Dale Danner

From: Keeney, Mike
Sent: 08/03/2000 07:53:03 AM
To: Danner, Dale; Franz, Scott; Rages, Brian L
CC:
BCC:
Subject: RE: 710 Sear Loading Fixture Screw Force

Not knowing the repeatability aspects of a torque knob, I don't think we can make a judgement at this point? What Brian has provided is the range of the torque required, with that we can now review the torque knobs in that range and obtain the repeatability spec's for the torque knob. The exact torque per Brians calculations is not required, the ability to adjust the torque within Brians range is the critical factor. Mayfield will be able to fine tune the torque setting based on calibration with the assembled firearm digital force measurement. At that point, the question of capability will be answered?

>-----Original Message-----
>From: Danner, Dale
>Sent: Wednesday, August 02, 2000 5:27 PM
>To: Franz, Scott; Keeney, Mike; Rages, Brian L
>Subject: RE: 710 Sear Loading Fixture Screw Force
>
>Bottom line - it sounds to me that the granularity of the fixture will not permit a reliable/consistant adjustment. . . . . Other thoughts. . . Dale
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> From: Rages, Brian L
> Sent: Wednesday, August 02, 2000 3:38 PM
> To: Danner, Dale; Franz, Scott; Keeney, Mike
> Subject: 710 Sear Loading Fixture Screw Force
>
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>
> If friction is neglected, a 0.473 in-oz torque on the sear loading screw is necessary to result in a 11.4 pound force at the sear (the load I calculated earlier).
>
> If a thread coefficient of friction of 0.05 is used, the resultant torque is 0.799 in-oz.
>
> With a thread coefficient of friction of 0.2, the necessary torque rises to 1.79 in-oz.
>
> Assuming no changes in geometry, a linear relationship between screw torque and sear force exists -- a 5% deviation in torque will result in a 5% deviation is sear force.
>
> Does the 0.473 in-oz torque sound low? I calculated that the screw must supply a 3.72 pound horizontal force to result in a 11.4 pound vertical force. Consider the force-multiplying wedge and that the wedge face is twice as far from the pivot as the sear force pin is, and 3.72 pounds seems reasonable.
>
> -- Brian
>