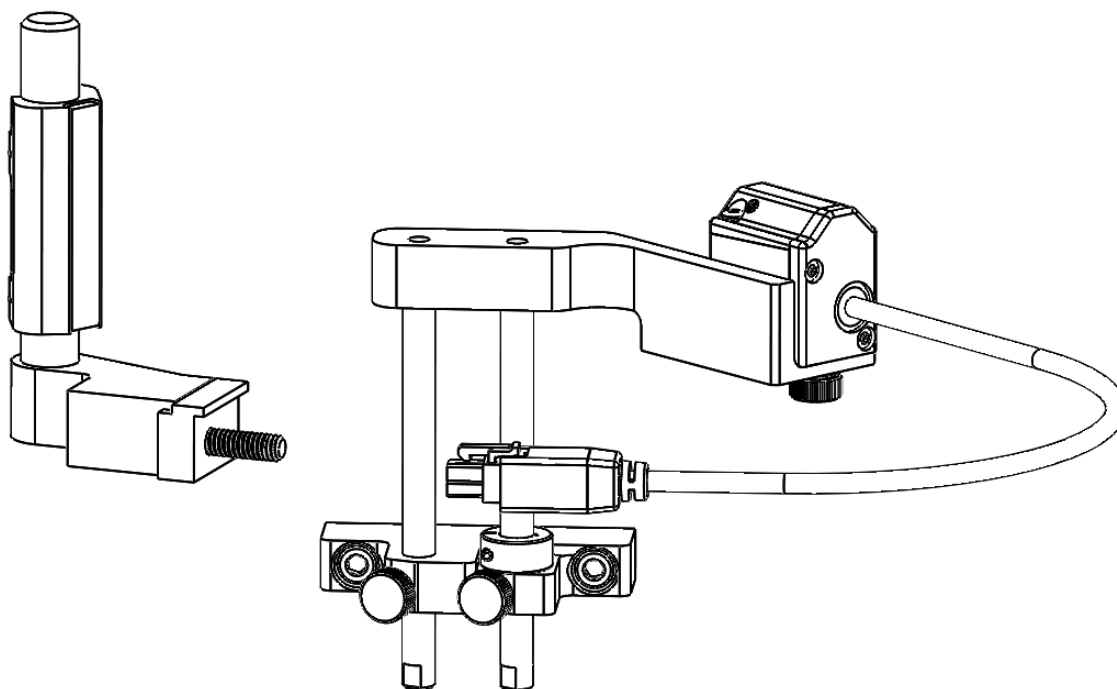




101-1059: Mark 7® BulletSense Evolution / Revolution / Apex 10

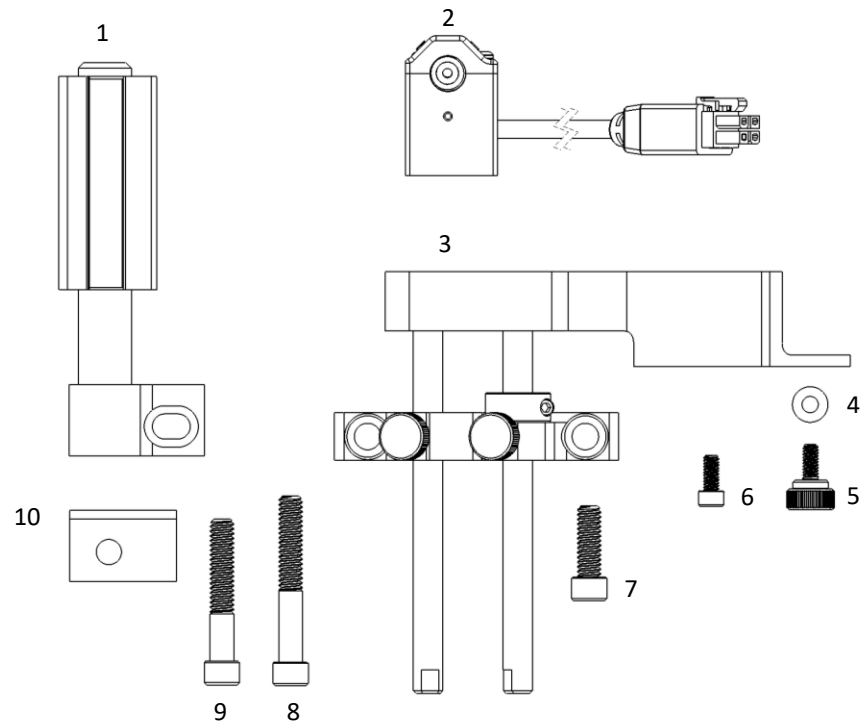
Instruction Manual V 1.1



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:



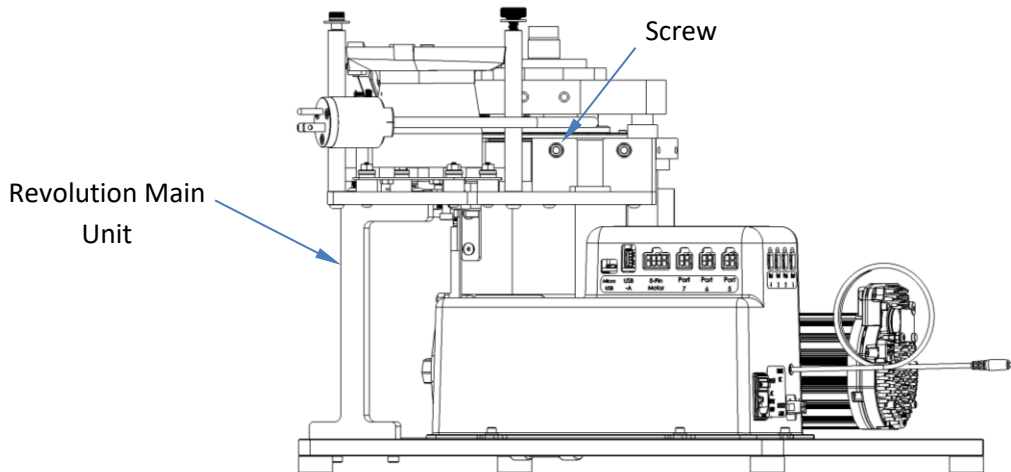
Item No.	Description	QTY
1	BulletSense Mirror Mount Assy - EVO/Rev	1
2	BulletSense Sensor Head Assy	1
3	BulletSense Mount Assy - EVO/Rev	1
4	#8 Washer, 0.172" ID, 0.375" OD	2
5	Thumb Screw Brass	1
6	8-32 Thread Size, 3/8" Long Socket Cap Screw	1
7	Socket Head Screw, 1/4"-20 Thread Size x 3/4" Long	2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

*Revolution shown. Same Procedures for Evolution and Apex 10

1. Power Off **Revolution Main Unit** and remove indicated **Screw** from **Revolution Main unit**.



2. Install the **BulletSense Mirror Mount** onto **Revolution Main Unit** using hardware below. (*Note: If loading rifle caliber, install **BulletSense Mirror Bracket Shim** in between **BulletSense Mirror Mount** and **Revolution Main Unit**.)

