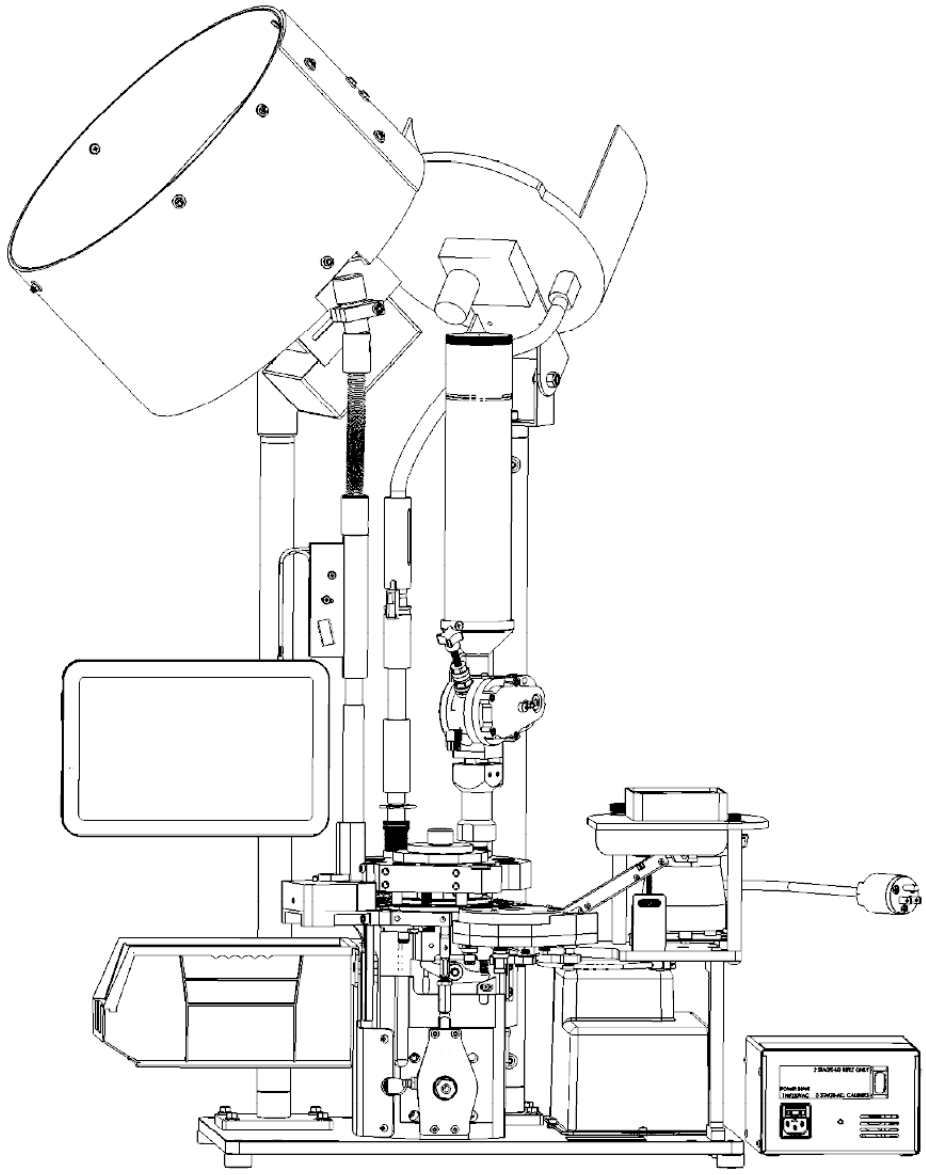
Mark 7® Revolution
User Manual
v 2.0



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

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Important Safety Instructions

Read this manual completely prior to installation and operation. Understand all safety and operating instructions. Failure to comply with the WARNINGS and instructions may result in serious injury or death. WARNINGS throughout this manual will be symbolized by the yellow WARNING symbols seen below.

WARNING – Activities using the Mark 7® Revolution™ are inherently dangerous and may lead to injury and even death. Actions as a result of using the Mark 7® product are solely the responsibility of the user – if you get injured through the reloading process or through the use of ammunition as a result of the reloading process it is your fault.

WARNING - Mark 7® equipment should only be operated by trained personnel that follow all safety precautions. Failure to do so could result in serious injury or death.

WARNING - Never leave your Mark 7® Revolution™ unattended while it is operating.

WARNING – Never operate the Mark 7® Revolution™ while impaired.

WARNING – Never operate that Mark 7® Revolution™ without using high quality brass and always use sufficient lubrication on your brass while operating the Mark 7® Revolution™.

WARNING – The Mark 7® Revolution™ is designed to automate the process of loading and processing of ammunition. Never operate the Mark 7® Revolution™ at speeds higher than you have tested and are

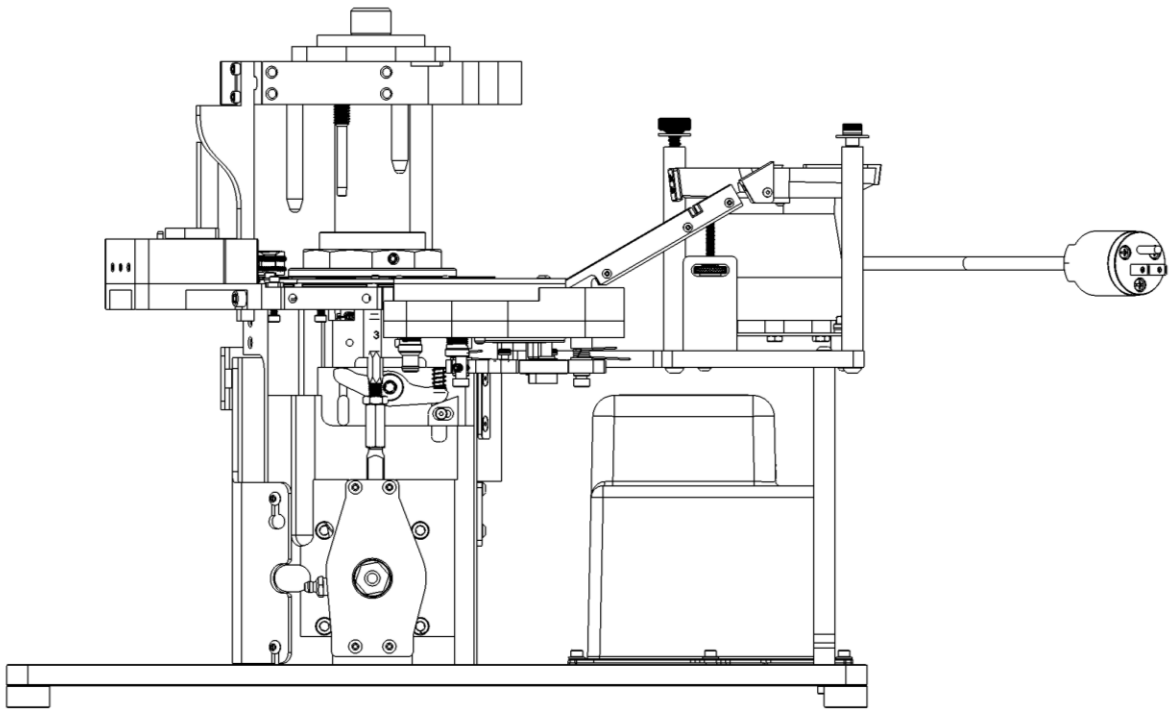
comfortable with for the type of reloading or processing that you are undertaking. Run the Mark 7® Revolution™ at the slowest possible setting to create quality ammunition.

WARNING – Always wear protective eyewear to protect eyes from being injured. Flying debris may result when using this equipment. Always wear protective clothing that covers arms, legs and neck to protect from injury. It is the responsibility of the user to ensure that appropriate protective clothing and equipment are used to provide protection from those hazards to which personnel are exposed or could be exposed to while working with this product. Failure to do so could result in serious injury or death.

Setup Procedures

1.Packaging Contents

The Revolution is packaged on a single pallet containing a crate with the **Revolution Main Unit** and separate corrugated boxes containing the press accessories.



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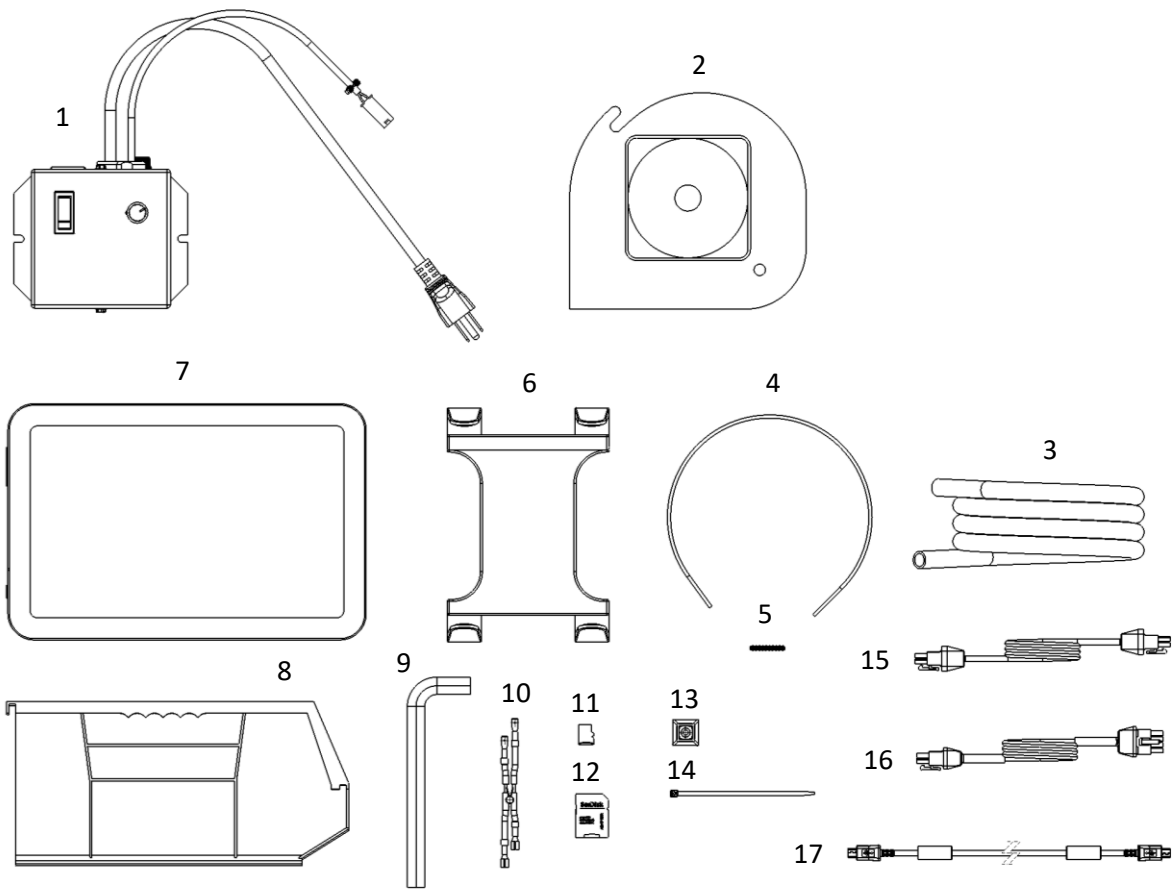
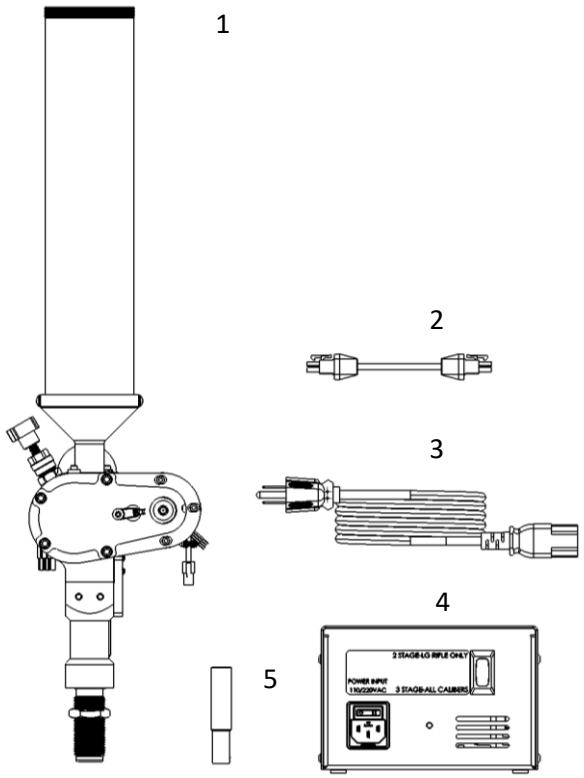
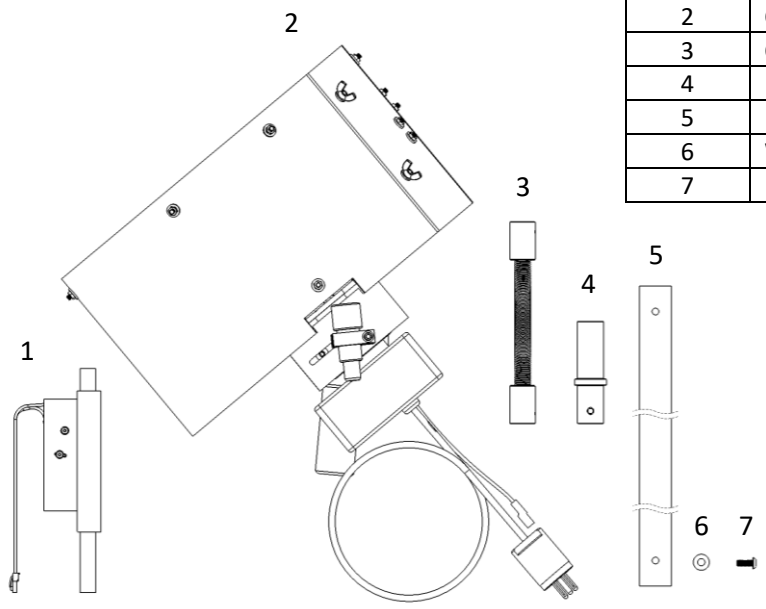


Press Accessories					
Item No.	**Description**	**QTY**	**Item No.**	**Description**	**QTY**
1	Primer Controller Assembly	1	10	Filter	1
2	Primer Bowl Safety Shield Assembly	1	11	Micro SD Card	1
3	Primer Offload Hose	1	12	Micro SD Card Adapter	1
4	Shell Plate Retaining Spring	1	13	Fastener Mount Cable Tie Holder	4
5	Case Retaining Spring	1	14	Zip Tie	4
6	Tablet Holder	1	15	Motor 8-Pin Cable	1
7	Tablet	1	16	Motor 6-Pin Cable	1
8	Akro Bin	1	17	Tablet USB Cable	1
9	½” Hex Wrench	1	1		



Digital Powder Measure		
Item No.	**Description**	**QTY**
1	Digital Powder Measure Assembly	1
2	4-Pin Communication Cable	1
3	Power Cord	1
4	Powder Measure Electronics Assembly	1
5	Powder Funnel	1



14” Case Feeder		
Item No.	**Description**	**QTY**
1	Case Feeder Output Switch Assembly	1
2	Case Feeder – 14”	1
3	Case Feeder Output Spring	1
4	Pole Top Mount – Case Feeder	1
5	Pole – Case Feeder/Bullet Feeder	1
6	Washer – ¼” Screw	4
7	Hex Head Rounded – ¼”-20 x 5/8” L	4

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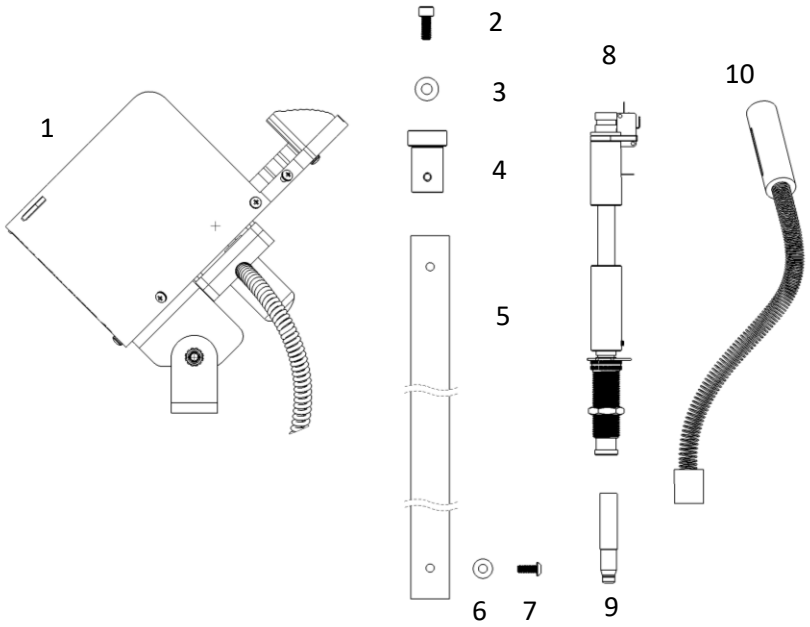

Mr.BulletFeeder Pro		
Item No.	**Description**	**QTY**
1	Mr. Bullet Feeder Pro	1
2	Socket Screw – 5/16” -18 x ¾” Long	1
3	Washer – 5/16” Screw	1
4	Pole Top Mount – Bullet Feeder	1
5	Pole – Case Feeder/Bullet Feeder	1
6	Washer – ¼” Screw	4
7	Hex Head – ¼”-20 x 5/8” Long	4
8	Mr. Bullet Feeder Pro Dropper	1
9	DAA – Expansion Funnel	1
10	DAA – Output Assembly	1

2. Unpacking instructions:

The **Revolution Main Unit** is heavy. Please use caution when handling the **Crate.** Use 2 people to remove the core machine from the **Crate.**

- Remove the lid off the crate by bending back the metal tabs on all four sides
- The **Baseplate** of the **Revolution Main Unit** is fastened to the base of the **Crate** with **4X Lag Bolts** in the corners.
- Use a ½" socket and extension to remove the bolts. Alternatively, the sides of the **Crate** can be removed for easier access.
- Move the **Revolution Main Unit** onto the workbench or working surface using 2 people.

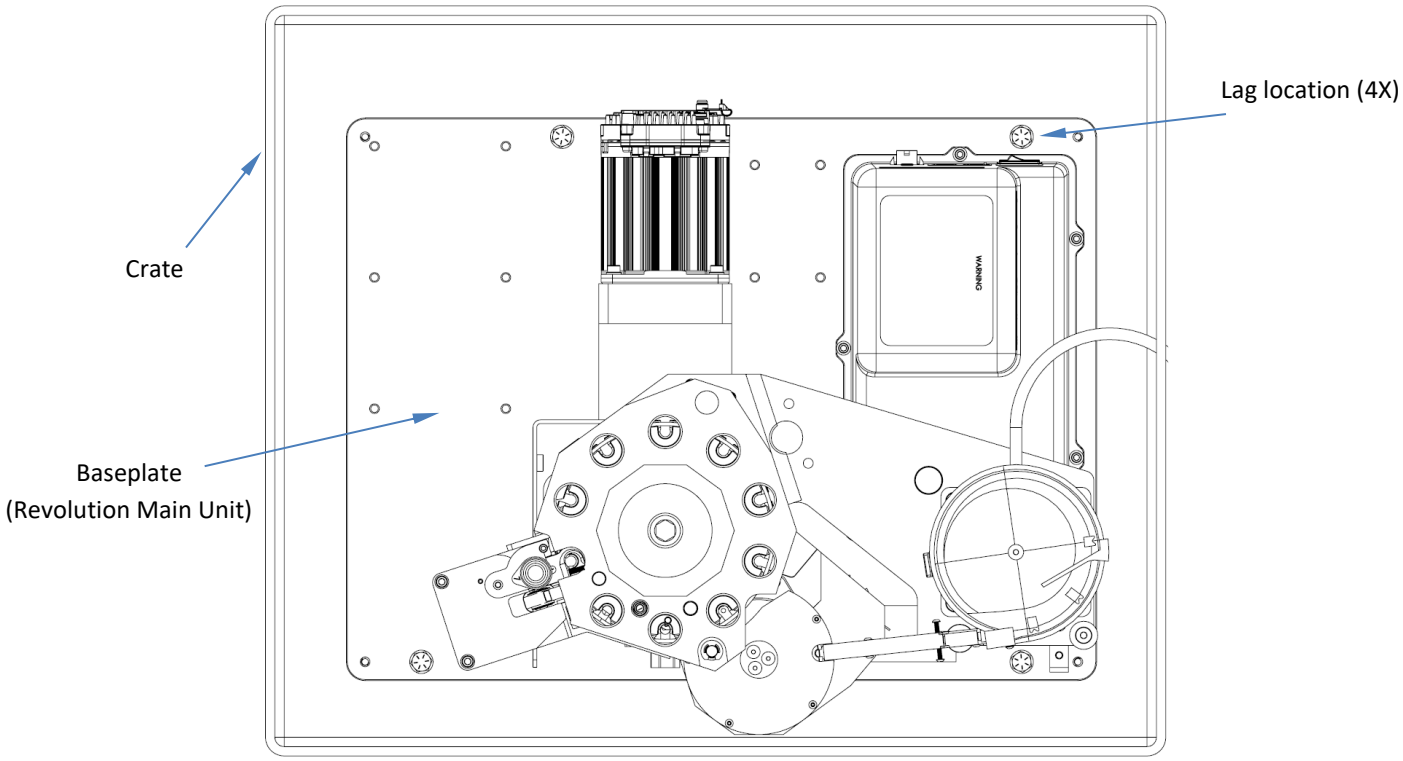

Figure 1: Lag bot locations

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3. Case Feeder and Bullet Feeder Setup:

Assemble **Case Feeder** and **Bullet Feeder poles** to the base units.

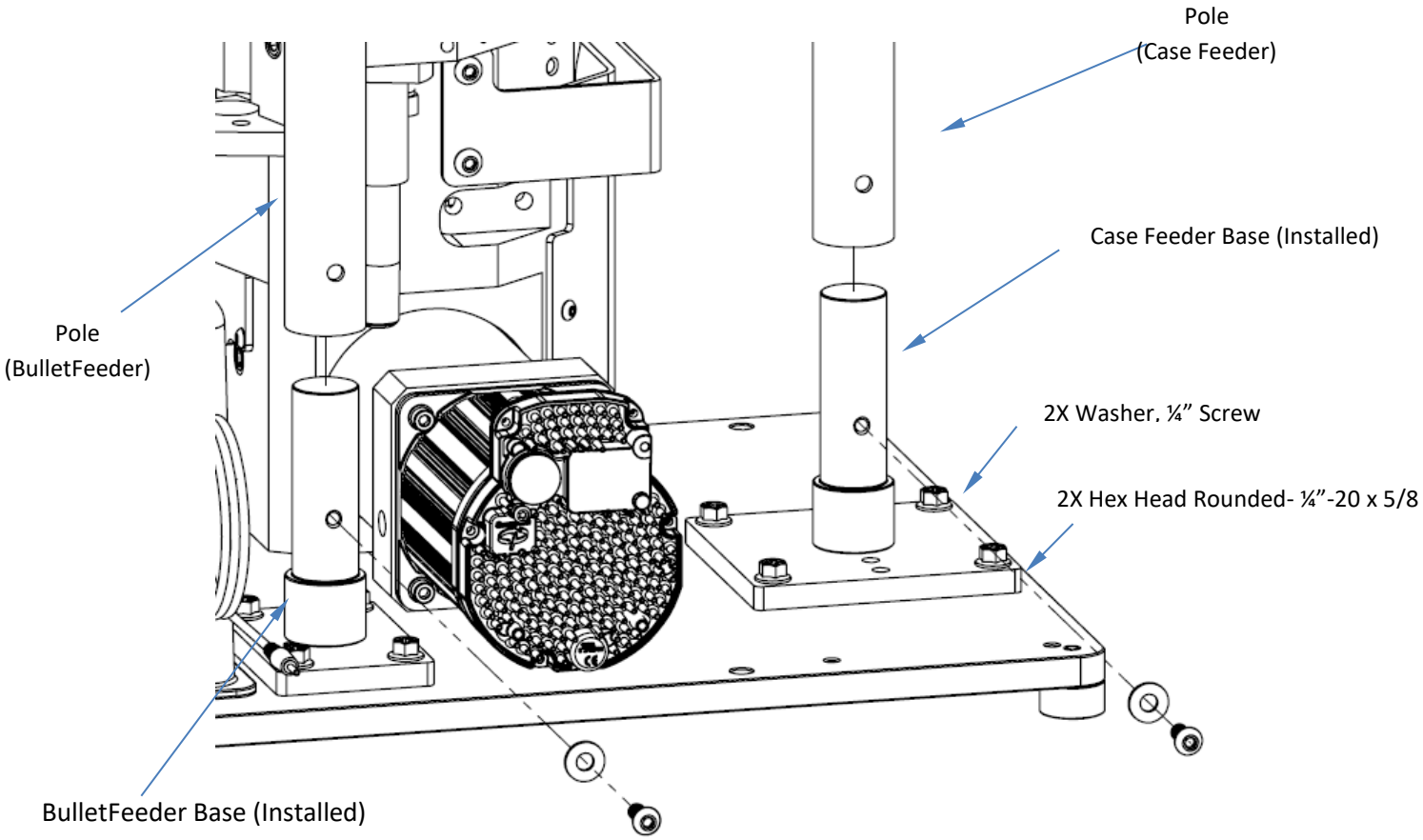

Figure 2 Case Feeder and BulletFeeder Poles Installation.

- Assemble **Pole Top Mount – BulletFeeder** into **Pole (BulletFeeder)** using hardware in Figure 3.
- Assemble **Mr. BulletFeeder PRO Assembly** onto **Pole top Mount -BulletFeeder** using hardware in Figure 3.
- Assemble **Pole Top Mount – Case Feeder** into **Pole (Case Feeder)** using hardware in Figure 3.

