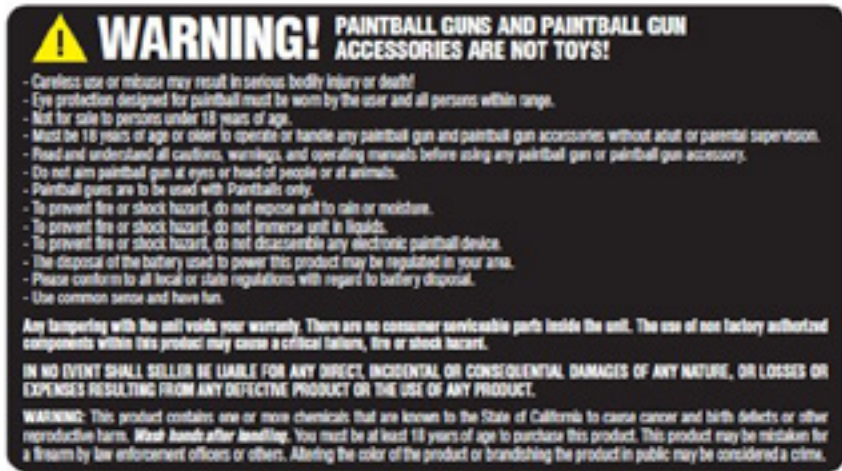


## ! WARNING!

*This is not a toy. Misuse may cause serious injury or death. Eye protection designed specifically for paintball must be worn by the user and persons within range. Must be 18 years of age or older to purchase. Persons under 18 years of age must have adult supervision. **READ AND FOLLOW THIS MANUAL BEFORE USING.***



## Rules for Safe Marker Handling

**WARNING:** *Never carry your paintball marker uncased when not on a playing field. The non-playing public and law enforcement personnel may not be able to distinguish between a paintball marker and a firearm. For your own safety and to protect the image of the sport, always carry your marker in a suitable marker case or in the box in which it was shipped.*

- Treat every marker as if it were loaded.
- Never look down the barrel of a paintball marker.
- Keep the marker in "Safe Mode" until ready to shoot, power Off and barrel blocking device installed in/on the marker's Barrel.
- Keep your finger off the Trigger until ready to shoot.
- Never point the marker at anything you don't wish to shoot.
- Keep the barrel sock or another ASTM approved blocking device installed when not shooting.
- Always remove paintballs and the air source before disassembly.
- After removing the air source, point marker in safe direction and discharge until marker is degassed.
- Store the marker unloaded and degassed in a secure place.
- Follow warnings listed on the air source for handling and storage.
- Do not shoot at fragile objects such as windows.
- The operator and every person within range must wear eye, face and ear protection designed specifically to stop paintballs and meeting ASTM standard F1776.
- Always measure your marker's velocity before playing paintball and never shoot at velocities in excess of 300 feet-per-second (91.44 meters-per-second).
- Read and understand this entire manual before loading, attaching a propellant source or in any way attempting to operate the marker.

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## SPECIFICATIONS

- Engine: Pressure controlled poppet
- Barrel: Driver XX 14" Aluminum Ported 2-piece .688
- Caliber: .68
- Action: Electro-pneumatic
- Air Source: Compressed Air Only
- Battery: One 9-Volt Alkaline
- Cycle Rate: 20 BPS (Semi-Auto only)
- Main Body Material: Aluminum
- Accuracy Range: 150+ ft
- Weight: 2.2 lbs (998 grams)

## Included with your Empire Axe Pro

- 14" Aluminum 2pc Barrel (.688 bore)
- Hex Keys
- Spare Parts Kit
- Barrel Sleeve
- One 9-Volt Battery

## 1. BASIC OPERATION

### Barrel Installation

1. Make sure marker is degassed, loader removed, no paintballs in the feed port or breech and the marker is OFF.
2. Slide the longer barrel tip into the barrel back, turning the barrel tip clockwise until it stops (do not over tighten).
3. While pointing marker in a safe direction, thread the barrel into the front opening of the marker body.
4. Turn the barrel clockwise (when looking at the front opening) until it stops (do not over tighten).
5. Install a barrel blocking device. This can be a barrel bag or other such device that prevents the accidental discharge of a paintball.

### Compressed Air Tank installation

The Empire Axe Pro is designed to work with compressed air/nitrogen only. Do not use CO<sub>2</sub>, as it will damage your marker. The Empire Axe Pro utilizes a fully functional Regulator at the bottom of the grip frame that doubles as an On/Off ASA (Air Source Adapter) or receiver for a standard threaded preset output compressed air system. The Regulator can function using either "high pressure" or "low pressure" air systems.

*Note: If you are using an adjustable Regulator system, the output pressure should be set between 350-450 psi.*

### Before Pressurizing your Axe Pro

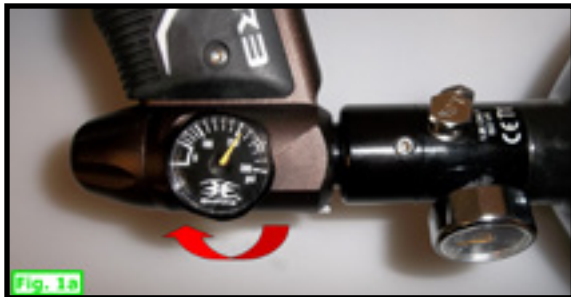
- Check to make sure that you and anyone within range are wearing eye protection designed specifically for paintball.
- Double check that all screws are tightened and no parts are loose before installing your tank.
- Ensure you have a barrel sock or other specifically designed barrel-blocking device in place.
- Make sure there are no paintballs in the marker and that the Axe Pro is turned OFF.

#### Notes:

- Remember compressed air or nitrogen systems can be extremely dangerous if misused or improperly handled. Use only cylinders meeting D.O.T, TC, or regionally defined specifications. Do not perform any work to your tank or tank Regulator.
- Never disassemble your tank or tank Regulator. Only a qualified and trained technician should perform work on your tank and tank Regulator.
- Never add any lubricants or greases into the fill adapter on your tank Regulator

### Pressurizing the Marker

1. Flip the Regulator's On/Off ASA lever forward so it's pointing toward the front of the marker. (Fig. 1a)



2. Install a compressed air tank, by screwing it in clockwise; making sure it's fully threaded into the ASA.

3. Flip the On/Off ASA lever back so it's flush with the Regulator and pointing toward the rear of the marker. The marker will become pressurized. (Fig. 1b)



### De- Pressurizing the Marker

1. Flip the On/Off lever forward and allow the gas to vent from the Regulator.
2. Air may remain within the marker once the Regulator is vented. While the barrel blocking device is still installed, turn your Axe Pro on, turn the eyes off and pull the trigger a few times to deplete all remaining air.
3. Remove your air cylinder by slowly and carefully unscrewing it counter-clockwise.

### Installing a Loader and Paintballs

The Empire Axe Pro uses .68 caliber, water-soluble paintballs, readily available at paintball pro-shops, commercial playing fields, and many sporting goods stores. The paintballs feed from the loader through the feed-neck and into the breech of the marker.

The Empire Axe Pro comes equipped to accept standard-gravity feed loaders as well as most agitating and force-feed loaders. Open the clamp lever and place the loader neck directly into the marker feed neck. Align the loader in line with the marker so the nose points in the same direction as the barrel. Close the lever, noting that it might be necessary to adjust the feed-neck's clamping screw to get a snug fit on your loader.

### Battery Replacement and Life Indicator

Confirm that the marker is OFF before changing or installing the battery. The Empire Axe Pro requires a single 9-volt battery as the electronic power source. The use of brand-name alkaline batteries is highly recommended. The 9-volt battery is located within the foregrip and is accessed through the removal of the foregrip door panel by using the 5/64" hex wrench to remove the door screw. (Fig. 1c) The Empire Axe Pro also has a battery life indicator visible on the screen in Live Mode. The battery icon will show the power level remaining in the battery.



## Power On/Off

- Turn Marker ON - Press and hold the CENTER of the Directional Pad (the black button/joy stick located under the screen) until the screen illuminates to turn the board/marker ON. The Boot Up Splash Screen will display until the Power Button is released. You are now in LIVE Mode (see below for more details) and the marker is ready to fire. (Fig. 1d)



- Turn Marker OFF - Press and hold CENTER on Directional Pad (D-pad) to enter the MAIN Menu, release D-Pad and then press CENTER on D-Pad when the display reads OFF to turn board off.
- Automatic Off feature - The Empire Axe Pro also has an automatic off feature. If you accidentally leave your marker powered up, it will shut itself off after approximately 10 minutes of inactivity.

*Note: the Auto Off time is adjustable in the SYSTEM Menu*

## Firing the Empire Axe Pro

Keep your finger out of the trigger guard and away from the trigger, point the muzzle of your marker in a safe direction at all times during this process. Be sure your goggles are securely in place and make sure the Axe Pro marker is turned OFF.

