



WARNING



Never attempt to disassemble or reassemble a firearm unless you are absolutely certain that it is empty and unloaded. Visually inspect the chamber, the magazine and firing mechanism to be absolutely certain that no ammunition remains in the firearm. Disassembly and reassembly should follow the manufacturer's instructions. If such instructions are not immediately available, contact the manufacturer to see if they are available. If they are not available at all, then you should consult other reference sources such as reference books or persons with sufficient knowledge. If such alternative sources are not available and you have a need to disassemble or reassemble the firearm, you should proceed basing your procedures on common sense and experience with similarly constructed firearms.

With regard to the use of these tools, the advice of Brownells Incorporated is general. If there is any question as to a specific application it would be best to seek out specific advice from other sources and not solely rely on the general advice and warnings given.

HOW TO USE

For maximum accuracy when tuning a 1911 auto, it is absolutely essential that the barrel bushing supports the barrel securely so the barrel muzzle cannot move when the slide is in the forward, or locked, position. Also, the bushing must fit the slide snugly to prevent any movement between the bushing and the slide. As a result of these fitting requirements, the bushing is a critical component in fitting the barrel to the slide. If there is movement of the barrel inside the bushing when the pistol is in battery - or the bushing moves excessively in the slide - inaccuracy will result.

To complicate the accurizing job further, the barrel of a 1911 auto must tilt within the bushing as the slide moves to the rear during cycling. If the bushing were of a single, uniform, internal diameter fitting the barrel tightly, this tilting would be of a single, uniform, internal diameter fitting the barrel tightly, this tilting would be impossible. Thus, the "two-step" bushing was developed. It has an internal, small-diameter, narrow section at the front which supports the barrel during firing, while an internal, larger-diameter, wide section at the rear allows movement of the barrel as it pivots out of the locking lug recesses.

Because this is such an important part of 1911 Auto tuning, we are manufacturing the 1911 Bushing Fitting Tools to help the pistolsmith do a faster, easier, and more professional job of making the bushing function correctly.

FITTING THE BARREL TO THE BUSHING

First, check the fit between the barrel and the bushing. If a lot of metal needs to be removed from inside the bushing, it is first reamed out to "almost fitting", then the barrel is hand-lapped into the bushing. When only a very small amount of metal needs to be removed from inside the bushing, the barrel is usually lapped directly into the bushing. For reaming, the Critchley "B" reamer is the proper size to use. For lapping, use Brownells Lapping Compounds in 600 or 800 grit.

The final barrel-to-bushing fit should be such that when the pistol is fully assembled and in the forward, locked position, there is no movement between the barrel and the bushing. And, there must be a very smooth fit and finish on the matching metal surfaces of the bushing and barrel to prevent dragging and slowed cycling time.

THE 1911 AUTO BUSHING EXPANDER SET

The 1911 Auto Bushing Expander Set is based on a design used by the U.S. Army Marksmanship Training Unit armorers for many years, and contains four different sized hardened steel Expander Plugs (.624", .626", .628", .630") plus, a dual-ended holder/remover tool. Used properly, the pistolsmith can expand the barrel bushing skirt to the correct fit for both barrel "tilt" and tightness to the slide in a controlled, uniform manner.

BROWNELLS®
1911 AUTO
BUSHING
FITTING TOOLS

READ & FOLLOW THESE
INSTRUCTIONS

BROWNELLS®

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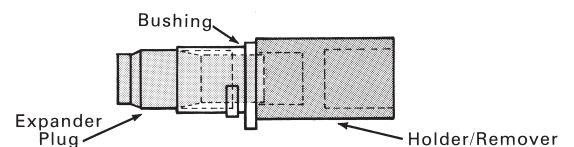
FITTING THE BUSHING TO THE SLIDE

There are only two situations that can exist: the bushing skirt is too small and must be expanded to properly fit the slide; or the bushing skirt is too large, and must be reduced in size to properly fit the slide.

EXPANDING THE BUSHING TO FIT THE SLIDE

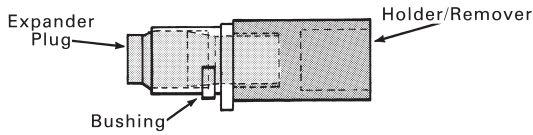
1) Check the fit of the bushing to the slide. There should be noticeable drag felt when installing the bushing with a bushing wrench. If there is little or no drag, the bushing skirt (rear portion) needs to be expanded to grip the slide more securely. Begin with the smallest diameter expanding plug and assemble the expanding plug, bushing, and remover as shown in Figure 1. BE SURE to use a high pressure grease or similar lubricant on the expanding plug to keep it from sticking in the bushing. Note: the SMALL DIAMETER end of the expanding plug is fitted to the SMALL DIAMETER, SHALLOW hole in the holder/remover tool.