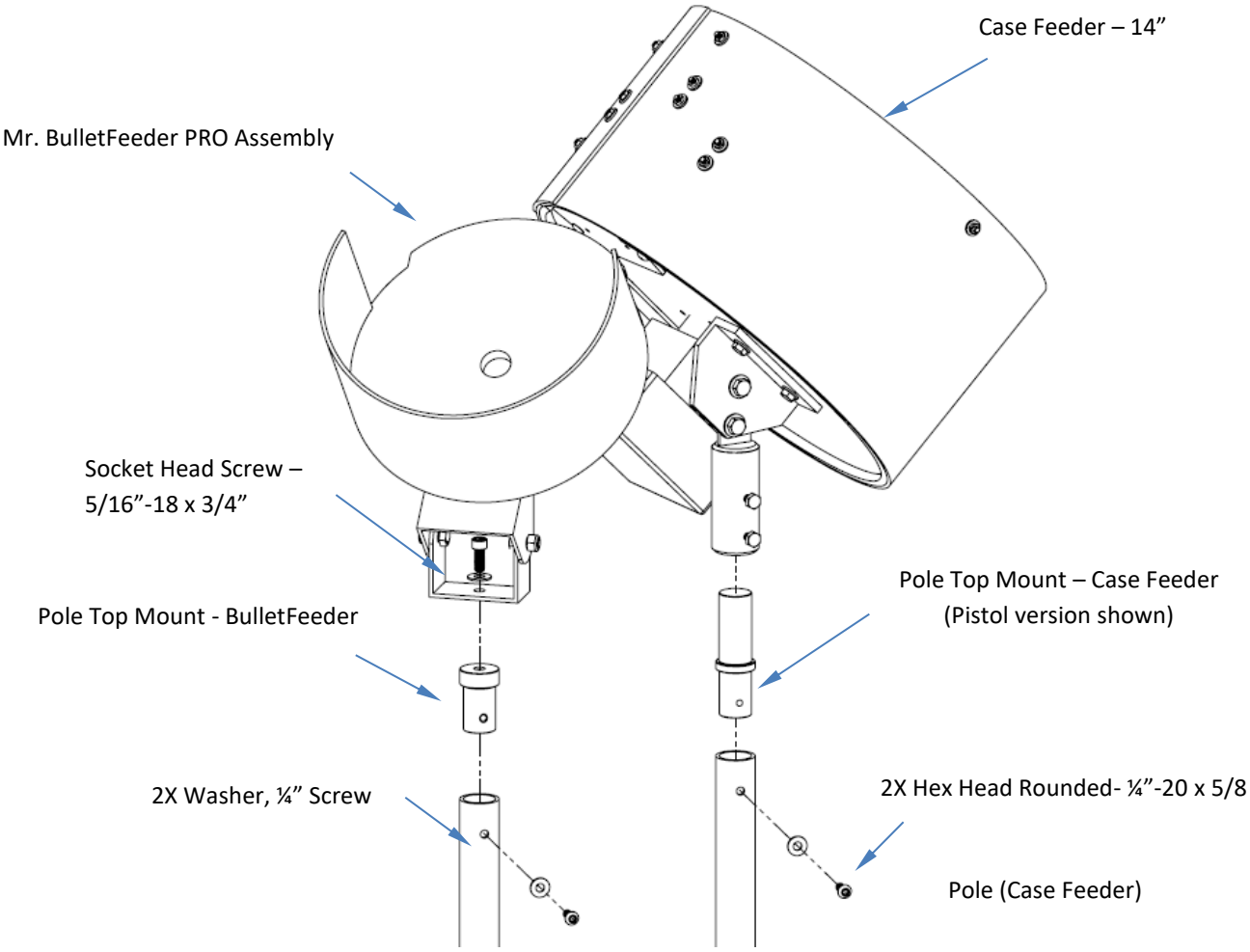

Figure 3: Case Feeder and BulletFeeder Collators Installation.

- Install **Case Drop Tube** into **Case Feed Adapter. <u>Pay attention to install o-ring end into adapter.</u>**
- Install **Case Feeder Output Switch Assembly** into **Case Drop Tube.**
- Assemble **Case Feeder Output Spring** onto **Case Feeder Output Switch Assembly** and **Case Feeder – 14”.**
- Connect **Case Feeder – 14”** to **Case Feeder Output Switch Assembly.**

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- Thread **Mr. BulletFeeder Pro Dropper Assembly** into **Tool Head** Station 8 (See Page 22)
- Assemble **DAA-Output Assembly** onto **Mr. BulletFeeder Pro Dropper Assembly** and **Mr. BulletFeeder Pro Assembly.** Large adapter end installs onto dropper assembly and small adapter end installs on Mr. BulletFeeder Pro Assembly.

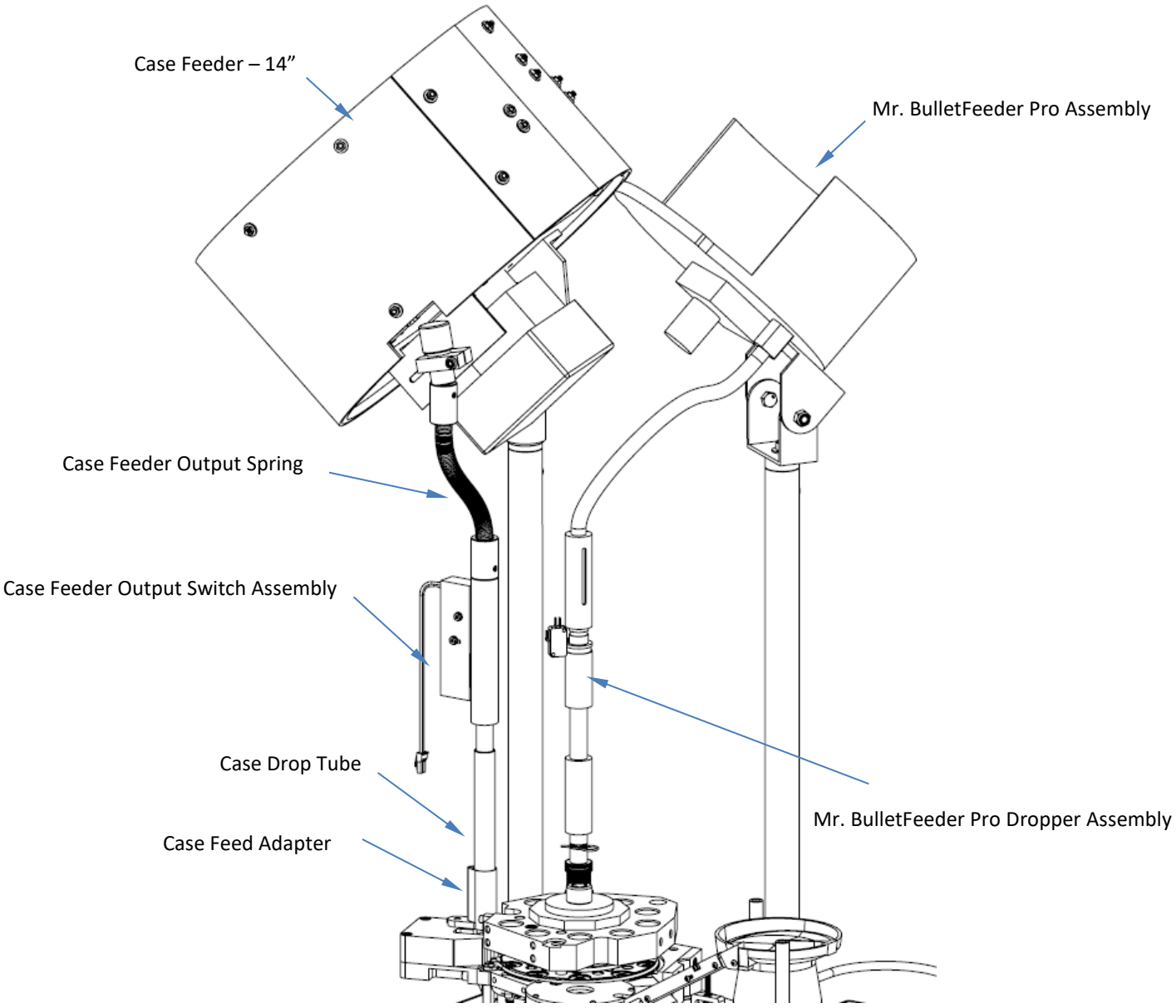

Figure 4: Case feeder drop tube assembly and Bullet feeder installation.

Connect **Filter – BulletFeeder Cable Assembly** to **Mr. BulletFeeder Pro Dropper Assembly** as shown in Figure 5.

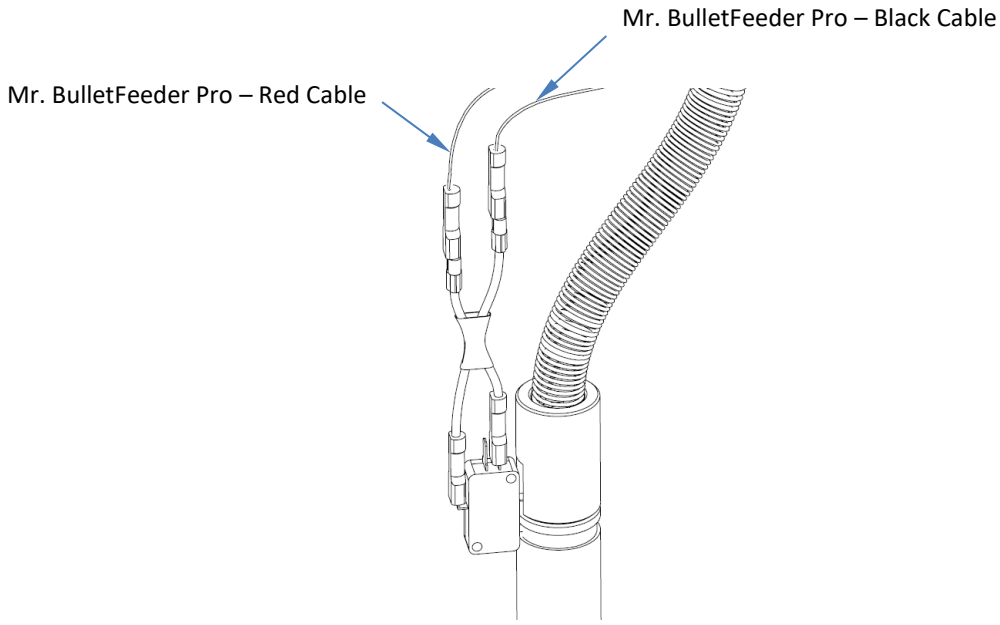

Figure 5: Filter-BulletFeeder Cable Assembly Installation

4. Automated Priming System Setup

The automatic priming system uses an independent vibratory controller to power the priming motor.

- Plug the **Priming Motor Power Cord** into the **Controller Power Cord Port**.
- Connect the **Primer Call Sensor Cable** to the **Low Primer Sensor Cable** installed on the **Revolution Main unit** (See Figure 7.) The **Controller** has an **On/Off Switch** and a **Dial** that controls the vibration frequency.

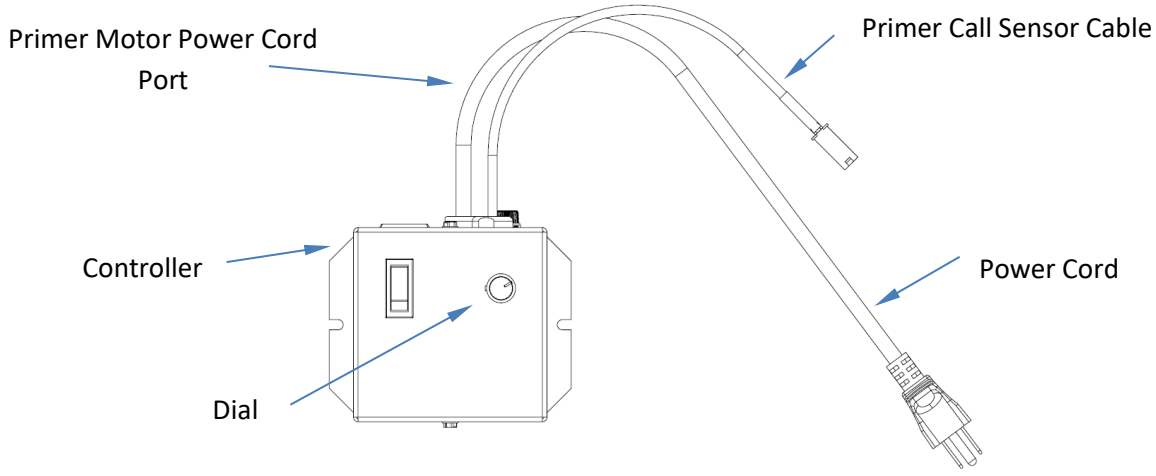

Figure 6: Priming Controller

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Install Primer Bowl Shield Assembly onto **Revolution Main Unit.** Attach using hardware per **Figure 7.**

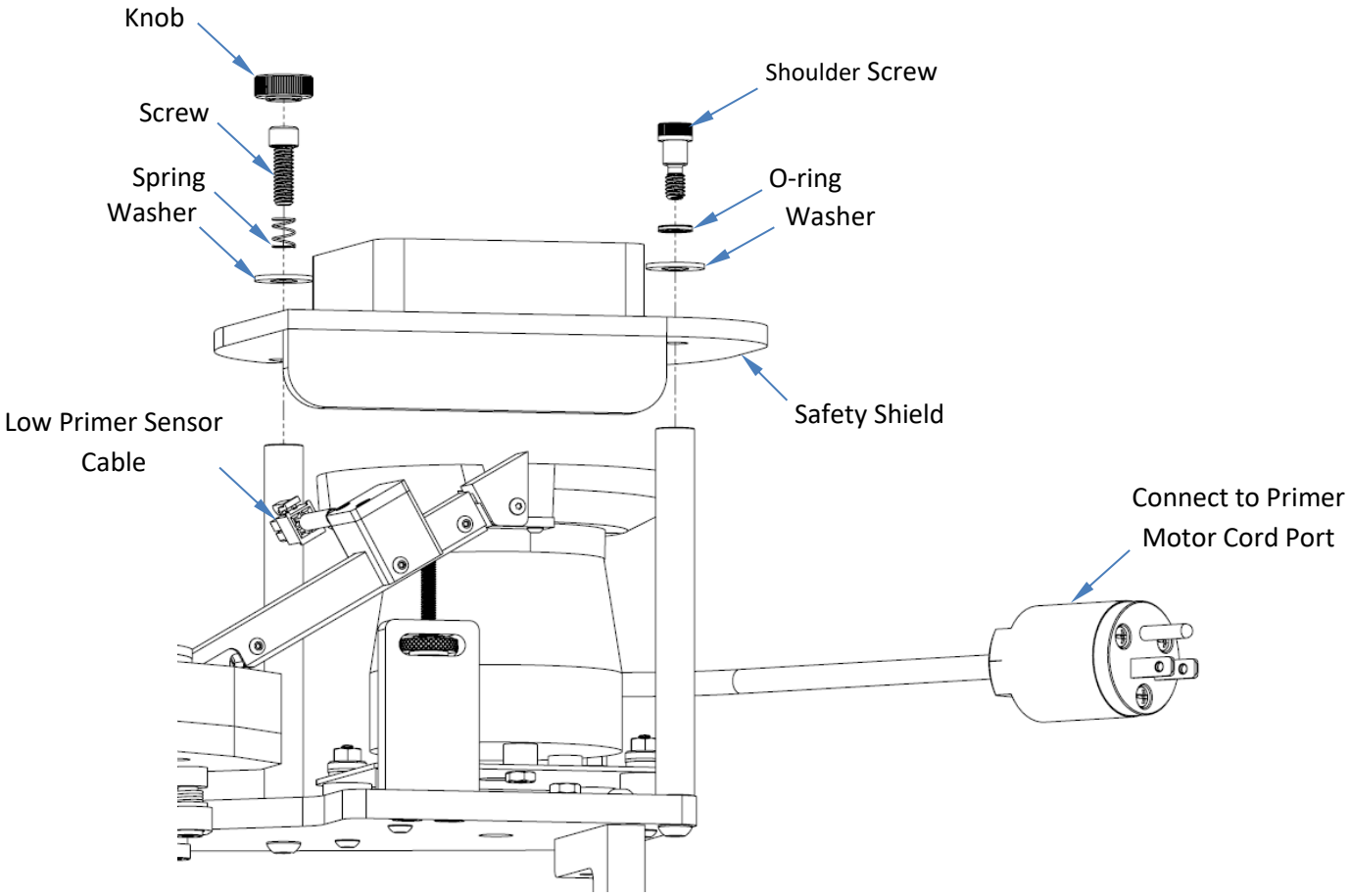


Figure 7: Safety Shield Installation

5. Mount Tablet and Holder

- Install **Tablet Holder** onto **Case Feeder Pole.**
- Install **Tablet** into **Tablet Holder.**

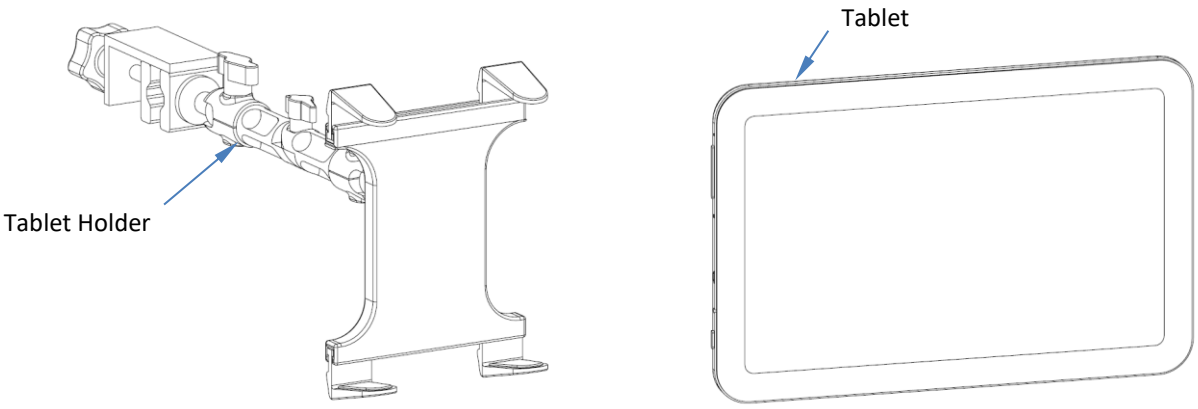
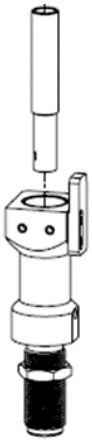


Figure 8: Tablet and Holder

- Insert **Tablet USB Cable** into USB port on **Tablet** and into port on **Revolution Main Unit** console labeled “Micro USB.”
- Insert **Revolution Main Unit Tablet Power Supply Cable** into power port on **Tablet** adjacent to the Micro USB cord.

6. Powder Measure

Install **Powder Funnel** into **Powder Measure Lower.** Pistol uses a universal funnel, Rifle powder measures come with both a SM rifle and LG rifle funnels.



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The **Powder Measure Assy** is shipped with the **Powder Hopper** removed from the **Powder Measure Upper.** Initial assembly is required.

Loosen **C-Clip** on **Powder Measure Upper.** Rotate **Clip** to clear Powder Hopper interface hole and install **Powder Hopper.** Rotate **C-Clip** over **Powder Hopper Funnel Flange** and tighten screws.

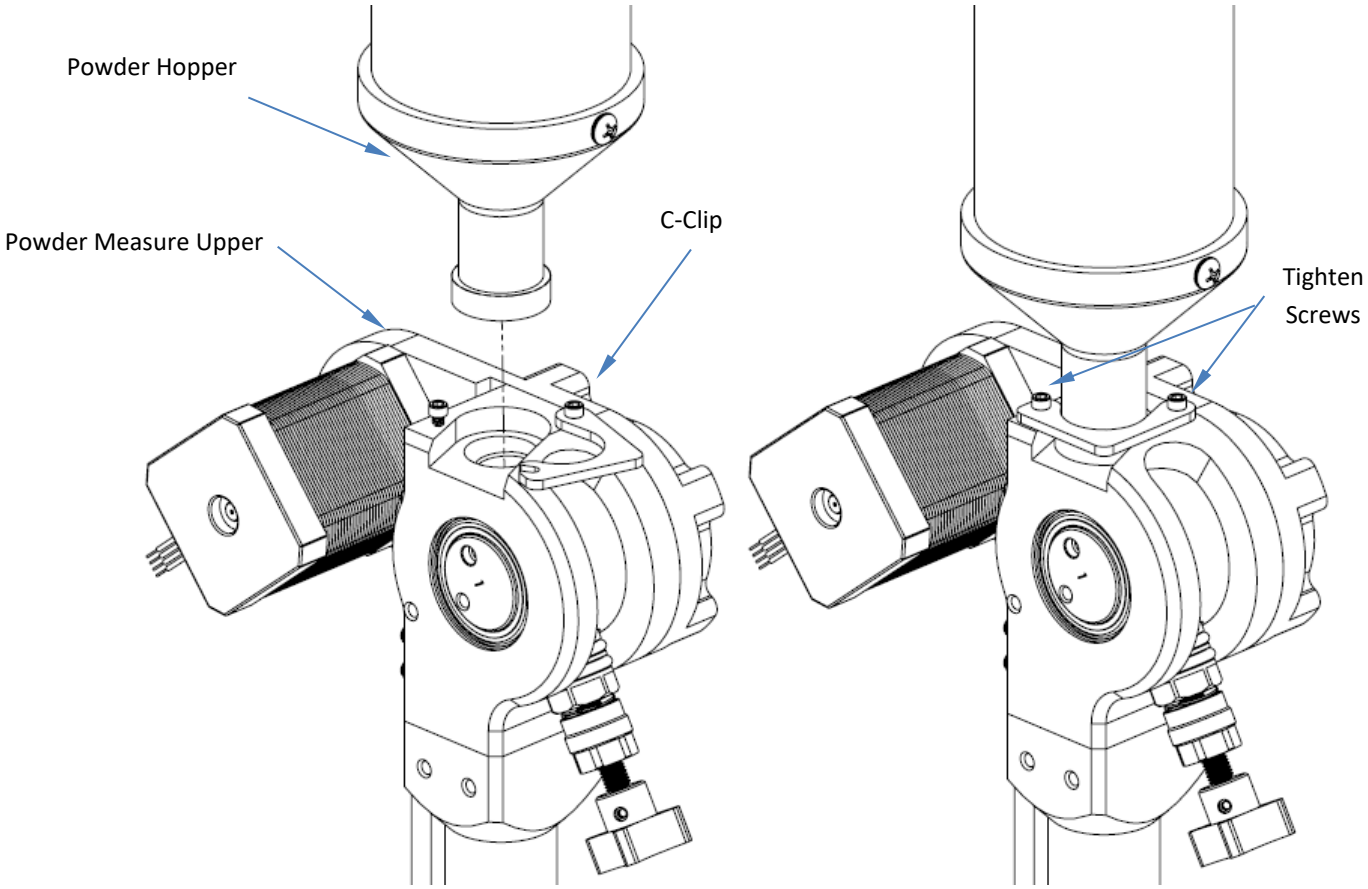

Figure 9: Powder Hopper Installation

Install assembled **Digital Powder Measure Assembly** into **Tool Head** station 6. (See Figure 12.)

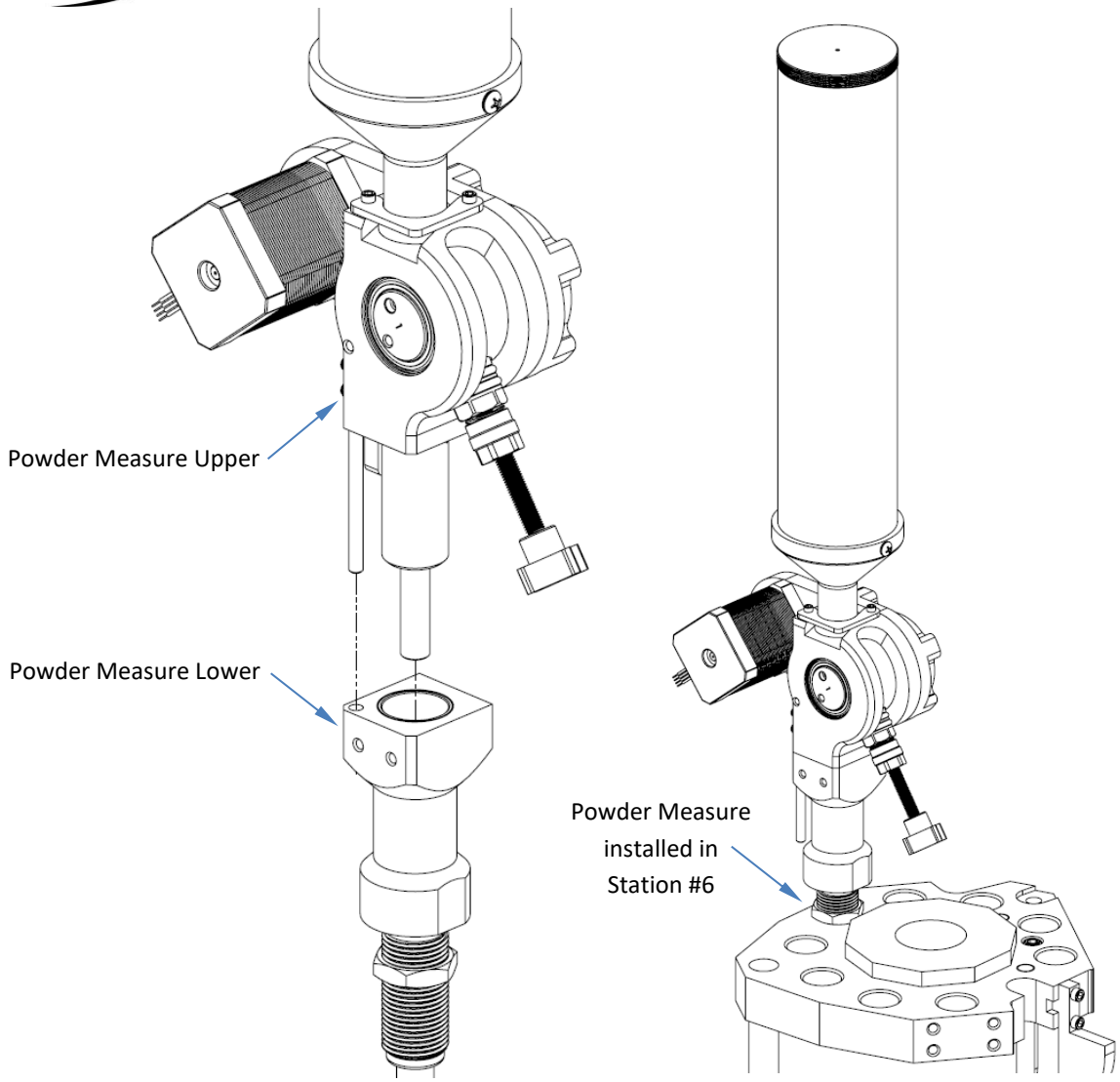

Figure: 10: Powder Measure Upper and Lower Assembly Installation on Tool Head

Setting Powder Measure Die Height – (Do not Add Powder or Power on Unit)

- If the powder measure die height is not adjusted properly the Microswitch may not be activated causing Powder Measure to not operate properly.

- With an Empty Shellplate Manually move the tool head to the bottom of the stroke.

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Thread the die down far enough so that you can just move the funnel 1/16” of an inch before the Powder Measure Uppers starts to separate from the lower assembly. Then check the height with a case under station #6 to ensure the microswitch is activated and the upper and lower separation is 3/8” to ½”.

