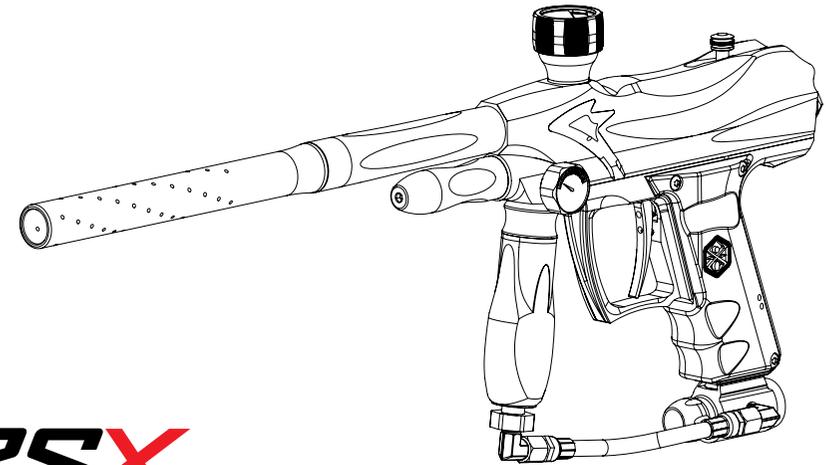




RSX

WITH EYE
USER MANUAL



RSX
WITH EYE

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IMPORTANT SAFETY GUIDELINES



WARNING

- This paintball marker is NOT a toy. It can cause serious injury or death.
- Kingman recommends that the customer be at least 18 years of age to purchase this product.
- Read this manual and air tank warnings before using this product.
- Any modifications or tampering of original factory parts will void all warranties and liabilities from Kingman.
- Kingman recommends using a barrel blocking device when the marker is not in operation.
- To ensure proper adjustment of velocity (fps), Kingman strongly recommends using a chronograph for paintball use located at most paintball stores and paintball fields.
- Before / after use of the marker, make sure to fasten all screws. Screws may become loose due to vibration. Loose screws can be dangerous and cause injury.
- Kingman STRONGLY recommends that any person using this product or within range of this product while it is in use MUST wear EYE/FACE PROTECTION designed specifically for the sport of paintball. This includes, but is not limited to, performing a maintenance check and during target practice.
- Kingman reminds the user that it is YOUR RESPONSIBILITY to protect your eyes/face at all times, and will not be held liable for injuries sustained when failing to wear the appropriate protection.
- Never shoot or point your marker at a person that is not in a designated paintball facility and without proper paintball protection.
- Treat every paintball marker as if it were loaded.
- Never look down the barrel of a loaded or unloaded marker.
- Always keep the paintball marker in SAFE or OFF mode until ready to operate.
- Always remove the gas source before disassembly.
- Fire only 0.68 caliber paintballs with this product.
- Always make certain the bolt is in the un-cocked position when marker is not in use.
- Using a paintball marker outside of a non designated paintball field can be illegal, and is subject to law enforcement penalties if property damage is caused by the user.
- Transfer this instruction manual upon change of marker ownership.

OPERATION GUIDE / START UP



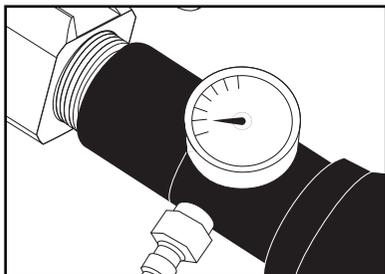
WARNING: Always keep the marker powered OFF or on SAFE until you are ready to fire.

1. Always attach a barrel blocking device over the tip of the barrel for safety precautions when the marker is not in use.
2. Install and charge the battery see pages (see Battery Charging / Installation).
3. Attach the Compressed Air Tank to the C/A On/Off adapter. **HELPFUL TIP:** Make sure to have the Compressed Air Tank filled before attaching to the marker. Tighten the Compressed Air Tank clockwise in the markers C/A On/Off adapter until it is snug. If an air leak occurs between the tank and the C/A On/Off adapter, replace the urethane bottle O-ring. **NOTE:** O-rings in the markers parts kit are not supplied to attach with a Compressed Air Tank. **IMPORTANT:** You should never need to use any hand tool to attach a Compressed Air Tank to the C/A On/Off adapter.
4. Attach an electronic loader on the Twist Clamp (#FND021) twist clockwise to fasten and counter clockwise to release the loader. Only use .68 caliber paintballs through the loader. **NOTE:** Kingman recommends that you use a force feed / high speed electronic loader to reach optimum performance.
5. Cocking the marker. Pull the Top Cocking Knob (#STK001) rearward until the Delrin bolt latches. **CAUTION:** Should you let go of the Top Cocking Knob before it latches, your marker may fire.
6. Remove the barrel blocking device. **CAUTION:** With the power switch turned ON the marker is LIVE. Pulling the trigger (#TRS005) will fire a paintball. **IMPORTANT:** Only test your marker in a safe direction or in a designated playing field.
7. Performing a velocity (fps) check. Turning the Velocity Adjuster / Spring Guide (#VTA021) clockwise will increase the velocity (fps) while turning counter-clockwise will decrease the velocity (fps). **NOTE:** This marker is equipped with a Regulator dial that can adjust the pressure from 0-600psi. (see Regulator Adjustment) **NOTE:** Your marker is intended to be used in a paintball facility with the proper paintball protection. **IMPORTANT:** Kingman recommends using a chronograph to ensure that the maker's velocity is under 300 (fps).
8. When finished playing, remove all paintballs from the paintball loader before detaching from the markers feed neck. **CAUTION:** There may be a paintball in the marker's breach; take a couple of shots in a safe direction to make sure the barrel and receiver are empty.
9. Place the barrel blocking device over the barrel tip. This will help avoid any accidental discharge.
10. Kingman recommends having the marker in the "SAFE or OFF" position after use.
11. Unscrew the Compressed Air Tank from the marker's C/A On/Off adapter. Turning the tank counter-clockwise will detach it from the marker's C/A On/Off adapter. **CAUTION:** Never expose any skin underneath the C/A On/Off adapters bleed hole when removing the tank. This can run the risk of getting skin burn from the releasing of the GAS. **IMPORTANT:** You should never need to use any hand tool to detach a Compressed Air Tank.
12. Store the marker in a paintball bag or in a safe place. **WARNING:** Before / after use of the marker, make sure to fasten all screws. Screws can become loose due to vibration. Loose screws can be dangerous and cause injury. **HELPFUL TIP:** It's a good practice to lubricate your marker before and after each use, especially when storing the marker for an extended period of time. Add a few drops of paintball gun oil or marker grease on the Striker O-ring (#ORG001) (see Disassemble / Reassemble). Before storing the marker, make sure the marker is in the un-cocked position. This will help the main spring maintain its tension.

