Bobcat

Fine Tuning

Fine Tuning your Thunder Cat, Alley Cat, Bobcat or Puma is a very simple process. The Overview section will help you understand the adjustments and how they work. Getting Started, will take you step by step through the fine tuning process so you can be sure your gun is operating at maximum efficiency.

- Overview
- Getting Started
- General Notes

Overview:

The Thunder Cat, Alley Cat, Bobcat and Puma, have a totally new and innovative valving system that allows the independent control of the projectile velocity and the independent control of the recocking gas flow. this ability to control each system separately allows the operator to tune the gun to its maximum efficiency.

This tuning is accomplished by the mainspring tension-adjustment screw and two screw-type adjustments on the side of the gun labeled RECOCK and VELOCITY. Turning of the screws is done by using a 3/16 Allen wrench on the mainspring tension screw and a 5/64 Allen wrench inserted into the recock or velocity screw.

Turning the screw clockwise on the mainspring tension screw increases the mainspring tension and increases the velocity and the recock gas expulsion. Turning the mainspring tension screw counterclockwise decreases tension on the mainspring and decreases the inertia gained by the the hammer. The hammer strikes the poppet valve with less pressure, which decreases the gas flow, which in turn decreases the velocity and / or the recocking action.

Turning the VELOCITY or RECOCK adjustment screws in the clockwise direction restricts the gas flow to either the velocity or recock. Turning the screw counterclockwise increases gas flow, thus increasing the gas used to propel the paintball or the recocking action. These adjustment screws labeled VELOCITY and RECOCK are used to balance the use of the gas

for performing each certain function. Too much of one or the other will throw the system out of balance and the gun will not function as it was designed to function.

Think of the gun as a car for a moment and the two screws on the side as adjusting the carburetor. The two screws would adjust your air jet and your gas jet and therefore how the car operates and how efficient it works. These side screws are there so players can fine tune their gun for their particular area, climate and style of play.

(Back)

Getting Started

Start with full tank of CO2, a chronograph, and the paintball of your choice--and of course your goggles on your face:

1. Before installing the paintballs or the tank, push the safety button in to lock the trigger. Cock the gun by pulling the cocking lever toward the back of the gun until it clicks into place.
2. Using the 5/64 Allen wrench, close the recocking valve by turning the screw clockwise until it stops. Not turn counter clockwise 1 turn. If you are attempting to use a siphon tank system, start with the recock adjustment screw turned clockwise until it stops (shut-off).
3. Using the 5/64 Allen wrench, close the velocity valve by turning the screw clockwise until it stops. Now turn counterclockwise two and one half to three turns.
4. Using the 3/16 Allen wrench, back off the main-spring tension screw by turning it counterclockwise until the face of the screw is flush with the face of the end plug. (this starting position for the adjustment screws is the intermediate position.)
5. With the gun pointed in a safe direction, follow the tank insertion guidelines in the CO2 usage section and screw the tank into the adapter.
6. Drop one (1) paintball into the feed tube.
7. Aim the gun over the chronograph.
8. Remove the safety by pushing the fire button.
9. Pull the trigger to shoot the paintball, and check the velocity and recock action. use the mainspring tension screw to achieve the desired velocity by increasing or decreasing the tension of the main spring. Under normal circumstances the velocity and recocking jets should not have to be further adjusted once Step 2 has been done. Repeat Steps 6-9 until the desired velocity is reached.
10. Push the safety button in to lock the trigger and place your paintball feed system onto the feed tube.

Note 1:
This gun was not designed to be a jack-hammer. The lighter the mainspring tension is, the more reliable and more consistent the gun will be--not to mention the longer life that will be obtained on all the parts of

the gun. High mainspring tension, coupled with the VELOCITY jet being screwed in or all the way out, and the RECOCK jet screwed all the way out, will result in the premature deterioration of the gun, poor performance and efficiency, and a very disappointing day. Remember: You are shooting gelatin capsules filled with paint--not shattering concrete or driving 16-penny nails!

Note 2:
Under normal circumstances, the RECOCK valve should never be adjusted more then 1 and 1/2 of a turn from being all the way in! Damage to the upper receiver housing may occur.

Note 3:
This gun is not designed to shoot above the safety limits established by industry standards.

(Back)

General Notes:

1. Once the velocity adjustment screw is turned clockwise all the way, it only functions for six turns in the counterclockwise direction. Although it may turn more than six revolutions, it only functions for the first six revolutions.
2. Once the recock adjustment screw is turned clockwise all the way, it only functions for one and a half (1&1/2) turns maximum in the counterclockwise direction. Although it may turn more than one and a half revolutions, it only functions for the first one and a half revolutions. Under normal circumstances the RECOCK valve should never be adjusted more than 1 & 1/2 turns from being all the way in!

