Equipment

Trigger Tech R700 Special (1.0lbs to 3.5lbs)

“Come to the Dark Side… We don’t have friction”

Introduction

I have been quite fortunate as of late to be given the chance to try out various triggers available to the precision rifle community. This company obviously has some confidence in their product as they handed me one trigger for a standard evaluation, and another one to essentially do a torture test on and see if I can make it fail. This write up is the standard evaluation that a normal user would expect and see. The torture test is going to take some time to make sure I really beat it up, try out a few different methods of abuse, and at the same time I am not going to break my rifle just before a few out of town matches are scheduled so timing is delayed. I had done a few dry presses on the "Standard" Trigger Tech units that were on a few fellow shooters rifles but nothing substantial, and with that said I already had an idea of what to expect coming into this review.

Out of the Box Observations and Measurements

Packaging is pretty standard, instructions are good, and they even include an allen wrench to adjust trigger pull. I never know if the manufacturer actually reads the stuff I write, but to be honest I would have never bought their product simply due to the phrase "frictionless trigger" on the box. The reason for my issue with calling anything "frictionless" is that I have had beaten into my brain for many years there is really no such thing as frictionless. In this particular case if I understand their design (since I have not disassembled the trigger yet and relied on their marketing info for a look of the internals) they have replaced the sliding friction for a rolling friction which is the novel concept in their design.

Now that my petty rant is over, the trigger itself is stout. The housing is solid, seams are tight , machining looks good, and they even have a little sticker to discourage people like me from mucking about. There are a few subtle features right out of the box that made me already like it before I even tried to install it. For starters, the safety has a little Trigger Tech logo on it which made me think they are paying attention to detail. Next was the trigger shoe which had more of an old school curve to it and was making this low speed high drag guy feel at home again.

Installation and initial testing

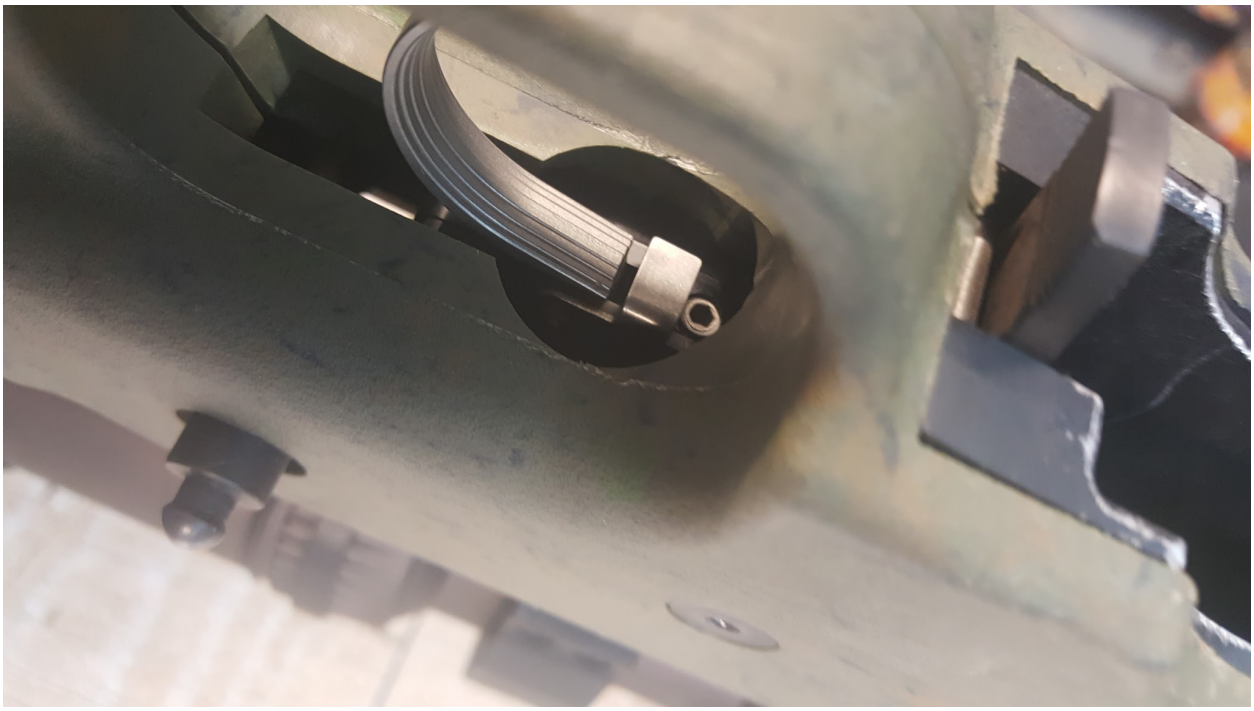
Putting this trigger in is just like every other drop in Remington 700 trigger out there. Pop out the pins, don't lose the bolt release spring, and drive the pins back in. All the fitment went well, there was no need to adjust anything including the bolt release tab. Just like previous tests before any dry firing, checking the feel of the trigger, out came the trigger pull gauge and measurements commenced. Just like my major gripe about other curved triggers is where should I be measuring trigger pull weight on a curved trigger as the location affects pull weight. With that said measuring using "just the tip" of the trigger gets consistent readings and matches up with the range of pull weights listed by the manufacturer. Without going into another tirade like in a previous trigger article, depending on where you put your finger will affect the amount of pull weight required to make it break. For this article we are going with the end of the trigger.

