Eigenbolt Manual

Intro

The Shocker Eigen bolt is designed to be as fool proof as possible, while providing maximum efficiency and performance. This is a drop in part that can be used with any Shocker SFT/NXT. It is compatible with all SFT/NXT stock parts, as well as most aftermarket parts. Currently the only aftermarket parts that are not compatible with the Eigen bolt are the Evolve v2 bolt sleeve and the Evolve v2 bolt guide.

Setup

Start by finding the best fitting o-rings for your bolt assembly out of the ones provided with the bolt and whatever other o-rings you may have lying around.

The following is a tutorial on how to find the best fitting o-rings for your bolt.

To test your tolerances, take the entire bolt assembly out of the gun.

Then remove the sleeve and guide.

At this point you will want to move the bolt back and forth in the can (while it is lubed). If the two pieces don't slide very easily your o-rings tolerances are too tight. It’s a good rule of thumb that if you pick up the can while the bolt is in it and tip it so the bolt is facing up, the bolt should slide down inside the can by the force of gravity. The same rule applies to the guide in the bolt and the bolt in the sleeve. Also if the parts don't slide smoothly, I.E. there is some stick or vibration then the tolerances could be better.

If your tolerances aren’t like this you should find the o-rings that are the cause of the excess friction and replace them. Even though o-rings are listed as say 17/70 they are all a little different. The best way to find a good o-ring is to take all of your 17/70s and place them on a dowel rod or something similar that they can hang off and if you look very closely while they are hanging side by side you will see that some are slightly larger than the others. Take the larger ones and place them in the can. Then repeat the tolerance test. Do this until you find the best fitting o-rings you have. For the guide and bolt sail o-rings you will want to use the smaller o-

rings. It is possible that the tolerances will be too loose and cause a leak or pneumatic lockout, so keep that in mind.

Once you have your o-rings picked out and installed go ahead and lube the bolt assembly with appropriate grease such as Dow 33 or Lurker Lube. Next, install the bolt assembly in the gun. From here go to a chrono with air and paint. Bottom your dwell out and set your pressure to around 170 psi. Fire the marker while upping the dwell until the bolt fully cycles. From there increase the dwell by one to two millisecond.

Now chrono the marker and use the regulator to reach the desired velocity. If you don't have a gauge you can set your dwell to 9 milliseconds and adjust the pressure from there.

Once you have a baseline setting, it's encouraged that you experiment with different setting to find the lowest possible dwell and pressure combination to shoot your desired velocity. If you prefer a smoother shot you will want a slightly higher dwell with lower pressure. If you want maximum efficiency you will want the lowest dwell possible.

The typical operating pressure of the bolt is between 120 psi and 180 psi with a dwell of 7 or 8 ms.

Trouble Shooting:

Bolt sticks forward - Check for spring binding, make sure the rear inner can o-ring isn't catching the return slots.

Bolt puffs and won't cycle when firing - Verify your o-ring tolerances aren't too loose or too tight, make sure your bolt guide bumper is installed and intact, make sure bolt guide is all the way in, check for spring binding.

Poor efficiency - Make sure your o-ring tolerances are good, verify that the hole in the back of the guide is not plugged, if you have and adjustable guide make sure it's not set too far back (stock is as far back as it should be), make sure your SFT o-ring seals around the front of the bolt properly.

Inconsistency – Try turning the bolt guide out ¼ turn. A thicker rear bolt bumper to replace a worn stock may help the bolt’s initial position and improve consistency.