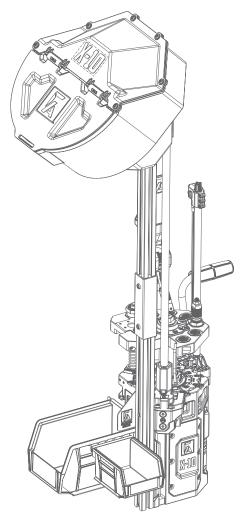


X-10 PROGRESSIVE PRESS

INSTRUCTIONS & SAFETY INFORMATION



AWARNING: BEFORE USING THIS PRODUCT, READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY. FAILURE TO DO SO COULD RESULT IN INJURY, DEATH. OR PROPERTY DAMAGE.

THIS INSTRUCTION MANUAL CONTAINS IMPORTANT SAFETY INFORMATION.
RETAIN IT AS PART OF THE RELOADING REFERENCE MATERIALS. IF LOST,
CONTACT US FOR A REPLACEMENT.

BECAUSE FRANKFORD ARSENAL® HAS NO CONTROL OVER THE CHOICE, ASSEMBLY, OR USE OF COMPONENTS OR OTHER RELOADING EQUIPMENT, FRANKFORD ARSENAL® ASSUMES NO LIABILITY, EXPRESS OR IMPLIED, FOR THE USE OF AMMUNITION LOADED WITH THIS PRODUCT.

RELOADING SAFETY

Proper and safe reloading requires knowledge and experience regarding the interactions and effects of projectile design (weight, construction, shape), propellant performance, cartridge case condition, primer function, and assembled ammunition size, lengths and dimensions. This process should be undertaken only after significant study through reputable industry reloading publications and manuals and after handson teaching from an experienced reloader.

There are no small mistakes when reloading. Any variation from a recommended loading method or cartridge assembly recipe can destroy a firearm and result in death or serious injury to the shooter or any by-standers.

A DANGER: RELOADING ERRORS MAY CAUSE DEATH & PROPERTY DAMAGE.

ALWAYS WEAR SAFETY GLASSES.

Read and understand all warnings and instructions accompanying your equipment and components. If you do not have written instructions, request a copy from the manufacturer.

Don't rush or take shortcuts.

Keep complete records of reloads. Label each box showing the date produced, and type of primer, powder (type and amount), and bullet (manufacturer, weight and design).

Do not smoke while reloading, or reload near sources of heat, sparks, or flame.

Observe good housekeeping in the reloading area. Keep tools and components neat, clean, and orderly. Promptly and completely pick up spilled powder or primers. Powder or primers outside of the manufacturers approved container can be a source of fire or detonation. Treat spills seriously and with care.

Stay alert. Reload only when you can devote undivided attention to your efforts.

Do not reload when tired, ill, rushed, or under the influence of drugs or alcohol.

A KEEP AWAY FROM CHILDREN. STORE THIS PRODUCT AND RELOADING COMPONENTS OUT OF THE REACH OF CHILDREN.

LOADING DATA

Only use factory tested reloading data. We highly recommend using a competent manufacturer's published reloading manual.

⚠ DANGER: OBSERVE ALL WARNINGS ABOUT THE USE OF MAXIMUM LISTED LOADS.

WORKING WITH CARTRIDGE CASES

Only use empty cartridge cases in good condition. Any damage, deformity, or corrosion in a casing may result in a dangerous pressure release. Reloading damaged, worn, or old cartridge casings can destroy your firearm and cause injury or death.

Do not store cartridge cases or ammunition near chemicals such as gasoline or cleaning products. Likewise, exposure to animal urine or urine fumes can damage cartridge cases and ammunition.

Do not clean cases with chemicals other than those specifically designed for the purpose.

Never apply cleaning products to loaded ammunition or primed cases. These products can cause corrosion, case weakness, or damage primers resulting in misfires or hang fires

Ammunition or primed cartridges that have been submerged or soaked in water must be disposed of properly. Attempting to fire ammunition that has been wet can result in misfires, hang fires and barrel obstructions. Each of these hazards presents potential for injury, death, or destruction of your firearm.

Ensure cases have correct primer pocket sizes: remove primer staking/crimp if necessary. Attempting to seat a primer into a previously primed pocket, and undersized pocket or a pocket with staking/crimping can result in detonation.

Do not ream out or enlarge flash holes of cartridge cases. This may change the ignition rate and result in dangerous pressures.

Resize and trim fired cases to ensure reliable chambering and obtain proper bullet tension and crimp.

 $ilde{\Delta}$ WARNING: DO NOT ATTEMPT TO RESIZE A PRIMED CASE WITH DE-CAPPING PIN INSTALLED.

PRIMER WARNINGS

⚠ WARNING: PRIMER DETONATION CAN OCCUR IF MISUSED. TO AVOID SERIOUS INJURY, ALWAYS FOLLOW THESE PRECAUTIONS:

Always wear safety glasses when using this or any other reloading tool.

Never attempt to seat or reseat a primer in a loaded cartridge. Prime empty cases only.

Before priming, ensure the case's primer pocket is properly sized.

Completely remove pocket crimp from brass/cases with crimped/staked primer pockets (e.g. mil spec brass).

Never force a primer into a case primer pocket. Apply slow, steady, gentle pressure and stop if you encounter resistance.

Make sure all reloading tools are in good condition and used in accordance with the manufacturer's instructions.

Before each use, ensure device is clear of primer dust, spilled propellant powder and other foreign objects.

Seat primers flush with or below the case head to avoid inadvertent detonation by shearing or crushing. A "high primer" may fire in a magazine, on closing an action or under other unexpected conditions and can cause injury or death. Follow proper primers seating procedures.

⚠ DANGER: IF MISUSED, PRIMERS CAN EXPLODE AND CAUSE SERIOUS INJURY OR DEATH. ALWAYS FOLLOW THESE PRECAUTIONS:

Handle primers with extreme care. Do not drop or subject to heat, flame, friction, electricity, percussion (e.g. hammering, pounding, dropping) or other impact. Never smoke or have open sources of flame around primers.

Always wear safety glasses when working with or around primers.

To avoid the risk of multiple primers detonating, handle and use primers individually unless using a reloading tool specifically designed to handle multiple primers.

Do not use primers of unknown identity or that have signs of wetness, corrosion, damage, or deformation.

Never decap live primers.

⚠ DANGER: TO AVOID DEATH, SERIOUS INJURY OR PROPERTY DAMAGE, FOLLOW THESE STORAGE PRECAUTIONS:

Store primers is a cool, dry environment free from wide temperature variations and under 150° F. Do not store primers in a building with out temperature control (e.g. garage, shed) or where they can be exposed to direct sunlight.

Never store primers near heat sources, electricity sources, electrical equipment or other ignition sources.

Never store primers near gunpowder, gasoline, chemicals, or other flammable or explosive material.

To reduce the chance of multiple primers detonating, never store primers in direct contact with one another. Store primers only in the original factory container, which is specifically designed to reduce the chance of multiple primers detonating. Return unused primers to the same factory packaging for safety and to preserve their identity.

Storage cabinets containing only primers are recommended. These cabinets should be ruggedly constructed of lumber at least 1" nominal thickness to delay or minimize the transmission of heat in event of a fire. SAAMI recommends against storing primers in sealed or pressurized containers.

Dispose of unused primers in accordance with applicable regulations for hazardous materials.

⚠ DANGER: PRIMER DUST ACCUMULATION CAN DETONATE & CAUSE DEATH OR SERIOUS INJURY. BEFORE EACH USE, INSPECT ALL RELOADING EQUIPMENT & CLEAN REGULARLY WITH A DAMP CLOTH OR SPONGE; ALLOW SURFACE TO DRY BEFORE USE; THOROUGHLY CLEAN AND RINSE CLOTH AFTER USE. NEVER CLEAN PRIMER DUST WITH A VACUUM CLEANER.

GUNPOWDER WARNINGS

MARNING: KEEP OUT OF REACH OF CHILDREN

Store powders in their original package in a cool, dry environment free from wide temperature variations.

Keep containers tightly sealed and labels intact.

Mark date of purchase on container for future reference. Use older stock first.

Never use glass as a storage container. This may cause a "greenhouse" effect, raising the temperature in the container and degrading the powder.

Check container and powder for signs of degradation. Many powders will exhibit a fine red-brown dust on the granules and/or inside the container when degraded. If it does, do not use the propellant; dispose of it properly in compliance with local regulations.

DO NOT have more than one canister of powder on the bench at one time. Powder containers should be stored away from the bench to avoid picking up the wrong one.

DO NOT use any powder unless its identity is positively known. The only positive identification is the manufacturers label on the original cannister. Properly discard all mixed powders and those of uncertain identity in compliance with local regulations.

If you use a powder measure, after the powder reservoir has been filled, replace the lids on both the powder reservoir and the powder cannister.