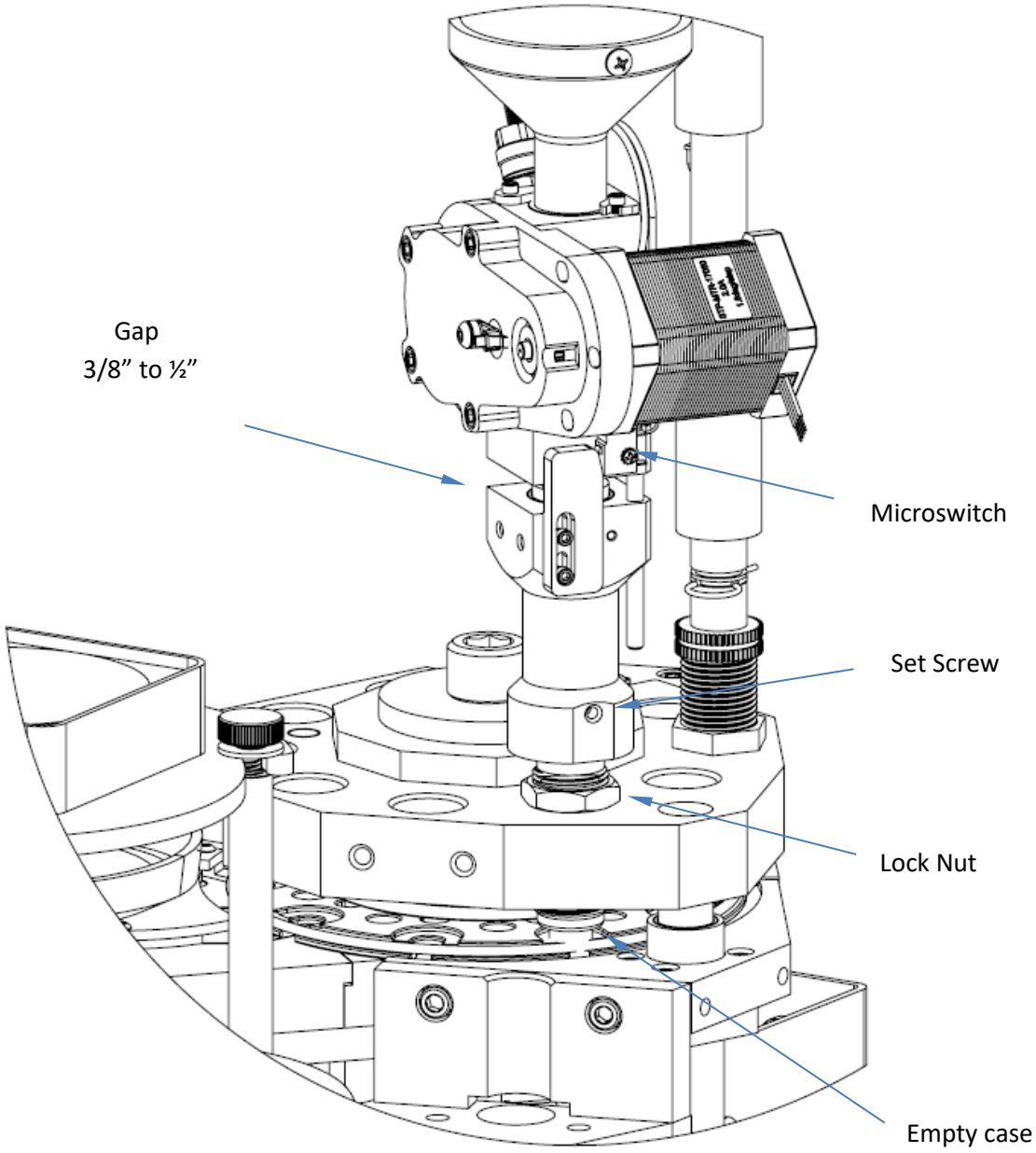

Figure 11: Powder Measure Die Setup and Adjustment

7. Console side I/O Inputs:

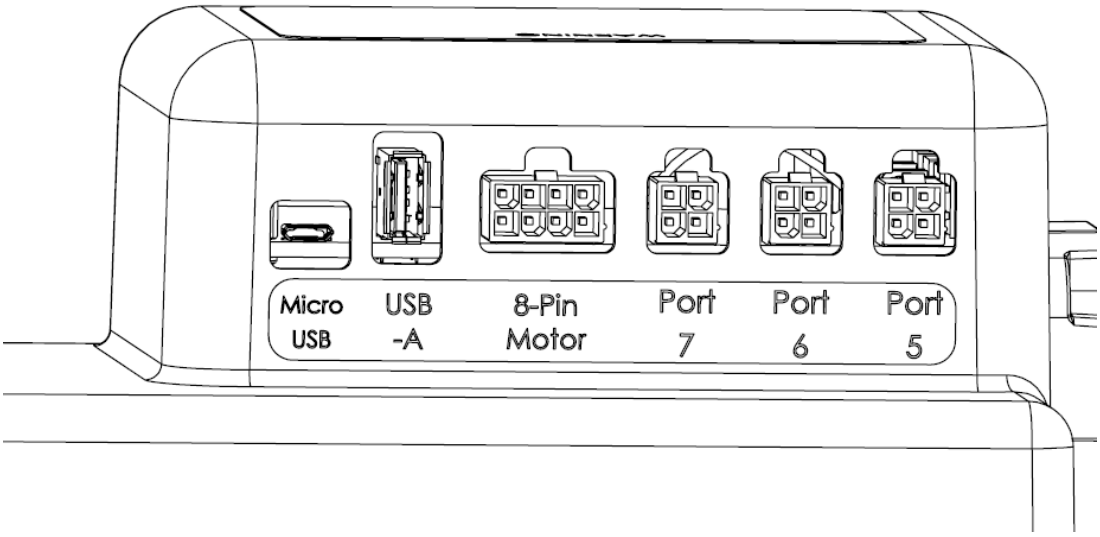

Figure 12: Console Side Ports

Before powering on the Machine please make the following connections:

Micro-USB: Tablet to Console USB data communication cable**Must have correct orientation if the cable has a short adapter and then a long piece. The short side must plug into the tablet for the accept/deny buttons to appear**!

USB-A: Motor to Console USB data communication cable (plugs into Back of motor)

8-Pin Motor: Motor to console signal cable (Plugs into top of motor)

Port #7: Digital Powder Measure Communication Cable

Port #6: Wired Remote Stop (optional Sensor)

Port #5: DecapSense™ (Optional Sensor)

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8. **Console Rear I/O Inputs:**

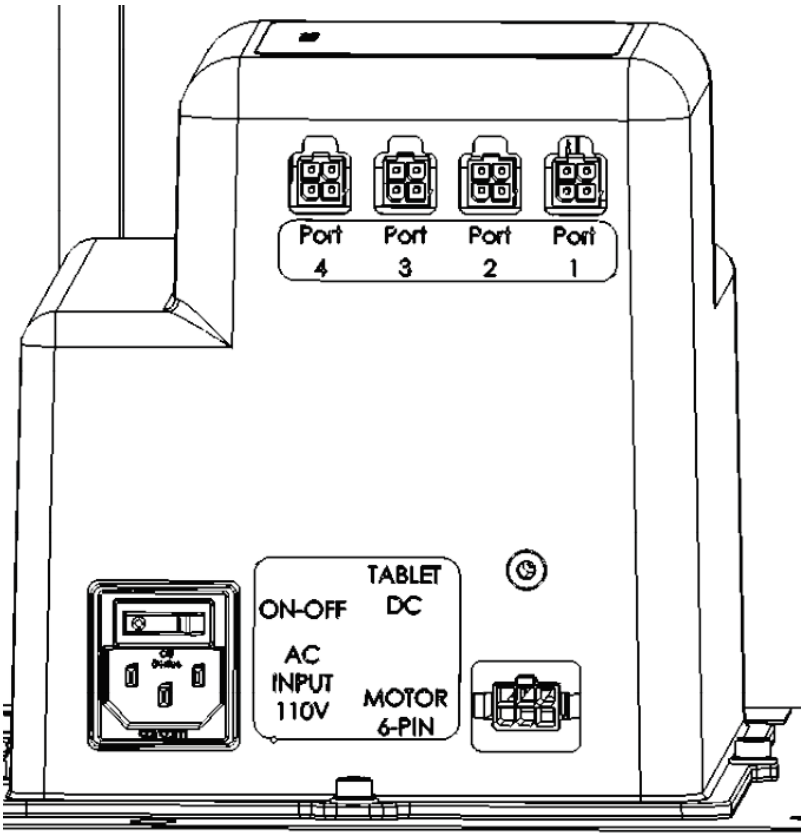

Figure 13: Console Rear Ports

Port #4: **Digital Powder Check Sensor** (optional)

Port #3: BULLETSense (Optional)

Port #2: Primer Orientation Sensor (Optional)

Port #1: SWAGESense (Optional)

AC INPUT & ON/OFF: Units are configured in either 110V or 220V.

MOTOR 6-PIN: Motor to Console DC Power Cord (Plugs into top of motor)

TABLED DC: Connect cord to tablet

9. Overall machine Setup:

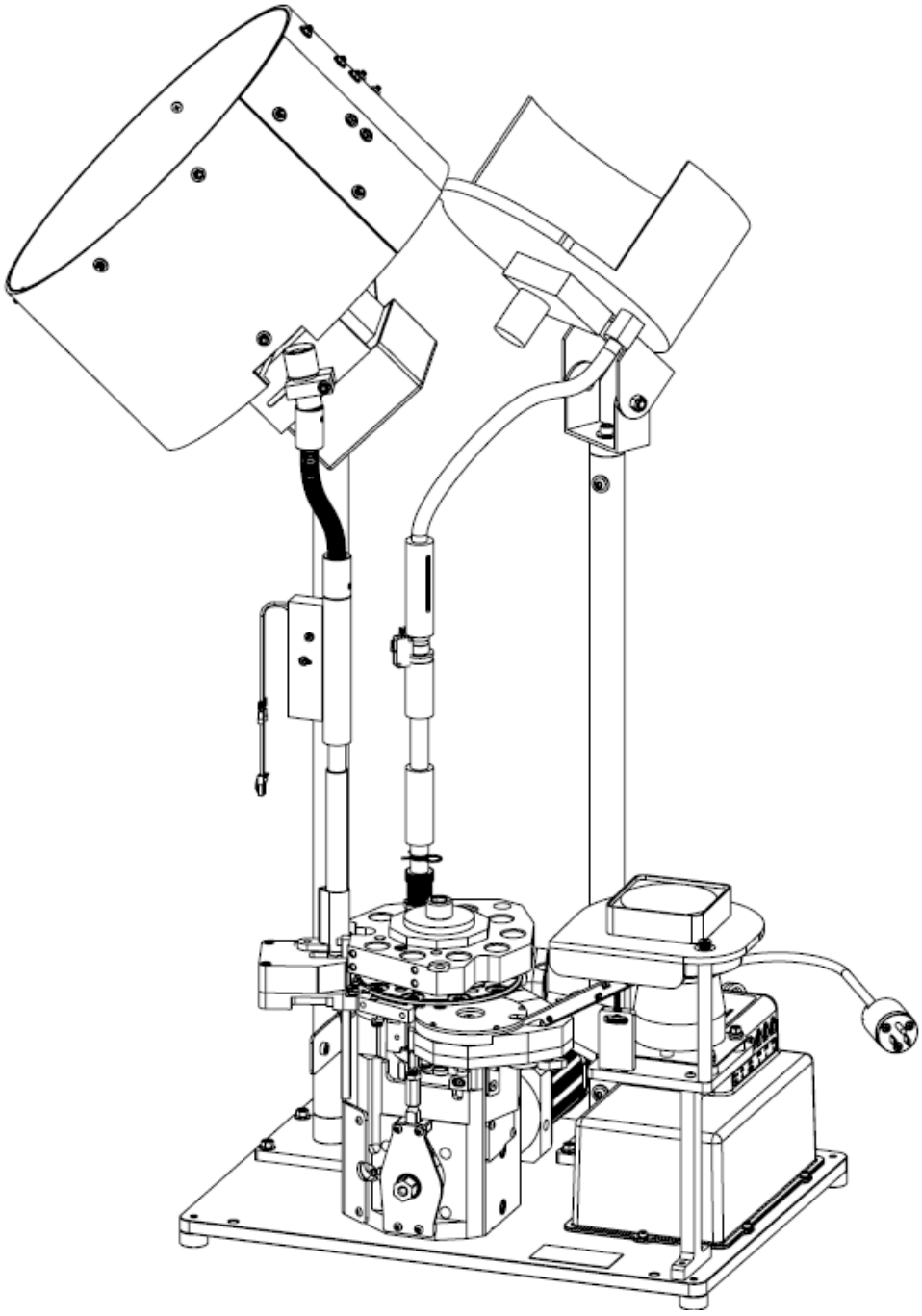

Figure 14: Complete Machine setup (bin or offload system can be used).

10. Manually Operating the Mark 7® Revolution

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Once the Revolution™ is fully set up and electrically connected, we recommend manually operating the press a full stroke before powering the system on. To manually articulate the Revolution™ use a 11/16" open end or socket on Main Shaft of the machine as shown below. Manually driving the press is also helpful to determine the cause of press jam during machine operation.

Check the following with a clear shell plate before powering on the machine:

- No cables are near the moving parts of the press, secure any loose cables away from the moving components.
- Tool head moves the full stroke with no change in resistance.

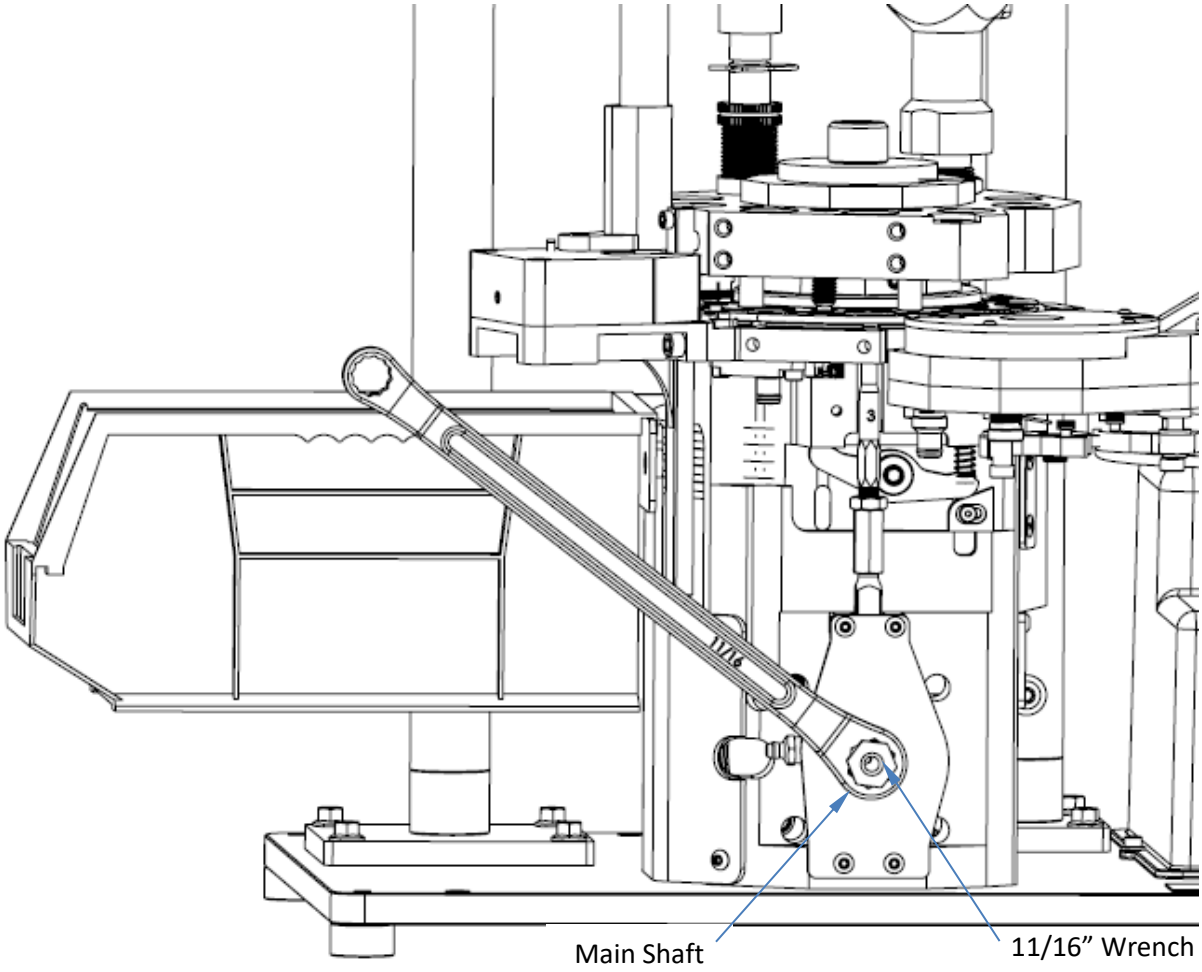

Figure 15: Manually driving the Revolution™

11. Tool Head Recommended Die Positions

With 10 Tool head stations there are many configurations the Revolution™ can be setup in for desired operations. We recommend the following setup for standard loading and brass processing.

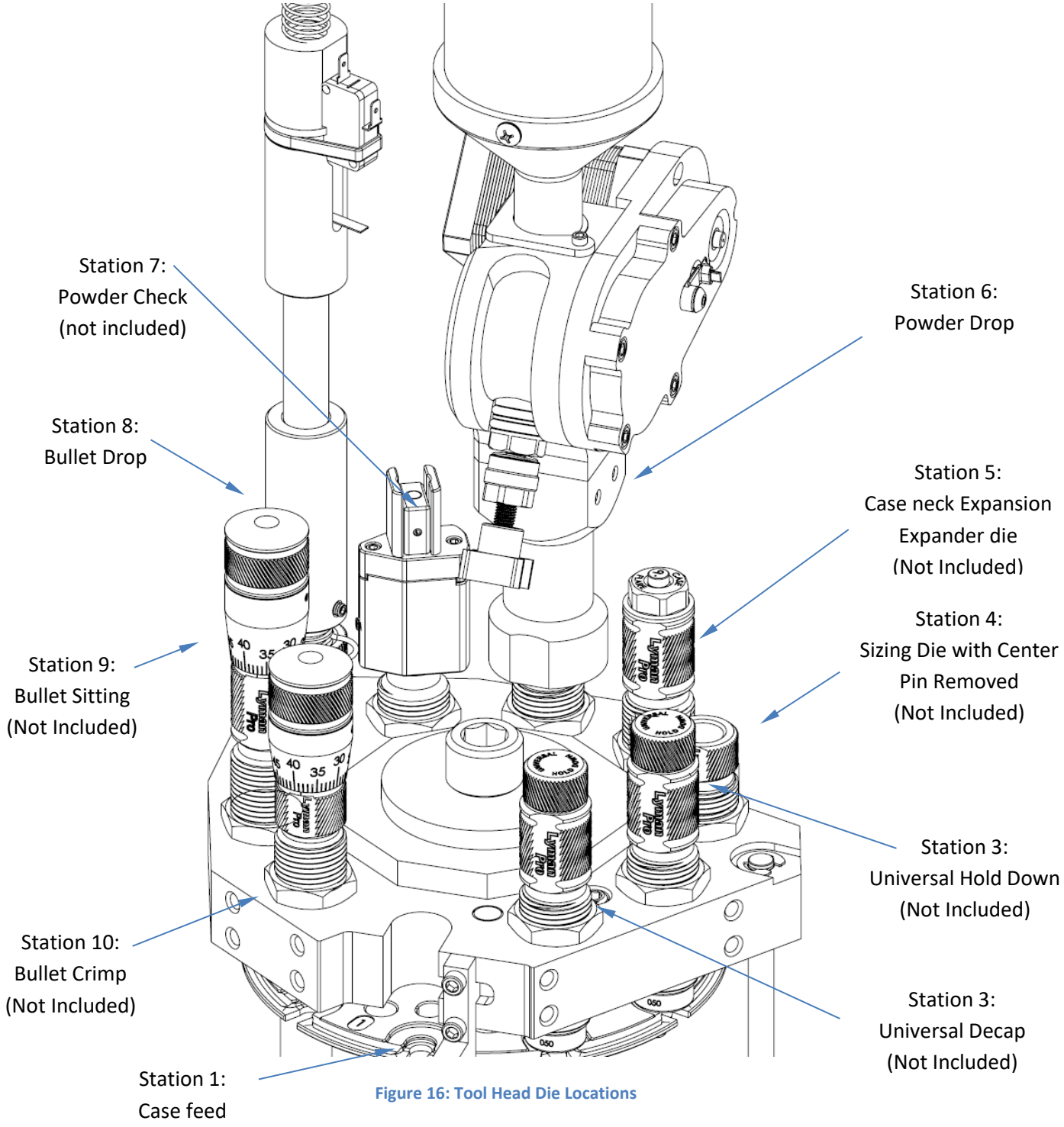

Figure 16: Tool Head Die Locations

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Operating Instructions

Once the machine is fully assembled and setup, we recommend the following steps to configure the press for operation.

- Determine intended use of machine (processing, loading, processing/loading combined and setup press accordingly – please feel free to contact us to discuss your requirements.
- Thread the dies into Tool Head but do not set final adjustments at this time – keep dies partially backed off.
- Cycle the machine a few times manually without components to ensure smooth operation and is indexing properly.

1. Case feed - sizing/decapping – Station 1 and 2

Add cases to the Case feeder in the caliber that you are loading. Run cases around the shell plate to ensure proper feeding. Install the Akro bin provided with the press as the case offload or attach the optional offload system.

Remove the cases from the shell plate and move the Tool head to the down position. Thread the sizing die all the way down so that it just starts to touch the shell plate and lock the die in place. Connect the decapping hose. Always use case lube when re-sizing once fired cases. Run a few cases through the sizing die and check cases using a sizing gauge to confirm they are being fully sized and decapped properly.

2. Swage Setup– Station 3

The Revolution ™ is shipped with the swage rod fully backed off in the down position. We recommend to cut an empty case in half (cross-section) and insert it into the shell plate in station 3. Always use a hold down die over the swaging station and never run the machine without the tool head on to avoid damaging the swage during a jam.

- Move the Tool head to the bottom.
- Lower a swage back up die until the center contacts the bottom of the case. Lower a ¼ turn and lock down.
- Raise the swage rod until the swage rod enters the primer pocket and the shoulder contacts the bottom of the case. Turn ¼ more and lock in place.
- Remove the case used to adjust the rods and install a case that has been previously decapped.
- Perform a cycle with the case in station 3 -then remove and inspect the primer pocket to confirm that the pocket is swaged properly. Adjust as needed.
- We recommend using a primer pocket gauge especially if uses crimped/military brass.

3. Primer Seating- Station 4

The Revolution™ comes standard with an automated priming system. Primers can be filled directly into the primer bowl assembly. Before adding primers its important to power on the vibratory unit and make sure the bowl is adjusted properly.

The Primer Bowl must not contact any rigid parts of the machine or the vibration will be dampened. It is important that there is a gap between the Primer bowl and the Priming ramp. There are 3 adjustment points in the primer system:

- Adjustment 1: Ramp Height – Thumb Nut
- Adjustment 2: Bowl Rotation - Screw
  Adjustment 3: Motor Position – (4X) Lock Nuts

The adjustment is pre-set in the factory, however due to shipping and press vibrations over time the priming system may need to be adjusted as needed to ensure proper feeding.

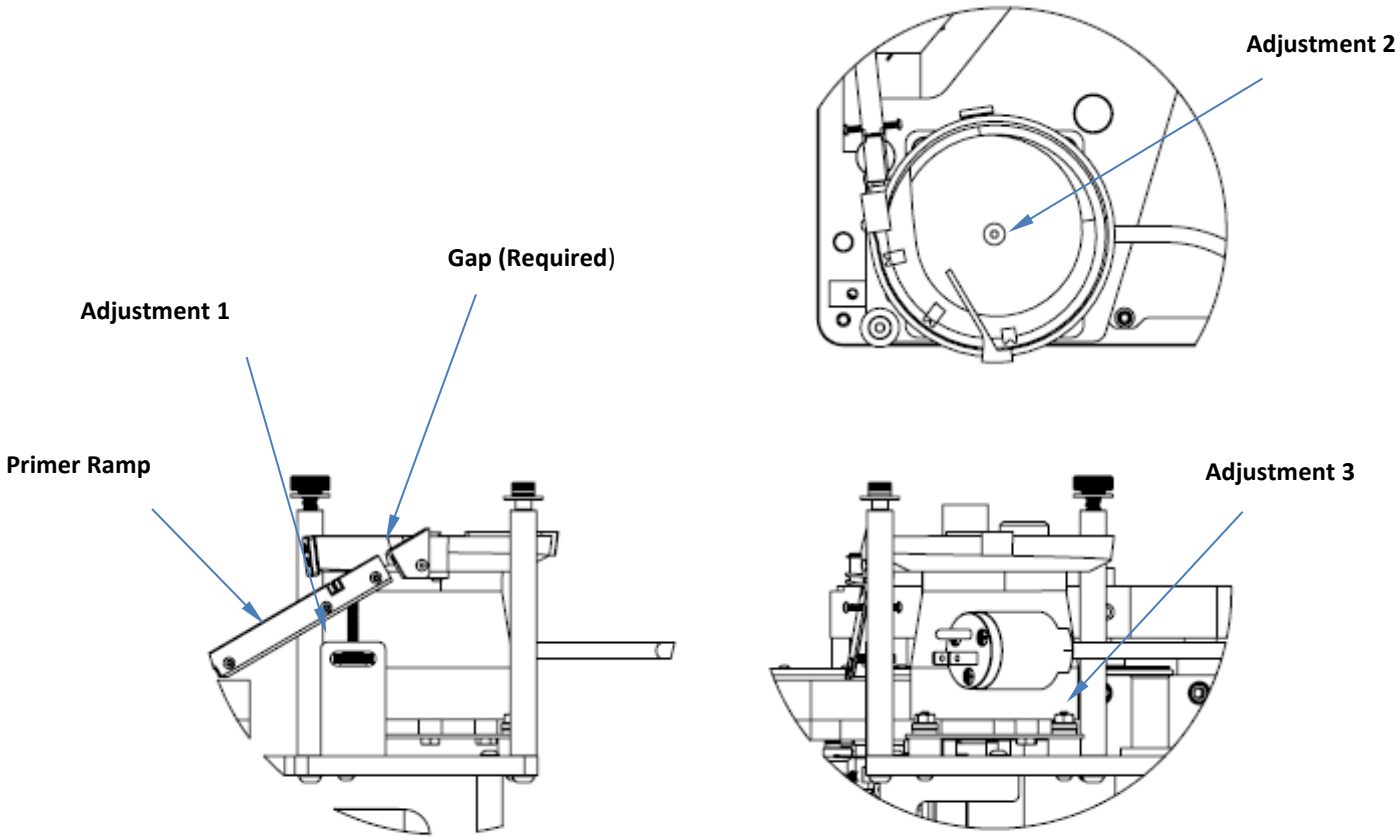

Figure 17: Primer Motor/Bowl Adjustments (Shield Removed for Clarity)

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WARNING – Never overfill the primer bowl. Always wear safety glasses and hearing protection when handling primers

We recommend the following when setting up the priming system:

- Fill up the bowl with a single pack of 100 primers.
- Turn on the vibratory motor with the controller set at the lowest setting (0). Gently increase the vibratory motor until the primer start to move up the ramp. Adjust the bowl as necessary until the primers fall down the ramp into the disk assembly.
- Cycle the press without a case present to ensure proper primer feeding into the disk assembly
- Pause with the Tool Head in the down position and verify that the primer punch is inserted in the shellplate with a primer.
- Place a case that has been decapped and has a verified primer pocket
- Cycle the press manually – there will be some resistance as you get to the bottom of the stoke – use caution. Remove the case and check primer insertion depth.
- Adjust the primer insertion pin until the proper primer depth is achieved.
- Primers can either be recirculated or offloaded into a clear hose if a case isn't present. There are knurled brass adapters threaded into the bottom of the assembly

There are 2 primer Punch adjustments on the Revolution™ press – refer to Figure 17.

