RFB®

SAFETY, INSTRUCTION & PARTS MANUAL

⚠ **WARNING:** Read this manual carefully before loading or using the RFB.

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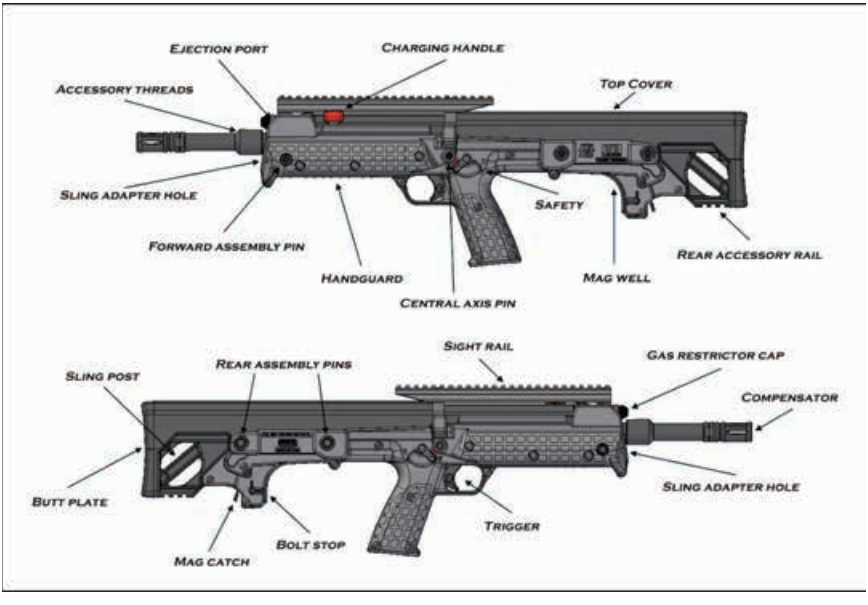
Congratulations! You are now the proud owner of the world's most advanced 7.62 NATO Caliber, semi-automatic rifle, the ***Kel-Tec Rifle, Forward-Ejecting Bullpup, or RFB.*** By reading and following the instructions and warnings included in this instruction manual, you will ensure that your RFB will provide many years of faithful and reliable service.

Description

The RFB is a lightweight, air-cooled, gas operated, auto-loading, forward-ejecting, Bullpup-type rifle that feeds 7.62x51mm NATO cartridges from self contained, detachable, steel, metric FAL box-type magazines. It is completely ambidextrous, using a tilting bolt locking mechanism and short-stroke gas piston to actuate the bolt carrier.



Construction

The RFB is a revolutionary design utilizing aircraft quality components made on state-of-the-art CNC machinery. Every aspect of the design has been thoroughly tested to ensure the utmost in reliability, function, and ease of use.

The RFB has a medium weight barrel made of 4140 Chrome-Molybdenum ordinance grade Steel, with a chrome-lined bore and chamber. Lengths of 18"/457mm and 24"/610mm are available. The rifling rate of twist is 1 turn in 12in./304.8mm. All barrels come threaded to accept 5/8–24 TPI muzzle accessories and 18" models come equipped with an A2-style compensator except where prohibited by law.

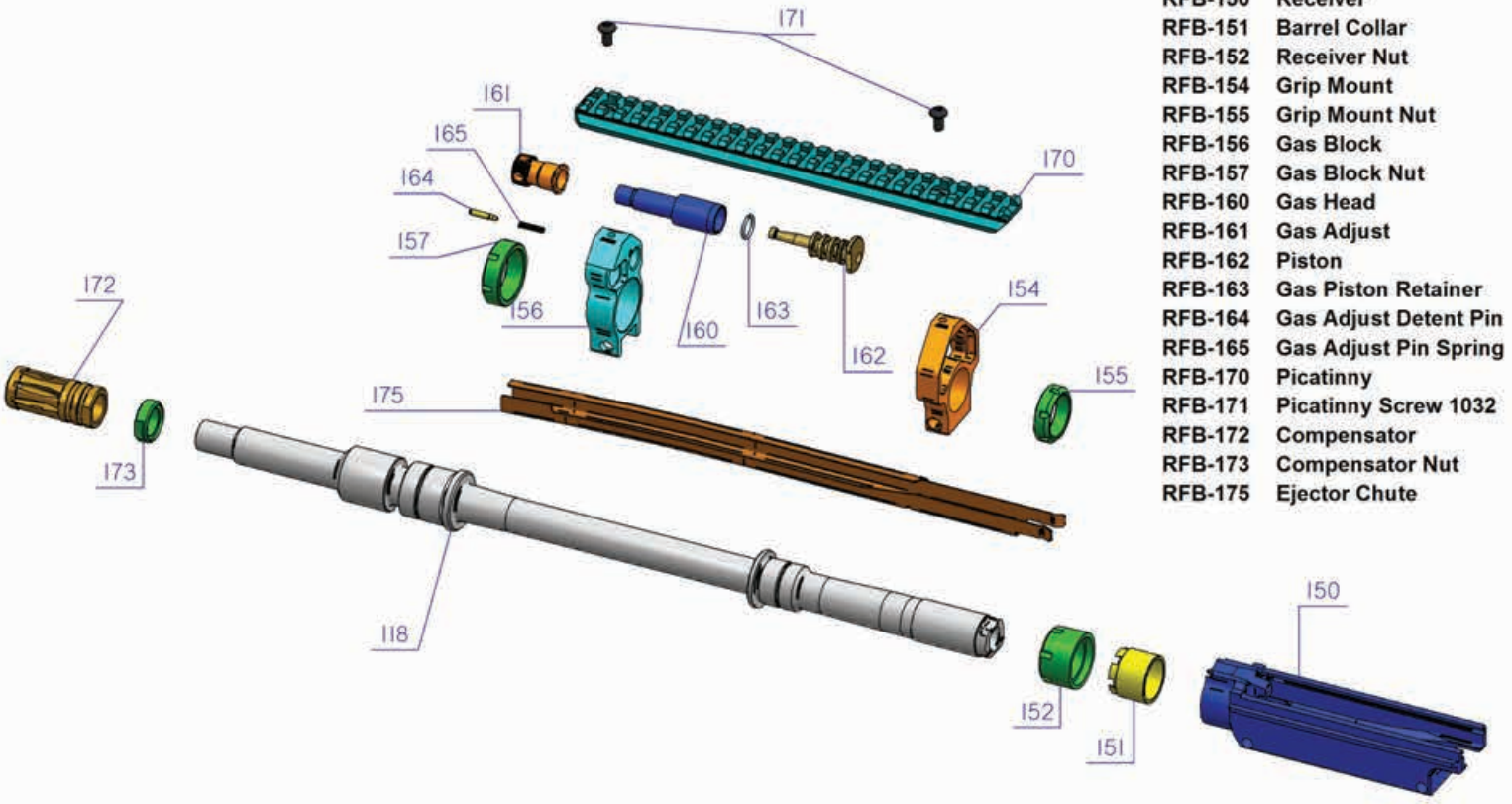
All sheet metal components are made of aircraft quality 4130 steel. The *bolt* and *receiver* are made of 4140 steel. The gas system on the RFB is made of 4140 steel and internally plated. It is designed to be low maintenance and corrosion resistant.

Chart of Design Specifications

Specification	Standard Models	
Caliber	7.62x51mm NATO	
Operating System	Gas Operated, Tilting Bolt	
Firing Modes	Semi-Auto Only	
Magazines Used	Metric FAL style, Self-Contained, Detachable Box type	
Magazine Capacity	5, 10, 20*	
Available Barrel Lengths	18"	24"
Barrel Material	4140 Chrome Molybdenum	
Barrel Features	Medium Weight, Chrome Lined	
Rate of Twist	1 turn in 12"	
Number of Grooves	4	
Overall Length (with compensator)	27.5"	33.5"
Weight, Unloaded	8.6	9.1
Width	2.1"	
Height	7.7"	
Scope Mount	Mil-STD-1913 Picatinny Rail	
Muzzle Velocity**	2690 fps	2880 fps

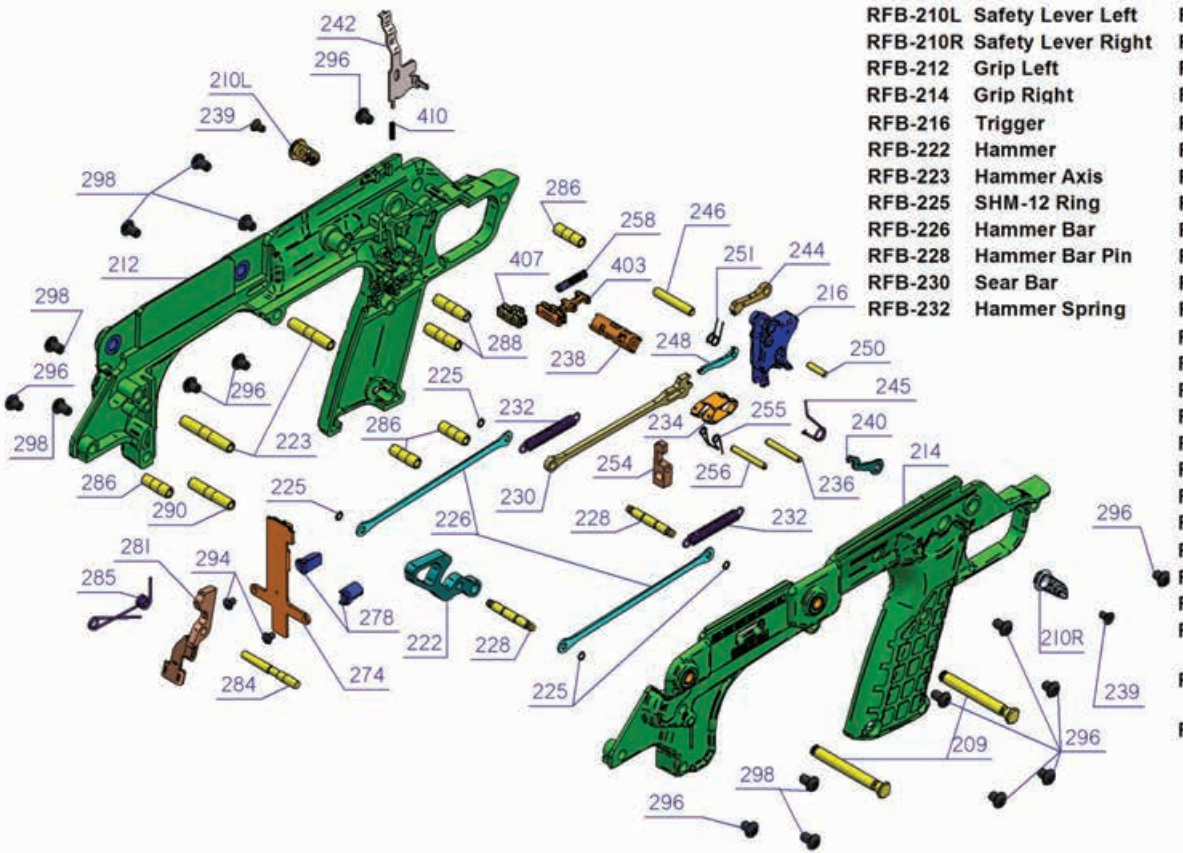
* Magazines Capacities above 20 rounds are not recommend for use.
**Velocities obtained using NATO Mil-Spec ammo loaded with 147 Grn Bullet.