When using a powder measure, settle the powder in the powder hopper before charging and cases. Throw and check the weight of at least ten (10) charges. This will assure you that the correct powder charge is being thrown.

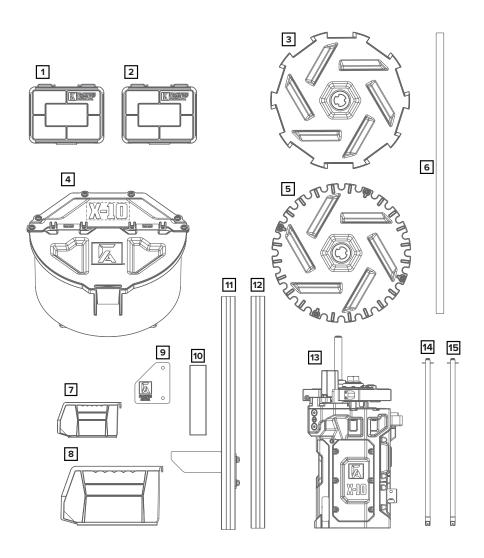
When you finish a reloading session, discard any remaining powder to avoid placing powder in the wrong cannister which will create a dangerous, mixed powder. Loading cartridges with mixed powder will result in dangerous pressure which will destroy your firearm and cause injury and death.

MACHINERY WARNINGS

⚠ WARNING: AVOID WEARING LOOSE CLOTHING AND JEWELRY WHICH CAN BECOME CAUGHT IN THE RELOADING PRESS.

⚠ CAUTION: AVOID PINCH POINTS ON TOOL; KEEP FINGERS CLEAR OF MOVING PARTS. KEEP CHILDREN AND OTHERS AWAY FROM MACHINERY.

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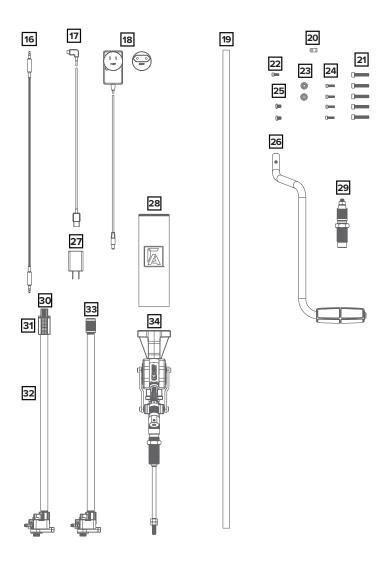
- 1. Press Accessory Kit*
- 2. Case Feed Accessory Kit**
- 3. Rifle Case Feed Plate
- 4. Case Collator Assembly
- 5. Pistol Case Feed Plate
- 6. Case Feed Tube
- 7. Bullet Bin
- 8. Cartridge Bin
- 9. Cartridge Deflector

10. Case Feed Stand Coupler

- 11. Lower Case Feed Stand
- 12. Upper Case Feed Stand
- 13. X-10 Press Assembly
- 14. Small Priming Tube Assembly
- 15. Large Priming Tube Assembly

^{*} Press Accessory Kit: Large Case Head Locator Buttons (8), Powder Activators (2), Large Swage Pin, Large Priming Pin, Hex Keys (5)
**Case Feed Accessory Kit: Case Reducers (5), Case Plungers (2)

CONTENTS



- 16. 3.5mm Cable
- 17. USB Cable
- 18. 12V Power Cable w/ Adapter
- 19. Spent Primer Tube
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- 22. M4x8mm Screw

- 23. M6 Flange Nut (2)
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- 26. Handle Assembly
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- 29. Swage Support Die

- 30. Primer Follower Assembly
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- 32. Small Priming Assembly
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- 34. Powder Measure Assembly

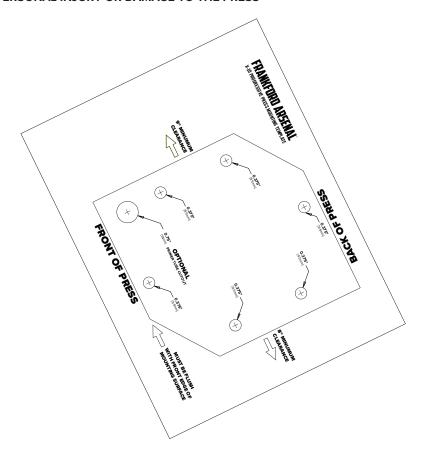
STEP 1: UNPACK PRESS & LOCATE TEMPLATE

Remove all components from the packaging material and organize them so they can be quickly located and identified. Remove the mounting template found within this instruction manual. Fold the mounting template along the indicated line and place the template on the mounting surface with fold aligned with edge of mounting surface. Drill holes as directed in the mounting template.

Note: The front of the press must be flush with the front edge of mounting surface for proper handle clearance. Be sure to leave at least 9" of clearance to the left of the press for the cartridge bin and at least 8" of clearance to the right of the press for the handle.

Note: The lower collator stand assembly and the upper collator stand are located below the bottom foam core.

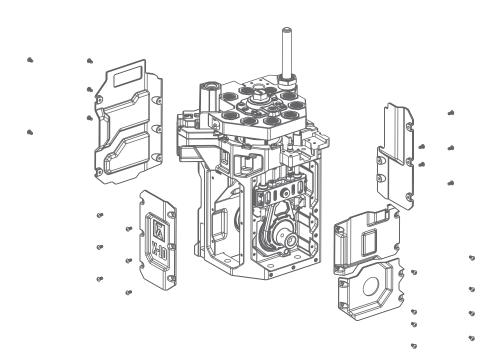
⚠ WARNING: FAILURE TO SECURELY MOUNT THE PRESS MAY RESULT IN PERSONAL INJURY OR DAMAGE TO THE PRESS



STEP 2: MOUNT PRESS ASSEMBLY

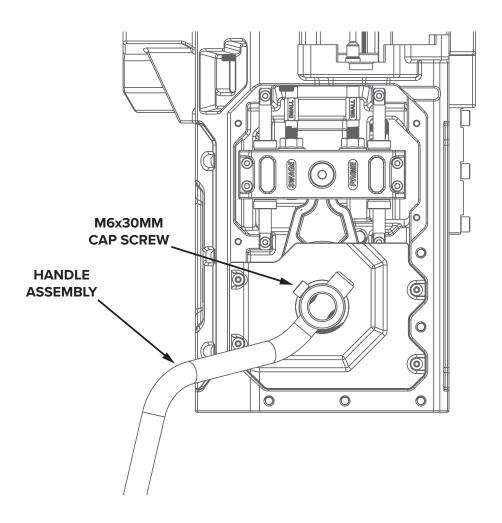
Remove the (5) covers (24 screws total) from the press assembly. Secure the press base to the mounting surface using (6) Ø10mm or 3/8" bolts (not included). Recommended bolt length is 1" (25.4mm) longer than the thickness of the mounting surface. Bolts should not be more than 1-1/2" (38.1mm) longer that the thickness of the mounting surface. Torque fasteners appropriately before continuing with assembly.

Note: Bolts should be installed from the bottom to avoid clearance issues during installation.



STEP 3: INSTALL HANDLE ASSEMBLY

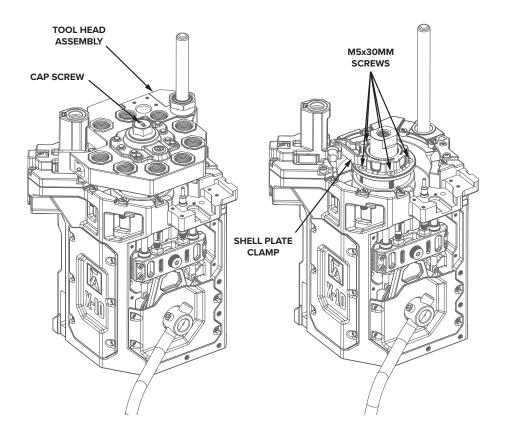
Re-install the lower right hand cover, the front cover, and the rear cover (20 screws total). Install the handle assembly and secure with the (1) M6x30mm cap screw as shown below. Cut the zip ties retaining the tool head to the base.



STEP 4: REMOVE TOOL HEAD & SHELL PLATE CLAMP

With the ram lowered to the bottom of the stroke, remove the cap screw retaining the tool head to the ram and remove the tool head from the press assembly. Remove the (5) M5X30mm screws retaining the shell plate clamp and remove the shell plate clamp from the press assembly.

