

RCBS®

Rifle Bullet Feeder — Dillon® Conversion Kit



PRODUCT INSTRUCTIONS

!WARNING!

Before using the Rifle Bullet Feeder – Dillon Conversion Kit, read these instructions carefully to fully learn how to safely operate the related reloading equipment. Failure to properly operate the related reloading equipment can result in severe personal injury and/or equipment damage.

If you have any questions while assembling or operating this tool,

Call us at 1-800-533-5000 or 1-530-533-5191

Monday – Thursday 6:30 am – 4:00 pm Pacific Time

(hours may vary)

Or email us at rcbs.tech@atk.com

This instruction manual contains specific safety and operating information. It should be considered a permanent part of your reloading equipment and remain with the equipment at all times for easy reference.

LIFETIME LIMITED WARRANTY

Your Rifle Bullet Feeder – Dillon Conversion Kit is warranted to be free from defects in material or workmanship for lifetime of the original consumer purchaser. All RCBS products are intended for non-commercial use by hobbyists. Any other use of these products will void the warranty. Should you believe that your Rifle Bullet Feeder – Dillon Conversion Kit is defective in material or workmanship, you must return it to Ammunition Accessories Inc. through its Oroville operation (hereinafter “Oroville Operations”) postage paid for evaluation. If defective, the product will be repaired or replaced at Oroville Operations’ option, at no charge.

Send a dated proof of purchase to Oroville Operations for return shipping and handling, along with the Rifle Bullet Feeder - Dillon Conversion Kit to:

Ammunition Accessories Inc.,
Oroville Operations
605 Oro Dam Blvd East
Oroville, California 95965

Warranty services cannot be provided without meeting the above requirements.

THIS LIFETIME LIMITED WARRANTY DOES NOT COVER DEFECTS OR DAMAGE RESULTING FROM: CARELESSNESS, MISUSE, COMMERCIAL USE, ABUSE, IMPROPER INSTALLATION, MODIFICATION, OR NORMAL WEAR AND TEAR. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THIS LIFETIME LIMITED WARRANTY. OROVILLE OPERATIONS IS NOT LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT AND UNDER NO CIRCUMSTANCES SHALL OROVILLE OPERATIONS BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. HOWEVER, SOME STATES DO NOT ALLOW LIMITATIONS ON INCIDENTAL, OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

The above warranty provides the sole and exclusive warranty available to the customer in the event of a defect in material or workmanship in the reloading product. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

SAFETY

Reloading is an enjoyable and rewarding hobby that can be conducted safely. But, as with any hobby, carelessness or negligence can make reloading hazardous. This product has been designed from the beginning with the user’s safety in mind. When reloading, safety rules must be followed. By observing these rules, the chance of a hazardous occurrence causing personal injury or property damage is minimized.

GENERAL

- Use all equipment as the manufacturer recommends. Study the instructions carefully and become thoroughly familiar with the operation of the product. If you do not have written instructions, request a copy from the equipment manufacturer.
- Do not take short cuts. Attempting to bypass established procedures is an invitation to an accident.
- Observe “good housekeeping” in the reloading area. Keep tools and components neat, clean and orderly. Promptly and completely clean up primer and powder spills.
- Reload only when you can give your undivided attention. Do not reload when fatigued or ill, or under the influence of medications or alcohol.
- Develop a reloading routine to avoid mistakes which may prove hazardous. Do not rush - load at a leisurely pace.
- Always wear adequate eye protection to protect your eyes from flying particles. You assume unnecessary risk when reloading without wearing safety glasses.

LOADING DATA

- Use only laboratory tested reloading data. We highly recommend the current SPEER® Reloading Manual.
- ⚠ OBSERVE ALL WARNINGS ABOUT THE USE OF MAXIMUM LISTED LOADS.**

⚠ WARNING/ CAUTION

PRIMERS AND POWDER

- Store primers and powder beyond the reach of children and away from heat, dampness, open flames and electrical equipment. Avoid areas where static electricity is evident.
- DO NOT use primers of unknown identity.
- Dispose of unknown primers in accordance with applicable regulations.
- Keep primers in the original factory container until ready to use. Return unused primers to the same factory packaging for safety and to preserve their identity. Primer packaging is designed to provide safe storage.
- DO NOT store primers in bulk. The blast of just a few hundred primers is sufficient to cause serious injury to anyone nearby.
- DO NOT force primers. Use care in handling primers.
- DO NOT have more than one can of powder on the bench at one time. Powder cans 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 manufacturer's label on the original canister. Discard all mixed powders and those of uncertain identity.
- If you use a powder measure, replace the lids on both the powder hopper and powder can after the powder hopper has been filled.
- When using a powder measure, settle the powder in the powder hopper before charging any cases. Throw and check the weight of at least ten charges. This will assure you that the correct powder charge is being thrown.
- When you finish a reloading session, pour any remaining powder back into its original factory container. This will preserve the identity and shelf life of the powder.
- DO NOT smoke while reloading.