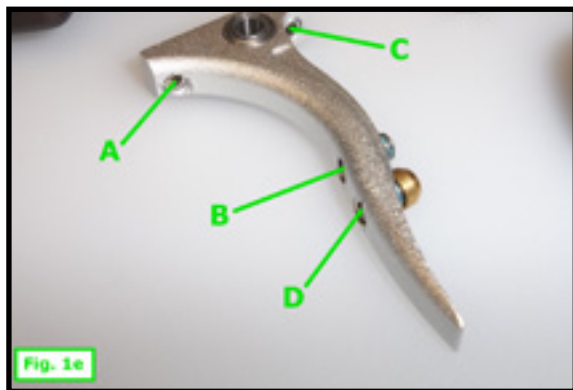
**Warning:** Everyone within firing range should always use ASTM approved eye and face protection in the presence of live paintball markers.

1. Place the empty loader onto the marker. Be sure that it is securely mounted in place
2. Install and apply the compressed gas, pressurizing the marker
3. Put the paintballs into the loader
4. Remove the barrel plug, sock or barrel-blocking device
5. Aim the Axe Pro in a safe direction.
6. Turn the Axe Pro ON: Press and hold the CENTER of the D-Pad to turn board/marker ON
7. Aim the Axe Pro at the target
8. Pull the trigger with a smooth squeezing motion

**Caution:** When the game you are playing is over, remember to place the barrel blocking device onto your barrel and turn the marker off.

## Trigger Adjustment

There are five adjustments that can be made on the on the trigger (Fig. 1e). Use the 5/64" hex wrench to make any desired adjustments:



- A. Forward Travel** – This adjusts the position of the trigger when not being fired
  - Turning the adjustment screws "in" or clockwise will decrease the trigger length of travel
- B. Stop** – This adjusts the farthest position the trigger will travel when depressed
  - Turning the adjustment screws "in" or clockwise will decrease the travel of the trigger by having the trigger stop sooner
- C. Activation Point** – This adjusts the position where the trigger pull registers a shot by activating the trigger switch
  - Turning the adjustment screws "in" or clockwise will decrease the travel of the trigger needed before the Axe Pro registers a shot
- D. Magnetic Tension** – this affects how "hard" the pull of the trigger is
  - Turning the adjustment screws "in" or clockwise will increase the force needed to pull the trigger

## 2. REGULATOR AND VELOCITY ADJUSTMENT

The Axe Pro utilizes a fully functional Bottomline Regulator at the bottom of the Grip Frame that doubles as an Air Source Adapter (ASA) for a standard threaded pre-set output compressed air system. This unique Regulator system channels air through a chamber in the Grip Frame eliminating the need for external macroline and fittings. The Bottomline Regulator controls the amount of air pressure going from your compressed air system into the marker itself.

The Regulator should be pre-set at 200 PSI, as this is the best operating pressure for firing the marker. However, if over time you do need to adjust the pressure, only use the Regulator Adjuster Screw on the front of your Bottomline Regulator. Never adjust the Regulator above 210psi.

### Regulator Adjustment

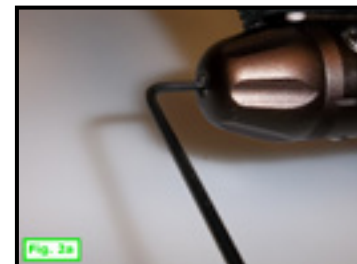
If adjustments are needed use a 3/32" hex wrench and insert it into the Regulator adjustment screw. This is located in the front of the Regulator.

(Fig. 2a)

- Increase pressure turn Clockwise.
- Decrease pressure turn Counter-clockwise.

*Notes:*

- Always watch the gauge as you are adjusting the pressure.
- Do NOT use CO2!!!
- The Bottomline Regulator should not be disassembled.
- Never set the Regulator above 210 psi.



### Adjusting the Velocity

At the back of the Axe Pro main Body is the Bolt Guide Cap. The hex screw in the Bolt Guide Cap serves as your velocity adjuster. Confirm that the pressure on your Bottomline Regulator is at or below 200 PSI. Then you can increase or decrease the velocity on your Axe Pro by tightening or loosening the velocity adjustment screw with a 3/32" inch hex wrench. (Fig. 2b) A paintball specific radar chronograph should be used to accurately measure your velocity.





### Increase Velocity:

Unscrew or loosen the velocity adjustment screw by turning it counterclockwise. Rotate the velocity adjustment screw counter-clockwise in small increments (1/4 turn or less), stopping between slight turns to test velocity, until desired velocity is achieved. Do not back the adjuster out past being flush. Stop if you hear an air leak, and adjust back in a 1/4 turn.

### Decrease Velocity:

Tighten or screw-in the velocity adjustment screw by turning it Clockwise. Rotate the velocity adjustment screw Clockwise in small increments (1/4 turn or less), stopping between slight turns to test velocity, until desired velocity is achieved.

#### Notes:

- This marker was designed with safety and safety standards in mind. If you attempt to shoot paintballs at a higher velocity than established safety standards, the marker may not function properly.
- If you attempt to operate the marker at extremely high velocities, the internals will not function properly.
- This marker is not designed to shoot above the safety limits established by industry standards but under certain conditions it may. It is therefore important to check the velocity each time before playing with your Mini.

## 3. REDLINE OPERATION

- Turn Marker ON - Press and hold the CENTER of the Directional Pad (the black button/joystick located under the screen) to turn board/marker ON - You are now in the LIVE Mode (see below for more details) and the marker is ready to fire.
- Turn Marker OFF - Press and hold CENTER on Directional Pad (D-pad) to enter MAIN Menu, release D-Pad and then press CENTER on D-Pad when the display reads OFF to turn board off.
- Automatic Off feature - The Empire Redline also has an automatic off feature. If you accidentally leave your marker powered up, it will shut itself off after approximately 10 minutes of inactivity.

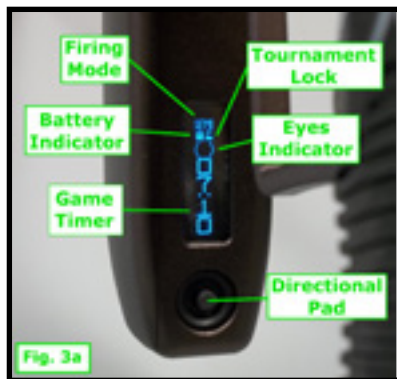
NOTE: The Auto Off time is adjustable in the SYSTEM Menu

### LIVE MODE

Live Mode is the standard mode when firing the marker. The main display will show the Firing Mode, Game Timer, Eye Status, Tournament Lock, Battery Level and Trigger Activation. (See FIG. 3a)

- **Firing Mode** - The upper section of the display shows the current Firing Mode. (FIG. 3a) shows the marker in SEMI mode. The Redline offers eight different Fire Modes.
- **Battery Level Indicator** - On the upper left of the display, below the Firing Mode, is the Battery Level indicator. The indicator will flash when the battery is depleted. (FIG. 3a) shows the Battery Level at full.
- **Tournament Lock** - On the upper right of the display, below the Firing Mode, is the Tournament Lock indicator. The Tournament Lock can only be set by pressing a button on the Redline board (see page 7 for more details).
- **Eye Status** - Eyes are electronic light beams that will not allow the marker to fire until a paintball is completely loaded into the breech and "seen". This feature limits the number of chopped paintballs.
- Press and hold D-Pad in the UP direction to toggle Eyes ON or OFF. The display icon will show either empty breech, a ball in the breech, the EYES OFF, or EYE malfunction.

1. EYES ON, empty breech
2. EYES ON, ball in breech
3. EYES OFF
4. EYE malfunction



- **Game Timer** - Press D-Pad in the DOWN direction to toggle the Game Timer ON. Hold DOWN to stop the timer and continue to hold DOWN to reset the Game Timer.
- **Trigger Status** - The display will show the status of the trigger (depressed or released) in place of the Tournament Lock icon, when the trigger is activated.
- Hold the D-Pad in the LEFT or RIGHT directions to display more user data.
- The Game Timer will be replaced by Shot Counter or the Rate of Fire indicators as you scroll through the display screens.
- **Shot Counter** - Displays the current number of shots taken, as determined by solenoid cycles. Holding the D-pad in the DOWN direction will reset the Shot Counter to zero.
- **Rate of Fire** - This screen displays the highest achieved Average Rate of Fire (AV) and the highest achieved Peak Rate of Fire (PK). Holding the D-pad in the DOWN direction will reset the Rate of Fire values to zero.
- **MAIN Menu** - Press and hold CENTER on D-pad to enter the MAIN Menu (see below for more details).

### MAIN MENU

Press the D-pad to the RIGHT, LEFT, UP or DOWN directions to scroll through the MAIN Menu options. Press CENTER on the D-pad to make a selection.

- **OFF** - Turns Marker Off
- **CONFIG** - Enters User CONFIGurations Menu (see below)
- **SYSTEM** - Enters SYSTEM Settings Menu (see page 5)
- **EXIT** - Exits back to LIVE Mode

### MENU QUICK EXIT

- As long as you are not currently modifying a setting, you can exit any menu at any time by pressing and releasing the trigger. This will take you back to LIVE Mode.