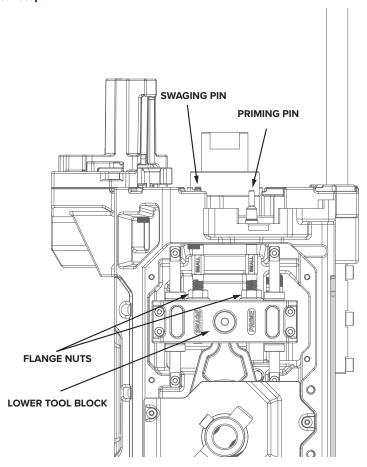
Tip: The tool head fits tightly with the ram and may be difficult to remove. To separate the tool head from the ram, place (2) 2"X4" blocks approximately 3"-4" long between the press base and the tool head assembly approximately 180° apart. Lower the ram slowly to use the mechanical advantage of the press to remove the tool head.



STEP 5: INSTALL CORRECT SWAGE & PRIMING PINS

Verify the primer size for the caliber the press will be configured to load. The small swaging and priming pins are factory installed. If the press is to be configured for a caliber requiring small primers, proceed to **Step 6.** If the press is to be configured for a caliber requiring large primers, loosen the (2) flange nuts retaining the swaging and priming pins to the lower tool block and remove the small swaging and priming pins by threading them out of the tool block and lifting them out through the top of the base. Install the large priming and swaging pins into the lower tool block and tighten the flange nuts finger tight.

Note: Both pins should be installed so that bottoms of the pins are approximately flush with the bottom of the lower tool block. Final adjustment will be performed in a later step.

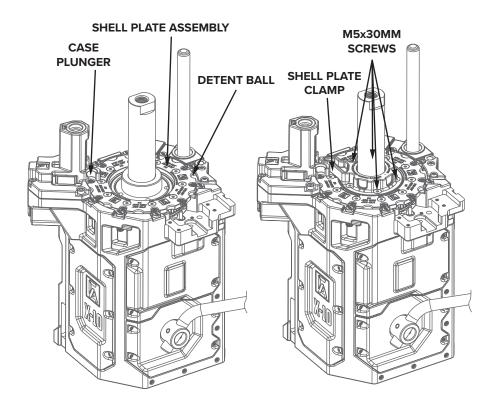


STEP 6: INSTALL SHELL PLATE

Raise the ram to the top of the stroke and install the appropriate shell plate (sold separately) for the desired caliber. Depress the case plunger to clear the shell plate and slowly rotate the shell plate while gently pressing downward until the index nuts on the shell plate clear the index mechanism. When fully installed, the bearing of the shell plate assembly should contact the shoulder of the base. Replace the shell plate clamp and install the (5) M5x30mm screws.

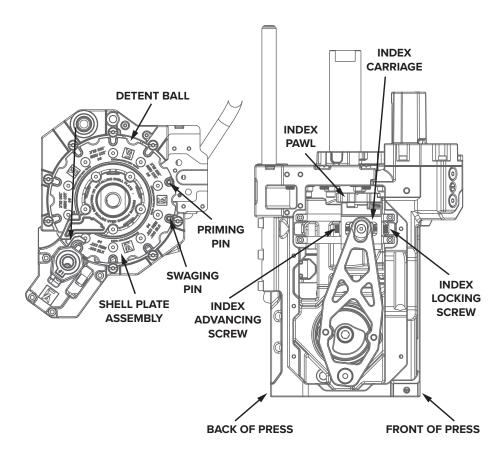
Note: Torque the (5)M5X30mm screws to 18-20 in-lbs (1.7-2.0 N-m).

⚠ DO NOT OVER TORQUE OR STRIP FASTENERS



STEP 7: ADJUST INDEX MECHANISM

With the ram raised to the top of the stroke, gently turn the shell plate clockwise by hand until it contacts the pawl of the index mechanism. Verify that the primer cutouts in the shell plate align with the swaging and priming pins, and that the detent ball is fully engaged in the shell plate. If the swaging and priming pins do not align with the primer cut-outs in the shell plate, use the included 4mm hex key to loosen the index advancing and locking screws on the front and back of the index carriage 5 full rotations each. While continuing to hold light clockwise pressure on the shell plate, slowly tighten the index advancing screw on the index carriage to advance the shell plate until the primer cutouts align with the swaging and priming pins. Tighten the index locking screw on the index carriage to lock the adjustment mechanism.

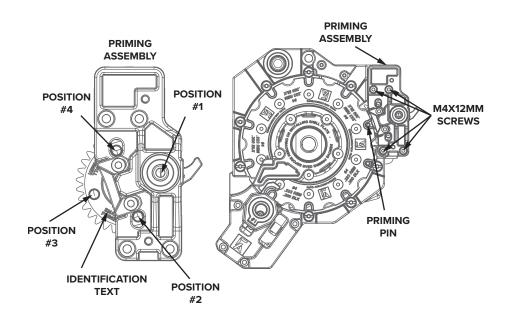


STEP 8: INSTALL PRIMING ASSEMBLY

Identify the appropriate size priming assembly for the desired caliber using the engraved text on the gear of the priming assembly.

Note: Verify that the priming assembly size matches the size of the installed swaging and priming pins.

With the ram raised to the top of the stroke, ensure that the shell plate is aligned with the die stations in the tool head and that the detent ball is fully engaged with the shell plate. Rotate the gear of the priming assembly clockwise until the detent ball engages the priming gear. Install the appropriate priming assembly by sliding it under the shell plate so that the gear of the priming assembly meshes with the gear of the shell plate assembly with one of the holes in the priming gear aligned with the primer cut-out in the corresponding station in the shell plate. Secure the priming assembly to the press base with (4) M4x12mm screws. Gently cycle the press and ensure that the priming pin aligns with the primer cutout in the shell plate and the primer pocket in the priming gear.

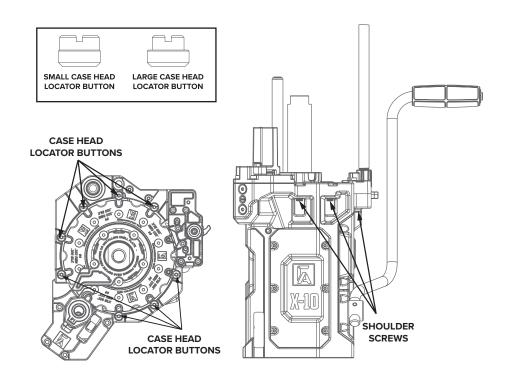


STEP 9: INSTALL LOCATOR BUTTONS

Use the chart below to determine the correct case head locator button size. The small case head locator buttons are factory installed. If the desired caliber requires the small case head locator buttons, proceed to **STEP 10**. If the desired caliber requires the large case head locator buttons, use the provided 2.5mm hex key to remove the shoulder screws from the case head locator buttons and remove the case head locator buttons from the press assembly and replace them with the appropriate case head locator buttons. It is recommended to replace the case head locator buttons one at a time. Reinstall the left hand cover.

Note: Keep the 2.5mm hex key inserted into the heads of the shoulder screws and use the key to prevent the shoulder screws from dropping free from the base until the correct case head locator button has been installed.

BASE DIAMETER	CASE HEAD LOCATOR BUTTON
UP TO .450"	SMALL
.451" AND OVER	LARGE

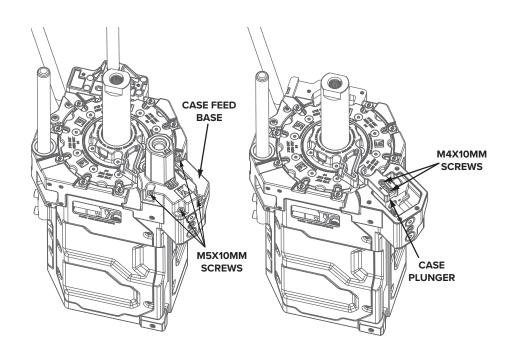


STEP 10: DETERMINE CORRECT CASE PLUNGER

Use the chart below to determine the correct size case plunger. The #1 case plunger is factory installed. If the desired caliber requires the #1 case plunger, proceed to **STEP 11**. If a different case plunger is required, remove the (4) M5X10mm screws retaining the case feed base to the press assembly. Remove the case feed base and remove the (2) M4X10mm screws retaining the case plunger to the shuttle. Install the appropriate case plunger and re-install the (2) M4X10mm screws retaining the case plunger to the shuttle. Re-install the case feed base and the (4) M5x10mm screws that retain the case feed base to the press assembly.

Note: Cases with a diameter larger than .512" cannot be fed through the collator but can be manually fed into the shell plate.

BASE DIAMETER	CASE PLUNGER	
.396"445"	#1	
.446"512"	#2	
UP TO .395"	#3	

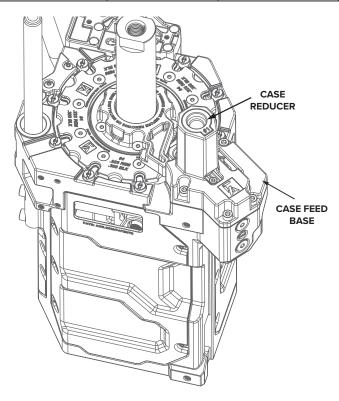


STEP 11: INSTALL CASE REDUCER

Use the chart below to determine the correct case reducer for the desired caliber. The #1 case reducer is factory installed. If the desired caliber requires the #1 case reducer, proceed to **STEP 12**. If the desired caliber requires a different case reducer, remove the installed case reducer by pressing on the case reducer latch through the opening on the case feed base and lifting the reducer out through the top of the case feed base. Insert the appropriate case reducer by pressing it into the top of the case feed base until the case reducer is flush with the top of the case feed base.

