

# GET REAL

**GET REAL PAINTBALL**  
A Division of A.T. Systems, Inc.

## **OWNER'S MANUAL**

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(763) 767-7064  
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[www.getrealpaintball.com](http://www.getrealpaintball.com)**

## **Thank you for purchasing an AT-Series Paintball Gun!**

All of us at A.T. Systems, Inc. are proud of our commitment to quality products and customer service. The major components and features of your gun are shown in the video that was included with your package. Please become familiar with these features and the cautions associated with your purchase by viewing the video before attempting to operate your gun.

**If you did not receive a video, or have any other questions,  
please call customer service at 1-800-594-3467.**

### **AT-Series Paintball Guns**



**AT10**



**AT85**



**AT4**



**AT16**

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# I. RETURNS AND SHIPPING INFORMATION

## Return Policy

- ◆ No returns are permitted without authorization from our office. Call 1-800-594-3467 to discuss your return between the hours of 8 a.m. and 5 p.m. Central Standard Time, before returning your products.
- ◆ No returns will be accepted after 30 days from shipment date from A.T. Systems.
- ◆ Unauthorized returns will not be accepted and will be returned to sender.
- ◆ There is a 15% restocking charge on all returned items, plus any shipping costs incurred.
- ◆ No returns are accepted on used merchandise. Used merchandise means that the product has been handled by the customer in any way other than for inspection of the merchandise. Once a return has been authorized, items will only be accepted if they are in the original manufacturer's packaging, with all manufacturer's printed material and accessory components included.
- ◆ All paintball gun warranty repairs are covered within the 90-day warranty period. Call A.T. Systems, Inc. for more information on paintball gun service.

## Important Information for Your Protection

This shipment was packed and thoroughly inspected prior to leaving our premises. By accepting this shipment, the shipping entity acknowledges that the shipment was delivered to them in good condition and was properly packaged. Any loss or damage that occurs to this shipment is the sole responsibility of the shipping entity.

## Visible Damage or Shortage

If the shipment you receive is visibly damaged, or if the number of cartons does not correspond with the delivery receipt, have the delivery agent note the discrepancy or the extent of damages on the delivery receipt. **You must file a claim with the carrier immediately upon receipt.**

## Concealed Damage

If damage is not noticed until after the carton is unpacked, notify the shipping entity immediately and insist upon an inspection. This notification must be made within 15 days of the receipt of the shipment. Retain the carton and packaging materials until the shipment is inspected and the claim is settled.

**A.T. Systems, Inc. accepts no responsibility for merchandise that is damaged in transit. Claims for loss or damage must not be deducted from our invoice, nor payment withheld, pending settlement of your claim.**

## II. SAFETY

### **Congratulations on your purchase of an AT Series paintball gun from A.T. Systems, Inc.!**

#### **Warnings**

- ◆ Please remember that your gun is not a toy. Adult supervision is required for anyone under 18 years of age to use this gun.
- ◆ Your gun can be considered a dangerous weapon if mishandled, abused, tampered with, or not operated according to instructions.
- ◆ Misuse or careless use may cause serious injury or death.
- ◆ Everyone involved in paintball activities should wear appropriate protective equipment. At a minimum, this should include approved eye, face and ear protection.
- ◆ Your gun may be dangerous up to 750 feet. It is not intended to be fired at velocities higher than 300 feet per second, or at targets closer than 15 feet.
- ◆ As with any firearm, never point your gun toward anything that you do not intend to hit, regardless of whether the gun is unloaded, uncharged or in the Safety Position.
- ◆ Any attempt to modify or service your gun other than what is authorized in this owner's manual may cause your gun to malfunction or to become unsafe.
- ◆ Any unauthorized modification or service will void your warranty.
- ◆ A.T. Systems, Inc. assumes no liability for the resale or safe handling of its products, nor does A.T. Systems, Inc. assume responsibility for personal injury or property damage resulting from the use of its products.

### III. OPERATION

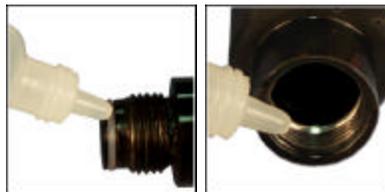
#### Start Up

**Caution: Please watch the enclosed video before attempting to operate your gun.**

1. Put the selector switch in the Safe Position.



2. Apply three drops of oil to the tank o-ring and port in air source adapter.



3. Attach the air source.



Screw tank onto the gun, until a “pop” is heard.  
Then turn an extra quarter turn, or until it stops.

4. Load and index the magazine with no more than 20 paintballs.



5. Insert the magazine into the gun.



6. Attach forward loader for AT85.



7. The gun is now ready to operate.

## Use of the Gun

1. Everyone involved in paintball activities should wear appropriate protective equipment. At a minimum, this should include approved eye, face and ear protection.
2. Never point your gun at anyone or anything that you do not want to hit.
3. If your gun misfires or stalls, do not attempt to reset the gun while the magazine is installed as this could cause damage. Instead, remove the magazine from the gun before attempting to reset.
4. Never insert a magazine into the gun if the magazine is not properly indexed.
5. Use only the air source for which your gun is configured. A.T. Systems, Inc. guns are set up to run with compressed air (HPA).

**AT85 only:** The 50-round forward loader may require an occasional rocking motion to allow paintballs to flow more freely into the magazine.

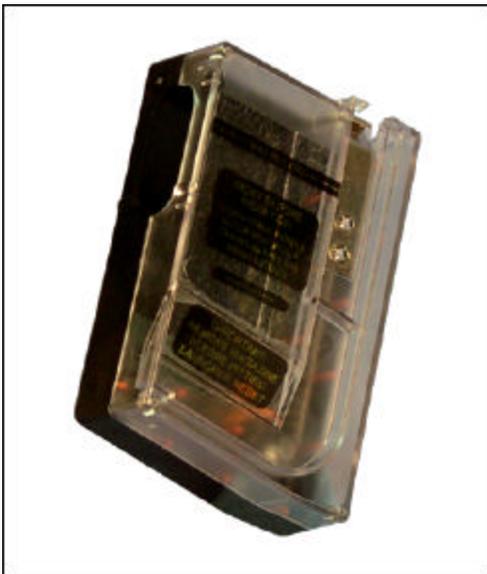


AT85

6. Always keep the selector in the Safe Position until you are ready to shoot the gun.

## Shut Down

1. Remove the magazine.



2. Point in safe direction and pull the trigger to discharge the loaded round.
3. Remove the air source.
4. Pull the trigger again to disengage the internal mechanisms of the gun.
5. Put the selector in the Safe Position.



6. Your gun is now shut down.

## IV. CHAIN OF EVENTS

This chain of event section will assume that the user has already loaded this product with a quantity of paintballs filling both the primary forward loader and magazine (cassette and transport mechanism).

**Note: Paintballs are constantly being renewed into the transport mechanism (cassette) from the forward primary magazine (loader).**

### Cycle Chain of Events

1. Firing of the unit is accomplished by pulling the trigger. However, this assumes that the *Selector* is in one of the two firing modes (Semi-Automatic or Fully Automatic).  
**Note: Selective functions and positions will be covered in a later section.**
2. When the *Trigger* is pulled, the *Pawl* is forced upward against the bottom of the *Sear*. This causes the *Sear* to rotate, causing a disengagement of the *Hammer Assembly* from the *Bolt*.
3. Upon disengagement, the *Hammer Assembly* is fired rearward where it first comes into contact with the *Valve Tube*.
4. This releases a rapid pulse of high-pressure gas, thereby ejecting the paintball housed within the *Breech Sleeve* through the *Barrel*. **Note: After the paintball has left the Barrel, the Striker continues rapidly traveling rearward. The Striker then comes into contact with a protruding cam portion of the Rocker, which urges the Rocker into a rotational motion.**
5. This rotational motion is resisted by the *Follower*. The *Follower* is an over-center cam acting against a protruding cam on the *Rocker* by means of a coil *Compression Spring*.
6. Once the protruding cam on the *Rocker* rotates past the center peak of the *Follower*, the *Follower* forces the *Rocker* to continue rotating as far as it will go (to a stop point within the *Follower* cavity).
7. At this point, a cam protrusion on the *Rocker* will urge forward a flange on the *Cycle Core*. When this happens, the *Cycle Core* is urged to a new position where it is stopped from further forward motion by the *Retainer*.
8. The reduced pressure gas that is coming from the low-pressure side of the *Regulator Assembly* that is contained in the *Central Spool Area* is redirected to *Ports*.

9. When gas is redirected into *Ports*, it is directed into the *Annular Port* and then through an orifice into *Area Cylinder Front*. This causes the *Piston Assembly* to be urged rearward in the *Cylinder*.
10. The *Piston Assembly* is attached to the *Bolt* and is also urged rearward toward the *Hammer Assembly*, which is at rest upon the *Valve Tube*. **Note: A coil compression spring lies between the *Bolt* and *Hammer Assembly*.**
11. As the *Sear* latches over the rear lip of the *Bolt*, the rearward motion of this entire assembly is suddenly and automatically reversed to forward motion by way of the *Timing Collar* coming into contact with a cam protrusion on the *Rocker*.
12. As the *Rocker* reverses direction and overcomes the center point of the *Follower*, the *Rocker* is forced to continue rotation. This causes protruding cams on the *Rocker* to strike rearward flange on the *Cycle Core* causing the *Cycle Core* to urge rearward to a stop position within the *Rear Housing*.
13. At this time, low-pressure gas from the *Area* is redirected into *Ports*. This directs low-pressure gas from the *Area* into the *Annular Port Area* and through an orifice into the rear portion of the *Cylinder Chamber* causing the *Piston Assembly* to be urged and held forward.

## Simultaneous Loading

1. As the *Piston Assembly* was in rearward motion, a simultaneous automatic loading operation was taking place at the forward end of the *Piston Assembly*. At the forward end of the *Piston Assembly* is the *Coupling*.
2. The *Coupling* is attached by a depressible *Coupling Pin* to the *Cog Assembly*. When the *Piston Assembly* is traveling rearward, the *Cog Pull* is also pulled rearward along a *Guide Way*.
3. At this time, please note the *Side Cover Assembly*. Also reference the *Guide Leaf* and *Cog Pin*. Please note that the *Guide Leaf* is permanently installed into the *Side Cover* so that the *Side Cover Assembly* is made up of parts. Also note the position of the *Cog Pin* for future reference. **Note: the *Cog Pin* is permanently installed into the *Cog*.**
4. As the *Cog Pull* is traveling rearward, the protruding pins of the *Cog Pull* cause the *Cog* to travel in a downward motion. The *Cog* is prevented from traveling rearward because of the fact that the permanently attached *Cog Pin* is resting against the forward face of the *Guide Leaf*. The downward motion is accomplished by the protruding pins of the *Cog Pull* interacting with the cam slots of the *Cog* causing a downward motion of the *Cog* until it reaches the point at which both the *Cog Pin* is not restricted by the *Guide Leaf* and the protruding pins of the *Cog Pull* reach the end of the cam stroke of the cam slots of the *Cog*.
5. At this point, the teeth of the *Cog* engage with rungs of the *Conveyor Chain*.
6. The *Piston Assembly*, *Cog Pull* and *Cog* all continue their rearward motion and simultaneously at this time begin transport motion of the *Chain*.
7. Cantilevered lugs are then mounted onto the *Chain* at six link intervals. On these cantilevered lugs are permanently mounted soft molded cushions. In between these cushions are paintballs that are contained within an L-shaped track.
8. The upward traveling side of the *Chain* is on the left.
9. As the *Piston Assembly* travels further rearward and the *Chain* is engaged into the *Cog*, a paintball will travel vertically into the Breech Staging area above the *Cassette* and behind the *Barrel*.
10. As the *Bolt* is traveling rearward, the timing is such that a paintball is able to come to rest in front of the *Bolt* without coming into hard contact at a high velocity with any hard portions of the *Bolt*. **Note: when the *Chain* is transporting a paintball vertically into the Breech Staging position, a paintball has to overcome the slight force exerted sideways onto the paintball by the *Spring Guide*.**

11. As the paintball travels above the center line relationship between the paintball and the inward protruding radius of the *Spring Guide*, the *Spring Guide* is urged inward by means of its own spring tension. This ensures the center line location of the paintball in the Breech Staging area wherein the paintball has no choice but to rest on the top portion of the relaxed *Spring Guide*.
12. At this time, the *Chain* has fully accomplished a transport of distance of exactly six links when the *Piston Assembly* has reached the end of its rearward stroke.
13. Exact chain indexing location is ensured by means of detents that are located 120 degrees apart on the underside of the *Indexer*. Also note that proper tension is attained by a *Tensioner Assembly*.

**Note: As a paintball is transported and loaded into the Breech Staging area forward of the *Bolt* while the *Bolt* is traveling rearward, the paintball's upward motion is rapidly decelerated gently by means of a resilient cushion *Sleeve Pad* that is mounted into the upper forward portion of the *Sleeve*.**

14. As the *Piston Assembly* and *Bolt* travel forward, loading the paintball into the Breech Staging area, guide slots of the *Cog* are free to disengage from the protruding pins on the *Cog Pull*. This leaves the teeth portion of the *Cog* free to ride out of lugs of the *Chain* and free to travel further forward.
15. As the entire assembly is traveling forward, the *Cog Pin* is riding on the upward side of the *Guide Leaf*.
16. As the *Cog Pin* reaches the looped end portion of the *Guide Leaf*, the *Guide Leaf* deflects downward by force of the *Cog Pin* until the *Cog Pin* travels forward to a point allowing the forward portion of the *Guide Leaf* to spring back upward into a resting position, thus completing one cycle in preparation for firing.

## Firing Mode Selection

### 1. Safe Position

- a. With the Safe Position of the *Selector* where the Select Lever is horizontally facing the rear, the *Safety* is forced rearward by means of the *Selector* not allowing the Forward Nose of the *Safety* to protrude into exposed *Safety Slots* in the *Selector*. **Note: Vertical detail on the *Pawl* is always urged rearward by the *Pawl Spring*. This causes the rear vertical surface of the *Pawl* to rest on the protruding face of the *Safety* so that when the *Trigger* is pulled, the *Pawl* is guided behind the *Sear*. This prevents the *Hammer Assembly* from being disengaged with the *Bolt*, thereby disabling the firing mechanism.**

### 2. Semi-Automatic Position

- a. With the Semi-Automatic position of the *Selector* where the Select Lever is diagonally facing downward at a 45 degree angle toward the rear, if the *Trigger* is pulled, the *Pawl* is in a position so that it will force the *Sear* to disengage the *Hammer Assembly* from the *Bolt*, thereby firing and cycling the unit.
- b. While the *Trigger* remains to be pulled, the unit has rapidly repeated one cycle and as the *Hammer Assembly* is traveling forward, the diagonal portion of the lower lobe of the *Sear* comes into contact with the upper rear radius of the *Pawl*. This causes the vertical portion of the *Pawl* to rotate into the clearance cavity *Area* of the *Selector*. **Note: Because of the fact that the *Pawl* is only slightly urged rearward by means of the *Pawl Spring*, it does not cause the disengagement of the *Sear* from the *Bolt*. It should be noted that at this point, the *Hammer Assembly* is prevented by other means from traveling any farther forward than the position as shown.**
- c. As the user releases pressure on the *Trigger*, the *Pawl* is free to rotate and rest against the *Safety* where it is ready, once again, to apply upward force to the *Sear*, upon subsequent pulls of the *Trigger*.

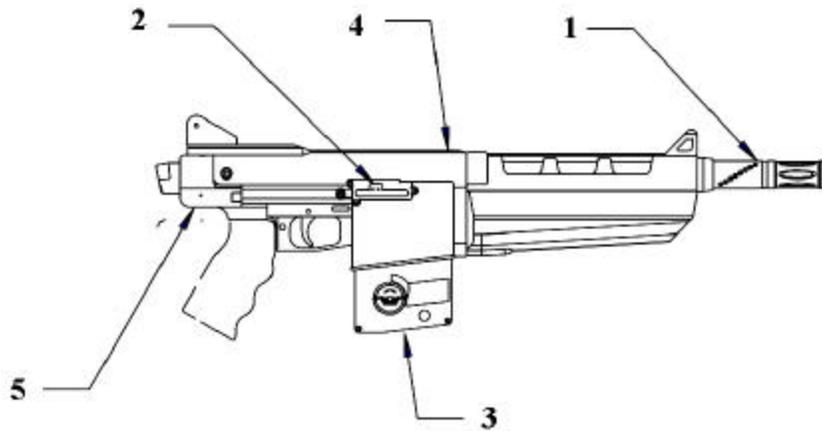
### 3. Fully Automatic Position

- a. With the Fully Automatic Position of the *Selector* where the *Select Lever* is at an upward diagonal angle of 45 degrees to the rear, and as the *Trigger* remains to be pulled and the *Hammer Assembly* and the *Bolt* are traveling forward, the forward diagonal portion of the lower lobe of the *Sear* will come into contact with the upper rear radius of the *Pawl*. This will cause the *Pawl* to rotate forward, coming into contact with the *Face* of the *Selector*.

- b. As the *Hammer Assembly* and *Bolt* continue traveling forward, the lower lobe of the *Sear* is forced to rotate and disengage the *Hammer* from the *Bolt*. At the time, while the *Hammer Assembly* and *Bolt* are still traveling in a forward motion, but nearing the end of the cycle stroke, this causes subsequent automatic disengagement of the *Sear* from the *Bolt*, while the *Trigger* remains to be pulled.
- c. Automatic disengagement as described above will cease and reset to a “ready to fire” position the moment the Trigger is released. The Pawl is in the “ready to fire” position and will disengage the Sear from the Bolt when the Trigger is pulled once more, causing a complete cycle.

## V. MAINTENANCE SCHEDULE

Item	Area	Interval	Time Required (Minutes)
1	Barrel and Uni-sizer	Every Month or 5,000 Rounds	2
2	Guide Plate	Every Month or 5,000 Rounds	2
3	Magazine	Every Three Months or 15, 000 Rounds	3
4	Receiver	Every Six Months or 30,000 Rounds	2
5	Rear Housing	Every Month or 5,000 Rounds	5



### Tools Required

Allen Wrenches:  
(3/32, 5/64, 1/16 and .050)



Tooth Brush:

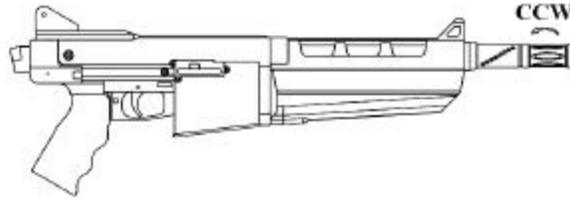


Squeegee:



## Barrel and Uni-sizer

1. Unscrew barrel counter-clockwise to remove.



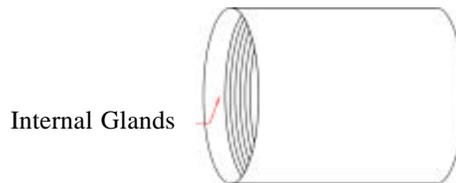
2. Twist uni-sizer counter-clockwise to remove it from the barrel.