If either of the screws protrudes out of the side of the gun, they have been turned out too far and have lost their ability to affect the performance of the gun, and it is possible that they could fall out of the gun. If the VELOCITY jet and the RECOCK jet are screwed all the way out, then your mainspring tension adjustment is probably screwed all the way in. This will result in the premature deterioration of the gun, poor performance and efficiency (if it works at all), and a very disappointing day. Go back to GETTING STARTED. Remember you are shooting gelatin capsules filled with paint, not shattering concrete or driving 16-penny nails!

If opening the jets all the way is the only way that you can make the gun function something else is wrong! Call Indian Creek Design, Inc., at (208) 468-0446 before proceeding further.

(Back)

Check out our **On-line tips & manuals:**

- Fine Tuning Guide

- Trouble Shooting Tips
- Schematics
- Product Information pages
- List of Indian Creek Dealers

Indian Creek technical support can be reached 24 hrs a day via our E-mail support address: support@icdpaintball.com or call us direct at: *(208) 468-0446* or you can write us at:

Indian Creek Design
1019 First street North
Nampa, ID 83687

FAX (208) 468-6650

Home **-** ***Products*** **-** ***Accessories*** **-** ***Warranty*** **-** ***Dealers*** **-** ***Support*** **-** ***Price Sheet*** **-** ***Site Map*** **-** ***News & Events*** **-** ***Glossary*** **-** ***About Us***

Email Contacts

Trouble Shooting

If you are experiencing problems with your Thunder Cat, Bobcat, Puma, or Alley Cat it is important that you review the Overview, Operations and Maintenance sections for your particular gun. Once you are familiar with your marker you should review the Fine Tuning Techniques as well.

If you continue to experience a particular problem with your gun please select from the list below the symptom that best describes the trouble you are experiencing. You will be presented with several steps to resolve your particular issue.

Recocking Related Problems

"The gun does not recock when you pull the trigger; it shoots and sticks forward."

- The pressure in the tank is low.
- The pressure in the tank may be too high.
- Needs lubrication in the hammer-slide chamber.
- Open the recock valve, 1/4 turn at a time -- but never more than 1 1/2 total turns.
- The hammer/bolt assembly is dragging and the inertia that it takes to open the poppet valve is lost.

"The gun does not recock when you pull the trigger; it shoots and pounds down (does not come back all the way)."

- The pressure in the tank is low. A freshly filled CO2 tank that is cold or frozen will give this result.

- Needs lubrication in the hammer-slide chamber.
- Open the recock valve, 1/4 turn at a time- **but never more than 1 1/2 total turns!**
- The hammer/bolt assembly is dragging and the inertia that it takes to open the poppet valve is lost. Cleaning recommended.
- Main spring tension may be too high. Back it off and re-tune the gun per Getting Started.

The gun does recock, but when you pull the trigger, it shoots and bounces (double fires) before recocking (breaks paintballs in the breach and sends paint back up into the feed tube).

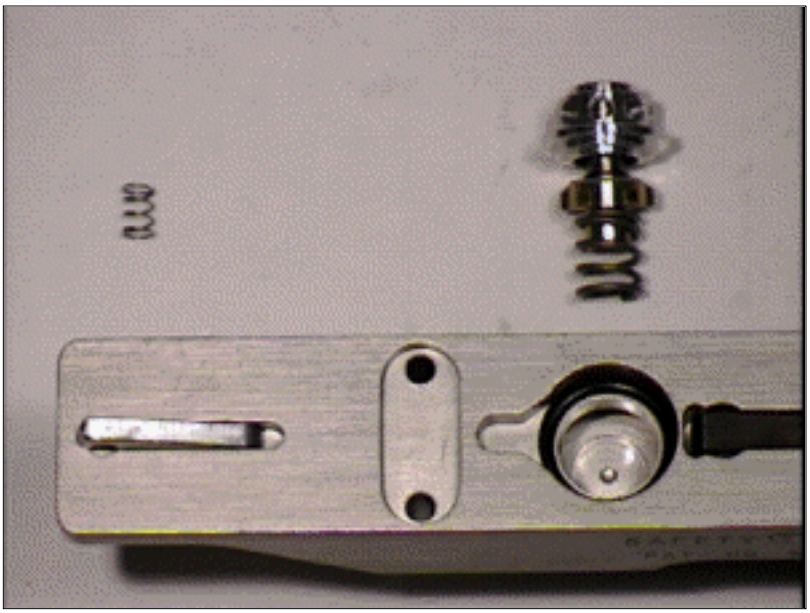
- Too much gas is being expelled to the recock chamber. This is often the case, especially when using a siphon tank system. If using a siphon tank, turn the RECOCK screw all the way in (shut-off).
- The pressure in the tank is high or the pressure may be too low to operate the gun.
- Close the recock valve and reopen the recock valve, 1/4 turn at a time - **but never more than 1 1/2 total turns!**
- Hammer and sear contact points may have worn and need replacing.
- Main spring tension may be too high. Back it off and re-tune the gun per Getting Started.

