

Transition to Eco Plus 3 for 10-ton dual wheel axles

Introduction

BPW is transitioning from the ECO Plus 1 to ECO Plus 3 hub technology for its 10-ton dual wheel axles. This transition will start during June 2024. Currently the 9-ton single wheel axles are already supplied with the EP3 hub technology since the first quarter of 2016. With this transition, both the 9-ton and 10-ton axles will be supplied with the same ECO Plus 3 sealing technology.

The 10-ton dual wheel axle beam remains the same and as such both ECO Plus 1 and ECO Plus 3 hub units are upwards and downwards compatible. The transition will provide advantages which includes 1 hub for disc and drum brake axles (still 2 ABS exciter rings), improved sealing ability, reduction in parts and a weight saving.

Details of the transition

From June 2024, the new ECO Plus 3 10-ton axles will be gradually phased in into production at BPW. The main improvements/changes with this transition can be summarized as follows:

- New bearing capsule between bearings: one single capsule instead of three components (inner and outer grease shields including capsule are integrated into one part).
- Better sealing in service – ECO Plus 3 black rotating seal in use since 2016 on single wheel axles.
- Loose thrust washer with O-ring to match the ECO Plus 3 oil seal.
- New hub cap thread 135x2 and O-ring and service friendly torque setting of 350Nm.

The use of a single bearing capsule instead of using a capsule and 2 grease shields. This is shown in Figure 1.

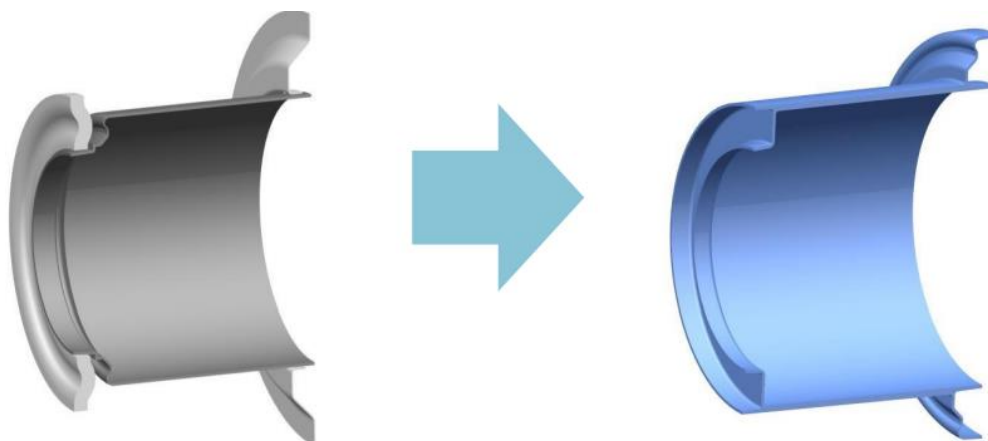


Figure 1: Change in sealing technology between bearings from EP1 (Left) to EP3 (Right)

The ECO Plus 3 black oil seal including matching thrust washer with O-ring replaces the ECO Plus blue oil seal with matching thrust washer and O-ring that has been in use since November 2011. This is shown in figure 2. The ECO Plus 3 black oil seal will now be used for entire 9-12 ton axle range in series production.

