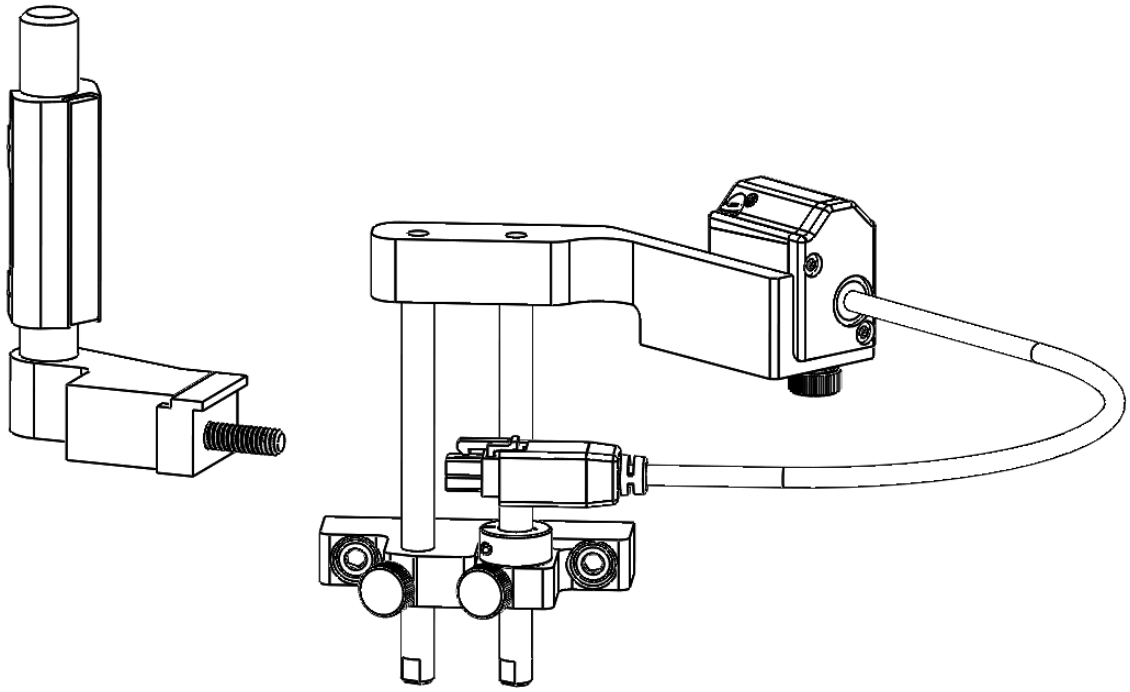
101-1083: Mark 7® BulletSense 650

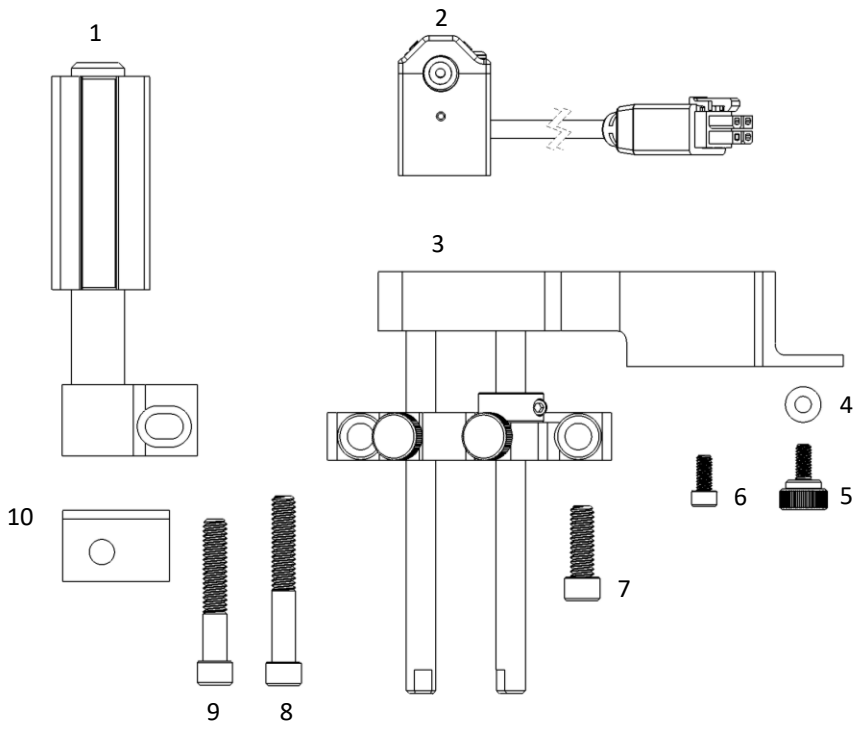
Instruction Manual V 1.1



⚠	**Read this manual completely. Understand all safety and operating instructions. Failure to comply with the warnings and instructions may result in serious injury, illness or death.**