IMPORTANT

- Firing velocity may vary according to altitude and climate conditions.
- Before using your marker in play, you must always first perform a "SAFE VELOCITY TEST". This can only be accomplished by using a testing device called a "Velocity Chronograph" and can be performed at a paintball dealership or local playing field.
- **NOTE:** This product is intended to be used at a velocity no greater than 300 feet per second (fps). This product is NOT intended to be used at any distance less than 25 feet.
- This paintball marker may have excess gas after the removal of the Compressed Air Tank. Please remove all paintballs and discharge the remaining gas safely.
- Never store a Compressed Air Tank attached on the marker while not supervised.

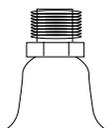
COMPRESSED AIR TANK WARNINGS



SAFE



WARNING: UNSAFE



DANGER

The CO2 or Compressed Air Tank can fly off with enough force to cause serious injury or death if the Valve unscrews from the cylinder head. LOOK at the Valve when removing the cylinder from the marker. Be sure that the valve is turning with the cylinder rather than remaining stationary with the marker. STOP if the Valve starts to unscrew from the cylinder. If in doubt, screw the cylinder back onto the marker and contact a trained person for repair.

COMPRESSED AIR TANK WARNINGS

Compressed Air Tank can fly off with enough force to cause serious injury or death if the Valve unscrews from the cylinder head. LOOK at the Valve when removing the cylinder from the marker. Be sure that the valve is turning with the cylinder rather than remaining stationary with the marker. STOP if the Tank Valve starts to unscrew from the cylinder. If in doubt, screw the cylinder back onto the marker and contact a trained person for repair.

COMPRESSED AIR TANK WARNINGS

- All valves must only be installed or removed by a qualified airsmith.
- See Compressed Air tank labels for retest dates. Cylinder tanks must be retested periodically.
- Improper use, filling, storage or disposal of all air cylinders may result in death, personal injury and/or property damage.
- Always keep cylinders out of reach from children or any inexperienced person(s).
- Only properly trained personnel in accordance with CGA Pamphlets P.1 and G-6.3 must fill all air cylinders. Pamphlets are available from the Compressed Gas Association or www.CGANET.com.
- Never alter the cylinder in any way.
- DO NOT expose pressurized cylinders to temperatures in excess of 130° F (54° C).
- Cylinders heated to an excess of 250° F (121° C) must be condemned or requalified in accordance with test defined in CFR-49.
- The valve should NEVER be detached from the canister. Please seek immediate assistance from a trained airsmith should this occur.
- Any tank packed with the product is intended for paintball use only.
- Confirm that there is an attached urethane O-ring on the Compressed Air tank valve before attaching the tank to the marker. The tank will leak air as soon as it is secured to the marker, if the O-ring is missing from the valve.
- A urethane O-ring is highly recommended before attaching any air supply to the marker.
- NEVER over pressurize a Compressed Air cylinder.
- Avoid any direct skin exposure to the escaping gas, when installing or removing any air supply.
- Never expose cylinders to corrosive materials or clean with any caustic cleaners.

INSTALLING A COMPRESSED AIR TANK

Firmly screw the Compressed Air Tank clockwise into the markers C/A On/Off adapter (#ASA020). **HELPFUL TIP:** Before installing a Compressed Air Tank, make sure that the tank is full and that it has a urethane bottle on the top of the valve to prevent air leaks. **IMPORTANT:** You should never need to use any hand tool to attach a Compressed Air Tank to the C/A On/Off adapter.

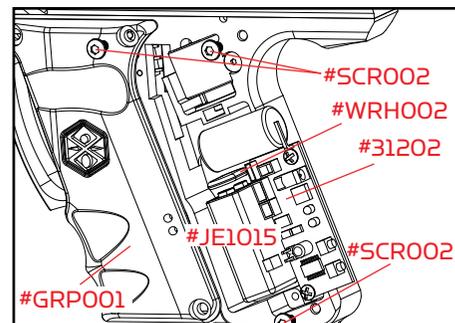
REMOVING THE COMPRESSED AIR TANK

Firmly unscrew the Compressed Air Tank by turning the tank counter-clockwise until it comes out of the C/A On/Off adapter. **HELPFUL TIP:** After firing the marker, you should ALWAYS remove the Compressed Air Tank before storing. When the tank is being removed, excess air will release from the C/A On/Off adapter (#ASA020). **CAUTION:** Never expose any skin to the C/A On/Off adapters bleed hole when removing the tank. This is to avoid the risk of getting skin burn from the escaping GAS. **IMPORTANT:** You should never need to use any hand tool to detach a Compressed Air Tank from the C/A On/Off adapter. If you cannot remove a tank by hand please see a certified airsmith for assistance.

PROPER USE OF YOUR BARREL BLOCKING DEVICE

A Barrel Blocking Device or "BBD" is an essential part of your paintball safety equipment. The Barrel Blocking Device is designed to stop a paintball from exiting a paintball marker accidentally. Improper use of the Barrel Blocking Device will render this device useless.

- STEP 1** Place the bag/sock part of the Barrel Blocking Device over the end of your barrel and wrap the elastic cord around the back end of your marker.
 - STEP 2** Adjust the length of the elastic cord to make sure your Barrel Blocking Device fits securely over your markers barrel. NOTE: If the elastic cord is too long you can tie a couple of knots around the cord to shorten its length.
 - STEP 3** Remove the Barrel Blocking Device only when you are getting ready to begin play or have been instructed to do so by a field safety official.
 - STEP 4** Always keep your Barrel Blocking Device on your marker after you have finished playing. Keep it in place even after you have emptied all paintballs and removed your air tank from your paintball marker.
- WARNING:** Make sure the Barrel Blocking Device fits securely over your barrel with the elastic cord tight and have sufficient tension. This will prevent the Barrel Blocking Device from coming off the end of the barrel during an accidental paintball discharge.
- Inspect your Barrel Block Device regularly for wear and any tear if it is worn, replace it immediately. Always have your Barrel Blocking Device in place on your markers barrel to insure safety and prevent accidents that may cause permanent injury or even death.



BATTERY INSTALLATION

- NOTE:** Battery must be fully charged before initial use.
- STEP 1** Remove the three M4x8 Screws (#SCRO02) and left side Grip Panel (#GRPO01).
 - STEP 2** Attach the Spyder Battery (#JE1015) to the Battery Harness (#WRH002).
 - STEP 3** Re-tighten the three M4x8 screws (#SCRO02).
- HELPFUL TIP:** Please note how the parts are removed for easy reassembly.