1. Primer Depth – This adjusts the primer insertion depth – Never adjust more than a ¼ of a turn without checking new depth.
2. Primer Punch lower height – This adjustment sets the height of the punch when the primer is fully retracted. It should flush with the bushing in the primer housing.

A sizing die with the center removed can be used to hold down the cases in station 4 in order to provide additional support to the cases during primer insertion.

WARNING – Never install more than 100 Primers at once. Always wear protective eyewear and hearing protection when loading primers into the machine and loading. Activities using the Mark 7® Evolution™ are inherently dangerous and may lead to injury and even death.

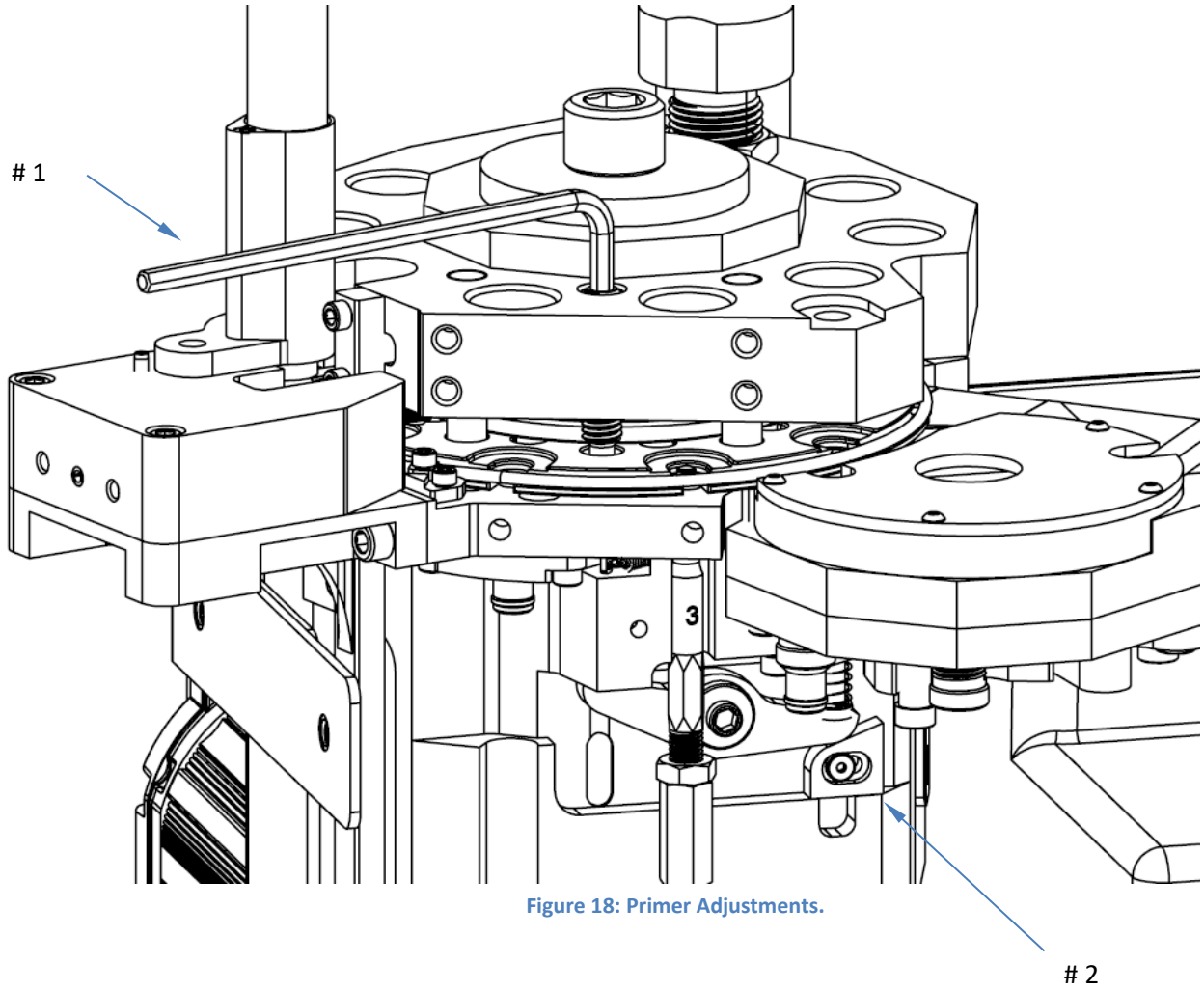

Figure 18: Primer Adjustments.

4. Case Neck expansion – Station 5

The Revolution™ uses a dedicated station for neck expansion/flare in Station 5. For pistol calibers we recommend using a Lee Universal Expander die with the Double Alpha expander powder funnel installed. For rifle there are several 3rd party expansions dies that can be used including the Lee Universal Flaring die with the rifle insert. We recommend doing an initial setup at this point to achieve just enough flare for the bullet to fit inside the case mouth. The final adjustment is best to be dialed in later during the bullet drop setup.

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5. Operating Digital Power Measure

- Connect the **4-Pin Communication Cable** to **Powder Measure Electronics Assembly 4-Pin Port** and **Port 7** on the **Revolution Main Unit console.**
- Connect **Powder Measure Cable** into **6 Pin Port** on **Powder Measure Electronics Assembly.**
- Connect **Power Cord** to **Powder Measure Electronics Assembly.** Manually raise up **Plunger** to up position and power on **Powder Measure Electronics Assembly.** **Always make sure the plunger is in the up position before powering on.**

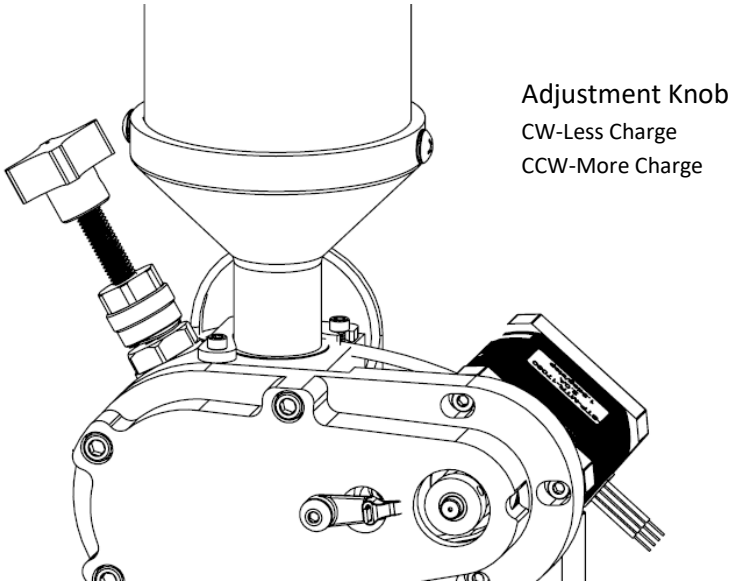


Figure 19: Power on Unit with the Plunger in the Up Position

- Power the electronics unit. The plunger will move to the bottom. When you enter the reloader application make sure the Powder measure is enabled under the sensors tab on the tablet, Icon will be **green.** Performed a calibration if you have not recently.
- Powder Measure is now ready to use under **RUN** and **SINGLE CYCLE** commands only. The powder measure will not operate when moving the tool head manually or using **JOG** or **MOVE TO BOTTOM FEATURES.**

WARNING – Never power on the console switch without the 6-pin Molex connector plugged in and never install this cable with the power is already on as the High DC voltage may damage the motor's input contacts.

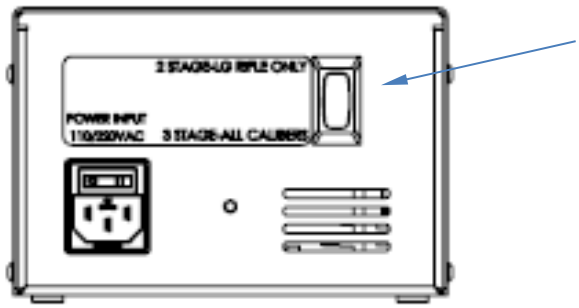
To set up charge:

The powder charge can be set manually (with the powder measure turned off) by operating the drum control knob by hand. Or it can set powered by performing single cycles. For the powder measure to operate, the machine must be powered, calibrated and power measure enabled on the sensor tab.

- Place a pre-primed case in station 6, under the Powder Measure.
- Perform a single press cycle to actuate the Powder Measure.
- Remove the case and weigh the charge.
- Empty the case and adjust the charge to the desired level by turning the adjustment knob. Turning clockwise will decrease the charge, counterclockwise will increase the charge. Secure plunger every time you changed the charge using Lock Nut

Once the desired charge is achieved perform a few dumps using “single cycle” on the Tablet. Perform dump on the RPH setting you will be reloading. The charge is speed dependent. We recommend a minimum of 5 drops to make sure the charge is consistent. **Note: Always discard the first powder dump after making an adjustment.**

- Check the die nut and adjustment charge nut for tightness. Also, check the belt tension and ensure the small sprocket is tight on the shaft.
- Move Selector switch to correct position based on caliber:



2 Stage is for LG Rifle – the arm will go up and perform a half actuation and then dump.

3 Stage is for pistol and SM Rifle – the arm will go up halfway stop and then perform a double dump.

Warning - Before filling the **Powder Hopper** with **Powder.** Make sure the **Powder Adjustment Knob** is adjusted all the way in (clockwise) for a minimum charge and verify. Each turn of the knob is approx. 1 grain.)

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5. Setting up Mr.Bulletfeeder and Bullet Drop Assy – Station 8

There a few adjustments that are critical on the Mr.bulletfeeder to ensure that it's operating properly, further detail on this is located in the Mr.bulletfeeder user manual. We recommend removing the Mr.bulletfeeder spring and running the bullets into a bucket while making the bowl adjustments until the proper adjustments are achieved. The spring tube assembly may need to be cut between the dropper and the drop tube assembly to the correct length for your setup – This is largely dependent on where the feeder is mounted on the case feeder.

There is a delicate interaction between the bullet dropper and the amount of brass flair provided by expander die for pistol. Setting the right amount of flare is critical to reduce bullet topple and to ensure proper bullet seating with every cycle. The expansion die should open the case mouth just enough for the bullet to slip in – the bullet dropper will provide a slight amount of pressure which will keep the bullet in place.

A way to check a properly adjusted is to remove a round from the Shell Plate after the bullet has been dropped (but not yet seated) and turn the case upside down. If the bullet falls out of the case there is likely too much flare.

Adjust the bulletfeeder drop tube assembly so that a single bullet drops when it encounters a case. If more than one bullet drops, it's likely the drop tube assembly is adjusted too low in the Tool Head.

7. Bullet Seating / Crimping Setup – Station 9 & 10

The OAL and crimp can be set in station 9 and station 10. It's always best to set these adjustments with a fully loaded shell plate. Run a few rounds through until consistent OAL are achieved. The station 10 Spring retaining clamp retains the round in station 10 – to remove a casing slightly advance the shell plate a few degrees remove the case then move it back into position.

WARNING - This equipment uses a high-torque motor and drive crank system. Avoid contact with any part of the drive mechanism. Contact with any of the drive components could result in serious injury or death.

Main Screen

Figure 20: Tablet Home Screen

When the tablet is powered on the main screen shown above will launch. This screen contains the Reloader, firmware and software applications. Before selecting the Reloader application, make sure the console is powered on, all system cables are connected, and the shell plate is clear.

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Waiver Screen & Software and Firmware version

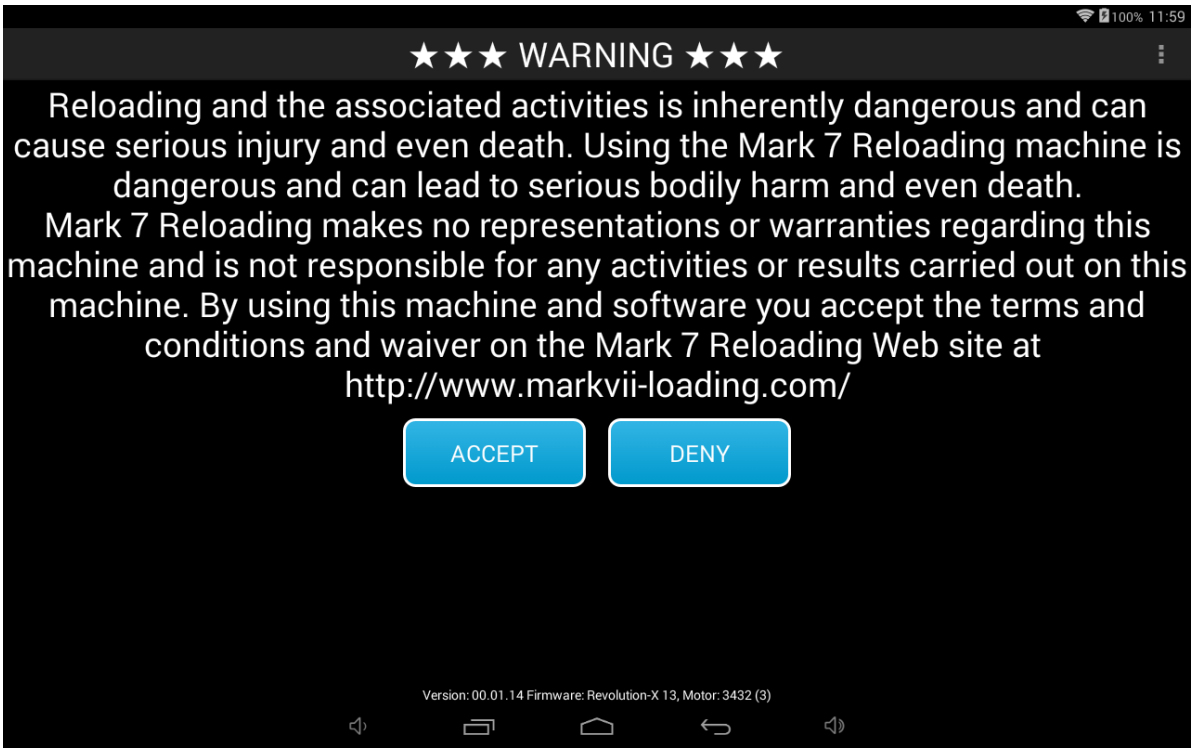

Figure 21: System Waiver Screen.

Following proper Setup of the Mark 7® Revolution™ the user will be able to power up their tablet and console to launch the Mark 7® Revolution™ Reloader application. The image above is the first screen the operator will see. The operator must accept the terms and conditions and waiver on the Mark 7® Reloading website. If the operator accepts these terms the operator can touch ACCEPT on the screen. If the operator does not accept these terms, they must touch DENY which will immediately close the application.

The software and firmware version will be displayed at the bottom of the waiver screen as shown above.

Before each session of use of the machine

Before each loading session, fully inspect the machine – this will reduce the errors you may encounter. Some of the items to inspect include:

- Visually inspect all lubrication points. Check the need for lubrication before every session and apply it as necessary at the key lubrication points outlined in recommend maintenance section. Insufficient lubrication creates a potentially dangerous situation and may lead to unreliable results as well.

Control Screen

Figure 22: System Control Screen.

CALIBRATE - The function is the first operation that must be performed before fully running the Mark 7® Revolution™. CALIBRATE signals the Motor to find the top and bottom of the presses stroke. Once calibration is completed all functions on the control screen can be used. The shell plate must be clear when calibrating. Calibration takes approximately 10 seconds to complete.

SPEED (Rounds Per Hour) – After Calibration is completed you may select the speed in which to operate the machine. These can also be changed on the fly while the press is in motion. There are 6 speeds ranging from 1000-3500 RPH.

DIGITAL CLUTCH - The Digital Clutch setting is the way in which the operator controls the torque output of the motor. We recommend keeping the digital clutch at the lowest level required to complete a desired action, whether it is re-sizing, or making complete ammunition. When the operator hits the torque limit the Mark 7® Revolution™ will stop and notify you. To continue operating check for a jam/obstruction if not detected increase the digital clutch value and hit RUN until the cycle is completed.

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When enabled TorqueSense® varies the motor torque throughout the Stroke, dropping the torque primarily on the upstroke to a minimum baseline level. This increases the machines sensitivity if a jam occurs in the upstroke due to a case feed or shell plate indexing issue. There may be some instances when TorqueSense® will need to be disabled so the motor torque on the upstroke can be increased via the digital clutch, such as if the system torques out half-way through sizing a rifle case. If the TorqueSense torque limit is exceeded the machine will stop and notify you on the tablet. TorqueSense® can be enabled or disabled by pressing the TorqueSense® icon.

RUN - The RUN function signals the Mark 7® Revolution™ to begin operation at the settings requested.

ROUNDS PER HOUR - The speed settings options under ROUNDS PER HOUR give the operator the ability to choose their desired cycle speed.

CLEAR SHELL PLATE - The CLEAR SHELL PLATE command will lower the tool head just enough so the shell plate can be rotated to clear the brass at any point during loading. This command will only work with the press in the HOME position at the top of the stoke.

SINGLE CYCLE - The SINGLE CYCLE function allows the operator to run a single cycle. This command will only work when the press is stopped and in the top position.

END CYCLE - The END CYCLE function will complete the current cycle and return to the top position.

JOG UP - The JOG UP function will incrementally move the press upwards. The JOG UP function is useful for clearing jams that may occur. The JOG UP function will only work when the press is at a stop.

JOG DOWN - The JOG DOWN function will incrementally move the press downwards. The JOG DOWN function will only work when the press is at a stop.

STOP - The STOP function will stop the press from moving in any event. When pressed you have the option to put the motor in neutral (to manually operate) or to clear the notification and continue running.

Monitors Screen

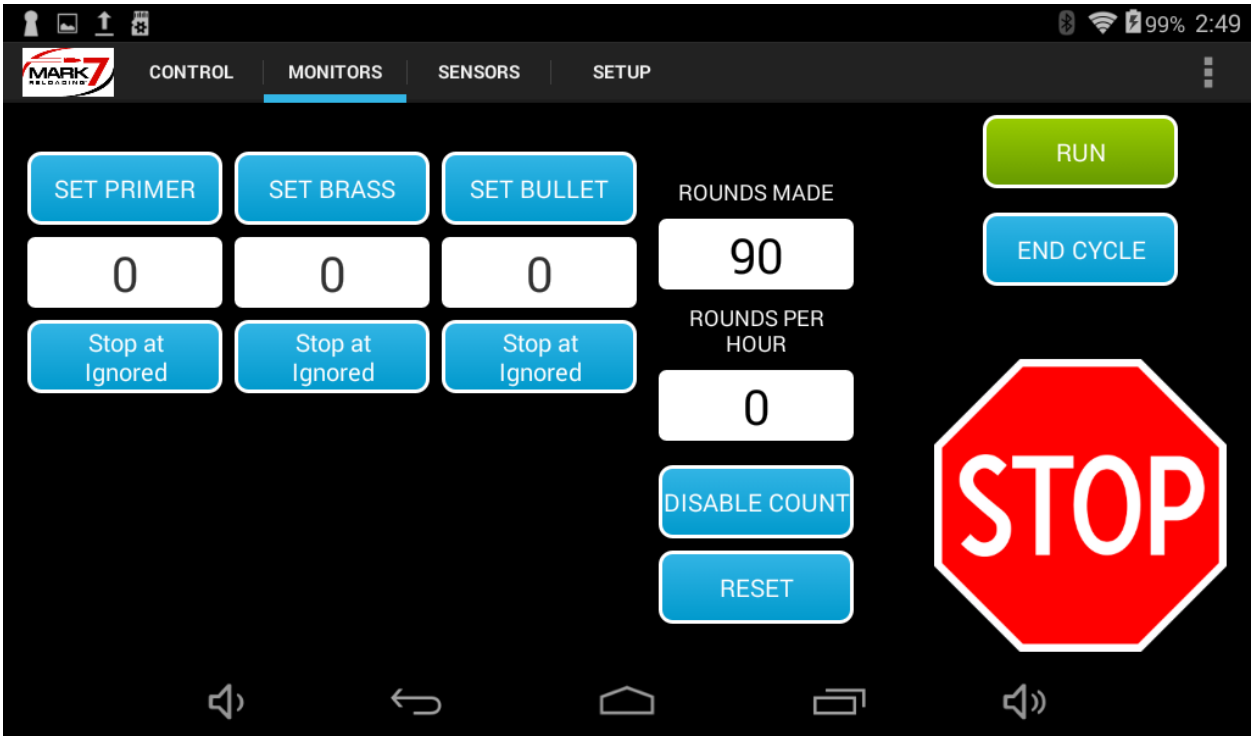

Figure 23: System Monitor Screen.

SET PRIMER - The operator has the ability to set the number of primers used before the Mark 7® Revolution™ ends its current run.

SET BRASS - The operator has the ability to set the number of brass used before the Mark 7® Revolution™ ends its current run.

SET BULLET - The operator has the ability to set the number of bullets used before the Mark 7® Revolution™ ends its current run.

DISABLE COUNT - The DISABLE COUNT function gives the operator the ability to not count the number of rounds made.

RESET - the RESET function allows the user to reset the ROUNDS MADE and ROUNDS PER HOUR fields.

RUN, END CYCLE, and STOP functions have the same functionality on the Monitors Screen as they do on the Control Screen.

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The buttons underneath the screen either state – STOP at XX or Stop at Ignored. If the latter, the machine will not stop – the monitor is not in use. If the former, the value that you set is the value that the machine will stop on. If you set primers to 100 and the stop at value of 10, then the machine will stop when it has reached 10 primers left (a value of 90 rounds made).

Sensors Screen

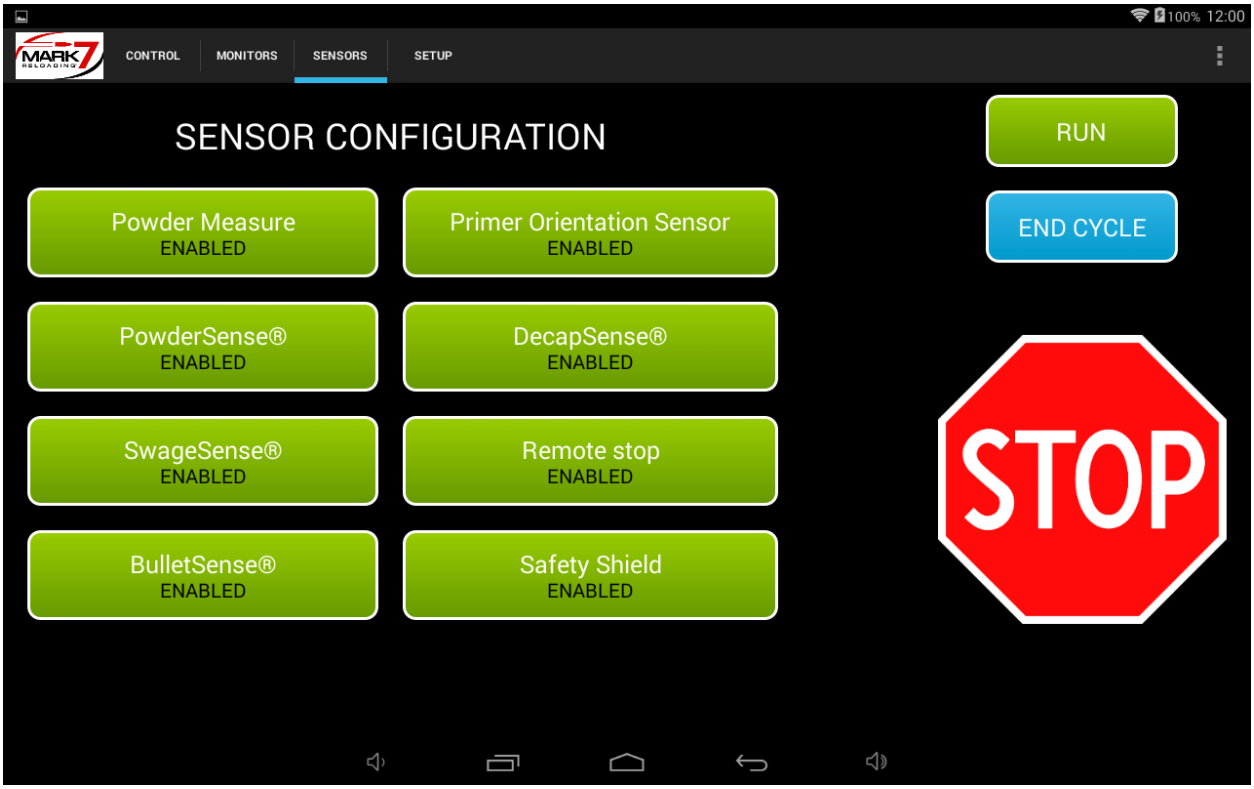

Figure 24: System Sensor screen.

On the sensors page all optional sensors and accessories can be enabled or disabled at any point during machine operation. We recommend disabling any of the sensors or accessories you don't have installed on your system.