RECORD KEEPING

- Keep complete records of reloads. Apply a descriptive label to each box showing the date produced, and the primer, powder and bullet used. Labels for this purpose are packed with SPEER® bullets.
- Never attempt to guess at the identity of your ammunition.

Because RCBS has no control over the choice of components, the manner in which they are assembled, the use of this product, or the firearms in which the resulting ammunition may be used, we assume no responsibility, expressed or implied, for the use of ammunition reloaded with this product.

USE

The RCBS Rifle Bullet Feeder – Dillon Conversion Kit has been designed to use the RCBS Rifle Bullet Feeder on Dillon® RL550B and XL650 Progressive Presses using a Dillon Powder Measure. The RCBS Bullet Feeder will increase your progressive rifle load rate by ~50% by reducing the manual operation of placing a bullet onto the case mouth. All parts and adapters are included for you to be able to feed jacketed bullets. Dillon Powder Measures require this Kit's additional adapters. Dillon presses mounted on Strong Mounts, require this Kit's additional mounting system.

The Bullet Feeder is designed to work with FMJ, JACKETED, or SEMI JACKETED Hollow Point, Soft Point, and Round Nose designed bullets ONLY. Cast or swaged LEAD bullets are NOT to be used and will void the Warranty. The lube from lead bullets deposits on the moving parts and collects dust and dirt, slowing down the function of the Bullet Feeder and eventually causing the motor to burn out. The deposited lube also does not allow the bullets to be positioned properly for feeding from the sorting Wheel to the Feed Tube.

The RCBS Rifle Bullet Feeder feeds and seats most bullets in one station. This allows you to crimp bullets in a separate operation, if you deem necessary. Shorter cartridges may not completely seat and may require an additional Seat Die in a subsequent station.

The Collator will hold approximately 150+ bullets depending on caliber and bullet weight.

Terminology Reference

The following abbreviations are used throughout this instruction manual:

- BHCS – Button Head Cap Screw
- SHCS – Socket Head Cap Screw
- PM – Powder Measure

This Product Instruction Manual is meant to supplement the manual you received with your RCBS Rifle Bullet Feeder, not replace it. You will need to reference that document to complete your Bullet Feeder installation. Contact RCBS if you need another copy or see our website to download one.

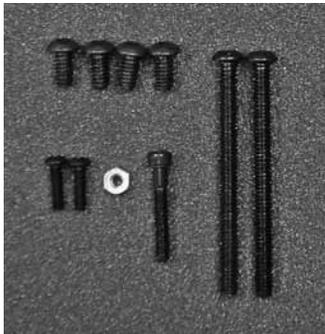
UNPACKING

Refer to the list below to identify parts as you unpack your new Rifle Bullet Feeder – Dillon Conversion Kit.



Parts Bag #1

- 1/4-20 x 1/2" Long BHCS (4)
- 1/4-20 x 3" Long BHCS (2)
- 8-32 x 1/2" Long BHCS (2)
- 8-32 Hex Nut, Zinc Plated (1)
- 10-32 x 1-1/4" SHCS (1)



Parts Bag #2

- Dillon PM Bracket
- Dillon Adjustment Bracket
- Dillon Clamp
- Dillon Clamp Anchor
- Cam



Note: Keep the packaging foam inside the Bullet Feeder Bowl Assembly throughout the installation process.

ASSEMBLY

Reference the part schematic on page 11 for more information.

You will need the following tools in order to assemble and install this Kit:

- 3/32" hex key/ Allen wrench
- 5/32" hex key/ Allen wrench
- 3/8" open end wrench or small adjustable wrench

This Product Instruction Manual is meant to supplement the manual you received with your RCBS Rifle Bullet Feeder, not replace it. You will need to reference that document to complete your Bullet Feeder installation. Contact RCBS if you need another copy or see our website (www.rcbs.com) to download one.

Bowl Support Tubes

Assemble the Bowl Support Upper Tube (#781312) and Lower Tube (#781313) to each end of the Tube Coupling (#781314) using the four 1/4-20 x 1/2" BHCS (Photo 1). Tighten screws securely with a 5/32" hex key/ Allen wrench.



Photo 1. Support Tube Assembly

The Bullet Feeder Support Tube Assembly can now be clamped to the Case Feeder Support Tubes on your Dillon Press.

Powder Measure Adapter

Remove the locknut from the Bellcrank Bolt of the Powder Measure (Photo 2) using a 3/8" wrench. Save the locknut for future use if desired. Do not remove the Bellcrank Bolt from the pivot hole and try to minimize the movement of Bellcrank Assembly Brackets.



Photo 2. PM Bellcrank Locknut

Install the triangular PM Bracket (#781310) using the existing Bellcrank Bolt, if possible. If it is damaged, replace it with the 10-32 x 1-1/4" SHCS provided with this Kit. Ensure the PM Bracket is in the correct orientation (Photo 3). Do not fully tighten the Bellcrank Bolt at this time. Check to verify the Bellcrank Cube is correctly engaged in the Powder Bar's slot (consult your Powder Measure Manual for more information). Now tighten the Bellcrank Bolt until snug using a 5/32" hex key.