(Back)

Leak Related Problems

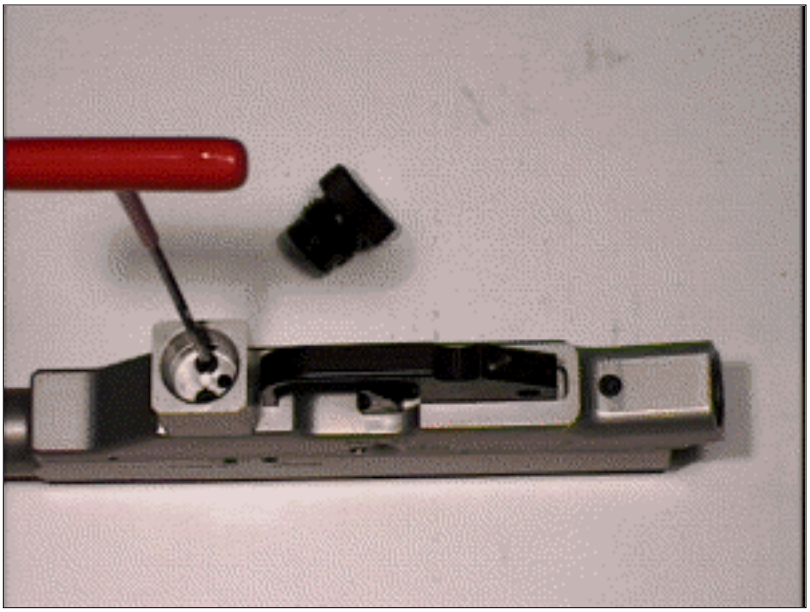
The gun has a leak down the barrel. Reason: CO2 is leaking through or around the valve area.

- Can you hear the leak when the CO2 is removed? Yes? - There is no leak. *You hear the Ocean...*
- CO2 bottle has no gas left and there is not enough pressure to keep the cup seal closed.
- The cup seal is marred/scratched or worn out or dirt has gotten to it. Replace it.
- The O-ring for the valve seat has been removed and not replaced.
- The sealing surface on the valve seat or seal is scratched or gouged. Replace the valve seat or seal.
- When you rebuilt the gun, you placed the valve-pin or the valve seat in upside-down.



The gun has a leak around the VTS or VATS adapter seam. Reason: The seal between the VTS or VATS adapter and the lower receiver is bad.

- Tighten VTS or VATS adapter screws.
- Check and/or replace the small O-ring.



(Back)

Ball Breakage Problems

The paintballs break in the barrel.

- Change paintballs. The gelatin that paintballs are made from can lose its elasticity with age, making the shell of the paintball brittle and not able to withstand the shock of the blast of CO2 when shot.
- Rebalance your CO2 usage by re-tuning the VELOCITY and RECOCK adjustments.
- Clean your barrel to be sure no paint or gelatin has built up inside.

The ball breaks in the breech.

- The balls in your loader can bind, messing up your trigger timing. Note the ball drop through your elbow.
- As you run and shoot, you actually un-weight the gravity-fed balls in your loader. This can cause a ball to hesitate in its gravity drop. This affects your trigger timing.
- If the ball retention arm does not move freely, the paintballs will crush against the arm or the arm may have stuck in the depressed position, allowing double feeding. Check its tension regularly and keep this area as clean as possible.
- If the ball retention arm is too sloppy, the ball will not be held in the proper position. This may allow the next ball to enter the path of the bolt, subjecting it to impact cracking or sheering. Verify the spring tension.
- Rebalance your CO2 usage by re-tuning the VELOCITY and RECOCK adjustments. (Refer to the Tuning Guide)

If your gun is out of tune and will not do anything but break paint, stutter and chatter, go back to the Getting Started section for your gun.

