

Running the MG34 in 7.62 NATO

MG34 308/7.62 Booster Cone

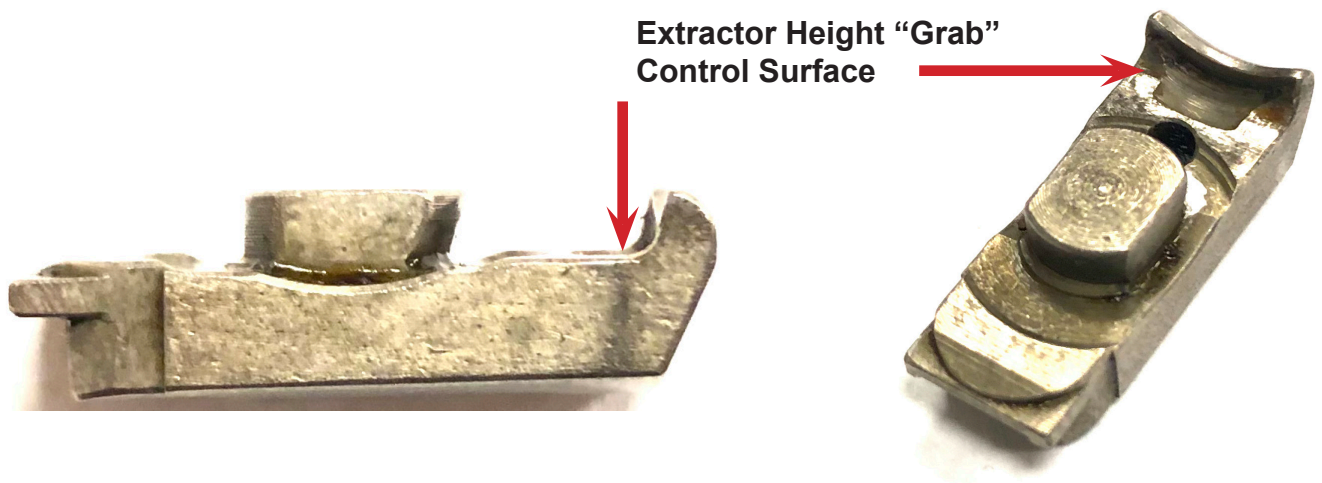
The MG34 is a Short-Recoil operated gun. When the bullet reaches the muzzle, the recoil and excess propellant gases enter the booster area and drive the barrel rearward against the mainspring and barrel return piston (recuperator). This movement forces the roller lugs on the head of the bolt against the cams to unlock the bolt and allow it to reciprocate in the body of the receiver. The 308 cartridge is slightly weaker & lighter than the 8mm cartridge and more cycling / booster pressure may be necessary to properly cycle the gun. The 308 barrels are slightly lighter than the 8mm barrel, so less recoil + booster force is necessary to cycle the action.

The 308 booster cone has less internal volume and smaller diameter exit hole for these gasses to expand. These shapes restrict more pressure in the booster assembly compared to the 8mm booster thereby driving the barrel rearward with more force. Typically you don't need to use our reduced boosters unless you are shooting some weak 308 ammo. So use this part only if necessary to increase cycle pressure.

To determine the amount of booster pressure you'll need to properly cycle your gun, you should fire some single shots with your standard 8mm booster cone to see if your gun cycles properly in 308 with your 8mm booster cone. If the gun fails to eject the spent case, more pressure is needed to cycle the action and the 308 booster cone should be used. Once installed, retest. If the system is now cycling too hard as can be felt by the shooter and seen in majorly deformed spent cases, the overall pressure in the system you can be reduced by loosening the flash hider 3-5 clicks by lifting the spring loaded lever.

