

## BPW Drum Brakes

### Setup of Brake Boosters, Automatic Slack Adjusters and Brake Free Play

#### Part 1 - Brake Booster Setup Basics

##### IMPORTANT!

- BPW requires the fitment of long stroke brake boosters (Stroke of 75mm) on axles fitted with automatic slack adjusters
- The brake data plate on the side of the chassis contains the required setup information. This includes the brake booster sizes and the required lever length per axle.
- Tightening torque = 180Nm to 210Nm
- Brake boosters must be caged for brake setups if no air supply is available.
- Remove the bottom drain plugs after installation



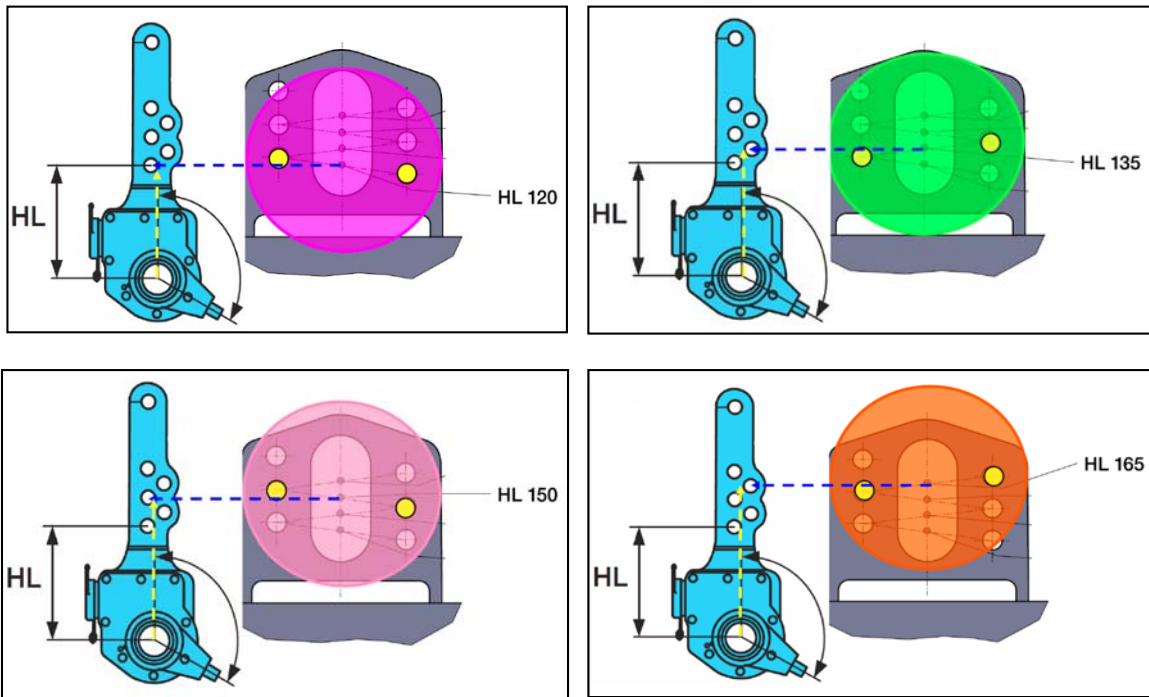
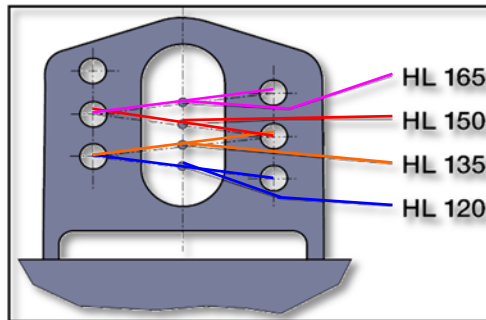
- Torque wrench, extension and tube socket required



