

Patchbox Release Kit Instructions:

#PB-RK-TOW-B patchbox release kit for longrifle, with brass button end.

#PB-RK-TOW-I patchbox release kit for longrifle, with iron button end.



Catch Spring



Catch Spring Screw



Door Catch



Door Spring



Door Spring Screw



Button end pushrod

We recommend installing the patchbox release button in the buttplate comb, as illustrated.

Or you may install the button in the toeplate, by inverting the catch spring and pushrod.

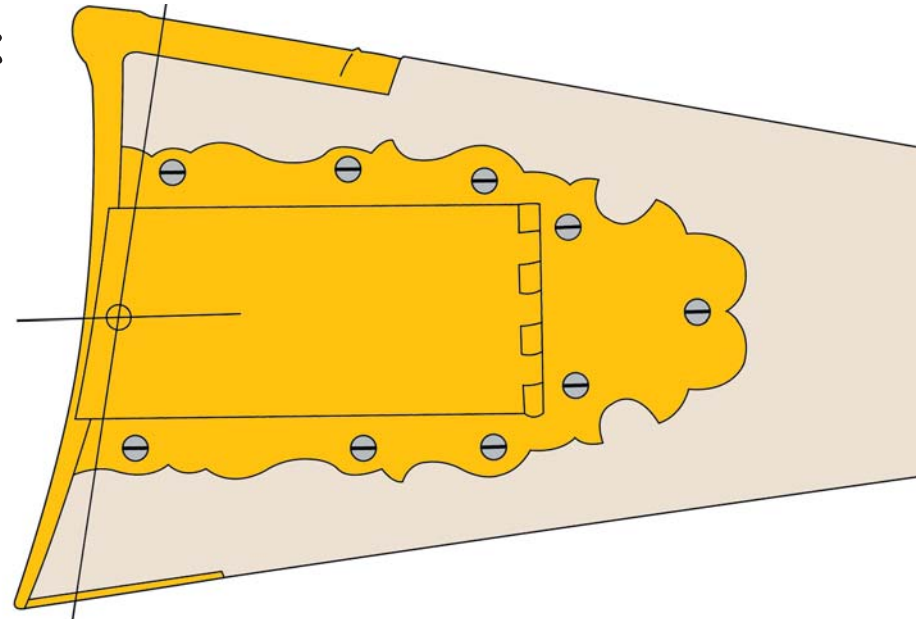


Figure 1:

Draw two centerlines on the buttstock, to indicate the center of the pushrod button and the patchbox door catch.

Pencil two centerlines: first from the pushrod button in comb, to the center of the patchbox door; second from the center of the patchbox door to the end of the buttstock. These centerlines should intersect about $13/64''$ to $19/64''$ from the edge of the patchbox door. Check your work.

Centerpunch the position of the door catch in the patchbox door, at the intersection of the two center lines. Your punch mark will help center the drill bit, to minimize wandering as you begin drilling the hole.

Drill a $1/8''$ diameter hole through the door, approximately $3/4''$ deep into the stock wood. Start very slowly, to minimize drill point wandering. Frequently withdraw the drill bit to clear the chips.

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Tools required:

Sharp pencil,

Centerpunch,

Drill bits in sizes: $1/8''$, $3/32''$, $21/64''$, $13/64''$, letter F,

Swiss pattern needle files,

Small ball peen hammer,

Sharp inletting chisels.

Screw drivers, with bits well fitted to these screws.

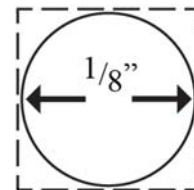


Figure 2:

File the $1/8''$ drilled hole square.

Use your tiny square Swiss pattern needle file to create square corners in the $1/8''$ drilled hole in the patchbox door, to fit the square post on the door catch.

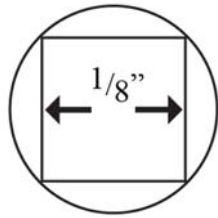


Figure 3:

Countersink the outside surface of the square hole for the door catch.

Countersink the door catch hole just breaking the outside edge of the square hole in the door until the square is inscribed inside the countersunk circle.

Or, you may discover that it is easier to countersink the round hole first, not more than half the thickness of the lid, and then file the square hole. The countersink will chatter less in a round hole, and the amount of filing needed to cut the square is reduced.

We recommend a 90° countersink. An 82° countersink will work well also. Chamfer only half depth.