Extractor and Extractor Spring

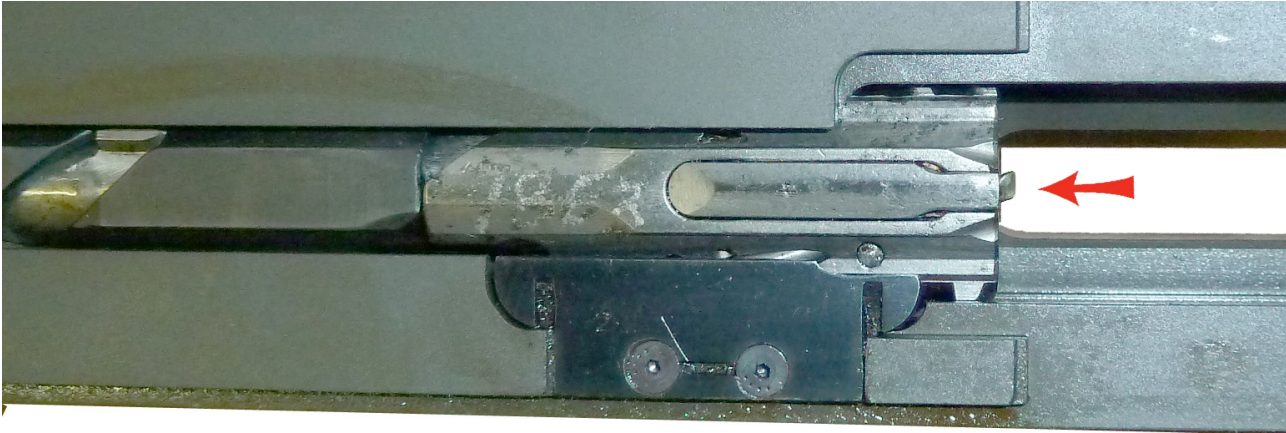
A positive extractor grab on the spent case is important for the MG34 to properly eject. If the extracted spent case isn't held firmly in the bolt face it will fail to pivot downward about the extractor resulting in the spent case failing to eject. If the gun functions fine in 8mm but fails to extract and eject in 308, the problem is likely the extractor. The 308 case has a slightly different shape than the 8mm case. Strong extractor springs are necessary to properly hold the 308 case firmly in the bolt face until ejector contact is made to throw the spent case through the ejection port. In some cases a step needs to be machined in the extractor to better 'grab' the rear of the 308 case.



Ejector Timing

If your ejector is too short the spent cartridge will fail to eject and the subsequent cartridge will fail to feed. To check for proper ejector protrusion do the following:

- Retract the Bolt Assembly to the rear of the Ejection Port. At this point the Ejector Tip should protrude beyond the face of the Bolt (pictured). If it does not protrude at this point, the gun may fail to eject and the ejector plate or ejector should be replaced.