3. Clean barrel bore with a squeegee or soft cloth. A clean bore should be dry, free of debris and have a mirror-like finish.



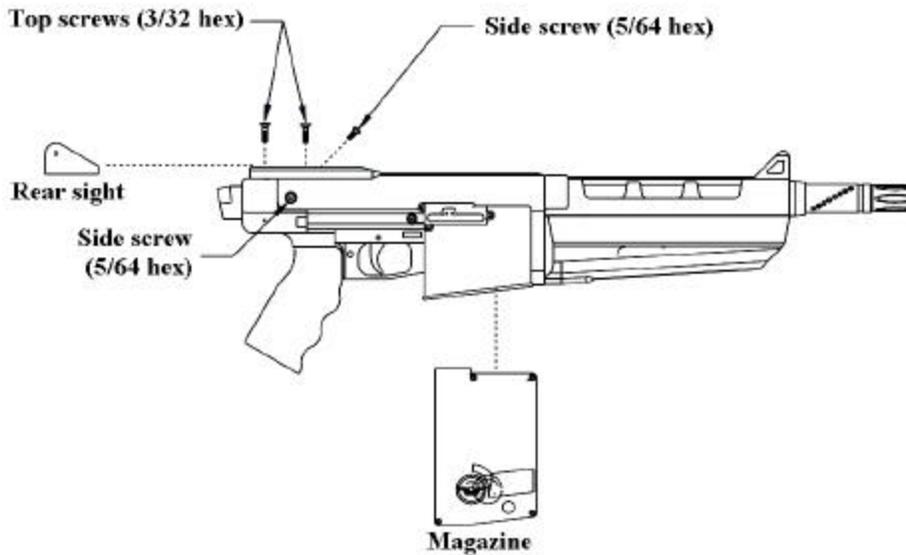
4. Gently clean internal glands of the uni-sizer using a soft brush or rag with soap and warm water.



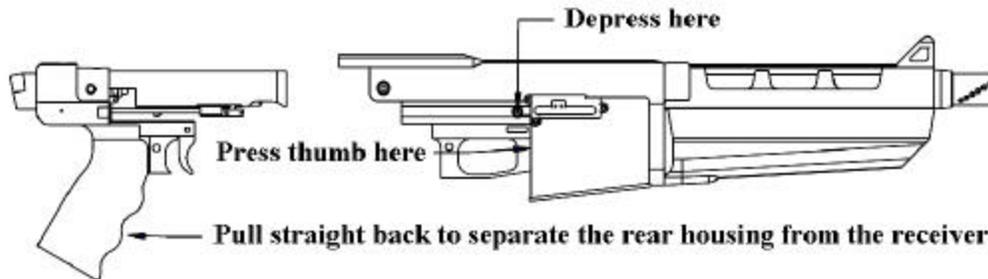
5. Re-assemble by screwing uni-sizer clockwise onto the barrel and the barrel clockwise into the receiver. **Caution: Use finger force. Do not over-tighten.**

## Receiver

1. Disassemble (for cleaning purposes only), otherwise, skip to 2b.
  - a. The magazine and rear sight must be removed first. Then remove the side screws using a 5/64 hex key, followed by removing the top screws using a 3/32 hex key.

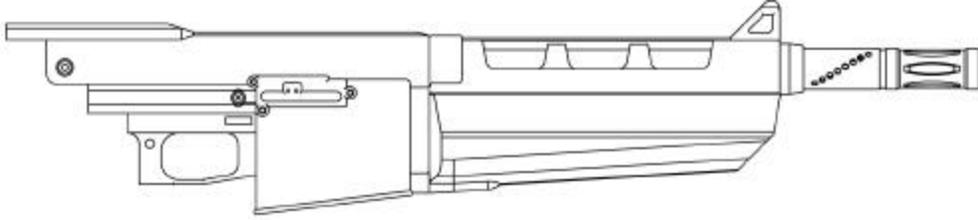


- b. Depress and hold coupling button down (if absent, use a 5/64 hex key or smaller) and pull rearward on rear housing.

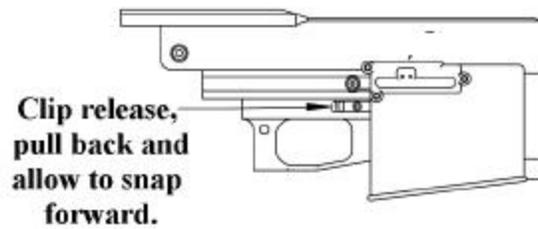


2. Maintenance:

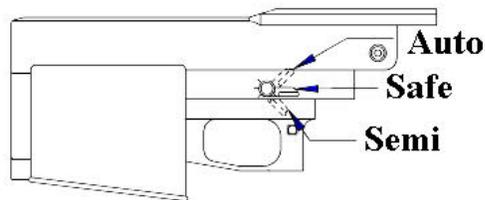
- a. Wipe interior and exterior of receiver using a soft brush or rag with soap and warm water.



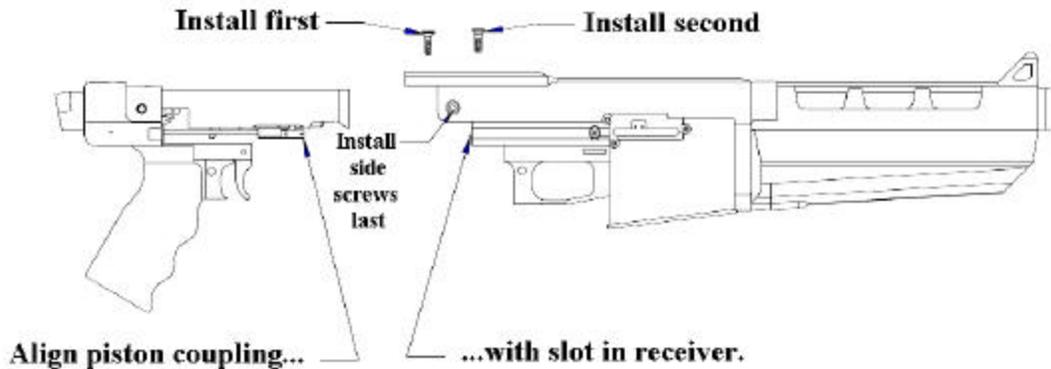
- b. Verify that the clip release snaps forward and holds a magazine in the gun.



- c. Verify the selector only clicks into three positions (Auto, Safe, and Semi).

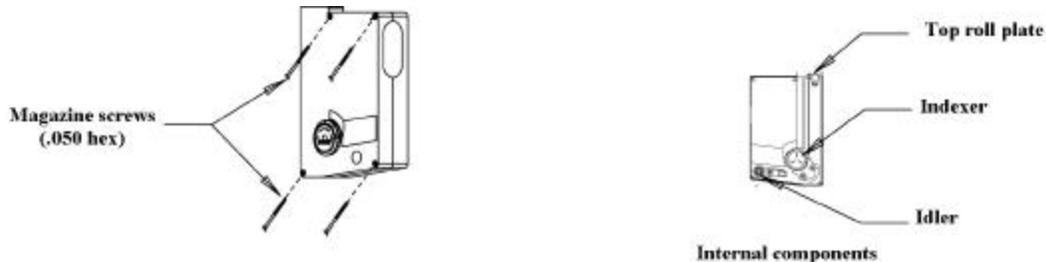


3. Re-assemble – Align piston coupling with slot in receiver, then insert rear housing and sleeve. Install rear top screw first, followed by the other top and side screws. **Caution: Do not over-tighten top or side screws.**



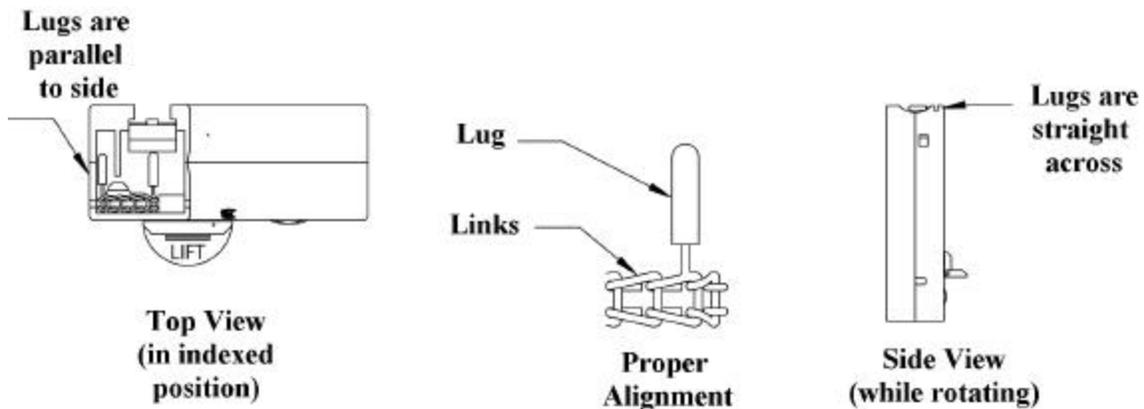
## Magazine

1. Remove the four outer magazine screws and separate the halves.



2. Inspect all internal components and remove any dirt or debris using a dry, soft brush. If necessary, mild soap and warm water can be used to remove build-up. Blow off water with (low-pressure) compressed air and allow to dry. **Warning: Do not use chain lubricant or cleaners. Chain lubricant and cleaners will damage internal components and void the warranty.**
3. Inspect

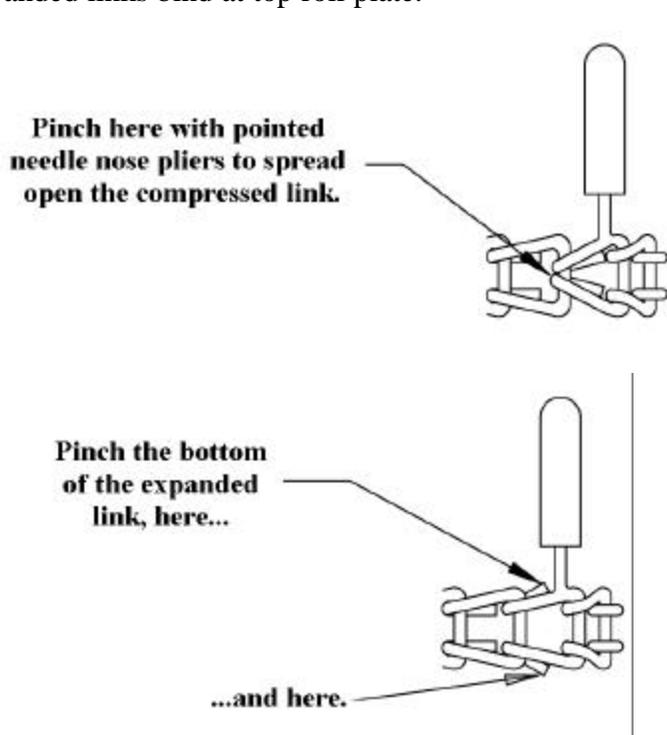
- a. Check that all 16 lugs are straight by observing the chain from the top and side while turning indexer handle clockwise. Handling magazine is easier with the cover held in place. If all 16 lugs and links are aligned properly, the indexer handle will turn smoothly between indexed positions without binding or dragging. If the handle turns smoothly, skip to c. If binding is noticed, continue to b.



- b. Binding is the result of a mis-aligned lug or link. To realign a lug, hold the chain firmly against the top roll plate with thumb and realign lug with a finger. View all sixteen lugs to make sure they are parallel to the side of the magazine and straight across the top, as shown above.

c. After all the lugs have been checked for straightness, remove the cover and observe the chain as it passes over the internal components. If a link binds at the idler or indexer, then that link has been compressed. If the chain binds at the top roll plate, the link is expanded. Both conditions are corrected using fine point needle nose pliers as shown below.

- Compressed links bind at idler and indexer.
- Expanded links bind at top roll plate.

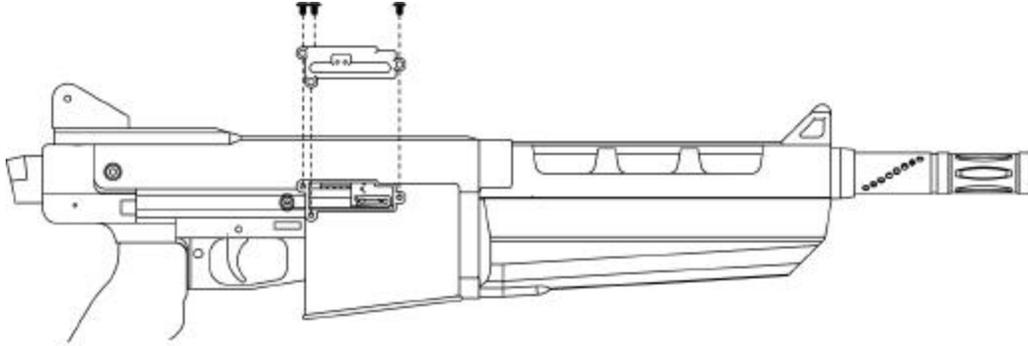


4. Re-install the cover and the four outer magazine screws.

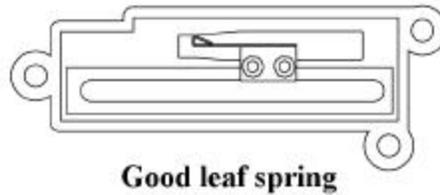
**If the chain still drags or binds after performing these steps, contact  
A.T. Systems, Inc. at 1-800-594-3467.**

## Guide Plate

1. Remove the three guide plate screws using a 1/16 hex wrench.

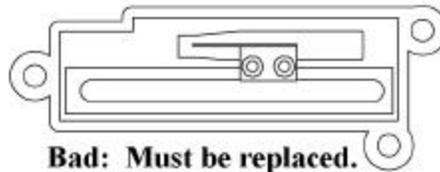


2. Inspect the leaf spring. It should be straight with a triangle at one end.

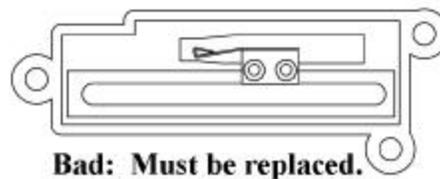


**Caution: Replace the guide plate every year or 60,000 rounds, or if:**

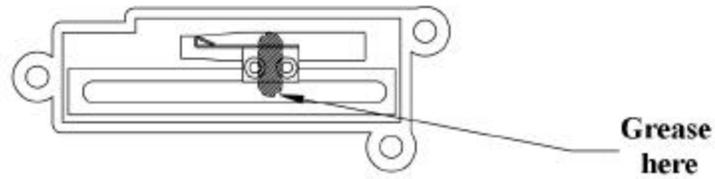
**Triangle is distorted or missing.**



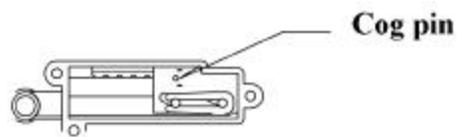
**Leaf spring is bent.**



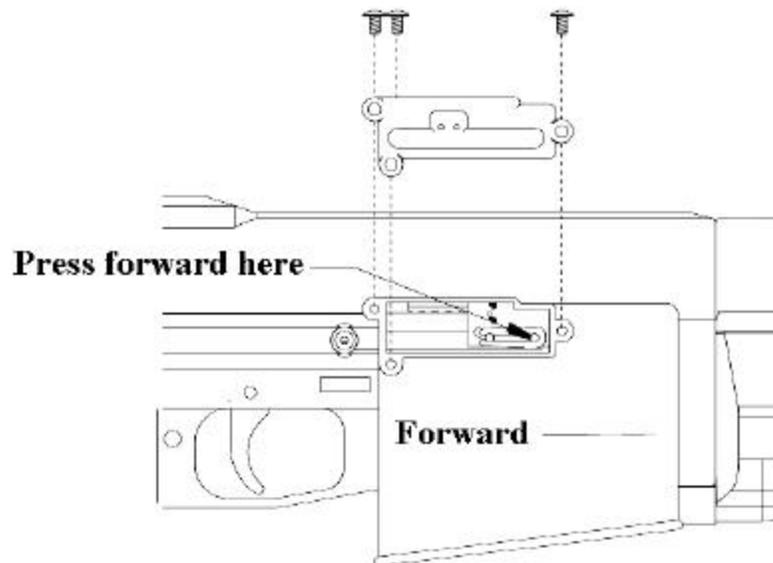
3. Apply a light bead of grease to guide plate every 30,000 rounds.



4. Check that the cog pin is not missing or loose (using fingertips only).



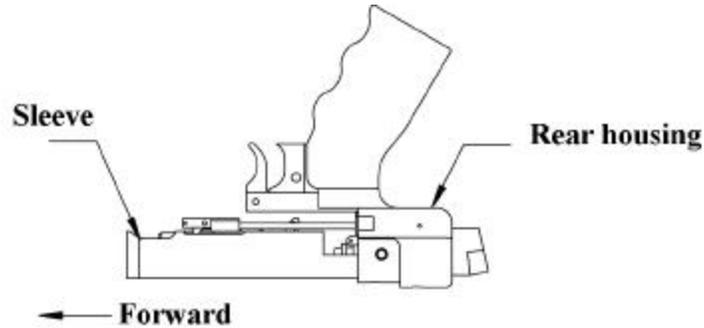
5. Press the front boss all the way forward, then install greased guide plate. **Caution: Do not over-tighten screws.**



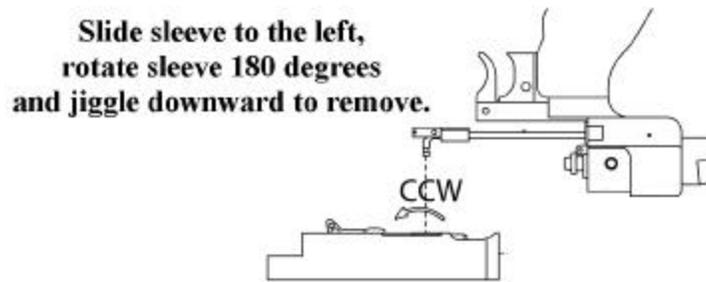
## Rear Housing

### 1. Sleeve maintenance:

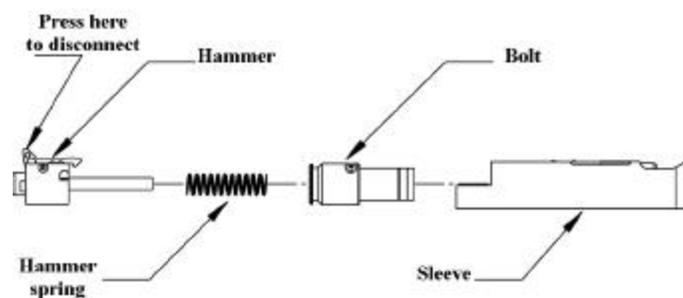
- a. Remove rear housing and sleeve from receiver (as described previously), then turn them over.