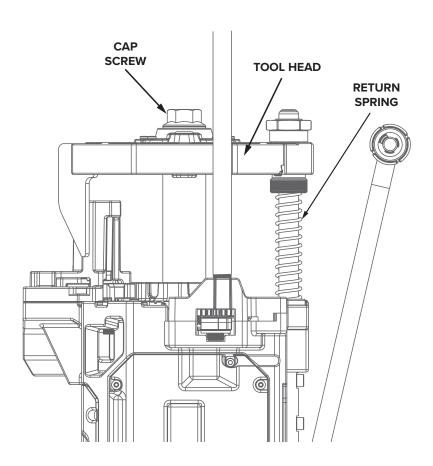
Note: Cases that fall outside the measurements of the ranges in the table below cannot be collated and must be manually inserted into Station 2.

BASE DIAMETER	CASE LENGTH	CASE REDUCER
UP TO .425"	.740"975"	#1
UP TO .425"	.976"-1.475"	#2
UP TO .425"	1.476"-1.875"	#3
.426"520"	.740"975"	#4
.426"545"	.976"-1.400"	#5
.426"545"	1.401"-2.100"	#6



STEP 12: RE-INSTALL TOOL HEAD

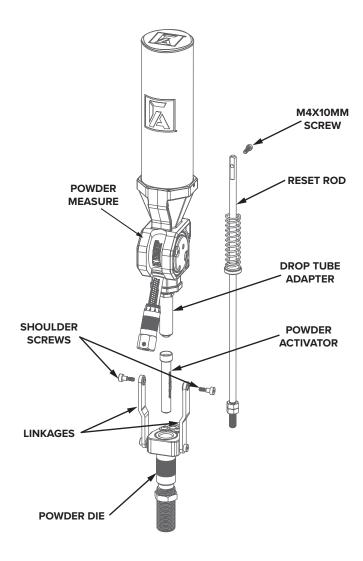
Install the return spring over the alignment rod. Raise the ram to the top of the stroke and re-install the tool head onto the ram. Re-install the cap screw into the ram and tighten until finger tight. Lower the ram to the bottom of the stoke and torque the cap screw to 40-45 ft-lbs (54-61 N-m).



STEP 13: INSTALL POWDER MEASURE

Measure the case length of the cartridge and determine the correct activator size from the chart below.

CASE LENGTH	ACTIVATOR		
.600"-1.250"	PISTOL		
1.250"-1.875"	SMALL RIFLE		
1.875"+	LARGE RIFLE		



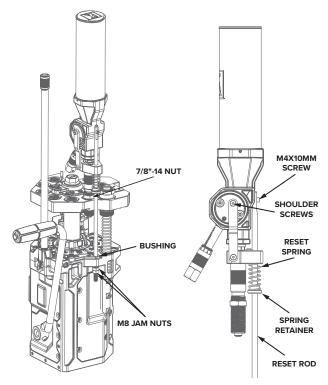
STEP 13 (CONT'D): INSTALL POWDER MEASURE

⚠ WARNING: SOME COMPONENTS OF THE PRESS MAY BE COATED IN A PROTECTIVE OIL TO PREVENT CORROSION. ALL OIL MUST BE REMOVED FROM THE INSIDE OF THE DROP TUBE AND THE POWDER ACTIVATOR PRIOR TO USE.

Remove the (2) shoulder screws connecting the linkages to the drum of the powder measure and the (1) M4X10mm screw connecting the body of the powder measure to the reset rod and remove the powder measure from the powder die. Remove the drop tube adapter from the powder measure assembly. Clean the inside of the drop tube adapter and (3) powder activators with a degreaser.

Note: DO NOT clean with gun oil or other substance that will leave a film on the surfaces as this can result in inconsistent powder charges.

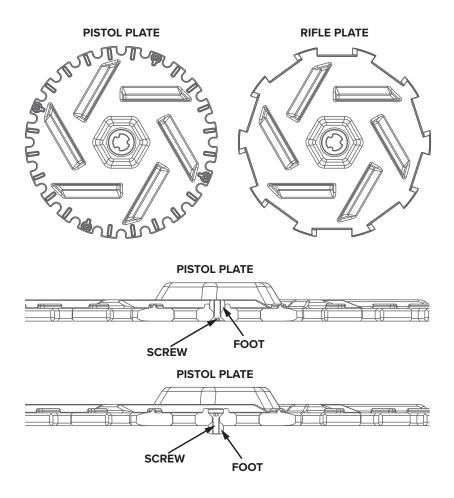
Allow the parts to dry completely and re-install the drop tube adapter onto the powder measure assembly. Install the correct powder activator into the powder die. Re-install the (1) M4x10mm screw connecting the reset rod to the body of the powder measure and the (2) shoulder screws connecting the linkages to the drum of the powder measure. Install the powder reservoir and cap on the powder measure and tighten the set screws using the supplied 2mm hex key. Remove the (2) 8mm jam nuts from the reset rod and slide the reset rod into the bushing on the press assembly. Thread the powder die into the tool head until the bottom of the die adapter is flush with the bottom of the tool head. Tighten the 7/8"-14 nut finger tight and re-install the (2) 8mm jam nuts onto the reset rod.



STEP 14: CONFIGURE CASE FEED PLATE

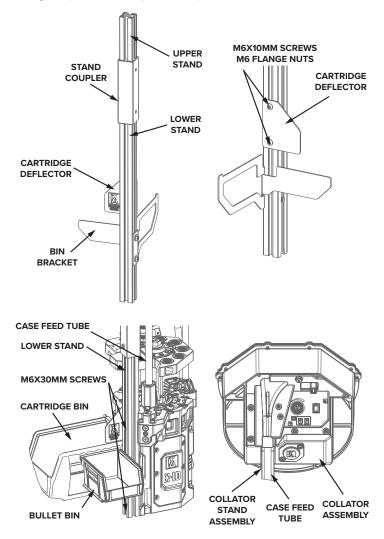
Determine which case plate is appropriate for the desired caliber. The pistol case plate is configured for cases up to 1" (25.4mm) in length. If the desired caliber requires the pistol shell plate and has a case length of less than 1" inches (25.4mm), the pistol case plate be installed as configured.

For longer pistol cases, the feet on the pistol case plate must be reversed. If the desired caliber requires the pistol case plate and has a case length of greater than 1" inch (25.4mm), remove the (4) screws from the bottom of the pistol case plate. Move the (4) feet from the top of the pistol case plate and install them in the pockets in the bottom of the pistol case plate. Re-install the (4) screws from the top of the pistol case plate. Install the appropriate case plate over the clutch assembly in the collator.



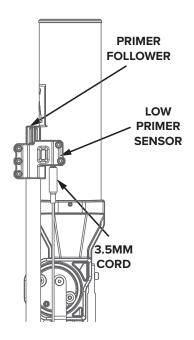
STEP 15: ASSEMBLE COLLATOR STAND & BINS

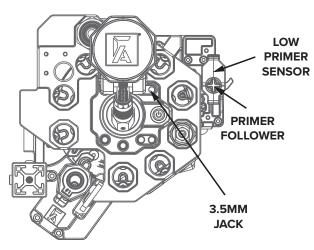
Install the cartridge deflector onto the lower collator stand using (2) M6x10mm screws and (2) M6 flange nuts so that the bottom of the cartridge deflector is approximately 1/2" above the bin bracket. Install the upper collator stand onto the lower collator stand assembly using collator stand coupler and (2) M6x30mm screws. Connect the lower collator stand to the press assembly using (2) M6x30mm screws. Install the cartridge bin and the bullet bin onto the bin bracket. Place the case feed tube into the top of the case reducer and install the collator assembly onto the collator stand with the case feed tube engaged in the case feed opening of the collator assembly. Plug in the collator using the provided 12V power adapter.



STEP 16: INSTALL LOW PRIMER SENSOR

Install the low primer sensor onto the nut of the installed priming assembly and insert the primer follower into the tube of the priming assembly. Remove the plug from the 3.5mm jack on the tool head that corresponds to station 5 on the shell plate. Connect the priming assembly to the 3.5mm jack using the provided 3.5mm cord.