Photo 3

Next mount the Cam (#181253) onto the "L"-shaped Adjustment Bracket (#781311) with a 8-32 x 1/2" Long BHCS and 8-32 Hex Nut (Photo 4), using a 3/32" hex key. Note the flats of the Hex Nut fit within the slot on the back of the Bracket (Photo 5). Slightly tighten the BHCS so it is easy to adjust later during setup of the Press.



Photo 4



Photo 5

Next install this Cam Adjustment Bracket onto the triangular PM Bracket as shown (Photo 6), using the other 8-32 x 1/2" Long BHCS. Again, only slightly tighten the BHCS for now.

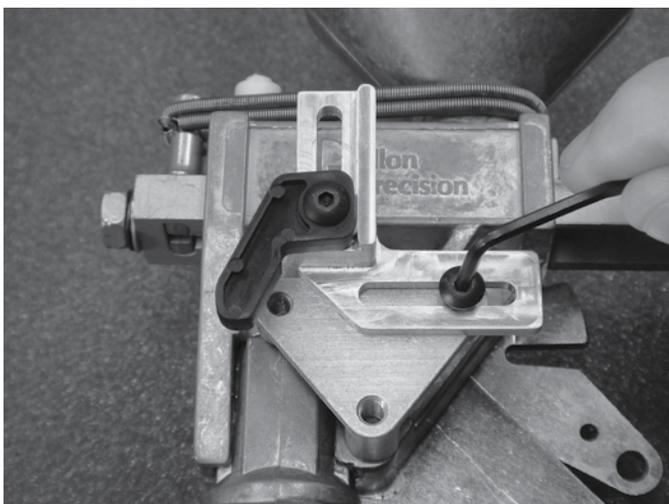


Photo 6

INSTALLATION

Note: Reference the part schematic on page 11 for more information.

Bullet Feed/ Seat Die Installation

First, tighten the setscrew on your PM Die Lock Ring to keep it from moving. Next carefully detach the PM Failsafe Rod from the Bellcrank Link Brackets (consult your Powder Measure Manual for more information).

Next, remove your Powder Measure Assembly from the Powder Measure Die by loosening the two SHCS 6-7 turns each using a 5/32" hex key (Photo 7). Slide the notched-clamp collar outward and pull the PM off the Die body. Finally, remove the PM Die from the Die Plate.

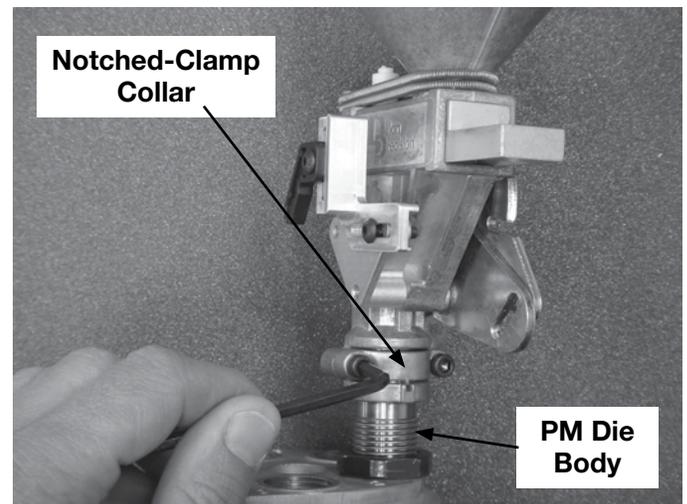


Photo 7

Install the Bullet Feed/Seat Die Assembly into the Die Plate at the station immediately after the Powder Measure station. Screw it down until the Bullet Drop Tube (A) on the back side of the Seat Die Assembly, nearly contacts the Lock Ring (B) (Photo 8). Orient the Seat Die Assembly so the Die's window is facing front of Press (Photo 10).

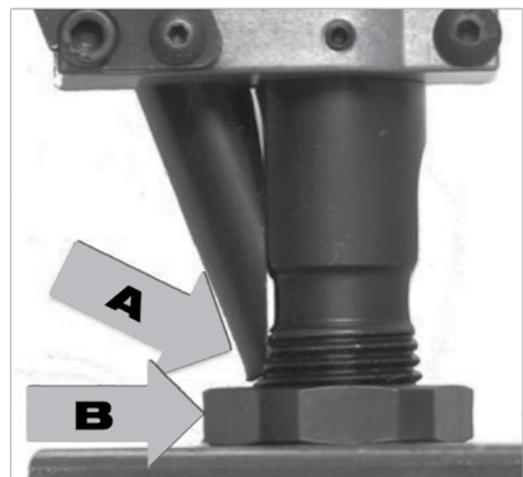


Photo 8

NOTE: You will be able to load cartridge lengths of approximately 2.0 – 2.5 inches at this setting. For longer cartridges, raise the Seat Die Assembly as needed up so that the lower part of the window (A) is higher than the Lock Ring (B) (Photo 9).