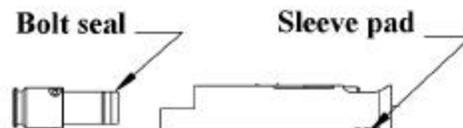
- b. Slide sleeve forward, or to the left, until it clears the groove in rear housing. Rotate 180 degrees counter-clockwise. The sleeve should easily come off of the piston shaft by gently jiggling the sleeve.



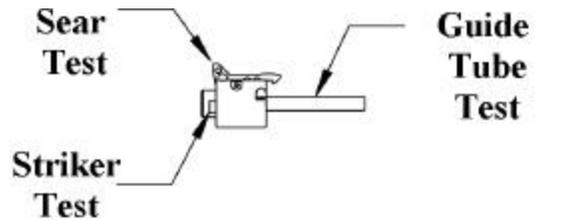
- c. Remove the hammer, hammer spring and bolt from the sleeve. If they are still connected, press on the end of the sear while firmly holding onto the hammer and bolt.



- d. Wipe off outside of hammer spring and bolt and the inside of the sleeve. Thoroughly wash the hammer with soap and warm water and blow off with (low-pressure) compressed air.
- e. Check that the bolt seal and sleeve pad are not loose or missing.



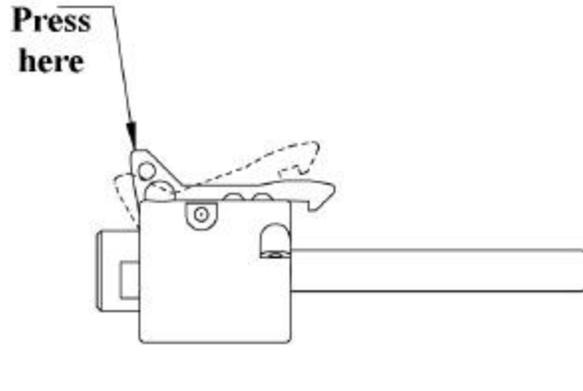
f. After thoroughly cleaning and drying, perform the following tests on the hammer:



Sear Test

Test: Depress sear tail then let it snap free.

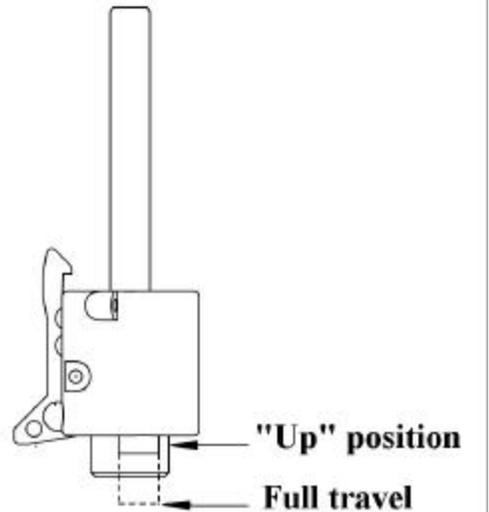
Results: Sear should depress smoothly and snap back to starting position.



Striker Test

Test: Hold hammer vertically and shake it up and down.

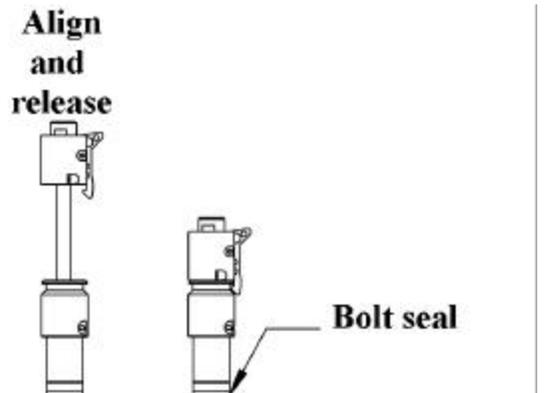
Results: Striker should have full, free motion when shaken and the striker should remain in the "up" position while at rest.



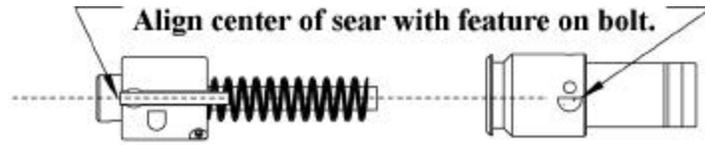
Guide Tube Test

Test: Place bolt on a surface with the seal facing down. Align hammer guide tube with bolt, then release the hammer.

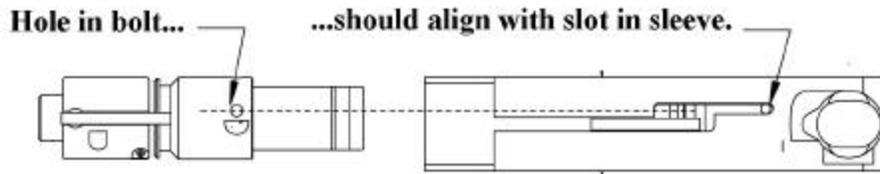
Results: The hammer should fully enter the bolt and the sear should latch.



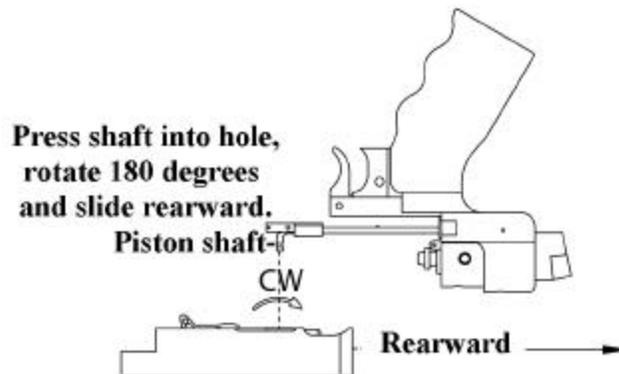
- g. Place hammer spring over guide tube, then connect with bolt. Align sear with feature on bolt.



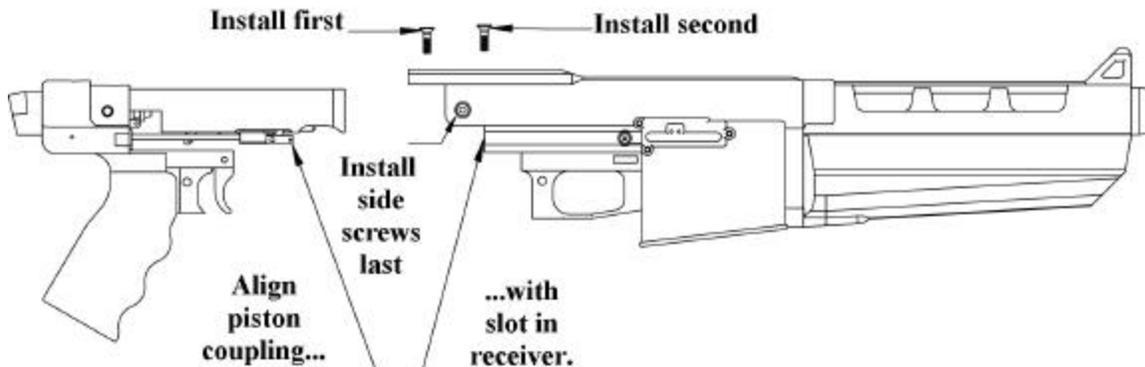
- h. Place the connected hammer, hammer spring and bolt into the sleeve.



- i. Press the piston shaft into the hole in the bolt as far as it will go. Rotate sleeve 180 degrees clockwise, and then slide it to the right, or rearward, into the slot in rear housing.



- j. Align piston coupling with slot in receiver, then insert rear housing and sleeve. Install rear top screw first, followed by the other top and side screws. **Caution: Do not over-tighten top or side screws.**



2. Clean exterior of rear housing using a dry, soft brush. Mild soap and water are acceptable to use to remove build-up or debris. Blow-dry with (low-pressure) compressed air.
3. Regulator maintenance

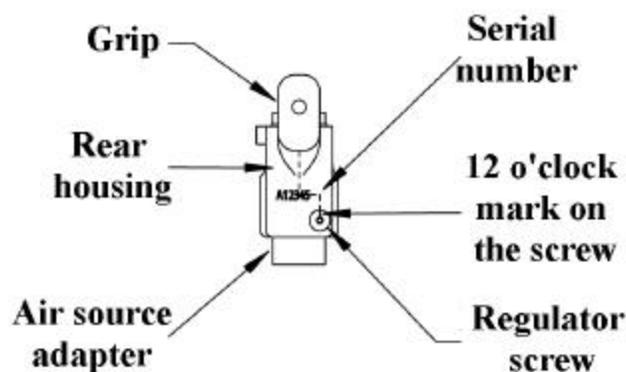


**Caution: Never pressurize rear housing without all regulator components properly installed.**

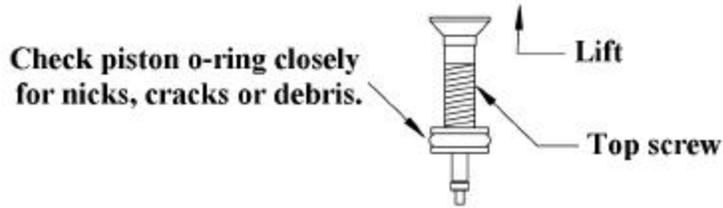


**Caution: Always remove pressure from rear housing before performing regulator maintenance.**

- Always work on a clean, well-lit surface.
  - Always use oil provided by A.T. Systems, Inc. in the regulator. Using other oils will void the warranty and may degrade internal seals and components.
  - **Before removing any regulator components**, take note of the position of the 12 o'clock mark on the regulator screw and the depth of the screw compared to the surface of the housing. When re-assembling, it is important to return the regulator screw to the same **position** and **depth**.
- a. Remove the regulator screw with the 5/64 hex key, turning screw counter-clockwise.



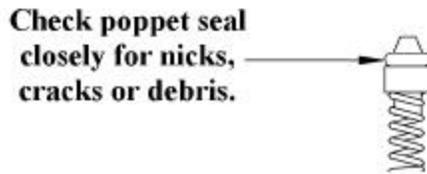
- b. Remove regulator spring and piston next. The regulator piston is easily removed by threading a top screw into the top of the piston and lifting upward.



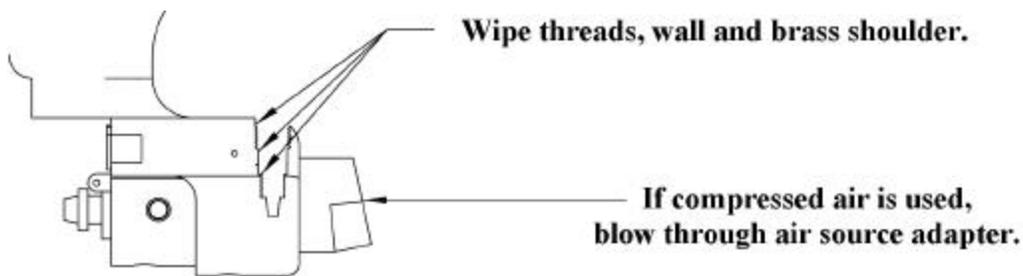
- c. Remove the regulator sleeve next using a 3/32 hex wrench, turning it counter-clockwise. To avoid stripping the part, make sure the hex wrench is fully engaged.



- d. Flip the rear housing over and shake the poppet loose from the regulator cavity.



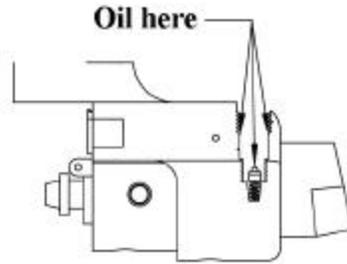
- e. Make sure that the regulator cavity is clean. Use a cotton swab moistened with A.T. Systems, Inc. oil to remove dirt and debris. **Caution: Do not use soap or solvents to clean regulator cavity.**



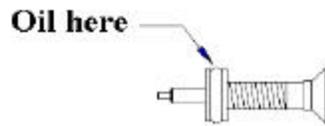
- f. Before re-assembling, make sure that all regulator components are clean and free of fibers.

g. To re-assemble regulator:

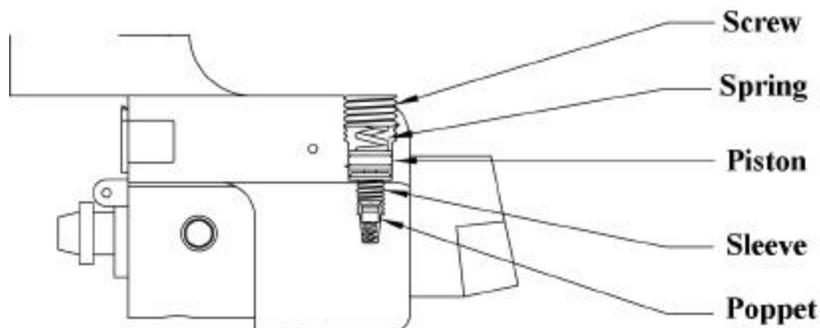
- Place the poppet into the regulator cavity with the seal on top and the spring on the bottom.
- Lubricate the regulator walls and the poppet seal with three drops of A.T. Systems, Inc. oil.



- Install regulator sleeve using the 3/32 hex wrench. Make sure the wrench is fully engaged and do not over-tighten.
- While holding the regulator piston by the top screw, apply a drop of oil to the piston o-ring, then place it into the regulator on top of the sleeve.



- Place the spring on top of the piston, then install the regulator screw using a 5/64 hex wrench. **Caution: Do not cross thread or force the regulator screw.** The screw should turn easily. Re-align the 12 o'clock mark to its original **position** and **depth**.



- h. For reference, another view of the regulator system with parts enlarged is shown below:

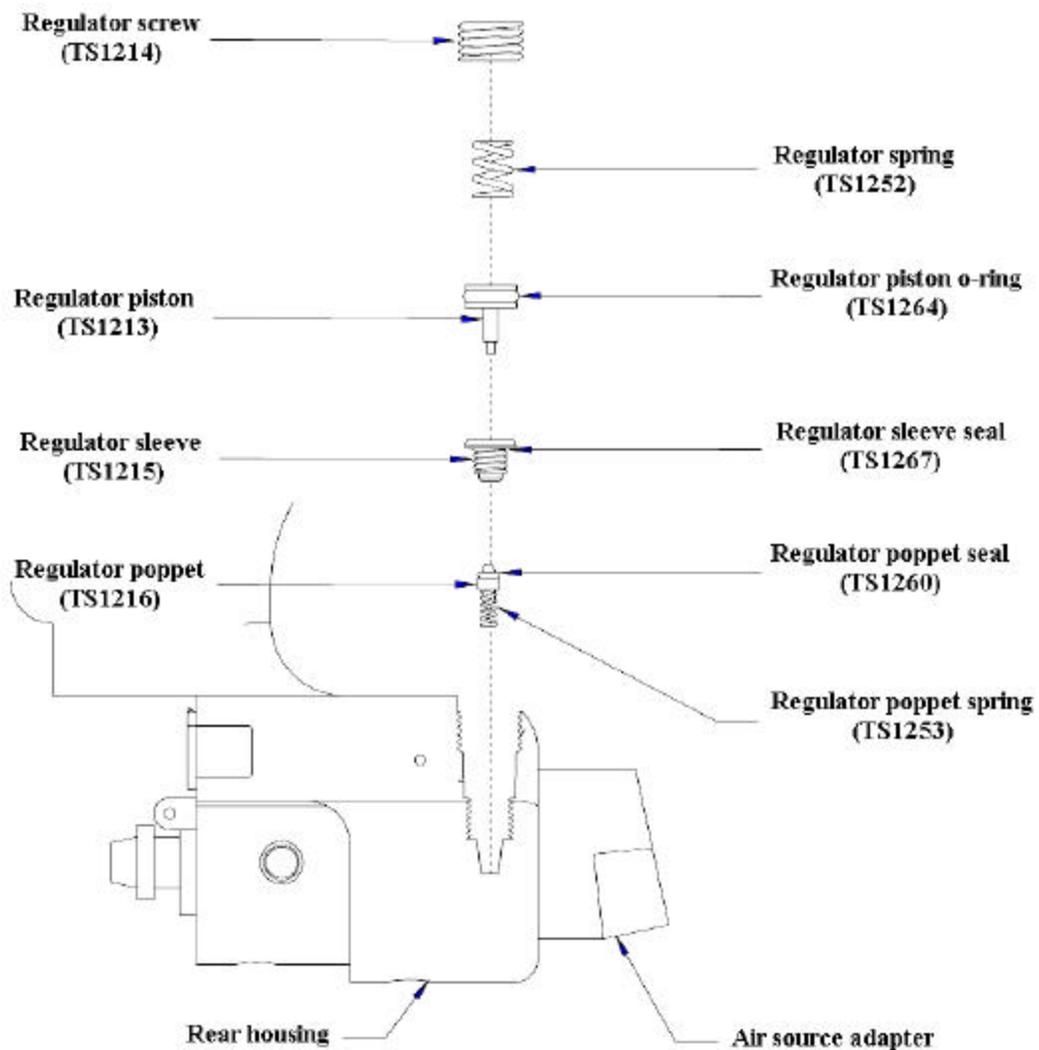


**Caution: Never pressurize rear housing without all regulator components properly installed.**



**Caution: Always remove pressure from rear housing before performing regulator maintenance.**

*Figure 1*



## VI. TROUBLESHOOTING

**A.T. Systems, Inc. encourages its customers NOT to try repairing their gun beyond the steps described in this guide, unless they have received A.T.S.-certified training.**

**Note: When the tank is nearly empty, it is common to hear a major leak down the barrel of the gun. This is because there is not enough pressure from the tank to keep the main valve closed.**

### Air Leaks

Air leaks may occur from within the gun, or they may occur in the regulator or rear vent areas. Usually, leaks can be fixed by cleaning and lubricating the regulator system as follows:

1. Remove the tank from the gun.
2. Remove the regulator outer screw. *Refer to Figure 1 on previous page.* Note the scribe mark position and the depth of the screw, to enable you to return the screw to the same position when re-assembling.
3. Remove the regulator spring.
4. Remove the regulator piston. Use one of the two screws from under the sight of the gun to thread into the piston. Lift gently on the piston to pull it from the cavity.
5. Remove the sleeve using a 3/32-inch Allen wrench.
6. Remove the poppet assembly, check the o-ring for damage, and wipe with a soft cloth.
7. Verify that the sleeve o-ring is not damaged.
8. Re-install the poppet, with the **spring** going in first.
9. Lubricate the regulator cavity with a few drops of A.T.S.-approved oil that was supplied with your gun. **DO NOT** use WD40 as a lubricant.
10. Re-install the sleeve.
11. Lubricate the piston o-ring.
12. Re-install the piston, spring and outer screw.