(Back)

Check out our **On-line tips & manuals:**

- Fine Tuning Guide
- Trouble Shooting Tips
- Schematics
- Product Information pages
- List of Indian Creek Dealers

Indian Creek technical support can be reached 24 hrs a day via our E-mail support address: support@icdpaintball.com or call us direct at: *(208) 468-0446* or you can write us at:

Indian Creek Design
1019 First street North
Nampa, ID 83687

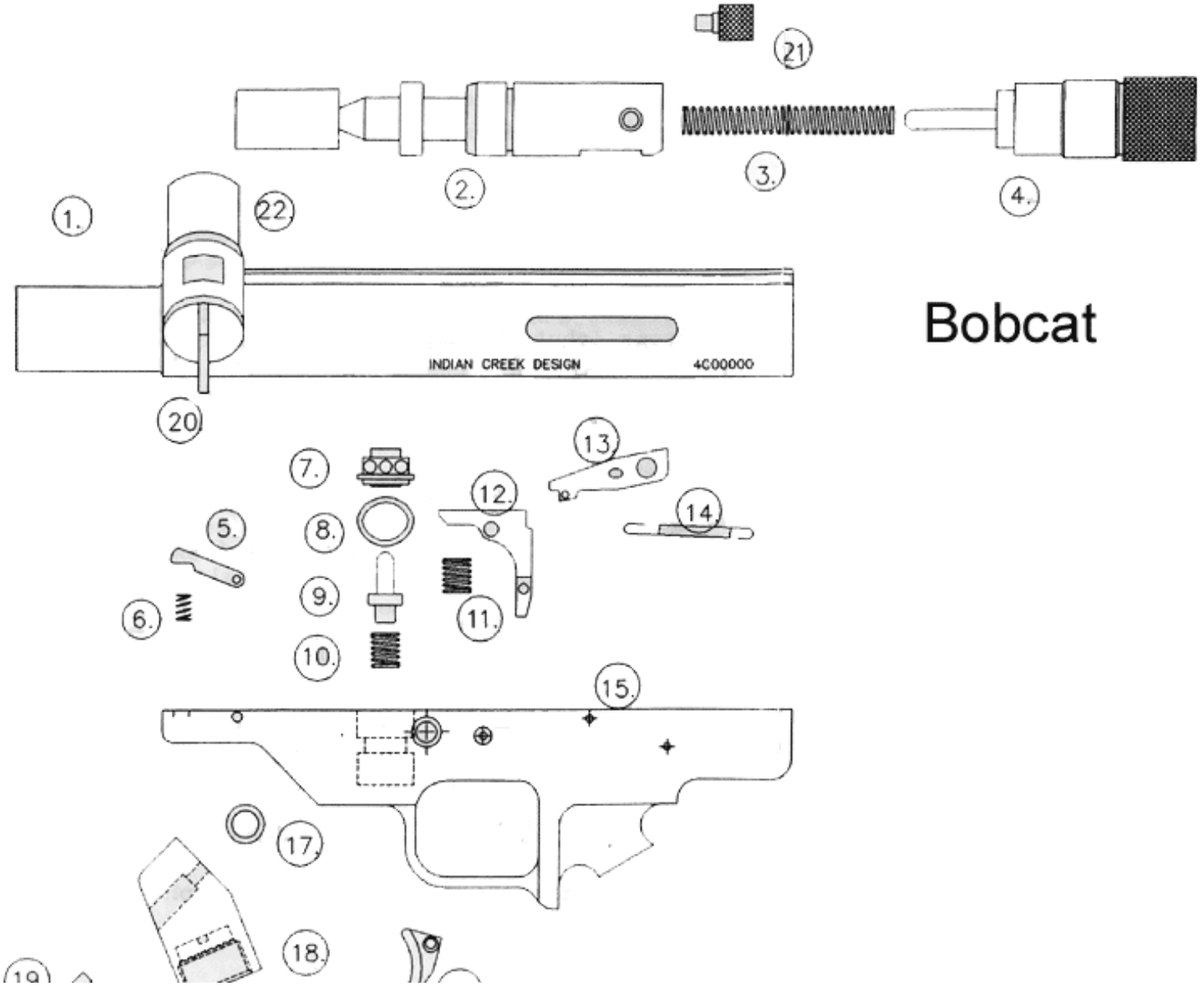
FAX (208) 468-6650

Products
Accessories
Warranty
Dealers
Support

- BushMaster
- Desert Fox
- Thunder Cat
- Alley Cat
- Bobcat
  - Fine Tuning
  - Troubleshooting
  - Schematic
  - Disassembly
  - Fire & Recock
- Puma