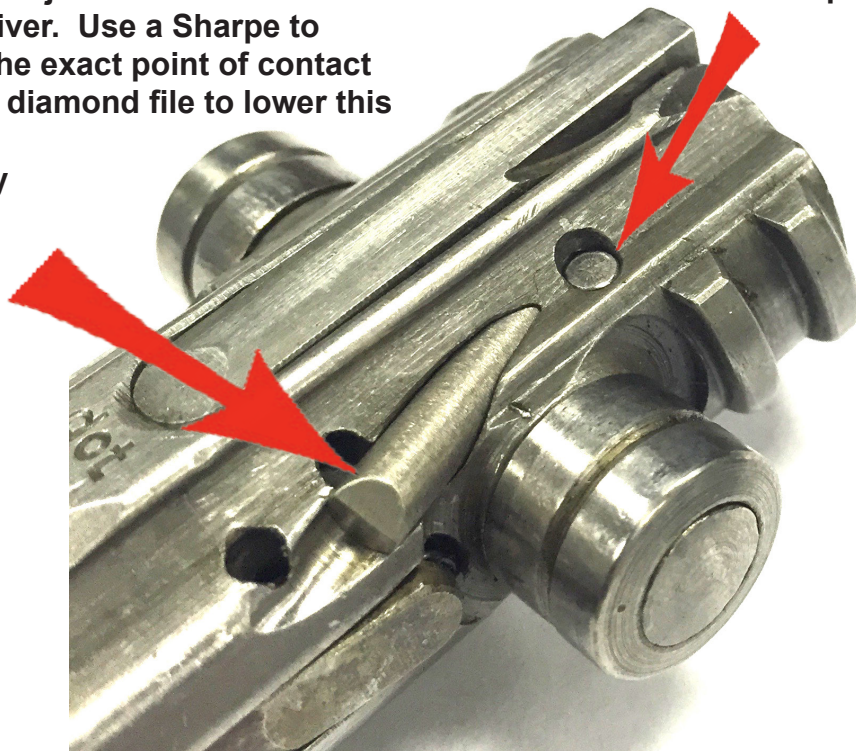


If the ejector is too long, the bolt will drag and jam in the receiver causing significant damage. The contact surface on the ejector to the plate must be filed or ground down at the same angle to ensure smooth operation. Cycling the gun with dummy rounds to check proper ejector fit and function is critical.

EJECTOR PLATE CONTACT TIMING:

This is the area where the ejector contacts the ejector plate on the receiver. Use a Sharpe to color this area and see the exact point of contact in your gun. Next, use a diamond file to lower this surface as necessary so the tip of the ejector only protrudes into the bolt face upon contact with the ejector plate. Be very careful not to lower this surface too much as it will decrease overall ejector tip protrusion. As the bolt continues to move rearward the ejector tip should protrude beyond the front of the bolt as pictured above.

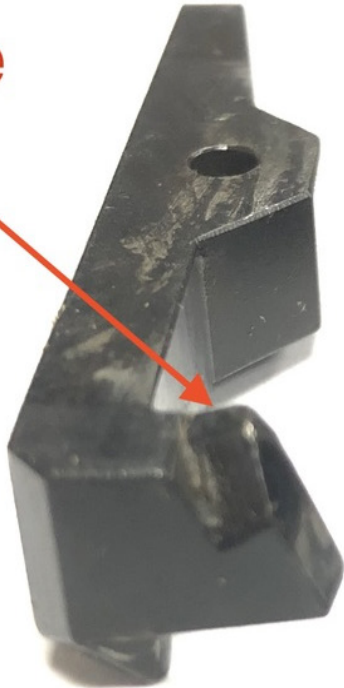
The ejector retaining pin is driven out bottom-to-top



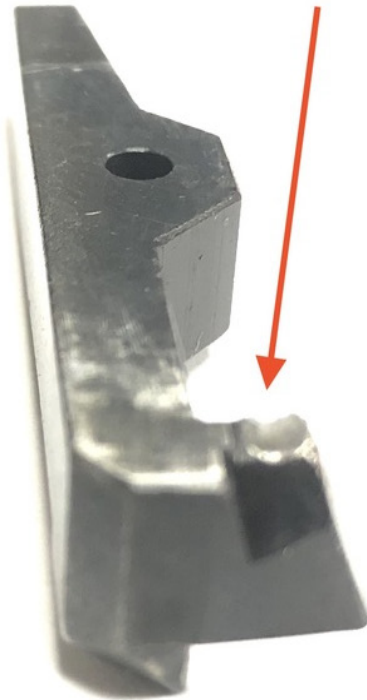
Barrel Jacket Bolt Catch Lever

This part keeps the bolt locked into the barrel until the bolt rollers engage the unlocking cams. If this lever or lever spring is broken or worn, the gun will not cycle properly and the receiver cams may be damaged.