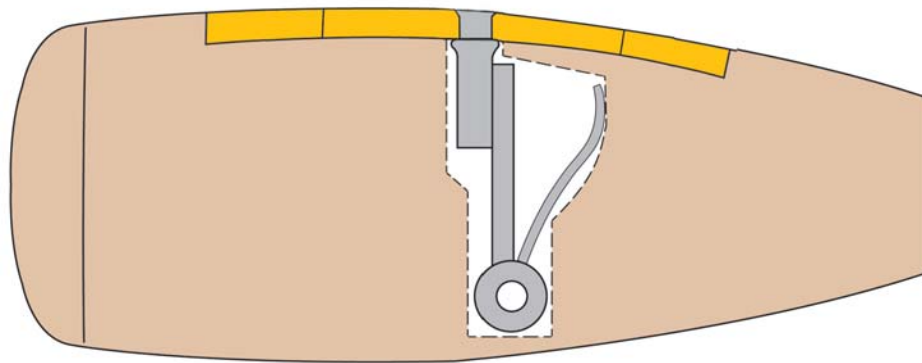


Figure 5:

Enlarge the clearance hole for the door catch. Inlet and position the catch spring in the end grain, hidden under the buttplate.

Enlarge the 1/8" hole in the stock to 1/4" diameter to allow clearance for the door catch. Drill to a depth of approximately 3/4". Remove the buttplate, locate the position of the catch spring so the lug on the arm will engage (overlap) the door catch. The round base of the catch spring, with the screw hole, must sit flat on the bottom of your inlet.

The catch spring must be inlet deep enough to clear the head of the mounting screw, wide enough to have clearance around it, *except* the lower spring arm must contact the side firmly to provide spring tension.

Figure 4:

Peen the door catch to the door.

Remove the patchbox from the stock. Secure the door catch in a vise with the square end exposed. Place the square hole of the door over the square shank of the door catch.

Many light taps of a ball peen hammer will form the protruding square post into a rivet, until it fills the countersunk edge around the square post. Excess material may be filed flush with the outside surface of the patchbox door. Viewed from above, it will appear round, but the square shank in the square hole will prevent the door catch from rotating.

Orientation of the door catch is not important, since the door catch shaft is still round, not yet notched.

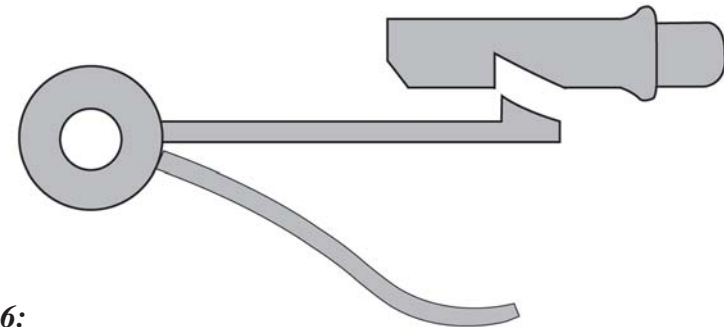
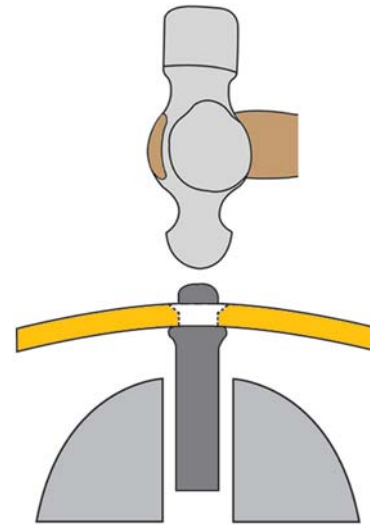


Figure 6:

Mark and file a hook and notch in the door catch and spring.

Mount the spring. Drill a 3/32" pilot hole for the screw, 3/8" deep to reduce the risk of splitting the end grain. Gently secure the catch spring with the screw. If the screw is difficult to install, investigate first.

With the door fully closed, scribe a mark for the catch points on the door lid catch and catch spring. Remove the catch spring and file a hook on the arm. File a matching notch in the door catch at your scribe mark. Do not overcut. Install the spring, test it, then file a bit more, as needed.