Package Contents

Please review these contents and inform us right away if you appear to be missing any of these items:



Item No.	Description	QTY
1	BulletSense Mirror Mount Assy - EVO/Rev	1
2	BulletSense Sensor Head Assy	1
3	BulletSense Mount Assy - EVO/Rev	1
4	#8 Washer, 0.172" ID, 0.375" OD	2
5	Thumb Screw Brass	1
6	8-32 Thread Size, 3/8" Long Socket Cap Screw	1
7	Socket Head Screw, 1/4"-20 Thread Size x 3/4" Long	2
8	Socket Head Screw, 1/4"-20 Thread Size x 1-3/4" Long	1
9	Socket Head Screw, 1/4"-20 Thread Size x 1-1/2" Long	1
10	BulletSense Mirror Bracket Shim	1

Set-Up Procedures:

1. Begin by clearing the shell plate and powering off the machine and tablet. Remove the tablet, tablet holder, and offloading bin and set aside.

2. Locate and remove the offloading bracket bolts (X2) with a 7-16” socket and set aside (see Figure 2).

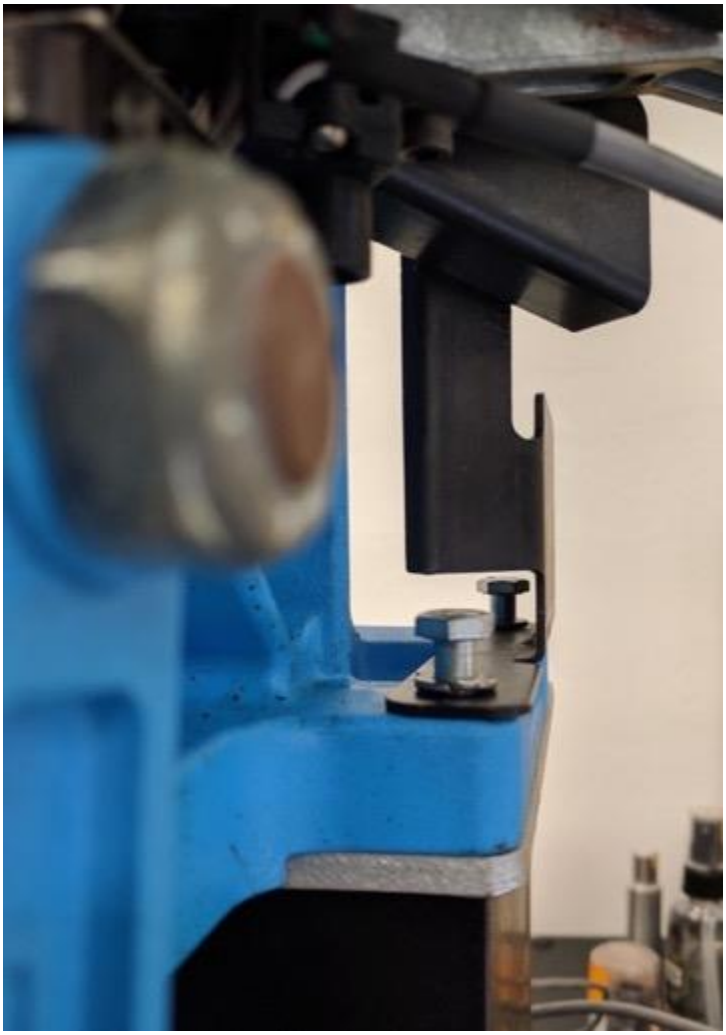


Figure 2: Removing offload bracket

3. The case feeder pole bolts need to be removed to install the BulletSense® mounting bracket. It is recommended to remove the case feeder or have an assistant hold the pole in place so the case feeder doesn’t tip over. Carefully remove the case feeder pole bolts with a 3/16” Allen wrench and with a 7/16” socket affixed on the opposite side of the press (see Figures 3 and 4).