SPYDER 9.6 NiMH BATTERY LIFE

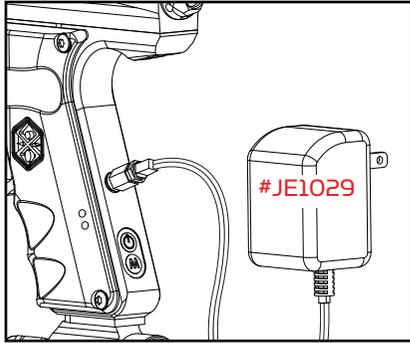
Always use the supplied Spyder 9.6volt NiMH Battery and Spyder LED A/C Charger to operate this marker. A fully charged Spyder Battery will last about 3,000 to 5,000 shots. Under normal use and charging conditions the expected life of the Spyder 9.6 NiMH. Battery to is approximately 700-1,000 charging cycles.

WARNING: This marker is not intended to use any normal 9 volt battery or charger that is NOT a Spyder Product. Doing so will VOID all electronic warranties and liabilities from Kingman.

WARNING

- Spyder Electronic Markers are not water resistant.
- Extreme moisture can cause serious damage to any Spyder Electronic Marker.
- Always clean any dirt or paint inside the markers electronics.
- Never attempt to modify the electronics circuitry, doing so will VOID all electronic warranties and liabilities from Kingman.

BATTERY CHARGING



SPYDER LED A/C CHARGER INSTRUCTIONS

To charge a Spyder 9.6 NiMH Battery the circuit board must be in the OFF Position. Spyder Batteries (#JE1015 not pictured) are not fully charged when purchased. Using the supplied Spyder LED A/C Charger (#JE1029) Kingman recommends a charging time of 5 hours for a complete charge.

STEP 1 Plug the Spyder LED A/C Charger into a 110v-120v power outlet.

STEP 2 Connect the Spyder LED A/C Charger cord to the rear of the markers trigger frame.

STEP 3 The LED indicator on the A/C Charger will display RED when the battery is charging.

STEP 4 The LED indicator on the A/C Charger will display GREEN when the battery is fully charged.

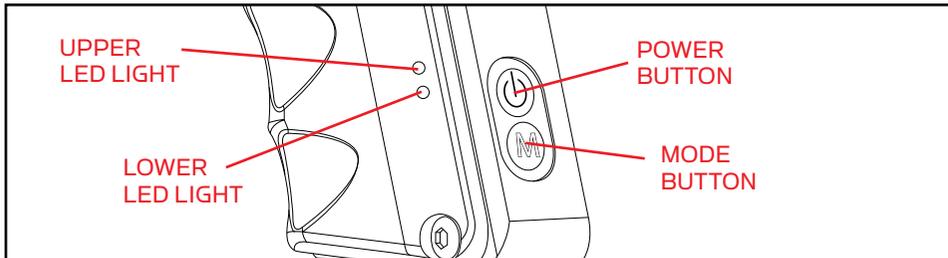
STEP 5 Unplug the Spyder LED A/C Charger cord from the rear of the markers trigger frame.

STEP 6 Remove the Spyder LED A/C Charger from the 110v-120v power outlet.

NOTE: It is recommended that the battery be charged prior to use in order to ensure maximum performance, especially if the battery has not been used in over a week.

IMPORTANT: You should never charge the battery over 24 hours or you can run the risk of damaging the battery or electronics.

ELECTRONICS & SETTINGS



CIRCUIT BOARD SETTINGS AND LED COLOR FUNCTIONS

POWER AND EYE OPERATION:

Press the Power Button to turn marker on. The Tadao Circuit Board will boot instantly, showing a Solid Red LED in the grip frame. The marker will be in Safe Mode when the marker is first turned on; to disable the Safe Mode press and release the Power Button once. When the Safe Mode is disengaged, the LED will switch to Solid Green if the eyes detect a paintball in the breach, or if the marker is un-cocked. The LED will display a Blinking Green light if there is no paintball in the breach and the marker is cocked. To disable the eyes, press and hold the Mode Button for one second. The LED will switch to Blinking Red to indicate that the eye system is disabled. To turn the marker off, press and hold the Power Button until the LED will turn off when the board powers down.

To determine if the eyes are working correctly, insert an inanimate into the breach and observe whether or not the LED changes from Blinking Green to Solid Green, and back to Blinking Green once the object is removed.

LED DISPLAY:

LED DISPLAY:	MEANING:
Solid Red	Safe Mode
Blinking Red	Eyes disabled (Rate of fire capped at 10bps)
Solid Green	Ball in Breach, ready to fire
Blinking Green	No ball in breach
Blinking Yellow	Eye malfunction (Remove loader and check breach)
Solid Purple	Firing Mode Menu
Solid Teal Blue	Trigger Debounce Menu

PROGRAMMING:

Programming Mode can only be initiated while the Tournament Lock is disabled. Pressing the push button switch to the right of the microcontroller on the Circuit Board will toggle the Tournament Lock. After every press of the Tournament Lock button while the marker is off, the light will Flash Green or Red to indicate the status of the Tournament Lock. Green means the Tournament Lock is disengaged, thus allowing the user to enter the Programming Mode. Red indicates the Tournament Lock is engaged and programming can not be initiated.

TO ENTER FIRING MODE PROGRAMMING MENU:

While the marker is off, press and hold the Mode Button, then press the Power Button and the LED will cycle through multiple colors until the LED displays Solid Purple for the Firing Mode Setting Menu.

TO CHANGE THE FIRING MODE:

Press and hold the Mode Button until the Solid Purple LED goes out. The LED will blink to show the current Firing Mode setting. For example, if the current Firing Mode setting is on PSP Ramp, the LED will blink (3) times. Once the LED stops blinking, you will have two (2) seconds to enter a new mode setting.

To enter a new Firing Mode setting, press the Mode Button to select the new Firing Mode setting. For example, for Semi-auto Uncapped Mode, you must press the Mode Button once. After the Firing Mode has been selected, turn the marker off by pressing the Power Button.

Solid Purple	Firing Mode
	1 Blink (Semi-auto uncapped)
	2 Blinks (Semi-auto capped at 15bps)
	3 Blinks (PSP Ramp capped at 15bps)
	4 Blinks (Millennium Ramp capped at 15bps)
	5 Blinks (3 shot burst capped at 15bps)

TO ENTER DEBOUNCE PROGRAMMING MENU:

While the marker is off, press and hold the Mode Button, then press the Power Button and the LED will cycle through multiple colors until the LED displays Solid Purple for Firing Mode Setting Menu. Press the Mode button once more and the LED will change to Solid Teal Blue for the Debounce Setting Menu.