Trigger Tech was set fairly low out of the box. For most people selecting this trigger it likely doesn't even need adjustment out of the box. In all honesty I would have likely shot it a bit before adjusting if I were not writing this little piece. Additionally, their claims of available trigger weights lined up darn near perfect if you used the "end" of the trigger to measure pull weights. So right out of the gate we were at 20 oz. which really would have been just fine and felt pretty good. I tried to cycle the bolt hard to cause the firing pin to not lock back, but I couldn't make it fail with out of the box settings.

Pull weights for trigger comparison (All measurements taken from bottom of shoe)						
	Trigger Tech (out of box)	Trigger Tech Too Low	Trigger Tech Minimum	Calvin Elite Edge Adjusted		
	Stage 1	Stage 1	Stage 1	Stage 1	Stage 2	
	(oz)	(oz)	(oz)	(oz)	(lbs)	(oz)
	20.6	14.8	17.2	8.5	0	12.6
	20.5	15.7	16.2	8.2	0	12.6
	19.5	14.8	15	8.2	0	12.9
	19.9	13.9	15.5	8.1	0	12.4
	20	15.9	15	8.3	0	12.6
	20.4	13.5	16.4			
	20.7	16.6	15.3			
	20.6	13.5	16.5			
	21	15.7	15.4			
	20	15.6	16.6			
Average	20.32	15.00	15.91	8.26	0.00	12.62
SD	0.45	1.08	0.77	0.15		0.18
ES	1.5	3.1	2.2	0.4		0.5
Factory Variance	0	-5.32	-4.41			

Making Adjustments

TriggerTech made adjustments so easy even I can do it. There is ONE set screw to adjust pull weight. There is no sear engagement screw, no overtravel adjustment, none of that stuff. Just turn the set screw to adjust trigger pull weight. Their design has “clicks” to track adjustments made, but all that did was make me nervous thinking that I was breaking something even though I was not. A huge “atta boy” to Triggertech was that I was able to adjust pull weight without removing the action from my AICS chassis. It is tight, but I could fine tune it which allowed me to run it right on the ragged edge knowing I can bump it up in the field if need be.

