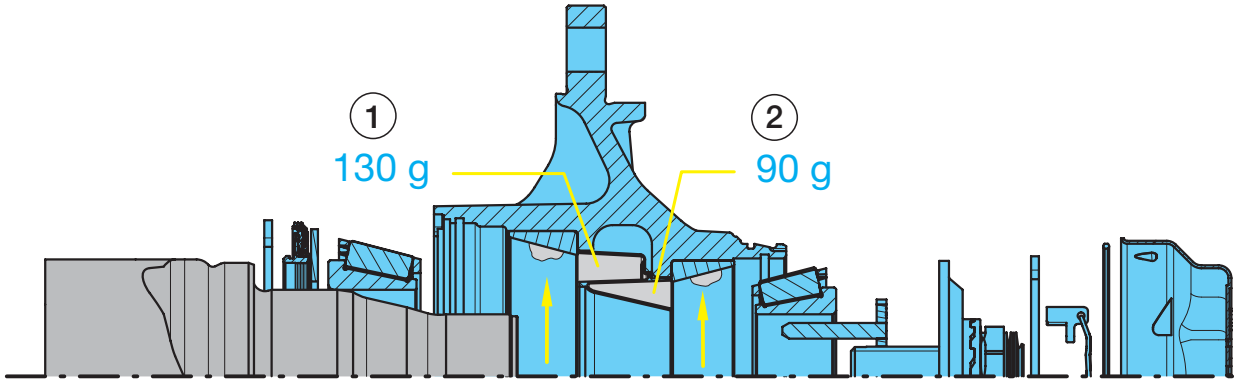
1. Unscrew the hubcap.
2. Remove the hooked spring ring and retaining key from the axle nut.
3. Use a spanner to tighten the axle nut whilst at the same time turning the wheel hub, until the axle nut torque limiter operates (do not use an impact driver).
4. Fit the retaining key in the groove between the axle stub and the nut (do not reset the axle nut).
5. Insert the hooked spring ring, depending on the version, behind the flange on the axle nut or in the thread on the axle stub.
6. Screw on hubcap and tighten to 800 Nm.

BPW longlife roller bearing grease ECO-Li^{Plus}	**Container**	**BPW Code no.**
	0.4 kg Cartridge	02.1040.45.00
	5 kg Bucket	02.1040.47.00
	25 kg Bucket	02.1040.49.00
	50 kg Drum	02.1040.50.00

4.7 Grease filling, bearing adjustment

ECO Plus 2 bearing

Grease filling per wheel hub



The ECO Plus 2 hub system is designed for the use of longlife grease. On expiry of the guarantee, the roller bearings, the inside of the hub and the seals are to be thoroughly cleaned (with diesel oil), dried, checked to see if they can be re-used; and regreased every three years when used off-road, or every 5 years when used on the road, within Europe (or every year when off-road and every two years when on the road outside of Europe) (observe the current BPW maintenance instructions).
Spray the stub-axle bearing seats with **BPW ECO Assembly and Protection Spray** (BPW no. 02.3521.12.00).

		BPW longlife roller bearing grease ECO-Li^{Plus}, quantity per tapered roller bearing			
		① **inner**		② **outer**	
Axle load	**Axle type**	**Roller bearing**	**Quantity**	**Roller bearing**	**Quantity**
8000 - 9000 kg	**SH.. 8 - 9 t ECO Plus 2** **SK.. 8 - 9 t ECO Plus 2**	33118	130 g	33213	90 g

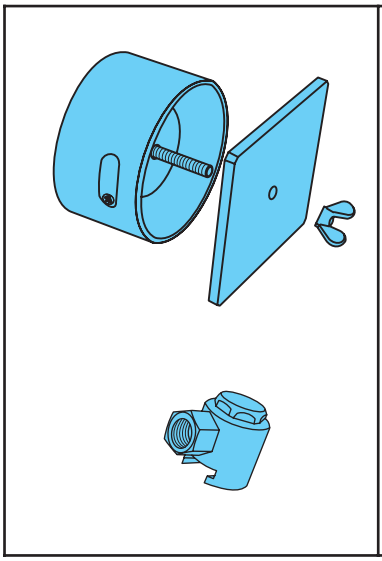
① and ② Clean the grease cartridge and fill it on both sides up to the edge with **BPW ECO-Li^{Plus} special long-life grease.**
Apply a ring-shaped bead of grease to the running surfaces of the outer bearing races.
Apply a coat of **BPW ECO-Li^{Plus} special long-life grease** all around the lip of the seal.

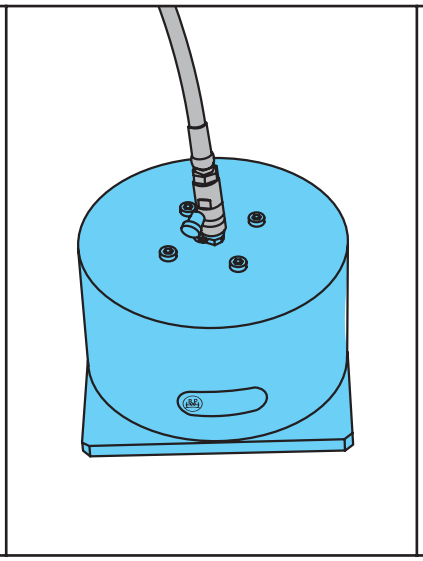
For other procedures see the current maintenance instructions (BPW-W-ECO Plus 1203...e).
When BPW grease applicators are used there is no need to fill the grease cartridge or to apply the bead of grease.
Greasing with grease cartridge (see page 61).

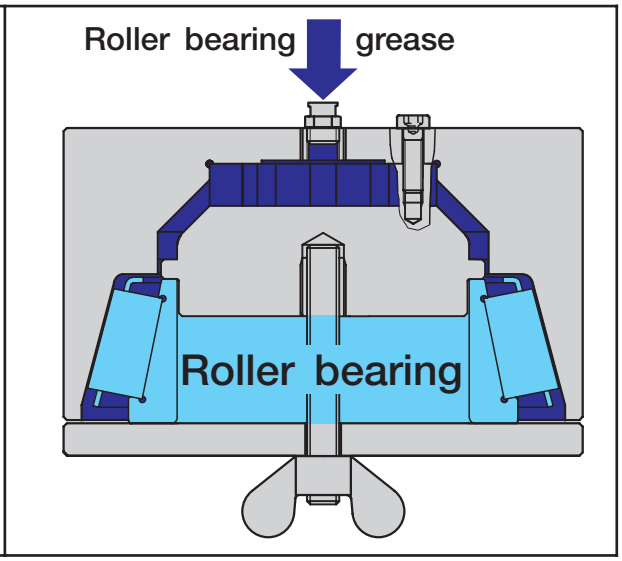
Bearing adjustment

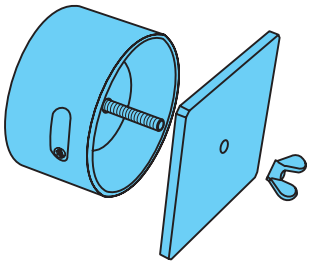
1. Undo the hubcap by turning it through approx. 30 degrees in an anticlockwise direction (see page 49).
   When turned further the hubcap lifts clearly away from the ECO unit and can be removed by pulling it away.
2. Remove the hooked spring ring and retaining key from the axle bolt.
3. Tighten the axle bolt while at the same time turning the ECO unit with a 46 mm hexagon spanner until the crown of the axle bolt clicks round.
   NB! Do not use an impact driver.
4. Insert the retaining key into the recess in the axle bolt and into the crown of the toothed lock washer (do not turn the axle bolt back).
5. Insert the hooked spring ring into the groove at the end of the hexagon profile of the axle bolt.
6. Insert a new 'O'-ring into the groove in the wheel hub.
7. Apply a thin layer of **BPW ECOLi^{Plus} special long-life grease** to the hubcap in the area of the bayonet fitting.
8. Put the hubcap on (position 1, page 59). Use the 120 mm hubcap spanner to lock the hubcap in place by turning it through approx. 30 degrees in a clockwise direction, while at the same time pressing on the hubcap. It is firmly in place when it reaches position 2 (page 49).

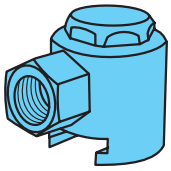
   NB! Do not use an impact driver - bayonet fitting.







Grease spray	for taper roller bearing	BPW Code no. grease spray loose	BPW Code no. complete set
	33116	16.076.22935	99.00.000.9.54
	32310	16.072.22935	
	33118	16.062.22935	99.00.000.9.55
	33213	16.068.22935	
	Complete set including adapter for flat grease nipple		

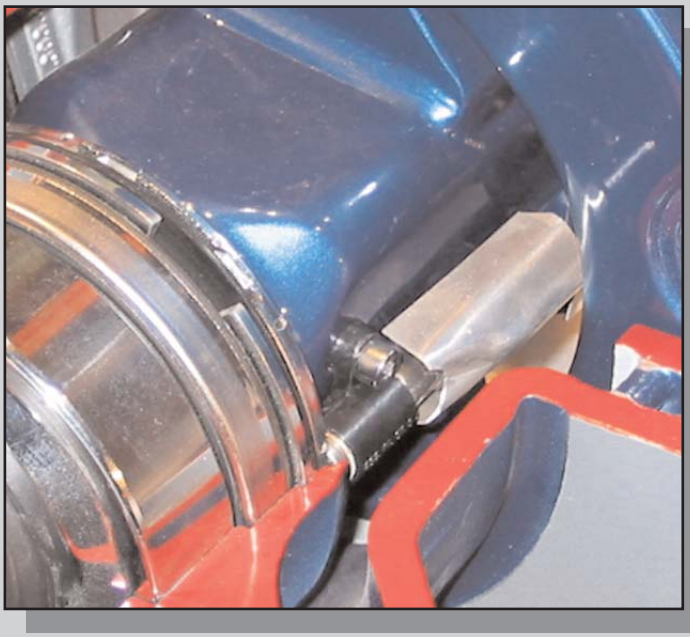
Adapter for flat grease nipple		BPW Code no.
		15.069.22935

5 ABS

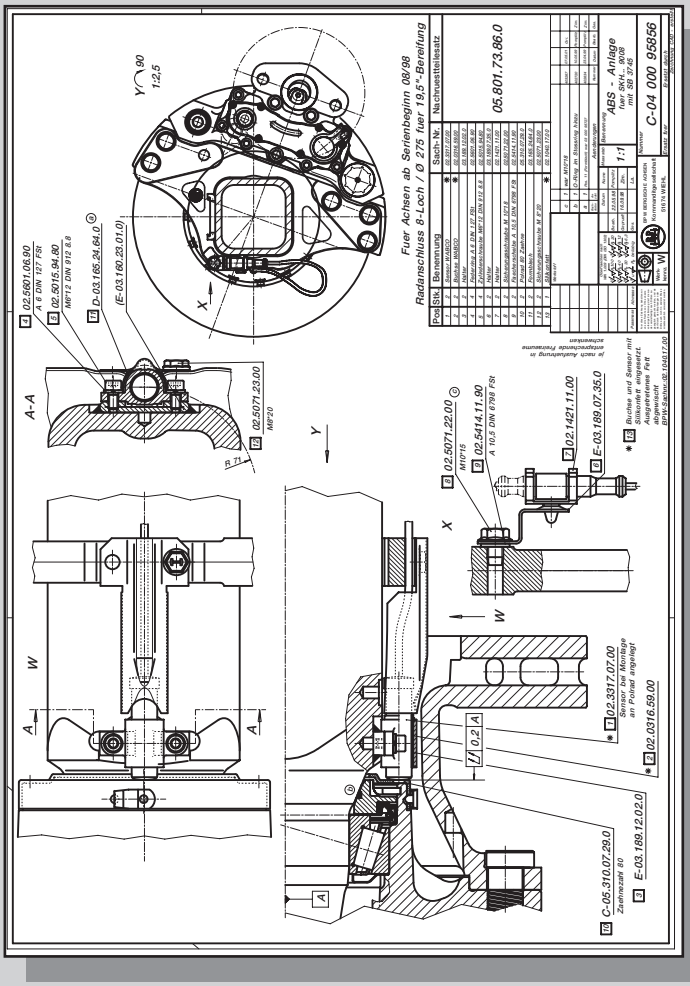
General

ABS

In the anti-lock brake system (ABS), the wheel movement is recorded using a proximity-type arrangement with an exciter ring attached to the hub and a sensor (speed sensor) that generates the pulses.
As a result, the wheel speed of each wheel is continuously sent to the central control ECU. This runs a complex program for processing the received information about the movement of the wheel as well as for calculating and performing logical operations on the control signals. Using the pressure control valves assigned to each wheel, it adjusts the air pressure and therefore the braking of each individual wheel (depending on the ABS system).