Good Edge



Worn Edge

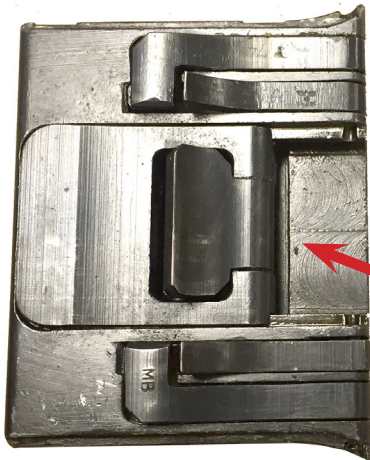


Recuperator Spring

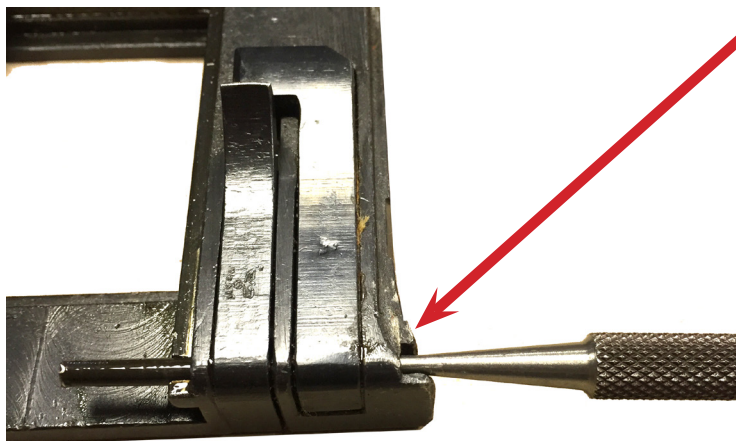
Always run your MG34 with a fresh recuperator spring. This will protect your unlocking cams from dents, smooth the cycle, and protect your receiver from damage resulting from impact of the barrel collar.

MG34 Feed Block Front Pawl Installation

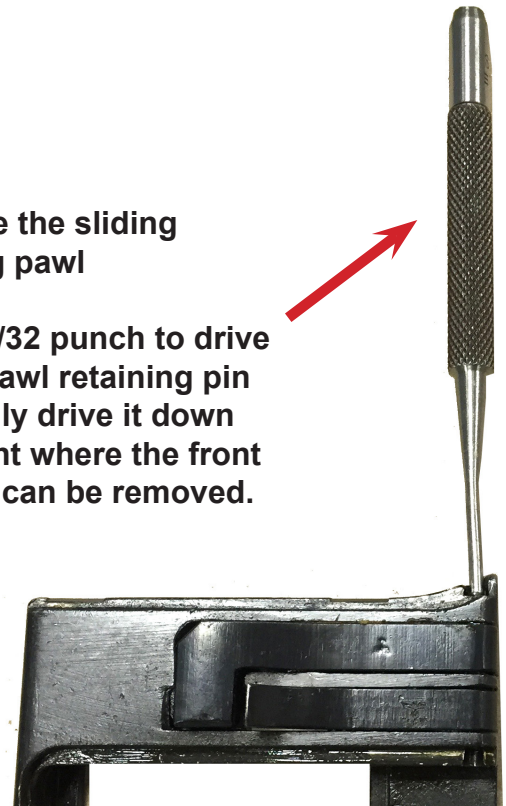
This part works with both 8mm and 308 cartridges but necessary for the shorter 308 cartridge. This piece puts downward pressure on the top / rear of the cartridge as it is being pushed forward on the feed tray thereby levering the tip of the bullet upward toward the chamber. Without this part, the bullet tip of the shorter 308 cartridge will hit under the chamber opening.



1) Remove the sliding advancing pawl



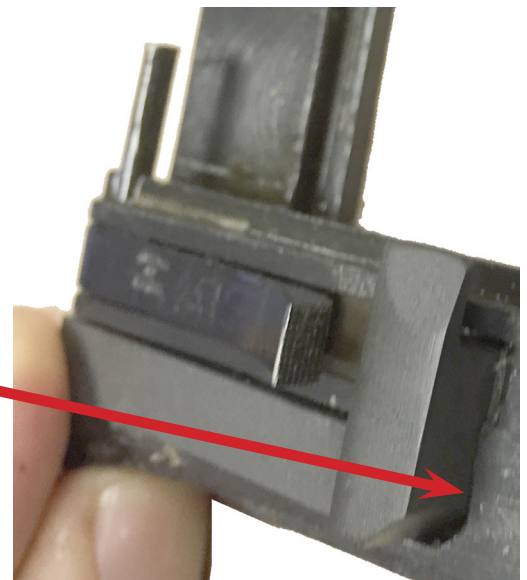
2) Use a 3/32 punch to drive the feed pawl retaining pin down. Only drive it down to the point where the front feed pawl can be removed.

