FIELD ONE

FORCE

USER MANUAL

FIELD ONE PAINTBALL - 34 DE LUCA PLACE - SUITE D - SAN RAFAEL - CA 94901 - 415 - 324 - 4050 - FIELDONEPAINTBALL.COM

F1 FIELD ONE

FIELD ONE FORCE

Thank you for purchasing the Field One Force. We at Field One Paintball truly appreciate your support in purchasing and using this product.

This manual will serve as your guide to the Field One Force and should help to maintain a high level of performance with your new marker while also increasing the overall experience of the user. Your Field One Force paintball marker also comes with a Force Quick Start Guide to get you started with your Field One Force marker and provide insight into the basic maintenance and operation of the marker. The Field One Force User Manual, the Force Quick Start Guide as well as video tutorials and a section on FAQs (Technician Tips) are available at www.fieldonepaintball.com. If you have questions about your Field One Force marker, please contact your local retailer or service center or contact Field One Paintball directly at: support@fieldonepaintball.com.

A list of Field One Authorized Service Centers can be found on our website or by clicking on the link here: https://fieldonepaintball.com/pages/certified-dealers-and-technicians

SAFETY WARNING! READ THIS BEFORE HANDLING YOUR MARKER!

- This marker is not a toy. Misuse/careless use may result in serious injury or death.
- Eye protection designed specifically for paintball and compliant with ASTM standards must be worn by the user and all persons within range.
- READ OWNER'S MANUAL BEFORE USING.
- ALWAYS COVER BARREL with a barrel blocking safety device when not in use.
- You must comply with all local and federal rules and regulations.
- Eye protection in compliance with ASTM Specification F1776, with temple, ear and face protection must be worn by anyone within range of the Force.
- Must be at least 18 years old to purchase, 14 years old to use or operate with adult supervision, 10 years or older to operate on insured paintball fields meeting ASTM-standard F1777-97.
- This marker is designed to shoot .68 caliber paintballs.
- This marker is designed to operate with compressed air supplied by a compressed air tank(equipped with regulator) designed specifically for paintball markers. DO NOT USE CO2.
- Only shoot your paintball marker in areas where people, animals and property are not at risk of being damaged or hurt by paintball projectiles.
- Only shoot your paintball marker in areas where all people are wearing paintball approved eye and face protection.
- Do not put your finger (or any other body part) in the breech or in any other area where there are moving parts.
- Do not fire the marker near your ear or near the ear of another person or animal.
- Never operate your marker at chrono speeds in excess of 300 feet per second and always adhere to chronograph speed limits and guidelines set forth by local rules and regulations.
- Thoroughly read entire operating manual before using this equipment.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

TABLE OF CONTENTS

Introduction to the Field One Force Marker

SAFETY WARNING (READ THIS BEFORE HANDLING YOUR F1 PAINTBALL MARKER

Marker Setup- Getting Ready to Play with your Field One Force

Getting to Know your Field One Force Hardware

OLED Grip Frame Diagram

Force Electronics and OLED Screen

Rhino Regulator and Cam Drive ASA

Force KO Trigger, 4-C Eye System and Eye Assembly

Force Nucleus Engine

Lever Lock Feedneck, Foregrip and AA Battery Compartment

Field One Force Marker Diagram

Foregrip and Battery Compartment Diagram

Mainbody Diagram

Adjusting your Force Software Settings

Force Board- Adjustable Settings Explained

Field One Force Maintenance Schedule

O-ring Size and Location Chart

Nucleus Engine Maintenance

Grip Shift Instructions

Rhino Regulator Maintenance

Trigger Adjustment and 4-C Eye Maintenance

Changing Batteries and Power Select

Field One Paintball Warranty

Troubleshooting and FAQ

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Introduction to the Field One FORCE Marker

The Field One Force is an open-bolt spool engine design that is meant to provide top level performance for all paintball players at all levels of the game in a variety of playing formats. In this user's manual you will find information about all of the different components and systems of the Field One Force. There will be diagrams and links to videos which will help with maintenance and provide a better overall understanding of how the Field One Force operates. We hope that this marker will increase your paintball enjoyment whether you are messing around with friends on the weekend, lurking behind enemy lines at a scenario game or competing for the Paintball World Cup. In this User's Manual, you will find information about all of the different components and systems of the Field One Force as well as diagrams and links to videos to help with maintenance and provide a better understanding of how the Field One Force operates. While this manual has all of the information you should need for set-up, maintenance and trouble-shooting for the Force, you may find it more convenient to use and keep on hand the Field One Force Quick Start Guides, which come in the case with your new Force marker.

To optimize the performance of your Field One Force, we recommend that you use high quality paintballs with a motorized loader and a low output pressure compressed air tank (250 psi - 550 psi recommended). We also recommend the use of high quality, name brand batteries in your marker and loader.
Your Field One Force marker is an electro-pneumatic paintball marker that combines electronic software and components with mechanical parts and air/gas pressure. As with all electro-pneumatic paintball markers, some simple guidelines will help to keep your marker working at the highest level of performance:

- Replace the battery in the marker with fresh "brand name" batteries at regular intervals
- Keep the marker and it's electronic components free from moisture. Clean and dry the marker and any of the electronic components after use in wet conditions
- Maintain adequate lubrication on o-rings and seals in the marker and replace o-rings and seals as needed. Please read the Force Quick Start Guide or check out the Force Routine Maintenance video tutorial for details on the upkeep required for your Force Marker.
- Use high quality paintballs (consistent in roundness, shape and size)
- Use a high quality motorized loader and high quality compressed air tank with your marker and perform regular maintenance on these components as well
- Before you play, check the "paintball to barrel bore sizing" to ensure proper fit and chrono your marker, staying under the recommended chrono speed limit. Never operate your paintball marker at chrono speeds in excess of 300 feet per second.

Your Field One Force will come from the Field One Paintball factory with the latest software program and the optimal board settings (referred to as "DEFAULT" or "FACTORY DEFAULT") for marker performance under most conditions. Before playing with your marker, you will need to chronograph the marker to ensure you are shooting at a safe velocity and adhering to local rules and regulations. You may also need to adjust the rate of fire setting and/or the fire mode setting to comply with local rules and safety regulations. Instructions for adjusting these settings can be found here in the Field One Force User Manual or the Field One Force Quick Start Guide.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

MARKER SETUP Getting ready to play with your F1 FORCE

This section will take you through the basic process of getting your marker set up and ready to play. Keep in mind, once you have assembled your marker and added air and paint, you will have to chronograph your marker before you play. You should test/adjust the chronograph speed of your marker setup before each time you play to ensure safe operation.

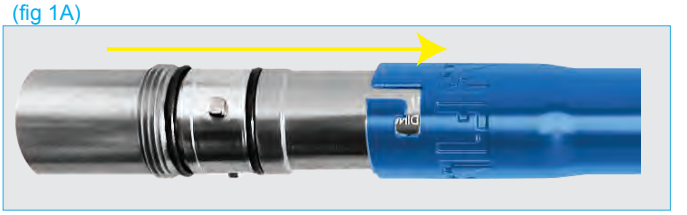
WARNING: Ensure the marker is turned off before you begin. Make sure that the OLED screen located on the rear of the grip frame is OFF. Before adding air or paintballs to the marker, be sure that you have a barrel cover or barrel blocking safety device secured over the barrel. Always keep your marker pointed in a safe direction and be sure that people within range are wearing paintball approved eye and face protection.

BARREL- Your Field One Force comes equipped with the Field One AccuLock Barrel (fig A4). This is a 3 piece barrel system that allows the user to select the correct bore size insert to match up with the specific paintballs that will be used. Matching the bore size to the paintball size can help in many areas including: chronograph consistency, air efficiency, and shooting brittle paintballs without breaking in the barrel.
Here is a simple method to determine a barrel bore size match to paint size match:

- Remove barrel from marker or select barrel bore insert you would like to test.
- Drop a paintball into the barrel bore insert.
- The paintball should suspend itself at the beginning of the barrel bore insert. Any amount of force to the paintball should free the paintball to move through the barrel.
- A barrel that is too tight will increase the chance of breaking the paintball as it is fired from the marker.
- A barrel that is too loose will cause the marker to lose air efficiency and chronograph speed and may allow the ball to roll out of the barrel in closed bolt systems (Pump Guns).
- **PRO TIP for barrel bore sizing: If you are shooting extremely fragile paint or paint that is inconsistent in size or shape, it is recommended that you slightly oversize the barrel bore insert. This will allow any inconsistencies in the paintballs to "sneak" through without putting additional pressure on the paintball and possibly breaking it before it leaves the barrel.**

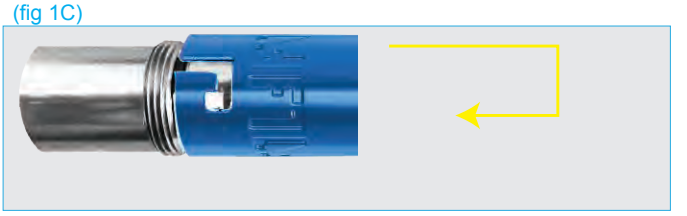
After selecting the appropriately sized AccuLock Barrel Bore, slide the Barrel Back Sleeve over the insert (fig 1A) and allow the AccuLock hooks to match up (fig 1B). Each of the AccuLock hooks on the Barrel Back Sleeve should be engaged with an AccuLock peg on the Barrel Bore (fig 1C). Once you have the "hooks" around the "pegs," you can secure the barrel together by screwing the AccuLock Barrel Tip into the AccuLock Barrel Back Sleeve. This will create a self aligning, compression type fit between the 3 components of the AccuLock Barrel System. The barrel components should be hand tightened. Do not overtighten barrel components during assembly as this can cause damage to the barrel and make it difficult to disassemble the AccuLock Barrel System when you are done playing. Once you have assembled your AccuLock Barrel, you can screw the barrel into your Force marker.

(fig 1A)



(fig 1B)

(fig 1C)



FIELD ONE ACCULOCK BARREL SYSTEM

(fig 1D)

A Barrel Bore
B Barrel Back Sleeve
C Barrel Tip

(fig 1D)

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

BARREL COVER - A barrel cover or barrel blocking device must be used before the Field One Force (or any other marker) is connected to an air source. WARNING: The barrel cover should be used whenever the marker is not in use or whenever the marker is around people that are not wearing paintball approved eye and face protection. To install the barrel cover, place the barrel cover over the tip of the barrel and the cord around the rear of the marker (fig 2A). Make sure there is tension on the cover (by adjusting the cord lock) and that the cord is resting in a secure place so the barrel blocking device cannot slip free. You may then connect the barrel to the marker by snugly screwing it in (fig 2B).

AIR UP - The Field One Force is powered by high pressure compressed air. Use of C02 may damage the marker and will void the Field One Paintball Warranty. High pressure air systems for paintball use with the capacity of 3000 to 4500 psi and the output pressure of 250psi to 550psi should be used with the Field One Force. If your Air System output pressure exceeds 750psi it may damage the solenoid or other components of your marker. If you have questions about the safety of your compressed air tank or the capacity or output pressure of your compressed air tank, consult with a certified technician or airsmith. Before attaching the high pressure air system to your Field One Force make sure the Cam Drive Knob located on the bottom of the Cam Drive ASA is turned counter-clockwise until it stops (The Cam Drive ASA should be in the OFF position) (fig 3A). Once the high pressure air system is filled, attach it to your Force marker by screwing it into the Cam Drive ASA until it stops. Do not overtighten the air system to the ASA but ensure that the air sytem is screwed all the way in. Once the High Pressure Air System is attached to the ASA, you can supply air to your Field One Force by turning the Cam Drive Knob located on the bottom of the ASA clockwise until the knob locks in place. You should hear the marker pressurize (fig 3B).

POWER MARKER ON/OFF - The Field One Force is an electronic paintball marker powered by two AA batteries located in the moveable Force Foregrip or a rechargeable battery located in the Force Grip Frame. Batteries are included from the factory. Batteries should be changed about every 50,000 shots or when the Battery Level Indicator on the OLED screen reads LOW. If you notice a drop off in the performance of your marker, changing to fresh batteries should be one of the first measures you should take to resolve the issue. Always use high quality batteries. Rechargeable AA batteries are not recommended for the Force marker. Low cost zinc/carbon batteries should be avoided. The battery compartment and any electronic connectors or terminals should be kept dry and free from debris. Make sure the battery door is secured in place after changing batteries and that the batteries and battery door are oriented correctly. To POWER ON your Force marker press the power button located on the rear of the grip frame below the OLED (fig 4A) screen. The OLED screen will illuminate displaying a brief “START UP SCREEN.” After a moment, the HOME SCREEN will appear and give you information about the FIRE MODE, Battery Life, 4C-ES Status, ROF CAP and ROF of the last 10 shots (fig 4B). The Force is ready to shoot once you see the Home Screen. The electronic eyes will default to EYES ON every time you POWER ON the marker. To POWER OFF the marker- press and hold the power button for 4 seconds. A “...3..2..1..0..OFF” countdown will appear on the OLED screen then the marker will shut down. When the OLED screen has gone blank, the marker is OFF. It is still highly recommended that you use a barrel blocking safety device even when you have the marker powered OFF.