RUN, END CYCLE, and **STOP** functions have the same functionality on the Setup Screen as they do on the Control Screen and the Monitors Screen

Setup Screen

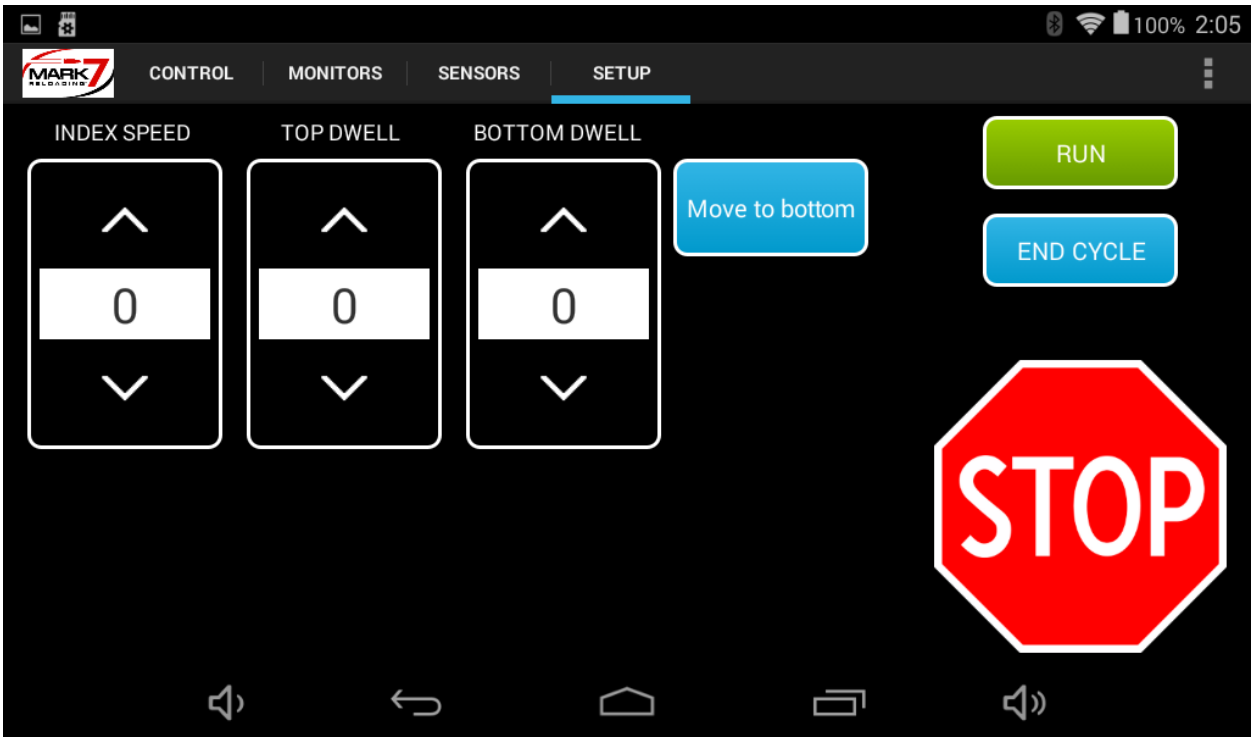

Figure 25: System Setup screen.

INDEX SPEED - The INDEX SPEED function allows the operator the ability to incrementally reduce the index speed of the shell plate. The higher the value in the INDEX SPEED field the slower the shell plate will index.

TOP DWELL – The TOP DWELL function allows the operator the ability to add a slight pause at the top of the stroke. This allows for a little extra time for the cases to fully settle before the tool head comes down.

BOTTOM DWELL - The BOTTOM DWELL function allows the operator the ability to increase the time in which the press remains at the bottom of the stroke. The higher the value in the BOTTOM DWELL field the longer the press remains at the bottom of the stroke.

MOVE TO B0TTOM - This command will move the press head to the bottom of the stroke which is helpful for setting up the dies and adding powder.

RUN, END CYCLE, and **STOP** functions have the same functionality on the Setup Screen as they do on the Control Screen and the Monitors Scree

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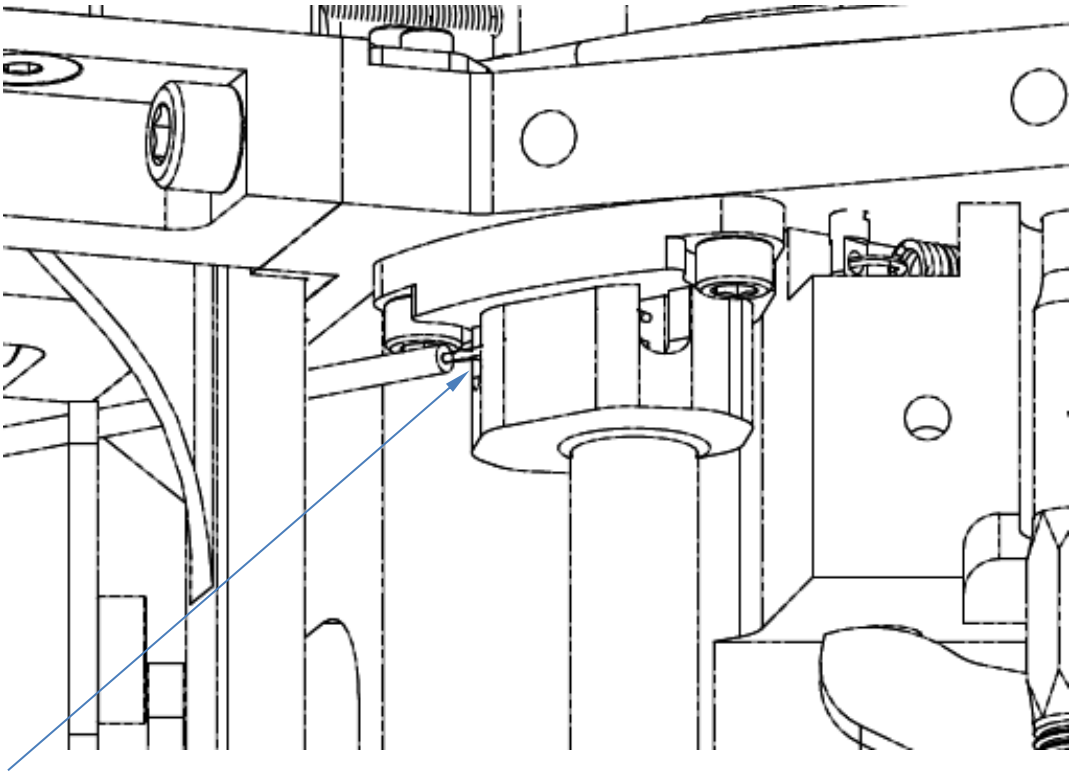
DECAPsense™ Operating Instructions

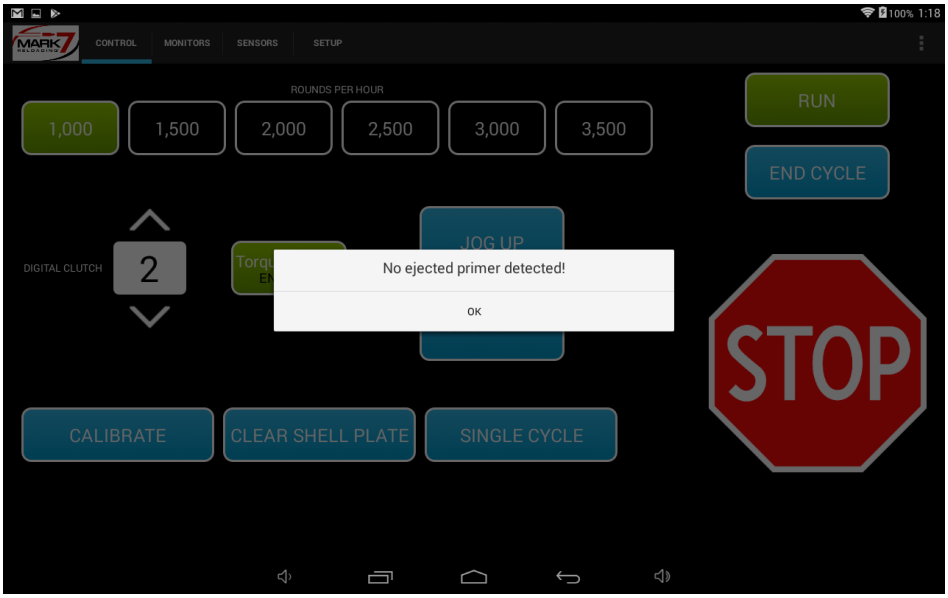
1. Remove the decap mount underneath station #2 and install the optical decapping sensor in the orientation shown below.



1. Figure 26: Decapsense installed10

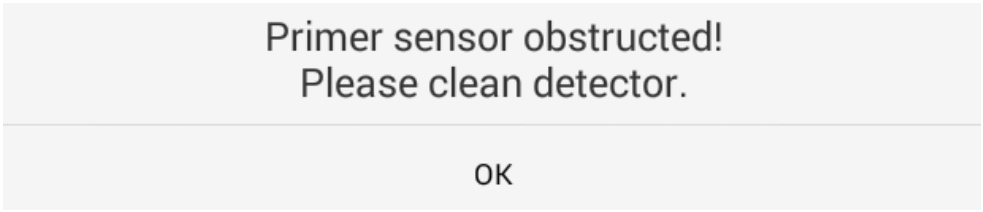
2. Hook up the **3/8" Clear Tube** to the bottom the **DECAPsense** to catch spent primers

3. Calibrate and run the machine as normal. On the **"Sensors tab,"** make sure **DECAPSense®** is enabled (Highlighted Green.) See Figure #3. When a spent primer is not ejected the following notification box will appear:



After you rectify the issue press “Ok” and proceed with normal operation. As with all sensors the **DecapSense** can be enabled or disabled on the **Sensors Tab** screen.

During operation the optical sensor may become dirty and require cleaning. The following notification box MAY appear when cleaning is required:



Remove the case in station #2. Use an air can or compressed air and blast air down through the shell plate and thru the sensor.

WARNING – Cleaning intervals of the Mark 7® DecapSense™ will vary dramatically based upon many factors. **We suggest cleaning the Mark 7® DecapSense™ as often as practical – It is up to you to ensure that the sensor is clean.**

This is a product that is designed to improve the safety of the reloading operation. **Never rely on the DecapSense alone**. You must monitor its use – **Always.** Be close to your machine and available to stop the machine if it needs to be stopped.

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SwageSense® Setup

1. Back off the Swage back-up expander die and swage rod off a few threads and insert a de-capped case into station #3. Move the press head to the bottom position. Adjust the swage back-up expander so it bottoms out against the bottom of the case and lock down the die. Next using 5/16 wrench thread the swage rod up until it bottoms out into the case pocket. Then turn it a ¼ turn more and lock down the jam nut. See the figure below.

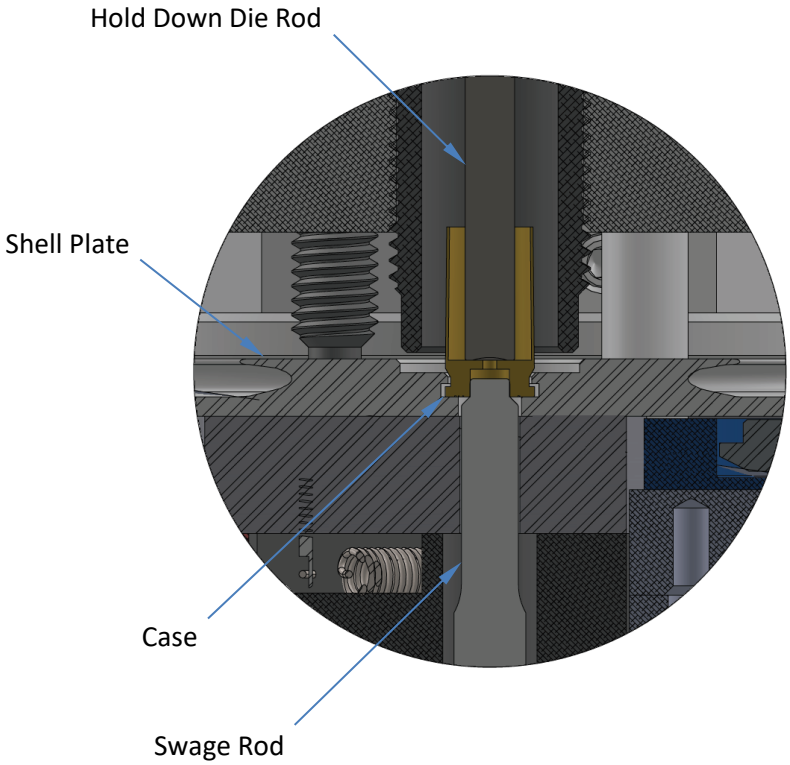

Figure 1: Cross-section of properly adjusted Swage Rod.

2. The **Microswitch** is pre-adjusted so it will be triggered immediately when the SwageSense® assembly starts to close. If you want to change the engagement of the switch use a .05" Allen Key and a ¼" open end wrench. We do not recommend adjusting the setting unless it becomes out of adjustment. To adjust tighten the **Set Screw** until you hear the switch trigger, then back it off a ¼ turn and lock down with the Jam Nut.

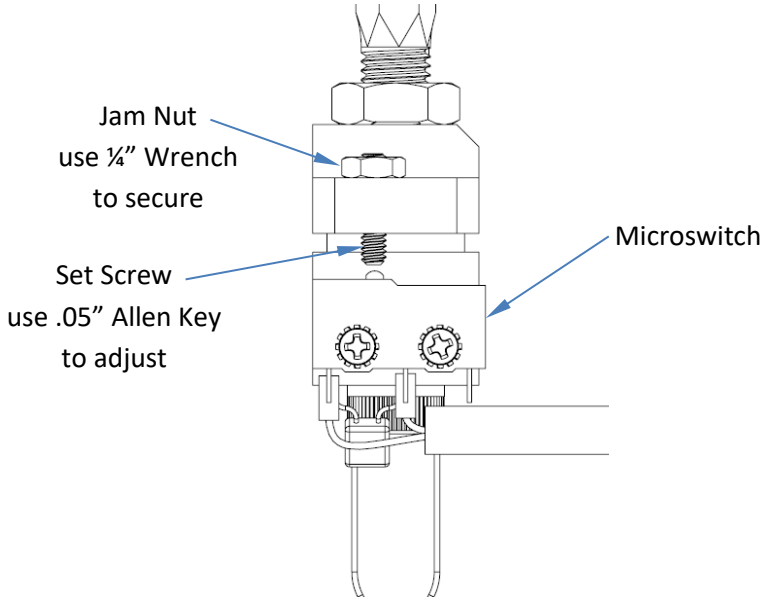

Figure 2: Microswitch Adjustment.

3. When the SwageSense® switch is triggered the following notification will appear on the reloader application.

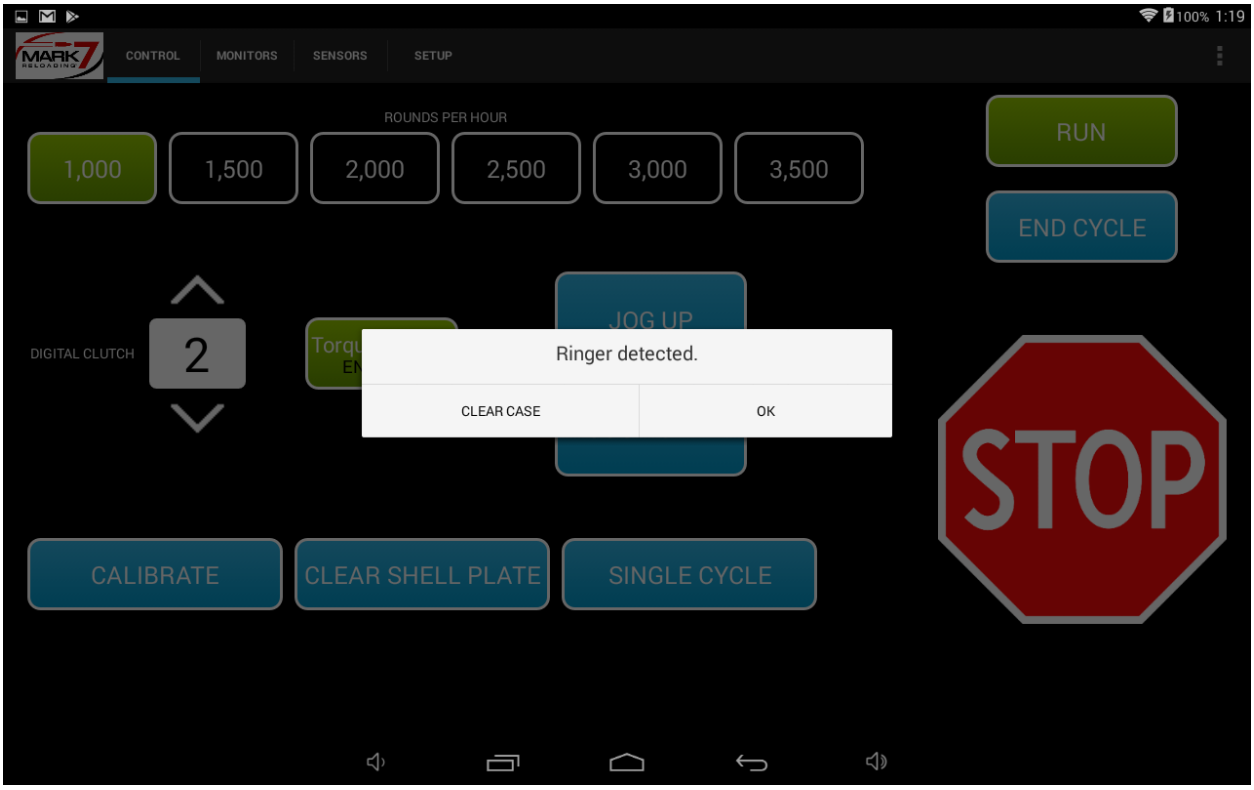

Figure 3: SwageSense® Notification.

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Increasing SwageSense Force

1. The swage force on SwageSense is adjustable from very sensitive (SM pistol) to full lockout (military Crimp).

2. The Gap between the upper and lower housings determines the pre-load force on the assembly. To adjust the gap first start by loosening the two **Jam Set Screws** on the top of the **Housing.**

3. Then adjust the **Shoulder Screws** on the bottom of the housing to set the desired force. The gap working range is from .075-.095". **Never operate SwageSense out of this range.** Whenever the gap is adjusted the **Microswitch** will also need to be adjusted. Lastly lock down the **Shoulder Screws** with the **¼"-20 Jam Set Screws.**

4. We recommend starting with a gap of .095". Then adjust the **Microswitch Set Screw** so it is just starting to depress the **Microswitch.** Start with this value, by tightening the **Shoulder Screws** you will add more pre-load to the screws which increases the swage force, but makes the ringer detection less sensitive.

5. Tighten the **Shoulder Screws** evenly until desired gap is reached. Tighten two **Jam Set Screws.**

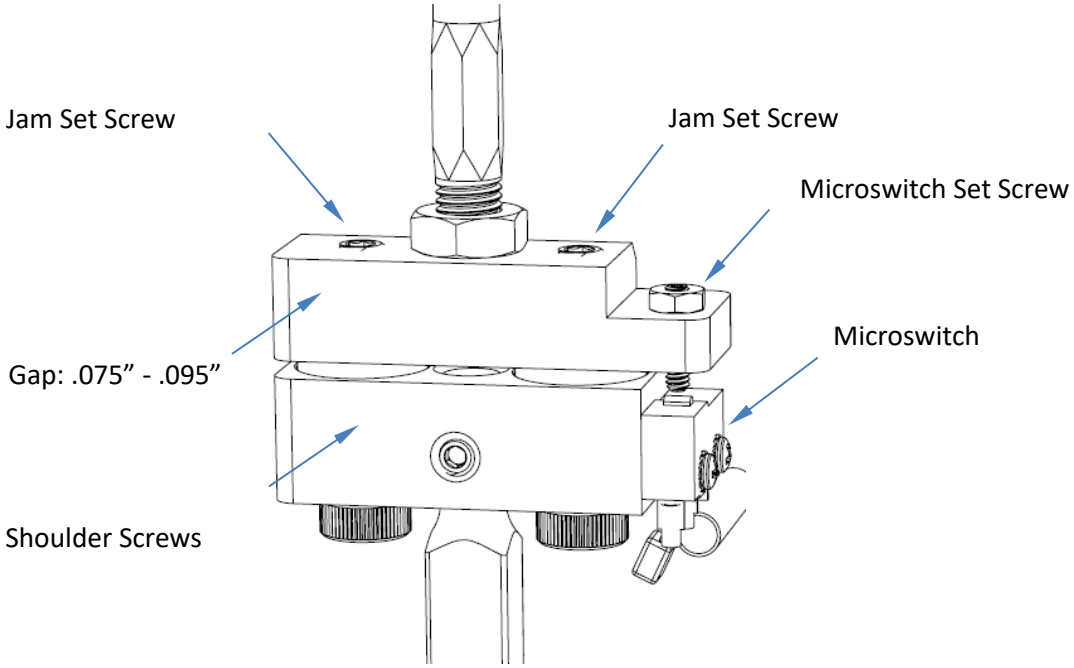
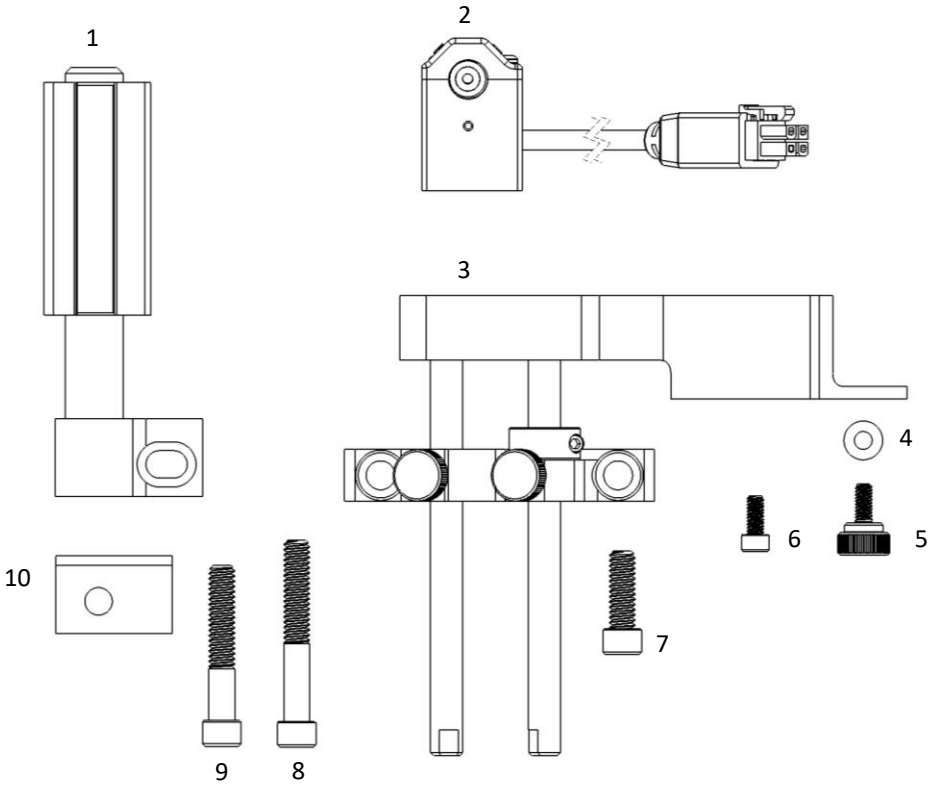


Figure 4: Adding set screws to lock shoulder screws in place.

BulletSense® Installation

Packaging Content:



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

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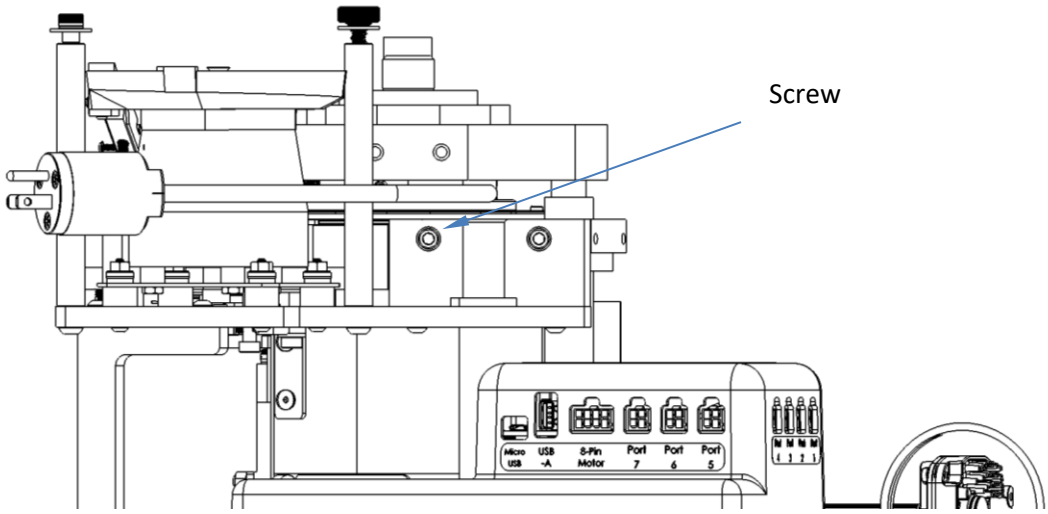
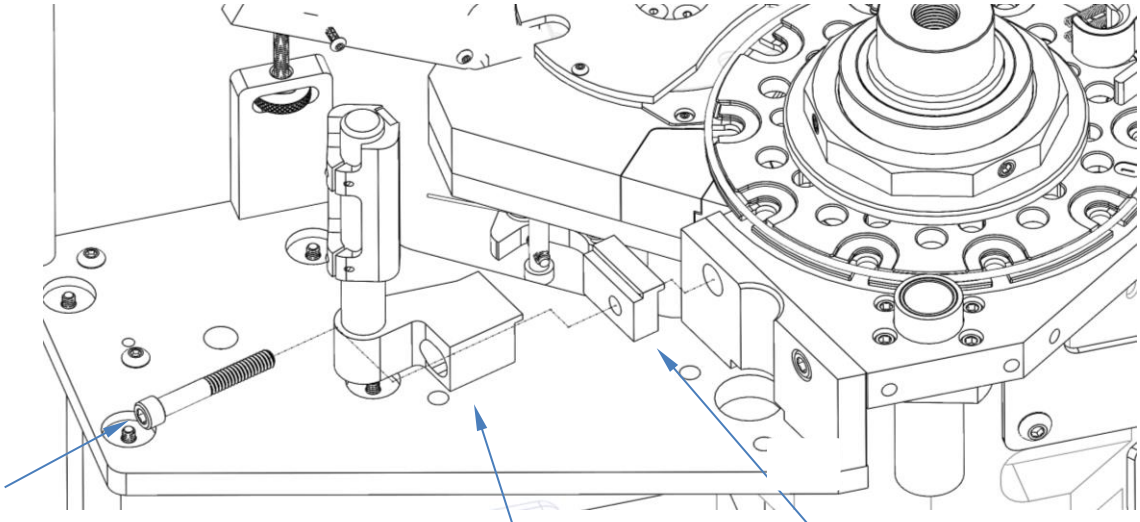
Set up Procedures:

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.)**



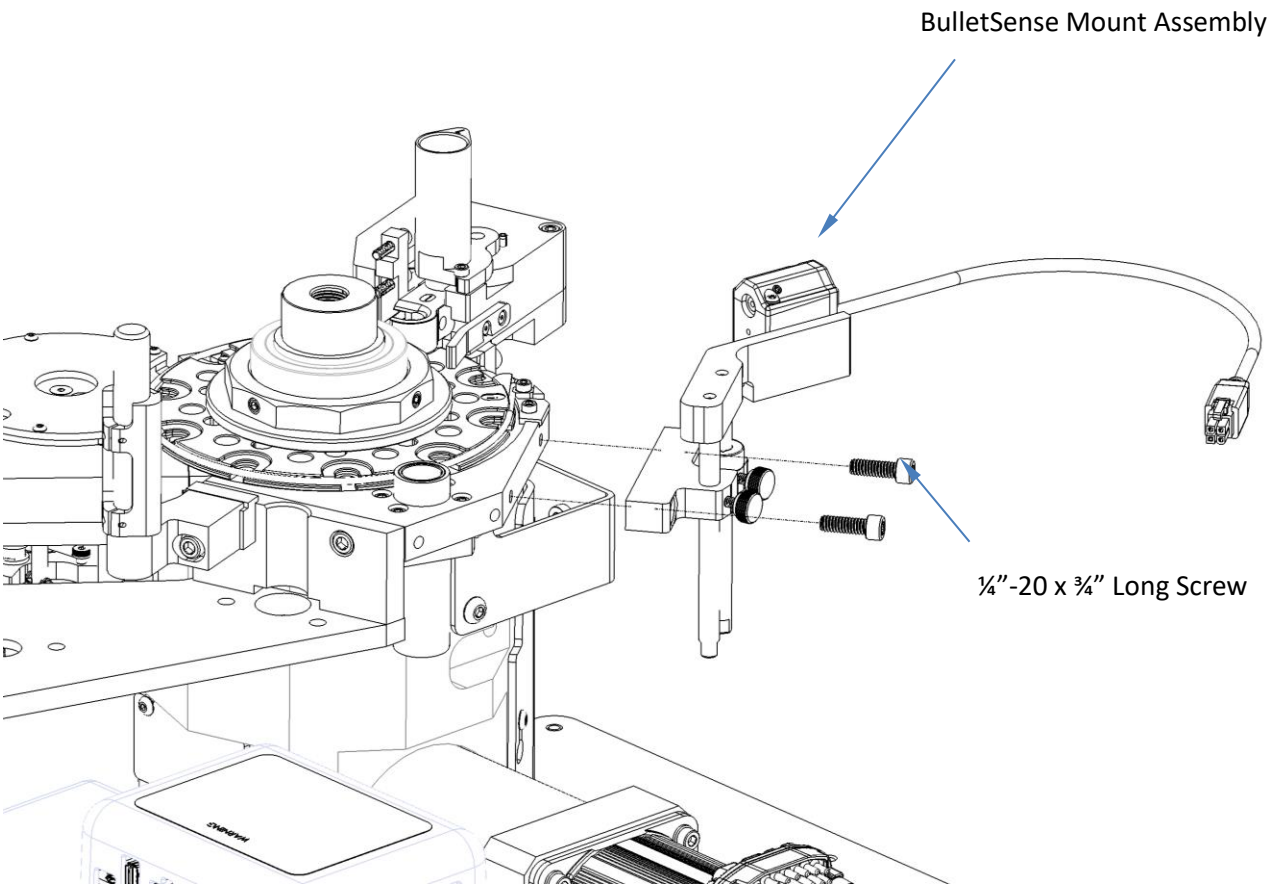
Screw:
¼”-20 X 1 ½” Long w/o shim
¼”-20 1 ¾” Long w/shim

Mirror Mount

BulletSense Mirror Bracket Shim Use with Rifle

Figure 5: **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 the console at port location #3. Power on the console which will automatically turn on the laser.