TO CHANGE THE TRIGGER DEBOUNCE SETTING:

Press and hold the Mode Button until the Solid Teal Blue LED goes out. The LED will blink to show the current Trigger Debounce setting. For example, if the current Debounce setting is on Level Three (3), the LED will blink three (3) times. Once the LED stops blinking, you will have two (2) seconds to enter a new setting.

To enter a new Trigger Debounce Setting, press the Mode Button to select the new Trigger Debounce Setting. For example, to set the Trigger Debounce to the least sensitive setting, a Level Five (5), you must press the Mode Button five (5) times. After the Trigger Debounce setting has been selected, turn the marker off by pressing and holding the Power Button.

Solid Teal Blue	Trigger Debounce
	1 Blink (1 ms, cpf 1, amb 1)
	2 Blinks (5 ms, cpf 5, amb 2)
	3 Blinks (10 ms, cpf 5, amb 3)
	4 Blinks (15 ms, cpf 5, amb 4)
	5 Blinks (20 ms, cpf 5, amb 5)

(ms – millisecond cpf – cycle percentage filter amb – anti-mechanical bounce)

CAUTION: A “low” Trigger Debounce setting, such as Level One (1) may cause the marker to read trigger switch bounce as additional trigger pulls, falsely generating shots or near full-automatic fire.

SEMI-AUTO MODE LOCK:

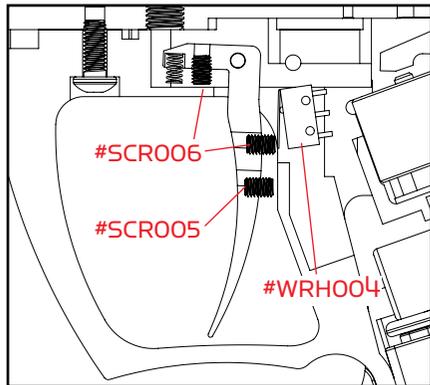
To lock the marker in Semi-Auto Mode, a small Circuit Jumper needs to be removed Circuit Board. Removal of this “Jumper” will lock the Firing Mode in Semi-Auto. The Trigger Debounce setting will still be accessible but all of the other Firing Modes will be disabled. To re-enable access to all Firing Modes, simply place the Circuit Jumper back onto the Circuit Board. **NOTE:** The Trigger Debounce setting is still accessible after the Firing Mode has been locked in Semi-Auto operation by removing the Circuit Jumper.

ADDITIONAL FEATURES:

Forced Shot – If the eyes are enabled and the breach is empty, but you want to fire a clearing shot, a forced shot can be initiated by pulling and holding the trigger for 1/2 second. This is useful when you have emptied all your paintballs from the marker and would like to un-cock or discharge the remaining air inside the marker.

Battery Power Indicator – If battery power is sufficient when the marker powers on, the LED indicator will Flash Green rapidly. If the battery power is low the LED will Flash Red rapidly, indicating that the battery will need to be charged.

Sleep Mode – After fifteen (15) minutes of inactivity, the Circuit Board will automatically power down, thus saving battery power.



TRIGGER ADJUSTMENT

Adjusting the Top Screw (#SCR006) located underneath the Trigger Frame clockwise will swing the trigger closer to the touch switch. **NOTE:** Adjusting the screw counter-clockwise will increase the trigger gap. **HELPFUL HINT:** Over adjusting the screw to close won't allow the trigger to activate the touch switch which will not allow the marker to fire.

Adjusting the Middle Screw (#SCR006) clockwise will shorten the trigger stop the touch switch.

NOTE: This will increase trigger sensitivity. Unscrewing it counter clockwise will decrease trigger sensitivity.

Adjusting the Lower Screw (#SCR005) clockwise will shorten the distance on trigger pull.

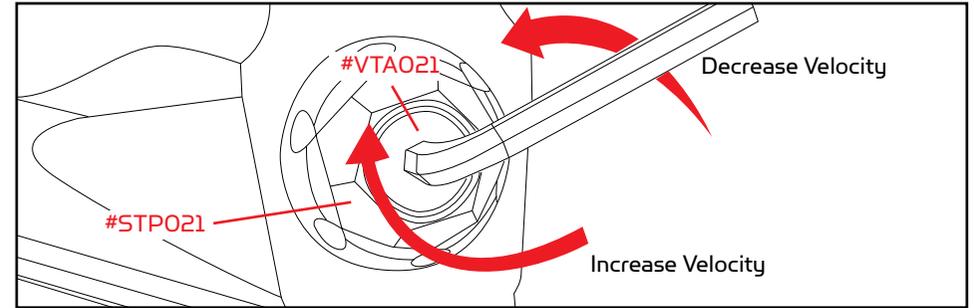
VELOCITY ADJUSTMENT INCREASE / DECREASE

To INCREASE your velocity FPS (Feet Per Second) using the Allen wrench turn the Velocity Adjuster / Spring Guide (#VTAO21) clockwise.

To DECREASE your velocity FPS (Feet Per Second) using the Allen wrench turn the Velocity Adjuster / Spring Guide (#VTAO21) counter-clockwise.

NOTE: Velocity Adjuster / Spring Guide (#VTAO21) doesn't remove from the rear of the Sticker Plug (#STPO21).

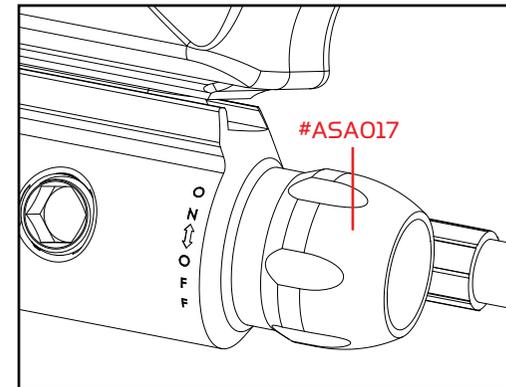
RECOMMENDED: To guarantee proper adjustment Kingman recommends using a chronograph to ensure the markers velocity is under 300fps.



WARNING

- The recommended Velocity speed should be no greater than 300 fps. Not doing so can cause serious injury if the Velocity is dangerously high.
- Paintball markers are not intended to shoot any person less than 25 feet.
- Never point a loaded marker at any person who is not wearing the proper face protection.
- Never at any point should you look down the barrel, whether the marker is loaded or not.
- Using a paintball marker outside a non designated paintball field can be illegal, and is subject to law enforcement penalties if property damage is caused by the user.

C/A ON/OFF ADAPTER



HELPFUL TIP: Make sure to have the Compressed Air Tank filled before use.