(fig 2A)

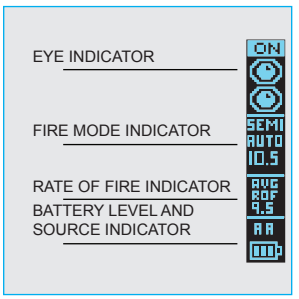
(fig 2B)

(fig 3A)

(fig 3B)

(fig 4A)

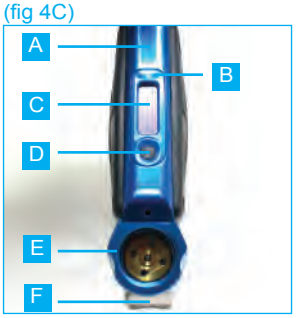
(fig 4B)



Grip Frame Rear View (fig 4C)

- A Grip Frame
- B Bezel
- C OLED Screen
- D Power button
- E ASA
- F Cam Drive Knob

(fig 4C)



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

LOAD UP - Attach your loader into the Lever Lock Feedneck by opening the lever (fig 5A). You may loosen the locking lever if necessary by turning either the lever or the stainless steel thumb screw (fig 5B). Insert the loader into the feedneck and lock the lever securing the loader in place (fig 5C). The Lever Lock is designed to hold the loader snug in the feedneck but should not be overtightened. Overtightening the feedneck lever can cause damage to the feedneck or loader neck. Once your loader is in the feedneck, adjust the thumb screw to reach the desired level of tension. The Field One Force is capable of high rates of fire. It is recommended that you use a high performance motorized loader to get the most consistent rate of fire and the highest possible performance from your Field One Force. Make sure your barrel blocking safety device is in place before loading your paintballs into the loader.

(fig 5A)

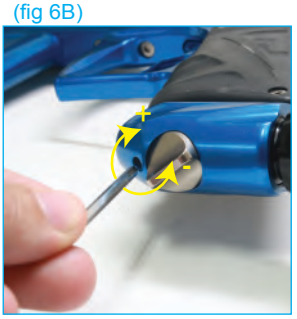
(fig 5B)

(fig 5C)

ADJUST YOUR VELOCITY - You must test your velocity at the start of each paintball session or when you change paintball size or barrel bore size. Make sure that your loader is filled with paintballs and turned on. Whenever operating your marker, you must wear eye protection specifically designed for paintball and compliant with ASTM standards. Once in a safe area to fire your marker, remove the barrel cover. Pull the trigger to fire the paintball marker over the chronograph to measure the velocity. To adjust your velocity insert a ⅛ inch allen wrench into the velocity adjustment screw (fig 6A) located on the bottom of the Cam Drive ASA just forward of the Cam Drive ASA Knob (fig 6B). To increase the velocity turn the screw clockwise (facing you). To decrease the velocity turn the screw counter clockwise (facing you). The range of adjustment is about 15 feet per second (FPS) per quarter turn. Shoot 2 shots in between each adjustment to stabilize the pressure. Only adjust the velocity adjustment screw by ¼ turn between chronograph measurements as this adjustment can be sensitive. WARNING: DO NOT adjust the velocity of your Force marker in excess of 300 FPS. Check with your local field or tournament organization for the recommended maximum velocity setting.

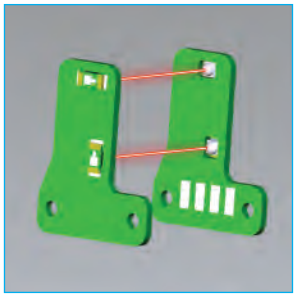
(fig 6A)

(fig 6B)



4C ILLUMINATE EYE SYSTEM (4C-ES) - Your Field One Force is equipped with the 4C Illuminate Eye System consisting of 2 sets of break-beam eyes (upper and lower) (fig 7A), this feature allows the Force to achieve maximum rates of fire without chopping paint. Even with a high performance motorized loader, the Force needs proper eye operation to avoid breaking/chopping paintballs in the breech. The eye indicator located on the upper portion of the OLED HOME SCREEN will display the status of the 4C-ES (fig 7B). When your Force marker is powered ON the 4C-ES system is active (ON) by default. When the 4C-ES is active and working properly the marker will not shoot unless there is a ballt present in the breech (breaking the invisible beam between the eyes). To turn the 4C-ES OFF tap the power button twice within 1 second. You will notice that the OLED display indicates that the 4C-ES status is OFF. You must turn off the 4C-ES in order to fire your marker without paintballs (dry fire). It is not recommended that you dry fire your marker excessively. To toggle between “EYES ON” and “EYES OFF,” tap the power button twice within 1 second. Playing with your 4C-ES “OFF” will greatly increase your chances of breaking paint. If the eye indicator on your OLED screen shows that the eyes are blocked/eye malfunction (ERROR), you may have to clean the eyes to restore proper function.

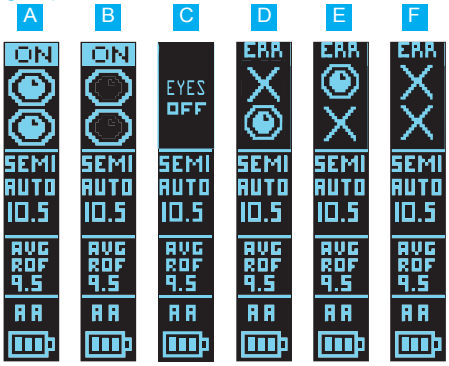
(fig 7A)



Eye function HUD (fig 7B)

- A Eyes on Ball Loaded
- B Eyes on breach empty
- C Eyes off
- D Top eye fault (clean eyes)
- E Bottom eye fault
- F Both eyes fault (clean eyes)

(fig 7C)



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

TOURNAMENT/BOARD LOCK - Your Force marker has a lock function that insures that the settings cannot be adjusted without tools when the lock is on. When the lock is ON, the lock indicator icon will display if you attempt to enter "settings adjustment mode." To turn the lock OFF, turn on the marker and use your 5/64 allen wrench to remove the 3 screws that hold the left grip panel to the grip frame (fig 8A). Open the grip panel and press the button labeled "LOCK" on the main board (fig 8B). To toggle between Lock ON and OFF, repeat these steps. When the marker is on and the LOCK button is pressed, the OLED screen will display whether the board has been locked or unlocked. Some tournaments will require you to play with the tournament/board lock ON (settings are locked).

(fig 8A)

(fig 8B)

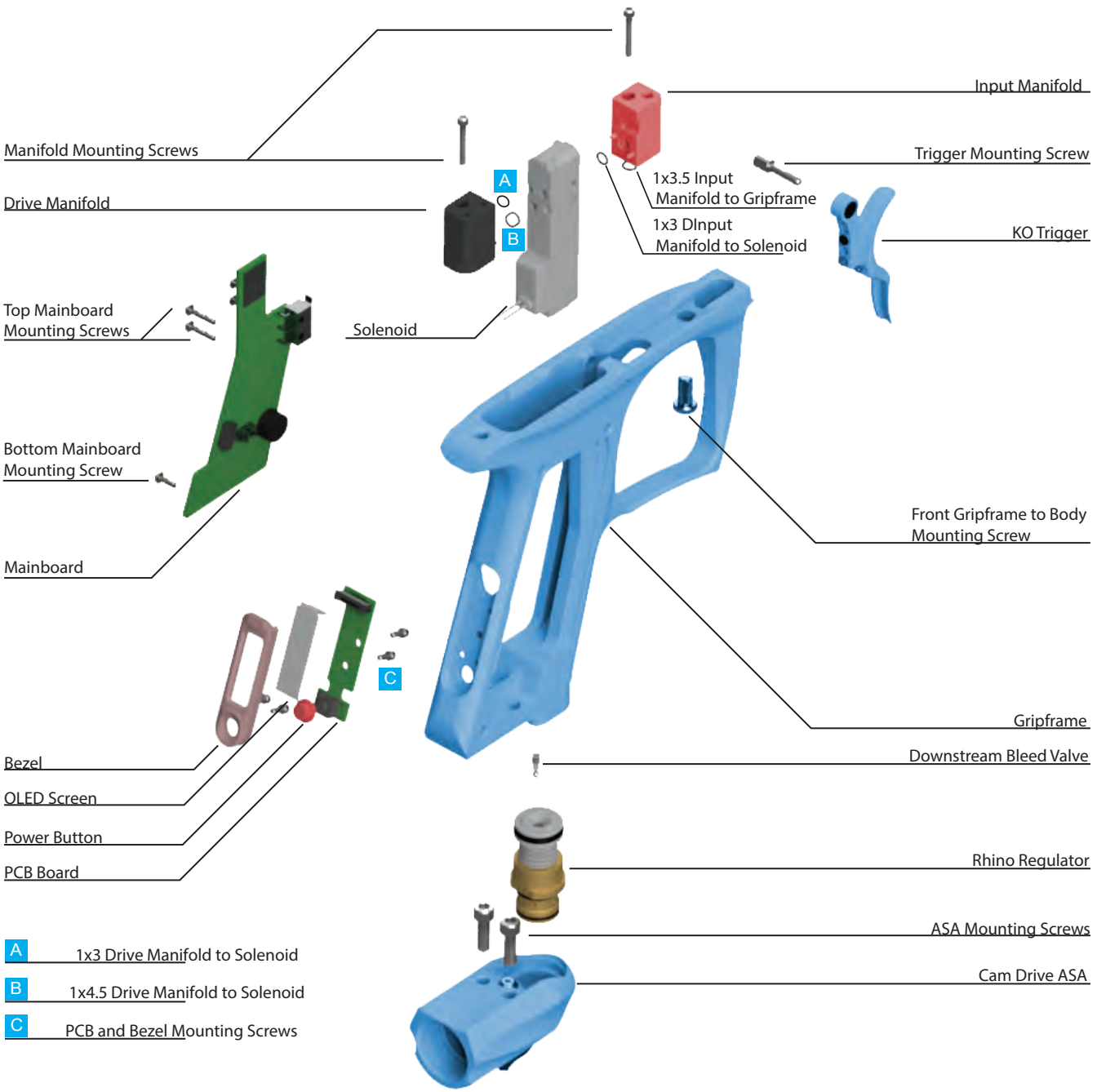
PLAY!- Once you have followed and understood the steps listed above, you are now ready to take your Field One Force out to play. HAVE FUN, BE SAFE AND SHOOT STRAIGHT!

- Be sure to adhere to all paintball safety guidelines and local rules/regulations
- If you have questions about safety or local regulations, contact your local paintball store or field
- Always wear paintball approved eye protection and face protection when operating your Field One Force
- Always use a barrel blocking safety device with your Field One Force whenever you are not operating your marker
- Only shoot your paintball marker in areas where people, animals and property are not at risk of being damaged or hurt by paintball projectiles
- Only shoot your paintball marker in areas where all people are wearing paintball approved eye and face protection

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Force Grip Frame

The Force grip frame houses the main board (Force Mainboard) for the Force, the OLED screen and Power Button, the HPR (Rhino Regulator), velocity adjustment screw, trigger assembly and provides the mounting point for the Cam Drive ASA. Custom overmolded dual durometer rubber grips protect the internals of the grip frame while providing the perfect amount of tactile function for the user to change hands while operating and keep a firm grip when needed. The grip frame does not need to be removed during normal maintenance of the Field One Force. Keeping the grip frame and the electronics within the grip frame free of moisture and debris is important and can be maintained by removing both sides of the rubber grip panels. Access to the TOURNAMENT/BOARD LOCK button on the Force BLU18 Board can be had by removing the left-side grip panel. The Rhino Regulator can be accessed by removing the Cam Drive ASA from the bottom of the grip frame.



A 1x3 Drive Manifold to Solenoid

B 1x4.5 Drive Manifold to Solenoid

C PCB and Bezel Mounting Screws

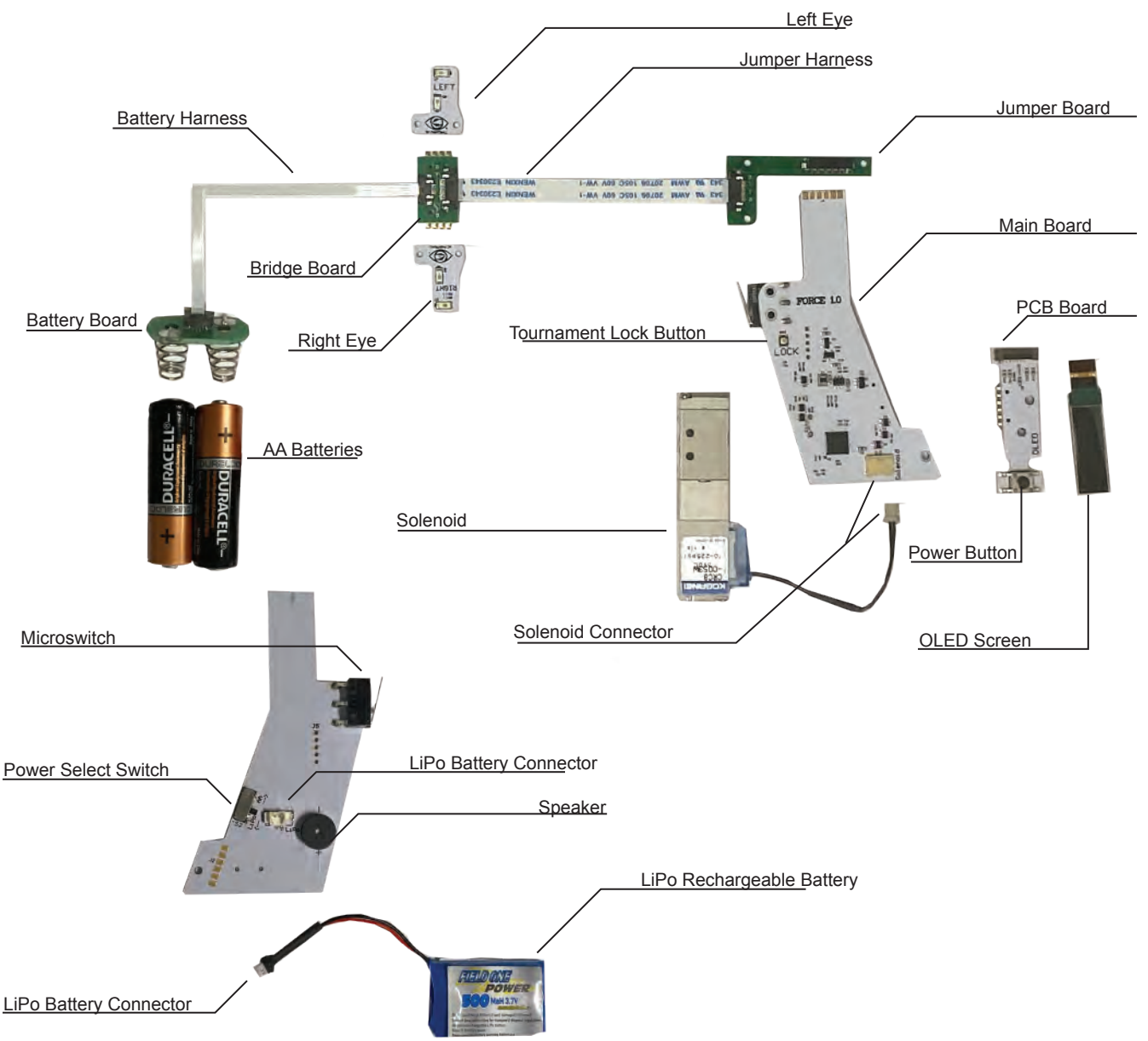
CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Force Electronics and OLED Screen