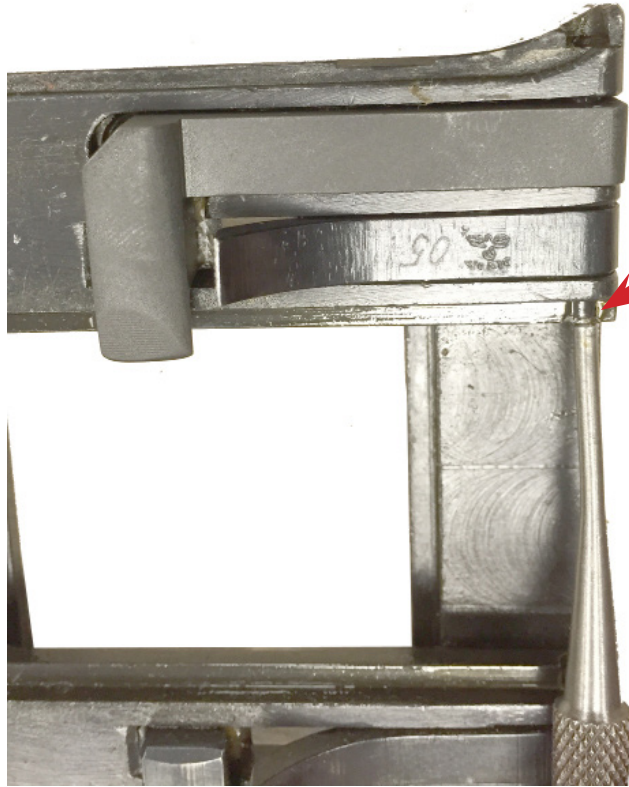


3) Insert the spring into new front feed pawl

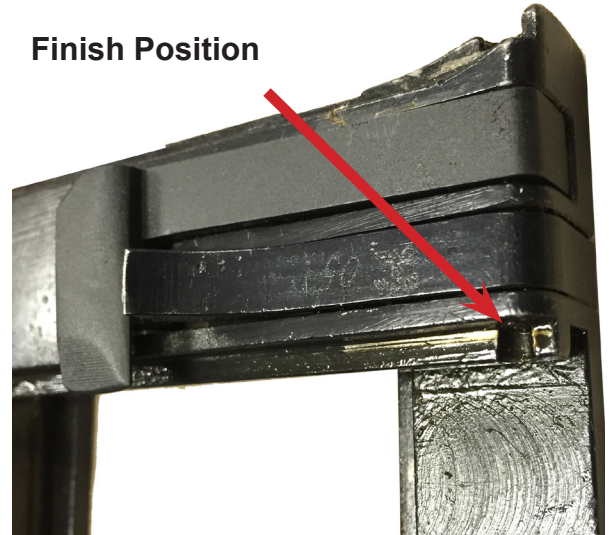
4) Carefully insert the new front feed pawl into the feed block making sure that the step on the feed pawl is properly retained in the feed block.

5) Gently drive the feed pawl retaining pin into the new front feed pawl.





6) Use the 3/32 punch to finish drive the front feed pawl retaining pin.