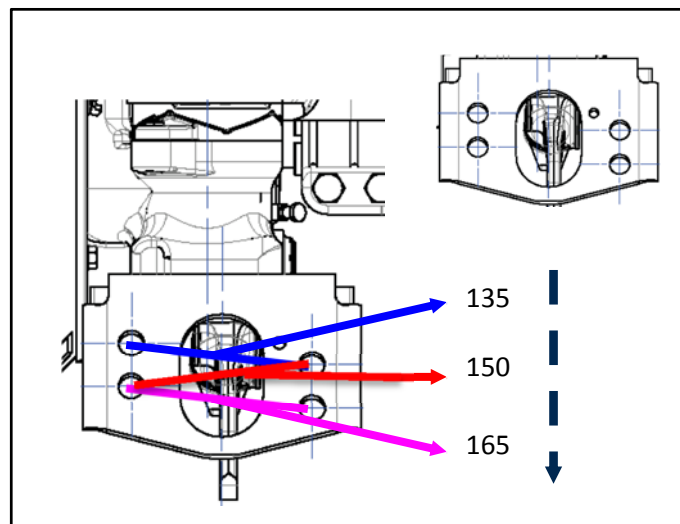
## Brake Booster Mounting Positions and Lever Length Positions

- Remember:  
The brake data plate on the side of the chassis contains the required setup information. This includes the brake booster sizes and the required lever length per axle.

HL = Lever Length

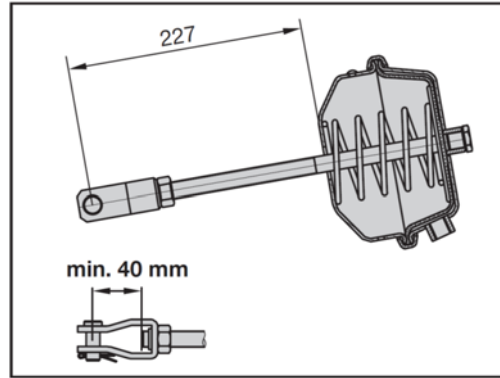


Steering Axle layout

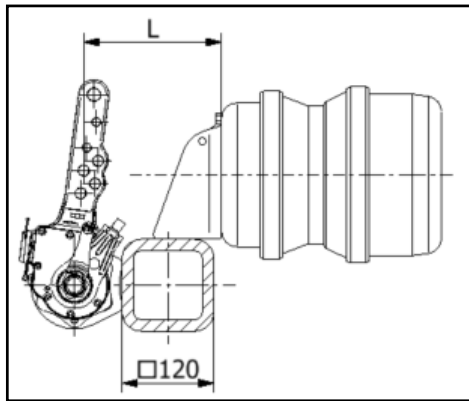


## Part 2 - Brake Booster Push Rod Lever Lengths – fitment on BPW axles

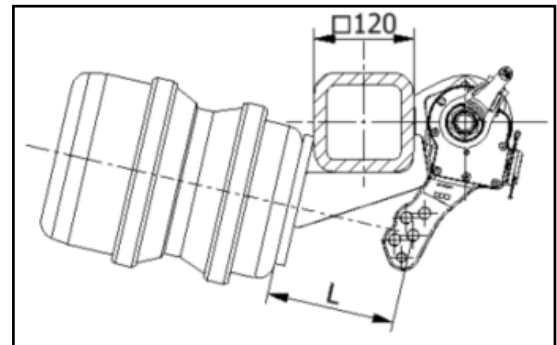
- Push rod lengths vary according to different booster bracket designs and positions on BPW axles.
- Push rod lengths are measured from the face of the brake booster to the centre of the yoke/ clevis pin.



