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Crane Jig (SW-2)

For use in the installation of ball type crane locks
on the Smith and Wesson J frame models.

Related tooling (available from Brownell's, Inc.):

Wolff light duty coil spring (English) 4-1
Brownell's 3/32" detent balls

Using the Crane Jig:

1. This jig is designed to be used with a milling machine or a drill press. If a drill press is used, a compound table is desirable.
2. Remove the crane and cylinder from the revolver by removing the front screw from the revolver's side plate. Then align a cylinder flute with the frame. Remove the crane towards the front of the revolver. After the cylinder/crane assembly is removed, separate the cylinder from the crane.
3. Clean the crane, then install it in the jig. Tighten the set screw to hold crane in place. Install the jig in the milling machine or drill press vise.
4. Put a 3/32" drill bit into the drill chuck and lower it until it just touches the top of the crane. Then move the milling machine table towards the front of the crane until the drill bit is clear of the crane. Raise the table .220", the depth of the hole you will be drilling. Position the crane so the hole you will be drilling will neither break out of the left hand side of the crane, not break into the extractor rod hole in the crane.
5. After you have ensured that your alignment is correct, change to a number 2 center drill in the chuck. Move the crane under the drill bit and drill a hole approximately centered from front to back.
6. After you have drilled your alignment/starting hole with the center drill, switch to the 3/32" drill and drill a hole .210" -.220" deep. Remove the jig from the machine vice and put it into your bench vice. If possible, support the jig from the underside.
7. Install the spring and ball into the hole(s) you have just drilled. I like to use a small amount of Teflon grease on the spring and ball. It lubricates it and helps hold the spring and ball together during the staking process. The Wolff springs should be cut to approximately .170" overall length for this use.
8. Use a punch to stake the ball in place. This is a matter of practice. Stake lightly at first and more heavily if the ball is not held properly. It does not take much force to stake

properly.

9. Remove the crane from the jig.
10. Install the crane into the frame and secure with the side plate screw. Use the Brownell's Crane Alignment tool to align the crane, if necessary. Then remove the crane from the frame and install the cylinder on it.
11. Reassemble the crane/cylinder to the revolver. Make sure that you install the side plate/crane screw to ensure proper alignment.
12. Apply lay out blue to the underside of the crane recess in the frame. A carbide sight blackening lamp can also be used. Close the crane and check to see if you can see the drag mark of the ball lock. With lay out blue, several openings and closings may be necessary. Remove the cylinder/crane assembly and mount the revolver upside down in you bench vice.
13. When you have a good mark, use a carbide cutter in a hand grinder to make a small recess into the frame for the locking ball to seat. This does not have to be very deep. The frame is very thin in this area and you do not wish to cut through it. Also, the deeper the cut, the more difficult it will be to open the cylinder. Power recommends using a 1/8" Dremel carbide cutter number 9903, a straight cutter with a rounded end. I use a Dremel carbide cutter number 9905, a 1/8" ball which seems to be easier to use and cuts a true semi-circular detent for the ball to seat into.
14. Clean the area of lay out blue or soot, reinstall the cylinder and put a small dab of good Teflon grease on the detent ball. Check the cylinder for correct operation.

WARNINGS:

1. Some Smith and Wesson revolvers have an excessive (over .025") gap between the top of the crane and bottom opening where it fits into the frame. A ball lock cannot be fitted to these revolvers. Return the revolver to the manufacture for correction of this condition prior to attempting this installation.
2. Neither L. Bengtson Arms Company, nor retailers of its products, assume any liability for the incorrect use of its products. The decision as to whether the purchaser/user of the jig can competently and safely use these products rests solely with the purchaser/user.