

## Scott Franz

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**From:** Reesor, Phillip K.  
**Sent:** 08/04/2005 02:59:55 PM  
**To:** Lance, Kevin D.; Boyles, Derek  
**CC:** Vicars, Gerald; Franz, Scott; James, Will  
**BCC:**  
**Subject:** RE: 710 Test Guns - Rivet Oriented Opposite

Gentlemen, today we have selected two guns based on "easy" & "hard" bolt closing forces (71234406-easy & 71234409-hard), they will ship today and you should have them tomorrow. We have also tried swapping the bolts of these two guns and the hard bolt closing condition followed the gun (not the bolt). We have also continued the live fire testing and have one gun @ 400 rds. & one @ 500 rds. with no visible issues with the extractors. The gun with 500 rds. happens to be the hard bolt gun that's being shipped to you, this condition has not changed in 500 rds. of live fire.

Phillip

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**From:** Lance, Kevin D.  
**Sent:** Wednesday, August 03, 2005 9:54 PM  
**To:** Boyles, Derek; Reesor, Phillip K.  
**Cc:** Vicars, Gerald; Franz, Scott; James, Will  
**Subject:** RE: 710 Test Guns - Rivet Oriented Opposite

Perhaps we should discuss this tomorrow. We may have multiple issues that we are looking at here. It doesn't seem to me that the hard to cam issue is related to the riveting process. The current riveting process and the requisite grinding is a concern as there can be quite a difference between the "touch" that the different operators utilize. Reversing the riveting process will eliminate a lot of the operator variability and I anticipate it improving the end product.

Is the hard to cam related to the riveting process or is it a separate issue?

Kevin

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**From:** Boyles, Derek  
**Sent:** Wednesday, August 03, 2005 2:48 PM  
**To:** Reesor, Phillip K.  
**Cc:** Vicars, Gerald; Lance, Kevin D.; Franz, Scott; James, Will  
**Subject:** 710 Test Guns - Rivet Oriented Opposite

Phil,

I have a little more information to share with you regarding the "hard to cam" phenomenon you're experiencing with the 6 guns. I spoke to the shooter of the guns you're sampling and he mentioned the ability to cam over with a live round was equivalent to any other gun of the same caliber. Keep in mind they are using a glove and cam each gun over quickly to work through a rack of production guns expediently. I have a tendency to cam over more slowly and can detect the difficulty at the start of the bolt rotation as you mentioned. However, as I speed up that rotation, the cam over becomes easier.

We also took ONE 7mm and fed live rounds using the 2 different bolt head rivet installations. The shooter nor myself could tell a difference in the work needed to cam the bolt over. When the rivet is installed on the outside, you will see very slight wear on the rivet head as you cam over several times. This is due to the rivet head being proud to the bolt head (not ground), and will not wear any further than flush to the bolt head because of the difference in hardness. After we cycled the gun 10 or so times, the wear on the rivet head was evident, but there was no change in the work needed to cam over.

Our shooters may be less sensitive to the "hard to cam" because of repetitiveness and their more rigorous method of cam over. We can explore this further with the samples that you are sending to us. Also, if you could send back a few of the spent casings with the scratches left from the burr, I would appreciate it.

Regards,

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