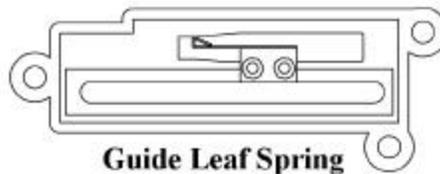
## Dead Trigger

A dead gun will not respond to the trigger or to the reset switch. This is most often fixed by cleaning and lubricating the regulator system, as described in *Air Leaks*, steps 1-4.

If following these steps does not fix the problem, the proceeding are some other ways to troubleshoot:

1. Check the incoming air pressure. The pressure going into the gun should be between 650 and 900 PSI. *For those who don't have a gauge on the tank regulator, replace the tank regulator system. It may be that the regulator is faulty.*
2. Check the leaf spring in the guide plate. *Refer to Figure 2.* Replace the guide plate if the leaf spring is damaged.

*Figure 2*



3. Check the Air Source Adapter where the tank attaches to the gun. It may be plugged with dirt or other contaminants and the hole must be free of debris to function properly.
4. **With the tank and the magazine removed from the gun**, push the velocity adjustment wrench down the barrel as far as it will go, using **light** pressure. This will push the bolt to trip the rocker, if this was the cause of the problem. *Warning: Remove the velocity adjustment wrench from the barrel before pressurizing the gun.*

## Stall

The symptom of a stall is that the gun will work fine for a few shots, but then the trigger will go dead. After resetting, the problem may remain. Before taking apart, perform the following steps:

If you have the capability to adjust the regulated incoming pressure, reducing the pressure will often eliminate stalling.

1. Remove the magazine and fire a round in a safe direction.
2. Install an empty magazine.
3. Put the gun in the Auto mode.
4. Pull and hold the trigger, and hit the reset as needed until the gun fires continuously.

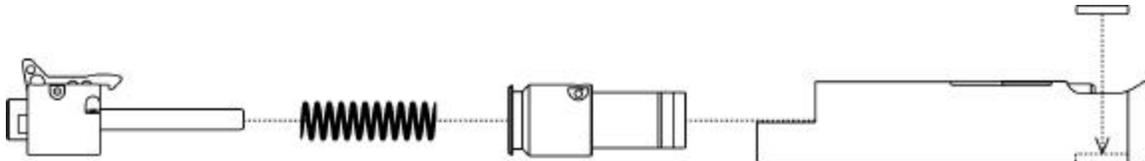
If the problem still remains:

5. Reset the gun.
6. Adjust the velocity with the supplied wrench, as follows:
  - a. Insert the wrench into the barrel until it connects with the bolt head.
  - b. Turn counter-clockwise until the minimum position is reached.
  - c. Turn clockwise for at least six complete rotations.

If the problem still remains:

7. Disassemble the gun as described in the *Maintenance* section or as shown in the video.
8. Remove the hammer/bolt assembly from its housing. *Refer to Figure 3.*

**Figure 3**



9. Holding on to both the bolt and the hammer, lift the sear to disengage the hammer.
10. Shake the hammer to assure that the striker moves freely and that the striker spring is still attached.
11. Thoroughly clean the hammer assembly with soap and water. Then blow off with compressed air.
12. Re-assemble the gun.

## Low Velocity

The factory setting for the gun results in a velocity of roughly 270-300 feet per second. If the gun performs at a lower velocity, you can do the following:

- Verify that the velocity is adjusted properly, as described in the section titled *Stall*.
- For those who have the ability to adjust the regulated incoming pressure, increasing the pressure will increase the velocity. *Velocity should never be adjusted above 300 feet per second.*

If the problem still remains, perform *Sleeve Maintenance* as described previously or:

1. Disassemble the gun as described in the *Maintenance* section or as shown in the video.
2. Remove the hammer/bolt assembly from its housing. *Refer to Figure 3.*
3. Holding on to both the bolt and the hammer, lift the sear to disengage the hammer.
4. Check the bolt to assure that the rubber bolt seal is still attached.
5. Check the hammer tube for burrs or residue, which may prevent the bolt from sliding freely on the hammer tube.
6. Lubricate the entire assembly with WD40. **This is the only location where WD40 should be used on the gun.**
7. Shake off any excess lubricant.
8. Re-assemble the gun.

## Paintballs Breaking in the Gun

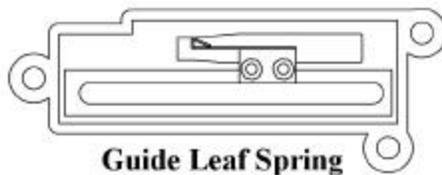
For breakage in the barrel:

1. Verify that the velocity is adjusted properly, as described in the *Low Velocity* section.
2. Try new paintballs if you suspect that your supply may be old or defective.

For breakage in the breach area:

1. Remove the magazine.
2. Turn the magazine indexer crank handle **clockwise** to check that it doesn't bind.
3. Check that the lugs on the chain are at 90-degree angles when viewed from the side and top. If they aren't, bend them into place with a small pliers, using caution to prevent distortion of the chain (see *Magazine Maintenance* section).
4. Install the **empty** magazine in an indexed (clicked) position, and dry fire a few rounds. Verify that the lugs actually move, and that a lug is visible in the index window. If a lug is not visible in the index window, the magazine is mis-indexing. If the magazine is mis-indexing, remove the guide plate (3-screw cover) and inspect the guide plate leaf spring for damage. The spring should appear as in *Figure 4*. If the leaf spring is damaged, the guide plate will need to be replaced.

*Figure 4*



**Caution: Before re-installing the guide plate, re-pressurize the gun without the magazine installed. This will assure that the cog is moved fully forward. Failure to do this will cause the leaf spring to be damaged.**

## **Multiple Shots in Semi-Automatic Mode**

When the gun fires more than one shot on a single trigger pull in the semi-automatic mode, the following steps should be taken:

1. Be sure the barrel is snugly hand-tightened into the receiver.
2. Remove the rear assembly from the receiver as described in the *Maintenance* section or as shown in the video. Inspect the trigger assembly for a broken spring or debris in the moving parts.
3. Remove the sleeve assembly and check to see if the outside of the sleeve has scratches from the excessive wear near the slot. If there is excessive wear, the sleeve should be replaced.

## **Magazines**

Problems with the magazines can be avoided by following these steps:

1. Check the magazine for dirt and debris before loading paintballs into it. Refer to the *Maintenance* section for proper cleaning of the magazine.
2. Looking into the magazine from the top, rotate the indexer handle clockwise to assure that all 16 pins are straight out from the chain. Bent pins should be straightened with a small needle-nose pliers, using care to prevent distortion to the chain.
3. With the magazine out of the gun, pressurize the gun. Then insert the empty magazine and turn the indexing crank handle clockwise through all 16 positions. The chain should turn freely, with no binding or dragging.
4. Next, dry fire the gun with the empty magazine. As the gun is firing, watch to see that the pins index properly and always land in the index window.
5. Pre-load the magazine:
  - a. Using quality paintballs, feed about 10 rounds into the magazine.
  - b. Hold the magazine with the feed opening facing upward at an angle while indexing the balls to the top of the magazine.
  - c. Feed the remaining paintballs into the opening. Using more than 20 balls in the magazine may cause the balls to bind as the chain indexes.
  - d. Never force or pack paintballs into the magazine. The paintballs need to have free movement to index properly.

## **Good Practices and Things to Know**

Before pressurizing the gun:

1. Read the entire owner's manual and view the enclosed video. This will prevent many user-induced problems.
2. As a matter of safety, check the barrel to be sure that a ball hasn't remained loaded in the gun.
3. Put 4-5 drops of the supplied lubricant into the filter located in the Rear Air Source Adapter. This will help lubricate the internal seals.
4. Put a few drops of the supplied lubricant on the tank seal to prevent it from leaking or becoming damaged.
5. Avoid over-tightening the screws on the magazine as it could crack.
6. Always check the magazine to be sure it is properly indexed before inserting it into the gun.
7. If you ever need to reference the serial number of your gun, it is located on the underside of the gun, just to the rear of the grip on the rear housing.

Pressurizing the gun:

1. Do not partially unscrew the tank from a gun and then try to screw it back in. This will almost always damage the tank o-ring. Instead, fully remove the tank, lubricate the o-ring and then screw the tank back onto the gun.
2. Do not dry fire an AT-Series gun without a magazine inserted.
3. With an empty magazine installed, dry fire a few rounds to assure that the gun fires in both semi-automatic and automatic modes. Watch the chain lugs or the orange indexing insert to assure that the magazine is indexing properly.

Firing the gun:

1. It is normal for air to exhaust from the rear of the gun after each shot. A steady stream of air when the gun is fired is considered a leak.
2. For AT85 Series guns: To keep paintballs properly fed into the chain mechanism of the magazine, it is sometimes necessary to rock the gun in a gentle forward and rear motion. This will allow a steady stream of balls to be fired without "blank" shots.

## Repairing the gun:

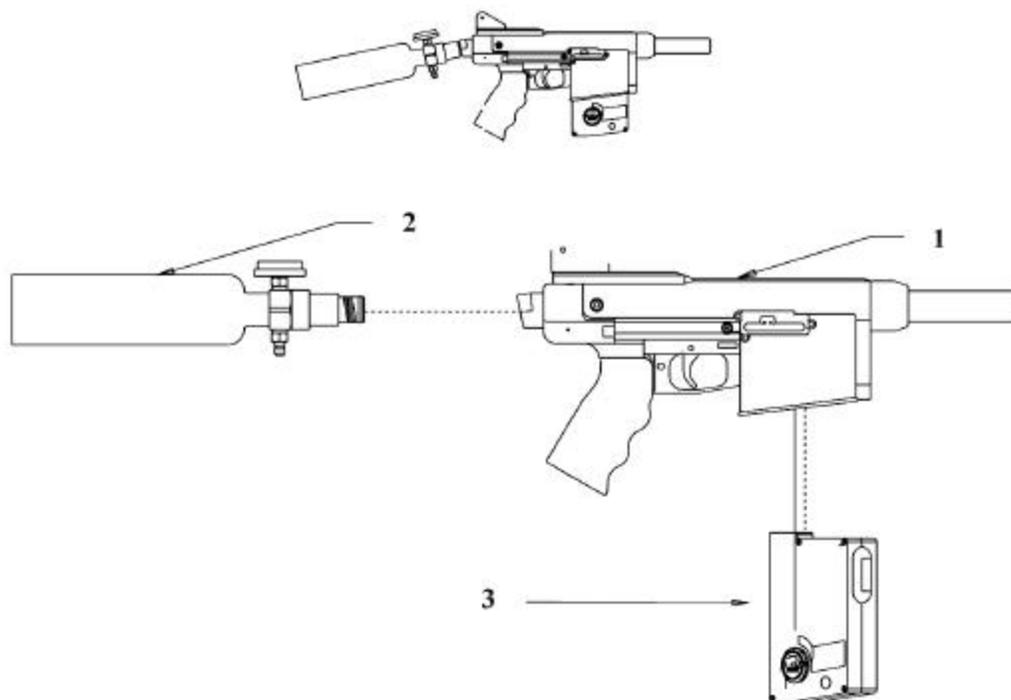
1. Magazine note: Using chain lubricants to “help” the chain be smooth can degrade the plastic and cause it to crack or shatter. The magazine is designed to keep up with the gun’s high performance features, and no further modification is required.
2. When replacing a broken guide plate, remember to pressurize the gun without the magazine inserted. Then attach the guide plate. This will locate the cog in the correct position, and prevent the leaf spring and the magazine from being damaged.
3. A.T. Systems does not recommend that you try to repair your gun beyond what is described in this Troubleshooting section. **For guns under warranty, you run the risk of voiding the warranty.**
4. If you need to return your gun for repairs, it is necessary for you to contact A.T. Systems before shipping it to us. Also, attach a description of the problem with your gun. This will help us pinpoint the problem much quicker, thus we will be able to return your gun to you sooner.

## VII. PART LISTS AND DRAWINGS

### Complete AT10 Paintball Gun

Item	Component	Description	Qty Required
		Part No.: AT10 HPA	
		Description: AT10 HPA Paintball Gun	
1	AT10HPA-BASE	AT10HPA Gun w/o Magazine	1
N/A	(AT10HPAT-BASE)	AT10 HPAT Gun w/o Magazine	1
N/A	(AT10-BASE)	AT10 CO <sub>2</sub> Gun w/o Magazine	1
2	TS1004-5RG	13 Cubic Inch HP Tank, Reg. w/ Gauge	1
N/A	(TS1004-5R)	13 Cubic Inch HP Tank, Reg.	1
N/A	(TS1004-47R)	47 Cubic Inch HP Tank, Reg. w/ Gauge	1
N/A	(TS1004)	12 oz. CO <sub>2</sub> Tank	1
3	TS1300M	Magazine Assembly w/ Mylar	1
N/A	(TS1300T)	Tactical Magazine Assembly w/ Mylar	1
N/A	(TS1300V)	Viewloader Magazine Assembly	1
N/A	(TS1300X)	Tactical Magazine Assembly w/o Mylar	1
N/A	(TS1300)	Magazine Assembly w/o Mylar	1

( ) Indicates that component is available, but not shown



## Base AT10 Gun

		Part No.:	AT10HPA-BASE
		Description:	AT10HPA Gun w/o Magazine
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1002	Grip Label	1
2	TS1100S	Receiver, Short	1
N/A	(TS1100ST)	Short Tactical Receiver for AT10	1
3	TS1110S	Barrel	1
4	TS1113-10	Uni-sizer	1
5	TS1160	Barrel O-ring	1
6	TS1185	Top Screw	2
7	TS1186	Side Screw	2
8	TS1200H	HPA Rear Housing Assembly	1
N/A	(TS1200)	CO <sub>2</sub> Rear Housing Assembly	1
9	TS1207	Grip	1
10	TS1280	Grip Screw	1
11	TS2300	Sight Housing Assembly	1
12	TS2400	Sleeve Assembly	1

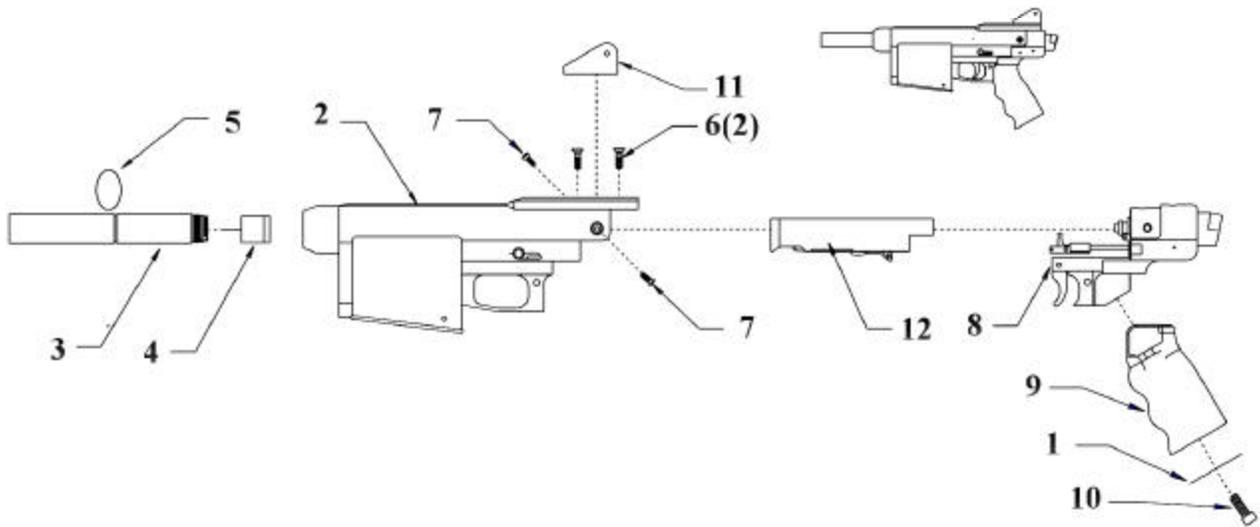
( ) Indicates that component is available, but not shown

### Available Version

Part No.: AT10-BASE  
 Description: AT10 Gun w/o Magazine  
 Features: TS1100S – Short Receiver  
 TS1200 – CO<sub>2</sub> Rear Housing

### Available Version

Part No.: AT10HPAT-BASE  
 Description: AT10HPAT Gun w/o Magazine  
 Features: TS1100ST – Short Tactical Receiver  
 Receiver  
 TS1200H – HPA Rear Housing