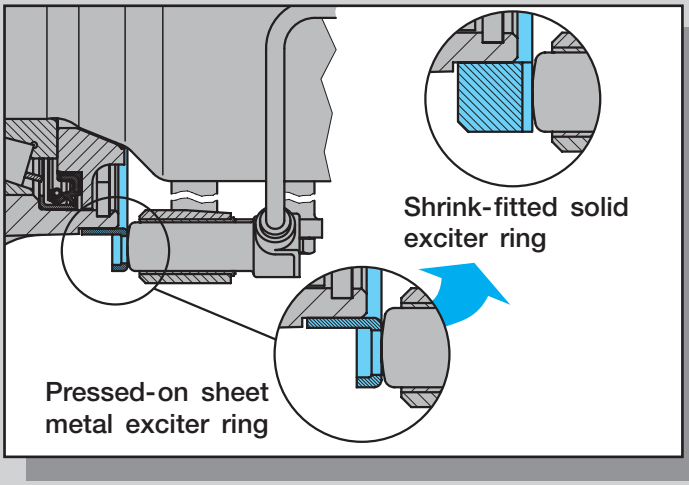
Almost all BPW axles can be retrofitted with ABS without problems. To do this, simply take the exciter ring, sensor brackets, sensors and fastening parts contained in the retrofit kit and attach them to the axle in accordance with the supplied installation drawing, then connect them to the vehicle electronic system.



Pressed-on sheet metal exciter rings

For replacement purposes, pressed-on sheet metal exciter rings are replaced by solid exciter rings.

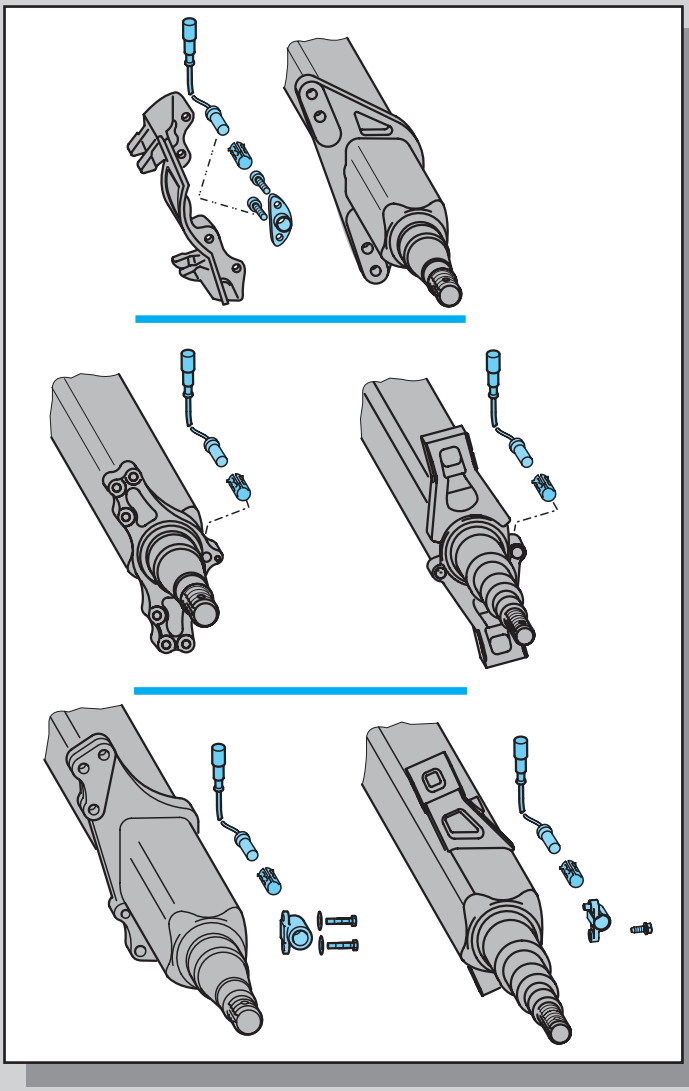
To do this, heat the new solid exciter ring to approx. 80 to 120 °C and shrink-fit.



Attachments of the sensor brackets

Various sensor attachments are used, depending on the axle design.

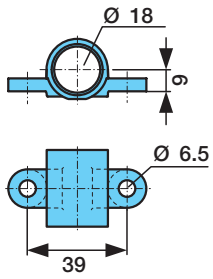
- Bolted sensor attachment on the brake body (bolted bracket)
- Welded sensor attachment on the brake body or the axle beam (lug), without any additional components
- Bolted sensor attachment on the axle beam / steering axle stub



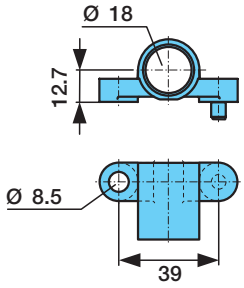
5.1 ABS

ABS parts / SB 3745 / Rigid axles

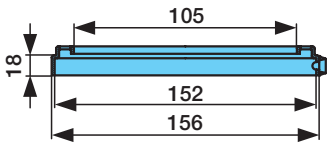
A



B



D



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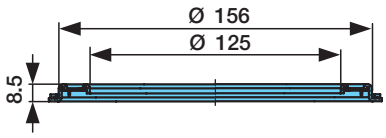
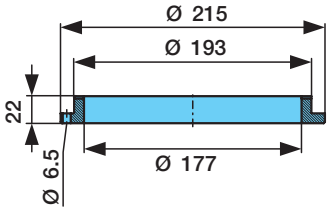
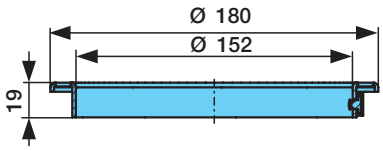


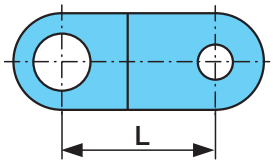
F



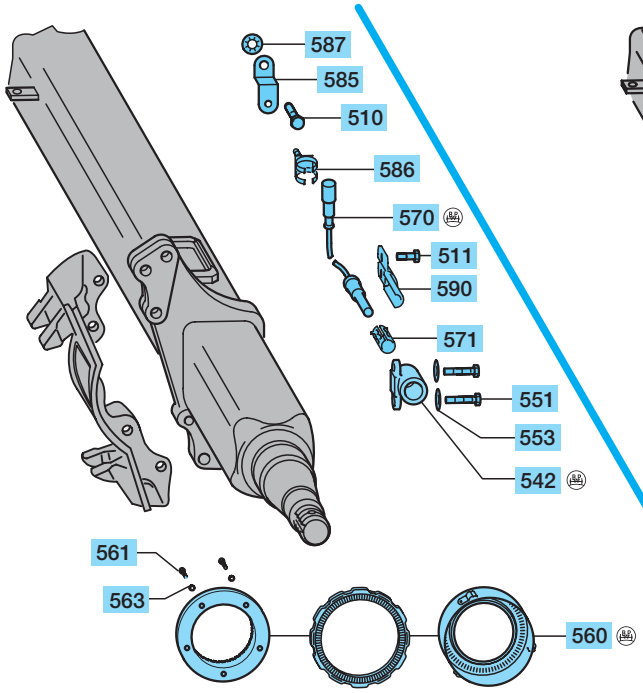
G



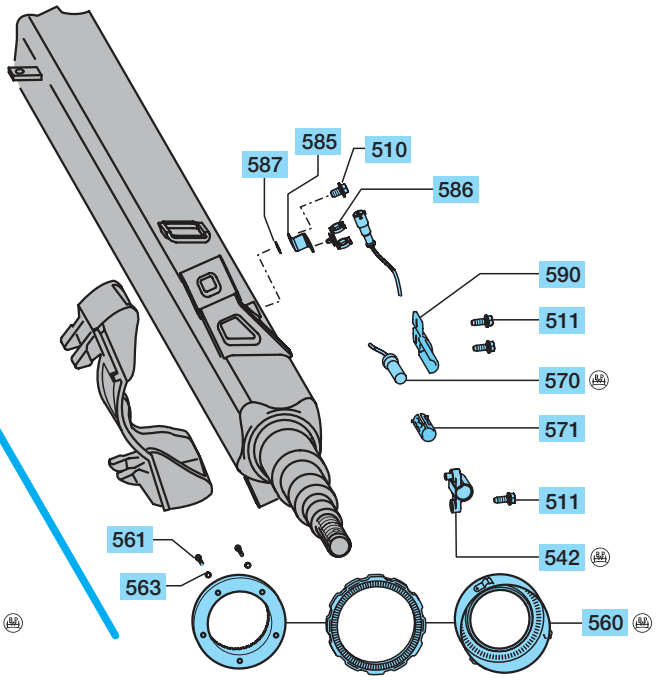
H



Axial



Tangential



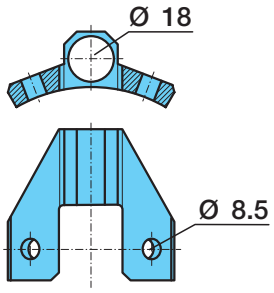
ABS parts / SB 3745 / Rigid axles

					SKH.. / SB 3745					
				Hub bearing	8 - 9 t				10 t	
				ECO / ECO MAXX	●				●	
				ECO Plus		●	●			●
				ECO Plus 2				●		
				Brake connection						
				Axial	●	●			●	
				Tangential			●	●		●
Item	**Designation**	**Dimension**	**Fig.**	**BPW Code no.**						
510	Locking bolt	M 10 x 15		02.5071.22.00	●	●	●	●	●	●
511	Locking bolt	M 8 x 20		02.5071.23.00		●	●	●		
513	Cable protection			02.5671.41.00					●	●
541	Repair kit - sensor bracket item 542, 551, 553, 571			09.801.02.86.0	●				welded sensor attachment at axle beam	
542	Sensor bracket		A	03.189.12.02.0	●					
542	Sensor bracket		B	03.189.14.61.0		●	●	●		
551	Cylinder cap bolt	M 6 x 12 - 8.8		02.5015.94.80	●					
553	Spring washer	A 6		02.5601.06.90	●					
560	Exciter ring (Z = 80) (SK.. 8008 / 9008 / 10008)	Ø 105 / 152 / 156 x 18	D	05.310.07.29.1	●					
		Ø 125 / 156 x 8.5	E	03.310.08.53.0		●	●	●		
		Ø 177 / 215 x 22 / 5 x Ø 6.5	F	03.310.09.38.0					●	●
	Exciter ring (Z = 100) (SK.. 8010 / 9010 / 10010)	Ø 105 / 152 / 156 x 18	D	05.310.07.30.1	●					
		Ø 125 / 156 x 8.5	E	03.310.08.51.0		●	●	●		
		Ø 152 / 180 x 19	G	05.310.08.52.1	●					
		Ø 177 / 215 x 22 / 5 x Ø 6.5	F	03.310.09.39.0					●	●
561	Cylinder cap bolt (10x)	M 6 x 20		02.5015.06.82						●
		M 6 x 30		02.5015.48.82					●	●
563	Spring washer (10x)	A 6		02.5601.06.90					●	●
570	Sensor, straight	L = 350		02.3317.07.00	●	●	●	●		
	Sensor, cranked	L = 350		02.3317.05.00					●	●
571	Bush			02.0316.59.00	●	●	●	●	●	●
585	Support	short - L 35	H	03.189.07.35.0	●	●	●	●	●	●
		long - L 70		03.189.07.72.0		●	●	●	●	●
586	Support			02.1421.11.00	●	●	●	●	●	●
587	Serrated lock washer	A 10.5		02.5414.11.90	●	●	●	●	●	●
590	Heat protection plate			03.165.24.64.0	●	●		●		
	Special silicone grease	5 g		02.1040.17.00	●	●	●	●	●	●

