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Squeeze Play II: The Continuing Examination of Solutions For Crimped Primers In Mil-Surp Or Commercial Ammunition

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WARNING!

This article addresses an aspect of reloading. The information presented is a result of careful attention to instructions, observation, and experience. We offer no guarantee or warranty of any kind on the information presented and you should proceed with caution if you choose to try the techniques or products that we present. Reloading is not an exact science; we have no control over what you do or what you use. Therefore, you assume any and all risk involved.



Winchester case on the left is the ONLY case NOT crimped.

In a previous article, [Squeeze Play](#), we considered how Mil-Surp ammunition almost always has crimped in primers, and if we wish to reload that brass, the crimp will have to be relieved before re-priming can proceed. We looked at two different ways to prep primer pockets to receive new primers.

The first method we discussed was reaming. Reaming involves removing the crimp ring with a special cutting tool. In "Squeeze Play" we covered primer pocket reaming. Even though reamers remove very little material, many experienced reloaders prefer *not* to ream, they feel removal of any brass, no matter how small the amount, *will* be detrimental.

The second method, swaging, involves pressing the brass back to its original position; the position it was in *before* it was crimped at the factory. Swaging involves having a punch type tool entering the primer pocket under ram pressure; the punch is shaped to restore the primer pocket to a pre-crimped state.

In "Squeeze Play", we looked at the RCBS Pocket Swager kit. This die-like tool will fit **almost** any bench mounted 7/8-14 threaded reloading press that accepts standard shellholders. There are a few, old, out of production presses with 7/8-14 threads & a standard shellholder recess the RCBS Swager *won't* fit. RCBS can advise if their swager is suitability for a specific brand & model of press.

The RCBS tool indexes from the internal web of the brass case to control swaging depth. The instructions advise to group cases by manufacturer. Once the tool is adjusted for a particular brand of cases, it may swage either to deeply, or not far enough *for a different brand of cases*. Because of the index rod, the press ram has to be completely lowered to remove a processed case. When a new case is processed, it's advisable to *initially* guide the case over the index rod until the rod is in the case mouth.

What if a person would prefer to swage primer pockets, but has an older press with 7/8-14 threads & a standard shellholder recess the RCBS Swager *won't* fit? There are completely separate tools that don't operate in conjunction with a press or trimmer, but they can be pricey, and require yet more bench space. If a reloader's bench & workspace is at a premium, this may not be a good solution. There is another option.

C H Tool & Die / 4D Custom Die, www.ch4d.com, 711 N. Sandusky St., POB 889, Mount Vernon, OH 43050, Phone 1-740-397-7214, Fax 1-740-397-6600 makes a press mounted primer pocket swager tool that is unique in its own right. Many newer reloaders may not be aware of CH4D. CH4D is an old-line company that has been around for almost 60 years. They make many products for the reloader, shooter & gunsmith. While they specialize in custom-made dies, they also produce some time tested reloading equipment.

They make the C H Heavy Duty Champion. Simply put, it's the heaviest, strongest press on the market. It's one of only 4 current production, single stage reloading tools that has a hollow ram to collect spent primers and keep lead styphnate primer dust off the ram, and out of your lungs. Speaking of that ram, the Heavy Duty Champion's is the widest ram in the business, 1.185 inches and it's hardened. If you want to produce jacketed bullets at home on a reloading press, then the C H Heavy Duty Champion *is* the press for you. But, the C H Heavy Duty Champion is a story for another day.



The CH4D Primer Pocket Crimp Swager Tool, Part # 419001 This tool takes a different approach to swaging primer pockets.



Snap the swager post into the ram's shellholder recess

The swage is on a long post that snaps into the shell holder recess of a reloading press's ram.



Ram is at its highest point. Threading tool body in. You can see the top of the swager post just coming through.

Once the swage post is mounted, run the ram all the way to its highest point. Loosen the lock ring on the swager tool body and turn the lock ring upwards on the tool body until it is near the top. Next, thread the tool body into the die station until the tip of the swager post is protruding by about $\frac{1}{4}$ of an inch.



This is a good starting point adjustment.



Shell holder will just slide in. Notice finger piece of shellholder-retaining ring on left.

Lower the swager post and place the appropriate shell holder (the CH4D Primer Pocket Crimp Swager Tool uses standard shell holders) for your caliber in the top of the tool body



Starting to push finger piece of shellholder-retaining ring.

Snap the C H shellholder-retaining ring into place to hold the shellholder (more on the C H shellholder-retaining ring later).



Pressed into place.



Locked!



This will be good to start. Not deep enough yet, BUT, it WON'T tear off a case rim either! Now the tool body will get turned in a bit at a time until the primer pocket is swaged.



Swaging the primer pocket. Adjustments not finalized yet.



Once the final adjustment is made & the die body lock ring tightened. Now, the shell holder will be turned so the open end faces the operator.