Site Map

Bobcat - Schematic



	Callout	Description		Callout	Description
	22	Posi Drop Power Feed Tube		9	Poppet Valve (Valve Pin)
	21	Cocking Lug		8	Valve Seat O-ring
	20	Posi Drop Power Feed Plug		7	Valve Seat
	19	8-32 x 1/2 SHCS		6	Ball Retention Lever Spring
	18	Versatile Tank Adaptor (VTS)		5	Ball Retention Lever
	17	Tank Adaptor O-ring		4	Rear End Plug Assembly
	16	Trigger Shoe		3	Main Spring
	15	Lower Receiver		2	Bolt Assembly
	14	Sear Spring		1	Upper Receiver
	13	Sear			
	12	Trigger Arm			
	11	Trigger Spring			
	10	Valve Spring			

Check out our **On-line tips & manuals:**

- Fine Tuning Guide
- Trouble Shooting Tips

Product Information pages

List of Indian Creek Dealers

Indian Creek technical support can be reached 24 hrs a day via our E-mail support address: support@icdpaintball.com or call us direct at: *(208) 468-0446* or you can write us at:

Indian Creek Design
1019 First street North
Nampa, ID 83687

FAX (208) 468-6650

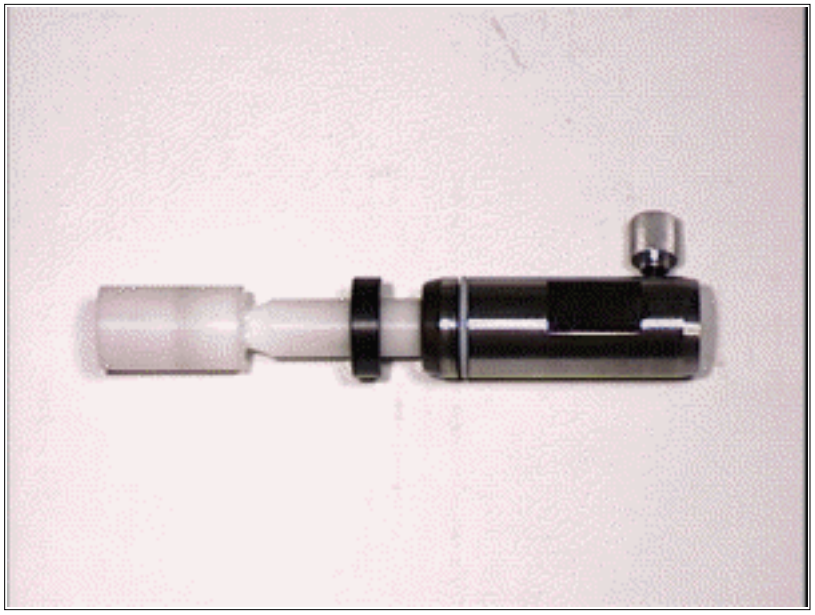
Disassembly

Here is a step by step pictorial on how to disassemble your marker.
This example uses a Thunder Cat. The process is similar for the Bobcat, Puma, and Alley Cat.

(Back)

(Back)

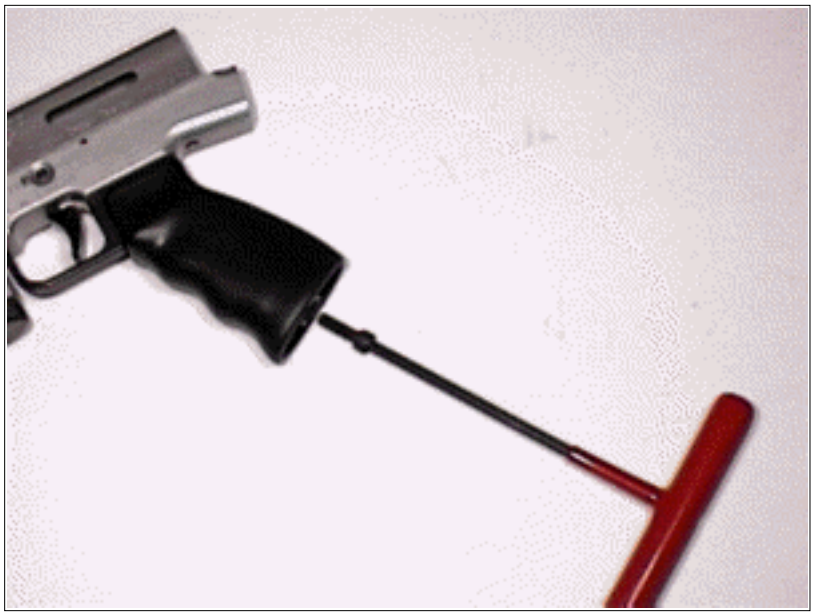
(Back)