The electronics in the Field One Force serve as the “central nervous system” for the Force marker.
There are 5 board types in the Force

- Force Main Board
- Force Bridge Board (connects the eyes (4C-ES), batteries (power source and the Jumper Board)
- 4C-IS Boards (2)
- Force Jumper Board (allows the user to separate the body from the grip frame without disconnecting wires).
- Force Power Control and OLED Board

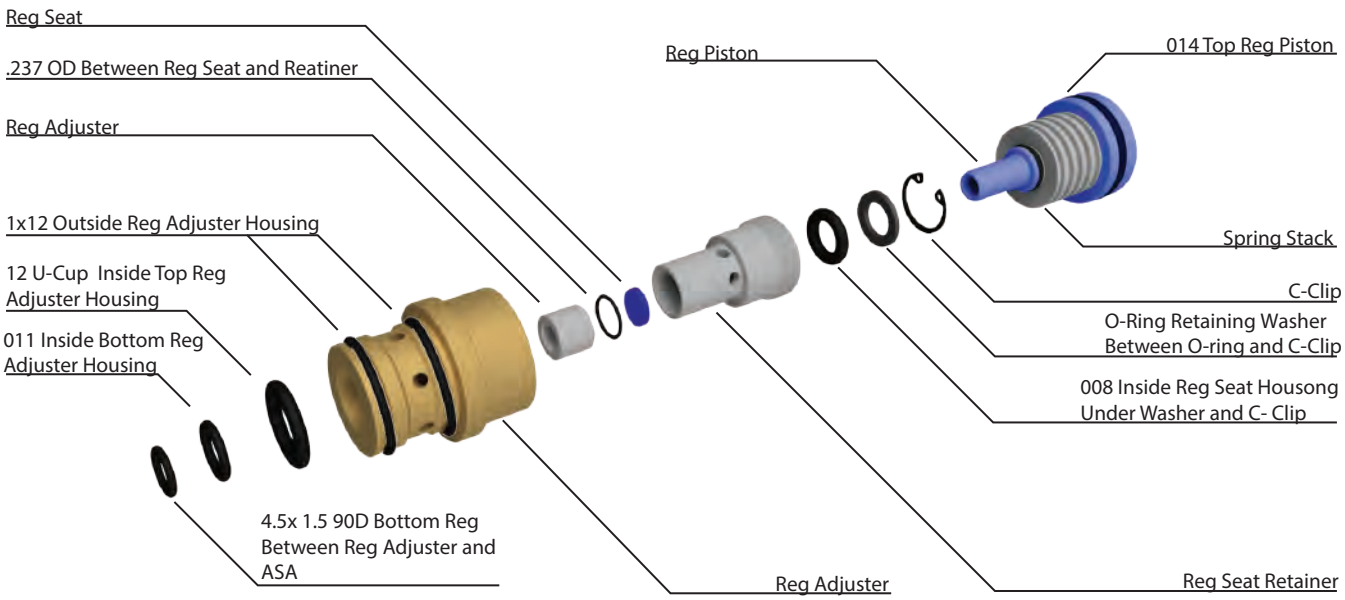
To eliminate the use of long wire harnesses and delicate wire harness connectors, the Force makes use of spring loaded pin connectors and low profile ribbon connectors to keep power and communication going to and from the different electronic components of the marker. The Force Mainboard comes equipped with a capacitor as a failsafe in case of temporary disconnect between the battery and the electronics in the marker due to vibration or a hard impact with the ground. It is important to keep the Force and the electronic components in the Force free from moisture, paint and debris. Never submerge the Force in water and always perform proper maintenance after using the Force in wet conditions. Cleaning and drying the electronic components of the Force with a dry soft cloth and dry cotton swab will help to prolong their life after using in wet conditions. If there is built up paint or dirt residue, you can use rubbing alcohol on a swab to clean electronics and hard to reach cavities. Make sure electronic components and connectors are dry and clean before reassembly. Changing out wet batteries and drying out the battery compartment will also help to prolong the life of the electronic components.



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

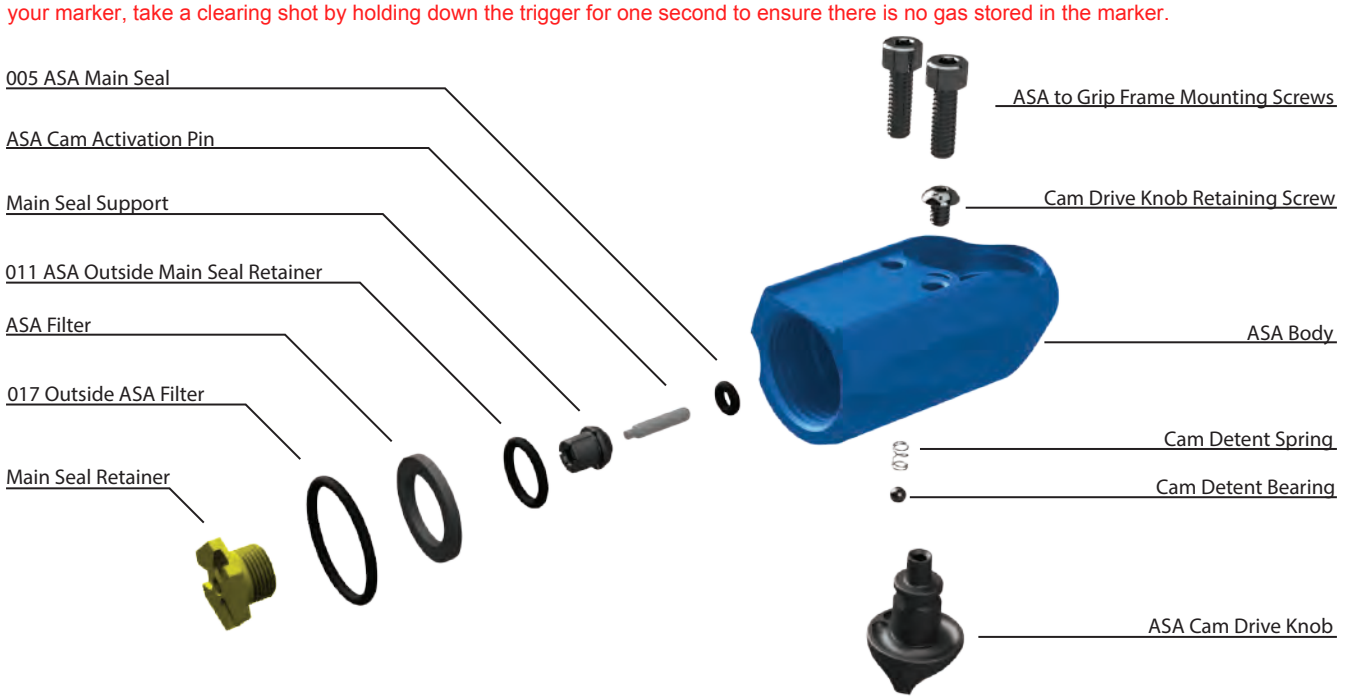
Rhino Regulator

The Field One Force's main air supply is regulated by the Rhino Regulator, which is mounted in the top of the ASA and housed within the Force Grip Frame. Once you have connected an air source to the ASA, the air travels through the Rhino Regulator (and is regulated down to about 145-155 psi) and directed to the solenoid and the Force Engine. The Force Rhino Regulator requires minimal maintenance and should only be serviced if there is a decline in performance. Cleaning the piston, the reg seat and the reg housing and applying lube to all regulator seals will help to keep the regulated air flow consistent.



Force Cam Drive ASA

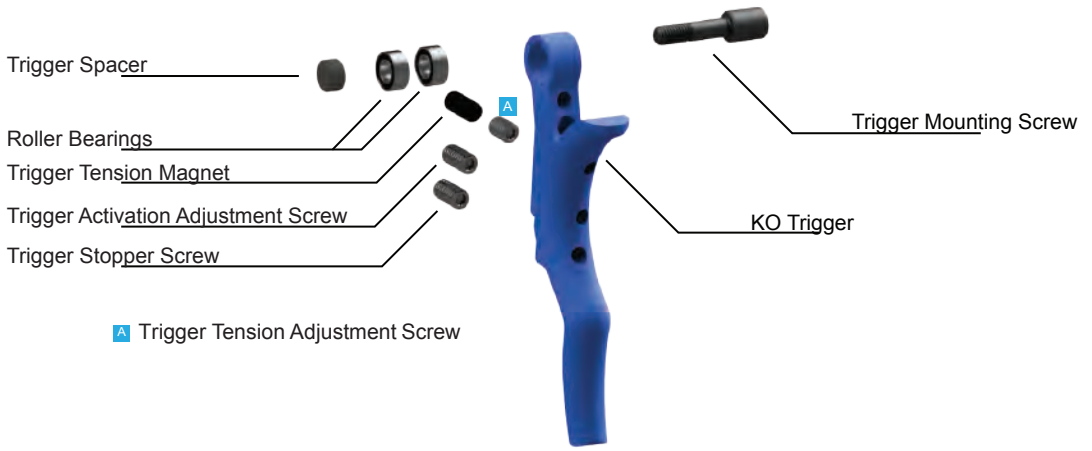
The Cam Drive ASA is designed to provide ON/OFF functionality for the air supply to the Force Marker. Once the air system is attached fully into the ASA, the Cam Drive ASA Knob can be turned clockwise until it stops and is held in place by the Cam Drive detent. This action will allow air to flow from the air system to the marker. The ASA seldom requires maintenance but there are some helpful hints in the TROUBLESHOOTING section of this manual if you detect a leak coming from the ASA or ASA knob. Before attaching your air system to the Cam Drive ASA, it is recommended that you clear any dirt or debris from the opening of the ASA, the ASA threads and the pin or ball valve on your air system regulator. WARNING: Once you have turned your Cam Drive ASA to the OFF position and removed all paintballs from your marker, take a clearing shot by holding down the trigger for one second to ensure there is no gas stored in the marker.



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

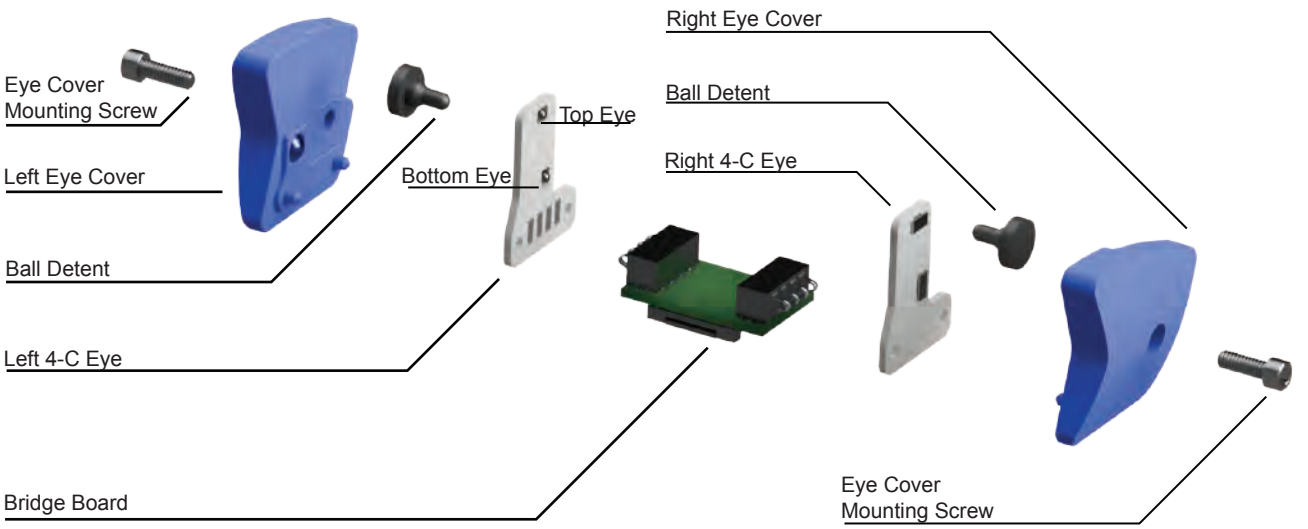
Force KO Trigger Assembly

The Force comes equipped with the KO magnetic trigger and offers a wide range of adjustability by using three different adjustments. To adjust trigger pull length, use your 1/16th inch allen wrench and insert into the bottom hole in the KO trigger face. Turning the Trigger Stopper Screw clockwise will shorten the trigger pull length. To adjust the activation point, use the same 1/16th inch allen wrench in the middle hole in the trigger face. Turning the Trigger Activation Adjustment Screw clockwise will make the trigger activate earlier in the trigger pull. Turning the screw counter clockwise will make the trigger activate later in the trigger pull. You can also adjust the trigger tension or magnet tension behind the trigger by using your 1/16th inch allen wrench in the top hole in the KO trigger face and turning the Trigger Tension Screw clockwise to get more resistance behind the trigger and counter clockwise to get less resistance behind the trigger pull. The F1 factory trigger setting will keep close to equal trigger travel in front and behind the trigger activation point. This will help to avoid "runaway trigger" or "trigger bounce."