RFB 18 INCH BARREL PARTS LIST



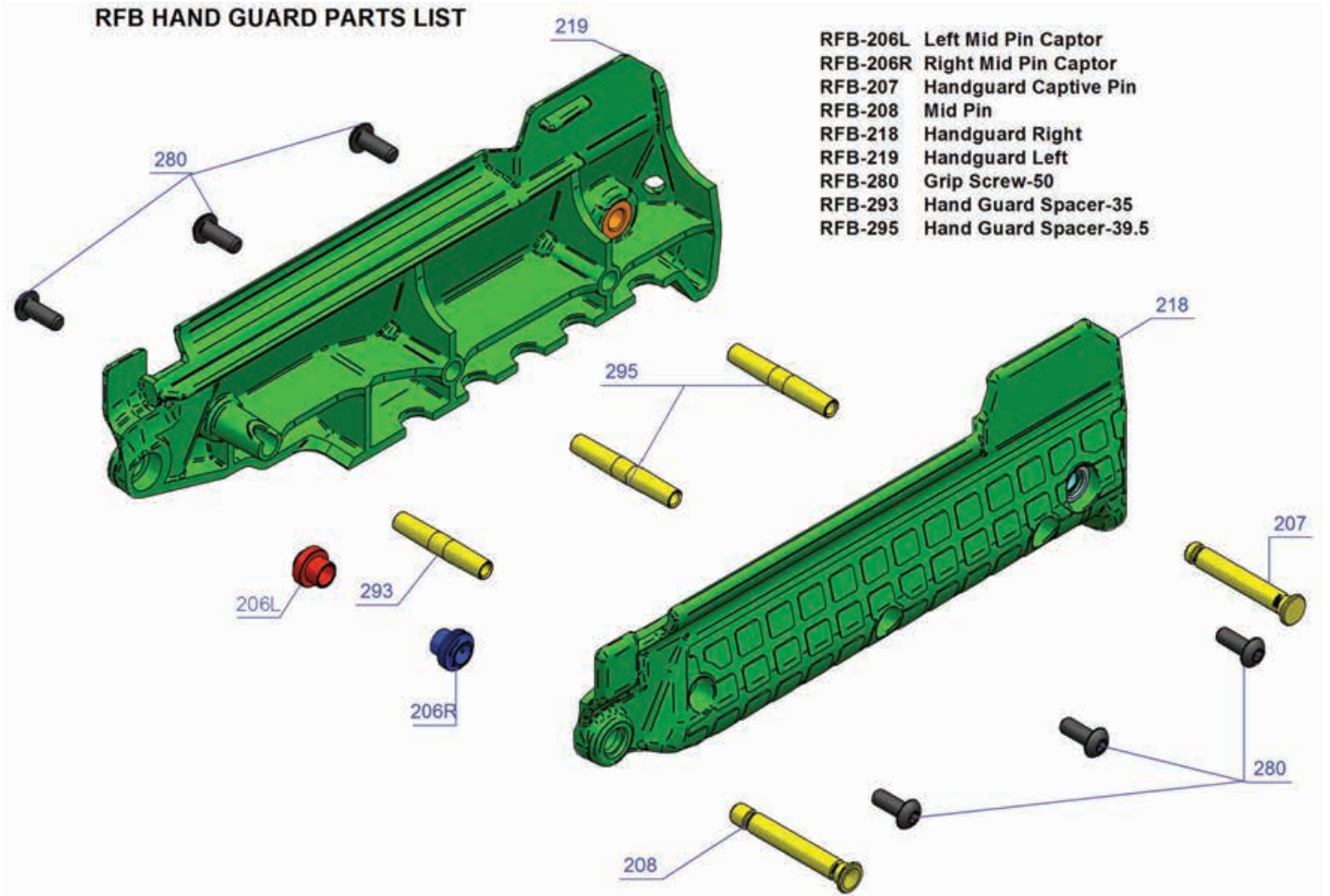
RFB-118	Barrel Carbine
RFB-150	Receiver
RFB-151	Barrel Collar
RFB-152	Receiver Nut
RFB-154	Grip Mount
RFB-155	Grip Mount Nut
RFB-156	Gas Block
RFB-157	Gas Block Nut
RFB-160	Gas Head
RFB-161	Gas Adjust
RFB-162	Piston
RFB-163	Gas Piston Retainer
RFB-164	Gas Adjust Detent Pin
RFB-165	Gas Adjust Pin Spring
RFB-170	Picatinny
RFB-171	Picatinny Screw 1032
RFB-172	Compensator
RFB-173	Compensator Nut
RFB-175	Ejector Chute

RFB GRIP PARTS LIST



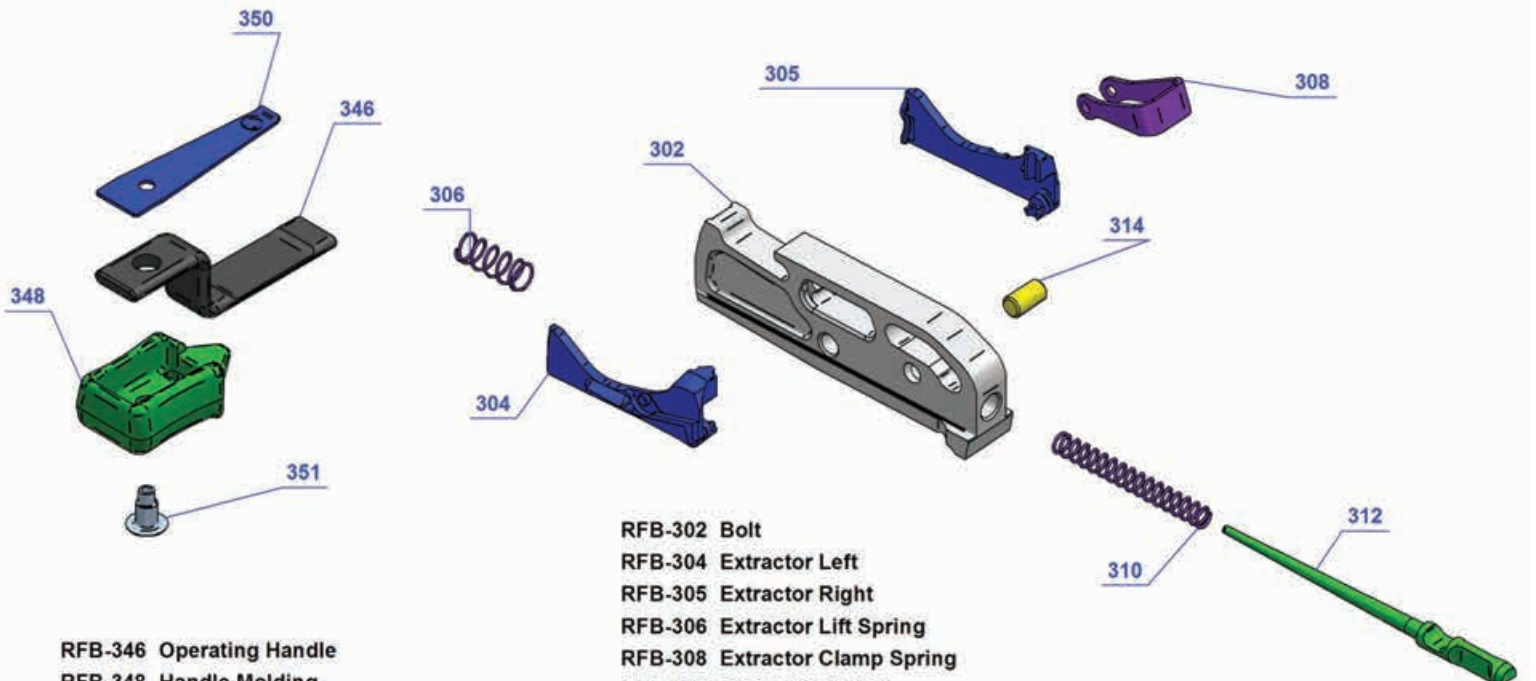
RFB-202L	Pin Captor
RFB-202R	Pin Captor
RFB-204	Pin Captor Washer
RFB-209	Frame Pin
RFB-210L	Safety Lever Left
RFB-210R	Safety Lever Right
RFB-212	Grip Left
RFB-214	Grip Right
RFB-216	Trigger
RFB-222	Hammer
RFB-223	Hammer Axis
RFB-225	SHM-12 Ring
RFB-226	Hammer Bar
RFB-228	Hammer Bar Pin
RFB-230	Sear Bar
RFB-232	Hammer Spring
RFB-234	Hammer Spring Catch
RFB-236	Sear Bar Pin
RFB-238	Safety
RFB-239	Safety Lever Screw
RFB-240	Safety Snap
RFB-242	Disconnector
RFB-244	Sear
RFB-245	Sear Spring
RFB-246	Trigger Axis
RFB-248	Trigger Bar
RFB-250	Trigger Bar Axis
RFB-251	Trigger Bar Spring
RFB-254	Sear Trip
RFB-255	Sear Trip Coil Spring
RFB-256	Sear Trip Axis
RFB-258	Trigger Spring
RFB-274	Bolt Stop
RFB-278	Bolt Stop Grip
RFB-281	Mag Catch Weldment
RFB-284	Mag Catch Axis
RFB-285	Mag Catch Spring
RFB-286	Grip Spacer-19.6
RFB-288	Grip Spacer-24
RFB-290	Grip Spacer-31
RFB-294	Bolt Stop Grip Screw
RFB-296	Grip Screw-25
RFB-298	Grip Screw-3125
RFB-403	RFB-403-Molded Fixed Trigger Front Stop
RFB-407	RFB-407-Molded Fixed Trigger Spring Support
RFB-410	Disconnector Spring