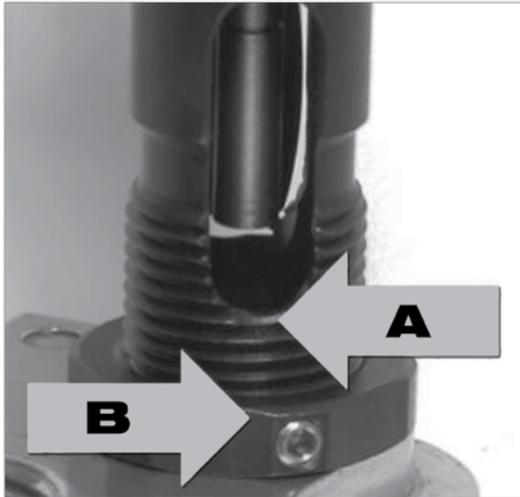


Photo 9

Bullet Seat Depth Adjustment

Slide the Die Plate, with Bullet Feed/Seat Assembly installed, into the press. Now install a properly sized and trimmed Cartridge Case into the Bullet Seat station of the press (no primer or powder is needed). Manually drop a bullet with nose pointed up into the top of the Bullet Feed Die (Photo 10).

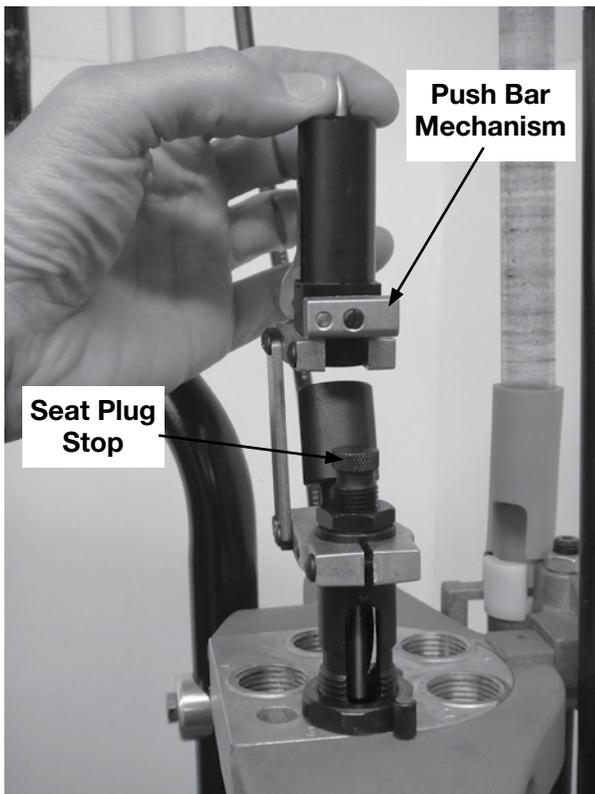


Photo 10

Manually squeeze the Bullet Feeder's Push Bar Mechanism, allowing the bullet to drop into the Seat Die Body (Photo 11). Visually check to ensure the bullet has dropped down inside the Guide bushing under the Seat Plug. If it did not, the Seat Plug needs to be positioned higher to allow the bullet to drop. See Adjustment section for more information.



Photo 11

⚠ CAUTION: A bullet will be fed with each cycling of the Push Bar. If a powder drop problem is incurred and that case is removed from the shell plate station, the bullet that was fed into the Bullet Feed/ Seat Assembly **MUST** be removed from the Bullet Guide. If the bullet is not removed and the next case is introduced, there will be two bullets in the Bullet Guide and the bullets will jam and possibly bend or damage the free floating Seat Plug.

A single bullet can be easily removed from the Seat Die Body by abruptly slapping the Bullet Guide, located at the bottom of the Seat Die, upward into the Die repeatedly. This will cause the Seat Plug to push the bullet out through the Bullet Guide's Retention Ring.

Loosen the Seat Plug Stop near the top of its length. Pull the press Handle to seat the bullet in the case. Adjust the Seat Plug Stop and Seat Die Body position as needed to obtain approximately the proper overall Cartridge length. This is a trial-and-error process. Fine tuning will still be needed after the Powder Measure is installed so make sure the Seat Plug Stop has some adjustment available up or down.

Powder Measure Installation

Install your PM Die into the appropriate station of the Die Plate until the lock-ring contacts the Die Plate. Reinstall the PM Assembly over the PM Die and slightly tighten the two SHCS on the clamp so PM can still rotate (consult your Powder Measure Manual for more information). Note the PM Triangular Bracket is above the Die's Lower Platform (Photo 12).