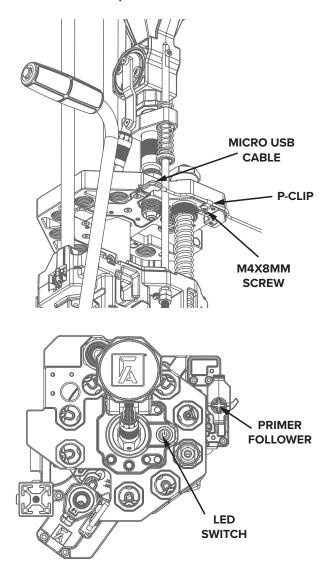




STEP 17: INSTALL PRIMER SENSOR CABLE

Connect the included USB cable to the USB port on the tool head. Secure the cord to the tool head using the P-clip and (1) M4X8mm screw. Power the micro USB cable via the included micro USB power adapter. The low primer alarm will sound. Remove the primer follower from the priming assembly to silence the alarm. Press the illuminated switch on the tool head to activate/deactivate the LED work light.

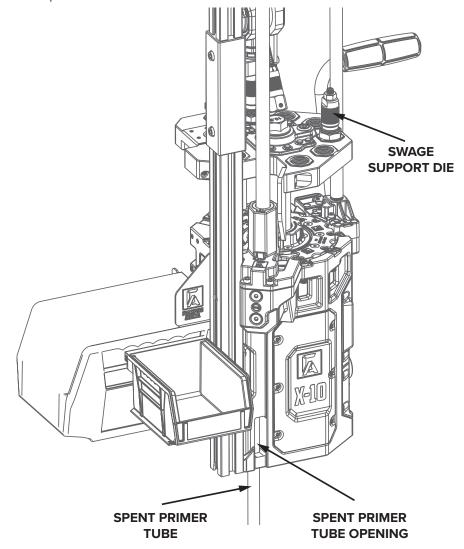
Note: Do not allow the USB cord to pull on the USB connector.



STEP 18: INSTALL SPENT PRIMER TUBE

Note: If the optional hole for the primer tube was not drilled in the mounting surface in step 1, then the tube must be inserted through the opening in the front of the base.

Insert the spent primer tube into the base. Install the swage support die into station 4 of the tool head so that the bottom of the die contacts the shell plate and tighten the 7/8"-14 nut finger tight. Final adjustment of the swage support die will be performed in a later step.



QUICK REFERENCE CALIBER SETUP CHART

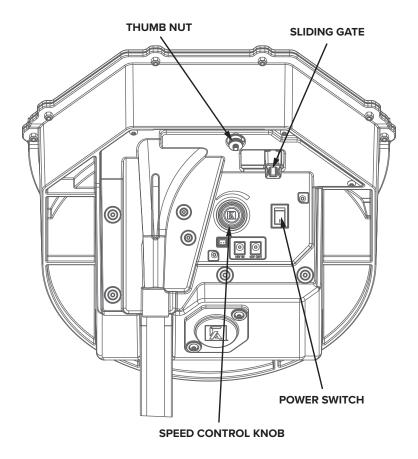
Note: This is reference chart of popular calibers and not a complete list.

CALIBER	SHELL PLATE	LOCATOR	PLUNGER	CASE REDUCER
9mm	0	Small	#3	#1
.38 Spl	1	Small	#1	#2
.357 Mag	1	Small	#1	#2
.45ACP	2	Large	#2	#4
6.5 CM	2	Large	#2	#6
.308 Win	2	Large	#2	#6
.380ACP	4	Small	N/A	NOT COMPATIBLE W/ CASE FEEDER
.204 Ruger	4	Small	#3	#3
.223 Rem	4	Small	#3	#3
5.56x45mm	4	Small	#3	#3
.300 Blk	4	Small	#3	#2
.44 Spl	11	Large	#2	#5
.45 LC	11	Large	#2	#5
.40 S&W	19	Small	#1	#1
.38 Super	19	Small	#1	#1
10mm	19	Small	#1	#1

SETUP & ADJUSTMENT

STEP 1: ADJUSTING THE CASE FEED

Loosen the thumb nut on the back of the collator assembly approximately ¼ turn. For pistol cases, the sliding gate should be adjusted all the way to the left (closed). For rifle cases, move the sliding gate all the way to the left and place several cases into the collator assembly. Adjust the speed control to an intermediate setting and turn the power switch ON. Adjust the sliding gate to the right until the cases will reliably feed in a base-down orientation. Tighten the thumb nut. Adjust the speed control knob for optimum feeding. Turn the power switch OFF, remove the case feed tube, and remove any cases that were fed during the setup process. Replace the case feed tube and fill the collator with no more than 2.5 lbs of cartridge cases.

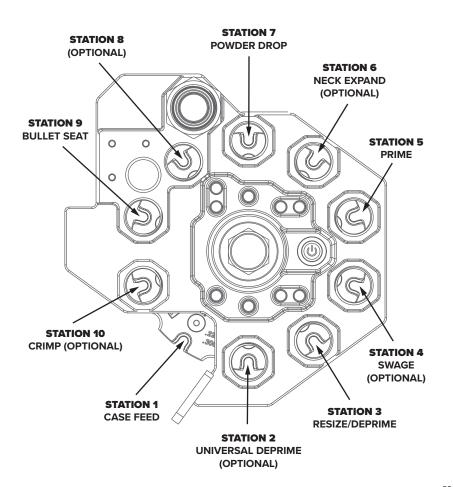


STEP 2: TYPICAL TOOL HEAD CONFIGURATION

Note: The instructions below regarding die adjustment are general & may not apply to all dies. Always consult the manufacturer's instructions prior to use. In the case of a disagreement between the instructions below & the instructions provided by the manufacturer, the manufacturer's instructions must take precedence.

Install the appropriate dies (not included) for the desired caliber into the tool head. Any dies intended to perform a depriming operation **must** be installed in station 2 or station 3. The preferred die configuration is shown below.

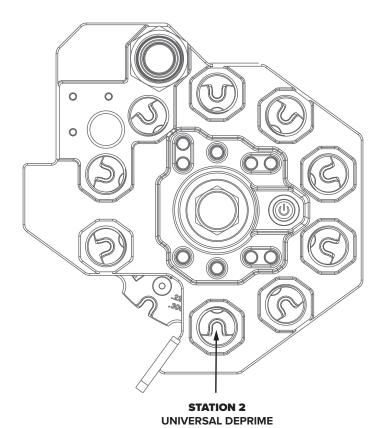
Note: Some dies with short threads may require the locknut to be installed below the tool head. Lock nuts must not be installed below the tool head in Station 2, Station 5, or Station 10.



SETUP & ADJUSTMENT

STEP 3 - UNIVERSAL DEPRIME (OPTIONAL)

Install a universal depriming die in station 2 of the tool head according to the manufacturer's instructions. If possible, it is desirable to have the body of the depriming die in contact with the shell plate at the bottom of the stroke. Lower the ram to the bottom of the stroke and tighten the depriming die lock ring. With the ram raised to the top of the stroke, insert an empty cartridge case into station 2 of the shell plate and cycle the press. Remove the case from the shell plate and verify that the primer has been successfully removed from the cartridge case.

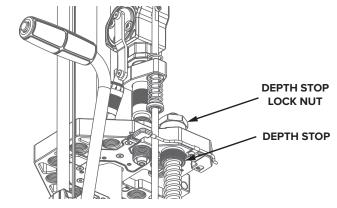


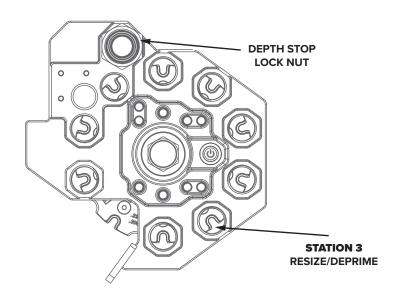
(OPTIONAL)

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STEP 4: RESIZING DIE SETUP

Install the resizing die in station 3 and adjust according to the die manufacturer's instructions. Typically, the resizing die must contact the shell plate when the ram is at the bottom of the stroke to completely resize the case. With the ram at the bottom of the stroke, loosen the depth stop lock nut and adjust the depth stop until it contacts the press base. Lower the depth stop an additional ¼ turn and tighten the depth stop lock nut. This will prevent deflection of the tool head which can result in inconsistent shoulder heights and bullet seat depths. Place a properly lubricated case into station 3 of the shell plate. Cycle the press to resize the case. Remove the case from the shell plate and use case gauge (not included) to verify that the case has been properly resized. Lower the ram to the bottom of the stroke and tighten the resizing die lock ring.

