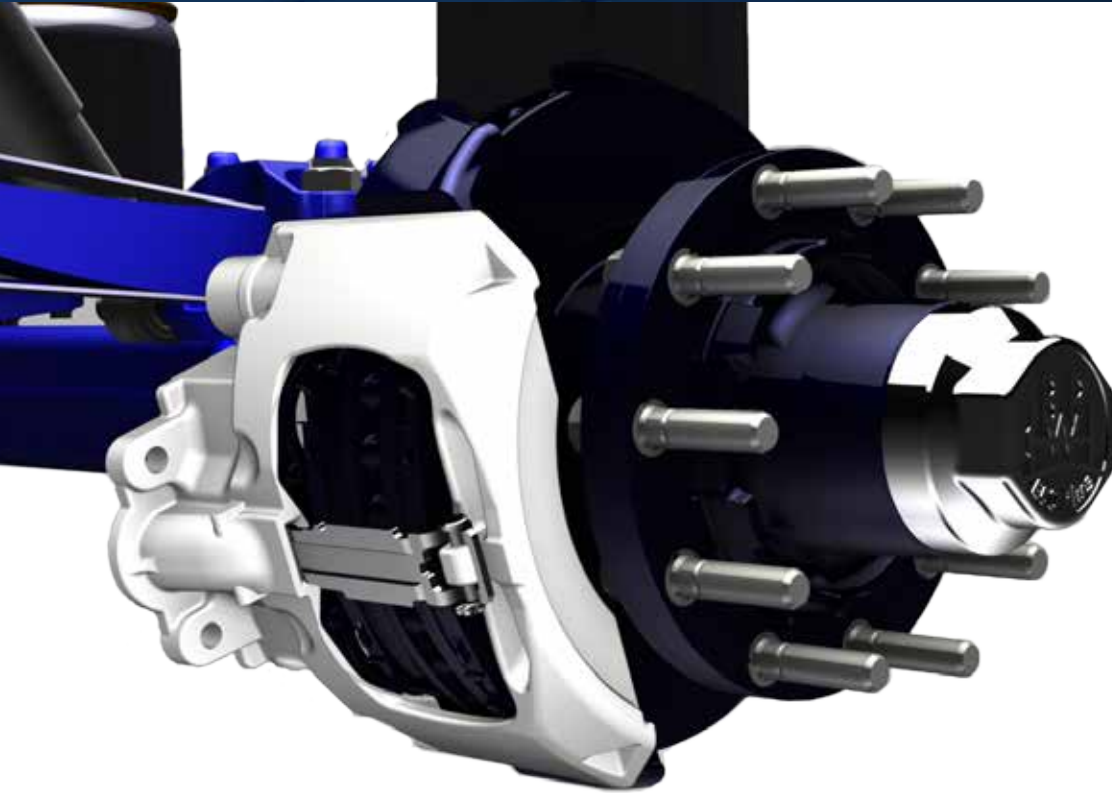




TRANSPEC

ENGINEERED TO LAST



KNORR DISC BRAKE

SKH... SH... Axles

9t ECO, 9t and 10-12t ECO Plus

Spare Parts Catalogue

FOR AUSTRALIAN ASSEMBLED DISC BRAKE AXLES



Important Note:
This catalogue contains parts information for Australian assembled axles fitted with **SB KNORR DISC BRAKES** only.

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The information and advice contained in this brochure including prices and specifications are current and correct as at 1st March 2016 but may be subject to change.

BPW Transpec shall not be liable for any changes that occur after that date. It is your responsibility to contact your BPW Transpec branch or representative to ensure that all information and advice is up to date before placing an order.



BPW Genuine spare parts are carefully designed to give you the best in quality, reliability and life expectancy. They are put through rigorous testing both in Europe and around the world.

The BPW axle is tested as a working group of components in order to receive the required SARN (sub-assembly registration number) - indicating the axle conforms to Australian legal requirements. When this test is performed all the components used are genuine BPW components.

Our spare parts catalogues are designed to assist you in correctly identifying the parts you will need to service your BPW axle systems.

This particular book is intended to assist with the identification of spare parts for Australian assembled axles fitted with **SB Knorr Bremse Disc Brakes** only. It is not intended to give detailed technical service and/or maintenance information.

For technical service and/or maintenance information please refer to the BPW Operator's Manual and workshop manual or contact your nearest BPW Transpec Branch listed on the back cover of this book.

Identification of BPW Genuine spare parts

At time of assembly an identification **Type Label** is affixed to every Australian assembled BPW axle, usually along the axle centreline on the rear face of the axle beam.

The characters that make up the axle part number gives important information about that axle which can assist in the correct identification of spare parts.

On page 5 is a legend that can be used to decipher BPW Transpec axle part numbers.

The legend is divided into blocks that represent specific information. They are axle beam profile, hub, bearing combination, wheel fixing, brake size, serial no, hub cap type, hub lubrication, slack adjuster type (drum brakes only) and ABS. Within these blocks there are the various alternatives that are represented by different character sets in the axle part number.

On the top, left hand side of the legend there is an example axle part number highlighted.

An example part number for ECO Knorr is: **SKHZA9010D01SMN**

An example part number for ECO Plus Knorr is: **SHZA10110E01SPN**

Follow the red/grey lines moving down through each block of the legend to find the meaning of each character set within that example axle part number. The other character sets in each block of the legend represent all other alternatives that may appear in other BPW Transpec axle part numbers.

The axles fitted to any one trailer may have different axle part numbers. Therefore, when using the BPW Transpec axle part number for the purposes of the correct identification of spare part numbers it is important that the axle part number being used is the actual part number for the specific axle requiring the parts.

Important note:

To correctly identify genuine spare parts for BPW Transpec disc brake axles you will require the answers to the following questions:

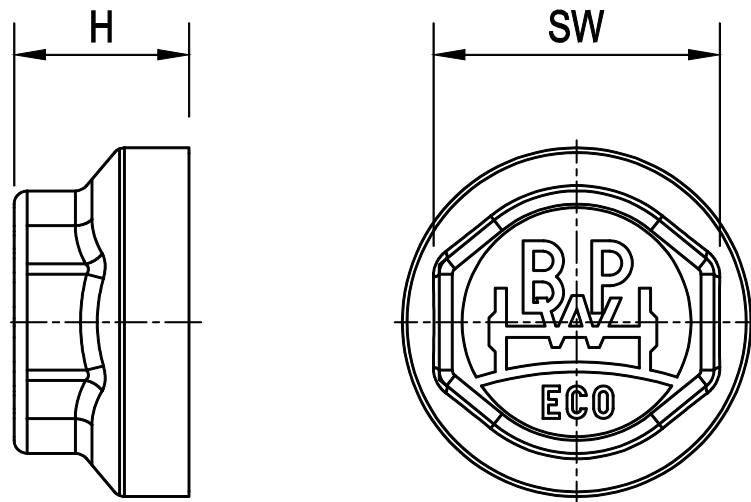
- 1. Does the disc brake axle have SB Knorr Bremse or BPW TSB caliper fitted?
- 2. If the disc brake axle is fitted with a SB Knorr Bremse caliper what is the brake size? Is the rotor 370mm in diameter or 430mm in diameter?
(If the disc brake axle is fitted with BPW TSB caliper, please refer to the BPW TSB Disc Brake catalogue)
- 3. Is the Knorr disc brake caliper type A, B or C?
- 4. Is the Knorr disc brake caliper left handed or right handed? Is the suspension underslung or overslung?
- 5. Is the caliper mounted axially or tangentially?

Pages 5 to 8 in this catalogue give all of the information relevant to the questions above. Please read these pages carefully before attempting to identify spare parts.

BPW TRANSPEC AXLE MODEL AND PART NUMBERS For Australian assembled axles													
Axle part number example										Legend			
SKH	ZA	90	10	D	01	S		M	N				
SH	ZA	101	10	E	01	S	P		N				
NR										Axle beam profile	Round Beam 127mm,15" Tyres		
H											Square Beam 120mm & 150mm, 20" Tyres		
R											Round Beam 127mm, 20" Tyres		
KH											Square Beam 120mm, 19.5" Tyres		
SH											Square Beam 120mm, 20" Tyres		
SKH, SK											Square Beam 120mm, 19.5" or 20" Tyres		
NH											Square Beam 120mm, 15"/17.5" Tyres		
	ZA									Hub	10 Stud 285 PCD Dual Wheel, Spigot Mount		
ZM											10 Stud 335 PCD, 8 Stud 275 PCD, 10 Stud 225 PCE Dual Wheel, Spigot Mount		
SA											10 Stud 285 PCD Single Wheel, Spigot Mount		
SM											10 Stud 335 PCD Single Wheel, Spigot Mount		
XZ											Spider Dual Wheel		
X											Spider Single Wheel		
	90									Bearing combination	9 tonne bearing combination, 120mm square or 127mm round axle beam		
	91										10/12 tonne bearing combination, 120mm square axle beam		
	100										10/12 tonne bearing combination, 150mm square or 127mm round axle beam		
	101										10/12 tonne bearing combination, 120mm square axle beam, ECO Plus		
	00									Wheel fixing	Spider		
	08										8 Stud		
	10										10 Stud		
	A									Brake size	Drum Brake Ø420 x 180mm, suits 20" Tyres		
	B										Drum Brake Ø360 x 200mm, suits 19.5" Tyres		
	C										Durm Brake Ø300 x 200mm, suits 15" Tyres		
	D										Disc Brake SB3745 (Knorr Caliper), Ø370mm rotor, suits 19.5" and 20" Tyres		
	E										Disc Brake SB4309T (Knorr Caliper), Ø430mm rotor, suits 20" Tyres		
	F										Disc Brake SB3745T (Knorr Caliper), Ø370mm rotor, suits 19.5" Tyres		
	G										Disc Brake TSB4309 (BPW Caliper), Ø430mm rotor, suits 20" Tyres		
	H										Disc Brake TSB3709 (BPW Caliper), Ø370mm rotor, suits 19.5" Tyres		
	00									Serial no.	Consecutive Serial No 00-99		
	99												
	S									Hubcap type	Standard Hubcap		
	H										Hubcap with Hubodometer		
	G									Hub lubrication	Grease, Conventional Hub		
	O										Oil, Conventional Hub		
	B										Grease with Oil seal, Conventional Hub		
	E										ECO Hub, Grease		
	M										ECO Hub, Grease, Push it studs (ECO MAXX)		
	P										ECO Plus Hub, Grease		
	S									Slack adjuster	Manual Slack Adjusters		
	M										Manual Slack Adjusters with multihole		
	A										Automatic Slack Adjusters		
	N									ABS	No ABS fitted		
	A										ABS fitted		



ECO HUB CAP

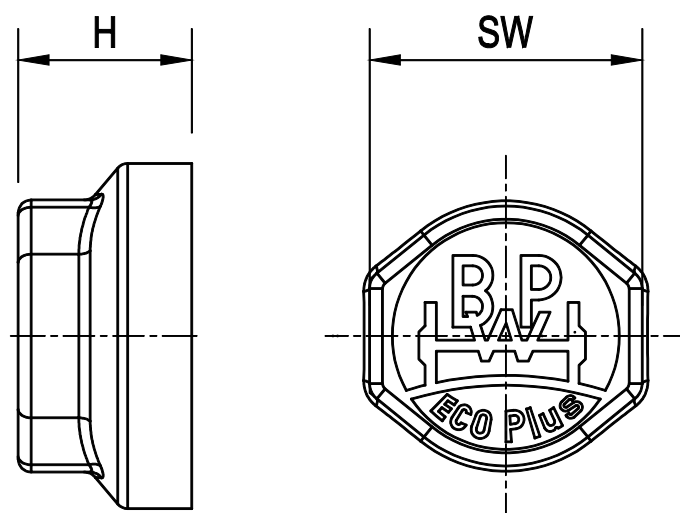


ECO HUB

From 1992 to present

- Oval cap
- Inner thread
- Bearings, seal carrier and seals retained in hub by circlips

ECO PLUS HUB CAP



ECO Plus HUB

From 2005 to present

- Oval cap
- Inner thread
- Bearings, seal carrier and seals retained in hub by circlips
- Axle nut is torque limiting



KNORR BREMSE AND BPW TSB DISC BRAKE CALIPERS

Prior to May 2010 all Australian assembled BPW disc brake axles were fitted with SB type disc brake caliper (Manufacturer - Knorr Bremse).