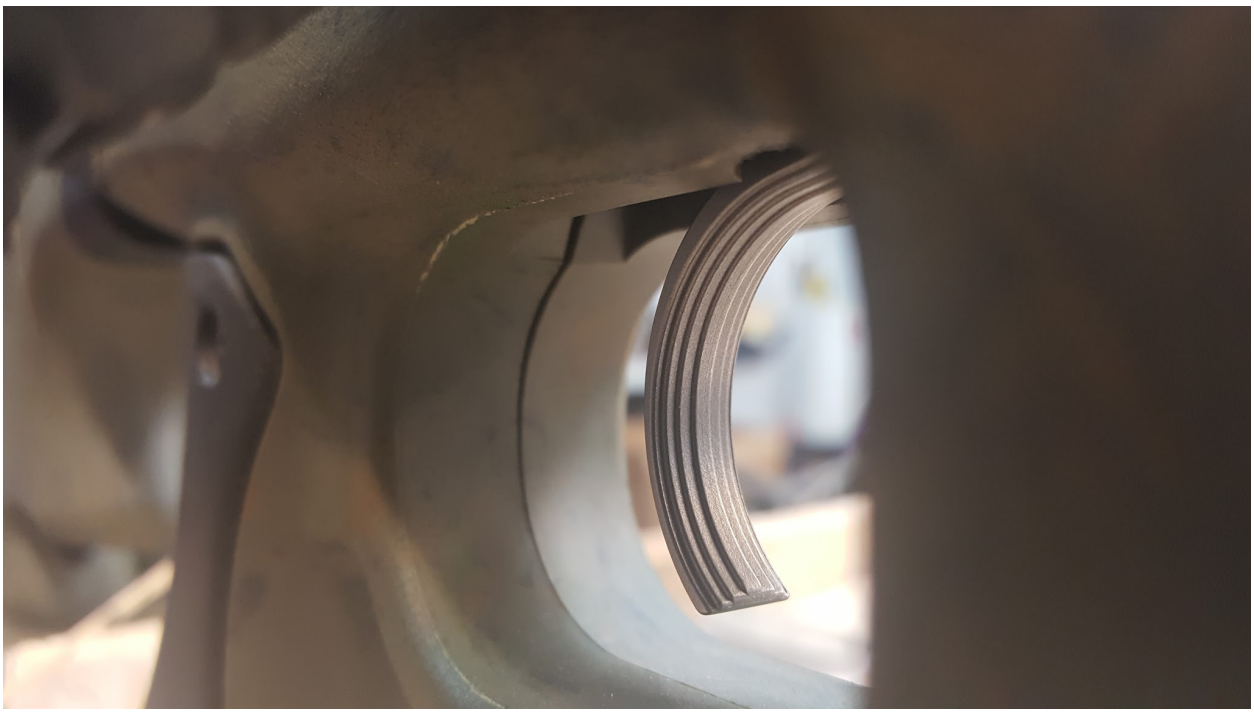


When I reference the ragged edge above I am referring to the lowest pull weight possible that will keep the firing pin locked back even when I run that bolt hard and aggressive. So I began dry firing like a mad man, running that bolt hard forward and trying to make it trip. Above is a table of pull weights were it would fail on occasion if I ran it hard(Too Low), and where I left the settings which have proven reliable(Minimum). So If I were running the bolt a bit slower, I could get away with lower pull weights than advertised, but I don't recommend running below what Trigger Tech states. They have obviously done their homework and they know what their product will do reliably.

As shown in the data table above I was able to get the trigger to function what I consider reliably at an average value just barely below one pound at 15.91oz. The trigger feels crisp, and it feels consistent from pull to pull. Looking at the numbers regarding consistency it speaks a slightly different story. As one can see in the table the best spread in pull weight was 1.5oz, and comparing that to the extreme spread of the Timney Calvin Elite I looked at recently which has a spread of 0.5oz the Trigger Tech has more variance. The comparative numbers of standard deviation and extreme spread comparing the two triggers puts the win to Timney regarding consistency in measured trigger pulls. In defense of Trigger Tech using my trigger finger as the gauge I can't tell any variance between trigger pulls, and due to the break of the trigger being so crisp, and the small amount of overtravel some of the variance could be due to the operator of the measuring tool. In short, once the trigger breaks I am still pulling on the trigger so I could be causing a spike in the reading as I stop pulling the trigger that just broke. I did attempt to watch the gauge and see if I induced a high reading which I would omit. I used the same method and equipment as with other triggers so with the tools, setup, and measurement technique I am consistent. I know Trigger Tech uses some fancy measuring equipment in their testing as shown in their marketing material but I am using the tools I have at my disposal, and I have repeated this on multiple days with the same overall result.