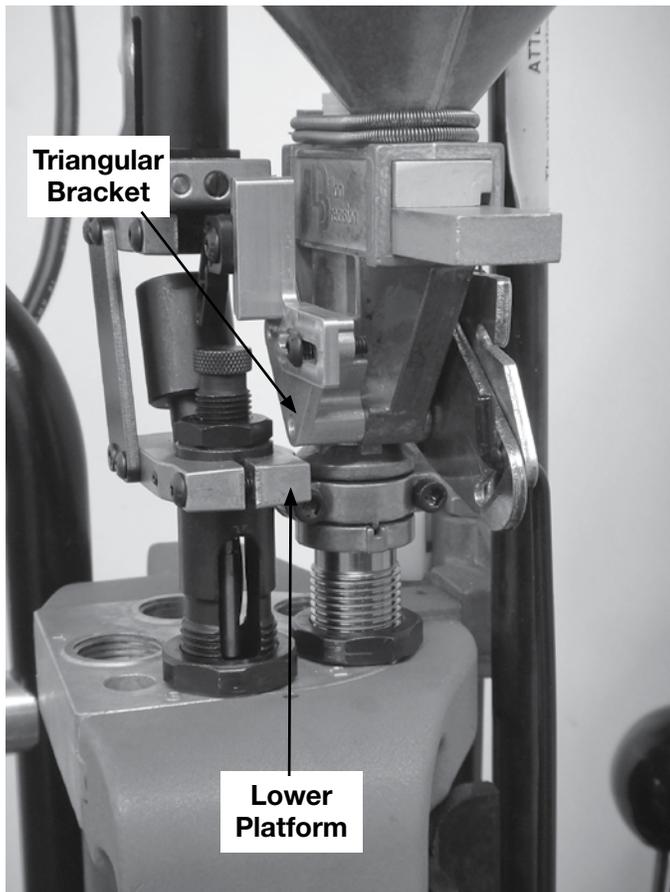


Photo 12

Rotate the PM Assembly so the Cam Adjustment Bracket is aligned with the Bullet Feeder's Push Bar mechanism. Adjust the position of the Cam and "L" shape Bracket so it will activate the Push Bar, allowing bullets to drop one at a time. There should be only a slight gap between the Push Bar's bottom edge and Cam's radius, as well as a slight gap between the Push Bar and "L" Bracket. Adjust the Cam's position vertically and horizontally to obtain this relationship (Photo 13). (see Adjustment section for more information)

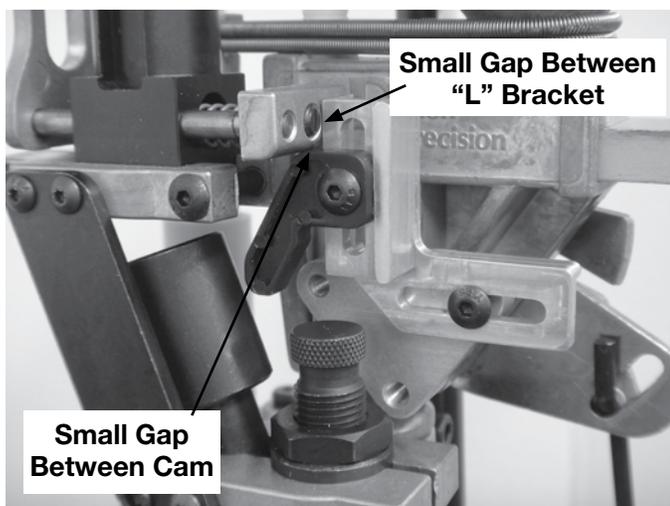


Photo 13

Next, reinstall the PM Failsafe Rod to the Bellcrank Brackets (consult your Powder Measure Manual for more information). Place a properly sized/ trimmed case at the powder drop station and fully lower the Press Handle. The Cam on the PM Assembly should engage the Push Bar and drop a bullet into the Seat Die Assembly. Ensure that the Cam does not contact any other components throughout its range of motion.

Bowl Assembly Installation

Install the Upper Tube (#781240 or 781241) into the Bullet Feeder Bowl (Photo 14). Slide one end of the Continuous Spring into the Upper Tube. The other end will slide into the Switch Block Assembly later.



Photo 14

Attach the Collator Bowl Assembly to the top of the Support Tube Assembly with the 1/4-28 x 2" BHCS and a 1/4-28 Hex Nut (A) (see Photo 15) supplied with your Bullet Feeder Bag #3. Tighten this just enough so that the Bowl Assembly will still pivot. Install the Bracket Pin into the middle adjustment position (B). See Troubleshooting section of your Rifle Bullet Feeder Manual for more information.

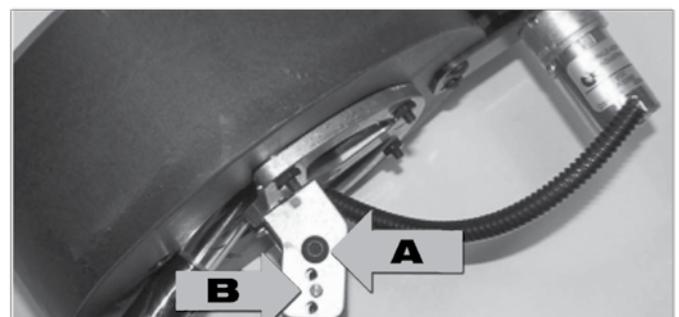


Photo 15

Bowl Support Tubes Installation

When you are complete with this section, ensure that the placement of the Bullet Feeder does not interfere with the operation of your press.