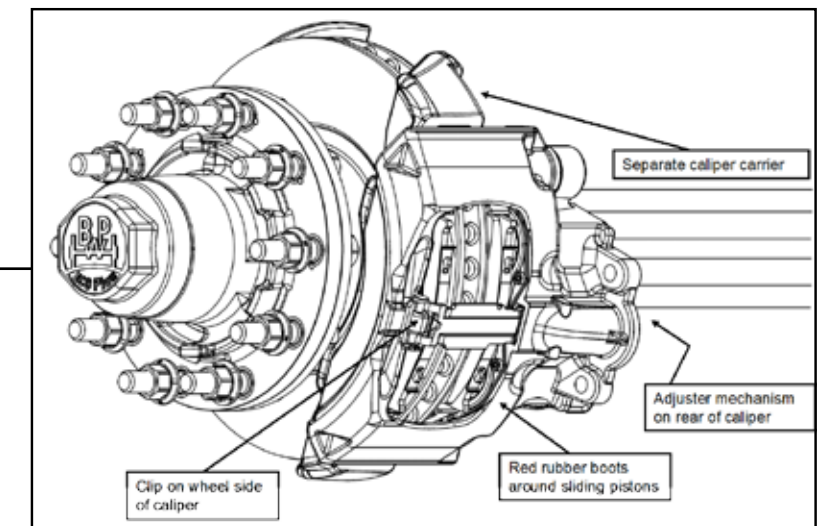
BPW Transpec have been assembling disc brake trailer axles in Australia fitted with the new BPW TSB type disc brake caliper (Manufacturer - BPW) since May 2010.

For parts information for BPW TSB Type calipers, please contact your nearest BPW Transpec branch to obtain the correct parts catalogue.

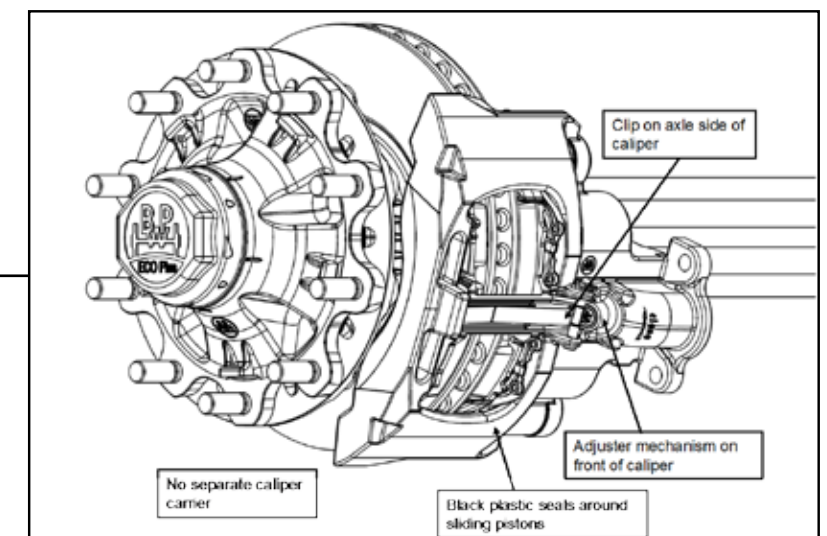
The diagrams below show the basic differences between the SB and the TSB type disc brake calipers. These diagrams may assist in the correct identification of disc brake calipers.

SB Type caliper
(Knorr Bremse)

Fitted to Australian assembled axles up to May 2010

TSB Type caliper
(BPW)

Fitted to Australian assembled axles from May 2010

**Important note:**

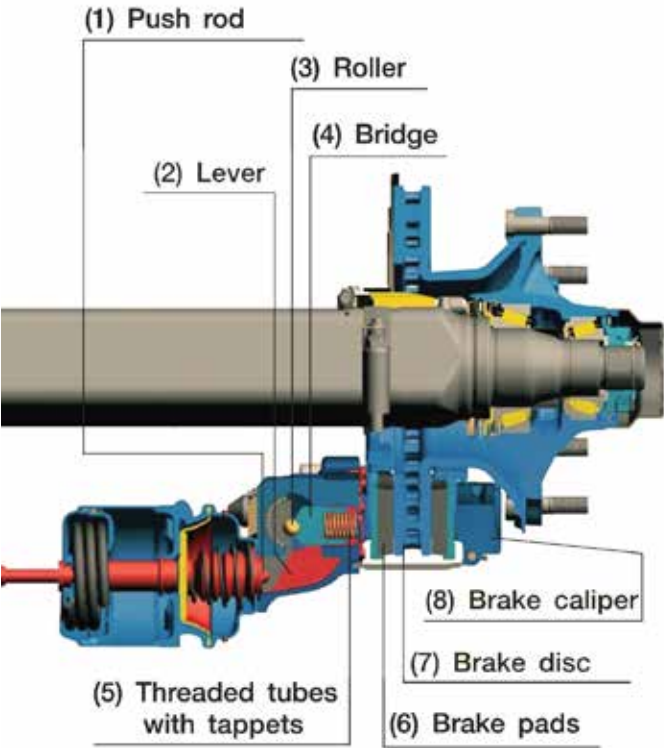
This catalogue contains parts information for Australian assembled axles fitted with **SB KNORR BREMSE BRAKES** only.



SB KNORR DISC BRAKE SIZES					
SB3745		SB3745T		SB4309T	
SB	Disc brake	SB	Disc brake	SB	Disc brake
37	Disc Ø 377mm	37	Disc Ø 377mm	43	Disc Ø 430mm
45	Disc thickness 45mm	45	Disc thickness 45mm	09	Standard axle load 9t
	Axially mounted caliper	T	Tangentially mounted caliper	T	Tangentially mounted caliper

BPW AXLES EQUIPPED WITH SB KNORR BREMSE DISC BRAKES				
BPW Axle code	Date range	BPW Axle type	SB Brake size	Rotor diameter
SH9010	Up to Feb 2004	9 tonne ECO	SB3745	377mm
SKH9008				
SKH9008	Feb 2004 to Aug 2008	9 tonne ECO Plus	SB3745T suit 19.5" tyres	377mm
SH9010			SB4309T suit 20" tyres	430mm
SH10110	From Aug 2008	10-12 tonne ECO Plus	SB4309T suit 20" tyres	430mm
SKH10108			SB3745T suit 19.5" tyres	377mm

SB KNORR BREMSE DISC BRAKE OPERATING PRINCIPLE



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

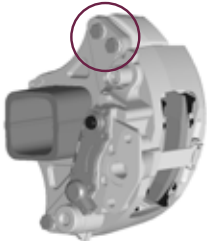
The roller (3) mounted eccentrically in the brake transfers the force onto the bridge (4). The clamping force acts on the internal brake pad (6) via the threaded tubes and the tappets (5). As a result, the brake pad (6) is forced against the brake disc (7).

The reaction force which now arises on the caliper (8) is transferred to the opposite brake pad by means of the sliding caliper, 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.

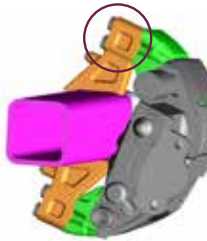
Numbers in brackets above refer to figure numbers on drawing above.

CALIPER MOUNTING TYPES



AXIALLY

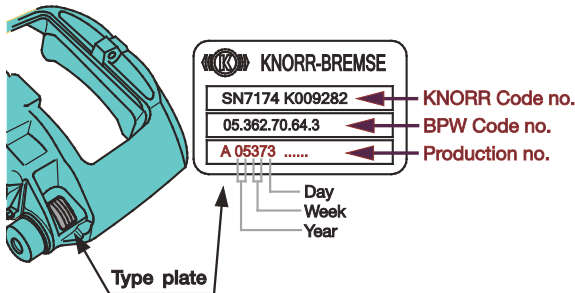
Brake type SB3745
Caliper bolts are bolted in line with the axle beam.



TANGENTIALLY

Brake type SB3745T / 4309T
Caliper bolts are bolted at an angle to the axle beam.

SB KNORR BREMSE CODE NUMBER



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

LEFT AND RIGHT HANDED CALIPERS



Left handed caliper
Adjuster screw is adjacent to the fixed guide pin.



Right handed caliper
Adjuster screw is on the opposite side of the aliper from the fixed guide pin.

Please note:
For underslung suspensions the right hand caliper is used on the left hand side of the axle and the left hand caliper is used on the right hand side of the axle. When identifying right or left handed calipers you must know whether the suspension is underslung or overslung.






Underslung = suspension springs under axle
Overslung = suspension springs over axle



CALIPER TYPE (A, B AND C)

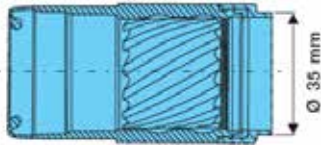
There have been changes to Knorr Bremse disc brake calipers since being introduced in 2000. Some of the service components are different between the different models. We classify these different models as Type A, Type B and Type C.

Following is how to identify these models:

IDENTIFYING FEATURES OF CALPER TYPES A, B AND C		
Type A	Type B	Type C
		
8mm hex adjustment screw with flat plastic cover	10mm hex sacrificial adjuster screw with domed rubber cover	
		
Divided (two part) housing		One part (monoblock) housing
Bellow with hose clip up to mid 2000 Steel cap with O-ring from mid 2000		

Repair kits differ in the design of the guide sleeve:

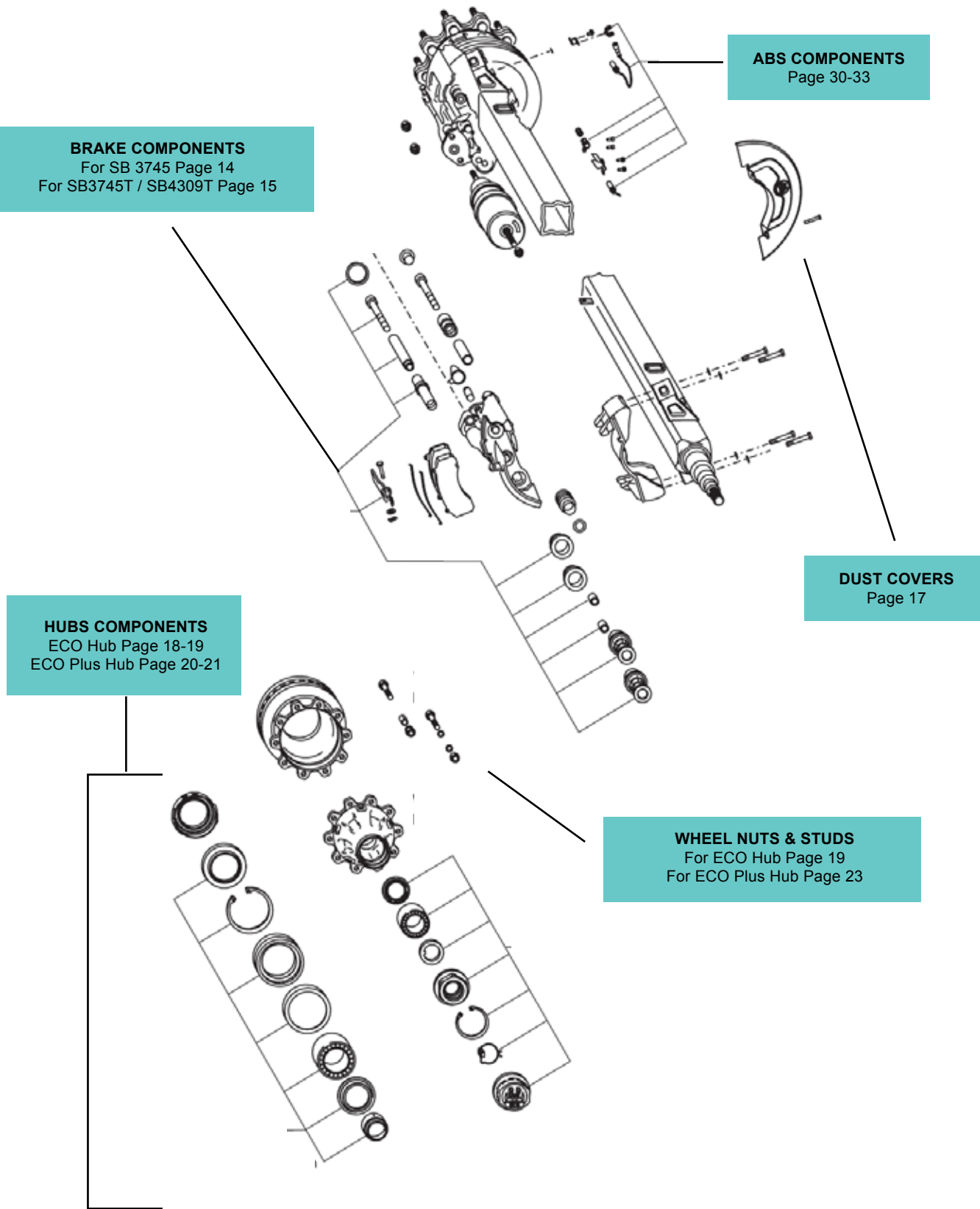
Guide sleeve for caliper type A
Stop ring Ø = 35mm