**NH Axle – SN 3020 (300x200)**

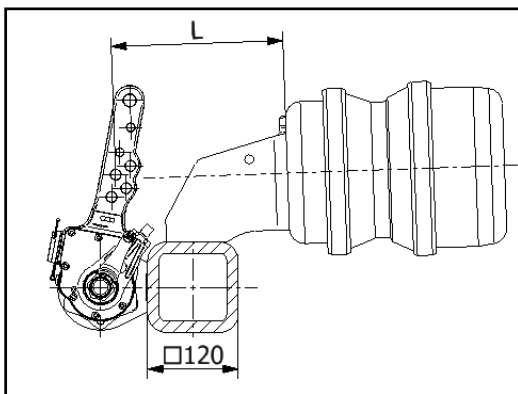


Type = Ü, L = 170  
03.182.33.10.0

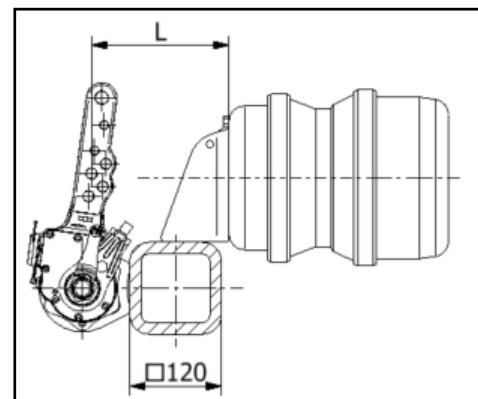


Type = H, L = 155  
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## **KH Axle – SN 3620 (360x200)**

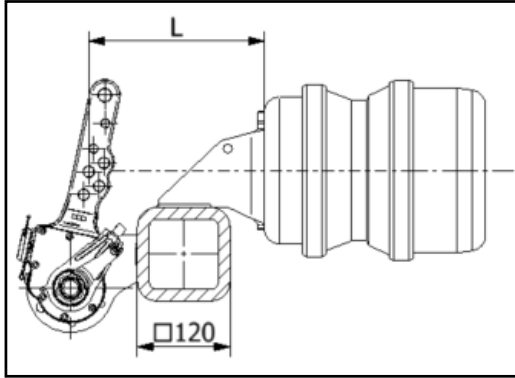


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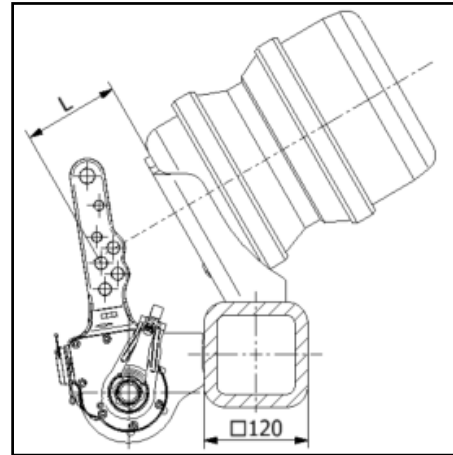


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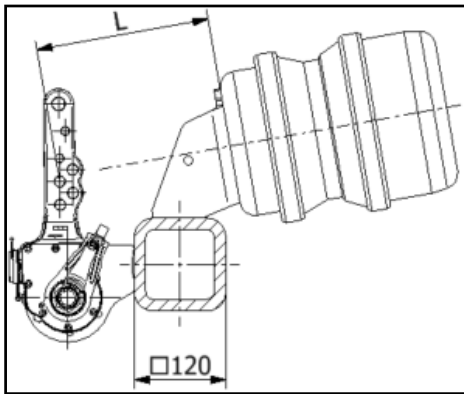
## H Axle – SN 4218 (420x180) and SN4220 (420x200)