4C Illuminate Eye System, Eye Covers and Ball Detents

The eye system in the breech of the Field One Force is called the 4c Illuminate Eye System. This system uses two sets of break beam eyes to detect whether or not a paintball has settled in the breech and is ready to fire. The upper set of eyes communicates that a ball is moving into the firing position so there is less delay required when the lower set of eyes reads that the paintball has arrived and allows the firing sequence to take place. This combination of eyes and technology allows for the fastest read rate and produces incredibly high rates of fire with the eyes fully functional. If a paintball cracks in the breech or is chopped by the bolt (shooting with eyes OFF) the eyes will need to be cleaned to ensure that the "break beam" is unimpeded and the eyes are fully functional. To inspect or clean the eyes and ball detents, simply remove the eye covers with your 5/64 allen wrench and wipe with a soft cloth or cotton swab until the eyes/eye boards/detents are free from paint or debris. Do not use water to clean the eye boards as this may cause a short or malfunction in the eye board. Carefully place the eye board back in the recessed area of the body and make sure the rubber ball detents are fully seated in the appropriate hole. When reattaching the eye cover, make sure to not crush the eye board. The eye cover mounting screw should be snug but not overtightened. The eye cover should sit flush with the body when properly installed. You can verify proper eye function by turning on the marker and checking the OLED readout for eye function.



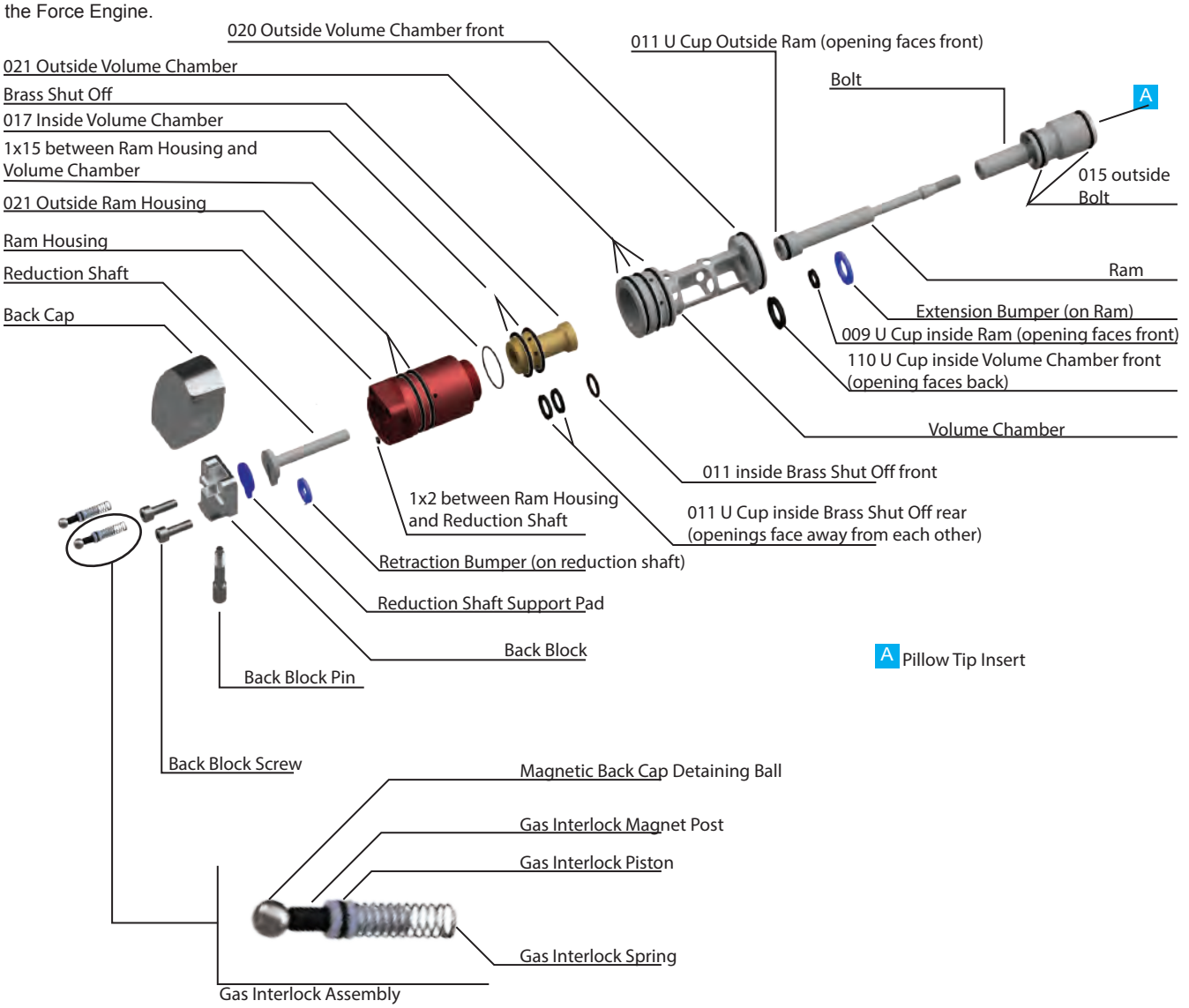
CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Force Nucleus Engine

The Force Nucleus Engine is a Spool Valve type engine that works by moving air from the volume chamber through the bolt tip to propel the paintball through the barrel at consistent velocities. With each shot cycle, the Force solenoid provides a measured amount of air to the engine, moving the ram and bolt forward and back to open and close the different chambers of the Force Nucleus Engine. The Nucleus Engine is made up of 7 main components:

- Bolt Tip
- Ram Shaft
- Reduction Shaft
- Volume Chamber
- Brass Shut Off
- Ram Housing
- Back Block and Back Cap Assembly

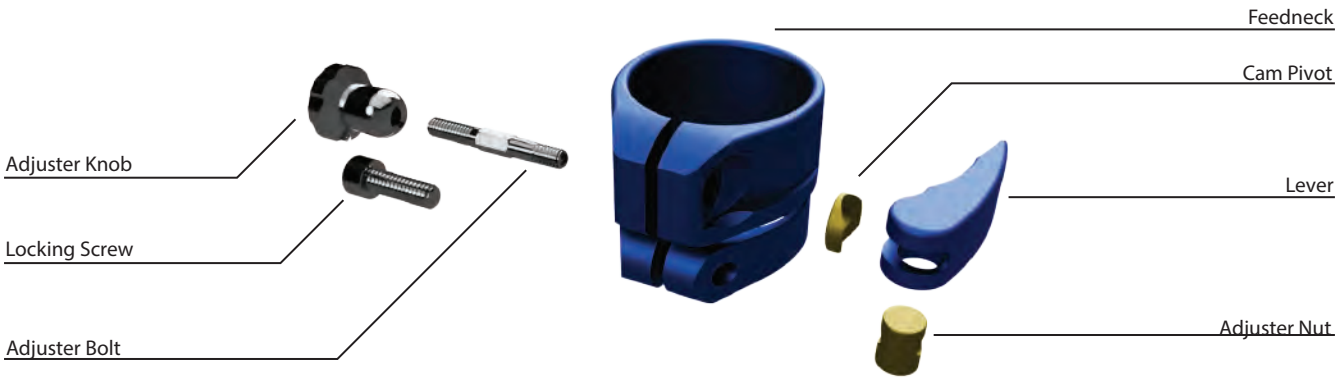
The Force Nucleus Engine was designed to provide peak performance with minimal maintenance. Field One recommends only performing routine maintenance on the Nucleus Engine if you experience a drop off in performance or after 40,000 shots. Routine maintenance for the Force Nucleus Engine only requires separating the engine halves and applying a small amount of grease to specific areas. Because the Nucleus Engine utilizes directional U-CUP seals for it's dynamic seals, the replacement of these seals is seldom required but must be done with care in a clean area. Testing in the F1 lab and in field tests under extreme conditions produced excellent durability testing results and showed that the Nucleus Engine is capable of 100,000+ shots before replacing any of the directional U-CUP seals. With properly performed basic maintenance, keeping your Force Nucleus Engine running at peak performance is quick and easy. Please consult the Field One Force Quick Start Guide or the Force User Manual Maintenance guide for basic maintenance. If needed there is a diagram of the Force Engine and an O-ring chart included in the Force User Manual and the Force Quick Start Guide to help with disassembly and assembly of the Force Engine. There is also a video tutorial available on the Field One Paintball Website that shows how to disassemble, maintain and reassemble the Force Engine.



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

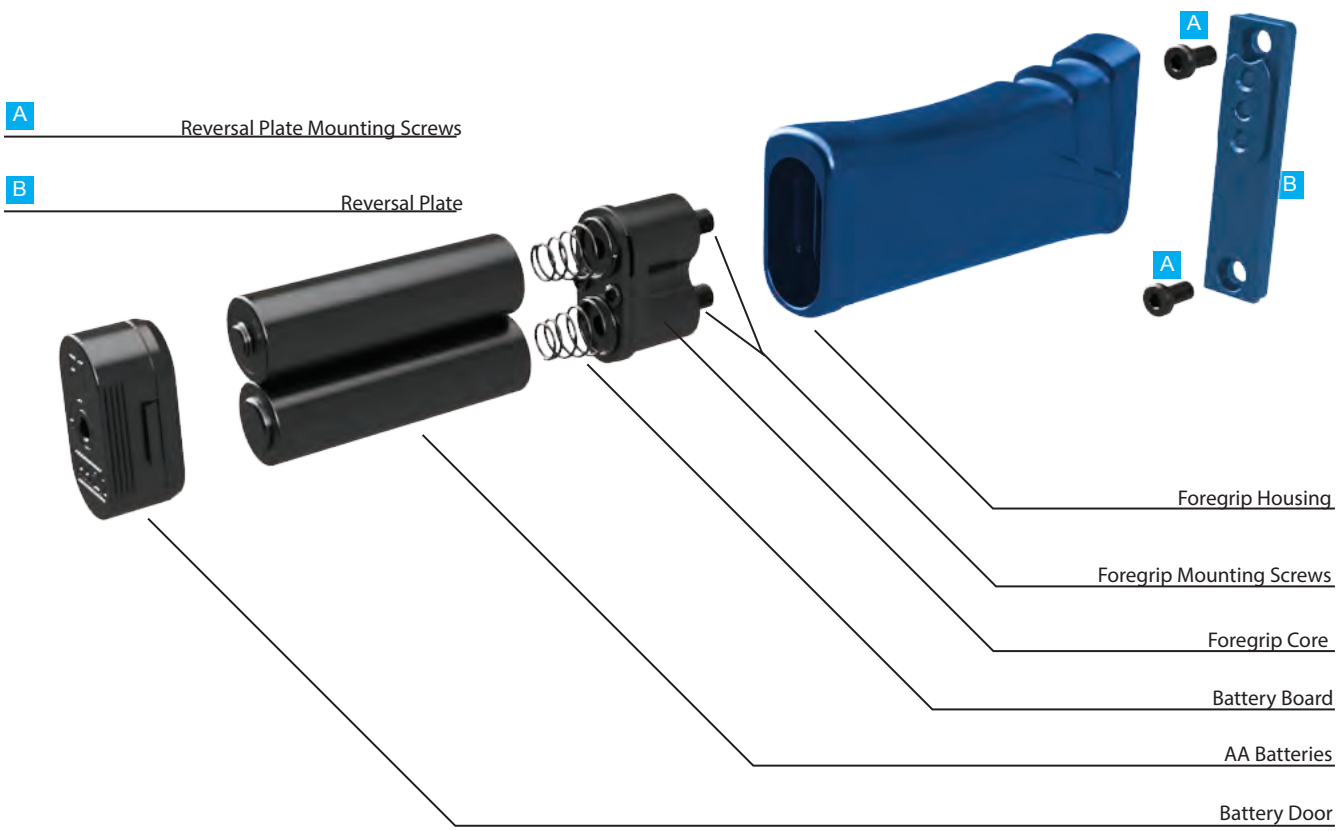
LeverLock Feedneck

The Field One Force comes equipped with the new LeverLock clamping feedneck. This feedneck is adjustable without tools and allows for the use of a variety of different motorized loaders and ensures a snug fit. Do not overtighten the clamping lever screw as this may cause damage to the feedneck or the clamping lever bolt. If the lever ever becomes too tight to manipulate with your fingers, you can use a 1/8th inch allen wrench to loosen the LeverLock assembly.