Guide sleeve for caliper type B & C
Stop ring Ø = 39mm

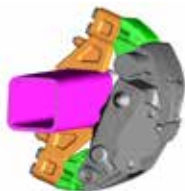


EXPLODED VIEW OF A BPW AXLE EQUIPPED WITH SB KNORR BREMSE DISC BRAKE

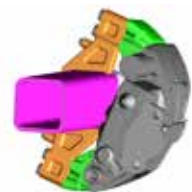




TO SUIT SB3745 DISC BRAKE (Ø 377 MM ROTOR)			
Caliper replacement alternatives (axially mounted)			
Caliper to be replaced	Can be replaced with (without carrier)	Caliper carrier if required	Side
05.362.70.36.0	0536270600RAT	02.0313.13.00	right handed
05.362.70.37.0	0536270610RAT	02.0313.13.00	left handed



TO SUIT SB3745T DISC BRAKE (Ø 377 MM ROTOR)			
Caliper replacement alternatives (tangentially mounted)			
Caliper to be replaced	Can be replaced with (without carrier)	Caliper carrier if required	Side
05.362.70.60.0	0536270600RAT	03.303.88.55.0	right handed
05.362.70.61.0	0536270610RAT	03.303.88.55.0	left handed

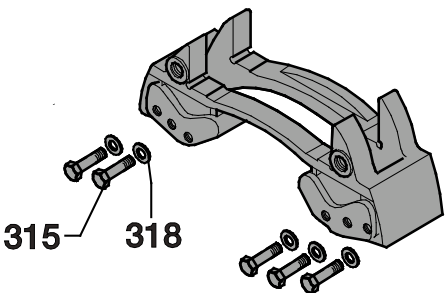


TO SUIT SB4309T DISC BRAKE (Ø 430 MM ROTOR)			
Caliper replacement alternatives (tangentially mounted)			
Caliper to be replaced	Can be replaced with (without carrier)	Caliper carrier if required	Side
05.362.70.62.0	0536270620RAT	03.303.88.56.0	right handed
05.362.70.63.0	0536270630RAT	03.303.88.56.0	left handed

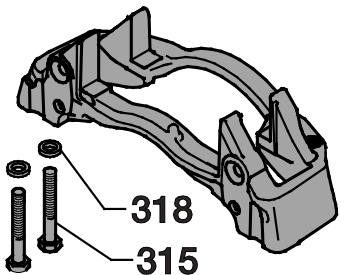


Important note:
Please be aware that rationalised calipers do not include the caliper carriers. These have to be ordered separately. Please find the part number in the tables shown above.

Rationalised calipers can be also fitted to existing caliper carriers provided that these are **NOT** worn or broken.



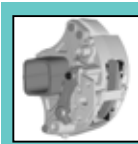
CALIPER CARRIER ATTACHING PARTS SB3745				
Item	Description	SB3745 Rotor outer diameter 377mm		Qty per axle
		Part no.	Dimension (mm)	
315	Bolt (Torque 280-330Nm)	02.5029.87.20	M 16 x 1.5 x 60	10/4*
	Bolt (Torque 280-330Nm) to suit caliper spacer	02.5029.85.21	M 16 x 1.5 x 65	10
	Bolt steer axle (Torque 280-330Nm)	02.5029.88.21	M 16 x 1.5 x 60	4
		02.5051.10.21		2
318	Washer	02.5401.16.08	Ø 17	10
	Caliper spacer **	0316434020TS		4



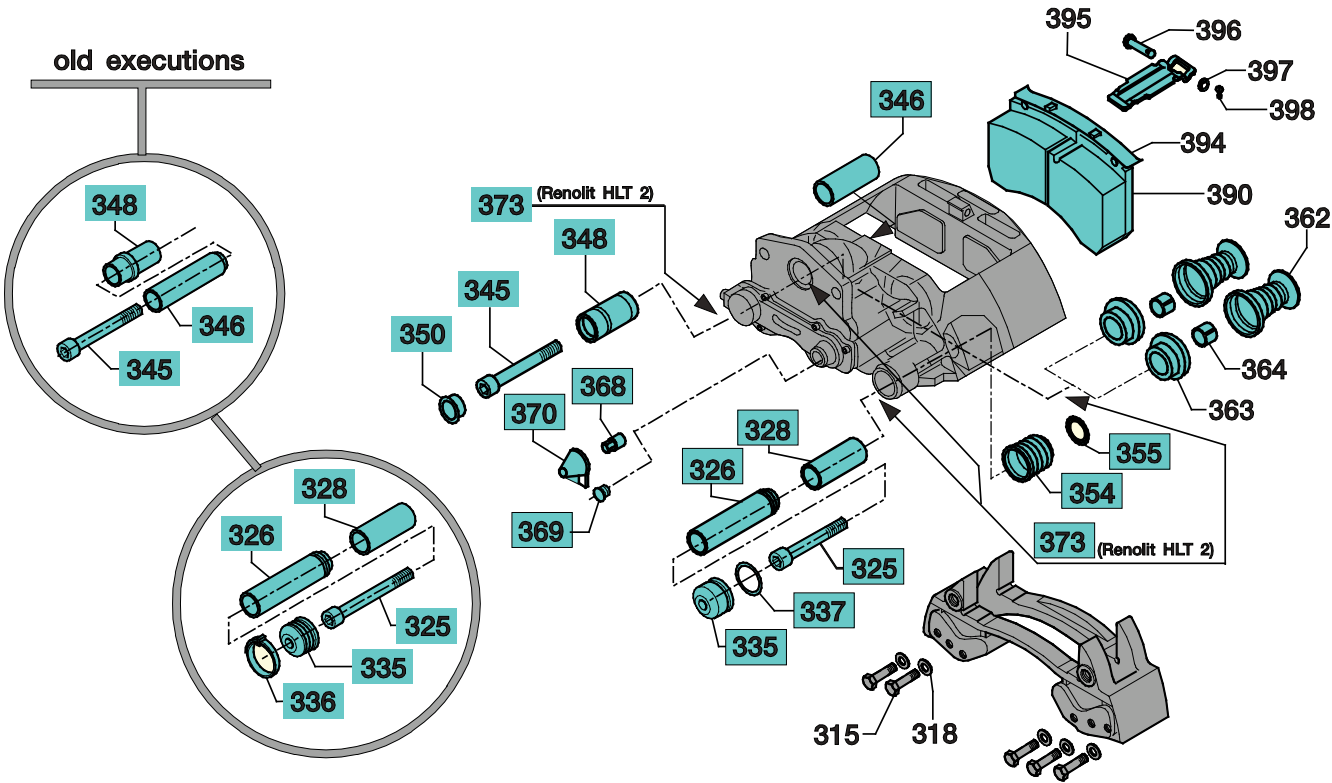
CALIPER CARRIER ATTACHING PARTS SB3745T & SB4309T						
Item	Description	SB3745T Rotor outer diameter 377mm		SB4309T Rotor outer diameter 430mm		Qty per axle
		Part no.	Dimension (mm)	Part no.	Dimension (mm)	
315	Bolt (Torque 280-330Nm)	03.340.12.26.0	M 16 x 1.5 x 97-12.9	03.340.12.26.0	M 16 x 1.5 x 97-12.9	8
318	Washer	02.5401.16.08	Ø 17	02.5401.16.08	Ø 17	8

* 10 screws for non-steer axle, 4 screws for steer axle
** Caliper spacer item number 310A used on 10 stud 335 PCD and 8 stud 275 PCD models





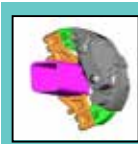
SB3745 DISC BRAKE
In axles assembled up to February 2004
9t ECO Hub



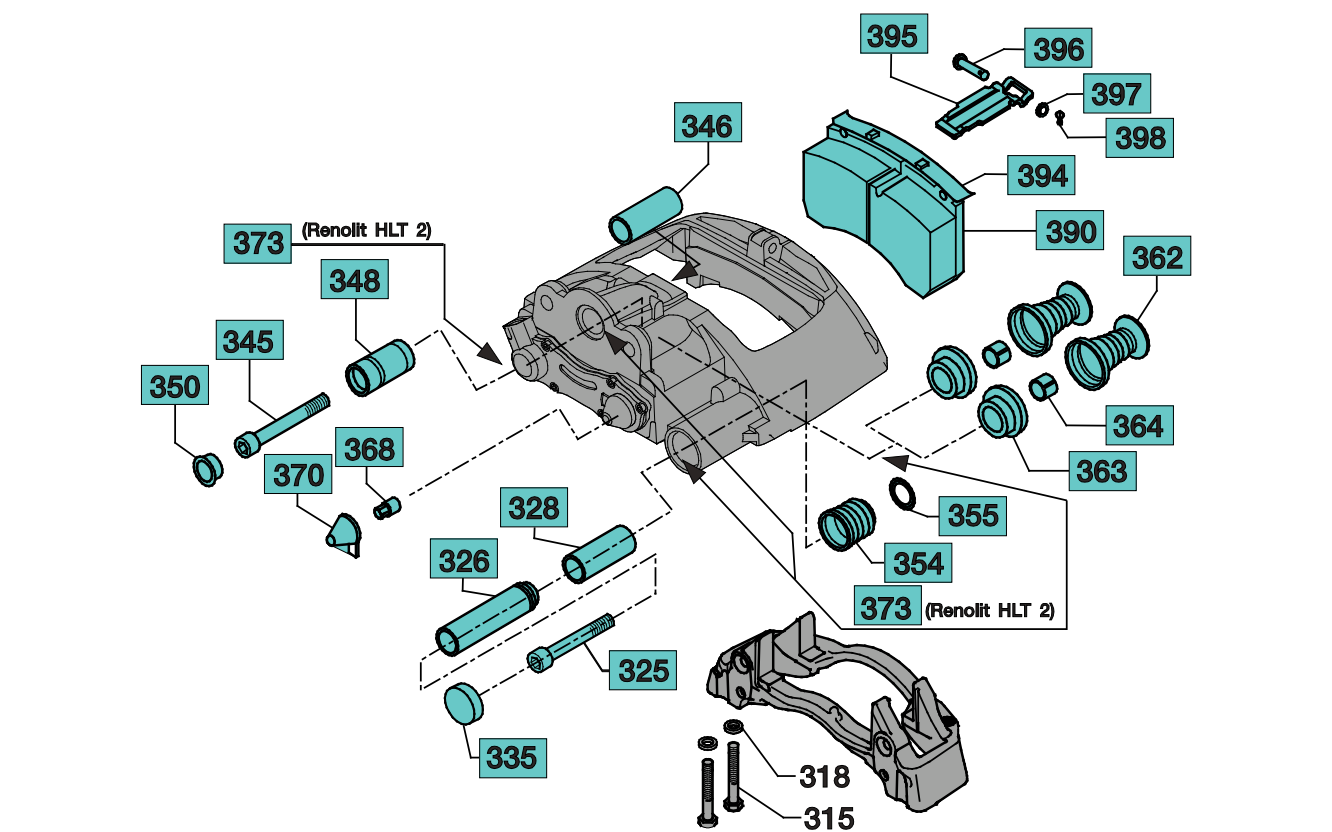
ECO DISC BRAKE COMPONENTS			
Item	Part no.	Description	Qty per axle
Kits	0980106240/310	Guide pins and seal kit suits caliper type A and B (refer to page 10 for identification) (Incl. items 325 - 328, 335, 336, 345 - 348, 354, 355, 373)	2
	09.801.06.33.0	Guide pins and seal kit suits caliper type C (refer to page 10 for identification) (Incl. items 325 - 328, 345 - 348, 350, 352, 373)	2
	09.801.02.63.0	Thrust pad and boot kit suits caliper type A and B (Incl. items 362 - 364)	2
	09.801.06.32.0	Thrust pad and boot kit suits caliper type C (Incl. items 362 - 364)	2
	0980106250-35mm	Adjuster adaptor and cap kit (Incl. items 368 and 370)	2
	0980106250-38mm	Adjuster adaptor and cap kit (Incl. items 368 and 370)	2
	09.801.08.15.0	Brake pad kit * (Incl. items 368, 369, 370, 390, 394, 396, 397, 398)	1
368	02.2400.11.00	Adjuster adaptor suits caliper type B and C	2
369	02.1827.04.00	Cap, adjuster adaptor suits caliper type A	2

*** Disc brake pads:**
Are not available individually and can only be supplied in a kit which repairs one axle.
The part number for the individual pads are found on the brake pad backing plate.