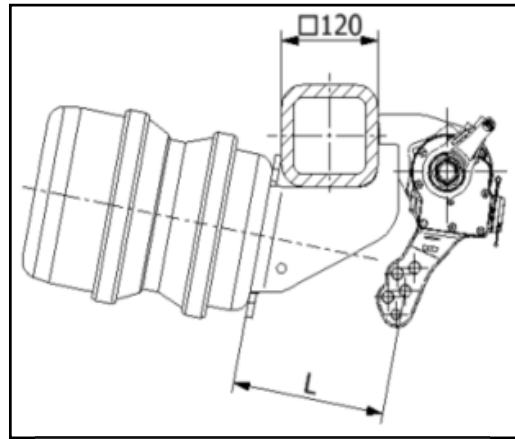
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Type = F, L = 110  
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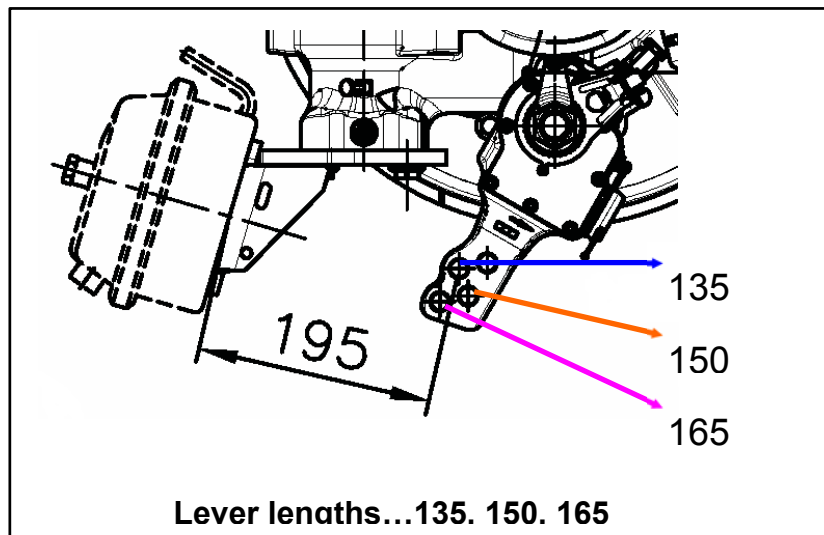


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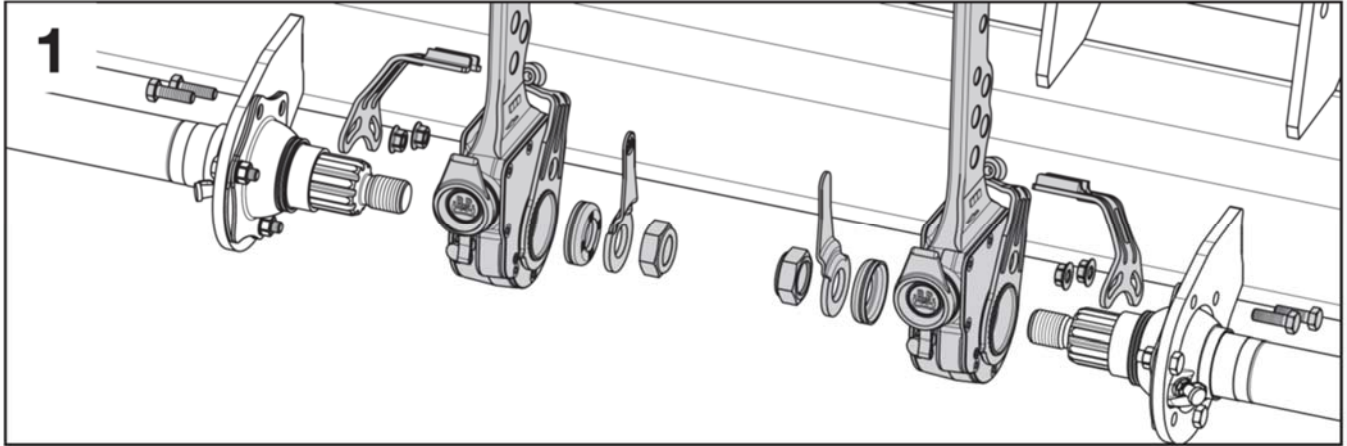


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### Steering axle booster layout