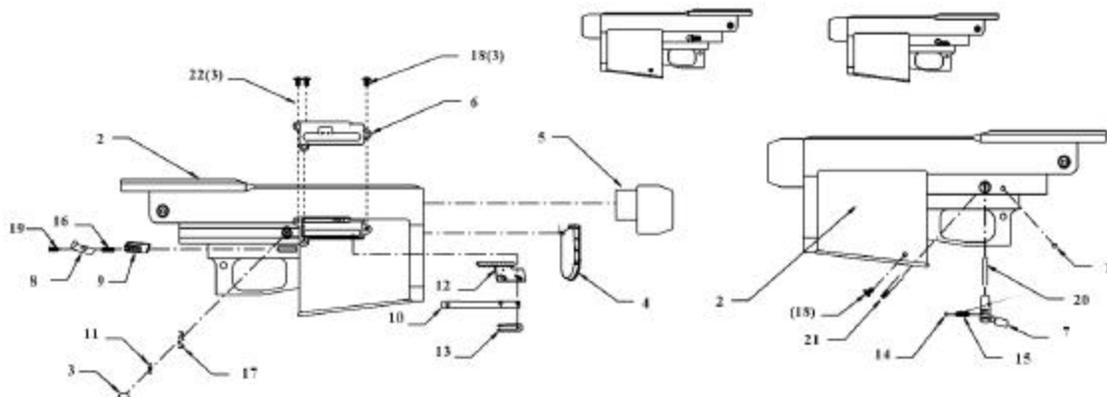
## Receiver, Short Version

		Part No.:	TS1100S
		Description:	Receiver, Short Version
Item	Component	Description	Qty Required
1	TS1005	Red Dot	1
2	TS1101	Receiver	1
3	**TS1101-3	Button Cover	1
4	TS1101-4	Receiver Plate	1
5	TS1101-5	Barrel Adapter	1
6	TS1102	Guide Plate	1
7	**TS1105-3	Selector 3 Position	1
N/A	(TS1105-T)	Selector, Tactical	1
8	TS1106	Clip Release Outer	1
9	TS1107	Clip Release Inner	1
10	TS1114	Cog Pull	1
11	**TS1117	Coupling Button	1
12	TS1120	Cog	1
13	TS1121	Cog Clip	1
14	TS1130	Chrome Steel Ball	1
15	TS1150	Selector Spring	1
16	TS1152	Clip Release Spring	1
17	**TS 1154	Button Spring	1
18	TS1180	Side Cover Screw	3
N/A	(TS1180)	Magazine Reversal Lock-out	1
19	TS1181	Clip Release Screw	1
20	TS1190	Selector Shaft	1
21	TS1191	Selector Retainer Pin	1
22	TS1863	Cycle Spool Dampener	3

( ) Available on TS1100ST only  
 \*\* Available on TS1100S only

### Available Version

Part No.: TS1100ST  
 Description: Receiver, Short Tactical  
 Features: 3-Position Tactical Selector  
 Magazine Reversal Lock-out  
 De-Coupling Port

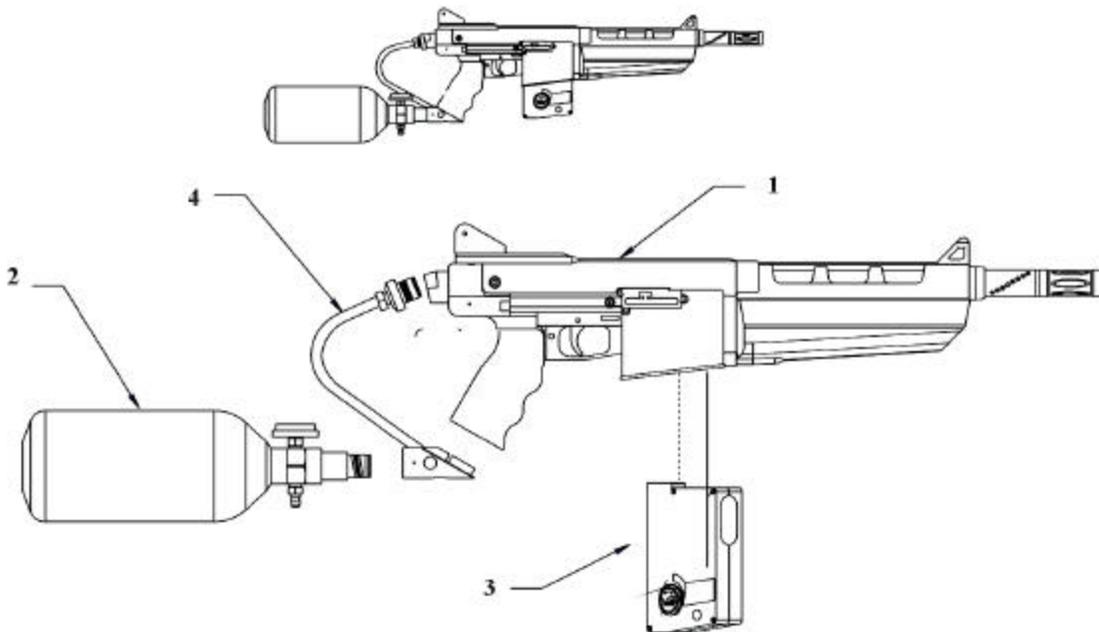


## Complete AT85 Paintball Gun

Part No.: AT85 HPA  
Description: AT85 HPA Paintball Gun

Item	Component	Description	Qty Required
1	AT85HPA-BASE	AT85 HPA Gun w/o Magazine	1
N/A	(AT85HPAT-BASE)	AT85 HPAT Gun w/o Magazine	
N/A	(AT85-BASE)	AT85 CO <sub>2</sub> Gun w/o Magazine	
2	TS1004-47R	47 Cubic Inch HP Tank, Reg. w/ Gauge	1
N/A	(TS1004-5RG)	13 Cubic Inch HP Tank, Reg. w/ Gauge	
N/A	(TS1004-5R)	13 Cubic Inch HP Tank, Reg.	
N/A	(TS1004)	12 oz. CO <sub>2</sub> Tank	
3	TS1300	Magazine Assembly	1
N/A	(TS1300T)	Tactical Magazine Assembly w/ Mylar	
N/A	(TS1300V)	Viewloader Magazine Assembly	
N/A	(TS1300X)	Tactical Magazine Assembly w/o Mylar	
N/A	(TS1300M)	Magazine Assembly w/ Mylar	
4	TS1090	Bottom Line Adapter Kit	

( ) Indicates that component is available, but not shown



## Base AT85 Gun

		Part No.:	AT85HPA-BASE
		Description:	AT85HPA Gun w/o Magazine
Item	Component	Description	Qty Required
1	TS1002	Grip Label	1
2	TS1100	Receiver Assembly	1
N/A	(TS1100T85)	Tactical Receiver for AT85	
3	TS1110	Barrel	1
4	TS1113-10	Uni-sizer	1
5	TS1160	Barrel O-ring	1
6	TS1185	Top Screw	2
7	TS1186	Side Screws	2
8	TS1200-H	HPA Rear Housing Assembly	1
N/A	(TS1200)	CO <sub>2</sub> Rear Housing Assembly	
9	TS1207	Grip	1
10	TS1280	Grip Screw	1
11	TS1400	Loader Assembly	1
12	TS2300	Sight Housing Assembly	1
13	TS2400	Sleeve Assembly	1

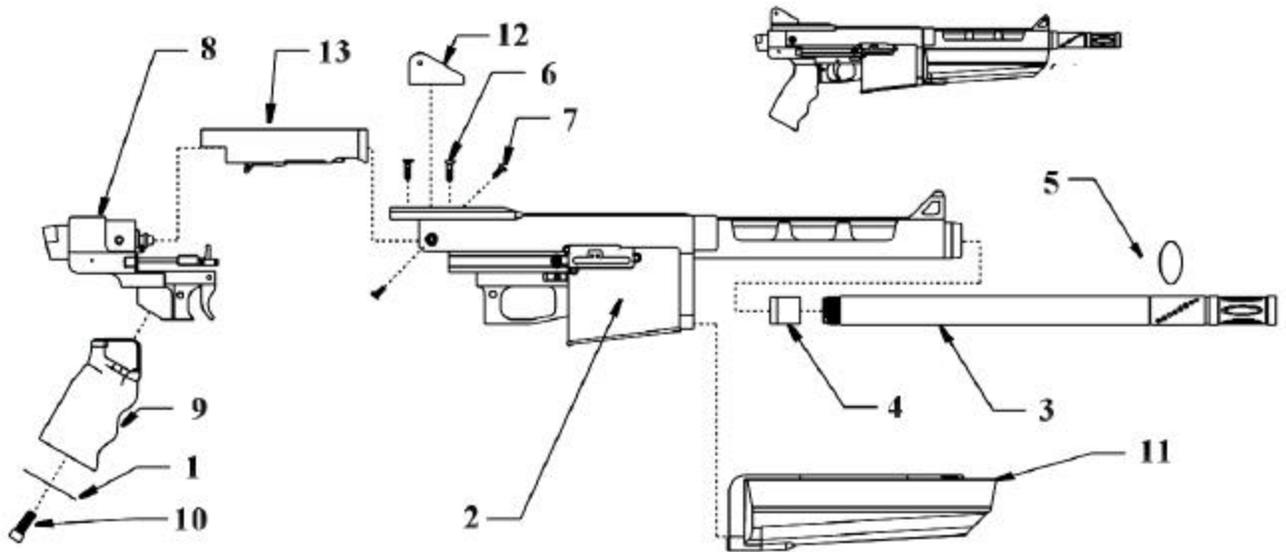
( ) Indicates that component is available, but not shown

Available Version

Part No.: AT85HPAT-BASE  
 Description: AT85HPAT Gun w/o Magazine  
 Features: TS1100T85 – Tactical Receiver  
 TS1200H – HPA Rear Housing

Available Version

Part No.: AT85-BASE  
 Description: AT85 Gun w/o Magazine  
 Features: TS1100 – Receiver  
 TS1200 – CO<sub>2</sub> Rear Housing



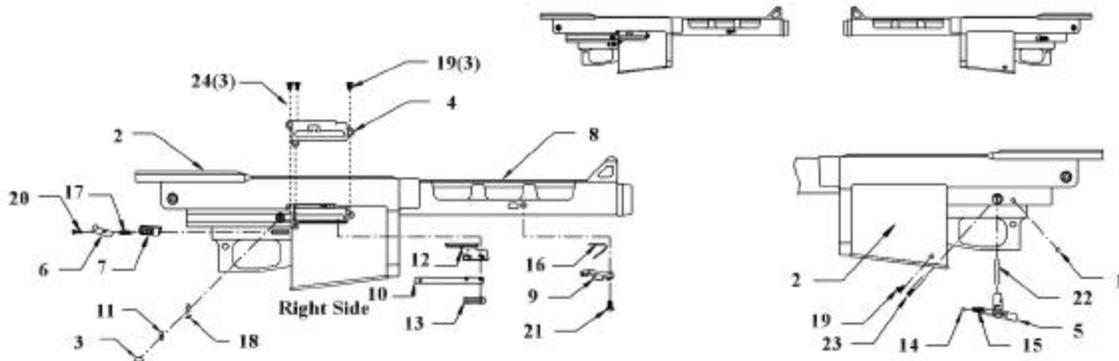
## Receiver for AT85

	Part No.:	TS1100	
	Description:	Receiver for AT85	
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1005	Red Dot	1
2	TS1101	Receiver	1
3	**TS1101-3	Button Cover	1
4	TS1102	Guide Plate	1
5	**TS1105-3	Selector 3 Position	1
N/A	(TS1105-T)	Selector - Tactical	
6	TS1106	Clip Release Outer	1
7	TS1107	Clip Release Inner	1
8	TS1108	Forend	1
9	TS1109	Loader Latch	1
10	TS1114	Cog Pull	1
11	**TS1117	Coupling Button	1
12	TS1120	Cog	1
13	TS1121	Cog Clip	1
14	TS1130	Chrome Steel Ball	1
15	TS1150	Selector Spring	1
16	TS1151	Latch Spring	1
17	TS1152	Clip Release Spring	1
18	**TS1154	Button Spring	1
19	TS1180	Side Cover Screw	3
N/A	(TS1180)	Magazine Reversal Lock-out	1
20	TS1181	Clip Release Screw	1
21	TS1182	Loader Latch Screw	1
22	TS1190	Selector Shaft	1
23	TS 1191	Selector Retainer Pin	1
24	TS1863	Cycle Spool Dampener	3

( ) Available on TS1100T85 only  
 \*\* Available on TS1100 only

### Available Version

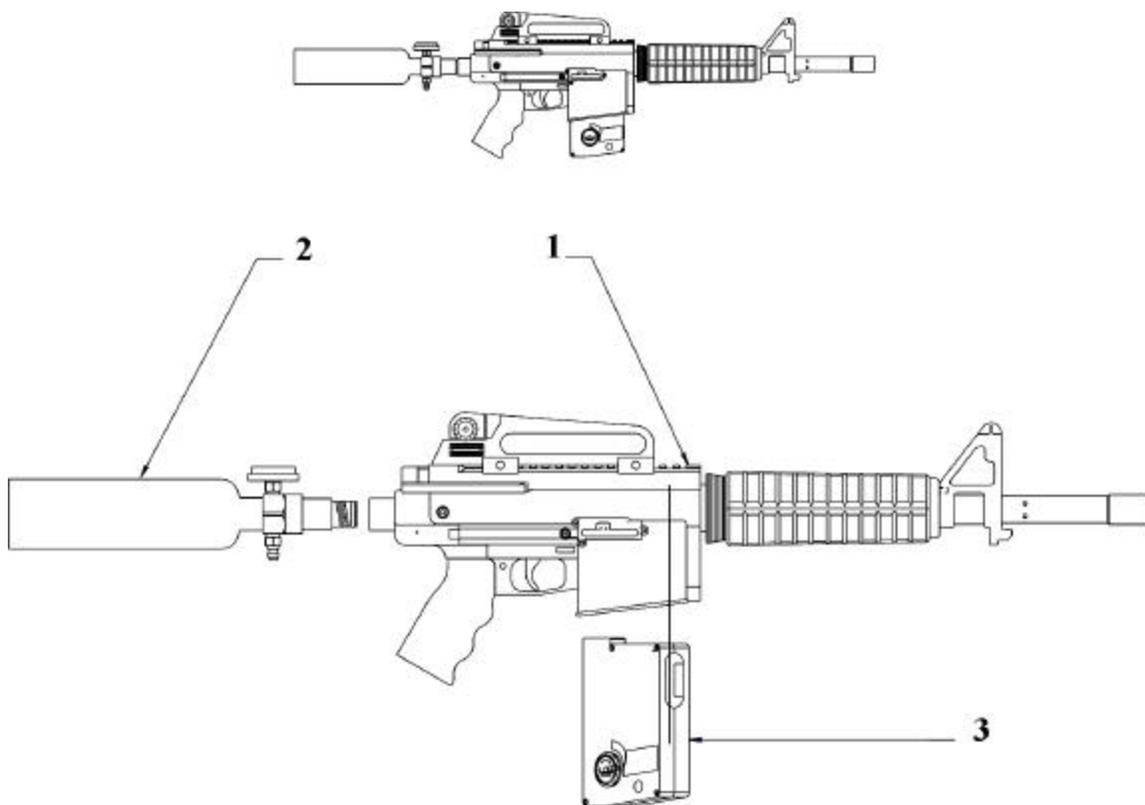
Part No.: TS1100T85  
 Description: Tactical Receiver for AT85  
 Features: 3-Position Tactical Selector, Magazine Reversal Lock-out,  
 De-coupling Port



## Complete AT4 Paintball Gun

		Part No.:	AT4
		Description:	AT4 Paintball Gun
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	AT4-BASE	AT4 Gun w/o Magazine	1
2	TS1004-5RG	13 Cubic inch HP Tank, Reg. w/ Gauge	1
N/A	(TS1004-47R)	47 Cubic Inch HP Tank, Reg w. Gauge	
3	TS1300M	Magazine Assembly w/ Mylar	1
N/A	(TS1300T)	Tactical Magazine Assembly w/ Mylar	
N/A	(TS1300V)	Viewloader Magazine Assembly	
N/A	(TS1300X)	Tactical Magazine Assembly w/o Mylar	
N/A	(TS1300)	Magazine Assembly w/o Mylar	

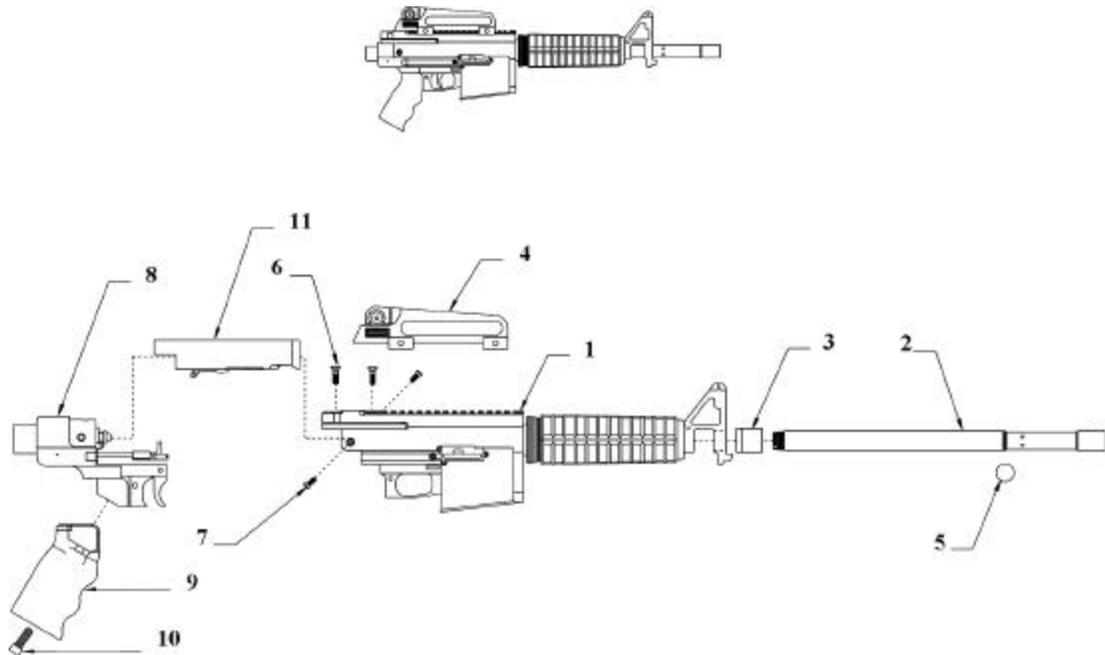
( ) Indicates that component is available, but not shown



