

# MASTER GUNSMITH AT WORK



**RICH COLE PUTS A LOOSE GUN BACK ON FACE, BY DANA FARRELL**

In the earliest stages of his career gunsmith Rich Cole was fortunate to have been at the right place at the right time. Italian gunmaker Beretta was expanding into the American market in 1979 and needed a trainee to help support their new US operation. They were looking for a young man with the right aptitude, who was willing to work through an old school style apprenticeship – a long, laborious and low paying proposition – but one that would pay off in the long run. Cole spent a few years traveling between the US and Italy, learning the hands-on skills from the Old World masters of the gun trade that have since become his business lifeblood. “I went to Italy to learn and work on the SO shotgun primarily” he said, “and I learned a lot by going from work station to work station at the bench – just watching.”



**TOP LEVER TO THE LEFT OF CENTER INDICATES BADLY WORN LOCKING BOLT AND RECESSES**

In 1985 Cole brought those skills home to the States, and opened a 5,000 square foot Cole Gun showroom and service facility in Harpswell, Maine, and in 2014 expanded to a second location in Naples, Florida. Over the past three decades Cole Gun has earned a reputation as a preeminent American authority on Italian shotguns, and has continued a close working relationship with Beretta and several other fine Italian gunmakers. Cole and his expert staff are one of only a small handful of American enterprises qualified to provide certified Beretta warranty service, plus they offer a wide range of custom upgrade and modification services on Berettas and other brands.

## **Bringing a Beretta over/under back on face**

The Beretta 680 series' attributes of great handling, reliability, durability and price have cemented its popularity with the hunting and clay shooting public. Easy to keep in service due to the ready availability of spare parts, the 680

series guns are often utilized in high volume scenarios, such as rental guns at shooting ranges and hunting lodges, and like all modern over/under shotguns with chrome plated bores, its practical lifespan is determined by how long the locking system will hold the barrels securely against the breech

## SHOOTING WHEN OFF FACE WILL NOT ONLY INCREASE THE WEAR ON CRITICAL SURFACES, BUT CAN BE DANGEROUS.

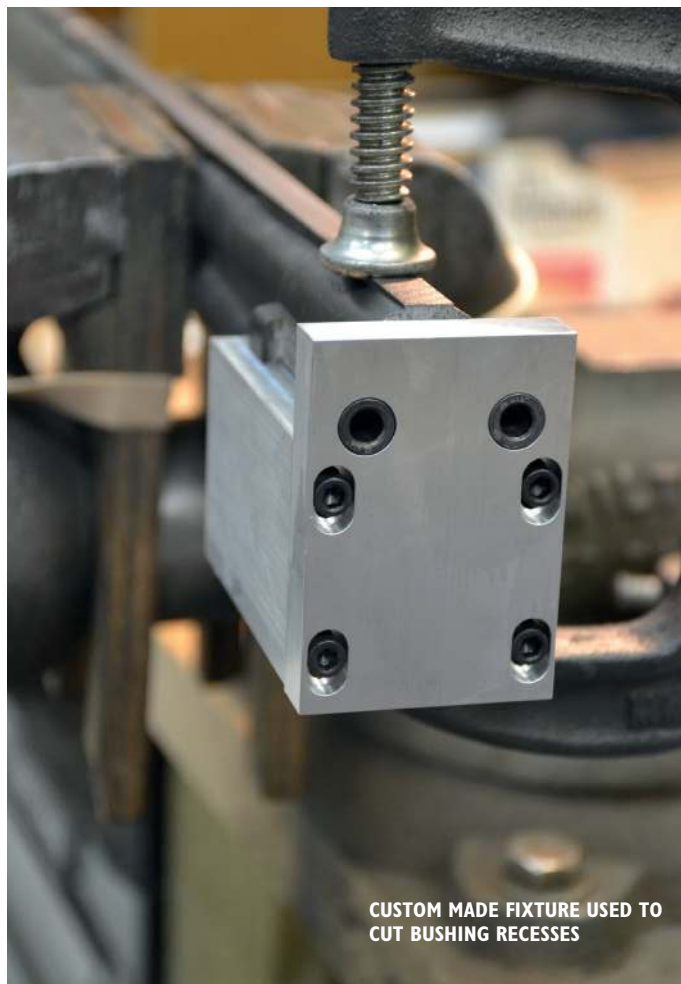
face. Over time repeated firing leads to wear on the locking bolt and recesses, eventually causing the barrels to move off face. Cole emphasizes the importance of not shooting a gun when the top lever moves to the left of the center line of the top tang, as in this condition wear will be dramatically accelerated. Shooting when off face will not only substantially increase the deterioration of critical surfaces, but at worst can be dangerous, as the gun can open upon firing. In this Gunsmithing installment Rich Cole explains the process of restoring a 680 series Beretta to service that has over time become off face due to extensive use.

