



Brownells Bolt Ejector Tools aid in the safe removal and installation of spring-loaded, plunger-type ejectors from the bolt faces of most centerfire bolt action rifles with bolt bodies up to .720" diameter and locking lugs at the front of the bolt. Handle assemblies are provided for both standard (.30-06 and belted magnum head sizes) and small diameter cartridge cases (.223 head size). A separate tool body is made for use with the small diameter handle assembly on the M-16/AR-15 rifle in .223 caliber.



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

Bolt Action Rifles: Disassembly: Determine which handle assembly will be required for the bolt being worked on (small bolt face, such as the .223 Remington; or large, such as the .30-06 or .300 Win. Mag.). Install the appropriate handle assembly in the tool body. Remove the bolt from the receiver. With the striker either in the cocked position or removed from the bolt, slip the "ears" of the tool body over the rear surfaces of the bolt locking lugs. Position the handle assembly's tip over the ejector, and turn the handle down until its end is flush with the bolt face. Hold the bolt body in a padded bench vise, and use an appropriate pin punch to drive out the retaining pin. **Carefully** unscrew the handle assembly from the tool body, maintain control of the ejector plunger and spring. **CAUTION:** The ejector is under very heavy spring pressure. Care must be taken to control the parts to prevent injury or loss.

AR-15/M-16 Rifles: Disassembly: Following the manufacturer's instructions, remove the bolt and bolt carrier assembly from the upper receiver. It is not necessary to remove the bolt from the bolt carrier to remove the ejector from the bolt. Back off the small plunger handle assembly from the tool body, and slip the ears of the tool body over the bolt head, behind the locking lugs. Align the tool body so the ejector retaining pin will be accessible. Screw in the handle assembly to depress the ejector flush with the bolt face, and use an appropriate punch and hammer to remove the ejector retaining pin. Back off the handle from the tool body to allow the ejector to come free from the bolt. **CAUTION:** The ejector is under very heavy spring pressure. Care must be taken to control the parts to prevent injury or loss.

SPECIAL JOBS: Stuck ejectors - Plunger type ejectors will occasionally jam in the bolt head due to brass, bullet shavings, powder fouling, or rust accumulating in the hole along with the ejector and spring. Before the ejector can be removed from the bolt, it must be freed up. Clamp the bolt in a padded bench vise with the bolt head facing upward. Squirt a few drops of a good penetrating oil, such as Brownells BPO, on the bolt head at the ejector. Allow the penetrating oil to soak the ejector for several minutes. If the ejector does not pop loose by itself, select a punch that matches or is just slightly smaller than the diameter of the ejector and a 2 oz. ballpeen hammer. Place the punch on the face of the ejector and use the hammer to lightly tap the end of the punch several times. You should get some "bounce back" from the ejector spring. Add more penetrating oil, and repeat the tapping until the ejector is freed up to its full extension against the retaining pin. At this point, use the Brownells Bolt Ejector Tool to help remove the ejector. Clean out the hole after the ejector is removed using appropriate solvents, swabs, pipe cleaners, etc.

If the ejector is stuck so firmly that the above method does not work, you may want to try drilling the ejector plunger to accept a small screw

extractor, normally used for removing broken or headless screws. Drilling will ruin the original ejector, so be sure to have a replacement ejector on hand. Ejectors are quite hard. In order to drill one, you will have to use a carbide drill bit. Select the size appropriate to the size of screw extractor you are using. First, center drill the ejector with a carbide center drill then drill the hole for the screw extractor.

After drilling, try freeing up the ejector again with the punch and hammer. Sometimes, the vibration from drilling will break loose the rust and crud jamming the ejector in the bolt. If the ejector does not free up from drilling, place the screw extractor in a tap handle, turn the screw extractor into the ejector by a couple of turns and then remove the retaining pin. Continue turning the tap handle while tapping the side of the bolt head with a 2 oz. ballpeen hammer to help break loose the rust and crud that has locked the ejector into the bolt head. You should be able to loosen the ejector to the point where the penetrating oil has some effect in helping to get the ejector free from the bolt.

In the rare case, where the ejector is totally locked in place in the bolt, you will have to completely drill out the ejector. If drilling is required, be certain that the drill is centered on the ejector so you do not damage the bolt. If the ejector has to be drilled out to a slightly larger than standard size, you may have to make a new, slightly larger diameter ejector plunger to prevent brass cartridge particles or powder fouling from jamming the ejector in the future.

Reassembly: Start the ejector plunger retaining pin into its hole in the bolt body, to the point where it does not protrude into the ejector's hole. Insert the ejector spring and ejector plunger into the hole, and turn the ejector until its retaining slot is roughly aligned with the retaining pin's axis. Slip the tool body over the bolt's locking lugs and screw in the handle assembly until the ejector is flush with the bolt face. Use an undersize pin punch to double check the alignment of the ejector's retaining slot, and carefully finish seating the ejector retaining pin in the bolt body. If required by the manufacturer's instructions, stake the retaining pin in place in the bolt. Remove the tool from the bolt, and make certain the ejector plunger is free to travel through its normal range of motion.

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.

BROWNELLS® BOLT EJECTOR TOOL

READ & FOLLOW THESE
INSTRUCTIONS

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SELECTION. SERVICE. SATISFACTION.®

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