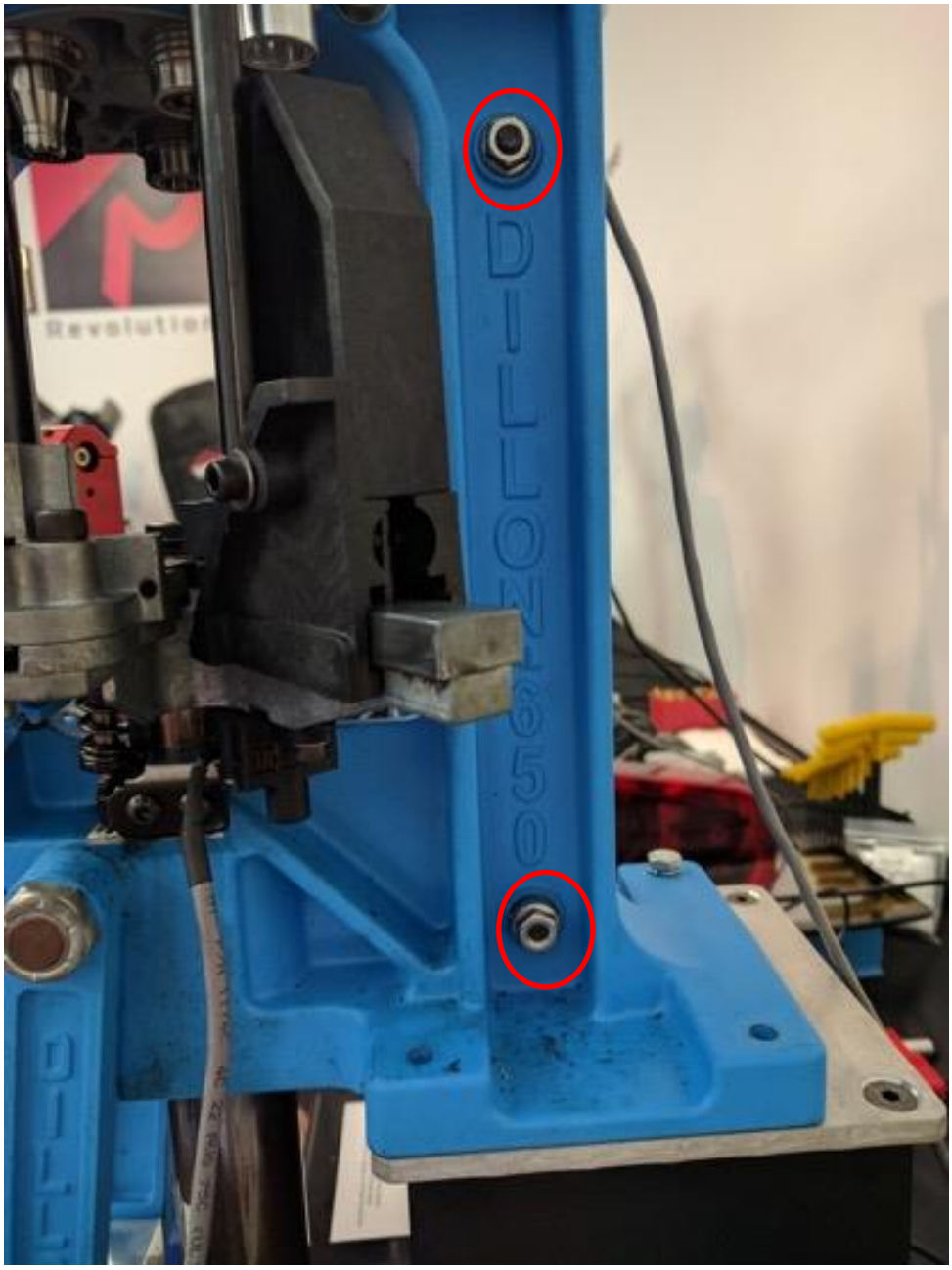


Figure 3: Case Feeder Mounting Bolt Locations

4. Install the 650 BulletSense® Bracket Assembly as shown in figure 4. Use the longer ¼-20" bolts provided.

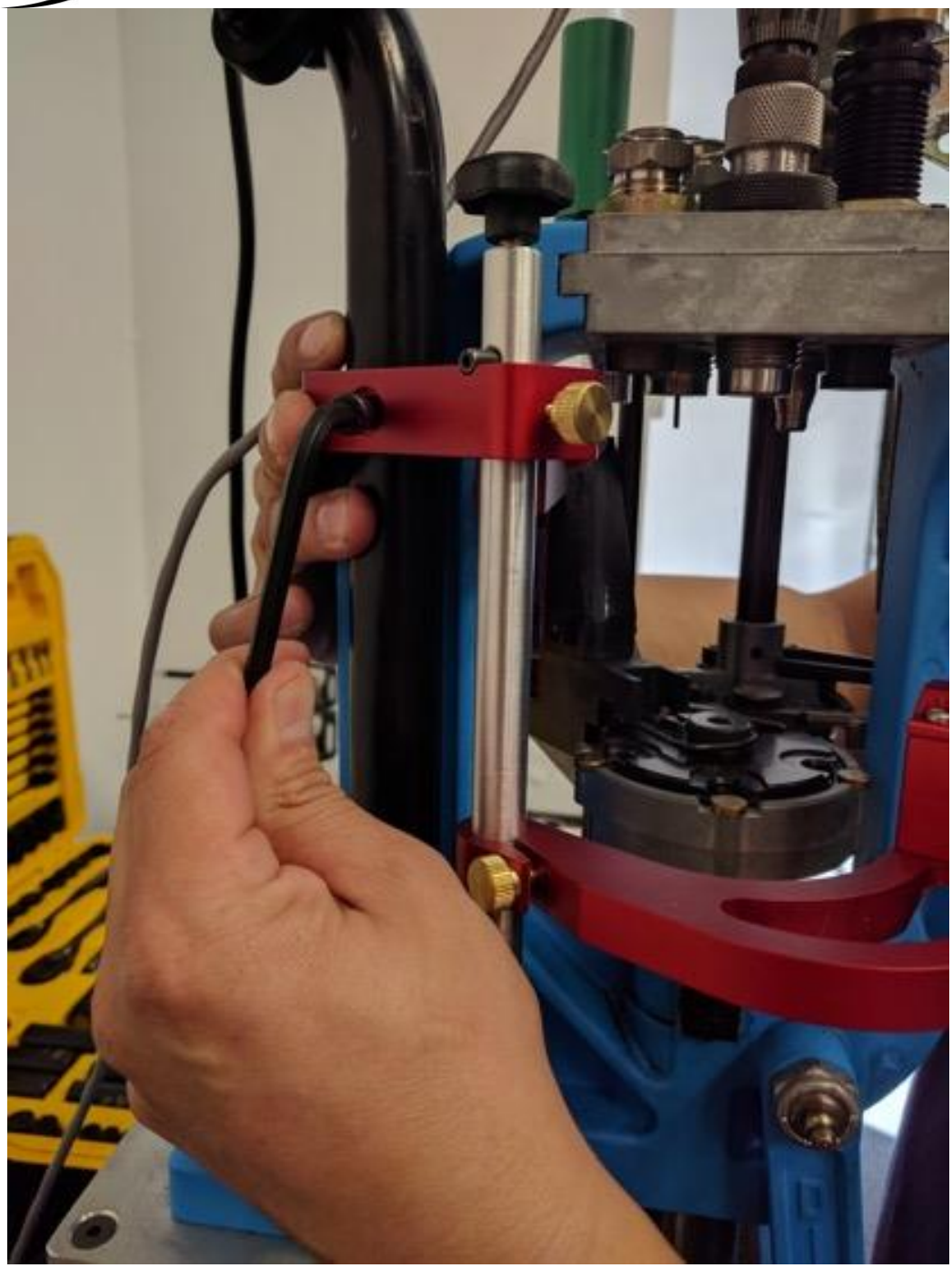


Figure 1: Installing BulletSense® on XL 650.

5. Attach the Mirror Bracket to the top bracket mount with the 2X flat head 8-32 X 1.25” cap screws. The mirror then can be adjusted using a 3/8” open ended wrench.