Various options exist depending on the configuration of your reloading press. Choose the correct option below based on the accessories you have (Strong Mounts, Case Feeder, etc.).

The goal is to install your Bullet Feeder Bowl in a location above the Seat Die Assembly so no kinks are in the Continuous Spring and bullets can drop through it freely (Photo 16). Hold the Bowl Assembly up above the Feed/ Seat Die and check Continuous Spring's alignment. This is approximately where you want the Bowl to be positioned when complete.

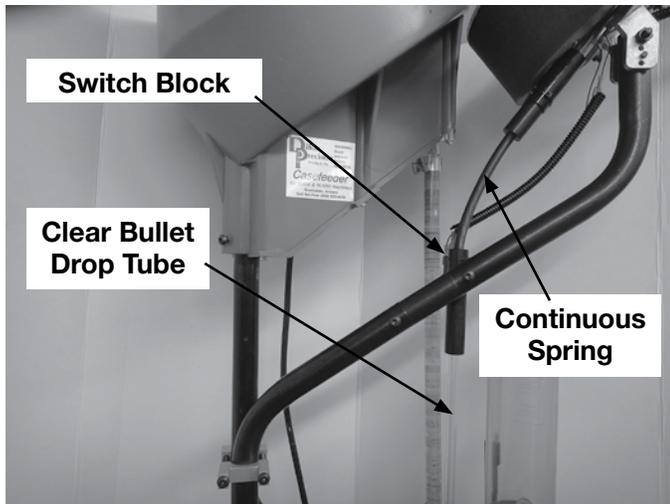


Photo 16

For Presses with Strong Mounts

If your press is installed on Strong Mounts (Photo 17), the green square tubing provided with your Rifle Bullet Feeder will not be tall enough. Therefore, you will need to mount your RCBS Bullet Feeder Bowl Assembly using the Support Tube Assembly provided in this kit (Photo 1).

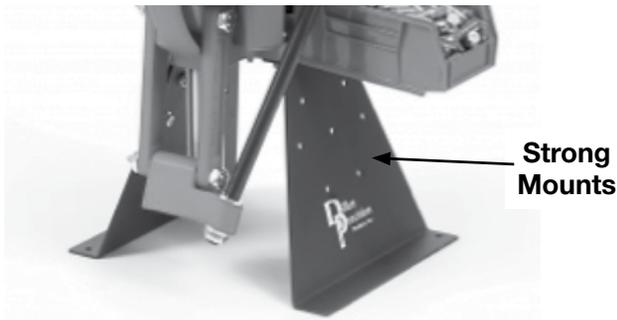


Photo 17

For Presses with No Strong Mounts

The green square tubing provided with your Rifle Bullet Feeder may be long enough.

The Clamp and Clamp Anchor (781315 and 781316, respectively) supplied with this Kit give you the ability to mount your Bullet Feeder Bowl to the green square tubing from RCBS (Photo 18) or the black round tubing on the Dillon Case Feeder (Photo 19). Choose the option that is best suited for your situation. Assemble the Clamp as shown using the two 1/4-20 x 3" Long BHCS provided. Tighten both firmly to keep Bowl Assembly stable.



Photo 18. RCBS Tube require square side of Clamp



Photo 19. Dillon Tube require round side of Clamp

Ensure that the placement of the Bullet Feeder does not interfere with the operation of your press.

Insert the smaller end diameter of the clear Bullet Drop Tube into the Switch Block (Photo 16). Insert free end of clear tube into Bullet Feed/ Seat Die Assembly.

The installation of your RCBS Bullet Feeder Dillon Conversion Kit is now complete. Before you begin loading, verify the Bullet Seat Die is adjusted for proper cartridge length and that bullets feed reliably through the mechanism.

Refer to the Product Instructions received with your RCBS Rifle Bullet Feeder for the remainder of the steps.

⚠ CAUTION: A bullet will be fed with each cycling of the Push Bar. If a powder drop problem is incurred and that case is removed from the shell plate station, the bullet that was fed into the Bullet Feed/ Seat Assembly **MUST** be removed from the Bullet Guide. If the bullet is not removed and the next case is introduced, there will be two bullets in the Bullet Guide and the bullets will jam and possibly bend or damage the free floating Seat Plug.

ADJUSTMENT

Note: Reference the part schematics on page 11 of this booklet and the Bullet Feeder Instruction Manual for more information during assembly and installation.

Bullet Seating Depth

Bullet seating depth is controlled by adjusting the Seat Plug Stop (A) up or down. Shorter length cases may be accommodated by moving the Retaining Ring to a higher groove on the free floating bullet Seat Plug (B) (Photo 20). However, larger diameter bullets may not drop into position if the Seat Plug (B) is hanging too low. This is a trial and error adjustment. Seat Plug Stop has approximately 0.5" total adjustment.