## Base AT4 Gun

Part No.: AT4 - Base  
 Description: AT4 Gun w/o Magazine

<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1100T4	Tactical Receiver, AT4	1
2	TS1110-5	Barrel, 16"	1
3	TS1113-1	Uni-sizer	1
4	TS1126	Handle, Tactical	1
5	TS1160	Barrel O-ring	1
6	TS1185	Top Screw	2
7	TS1186	Side Screws	2
8	TS1200T	Tactical Rear Housing	1
9	TS1207	Grip	1
10	TS1280	Grip Screw	1
11	TS2400	Sleeve Assembly	1

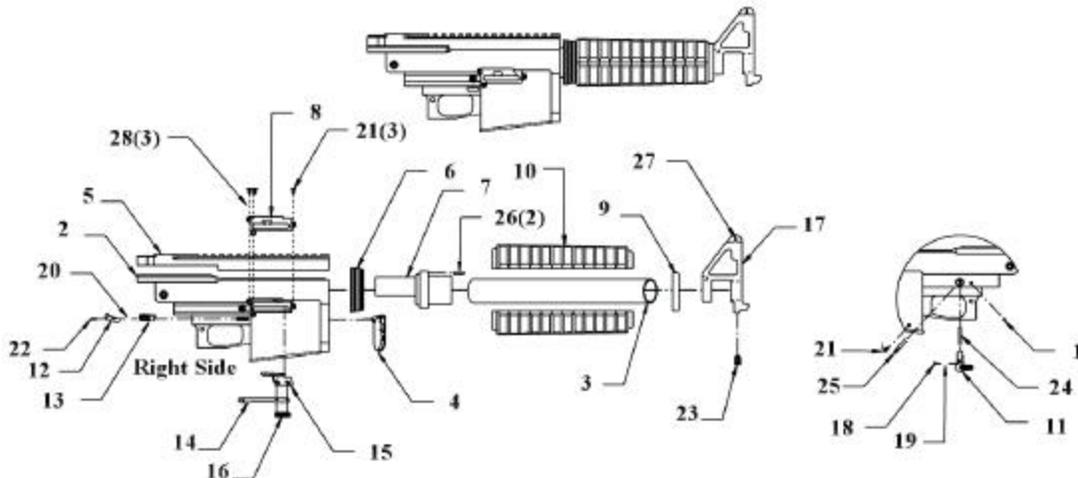


## Tactical Receiver for AT4

Part No.: TS1100T4  
Description: Tactical Receiver for AT4

Item	Component	Description	Qty Required
1	TS1005	Red Dot	1
2	TS1101	Receiver	1
3	TS1101-11	Barrel Sleeve, AT4	1
4	TS1101-4	Receiver Plate	1
5	TS1101-7	Flat Top Rail	1
6	TS1101-8	Slip Ring	1
7	TS1101-9	Foremount	1
8	TS1102	Guide Plate	1
9	TS1103	Handguard Cap, AT4	1
10	TS1103-1	Handguard Set	1
11	TS1105-T	Selector, Tactical	1
N/A	(TS1105-3)	Selector, 3-Position	
12	TS1106	Clip Release Outer	1
13	TS1107	Clip Release Inner	1
14	TS1114	Cog Pull	1
15	TS1120	Cog	1
16	TS1121	Cog Clip	1
17	TS1125	Sight, Tactical	1
18	TS1130	Chrome Steel Ball	1
19	TS1150	Selector Spring	1
20	TS1152	Clip Release Spring	1
21	TS1180	Side Cover Screw	4
22	TS1181	Clip Release Screw	1
23	TS1183	Tactical Sight Set Screw	1
24	TS1190	Selector Shaft	1
25	TS1191	Selector Retainer Pin	1
26	TS1194	Sight Blade Shaft	2
27	TS1290	Trigger Pin	1
28	TS1863	Cycle Spool Dampener	3

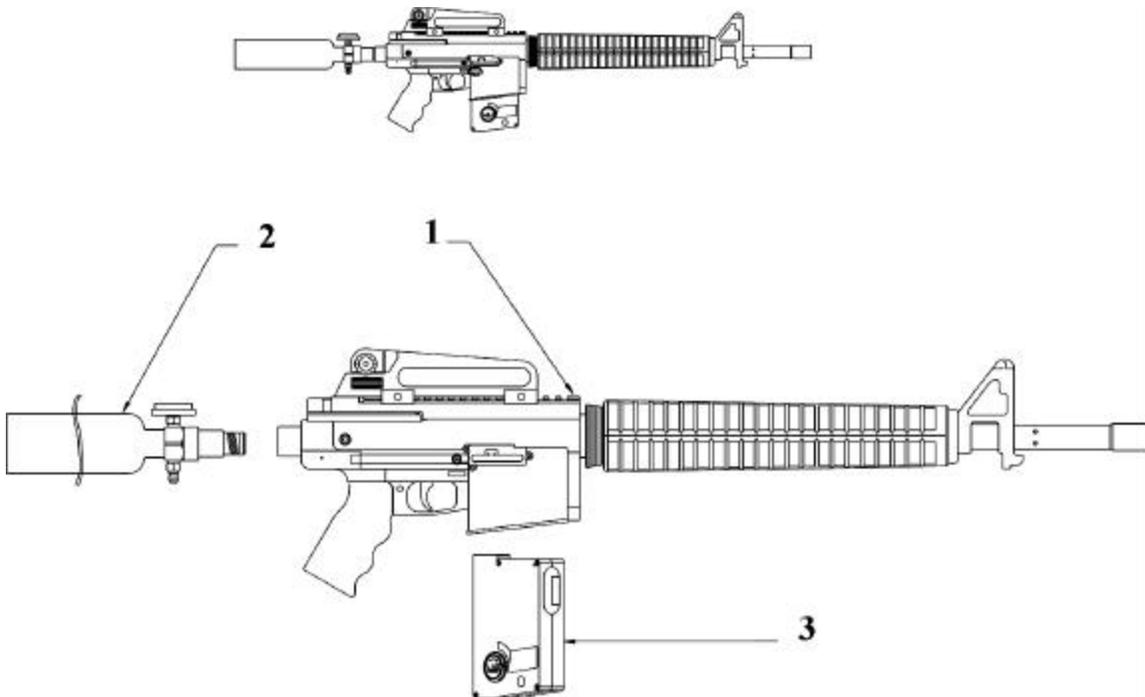
( ) Indicates that component is available, but not shown



## Complete AT16 Paintball Gun

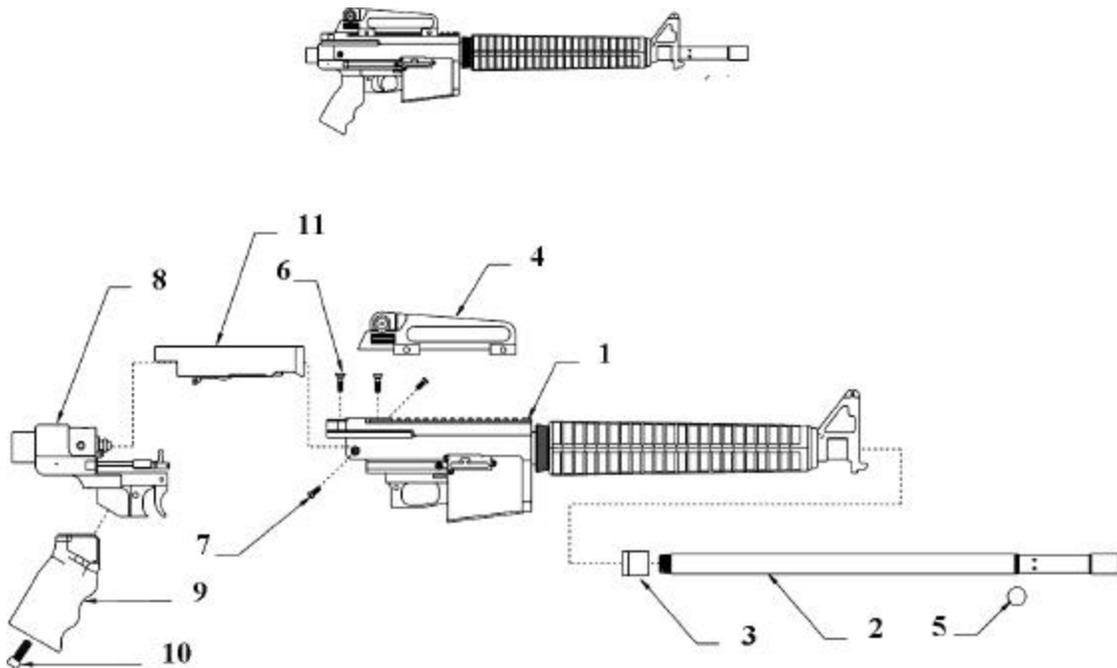
		Part No.: AT16	
		Description: AT16 Paintball Gun	
Item	Component	Description	Qty Required
1	AT16-BASE	AT16 Gun w/o Magazine	1
2	TS1004-5RG	13 Cubic inch HP Tank, Reg. w/ Gauge	1
N/A	(TS1004-47R)	47 Cubic Inch HP Tank, Reg w. Gauge	
3	TS1300M	Magazine Assembly w/ Mylar	1
N/A	(TS1300T)	Tactical Magazine Assembly w/ Mylar	
N/A	(TS1300V)	Viewloader Magazine Assembly	
N/A	(TS1300X)	Tactical Magazine Assembly w/o Mylar	
N/A	(TS1300)	Magazine Assembly w/o Mylar	

( ) Indicates that component is available, but not shown



## Base AT16 Gun

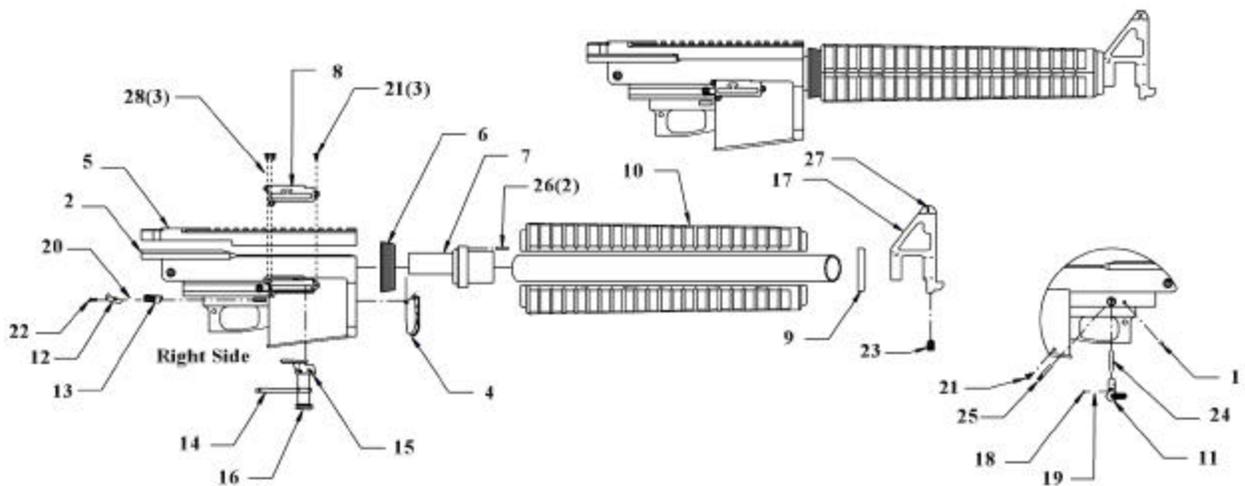
		Part No.:	AT16 - Base
		Description:	AT16 Gun w/o Magazine
Item	Component	Description	Qty Required
1	TS1100T16	Tactical Receiver, AT16	1
2	TS1110-5	Barrel, 23"	1
3	TS1113-1	Uni-sizer	1
4	TS1126	Handle, Tactical	1
5	TS1160	Barrel O-ring	1
6	TS1185	Top Screw	2
7	TS1186	Side Screws	2
8	TS1200T	Tactical Rear Housing	1
9	TS1207	Grip	1
10	TS1280	Grip Screw	1
11	TS2400	Sleeve Assembly	1



## Tactical Receiver for AT16

		Part No.:	TS1100T16
		Description:	Tactical Receiver for AT16
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1005	Red Dot	1
2	TS1101	Receiver	1
3	TS1101-12	Barrel Sleeve, AT16	1
4	TS1101-4	Receiver Plate	1
5	TS1101-7	Flat Top Rail	1
6	TS1101-8	Slip Ring	1
7	TS1101-9	Foremount	1
8	TS1102	Guide Plate	1
9	TS1103-16	Handguard Cap, AT16	1
10	TS1103-2	Handguard Set, AT16	1
11	TS1105-T	Selector, Tactical	1
N/A	(TS1105-3)	Selector, 3-Position	
12	TS1106	Clip Release Outer	1
13	TS1107	Clip Release Inner	1
14	TS1114	Cog Pull	1
15	TS1120	Cog	1
16	TS1121	Cog Clip	1
17	TS1125	Sight, Tactical	1
18	TS1130	Chrome Steel Ball	1
19	TS1150	Selector Spring	1
20	TS1152	Clip Release Spring	1
21	TS1180	Side Cover Screw	4
22	TS1181	Clip Release Screw	1
23	TS1183	Tactical Sight Set Screw	1
24	TS1190	Selector Shaft	1
25	TS1191	Selector Retainer Pin	1
26	TS1194	Sight Blade Shaft	2
27	TS1290	Trigger Pin	1
28	TS1863	Cycle Spool Dampener	3

( ) Indicates that component is available, but not shown

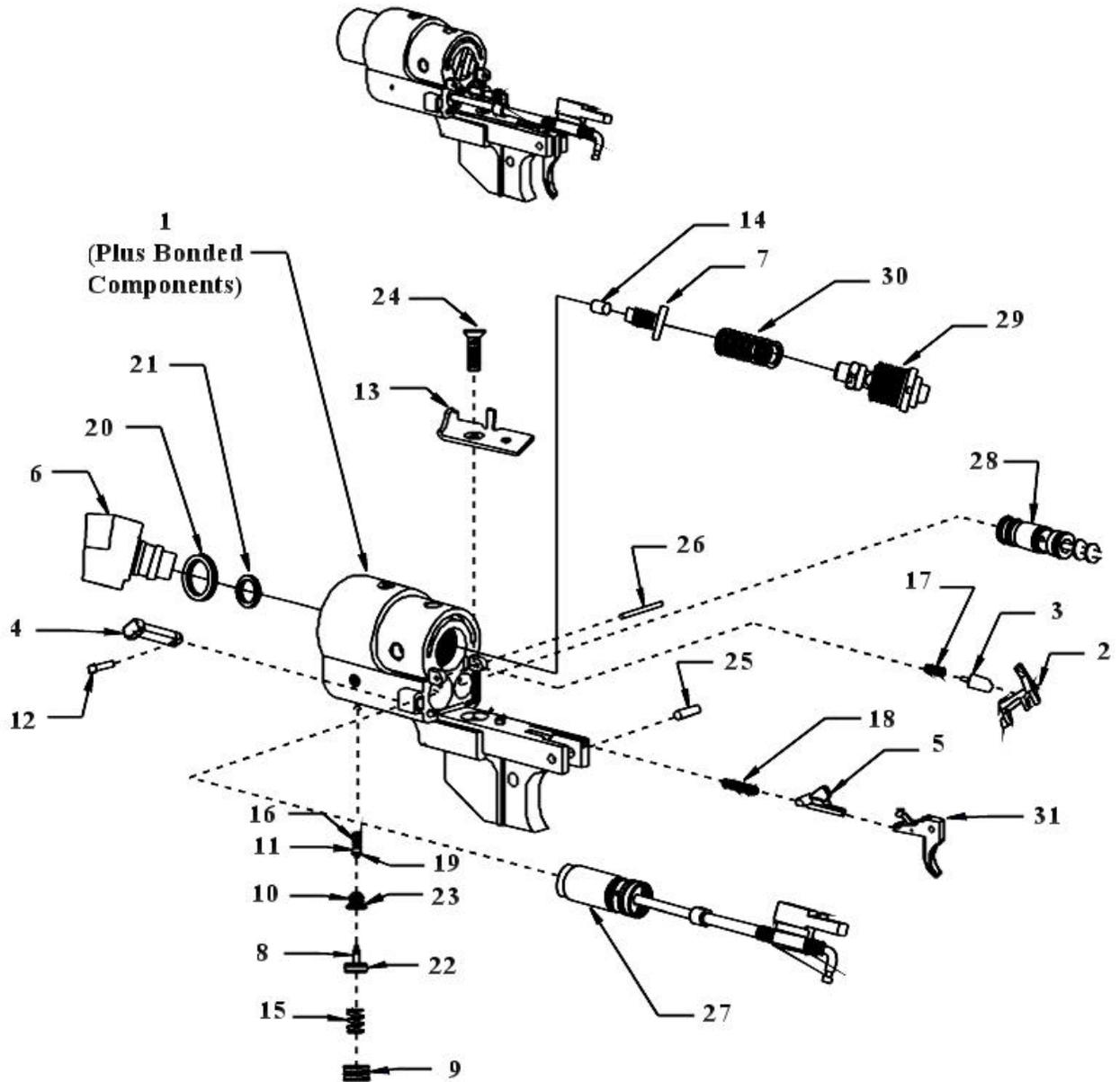


## Rear Housing Assembly

<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
		Part No.: TS1200H	
		Description: HPA Rear Housing Assembly	
1	TS1201	Rear Housing + Bonded Components	1
2	TS1204	Rocker	1
3	TS1205	Follower	1
4	TS1206	Reset	1
5	TS1208	Safety	1
6	**TS1210-2	Rear Air Source Adapter for HPA	1
N/A	*TS1210-1	Air Source Adapter, Tactical	1
N/A	***TS1210	Rear Air Source Adapter	1
7	TS1212	Valve Screw	1
8	TS1213	Regulator Piston	1
9	TS1214	Regulator Screw	1
10	TS1215	Regulator Sleeve	1
11	TS1216	Regulator Poppet	1
12	RS1219	Reset Pin	1
13	TS1220	Retainer	1
14	***TS1221	ASA Filter	1
15	TS1252	Regulator Spring	1
16	TS1253	Regulator Poppet Spring	1
17	TS1254	Follower Spring	1
18	TS1255	Safety Spring	1
19	TS1260	Regulator Poppet Seal	1
20	TS1261	Adapter Seal Rear	1
21	TS1262	Adapter Seal Front	1
22	TS1264	Regulator Piston O-ring	1
23	TS1267	Regulator Sleeve Seal	1
24	TS1284	Retainer Screw	1
25	TS1290	Trigger Pin	1
26	TS1292	Rocker Shaft	1
27	TS1700	Piston Assembly	1
28	TS1800A	Cycle Assembly	1
N/A	***TS1800X	CO <sub>2</sub> Cycle Assembly	1
29	TS1900	Valve Tube Assembly	1
30	TS1950	Valve Tube Spring	1
31	TS2200	Trigger Assembly	1
		* Used on TS1200T only	
		** Used on TS1200H only	
		*** Used on TS1200 only	

