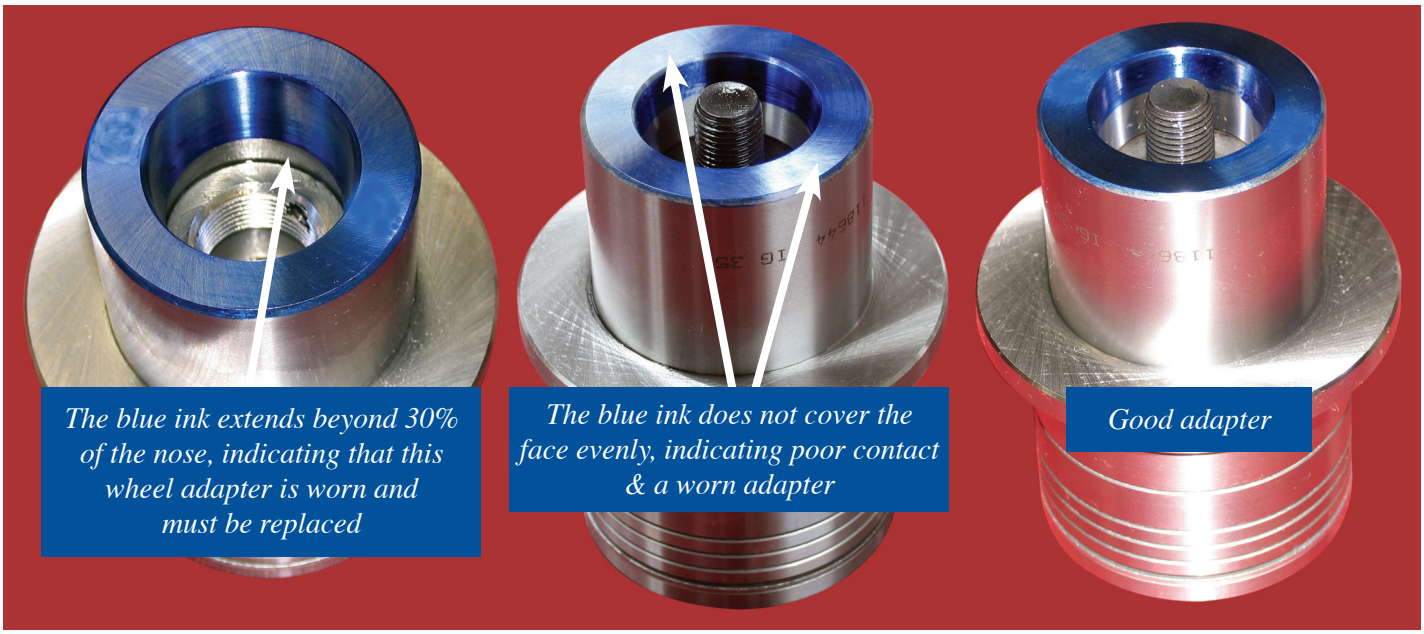

Maintenance Alert

January 2007
Helitronic Power
#68

Worn wheel adapters ruin spindles & tools!

The unique compression fit wheel adapters used on all Helitronic Power machines provide excellent rigidity, runout, and repeatability, thanks to simultaneous contact on both the taper and the flat end face. But that simultaneous contact depends on holding tight tolerances on both the adapter and the spindle nose geometry. Wear or nicks limit mating to only one surface, resulting in reduced spindle life (sometimes significantly), reduced grinding feedrates, lower wheel life, and inferior grinding finishes. ***Wheel adapters are wear items requiring periodic checking and replacement as needed!***

How does wear occur?

Compression seating results from the adapter metal (semi-hardened steel) elastically deforming over the spindle nose (hardened) by tightening at a precise torque. Repeating this deformation over time causes the mating surfaces to wear, and normal handling of the semi-hardened steel often causes nicks.

Checking your adapters

Check all your adapters quarterly. The best method is to apply machinist blue ink to the Power machine's spindle taper and face and then mount a wheel adapter using a torque wrench set at 60 ft-lb. Upon release the adapter should indicate contact on the front 30% of the taper nose and a full ring on the flat face. If it seats on more than 30% of the short taper nose or does not fully seat on the flat face, rigidity is lost and vibration can result. ***Worn adapters should be immediately discarded and replaced!*** Wheel adapters vary by model and application, so contact us if you're unsure about the proper replacement.

Over for more

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☛ ***Pass to machine operators and maintenance personnel!***

Checking your adapters, con't.

Some wheel adapters are anodized, making it hard to see the blue ink. In that case, you can apply the ink to the adapter and check the contact on the machine spindle.

Also check the threads on the adapter bolt every six months or whenever you hear a popping sound upon removing the adapter from the spindle. Inspect threads for wear or deformation under a 20x loupe. Replace any worn bolts (Part #108538 @ $3.00 each). It's easier to change the bolts by disassembling the retention ring with our spanner wrench (Part #100977 @ $85.00 each). To reduce wear and damage to the threads, we recommend applying a light coat of anti-seize lubricant to the bolt and re-coating periodically as needed.

The torque wrench – another piece of the puzzle

The torque wrench must apply 60 ft-lb. to properly seat the adapter to the spindle. But torque wrenches can lose accuracy or power over time, causing the same problems as a worn adapter! Therefore check the calibration of your torque wrench every six months. It must be within +/- 5% accuracy at the 60 ft-lb point. Torque outside of this range can result in improper seating or in damaged threads. ***Replace a bad torque wrench immediately.***

The proper torque setting is critical, but are you sure your torque wrench delivers? A worn torque wrench is as bad as a worn wheel adapter! Make sure you check your wrench twice per year

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