Single disc brake pad part number 05.092.90.05.0 to suit SB3745 can only be supplied in kit part number 09.801.08.15.0.



SB3745T & 4309T
9t ECO Plus Hub in axles assembled from February 2004 to August 2008
10-12t ECO Plus Hub in axles assembled from August 2008



ECO PLUS DISC BRAKE COMPONENTS				
Item	Part no.		Description	Qty per axle
	SB3745T	SB4309T		
Kits	09.801.06.33.0		Guide pins and seal kit (Incl. items 325 - 355, 373)	2
		0980106330KB	Guide pins and seals kit suits caliper item numbers 0536270620RAT and 0536270630RAT (Incl. items 325 - 355, 373)	2
	09.801.06.91.0		Loose bearing ("secondary guide pin") kit (Items 345, 346, 348, 350, 373)	2
	09.801.06.32.0		Thrust pad and boot kit (Items 362 - 364, 373)	2
	0980106250-35mm		Adjuster adaptor and cap kit (Items 368, 370)	2
	0980106250-38mm		Adjuster adaptor and cap kit (Items 368, 370)	2
	09.801.08.15.0	09.801.08.16.0	Brake pad kit axle set * (Items 368 - 370, 390, 394, 396 - 398)	1
	368	02.2400.11.00		Adjuster adaptor

*** Disc brake pads:**
Are not available individually and can only be supplied in a kit which repairs one axle.
The part number for the individual pads is stamped on the brake pad backing plate.

Single disc brake pad part number 05.092.90.05.0 to suit SB3745T can only be supplied in kit part number 09.801.08.15.0.
Single disc brake pad part number 05.092.90.06.0 to suit SB4309T can only be supplied in kit part number 09.801.08.16.0.



Check the condition of the disc brake rotor:

- every 12 weeks (quarterly) under harsh conditions
- every 26 weeks (twice annually) under normal conditions

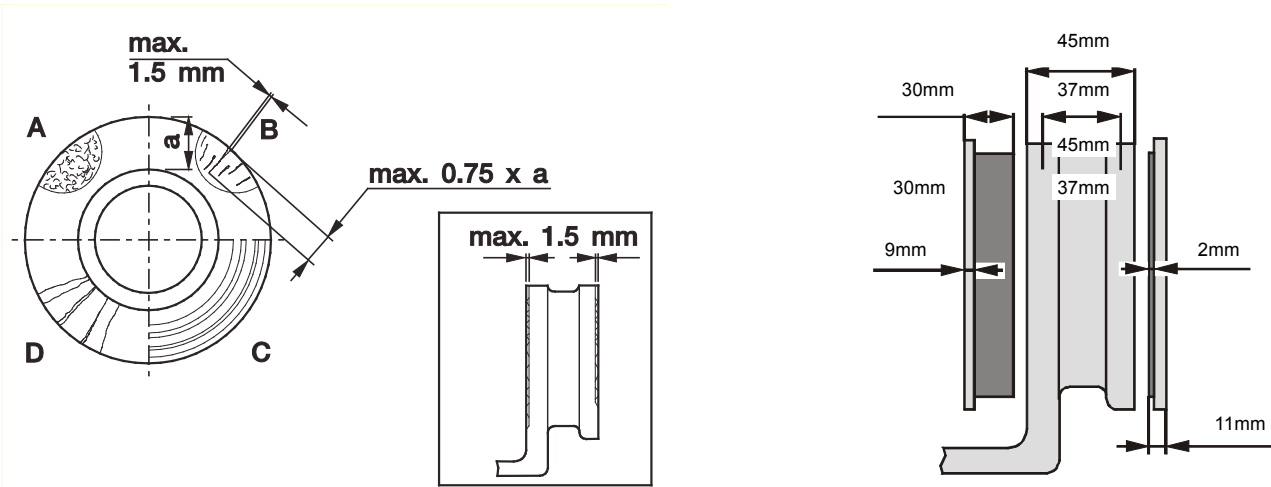
Sections A - D in the figure above show the possible conditions of the disc surface:

- A Network-type tears = permissible
- B Radial cracks up to max 1.5 mm width and depth = permissible
- C Uneven disc surface less than 1.5 mm = permissible
- D Continuous cracks = not permissible

Technical details of TSB 3709 and TSB 4309:

- Disc thickness when new = 45mm
- Minimum permissible disc thickness =37mm (check with slide gauge)

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



To prevent damage to the brake discs, the brake pads should be replaced when their thickness (excluding the backing plate) is 2 mm or less.
If this instruction is not adhered to, there is a danger that braking performance could be seriously reduced.

The latest generation of BPW brake discs offer 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 discs)
- Simplified parts provision thanks to uniform brake discs for 0 and 120 offsets

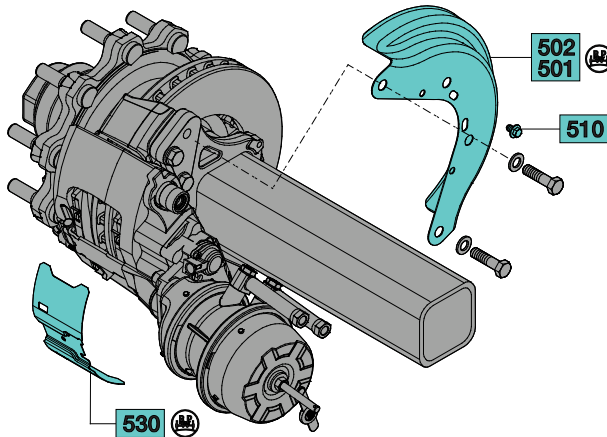


DISC BRAKE ROTORS ECO				
Brake	Part no.	Description	Dimension	Qty per axle
SB3745	03.088.34.07.0	10 stud 285mm PCD	Ø 377mm	2
SB3745	03.088.34.06.0	10 stud 335mm PCD	Ø 377mm	2
SB3745	03.088.34.15.0	8 stud 275mm PCD	Ø 377mm	2
SB3745	03.088.34.04.0	10 stud 335mm PCD for ASB	Ø 377mm	2

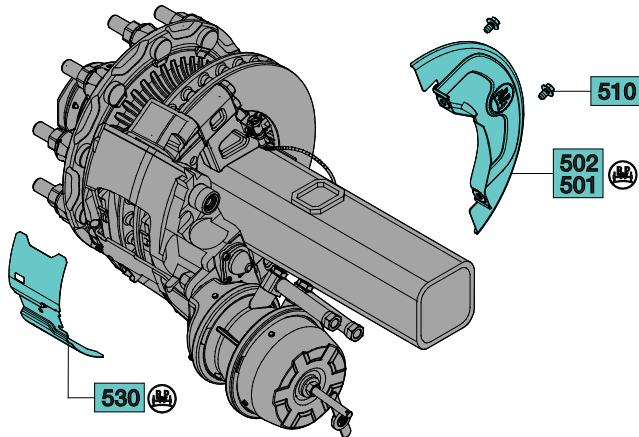
DISC BRAKE ROTORS ECO PLUS				
Brake	Part no.	Description	Dimension	Qty per axle
SB3745T	03.088.34.16.0	8 stud 275mm PCD	Ø 377mm	2
SB4309T	03.088.35.06.0	10 stud 285mm PCD	Ø 430mm	2
SB4309T	03.088.35.12.0	10 stud 335mm PCD	Ø 430mm	2

DUST COVERS

Dust covers and brake pad protectors for axially mounted calipers



Dust covers and brake pad protectors for tangentially mounted calipers



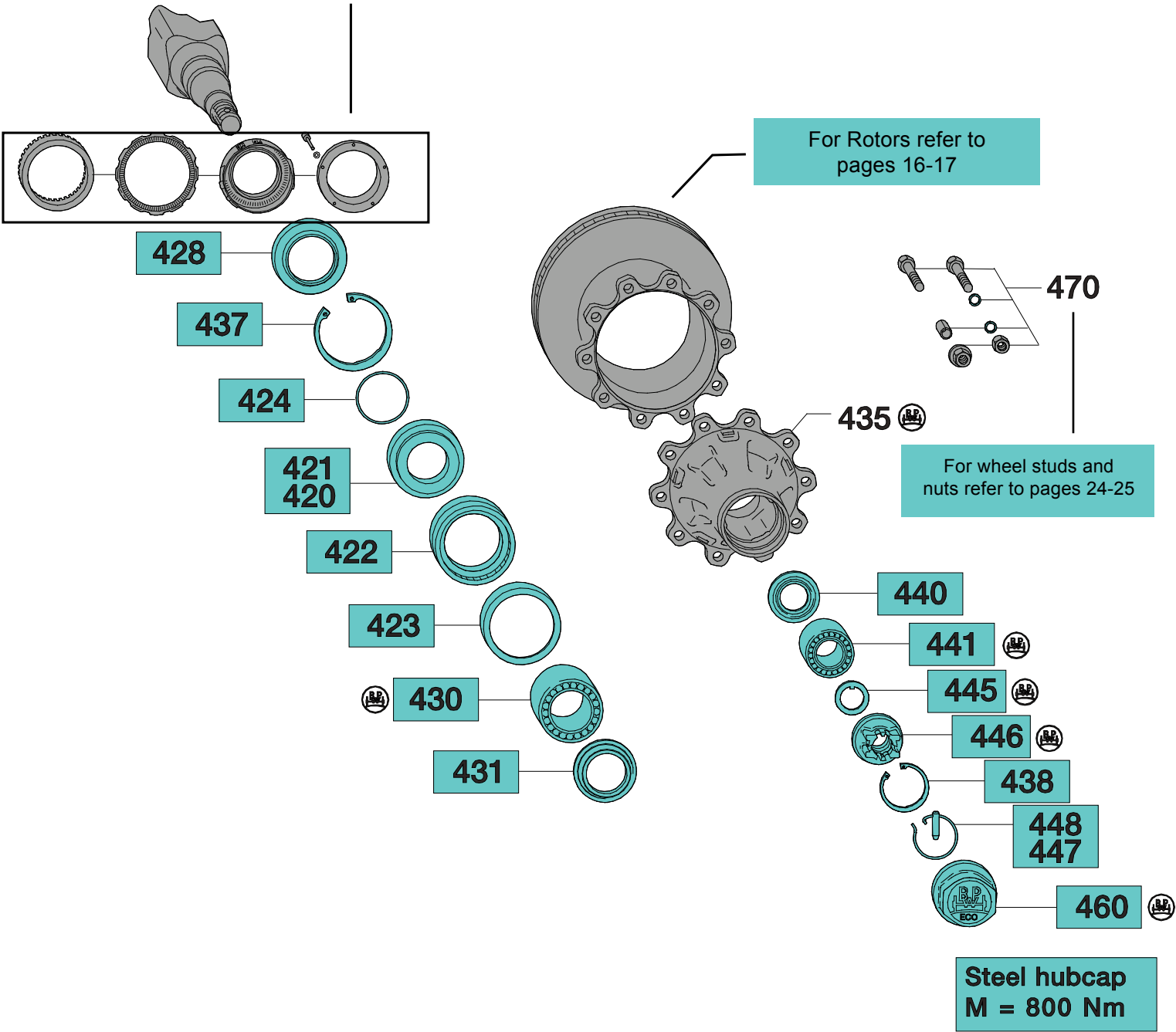
DUST COVERS AND BRAKE PAD PROTECTORS						
Item	Description	Dimensions	SB3745 (Axial)	SB3745T (Tangential)	SB4309T (Tangential)	Qty per axle
501 502	Rotor shield SB3745		03.010.91.53.0	03.010.91.74.0	03.010.91.76.0	2
510	Hex bolt	M 10x15	02.5071.22.00			2 for axial 4 for tangential
530	Pad shield 3745		03.010.95.21.0			2