Force GRIP SHIFT (Dual Position) Foregrip (Battery Compartment)

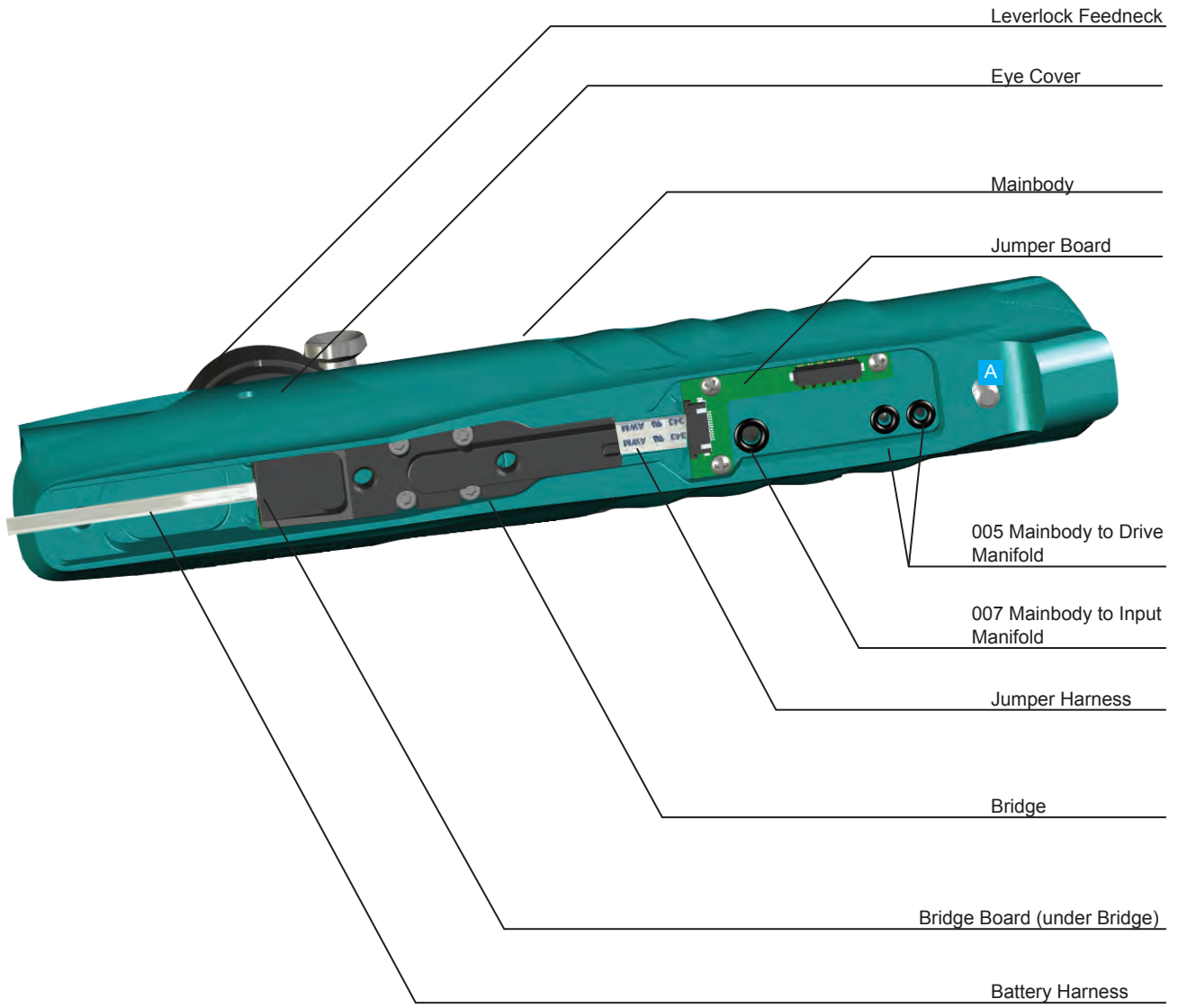
The Force Foregrip is designed to provide 2 different mounting points so the user can choose the foregrip stance or distance that is most comfortable for their playing style. The Force Foregrip position change involves separating the foregrip (also the AA(2) battery compartment) from the reversal plate and then switching the orientation of the Force Foregrip Reversal Plate before reinstalling the foregrip. This adjustment operation is not meant to be performed while playing or operating the marker. It is highly recommended that this adjustment operation is done where there is a clean flat surface to work with and all of the separate components of the marker are removed (REMOVE loader, tank, barrel). The foregrip (battery compartment) will remain connected to the marker with the power supply wire harness. Excessive pressure or tension on this wire harness while changing foregrip positions will cause power failure or damage the electronic components in the marker. Please refer to the Grip Shift instructions or the Grip Shift Video Tutorial before starting this process



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Force Body

The Force Body is the shell that holds the Force together. There are only three o-rings in the force body that seal between both manifolds and the underside of the body. The Jumper board screws into the mainbody and connects to the main board by way of pressure contact pads. The Jumper harness connects the jumper board to the Bridge Board which relays information to and from the eyes and power from the AA batteries in the foregrip to the mainboard. The Force Bridge holds the Bridge Board in place and creates a mounting point for the gripframe.



A Rear Gripframe Mounting Screw (insert from inside the body)

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Adjusting your FORCE Software Settings (Force Main Board Version 1.0)

The Field One Force comes equipped with the Force Main Board. The Force Main Board allows the user to manually adjust board settings with the OLED interface on the Force grip frame.
Your Field One Force will come from the Field One Paintball Factory with the latest program code and the optimal board settings (referred to as “DEFAULT” or “FACTORY DEFAULT”) for the highest marker performance under most conditions. Once board settings have been changed, board settings can be adjusted back to “FACTORY DEFAULT” at anytime by activating “Factory Reset” in PROGRAMMING MODE. Depending on local rules and regulations you may need to adjust the RATE OF FIRE setting and/or the FIRING MODE setting for your Force Marker before playing with your Force Marker. Instructions for adjusting these settings can be found here in the Field One Force User Manual or the Field One Force Quick Start Guide.

TOURNAMENT/BOARD LOCK

Your Force marker has a lock function that insures that the programmable settings cannot be adjusted without tools when the lock is ON. When the lock is ON, the lock indicator icon will display if you attempt to enter “settings adjustment mode." To turn the lock OFF, turn on the marker and use your 5/64 allen wrench to remove the 3 screws that hold the left grip panel to the grip frame. Open the grip panel and press the button labeled “LOCK” on the main board. To toggle between Lock ON and OFF, repeat these steps. When the marker is on and the LOCK button is pressed, the OLED screen will display whether the board has been locked or unlocked. Some tournaments will require you to play with the tournament/board lock ON (settings are locked).
Once the tournament/board lock is off you may adjust the software settings by using the grip frame OLED. The marker will not fire while in programming mode but we highly suggest you remove the air source and paintballs from the marker before entering PROGRAMMING MODE and adjusting settings. WARNING: Always keep barrel blocking device in place while adjusting board settings.

Using the OLED to Adjust Settings

To access the settings menu

1. Hold down the trigger while powering the marker ON. The OLED screen will flash with the current software version and then enter PROGRAMMING MODE.
2. Once in PROGRAMMING MODE, you can cycle through the settings by pulling the trigger until you reach the desired setting. (By scrolling through the different settings, you will also be able to see the current value for each setting.)
3. To adjust a setting scroll to the desired setting by pulling the trigger then tap the power button to enter ADJUSTMENT MODE for that particular setting.
4. Use the trigger to adjust the setting to your satisfaction.
5. Tap the power button once more to exit the ADJUSTMENT MODE for that setting. The setting has now been changed.
6. If you wish to return to the factory settings (DEFAULT), enter programming mode, scroll to the FACTORY RESET setting and adjust to “RESET YES.”

You may adjust more settings while you are in PROGRAMMING MODE by following steps 3 through 5 listed above turn the marker OFF by pressing and holding the power button for 3 seconds to save your new settings. The gun will retain the new settings until they are changed or the software is updated. Below is a list of adjustable settings and their functionality.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Force Board - Adjustable Settings Explained

FIRE MODE - This setting determines the type of FIRE MODE your Force will use. The Maximum Rate of Fire and the Rate of Fire Cap will be determined by the ROF CAP setting.

Modes Available:

- **NXL Ramp -** (World Paintball League current ramping rules). This fire mode is specific to the type of ramp and ramp settings allowed by the NXL. The ROF Cap will have to be set separately once the FIRE MODE is set to "NXL Ramp."

- **Custom Ramp - Adjustable ramp settings. This is the only fire mode that will allow adjustability of the three ramp settings (RAMP START, RAMP KICK IN ROF, and RAMP SUSTAIN ROF)**
- **Semi-Auto - one shot cycle per trigger pull**
- **3 Shot Burst - 3 shot cycles per trigger pull (single shot before 3 shot burst engages)**
- **Full Auto - holding the trigger down will cycle the marker (single shot before full auto engages)**

From the NXL Rulebook.

2.1 FIRE MODE REQUIREMENTS AND INFRACTIONS:

2.1.1. Any marker capable of ramping shall fire no more than one shot per press and release of the trigger unless,
  2.1.1.1. The trigger has been pressed and released four times, and
  2.1.1.2. The trigger has been pressed and released at least once every 200 milliseconds.
2.1.2. Shall fire no more than one paintball within a 95 millisecond (10.5 bps) period of time.
2.1.3. A player on the field of play whose marker fires two shots at 10.6 to 10.8 bps will be assessed a major penalty.
2.1.4. A player on the field of play whose marker fires two shots at 10.9 to 12.4 bps will be assessed a major penalty (assessed on the next point) and the point in which the infraction occurred would automatically go to the opposing team.
2.1.5. A player on the field of play whose marker fires two shots above 12.5 bps and above will be assessed a major penalty (assessed on the next point) and the point in which the infraction occurred will automatically go to the opposing team. The player who receives the penalty will be suspended for the remainder of the tournament.

Millisecond Range		***Shots Per Second Range***		
	95ms	0 bps	10.5 bps	Legal
94.3ms	92.5ms	10.6bps	10.8 bps	Major Penalty
91.7ms	80.6ms	10.9bps	12.4 bps	Major Penalty and Point for other team
80.0ms		12.5bps		Major Penalty, Point for other team and Player Suspension

RATE OF FIRE (ROF) CAP - This setting will determine the limit on RATE OF FIRE. This setting will not override the FIRE MODE setting if using an uncapped FIRE MODE. UNCAPPED RATE OF FIRE will allow the Force to shoot as fast as the marker will mechanically cycle (EYES OFF) or as fast as the loader can feed paintballs to the marker (EYES ON).
Range of Adjustment: 2 BPS - 20 BPS
Default: 10.5 BPS (NXL)

EYES OFF RATE OF FIRE (ROF OFF) - This setting allows the user to set a separate RATE OF FIRE CAP if the eyes are toggled to "eyes OFF" or if there is an eye malfunction.
PRO TIP for EYES OFF ROF setting: Setting the EYES OFF RATE OF FIRE lower than RATE OF FIRE CAP is recommended to reduce paintball breakage in the event the eyes become dirty or disabled. 8 BPS is a good default setting in case the eyes are no longer functioning and you must continue to play before addressing the issue.
Range of Adjustment: 2 BPS - 25 BPS- UNCAPPED
Default: 8.5 BPS

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

DWELL - The amount of time the solenoid is energized each time the marker is fired. Too low of a dwell setting may lead to inconsistency or drop off. Too high of a dwell can cause bad air efficiency.
Default: 16

BALL IN PLACE (BIP) DELAY - This setting is referred to as the “bounce detector” setting and is designed to help prevent chopping in the breech as the last paintballs in the loader “bounce” in the breech. PRO TIP for BIP DELAY setting: If you commonly break or chop the last ball or two in your loader, raise your BD DELAY setting higher than the factory DEFAULT setting.
Default: MID HI

EYE POWER - The Eye Power setting adjusts the intensity of the eye beam. The higher the setting is set the more resistance the eye puts on the beam. If your marker reads that there is a ball in the breach but will not fire you should increase this setting.
Default: Mid Lo

DEBOUNCE - This setting controls the read-rate of your trigger pull and can be thought of as trigger bounce sensitivity. Lowering your D-BOUNCE setting can result in higher rates of fire (trigger/micro-switch bouncing), especially in SEMI-AUTO/UNCAPPED fire mode. Raising your D-BOUNCE setting can help to eliminate “runaway trigger” or excessive “trigger/micro-switch bouncing”
Range of Adjustment:
Default: 2

RAMP START - The number of trigger pulls required to start ramping.

RAMP KICK IN (ROF) - The rate of fire that must be achieved to begin ramping.

RAMP SUSTAIN (ROF) - The rate of fire needed to sustain ramping.

ANTI BOLT STICK (ABS) - This setting will increase the dwell setting when the gun is left for a certain amount of time (adjustable in “ABS time”. This setting should be set at a higher dwell time than the current dwell setting. If you experience first shot drop off and basic engine maintenance does not fix it try increasing this setting. This setting will not affect the velocity.
Default:4

ANTI BOLT STICK (ABS Time) - This setting controls the amount of time the gun can rest before the ABS Dwell kicks in.
Default: 30 seconds
Chirp- This setting controls weather the speaker is ON or OFF.
Default: ON

CHIRP - This setting controls whether the speaker is ON or OFF.
Default: ON

SHOT COUNTER - This keeps track of the amount of shots the gun has fired with or without paint. You can reset the counter by selecting it in the settings menu.

