

Plant Service Bulletin

B&W Roll Wheel™ Pulverizer Silicone O-Rings and the Use of Synthetic Oils

Purpose

Advise owners and operators of a possible problem with silicone O-rings when using synthetic oils in the roll wheels.

Background/Problem

A roll wheel bearing failure has been attributed to the incompatibility of a particular synthetic oil and the silicone O-ring material. The O-ring failure resulted in the loss of lubricant and, subsequently, a bearing failed in the roll wheel assembly.

The Babcock & Wilcox Company's (B&W) experience using

silicone O-ring material has been successful where petroleum-based lubricants are used.

Recommendations

Owners and operators of B&W Roll Wheel™ pulverizers who are considering the use of synthetic lubricant in the roll wheels, should contact the lubricant supplier to

ensure the compatibility of the lubricant with the roll wheel lip seal and O-ring materials shown in Table 1 along with any lubricant previously used. Some synthetics are compatible with petroleum (mineral) oils; others are not. It is not usually advisable to mix various types of synthetics. When changing to a different lubricant, the system should be drained and flushed.

Table 1 Location and Existing Materials of Seals and O-Rings	
Roll Wheel O-Rings	Silicone
Roll Wheel Lip Seals	Fluorocarbon Elastomer (Viton®)

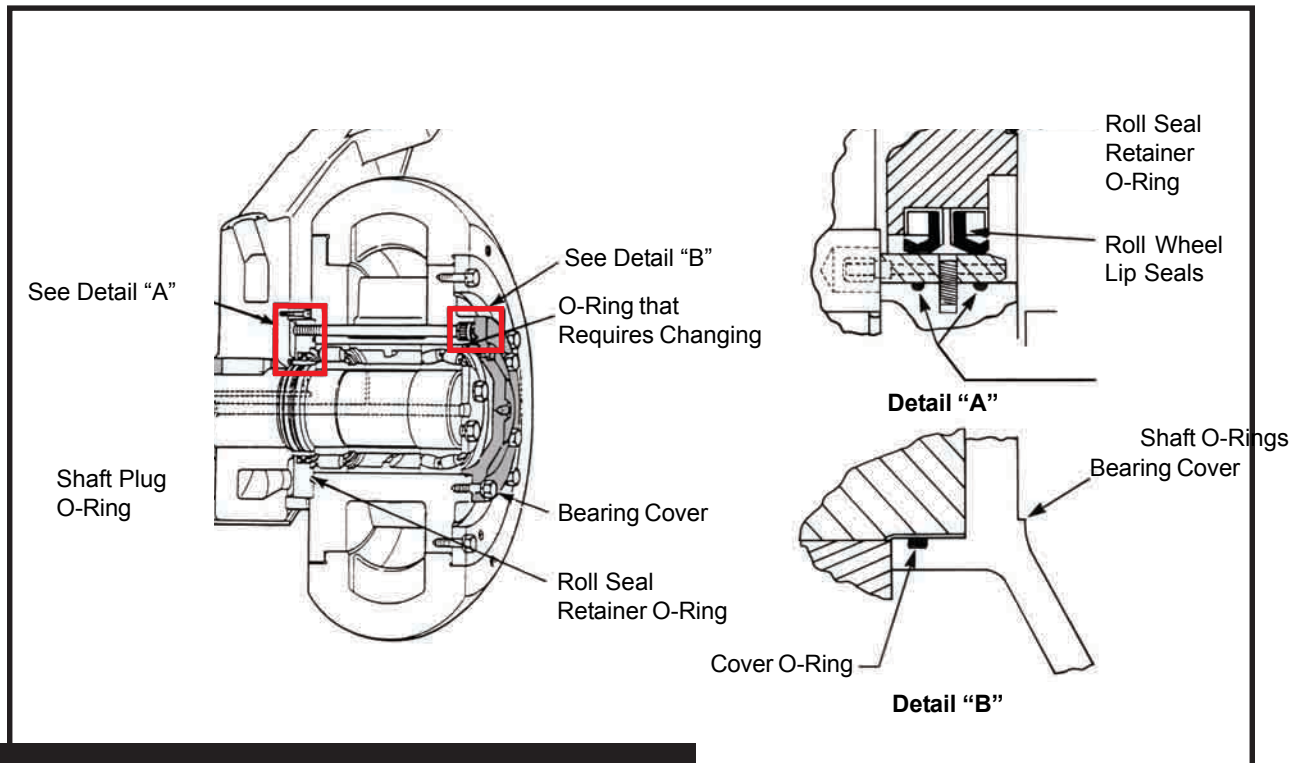


Figure 1 O-ring and lip seal locations on pulverizer roll wheel.

(Continued on reverse side)

If synthetic lubricants are now being used, check to ensure compatibility. If the roll wheel lubricant is not compatible with silicone O-rings, the following steps should be taken as soon as practically possible.

1. Drain the synthetic oil being used.
2. Remove the bearing cover (shown in Figure 1) and allow the cavity to drain completely.
3. Replace the bearing cover O-ring with one made from Viton® fluoroelastomer.

4. Recharge the roll wheel with the lubricant.
5. During the next roll wheel overhaul, replace all silicone O-rings with Viton. Roll wheel lip seals with Viton elements have always been a B&W standard.

Generally, B&W Roll Wheel owners have experienced good roll wheel bearing performance using mineral-based oils meeting B&W's recommended specification (B&W lubricant #14/ AGMA 8EP). On roll wheel pulverizers with high outlet temperatures (>175F / 79.4C), a

synthetic oil should be considered as the synthetics are designed for enhanced performance at high operating temperatures.

Note: If synthetic lubricants are being considered for other applications, including roll wheel gear drives, the compatibility between the lubricants themselves as well as the seal materials being used must be evaluated.

Support: If any problems are encountered or if you require more information or assistance, contact your nearest B&W Field Engineering Services office.

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