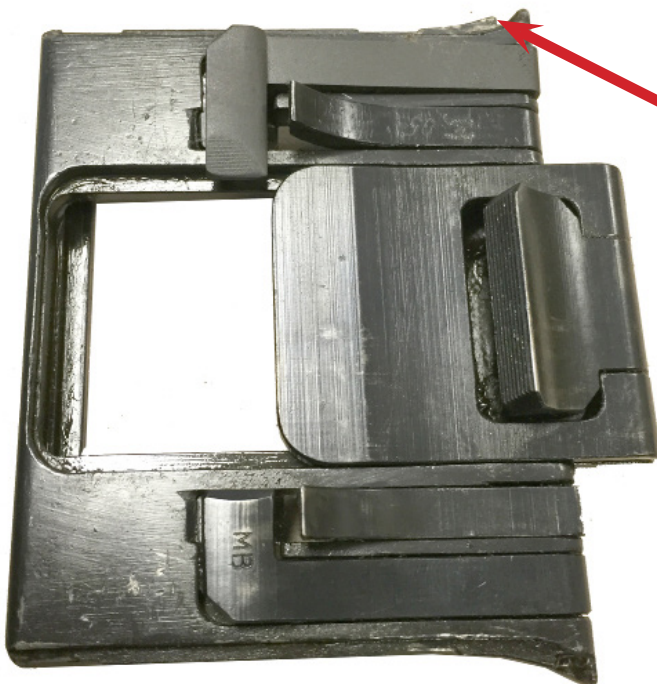


Finish Position

7) Push down on the front feed pawl to verify properly movement about the feed pawl retaining pin

8) Insert the sliding advancing pawl and verify properly movement.

*If desired peen or use a small amount of retaining compound on the edge of the retaining pin



MG34 Feed Tray 308 Front Spacer Installation

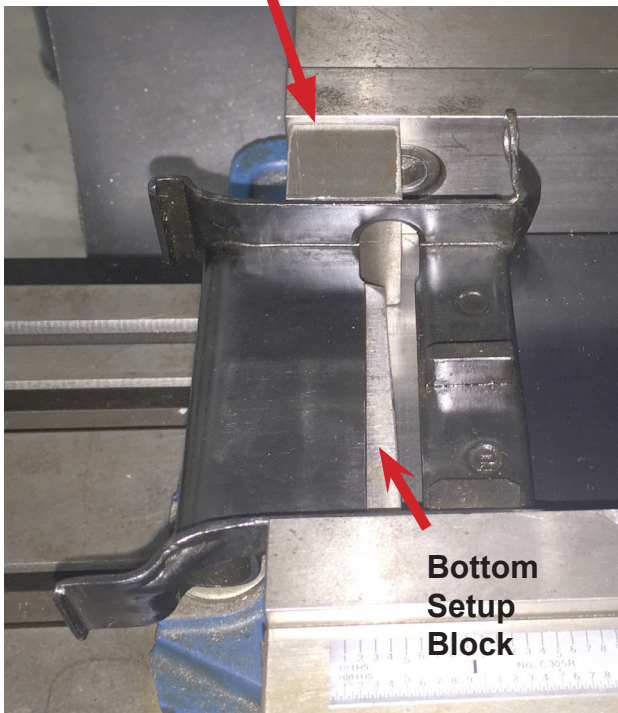
The Feed Tray Spacer installs at the front of the feed tray to compensate for the shorter 308 cartridge.

Tools: Mill or precision drill press, precision vise, #33 carbide drill, 82° carbide countersink, .085 gauge pin, & .112 gauge pin

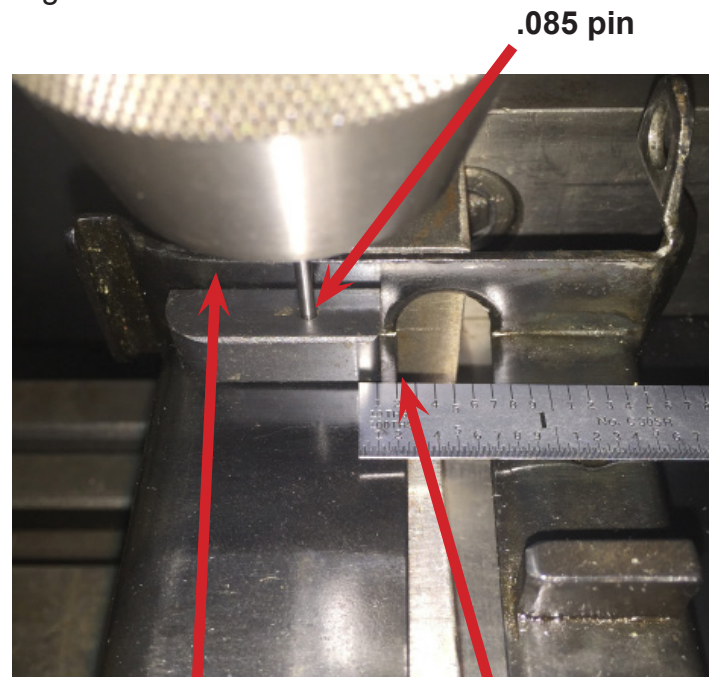
Step 1: Setup the feed tray facing up in the vise using block to brace flat surfaces. Be careful not to over tighten the vise as the sheet metal feed tray will bow. Use the .085 pin through the 4-40 mounting hole to align the spacer block approximately .05 - .1" from the front cartridge opening and firmly against the inside front wall of the feed tray.