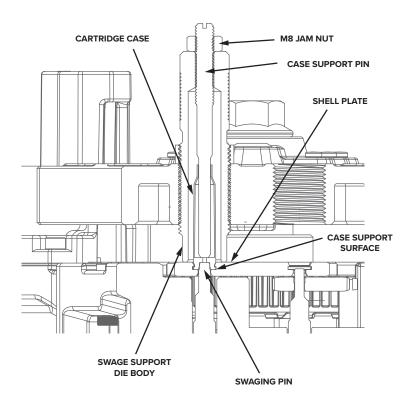




SETUP & ADJUSTMENT

STEP 5: SWAGE SYSTEM SETUP

With the upper right hand cover removed, lower the ram to the bottom of the stroke and loosen the lock nut on the swage pin. Thread the swage pin into the lower tool block until the top of the swage pin does not protrude above the case support surface of the shell plate. Lower the ram to the bottom of the stroke and thread the swage support die into the tool head until in contacts the shell plate. Tighten the swage support die lock ring. Raise the ram to the top of the stroke and insert the deprimed & sized case from Step 4 into station 4 above the swage pin. Loosen the M8 nut on the case support pin and thread the case support pin out of the die body approximately 1". Lower the ram to the bottom of the stroke, and a use a flathead screwdriver to tighten the case support pin until it contacts the case. Tighten the pin an additional ¼ turn and lock it in place using the M8 nut. Raise the ram to the top of the stroke and remove the case from the shell plate. Thread the swage pin out of the lower tool block until the shoulder of the pin is flush with the case support surface of the shell plate. Tighten the flange nut to lock the pin in place. Insert the resized case from Step 4 into station 4 of the shell plate and cycle the press to swage the primer pocket of the cartridge case. Cycle the press again to advance the case to station 6 and remove the case from the shell plate.



STEP 6: PRIMING SYSTEM SETUP

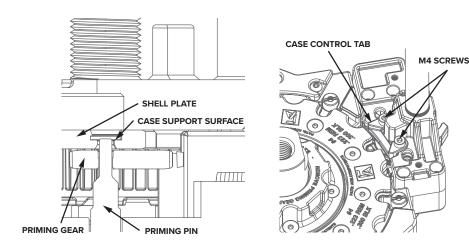
With the upper right hand cover removed, lower the ram to the bottom of the stroke and loosen the lock nut on the priming pin. Adjust the priming pin until the top of the pin is flush with the case support surface of the shell plate. Remove the primer follower rod from the priming assembly and place a single primer into the primer tube oriented with the **closed side down**. Raise the ram to the top of the stroke and verify that a live primer is properly staged in position 2 of the priming assembly. Insert the **deprimed**, **sized**, & **swaged case** from **Step 5** into station 4 of the shell plate. Loosen the (2) screws retaining the case control tab to the priming assembly one full turn each. Cycle the press to advance the case to station 5 of the shell plate and advance the staged primer to position 3 of the priming assembly. The primer and case should be aligned directly above the priming pin. Adjust the case control tab so that it contacts the case and tighten the (2) retaining screws. Cycle the press to prime the case and advance it to station 6. Remove the case from the shell plate and inspect the primer. The primer should be seated flush or slightly below the surface of the case.

IF THE PRIMER PROTRUDES ABOVE THE CASE SURFACE

Thread the priming pin out of the tool block ¼ turn. Verify that there is not a primer staged in position 3 of the priming gear and re-insert the primed case into station 5. Cycle the press again and remove the case from the shell plate and inspect the primer depth. Repeat this procedure until the primer is seated flush or slightly below the surface of the case. Once the appropriate seating depth has been achieved, tighten the flange nut on the priming pin.

IF THE PRIMER IS DENTED OR FLATTENED

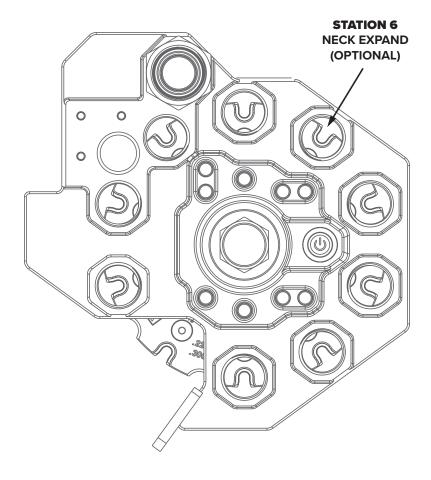
Discard the case and thread the priming pin into the tool block ¼ turn. **Repeat Step 6** with a new **deprimed**, **sized**, & **swaged case** until the primers are no longer dented or flattened. Once the appropriate seating depth has been achieved, tighten the flange nut on the priming pin.



SETUP & ADJUSTMENT

STEP 7: NECK EXPANDING DIE SETUP (OPTIONAL)

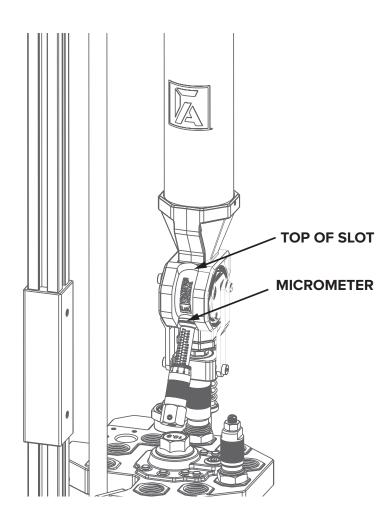
Insert the neck expanding die into station 6 of the tool head so that the bottom of the die is flush with the bottom of the tool head. Place the **primed & sized case** from **Step 6** into station 6 of the shell plate. Lower the ram to the bottom of the stroke and thread the die into the tool head until the die contacts the case mouth. Raise the ram slightly and thread the die into the tool head an additional ¼ turn. Cycle the press to expand the case neck and verify that a bullet of the proper caliber can drop inside the cause mouth. If the bullet cannot drop into the case mouth, repeat this procedure threading the die into the tool head in ¼ turn increments until the proper neck expansion is achieved. Lower the ram to the bottom of the stroke and tighten the lock ring.



STEP 8: POWDER MEASURE SETUP

Place an **empty cartridge case** in station 7 of the shell plate and lower the ram to the bottom of the stroke. Thread the powder die into station 7 of the tool head until the micrometer contacts the top of the slot in the body of the powder measure, and then back the die out ¼ turn. Tighten the lock nut on the powder die, raise the ram to the top of the stroke, and adjust the top jam nut on the reset rod of the powder measure until it contacts the press base, and then back it off ½ turn. Tighten the lower jam nut to lock the top nut in place.

Note: This step should be performed before adding powder to the powder measure assembly.

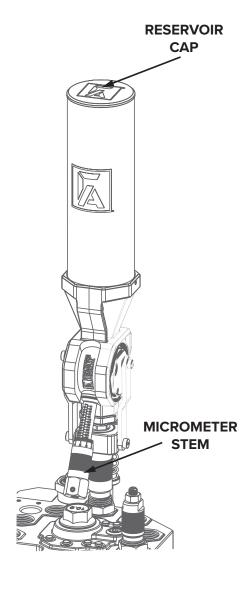


SETUP & ADJUSTMENT

STEP 9: ADJUSTING THE POWDER CHARGE

Remove the cap and fill the reservoir with up to 1lb. of the appropriate powder. Place the **sized and primed case** from **Step 6/7** in station 7 of the shell plate. Screw the micrometer stem all the way in and cycle the press. Remove the case from the shell plate and weigh the charge using a powder scale (not included). Adjust the micrometer out in small increments and weigh each charge until the desired charge weight is achieved.

Note: The markings on the micrometer are for reference only.

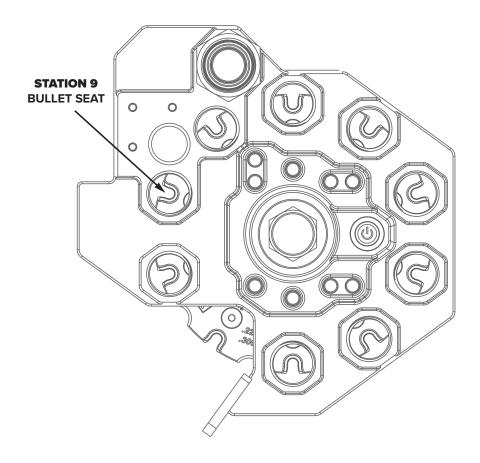


STEP 10: ADJUSTING THE SEATING DIE

Adjust the body of the seating die so that the bottom of the die body is flush with the bottom of the tool head.

Note: It is not recommended to install the seating die into station 10 of the tool head, because the case will be ejected upon completion of the seating stroke and failure to properly place or seat a bullet will result in a powder spillage.

