MANSON
PRECISION REAMERS

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Instructions for the Manson Floating Reamer Holder

You have purchased a high-quality floating reamer holder, made from the best available materials to exacting specifications. Please take a few moments to read these notes so you may profit from your investment.

The Manson Floating Reamer Holder is a wide-base, low-mass precision cutting tool holder featuring interchangeable shanks for machine adaptability. It has been designed for ease of use, maintenance and adjustment.

Wide Base: A wide bearing surface between stationary and moving components ensures that proper alignment/perpendicularity is maintained. Our use of hardened and ground shoulder screws running in parallel slots means you get smooth response to tool pressure and no cam-to-center lockup as is common with other floating holder designs.

Low Mass: The moving component is made from aluminum for low inertia so the tool will respond to the slightest mis-alignment. This is very important with small-caliber reamers whose pilots cannot tolerate much resistance to movement. A precision hardened steel bushing eliminates wear in the reamer socket and maintains precision, use after use.

Interchangeable Shank: The stationary base of the Floating Reamer Holder is reamed with a #2 Jacobs taper. This means any shank configuration having a #2JT on one end may be used to adapt the holder to a lathe. If you order our holder with one type of shank and decide a different one is needed to use the Holder in your machine, order another shank from us, or your local mill supply house.

Ease of Maintenance: The Holder should periodically be dis-assembled, cleaned and lubricated. Shoulder screws held to a precise length make re-assembly and adjustment of the proper “float” an easy operation.

Shank Installation: If your Floating Reamer Holder does not have the shank installed, you will have to install it. Remove the shank from its shipping tube and clean the #2 Jacobs taper with mineral spirits and dry it. Likewise clean the female taper in the steel base plate of the holder. With a twisting motion seat the #2 shank in the base plate taper; tap the bottom of the shank downward on a bench vise, anvil or the floor to seat the tapers firmly together.

Shank Removal: To remove the shank, simply support the base plate on the jaws of a partially-open bench vise—make sure the shoulder screws and washers are in the gap between the jaws and NOT resting on either jaw. Select a centerpunch smaller than the I.D. of the steel bushing in the aluminum nose and insert it through the bushing so its point enters the female center in the #2JT end of the shank. Strike the centerpunch with a hammer to drive the shank from the base plate. When changing from one shank configuration to another, clean any rust, etc. from the tapers before attempting to seat them—tapers must be clean to grip.

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The Floating Reamer Holder will compensate for up to .030" tailstock mis-alignment. Nonetheless, your tailstock should be aligned as closely as possible with the headstock axis to minimize the float needed to maintain alignment in your barreling work. The Holder works when stationary and cannot be used in the headstock of a lathe, or a milling machine. To do so will cause the nose of the Holder to be thrown to the side by centrifugal force, negating its ability to compensate for any mis-alignment.

To use the Holder, seat its shank in the tailstock of your lathe(or tailstock chuck if using a straight shank). Slide the shank of a chambering reamer into the socket and secure the reamer with the ¼"-20 set screw. NOTE: Some 'smiths like to clamp on the reamer's square to prevent it turning; others clamp on the ground surface of the shank feeling that the reamer has a chance to turn—rather than breaking—if it grabs during chambering.

If you're using a reamer with a shank smaller than the standard 7/16", you'll need to make an adaptor bushing or order one from us.

Move the tailstock with Floating Reamer Holder and chambering reamer to the correct position for chambering. When entering the bore, we've found it works well to feed the reamer with your right hand and align the reamer with the bore by moving the nose of the Holder with your left. Making a circle with your left thumb and forefinger around the nose/base joint of the Holder will allow you to move it by squeezing your fingers one way or another. It's also a good idea to keep your left hand on the holder during chambering to feel how the reamer is cutting—you can pick up the start of any chatter this way.

When the chamber has been cut to depth, withdraw the reamer while holding the reamer centered. This reduces withdrawal marks in the chamber.

Maintenance: Don't drop or otherwise abuse the Floating Reamer Holder. Because the aluminum nose is softer than barrel steel, take care that chips don't find their way behind the bushing and get between the nose and base.

Disassemble and clean the unit periodically by unscrewing the two shoulder screws, taking care not to lose the washers. Carefully clean old lubricant from the mating surfaces with solvent and inspect both surfaces—they should be smooth, with no burrs which could cause binding. If any burrs are present, stone them out, being careful not to change the surface profile.

After both surfaces are smooth and clean, smear a thin coating of heavy oil or light grease over both. Rub them together to spread and thin the lubricant film between the two components and re-install the two shoulder screws with their washers.

Your Floating Reamer Holder has been made so that proper clearance between the two components is achieved when the shoulders screws are tightened moderately. If the nose doesn't move freely after tightening the shoulder screws, exchange the screws' positions and re-tighten.

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If the shoulder screws are over-tightened, the aluminum head can be distorted and the nose won't float when the screws are tightened. Should this happen, back the screws off until the nose will move freely in a radial direction, but will not tip, and secure then with a non-permanent thread locking compound.

Our Floating Reamer Holder, like all products we make, is warranted against defects in material and workmanship. If you have ANY questions about its use, or suggestions as to how it might be improved, please call us.