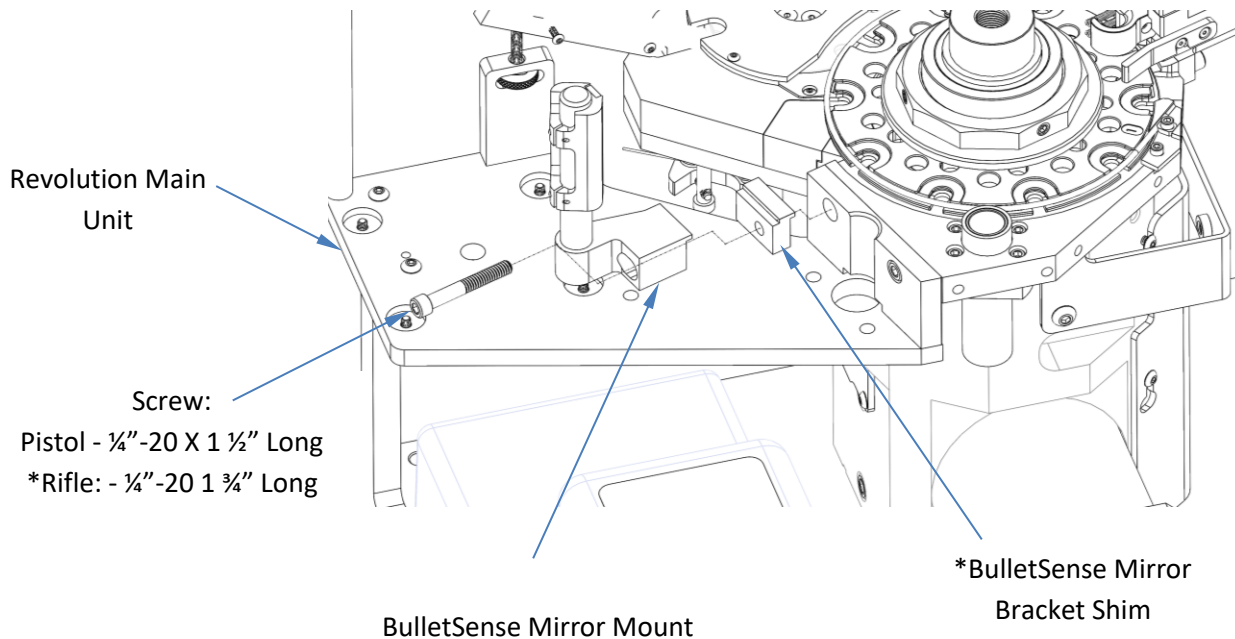
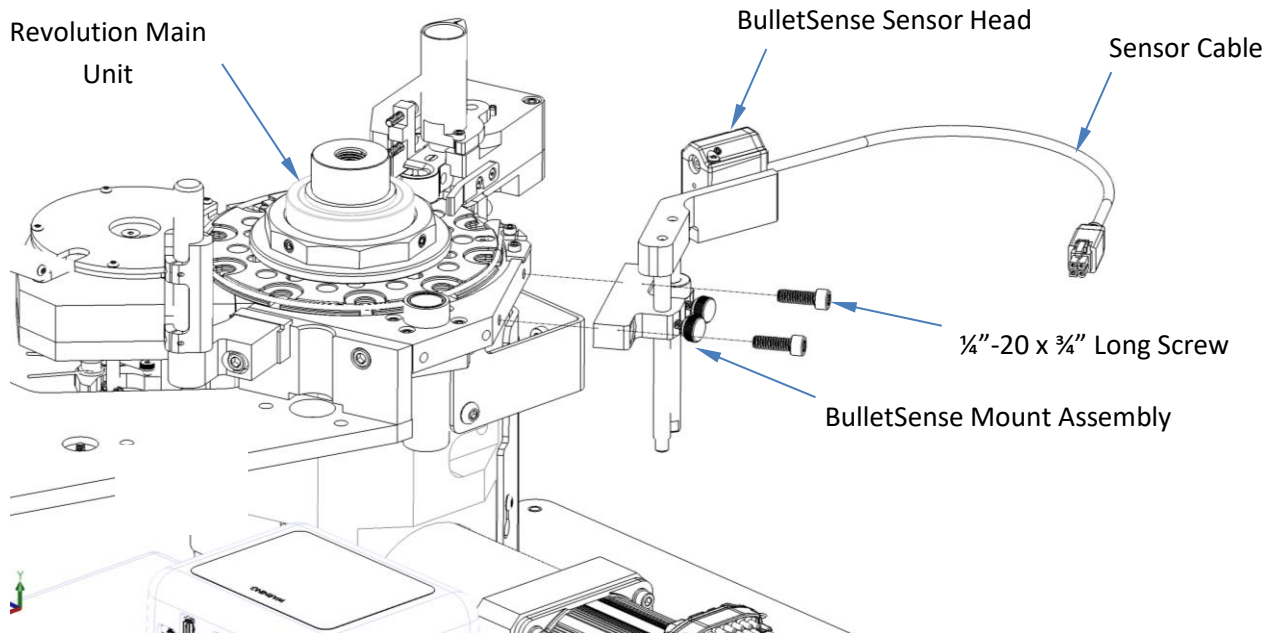