### Two Options

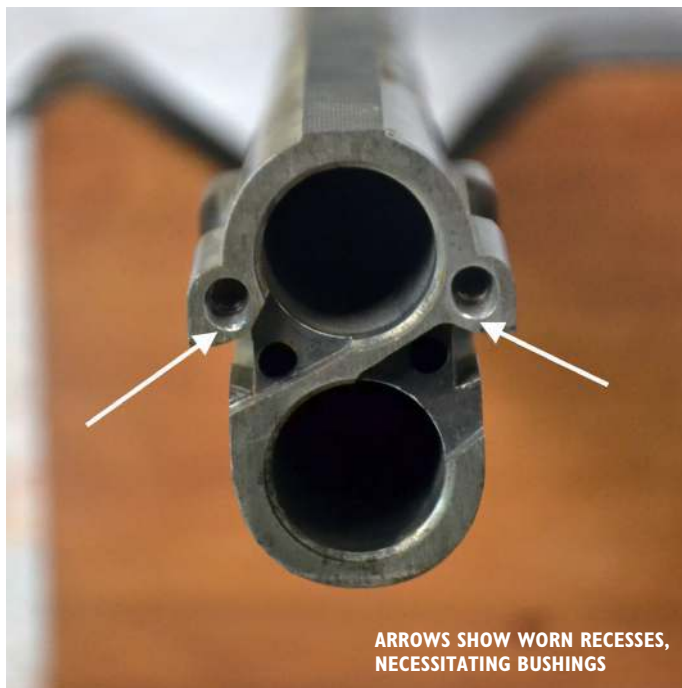
In the best case scenario, a gun that has become off face will be serviced while still at the point when it can be remedied by fitting and installing an oversized locking bolt. Beretta provides these parts in three sizes, standard, #1, and #2.

In an ideal situation the #1 is installed just at the right time, so that very little material is removed during the fitting in order to create a good bearing surface between the locking bolt ends and their respective recesses. This same process occurs when it is time to change from a #1 to a #2.

All bets are off, however, if the shotgun is used beyond the time for the correct oversize bolt installation. Damage will have been done to the recesses in the barrel monobloc, and sufficient bearing surface cannot be obtained in order to keep the gun tight for a reasonable period of time. At this point the shooter has two choices. He can fit a new barrel to the receiver, which will effectively create a new gun, since the receiver and forend iron do not wear. This can cost roughly \$1200 to \$1500. The other option is the installation of barrel bushings into the worn barrel recesses. Bear in mind that not all barrels can be bushed, as some guns, if fired extensively after becoming off face, will be damaged beyond repair.



CUSTOM MADE FIXTURE USED TO CUT BUSHING RECESSES



ARROWS SHOW WORN RECESSES, NECESSITATING BUSHINGS

A bushing job recouples the barrels to the frame, making certain that the barrels are tight against the breech face. A special fixture is then used to locate the correct placement of the cuts for the bushings. This precise fixture is custom made in house, as it is imperative that the bushings are perfectly aligned in the barrel monobloc. The bushings are installed with a press fit and Loctite, then are carefully filed and polished flush with the breech of the barrels. The recess is then recut at the correct taper for the locking bolts' mating surface and carefully fit to those surfaces to allow good bearing between them. If barrel bushings are properly fitted, a standard size locking bolt can then be fitted, and the shooter



**BUSHINGS INSTALLED AND  
READY TO FIT**

is back in business. This sequence can be repeated when needed over time with a #1 locking bolt and again with a #2 locking bolt, greatly extending the life of the shotgun and barrels. The cost of a bushing/locking bolt job is roughly \$300.

Cole says he's often asked how many rounds a gun is good for before it needs an oversize locking

bolt. "It is impossible to say because the locking bolt aspect of the barreled action is only one part of the complete system" he says. "The bearing on the recoil shoulders and the hinge pins contribute to the way the chamber pressure upon firing exerts pressure on the locking bolt and recess surface." ■



**BUSHINGS HAVE BEEN FIT AND  
REAMED FOR PROPER FIT OF  
LOCKING BOLTS**