(Back)

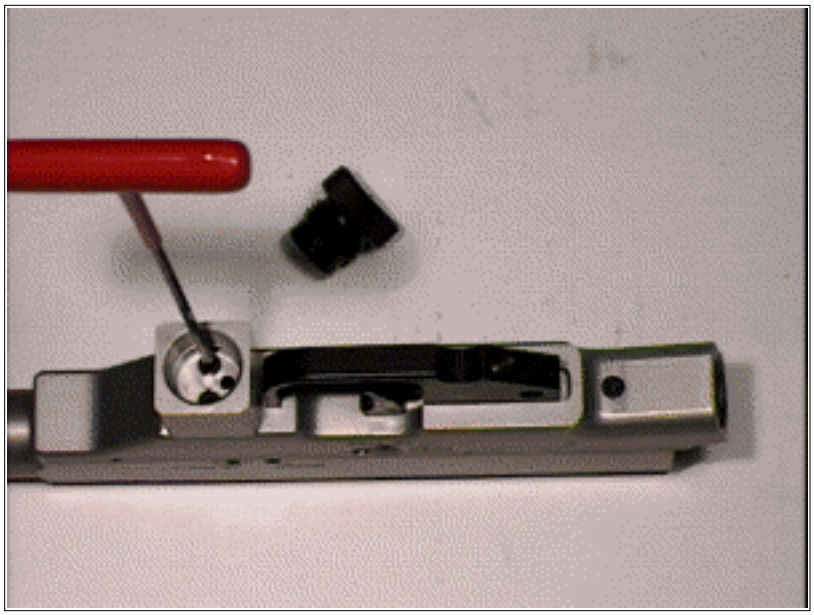
(Back)

(Back)

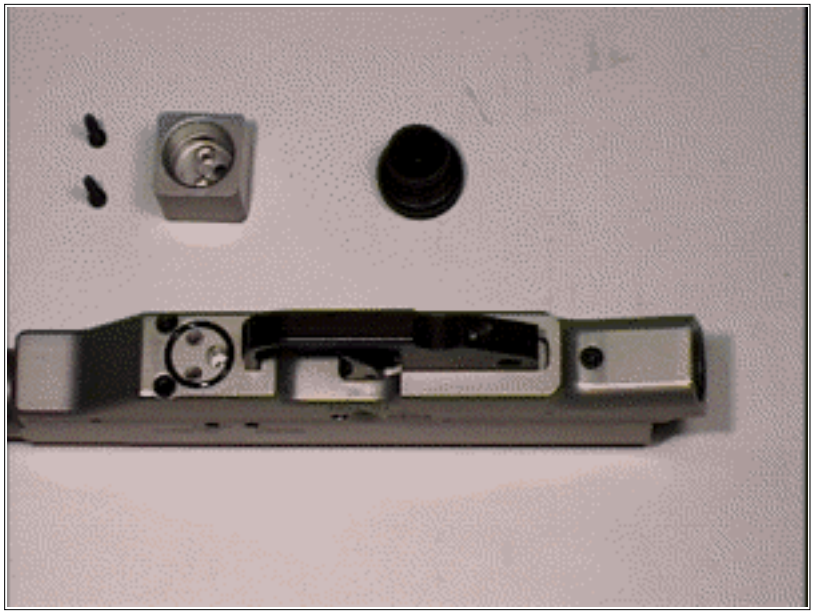


(Back)