BPW ECO HUB

9 tonne ECO hub in axles assembled up to February 2004

For ABS parts refer to
pages 30-33



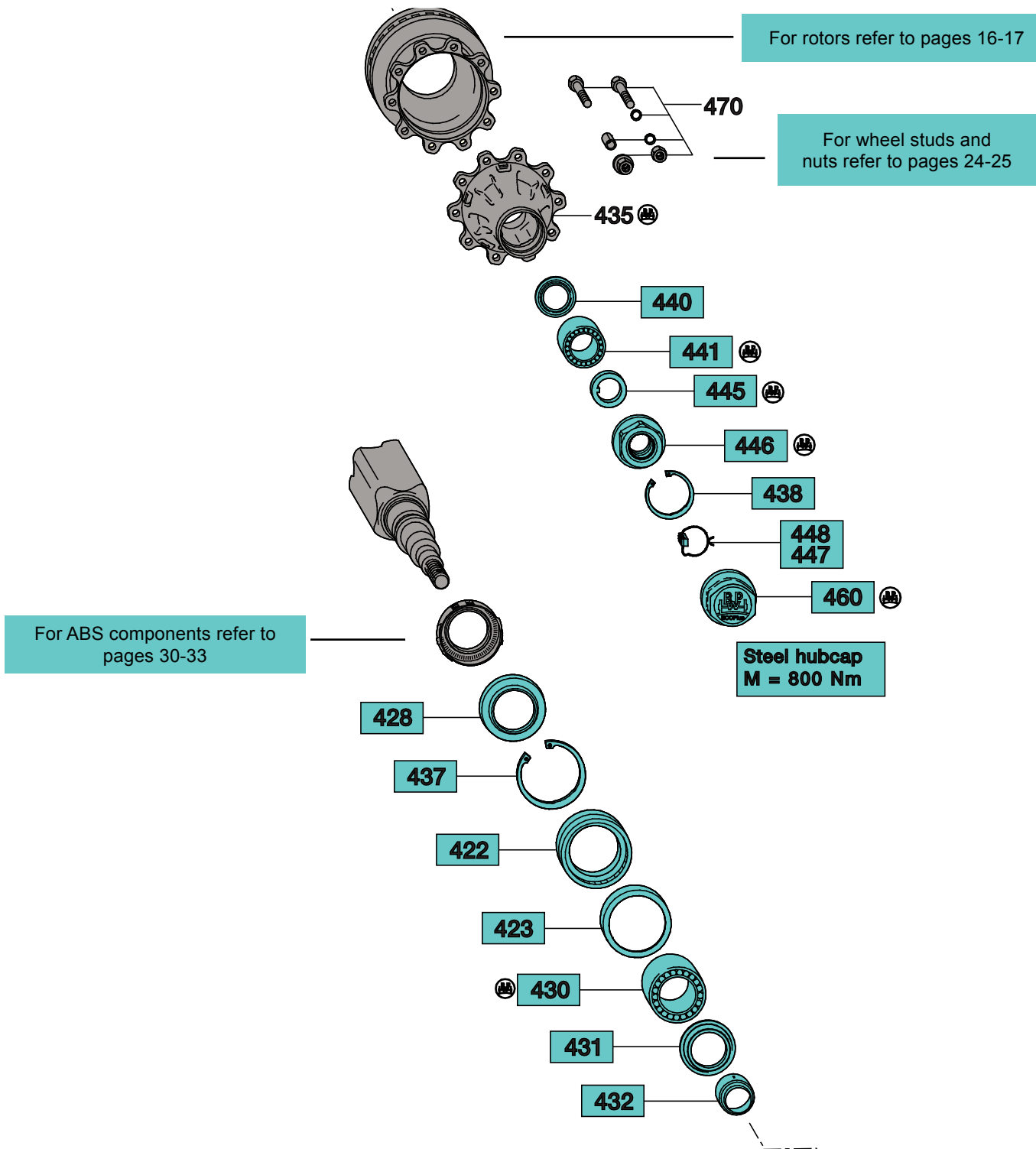
HUBS AND HUB COMPONENTS TO SUIT 9 TONNE

HUBS AND HUB COMPONENTS TO SUIT 9 TONNE								
KITS per hub				PARTS				
Description	Part no.	Description	Part no.	Item	Description	Part no.	Dimensions	Qty per axle
				435	Hub 8/275 alloy (suits press in stud)	03.272.28.72.0	M 135x2 Ø 110/130	2
					Hub 10/335 alloy (suits press in stud)	03.272.32.04.0	M 135x2 Ø 110/130	2
					Hub 10/335 steel (suits press in stud)	03.000.61.87.0	M 125x2 / Ø 110/130	2
					Hub 8/275 steel (suits press in stud)	03.000.61.84.6	M 125x2 / Ø 110/130	2
					Hub 10/285 steel (suits back nut stud)	03.000.61.86.9		2
Wheel bearing and seal kit (incl. seal carrier)	0980102720TSSC	Wheel bearing and seal kit	0980102720TS	421	Seal carrier	03.370.07.76.0	Ø 86/115/139x22	2
				422	Grease seal	02.5664.57.00	Ø 115/136.7x10.5	2
				423	Seal runner	02.5683.62.00	Ø 131/147x15	2
				424	O-ring	02.5677.90.40	Ø 90x3	2
				428	Dust seal	02.5681.98.00	Ø 103/147x15	2
				430	Roller bearing	02.6410.24.00	33116	2
				431	Grease shield inner	03.010.93.33.0	Ø 84/129x8.5	2
				440	Grease shield outer	03.370.25.16.0	Ø 53/98x10	2
				441	Roller bearing	02.6410.25.00	32310	2
				445	Washer	03.320.73.13.0	Ø 43/61x5.8	2
				447	Locking pin	03.084.71.17.0	Ø 8x45	2
				448	Locking ring	03.188.03.06.0	Ø 54x2	2
				421	Seal carrier	03.370.07.76.0	Ø 86/115/139x22	2
				437	Circlip	02.5606.40.90	Ø 140x4	2
				438	Circlip	02.5606.12.90	Ø 112x4	2
				446	Axle nut	03.266.46.02.0	M 42x2 / Ø 110 / SW 65	2
				460	Hub cap (steel, standard)	03.212.24.25.0	M 125x2 / H 61 / SW 110	2
					Hub cap (steel, chrome)	03.212.24.26.0	M 125x2 / H 61 / SW 110	2
					Hub cap (steel, for alloy hub)	03.212.25.08.0	M 135x2 / H 70 / SW 110	2
					Hub cap (alloy, for alloy hub)	03.212.25.27.0	M 135x2 / H 70 / SW 110	2



ECO PLUS HUB

9 tonne ECO Plus hub in axles assembled from February 2004 to August 2008



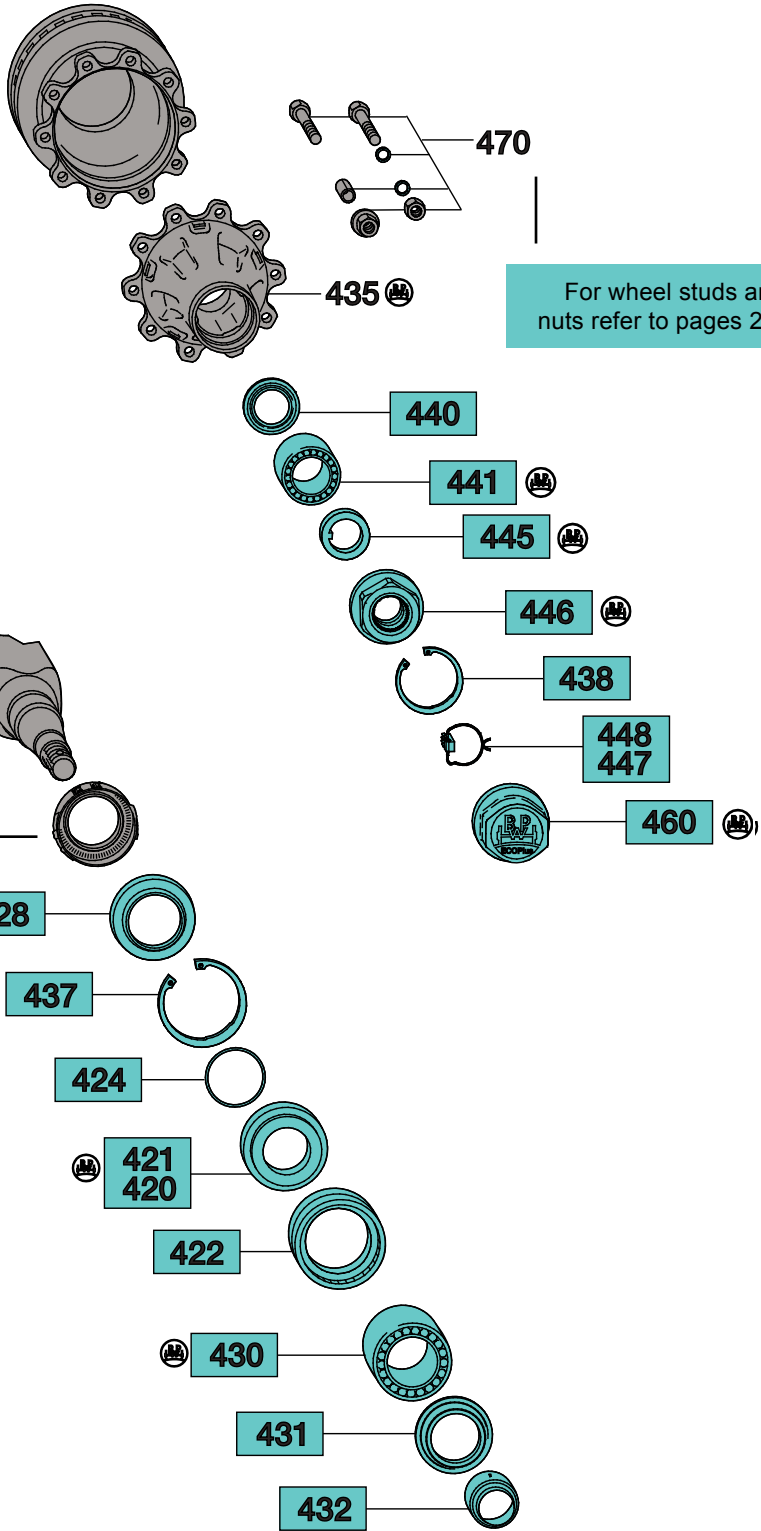
HUBS AND HUB COMPONENTS TO SUIT 9 TONNE						
KITS per hub		PARTS				
Description	Part no.	Item	Description	To suit 9t		Qty per axle
				Part no.	Dimension	
		435	Hub 8 stud 275mm PCD	03.272.46.28.2	M 136x2,5 / Ø 120/150	2
			Hub 10 stud 285mm PCD	03.272.47.35.2	M 136x2,5 / Ø 120/150	
			Hub 10 stud 335mm PCD	03.272.43.19.2	M 136x2,5 / Ø 120/150	2
Wheel bearing and seal kit	0980106360TS	422	Hub seal	02.5664.74.00	Ø120/157.5x20	2
		428	Dust seal	03.120.48.15.0	Ø122/160x8.7	2
		430	Roller bearing inner	02.6410.23.00	33118	2
		431	Grease shield inner	03.010.93.34.0	Ø94/149x8.5	2
		440	Thrust washer	03.370.26.24.0	Ø71/108x8	2
		441	Roller bearing outer	02.6410.22.00	33213	2
		447	Locking wedge axle nut	03.277.00.07.0		2
		448	Hooked ring spring - locking wedge	03.188.04.10.0	Ø62x1.8	2
		423	Seal runner *	02.5683.80.00	Ø 151 / 157,6x20	2
		437	Circlip inner	02.5606.58.90	Ø 158x4	2
		438	Circlip outer	02.5606.22.90	Ø 122x4	2
		445 446	Axle nut and washer kit	05.807.00.44.0	M52x2/SW95	2
		460	Hub cap	03.212.25.31.0	M 136x2.5 / H 70 /SW 110	2
			Hub cap, chrome	0321225310C		

* only used with 03.272.47.35.0.