Front Setup Block



Bottom Setup Block



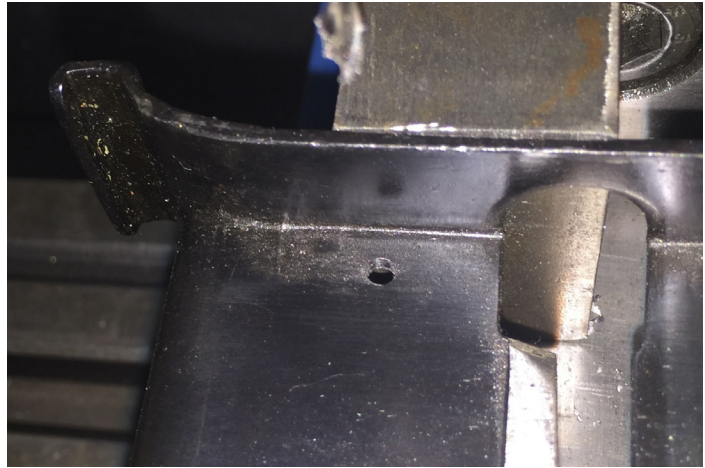
Feed Tray Front Wall

Cartridge Opening / Drop Slot

.085 pin



Step 2: Use the #33 to drill a through hole at that location. Carefully peck as there are hard spots on the sheet metal feed tray.



Step 3: Setup the feed tray facing down in the vise. Use the .112 pin to find the center of the hole drilled

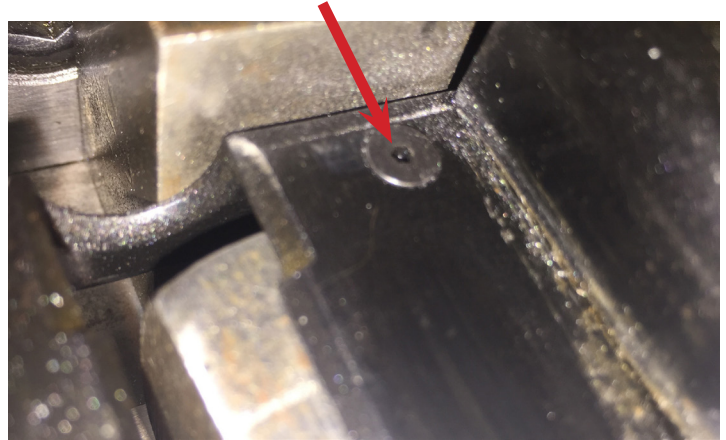


Step 4: With the 82° countersink in the chuck, set your Z on the digital readout to 0.000 with the countersink tool seated in the #33 hole. Turn the machine on and carefully peck to depth Z:-0.0675. At this depth the head of the 4-40 flat head screw will be flush with the bottom surface of the feed tray.



Set Z to 0

Screw head flush to bottom of feed tray



Step 5: Clean and spot blue the countersunk hole. Install the front spacer. The back of the spacer should be firmly against the front of the feed tray and should not pivot on the screw.

308 Ammo in
MG1/3 Belts