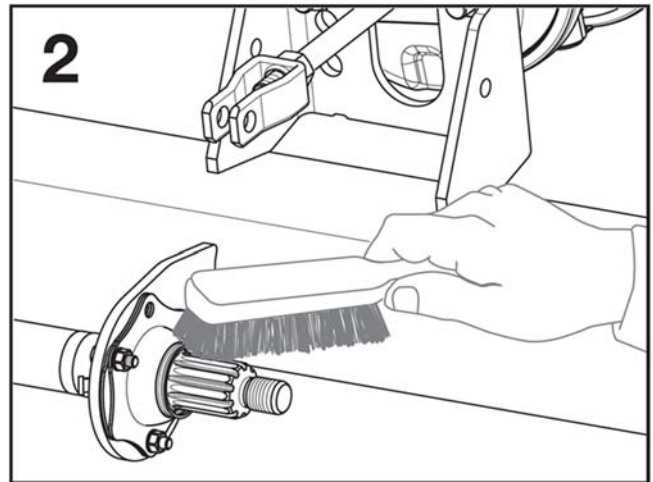


## Part 3 - Installing and setting the Automatic Slack Adjuster

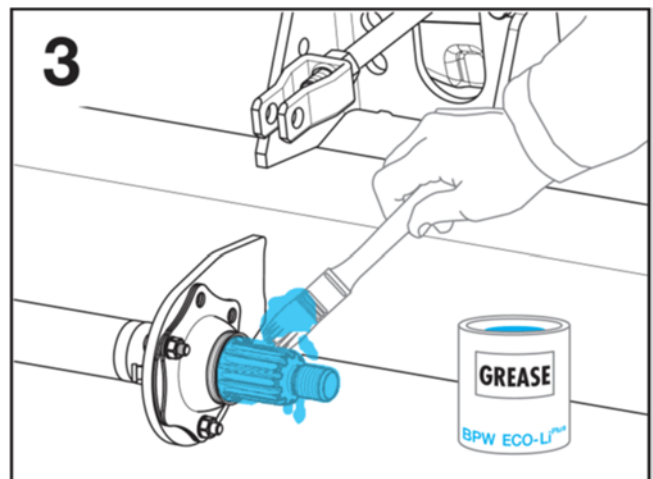


**When replacing faulty or damaged slack adjusters always replace them in pairs.**

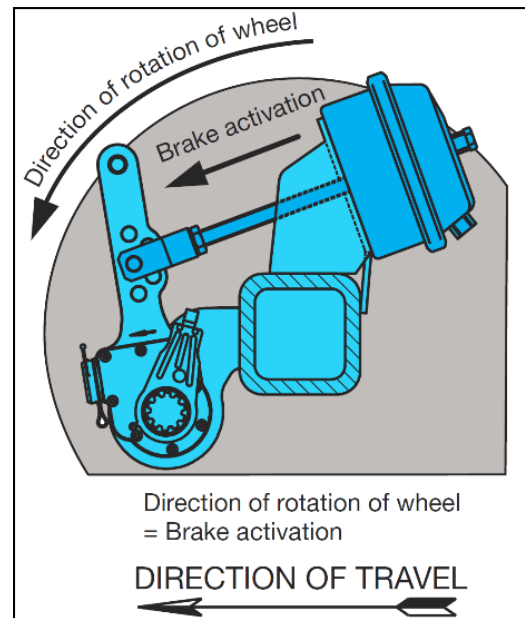
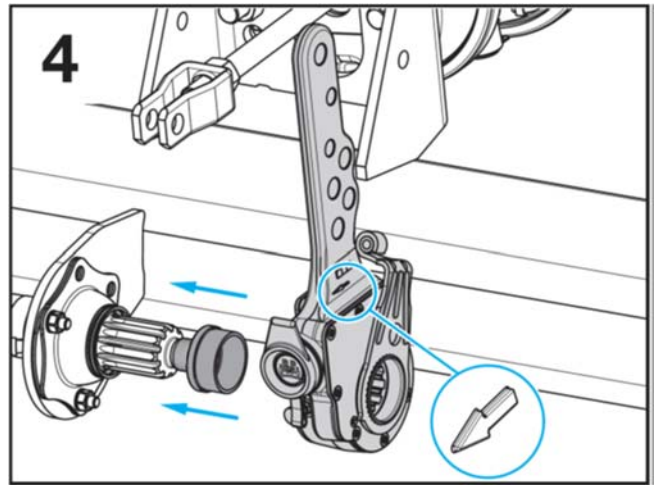
Clean the camshaft splines by using a wire brush.