Figure 1: BulletSense® Installation

3. Install the **BulletSense Mount Assembly** onto the **Revolution Main Unit** using hardware below. **Bullet Sense Sensor Head** will already be attached.



4. Plug the **Sensor Cable** into **Console** at **Port #3**. Power on the **Console** which will automatically turn on the laser.

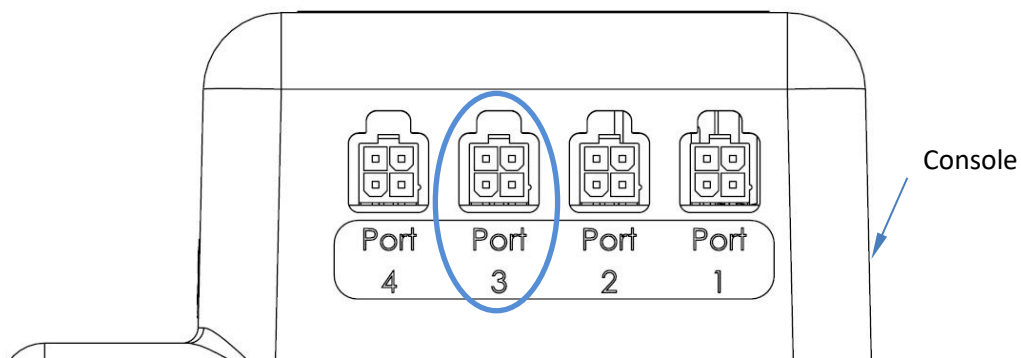


Figure 2: BulletSense® Console Port Location

5. Next step is to align the laser so that the mirror reflects the laser beam back into the sensor. To adjust use **Adjustment Screws** (see Figure 4.) When you first power on the sensor look at the mirror to see where the laser beam is directed. Use a white card to help find the exact position if it is difficult to detect.

