EABCO
E. ARTHUR BROWN CO

BARREL BREAK-IN PROCEDURE

APPLICABLE TO ALL EABCO MANUNFACTURED BARRELS

We put a lot of time and resources into holding precise and close tolerances when we machine our barrels. These are necessary expenses to achieve the level of shooting accuracy we require. On the other hand, we see bore lapping (or hand lapping) as an optional and unnecessary cost that would drive up the price of our barrels. The reason is that the machine marks and/or burrs that hand lapping removes are easily removed by a simple break-in firing process.

HERE'S HOW IT WORKS

Fired bullets, traveling down a clean barrel, cause enough pressure and friction to clear out burrs and machining marks. The important thing is that the barrel is clean so that the passing bullet can work directly against the bore. So, the break-in procedure is a process of cleaning, firing, cleaning, firing, and so forth.

THE COPPER FOULING PROCESS

The copper fouling observed in the barrel is believed to be primarily caused by the throat of the chamber. As the bullet gets squeezed into the rifling in a split second, some of the copper jacket material is converted into a fine dust or gas. This material then solidifies and deposits along the rest of the barrel as the bullet passes through.

It is especially important to thoroughly clean the throat area during the barrel break-in process. If the throat is not properly cleaned, it can give a false reading on the barrel break-in, with more emphasis placed on the throat region in front of the chamber rather than the rest of the barrel.

STEP 1 - THROAT EMPHASIS CLEANING

With a sturdy cleaning rod, jag, patch, and cleaning solvent, gently insert the patch into the chamber and extend it about 4-6 inches past the throat. Pull the patch back out and repeat this short, focused stroke 5-6 times. This concentrates the cleaning effort on the throat area.

Next, run the patch all the way through the rest of the barrel. Use a clean patch and fresh solvent, and repeat this full-length pass until your patches come out clean. **You should not initially be running the cleaning rod and patch from the muzzle to the breech.** Start with the concentrated cleaning in the throat area first before proceeding down the full length of the barrel.

This methodical approach ensures the critical throat region gets ample cleaning attention before addressing the rest of the barrel. Repeat this process until your patches no longer show any residue.

STEP 2 - BARREL BREAK-IN

The amount of fouling observed on your cleaning patches can help guide the appropriate break-in process for your specific barrel. This can vary based on the caliber and the steel type used.

For Chromoly (blue) barrels, which are more resistant to abrasion than stainless, the recommended break-in is:

- **Fire 1 shot, clean 1 time**
- **Repeat this 1 shot / 1 clean cycle 5 more times (for a total of 6 cycles)**

For stainless steel barrels, the break-in process is slightly different:

- **Fire 5 one-shot cycles, clean 1 time**
- **Fire 3 shots, clean 1 time**
- **Fire 5 shots, clean 1 time**

Smaller calibers may require a different break-in than larger calibers. Pay close attention to the color and amount of fouling on your cleaning patches to determine when you reach a point of consistent, reduced fouling between each break-in step. The key is to watch the fouling patterns and adjust your break-in process accordingly, rather than strictly following a predetermined number of shots. By adapting to the specific barrel, you can ensure a proper, thorough break-in.

RECOMMENDED SOLVENTS AND CLEANING PRODUCTS

For a mild abrasive/lapping action, we recommend using a good quality bore paste. This is especially useful for breaking in new barrels and also makes a great regular cleaning product (See Below). If you want to use a solvent-based cleaner, avoid harsh cleaners that contain a high concentration of ammonia. For serious copper removal, we recommend using Wipe-Out Bore Foam followed by Butch's Bore Shine for the cleanup. For lubrication after all cleaning, we recommend Clenzoil, which protects the metal and also helps to reduce future fouling. Additionally, KG-12 Copper Removal and KG-2 Bore Polish are also highly recommended products.

The key is to use a mild abrasive like bore paste for the initial barrel break-in, then rely on more specialized solvents like Wipe-Out and Butch's Bore Shine for deeper copper removal. Finish with a protective lubricant like Clenzoil to maintain the barrel.

HOW TO USE BORE PASTE

First, use a bronze bore brush one size smaller than your caliber. For example, if you are shooting 6.5mm (like 6.5 Creedmoor), use a bronze bore brush size of 6mm or .243. Run your cleaning rod with the bronze brush from the breech all the way through the barrel and out the muzzle. Wrap a patch around the brush, moisten it with oil and draw it back through the barrel to pre-clean the bore and remove any loose fouling. Repeat this process, only this time, moisten the patch with Bore Paste instead of oil. Draw the bore paste-soaked patch back and forth through the barrel. When the patch becomes dirty, repeat the process with a fresh patch and oil until the patch comes out clean.

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