



Changing barrels on handguns has become an accepted part of the custom pistolsmith's job, as well as a fairly common occurrence in a "repair" gun shop. Without a proper action wrench, revolver frames can be sprung so badly out of shape that they are unusable. In addition, screwed-in barrels on auto pistols may be fitted tightly enough that it is a major job to remove them without damage to the receiver. These problems can be avoided by using Brownells Handgun Action System or Handgun Wrench Heads on your Brownells Rifle Action Wrench System Handle.

Action Wrench Heads for Smith & Wesson revolvers are made of aluminum alloy and come complete with mounting/clamping bolts and washers. The Heads for Ruger Mark I/II .22 auto pistols are steel and use the same clamping bolts as Rifle Action Wrench, two-piece heads.



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

The barrel **MUST** be held securely in a good quality barrel vise. If the barrel is not secured properly it may turn or slip, causing damage to the finish or the sights/ribs/underlugs on the barrel.

NOTES ON SPECIFIC GUNS

1. S&W Revolvers - It is very important that the bolts used to hold the bottom, aluminum, S&W Revolver Head are properly secured to the Action Wrench Handle. Use the flat washers furnished under the heads of all of the bolts used with these wrench heads. The bolts used to clamp the bottom half of the head to the handle unit go through the handle's screw holes and engage the aluminum block. Make sure the bolts do not protrude above the "inside" surface of the lower block. The bolts used to clamp the top of the Head to the bottom half should not go completely through the bottom half and bottom out against the steel Handle unit.

While Brownells Handgun Action Wrench heads are machined to standard tolerances, you may encounter frames that have been modified or that have been manufactured to non-standard dimensions. In addition, many other makes of guns will have dimensions similar to models for which heads are made. You may find it possible to alter the Action Wrench Head to fit them. Revolver frames must be supported on either side of the frame where the barrel threads in, and also at the lower frame where the crane (yoke) is fitted. In the case of Smith & Wesson revolvers, the top of the frame contour will vary depending on the presence or absence of adjustable sights and barrel weight. This area does not need support as long as the rounded portion, around the barrel shank, is well supported.

Disassemble the revolver completely, removing the cylinder assembly from the crane (yoke). Replace the sideplate and crane (yoke) and the sideplate screws.

On older S&W revolvers, make sure the barrel retaining pin has been removed before attempting to unscrew the barrel. If a scope mount or sight rib has been attached to the gun, make certain that it and its screws are removed prior to removing the barrel. Any screw holes in the barrel shank area must not interfere with barrel removal. Note: When replacing a rib or scope mount which uses a screw that goes through the frame at the barrel shank area, be sure the screw will not bear against the barrel when it is tightened.

When removing the barrel from S&W revolvers, keep the crane (yoke) in position on the frame and unscrew the frame from the barrel. The Action Wrench Heads are intended to be used with the crane (yoke) in place on the frame, but with the cylinder assembly removed from the crane (yoke). NOTE: Barrels for K frame S&W revolvers have a small flat on the underside, at the 6 o'clock position, to clear the yoke's end flange. Leave the crane (yoke) in position **only** until the frame has been slightly loosened (about 15 to 20 degrees), then remove the wrench and take the crane (yoke) out of the frame. If you do not remove the crane, the full-round part of the barrel will run into the yoke's end flange, damaging both barrel and yoke. Replace the wrench on the frame and complete removal of the frame from the barrel with the wrench clamped onto the frame.

When reinstalling a S&W barrel, hand tighten the barrel to the frame, then replace the crane (yoke) in the frame and attach the Action Wrench to the frame. Finish tightening the frame on the clamped barrel. In the case of "K" frame revolvers, the crane must be removed from the frame as it will not clear the bottom of the barrel. After the frame and barrel have been hand tightened, carefully use the wrench to finish tightening. Remember, the crane (yoke) is out of the frame, and excessive force in turning the frame and barrel together can damage the frame. On a new barrel, you will have to make sure that a small flat has been filed at the 6 o'clock position on the shank behind the barrel threads so the crane (yoke) can be closed.

To help with indexing the barrel and frame, mark both parts with either a pencil or felt-tip marker at the 6 or 12 o'clock position on both the barrel and frame as a visual, "where-to-stop" indicator. If the barrel is tightened too far past top dead center, you may not be able to loosen it and have it draw up tight enough to hold properly on reinstallation.