10-12 tonne ECO Plus hub in axles assembled from August 2008

For rotors refer to page 16-17



HUBS AND HUB COMPONENTS TO SUIT 10-12 TONNE										
KITS per hub						PARTS				
Description	Part no.	Description	Part no.	Description	Part no.	Item	Description	To suit 10-12t		Qty per axle
								Part no.	Dimension	
Wheel bearing and seal kit (incl. seal carrier, washer, axle nut and washer kit and grease 450g)	0980107040TSSCT	Wheel bearing and seal kit (incl. seal carrier and washer)	0980107040TSSC	Wheel bearing and seal kit	0980107040TS	435	Hub 8 stud 275mm PCD	03.272.46.30.2	M 136x2,5 / Ø 120/150	2
							Hub 10 stud 285mm PCD	03.272.47.38.0	M 136x2,5 / Ø 120/150	
							Hub 10 stud 335mm PCD	03.272.43.26.2	M 136x2,5 / Ø 120/150	
						420	Seal carrier	03.370.07.72.0	Ø 96/117.5/132x22	2
						421	Hub seal	02.5664.74.00	Ø 20/157.5x20	
						422	O-ring	02.5678.00.00	Ø 100x3	2
						424	Dust seal	03.120.48.15.0	Ø 122/160x8.7	
						428	Roller bearing inner	02.6410.23.00	33118	2
						430	Grease shield inner	03.010.93.34.0	Ø 94/149x8.5	
						431	Dust seal	03.120.45.16.0	Ø 67 / 93x90,5	2
						432	Thrust washer	03.370.26.24.0	Ø 71/108x8	
						440	Roller bearing outer	02.6410.22.00	33213	2
						441	Locking wedge axle nut	03.277.00.07.0		
						447	Hooked ring spring - locking wedge	03.188.04.10.0	Ø 62x1.8	2
						448	Axle nut and washer kit	05.807.00.44.0	M 52x2 / SW95	
						445	Grease ECO-Li Plus 450g	0210404500-450		
						446				
						437	Circlip inner	02.5606.58.90	Ø 158x4	2
						438	Circlip outer	02.5606.22.90	Ø 122x4	2
						460	Hub cap	03.212.25.31.0	M 136x2.5 / H 70 / SW110	2
							Hub cap, chrome	0321225310C		

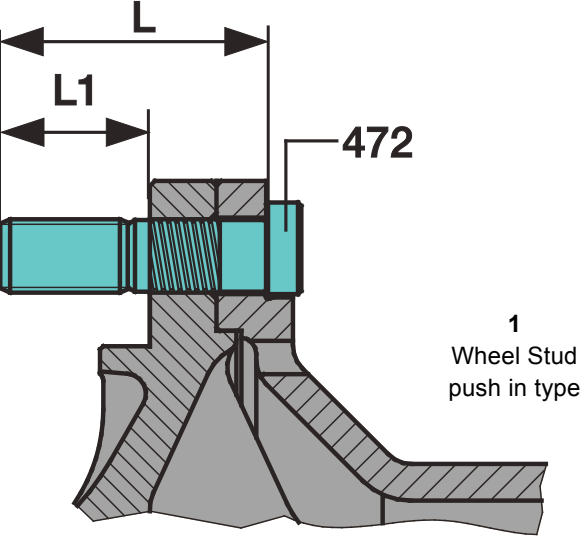


Fig E

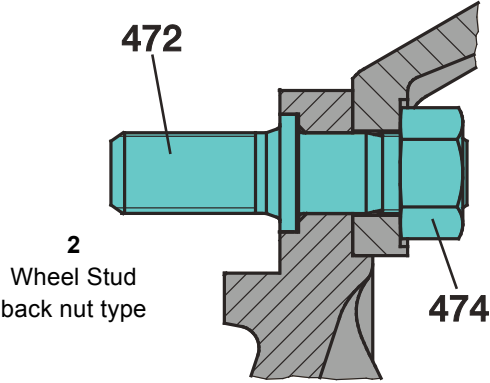
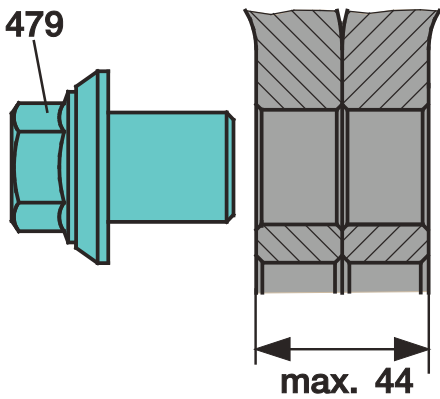
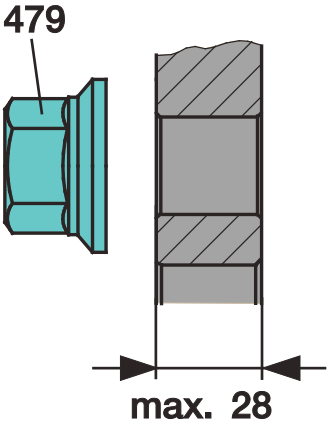


Fig H



To help to determine replacement wheel studs and nuts select the wheel stud or bolt type from figures 1 and 2 above. Then determine the wheel nut type from Figures E or H below. Then select the appropriate combination using the table below. For example the combination 1E represents push in type wheel studs for steel wheels.

WHEEL STUDS & NUTS FOR ECO HUB											
Item	Description	Part no.	Wheel type	Hub type	Fig	Stud style	No. of studs	Tyre size	PCD	Dimension	Qty per axle
472	Wheel stud	03.296.33.16.1		Aluminium						M 22x1.5x97	16/20*
		03.296.33.12.1	dual / single	Steel	1	push in	10	20"	335	M 22x1.5x97	20
				Aluminium			8	19.5"	275		16
				Steel							
		03.296.23.17.0	dual / single	Steel	2	back nut	10	20"	285	M 22x1.5x114	20
		03.296.23.24.0	dual	Aluminium			10	20"	285	M 22x1.5x136	20
479	Wheel nut	05.260.54.10.0	dual / single	Steel	E					M 22x1.5	16/20*
		05.260.54.14.0	dual	Aluminium	H					M 22x1.5 / Ø 32 sleeve	16/20*
474	Back nut	03.260.04.06.0	dual / single	Steel / Aluminium	2					M 22x2	20
	Peg	02.6010.35.60				back nut				Ø 6x19.5	20

WHEEL STUDS & NUTS FOR ECO PLUS HUB											
Item	Description	Part no.	Wheel type	Hub type	Fig	Stud style	No. of studs	Tyre size	PCD	Dimension	Qty per axle
472	Wheel stud	03.296.33.12.1	dual / single	Steel	1	push in	10	20"	335	M 22x1.5x97	20
				Aluminium			8	19.5"	275		16
				Steel							
		03.296.23.17.0	dual / single	Steel	2	back nut	10	20"	285	M 22x1.5x114	20
		03.296.23.24.0	dual	Aluminium			10	20"	285	M 22x1.5x136	20
479	Wheel nut	05.260.54.10.0	dual / single	Steel	E					M 22x1.5	16/20*
		05.260.54.14.0	dual	Aluminium	H					M 22x1.5 / Ø 32 sleeve	16/20*
474	Back nut	03.260.04.06.0	dual / single	Steel / Aluminium	2					M 22x2	20
	Peg	02.6010.35.60				back nut				Ø 6x19.5	20

* Qty 16 for for 8 stud hub/ 20 per axle for 10 stud hub



Tyre rolling circumference:

The tyre rolling circumferences in the table above are based according to standard ETRTO (European Tyre and Rim Technical Organisation). Data of various tyre manufacturers can vary slightly.

BPW HUBCAPS WITH INTERGRADET NON DIGITAL HUBODOMETER						
Axle load	Axle beam profile	Hub type	Hubcap thread	Tyre size	Tyre rolling circumference ± 2 %	Part no.
9 tonne	SKH	ECO	M 125 x 2	11 R 22.5	3175mm - 3220mm	05.212.24.49.0
				315/70 R 22.5	3015mm - 3134mm	05.212.24.33.0
				255/70 R 22.5	2830mm - 2860mm	05.212.24.53.0
				265/70 R 19.5	2620mm - 2650mm	05.212.24.34.0
				245/70 R 19.5	2560mm	05.212.24.44.0
9 & 10/12 tonne	SH/SKH	ECO Plus	M 136 x 2.5	255/70 R 22.5	2830mm - 2860mm	05.212.25.41.0
				275/70 R 22.5	2915mm	05.212.25.42.0
				315/70 R 22.5	3015mm - 3134mm	05.212.25.44.0
				11 R 22.5	3175mm - 3220mm	05.212.25.45.0
				385/65 R 22.5	3240mm - 3260mm	05.212.25.46.0
				12.00 R 22.5	3280mm - 3310mm	05.212.25.47.0
				265/70 R 19.5	2620mm - 2650mm	05.212.25.38.0
				265/70 R 19.5	2620mm - 2650mm	05.212.25.38.0



BPW ECO PLUS BEARINGS

BPW ECO Plus hub bearing

If you require long service life, rapid maintenance & 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 ECO Plus bearing system. The low maintenance hub has an integrated multi-seal system for protecting the tapered roller bearings against dust and dirt. A central threaded connection with the integrated torque limiting function ensures the bearing per-load is always optimum.

BPW ECO Plus bearing - features & benefits

- Low maintenance, encapsulated bearing unit (ECO Unit) with integrated multi-seal system to protect the taper roller bearings from dust & dirt.
- Integrated torque limiter in the axle nut (ECO Plus) prevents improper use when tightening.
- Bearings are precisely re-adjusted after every disc replacement.
- The ECO Plus Hub is Guaranteed in Australia for 3 years or 1,000,000km (whichever comes first) for highways use and 1 year for off road use (conditions apply*).
- Compact bearing system with DIN-ISO taper roller bearings available worldwide for excellent availability & rapid service.
- Removal of the complete hub unit - thanks to central threaded connection - with simple tools.
- Excellent bearing service life with minimal life cycle costs.

Fig. ECOPlus 10 - 12 t

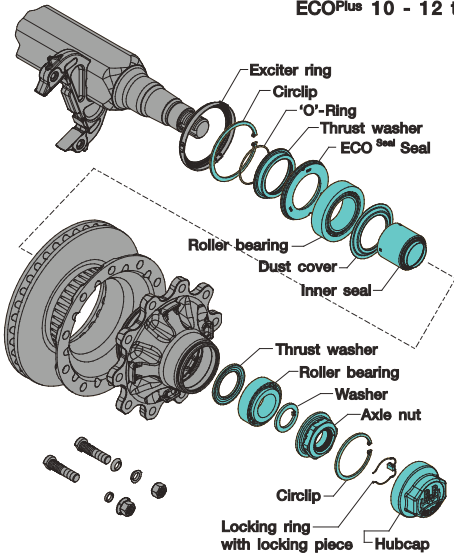
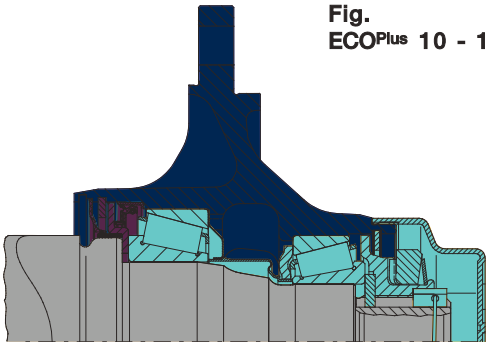
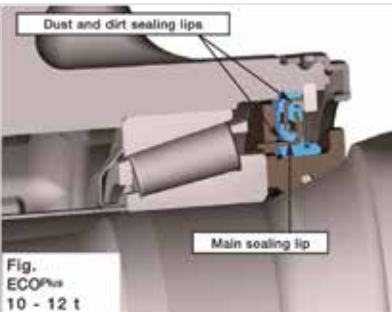


Fig. ECOPlus 10 - 12 t



HUB SEAL FOR ECO PLUS BEARINGS

The innovative ECO Seal sealing system is used on all axles with the BPW ECO Disc Trailer disc brake. With this hub seal, the primary seal lip (ECO Seal) no longer seals directly against the race of the hub but instead against a race which is integrated in the seal itself. This new design enables 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 & dirt sealing lips.



Benefits:

- An internal pre-stressed main lip seal with a low circumferential speed & a low thermal load, resulting in low wear.
- An approximately 30% reduction in frictional resistance inside the seal (compared with conventional seals).
- The seal is well protected during service due to the cartridge construction.
- Pre-stressed main seal lip with ventilation function, no opening at low pressures.
- No coarse dirt seal required.



