

MPS Shaft Retainer Bolt

Purpose

This bulletin advises customers about problems experienced with retainer bolts breaking on MPS roll wheel shafts.

Problem

A number of MPS roll wheel retainer bolt failures have occurred. The typical failure occurs at the end of the shaft or in the first thread in the hole, and is attributed to fatigue failure. The failure may be caused from excessive shaft movement resulting from having a clearance of 1/32" to 7/64" between the retainer plate and the end of the roll wheel shaft, in addition to the allowable 0.000" to 0.004" shaft-to-bore clearance (Figure 1). If all three bolts fail, the shaft will work out of the bracket, allowing the air seal to disengage. Once the air seal disengages, seal air will be lost to the other two roll wheels. This may cause damage and/or failure of the seals and bearings.

Recommendations

During roll wheel rebuilds, the clearance between the retainer plate and the end of the roll wheel shaft should be reduced to 0.001" to 0.003". This can be accomplished by machining the retainer plate to the specified clearance prior to installing and torquing the bolts (Figure 2).

If this problem arises on an operating mill, these retainer plates can be removed and machined to reduce the clearances without roll wheel disassembly.

Any broken bolts should be replaced with SAE Grade 5. All retainer bolts should be torqued to 1750 ft. lbs.

Support

If you have any questions or need assistance, contact Babcock & Wilcox Field Service Engineering.

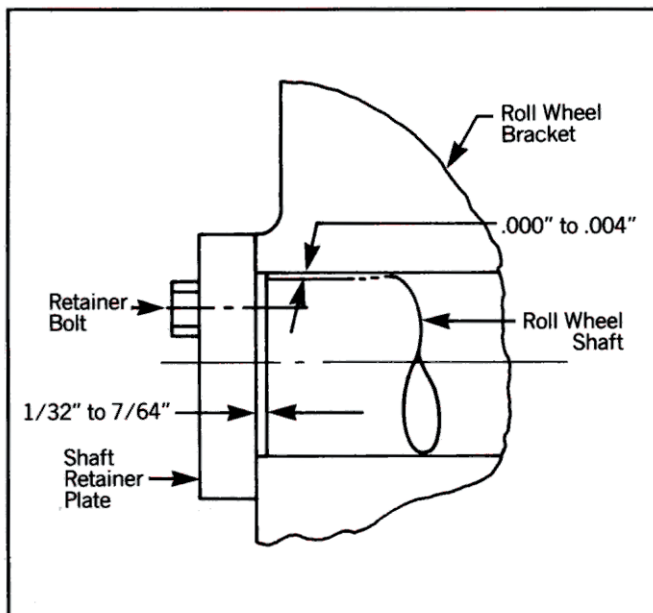


Figure 1 Present tolerances of the roll wheel retainer plate.

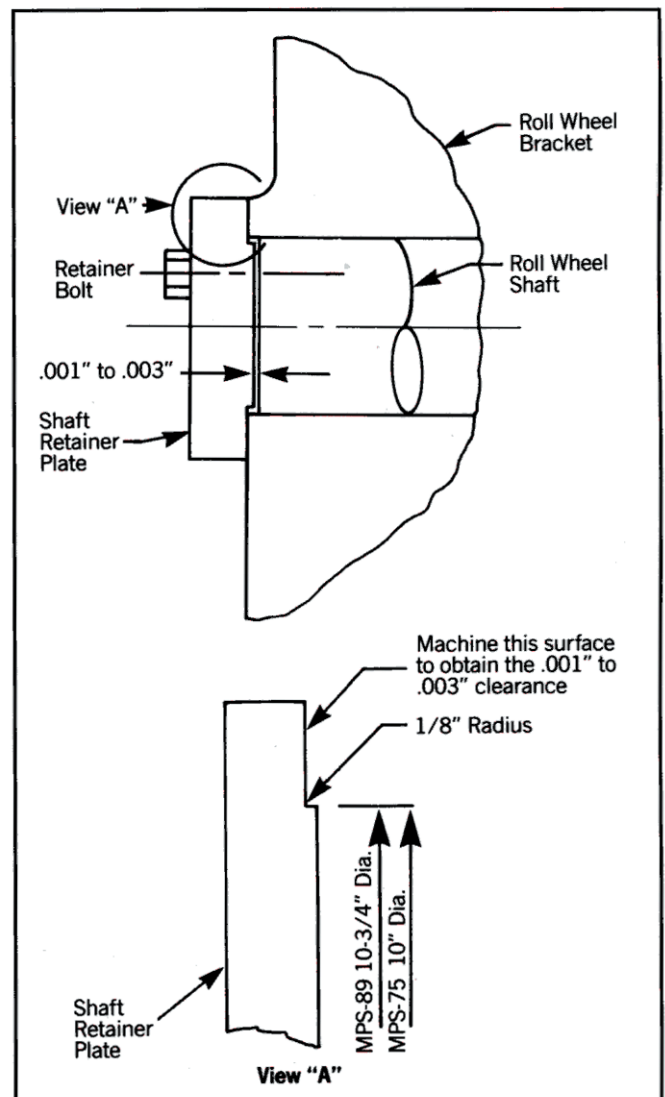


Figure 2 Recommended roll wheel retainer plate modifications.

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