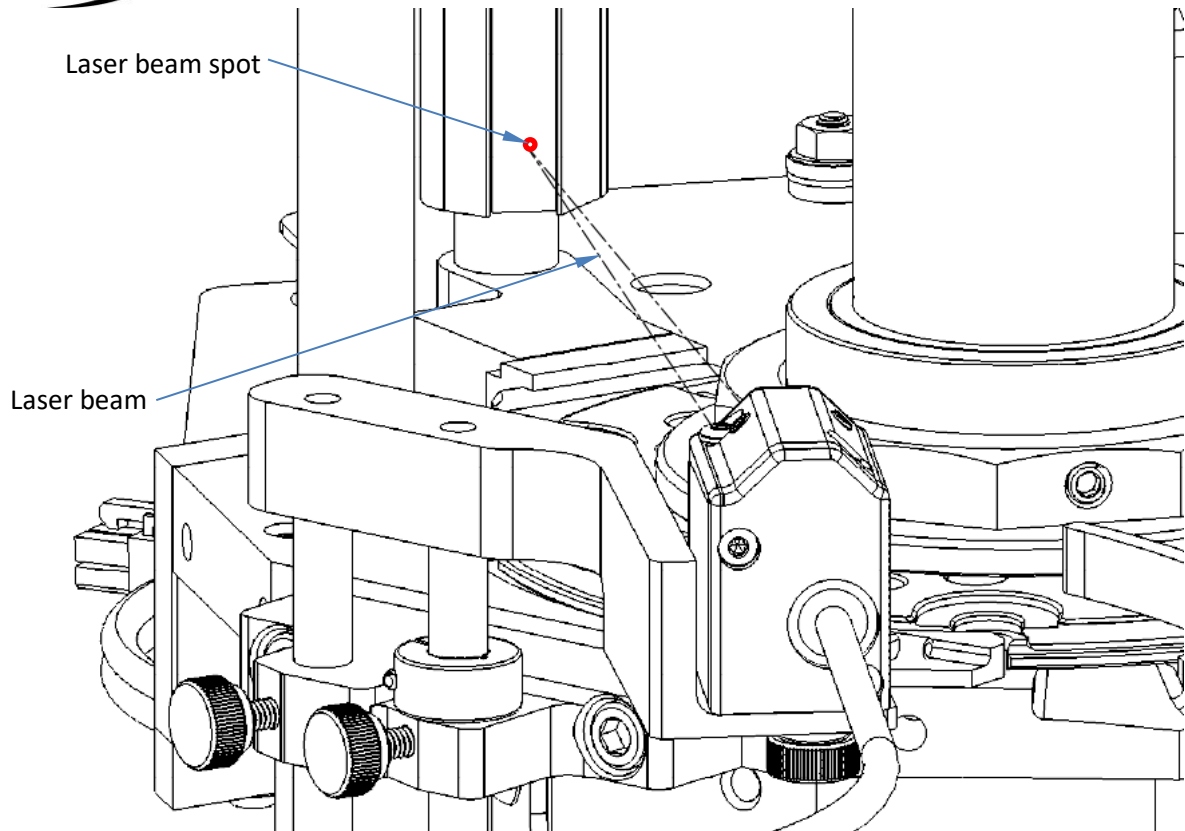


Figure 3: Laser to Mirror Alignment



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

6. Adjust Laser beam onto the mirror with the **2X 6-32 Set Screws** on the top of the **BulletSense Sensor Head**. After adjusting the laser to hit the mirror surface, rotate the mirror so the laser beam is reflected onto the **BulletSense Sensor Head**. Adjust the laser beam into the sensor hole as shown in the following figures using **Set Screws**. If you cannot get the beam to hit the mirror and reflect back into the eye install the **BulletSense Bracket Mirror Shim** between the mirror and press and realign (See Figure 1.) Rifle calibers most likely will need the shim.