Now raise the ram and see if the tip of the swager post peeks through the shell holder. If not, turn the tool body in a bit at a time until the tip just peeks through. Lower the press ram, and put one of your deprimed cases in the shell holder. Raise the ram and you will feel the swager post enter the primer pocket. Chances are the primer pocket *won't* be swaged completely right away. Since the case rim will be pressed against the shellholder as the swager enters the primer pocket, the last thing we want is for the swager to enter the pocket too deeply, it could tear the case rim off! By starting with the tip of the swager just peeking thru the shellholder, the pocket can be swaged. Remove the brass case and **gently** attempt to seat a primer in the pocket. In all likelihood it won't seat That's OK, now turn the tool body clockwise a bit at a time. Every time the die body gets turned in,

raise the ram and swage the primer pocket again. Once again, attempt to **gently** seat a primer in the pocket. Once a primer seats in the pocket with normal pressure, all adjustments are complete. The 7/8-14 threaded lock ring can be turned down and the setscrew tightened with an Allen wrench.



Swaged!



Reprimed.



Reprimed.

The amount of swaging action with this tool is dependent on two things. The first is the shell holder. The front of the case rim gets pressed against the shellholder during swaging operations. Therefore, once the tool is adjusted with **a certain individual shellholder**, the amount of swaging *will change* if another shellholder is used, even if it's the same brand shell holder. The second thing to consider is brass. Once the tool is adjusted for a certain brand of brass, it *may* have to be readjusted when switching to another brand of brass. If required, the amount of re-adjustment will be extremely small.

Once set up & adjusted, the CH4D Primer Pocket Crimp Swager Tool worked quite well. I initially adjusted it for the FC (Federal Company) brass. Then I used the FC setting on all the different headstamps. A couple of the headstamps would have required additional adjustment. Other headstamps did not. (Note1) I did this on purpose; I suspected cases would generally need to be grouped by headstamp, and the results bear this out. It's best to group cases together by headstamp & manufacturer when using this tool, **or any other primer pocket-swaging tool**, *regardless* of manufacturer.

Since brass is retained by a shellholder, pressure is placed on the rim during swaging operations. Additionally only 2/3'rds of the rim is supported. However, since the amount of material being swaged into place by the swager is quite small; I don't see this as a real issue. Besides, 98% of 5.56 (.223 Remington) ammunition is fired in a semi-auto rifle. An AR15-Clone's chambering/firing/ ejection cycle will impose more stress on a case rim than *any* hand operated swager tool.

Lets take few moments to discuss the C H shellholder-retaining ring. When I first took the tool body out of the box; I noticed a loop on the left side of retaining ring. I also noticed there was no right-angle bend on the right side of the ring like every other companies shellholder-retaining ring. I thought, "*What the heck?*" I slid a shellholder in place and it hit me; "*Oh, I get it, once the shellholder is installed; push the loop to the right with your finger and it locks the shellholder in place. Cool!*" On some presses & reloading tools, the shellholder-retaining rings are so darn tight you have to put a piece of cloth between your

finger and the shellholder as you push it in place so you don't get cut!

The C H shellholder-retaining ring design is unique and clever. I like it.

What I really liked was, once set up & adjusted; the CH4D Primer Pocket Crimp Swager Tool is the fastest press-mounted swager tool going! Since one only has to lower the swager post ½ inch when changing cases, brass can be processed *extremely* fast with this tool.

Due to its design, the CH4D Primer Pocket Crimp Swager Tool **WILL** fit **ANY** bench mounted, 7/8-14 threaded, reloading press that accepts standard shellholders, period.

There was one thing I found lacking about this tool, and one thing that should have been included. The 7/8-14 threaded lock ring is aluminum with a setscrew. When I tried to move the lock ring up on the tool die body during initial adjustment; it was *very* difficult to turn. Even though I loosened up the setscrew, the lock ring turned roughly & hard. I took the lock ring completely off; and found lots of aluminum dust & chips imbedded in the lock ring threads. The threads in the aluminum lock ring looked like they had been cut with a dull tap. However, once I sprayed plenty of disk brake cleaner on the ring to clean it out, and ran the 7/8-14 threaded lock ring up & down the die body a few times, it worked much better.

What I found to be missing from the kit was an instruction sheet. While the tool is fairly self-explanatory; and an experienced reloader should be able to figure it out in short order, I feel an instruction sheet should *always* be included, no matter what kind of tool it is. A neophyte reloader *may* feel unsure without written instructions when purchasing a new tool. Oh course, this article fixes the instruction sheet issue!

All in all, I found the CH4D Primer Pocket Crimp Swager Tool works quite well. The design is original and well thought out. Once the swager is properly set up, a reloader can fly through a heap of brass. For someone wishing to process a lot of crimped brass, this tool could be just the ticket.

Note 1
Much crimped 5.56 (.223 Remington) & some 30/06-caliber ammo isn't Mil-Surp. Much is commercial ammunition. 98% of 5.56 ammunition is fired in a semi-auto rifle. Semi-auto rifles have larger chambers and more tolerance than bolt guns, so, crimping primers in such ammo makes sense.

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