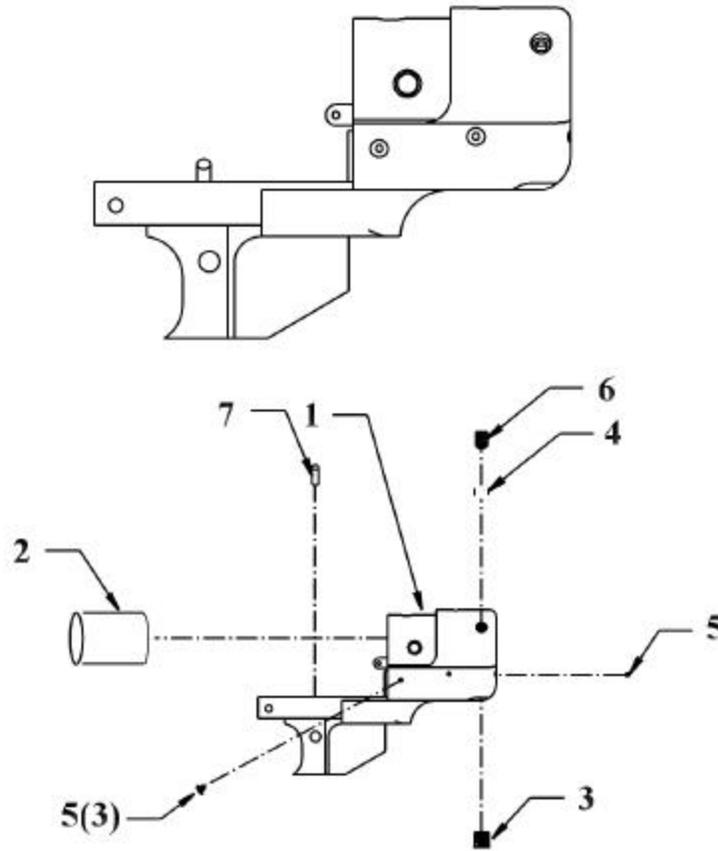
Available Version

Part No.: TS1200T  
Description: Tactical Rear Housing Assembly  
Features: Tactical ASA  
No ASA Filter



## Rear Housing with Bonded Components

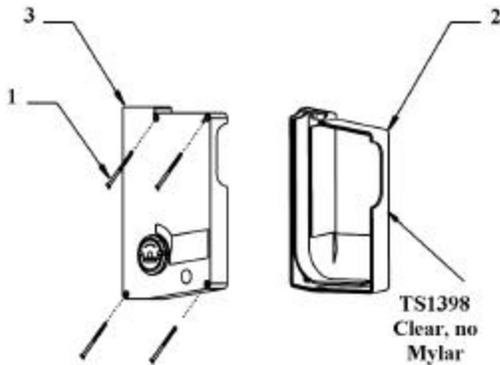
		Part No.:	TS1201 Bonded
		Description:	Rear Housing with Bonded Components
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1201	Rear Housing	1
2	TS1211	Main Valve Body	1
3	TS1215-1	Regulator Insert	1
4	TS1222	Regulator Filter	1
5	TS1281	Manifold Screw (LP)	3
6	TS1286	Filter Backup Screw	1
7	TS1294	Retainer Pin	1



## Magazine Assembly

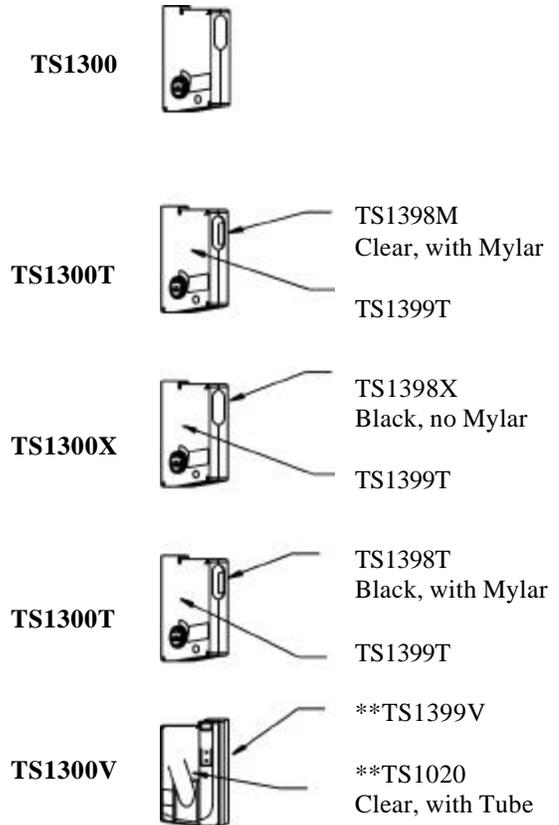
		Part No.: TS1300	
		Description: Magazine Assembly	
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1380	Screw	4
2	TS1398	Magazine Left Assembly	1
N/A	(TS1398M)	Magazine Left Assembly – Clear w/ Mylar	1
N/A	(TS1398X)	Magazine Left Assembly - Black	1
N/A	(TS1398T)	Magazine Left Assembly – Black w/ Mylar	1
N/A	**TS1020	Magazine Left, Viewloader Adapter	1
3	TS1399T	Tactical Magazine Right Assembly	1
N/A	**TS1399V	Magazine Right Assembly for Viewloader	1

( ) Indicates that component is available, but not shown  
 \*\* To be used with TS1300V - Viewloader Magazine Assembly only



### Available Version

Part No.: TS1300M, TS1300X, TS1300T and TS1300V  
 Description: Magazine Assemblies  
 Features: See below



## Magazine Left Assembly

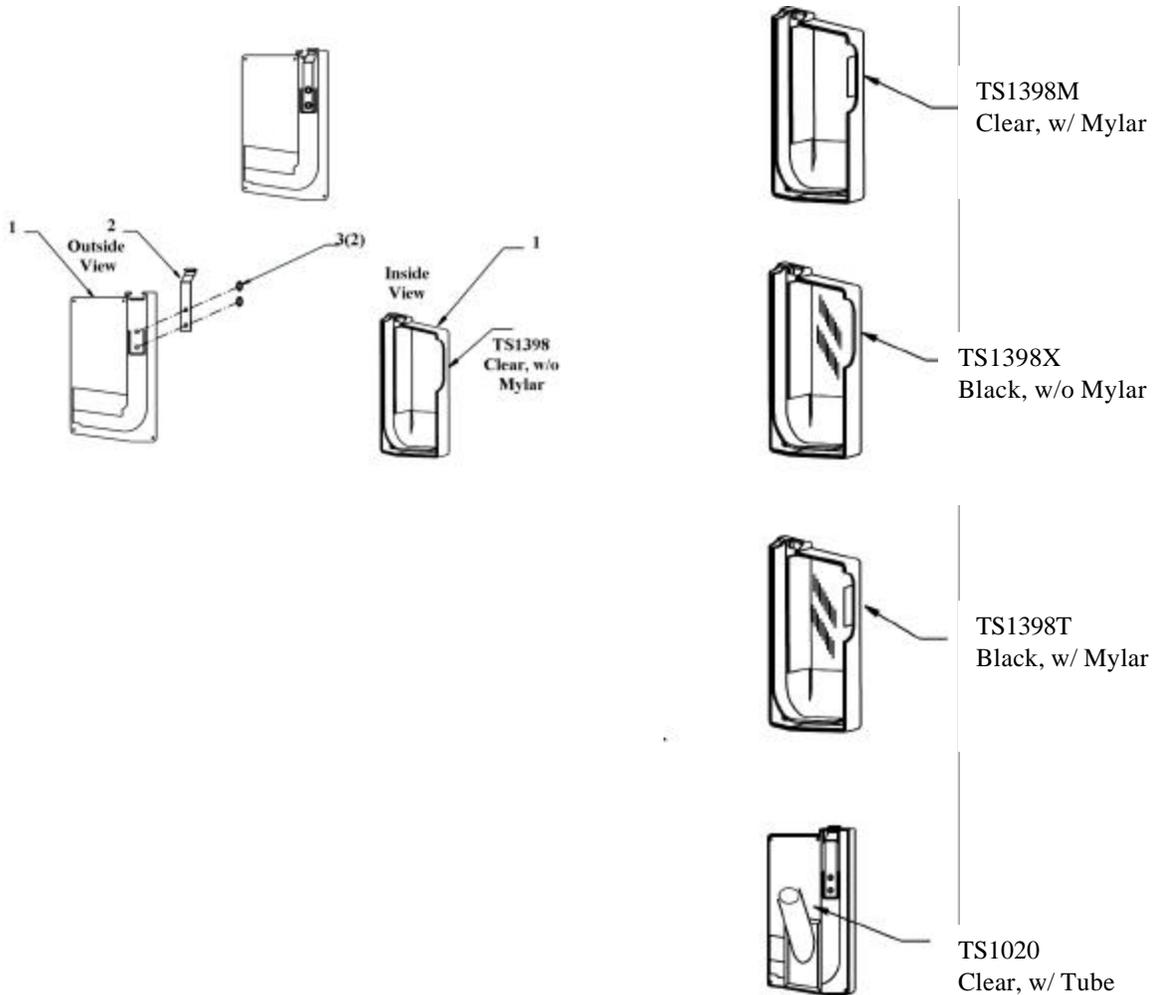
	Part No.:	TS1398	
	Description:	Magazine Left Assembly	
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1302	Magazine Cover Left	1
N/A	(TS1302M)	Magazine Cover Left, w/ Mylar	1
N/A	(TS1302X)	Magazine Cover Left	1
N/A	(TS1302T)	Magazine Cover Left, w/ Mylar	1
2	TS1322	Spring Guide	1
3	TS1371	Spring Guide Retainer	2
( ) Indicates that component is available, but not shown			

Available Versions:

Part No.: TS1398M, TS1398X, TS1398T and TS1020

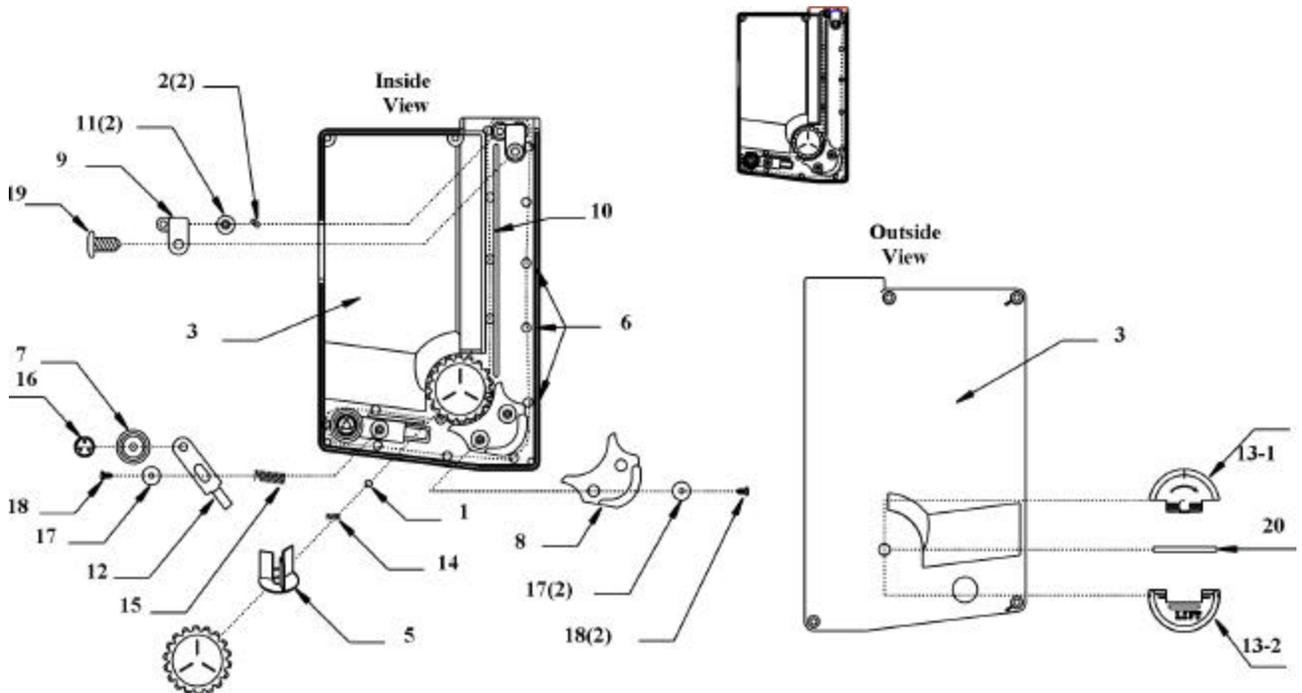
Description: Magazine Left Assemblies

Features: See below



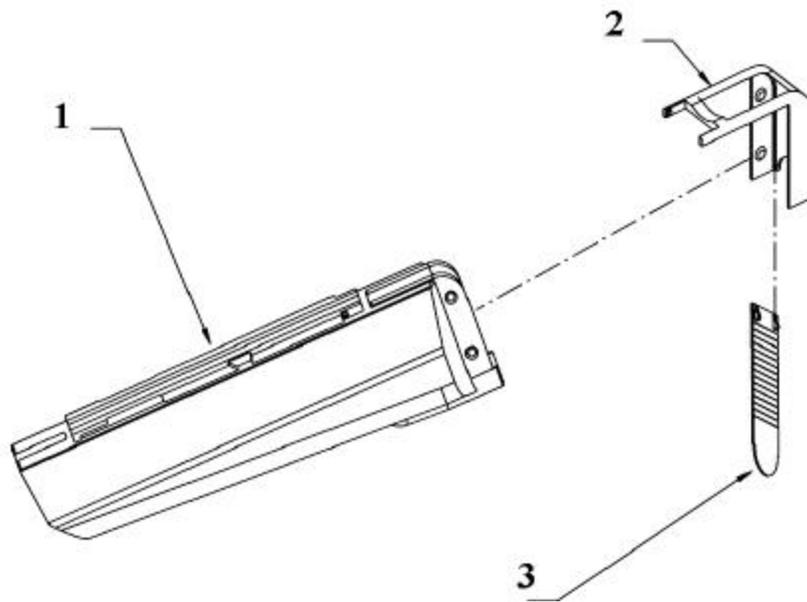
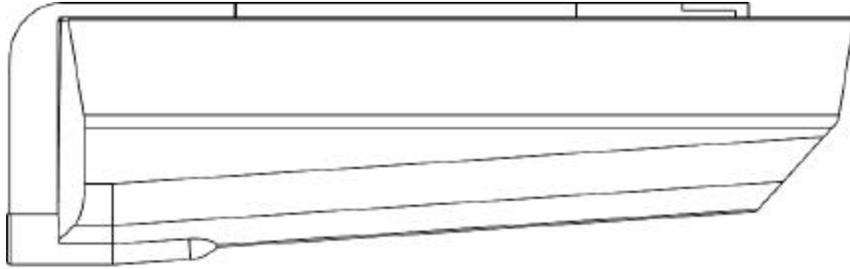
## Magazine Right Assembly

		Part No.:	TS1399T
		Description:	Tactical Magazine, Right
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1130	Indexer Ball/Selector Ball	1
2	TS1291	Pawlpin/Axle	2
3	TS1301T	Tactical Clip Cover Right	1
4	TS1303	Indexer	1
5	TS1303-1	Indexer Insert	1
6	TS1304	Cushion	16
7	TS1306	Idler	1
8	TS1307	Chain Guide	1
9	TS1308	Top Rollplate	1
10	TS1310	Chain	1
11	TS1311	Top Roll	2
12	TS1320	Tensioner	1
13.1	TS1309-1	Indexer Crank Base	1
13.2	TS1309-2	Indexer Crank Handle	1
14	TS1350	Indexer Spring	1
15	TS1351	Tensioner Spring	1
16	TS1370	Retaining Ring	1
17	TS1379	Tensioner/Guide Washer	3
18	TS1382	Tensioner/Guide Screw	3
19	TS1386	Top Plate Screw	1
20	TS1391	Crank Pin	1



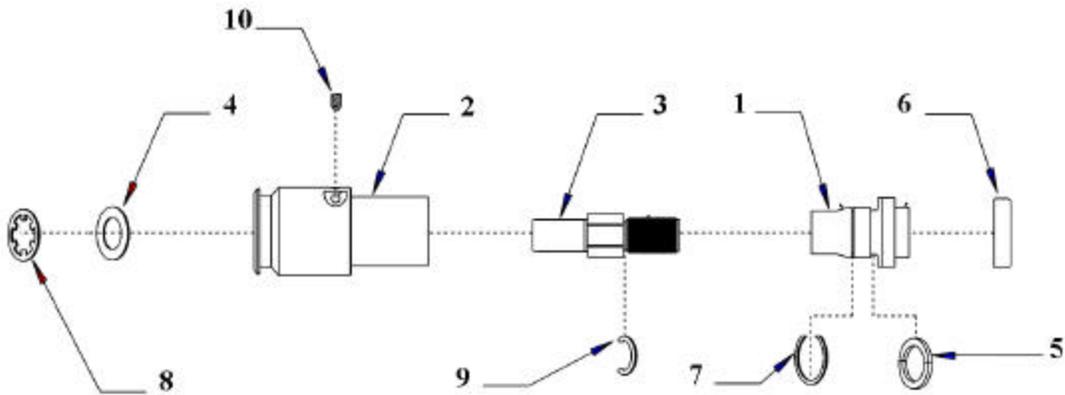
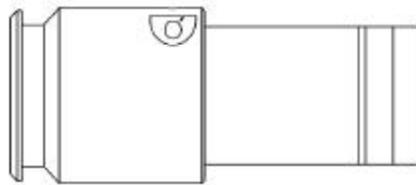
## Loader Assembly