RFB HAND GUARD PARTS LIST



RFB-206L	Left Mid Pin Captor
RFB-206R	Right Mid Pin Captor
RFB-207	Handguard Captive Pin
RFB-208	Mid Pin
RFB-218	Handguard Right
RFB-219	Handguard Left
RFB-280	Grip Screw-50
RFB-293	Hand Guard Spacer-35
RFB-295	Hand Guard Spacer-39.5

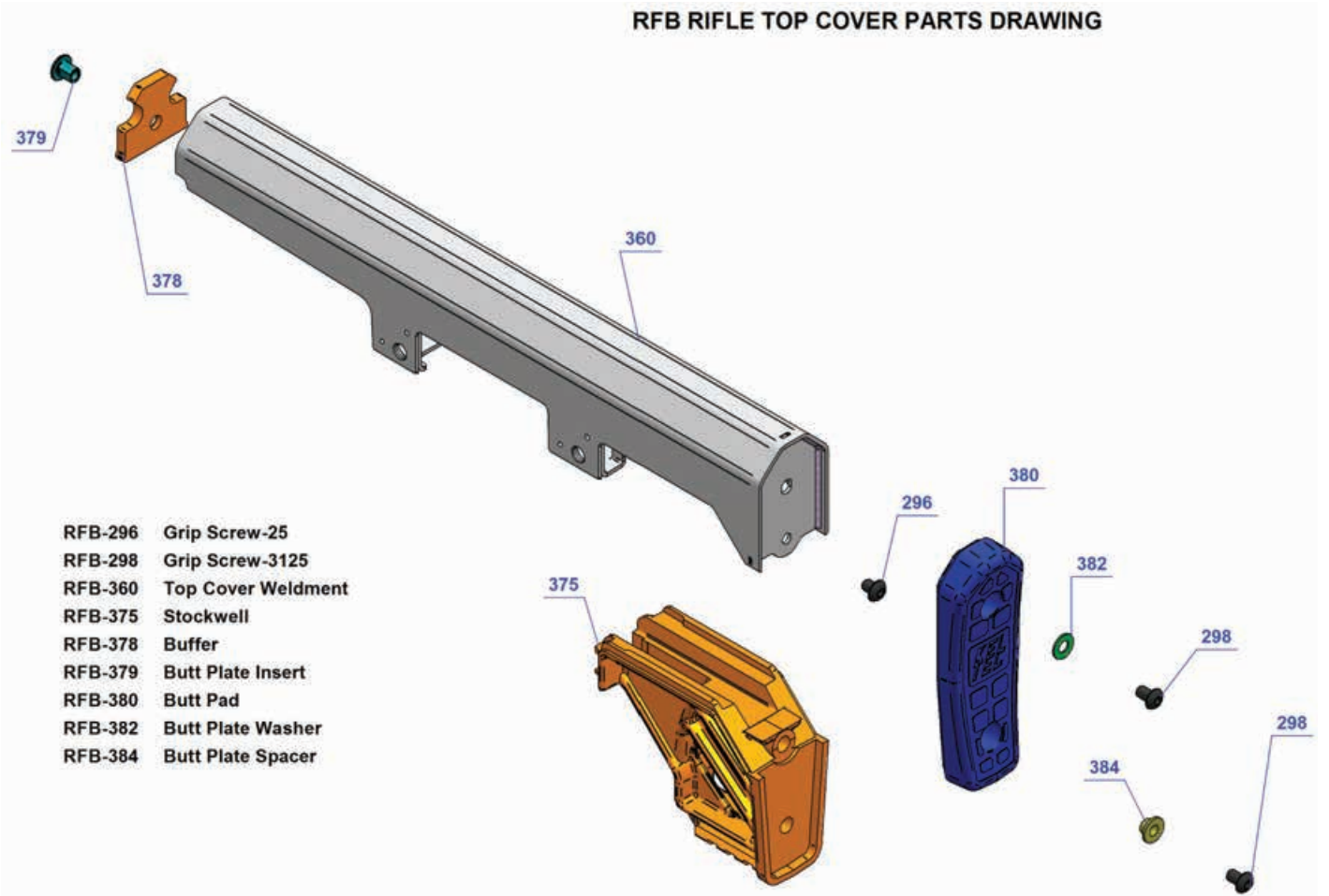
RFB BOLT & OPERATING HANDLE PARTS LIST



RFB-346 Operating Handle
RFB-348 Handle Molding
RFB-350 Handle Snap
RFB-351 Rivet

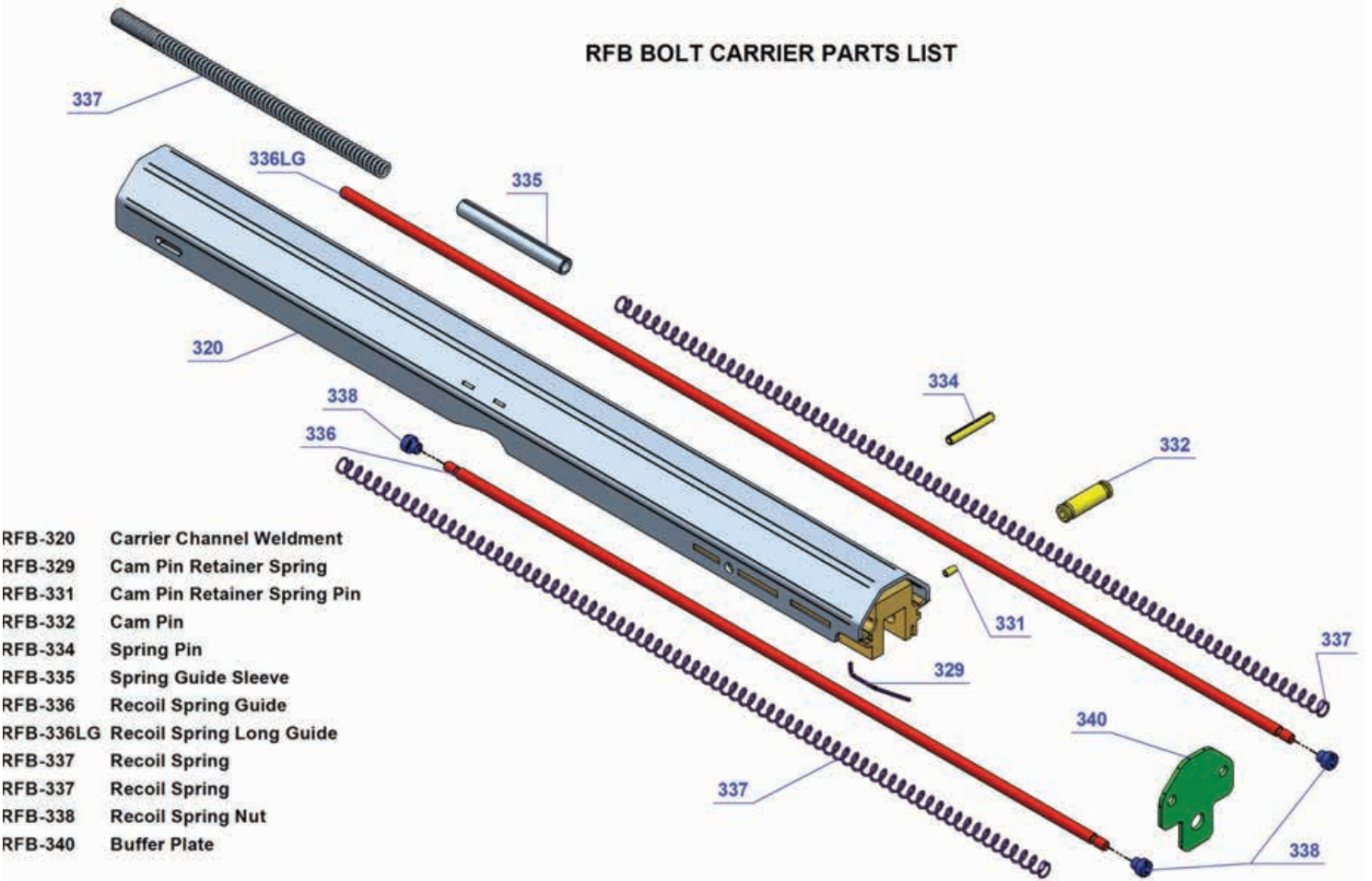
RFB-302 Bolt
RFB-304 Extractor Left
RFB-305 Extractor Right
RFB-306 Extractor Lift Spring
RFB-308 Extractor Clamp Spring
RFB-310 Firing Pin Spring
RFB-312 Firing Pin
RFB-314 Firing Pin Pin

RFB RIFLE TOP COVER PARTS DRAWING



RFB-296	Grip Screw-25
RFB-298	Grip Screw-3125
RFB-360	Top Cover Weldment
RFB-375	Stockwell
RFB-378	Buffer
RFB-379	Butt Plate Insert
RFB-380	Butt Pad
RFB-382	Butt Plate Washer
RFB-384	Butt Plate Spacer

RFB BOLT CARRIER PARTS LIST



RFB-320	Carrier Channel Weldment
RFB-329	Cam Pin Retainer Spring
RFB-331	Cam Pin Retainer Spring Pin
RFB-332	Cam Pin
RFB-334	Spring Pin
RFB-335	Spring Guide Sleeve
RFB-336	Recoil Spring Guide
RFB-336LG	Recoil Spring Long Guide
RFB-337	Recoil Spring
RFB-337	Recoil Spring
RFB-338	Recoil Spring Nut
RFB-340	Buffer Plate

SAFETY INSTRUCTION & PARTS MANUAL
STATEMENT OF LIABILITY

This SAFETY, INSTRUCTION & PARTS MANUAL should always accompany this firearm and be transferred with it upon change of ownership or when the firearm is loaned, issued, or presented to another person. A copy of the SAFETY, INSTRUCTION & PARTS MANUAL is available FREE upon request and can also be downloaded from the Internet at **http://www.keltecweapons.com/**

READ THESE INSTRUCTIONS AND WARNINGS CAREFULLY, BE SURE YOU UNDERSTAND THESE INSTRUCTIONS AND WARNINGS BEFORE USING THIS FIREARM.

This rifle may be classified as dangerous and is surrendered by KEL- TEC CNC INDUSTRIES INCORPORATED with the understanding that the purchaser assumes all liability resulting from unsafe handling or any action that constitutes a violation of any applicable laws or regulations. This firearm is a tool and like any tool it can cause serious injury or death in its misuse. Safety must be the prime consideration of anyone who handles firearms. Kel-Tec firearms are designed to function reliably with proper care and knowledgeable use. Do not use your firearm unless you fully understand these instructions, and the safe operation of your firearm.