GAME TIMER - The Field One Force comes with a game timer built into the Force BLU18 board. The user will be able to set the timer to a specified amount of time and then start the timer with a trigger pull at the beginning of a game or match. To access the TIMER SCREEN before a game or match, press and hold the power button for 1.5 seconds. Once TIMER SCREEN is displayed on the OLED screen, you can start the timer by pulling the trigger once. Once the timer has been started, the time remaining will be displayed on the OLED screen on the grip frame. To reset the GAME TIMER, press and hold the power button for 1.5 seconds. This will also return you to the HOME screen.

TEXT ORIENTATION - This setting will allow right-handed and left-handed users to switch the orientation of the OLED text to best suit how they like to hold the gun while adjusting settings.
Default: Right Hand text

FACTORY RESET - This will restore the Field One Factory settings.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

F1 Force Maintenance

Your Field One Force marker was designed to require minimal maintenance. However, to keep the Force working at the highest performance level, it is recommended that a regular maintenance schedule be kept. In this section, we will discuss the tools needed to maintain the Force marker and layout a maintenance schedule that will help to keep the Force working at it's best.

Tools needed to perform regular maintenance on the Force:

- Standard Allen Wrench set.
- Maintenance Kit included with the Field One Force (7/32, 1/8, 5/64, 1/16 Standard Allen Wrenches).
- Field One approved marker lube (comes with your Force Marker).
- Barrel cleaning squeegee.
- Spare O-ring Kit (comes in the Force Maintenance Kit).
- AA Batteries or Force Rechargeable Battery Charger.
- These items are also helpful for performing routine maintenance:
    - Small Soft bristle brush (for cleaning small spaces and electronics.
    - Cotton swabs (for applying grease to engine and regulator components).
    - Long "T Handle" 1/8th allen wrench (for adjusting the position of the Force GRIP SHIFT adjustable foregrip).
    - Vice Grips with soft jaws (to separate Bolt from Ram if they get overtightened).

Field One Force Maintenance Schedule:

This schedule is designed to prevent failure during play and promote peak level performance. As with any paintball marker, maintenance works on an "as needed" basis but is best performed on a "preventive schedule." Maintenance involving cleaning the eyes, breech and barrel will be required any time you break paintballs in that area and it is hindering the performance of the marker.

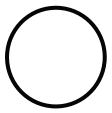
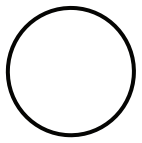
- ***Before you play*** Check/clean barrel and breech area. Make sure the ASA is clean from debris/dirt/moisture before attaching your air system. Chrono your marker. Check/change/charge battery if battery meter is showing "LOW."
- ***Once Month/ Before Event*** (Approximately 40K shots from last routine maintenance)- clean and inspect eyes and detents- replace detents if they look heavily worn, perform routine engine maintenance if there is a decline in performance (See "Engine Quick Start Guide" or Page (X) of the Force User Manual).
- ***Once a year/ Season*** rebuild engine o-rings and seals only if there is a decline in performance, rebuild regulator o-rings only if there is a decline in performance.
- ***Before you put your marker away after playing*** wipe off external surfaces of your marker to prevent corrosion/damage. Check and clean breech area. Ensure there is no more pressure stored in the marker. Turn marker off. Store in a clean and dry area. Avoid storing your marker in extreme temperatures to avoid damage to the electronic components and seals.

Please visit Fieldonepainball.com and the Filed One Paintball YouTube Channel for more information on tech tips and maintenance.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

O-ring Size Chart.

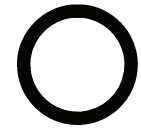
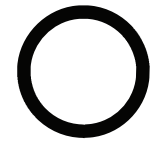
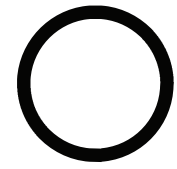
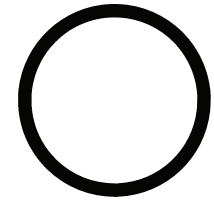
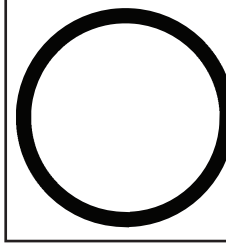
METRIC O-RINGS

O-ring	Size	Location(s)
	1x2	x1 Ram Housing rear to reducton shaft
	1x3	x1 Input Manifold, x1 Drive Manifold, x2 Interlock Plungers
	1x3.5	x1 Gripframe to bottom Input manifold
	1x4.5	x1 Drive Manifold to Solenoid
	1x5	x1 Spring Stack Retainer
	1x12	x2 Outside Rhino Reg Adjuster Housing
	1x15	x1 Ram Housing between engine halves.

U-CUPs and CUSTOM ORINGS

O-ring	Size	Location(s)
	U- CUP 009	x1 inside ram shaft
	U- CUP 011	1x outside ram shaft 2x Inside shut off
	U- CUP 012	x1 Inside top Rhino Reg Adjuster Hosing. (opening faces down)
	U- CUP 110	x1 Inside front of Volume Chamber (opening faces rear)
	4.5x1.5 90D	x1 bottom Rhino Reg between reg Adjuster and ASA
	.237 OD	Rhino Reg Seat Retainer (between reg seat and Reg Seat Retainer)

STANDARD O-RINGS

O-ring	Size	Location(s)
	005	x2 Body botttom to Drive Manifold x1 ASA Main Seal Retainer
	007	x1Body botttom to Input Manifold
	008	x1 inside Reg Seat Housing under C-clip and washer
	011	x1 inside bottom Rhino Reg Adjuster Housing x1 Inside front Brass Shut Off x1 ASA Outside Mainseal Retainer
	014	x1 Outside Rhino Reg Piston
	015	x2 Bolt Tip
	017	x2 inside rear Volume Chamber to Brass Shut Off x1 ASA Filter
	020	x1 Outside front Volume Chamber
	021	x3 Outside rear Voulme Chamber x2 Outside ram housing

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

FORCE ENGINE MAINTENANCE

The Field One Nucleus engine was designed to give your Force maximum reliability with minimal maintenance. The Nucleus engine uses U-Cup directional seals along side traditional O-rings.

1) To remove the engine de-gas your marker and make sure there is no pressure retained inside the marker. Pull up on the back cap until it lifts away from the main body (fig 11A). If the cap does not lift the gun may still be presurized. Empty the chamber by dry fireing a shot in a safe location.
2) Pull the engine out towards the rear of the marker (fig 11B). Once the engine is separated from the body you can separate the two engine halves.
3) To seperate the engine halves unscrew the volume chamber from the ram housing these parts should be tightly screwed together so you may want to uses a towel to hold the volume chamber as you twist. (fig 11C)
4) Apply grease to the.
   - External Ram Shaft O-ring (U-cup 011) (fig 11D)
   - Internal Ram Shaft O-ring (U-cup 009) (fig 11E). (You can use a cotton swab r small allen wrench.)
   - The ram shaft in front of the blue extension bumper. (fig 11F)
   - The Bolt Stem.(fig 11G)
   - A very light layer of grease on the bolt and bolt o-rings. (fig 11H) (if too much grease is applied here it may affect eye performance).
5) When rejoining the two engine halves, be sure to tighen them togather to insure a tight fit. (fig 11I)
6) Add a small amout of grease to the static o-rings around the outside of the engine to insure a smooth re-entry. (fig 11J)
7) To reinstall your engine make sure the back cap is in the up posintin and gently slide the engine back into the marker.
8) Once it is completely inserted push down on the back cap untill it snaps into place.

You do not need to change any of the seals unless there is an obvious leak or fault in performance. When troubleshooting always make sure your air tank has adaquire pressure and is screwed into the ASA completely and the cam drive knob is fully engaged. Make sure the marker has fresh batteries. Please consult the complete manual at fieldonepaintball.com for trobleshooting guide ad FAQ.

Engine O-ring Index

O ring 1x3	2	Back Block Detent Plunger
O ring 1x2	1	Reduction Shaft to Ram Housing
O ring 021	2	Outside Ram Housing
O ring 021	3	Outside Volume Chamber Rear
U Cup 009	1	Inside Ram (opening faces front)
O ring 020	1	Outside Volume Chamber Front
U Cup 110	1	Front of Volume Chamber (opening faces back)
O ring 017	2	Inside Volume Chamber Outside Brass Shut Off
U Cup 011	1	Back of Ram (opening faces front)
U Cup 011	2	Inside Brass Shut Off (openings face away from eachother)
O ring 011	1	Inside Front Brass Shut Off
O ring 015	2	Outside Bolt
O ring 1x15	1	In between Engine Halfs

(fig 11A)

(fig 11B)

(fig 11C)

(fig 11D)

(fig 11E)

(fig 11F)

(fig 11G)

(fig 11H)

(fig 11I)

(fig 11J)

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

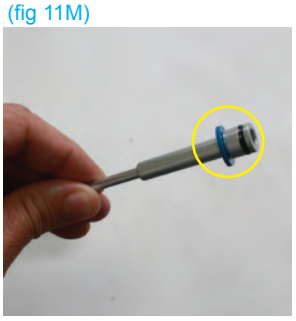
Removing the bolt from the ram is not part of general maintenance, but may be necessary for troubleshooting. To remove the bolt from the ram:

1) Separate the two engine halves. (fig 11C)
2) Insert a 7/32 allen wrench into the rear of the ram.(fig 11K)
3) Grip the bolt with a towel and turn the wrench to loosen the ram shaft from the bolt stem. (fig 11K) If you are unable to separate the parts in this way use a vice grips and a piece of rubber hose to grip the bolt head.(fig 11L)
4) Once the parts are separated you can perform the necessary maintenance.
5) Reinstall the ram shaft by putting the blue extension bumper on the ram, (fig 11M) and re inserting the ram shaft into the shut off and volume chamber. (fig 11N)
6) Use the 7/32 allen wrench to tighten the ram back onto the bolt. Grip the bolt with a towel to ensure a snug fit.
7) Tightly screw Engine halves back together. (fig 11I)

(fig 11K)

(fig 11L)

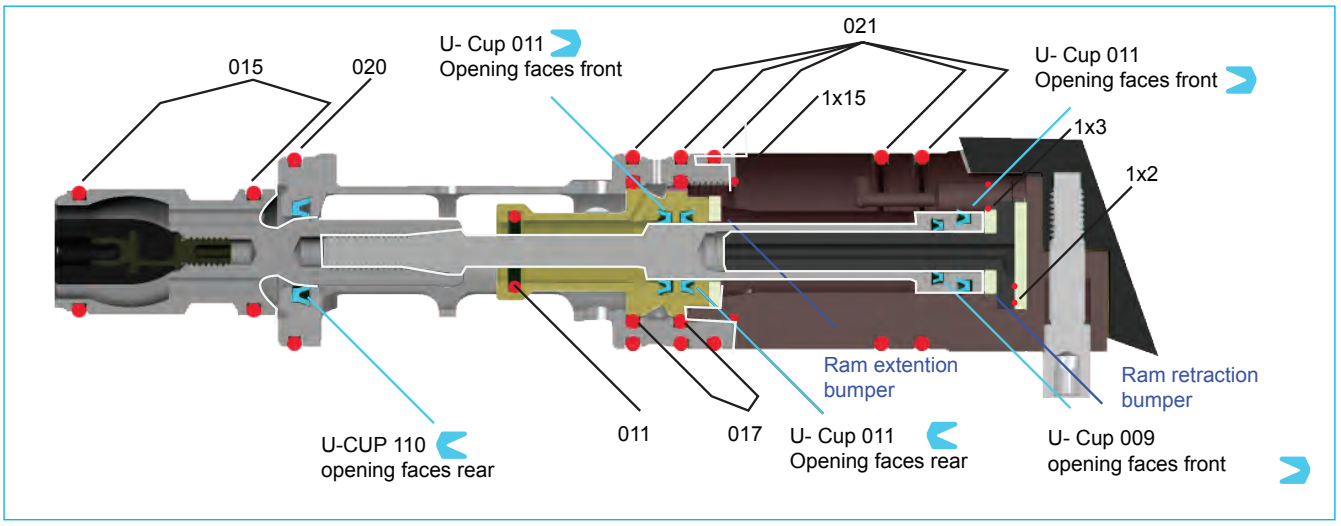
(fig 11M)



(fig 11N)

(fig 11O)

Force Engine Cross Section and O-ring Placement



CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

In order to change the position of the foregrip follow the following steps.

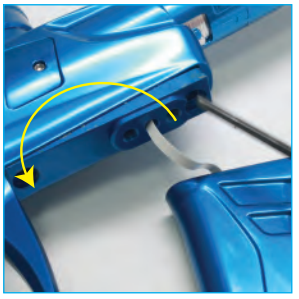
1. Remove battery door and batteries (fig 10A).
2. Use the long 1/8 inch allen wrench to remove the 2 captured screwes inside the foregip core. the screws are located in the center of the springs on the battery board. (fig 10B). These screws are captured inside the foregrip core and will not fall out.
3. Once the the core screws are loosened. CAREFULLY SEPERATE THE FOREGRIP FROM THE BODY. DO NOT TUG ON THE RIBBON CABLE OR MOVE THE GRIP MORE THAN 1.5 INCHES FROM THE REVERSAL PLATE. Remove the reversal plate screws. (fig 10C)
4 Carfully remove the reversal plate and rotate it 180° (fig 10D)
5. Install the rear reversal plate screw. (fig 10E)
6. Insert the grip back onto the reversal plate in the new position. MAKE SURE THE RIBBON CABLE ENTERS THE REVERSAL PLATE HOLE ENTIRELY WITHOUT GETTING PINCHED. (fig 10F)
6. Screw 2 foregrip core screws back into the reversal plate. (fig 10G)
7. Screw on front reversal plate screw. (fig 10H)
8. Reinstall batteries and push on battery door. (fig 10I)
9. Make sure the foregrip is secure and that the marker turns on.