- Attach your Compressed Air Tank to the C/A On/Off adapter.
- Tighten the tank clockwise in the markers C/A On/Off adapter until it is snug. If an air leak occurs between the tank and the C/A On/Off adapter, replace the urethane o-ring.
- To pressurize the marker turn the adapter knob towards the ON position to pierce the pin valve on the tank.
- To release the pressure turn the dial knob towards the OFF position. This will release the pressure in the hose line.

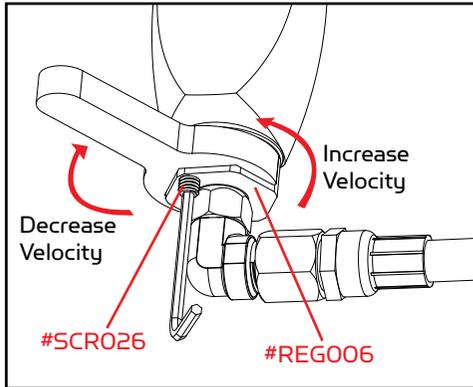
IMPORTANT: Markers that are equipped with regulators may store residual air after the Compressed Air Tank has been removed. To fully remove any residual air stored in the marker, turn the C/A On/Off adapter knob (#ASA017) counter-clockwise to shut off the air supplied from the tank. Take several dry fire shots with the marker pointed in a safe direction until the Gauge (#GAG002 not pictured) reads “Ops” and the marker should decock.

IMPORTANT: You should never need to use any hand tool to attach a Compressed Air Tank to the C/A On/Off adapter.

NOTE: O-rings in the markers parts kit are not supplied to attach with a Compressed Air Tank.

NOTE: The hose line adapter supplied on the C/A On/Off is American thread 1/8" (NPT).

REGULATOR ADJUSTMENT



WARNING: Never at any time should you attempt to unscrew the Vertical Regulator while the marker is pressurized. Doing so can cause serious injury or death. The RSX is equipped with a Vertical Inline Regulator located in front of the markers trigger frame. Once a Compressed Air tank has been installed and tank valve is opened by turning the C/A On/Off adapter knob clockwise, the marker is potentially capable and ready to fire.

To INCREASE the regulator pressure, turn the Reg Adjuster (#REG006) Counter Clockwise with the regulator wrench.

To DECREASE the regulator pressure, turn the Reg Adjuster Clockwise with the regulator wrench.

NOTE: After any adjustment has been made to the Reg Adjuster the Reg Adjuster Lock Screw (#SCRO26) must be re-tightened to prevent any accidental increasing or decreasing of air pressure. **TECH TIP:** If the regulator output pressure is less than "200psi", the marker may experience some re-cocking issues. To achieve the desired pressure setting, slowly turn the Reg Adjuster Counter Clockwise in small increments and watch the Gauge (#GAG002 not pictured) while making the adjustment.

When adjusting the Regulator to "Decrease" the output pressure, you will need to fire the marker a few times to get the new setting to "READ" on the gauge. **IMPORTANT:** (Make sure you have your marker pointed in a safe direction and you are following all safety guidelines set with the use of this product.) **NOTE:** Any adjustments made to the Regulator Adjuster Screw after the marker has been chronographed will alter the marker's velocity (fps).

HELPFUL TIP: When adjusting the regulator output pressure, always watch the Gauge (not pictured) to insure the right pressure setting. It's a good practice to fire the marker a few shots every time an adjustment is made to the regulator, this will allow the regulator to "settle in" to its new output pressure setting. **IMPORTANT:** Markers that are equipped with regulators may store residual air after the Compressed Air Tank has been removed. To fully remove any residual air stored in the marker, turn the C/A On/Off adapter knob (#ASA017) counter-clockwise to shut off the air supplied from the tank. Take several dry fire shots with the marker pointed in a safe direction until the Gauge (#GAG002 not pictured) reads "0psi" and the marker should decock. **IMPORTANT:** Do not attempt to service the regulator unless you have received proper training from a qualified Kingman Group service technician. Doing so will VOID all regulator warranties and liabilities from Kingman Group. If you experience any leaks or problem with the regulator, contact Kingman Group Technical Support Service Department. **IMPORTANT:** Always remove all paintballs and Compressed Air Tank from your marker and remember to keep the marker in its un-cocked position before placing it in storage.

DISASSEMBLE / REASSEMBLE AND CLEANING OF REAR INTERNALS

Top Cocking Pin (#STK001)	Striker Spring (#SPRO01)
Delrin Bolt (#VBTO01)	Striker Buffer (#STFO01)
Striker Bolt (#STBO01)	Trigger Frame Screw (#SCRO01)
Striker Plug (#STPO21)	Velocity Adjuster & Spring Guide (#VTAO21)
Striker O-Ring (#ORG001)	Saber Trigger (#TRS005)

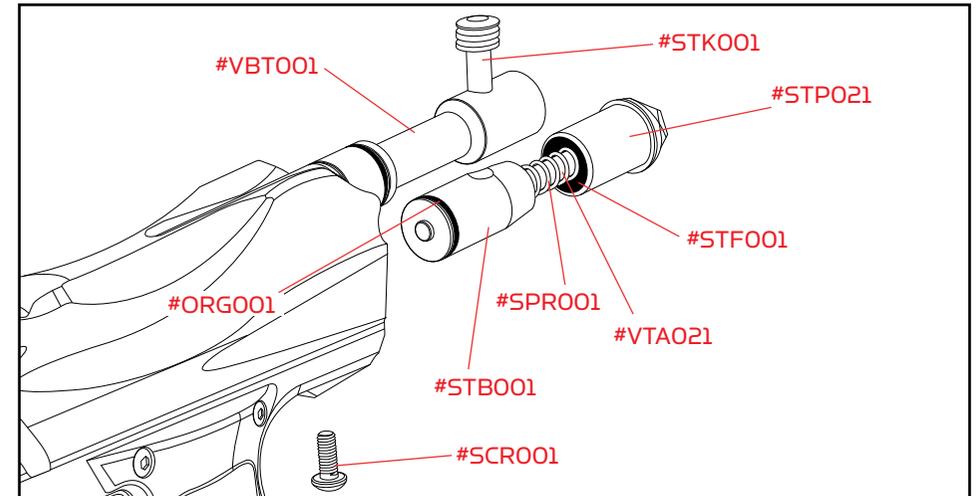
QUICK CLEAN DISASSEMBLE

Lift upward on the Top Cocking Knob. This will allow the Delrin Bolt to slide from the rear of the Receiver.

HELPFUL TIP: Removing the Delrin Bolt from the Receiver will allow easy access to clean with a squeegee.