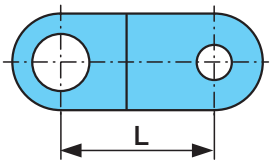
5.2 ABS

ABS parts / SB 3745 / Steering axles

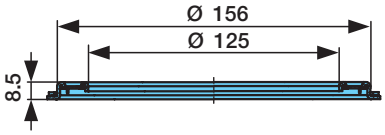
A



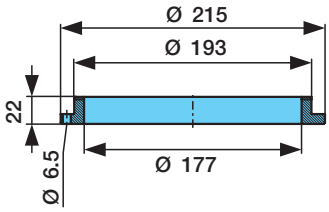
C



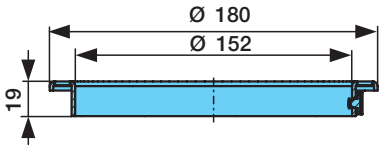
D



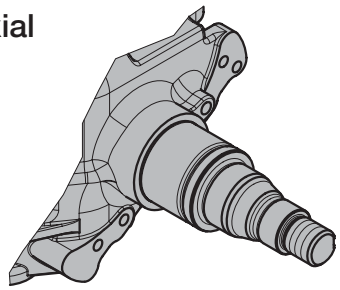
E



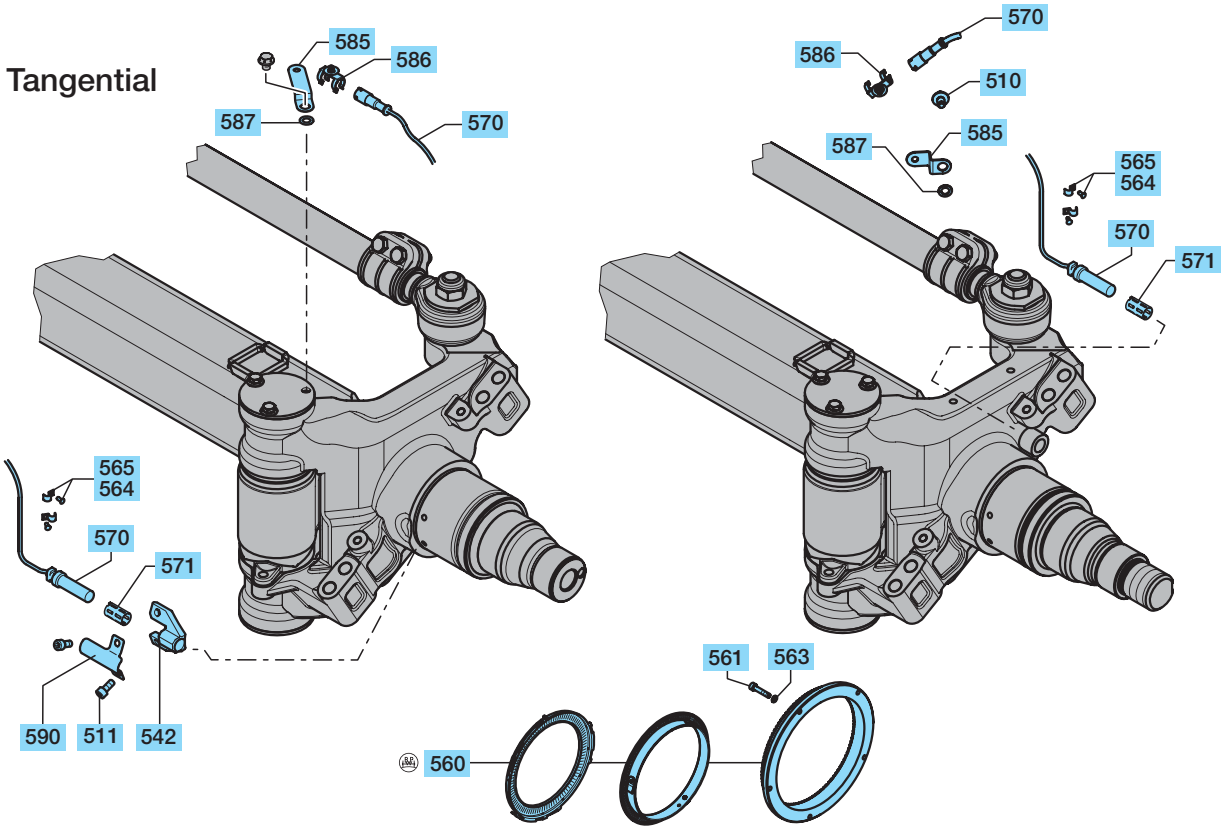
F



Axial



Tangential



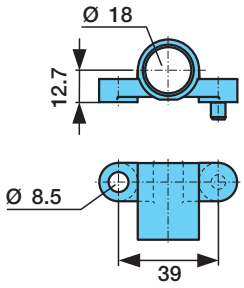
ABS parts / SB 3745 / Steering axles

					S..LL / SB 3745				
				Hub bearing	8 - 9 t			10 t	
				ECO / ECO MAXX	●	●		●	
				ECO Plus		●	●		●
				ECO Plus 2			●		
				Brake connection					
				Axial	●	●		●	
				Tangential			●		●
Item	Designation	Dimension	Fig.	BPW Code no.					
510	Locking bolt	M 10 x 15		02.5071.22.00	●	●		●	●
511	Locking bolt	M 8 x 20		02.5071.23.00			●		
542	Sensor bracket		A	03.189.14.86.0			●		
560	Exciter ring (Z = 80) (S..LL 8008 / 9008 / 10008)	Ø 125 / 156 x 8.5	D	03.310.08.53.0			●		
		Ø 177 / 215 x 22 / 5 x Ø 6	E	03.310.09.38.0				●	●
	Exciter ring (Z = 100) (S..LL 8010 / 9010 / 10010)	Ø 125 / 156 x 8.5	D	03.310.08.51.0			●		
		Ø 152 / 180 x 19	F	05.310.08.52.1	●				
		Ø 177 / 215 x 22 / 5 x Ø 6	E	03.310.09.39.0		●		●	●
561	Cylinder cap bolt (10x)	M 6 x 30		02.5015.48.82		●		●	●
563	Spring washer (10x)	A 6		02.5601.06.90		●		●	●
564	Clip	1 x 6		02.0326.32.00	●	●	●	●	●
565	Drive pin	Ø 4 x 10		02.6005.25.40	●	●	●	●	●
570	Sensor, straight	L = 350		02.3317.07.00		●	●	●	●
	Sensor, cranked	L = 350		02.3317.05.00	●				
571	Bush			02.0316.59.00	●	●	●	●	●
585	Support	short - L 35	C	03.189.07.35.0	●	●	●	●	●
		long - L 70		03.189.07.72.0	●	●	●	●	●
586	Support			02.1421.11.00	●	●	●	●	●
587	Serrated lock washer	A 10.5		02.5414.11.90	●	●	●	●	●
590	Heat protection plate			03.165.03.01.0			●		
	Special silicone grease	5 g		02.1040.17.00	●	●	●	●	●

5.3 ABS

ABS parts / SB 4309 / Rigid axles

A



B

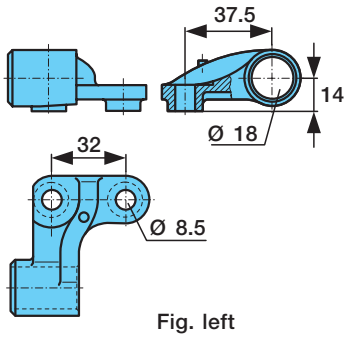
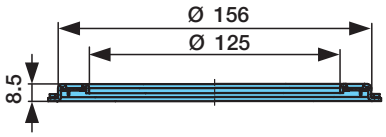
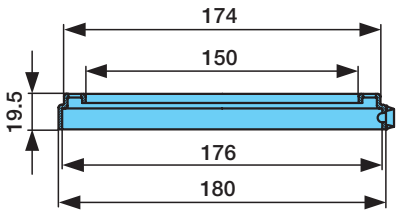


Fig. left

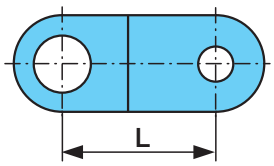
D

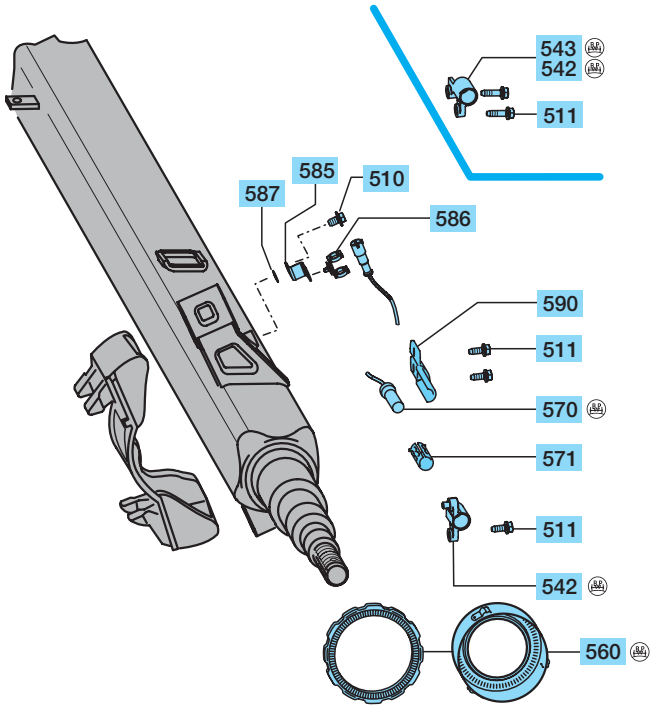


E



F





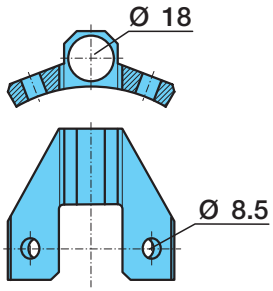
ABS parts / SB 4309 / Rigid axles

					SH.. / SB 4309			
				Hub bearing	8 - 9 t		10 t	
				ECO Plus	●		●	
				ECO Plus 2		●		
				Brake connection				
				Tangential	●	●	●	
Item	Designation	Dimension	Fig.	BPW Code no.				
510	Locking bolt	M 10 x 15		02.5071.22.00	●	●	●	
511	Locking bolt	M 8 x 20		02.5071.23.00		●		
541	Shaped plate			03.163.23.04.0			●	
542	Sensor bracket		A	03.189.14.61.0		●		
542	Sensor bracket, left		B	03.189.07.58.0			●	
543	Sensor bracket, right			03.189.07.59.0			●	
560	Exciter ring (Z = 100) (SH.. 8010 / 9010 / 10110)	Ø 125 / 156 x 8.5	D	03.310.08.51.0	●	●		
		Ø 150 / 176 / 180 x 19.5	E	05.310.08.50.1			●	
570	Sensor, straight	L = 350		02.3317.07.00	●	●	●	
571	Bush			02.0316.59.00	●	●	●	
585	Support	short - L 35	F	03.189.07.35.0		●	●	
		long - L 70		03.189.07.72.0	●		●	
586	Support for sensor plug			02.1421.11.00	●	●	●	
587	Serrated lock washer	A 10.5		02.5414.11.90	●	●	●	
590	Heat protection plate			03.165.24.64.0		●	●	
	Special silicone grease	5 g		02.1040.17.00	●	●	●	

5.4 ABS

ABS parts / SB 4309 / Steering axles

A



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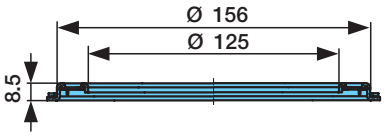

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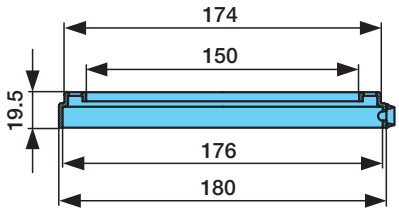
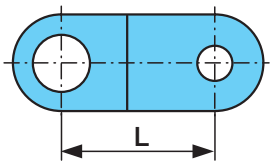
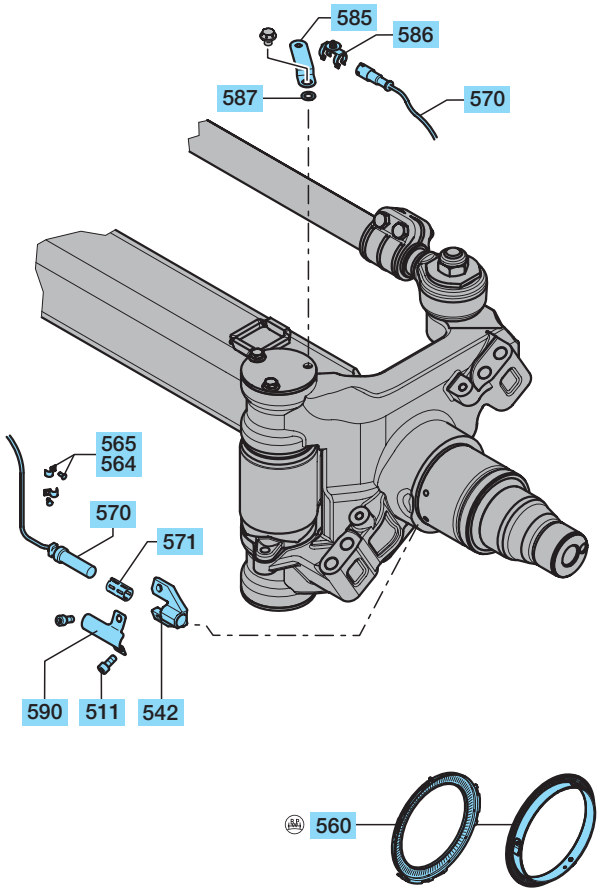
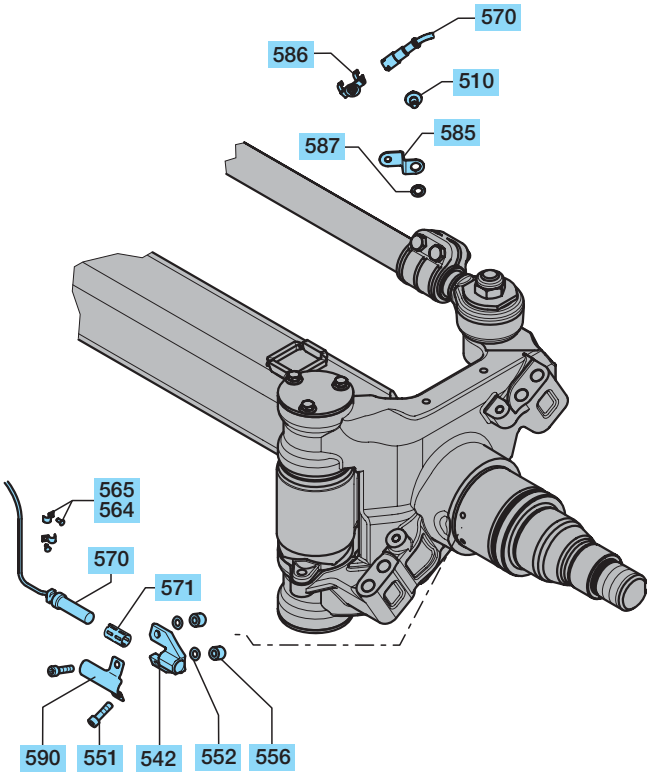


