

Bullet Feeder – Rifle



PRODUCT INSTRUCTIONS

Before using the RCBS Bullet Feeder – Rifle, 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.

TWO YEAR LIMITED WARRANTY

Your Bullet Feeder – Rifle is warranted to be free from defects in material or workmanship for two years from the date of purchase. This warranty is extended only to 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 Bullet Feeder – Rifle 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 Bullet Feeder – Rifle 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 TWO YEAR 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 TWO YEAR LIMITED WARRANTY. OROVILLE OPERATIONS IS NOT LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT AND UNDER NO CIRCUMSTANCES SHALL OROVILLE OPERA-TIONS 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 press. 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 Bullet Feeder – Rifle has been designed to 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.

The Bullet Feeder is designed to work with FMJ, JACKETED, or SEMI JACKETED Hollow Point, Soft Point, and Round Nose designed bullets ONLY. <u>Cast or swaged LEAD bullets are NOT to be used and will void the Warranty</u>. 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 Bullet Feeder is designed to be used on RCBS 5-station progressive presses such as the Pro2000 and Pro2000 Auto. 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 Bullet Feeder has also been designed to function on progressive presses manufactured by other companies. RCBS has successfully tested the Bullet Feeder on the following presses: Dillon® RL550B, XL650 and Hornady® Projector[™], L-N-L[™]AP[™]. Some of these presses required adapters, sold separately. Dillon presses require an additional powder measure adapter, sold separately. Dillon presses mounted on Strong Mounts, require an additional mounting system, sold separately.

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

UNPACKING

Refer to the list below to identify parts as you unpack your new Bullet Feeder – Rifle. <u>The foam inside the Bowl Assembly</u> is for shipping purposes. We recommend you keep the foam in place until you have assembled and installed your Bullet Feeder. Remove the foam before plugging in your Power Supply to the Bowl Assembly.

- 1. Bowl Assembly
- 2. Upper Support Tube
- 3. Lower Support Tube
- 4. Support Foot
- 5. Power Supply and Plug Adapters
- 6. Bullet Seat Die Assembly
- 7. Continuous Spring Tube
- 8. Bullet Drop Tube (clear)



RBF - Parts Bag #1

CAM Plate Assy 10-32 x 1½ BHCS RBF - Parts Bag #2

Case Switch Assembly Upper Tube BF - Parts Bag #3

14-28 x 11/2 BHCS(2) 14-28 x 2 BHCS 10-24 x 11/2 SHCS(2) 14" Flat Washer(2) 14-28 Hex Nut Bracket Pin







ASSEMBLY

Note: Reference the part schematics on pages 13-15 for more information.

Attach the Lower Support Tube to the Support Foot using two 10-24x1¹/₂ SHCS (A) (see Photo 1).

Attach the Upper Support Tube to the Lower Support Tube using two ¼-28x1½ BHCS and ¼ Flat Washers(B) (see Photo 1 and page 13). The Support height is adjustable depending on the type of press that you will use with the Bullet Feeder.



Photo 1

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

Attach the Collator Bowl Assembly to the top of the Support Assembly with the 1/4-28x2" BHCS and a 1/4-28 Hex Nut (A) (see Photo 2). Tighten this just enough so that the Bowl Assembly will still pivot. Install the Bracket Pin into the middle adjustment position (B) (see Photo 2). This position orients the Bowl at 35 degrees and works for most types of bullets. Depending on how level your reloading bench is or the type of bullet that you are using, you may need to change the angle position from the middle 35° to 40° or 45°. A steeper or shallower angle is achieved by moving the Bracket Pin to one of the other positions. See Troubleshooting section for more information.



Photo 2

Note: Reference the part schematics on pages 13-15 for more information.

Disconnect the Return Spring (A), unscrew the Top Spring Anchor (B) and unscrew the Linkage Knob (C) from the Case Activated Powder Measure System (see Photo 3). Remove the powder measure assembly and drain the hopper of all smokeless powder.



Mark the position of the Upper Bracket with a piece of masking or electrical tape or some other means (see arrow in Photo 4). This is critical to setting the parts back into the correct place.



System found attached to the Powder Measure. Remove the rear Button Head Cap Screw (B). See Photo 5.



