Scott Franz

From: Rages, Brian L
Sent: 08/02/2000 03:38:08 PM
To: Danner, Dale; Franz, Scott; Keeney, Mike
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Subject: 710 Sear Loading Fixture Screw Force

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