E







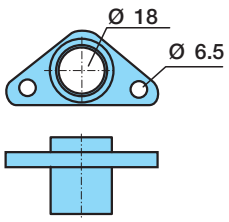
ABS parts / SB 4309 / Steering axles

					S..LL / SB 4309			
				Hub bearing	8 - 9 t		10 t	
				ECO Plus	●		●	
				ECO Plus 2		●		
				Brake connection				
				Tangential	●	●	●	
Item	**Designation**	**Dimension**	**Fig.**	**BPW Code no.**				
511	Locking bolt	M 8 x 20		02.5071.23.00	●	●		
542	Sensor bracket		A	03.189.14.86.0	●	●	●	
551	Self-tapping bolt	M 8 x 30		02.5047.16.00			●	
552	Washer	A 8.4		02.5401.08.04			●	
556	Sleeve	Ø 8.5 / 15 x 10		03.200.71.06.0			●	
560	Exciter ring (Z = 100) (S..LL 8010 / 9010 / 10110)	Ø 125 / 156 x 8.5	C	03.310.08.51.0	●	●		
		Ø 150 / 176 / 180 x 19.5	D	05.310.08.50.1			●	
564	Clip	1 x 5		02.0326.32.00	●	●	●	
565	Drive pin	Ø 4 x 10		02.6005.25.40	●	●	●	
570	Sensor, straight	L = 350		02.3317.07.00	●	●	●	
571	Bush			02.0316.59.00	●	●	●	
585	Support	short - L 35	E	03.189.07.35.0				
		long - L 70		03.189.07.72.0	●	●	●	
586	Support			02.1421.11.00	●	●	●	
587	Serrated lock washer	A 10.5		02.5414.11.90	●	●	●	
590	Heat protection plate			03.165.03.01.0	●	●	●	
	Special silicone grease	5 g		02.1040.17.00	●	●	●	

5.5 ABS

ABS parts / SB 4345 / Rigid axles

A



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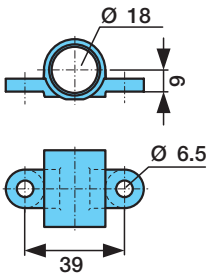

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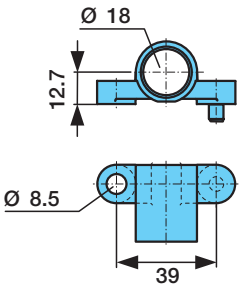

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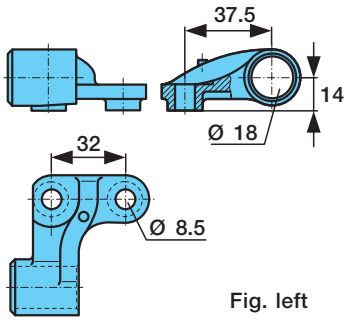
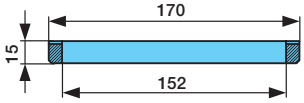


Fig. left

E



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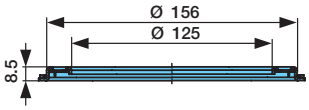
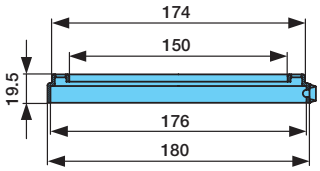
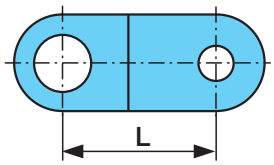
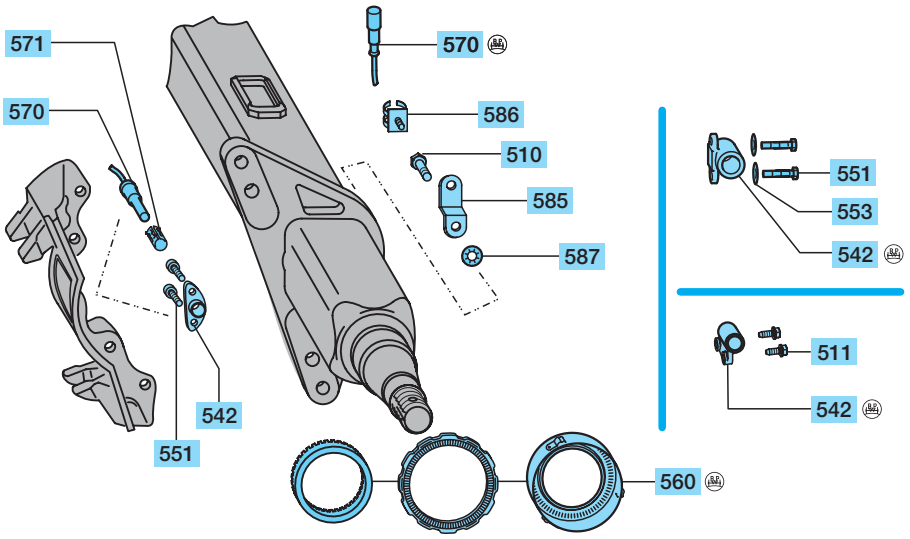


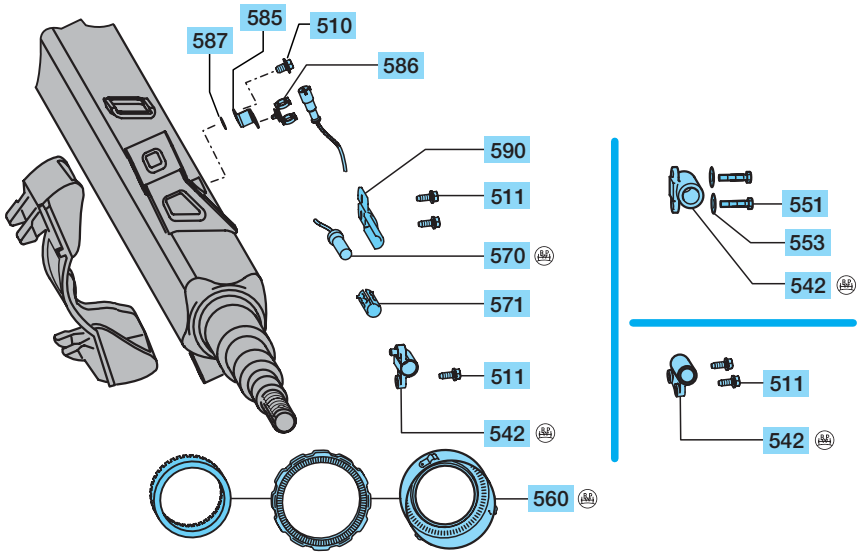
G



H







ABS parts / SB 4345 / Rigid axles

Item	Designation	Dimension	Fig.	BPW Code no.	SH.. / SB 4345					
				Hub bearing	8 - 9 t			10 t	12 t	
				ECO / ECO MAXX	●			●	●	
				ECO Plus		●			●	●
				ECO Plus 2			●			
				Brake connection						
				Axial	●			●	●	
				Tangential		●	●			●
510	Locking bolt	M 10 x 15		02.5071.22.00	●	●	●	●	●	●
511	Locking bolt	M 8 x 20		02.5071.23.00	●	●	●	●	●	●
541	Repair kit - sensor bracket item 542, 551, 553, 571			09.801.02.71.0	●					
				09.801.02.86.0					●	●
542	Sensor bracket		A	03.189.14.04.0	● [1]					
542	Sensor bracket		B	03.189.12.02.0					●	●
542	Sensor bracket		C	03.189.14.61.0		●	●			
542	Sensor bracket, right		D	03.189.07.58.0	● [2]			●		
543	Sensor bracket, left			03.189.07.59.0	● [2]			●		
551	Cylinder cap bolt	M 6 x 16 / 912		02.5015.00.80	● [1]					
551	Cylinder cap bolt	M 6 x 12 - 8.8		02.5015.94.80					●	●
553	Spring washer	A 6		02.5601.06.90					●	●
560	Polrad (Z = 100) (SH.. 8010 / 9010 / 10010)	Ø 152 / 170 x 15	E	03.310.08.15.0	●					
		Ø 125 / 156 x 8.5	F	03.310.08.51.0		●	●			
		Ø 150 / 176 x 19.5	G	05.310.08.50.1				●	●	●
570	Sensor, straight	L = 350		02.3317.07.00	●	●	●	●	●	●
	Sensor, cranked	L = 350		02.3317.05.00	●					
571	Bush			02.0316.59.00	●	●	●	●	●	●
585	Support	short - L 35	H	03.189.07.35.0	●	●	●	●	●	●
		long - L 70		03.189.07.72.0		●	●			
586	Support			02.1421.11.00	●	●	●	●	●	●
587	Serrated lock washer	A 10.5		02.5414.11.90	●	●	●	●	●	●
590	Heat protection plate			03.165.24.64.0		●	●	●	●	●
	Special silicone grease	5 g		02.1040.17.00	●	●	●	●	●	●

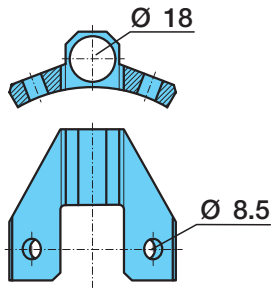
[1] Sensor attachment on caliper anchor plate

[2] Sensor attachment on axle beam

5.6 ABS

ABS parts / SB 4345 / Steering axles

A



B

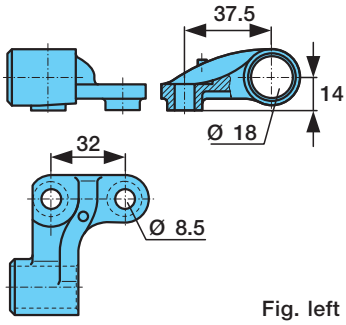
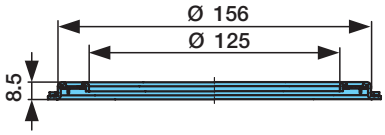
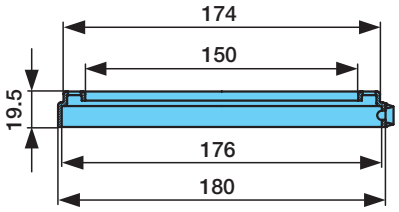