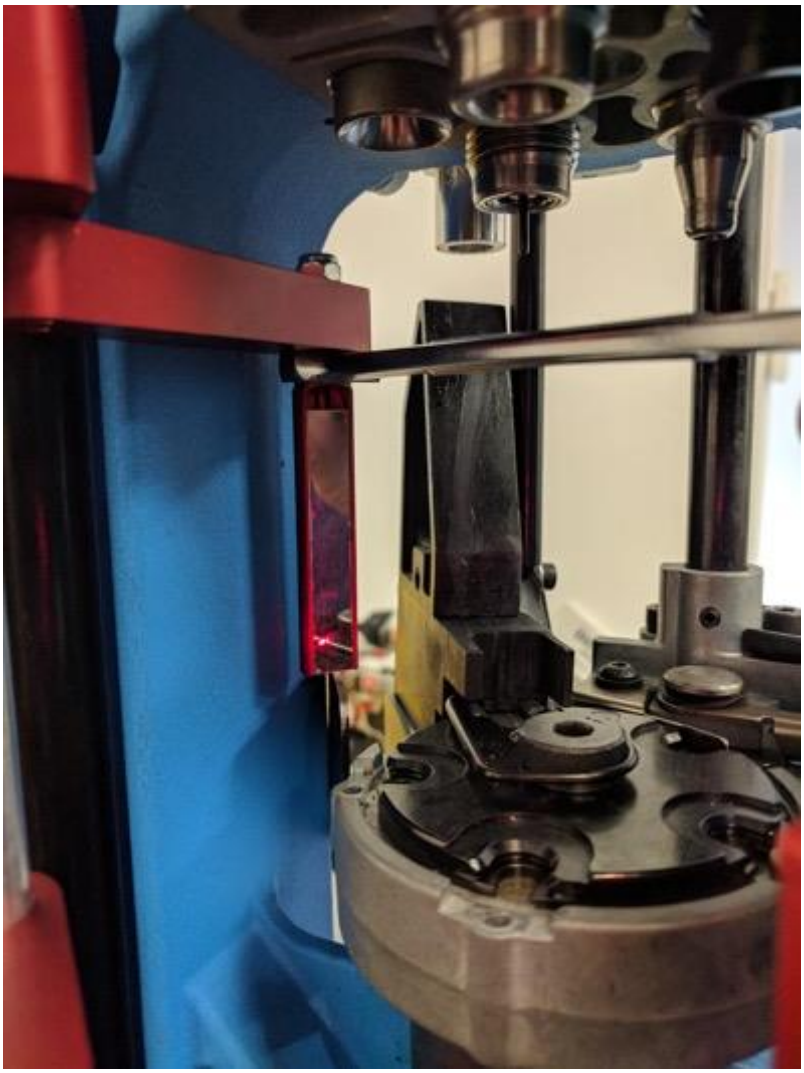


Figure 5: Installing Mirror Bracket

6. Attach the offloading bracket provided with the screws that came with the press if you are loading pistol calibers. **Note for rifle calibers:** The standard bracket can still be used for rifle (it just covers the bottom of the mirror). This isn't an issue though because the laser head is mounted higher due to the taller cases and longer projectiles.

7. BulletSense® can be configured in either station #4 or #5 (depending on whether you are using a PowderSense®).
   Station 4: BulletFeeder dropper in Station 3 with standard crimp and seat dies
   Station 5: BulletFeeder dropper in Station 4 (using PowderSense® Powder check)

8. Once you decide which station, align the 650 BulletSense® assembly with the mirror holder by loosening the sensor head mount (middle arm) brass thumb screw and rotating the sensor head to meet the mirror (see Figure 6).

Figure 6: Lining Up Laser with Mirror (Crude Adjustment)

9. Plug in the Sensor into Port #3 and power on the console which will automatically turn on the laser. When you first power on the sensor, look at the mirror to see where the laser beam is directed. Use a thick white card/flat object to help find the exact position if it's difficult to detect the position.

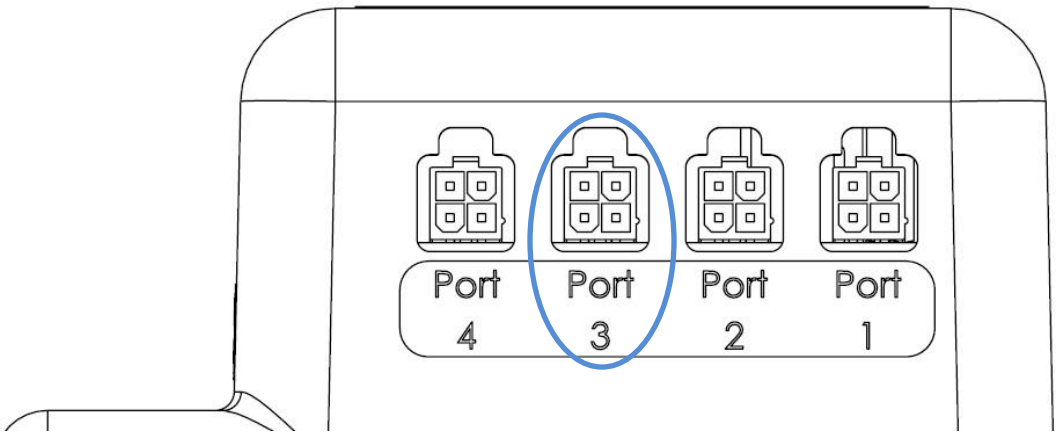


Figure 7: Sensor Port

****Please do not look directly into laser beam or directly at reflection in mirror****

WARNING – Class 3R laser: Avoid eye contact at all times; do not look directly into the laser when adjusting the laser alignment.

10. Adjust Laser beam onto the mirror with the 2X 6-32" set screws on the top of the assembly with a Torx screwdriver size T6 x 40mm. Once the Laser diode is hitting the mirror surface rotate the mirror using a 3/8" wrench so the laser beam is reflected back to the sensor main body. Once the reflected laser beam appears on the sensor main body, continue adjusting the set screws a little at a time to direct the laser beam into the sensor hole as shown in Figure 8.