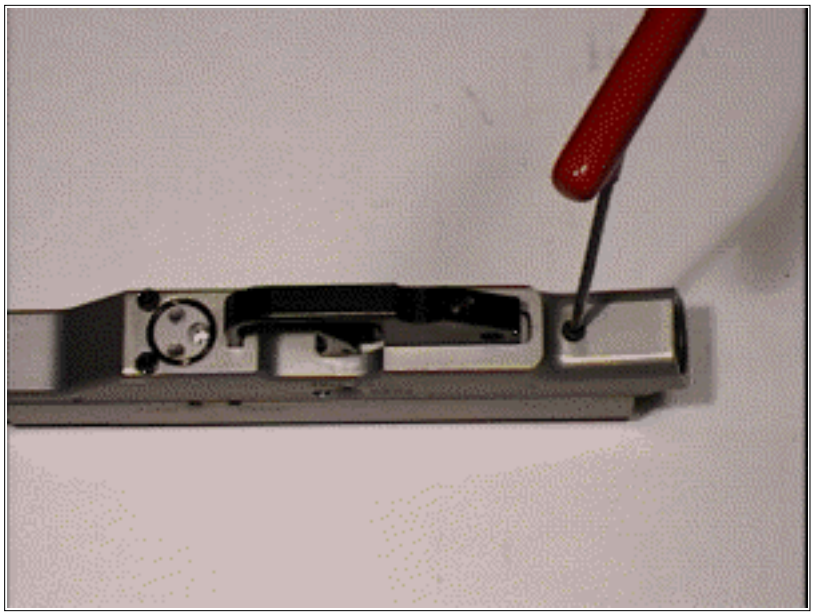
(Back)



(Back)

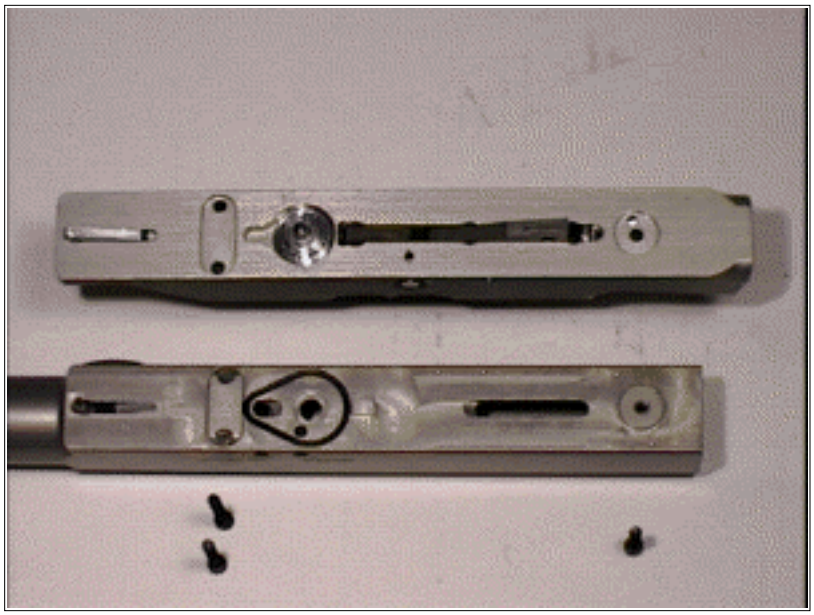


(Back)



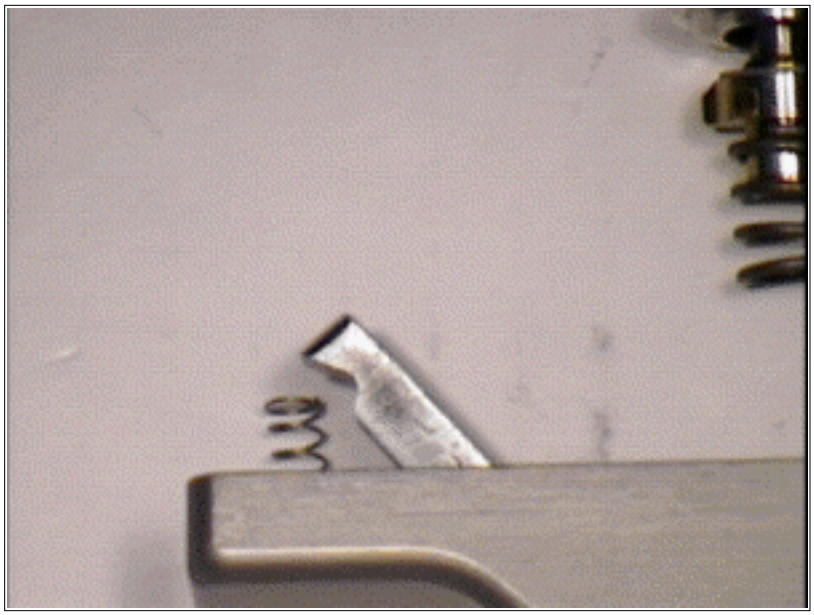
(Back)

(Back)