Fig. left

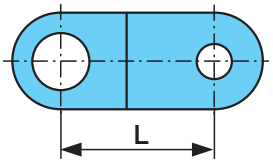
D



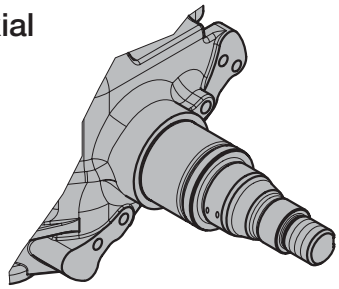
E



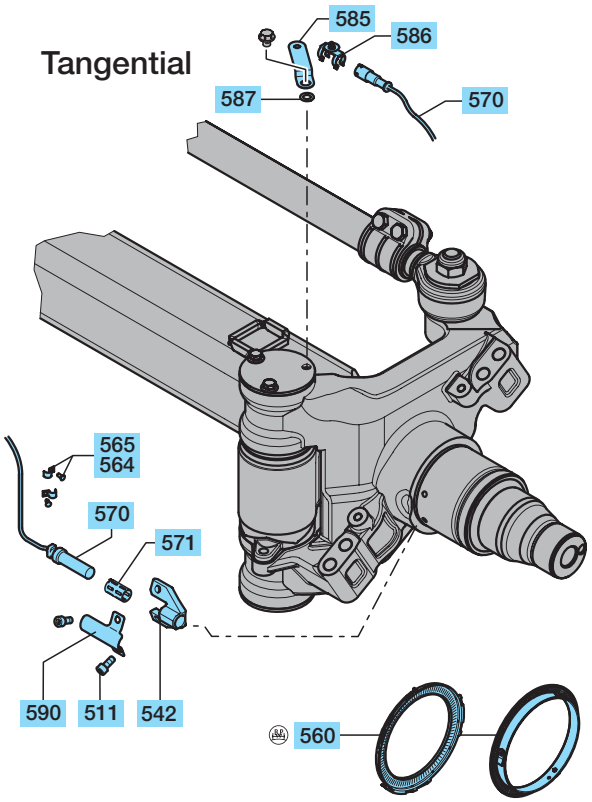
F

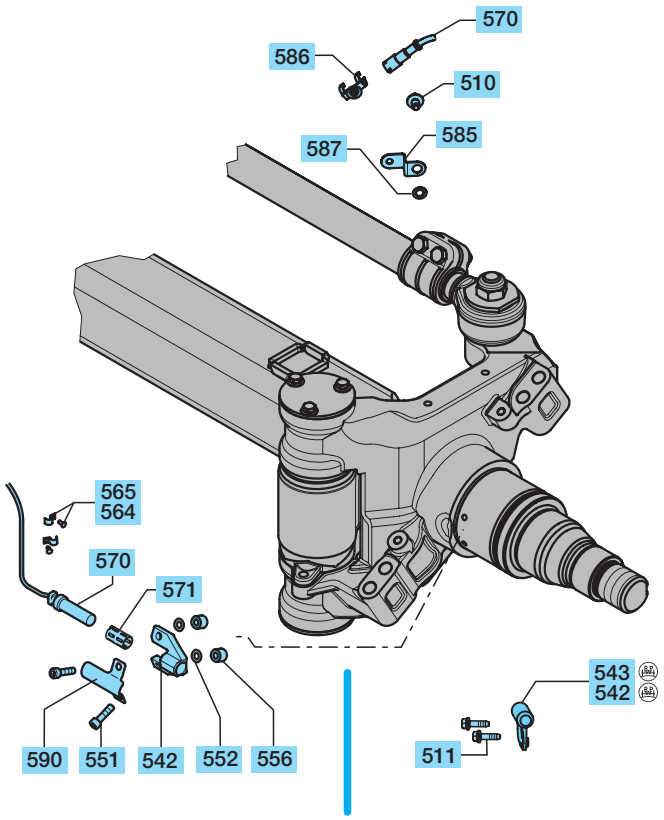


Axial



Tangential





ABS parts / SB 4345 / Steering axles

					S..LL / SB 4345				
				Hub bearing	8 - 9 t			10 - 12 t	
				ECO Plus	●	●		●	●
				ECO Plus 2			●		
				Brake connection					
				Axial	●			●	
				Tangential		●	●		●
Item	**Designation**	**Dimension**	**Fig.**	**BPW Code no.**					
510	Locking bolt	M 10 x 15		02.5071.22.00	●				
511	Locking bolt	M 8 x 20		02.5071.23.00	●	●	●		
542	Sensor bracket		A	03.189.14.86.0	●	●	●		●
542	Sensor bracket, right		B	03.189.07.58.0				●	
543	Sensor bracket, left			03.189.07.59.0				●	
551	Self-tapping bolt	M 8 x 30		02.5047.16.00				●	●
552	Washer	A 8.4		02.5401.08.04				●	●
556	Sleeve	Ø 8.5 / 15 x 10		03.200.71.06.0				●	●
564	Clip	1 x 6		02.0326.32.00	●	●	●	●	●
565	Drive pin	Ø 4 x 10		02.6005.25.40	●	●	●	●	●
560	Exciter ring (Z = 100) (S..LL 8010 / 9010 / 10010)	Ø 125 / 156 x 8.5	D	03.310.08.51.0	●	●	●		
		Ø 150 / 176 x 19.5	E	05.310.08.50.1				●	●
570	Sensor, straight	L = 350		02.3317.07.00		●	●		●
	Sensor, cranked	L = 350		02.3317.05.00	●			●	
571	Bush			02.0316.59.00	●	●	●	●	●
585	Support	short - L 35	F	03.189.07.35.0		●	●	●	●
		long - L 70		03.189.07.72.0	●	●	●	●	●
586	Support			02.1421.11.00	●	●	●	●	●
587	Serrated lock washer	A 10.5		02.5414.11.90	●	●	●	●	●
590	Heat protection plate			03.165.03.01.0	●	●	●		●
	Special silicone grease	5 g		02.1040.17.00	●	●	●	●	●

5.7 ABS retrofit part sets

ABS retrofit part sets for one axle consisting of exciter rings, sensors, sensor brackets, fastening components and mounting drawings.

ABS-System
Wabco / Bosch
also for:
Grau DGX / M
Grau MGX 100
Knorr

Axle type	Pitch circle (TK)	Remark	BPW Drawing	Brake	Exciter ring / teeth	Retrofit kit cpl. BPW Code no.
SKH.. 8000 - 9000	275	Axial (1998 - 3/2000) ☐ 120, bolted sensor bracket	C-04.00.095856		80	05.801.73.86.0
	335		C-04.00.095855		100	05.801.73.87.0
SKH.. 8000 - 9000	275	Axial (from 4/2000) Tangential (from 5/2003) ☐ 120, bolted sensor bracket	C-04.00.098240 C-04.00.501791		80	05.801.74.09.0
	335				100	05.801.74.08.0
SKHB.. 8000 - 9000	335	Axial (from 8/2000) Tangential (from 5/2003) ☐ 120, sensor attachment at brake caliper anchor carrier / welded sensor bracket	C-04.00.500177 C-04.00.501784	**SB 3745**	100	05.801.74.07.0
SKH.. 10000	275	Axial (1998 - 3/2000) ☐ 120, sensor attachment at brake caliper anchor carrier / welded sensor bracket	C-04.00.096507		80	05.801.73.88.0
	335		C-04.00.096797		100	05.801.73.91.0
SKH.. 10000	275	Tangential (from 5/2003) ☐ 120, welded sensor bracket	C-04.00.502184		80	05.801.73.88.0
	335				100	05.801.74.27.0
SH.. 8000 - 9000	335	Tangential (from 5/2003) ☐ 120, bolted sensor bracket	C-04.00.501791		80	05.801.74.09.0
					100	05.801.74.08.0
SHB.. 8000 - 9000	335	Tangential (from 5/2003) ☐ 120, sensor attachment at the brake caliper	C-04.00.501784	**SB 4309**	100	05.801.74.07.0
SH.. 10110	335	Axial (1998 - 3/2000) Tangential (from 5/2003) ☐ 120, bolted sensor bracket	C-04.00.502185		100	05.801.73.84.0
SH.. 8000 - 9000	335	Tangential (from 5/2003) ☐ 120, bolted sensor bracket	C-04.00.098240		100	05.801.74.08.0
SH.. 10110	335	Axial (1998 - 3/2000) Tangential (from 5/2003) ☐ 120, bolted sensor bracket	C-04.00.502185	**SB 4345**	100	05.801.73.84.0
SH.. 12000	335	Axial (1998 - 3/2000) Tangential (from 5/2003) ☐ 150, bolted sensor bracket	C-04.00.096487 C-04.00.501906		100	05.801.73.89.0

6 Wheel studs

General

BPW wheel studs

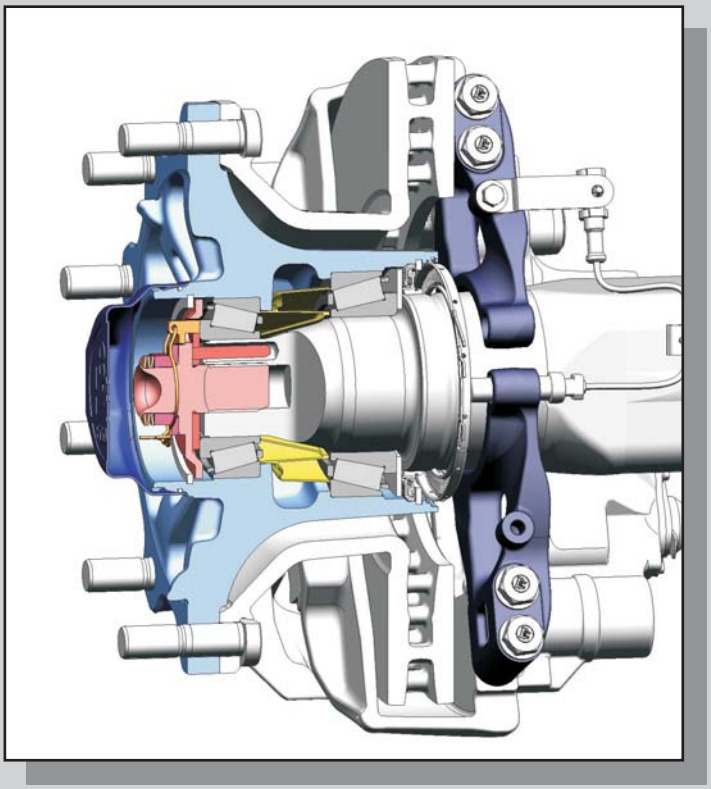
The wheel nave (or wheel disc) connects the rim to the wheel hub. It must absorb the vertical, lateral and longitudinal forces which arise and transmit them to the wheel hub via the wheel studs (wheel bolts).

BPW axles with disc brakes are suitable for wheels with either bolt or hub centring, and with a few exceptions they are all supplied with helical bolts.

Helical studs are easy to maintain and connect the brake drum to the hub using a pressfit. As a result, there is no need for internal nuts.

The hub bore is not damaged even after several removal/installation operations (in contrast to the situation with splined studs) and the holding forces for the wheel studs remain constant.

The prescribed BPW tightening torques for wheel attachment are listed in the current BPW maintenance instructions and must be observed.

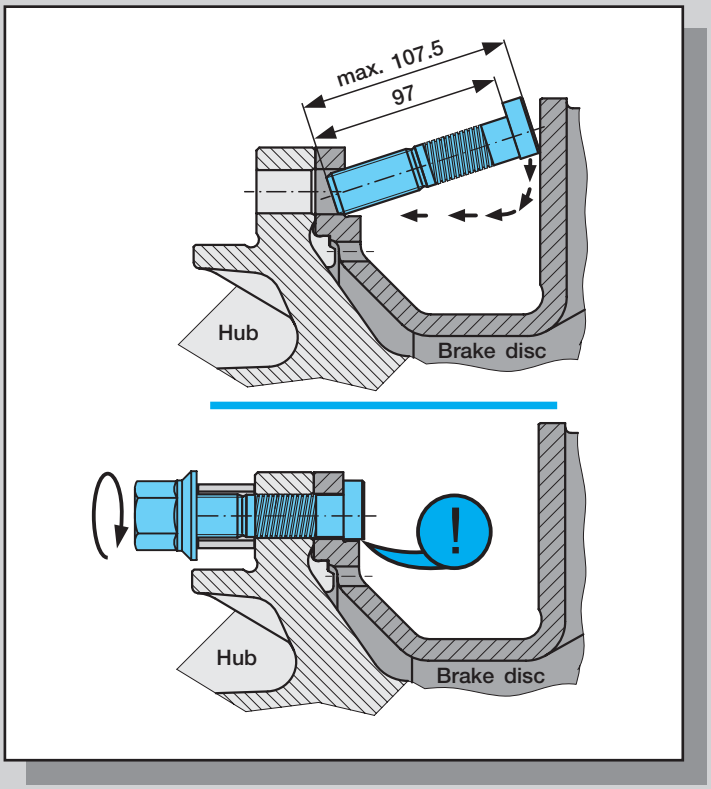


Assembly of the wheel bolts

The helical bolt is inserted from the rear through the hole in the brake disc / hub.

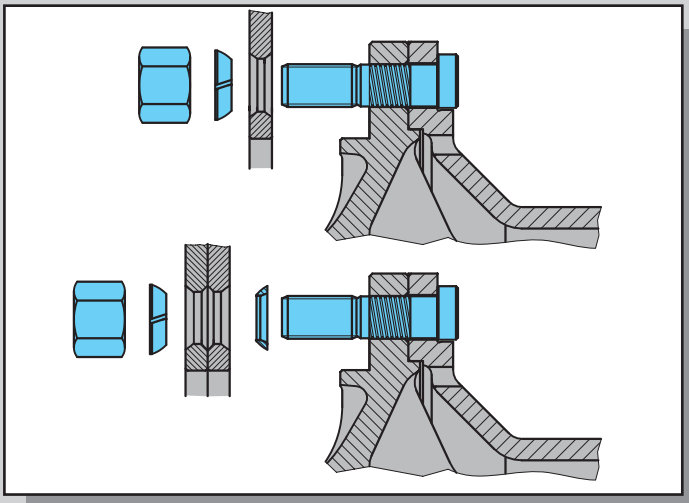
Then a sleeve is pushed over it, a wheel nut is applied and the wheel bolt is drawn into its final position.