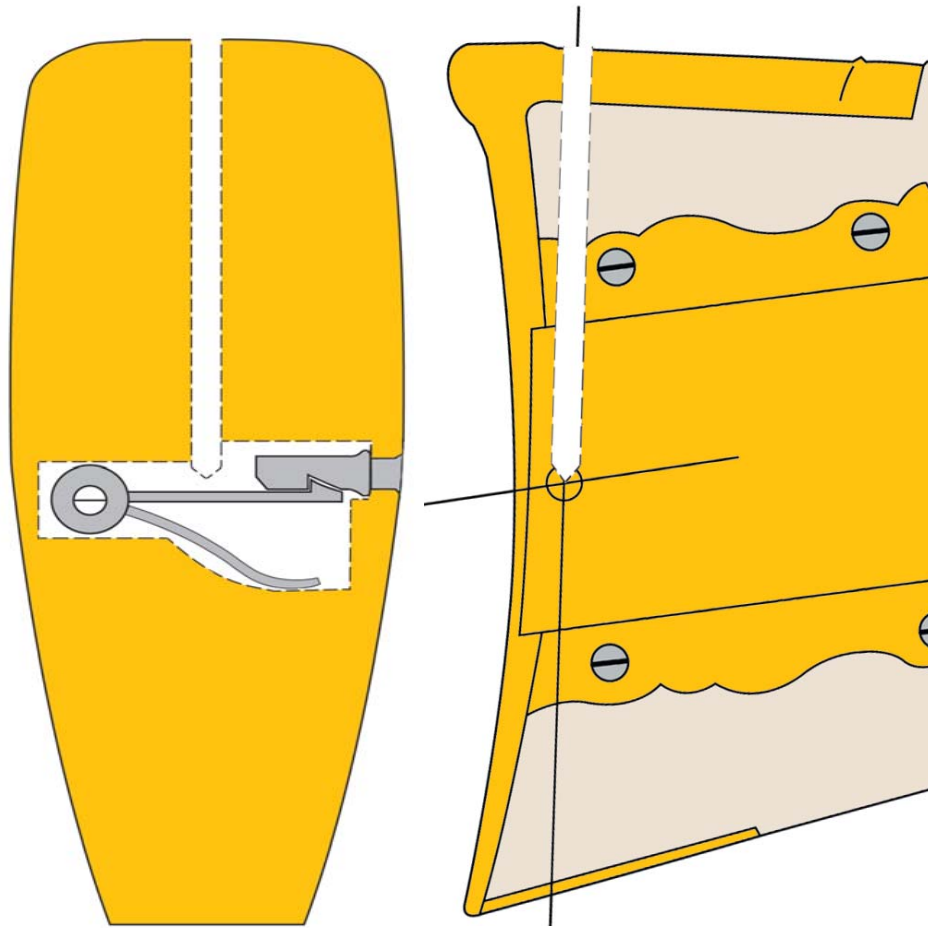


Figure 7:

Draw two centerlines, and drill through the buttplate comb.

Mount the buttplate and draw two center lines. Pencil one centerline on the buttplate, from the center of the comb to the catch spring. Best leverage is achieved by positioning the pushrod at a right angle to the catch. It can be mounted at a slight angle. Mark the second center line along the side of the stock to the catch spring.

Remove the door, catch, and catch spring, while drilling the rod hole.

Centerpunch the buttplate to locate the hole for the rod's button end. Drill through the buttplate comb using a $13/64$ " drill bit, until the bit enters the inlet for the door catch spring.

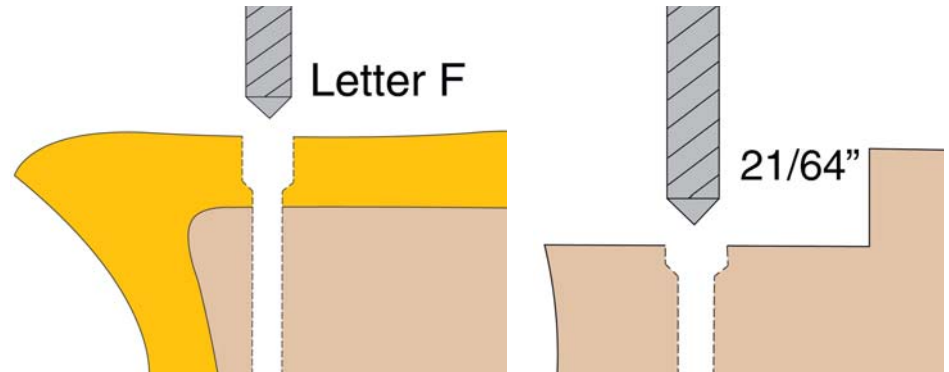


Figure 8:

Drill the buttplate at the same angle as the pushrod.