The following rules must always be obeyed when handling any firearm:

1. Always treat a firearm as though it were loaded even when you know it's not. Never accept or pickup a firearm without checking the magazine and the chamber to assure the rifle is empty. Do not trust the extractor to clear the chamber, look and feel.
2. Always keep the muzzle pointed in a safe direction at all times. Never point the rifle at anything you are not willing to destroy.
3. Remember to keep the safety on and your finger straight and off the trigger until you are ready to fire.
4. Always be sure of your target, what lies beyond that target, and any obstacles that may surround that target.
5. Never fire a rifle without wearing safety glasses and hearing protection.
6. Keep the rifle unloaded until it is ready for use.
7. Never shoot at any body of water or any surface where a ricochet can occur.
8. When transporting your firearm, be sure it is unloaded.
9. When firing on a target range, be alert and follow the range officer's commands.
10. Make sure any bystanders are always a safe distance behind you when firing and that proper safety equipment is being used by all present.
11. Never take medications, drugs, or alcohol when handling firearms
12. Never cross obstacles such as fences or streams with a loaded firearm.

CAUTION:

After firing more than 40 rounds rapidly, the exposed metal surfaces forward of the *top cover* become *very hot* and can cause painful burns. Use caution when handling. Wait at least one hour for the metal components to cool before attempting disassembly.

Figure 1: This portion gets very hot during prolonged, rapid firing

Do not use cleaning solvents or any lubrication on the rifle while it is hot.

In owning a firearm, you are responsible for the firearm's safety and security. Take steps to prevent children and inexperienced adults from gaining access to firearms without your supervision. Do not allow a firearm to be used by individuals who do not understand its safe operation and the rules of safe gun handling. Never store firearms and ammunition together.

These warnings and instructions are provided to assure the safe functioning of the rifle. Failure to heed these warnings may result in improper functioning and serious injury. Practice safe handling procedures until they become habit.

Safe gun handling is your responsibility! There are no accidents, only user negligence!

Ammunition Use

The Kel-Tec RFB is designed and chambered for 7.62x51 NATO Cartridges ONLY. The caliber is listed on the left side of the rifle above the magazine well. Standard pressure .308 Winchester is acceptable. For an extended explanation of the differences between the 7.62 NATO and .308 Winchester please see Appendix A on pg.43.

Kel-Tec firearms are manufactured from high quality materials to provide extended service life with appropriate maintenance and use. Only use clean, dry, commercially manufactured ammunition in good condition. Never use non-standard, reloaded, corroded, or damaged cartridges. Use of improperly reloaded ammunition may result in case head separations or other serious malfunctions. Never use ammunition where the pressure levels exceed industry standards.

If the gun does not discharge after pulling the trigger, keep it pointed downrange for at least 30 seconds and then unload immediately. This kind of failure to fire could indicate a “hang fire” and the rifle may still discharge after a few moments!

All warranties, expressed or implied, are voided if faulty or inappropriate ammunition is used. Kel-Tec CNC, Inc. will not be liable for property damage or personal injury in such an event.

Exposure to Lead

Bullets and primers contain trace amounts of lead which can be released into the air when firing. Discharging firearms in poorly ventilated areas, cleaning firearms, or handling ammunition may result in exposure to lead and other substances known to cause birth defects, reproductive harm, and other serious physical injury. Have adequate ventilation at all times. Be sure to wash hands thoroughly with soap and COLD water after any amount of exposure.

Maintenance and Care of your firearm

All firearms require periodic maintenance to ensure safe and reliable functioning. Regular cleaning by the owner and periodic inspection by a certified gunsmith is recommended.

Never alter any components of your firearm. Kel-Tec CNC, Inc. cannot assume liability for injuries suffered due to unauthorized servicing, alterations, or modifications of Kel-Tec firearms. Kel-Tec CNC, Inc reserves the right to refuse service on firearms that have been altered or substantially changed in any way. Be sure all accessories are compatible with the firearm and that the accessories do not interfere with safe operation.

Questions? Comments? Concerns?

If you need help in operating any of our products, have any questions about their safe handling, need something repaired, or you just want to tell us what you think, please write or email us at:

KEL-TEC CNC INDUSTRIES INC
1505 Cox Road
Cocoa FL 32926
Telephone Number: 321-631-0068
Toll free: 1-800-515-9983
Phone Hours: M-F 9am-3pm EST
Website: http://www.keltecweapons.com/
Email: customerservice@kel-tec-cnc.com

How the RFB Works

A loaded magazine is inserted straight up, not tilted, into the rifle's magazine well until a "click" is heard.

Figure 3: Insert the magazine straight up

To ensure proper seating, firmly smack the base of the magazine with the palm of your hand. To load the rifle, pull back on the charging handle and release it.

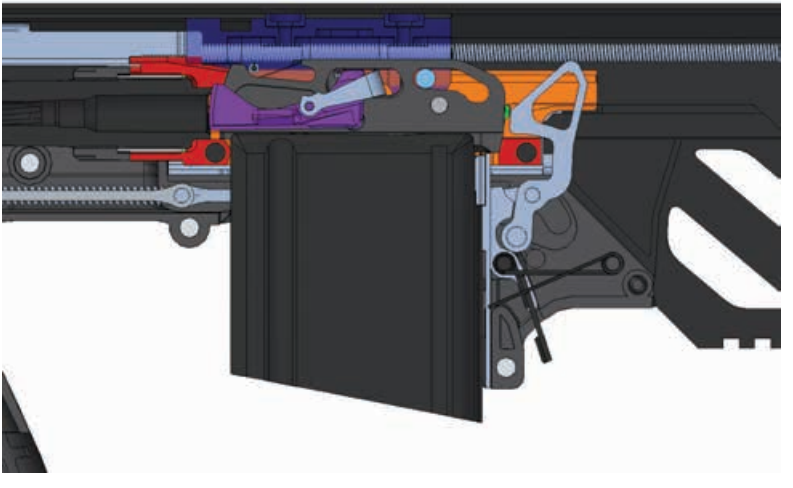


Figure 4: The bolt is locked and the hammer is down before the action cycles

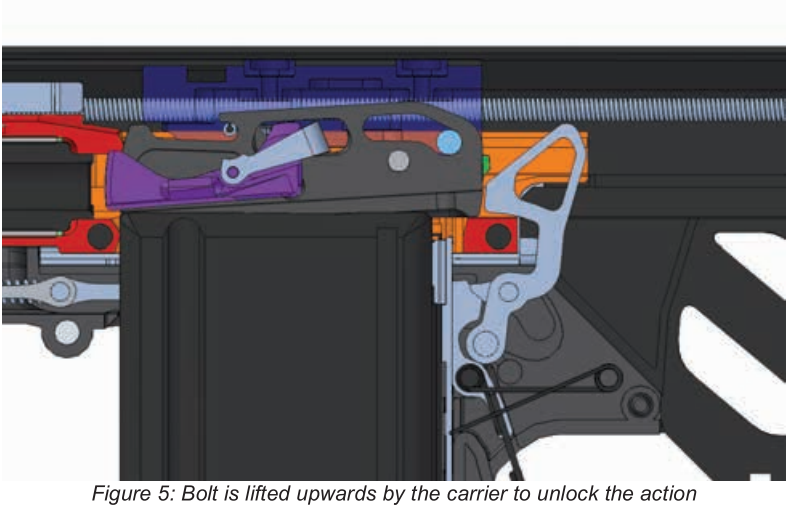


Figure 5: Bolt is lifted upwards by the carrier to unlock the action

Figure 6: Pull back the charging handle shown here in orange

Figure 7: DO NOT RIDE THE CHARGING HANDLE! Release it at its rear most point

Charging allows the bolt to push a round out of the magazine and into the chamber while simultaneously cocking the hammer.

Figure 8: The charging handle is fully to the rear and ready to be released

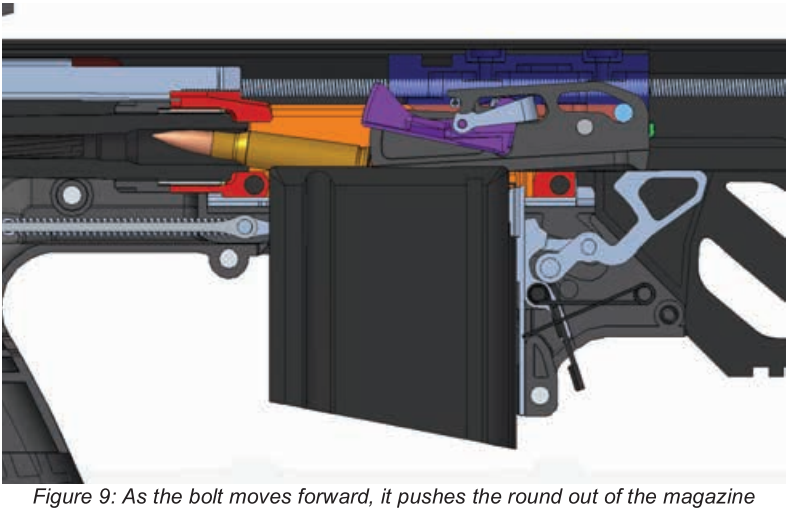
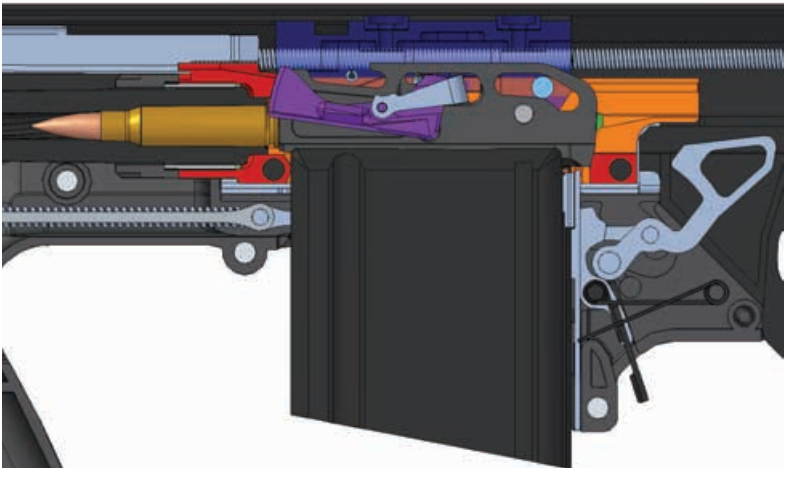
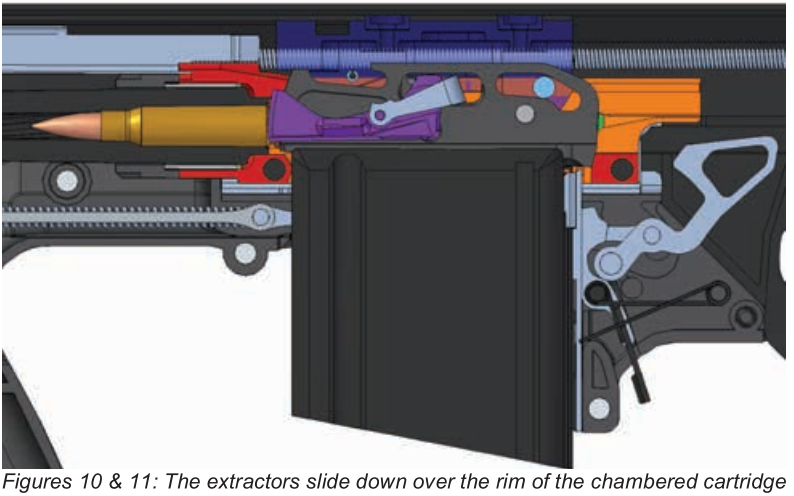


Figure 9: As the bolt moves forward, it pushes the round out of the magazine

When the *bolt* has traveled to its forward most position, the *bolt's* rear will be tilted downward against a locking surface in the receiver. Simultaneously, the *extractors* will be cammed down. The *extractors* will then slide downward over the rim of the chambered round and grasp it firmly.