☞ It is important to ensure that the flattened head of the wheel bolt sits correctly!



Stud alignment

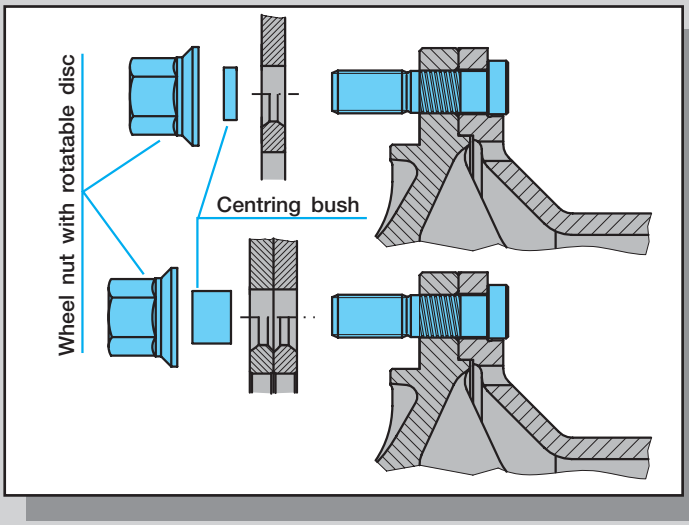
In stud centring, the wheel nave (with countersunk stud holes) is centred using wheel studs with (spring) centring rings.



Spigot alignment

In hub centring, the wheel nave is centred using a centring spigot or ring surfaces on the wheel hub.

In the case of 8-hole disc wheels with countersunk stud holes and 10-hole disc wheels, a centring bush is mounted on 2 opposite wheel studs for each hub.



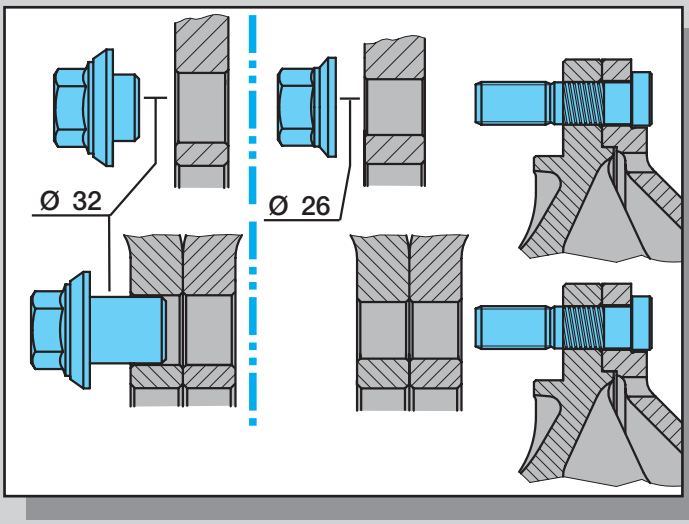
Alloy wheels

In the case of aluminium wheels, the wheel nave is centred using a centring cam or ring surfaces on the wheel hub.

As the flange thickness is greater with alloy wheels than with steel wheels, it is important to check whether the axles are suitable for fitting alloy wheels (with 26 mm-diameter hole).

In the case of twin tyres the available centring seat and wheel bolts must be of adequate length (i.e. the thread of the wheel nut must be completely engaged with the wheel bolt thread).

If not, aluminium wheels with stud hole Ø 32 can be used in conjunction with shaft nuts without replacing the hub or the wheel studs.



6.1 Wheel studs

Wheel studs

Thread **M 22 x 1.5** **Wheel studs**	Hub		Wheel type								Wheel nut			Fig.	item **470** Wheel stud assemly cpl. **09.806.** (item 472 - 479)	Dimension wheel stud L / L1	item **472** Wheel stud **03.296.**	item **476** Centring ring [1] **03.310.**	item **476** Bush [2] **03.112.**
	Steel hub	Alloy hub	Steel wheel with offset	Steel wheel without offset	Alloy wheel Ø 26 with offset	Alloy wheel Ø 26 without offset	Alloy wheel Ø 32 with offset	Alloy wheel Ø 32 without offset	Stud alignment	Spigot alignment	normal SW 32	Cap nut SW 33	Shaft nut SW 32						
Single wheels																			
Helical fit wheel bolt	●		●	●					●		●			1 A	33.75.0	80 / 45	33.11.1	-	-
	●			●						●	●			1 C	33.11.0	89 / 54	33.14.1	-	00.43.0
	●		●	●						●	●			1 C	33.76.0	80 / 45	33.11.1	-	00.43.0
	●			●						●		●		1 C	33.04.0	89 / 54	33.14.1	-	00.43.0
	●			●						●		●		1 C	33.77.0	80 / 45	33.11.1	-	00.43.0
	●				●	●					●			1 E	33.68.0	97 / 62	33.12.1	-	-
	●					●						●		1 E	33.69.0	97 / 62	33.12.1	-	-
		●				●					●			2 E	-	97 / 52	33.16.1	-	-
		●				●						●		2 E	-	97 / 52	33.16.1	-	-
	●						●						●	2 G	-	80 / 45	33.11.1	-	-
		●				●							●	2 E	-	89 / 54	33.14.1	-	-
	●							●					●	2 G	33.79.0	97 / 62	33.12.1	-	-
Twin wheels																			
Helical fit wheel bolt	●			●					●		●			1 B	33.67.0	97 / 62	33.12.1	10.13.0	-
	●			●						●	●			1 D	33.68.0	97 / 62	33.12.1	-	00.42.0
		●						●					●	2 H	-	97 / 52	33.16.1	-	-
	●							●					●	1 H	-	89 / 54	33.14.1	-	-
	●							●					●	1 H	-	97 / 62	33.12.1	-	-

[1] Centring ring with helical fit wheel bolts and twin wheels.

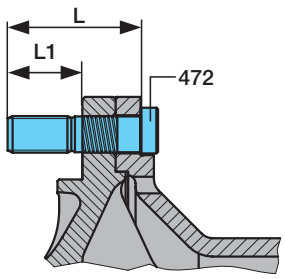
SW = Spanner width

[2] Bush not included in wheel stud assembly 09.806..... (see page 79).

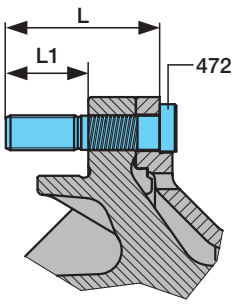
item 478	item 479
Spring washer 02.5615.	Wheel nut
22.90	03.260.04.12.0
-	05.260.54.10.0
-	05.260.54.10.0
-	05.260.54.19.0
-	05.260.54.19.0
-	05.260.54.10.0
-	05.260.54.19.0
-	05.260.54.10.0
-	05.260.54.19.0
-	05.260.54.21.1
-	05.260.54.21.1
-	05.260.54.21.1
22.90	03.260.04.12.0
-	05.260.54.10.0
-	05.260.54.14.1
-	05.260.54.14.1
-	05.260.54.14.1

Wheel studs

Helical fit wheel bolt 1
Steel hub

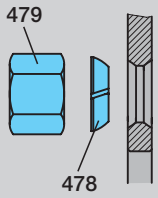


Helical fit wheel bolt 2
Alloy hub



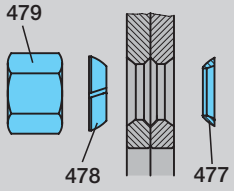
Single wheels

Steel wheels A
Stud alignment



Twin wheels

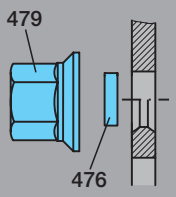
B



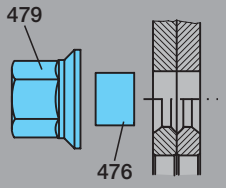
Tightening torques for wheel nuts item **479**

Thread	Stud alignment
M 22 x 1.5	510 Nm (485-535)

Steel wheels C
Spigot alignment



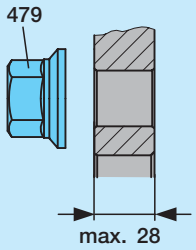
D



Tightening torques for wheel nuts item **479**

Thread	Spigot alignment
M 22 x 1.5	630 Nm (600-660)

Alloy wheels Ø 26 E

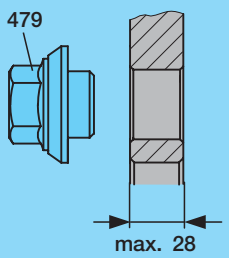


Alloy wheels Ø 26 F

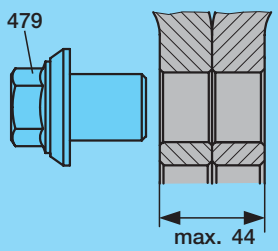
Tightening torques for wheel nuts item **479**

Thread	Alloy wheels
M 22 x 1.5	630 Nm (600-660)

Alloy wheels Ø 32 G



Alloy wheels Ø 32 H



Tightening torques for wheel nuts item **479**

Thread	Alloy wheels
M 22 x 1.5	630 Nm (600-660)

7 Steering dampers

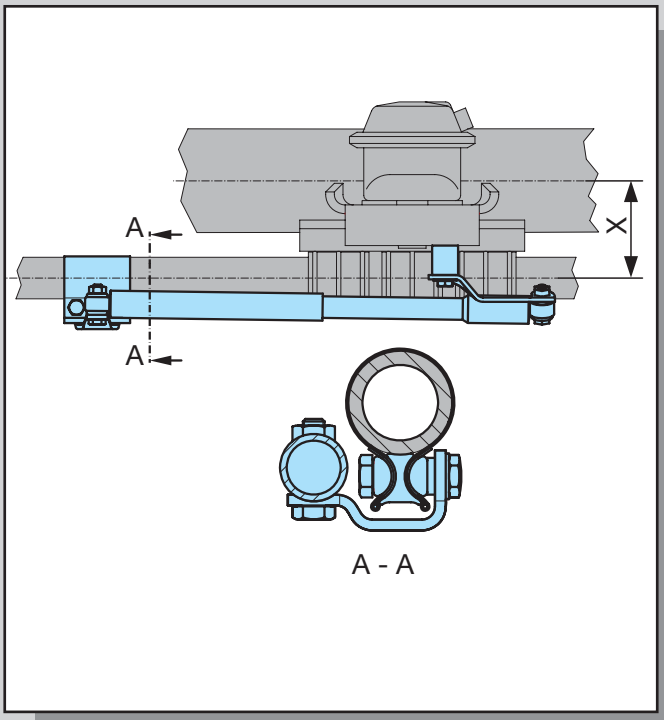
BPW Steering dampers

For BPW trailing steering axles, series ..LL, there are various steering damper parts kits.

A steering damper is absolutely essential under the following operating conditions:

- Where the ratio of the number of rigid axles to steering axles is 1:1 (2:2)
- Where an axle lift is used in the three-axle unit
- Where the steering pin bearing is connected to a central lubricating system

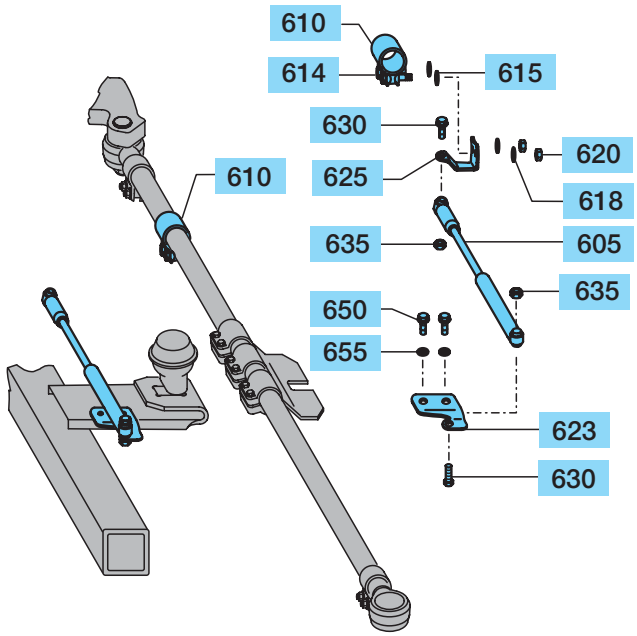
The steering damper is easy to install and also to retrofit. Installation is carried out exclusively by means of bolts (no welding).
The necessary attachment holes are present on the steering axles. Each parts kit also includes an installation drawing.