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5. Next step is to align the laser, so the mirror reflects the laser beam into the sensor. To adjust use Adjustment Screws (see Figure 29). 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's difficult to detect the position.

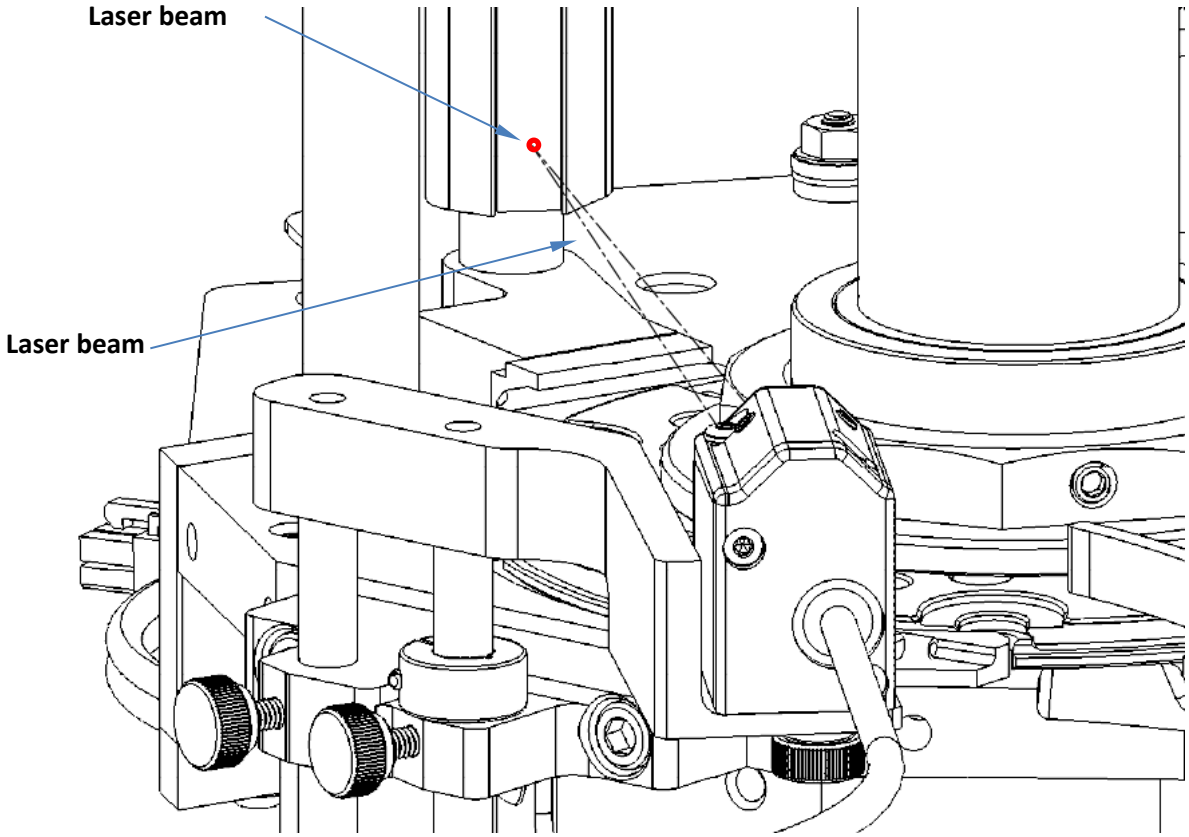

Figure 6: Laser to mirror alignment.

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 assembly. Once the Laser diode is hitting the mirror surface. Rotate the mirror 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 the following figures. **If you cannot get the beam to hit the mirror and reflect back into the eye install the black plastic shim (item 5 see Figure 28) between the mirror and press and realign (rifle calibers most likely will need the shim).**

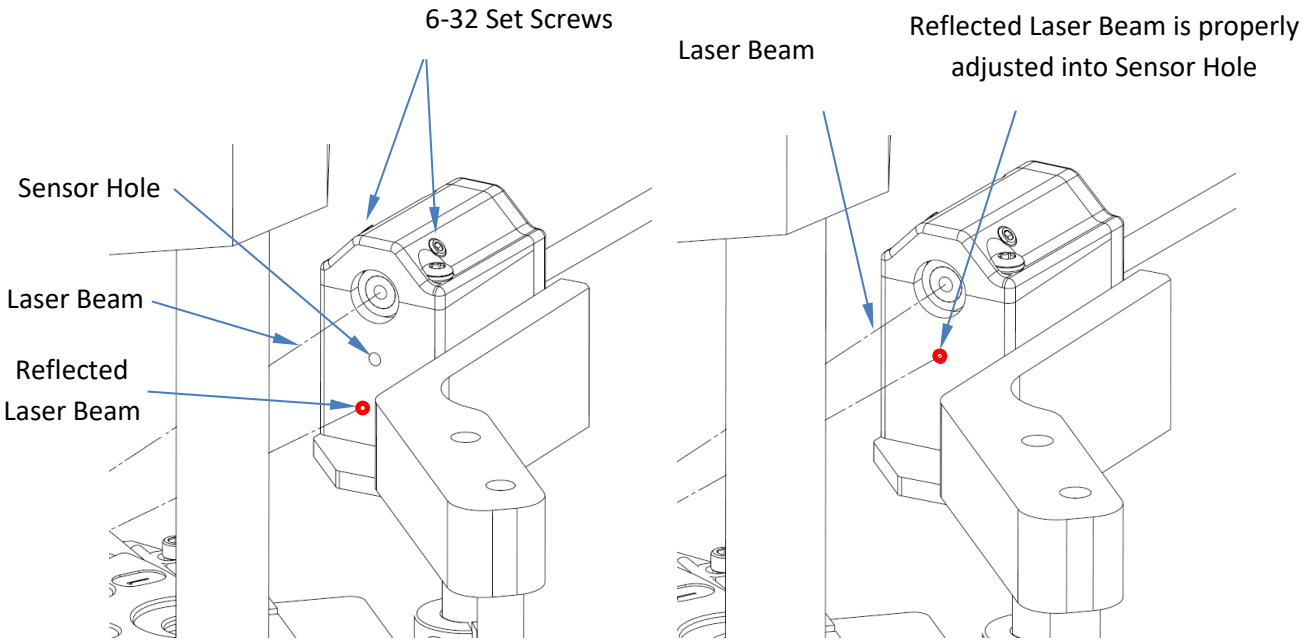

Figure 7: **Reflected Laser Beam adjustment.**

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 36) 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 37) 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.

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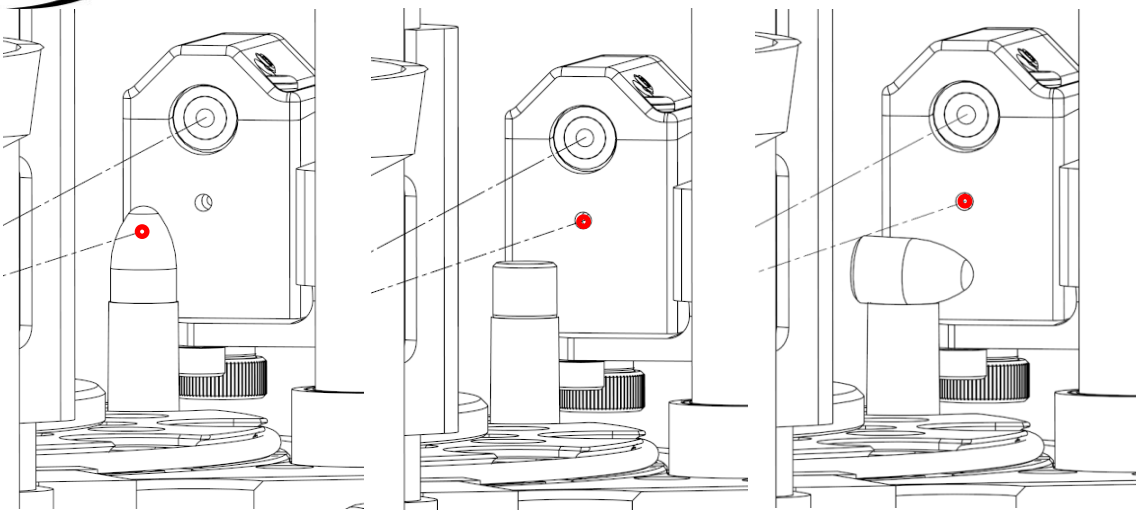

Figure 8: Properly oriented bullet – Laser Beam interrupted (Left). Upside down bullet – Laser Beam not interrupted (Center). Side way bullet – Laser Beam not interrupted (Right).

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.

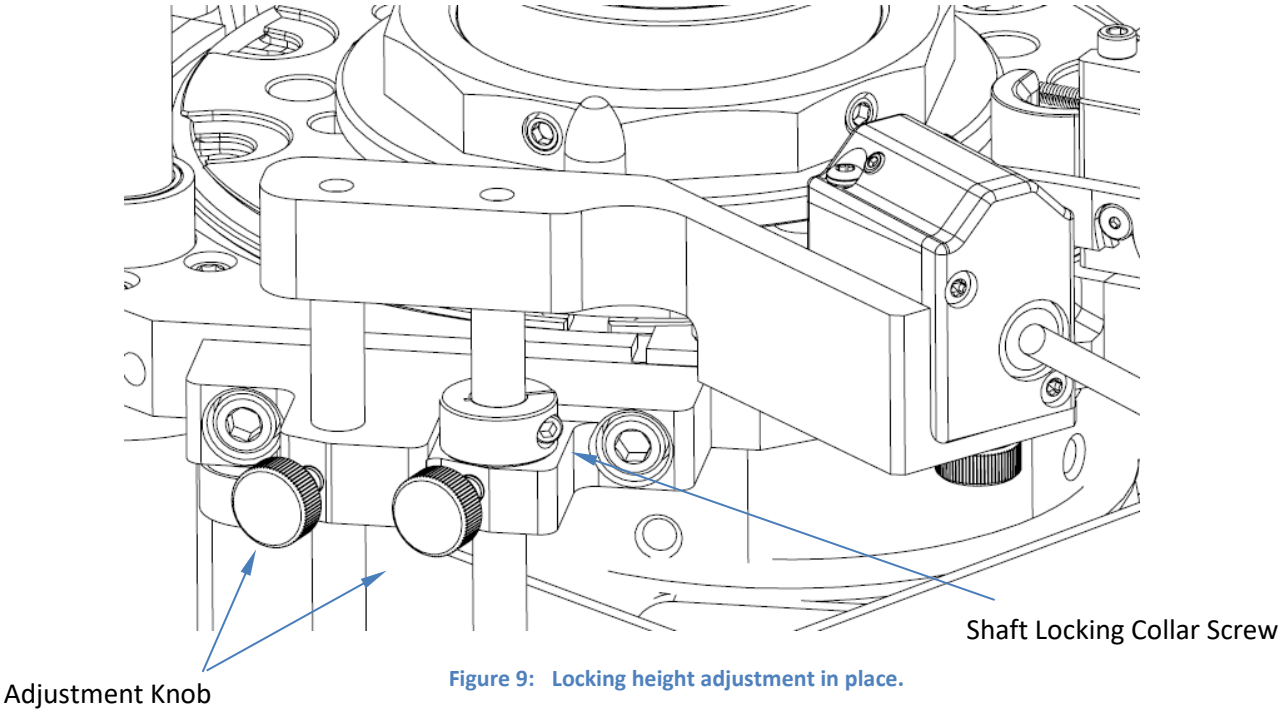

Figure 9: Locking height adjustment in place.

Operating BulletSense™:

1. With a clear shell plate enter the Reloader application, confirm that you have the required software firmware version or newer as outlined in the first page of this document.

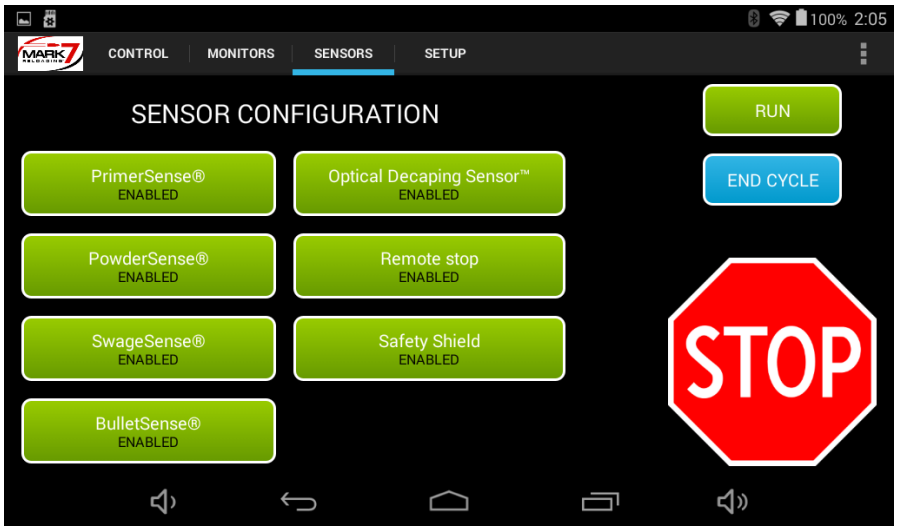

Figure 10: Sensor page. BulletSense™ enabled.

2. BulletSense™ plugged into Revolution Main Unit Console Port 3.
3. Confirm that the laser is aligned with the sensor opening.
4. Perform a system calibration.
5. Go to the "Sensors" tab and make sure BulletSense® is enabled.
6. Press RUN or Single Cycle. With a clear shell plate, the following notification should appear stating that a "Bullet Not Properly Positioned."

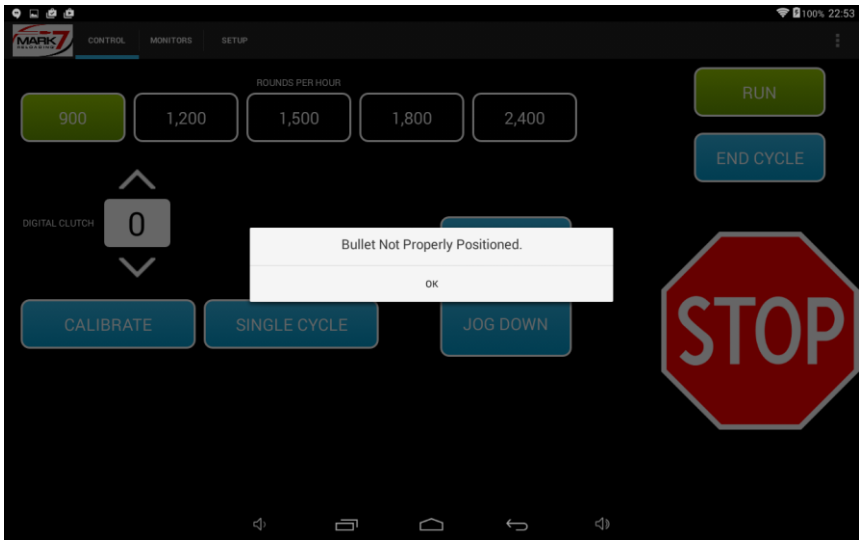

Figure 11: BulletSense™ Notification

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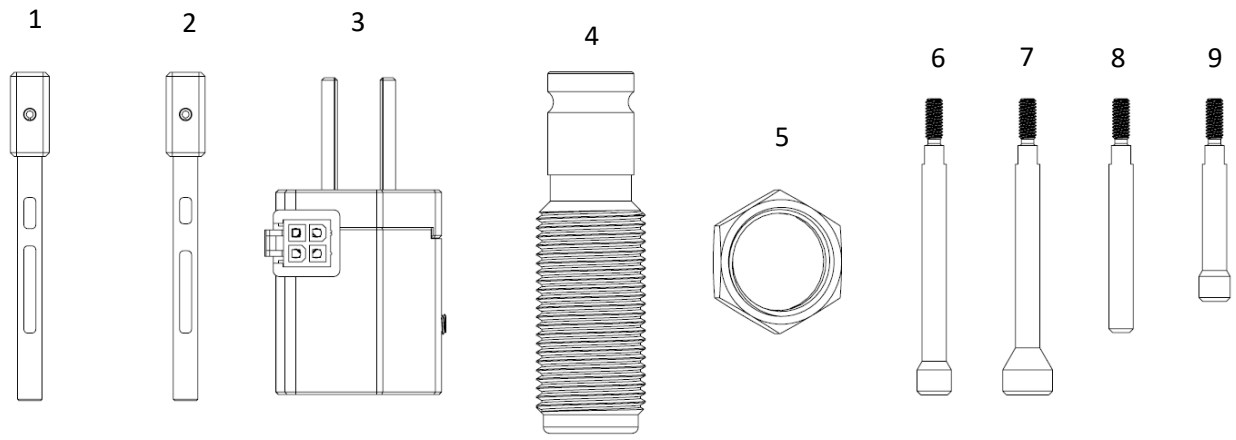
DIGITAL POWDERCHECK™ installation instructions:



Item No.	Description	QTY
1	Powder Check Rod Assembly - Micro	1
2	Powder Check Rod Assembly - Macro	1
3	Powder Check Housing Assy	1
4	Powder Check Die	1
5	7/8"-14 Thread, Thin Hex Nut	1
6	Powder Probe Tip - Small Pistol	1
7	Powder Probe Tip - Large Pistol	1
8	Powder Probe Tip - Small Rifle	1
9	Powder Probe Tip - Large Rifle	1

Digital Powder Check™ setup:

1. Choose your **Powder Check Rod Assy** (Item 1 or 2 see Figure 40) based on the following criteria:

- **01 Rod:** has a finer optical obstruction – Use with New brass or sorted headstamps
- **02 Rod:** Has a coarser optical obstruction – use with Mixed head stamps

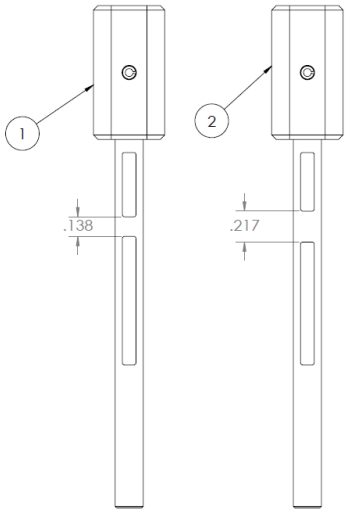


Figure 11: 01 Rod (left) , 02 Rod Right

2. Choose your **Powder Probe Tip** for your caliber size. Thread down the probe onto the **Rod**. Then apply a little purple Loctite to ensure it does not get loose (see Figure 41 for the rod sizes for your caliber).

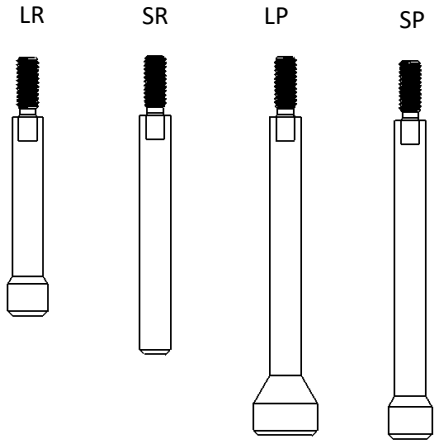


Figure 12: **Powder Probe Tips.**

3. Plug the sensor into port #4.

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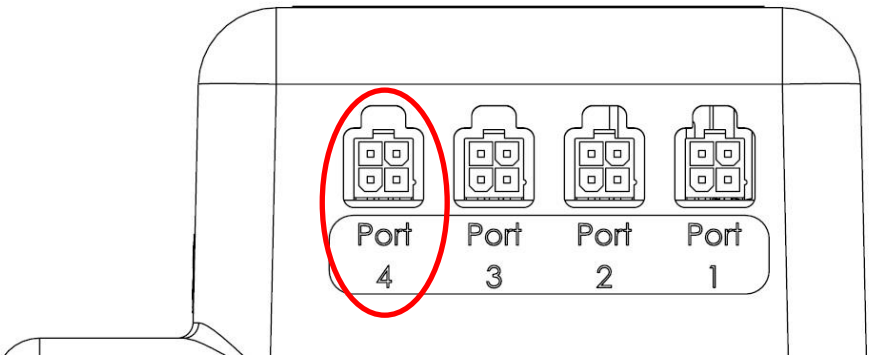

Figure 13: **PowderSense® console port location.**

4. Clear the Shell Plate, perform a fresh calibration.

5. On the tablet tap the SENSORS tab and “enable” the Powder® sensor (will turn green).

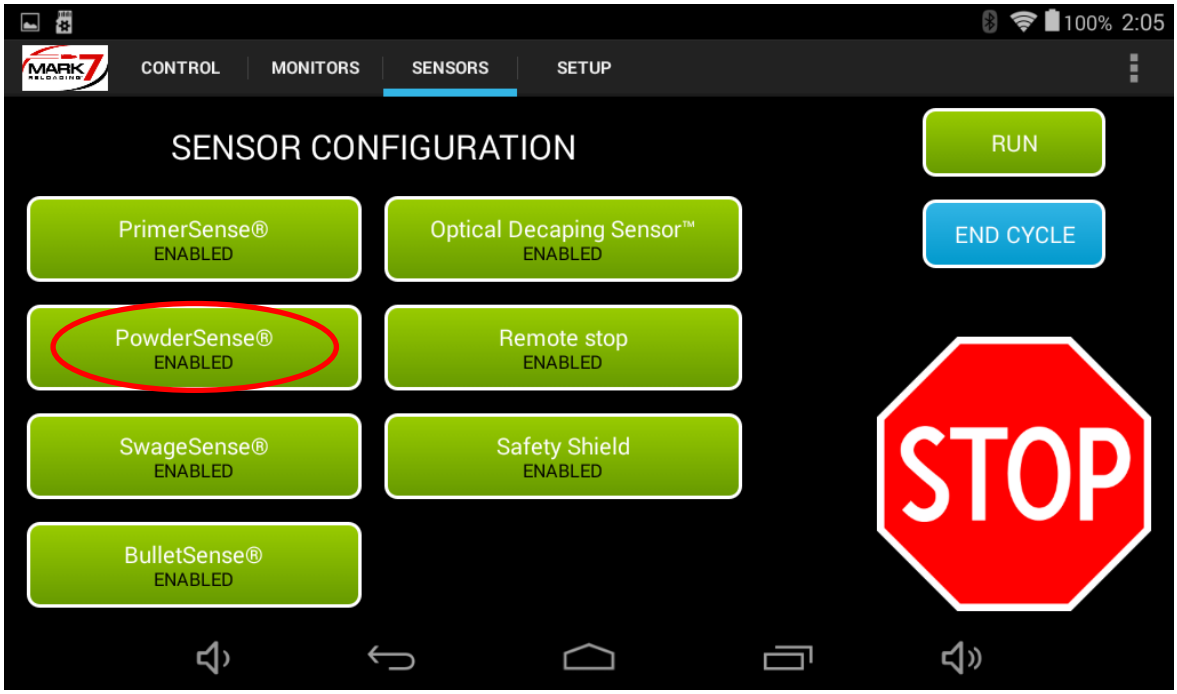

Figure 14: **Enabling PowderCheck®.**

6. Thread down just the **Die** (with **Hex Nut**) into the Tool Head about halfway.

7. Place **Powder Check Housing Assy** onto the Die and thread in the set screw to ensure it does not move while adjusting the height.

8. Place a Case into the Shell Plate with the desired charge and bring the Tool Head all the way down.

9. Adjust the Die height until the Rod assembly is flush with the top of housing assembly. When the correct proper charge is measured the rod assembly should come close to flush with the top of the housing when the tool head is in the bottom position. If there is too little or to much powder the rod assembly will be below or above housing and will trigger the sensor.