Place Cam Plate Assembly onto upper Linkage Bracket and secure the front with the $10-32x1\frac{1}{2}$ " BHCS found in Parts Bag #1(C). Install the BHCS that was removed from the front portion and use it to replace the rear 10-32 BHCS(A). See photo 6.



Before tightening the two 10-32 BHCS, ensure that the Linkage assembly is parallel to the powder measure

cylinder (see photo 7) and that it is back up to the tape mark (photo 4). Tighten the two 10-32 BHCS; adjustment of the Cam Plate will be covered later in this section. The Cam Plate Assembly is now installed.



Re-install the Top Spring Anchor (B), Return Spring (A), and Linkage Knob (C) (see Photo 3).

Install the Bullet Feed/Seat Assembly into a Die Plate at the station immediately after the Powder Measure station. The Die Body Feed-Thru Window bottom should be positioned at the Lock Ring's top surface (A). The Powder Measure Assembly was removed from station "B" for clarity. See photo 8.

NOTE: You will be able to load cartridge lengths of 2.0 – 2.5 inches at this setting. For longer cartridges, raise the Seater Assy as needed. For shorter cartridges, the Seater Assy can be lowered until the Bullet Drop Tube contacts the Lock Ring See **ADJUSTMENT** section.



Photo 8

Slide the Die Plate, with Bullet Feed/Seat Assembly installed, into the press. This assembly must be oriented

relative to the Powder Measure Assembly so that the Cam Plate Assembly (A) (installed on the Powder Measure) will activate the Bullet Feeder's Push Bar mechanism (B), allowing bullets to drop one at a time. See Photo 9.



There should be only a slight gap (A) between the Push Bar and Cam. Adjust the Cam Plate's position vertically with (B) and horizontally with (C) to obtain this relationship. (see *Adjustment* section for more information). See Photo 10.



Photo 10

Place a case at the powder drop station and lower the handle, the Cam will engage the Push Bar. 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. See Photo 11.



Install the Upper Tube into the Bullet Feeder Bowl (see Photo 12). Slide one end of the Continuous Spring into the Upper Tube and the other end into the Switch Block Assembly.



Photo 12

Insert the <u>smaller end diameter</u> of the clear Bullet Drop Tube (A) into the Switch Block (B) (see Photo 13). Stand the Bullet Feeder Assembly upright and hold in position approximately where shown. Insert free end of clear tube into Seat Assembly (C). Raise the Support Tube so no kinks are in the Spring (D). Ensure that the placement of the Bullet Feeder does not interfere with the operation of your press. Bolt Stand to the reloading bench or table using the slots provided in the Support Foot casting.



Photo 13

To install wires on the Switch Block, connect the green wire (A) to the lower outside and the black wire (B) to the upper inside connection. The middle connector is not used. See Photo 14.



OPERATION

Note: Reference the part schematics on pages 13-15 for more information.

Four changeable plugs are provided: US, UK, AUS and EU. The power transformer is an automatic switching 120-240 VAC design. Select the proper plug adapter and install onto the power transformer. Plug in the Power Supply. Remove the packaging foam inside the Bowl Assembly and ensure nothing else is inside the Bowl.

CAUTION: The next step will cause the Bullet Wheel to start spinning. Make sure your fingers are clear of the Wheel's Agitators and any other moving parts.

Connect Power Supply to the Power Jack on the underside of the Bowl Assembly (A). See Photo 15.



Photo 15

With bullets in the Bowl and power applied, the Bullet Wheel will orient the bullets and fill the clear Bullet Drop Tube. The angle of the Bowl Assembly may need to be changed. If bullets that are nose-down feed into the tube, or correctly oriented bullets fall off the sorting wheel, see **Troubleshooting** section for more information.

When the Powder Measure is cycled by case activation, the Cam Plate will slide the Push Bar to allow a bullet to drop into the Seating Die Bullet Guide. The bullet is held in the guide until the case comes up to push the bullet up against the free floating Bullet Seat Plug.

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.

The cartridge then moves to the next station to be crimped, if necessary.

Add more bullets to the Bowl as needed. NOTE: The sorting plate may not feed the last 10-20 bullets effectively.

ADJUSTMENT

Note: Reference the part schematics on pages 13-15 for more information during assembly and installation.

Bullet Seating Die

At the top of the press stroke, the bullet will be seated into the case. 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) (see Photo 16). 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 bushing has approximately 0.5" total adjustment.