Shooter Observations

I feel compelled to start off by stating that this trigger is at a disadvantage with me from the beginning due to personal preference. I am a two stage trigger guy, so I was less than enthusiastic about putting a single stage trigger in my rifle. Even with that bias from the beginning there were a few redeeming qualities that I **really** like about it. The trigger shoe is precisely what "feels right" to me. It is a pronounced curve, and the face of the trigger is a stepped and raised face. By this the center of the trigger is the tallest and it steps down as it goes to each side of the shoe. This design allows a good solid purchase on the trigger, has distinct tactile indicators as to where the center of the trigger is, and provides a good frame of reference to the center of the pad of your finger and the center of the shoe. The trigger shoe alone made me feel like I could be more consistent and as some people have said "consistency is accuracy."



As much as I did not want to admit it(due to it being a single stage, and the claim of being frictionless on the box), this trigger is quite good. There truly is zero creep, there is minimal overtravel, the break is superb, and to top it all off the force required to break a shot feels quite consistent. After the shop dry fire session I was ready to torch some rounds off which I did in a very limited capacity the next day. While torture testing a target impact sensor design, I grabbed some rounds, and put about 8 rounds in quick succession on a target. On the first press I was missing my two stage trigger as typically I use that travel to time my breathing and go through a quick mental check list before letting it break. After the first shot, I didn't even think about it being a single stage trigger. After a barrel cool off I loaded up some

more rounds and gave it another go. The Trigger Tech was so crisp, so predictable, and the tactile feel of the trigger itself was so nice the trigger and I had quickly come to an understanding and I felt like I could count on it to do what I ask of it.

I wasn't planning on running this rifle for a while as I was going to beat on another one for local matches, but these local matches put on by Sin City Precision are a great venue to give equipment a shake down. There is typically a good combination of positional, prone, medium and long range shooting. This is a perfect place to see if the Trigger Tech can hold its own with an average at best shooter at the controls. The Trigger Tech performed exactly as expected. The functioning was perfect, the breaks were predictable, it performed the same throughout the entire match, and I could count on it to send the round exactly when I needed to for stages where timing was critical (like on a spinner stage).

Although the trigger performed superbly, there was something missing and not a single shot during the entire match "felt just right" to me. Everyone has their off days but in this case I don't think I was having a bad day at the range as I landed in the leaderboard right around where I have been lately. So with everything looking good on paper, shooter results being status quo, the only explanation I can make regarding what was missing is the feel of a two stage trigger. I shot a single stage trigger for a long time before going to a two stage in my precision rifles and even back then I never really "became one with the rifle" so to speak. Once I moved over to the two stage triggers I found myself getting in a rhythm,

and using that first stage as a dedicated time to go through a little pre release checklist. That slight movement in the trigger settled me, got my mechanics steady, and kind of settled my mind.

Obviously, I can still shoot a single stage and the Trigger Tech does the job well as shown by the group above. Performance wise I do not have any hard evidence that I shoot any better with one trigger over another. It certainly appears the Trigger Tech can hold its own just fine compared to the other units I have been using. I am sure there is someone out there saying that increasing pressure ahead of time before the break is the same thing as a two stage, but I disagree. Actually feeling the trigger move, and

then hit the wall of the second stage is vastly different than just applying part of the pressure before the trigger breaks. A big part of this game I participate in is mental, and if I don't "feel" good about my shots I am at a disadvantage. With all that said, I plan on using this Trigger Tech for a while longer to give it an honest shake and see if it grows on me, but in reality I think this trigger will be relegated to the "friend zone" so to speak.

FINAL THOUGHTS

For anyone who wants a solid single stage trigger at a fair price this is a great choice. The TriggerTech has not converted me to a single stage guy, but they gave it a good try. If TriggerTech could deliver the same quality of product with an 8oz first stage and a 16oz total final pull weight (or even less) I would be a believer right quick and I hope when that comes out they will give me a crack at it. Considering that Trigger Tech is a newer kid on the block in my opinion they have done a phenomenal job and the big names might want to look at what these Trigger Tech folks are doing. For those on a budget and if they don't need the 1.0 pound trigger pull they may want to consider the 1.5 to 4.0 pound version. I will certainly keep my eye on Trigger Tech and look forward to what they come out with in the future.