### USER CONFIGURATIONS MENU

- Press the D-pad in the UP or DOWN directions to scroll through the USER CONFIGURATIONS Menu options. Press CENTER or RIGHT on the D-pad enter the selected option and see the current setting.
- **CONFIG** - There are 3 fully customizable user configurations (or profiles). The current user CONFIG (Profile) is displayed near the top of the screen (C1, C2, or C3).
- Only the settings under CONFIG menu are linked to a User Configuration.
- Changing the values of a setting in the CONFIG menu will only affect the Configuration that is currently chosen. If the current configuration setting is C1, any changes to settings in the CONFIG menu will only affect C1.

Note - if the tournament lock is activated you will not be able to enter the CONFIG menu. The display will show "LOCKED" when trying to enter.

### FIRE MODE

Choose between the different pre-programmed firing modes.

- Press RIGHT or CENTER to see the current Firing Mode setting.
- Press UP or DOWN to cycle through Firing Modes
- **SEMI** - Semi automatic firing up to max ROF (Rate of Fire) setting
- **RAMP** - Semi auto shots (equal to Ramp Shot Start setting), then a Ramping rate of fire up to the max ROF setting (if Ramp Sustain TPS (Trigger Pulls per Second) is achieved)
- **BURST** - Semi auto shots (equal to Ramp Shot Start setting), then 3-shot bursts at the max ROF setting
- **AUTO** - Semi auto shots (equal to Ramp Shot Start setting), then Fully Automatic firing at the max ROF setting
- **PSP B** - Complies to 2011 PSP rules for Burst mode
- **PSP R** - Complies to 2011 PSP rules for Ramping mode

### **FIRE MODE Continued...**

- MILL - Complies to 2011 Millennium Series Rules for Ramping Mode
- NPPL – Complies with 2011 NPPL rules of 15 BPS (Balls per Second) Semi Auto
- Press CENTER or LEFT to save selection and return to the CONFIG menu

**ROF Cap-** Choose whether the Rate of Fire Cap is ON or OFF when Eyes are ON

- Press RIGHT or Press CENTER to see current setting of whether ROF CAP is On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER on D-Pad to save the setting and return to CONFIG menu

**ROF Eye On-** The maximum Rate of Fire with Eyes On (ROF Cap must be ON for this setting to take affect)

- Press RIGHT or Press CENTER on D-Pad to see current ROF with EYES ON
- Press UP or DOWN to increase/decrease the BPS setting (8.0-25.0BPS)
- Press LEFT or Press CENTER on D-Pad to save setting and return to CONFIG menu

**ROF Eye Off-** The maximum Rate of Fire with Eyes OFF

- Press RIGHT or Press CENTER on D-Pad to see current ROF with EYES ON
- Press UP or DOWN to increase/decrease the BPS setting (8.0-25.0BPS)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Dwell-** Is the amount of time the solenoid stays open to fire a ball. Setting the Dwell too high will decrease efficiency. Setting the Dwell too low will affect marker operation.

- Press RIGHT or Press CENTER of D-Pad to see current Dwell time (in milliseconds)
- Press UP or DOWN to increase/decrease the Dwell setting (0.5-20.0ms)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Trigger Pull Debounce-** Time in milliseconds the trigger pull must be held to be valid. This eliminates electronic noise and vibrations that the board may wrongly interpret as a trigger action (trigger pull) and fire the marker.

- Press RIGHT or Press CENTER of D-Pad to see current Trigger Pull De-bounce setting (in milliseconds)
- Press UP or DOWN to increase/decrease the Pull Debounce setting (1-20ms)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Trigger Release Debounce-** Time in milliseconds the trigger must remain released before next pull can be registered.

- Press RIGHT or Press CENTER of D-Pad to see current Trigger Release Debounce setting (in milliseconds)
- Press UP or DOWN to increase/decrease the Release Debounce setting (1-20ms)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Ball in Place Time-** Time in milliseconds the ball must stay in breech before it can be fired. Increase this setting for slower feeding loaders to avoid chopping balls in the breech. Decrease this setting for use with faster feeding loaders to increase max ROF.

- Press RIGHT or Press CENTER of D-Pad to see current Ball In Place setting (in milliseconds)
- Press UP or DOWN to increase/decrease the BIP setting (1-20ms)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Anti-Bolt Stick Wait Time-** Time that must expire after a shot before ABS is activated.

- Press RIGHT or Press CENTER of D-Pad to see current ABS Wait setting (in seconds)
- Press UP or DOWN to increase/decrease the ABS Wait setting (10-60s)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Anti-Bolt Stick Dwell-** Time that will be added to dwell after ABS Wait time to prevent bolt stick.

- Press RIGHT or Press CENTER of D-Pad to see current ABS Dwell setting (in milliseconds)
- Press UP or DOWN to increase/decrease the ABS Dwell setting (0-10ms)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Ramp Shot Start** - Number of Semi-Auto shots needed before ramping kicks in (affects all firing modes but Semi-Auto).

- Press RIGHT or Press CENTER of D-Pad to see current Ramp Start setting (in # of shots)
- Press UP or DOWN to increase/decrease the Ramp Start setting (3-12 shots)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Ramp Sustain** - Trigger Pulls per Second (TPS) that must be maintained to continue ramping (affects RAMP, PSPR and MILL modes).

- Press RIGHT or Press CENTER of D-Pad to see current Ramp Sustain setting (in trigger pulls per second)
- Press UP or DOWN to increase/decrease the Ramp Sustain setting (3-12TPS)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Ramp Reset** - Time in seconds after last trigger pull in which ramping will stay active (affects all modes except Semi).

- Press RIGHT or Press CENTER of D-Pad to see current Ramp Reset setting (in seconds)
- Press UP or DOWN to increase/decrease the Ramp Reset setting (1-10s)
- Press LEFT or Press CENTER of D-Pad to save setting and return to CONFIG menu

**Back** – Return to MAIN Menu

- Press RIGHT or Press CENTER of D-Pad when BACK is visible to return to the MAIN Menu.

### **SYSTEM MENU**

- Press the D-pad in the UP or DOWN directions to scroll through the SYSTEM Menu options. Press CENTER or RIGHT on the D-pad enter the selected option and see the current setting.
- These are global settings that will affect all user configurations (C1, C2, C3). These settings can be modified when tournament lock is on or off.

**Game Timer** - Set the Game Timer countdown duration.

- Press RIGHT or Press CENTER of D-Pad to see current Game Timer Countdown setting; MM = Minutes, SS = Seconds (MM:SS)
- Press UP or DOWN to increase/decrease the Game Timer minutes (00-99)
- Press CENTER of D-Pad to save minutes setting
- Press UP or DOWN to increase/decrease the Game Timer seconds (00-59)
- Press CENTER of D-Pad to save seconds setting
- Press LEFT or Press CENTER of D-Pad to save settings and return to SYSTEM Menu

**Timer Alarm** - An audible alarm sounds when game time expires when setting is ON. Alarm also sounds with 1 minute remaining.

- Press RIGHT or Press CENTER of D-Pad to see current setting of On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER of D-Pad to save the setting and return to SYSTEM Menu

**Force Shot** - When ON, forces a shot with no ball in the breech Eyes ON if trigger is held for 1 second.

- Press RIGHT or Press CENTER of D-Pad to see if Force Shot setting is On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER of D-Pad to save setting and return to SYSTEM menu

**Dwell Lock** - When selected ON, changing the Dwell Setting in any of the 3 user configurations (C1, C2, C3) will change the dwell for all 3 configurations. When OFF, the dwell in each user configuration can be changed independently.

- Press RIGHT or Press CENTER of D-Pad to see if Dwell Lock setting is On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER of D-Pad to save the setting and return to SYSTEM Menu

**Brightness** - Adjustable brightness of the screen display when screen is not dimmed

- Press RIGHT or Press CENTER of D-Pad to see current Brightness setting (A numerical value of 10-100, 100 is brightest setting)
- Press UP or DOWN to increase/decrease the Brightness setting (10-100)
- Press LEFT or Press CENTER of D-Pad to save the setting and return to SYSTEM Menu

**Dim Time** - The elapsed time after the last joystick activation in which the screen will dim to save power.

- Press RIGHT or Press CENTER of D-Pad to see current Dim Time setting (in seconds)
- Press UP or DOWN to increase/decrease the Ramp Reset setting (5-30s)
- Press LEFT or Press CENTER of D-Pad to save setting and return to SYSTEM menu

**Auto Off** – The elapsed time after the last trigger activation in which marker will shut off to save power.

- Press RIGHT or Press CENTER of D-Pad to see current Auto Off setting (in minutes)
- Press UP or DOWN to increase/decrease the Auto Off setting (5-30min)
- Press LEFT or Press CENTER of D-Pad to save setting and return to SYSTEM menu

**System Sound** - Turns the system sounds ON or OFF, including the startup, shutdown, and enter/exit menu sounds.

- Press RIGHT or Press CENTER of D-Pad to see if System Sound setting is On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER of D-Pad to save setting and return to SYSTEM Menu

**JSTK Sounds** - Joystick Sounds: Enables a beep when the joystick is activated when setting is ON.

- Press RIGHT or Press CENTER of D-Pad to see if Joystick Sound setting is On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER of D-Pad to save setting and return to SYSTEM Menu

**Training** - Training Mode: Allows trigger activation even though Eyes are ON and no ball in the breech. The solenoid does not cycle, and marker gives an audible chirp when fired.