2. Ruger Mk I & II Pistols - Factory barrels on these pistols are noted for their extremely tight fit to the receiver. Where some firearms will have their barrels "loosen up" after the receiver and barrel have turned slightly, the Ruger auto pistols tend to be a "hard fit" through their full range of thread engagement. When fitting a new barrel, you may have to clean up (retap) the threads in the receiver and then possibly lightly clean up the threads on the barrel to match. When fitting a new barrel, remember that it will have to be indexed so the integral feed ramp is at the "6 o'clock" position.

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Disassemble the pistol. The lower grip frame assembly does not have to be stripped of its parts, just disassembled from the barrel/receiver assembly. The bolt should not be in the receiver during removal of the barrel, and the rear sight and any scope mounting ribs should be removed to prevent damage.

When positioning the receiver in the Wrench Head, make sure the Head's flat will engage properly with the cut on the underside. The forward end of the upper receiver should be as close as possible to the face of the Wrench Head.

3. Single-Action Revolvers - Two models of wrench heads are available, one for Colt revolvers, another for Rugers. The Single action Heads are fabricated of aluminum. The bolts used to clamp the bottom half of the head to the handle unit go through the handle's screw holes and engage the aluminum block. Make sure the bolts do not protrude above the "inside" surface of the lower block. The bolts used to clamp the top of the Head to the bottom half should not go completely through the bottom half and bottom out against the steel Handle unit.

NOTE: THE BROWNELLS COLT AND RUGER SA WRENCH HEADS ARE INTENDED TO BE USED TO REMOVE AND INSTALL BARRELS IN FULL-SIZE, CENTER-FIRE REVOLVERS ONLY. DO NOT ATTEMPT TO USE THEM WITH SMALLER, COLT RIM-FIRE REVOLVERS, SUCH AS THE Q,G, AND K FRAME GUNS, OR THE "SINGLE-SIX"-SIZE RUGER FRAMES, EITHER IN .22 RF OR .32 MAG.

Colt has manufactured the Single-Action Army and its variations for over 120 years. In addition, many more thousands of near duplicates and some not-so near duplicates, mostly Italian-made, have been offered and sold to shooters around the world. Single-action Rugers have been around since the mid '50's. The Brownells Colt Single-action Wrench Head is designed to accommodate recently manufactured Colt Single-actions and their clones, and the Ruger Wrench Head is to fit New Model Rugers. You may encounter frames that are not a "perfect" match to the wrench heads. In that case, it may be possible to alter the Action Wrench Head to fit a particular frame, or it may be necessary to "take-up" loose areas with brass, steel, or aluminum shims. Both the Colt and Ruger heads are given extra clearance at the area corresponding to the top front portion of the frame to accommodate the different factory frame variations. The Colt Head is designed to be used with the standard, fixed-sight models, and the adjustable-sighted New Frontier,

while the Ruger model can be used with the adjustable-sighted Blackhawk and Super Blackhawk, and the Vaquero. The top portion of the frame does not need to be supported as long as the sides of the receiver where the barrel screws in, and the thin area below the base pin is well supported.

Whether you are changing barrels on Colts or Rugers, the process is essentially the same. Disassemble the revolver completely, removing all fire control components, the ejector rod and its housing, the cylinder base pin, and the base pin latch assembly. Secure the barrel in a good quality barrel vise. An improperly secured barrel can result in the barrel turning in the vise and a marred finish. In our experience, 1st and 2nd generation Colt barrels can be removed relatively easily. Third generation Colt SA revolver factory barrel assembly involves more of a "crush-fit" than the earlier guns, and will probably require more effort to separate them. The Ruger single-action revolvers have the reputation of being exceedingly tight, and the potential for thread galling, especially with the stainless steel models, is high.

ASSEMBLING BARRELS AND FRAMES

When fitting a new barrel to either a revolver frame or to an auto pistol receiver, carefully examine the threads on both the barrel and frame. Taps and dies are available to "clean up" threads on S&W revolvers and Ruger Mk I & II pistols. You want a smooth, slightly snug fit when hand tightening the barrel into the frame/receiver. We recommend lubricating the barrel threads with Brownells Barrel Assembly Paste. This product aids assembly and helps to prevent thread galling, which can ruin both the barrel and frame. Normal practice is to hand tighten the barrel to the frame, to within $\frac{1}{8}$ to $\frac{1}{10}$ of a turn of the "finished" position, then use the Action Wrench and barrel vise to complete the installation. As in removal of a barrel, be careful to properly clamp the barrel so it cannot rotate in the barrel vise and cause damage to sights, ribs or underlugs.

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.