		Part No.:	TS1400
		Description:	Loader Assembly
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1401	Forward Magazine	1
2	TS1402	Forward Magazine Cap	1
3	TS1403	Forward Magazine Gate	1



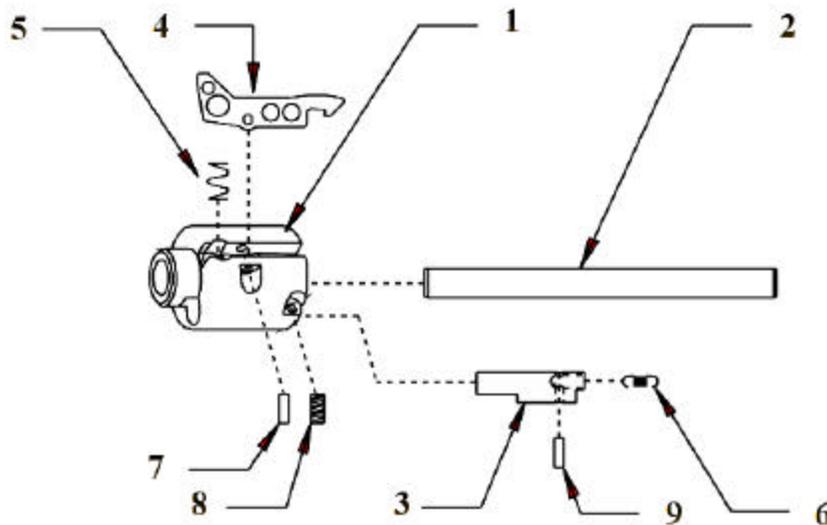
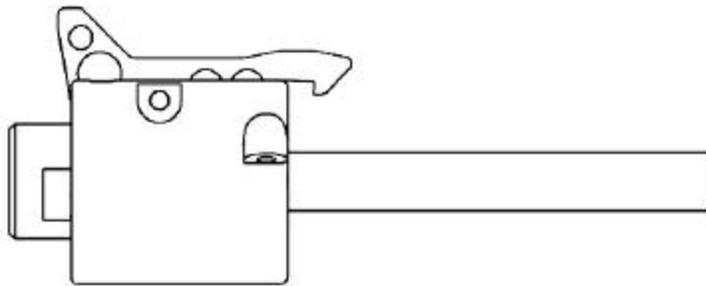
## Bolt Assembly

		Part No.:	TS1500
		Description:	Bolt Assembly
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1501	Bolt Front	1
2	TS1510	Bolt Body	1
3	TS1512	Bolt Sleeve	1
4	TS1540	Bolt Washer	1
5	TS1560	Bolt Nut O-ring	1
6	TS1561	Bolt Seal	1
7	TS1570	Bolt Nut Retainer	1
8	TS1571	Bolt Washer Retainer	1
9	TS1572	Bolt Sleeve Retainer	1
10	TS1581	Bolt Set Screw	1



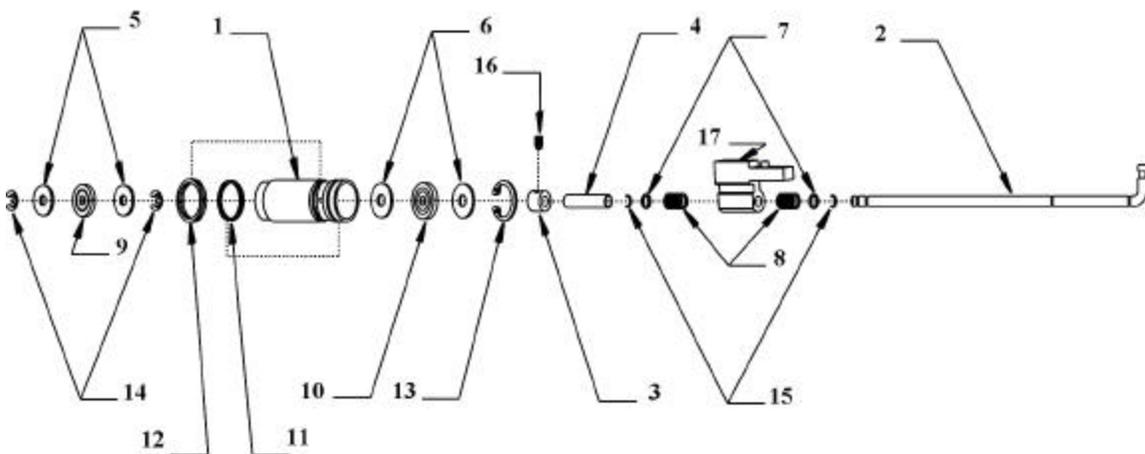
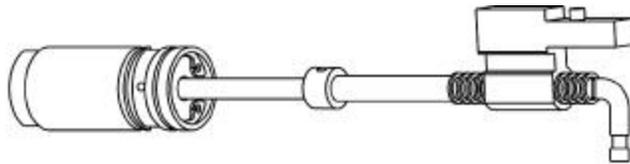
## Hammer Assembly

		Part No.:	TS1600
		Description:	Hammer Assembly
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1610	Hammer Body Heat Treated	1
2	TS1611	Guide Tube	1
3	TS1612	Striker	1
4	TS1620	Sear	1
5	TS1650	Sear Spring	1
6	TS1651	Striker Spring	1
7	TS1690	Sear Pin/Striker Spring Pin	1
8	TS1680	Striker Set Screw	1
9	TS1691	Striker Pin	1



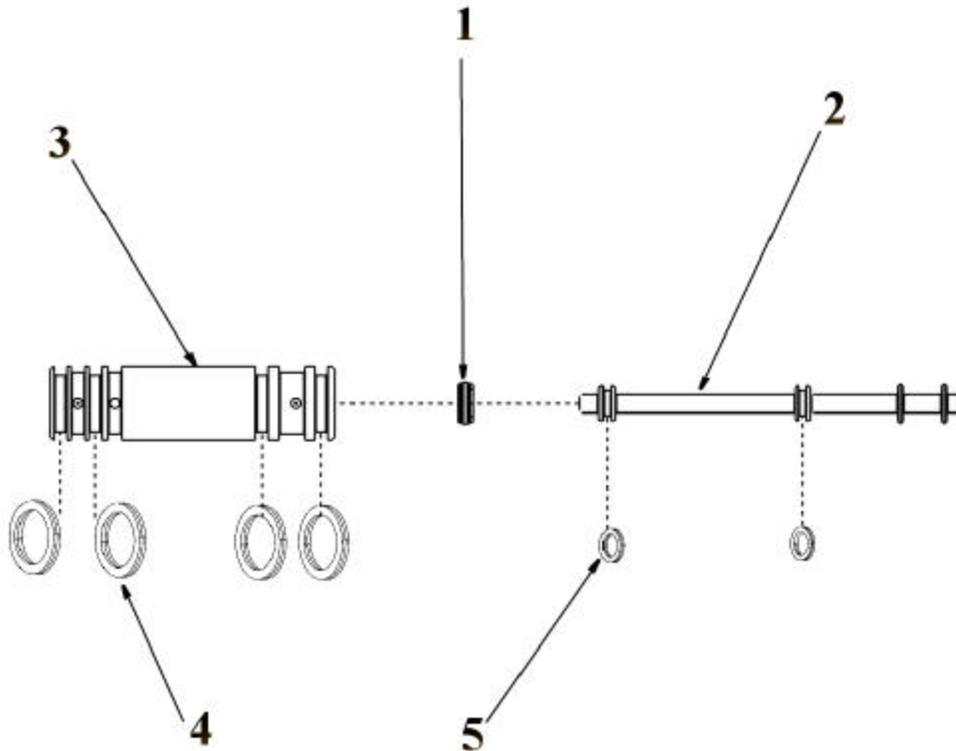
## Piston Assembly

		Part No.:	TS1700
		Description:	Piston Assembly
Item	Component	Description	Qty Required
1	TS1710	Cylinder Wall	1
2	TS1711	Piston Shaft	1
3	TS1712	Timing Collar	1
4	TS1715	Timing Collar Spacer	1
5	TS1740	Piston Washer	2
6	TS1742	Bulkhead Washer	2
7	TS1743	Coupling Spring Washer	2
8	TS1750	Coupling Spring	1
9	TS1760	Piston Seal	1
10	TS1761	Bulkhead Seal	1
11	TS1762	Cylinder Seal Front	1
12	TS1763	Cylinder Seal Rear	1
13	TS1770	Cylinder Retaining Ring	1
14	TS1771	Piston Retaining Ring	2
15	TS1772	Coupling Spring Retainer	2
16	TS1780	Timing Collar Set Screw	1
17	TS2000	Coupling Assembly	1



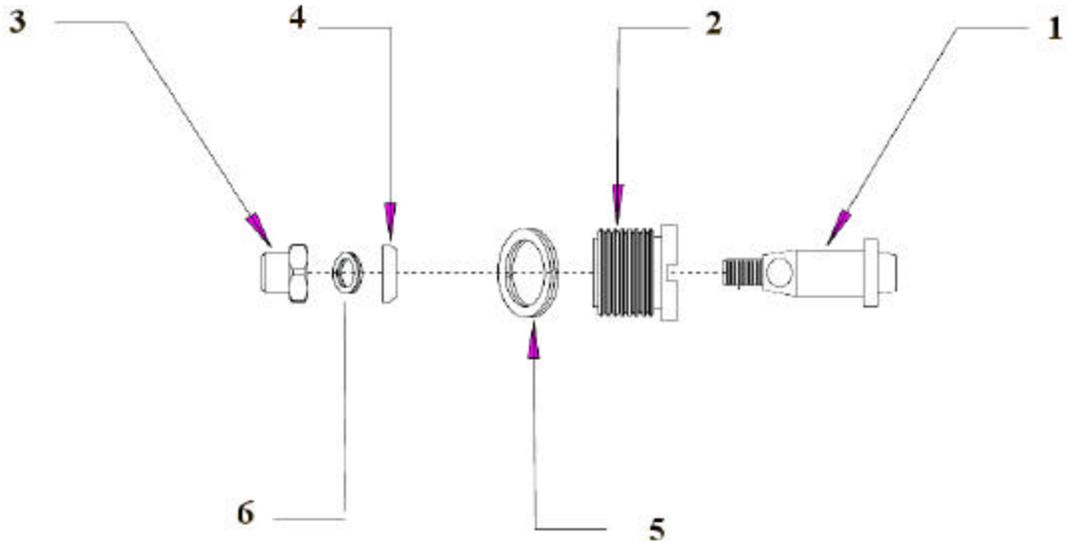
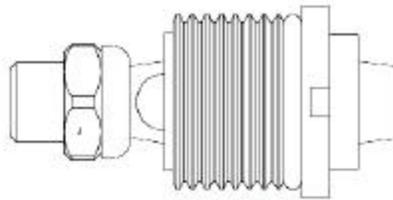
## Cycle Assembly

		Part No.: TS1800	
		Description: Cycle Assembly	
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1806	Bulkhead	1
2	TS1811	Cycle Valve Spool	1
3	TS1812	Cycle Valve Body	1
4	TS1864	Cycle Outer Seal, Large	4
5	TS1865	Spool Seal	2



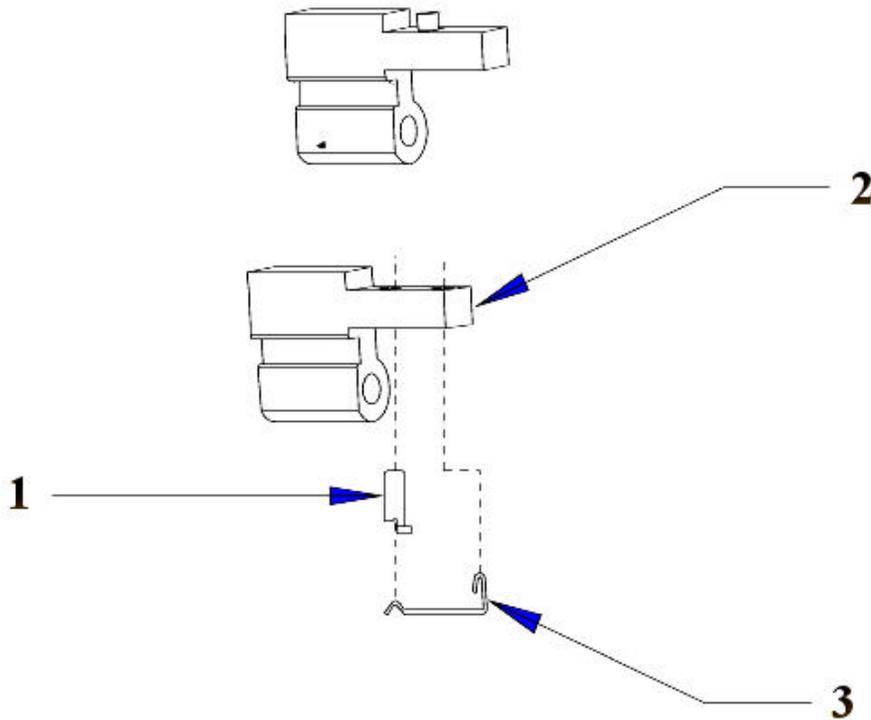
## Main Valve Assembly

		Part No.: TS1900	
		Description: Valve Tube Assembly	
Item	Component	Description	Qty Required
1	TS1910	Valve Tube	1
2	TS1911	Valve Seat	1
3	TS1912	Backing Nut	1
4	TS1913	Impulse Seal	1
5	TS1960	Valve Seat O-ring	1
6	TS1961	Backing Nut O-ring	1



## Coupling Assembly

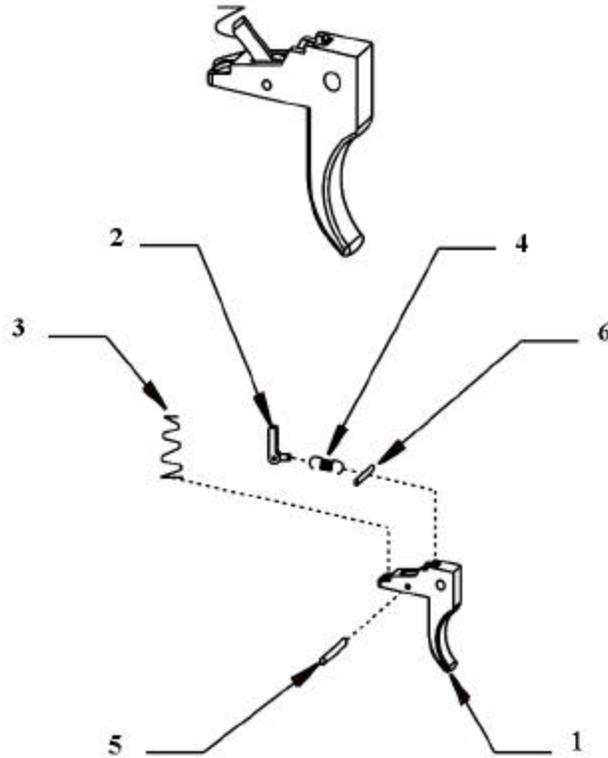
		Part No.:	TS2000
		Description:	Coupling Assembly
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1713	Coupling Pin	1
2	TS1714	Coupling	1
3	TS1751	Coupling Pin Spring	1



## Trigger Assembly

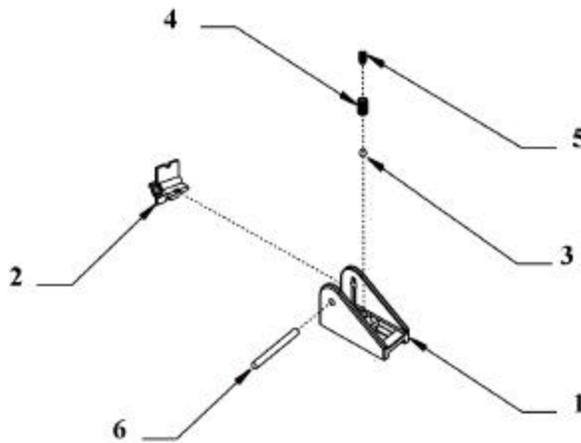
Part No.: TS2200  
Description: Trigger Assembly

<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1202	Trigger	1
2	TS1203	Pawl	1
3	TS1250	Trigger Spring	1
4	TS1251	Pawl Spring	1
5	TS1291	Pawlpin/Axle	1
6	TS1293	Pawlspring Pin	1



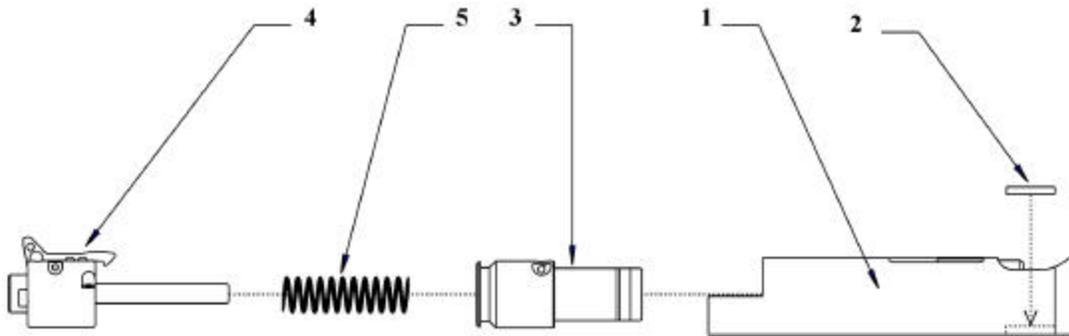
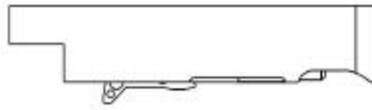
## Sight Assembly

		Part No.:	TS2300
		Description:	Sight Housing Assembly
<u>Item</u>	<u>Component</u>	<u>Description</u>	<u>Qty Required</u>
1	TS1101-1	Sight Housing	1
2	TS1101-2	Sight Blade	1
3	TS1131	Sight Blade Ball	1
4	TS1153	Sight Housing Spring	1
5	TS1187	Sight Housing Set Screw	1
6	TS1194	Sight Blade Shaft	1



## Sleeve Assembly

		Part No.:	TS2400
		Description:	Sleeve Assembly
Item	Component	Description	Qty Required
1	TS1111	Sleeve	1
2	TS1123	Sleeve Pad	1
3	TS1500	Bolt Assembly	1
4	TS1600	Hammer Assembly	1
5	TS1652	Hammer Spring	1



# AT10 Exploded Views