NOTE: Make sure the hole on the Striker Bolt is facing upright when looking thru the Receiver. This will allow the Top Cocking Knob to correctly fasten with the Striker Bolt.

IMPORTANT: The air passage hole located in the middle of the Delrin Bolt should always be facing downward when reinstalling. If the Delrin Bolt is not installed correctly, paintballs will not exit out of the barrel normally.



DISASSEMBLE REAR INTERNALS

STEP 1 Lift upward on the Top Cocking Knob to allow the Delrin Bolt to slide out from the rear of the Receiver.

STEP 2 Loosen the rear Trigger Frame Screw located underneath the rear Receiver. This will allow all internal parts such as the Striker Plug with the Velocity Adjuster & Spring Guide Striker Spring, Striker Buffer and Striker Bolt to slide from the rear of the Receiver. **NOTE:** Remove the rear Trigger Frame Screw when the marker is in the un-cocked position. This way, the tension of the Striker Spring will not allow the markers internals to spring out.

HELPFUL TIP: Placing your finger behind the Striker Plug before removing the rear Trigger Frame Screw will prevent the markers internals from springing out.

STEP 3 Remove items in order; Striker Plug w/ Velocity Adjuster, Striker Spring and Striker Buffer.

STEP 4 Slide the Striker Bolt out of the rear of the Receiver. **HELPFUL TIP:** When the internals are removed it would be wise to clean any dirt or paint from the inside of the Receiver with a squeegee. Wipe clean the Delrin Bolt with a rag or paper towel. Apply some paintball gun oil on Striker O-ring periodically.

REASSEMBLE REAR INTERNALS

STEP 1 Reinsert the Striker Bolt with Striker O-ring facing toward the front of the marker with the flat spot of the Striker Bolt facing down. **NOTE:** Having the Power Switch ON will ease reentry of the Striker Bolt. Apply thumb pressure behind the Bolt and at the same time pull on the Trigger. Repeat this process until the Bolt is fully inserted.

NOTE: The hole on the Striker Bolt should be facing upright when looking thru the Receiver.

STEP 2 Insert the Striker Buffer flush with the Receiver and place the Striker Spring thru the Striker Buffer.

STEP 3 Place the Striker Plug w / Velocity Adjuster & Spring Guide to the rear of the Receiver and tighten the Trigger Frame Screw.

STEP 4 Insert the Delrin Bolt thru the rear of the Receiver with the Top Cocking Knob. Press downward on the Top Cocking Knob to gain entry with the Striker Bolt. **NOTE:** If the Striker Bolt hole is not aligned upright, the Top Cocking Knob will not fasten correctly. **HELPFUL TIP:** Use a small tool to align the hole upright should the Striker Bolt turn when positioned back in the receiver. **WARNING:** Before / after use of the marker, make sure to fasten all screws. Screws may become loose due to vibration. Loose screws can be dangerous and cause injury.

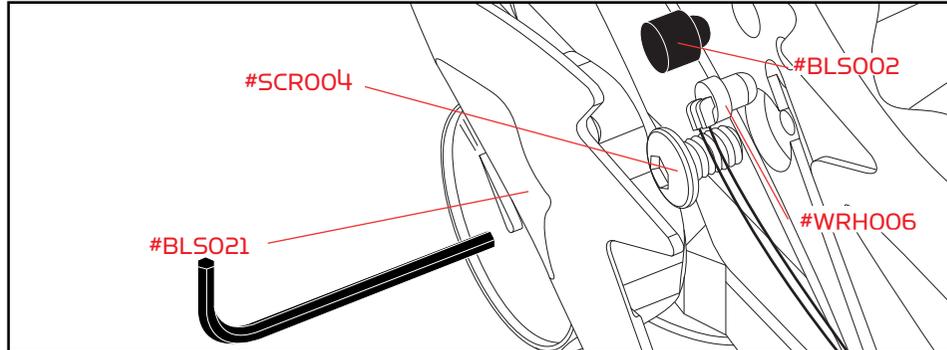
To assure that the marker is assembled properly, follow the schematic drawing or position parts in order during disassembly. Parts assembled backwards or improper parts installed will / can cause the marker to malfunction.

A JAMMED PAINTBALL IN THE BREACH

In the event of a paintball break and the Delrin bolt jams, follow these steps to help un-jam the marker. The markers breach is located where the barrel starts to thread in the receiver and underneath the markers feed neck. Before attempting to un-jam the Delrin bolt you should always have your Goggles or Safety Glasses on. Make sure the marker is in the SAFE / OFF position before attempting to un-jam the Delrin bolt. Remove the Compressed Air Tank

before attempting to un-jam the marker. Remove all paintballs and the loader from the feed neck. Have the barrel removed from the receiver to allow the paintball(s) to exit. With enough force tension on the Cocking Knob, pull back to release the Delrin bolt from the jammed position. Another method is to use a "Straight Shot Squeegee" or the end of a wood dowel rod; push against the face of the Delrin bolt with enough force to release the jammed bolt. Always clean the paint from the breach and barrel to enhance the performance of your marker. **IMPORTANT:** Never look down the barrel of the marker when loaded or unloaded. Remove the attached Compressed Air Tank before attempting to un-jam the Delrin Bolt. **NOTE:** Never use a metal rod or screwdriver as a tool to push on the Delrin bolt, anything metal will scratch and damage the inside of the marker.

ANTI CHOP EYES



The Anti Chop Eyes help prevent the chopping of paint by not allowing the marker to fire until a paintball is properly chambered in the breach. The Eyes transmit a beam across the inside of the breach. The circuit board is preset from the factory and does not need to be adjusted or altered. (If the Eyes are ON and do not see each other when firing your marker, you will have to clean the Eyes.)

CLEANING THE ANTI CHOP EYES

Using a squeegee or swab thru the breach should clean the Eyes enough for the Eyes to detect each other. Another way is to use an aerosol can of air thru the breach to remove any paint or dirt. To thoroughly clean the Eyes using the supplied Allen wrench remove both Eye Panel Screws (#SCR004) and Eye Panels (#BLS021). Once the Eye Panel Screws & Eye Panels are removed, proceed with a soft pinch to remove the Eye Wire Harness (#WRH006) from the receiver. Use a cloth or paper towel to remove any paint or dirt that is blocking the Eyes.

IMPORTANT: Cleaning the Eyes often will help reduce dirt, paint or oil residue that blocks the Eyes.