Figure 1



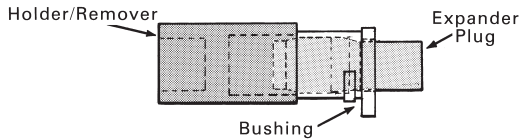
2) Place the expanding plug-bushing-holder/remover tool assembly in a heavy bench vise. Slowly and carefully, force the expanding plug into the bushing by closing the vise jaws until the plug bottoms out on the bottom of the holder/remover tool. DO NOT continue to tighten the vise jaws after the expanding plug bottoms out. See Figure 2.

Figure 2



3) Release the vise pressure and remove the expanding plug-bushing-holder/remover tool assembly. Separate the bushing (with the plug inside it) from the holder/remover tool. Now assemble these components as shown in Figure 3 and put this rearranged assembly between the jaws in the heavy bench vise. Note the LARGE DIAMETER end of the expanding plug is fitted to the LARGE, DEEP hole in the holder/remover tool.

Figure 3



4) Slowly force the expander plug back out of the bushing by closing the vise jaws. Once the expander plug has bottomed on the hole in the holder/remover, remove the expander plug and the bushing from the vise and separate the two. If the expander plug sticks in the bushing, a sharp rap of the smaller end of the plug against the bench will free it from the bushing.

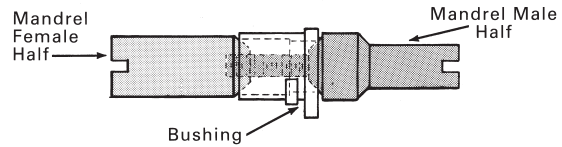
5) Again, check the fit of the bushing to the slide with barrel in place. If there is still little or no drag, repeat steps 1 thru 4 using the next larger size expanding plug.

REDUCING BUSHING SKIRT DIAMETER WITH THE 1911 BUSHING MANDREL

1) Place the bushing between the two halves of the 1911 Bushing Mandrel to provide support while removing excess metal from the exterior of the

bushing skirt assembling the bushing and 1911 Bushing Mandrel as shown in Figure 4. Note the front of the bushing seats against the flat face of the male half of the 1911 Bushing Mandrel. DO NOT use excessive force when threading the two halves of the 1911 Bushing Mandrel together. Hand-tight is sufficient.

Figure 4



2) Secure either shank of the 1911 Bushing Mandrel in the lathe (we normally use the small diameter shank and cut to the locking lug on the bushing). If a lathe is not available, place the small diameter shank of the 1911 bushing mandrel in a drill press chuck and remove the excess metal with a file while the drill press is turning at approximately 600 to 700 rpm.

3) When bushings with integral compensators or cone-style bushingless comps are being fitted, the extension rod is used to secure the unit between the mandrel male and female halves. When the extension rod is used on the mandrel in a drill press, setup the compensator so the surface being cut is as close to the drill press chuck as possible. This will minimize the possibility of wobble or runout loosening the chuck and throwing the tool and compensator. Also, be sure to keep the drill press speed as low as possible, especially in the case of integral bushing compensators with full slide height profiles, where an unbalanced situation can occur. To help support the mandrel, a section of drilled rod, or even the shank end of a drill, can be inserted in the drilled hole in the large mandrel female half, and the other end of the rod clamped to the drill press table. This will act as a "lathe center" to limit or even prevent wobble of the assembled mandrel and compensator. Make sure the rod is a smooth, slip fit into the hole, and be sure to apply lubricant to the rod and hole.

REASSEMBLY

Reassemble the firearm according to the manufacturer's instructions. Check for proper functioning using **ACTION PROVING DUMMIES**. Make sure **ALL SAFETY MECHANISMS** are fully functional as designed and approved by the manufacturer. If these tests prove satisfactory, test-fire the firearm with live ammunition in a **SAFE** and **APPROPRIATE** manner. **IMPORTANT!** Start the live ammunition tests by first loading an **ACTION PROVING DUMMY**, then a live round, into the magazine. Only after several tests have been conducted in this manner should additional rounds be placed in the magazine and fired.