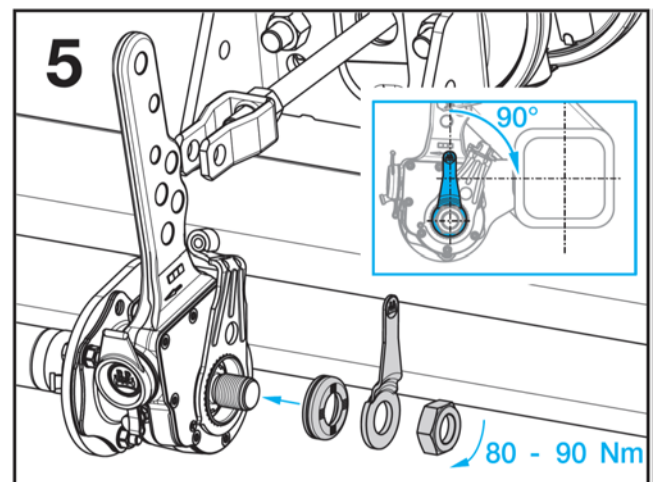
Coat the camshaft splines with BPW ECO-Li Plus grease



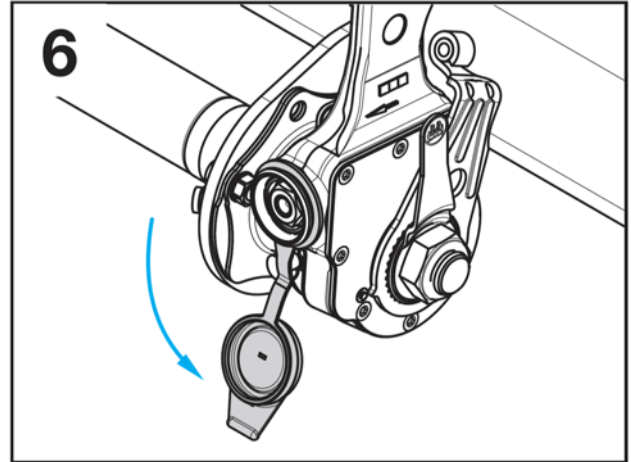
Fit the stepped slack adjuster centering bush into the support bearing.  
The ECO Master slack adjuster can now be pushed onto the camshaft.



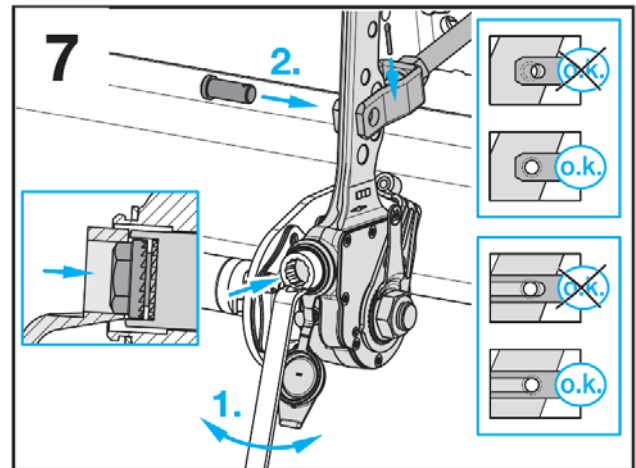
Once the washer is in place, the brake lining wear indicator and nut are installed.  
The nut is tightened to a torque of 80 to 90 Nm.  
The initial position of the wear indicator is vertical, the 12 o'clock position (with new BPW brake linings).