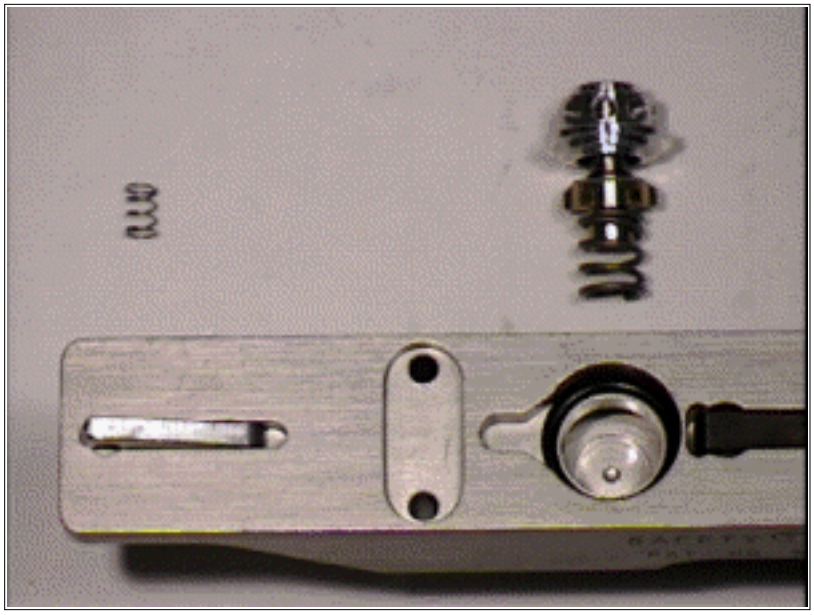


(Back)

(Back)

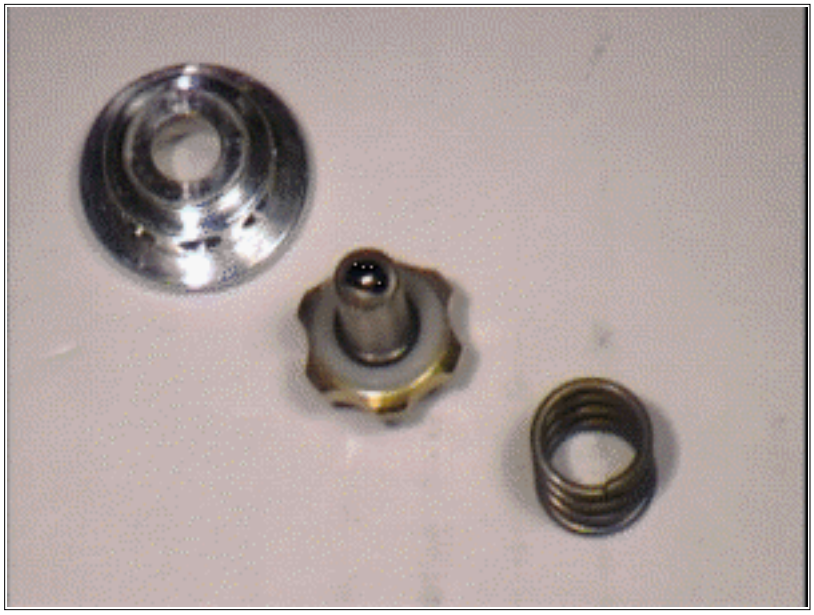


(Back)



(Back)

(Back)



(Back)

Check out our **On-line tips & manuals:**

- Fine Tuning Guide
- Trouble Shooting Tips
- Schematics
- Product Information pages
- List of Indian Creek Dealers

Indian Creek technical support can be reached 24 hrs a day via our E-mail support address: support@icdpaintball.com or call us direct at: *(208) 468-0446* or you can write us at:

Indian Creek Design
1019 First street North
Nampa, ID 83687

FAX (208) 468-6650

Fire and Recock - Animation

Note: This is a cut-away view to demonstrate how the action works inside the gun. This animation is very large and can take several minutes to down load to your computer. It is worth the wait!

Check out our **On-line tips & manuals:**

- Fine Tuning Guide
- Trouble Shooting Tips
- Schematics
- Product Information pages
- List of Indian Creek Dealers

Indian Creek technical support can be reached 24 hrs a day via our E-mail support address: support@icdpaintball.com or call us direct at: *(208) 468-0446* or you can write us at:

Indian Creek Design
1019 First street North
Nampa, ID 83687

FAX (208) 468-6650

Home **-** ***Products*** **-** ***Accessories*** **-** ***Warranty*** **-** ***Dealers*** **-** ***Support*** **-** ***Price Sheet*** **-** ***Site Map*** **-** ***News & Events*** **-** ***Glossary*** **-** ***About Us***

Email Contacts