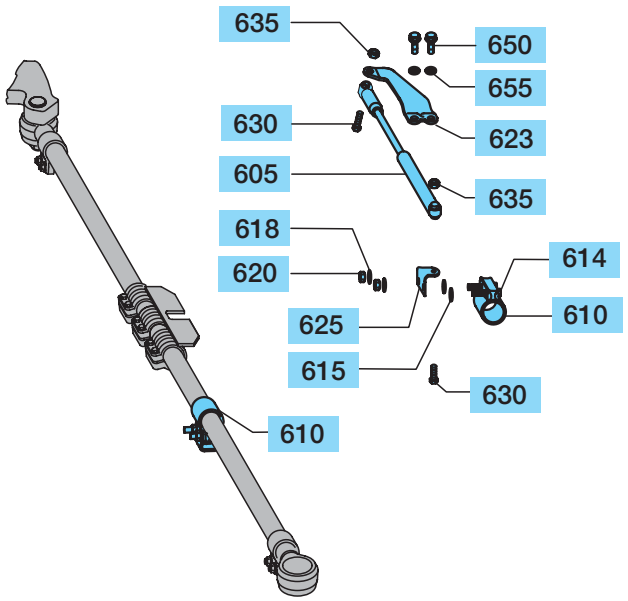
BPW Steering dampers

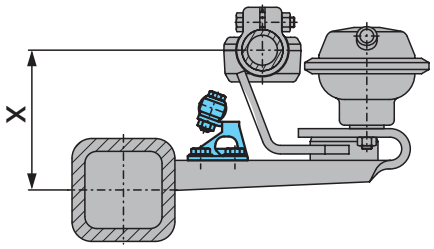
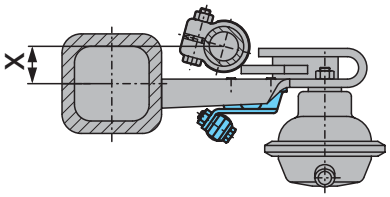
Item	Designation (Remark)	BPW Code no.	Dimension

05.872.00.56.0



05.872.00.59.0



		Trailing arm above X = 163 / 171		Trailing arm below X = 25 / 35 / 45	
					
600	Steering damper assembly (item 605 - 660)	**05.872.00.56.0**		**05.872.00.59.0**	
605	Steering damper	02.3702.93.00		02.3702.93.00	
610	Clamp cpl. (incl. item 614)	05.001.00.03.0		05.001.00.03.0	
614	Hexagon bolt	02.5025.56.11	M 10 x 50 - 10.9	02.5025.56.11	M 10 x 50 - 10.9
615	Ring	03.310.30.51.0	Ø 10.5 / 17 x 3.5	03.310.30.51.0	Ø 10.5 / 17 x 3.5
618	Lock washer	02.5403.10.92	B 10	02.5403.10.92	B 10
620	Hexagon nut	02.5205.03.24	M 10	02.5205.03.24	M 10
623	Shaped plate	03.165.56.35.0		03.165.35.12.0	
625	Shaped plate	03.165.34.10.0		03.165.34.09.0	
630	Hexagon bolt	02.5021.43.82	M 10 x 40 - 8.8	02.5021.43.82	M 10 x 40 - 8.8
635	Lock nut	02.5273.10.82	M 10	02.5273.10.82	M 10
650	Hexagon bolt	02.5025.75.82	M 12 x 16 - 8.8	02.5025.75.82	M 12 x 16 - 8.8
655	Lock washer	02.5403.12.92	B 12	02.5403.12.92	B 12

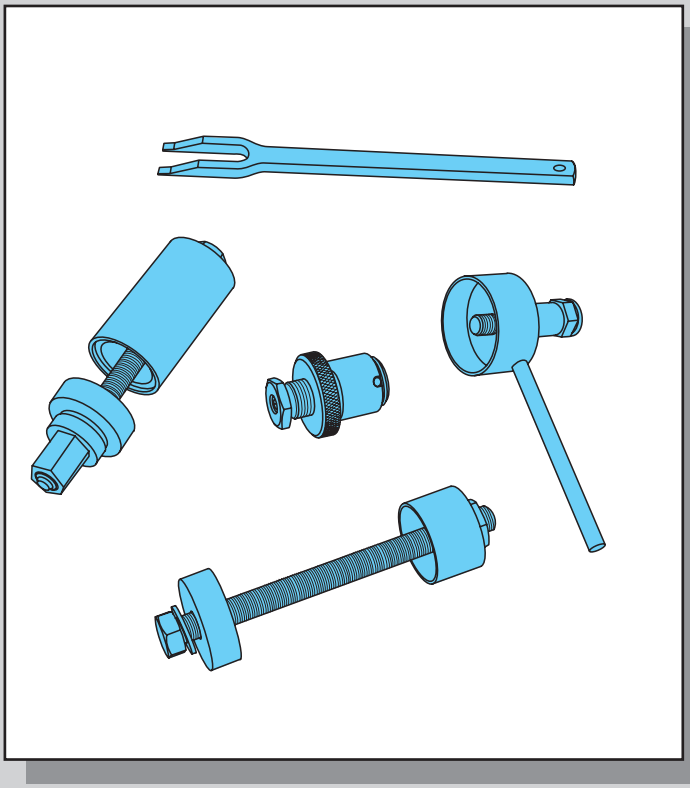
8 Disc brake tools

BPW Special tools and calibration equipment

Special tools and measuring devices have a long tradition at BPW Bergische Achsen KG, based on decades of experience.

The existing range of tools has been systematically improved and new products have been added to it with every new generation of axles.

In addition to which BPW offers special measuring devices for checking dimensions on axles and suspensions.



Tried and tested design

Tools must prove their worth in hard, everyday use.
Only then does it become clear whether tools are up to the demands of the real world.

Use of high-quality materials

High-quality materials are absolutely essential for producing high-quality tools.
Continuous quality assurance guarantees consistent quality.

Favourable price/performance ratio

Quality is not always obvious at first glance (e.g. materials).
Buying quality tools is often the most cost effective long term option.
This particularly applies in those cases where tools are regularly needed and where their trouble-free use must be guaranteed at all times.

Long service life, low wear

BPW tools are designed to be particularly resistant to wear and tear, and guarantee an extremely long service life, even with frequent use.

Simple to handle

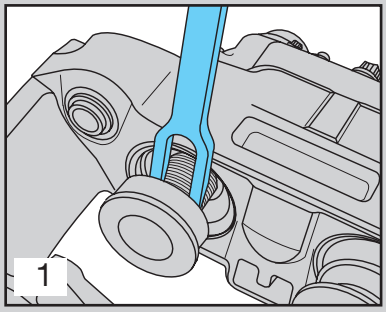
Ideal solutions are always simple.
This statement also particularly applies to tools.

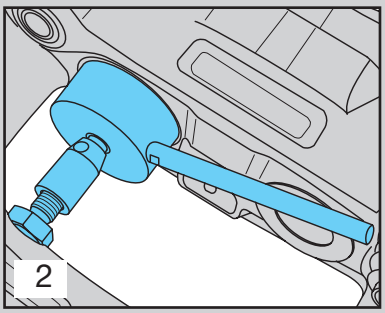
For that reason BPW tools are specifically designed to meet the technical requirements.

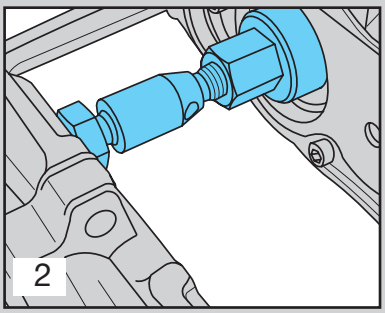
Solutions that do not meet practical requirements are rigorously weeded out at the development stage.

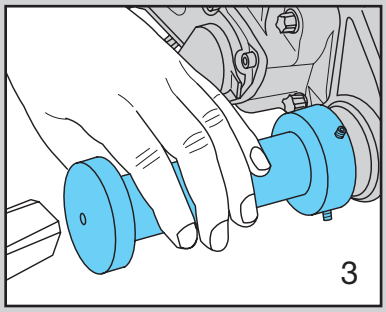
Details on the correct use of the tools can be found in the respective workshop manuals.

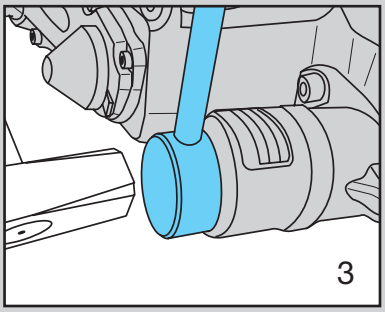
For more tools see the BPW tools catalogue.

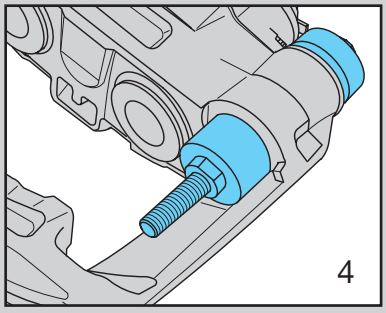


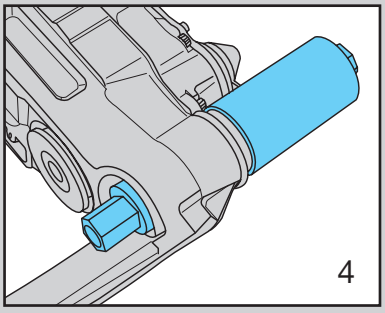




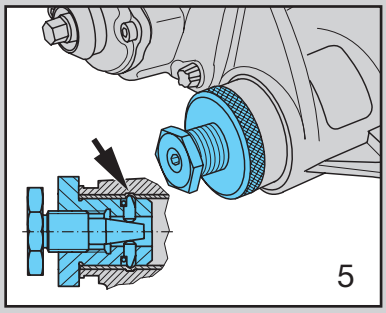


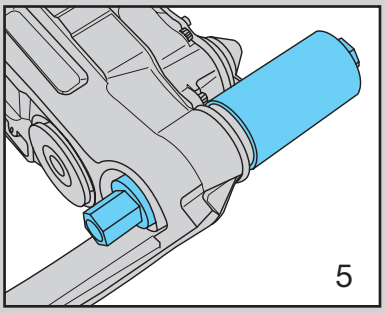


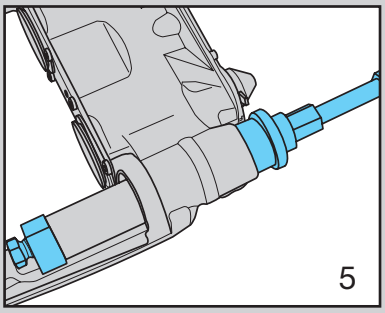


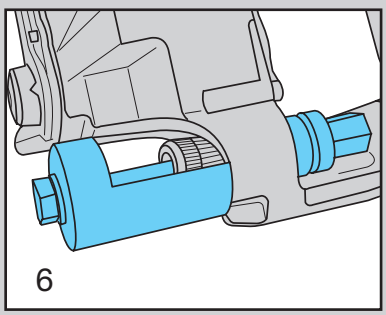


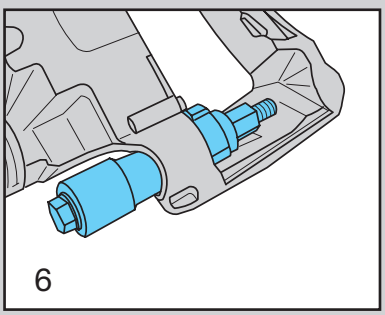
	View
1	Removing thrust pieces with bellows
2	Installing thrust pieces with bellows
2	Pressing in inner secondary seal
3	Renewing brake caliper, fit cover cap
4	Pulling in inner bellows on fixed bearing
4/5	Pulling brass bush on fixed bearing out and in
4/5	Peening brass bush
6	Pulling loose bearing bush out and in
6	Renewing brake caliper, fitting cover cap

