

# FLOATING REAMER HOLDER

## FEATURES

Alignment of a chambering or crowning reamer to the rifle bore is extremely critical to controlling quality of cut as well as dimensions. There have been many articles written and many procedures developed to instruct gunsmiths on the best methods to achieve this alignment. In fact, many precision gunsmiths have been under the impression that if they align the barrel within .0001 or 0.0002 inches at each end of the headstock and have their tailstock within the same alignment, that they do not have a problem. This is far from true because regardless of how much care we take to align the tailstock to headstock there is still some misalignment present and that can vary with tailstock consideration. We all know that there is no such thing as a perfectly straight barrel. Therefore, just because both ends are indicated to within 0.0001 inches does not mean that the bore where the chamber is going to be is within the same alignment.

A floating reamer holder needs to have the freedom to float vertically, horizontally and angularly. It needs to float without resistance or binding. The Bald Eagle Floating Reamer holder is designed to float freely in the vertical, horizontal and angular directions. It utilizes a hardened spherical surface against a hardened flat. Evaluation of a number of different designs has proven this method to be the only one that would result in finished chamber dimensions that closely match the reamer.

## INSTRUCTIONS FOR USE

Since the Bald Eagle Floating Reamer Holder is not restrained, it does require a little different procedure than other methods of reamer control. It is recommended that you practice on a piece of barrel scrap to develop the feel and technique to use this holder.

1. Use the floating holder only with reamers that either have properly fit bore bushings or with solid piloted reamers that have the pilot fitted to the bore. The floating holder allows the reamer to fully float and a properly fitted bushing in the bore is required to prevent bore marking (this also occurs with other holders due to binding).
2. Insert the reamer shank in the floating holder and tighten both set screws against the flats on the shank.
3. Set the barrel up in the lathe per your normal method (two methods preferred by Borden Accuracy are in precision 6 jaw chuck on surface turned concentric with bore or running in steady rest on straight shank turned concentric with bore).
4. It is recommended that roughing, resize and finish reamers are used to cut the entire chamber. This allows maximum capability of ensuring that the throat, neck and body of the chamber are concentric to the bore.
5. Carefully place the bushing in the bore while supporting the reamer in your hand. The weight of the reamer can cause binding of the bushing if the weight of the reamer is not supported while the length of the bushing is inserted into the bore.
6. Start the lathe and carefully feed the reamer for the depth of cut that you desire.
7. Back off tailstock pressure on the reamer while stopping the lathe. DO NOT pull reamer back as this can cause marking of chambers - just relieve the forward pressure on the reamer.