- Press RIGHT or Press CENTER of D-Pad to see if Training Mode setting is On or OFF
- Press UP or DOWN to cycle through ON or OFF
- Press LEFT or Press CENTER of D-Pad to save setting and return to SYSTEM Menu

**RST Shots** - Reset Shot Counter: Resets the Shot Counter when YES is selected (also available through LIVE Mode menu)

- Press RIGHT or Press CENTER of D-Pad to Reset Shot Counter
- Press UP or DOWN to cycle from NO to YES
- Press LEFT or Press CENTER of D-Pad to reset counter if YES is set, return to SYSTEM Menu

**FCTRY RST** - Factory Reset: Resets all settings to factory defaults when YES is selected

- Press RIGHT or Press CENTER of D-Pad for FACTORY RESET
- Press UP or DOWN to cycle from NO to YES
- Press LEFT or Press CENTER of D-Pad to activate RESET if YES is set
- Screen will then display “Resetting” and then will shut down

**Back** – Selecting will return you to the MAIN Menu

- Press RIGHT or Press CENTER of D-Pad to return the MAIN Menu

#### TOURNAMENT LOCK

- Tournament Lock is engaged or disengaged by pushing a small button on the board. (Fig. 3b)
- The button is located on the side of the board, facing the grip door, about 2.25” (5.7cm) from the bottom of the board.
- A distinct sound will play to indicate the Tournament Lock button was pressed.
- While in Live Mode the Tournament Lock symbol will indicate if the marker is locked or unlocked.



#### SOFTWARE VERSION

- On startup, the software version will display next to the logo.
- Hold CENTER on D-Pad during startup to continuously display the logo and software version.

### 4. ASSEMBLY/DISASSEMBLY AND MAINTENANCE

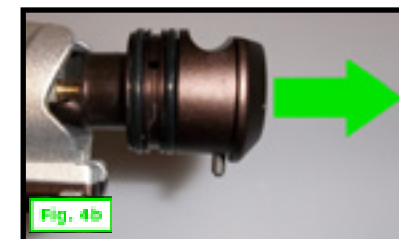
**CAUTION:** Before attempting to perform any maintenance operations or any marker disassembly, make sure that all paintballs and propellant sources have been removed from the marker and that the Regulator gauge reads 0 psi. Install a barrel blocking device, and that the power is Off.

#### GENERAL MAINTENANCE

Keep your Axe Pro clean and lubricated to eliminate the friction that would prevent reliable operation. Clean and lube the marker before each use, and do not put it away dirty. Only use oils designed for paintball and they may only be used on the regulator. DO NOT USE OIL ON THE BOLT SYSTEM. Do NOT use petroleum-based lubricants in the lubrication of this marker. Under any circumstances, do NOT use a solvent-based lubricant. Teflon or silicone (Non-spray only) lubricants designed for use on O-rings may be used for lubrication for the bolt area only of the main housing. Only use Paintball specific marker grease, such as Empire Vitamin E grease. The following maintenance procedures described below should be performed before each day of use or every 20,000 shots, whichever comes first.

#### REMOVAL OF BOLT SYSTEM

- Press and hold the Bolt Guide Release Button, located on the left-side of the rear of the Grip Frame (Fig. 4a)
- While holding the button, grip and pull the Bolt Guide free of the Body removing the bolt system (Fig. 4b)



## MAINTENANCE OF BOLT SYSTEM

- Slide Bolt and Bolt Spring off of the bolt guide.
- You may pull the Bolt Spring off of the Bolt and clean them both thoroughly
- Use a 3/32" hex wrench and insert it into the back of the Bolt Guide Cap. Turn counter clock wise until Bolt Guide Cap is completely removed. (Fig. 4c)



- Carefully insert a non-metallic object (like the back of a pen) into the front of the Bolt Guide. Push Poppet Assembly out the back of the Bolt Guide. (The Poppet Spring may fall out the poppet, do not lose it) (Fig. 4d)
- Clean and inspect the O-rings on the Bolt, Bolt Guide, Poppet, and Bolt Guide Cap for any wear or damage. Replace damaged or worn O-rings if necessary.
- Lubricate all O-rings on Bolt, Bolt Guide, Bolt Guide Cap, and ESPECIALLY THE POPPET with Empire marker grease, the supplied grease or paintball specific marker grease. Only a small amount is needed.
- Replace the Poppet and Poppet Spring in the rear of the Bolt Guide with the Poppet O-ring and Spring towards the rear of the gun.

*Note: The Poppet o-ring is the most critical o-ring in the Axe Pro and should be kept well maintained.*

- Using the 3/32" hex wrench, screw the Bolt Guide Cap clockwise back into the Bolt Guide. Screw the Bolt guide cap all the way in, then turn out 1/2 turn. Further adjustment over a chronograph will be needed to achieve desired velocity after full reassembly
- Slide and snap the Bolt Spring onto Bolt, One end of the spring is smaller and will lock onto the bolt.
- Slide the Bolt and Bolt Spring onto the Bolt Guide
- Insert Bolt System assembly into the back of Body. (Fig. 4e)
- Bolt System maintenance is now complete.

*Note: velocity adjustment over a paintball chronograph may be necessary after performing Bolt System maintenance.*



## REMOVAL, INSTALLATION AND CLEANING OF BALL DETENTS AND EYES

- Using a 5/64" hex wrench, insert hex wrench into the screw hole of the Eye Cover and turn counter-clockwise. (Fig. 4f)



- Using the end of the hex wrench, carefully pry the Ball Detent from the Body
- Clean the detent with a damp cloth or with warm water if covered with paint
- Place the Detent back into its socket within the Body
- Using the end of the hex wrench, carefully pry the Eye from the Body using care not to damage the eye wires
- Clean the Eye with a dry cloth
- Carefully replace the Eye into the socket in the Body
- Install the Eye Cover making sure the Eye is safely in its socket. Tighten the screw with a 5/64" hex wrench.

*Note: Be careful not to lose the detents as they are small and unattached.*

## ADVANCED MAINTENANCE

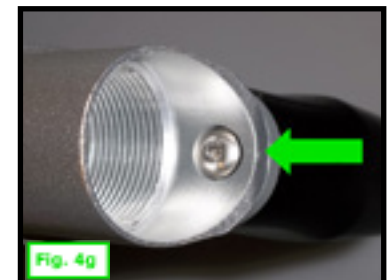
The following procedures only need to be performed if a part inside the marker needs to be inspected, cleaned or replaced. These procedures do not need to be done on a regular basis.

### REPLACING THE POPPET SEAL

If there is a slight air leak evident coming through the bolt area, the Poppet Seal may be worn and need to be replaced. With the Poppet removed (see Bolt System Maintenance procedure above to remove poppet), grab the Poppet Seal with pliers and unscrew the Poppet by hand from the Poppet Seal. Do not grab the Poppet with pliers or put in a vice as it may damage the brass. Install the new Poppet Seal by hand. Once tightened by hand, the Poppet will hold the Poppet Seal in place and it should not come apart during operation.

### REMOVAL OF GRIP FRAME, FOREGRIP AND TRIGGER GUARD

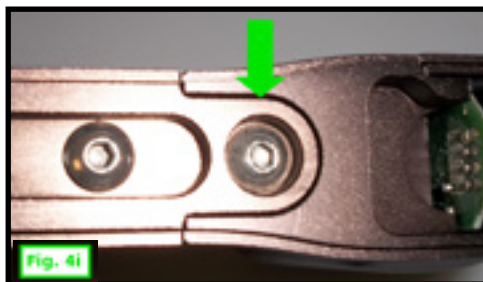
- Remove the Barrel from the Body by turning the Barrel Back clock-wise until free.
- Remove the Bolt Guide as described earlier in this manual
- Using a 5/64" hex wrench, loosen and remove the four screws holding the rubber Grip onto the Grip Frame.
- Using a 3/32" hex wrench, loosen and remove the front Foregrip screw located in the barrel thread section of the Body.(Fig. 4g)





### REMOVAL OF GRIP FRAME, FOREGRIP AND TRIGGER GUARD....continued.

- Locate the rear body screw, in the Grip Frame near the Bolt Guide Release Button and remove using the 3/32" hex wrench. (Fig. 4h)
- The Body assembly can now be pulled free of the Grip Frame and Foregrip. The Grip Frame will remain attached to Foregrip
- You can now access the screw that holds the Foregrip to the Grip Frame located on the top in front of the Trigger Guard and can use the 3/32" hex wrench to remove the screw. (Fig. 4i)
- The Foregrip can now be removed from the Grip Frame. (Fig. 4j)
- You can now remove the Trigger Guard by removing the screw on top of the Grip Frame behind the Trigger Guard.
- The Trigger Guard can now be removed for cleaning or replacement



### INSTALLATION OF GRIP FRAME AND FOREGRIP

- Attach Trigger Guard to Grip Frame by sliding the Trigger Guard in from the front and tightening the screw on top of the grip frame using a 3/32" hex wrench.
- Attach the Foregrip to the Grip Frame using a 3/32" hex wrench
- Inspect the Air Transfer Tube O-ring and lightly grease. As you install the Grip Frame, make sure the Solenoid wires do not get pinched and hold the Trigger in to prevent the Trigger activation lever from getting damaged. Also ensure Redline board pins line up with Sensor Board plug Gently push Grip Frame back on and line up the air transfer tube using care not to damage the circuit boards.
- When the Grip Frame is back on, use the 3/32" hex wrench and tighten the rear screw first then the front screw in the barrel thread area.
- Do not over tighten.
- Using 5/64" hex wrench, replace Rubber Grip using 4 screws, 2 on each side.
- Do not over tighten.