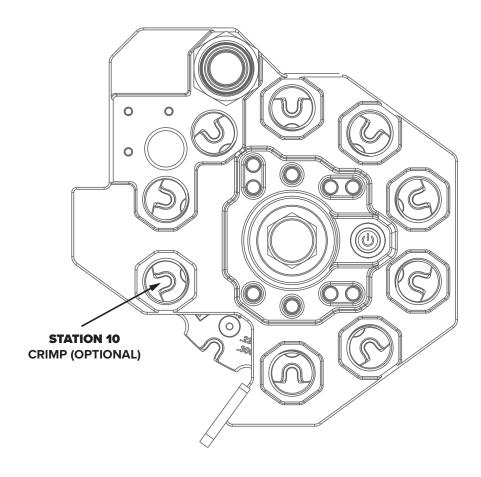
Place the **sized**, **primed**, **and charged case** from **Step 9** into the shell plate in the station corresponding to the bullet seating die. Place a bullet on top of the case and cycle the press to seat the bullet. If the bullet has not been inserted into the case, thread the die body into the tool head an additional 3-5 turns and cycle the press again. Repeat this procedure until the bullet is retained by the case mount. Remove the case and measure overall length. Make fine adjustments to the die until the desired seating depth has been achieved. Lower the ram to the bottom of the stroke and tighten the lock ring.



SETUP & ADJUSTMENT

STEP 11: CRIMP DIE SETUP (OPTIONAL)

Insert the crimp die into station 10 of the tool head with the bottom of the die body is flush with the bottom of the tool head. Place the **assembled cartridge** from **Step 10** into station 10 of the shell plate. Lower the ram to the bottom of the stroke and thread the die body into the tool head until the die contacts the case mouth. Raise the tool head slightly, thread the die into the tool head an additional ¼ turn, and complete the cycle. Inspect the cartridge to determine if the desired crimp has been achieved. If additional crimp is required, continue to thread the die into the tool head in ¼ turn increments until the desired crimp is achieved. Lower the ram to the bottom of the stroke and tighten the lock ring.



BEFORE ATTEMPTING TO LOAD, CONSULT A REPUTABLE RELOADING MANUAL & MANUFATURERS INSTRUCTIONS FOR DETAILED INSTRUCTIONS ON CASE PREPARATION, DIE ADJUSTMENT, & LOAD DATA. BE SURE TO KEEP HANDS CLEAR OF PINCH POINTS DURING USE. BE SURE ALL OF STEPS IN THE PREVIOUS SECTIONS HAVE BEEN COMPLETED PRIOR TO OPERATING THE PRESS. PRIOR TO EACH LOADING SESSION, COMPLETE THE FOLLOWING STEPS:

- · Lubricate the press using the grease fitting located inside the rear cover.
- Inspect the detent ball and verify that the ball returns fully and engages the shell plate.
 Clear any debris from the detent ball pocket that may jam the detent ball.
- Remove the priming assembly and clear any damaged primers, priming compound, spilled powder, brass shavings, or other debris from the press base and the priming assembly.
 Pay special attention to the (4) primer pockets in the priming gear. Re-install the priming assembly before continuing.
- Verify that the tool head retaining screw is tight. Operating the press with this screw loose
 can cause the tool head to bind on the alignment rod.
- Check the adjustment of the swaging and priming pins and verify that the flange nuts are secure.
- Check the adjustment of the index mechanism and verify that the (2) adjustment screws are secure.
- Verify that any bottleneck cartridges have been adequately lubricated prior to placing them in the case collator.
- Verify that the press is free of any consumables (such as powder, primers, and bullets) left over from previous loading sessions. Never allow powder to become mixed.
- Check that the (2) M8 jam nuts are installed and properly adjusted on the powder measure reset rod. Never attempt to load with the (2) M8 jam nuts removed.
- · Inspect the (8) locator buttons and tighten if neccesary.

STEP 1: ADD PRIMERS & POWDER

Determine the appropriate primers for use with the desired cartridge. Place no more than (100) primers on a flat surface with the closed side facing up and use the appropriate primer pickup tube to collect the primers by pressing the plastic tip over each primer. Invert the primer pickup tube and place the tapered end on top of the priming assembly so that the pickup tube is aligned with primer feed tube. Remove the retaining pin from the primer pickup tube to release the primers into the priming assembly. Visually verify the primer pickup tube is empty and that all primer have been transferred to the priming assembly, and re-install the retaining pin into the pickup tube. Fill the powder measure with no more than (1) lb of powder.

Note: It is recommended to fill the reservoir with enough powder to load more than (100) cartridges. The low primer alarm will alert the operator when the primer level is low. The powder should be topped off each time the primer tube is refilled to prevent squib loads.

OPERATION & MAINTENANCE

STEP 2: LOAD & ADVANCE THE SHELL PLATE

Slowly cycle the handle to the bottom of the stroke until contacting the stop, and slowly raise the handle back to the top of the stroke to advance the shell plate with no cases in the shell plate, there should be very little resistance at any point in the stroke. If you encounter unusual resistance during operation, consult the **Troubleshooting**Section. Visually check to verify that a case has been inserted into the shell plate and has advanced to station 2. Verify that a primer has been advanced to station 2 of the priming assembly. Repeat this procedure until a case has been advanced to station 6.

STEP 3: VERIFY PRIMER INSERTION

Visually check that no primer is present in position 4 of the priming gear. Remove the case from station 6 and verify that the primer has been seated properly. If the primer is damaged or if the primer protrudes above the surface of the case, refer to **Steps 5-6** of the Setup & Adjustment Section or see the **Troubleshooting Section**. Re-insert the case into the station 6 of the shell plate. Continue cycling the press until a case has reached station 8.

STEP 4: VERIFY POWDER CHARGE

Remove the case from station 8 and verify the powder charge using a powder scale. The accuracy of the powder measure should be ± 0.2 gr of the target powder charge weight. If the powder charge is incorrect, refer to **Step 9 of the Setup & Adjustment Section** or see the **Troubleshooting Section**. Continue cycling the press until a case has been ejected from the press. Measure the length of the case to verify the seat depth adjustment.

STEP 5: CARTRIDGE INSPECTION

Periodically inspect the primer seat depth, the powder charge, and bullet seat depth throughout the reloading session. Use a case gauge to spot check completed ammunition. Do not allow an excessive amount of cases to accumulate in the cartridge bin. Empty the bin often and inspect last round ejected to ensure that no settings have changed on the press and that each round has received a primer, powder, and projectile.

At the conclusion of each reloading session, complete the following steps:

- · Remove all cases from the shell plate.
- Remove the priming assembly and remove any remaining primers. Clean any damaged primers, priming compound, spilled powder, brass shavings, or other debris from the priming assembly. Re-install the priming assembly.
- Remove the powder measure assembly and remove any remaining powder. Clean the drop tube and the powder activator. Re-install the powder measure assembly.
- Clean any spilled powder from around the shell plate. Be sure the case pockets of the shell
 plate is free of powder or other debris that can affect case insertion.

OPERATION & MAINTENANCE

GENERAL NOTES

If you encounter unusual or excessive resistance during operation, **STOP!** Do not apply excessive force to the handle or attempt to overcome the resistance. If you are forced to stop before completing the downstroke, do not return the handle to the top of the stroke as this will cause the shell plate to index and will result in missed operations on multiple cases.

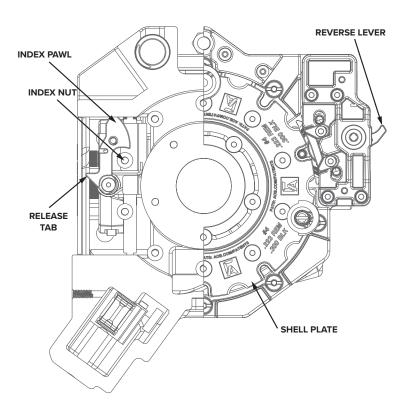
In the event of an unintentional or partial index, the shell plate can be reversed by pulling the reverse lever towards the front of the press and releasing the index pawl through the access in the left hand cover and manually rotating the shell plate clockwise.

If the press has been short-stroked or if the shell plate has been reversed, be sure that no case is present in station 1 of the press before continuing operation.

Cycling the press with a case inserted into station 1 will destroy the case and may cause damage to the case plunger.

Always check the powder charge in the cases in stations 7 and 8 for 2 cycles after any interruption in the reloading process to prevent a double charge or squib.

To determine the cause of the stoppage, consult the **Troubleshooting Section** for the most common issues and corresponding corrective actions.