Use a letter F drill bit to cut pushrod button clearance in the comb.

Figure 9:

Drill for clearance for the button stop in the stock, if necessary.

Depending on the buttplate, it may be necessary to enlarge the hole in the wood to clear the button stop. If so, remove the buttplate and enlarge the hole with a $21/64$ " diameter drill bit, just enough to clear the button.

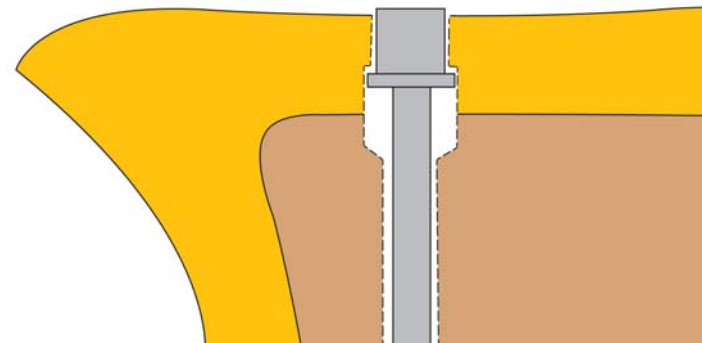


Figure 10:

Install the pushrod and test the catch spring.

If the pushrod is too long, trim the bottom. Pushrod length must allow enough free play to prevent binding when the buttplate is installed. During winter, wood can contract, pressing the spring against the pushrod, preventing the door from closing. Provide a small amount of clearance between the pushrod and catch spring.

Finish the button to extend about $1/16$ " above the buttplate, with a slightly domed end. If you trim it too much, you may expose the rod.

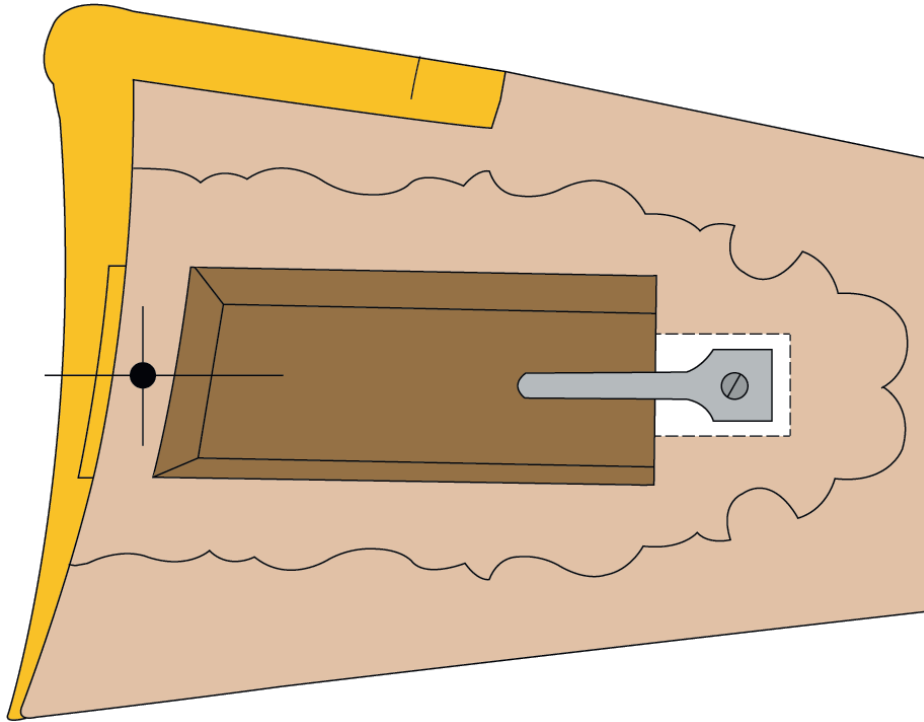


Figure 11:

Position and install the patchbox door “kick open” spring.

Remove the patchbox head. Position the spring beneath the head, so the spring arm will apply gentle pressure on the door. Cut a square inlet for the door kick open spring beneath the head. Drill a pilot hole, and secure the spring with a wood screw. Replace the patchbox head. Success!

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Avoid errors. Consult a professional tap and drill chart for correct drill sizes, when threading holes!

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