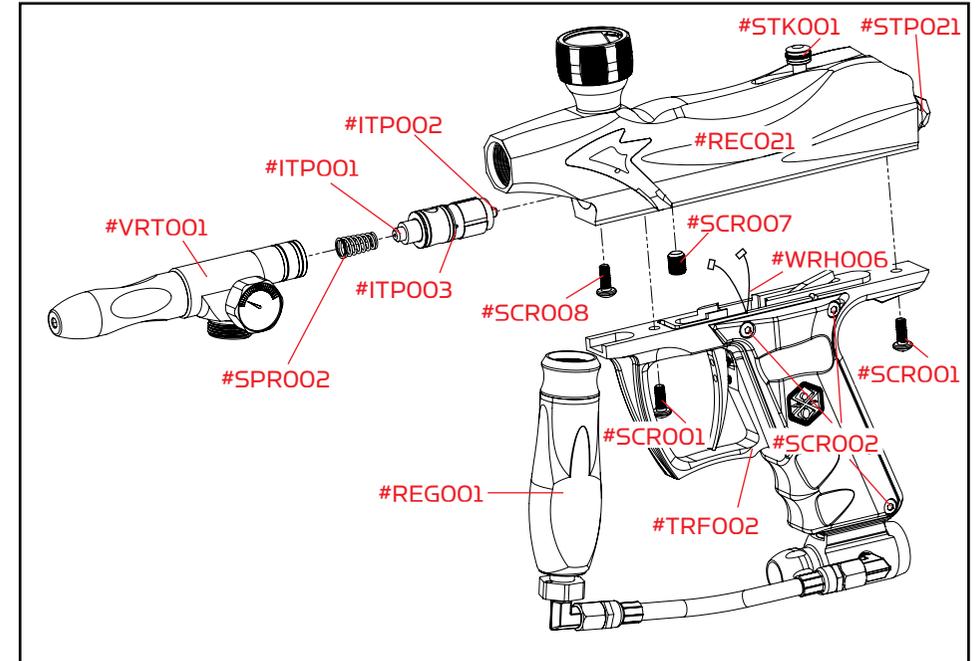
NOTE: Never attempt to rush the cleaning process or you can pinch the wires and cause the marker to malfunction with the Eye Mode ON. Take precaution not to over tighten the Eye Panel Screws or this can lead to stripping the head. **NOTE:** When the Eye Panels are removed the Ball Stopper(s) (#BLS002) may be attached to the Eye Panels and can cause them to fall out. **HELPFUL TIP:** Please note how the parts are removed for easy reassembly.

IMPORTANT: Before removing both Eye Panels use a needle or dental pick thru the hole of the Eye Panel to remove any dirt that can build up and block the Allen screw from loosening. It's possible if the dirt is not removed you can strip the Eye Panel Screw.

CHANGING THE BALL STOPPERS

Experiencing paint rolling through the barrel can be related to small diameter paintball(s) or the loss of a Ball Stopper(s) (#BLS002). When removing Eye Panel Screws (#SCR004) and Eye Panels (#BLS021) the Ball Stopper(s) will be accessible for cleaning or replacement. **HELPFUL TIP:** Please note how the parts are removed for easy reassembly. **IMPORTANT:** Before removing both Eye Panels use a needle or dental pick thru the hole of the Eye Panel to remove any dirt that can build up and block the Allen screw from loosening. It's possible if the dirt is not removed you can stripe the Eye Panel Screw. **NOTE:** Take precaution not to over tighten the Eye Panel Screws or this can strip the head.

CUP SEAL REMOVAL



Part Names and Part Numbers describe in this selection:

Cup Seal (#ITP001)	Trigger Frame Screw (#SCR001)
Valve Spring (#SPR002)	M4x8 Head Screw (#SCR002)
Inline Regulator (#REG001)	Receiver (#REC021)
Trigger Frame (#TRF002)	Valve Body (#ITP003)
Vertical Screw (#SCR008)	*9.6 Rechargeable Battery (#JE1015)
Eye Wire Harness (#WRH006)	*Velocity Adjuster & Spring Guide (#VTA021)
Valve Body Screw (#SCR007)	*Delrin Bolt (#VBT021)
Striker Plug (#STP021)	*Striker Spring (#SPR001)
Top Cocking Knob (#STK001)	*Striker Bolt Mini (#STB001)
Valve Pin (#ITP002)	*Striker Buffer (#STF001)
Vertical Adapter w/Gauge (#VRT001)	*parts not shown

STEP BY STEP

⚠ WARNING: Never at any time should you attempt to unscrew the Vertical Regulator while the marker is pressurized. Doing so can cause serious injury or death.

HELPFUL TIP: The sign of a worn Cup Seal is the presence of Compressed Air leaking down the barrel.

STEP 1 Twist the Inline Regulator counter-clockwise to release off the Vertical Adapter w/Gauge. The hose line will hold the Inline Regulator when it dangles from the C/A On/Off.

STEP 2 Remove all three M4x8 Screws on the left side of the Trigger Frame. The Grip Panels will allow access to the Circuit Board.

STEP 3 Gently detach the Eye Wire Harness from the Circuit Board. This will allow maneuvering around certain parts. **HELPFUL TIP:** Gently move aside the Rechargeable Battery out of the Trigger Frame to view the Eye Wire Harness. Gently remove the Eye Wire Harness thru the coil set channel exiting thru the top of the Trigger Frame.

STEP 4 Remove both Trigger Frame Screws. This will then allow the Trigger Frame to disconnect from the Receiver. Pull upward on the Top Cocking Knob to allow the Delrin Bolt to release from the Striker Bolt Mini. Once the Striker Plug has been removed the Striker Spring, Striker Buffer and Striker Bolt Mini need to be removed out the rear of the Receiver.

TECH TIP: Before loosening the rear Trigger Frame Screw place your finger in front of the Striker Plug, so the internal parts don't spring outward if the Delrin Bolt is in the cocked position.

TECH TIP: Notice how the Striker Bolt Mini is placed in the Receiver before removed to ease re-entry.

STEP 5 Loosen the Vertical Screw counter-clockwise to allow the Vertical Adapter w/Gage to release from the Receiver.

STEP 6 Loosen the Valve Body Screw counter-clockwise to allow access to the Valve Body.