Figures 10 & 11: The extractors slide down over the rim of the chambered cartridge

After the shooter acquires a proper sight picture on the target, move the selector from “S” for “Safe” to “F” for “Fire”. Pulling the trigger will actuate the sear trip that releases the *sear bar linkage* containing the *hammer springs*.

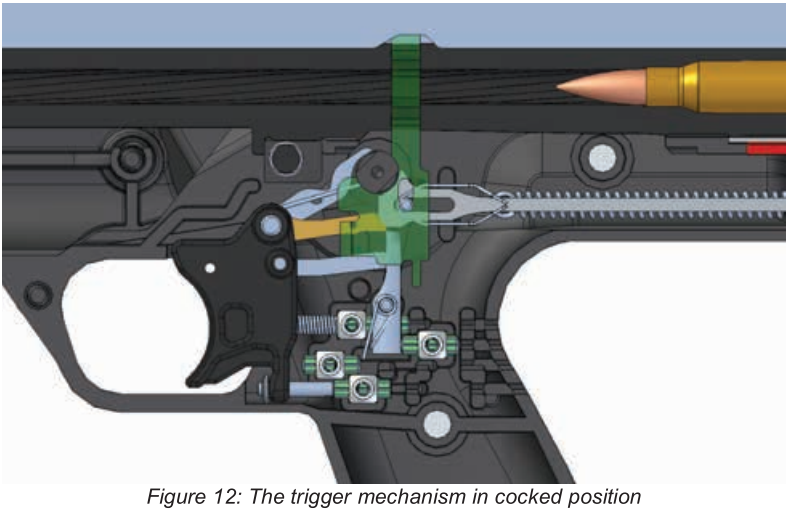
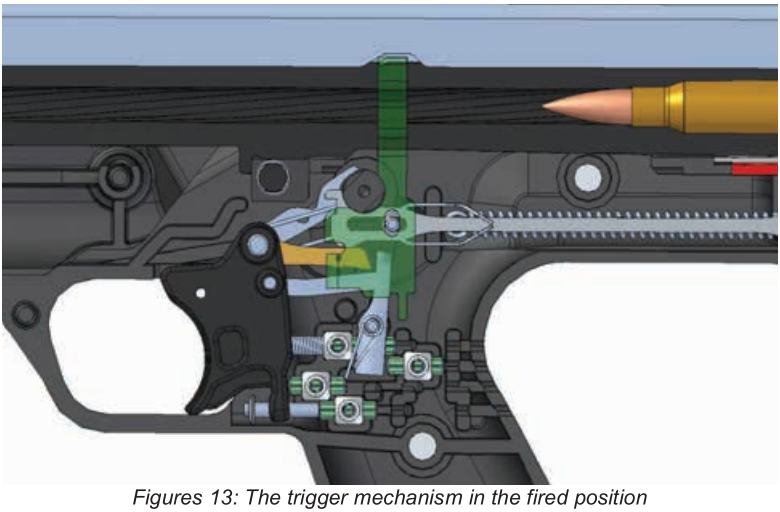


Figure 12: The trigger mechanism in cocked position



Figures 13: The trigger mechanism in the fired position

The *sear bar linkage* will pull the *hammer* in an upward arc, causing it to strike the *firing pin* protruding from the rear of the *bolt*. The *firing pin* will travel forward a short distance and compact the primer.

Figure 14: The bullet begins its journey down the bore

As the propellant burns, it creates gas and rapidly increases the pressure to around 50,000 PSI, causing the brass cartridge case to expand and create a seal in the walls of the chamber. This pressure causes the bullet to travel down the barrel at an ever-increasing rate of speed. After the bullet has traveled approximately 11 inches (280mm) down the barrel, the gas will enter a small orifice on the inside wall of the bore of the barrel, which leads to the gas system.

Figure 15: As the bullet passes the gas orifice in the barrel, burning gas enters the gas system

The pressure will quickly increase inside the gas system even as it begins to vent out of the front of the *gas head*. The gas will begin to push the short stroke *piston* rearward. By this time, the bullet has made its exit from the rifle's muzzle.

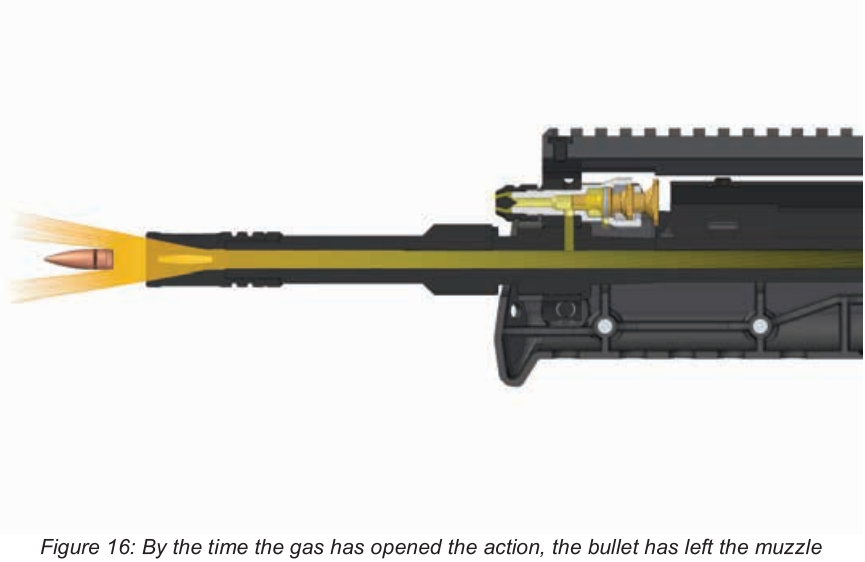


Figure 16: By the time the gas has opened the action, the bullet has left the muzzle

The short stroke *piston* will push back on the *bolt carrier* causing it to lift the rear of the *bolt* out of contact with the receiver's locking shoulder that keeps the breech closed during firing.

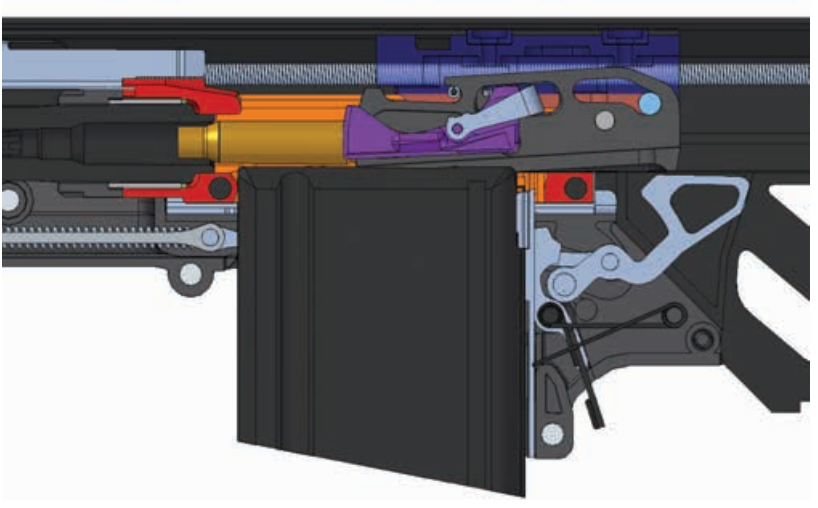


Figure 17: The extractors pull the fired casing from the chamber

The *bolt* is now free to travel backwards with the *bolt carrier*. As it moves backwards, the *extractors* will pull the fired brass from the chamber and begin to cam it upwards, pointing the brass at a twelve to fifteen degree angle towards the *ejection chute* ramp.

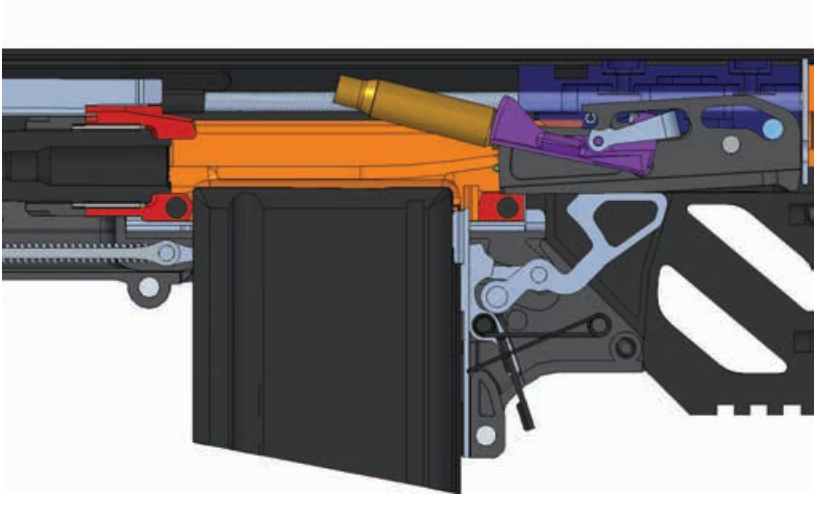


Figure 18: As the bolt travels backwards, the extractors lift the casing upwards

When the bottom of the forward edge of the *bolt* travels far enough back to clear the rim of the next cartridge in the magazine, the next round is forced up by the *magazine spring* and is ready to be pushed into the chamber.