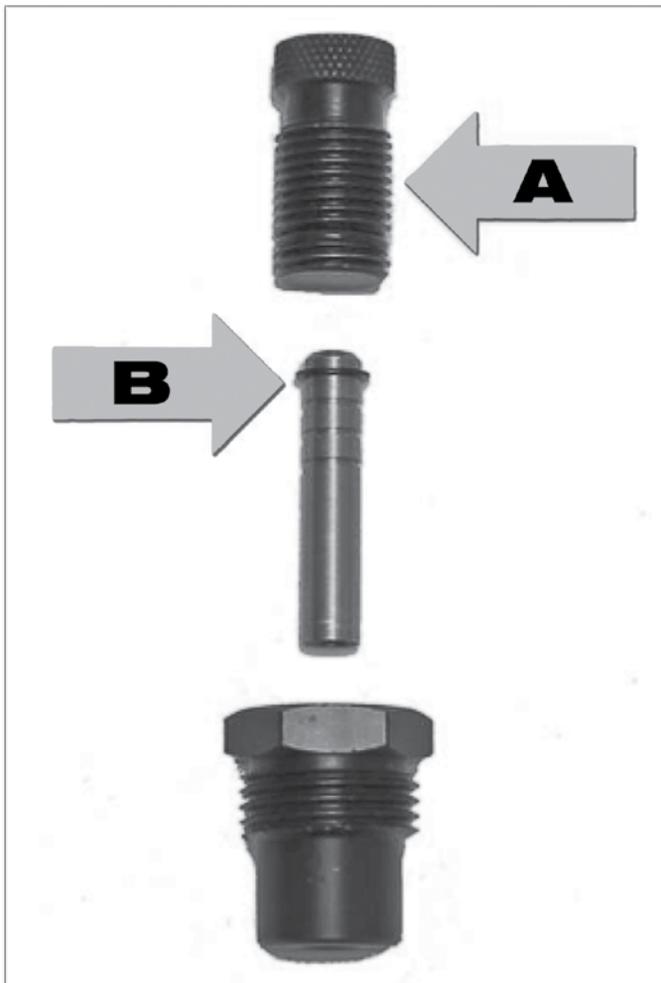


Photo 20

CAM Plate

The CAM Plate on the upper portion of the Case Activated Linkage System is used to stroke the Push Bar on the Bullet Seating Die. With a case activating the Linkage System and the stroke is all the way up, the dogleg shaped black plastic CAM should trip the Push Bar to allow a bullet to fall. Adjust the CAM (A) vertically or CAM Plate (B) horizontally until the Push Bar (C) is activated properly (Photo 21).

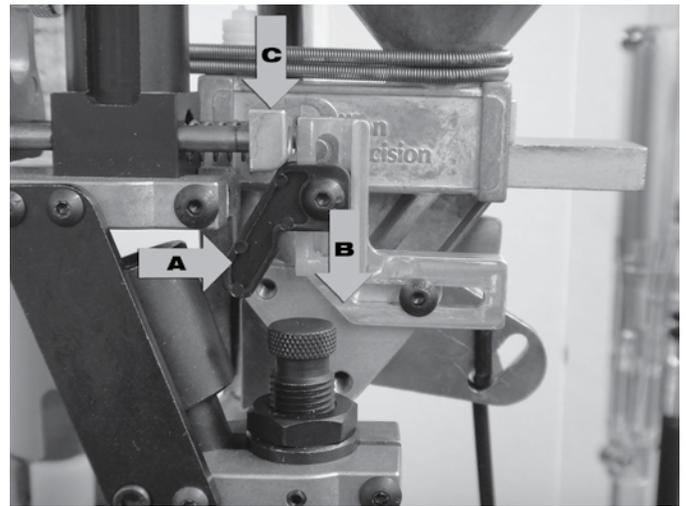


Photo 21

Bullet Feeder Mechanism

The Spring Holder (A) prevents two bullets from feeding at the same time. The height of this must be adjusted based on the length of the bullet being used. Loosen the Spring Holder Cap (B) so that the assembly moves up and down. Place a bullet into the Bullet Drop Body cutout. Slide the Spring Holder up or down so the white Bullet Drop Pin (C) is level with the tip of the bullet. The Bullet Drop Pin is designed to contact the side of the bullet and hold it in place until the next cycle. Boat Tail bullets may require the Drop Pin to be set a little higher. Adjust as needed (Photo 22).