10. Test the sensor with a case containing **no powder** and a **containing a double-charge** via single cycle to ensure you get an "incorrect powder level" error pop-up on the tablet.

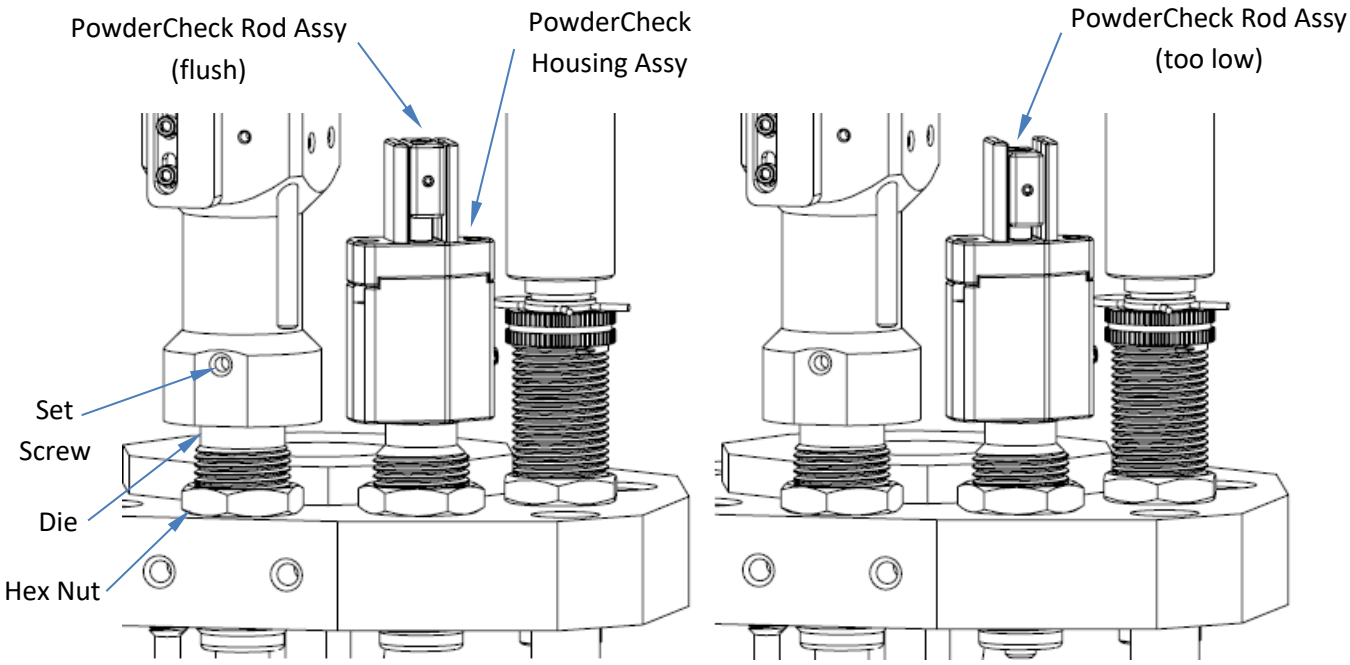

Figure 15: **PowderCheck® Rod Assy alignment. Properly aligned (Left). Misaligned (Right).**

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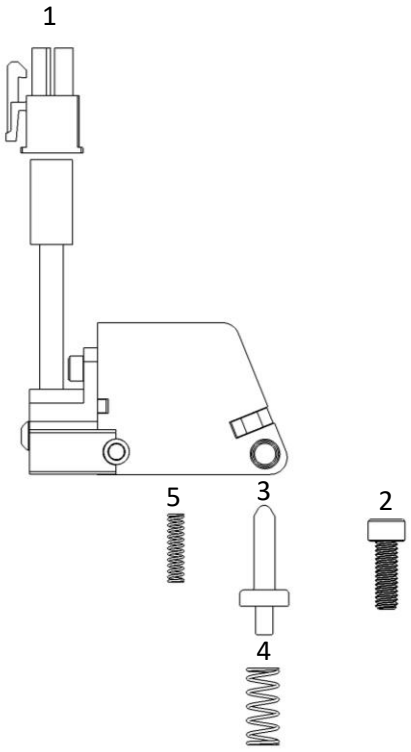
Primer Orientation Sensor Installation Instructions

Packaging Content:



Item No.	Description	QTY
1	Primer Orientation Sensor Main Body	1
2	8-32x 1/2" Socket Head Screw	2
3	Probe	1
4	Probe Spring (*1 Spare)	2
5	Indicator Spring (*1 Spare)	2

Installation Instructions:

Before first use lubricate with 1 drop of light machine oil all interfaces below:

1. Pin and Bushing
2. Pin and Rocker
3. Rocker and Retainer
4. Probe and Housing
5. Retainer and Housing

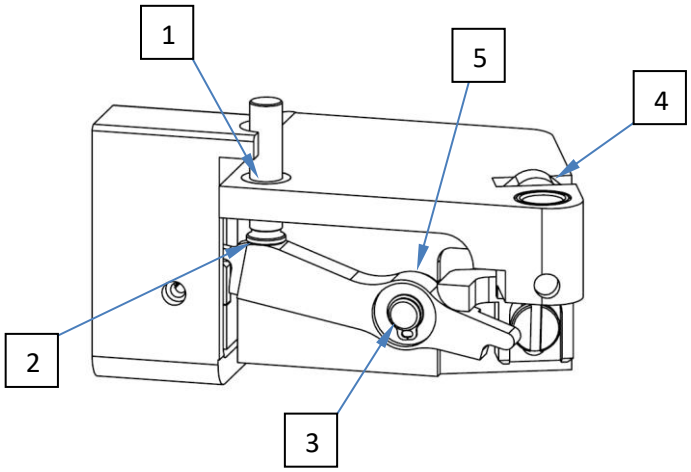


Figure 16: Primer Orientation Sensor lube points.

The Primer orientation sensor installs into station # 5. In order to install the sensor the Shell Plate must be removed or lifted up to remove the spacer housing. Although it's not required, we recommend to remove the Tool Head for full access. Below are the installation steps for installing the sensor on a Revolution (shown) or Evolution (same procedure).

Step 1: Removing Tool Head and Shell Plate.

- Remove Tool Head.
- Remove Shell Plate Nut.
- Loosen the Shell Plate retainer clamps and remove the Shell Plate spring.
- Remove the Shell Plate.
- Remove Spacer Block by loosening 2X 10-32 from the underside of the Priming Assembly with a 9/64" Allen Key.

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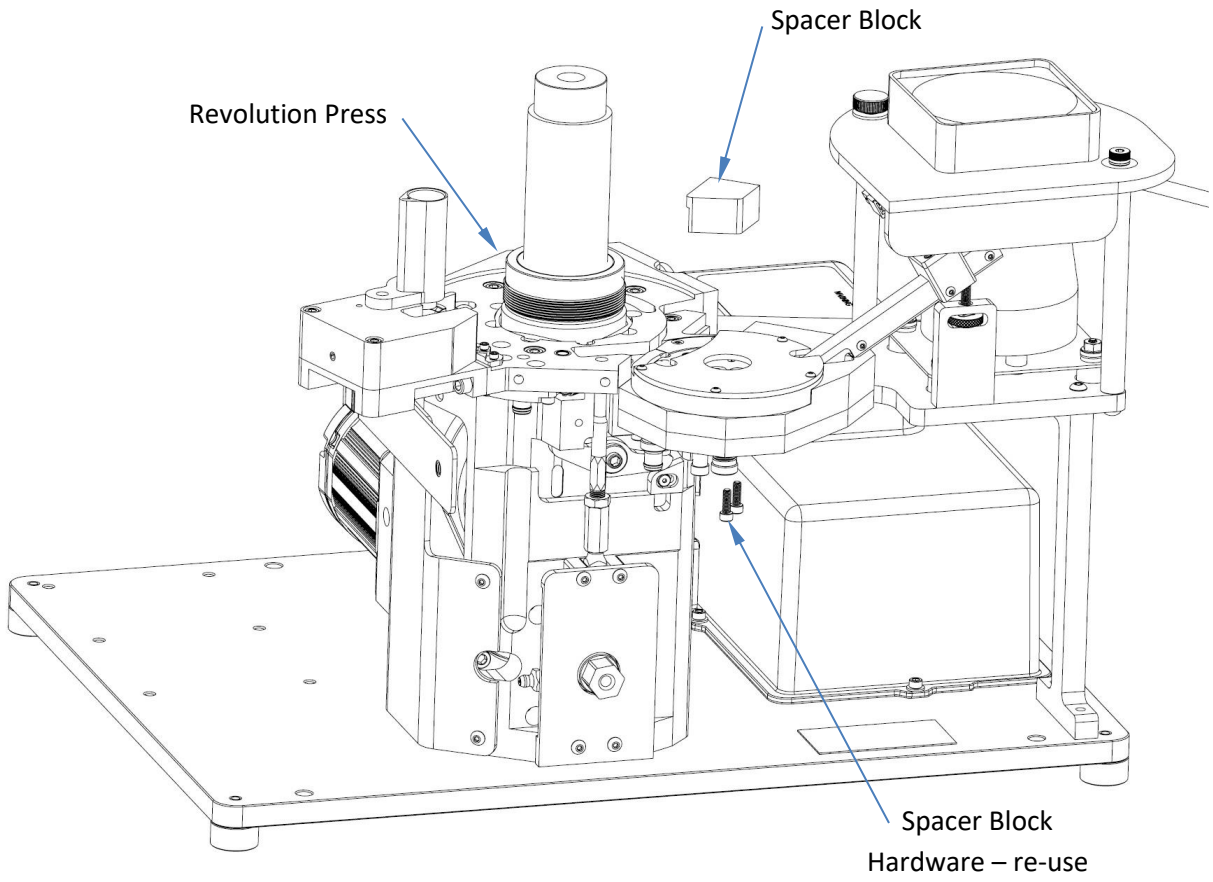

Figure 17: Revolution Press Top End disassembled for Sensor Installation

Step 2: Installing Probe Retractor and Springs

Place the two springs into the spring wells in the primer housing as shown. Apply a small amount of red and tacky grease on the springs. Use light machine oil to work the probe into the brass bushing. Once the springs are installed, insert the probe retractor into the large spring.

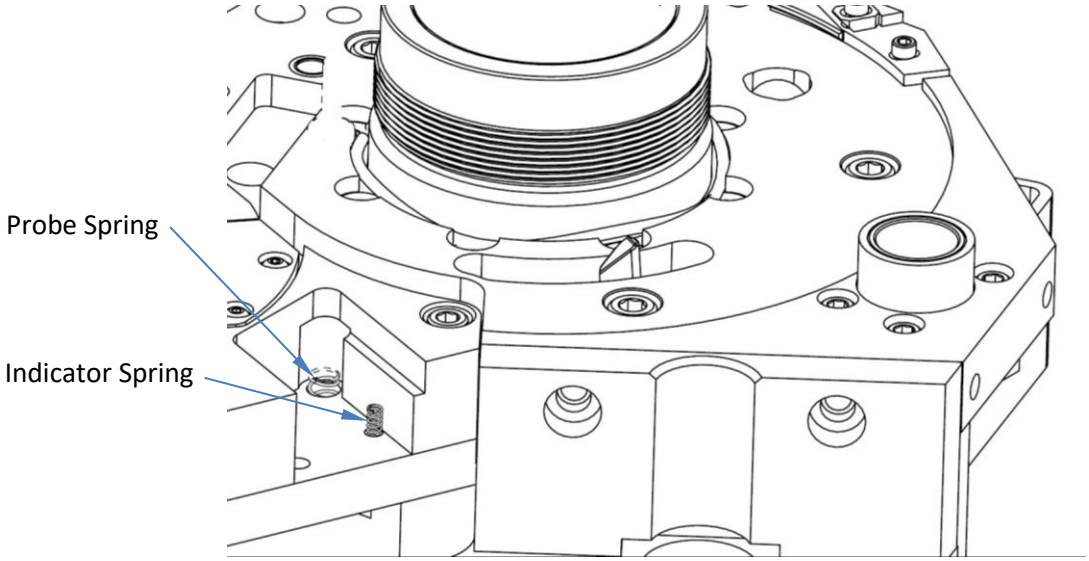

Figure 18: Pace Probe Retractor and Indicator Springs in Spring Pockets as shown.

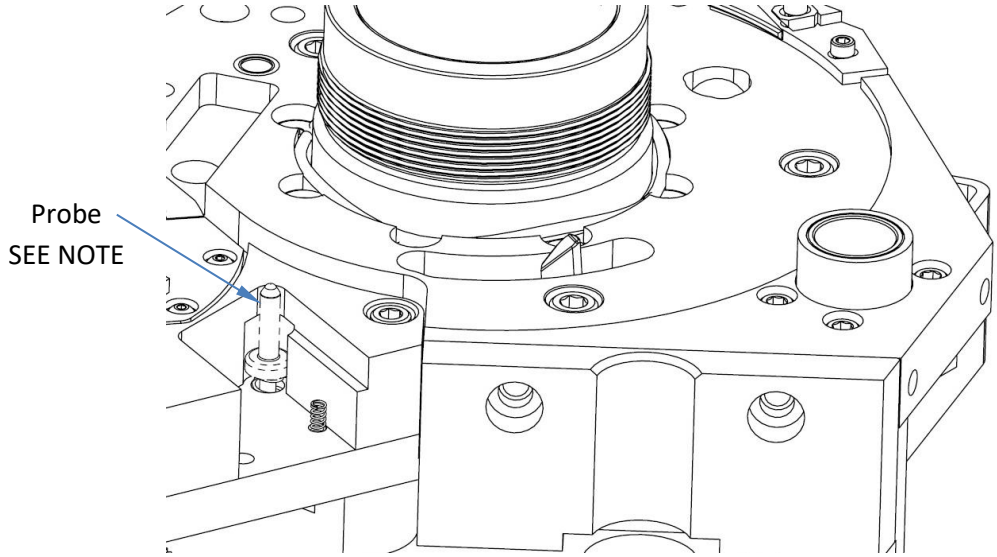

Figure 19: Probe Retractor Installed with Springs

NOTE: The probe must be installed at a slight angle in order to clear the undercut in the priming housing.

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Step 3: Installing the Primer Orientation Sensor Main Body

Carefully lower the sensor body straight down so the probe retractor enters the bronze sleeve bearing and the indicator finger pin enters the spring. The sensor should mount fully flush into the pocket with no resistance. If it does not seat properly remove and reseat. Re-use the QTY 2 8-32 screws from the underside of the priming system to secure the sensor the priming assembly. Spare screws are included if needed.

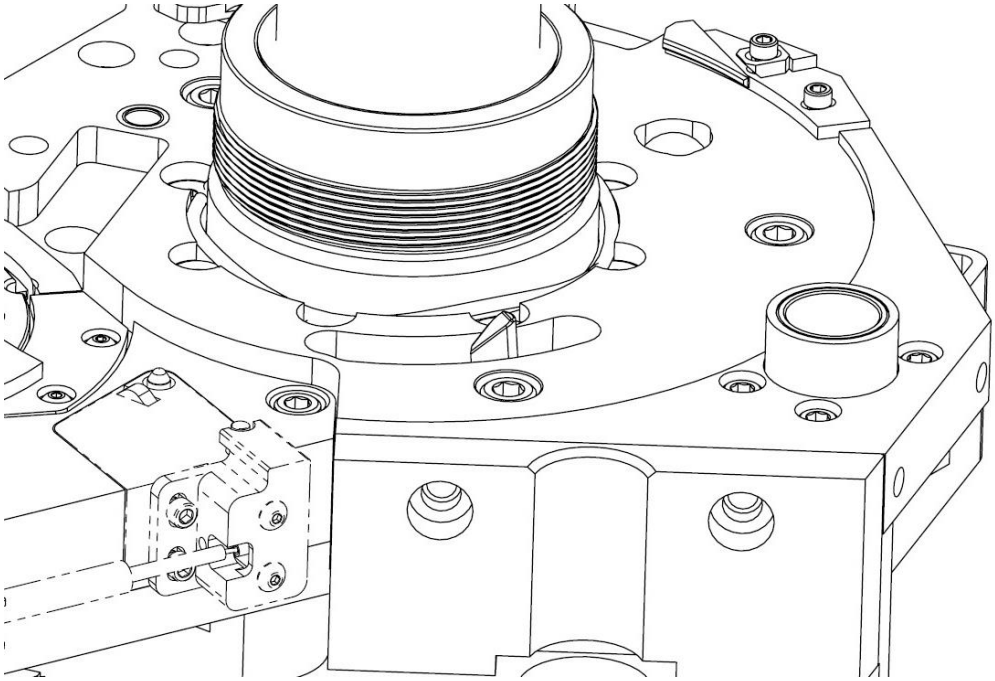

Figure 20: Primer Orientation Sensor Installed

Once the Sensor is fully installed add a couple drops of light weight oil on the probe retractor and moving components and manually actuate the sensor to make sure it is moving smoothly.

Step 4: Re-install the Press components:

- Install Shell Plate.
- Install Shell Plate Spring and set tension.
- Install Shell Plate Nut.
- Install Tool Head*.

Note: When installing the Tool Head always perform the final tightening of the Tool Head with the crank assembly in the down position.

Step 5: Adjusting Optical Sensor to Desired Primer Depth

With the machine powered off and the tool head in the **UP POSITION** place a case with a seated primer to the desired depth into station #5. Make sure the Shell Plate nut is fully threaded down to the desired tightness. When you Install the Primed case, you will notice the indicator Pin will move up slightly. With the case installed the top of the indicator pin should be **FLUSH** with the top of the Sensor Housing. If the sensor Housing is higher or lower loosen the two socket head Screws on the back of the sensor housing and reset the height.

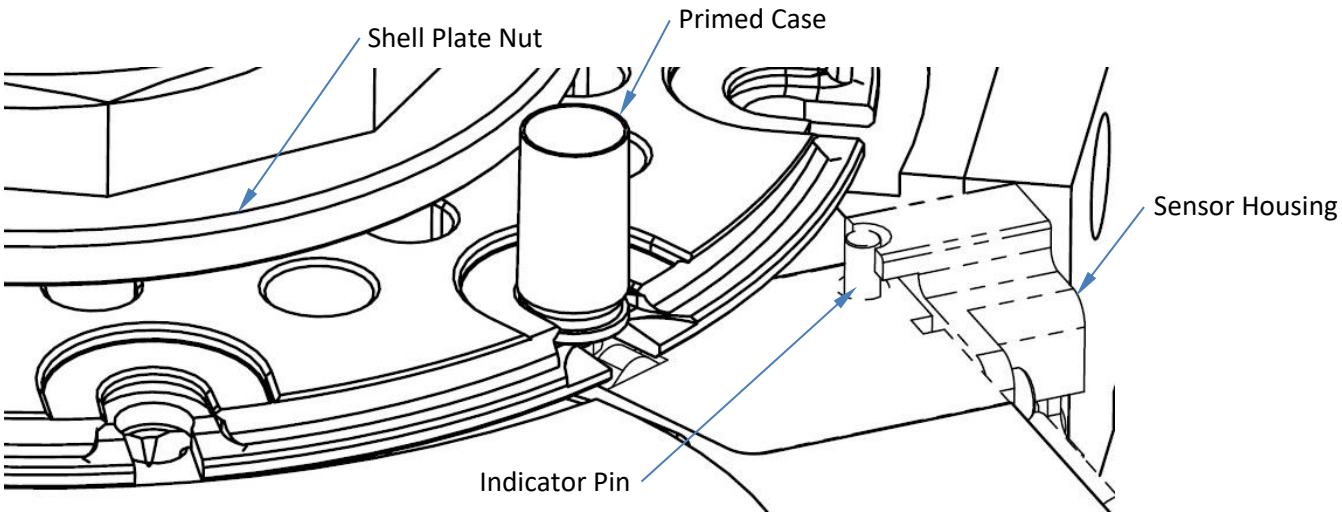

Figure 21: Setting Optical Sensor Position

Step 6: Plug the Sensor into Port #2 on the rear of the electronics unit

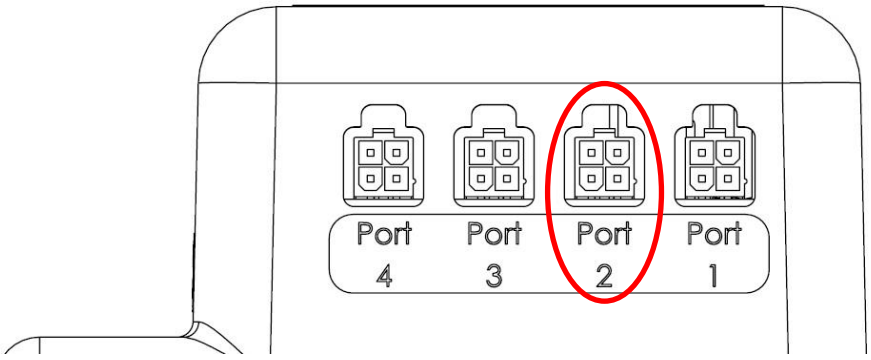

Figure 22: Plug Sensor into Port #2 as Shown

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Operating Instructions:

Software version 2.11 or newer is required for the sensor to operate properly. Visit www.mark7comunity.com and under the forums tab select Revolution or Evolution Autodrive depending on your unit. Then scroll down to find the Software update 2.11 post.

Before entering the Loader application make sure the press manually cycles smoothly with the sensor installed and the sensor is plugged into Port #2. Enter the Loader Application and Perform Calibration. Once the calibration is complete, select the sensor tab and enable the sensor as shown below.

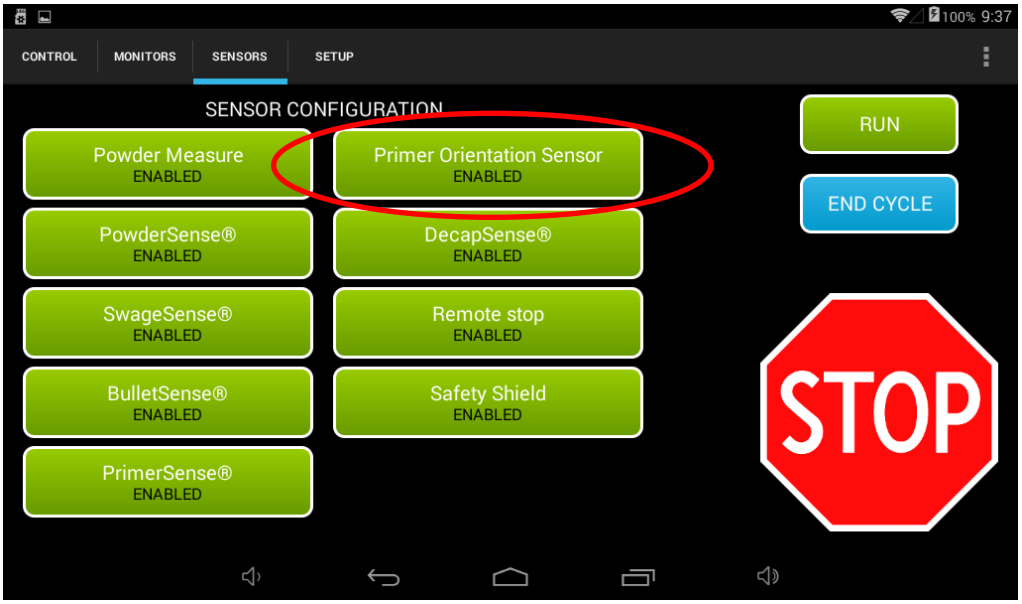

Figure 23: Enabling Sensor

The sensor checks the primer depth when initiating a single cycle or pressing Run. If a case is not present in station #5 or a case has an upside down, no primer or a primer set at a depth +/- .025" off of the desired primer depth a notification can appear. You must clear the notification before continuing or disable the sensor.

The Primer Orientation sensor if set properly will also detect a Shell Plate index fault. If the sensor is enabled and a case is located in station #5 with a primer installed properly the sensor will allow the machine to perform a cycle. During the cycle if the sensor does not detect the advancement of the Shell Plate on the upstroke a notification can appear. If the notification appears on the screen clear the Shell Plate and check the mechanical indexing components before continuing operating the press.

Software and Firmware Update Instructions

**The Revolution comes loaded with the latest Software and firmware. If updates become available you may download them off the website and load them to the micro SD provided.

1. Open the downloaded zip file and copy the individual files on the SD Card.

2. Insert pre-loaded micro SD card without adapter into tablet **very carefully, the SD card does not go all the way in the slot, but resides halfway exposed (see below photo).** If a pop-up appears that says “do you want to change the default write disk?” – click no and proceed to update.

1. Proper Insertion of micro SD card into Gold tablet.

3. On the Mark 7 home screen tap software update – Tablet will reboot after the install automatically; it will flash icons and will take a few minutes – please allow it to completely update.

4. Once tablet has restarted back to the Mark 7 home screen tap firmware update – **Make sure the main unit console is powdered on in the tablet USB cable is connected.** Upload the firmware to 100% - if there is an error. Power cycle the console and restart the upload.
5.
6. Enter Reloader – verify the version at the bottom of the screen is the latest update.

7. Swipe down from the top of the screen and ensure your wifi is disabled and/or in airplane mode Turn down the screen brightness to halfway to ensure battery charges while console unit is on.