BPW ECO-Li^{PLUS} Grease

BPW ECO-Li^{PLUS} is:

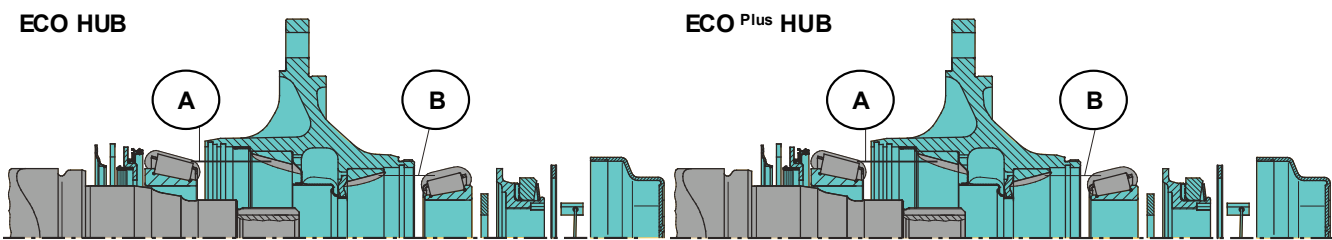
- usable at temperature between -30°C and + 150°C
- resistant to aging
- protecting against corrosion, even in aggressive surroundings
- wear reducing
- generally plastics compatible
- suitable for extremely long re-lubrication periods

ECO-Li^{PLUS} is suitable for the lubrication of high temperature roller and friction bearings of commercial vehicles. It has been especially developed for highly loaded taper roller bearings and hub units with very long re-lubrication periods.

BPW ECO-Li^{PLUS} GREASE is available in the following container sizes

Part no.	Container size
0210404500-450	450g cartridge
02.1040.47.00	5kg container
0210404900-20	20kg container

GREASE FILLING



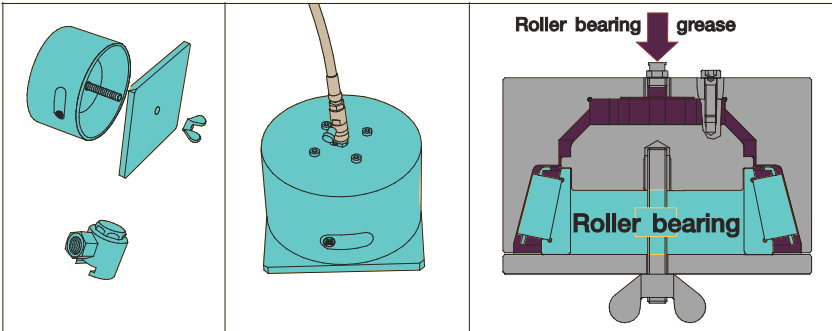
ECO-Li^{PLUS} Grease quantity per taper roller bearing

ECO HUB			ECO Plus HUB		
Axle load	A = Inner bearing	B = Outer bearing	Axle load	A = Inner bearing	B = Outer bearing
6,000 - 9,000kg	120g	120g	8,000 - 12,000kg Manual greasing	170g	120g
10,000 - 12,000kg	170g	120g	8,000 - 12,000kg Greasing with grease applicator	130g	90g

BPW GREASE SHOWER TOOLS

Used to quickly, accurately and cleanly fill the bearing with the required amount of BPW ECO-Li^{PLUS} Grease

Grease shower part no.	To suit bearing size	
	ISO	BPW Bearing part numbers
99.00.000.9.54	33116 / 32310	02.6410.24.00 / 02.6410.25.00
99.00.000.9.55	33118 / 33213	02.6410.23.00 / 02.6410.22.00



BPW ECO A&P SPRAY



- Simple to use
- Good sliding properties
- Easier hub removal
- Long-term drya lubrication
- Good adhesion on prepared base surfaces
- Helps to prevent fretting corrosion

BPW ECO A&P SPRAY

Part no.	Size
02.3521.12.00	400ml Aerosol

Important note:

Please be aware for safe management and handling of this products you must read the material data safety sheets which are available on our website or you can contact your account representative.



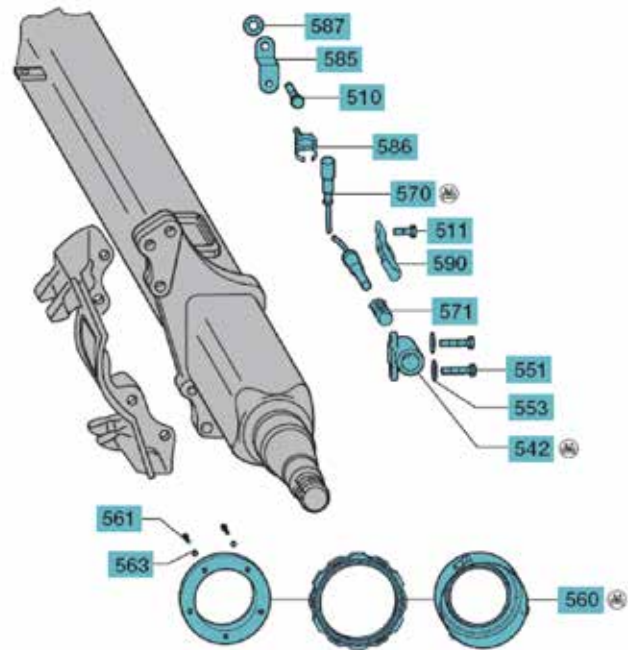
ABS General information



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.

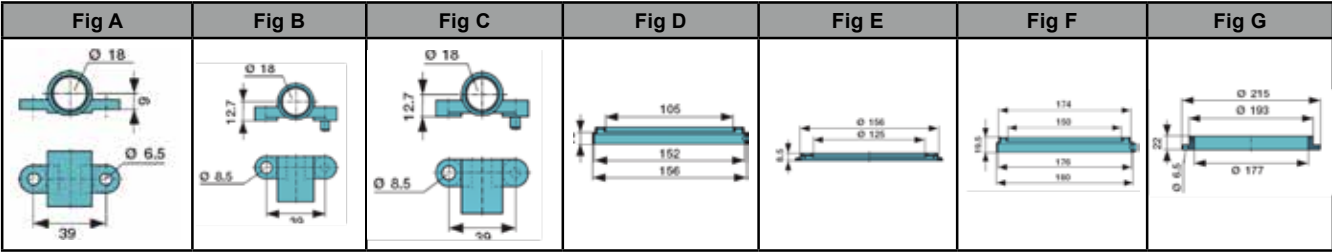
As a result, the wheel speed of each wheel is continuously sent to the central control ECU. This runs a complex system for processing the received informant about the movement of the wheel as well as for calculating and performing logical operations on the control signals. Using the pressure control valves assigned to each wheel, it adjusts the air pressure and therefore the braking of each individual wheel (depending on the ABS system).

SB3745
ECO Hub
9 tonne



ABS PARTS ECO HUB

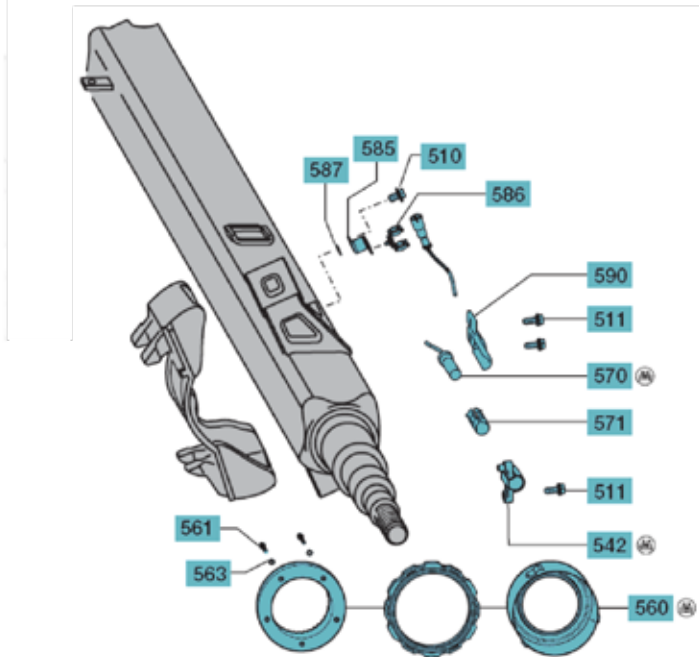
Item	Description	Part no.	Dimension	Fig	SB3745
					9t
					Axial
					Qty
Kits	ABS kit for 19.5" wheels Incl. all listed items *	05.801.73.86.0			1
		05.801.74.09.0			
		05.801.73.88.0			
	ABS kit for 20" wheels Incl. all listed items *	05.801.73.87.0			1
		05.801.74.08.0			
510	Locking bolt	02.5071.22.00	M 10 x 15		2
511	Locking bolt	02.5071.23.00	M 8 x 20		
541	Shaped plate	03.163.23.04.0			
542	Sensor bracket	03.189.12.02.0		A	2
		03.189.14.61.0		B	
	Sensor bracket left hand	03.189.07.58.0		C	
	Sensor bracket right hand	03.189.07.59.0		C	
551	Cylinder cap bolt	02.5015.94.80	M 6 x 12-8.8		4
	Locking screw	02.5071.23.00	M 8 x 20		
553	Spring washer	02.5601.06.90	A 6		4
560	Exciter ring - 80 teeth (for 19.5" wheels)	05.310.07.29.0	Ø 105/152/156 x 18	D	2
		03.310.08.53.0	Ø 125/156 x 8.5	E	
	Exciter ring - 100 teeth (for 20" wheels)	05.310.07.30.0	Ø 105/152/156 x 18	D	2
		03.310.08.51.0	Ø 125/156 x 8.5	E	
		03.310.09.39.0	Ø 177/215x22/5 x Ø 6.5	F	
		05.310.08.50.1	Ø 150/176/180 x Ø 19.5	F	
561	Cylinder cap screw	02.5015.48.82	m 6 x 30		
563	Spring washer	02.5601.06.90			
570	Sensor, straight	02.3317.07.00	L = 350		2
570	Sensor, angled	02.3317.05.00	L = 350		
571	Bush	02.0316.59.00			2
585	Support	03.189.07.35.0	Short - L 35		2
586	Support	02.1421.11.00			2
587	Serrated lock washer	02.5414.11.90	A 10.5		2
590	Heat protection plate	03.165.24.64.0			2
	Special silicone grease	02.1040.17.00	5gm		1



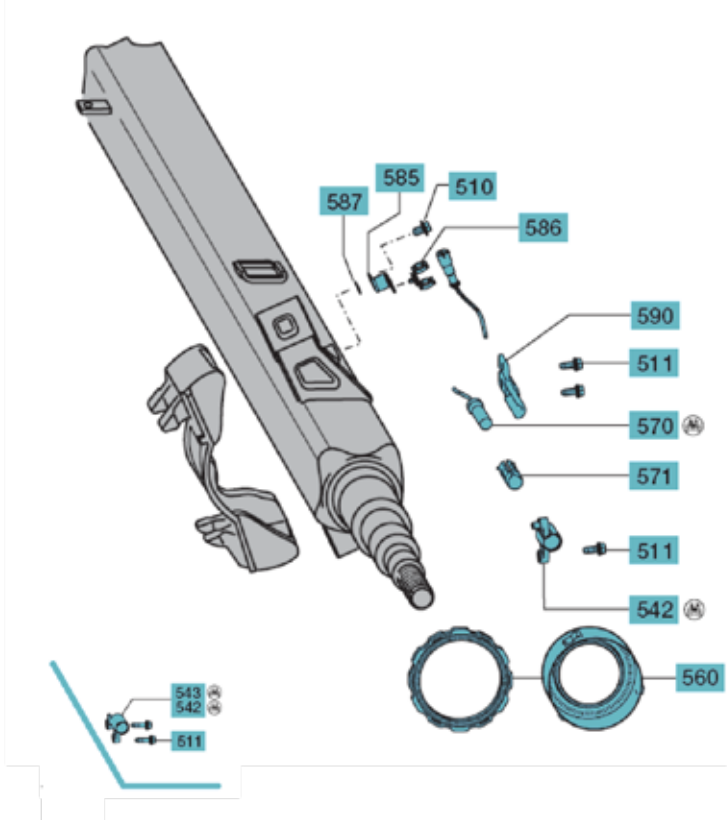
* To determine which exciter ring is required you will need to know both the tyre size and the type of exciterring. You can determine the type of exciter ring by referring to the figures above. The ABS kits will only include the exciter ring that is relevant to the correct type and wheel size.