(fig 10A)

(fig 10B)

(fig 10C)

(fig 10D)



(fig 10E)

(fig 10F)

(fig 10G)

(fig 10H)

(fig 10I)

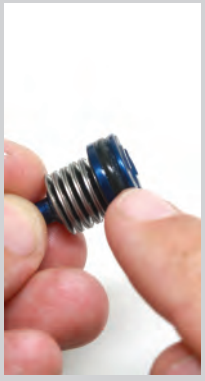
CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

FORCE RHINO REGULATOR MAINTENANCE

RHINO REGULATOR (HPR) The Rhino regulator is an ultra compact high pressure regulator that offers high flow and was designed to require minimal maintenance. An indication that the regulator needs maintenance is a high spike in velocity or a leak in the regulator area. To access the Rhino Regulator open the grip panels on both sides and remove the ASA and Regulator from the grip frame by unscrewing the ASA mounting screws with a 1/8 allen wrench (fig 1). Remove the reg piston and clean and grease the piston o-ring (fig 2). Clean and grease the piston housing inside the grip frame. Clean and grease the (008) o-ring underneath the c-clip inside of the brass regulator adjuster housing (fig 4). Use a cotton swab to clean the reg seat at the bottom of the brass regulator adjuster housing (fig 4). When re-assembling the Rhino Regulator make sure to clean and apply grease to all o-rings..

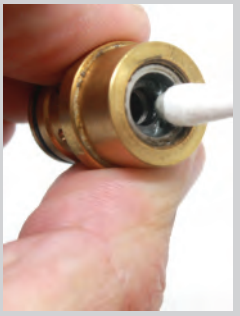
1. Remove ASA screws using 1/8 allen wrench

2. Remove reg piston. Clean and grease o-ring, stem and housing.

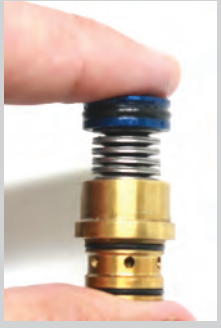


3. Remove brass adjuster housing by pressing it out of the ASA using a 1/8 allen wrench.

4. Clean and grease the o-ring inside the adjuster housing using a swab. Clean the reg seat at the bottom of the adjuster housing assembly.



5. Clean inside of the ASA reg housing and apply light grease to static o-rings. Reassemble Rhino Regulator and reinsert into the ASA reg housing. The flat edge of the brass piston guide aligns with the rear of the ASA housing.



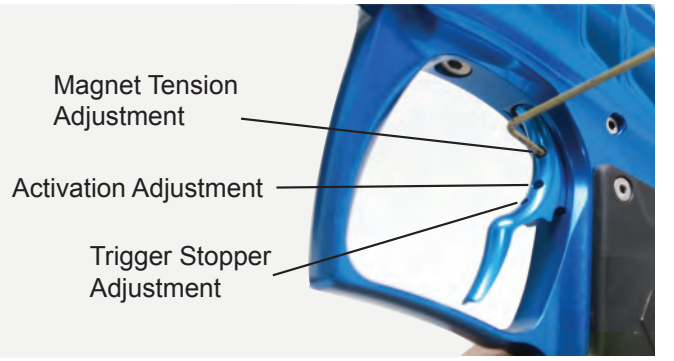
6. Press reg assembly and ASA back into the bottom of the grip frame and firmly tighten the mounting screws.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Trigger Adjustment

The Force has a magnetic trigger system (fig 1). To Adjust the tension of the trigger pull use a 1/16 allen wrench to adjust the magnet tension adjustment screw located in the top hole of the trigger. To lessen the magnet tension on the trigger (create a lighter trigger pull) turn the tension adjustment screw counter clockwise. To increase the magnet tension on the trigger (create a stiffer trigger pull) turn the tension adjustment screw clockwise.To change the activation point of the trigger pull (the point in the trigger pull in which the gun fires) use a 1/16 allen wrench to move the activation adjuster screw located in the middle hole on the trigger. To have the trigger activate sooner in the trigger pull turn the activation adjustment screw clockwise. To have the trigger activate later in the trigger pull adjust the screw counter clockwise. The Trigger stopper screw is located in the bottom hole of the trigger. The position of this screw determines the length of the trigger pull. In order to shorten the trigger pull adjust the trigger stopper screw clockwise. In order to lengthen the trigger pull adjust the trigger stopper screw counter clockwise.

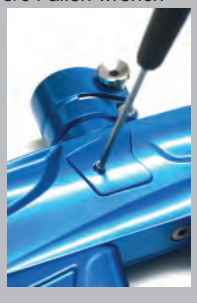
1. Trigger Adjustment



4C Illuminate Eye System (4C-ES)

Your F1 Force is equipped with the Illuminate 4-C Eye System consisting of 2 sets (upper and lower) of break beam eyes, this feature allows the F1 Force to achieve maximum rates of fire while decreasing the chance of breaking paint in the breech. The eye indicator located on the upper portion of the OLED screen (fig 6) will display the status of the 4C-ES. When Your F1 Force is powered ON the 4C-ES system is active by default. When the 4C-ES is active the marker will not shoot unless there is an object present in the breech or if the user holds the trigger down for one second (force shot). To turn the 4C-ES OFF tap the power button twice within 1 second. You will notice that the OLED display indicates that the 4C-ES is off. You must turn off the 4C-ES in order to fire your marker without paintballs (dry fire). It is not recommended that you dry fire your marker excessively. To toggle between “eyes ON” and “eyes OFF,’’ tap the power button twice within 1 second. Playing with your 4C-ES OFF will greatly increase your chances of breaking paint in the breech. If the 4C-ES display shows a fault the eyes may be dirty. To clean and inspect the eye system use a 5/64 allen wrench to remove the eye covers (fig 1). Th 4C eye boards are held in place by the eye covers. Remove the eye boards carefully and clean them off (fig 2). Clean the eye ports in the main-body (fig 3). Remove and clean ball detents and ball detent openings in body (fig 4). Once they are clean and clear reinstall the eye boards, ball detents (fig 5) and secure the eye covers in place using the eye cover screw.

1. Remove eye covers using 5/64 allen wrench



2. Clean off eyes with a cloth, towel or swab.

3. Clean out eye ports located in body.

4. Remove and clean ball detents and openings.

5. Reinstall eye boards and ball detents. Replace eye cover.

OLED DISPLAY

EYE INDICATOR

FIRE MODE INDICATOR

RATE OF FIRE INDICATOR

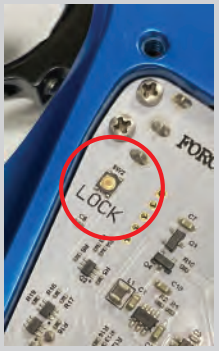
BATTERY LEVEL AND SOURCE INDICATOR

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

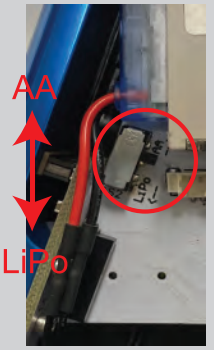
Changing Batteries and Power Select

BATTERY - The Force is capable of running on two AA batteries in the fore grip or one Field One LiPo rechargeable battery (optional) located in the grip frame. In order to switch between the two power sources use the toggle switch inside the grip frame on the main-board (fig 2) (access this area by removing the grip panel on the right hand side of the marker). The “UP” position will engage the AAs and the “DOWN” position will engage the rechargeable LiPo battery. To change the AA batteries use a 1/8 inch allen wrench to open the battery door in the bottom of the fore grip (fig 3). **Turn the battery door release screw clockwise 1/4 turn to release the door (this screw is not threaded)**. Once you have opened the battery door remove the old batteries and install the new AAs in the direction shown on the inside of the battery door (fig 4). Once the batteries are inserted press the battery door in with the F1 logo towards the front of the marker until it locks in place (fig 5).

1. Unlock board to allow adjustability of settings

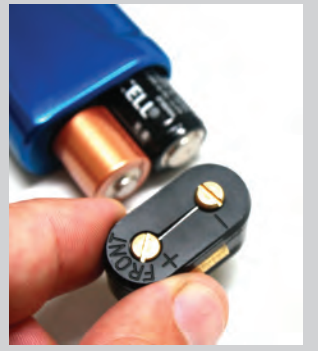


2. Select Power source.



3. Open battery door with 1/8 allen wrench.

4. Change batteries.



5. Push battery door back in until it locks in place.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Field One Paintball Warranty

Warranty Support and Service for Bob Long Technologies and Field One Paintball (F1P) products is provided by factory trained service technicians and F1P Authorized Service Locations. The F1P warranty is valid for one (1) year from purchase date to initial retail purchaser. The warranty is limited to defects in workmanship and materials covering the paintball marker and regulator components. The electronic components and solenoid are warranted for 120 days from purchase date. Electronic components are not covered under warranty if there is evidence of water damage, battery corrosion or negligence. Disposable parts (Batteries, O-Rings, Seals, etc.) are not covered under warranty.

This warranty is effective only if the customer is able to provide a valid receipt or proof of purchase that includes the date of purchase, the purchase location and a description of the marker. The warranty is non-transferable. The warranty period starts at the date of purchase. This warranty is limited to repair or replacement of defective parts with the customer responsible for transporting the product to and from the F1P Authorized Service Location. Warranty coverage is authorized at the sole discretion of Field One Paintball factory staff.

This warranty does not cover surface damages (scratches and nicks), misuse, or improper disassembly and reassembly. Attempts made to drill holes or remove metal from external surfaces could degrade the performance and/or safety of the marker and may only be performed with written approval from F1P. The factory recommended lubricant is Field One Paintball Lubricant. Use of any other lubricant could result in reduced performance and invalidation of the F1P warranty. The use of Teflon tape as a sealant for any marker component may internally damage electro-pneumatics. The use of Teflon tape will void your warranty. When installing aftermarket parts or products, ensure attachment fasteners DO NOT protrude into internal assemblies. When installing aftermarket grips, ensure attachment fasteners DO NOT protrude into internal grip assembly. Do not use Loctite to secure screws or parts on your marker without consulting with a F1P certified tech.

Trigger alteration of any kind may result in serious injury, do NOT attempt to alter the trigger assembly in any way. Use of aftermarket components within the bolt system, trigger or other operational components voids any warranty on the modified assembly and its interacting systems.

Removal of factory anodizing or other finish voids the warranty of any affected component, as tolerances will be affected by such action. F1P strongly discourages use of aftermarket internal components as they may jeopardize the performance and/or safety of your paintball marker.

If you have a question about service or warranty for your marker, please give us a call at (415)324-4050 or email us: help@fieldonepaintball.com

Acculock Lifetime Insert Replacement Program

If any of your Field One Paintball Acculock Inserts are damaged for any reason, we'll replace it with the same or similar insert for as long as you own your kit. Just return your damaged insert to Field One Paintball at the address below with your name, address, contact info and a copy of your purchase receipt or other proof of purchase. Also include a check for $7 USD payable to Field One Paintball to cover shipping and processing.

Send your damaged insert to:

Field One Paintball
Attn: Acculock Replacement Program
34 De Luca Place Suite D
San Rafael, CA 94901

This offer is only valid for the original owner and is not transferable. Limited to one replacement of each insert per customer. Offer void where prohibited or otherwise restricted by law. Field One Paintball LLC reserves the right to modify or discontinue the terms of the Acculock Lifetime Insert Replacement Program at any time. Program does not apply to product requiring shipping outside of the United States.

Thanks again for your support. If you have any questions about the AccuLock Barrel System, please feel free to contact us by phone or

email.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Troubleshooting and FAQ

Q: Where can I find the User Manual/Technical Manual for this paintball marker?
A: The complete Field One FORCE User Manual, as well as video tutorials and the Field One FORCE Quick Start Guide is available online on the Field One Paintball Website. Click or copy and paste this url into your browser search bar to visit the Field One Paintball Support page for more info: https://fieldonepaintball.com/pages/support-1

Q: How often should I perform maintenance on my F1 FORCE?
A: Here is the basic maintenance schedule for your Field One FORCE:
Field One Force Maintenance Schedule
This schedule is designed to prevent failure during play and promote peak level performance. As with any paintball marker, maintenance works on an "as needed" basis but is best performed on a "preventive schedule". Maintenance involving cleaning the eyes, breech and barrel will be required any time you break paintballs in that area and it is hindering the performance of the marker.

- ***Before you play*** chrono your marker, check/clean barrel and breech area. Make sure the ASA is clean from debris/dirt/moisture before attaching your air system. Check/change/charge battery if battery meter is showing "LOW".
- ***Once Month/Before Event (Approximately 40K shots from last routine maintenance)*** clean and inspect eyes and detents replace detents if they look heavily worn, perform routine engine maintenance if there is a decline in performance (See "Engine Quick Start Guide" or Page (X) of the Force User Manual).
- ***Once a year/Season*** rebuild engine o-rings and seals only if there is a decline in performance, rebuild regulator o-rings only if there is a decline in performance.
- ***Before you put your marker away after playing*** wipe off external surfaces of your marker to prevent corrosion/damage. Check/clean breech area. Ensure there is no more pressure stored in the marker. Turn marker off. Store in a clean and dry area. Avoid storing your marker in extreme temperatures to avoid damage to the electronic components and seals.