After the *bolt* and *bolt carrier* have reached their rearmost point of travel, the *recoil springs* will begin to push the assembly forward. This will cause the previously fired brass to come into contact with the *ejection chute* ramp while simultaneously pushing the next round forward out of the magazine and into the chamber.

The empty brass continues forward through the *ejection chute* and out through the ejection opening in the *gas block*.

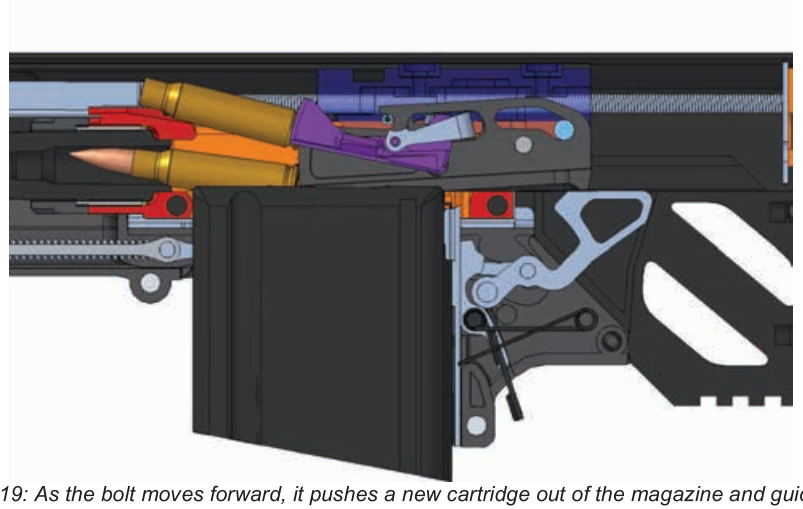


Figure 19: As the bolt moves forward, it pushes a new cartridge out of the magazine and guides the fired casing up the ejection ramp

The rim of the fired brass will slide out of the *extractors* as it bears against the ramp and into the *ejection chute*. Once freed, the *extractors* will slide down over the rim of the newly chambered cartridge and the rifle will once again be ready to fire.

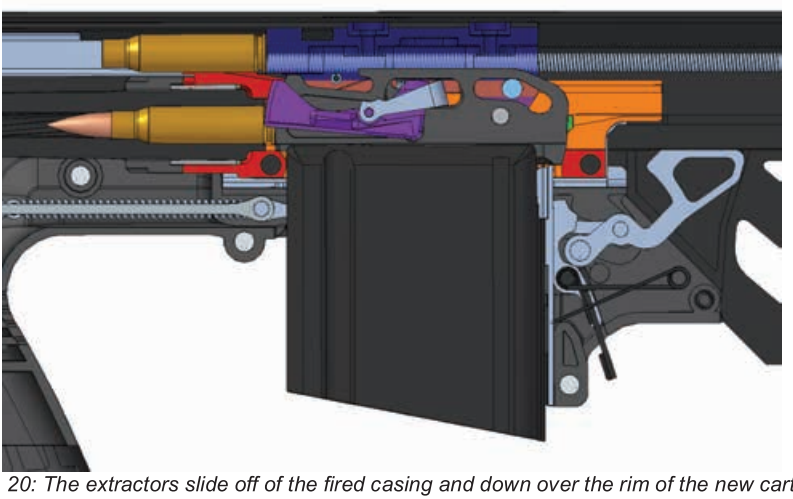


Figure 20: The extractors slide off of the fired casing and down over the rim of the new cartridge

It takes less than one-tenth of a second from the time the trigger is pulled until the next round is fully chambered. After the last round is fired, the *bolt stop* will hold the *bolt* open with the last fired case held in the *extractors*, ready to be ejected when the *bolt stop* is released.

Use and Mounting of a Sling

The RFB comes equipped with forward attachment points on the left and right sides of the handguard as well as a single rear attachment slot that mounts from either side. The different sling attachment points on the RFB should be used to mount a standard 1 ¼" Wide Nylon Sling. Accessory sling swivel posts are also available from Kel-Tec for those who wish to use different sling styles.

To mount the sling:

1. Slide the following onto the end of the 1 ¼" sling in this order: plastic keepers, metal sliders, and swivel assembly. Repeat this with the other end of the sling minus the swivel assembly. The swivel assembly end will mount to the RFB handguard and the other to the rear of the RFB. The resulting configuration should resemble *Figure 21: Prepare Sling for Mounting.*

Figure 21: Prepare Sling for Mounting

2. For the swivel assembly end, thread the sling through the slider and plastic keeper. For the rear-mounting end of the sling, slide the free end around the molded post in the RFB buttstock before threading through the slider and plastic keeper. The resulting configurations should resemble *Figure 22: Thread Sling through Retaining Pieces.*

Figure 22: Thread Sling through Retaining Pieces

3. To mount the swivel assembly to the RFB handguard, it will be necessary to lower the RFB handguard by removing the handguard assembly pin. Once the handguard is lowered, attach the included Nylock nut to the swivel assembly screw to secure it to the handguard as shown in *Figure 23: Secure Swivel Assembly to Hanguard with Nylock Nut.*

Figure 23: Secure Swivel Assembly to Hanguard with Nylock Nut

4. Test sling for function and adjust according to preference.

Figure 24: Sling Mounting Points on Handguard

Loading and Firing

After confirming that the rifle is properly assembled and in good working order, ensure the rifle is on "S" for Safe and load the appropriate amount of 7.62 NATO ammunition into the magazine to be used. Insert the magazine into the *magazine well* with a firm upward thrust. A tilting action is not required to seat the magazine into the RFB. Using the palm of your hand, give the magazine's floor plate a firm smack and then a gentle tug to guarantee the magazine is fully seated.

Figure 25: Smack the base of the magazine with the palm of your hand

Pointing the rifle in a safe direction and with the safety on, pull back the *charging handle* and release it to chamber a round. Do not ride the *charging handle*. Take a proper shooting position and acquire a target. Move the *safety selector* from "S" for "Safe" to "F" for "Fire" to ready the rifle for use. Gently squeeze the trigger to fire the rifle.

Figure 26: Move the safety selector from Safe to Fire

On FAL Type Magazines

The RFB uses magazines that were originally designed for FN's Fusil Automatique Leger ("Light Automatic Rifle") or FAL rifle. These magazines have been made in a dozen countries or more over the last half century and, as a consequence, vary widely in their dimensions and specifications. The most common of the FAL style magazine is the "Metric Pattern", which is used in the RFB. The "Inch Patten" FAL Magazines of British, Canadian, Australian origin will normally not work without modification to the front tab.

Most malfunctions can be attributed to faulty, damaged, or dirty magazines. If you have experienced any functioning problems with your RFB, make a note as to which magazine the problem occurred, then repair or replace that magazine as soon as possible. Kel-Tec CNC, Inc. does not warranty repairs due to malfunctions caused by aftermarket magazines.

To Adjust the Gas System

The gas system may require adjustment for a variety of reasons, such as different ammunition, change in environmental conditions, fouling and carbon build-up from improper or infrequent cleaning, or moving to a less stable shooting position. To find the optimum gas system setting, ensure that the *gas adjust* is cool enough to touch, and then turn it *clockwise* until it is completely bottomed out and closed.

Note: The bottom or closed position will not always align a slot on the regulator with the *detent pin*.

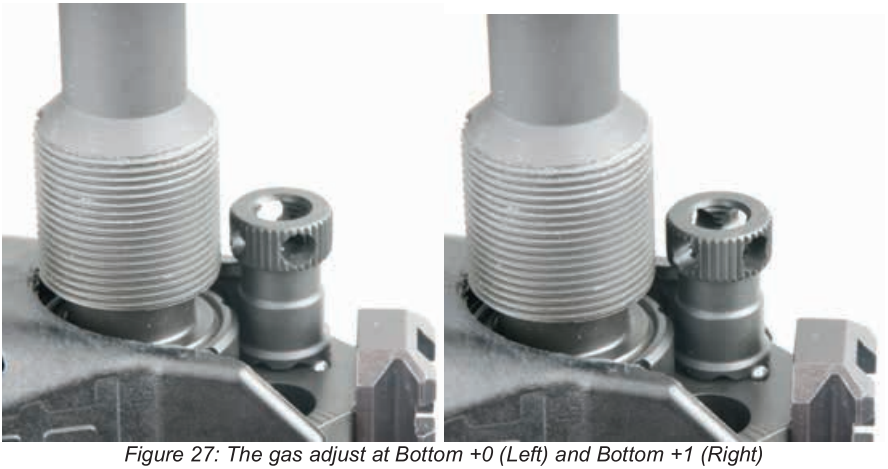


Figure 27: The gas adjust at Bottom +0 (Left) and Bottom +1 (Right)

The first slot that it aligns with is called Bottom. When you have found the bottom most position, turn the regulator *counter clockwise* to Bottom +40 (more than one full turn) to open it up. This is normally not enough gas to allow the rifle to function in most environments. While on the firing line at a range, load **ONE** round into the magazine and fire the rifle as you would normally, making sure all safety rules are followed. When the rifle fires, the *bolt stop* should be automatically activated by the emptied magazine's *follower*.

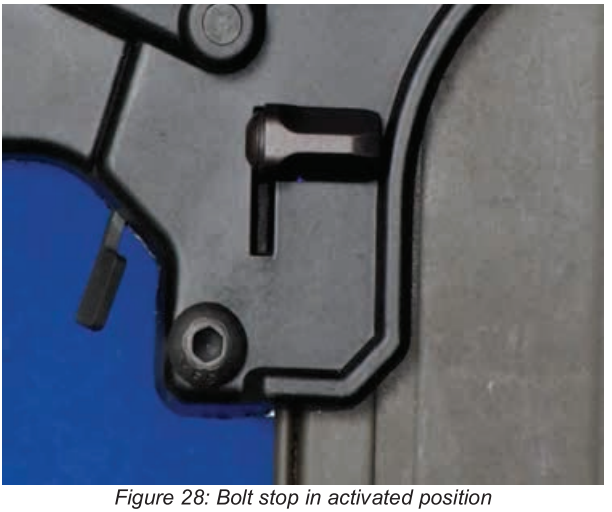


Figure 28: Bolt stop in activated position

If it is not, ensure the rifle is unloaded and turn the *gas adjust clockwise* one position to Bottom +39 and repeat the test until the *bolt stop* activates from your chosen shooting position with your selected ammunition. Close the *gas adjust* 1 or 2 more clicks. This will ensure reliable function with the minimum amount of recoil necessary to operate the action. If the *gas adjust* becomes too hot or too fouled to adjust by hand, you may use the tip of a 7.62 NATO round to turn the gas adjust.