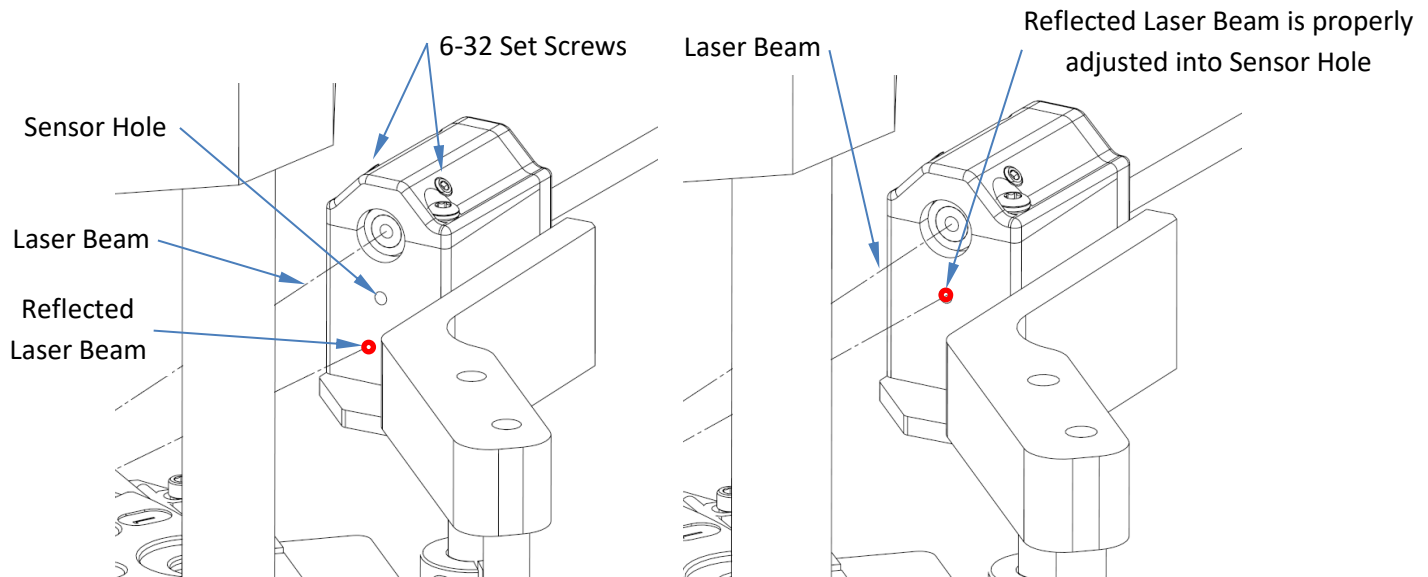


Figure 4: Reflected Laser Beam Adjustment

7. Next the Sensor vertical height must set for the given caliber and projectile being used.
8. To set the height, place a case with the neck flared in Station #9 (see Figure 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.
9. Loosen 2X Adjustment Knobs (see Figure 6) gently position the upper mount 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. Put a white card above the bullet and adjust the mount so there is a slight gap between the tip of the bullet and where the beam is positioned as show.
10. When the vertical height is adjusted properly a shadow will be cast on the sensor preventing the sensor to see the laser beam. When the bullet is not present, upside or sideways the beam will pass over the bullet and contact the sensor triggering the machine to stop.

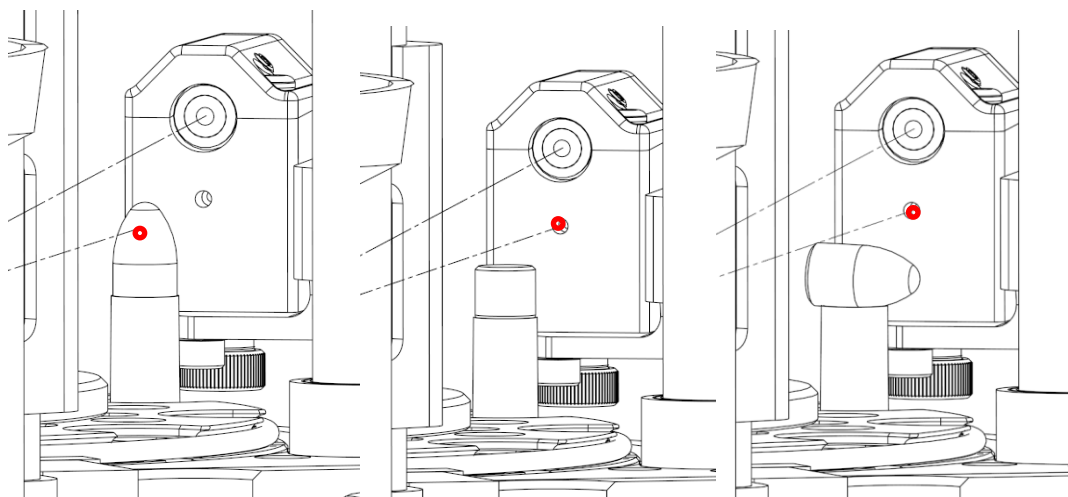


Figure 5: Properly oriented bullet – Laser Beam interrupted (Left). Upside down bullet – Laser Beam not interrupted (Center). Side way bullet – Laser Beam not interrupted (Right).