TROUBLESHOOTING

EXCESSIVE RESISTANCE ON THE DOWNSTROKE

CAUSE	SOLUTION
Tool head binding on alignment rod.	Verify that tool head retaining screw is tight.
	Loosen the (3) screws connecting the alignment rod to press base. Raise the tool head to the top of the stroke and tighten the bottom screw. Lower the tool head to the bottom of the stroke and tighten the top screw, followed by the middle screw.
Case support pin fails to align with case mouth (common on rifle cases).	Raise the tool head slightly and manually align the case with the case support pin. If the problem persists, verify that the correct size locator buttons are installed.
	Inspect case pockets of shell plates and clear any debris that may affect the case position.
Priming pin fails to align with primer pocket in priming gear	Verify that the priming gear has been properly meshed with the ring gear on the shell plate.
	Verify that the shell plate is indexed correctly and that the detent ball is fully engaged in the notch in the shell plate. If necessary, adjust the index mechanism according to Step 7 of the Installation & Assembly Section .
	If both issues above have been eliminated, loosen the (4) screws retaining the priming assembly approximately 1/4 turn each to allow the priming assembly to "float". Lower the ram to the bottom of the stroke and tighten the screws. If the problem persists, leave each screw backed out 1/4 turn.
Dies/depth stop are improperly adjusted.	Adjust dies to allow the press to complete a full stroke.
A die locknut is installed below the tool head in station 2 or station 10.	Remove the die and re-install with the locknut on top of the tool head. If the thread on the die is insufficient, move the die to a difference station to prevent the locknut from contacting the shell plate clamp.
Insufficient case lube (rifle cases only).	Lubricate cases with an appropriate case lubricant.
Excessive interference between dies and shell plate.	Adjust dies to lightly contact shell plate at the bottom of the stroke. Adjust the resizing die to achieve proper case dimensions. Verify using a case gauge.
Improperly adjusted depth stop.	Adjust the depth stop to contact the base at the bottom of the stroke. Tighten the locknut to preserve adjustment.
Berdan primed case	Inspect cases and discard any cases that are Berdan primed, or that use any other non-boxer configuration.
Failure to completely deprime prior to the swage operation.	Adjust the depriming pin to the minimum height allowable without contacting the bottom of the case with the expander ball. It is recommended to use a universal depriming die in station 2 and a standard depriming/resizing die in station 3 for redundant depriming.

Improper swage adjustment/primer insertion	Inspect primed cases for any damage to the primers. Crooked, smeared, or dented primers can be caused by improper swage adjustment. Adjust the swage pin and case support pin as described in Step 5 of the Setup & Adjustment Section .
Improper powder measure adjustment.	Verify that the micrometer body does not contact the upper end of the slot in the powder measure body at the bottom of the stroke. Verify that the (2) jam nuts on the reset rod are properly adjusted.

EXCESSIVE RESISTANCE ON THE UPSTROKE

CAUSE	SOLUTION
Tool head binding on alignment rod.	Verify that tool head retaining screw is tight.
	Loosen the (3) screws connecting the alignment rod to press base. Raise the tool head to the top of the stroke and tighten the bottom screw. Lower the tool head to the bottom of the stroke and tighten the top screw, followed by the middle screw.
Case jammed between shell plate and case feed plunger.	Manually seat the case into shell plate. Reverse shell plate slightly if necessary. If the problem persists, verify that the correct case plunger is installed and that case pockets in the shell plate are free of debris.
Case jammed between shell plate and clamp/ ejector.	Manually clear case from shell plate. Reverse shell plate slightly if necessary.
Misaligned primer in priming gear.	Check positions 2 and 4 of the priming assembly and verify that all primers are aligned with the primer pockets and flush or below the surface of the priming gear. Loosen the (4) screws retaining the priming assembly to the press base 1/4 turn each to allow the priming assembly to "float". Lower the ram to the bottom of the stroke and tighten the (4) screws. If the problem persists, leave each screw backed out 1/4 turn.
Loose index nut(s) on shell plate assembly.	Check the torque on the (10) screws in the shell plate assembly. All screws should be tight. If the screw(s) loosen, an interference issue with the index nut(s) can occur.
Debris around shell plate.	Check the perimeter of the shell plate for any debris that may be preventing the shell plate from rotating. Pay special attention to the area around the detent ball.
Jammed powder measure.	Verify that the powder measure has returned to the rest position. Lubricate the reset rod around the bronze guide bushings.

TROUBLESHOOTING

FAILURE TO CASE FEED

CAUSE	SOLUTION
Incorrect case plunger, case reducer, locator button(s) or shell plate is installed.	Verify that the correct case plunger, case reducer, locator button(s), and shell plate are installed.
Debris in extractor grooves of cases.	Inspect the extractor grooves for debris. It is recommended to clean cases prior to case processing or loading.
Debris in case pockets of shell plates.	Clear any debris such as spilled powder or brass shavings from the case pockets.
Improper adjustment of index mechanism.	Adjust index mechanism according to Step 8 of the Installation & Assembly Section .
Detent ball does not fully engage with the shell plate.	Clear any debris from the detent ball pocket. Keep the detent ball lubricated to prevent the ball from sticking in the base.

INCONSISTENT BULLET SEAT DEPTH

CAUSE	SOLUTION
Improper depth stop adjustment.	Adjust the depth stop to contact the base at the bottom of the stroke. This will prevent the tool head from rocking away from the resizing station. Tighten the depth stop lock nut to maintain the adjustment of the depth stop.
Ancillary dies do not contact the shell plate.	Adjust the body of the swage support die in station 4 and the depriming die (if applicable) to contact the shell plate at the bottom of the stroke. This will prevent the tool head from rocking away from the seating die at the bottom of the stroke. Refer to Steps 3&4 of the Setup & Adjustment Section .

INCONSISTENT POWDER CHARGES

CAUSE	SOLUTION
Powder sticking in drop tube adapter or powder activator.	Remove the powder measure and the powder activator from the powder die. Remove the drop tube adapter from the bottom of the powder measure and clean the inside of the drop tube adapter and the powder activator with degreaser.
Excessive case lube	Remove excess case lube from the cartridge cases and from the bottom of the powder activator. Excessive case lube can cause powder to stick to the case mouths and collect on the powder activator resulting in powder spillage.
Excessive cycle speed	Move the press slowly through the portion of the stroke where the cartridge case contacts the powder activator. Excessive impact force on the powder activator can cause the powder measure to jump which can displace powder from the drum and result in a low charge weight.

MISSING, CROOKED, OR DENTED PRIMERS

CAUSE	SOLUTION
Primers misaligned with case.	Verify that the case control tab is adjusted properly as described in Step 6 of the Setup & Adjustment Section .
Primers fail to feed into priming gear.	Inspect the inside of primer tube and clear any debris. Be sure that the primer follower is installed. Watch the primer follower as the press indexes and verify that it drops slightly. Use the witness hole in the priming base to verify that a primer is properly staged in position 2 of the priming gear.
Insufficient swaging.	Inspect the primer pockets of cartridge cases as they are advanced from the swaging station (station 4) to the priming station (station 5) to verify that the crimp has been completely removed. Verify that the case support pin is properly adjusted as described in Step 5 of the Setup & Adjustment Section . If necessary, thread the swaging pin out from the lower tool block in ½ turn increments until adequate swaging has been achieved.
Priming pin fails to align with primer pocket in priming gear.	Verify that the priming gear has been properly meshed with the ring gear on the shell plate.
	Verify that the shell plate is indexed correctly and that the detent ball is fully engaged in the notch in the shell plate. If necessary, adjust the index mechanism according to Step 7 of the Installation & Assembly Section .
	If both issues above have been eliminated, loosen the 4x screws retaining the priming assembly approximately 1/4 each to allow the priming assembly to "float". Lower the ram to the bottom of the stroke and tighten the screws. If the problem persists, leave each screw backed out 1/4 turn.
Detent ball does not fully engage with shell plate.	Clear any debris from the detent ball pocket. Keep the detent ball lubricated to prevent the ball from sticking in the base.
Debris in primer pockets of priming gear.	Clear any powder, brass shavings, or damaged primers from the primer pockets of the priming gear. The pockets can be cleaned sequentially through the viewing window above position 3 in the priming base without disassembling or emptying the priming assembly.
Loose shoulder screw retaining priming gear to priming base.	Verify that the shoulder screw retaining the priming gear to priming base is tight. Tighten shoulder screw if necessary.

TROUBLESHOOTING

LOADED AMMO FAILS CASE GAUGE INSPECTION

PROBLEM	SOLUTION
Debris on inside of cartridge case or inside of case gauge.	Clean any powder, brass shavings, or other debris from the outside of the cartridge case and/or the inside of the case gauge prior to inspection.
Improper sizing die adjustment	Adjust the sizing die so that the die body contacts the shell plate at the bottom of the stroke (or that otherwise satisfies the die manufacturer's recommendations). Note that the die adjustment should be confirmed as a case is being resized because some deflection of the shell plate and the tool head is inevitable.
Improper depth stop adjustment.	Adjust the depth stop to contact the base at the bottom of the stroke. This will prevent the tool head from rocking away from the resizing station. Tighten the depth stop lock nut to maintain the adjustment of the depth stop.
Ancillary dies do not contact the shell plate.	Adjust the body of the swage support die in station 4 and the depriming die (if applicable) to contact the shell plate at the bottom of the stroke. Refer to Steps 3&4 of the Setup & Adjustment Section .

NOTES

PRODUCT #1178469 INSTRUCTIONS #1193389 VER. 003



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