Figure 29: Use the tip of a cartridge to turn the gas adjust

Adjusting the Gas System for Suppressor Use

When using a suppressor on your RFB, it will be necessary to adjust your gas system in order to function with the increased backpressure created by the suppressor. We recommend setting the *gas adjust to* Bottom +48 (six turns).

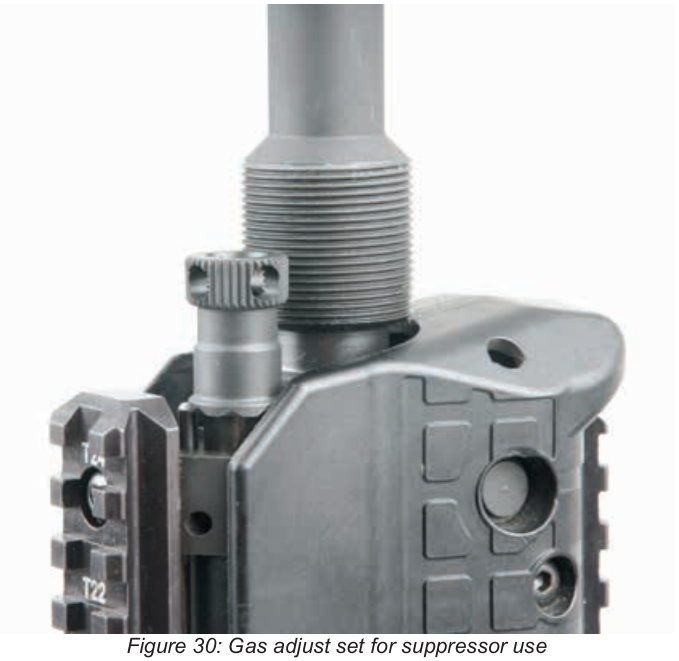


Figure 30: Gas adjust set for suppressor use

This will reduce pressure in the system enough to allow proper functioning without excessive recoil on operating components.

Note: When using a suppressor with the RFB, it will be necessary to perform cleaning operations and basic maintenance more frequently.

Unloading and Clearing the Rifle

It will be necessary to unload your RFB for storage, transportation, and disassembly purposes. To unload the RFB, first ensure that the selector is on safe. Keeping the rifle pointed in a safe direction and your finger off of the trigger, remove the magazine by pressing the magazine release and pulling out the magazine. Resting the butt of the RFB against your hip, pull back the charging handle with your support hand and maintain tension on the charging handle. With the rifle supported in this way, carefully reach back and move the bolt stop upward, and slowly relax tension on the operating handle to lock the bolt open. Grasp the center of the rifle between the pistol grip and the magazine well and turn the rifle over.

Use your support hand to push on the bottom of the *bolt stop* to ensure that it does not close on your fingers, inspect the inside of the rifle and make sure that there is no live ammunition or brass cases in the extractors or chamber. If a case is held by the extractors, manually cycle the action to eject it from the ejection chute. If the case is damaged or will not eject, hold the bolt stop open and press on the case body to free the case from the extractors, then turn the rifle over to allow the case to fall free.

Field Stripping

If the rifle has been fired, wait at least one hour for the metal components to cool before attempting disassembly. Do not use cleaning solvents or lubrication on any metal surfaces while the rifle is hot. The rifle should be pointed muzzle down at all times during disassembly. Do not point the rifle upward when disassembled, as resting it on the cocked hammer and the firing mechanism may potentially damage them.

Figure 31: DO NOT rest disassembled rifle on the hammer!

In order to field strip the RFB for cleaning, first be certain that the rifle is unloaded by removing the magazine and cycling the action. Then follow the unloading and clearing procedure above. After checking the chamber, allow the *bolt* to go forward and place the rifle muzzle down on a non-marring surface. Do not dry fire the rifle, as the dropped hammer will prevent disassembly. Using the nose of a dummy cartridge or similar object, push both of the *rear assembly pins* from the left side.

Note: Do not use excessive force on the *assembly pins*! Pull the pins out of the right side as far as they will go.

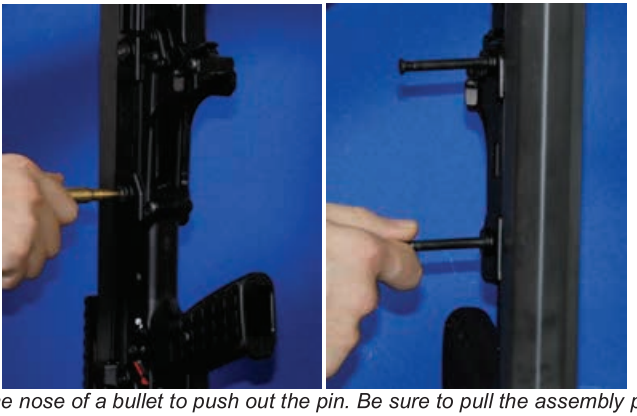


Figure 32: Use the nose of a bullet to push out the pin. Be sure to pull the assembly pins out as far as they will go

Giving a firm downward slap on the back of the pistol grip will rotate the grip downwards, exposing the receiver. If the grip does not rotate down, verify that both *assembly pins* are out all the way and that the *hammer* is cocked, then try again.

Figure 33: After the pins are pulled out, slap the back of the pistol grip to open the assembly

Now, remove the top cover and buttstock assembly by firmly grasping the buttstock and pulling straight off.

Figure 34: When the action is opened, pull the top cover off

Pull back the *bolt carrier assembly* by the *charging handle* until it reaches the clearance slot in the handguard.

Figure 35: Pull the charging handle back until it aligns with the slot in the handguard to remove it

Grasp the receiver and the *bolt carrier assembly* with one hand and pull the *charging handle* out with your free hand as shown in Figure 37.

Figure 36: While grasping the carrier and receiver, pull the charging handle straight out to remove it

Pull the *bolt carrier assembly* past the *grip mount* to remove it from the rifle.

Figure 37: Once the charging handle is removed, pull out the carrier assembly

The *rear assembly pins* may be pushed back into their housing, keeping the assembly from closing. The *hammer* may prevent a cleaning rod from entering the chamber if the *rear assembly pins* are aligned with the holes in the receiver as when the rifle is assembled.

The *forward assembly pin* may be pushed free with a dummy cartridge in the same way as the *rear assembly pins* in order to give access to the *gas system* and *ejection chute*.
Note: Do not use excessive force on the *assembly pins*!

Figure 38: Use the nose of the bullet to push out the forward assembly pin

After the pin is pulled out as far as it will go, firmly grasp the handguard with one hand and the barrel with the other. Pull the handguard away from the barrel. Do not pull on the *forward assembly pin* for leverage as this may damage the pin.

Figure 39: Grasp the barrel with one hand and pull down the handguard

The central assembly pin may be pulled out to remove the grip and handguard assembly from the barrel assembly for cleaning and maintenance. Disassembly of the grip is NOT recommended. To thoroughly clean the inner crevices of these assemblies, use a polymer-safe sprayable gun cleaning solution and coat all surfaces. Allow several minutes for the cleaner to soften accumulated fouling, and then use compressed air to blow out dirt and particles. Use rags and cotton swabs to clean accessible exposed surfaces. Spray light oil onto metal components to prevent corrosion.

With the handguard pulled away from the barrel, gently press on the right side of the chute in the space underneath the *sight rail* and behind the *gas block* to remove the *ejection chute*.

Figure 40: Push the ejection chute on the right side to remove it

This will allow the *ejection chute* to be pulled forward and free of the rifle.

Figure 41: Pull the ejection chute forward to remove it

Removing the Bolt from the Carrier Group

The *bolt carrier group* may be disassembled into its individual components for periodic maintenance and cleaning. After the *bolt carrier group* has been removed from the rifle during field stripping, the *bolt cam pin* may be pushed out from the right side using the nose of a dummy cartridge. No further disassembly of the carrier group is necessary or advisable.

Figure 42: Push out the cam pin with the nose of a bullet

The pin should remain captive in the carrier. The *bolt* is now free of the *bolt carrier group*.

Figure 43: With the pin pushed out, the bolt is easily removed

Firing Pin Removal and Extractor Inspection

It will be necessary to periodically remove the firing pin for cleaning and inspection. Take the bolt and press the rear of the firing pin against a hard, flat surface to compress the firing pin spring. Take a punch or the nose of a bullet and press out the *firing pin retaining pin.*

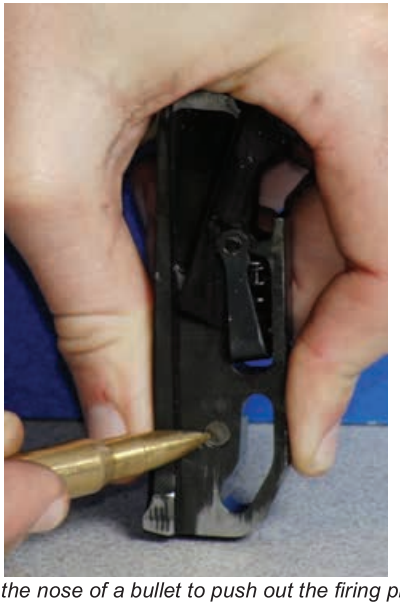


Figure 44: Use the nose of a bullet to push out the firing pin retaining pin

Slowly reduce the downward pressure against the bolt to release the firing pin. Check to ensure the extractors are not damaged or broken. Take an empty case and insert the rim into the extractors and make sure that the extractor spring smoothly lifts the empty case upward without resistance. Check that the *extractor clamp spring* is properly aligned with the slots on the *extractors*. Any further *extractor* disassembly or maintenance should be conducted only by an experienced Armorer or Gunsmith.

Clean and lightly lubricate all surfaces of the *bolt* and *bolt carrier assembly* in order to maintain proper functioning. Reassemble the *bolt carrier group* in reverse order. Be certain to have the *extractors* in the lowered position in order to hook the top of the *bolt* into the *carrier*. The *cam pin* may then be pressed in to hold the *bolt*. The *extractors* must then be pushed into the up position to allow the insertion of the *bolt carrier group* into the receiver.

Switching the Charging Handle for Left or Right Hand Use

The RFB is a fully ambidextrous design. All necessary controls can be accessed by either a right-handed or left-handed shooter, except for the *charging handle*, which can be mounted on either the left or right side of the *bolt carrier* during reassembly. It may be advisable to mount the charging handle on the strong side or dominant hand side to prevent obstructing the view of the target.

