Brownells Bolt Welding Jig makes it possible to lock a bolt handle and a bolt body precisely in the desired relationship. They are held firmly, with plenty of working room for oxy-acetylene, arc or TIG/MIG welding.

**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**

Steps 1 thru 5 show setup for Mauser, Springfield, Enfield and other rifles having short housings behind the bolt handle. Step 6 shows setup for Arisakas, Mannlichers and others with extremely long housings. Note: If you use the TIG/MIG process to weld a new knob on a bolt, make certain the welding rod you have is made from a steel that is compatible with the bolt. It’s a major problem when the job is done and you are bluing the bolt to find the weld you made was with stainless steel rod and will not color with the rest of the bolt.

**STEP NO. 1** - Set up the Brownell Jig on a flat surface as shown. Tighten knurled head set screws “A” and “B” to finger tight only. All during setup operations the bottoms of “V” blocks No. 1 and 2 must be flat on surface at ALL TIMES. Check this when tightening any set screw.

**STEP NO. 2** - Apply Brownells Heat Stop Control Paste to the threads of an appropriate Brownells Bolt Heat Sink. Screw the Bolt Heat Sink into the bolt body as far as it can go with finger pressure. Apply more Heat Stop Heat Control Paste to the cocking cam area of the bolt body, building up the Heat Stop sufficiently to prevent overheating of the cam area. Insert rifle bolt in “V” clamp No. 1 as shown, tighten set screw No. “C” tight enough to hold rifle bolt in position but not so tightly the bolt cannot be rotated in “V” of clamp.
**STEP NO. 3** - With the transparent 45° triangle furnished with the kit, set the locking lugs at head of the rifle bolt at a 45° angle as shown. Securely tighten set screw No. “C” with the Allen wrench furnished with the kit. (See Note 1 below.) When tight, re-check angle to be sure it has not been changed.

**STEP NO. 4** - Insert the new bolt handle into “V” clamp No. 2 as shown, lightly tightening set screw No. “D”. While keeping both “V” clamps flat on the workbench, slide the two “V” clamps on their rods until the bolt handle stub on the bolt body aligns with the new bolt handle. Adjust the position and angle of the bolt handle as needed to get into position for welding. Check “V” clamps for their relationship, and securely fasten set screws No. “A” and “B”. **NOTE:** A swept-back bolt handle is shown. If a straight shank type is used, adjust the positioning as needed.

**STEP NO. 5** - Gas weld setup for Arisaka, Mannlicher and similar.

**STEP NO. 6** - Welding techniques for oxy-acetylene and arc welding.

**NOTE:** 1: By using the degree of angle method described in Step No. 3, the bolt handle knob distance will measure 1⁻⁹/₁₆” as shown in Step No. 5.

**NOTE:** 2: Increasing the angle of the locking lugs in Step No. 3 (to more than 45°) will position the knob of the bolt handle further from the side of the stock. Decreasing the angle (less than 45°) will position the knob closer to side of stock. Such variations should be very small - two or three degrees at the most - until experience has been gained.