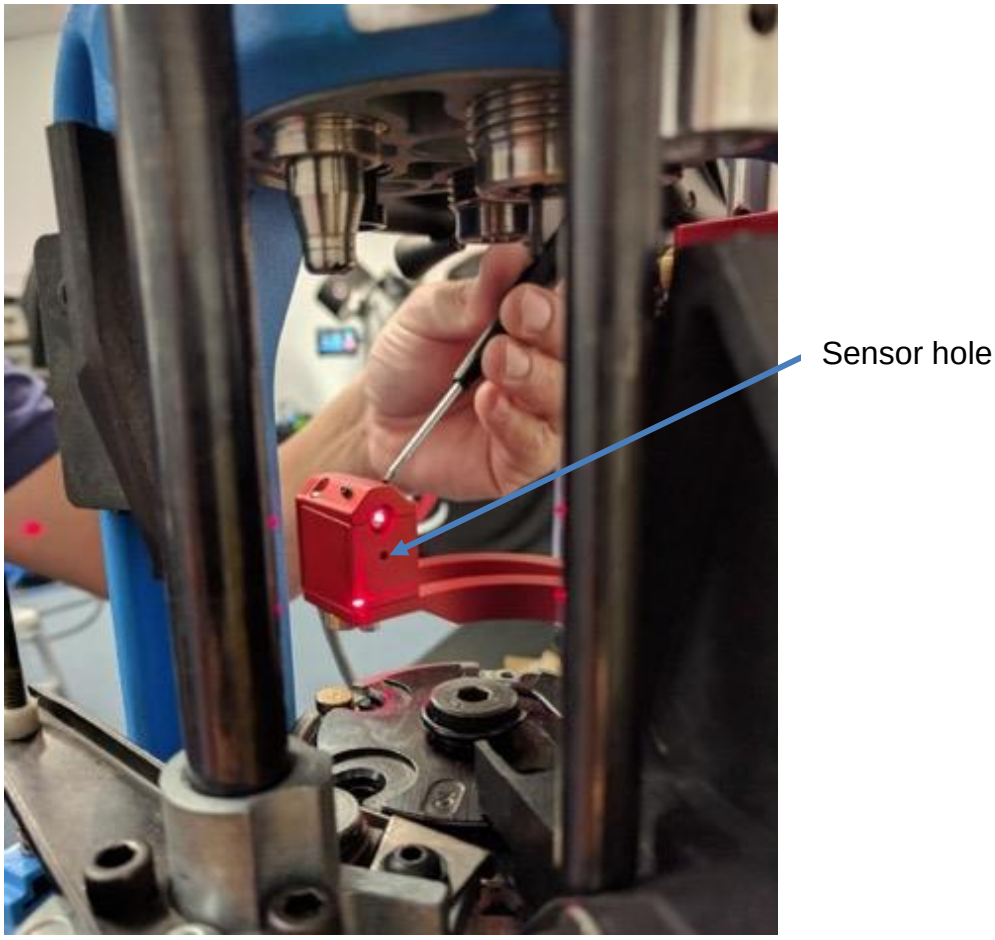


Figure 8: Adjusting Laser

11. Next the sensor vertical height must set for the given caliber and projectile being used. This must be performed when the platform assembly is in the home position. Before making the vertical adjustment perform a system calibration so the platform stops in the home position.

12. To set the vertical adjustment, place a case with the neck expanded (pistol only) in Station #4 or #5 and place a bullet in the proper orientation into the case at the level where it would be when dropped from the Mr. Bulletfeeder® drop tube.

13. Loosen the brass thumb screw and gently position the sensor head mount (on middle curved arm) so the laser beam goes OVER the tip of the bullet and hits the mirror, the reflected beam should return and hit the tip of the bullet, so the beam path is broken as shown below (Figures 9 and 10). Once the height has been set, remove the bullet, and make sure the laser is still aimed at the sensor hole.