11. Once the proper height has been achieved tighten **2X Adjustment Knobs** and the **Shaft Locking Collar Screw**. The **Shaft Locking Collar** is used to lock in the required height adjustment. If you need to remove the **BulletSense® Assembly** for press maintenance or for any reason you can choose to remove the upper mount only. When re-installing, the vertical position will be maintained.

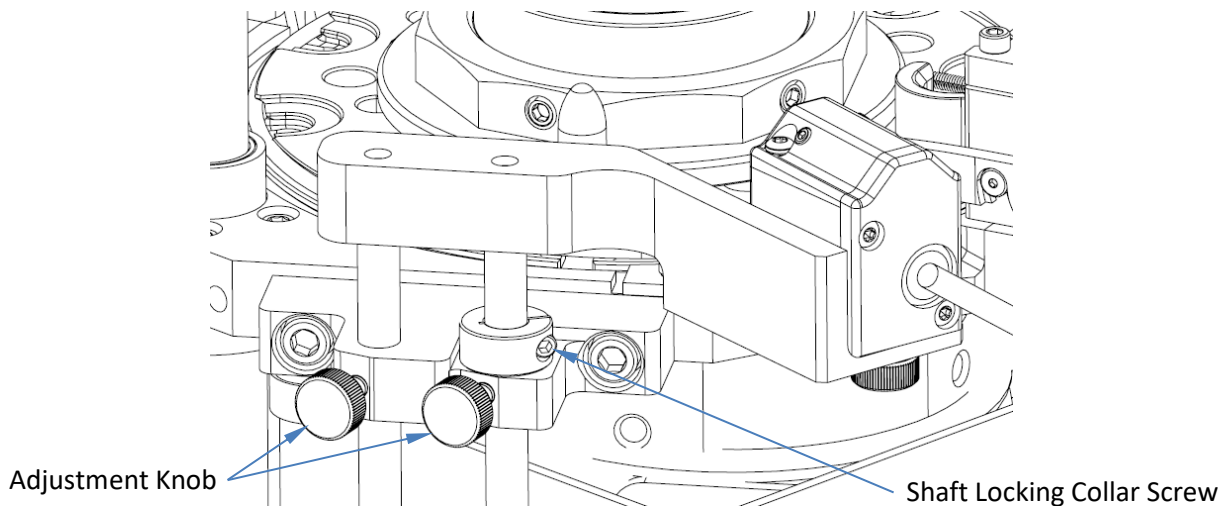


Figure 6: Locking height adjustment in place.

Operating Procedures

1. Confirm **BulletSense™** is plugged into **Main Unit Console Port 3**.
2. Confirm that the laser is aligned with the sensor opening.
3. Enter the Loader application and perform a system calibration.
4. Go to the **"Sensors"** tab and make sure **BulletSense™** is enabled.



Figure 7: Sensor Configuration Tab. BulletSense™ enabled.

5. Press RUN or Single Cycle. With a clear shell plate, the following notification should appear stating that a **“Bullet Not Properly Positioned.”**

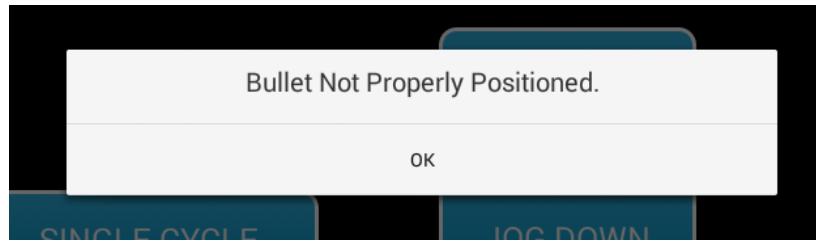


Figure 8: BulletSense™ Notification

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