Q: What tools do I need to do standard maintenance on my F1 FORCE?
A: The Field One FORCE requires very few tools to perform standard maintenance here is a list of what you will need:

- Standard Allen Wrench set the 3 sizes that will be needed for routine maintenance and velocity adjustment are included in your Force Maintenance Kit (7/32, 1/8, 5/64 Standard Allen Wrenches)
- Field One approved marker lube (comes with your Force Marker)
- Barrel cleaning squeegee
- Spare O-ring Kit (comes in the Force Maintenance Kit)
- AA Batteries
- These items are also helpful for performing routine maintenance:
    - Small Soft bristle brush (for cleaning small spaces and electronics
    - Cotton swabs (for applying grease to engine and regulator components)
    - Long "T Handle" 1/8th allen wrench (for adjusting the position of the Force foregrip)
    - Vice Grips with soft jaws (to separate Ram from Bolt if they get overtightened)

Q: Why is my FORCE experiencing low velocity?
A: There are a couple of different reasons that your FORCE could be experiencing low velocity. We will start with the easiest to diagnose and move to the more complicated fixes. Keep in mind, if you have any issues with your marker, you should first try to perform regular maintenance on the marker before disassembling the marker any further. Here are some causes of "low velocity" to check for on your own:

1) Change batteries (two AA) because the cycling of the marker is dependent on the solenoid working properly, low battery power can have a big effect on your marker's overall performance. Even if the battery meter on the OLED display reads full, you should still try changing the battery to fix some of these simple problems.
2) Dwell is not set properly - the dwell is adjustable in the main board settings on your marker. Although some people may adjust their dwell out of the recommended factory setting (16ms) for fine-tuning purposes, this can sometimes lead to unsatisfactory results. Set you dwell back to the factory recommended setting (16ms) and retest your marker.
3) Pressures - HPR pressures need to be set at a minimum value for the marker to cycle and shoot properly. The factory HPR setting (operating pressure) for your FORCE is between 145 and 155psi. Since there is no gauge on the marker and a pressure tester is not required to work on these markers, we recommend adjusting your HPR 1/4th turn at a time and testing over the chronograph to find your optimal operating pressure. Shoot a couple of times between each adjustment to get the most accurate adjustment. (Once you achieve your desired velocity, you are done!)
4) O-ring lubrication - if o-ring seals in your marker are out of tolerance or have worn from use or age, this could have an adverse effect on the performance of your marker. Replacing or lubricating the o-rings in your FORCE engine and on the HPR piston will often get your marker back to full performance. Of particular importance when maintaining your marker are the dynamic o-rings (seals that move against a surface or have a surface that moves against them) inside the engine. These dynamic (moving) o-rings will wear at a faster rate than static o-rings (non moving) but should only be replaced if there is a drop in performance and routine maintenance has already been performed. Through extensive testing, the Field One development team has determined that o-ring/seal replacement is only necessary after routine maintenance has been performed and the issue is still present. O-ring replacement kits and maintenance kits, as well as F1 approved marker lube is available here on the Field One Paintball website or at your local Field One Paintball Authorized dealer.

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

5) Engine is not assembled/installed properly. This is a common issue because the engine is made up of many parts. Before disassembly of your marker or it's components, be sure to have access to the Owner's Manual for your particular marker. Simple things like the back block not being secured, the engine halves not being screwed all the way together or the incorrect o-ring used on one of the engine parts can have negative effects on the performance of the marker. Keep in mind, most parts of the engine only need to be hand tightened to "snug" and should not be overtightened and do not need a "thread-locking" solution used to hold them in place. If you have questions about how to assemble your engine, please consult the owner's manual or ask a qualified technician center for help.
6) Solenoid is not working properly. If your solenoid is not working properly, the marker will not cycle with the pressure needed to give you good consistency or adequate velocity. This is one of the more difficult issues to diagnose as there is not really a good test other than replacing with a new solenoid and seeing if the issue is resolved. Most people will send their marker to the service center if they have checked all of the other listed issues and they suspect that they may be having an issue with their solenoid. The solenoid is one of the more costly parts to replace, so all of the other areas of the marker should be inspected and maintenance performed before it is replaced. Try replacing your batteries before getting into the solenoid, just in case the solenoid is being underpowered by weak or low powered batteries.

Q: My F1 Force is leaking air… What should I do?
A: Your paintball marker can leak from different areas for a variety of reasons. The best way to detect where the leak is coming from is to air up the marker and listen (if it's a small leak) or use a diluted (mild) soap and water mixture on the outside of the gun to check for bubbles. DO NOT submerge your marker in water and do not over-apply the soapy water mixture. Work in small areas of the marker and dry off the marker when you are done looking for the leak. Do not fire the marker while it is close to your ear (Turn the marker off before checking for leaks). If you can identify where the leak is coming from, you can most likely fix the leak by replacing a seal or o-ring. Here is a list of common areas where leaks can occur in your marker and the basic method to fix it:
1) Breech - a breech leak is commonly caused by a damaged seal or bolt tip shaft. First, inspect your bolt tip shaft for deep scratches or burrs. If you find that your bolt tip shaft is damaged, you may have to replace the bolt tip. More commonly, replacing the U-Cup 110 and the 020 o-ring at the front of your engine (volume chamber) will fix this issue. Apply grease to both seals before inserting your engine into your marker
2) Bottom of grip frame between ASA and grip frame/velocity adjuster area - Most leaks coming from these areas are easy to identify and fairly easy to fix if you have a replacement o-ring kit. When maintaining or replacing o-rings, you should also apply a thin layer of F1 approved grease to the seating area and the o-ring seal. If you detect a leak at the bottom of the grip frame above the ASA, you can remove the ASA and replace the 1x12mm o-rings on the outside of the Rhino Regulator adjuster housing. If the leak is coming from the cam drive knob area, you may need to rebuild the Cam Drive ASA Main Seal/Support.
3) Back Cap area of engine. If you detect the leak is coming from the edge of the back block where it meets the ram housing, you can replace the small o-ring seal (1x3) on the Gas Interlock Pistons. If you detect the leak coming from around the engine, try replacing the 021 o-rings that surround the rear part of the engine (volume chamber rear and ram housing).
If you have performed this maintenance and still have not resolved the leak issue, you may have a leaking manifold or solenoid. It is recommended that you send your marker to an approved F1 Service Center for diagnosis and repair if you suspect that this is the issue. Information about sending your F1 marker to an Authorized F1 Service Center can be found here: https://fieldonepaintball.com/pages/support-1

Q: Why is my FORCE inconsistent at the Chronograph?
A: Inconsistency at the chronograph can be caused by a few different issues. Some common factors that are independent of the operation of the marker that you may want to consider are:
1) Overall quality of paintballs
2) Paintball size to barrel bore sizing
3) Battery power is weak needs and replacement
These issues are discussed in the F1 General FAQ section and the Field One Force User Manual you can get there by visiting the link here: https://fieldonepaintball.com/pages/technician-tips-general
For consistency issues that are related to the operation of the marker, we will start with the most common (and easiest to fix) and move on to some of the more complicated matters. With good quality paint and a well maintained and tuned marker, you can expect to get a string of shots that are all within 10fps of one another. Most paintball fields have safety guidelines that require players to shoot between 260fps and 300fps maximum.

Q: Why is the velocity on my force dropping off?

1) Regulator is slow to recharge. Regulator maintenance needed- to rebuild your HPR, you simply need to remove the ASA and Rhino Regulator from the bottom of the grip frame and replace the piston o-ring (014). Give all o-rings a moderate application of F1 approved marker lube.
2) Spool engine requires maintenance. Your marker works with a series of chambers holding and releasing pressure as the marker cycles. If any of these chambers that are holding pressure become unbalanced or leak, you will see a severe drop-off in performance. It is recommended that you perform an engine rebuild if you see a sharp decline in the performance of your marker. An engine rebuild includes replacement and re-lubrication of all seals in the engine. We recommend that you re-lubricate your engine every 5-10 cases (10,000-20,000 shots) or as needed and that you rebuild your engine (o-ring seals) every 20-30 cases or as needed.
3) Solenoid is bad/dying out. A solenoid issue can be hard to diagnose but if you have already checked and maintained the other areas of the marker and are still having issues with velocity or velocity consistency, you may have a bad solenoid. Solenoids can be damaged by foreign materials (grease, dirt, o-rings, teflon tape, metal) entering the solenoid and spoiling the internals. Try replacing your batteries before getting into the solenoid, just in case the solenoid is being underpowered by weak or dying batteries.
If you have tried the other methods listed above to address your "inconsistent velocity" issue and the problem is still not resolved, you may want to send your marker to an authorized F1 Service Center for help. Information about sending your F1 marker to a service center can be found here: https://fieldonepaintball.com/pages/support-1

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.

Q: My FORCE trigger is very bouncy and I'm having issues with "runaway trigger." How do I fix it?
A: You can start by adjusting the D-BOUNCE setting higher (Factory Default is: 2) and see if that helps with the issue. If you are still having a "bouncy trigger issue" make sure the trigger magnets are in place. Back out the trigger activation set screw ½ turn. Adjust the trigger so there is equal travel before the trigger activates the micro switch and after the trigger activates the micro switch.

Q: Where can I get additional o-ring kits and parts to maintain my FORCE Marker?
A: You can obtain o-ring kits and parts kits directly from Field One Paintball by going to www.fieldonepaintball.com or you can obtain parts from your local Field One Paintball Retailer.

Q: What is the recommended dwell setting for the FORCE?
A: Dwell should be at 16 when you get the marker and after you use it. There's no advantage to running a higher dwell to "break it in." Too low of a dwell setting may lead to inconsistency or drop-off. Too high of a dwell can cause bad air efficiency.

Q: What operating pressure does my FORCE run? What tank regulator output pressure is best for the FORCE?
A: The operating pressure of the FORCE is between 140psi and 160psi depending on conditions and some other variables. Because there is no LPR adjustment, it is not necessary to pressure test the FORCE in order to balance the regulator system. Simply adjust the HPR until you reach the desired velocity and go play! A tank output pressure between 250psi and 550psi. Any tank output pressure higher than 700psi may damage your marker, possibly resulting in a solenoid damage. Please check your output pressure before using your Air System on The Force.

Q: I lowered my bolt delay (to increase my potential max ROF and now I have intermittent eye malfunction. What should I do?
A: The bolt delay is too low so the eyes are activating too early while the bolt is still cycling backwards to prepare itself for the next paintball to drop. Between the time that the paintball is fired from the breech and the next paintball drops in place, the eyes activate (start to read) and see your bolt tip, they never register a change from the bolt tip to the next ball settling in the breech which causes an eye error. Raising the BOLT DELAY setting back to FACTORY DEFAULT or slightly higher will normally fix this problem.

Q: How much lube should I put on the bolt tip? Or on the rest of the o-rings in the engine?
A: For the bolt tip- just a small amount on each o-ring, then use your finger to put it around the entire o-ring. Too much lube can cause bolt movement problems or can cause the 4C-ES eyes to get gunked up with oil or grease. In extreme cases, you will suffer from inaccuracy as the barrel and the paintballs themselves get coated in lubricant.
For the engine, you will want to apply a medium coating of F1 approved lubricant to the dynamic o-rings (seals that move against a surface during the firing cycle) and a thin coating to the static o-rings (o-rings that do not move). If you under lube your engine o-rings and seals, you will need to lube the engine more frequently and you may see more wear on the o-rings in a shorter amount of time. If you over-lube your engine, you may cause restriction to movement in the engine which will be detrimental to performance. You may also end up needing to clean your breech and barrel frequently as excess lube will push out of the engine into the breech and the internals of the marker.

Q: What threading is the barrel?
A: The Field One FORCE can accept barrels with "AutoCocker" threads.

Q: Where can I find additional information about Field One Paintball Markers?
A: There is a wealth of information about Field One Paintball Markers on the Field One Paintball website. There are technical manuals and technician tips available for each of the older Bob Long/Field One Paintball markers (MARQ, Onslaught/Insight, MVP, G6R Intimidator) under the SUPPORT tab on the Field One Paintball website. F1 FORCE video tutorials, the F1 FORCE Quick Start Guide and the Field One Force User Manual is also available on the website: https://fieldonepaintball.com/pages/support-1

Q: Where do I ship my marker if I need repairs or require help with warranty work?
A: The first thing to do if you are in need of technical support for your Field One Paintball Marker is to visit the Field One Paintball website and see if there is an authorized Field One Certified Tech or Field One Authorized Dealer in your area. If you end up wanting to ship your marker to the Field One Factory Service Center for repair you will need to submit the RMA form (which can be found here: https://fieldonepaintball.com/pages/factory-service-center
Once you have submitted your RMA form, you will receive an email with an RMA# and instructions on how to send your marker to the F1 Factory Service Center.

If you have questions pertaining to repairs, warranty or technical advice, feel free to call the Field One Factory Service Center at (415) 324 4050 or email your question to: help@fieldonepaintball.com

CAUTION: READ AND FOLLOW ALL SAFETY GUIDELINES AND WARNINGS BEFORE HANDLING OR ATTEMPTING ANY WORK ON YOUR FIELD ONE PAINTBALL MARKER. SHOULD YOU BE UNSURE AT ANY POINT, STOP AND GET HELP FROM A FIELD ONE PAINTBALL CERTIFIED TECHNICIAN.