



February 5, 2003

## **TECHNICAL NOTE 28, Breaking in Match Barrels**

**PURPOSE:** To instruct purchasers of ArmaLite match rifles of proper break in procedures.

**BACKGROUND:** All new rifle barrels suffer from internal machine marks that can scratch passing bullets. Bullet jacket metal can foul the pores of the new barrel. Leading competitive shooters believe that breaking their barrels in properly can lead to better accuracy and longer life.

ArmaLite has consulted with several barrel manufacturers. All with whom we have spoken advise us that breaking a barrel in with an abrasive of any sort reduces the accurate life of a barrel. This matches ArmaLite's own observations: normal firing serves as a satisfactory break-in process if the barrel is properly cleaned during the process. We therefore no longer recommend the use of any abrasive for breaking in a barrel.

**BREAK IN:** ArmaLite Match Rifle barrels are produced from a custom, target grade blank. For optimum accuracy and improved life expectancy, it **MUST** be properly broken in. We recommend the following procedure:

Remove any existing copper fouling from the barrel by using a high-quality copper-removing solvent like Hoppe's No. 9.

Fire 11 single shots, each followed by about 20 strokes of a tight fitting patch bearing bore cleaner. Use a Parker Hale or other wrap-around style jag rather than a slotted jag. From 12 to 30 shots, clean after each 3 shots. From 31 to 50 shots, clean after each 5 shots. Clean thoroughly with a high quality bore cleaner every 10 shots until 100 shots. This time-consuming process will allow the barrel to smooth out without an accumulation of copper fouling in the pores of the steel. The barrel should thereafter be cleaned every 20 rounds for best match accuracy. Accuracy continues to improve for several hundred rounds.

ArmaLite recommends the use of Black Hills moly coated .308 Win Match ammunition for both break-in and competition. We have believe that Black Hills moly coated ammunition reduces the break in period by half and lengthens the period between cleaning in matches. ArmaLite stocks Black Hills brand ammunition.

**VIRTUALLY EVERY ACCURACY PROBLEM IS CAUSED BY FAILURE TO CAREFULLY BREAK THE RIFLE IN, FAILURE TO USE HIGH GRADE MATCH AMMUNITION, OR POOR MARKSMANSHIP.**