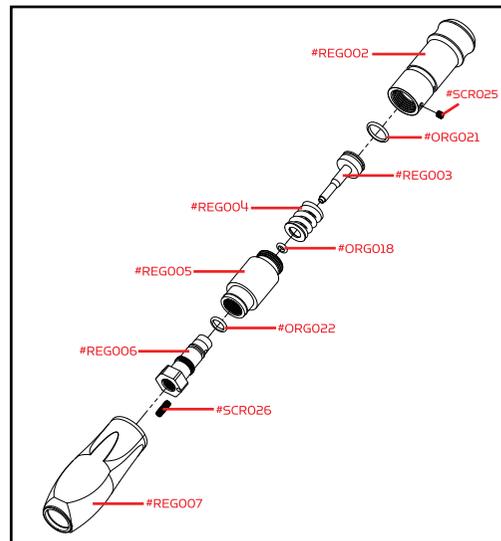
STEP 7 Use a plastic or wooden dowel rod to push the Valve Body from the rear of the Receiver thru the front of the Receiver. **TECH TIP:** Use an 8" or longer rod thru the lower rear section of the Receiver. Notice how the Valve Body is placed inside the Receiver before removing. This will help ease re-entry after installing the new Cup Seal.

STEP 8 Untwist both half's of the Valve Body to gain access of the Valve Pin.

STEP 9 Untwist the Cup Seal from the Valve Pin. Replace the defective Cup Seal.

HELPFUL TIP: Please note how the parts are removed for easy reassembly. **CAUTION:** Use the proper Allen wrenches to fasten all screws and never apply more force than necessary. **IMPORTANT:** Always remove the Air Tank before any disassembly of your marker. Do not remove the Valve Body (#ITP003) unless specific Valve Body repairs are needed. Do not remove the Valve Body with a screwdriver as it will damage the Valve Body and cause air leaks.

REGULATOR MAINTENANCE / SCHEMATICS



WARNING: Never at any time should you attempt to unscrew the Vertical Regulator while the marker is pressurized. Doing so can cause serious injury or death.

IMPORTANT: Markers that are equipped with regulators may store residual air after the Compressed Air Tank has been removed. To fully remove any residual air stored in the marker, turn the C/A On/Off adapter knob (#ASA017 not pictured) counter-clockwise to shut off the air supplied from the tank. Take several dry fire shots with the marker pointed in a safe direction until the Gauge (#GAG002 not pictured) reads "Ops!" and the marker should decock.

Apply a small amount of grease on part numbers; Reg Piston O-ring (#ORG021) and Reg Adjuster O-ring (#ORG022).

Having the Regulator in its optimal performance, you should maintain a clean and dirt free regulator. Depending on the usage of your marker, it's a good idea to practice cleaning inside regulators internals.

TECH TIP: Using grease like (Dow Corning® 33 medium consistency) or any paintball grease on the following parts listed will maintain the functioning of your Regulator.

HELPFUL TIP: Please note how the parts are removed for easy reassembly.

TROUBLESHOOTING

ONE OR MORE OF THE FOLLOWING MAY CAUSE RECOCKING RELATED ISSUES:

- The pressure in the tank is too low and possibly needs to be refilled.
- Need lubrication on the following Striker O-ring (#ORG001) might be damaged or missing. Replace with a new Kingman approved Striker O-ring (see Disassemble / Reassemble). **NOTE:** The Striker O-ring can not be substituted with a black or urethane bottle o-ring.
- Dirt or broken paint shell fragments inside the receiver can cause the marker to have recocking issues. Using a squeegee through the upper portion of the receiver will remove most of the dirt or broken shell fragments. Should this issue continue, (see Disassemble / Reassemble) remove the markers internals for complete cleaning. Using low quality paintballs can cause the marker to experience recocking issues because of the shape of the paintballs.

HELPFUL TIP: Paintballs have a shelf life and can become too fragile for use.

HELPFUL TIP: Paintballs can take a different shape over time, so it would be wise to size the paintball with your barrel.

ELECTRONIC GRIP TROUBLESHOOTING

If your marker is not shooting it may be due to one of the following problems:

- Battery may need to be recharged.
- The Battery Wire Harness is not properly attached to the circuit board.
- The Coil Set Harness is not properly attached to the circuit board.
- The Touch Switch Harness is not properly attached to the circuit board.

NOTE: If the Markers Electronics have any dirt or paint, Kingman recommends using an aerosol can of air. Apply the can of air directly at the components that need cleaning.

AIR LEAKS

IMPORTANT: Always remove the air tank before any disassembling of the marker.

- Air leaking from the Lower Pressure Chamber means the O-ring (#ORG002) will need to be oiled or replaced.
- Air leaking from the Vertical Adapter means the O-ring (#ORG002) will need to be oiled or replaced.
- Air leaking down the barrel is usually a Cup Seal (#ITP001) that is worn or damaged (see Cup Seal Removal). The Cup Seal should be exchanged.

Never remove Valve Body (#ITP003) unless specific repairs are needed.

- A nick or scratch on the lip of the Valve Body can cause an internal air leak (see Cup seal Removal). The Valve Body may need to be replaced.

- Air leaking thru the Receiver and out of the Trigger Frame would indicate the Valve Body O-rings (#ORG002) will need to be replaced.

- If air is leaking thru the opposite end of the hose fittings, please check the following: The Female end of the Hose must have a plastic washer (#HSF004) installed inside the hose collar and be tightened properly.

HELPFUL TIP: To assure marker is assembled properly, follow the schematic drawing or position parts in order during disassembly. Parts assembled backwards or improper parts installed will / can cause the marker to malfunction.

WARRANTY STATEMENT

Kingman warrants the original retail purchaser that this product is free from defects in material and workmanship under normal use and service for a period of (1) year from the original date of purchase. Any Electronic Components in an Electronic Spyder marker are warranted for (3) months from the original date of purchase. Kingman agrees to repair or replace (at its discretion) any product within (a reasonable period of time). This warranty does not cover o-rings, cup seals, 9.6v rechargeable battery, charger, scratches, nicks, normal wear and tear of parts, any modifications, normal fading of anodizing and damage caused by dropping or hitting of products. This warranty shall not apply if it is shown by a Kingman Technician that the consumer caused the defect or malfunction because of misuse. This warranty only covers original factory parts. Any modifications or tampering of original factory parts will VOID warranty and liabilities from Kingman. Any damage caused by water will not be covered under warranty. Warranty repair can only be conducted by Kingman technician or Kingman authorized technician. For warranty to be effective, consumer must return the enclosed warranty registration card filled out, along with a copy of the purchase receipt, within (15) days of the original purchase date. This warranty is not transferable. Paintball markers are non-refundable. This warranty will not cover pick up, shipping, delivery, and/or house calls. If product needs repair, consumer will package it carefully and send together with your name, address, phone number and a brief description of the malfunction to:

KINGMAN GROUP

Attn: Tech Department

14010 Live Oak Avenue

Baldwin Park, CA 91706 U.S.A.

www.kingman.com

VIK

FOR TECHNICAL SUPPORT

Our Technical Support Department is open Monday through

Friday, from 8am to 5pm (PST), and can be reached at

(626) 430-2300.

www.spyder.tv