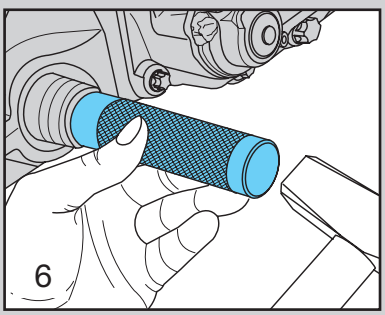








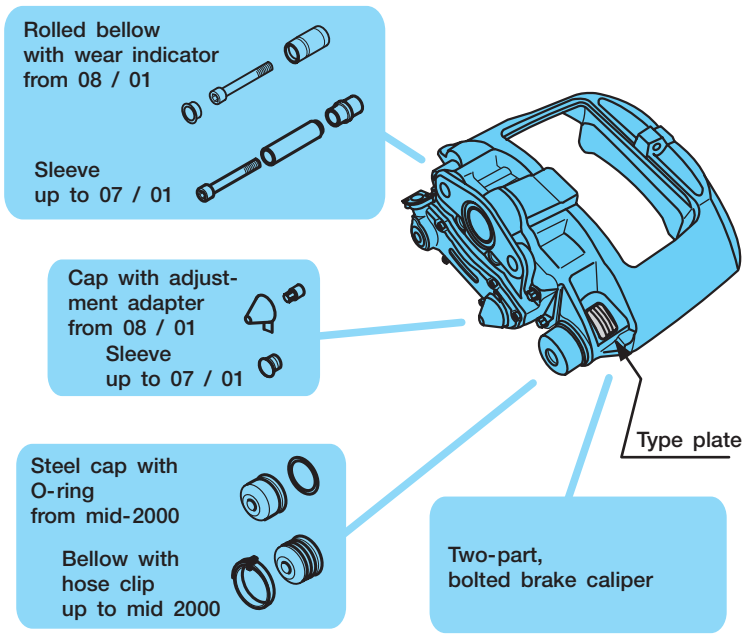




8.1 Disc brake tools

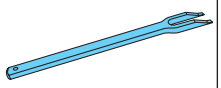
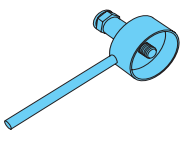
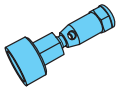
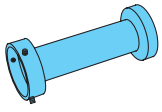
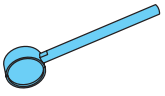
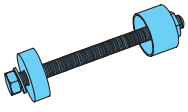
Features of the conventional disc brake

Disc brake complete BPW Code no.	
Axial bolted connection	**Tangential bolted connection**
SB 3745	
05.362.70.16.0 / 17.0	
05.362.70.22.0 / 23.0	
05.362.70.22.1 / 23.1	
05.362.70.22.2 / 23.2	
05.362.70.26.0 / 27.0	
05.362.70.26.1 / 27.1	
05.362.70.26.2 / 27.2	
05.362.70.28.0 / 29.0	
SB 4345	
05.362.70.12.0 / 13.0	
05.362.70.24.0 / 25.0	



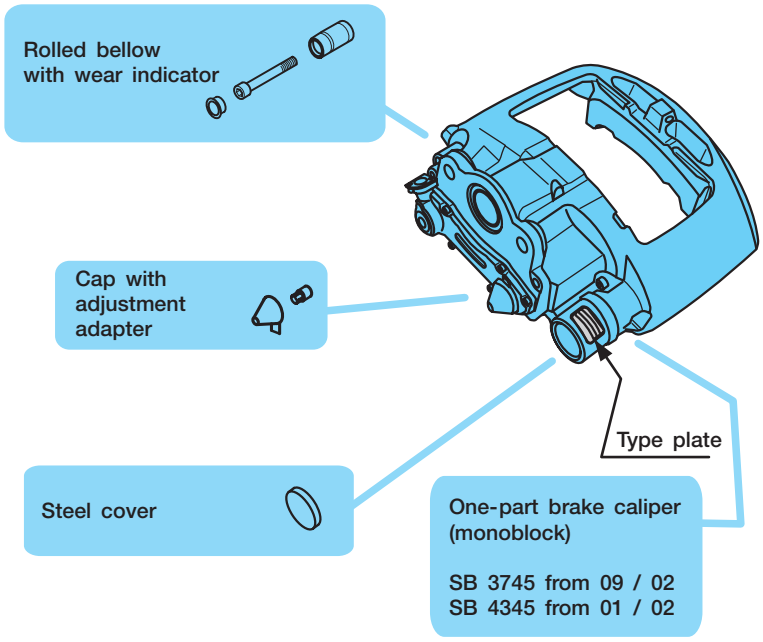
View:

Item	Work stage	Tool name
1	Disassembling thrust pieces with bellows	Wedge fork
2	Fitting thrust pieces with bellows	Pressing tool for thrust piece with bellow
3	Pressing in inner secondary seal	Pressing tool for secondary seal
4	Replacing brake caliper Fitting fixed bearing cover cap	Assembly tool for cap
5	Inserting inner bellow, fixed bearing	Insertion tool for inner bellow
6	Extracting and inserting brass bush, fixed bearing	Assembly tool for brass bush
7	Caulking brass bush	Caulking tool for brass bush
8	Extracting and inserting bush, movable bearing	Insertion/extractor tool for guide sleeve/moveable bearing
9	Replacing brake caliper, fitting cover cap, movable bearing	Pressing tool for cap

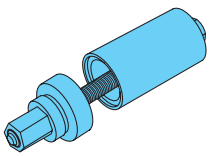
					
02.0130.42.00	02.0130.39.00 / 02.0130.62.00	02.0130.66.00	02.0130.57.00	02.0130.65.00	02.0130.40.00 / 02.0130.63.00

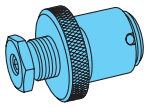
Features of the monoblock disc brake

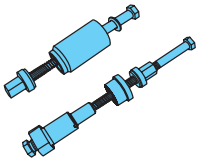
Disc brake complete BPW Code no.	
Axial bolted connection	**Tangential bolted connection**
SB 3745	
05.362.70.36.0 / 37.0	05.362.70.60.0 / 61.0
05.362.70.36.1 / 37.1	05.362.70.60.2 / 61.2
05.362.70.36.2 / 37.2	05.362.70.60.3 / 61.3
05.362.70.40.0 / 41.0	05.362.70.66.0 / 67.0
05.362.70.40.1 / 41.1	
SB 4309	
	05.362.70.62.0 / 63.0
	05.362.70.62.1 / 63.1
	05.362.70.70.0 / 71.0
	05.362.70.70.1 / 71.1
SB 4345	
05.362.70.32.0 / 33.0	05.362.70.64.0 / 65.0
05.362.70.34.0 / 35.0	05.362.70.64.2 / 65.2
05.362.70.38.0 / 39.0	05.362.70.64.3 / 65.3
05.362.70.38.1 / 39.1	05.362.70.68.0 / 69.0
05.362.70.38.2 / 39.2	05.362.70.68.1 / 69.1
05.362.70.42.0 / 43.0	
05.362.70.42.1 / 43.1	
05.362.70.42.2 / 43.2	
05.362.70.42.3 / 43.3	



	BPW tool no. conventional brake	KNORR tool no.	BPW tool no. monoblock brake	KNORR tool no.	Tool component parts e.g. T **15** = stamped part number
	02.0130.42.00	II 32202	02.0130.42.00	II 32202	T 15
	02.0130.39.00	II 19252	02.0130.62.00	Z 004353 (Z 004190)	T 1, T 2, T 3, T 4
	-		02.0130.66.00	Z 004361	T 3, T 4, T 9
	02.0130.57.00	Z 001105	02.0130.65.00	Z 004197	T 2, T 17
	02.0130.40.00	II 19253	02.0130.63.00	Z 004357	T 7, T 8, T 10, T 23
	02.0130.41.00	II 19254	02.0130.64.00	Z 004354	T 8, T 12, T 13, T 14, T 16, T 23
	02.0130.52.00	II 36797			
	02.0130.59.00	Z 004198	02.0130.59.00	Z 004198	T 5, T 6, T 18, T 19, T 20, T 21, T 22, T 23
	02.0130.58.00	Z 003934	02.0130.58.00	Z 003934	T 11


02.0130.65.00


02.0130.52.00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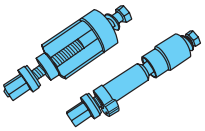
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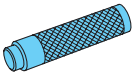
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9.1 Hubcaps with integrated Hubodometer

Axle load	Axle series	Axle type	Hubcap thread	for tyre e.g.	Developed area	Hubcap with integrated Hubodometer BPW Code no.
8 - 9 t	SH.. SH..LL SM..LL	SH.. ECO SH.. ECO MAXX	M 125 x 2	365 / 80 R 20	3280 - 3310	05.212.24.56.0
				385 / 65 R 22.5	3240 - 3260	05.212.24.29.0
				425 / 65 R 22.5	3410 - 3470	05.212.24.54.0
				10.00 R 20	3175 - 3220	05.212.24.49.0
				11.00 R 22.5		
				315 / 70 R 22.5	3015 - 3134	05.212.24.33.0
				275 / 70 R 22.5	2915	05.212.24.52.0
				255 / 70 R 22.5	2830 - 2860	05.212.24.53.0
10 - 12 t		SH.. ECO SH.. ECO MAXX	M 135 x 2	425 / 65 R 22.5	3410 - 3470	05.212.25.11.0
				445 / 65 R 22.5	3505	05.212.25.12.0
				385 / 65 R 22.5	3240 - 3260	05.212.25.19.0
				275 / 70 R 22.5	2915	05.212.25.13.0
				10.00 R 20	3175 - 3220	05.212.25.10.0
				11.00 R 22.5		05.212.25.10.5 Miles
				12.00 R 22.5	3280 - 3310	05.212.25.14.0
				13.00 R 22.5	3410 - 3470	05.212.25.11.0
				255 / 70 R 22.5	2830 - 2860	05.212.25.24.0
				315 / 70 R 22.5	3015 - 3134	05.212.25.25.0
8 - 9 t 10 - 12 t		SH.. ECO SH.. ECO MAXX SH.. ECO^{Plus}	M 136 x 2.5	255 / 70 R 22.5	2830 - 2860	05.212.25.41.0
				275 / 70 R 22.5	2915	05.212.25.42.0
				385 / 55 R 22.5	3015 - 3134	05.212.25.44.0
				315 / 70 R 22.5		
				10.00 R 20	3175 - 3220	05.212.25.45.0
				11.00 R 22.5		
				385 / 65 R 22.5	3240 - 3260	05.212.25.46.0
				12.00 R 22.5	3280 - 3310	05.212.25.47.0
				425 / 65 R 22.5	3410 - 3470	05.212.25.48.0
				13.00 R 22.5		
				445 / 65 R 22.5	3505	05.212.25.49.0
8 - 9 t		SH.. ECO Plus 2	Bayonet lock	385 / 55 R 22.5	3015 - 3134	05.212.75.73.0
				315 / 70 R 22.5		
				11.00 R 22.5	3175 - 3220	05.212.25.74.0
				385 / 65 R 22.5	3240 - 3260	05.212.25.75.0
8 - 9 t	SKH.. SKH..LL SKM..LL	SKH.. ECO SKH.. ECO MAXX	M 125 x 2	385 / 65 R 19.5	3015 - 3134	05.212.24.33.0
				425 / 55 R 19.5	2960	05.212.24.46.0
				445 / 45 R 19.5	2730 - 2790	05.212.24.50.0
				265 / 70 R 19.5	2620 - 2650	05.212.24.34.0
				245 / 70 R 19.5	2560	05.212.24.44.0
10 - 12 t		SKH.. ECO SKH.. ECO MAXX	M 135 x 2	285 / 70 R 19.5	2712 - 2750	05.212.25.16.0
				265 / 70 R 19.5	2620 - 2650	05.212.25.20.0
				245 / 70 R 19.5	2560	05.212.25.28.0
8 - 9 t 10 - 12 t		SKH.. ECO SKH.. ECO MAXX SKH.. ECO^{Plus}	M 136 x 2.5	265 / 70 R 19.5	2620 - 2650	05.212.25.38.0
				285 / 70 R 19.5	2712 - 2750	05.212.25.39.0
				445 / 45 R 19.5	2730 - 2790	05.212.25.40.0
				425 / 55 R 19.5	2960	05.212.25.43.0
8 - 9 t		SKH.. ECO Plus 2	Bayonet lock	445 / 45 R 19.5	2730 - 2790	05.212.25.72.0

Hubcaps with digital odometer (ECOMETER) 9.2

The BPW hubcap with its integrated digital odometer is an important instrument for checking the mileage of your trailer or semitrailer.
This means you can always track the real trailer mileage, especially when the trailer is used with different tractor units.

The digital ECOMETER can be used universally for all tyre sizes.
The adjustment of the wheel size is carried out by means of the display unit (basic setting 385/65 R 22.5).

A built-in watertight mini-computer counts the wheel revolutions by means of a magnet and a reed contact.

The digital ECOMETER with the special hooked spring ring and integrated magnet is available for all BPW ECO^{Plus} axles with an M 136 x 2.5 hubcap thread, as well as ECO Plus 2 axles with a bayonet fitting.

		BPW Code no.:
Thread M 136 x 2.5		05.212.75.02.0 KTL_{Zn}
Bayonet lock		05.212.75.05.0 KTL_{Zn} incl. 'O'-Ring
Circlip loose		
	ECO^{Plus}	05.188.04.13.0
	ECO Plus 2	05.277.10.03.0
Replacement battery		02.0130.97.00

Further information see service and installation instruction 'Digital ECOMETER' - BPW No.: 04.001.21.24.0 and 04.001.21.25.0.

BPW-EL-SB 3108801e

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