### REMOVAL OF AIR TRANSFER PLATE

- Remove Grip Frame as explained previously
- Unscrew Female Air Transfer Tube from Air Transfer Plate
- Carefully unplug the solenoid from the Sensor board.
- Remove the Solenoid from the Air Transfer Plate by unscrewing it counter-clockwise. (Fig. 4k)
- Using a 5/64" hex wrench, remove all of the Air Transfer Plate screws (6 total).
- Once the screws are removed the Air Transfer Plate will then lift off.

*Note: Be careful not to lose the Check Valve (air restrictor). The Check Valve is a small plastic piece located between the Body and air transfer plate in one of the solenoid manifold holes*

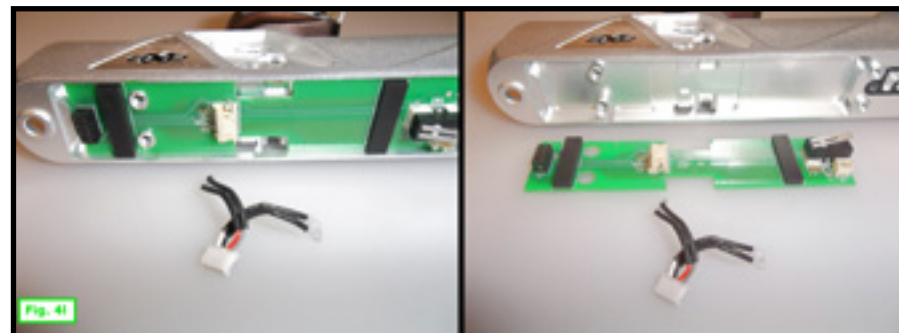


### INSTALLATION OF AIR TRANSFER PLATE

- It is recommended that a small amount of Empire marker grease or paintball marker specific grease is applied to the Air Transfer Gasket before the Air Transfer Plate is reattached.
- Also make sure the Check Valve is in the Body, as seen in the picture above.
- Place Transfer Plate back on Body and evenly tighten all 6 screws using a 5/64" hex wrench.
- Screw the Solenoid into the Air Transfer Plate, tightening in a clockwise direction.
- Plug the Solenoid back into the sensor board.
- Screw Female Air Transfer Tube onto Air Transfer Plate

### REMOVAL AND CLEANING OF SENSOR BOARD

- Remove Foregrip, Grip Frame, and Air Transfer Plate as described in the steps above.
- Unscrew and remove the two Eye Covers from each side of the Body
- Gently pry the Eyes out of their sockets in the Body.
- Remove the Eyes from the Sensor Board, using caution to prevent damaging the Eyes as they slide through the holes in the Body.
- Gently remove the Sensor Board from the Body (Fig. 4l)
- If paint is on the board, use a dry cloth to wipe paint off the board.
- Rubbing alcohol may be used if deep cleaning is needed. Do not use water on any electronics.





## INSTALLATION OF SENSOR BOARD

- Make sure the Eye Covers are removed from the Body
- When installing board back in the main Body, be careful that the Eyes are fed through the slots in the Body.
- Place the Eyes into their respective sockets and install the Eye Covers
- Once the board is in place, install the Air Transfer Plate and other marker components as described earlier in this manual.

## REMOVAL OF REGULATOR

- Remove two screws from the same side of the Grip using a 5/64" hex wrench.
- Loosen the two Regulator Mount screws located on the inside bottom of the Grip Frame with a 3/32" hex wrench by turning them counter clockwise. (Fig. 4m)
- The Regulator can now be slid forward and off the Grip Frame.
- Be careful not to lose the small O-ring at the top of the Regulator. Inspect, clean and replace this o-ring as necessary



## INSTALLATION OF REGULATOR ASSEMBLY

- Slide Regulator along the T-rail of the Grip Frame, orientated with the ASA opening facing the rear of the marker.
- Install the two Regulator Mount screws located on the inside of the Grip Frame (on each side of the transfer tube) with a 3/32" hex wrench by turning them clockwise. Do not over tighten.
- Make sure the female Air Transfer Tube O-ring is on the bottom of the Air Tube, add grease if necessary.
- Install the four screws that hold the rear Grip to the Grip Frame using a 5/64" hex wrench.

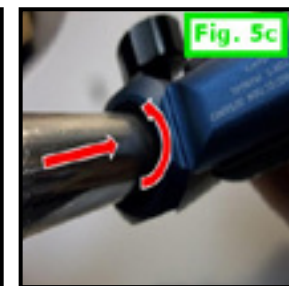
## 5. EMPIRE REGULATOR SERVICE GUIDE

**WARNING:** Remember to remove all gas and ensure marker is discharged before servicing Regulator.

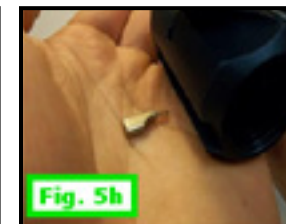
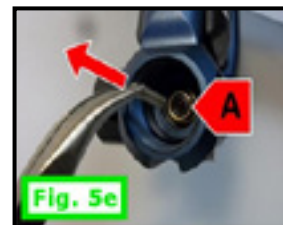
**WARNING:** The following service should be performed by an experienced user. If you are not comfortable performing the steps below please contact Empire customer service at [www.paintballsolutions.com](http://www.paintballsolutions.com)

For ASA/Regulator service you will need the following tools: 3/32" hex wrench, needle nose pliers, O-ring pick, 1/2in socket or nut driver, 3mm nut driver, Dow 33 type grease

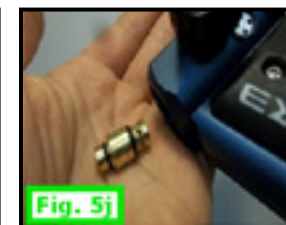
1. Grasp the Regulator Front Cap and unscrew counter-clockwise. If it does not turn easily, use a 3/32 hex wrench in hole on front cap of the regulator and unscrew the front cap (see Figure 5a). The Main Spring and Spring Plate will be sitting loose in the Front Cap. Be sure not to lose these parts (Fig 5b).
2. Flip the On/Off Lever forward to Off position. Insert the 1/2in. hex socket into open side of Regulator and unscrew the brass nut from the Regulator in the counter-clockwise direction (see Fig. 5c).



3. Inspect the O-ring on the brass nut and replace if damaged (shown in Fig. 5d, labeled A)
4. Use a pair of pliers to remove the tank depression pin from the Pin/Seal Retainer in the tank side of the Regulator. Be sure to grab the pin by its smaller section, near the tip. Inspect O-ring on the inside of the pin retainer and replace if necessary (see Fig. 5e, O-ring labeled A).
5. Use a 3/32" hex wrench to unscrew the Lever Retaining Screw (see Fig 5f). The Lever is under spring pressure, so you may have to push the Lever down slightly to remove the screw (see Fig 5g). Once the screw is removed, the Lever will fall out and the Pin Depression Ramp with Spring will fall from the bottom of the Regulator (see Fig 5h).



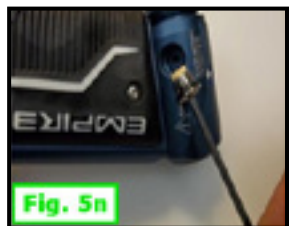
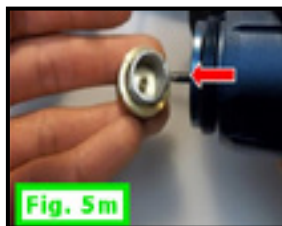
6. Insert the 3/32" hex wrench into the bottom of the Regulator where the Pin Depression Ramp was removed from. Use the hex wrench to unseat the Pin/Seal Retainer by pushing it towards the tank side (rear) of the Regulator (see Fig 5i). Once unseated, remove the hex wrench and turn the tank side opening down to allow Pin/Seal Retainer to fall into your hand. Inspect the outer O-rings of the pin/seal retainer for damage and replace if needed (see Fig 5j).



7. Insert the 3mm nut driver into the tank side of the Regulator onto the silver Piston. On the opposite side of the Regulator (front), place the O-ring pick in the small hole on the brass piston as shown in (Fig 5k.) Hold the brass Piston stationary and unscrew the silver Piston. Once fully unscrewed, turn the tank opening side down and allow the washer and silver piston to come out on the 3mm nut driver as shown in Fig 5L.