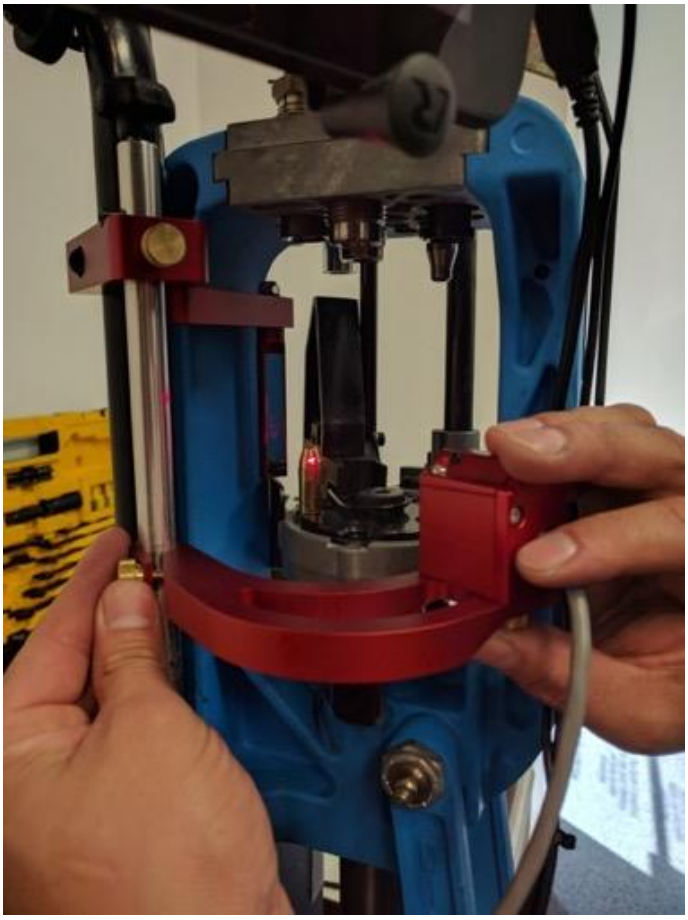


Figure 9: Setting Vertical height of laser

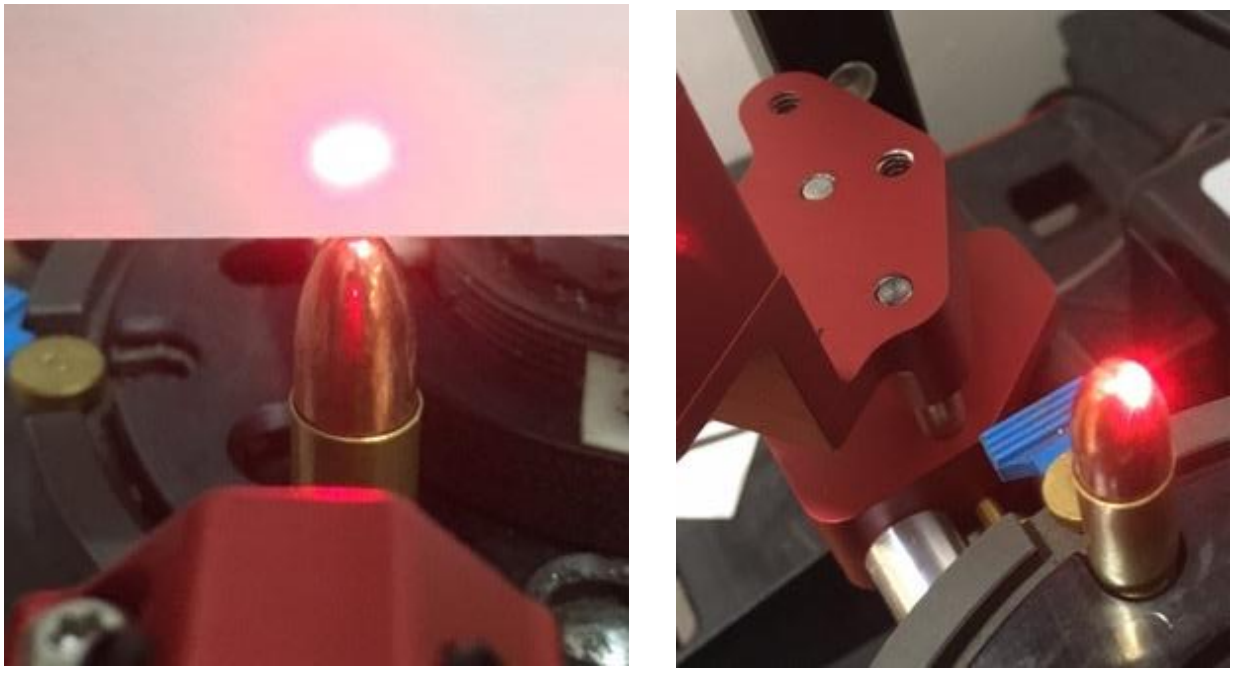


Figure 10: Beam Over Bullet (Left) the Reflected Beam Will Hit the Back of the Bullet (Right)

14. When the vertical height is correct a shadow will be cast on the sensor preventing the sensor from “seeing” the laser beam. When the bullet is not present/upside down/ sideways the beam will pass over the bullet and contact the sensor triggering the machine to stop.

15. It may be required to loosen the brass thumbscrew under the sensor head to add a slight angle on the laser body to achieve a proper line of sight between the laser, bullet tip, mirror and back to the sensor hole.

16. Once the proper height and adjustment has been achieved tighten the brass 2X thumb screws located under the sensor head.

17. The sensor head assembly is designed to be rotated out of the way if you need to access the shell plate or perform press maintenance. Use the plastic knob on top of the rod to lift and rotate the sensor away from the machine.