To switch the *charging handle*, pull out the *forward assembly pin* and lower the handguard. Remove the *charging handle* by pulling it straight out. Insert the *charging handle* on the side you prefer, close the handguard, align the assembly pin hole with the hole in the *gas block*, and press in the pin.

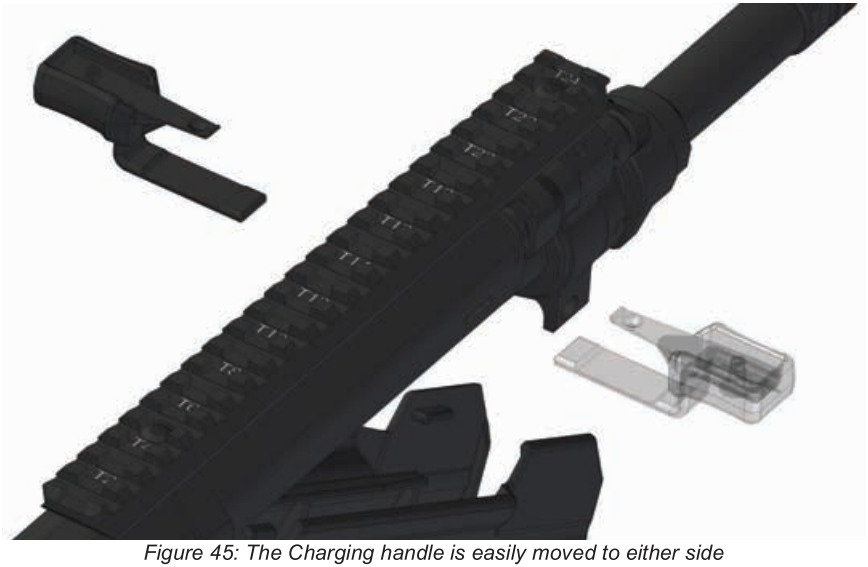


Figure 45: The Charging handle is easily moved to either side

Disassembling the Gas System

To remove the *gas piston* for cleaning, first ensure that the rifle is cool and unloaded. Next, remove the *top cover* and *carrier channel*. Rotate the *handguard* downwards to gain access to the gas piston. Gently pry the piston backwards to its fully open position.

Figure 46: Note the piston has a slot for correct alignment

Figure 47: Wiggle the piston to remove

Warning: Never fire your RFB with the Gas Piston removed or improperly installed. Failure to properly install the Gas Piston may result in serious injury.

The *gas adjust* must also be removed for periodic cleaning. First, ensure that you know how many slots up from the bottom, or closed, position you have your gas system set to and make a note of it. For example: Bottom +7. Now twist the *gas adjust* open until it comes off.

This pin is captive, so it should not be necessary to remove the pin and spring during regular cleaning. The *gas system* is now ready to be cleaned. Be sure to remove all lubricants and cleaning solvent residue before reassembly. Reassemble in reverse order.

Figure 48: The gas restrictor cap is disassembled and ready to be cleaned

Reassembly of the RFB

To reassemble the RFB after field stripping, first pull the *front assembly pin* to the open position. Confirm that the *gas system* has been properly reassembled and that the *gas piston* is properly installed and is flush with the *gas head* in the closed rotation. Take the *ejection chute* and insert it through the opening in the *grip mount*. Align the tabs at the rear of the chute with the slot on the front of the receiver at the top of the ejection ramp. Slide the front of the *ejection chute* into the slot on the *gas block*. Close the handguard and ensure that the pin hole on the *gas block* is aligned with the pin hole in the handguard. Then push in the *forward assembly pin*.

Now take the *bolt carrier group* and lay it on top of the receiver. Slide it into the *grip mount*. If the bolt is hanging down, swing the bolt up and hook it to the carrier, and move the extractors up. The *extractors* must be in the up position.

Figure 49: Be sure that the extractors are in the up position and that the rear of the bolt aligns with the carrier before insertion into the receiver

Slide the *carrier group* forward until the slot for the *charging handle* is just past the edge of the *grip mount*.

Figure 50: Align the hole on the carrier to the slot in the handguard to reinstall the charging handle

Install the charging handle on the side you prefer. Now, pushing up on the bottom of the *bolt* and keeping it forward in the carrier, gently slide the carrier group home. DO NOT FORCE FORWARD IF RESISTANCE IS FELT! THIS WILL CAUSE THE BOLT TO JAM! The *bolt* should be pushed forward with the rear of the *bolt* aligning to the rear of the carrier at all times.

Slide the t*op cover* over the *bolt carrier group* and receiver. Pull out the *rear assembly pins* to their open most position. Slightly compress the *recoil springs* by pressing against the butt on the *top cover* and close the grip assembly. Look to see that the holes of the *grip assembly*, *top cover*, and receiver

are fully aligned and push in the *rear assembly pins*. Cycle the action to verify proper function. The rifle is now assembled.
Note: Do not use excessive force on the *assembly pins*!

Questions? Comments? Concerns?

If you need help in operating any of our products, have any questions about their safe handling, need something repaired, or you just want to tell us what you think, please write or email us at:

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Website: http://www.keltecweapons.com/
Email: customerservice@kel-tec-cnc.com

Trouble Shooting Guide:

Problem:	When I pull the trigger, the hammer does not release.
Possible Cause:	Disconnector is stuck down.
Solution:	Disassemble the rifle and ensure that the Disconnector is not damaged or blocked by debris. Use compressed air to clean trigger group of dust and obstructions.

Problem:	When firing, the bolt and carrier will not return to battery because it's "stuck open".
Possible Cause:	Rifle has double fed.
Solution:	Select a different magazine. FAL magazines have been produced in dozens of countries over the last fifty years and many have seen hard use. Some may not work with every gun in which they are used. Be certain to test every magazine you buy for reliability before you use the rifle.

Problem:	When I attempt to chamber a round it will not feed from the magazine.
Possible Cause:	Magazine is not properly seated.
Solution:	Lock open the action using the *bolt stop*. Remove the magazine. Clear any loose or partially fed rounds. Reinsert the magazine. Firmly smack the bottom of the magazine to ensure it is properly seated. Attempt to chamber a round. Down loading the magazine by one or two rounds will make seating easier. If this is unsuccessful, select a different magazine.

Problem:	Failure to extract/empty case is still in chamber.
Possible Cause 1:	Extractor spring clamp has broken or come out of alignment.
Solution 1:	Unload and disassemble the rifle. Closely inspect the extractor tips and the *extractor spring clamp*. If the clamp is simply out of alignment, use a slotted (flat head) screwdriver to seat them back in the holes on the rear of the extractors. If the *extractor spring clamp* is damaged or broken, the rifle will require service by a qualified gunsmith.
Possible Cause 2:	The gas system is set too low for the ammunition, magazine, or shooting position selected.
Solution 2:	Adjust the *gas system regulator* clockwise one position. Load one round into a magazine, insert magazine, chamber round and fire. The bolt should lock back, if not repeat this process until it does. This will be the proper gas setting.

Problem:	Rifle has excessive recoil.
Possible Cause:	Gas System is adjusted too high.
Solution:	Adjust the *gas system regulator* by turning it counterclockwise the appropriate amount of positions. Check for function by loading one round in the magazine and firing until the bolt holds open. The lowest position on which the bolt locks open consistently after the last shot is the highest setting necessary for proper operation.

Problem:	Bolt stop does not engage after the last round is fired.
Possible Cause 1:	The magazine follower is too short to activate the bolt stop.
Solution 1:	Select another magazine. FAL magazines have a wide variance in tolerance and not all magazines will function properly in every firearm.
Possible Cause 2:	Gas System is adjusted too low.
Solution 2:	Adjust the *gas system regulator* clockwise one position. Load one round into a magazine and insert it into the rifle. Chamber round and fire. Repeat adjustments until bolt locks open consistently.
Possible Cause 3:	Magazine spring is excessively weak and is not strong enough to lift bolt stop.
Solution 3:	This magazine spring must be replaced. Use a different magazine until springs can be located.

Problem:	Rifle jams after fifth round consistently.
Possible Cause:	The ejection chute is not properly aligned with the ejection chute port at the front of the rifle.
Solution:	Unload the rifle. Disassemble the rifle. Pull down the handguard by pulling out the *forward assembly pin*. Ensure there is no debris blocking the chute and that it is properly attached. Take an empty casing and insert it into the rear of the ejection chute. Angling the rifle downward, release the empty casing and see if it jams. Attempt to realign the *ejection chute* to clear. If problems persist, consult a qualified gunsmith.

Appendix A

Differences Between the .308 Winchester and 7.62 NATO Cartridges

Please note the Kel-Tec RFB is chambered for the 7.62x51mm NATO cartridge which is **NOT** the same as the commercial .308 Winchester cartridge as they are manufactured to different tolerances, are rated to different pressures, and the rifles which fire them are headspaced differently.

For Example:

.308 Winchester Headspace (SAAMI)	**7.62 NATO Headspace (SAAMI)**
Go: 1.630-1.632”	Go: 1.6355”
No-Go: 1.634”	No-Go: 1.6405”
Field/Reject: 1.638”	Field/Reject: 1.6455”

The Go Gauge for the 7.62 NATO is 0.001” longer than the No-Go Gauge for the .308 Winchester. The Field/Reject gauge for a .308 Winchester is generally considered safe for guns chambered in 7.62 NATO. Therefore, a rifle chambered in 7.62 NATO should allow the bolt to close on a .308 Winchester No-Go Gauge. This is not done for ease of manufacture but interchangeability among NATO Member Countries. We chose to chamber the RFB in 7.62 NATO so that our customers may enjoy safely firing both .308 Winchester and 7.62 NATO surplus ammo.

Additional differences between the two cartridges are the result of case construction and cartridge pressure ratings. The brass used in the 7.62 NATO is thicker than that of the .308 Winchester, translating to a reduced internal volume inside of the 7.62 NATO case. Pressure differences also exist between the two cartridges due to how they are loaded and the different standards of measurement between NATO members and SAAMI.

In testing we have found that commercial .308 Winchester is perfectly safe for use in the 7.62mm NATO RFB despite the different headspacing criteria. There is no perceptible difference in accuracy for most shooters and the RFB is often more accurate than nearly all other semi-automatic .308 and 7.62mm NATO caliber rifles tested.

Please contact Kel-Tec CNC if you have any questions or concerns at 1-800-515-9983. Thank you.

Notes:

Notes:

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