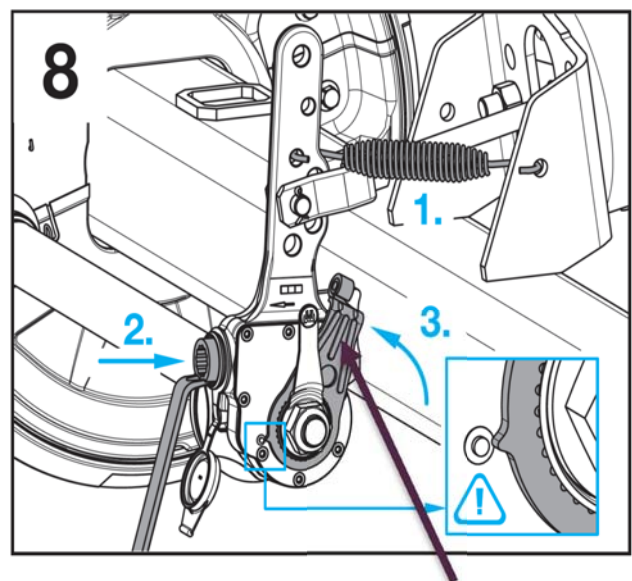
Pull of the protective cap.



Press down the coupling sleeve with a 19mm ring spanner or socket and turn the hex adjuster clockwise. Align the hole in the brake lever that is being connected with the hole at the end of the yoke. In this position insert the pin and secure with a split pin.



1. BPW boosters fitted with round hole yokes do not require a return spring.
2. Press in the coupling sleeve with a 19mm ring spanner or socket.
3. Pull the control lever until the pointer and arrow is aligned.

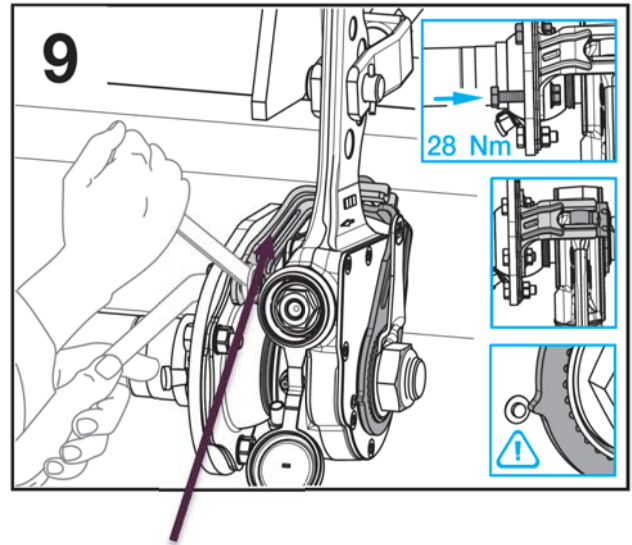


**Control lever**

Place the locating plate over the control lever and secure it to the support bearing with 2 hex screws and collar nuts.

The collar nuts must make contact with the locating plate.

**NB.** Do not disturb the pointer and arrow position when securing the locating plate. The slack adjuster is now installed correctly.



Locating plate

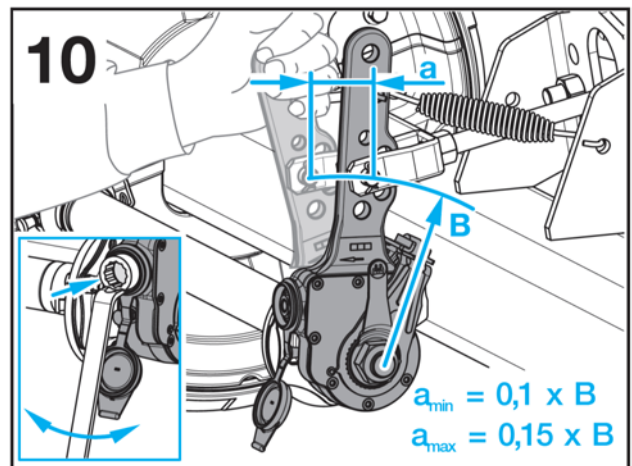
## Part 4 - Set the initial brake free play.