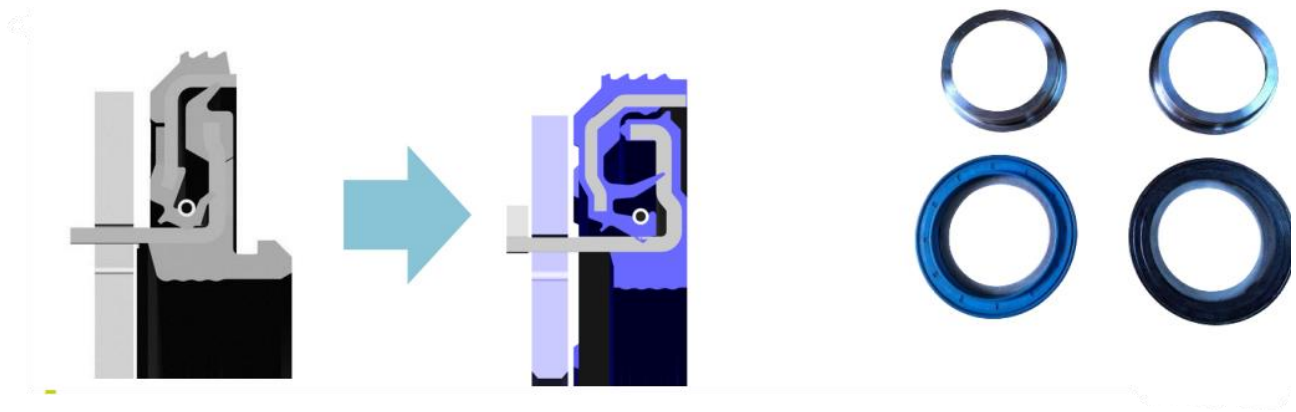


Figure 2: Change in inner seal for EP1 (Left) to EP3 (Right)

The hub caps will also change as shown in Figure 3 . The ECO Plus 3 hub caps with O-ring to improve sealing and protection against dust and moisture. The tightening torque will be reduced from 800Nm to 350 Nm with the hub cap thread changing to M135x2 from M136x2.5. It should be noted that the hub caps for 9-ton and 10-ton axles are however different due to the difference in the bearing spacing and axle nut location.

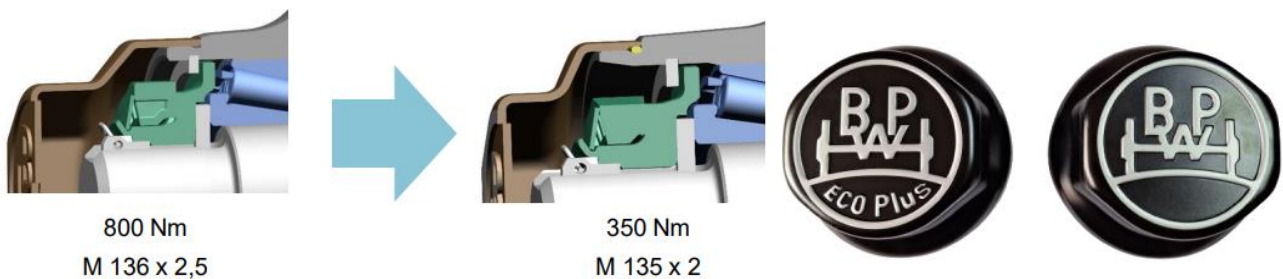


Figure 3: Change in hub cap technology between EP1 (Left) and EP3 (Right)

The exciter ring on the disc braked axles will also be changed from the current clip-on to press-on design. This allows the use of only 1 hub. This is shown in Figure 4.

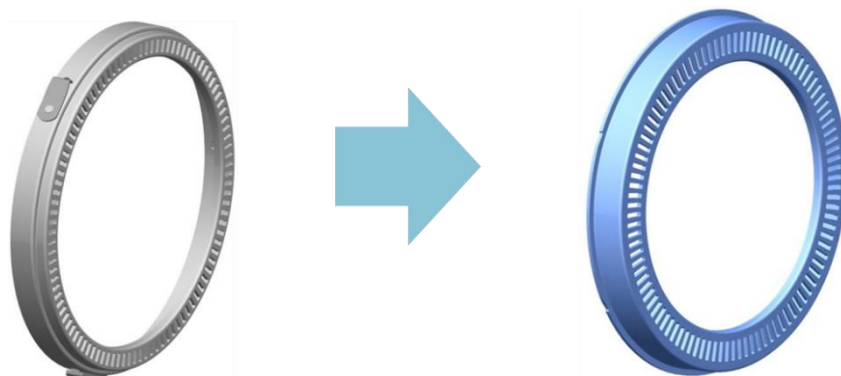


Figure 4: Change in the exciter ring for disc braked axles

Should there be any questions regarding this transition, please do not hesitate to contact BPW and we will gladly assist.