Photo 16

For cartridge lengths greater than 2.5", raise the Bullet Seat Die Assy up so that the lower part of the window (A) is higher than the Lock Ring (B). See photo 17.



Photo 17

For cartridges shorter than 2.0" the Bullet Seat Die Assy can be lowered until the Bullet Drop Tube (A) on the back side of the Seater Assy, contacts the Lock Ring (B). See Photo 18.



Photo 18

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. See Photo19.



Photo 19

Bowl Assembly

There is a bullet Deflector Rod (A) that rides in a groove on the Bullet Wheel. This Deflector Rod prevents two or more improperly oriented bullets from following a correctly oriented bullet. The Deflector is necessary for light weight bullets and must be removed for heavier weight bullet use. To determine if the Deflector needs to be moved out of the way or not, simply try to place two bullets in one groove of the Bullet Wheel. If you can stack two or more bullets into one groove, the Deflector Rod must be in place. To adjust the Deflector Rod into the correct position, use Thumbscrew (B) and 7/16" Jamb Nut (C). See Photo 20.



If you cannot stack more than one bullet in the groove, the Deflector Rod must be adjusted out of the way. To raise (A), loosen the Thumbscrew (B) or 7/16" Jamb Nut (C).See Photo 21.



Photo 21

Bullet Weight Change

When changing bullet weights, the Seat Plug and Bullet Drop Mechanism will need to be adjusted. Please refer to **ADJUSTMENT Bullet Seating Die** section. You may also need to adjust the Deflector in the bowl based on the length of the bullets being used. See **ADJUSTMENT Bowl Assembly**.

Photo 20

TROUBLESHOOTING

If correctly oriented bullets fall off of the sorting plate too early, change to a shallower Bowl angle adjustment. Move the Bracket Pin from the 45 or 40 degree position to the 40 or 35 degree position.



45°position-top





If the wires on the Power Jack should become dislodged, the green wire (A) goes to the lower connector, the red wire (B) goes to the upper connection (nearest the Hub #781209). See Photo 22.



Photo 22

MAINTENANCE

Periodically wipe down the inner part of the Bowl and Bullet Wheel to remove dust and debris.

Also, disassemble the Bullet Die Body and clean the free floating Seat Plug and Bullet Guide to ensure smooth function.

The drive belt may need adjustment as the belt wears. Loosen the two BHCS (#181231 in Photo 23) and apply more tension on the belt. Re-tighten the two BHCS.



Photo 23

Dust Cover

RCBS does not offer a specific Dust Cover for the Bullet Feeder. However both dust covers for the Mini Grand (pn#86886) and The Grand (pn#86885) fit well.



SUPPORT STAND - RIFLE BULLET FEEDER							
ITEM	PART	DESCRIPTION	OTY.				
NO.	NUMBER	DESCRIPTION	Q11.				
1	781205	Support Foot	1				
2	781208	Support Tube Lower	1				
3	181219	Tube Cap	2				
4	181233	10-24 x 1-1/2 SHCS	2				
5	781207	Support Tube Upper	1				
6	181218	Support Block	1				
7	186214	6-32 x 1/2 SHCS	1				
8	180072	1/4" Flat Washer	2				
9	181234	1/4-28 x 1-1/2 BHCS	2				