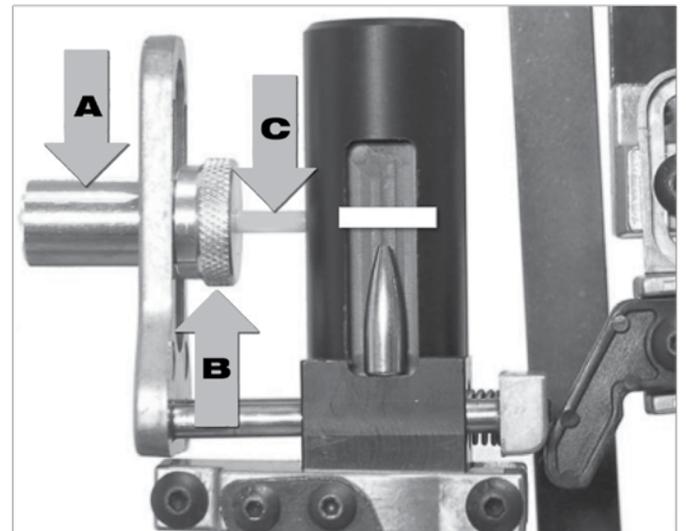
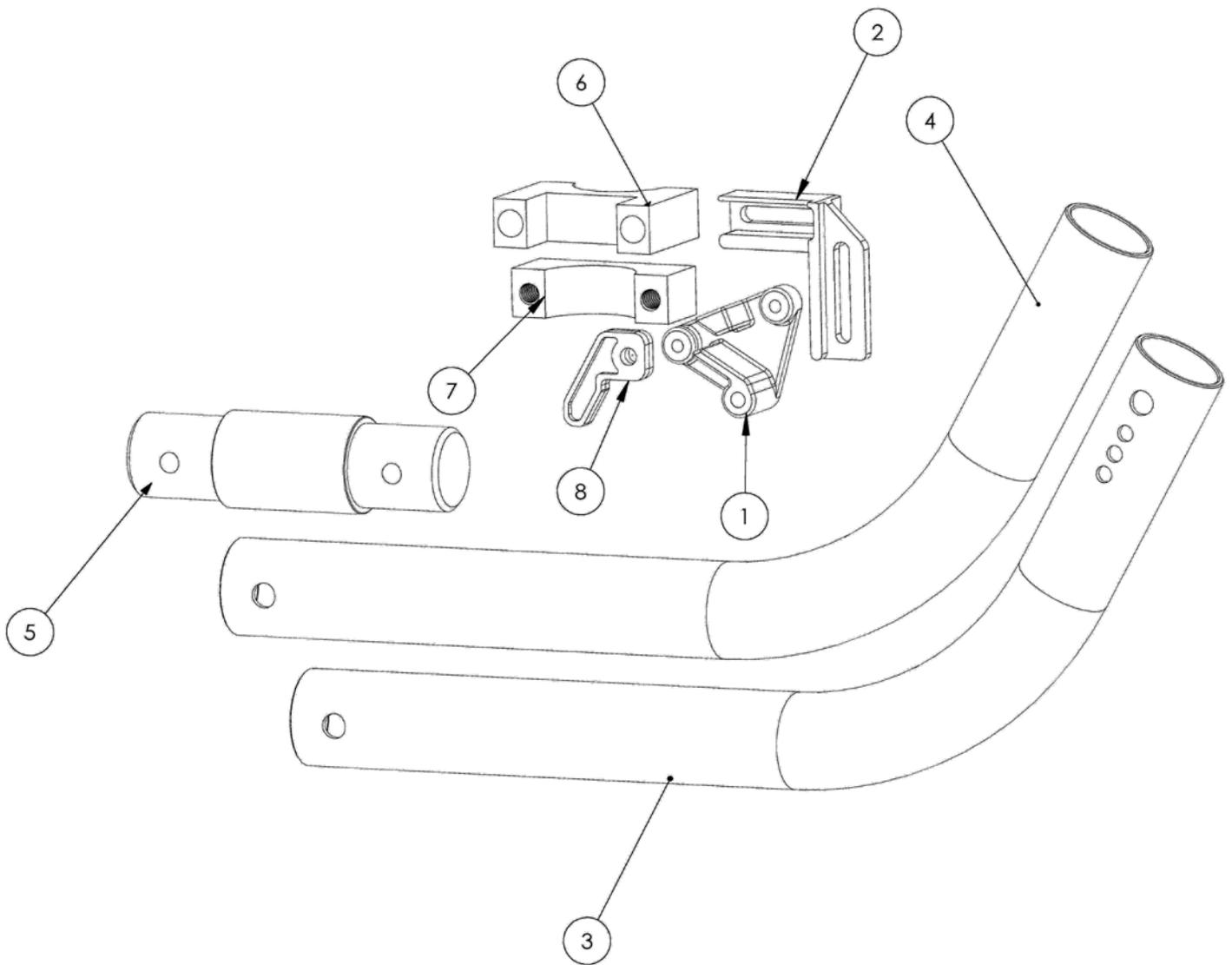


Photo 22

ITEM #	PART #	DESCRIPTION	QTY.
1	781310	Dillon PM Bracket	1
2	781311	Dillon Adjustment Bracket	1
3	781312	Dillon Upper Tube	1
4	781313	Dillon Lower Tube	1
5	781314	Tube Coupling	1
6	781315	Dillon Clamp	1
7	781316	Dillon Clamp Anchor	1
8	181253	Cam	1



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