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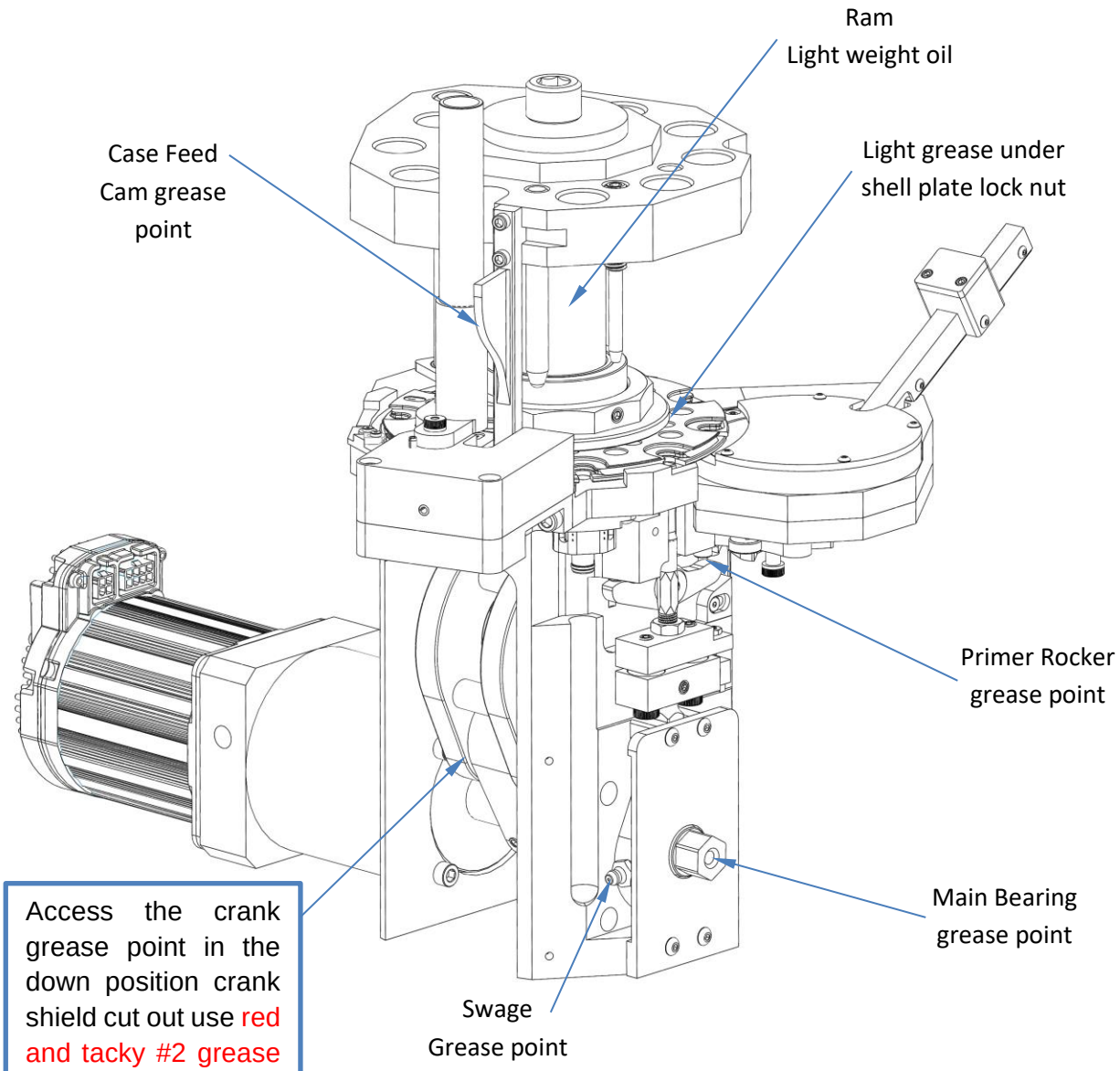
Mark 7® Revolution Recommended Maintenance.

There are a few areas on the Revolution that should be lubricated daily, we recommend checking all the locations noted below before each reloading session to ensure they are properly lubricated.



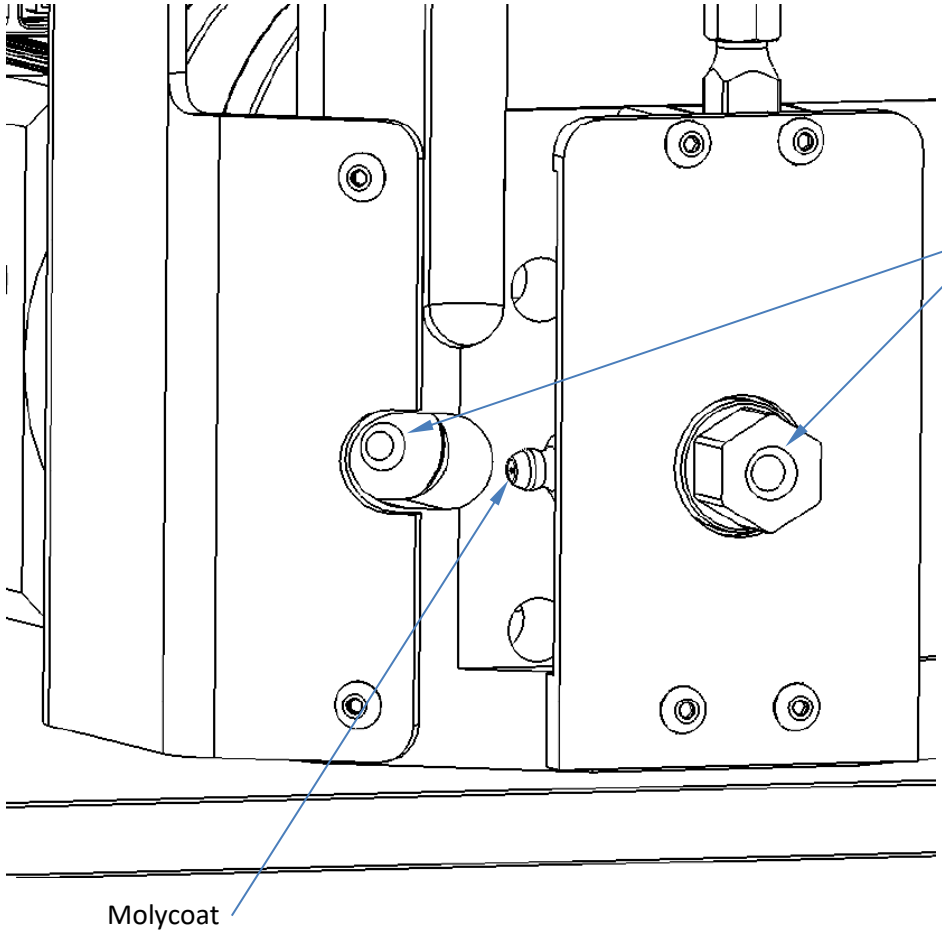
2. **Revolution grease points.**

Crank, Main Shaft bearings and Swage Grease Points – to be done as needed or during service every 10,000 rounds.

Access the crank grease point in the down position through the crank shield cut out. Use a syringe of red and tacky #2 grease until it oozes a bit.

Grease Swage Assembly with Molycoat using grease gun to ensure it coats the entire surface.

Use a syringe of red and tacky #2 grease to lubricate Main Shaft bearings.



3. Crank grease point.

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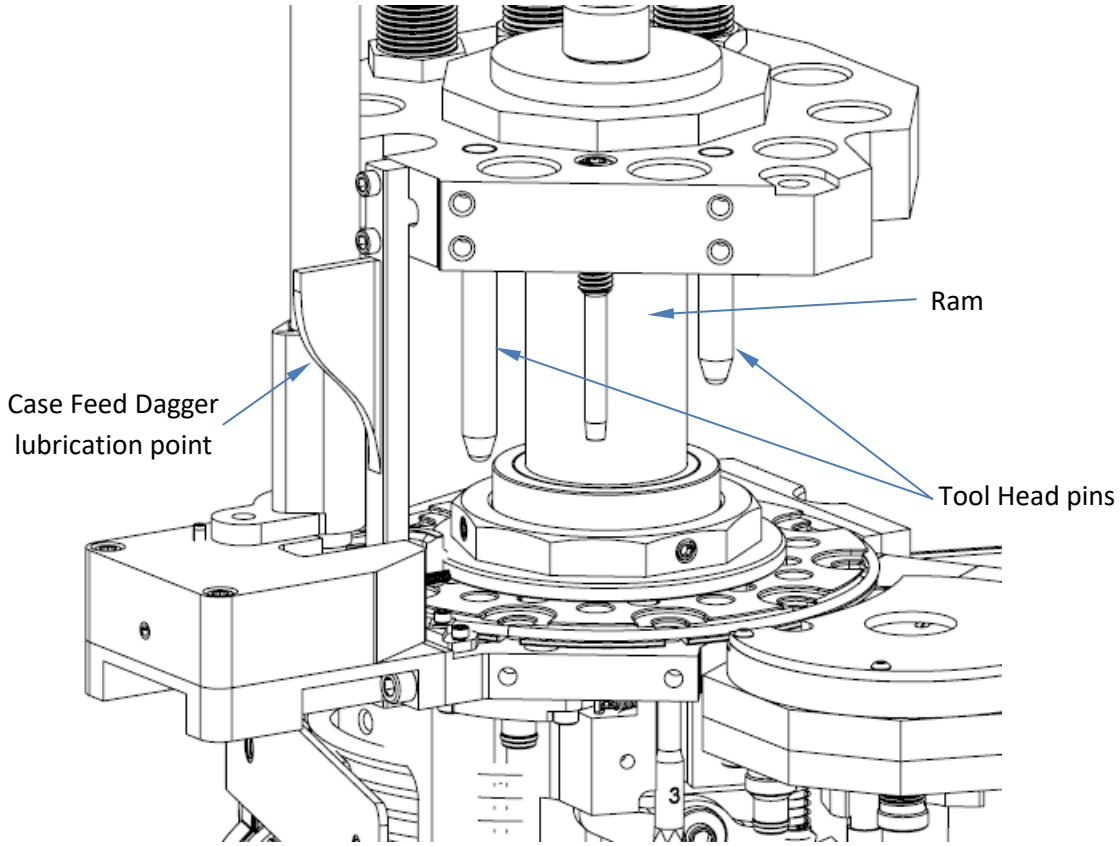
Tool Head pins, Ram and Case Feed Dagger – to be checked daily. Lubricate if needed or during service every 10,000 rounds.

Tool Head pins get oiled with light machine oil as well as the Case Feed Dagger and Ram.

Daily: Light Machine oil to be applied to rear guide rod so that it puddles in brass bushing.

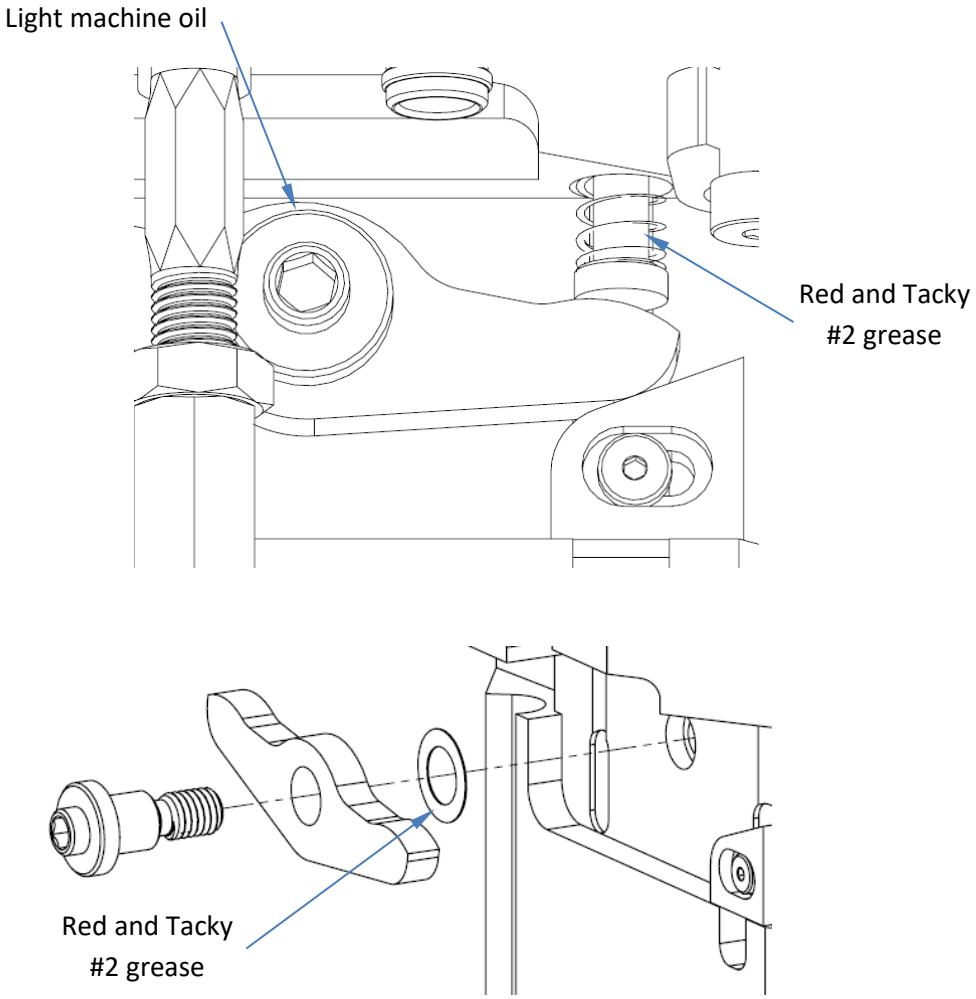


4. **Tool Head pins, Ram and Case Feed Dagger lubrication points.**

Swage and primer punch grease point – to be checked daily. Lubricate if needed or during service every 10,000 rounds.

Daily: Drop of light machine oil behind the rocker on the bolt threads itself.

- If bolt or/and rocker were removed during maintenance – apply red and tacky #2 grease to the bolt/rocker surface.
- Use red and tacky #2 grease to lubricate primer punch. Lubricate if needed or during service every 10,000 rounds.



5. Swage grease points.

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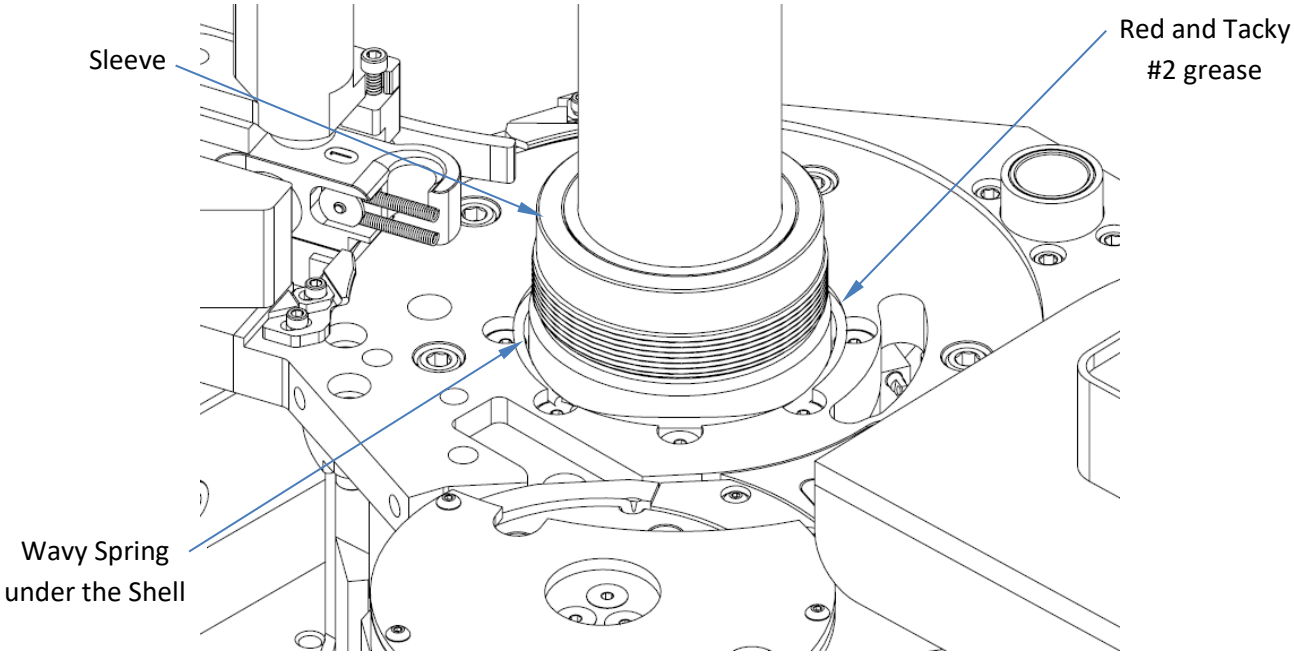
Under the Shell Plate Service Every 10,000 rounds:

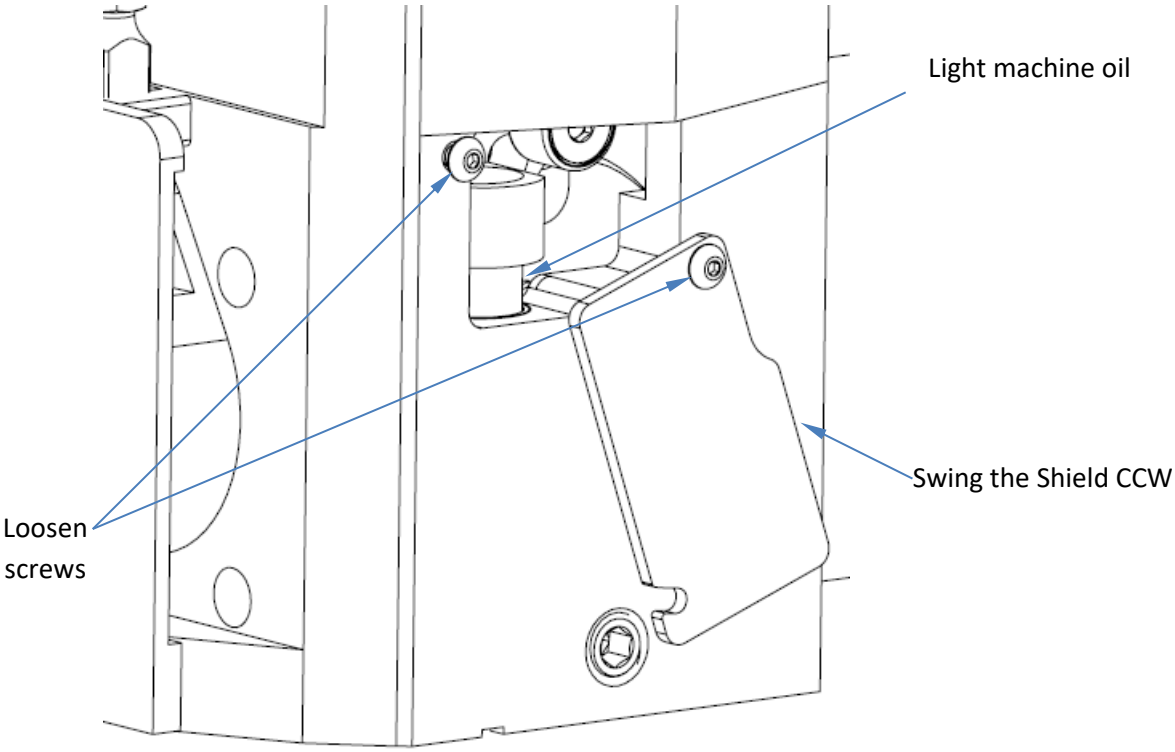
If you do remove the shell plate for maintenance - the Wave Spring around the Sleeve underneath the shell plate (just around the bottom edge where the shell plate is against it) needs a coat of Red and Tacky#2. Also, a coat of Red and Tacky#2 on the underside of the shell plate nut and up the top plate sleeve.



6. **Under the Shell Plate grease point.**

Internal Guide Rod:

Daily: Few drops of Starrett Light machine oil for the internal guide rod brass bushing every 100 or so cycles to break it in then as needed after cleaning.



7. Internal Guide Rod lubrication point.

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Shell Plate and Primer Disk:

Daily: Check the shell plate for tightness, you want it to move in neutral with your fingertips. Check the shell plate lock nut 4x nylon tipped screws (careful not to tighten too much!) as well as the tightness of the shell plate spring – neither should impact indexing so be careful not to overtighten. Get them snug, then back of an 1/8 of a turn.

Daily: Check the tool head bolt with your ½" allen wrench for tightness (approximate 15 to 20 ft-lbs) Tip* Always re-tighten tool head bolt and all guide rod bracket screws with toolhead in down position.

Daily: Check the Primer disk bolts for tightness. Always re-tighten bolts with tool head in the down position.

Storage Recommendations

The following is the proper procedure for storage after a session of use:

1. Ensure that the shell plate is clear of any brass
2. Check the need for lubrication after every session and apply it as necessary at the key lubrication points outlined in the user manual. Insufficient lubrication creates a potentially dangerous situation and may lead to unreliable results
3. Turn off the power to the console
4. Turn off the power to the case feeder and the bullet feeder
5. Turn off the power to the table

Reloading Manual

Ensuring proper system operation

Before using any Mark 7® Revolution higher speeds you must ensure that press works perfectly in single cycle mode or the lowest speed setting. This includes proper settings for the type of ammunitions you are reloading at each of the die stations.

There is a delicate interaction between the bullet dropper and the amount of brass flair provided by expander die for pistol. A strategy that may be helpful is to remove the bullet feeder spring tube leaving just the bottom portion of the bullet dropper. Run the machine on slow adjusting both the bullet feeder drop die and expander die until you get the operation you are looking for. You can manually insert bullets into the dropper and single cycle the machine. Make sure that bullets are not toppling over. If so, you may need to increase flair and/or increase depth of the dropper mechanism. Once you have run several cycles without issue you can tighten everything up and continue operation.

WARNING - Bullets behave differently at higher speed settings, small variations in bullet dimensions have unpredictable results in bullet feeding. Take good care that if you are getting results you are not expecting like excessive bullet topple, bullets stuck in the dropper, etc.

Calibration

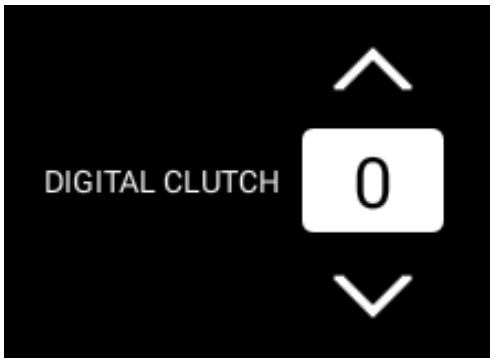
Calibration can only be done when the Mark 7® Revolution is empty with no casings in the shell plate. Only after calibration is complete you may start reloading ammunition.

Test Rounds

Once calibration is completed, and you have loaded the shell plate with brass you must take the first round produced and remove it. Take the next two rounds and check the measurements with high quality calipers. Adjust dies if necessary and repeat to ensure that setting meet the specifications that you are loading.

Digital Clutch Setting

The Digital Clutch adjusts the torque of the motor from the minimum torque required to drive the press to the maximum torque of the motor. This range is from 0-20 on the tablet main control screen. It is important to note that increasing the Digital Clutch only increases the motor torque when the tool head is in the down stroke approaching the shell plate for sizing/decapping/bullet seating/crimping operations. When the tool head retracts the torque is hard programmed at the minimum level to maximize jam sensitivity and to best protect the indexing components of the press.



8. Digital Clutch Adjustment on control screen.

1. The Mark7® Revolution™ is shipped with the Digital Clutch at 0. This is the minimum torque required to run the press dry (without components).

2. When you are ready to process brass or reload once fired brass use the following table as a guide for starting torque levels. Always use lubed brass to run the Digital Clutch as low as possible. Depending on the condition of the brass you may be able to run the machine on lower

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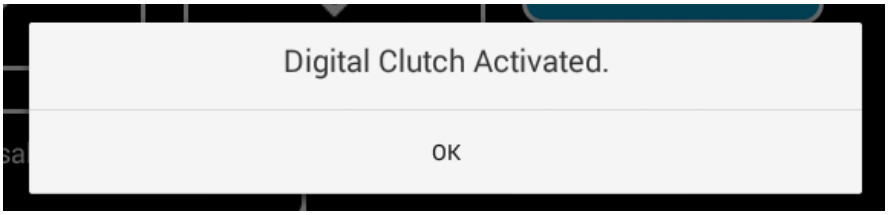
settings than listed below. We recommend running the machine on the lowest Digital Clutch setting possible for the given caliber.

9. Recommend Digital Clutch settings for general calibers

	Small Pistol	Large Pistol	Small Rifle	Large Rifle
Digital Clutch	2-5	3-10	5-12	12-20

3. If the Digital Clutch is set to low for a given operation the following notification will appear on the tablet usually close to the bottom of the stoke when the sizing/decap die is engaged.



10. Digital clutch notification.

4. Sometimes pressing RUN again will provide enough torque to push through the sizing operation. If the notification box appears again the clutch will need to be increased and or check for a hard jam causing the torque out condition.

5. Tap STOP to put the motor and neutral and to reset the motor.

6. Next JOG tool head up and inspect the shell plate area for a jam. If everything looks okay, increase the Digital Clutch by 1 to 2 digits, then press RUN or END CYCLE. Repeat the process until the machine pushes through and completes the stroke.

7. Continue to run at the new Digital Clutch setting until you get consistent stroke cycle completion.

Special Notes:

- The Digital Clutch is speed dependent; you may need to slightly increase the Digital Clutch as you increase the speed of the drive.
- Use caution when operating the machine with a Digital Clutch over 15 or HIGH.
- Always use Lubed brass for best results and to allow running on the lowest clutch setting possible.
- Check for proper belt tension and for play in the crank assembly regularly.

- When clearing jams always check and or clear the case in station #5 or 6 (powder) to avoid a double or no charge before continuing.

JAMSense® - Clearing Jams

When a jam occurs, the motor will stop and a notification on the tablet will appear saying *Digital Clutch Activated*. It's important to note that this message may not always mean there is a jam in the press, sometimes motor may have just torqued out due to the Digital Clutch being set too low for a given operation.

We recommend taking the following steps when a jam occurs.

1. Inspect the tool head and shell plate area of the press to determine the cause of stoppage.
2. Press STOP e to put the motor in neutral (the LED on the back of the orange will change from green to orange in this state)
3. If you are able to determine the cause of the jam or stoppage, Use the JOG commands to back off the Tool head in order to rectify the issue. Once cleared hit RUN to continue as normal.
4. If you are not able to determine the cause of the jam, manually actuate the press by using an 11/16" wrench or socket on the front of the machine. Once the jam is clear perform a full stroke manually before continuing.

In some cases, a hard jam may occur. If the jog buttons do not move the Tool Head, then the Mark 7® Revolution needs to be powered down. Once powered down, attempt to manually clear the jam. In doing so, you must clear the shell plate and confirm that the press can manually index. Run the full cycle of the machine a couple of times by manipulating the belt manually and ensure the machine is in good working order. Then you can repower the machine and continue.

WARNING -Never attempt to clear a jam by placing your fingers in the mechanism of the Mark 7® Revolution. Always ensure that the Mark 7® Revolution is off and power is cut off to the Mark 7® Revolution before attempting to clear a jam.

If you experience a jam or any type of activity that requires you to turn off the Mark 7® Revolution at the console, you will be required to calibrate the Mark 7® Revolution again. Always repeat the process of ensuring that the measurements on your brass or ammunition are that same that they were in your previous calibration – they will likely be within acceptable tolerances.

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Settings

There are a few settings that your Mark 7® Revolution has built in. They include Production rate, digital clutch, dwell and index speed. You can experiment with different settings to ensure that you are making the highest quality ammunition.

Communications Errors

Please follow these steps to minimize electrical interference from external reloading devices that contain motors:

- Check USB connection between tablet and Console is secure.
- Install the Mr. Bulletfeeder filter included with the system.
- Route Mr. Bulletfeeder power cables away from tablet USB and power cords. Do not zip tie the Case collator power cord to case collator pole.
- Power the Mr. Bulletfeeder & Case collator on their own surge protector if possible.
- Make sure the USB connectors are secure and away from the moving press components.
- Check your electrical grounds, grounding the machine to an independent true earth ground is recommended.

In the event of this error you must clear the shell plate from all brass, rectify the situation above that caused the error, turn on the machine, proceed with calibration, and restart your operation.

If this error occurs during machine operation and you have followed the above steps please contact us for technical support.

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/

Please contact us for technical support

Phone: 1-888-462-7577

Hours: 9:00am-4:30pm, ET, M–F