### Measurement Method

The objective is to set the lining to drum clearance to 0.7mm - 1.0mm.

This is achieved by rotating the 19mm adjustment bolt of the auto slack until the free play equals 10 -15% of the effective lever length dimension.

Remember to fully engage the 19mm socket to disengage the internal clutch mechanism. Example: A set up with a 150mm brake lever length will have an initial free play of 15 - 22mm



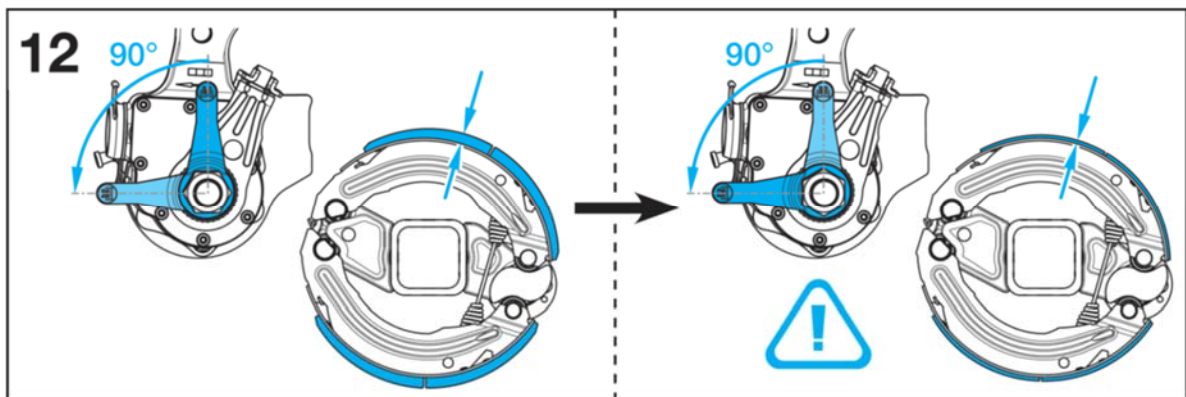
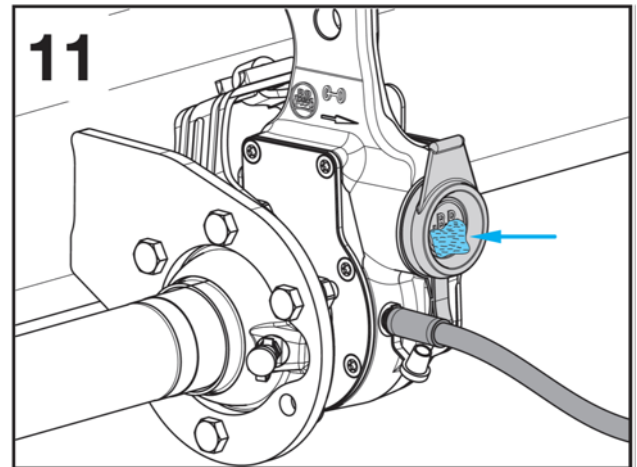
### Adjustment Method

With a fully engaged 19mm socket and the wheel free to rotate, adjust the automatic slack adjuster until the brake is 'Just On' – Do not over-tighten.

Rotate the adjuster mechanism by a 'Half to Three Quarter Turn' (180 ° to 270 ° ) counter clockwise.

## Press on the protective cap.

Grease the ECO Master slack adjuster with BPW ECO-Li Plus grease until the grease emerges from the slot in the protective cap.



As the brake lining wears the brake cylinder stroke increases.

Once a prescribed value is exceeded, the automatic adjustment facility of the ECO Master automatically compensates the difference.

The brake lining wear indicator rotates with the camshaft.

Once it is in the horizontal position, it is time to renew the brake linings.