8. If the Piston and washer don't fall out easily, use pliers to grab the Piston by the head and lift it from the Regulator body. Then use an O-ring pick to loosen the washer, carefully, while not damaging the washer. Note the washer is semi-transparent and may be hard to see. If the washer is damaged or the Regulator was having over pressurization problems the washer should be replaced.
9. Once the silver Piston and washer is removed, insert a 3/32" hex wrench into the tank side of the Regulator to push the silver piston through the front of the Regulator as seen in (Fig 5m.)
10. Insert a 3/32" hex wrench into the silver cap on side of Regulator to unscrew filter retainer cap. The filter will fall out onto the cap once removed. Inspect the O-ring on filter cap and replace if needed. (see Fig 5n)
11. Proceed to clean the inside of the Regulator and the removed parts with a clean cloth or cotton swab.



## REASSEMBLY

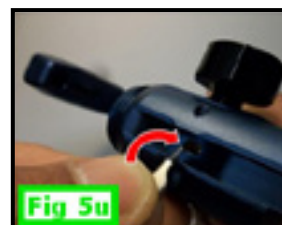
1. Once clean, apply a liberal amount of Dow 33 or equivalent grease to the two O-rings on the brass Piston as shown in (Fig 5o,) making sure to fill the grooves that the O-rings sit in with grease.
2. Place the secondary spring into the deeper side of the brass piston and insert the assembly into the front of the Regulator (see Fig 5p).
3. Place the silver piston into the 3mm nut driver and the washer onto the silver piston with the curved side of the washer facing the head of the piston (see Fig. 5q). Insert the assembly into the tank side of Regulator and screw silver piston into brass piston until snug. DO NOT OVER TIGHTEN the silver piston. Only tighten until turning silver piston spins brass piston as well.



4. Place filter in filter cap and screw the assembly into filter area using 3/32 hex wrench (see Fig. 5r).
5. Insert pin/seal retainer in orientation shown in (Fig. 5s) into tank side of Regulator ensuring oval slot in the pin/seal retainer is lined up with bottom slot on Regulator.
6. Insert the 3/32" hex wrench into bottom slot of Regulator and push the Pin/Seal Retainer towards front of Regulator until the slot on the Regulator lines up with the slot on the seal retainer (see Fig. 5t).



7. Insert the Pin Depression Ramp and Spring back into the bottom of Regulator with the ramp facing toward tank side of Regulator (see Fig 5u for orientation). The ramp should fall into place easily and if not, ensure the slots on the Regulator and Pin/Seal Retainer line up on all sides.
8. Place lever on top of pin ramp in off position and install lever retainer screw using 3/32 hex wrench (see Fig 5v).
9. Apply a small amount of Dow33 grease to the large part of the tank depression pin. Use pliers to place the tank depression pin back into the Pin/Seal Retainer, being careful to only grip the small end of the pin with the pliers. (see Fig 5w).



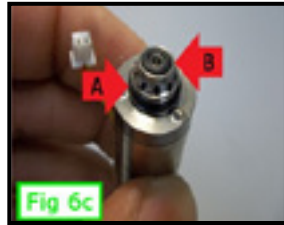
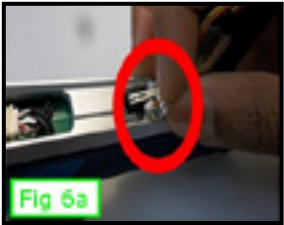
10. Use the 1/2" socket to reinstall the brass nut into the tank side of the Regulator (see Figure 5x).
11. Place silver washer in Regulator front cap as shown in Figure 5y. Place main spring on top of washer and screw front cap onto front of Regulator. Only hand tightening is needed (see Figure 5z).



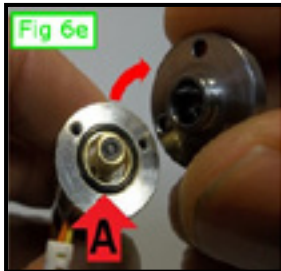
**WARNING:** Before applying air to marker unscrew Regulator adjustment screw to set pressure to zero as pressures may have changed during service.

## 6. SOLENOID SERVICE GUIDE

1. Unplug the solenoid from the sensor board (see Fig. 6a).
2. Unscrew the solenoid from air transfer plate (counter-clockwise) and set the marker off to the side (see Fig. 6b).
3. Inspect each O-ring at the bottom of solenoid threads (labeled A) and the top of solenoid (labeled B) for damage, replace as necessary (see Fig. 6c).



4. Remove the 3 small screws on the top of the solenoid using a 1/16 hex wrench or small Phillips head screw driver depending on the screw head (see Fig. 6d).
5. Lift the top cap off the solenoid to expose the solenoid piston. Be careful not to lose the small O-ring at the top of the solenoid, it may be stuck to the top cap (labeled A in Fig. 6e). If O-ring is damaged, replace it.
6. Lift the piston from the solenoid (see Fig. 6f).

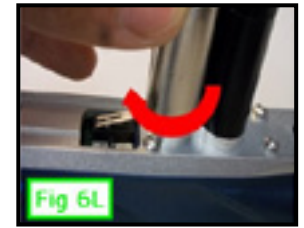
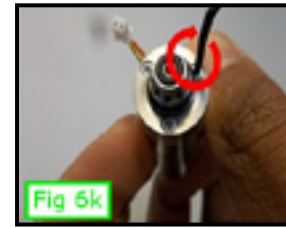
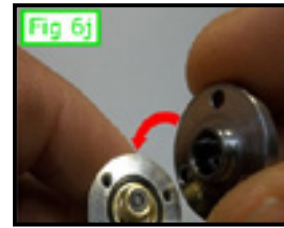


**WARNING:** If you are not comfortable performing this maintenance please contact Empire customer service by going to [www.paintballsolutions.com](http://www.paintballsolutions.com)

7. Use a Q-tip or clean cloth to clean the piston and the cavity that holds the piston. Also clean the rubber seals on both the top and bottom of the piston (see Fig. 6g & Fig. 6h).
8. Once the solenoid cavity and piston have been cleaned, re-insert the piston into the cavity as orientated in (Fig. 6i). The solenoid piston doesn't require lubrication, though a very light coat of paintball marker oil may be applied to the silver area of the piston if desired.



9. Replace the solenoid cap and the 3 screws that secure the cap in place (see Fig. 6j & Fig. 6k). Do NOT over tighten the screws.
10. Screw the solenoid back into air transfer plate and plug the wire back into sensor board (see Fig. 6L).
11. Solenoid maintenance is now complete.



**WARNING:** Solenoid may be in open position after service. Before gassing up marker, turn marker on, turn eyes off and pull trigger several times to close solenoid

### STORAGE AND TRANSPORTATION

- Your Axe Pro must be clear of all paint and propellant when not being used.
- Make sure the Axe Pro marker is Off: Push the Power button and hold for over 2 seconds until the LED light changes to Red
- Put the barrel blocking device in its place. Make sure the marker is clean.
- Store your Axe Pro in a clean, cool, dry place.
- Keep your Axe Pro away from unauthorized and unsafe users.
- It may be a good idea to remove the battery when storing your marker to prevent unauthorized use and to extend battery life.

Your Axe Pro must be clear of all paint and any source of propellant during transportation to and from the playing field. Keep your barrel blocking device in place. Keep the Axe Pro Marker switched Off. Protect your marker from excessive heat during transportation.

Observe and obey all local, state and federal laws concerning the transportation of paintball markers. For information concerning any of the laws in your area, contact your nearby law enforcement agency. If you must ship your Axe Pro for any reason, the box in which you purchased the marker should be used to protect your marker against rough handling during transport. Never ship filled CO2 or pressurized gas cylinders!

**IMPORTANT:** Never carry your Axe Pro uncased when not on a playing field. The non-playing public and law enforcement personnel may not be able to distinguish between a paintball marker and fire-arm. For your own safety and to protect the image of the sport, always carry your Axe Pro in a suitable marker case or in the box in which it was shipped.