SB3745T
ECO Plus Hub
9 tonne and 10-12 tonne

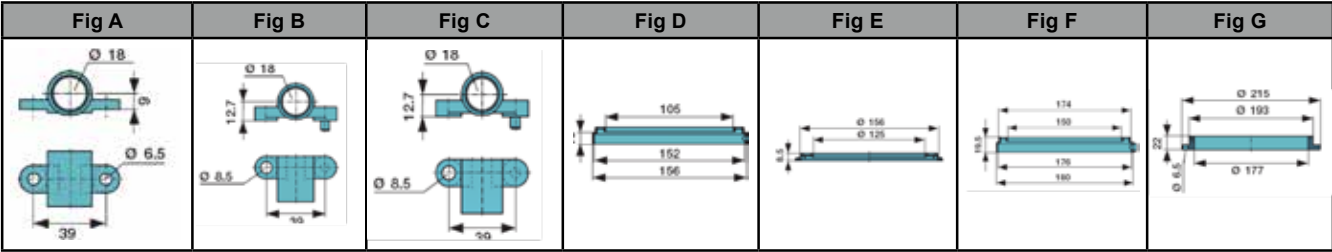


SB4309T
ECO Plus Hub
9 tonne and 10-12 tonne



ABS PARTS ECO PLUS HUB

Item	Description	Part no.	Dimension	Fig	SB3745T		SB4309T	
					9t	10-12t	9t	10-12t
					Tangential		Tangential	
					Qty			
Kits	ABS kit for 19.5" wheels Incl. all listed items *	05.801.73.86.0						
		05.801.74.09.0		1		1		
		05.801.73.88.0			1			
	ABS kit for 20" wheels Incl. all listed items *	05.801.73.87.0						
		05.801.74.08.0		1				
		05.801.73.84.0					1	
510	Locking bolt	02.5071.22.00	M 10 x 15		2	2	2	2
511	Locking bolt	02.5071.23.00	M 8 x 20		2			
541	Shaped plate	03.163.23.04.0						2
542	Sensor bracket	03.189.12.02.0		A				
		03.189.14.61.0		B	2		2	
	Sensor bracket left hand	03.189.07.58.0		C				2
	Sensor bracket right hand	03.189.07.59.0		C				2
551	Cylinder cap bolt	02.5015.94.80	M 6 x 12-8.8					
	Locking screw	02.5071.23.00	M 8 x 20		2			
553	Spring washer	02.5601.06.90	A 6					
560	Exciter ring - 80 teeth (for 19.5" wheels)	05.310.07.29.0	Ø 105/152/156 x 18	D				
		03.310.08.53.0	Ø 125/156 x 8.5	E	2			
	Exciter ring - 100 teeth (for 20" wheels)	05.310.07.30.0	Ø 105/152/156 x 18	D				
		03.310.08.51.0	Ø 125/156 x 8.5	E	2		2	
		03.310.09.39.0	Ø 177/215x22/5 x Ø 6.5	F		2		
		05.310.08.50.1	Ø 150/176/180 x Ø 19.5	F				2
561	Cylinder cap screw	02.5015.48.82	m 6 x 30			10		
563	Spring washer	02.5601.06.90				10		
570	Sensor, straight	02.3317.07.00	L = 350		2		2	2
570	Sensor, angled	02.3317.05.00	L = 350			2		
571	Bush	02.0316.59.00			2	2	2	2
585	Support	03.189.07.35.0	Short - L 35		2	2	2	2
586	Support	02.1421.11.00			2	2	2	2
587	Serrated lock washer	02.5414.11.90	A 10.5		2	2	2	2
590	Heat protection plate	03.165.24.64.0			2		2	2
	Special silicone grease	02.1040.17.00	5gm		1	1	1	1



* To determine which exciter ring is required you will need to know both the tyre size and the type of excitering. You can determine the type of exciter ring by referring to the figures above. The ABS kits will only include the exciter ring that is relevant to the correct type and wheel size.



DISC BRAKE TOOLS

In order to simplify the maintenance procedures on BPW axles a comprehensive range of special tools are available. BPW tools offer the following advantages:

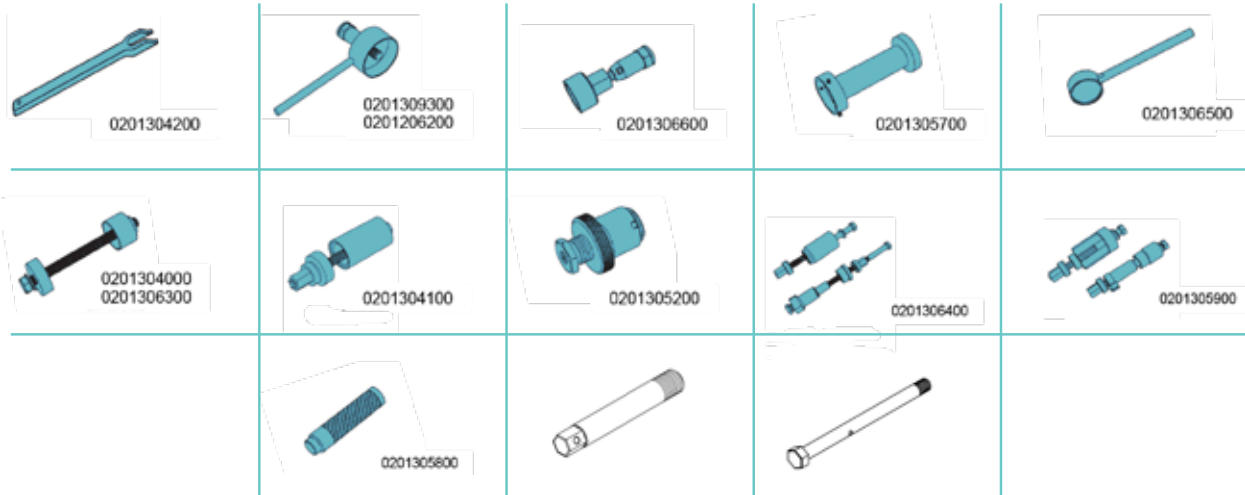
- **Tried and tested design**
Tools must prove their worth in everyday use. Only then does it become clear whether tools are up to the demands of the real world.
- **Use of high quality materials**
High quality materials are absolutely essential for producing high quality tools. Continuous quality assurance guarantees consistent quality.
- **Favourable price/performance ratio**
Quality is not always obvious at first glance (e.g. materials). Buying quality tools is often the cheaper option in the long term. 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 designed strictly to the necessary technical requirements. Solutions that do not meet practical requirements are rigorously weeded out at the development stage.

For complete details please contact your local BPW Transpec Office or BPW distributor.

SPECIAL TOOLS FOR KNORR DISC BRAKE CALIPERS

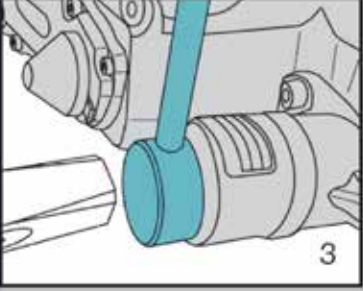
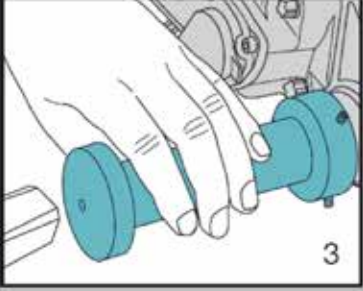
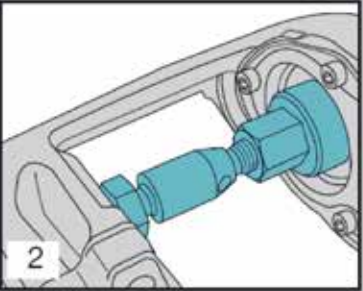
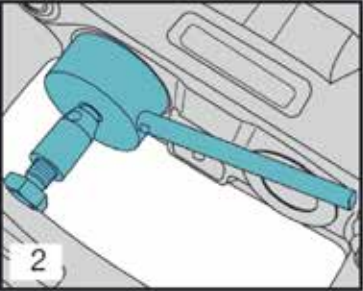
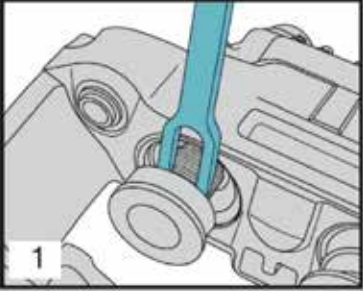
KIT		PARTS			
Description	Part no.	Tool purpose	Tool name	Caliper A & B	Caliper C
Tool kit	KB-K001288	Disassembling thrust pieces with bellows	Tool fork thrust pad	02.0130.42.00*	02.0130.42.00
		Fitting thrust pieces with bellows	Tool thrust pad boot	02.0130.39.00*	02.0130.62.00
		Pressing in inner secondary seal	Tool thrust pad seal		02.0130.66.00*
		Replacing brake caliper. Fitting fixed bearing cover cap	Tool slide pin cap	02.0130.57.00	02.0130.65.00
		Inserting inner bellow, fixed bearing	Tool slide pin boot	02.0130.40.00	02.0130.63.00
		Extracting and inserting brass bush, fixed bearing	Tool slide pin bush	02.0130.41.00	02.0130.64.00
		Caulking brass bush	Tool caulking slide pin bush	02.0130.52.00*	02.0130.64.00
		Extracting and inserting bush, movable bearing	Tool second slide pin	02.0130.59.00	02.0130.59.00
		Replacing brake caliper, fitting cover cap movable bearing	Tool punch second slide pin	02.01030.58.00	02.0130.58.00
		Assembly aid to fit calipers to axle brackets	Caliper alignment bolt		TL-0044
		Assembly aid to fit calipers to axle brackets	Caliper offset bolt		TL-0045

* These parts are not available as individual parts. They are only available in the complete tool kit.

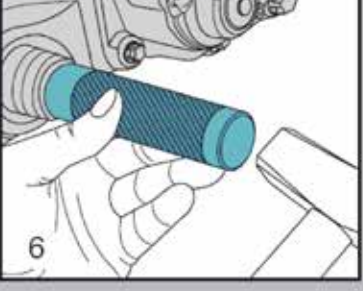
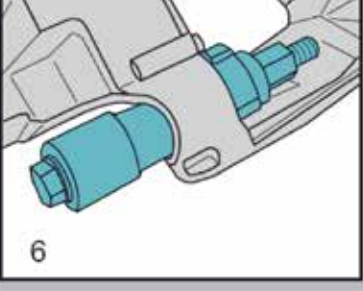
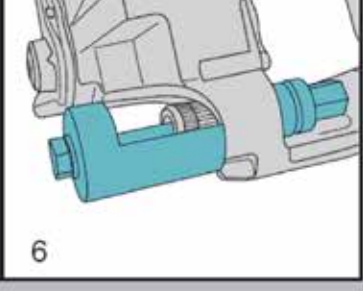
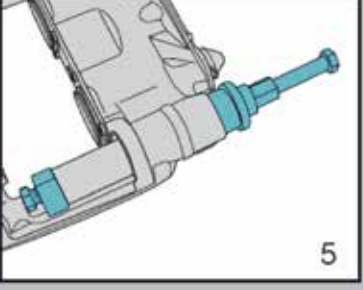
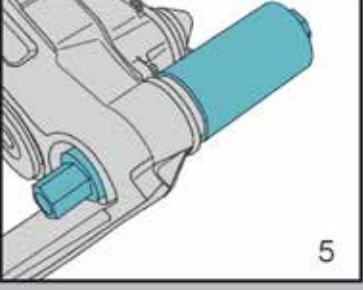
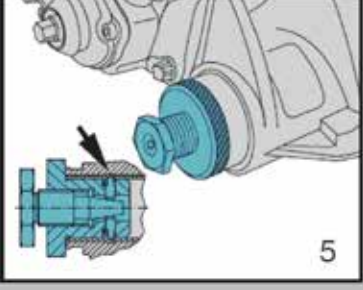
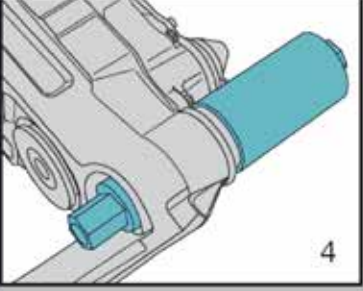
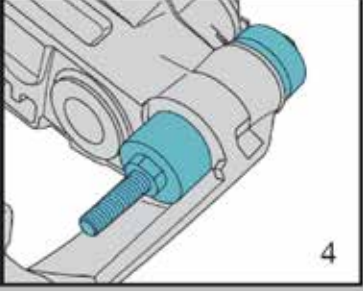




Details on the correct use of the tools can be found in the respective workshop manuals.



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







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