	BOWL ASSEMBLY - RIFLE BULLET FEEDER								
ITEM	PART	DESCRIPTION	QTY.		ITEM	PART		QTY.	
NO.	NUMBER	DESCRIPTION	QIY.		NO.	NUMBER	DESCRIPTION	QTY.	
1	109603	10-32 Hex Nut	5		22	181257	Continuous Spring (22)	1	
2	109604	1/4-28 Hex Nut	3	3 22 181258		181258	Continuous Spring (30)	1	
3	181203	Pulley Cover	1		23	181267	Jumper Wire Short	1	
4	181204	Switch Block Right	1		24	181268	Jumper Wire Long	1	
5	181206	Tube Retainer	1		25	187211	10-32 x 1 BHCS	4	
6	181207	Bowl Cover	1		26	187217	8-32 x 3/8 BHCS	2	
7	181215	Motor	1		27	189066	6-32 x 1/4" BHCS	6	
8	181217	Motor Mount	1		28	681200	Bowl	1	
9	181220	Power Jack	1		29	781202	Bullet Wheel .22	1	
10	181221	Drive Pulley	1		27	781228	Bullet Wheel .30	1	
11	181222	Drive Belt	1		30	781203	Switch Block Left	1	
12	181227	4-40 Nyloc Nut	1		31	781206	Bowl Bracket	1	
13	181228	4-40 x 5/8 SHCS	1		32	781209	Hub	1	
14	181229	6-32 Nyloc Nut	2		33	781210	Deflect or Rod	1	
15	181230	6-32 x 3/8 BHCS	2		34	781221	Bowl Drop Tube	1	
16	181231	10-32 x 1/2 BHCS	3		35	781224	Bracket Pin	1	
17	181235	1/4-28 x 2 BHCS	1 24		36	781240	Upper Tube 22 Caliber	1	
18	181236	8-32 x 3/8 Thumbscrew	1	1 36		781241	Upper Tube 30 Caliber	1	
19	181237	5-40 x 3/8 BHCS	4		37	781242	Switch Block 22 Cal	1	
20	181244	Case Switch	1 37		57	781243	Switch Block 30 Cal	1	
21	181255	Agitator	6		38	781263	Split Wire Loom	1	
					39	781264	Deflector Rod	1	



[SEATER ASSEMBLY - RIFLE BULLET FEEDER						
	ITEM	PART	DESCRIPTION	QTY.			
	NO.	NUMBER	DESCRIPTION				
	1	181230	6-32 x 3/8 BHCS	2			
-	2	781244	Bullet Drop Tube 22 Cal	1			
	Z	781222	Bullet Drop Tube 38 Cal	1			
	3	781246	Bullet Drop Body 22 Cal	1			
	5	781247	Bullet Drop Body 30 Cal	1			
	4	781248	Push Rod	1			
	5	181251	Push Bar	1			
-	6	781249	Idler Rod	1			
	7	181249	Push Plate	1			
	8	781250	Spring Holder	1			
	9	181259	Bullet Drop Spring	1			
	10	781252	Spring Holder Cap	1			
	11	781251	Bullet Drop Pin	1			
	12	781253	Bullet Stop Pin	1			
	13	187545	O-Ring AS-004 Buna 70	1			
	14	181247	Upper Platform Right Half	1			
	15	181248	Upper Platform Left Half	1			
	16	187221	8-32 x 3/4" BHCS	1			
	17	181232	8-32 x 1" BHCS	2			
)	18	181254	Platform Bracket	1			
	19	189066	6-32 x 1/4" BHCS	1			
3	20	181246	Lower Platform Left Half	1			
	21	781254	Seat Die Body	1			
1	22	781255	Drop Tube	1			
Ī	23	181245	Lower Platform Right Half	1			
	24	781256	Seat Plug Bushing 22 Cal	1			
	24	781257	Seat Plug Bushing 30 Cal	1			
	25	187670	Retaining Ring 5144-18 (22)	1			
		187549	Retaining Ring 5103-25 (30)	1			
	26	781259	Seat Plug .22	1			
	26	781260	Seat Plug .30	1			
	27	781258	Seat Plug Stop	1			
	28	189009	O-Ring Parker 2-011				
	29	781283	Bullet Guide Assy .22	1			
	27	781284	Bullet Guide Assy .30	1			
ĺ	30	787500	Hex Lock Ring Assy 7/8-14	1			
	31	187215	6-32 X 3/8" FHCS	1			
	32	181250	Cam Vertical Adjustment	1			
ľ	33	181252	Cam Horizontal Bracket	1			
	34	181253	Cam	1			
-	35	181261	8-32 X 5/8" BHCS	1			
	36	186102	8-32 Hex Nut	1			
	37	181260	Bullet Drop Return Spring	1			
ĺ	38	181266	8/32 x 1 SHCS	1			
ľ	39	181263	6-32 x 1/4 SHSS	1			
ľ	40	181262	10-32 x 1-1/2 BHCS	1			



PRECISIONEERED RELOADING EQUIPMENT

We think that we make the very best reloading equipment in the world. If you agree, please tell your friends. If you disagree, tell us we want to do something about it!

Customer Service

1-800-533-5000 (US or Canada) or 530-533-5191

Hours: Monday - Thursday, 6:30am - 4:00pm Pacific Time (hours may vary)

e-mail: rcbs.tech@atk.com or visit our website at www.rcbs.com

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