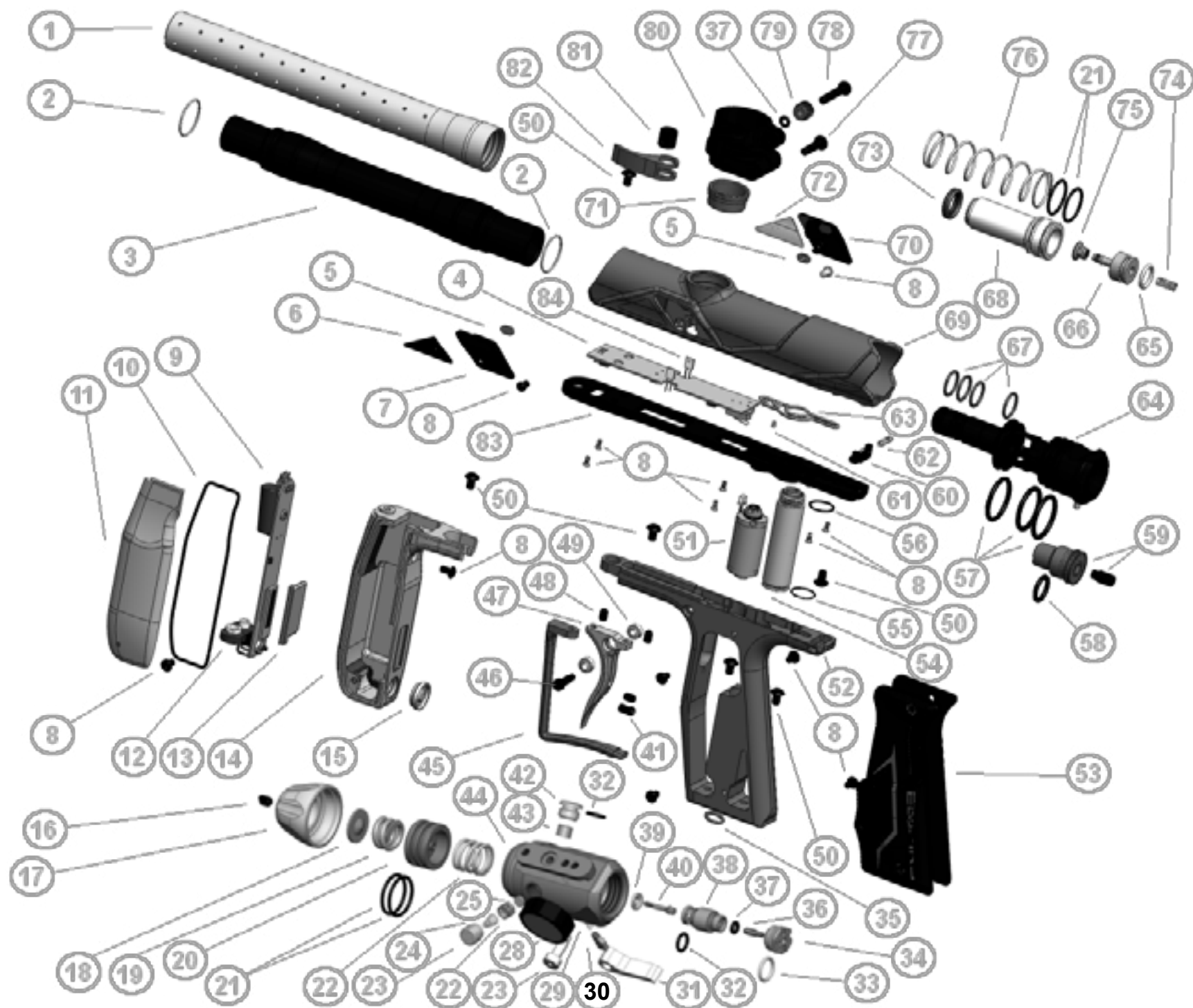
## 7. Troubleshooting

|  |   |  |
|--|---|--|
| Marker does not fire/cycle                                       | Marker may not be turned on                                 | Check screen on rear of foregrip. OLED screen should be on when marker is turned on.   |
|  | Paintballs may not be fed into breech                       | The anti-chop eye system prevents the marker from firing unless a ball is present. When the eyes detect a ball the eye symbol on the screen will have a filled circle in the middle. Never put anything other than a paintball down the feedneck of the Mini GS. Check that the bolt is fully returning and if not service you may need to change bolt tip, small bolt guide o-rings and/or the bolt o-rings. Check that there is a proper connection between the sensor board and main board. Check for damage to the main board pins near the tip of the foregrip. |
|  | Trigger may need to be adjusted.                            | The trigger indication arrow takes place of the tournament lock symbol when the trigger is activated. If the trigger is being pressed the arrow will point down, and point up if the trigger is released. If it is not that way, then the trigger may need to be adjusted. See the "Trigger Adjustments" section earlier in the manual. Check that there is a proper connection between the sensor board and main board. Check for damage to the main board pins near the tip of the foregrip.   |
|  | Solenoid may not be connected                               | Remove air source and paintball before disassembling the marker. If you remove the grip frame you should be able to verify the solenoid is plugged into the Mini GS sensor board.  |
| Multiple paintballs fired from only one shot                     | Ball detents may be torn or missing                         | Remove the eye cover to check the condition of the ball detents. If damaged or bent permanently replace one or both of them.   |
| Marker is Breaking paintballs in the breech                      | Ball detents may be torn or missing                         | Remove the eye cover to check the condition of the ball detents. If damaged or bent permanently replace one or both of them.   |
|  | Eyes may be dirty   | Clean the eyes as described earlier in the manual. If the eyes are dirty the eye symbol on the screen will have a big X in the middle after the marker is fired.   |
|  | Bolt tip may be bad   | A bad bolt tip may allow air to escape up the feedneck causing breakage. This symptom is commonly known as "Blowback"  |
|  | Bolt guide or Bolt o-rings may be bad                       | Bad bolt or small bolt guide o-rings may allow air to escape up the feedneck causing breakage. This symptom is commonly known as "Blowback". Make sure these o-rings are in good condition and properly lubricated. Replace if necessary.  |
| Marker is shooting slower than set ROF                           | Eyes may be dirty   | When the eyes are dirty the ROF is limited to 8bps to prevent excessive ball breakage. Clean the eyes as described earlier in the manual. If the eyes are dirty the eye symbol on the screen will have a big X in the middle after the marker is fired.  |
| Velocity is Low/Inconsistent or velocity drops during rapid fire | Poppet o-ring may be damaged or not properly lubricated     | See general maintenance section earlier in the manual to see how to properly check and lubricate poppet o-ring.  |
|  | Bolt guide or Bolt o-rings may be bad/may not be lubricated | Bolt should stay on bolt guide when turned bolt side down and shaken. If bolt falls off replace 3 small bolt guide o-rings. Check bolt and bolt guide o-rings for damage. Assure these o-rings are properly lubricated according to general maintenance section of this manual.  |



|   |  |   |
|---|--|---|
|   | Possible issue with marker pressure          | Pressure should be set to around 200psi. If pressure drops during rapid fire and doesn't recover to set pressure between each shot try screwing in tank all the way or try a different tank. If switching tank doesn't help the regulator/ASA may need to be serviced. See Regulator maintenance guide in the manual  |
| Velocity of first shot is higher than rest of string      | Possible issue with marker pressure          | Pressure should be set to around 200psi. If pressure rises above set pressure quickly after a shot the regulator may need service. See Regulator Maintenance Guide in this manual.  |
| Solenoid doesn't click                                    | Battery may not be fresh                     | Try a new battery and make sure high quality Alkaline 9V battery.   |
|   | Solenoid may be dirty and is sticking        | See solenoid cleaning in the maintenace section earlier in the manual.  |
| Marker continues to fire when trigger is not being pulled | Trigger may be adjusted too short            | If trigger is adjusted too short it could cause undesired activations on the switch. See Trigger adjustments section earlier in the manual to make trigger longer.  |
|   | Trigger de-bounce may need to be increased   | The circuit board has settings called pull de-bounce and release de-bounce that prevent accidental trigger switch activations. Increasing these settings may fix this issue. See Board settings and Functions section earlier in the manual to see how to adjust this.  |
| Large gushing leak out of barrel/breech                   | Solenoid may need to be reset                | The solenoid may occasionally stick open from being dirty, excessive shock or loss of power in which case it needs to be reset. To reset solenoid remove air source turn marker on, turn the eyes off pressing and hold if up direction, press trigger multiple times you should hear solenoid clicking. If solenoid doesn't click see "Solenoid doesn't click" section in troubleshooting guide. |
| Small leak down the barrel                                | The poppet seal may be dirty or damaged      | Try cleaning poppet seal and bolt guide area with a q-tip. If this doesn't work you can change the seal on the end of the poppet by carefully unscrewing it with pliers or replacing the entire poppet assembly. Damage may not be detectable by the eye.   |
|   | The bolt guide is dirty or damaged           | Try cleaning poppet seal and bolt guide area with a q-tip. If this doesn't work your bolt guide may be damaged where the poppet seals and therefore needs to be replaced.   |
|   | Front large bolt guide O-ring is damaged     | Replace o-ring  |
| Constant leak inside grip frame                           | Multiple causes                              | Multiple seals or parts could cause a leak inside grip frame. Check and replace seals if necessary for each possible cause. Possible causes include: Solenoid Gasget, Solenoid, Large bolt guide o-rings, O-rings on air transfer tubes,  |
| Leak from back cap/velocity adjuster                      | Velocity adjuster could be unscrewed too far | Screw Velocity adjuster back in.  |
|   | O-ring on Velocity adjuster may be damaged   | Replace velocity adjuster o-ring.   |
| Leak between bottom grip frame and regulator/asa          | ASA screw may be loose                       | Remove either side of rear grip panel and tighten screw if it is loose  |
|   | Air transfer o-ring may be damaged           | Change bottom air transfer o-ring.  |
| Leak from bottom of regulator ASA where lever is          | Multiple causes                              | These two o-ring may cause this issue (72509, 72399) - see regulator maintenance guide on how to access these o-rings   |
| Leak from silver cap with 4 holes on regulator            | Regulator pressure is set too high           | This cap contains the over pressure protection valve (OPP valve). It will leak if the pressure is approximately 250psi or higher. If it leaks at less than 200psi it may need service which would require a certified tech.   |