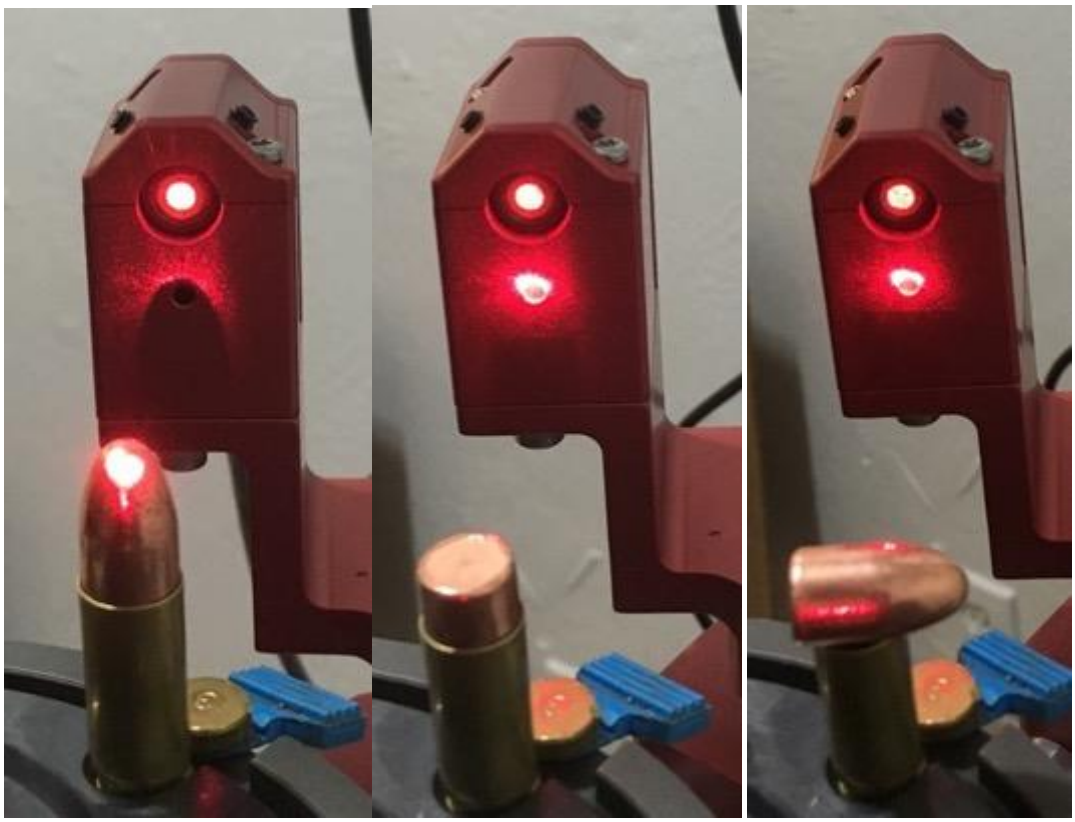


Figure 11: Bullet Properly Oriented - Beam Interrupted (Left) vs. Bullets Improperly Oriented – Beam not interrupted (Center and Right)

Operating 650 BulletSense®:

1. With a clear shell plate enter the Reloader application, confirm that you have the required software and firmware version or newer as outlined in the first page of this document.
2. BulletSense® Plugged into I/O Port 3.
3. Confirm that the laser is aligned with the sensor opening.
4. Perform a system calibration then select the sensors tab and make sure BulletSense® is enabled. (See Figure 12).
5. Press RUN or Single Cycle. With a clear shell plate the following notification should appear "Bullet Not Properly Positioned." (see Figure 13).

Figure 12: Enabling BulletSense® on Sensor tab

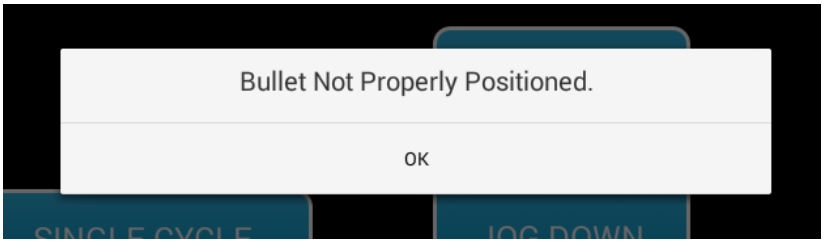


Figure 13: Bullet Not Properly Positioned Notification

Troubleshooting

Refer to the knowledge base section on our website under **SUPPORT** for troubleshooting articles relating to setup and operation.

http://www.markvii-loading.com/knowledgebase

Please contact us for technical support

Phone: 1-888-462-7577

Hours: 9:00am-4:30pm, ET, M–F