## 8. Parts Guide



| DIAGRAM | SKU   | PART   |
|---------|-------|--|
| 1       | 74157 | Barrel Tip - Dust Black                          |
| 2       | 72488 | O-ring BUNA 70 DUR 1mm x 19.5mm                  |
| 3       | 74161 | Barrel Back .688 - Dust Black                    |
| 4       | 74103 | Sensor Board                                     |
| 5       | 72577 | Ball Detent                                      |
| 6       | 74135 | Axe Logo Plate LH - Dust Black                   |
| 7       | 74129 | Eye Cover LH - Dust Black                        |
| 8       | 72414 | Screw BH 6-32 x .250                             |
| 9       | 72411 | Redline OLED Board                               |
| 10      | 74108 | Foregrip Gasket                                  |
| 11      | 74154 | Foregrip Door - Dust Black                       |
| 12      | 17525 | Battery Harness                                  |
| 13      | 74110 | Redline Window                                   |
| 14      | 74151 | Foregrip - Dust Black                            |
| 15      | 74111 | Redline Joystick Cover                           |
| 16      | 72654 | Screw Set 10-32 X .375 Cup Point                 |
| 17      | 72615 | Regulator Cap - Dust Black                       |
| 18      | 72609 | Regulator Disk                                   |
| 19      | 72608 | Main Regulator Spring                            |
| 20      | 72611 | Piston   |
| 21      | 17534 | O-ring BUNA 017/70 (.676 ID)                     |
| 22      | 72607 | Piston Return Spring                             |
| 23      | 72610 | Regulator Cover Plate                            |
| 24      | 72604 | Regulator Opp Spring                             |
| 25      | 72605 | Regulator Seal Rubber                            |
| 26      | 72606 | Regulator Seal Housing                           |
| 27      | 72512 | Reg On/Off Screw SHSS 3/16 DIA 3/8 LG 8-32 X .25 |
| 28      | 72375 | 300 Psi Gauge - Black                            |
| 29      | 72597 | Wedge Return Spring                              |
| 30      | 72614 | Pin Wedge  |
| 31      | 72613 | Regular Lever                                    |
| 32      | 72509 | O-ring BUNA 70 DUR 1.5mm x 6.5mm                 |
| 33      | 72399 | O-ring BUNA 012/70                               |
| 34      | 72599 | Regulator Nut                                    |
| 35      | 10761 | O-ring BUNA 008/70                               |
| 36      | 72598 | On/Off Pin                                       |
| 37      | 72489 | O-ring BUNA 006/70 (.114 ID)                     |
| 38      | 72652 | Regulator Seal Retainer                          |
| 39      | 72602 | Piston Washer                                    |
| 40      | 72601 | Regulator Pin                                    |
| 41      | 72819 | Return Magnet Screw                              |
| 42      | 72595 | Regulator Filter Cap                             |

|           |       |  |
|-----------|-------|--|
| 43        | 72596 | Regulator Filter                               |
| 44        | 72824 | Regulator Body - Dust Black                    |
| 45        | 74164 | Trigger Guard - Dust Black                     |
| 46        | 74107 | Trigger Screw                                  |
| 47        | 74144 | Trigger - Dust Grey                            |
| 48        | 72818 | Screw Set 8-32x.25 Flat Pt                     |
| 49        | 74105 | Bearing .156 ID X .3125 OD X .1555             |
| 50        | 72515 | Screw BHCS 8-32 X .250                         |
| 51        | 17528 | Solenoid                                       |
| 52        | 74146 | Grip Frame - Dust Black                        |
| 53        | 74149 | Grip - Black/Black                             |
| 54        | 72397 | Male Air Tube Assembly                         |
| 55        | 17553 | O-Ring BUNA-N 70 DUR 0.8mm CS X 12.0mm ID      |
| 56        | 17552 | O-Ring BUNA-N 70 DUR 1mm CS X 12mm ID          |
| 57        | 74100 | O-Ring BUNA-N 70 DUR 2.5mm CS X 23.0mm ID      |
| 58        | 74101 | O-Ring BUNA-N 70 DUR 2.4mm CS X 10.80mm ID     |
| 59        | 72810 | Velocity Adjuster w/ Insert - Dust Black       |
| 60        | 74106 | Bolt Guide Release Button                      |
| 61        | 17531 | Check Valve                                    |
| 62        | 72584 | Spring Com .120OD X 0.50FL.020WD Rate 18.LB/IN |
| 63        | 17530 | Air Transfer Gasket                            |
| 64        | 74112 | Bolt Guide - Dust Grey                         |
| 65        | 17540 | Poppet O-ring URE 90 DUR 2mm x 10mm            |
| 66        | 17628 | Poppet Body                                    |
| 67        | 17537 | O-ring BUNA 70 DUR 1.5mm x 12mm                |
| 68        | 17532 | Bolt   |
| 69        | 74122 | Body - Dust Black                              |
| 70        | 74130 | Eye Cover RH - Dust Black                      |
| 71        | 72805 | Feedneck Adapter - Black                       |
| 72        | 74136 | Axe Logo Plate RH - Dust Black                 |
| 73        | 17533 | Bolt Rubber Tip                                |
| 74        | 17623 | Poppet Spring                                  |
| 75        | 17629 | Poppet Seal                                    |
| 76        | 17535 | Main Spring                                    |
| 77        | 72496 | Screw BHCS 8-32 x .750                         |
| 78        | 72497 | Screw BHCS 8-32 X 1.000                        |
| 79        | 72570 | Feedneck Thumb Screw                           |
| 80        | 74168 | Feedneck - Dust Black                          |
| 81        | 72573 | Feedneck Lever Bushing                         |
| 82        | 72802 | Feedneck Lever - Dust Black                    |
| 83        | 74126 | Transfer Plate - Dust Grey                     |
| 84        | 74104 | Eye Harness                                    |
| Not Shown | 74109 | Grip Frame Magnet 6mm Dia. X 3mm               |

## LIMITED LIFETIME WARRANTY INFORMATION

KEE Action Sports ("KEE") warrants that this product is free from defects in materials and workmanship for as long as it is owned by the original purchaser, subject to the terms and conditions set forth below. KEE Action Sports will repair or replace with the same or equivalent model, without charge, any of its products that have failed in normal use because of a defect in material or workmanship.

KEE Action Sports is dedicated to providing you with products of the highest quality and the industry's best product support available for satisfactory play.

### ORIGINAL PURCHASE RECEIPT REQUIRED

Purchaser should register product to activate warranty. Register your product by:

1. Online at [www.paintballsolutions.com](http://www.paintballsolutions.com)
2. Complete the product registration card (if applicable) and mail along with a copy of your receipt to Paintball Solutions, 11723 Lime Kiln Rd., Neosho, MO 64850

### WHAT THIS WARRANTY DOES NOT COVER

This warranty does not cover problems resulting from abuse, the unauthorized modification or alteration of our product, problems resulting from the addition of aftermarket products and scratches or minor superficial imperfections. Due to the nature of paintball products it is important that the product be maintained by the user as indicated in the product manual to remain in good operating condition. Your Limited Lifetime Warranty will be void if you fail to maintain the product as recommended in the product instruction manual. In addition, certain parts of a product may be subject to wear through regular usage. Replacement and repair of such parts is the responsibility of the user throughout the life of the product. These parts are not covered under the Limited Warranty. Examples of this type of part include (but are not limited to) goggle lens, straps, O-Ring seals, cup seals, springs, ball detents, batteries, hoses, drive belts, gears and any part of a product subject to continuous impact from paintballs. Hydro-testing of air cylinders is not covered under this warranty.

The Limited Lifetime Warranty also does not cover incidental or consequential damages. This warranty is the sole written warranty on KEE's product and limits any implied warranty to the period that the product is owned by the original purchaser. Some states, provinces and nations do not allow the limitation of implied warranties or of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state, province to province, and nation to nation. If you should encounter any problems with your product and you have added aftermarket parts on your product, please test it with the original stock parts before contacting paintball Solutions. Always unload and remove the air supply before shipping markers. Do not ship your air supply tank if it is not completely empty and the regulator removed. Shipping a pressurized air supply tank is unsafe and unlawful. Remove all batteries from products prior to shipping. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion of incidental or consequential damages.



**EMPIRE**

[empirepaintball.com](http://empirepaintball.com)

*For Warranty parts, service, information or manuals in other languages, (where applicable) contact Paintball Solutions:*

[www.paintballsolutions.com](http://www.paintballsolutions.com)

E-Mail: [tech@paintballsolutions.com](mailto:tech@paintballsolutions.com)

US: 1-800-220-3222

Canada: 866-685-0030

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Empire Paintball

11723 Lime Kiln Rd.

Neosho, MO 64850

[www.empirepaintball.com](http://www.empirepaintball.com)

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