



# PLANET ECLIPSE: LV1.6

USER MANUAL / ENGLISH

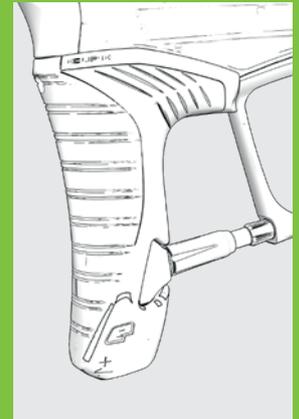
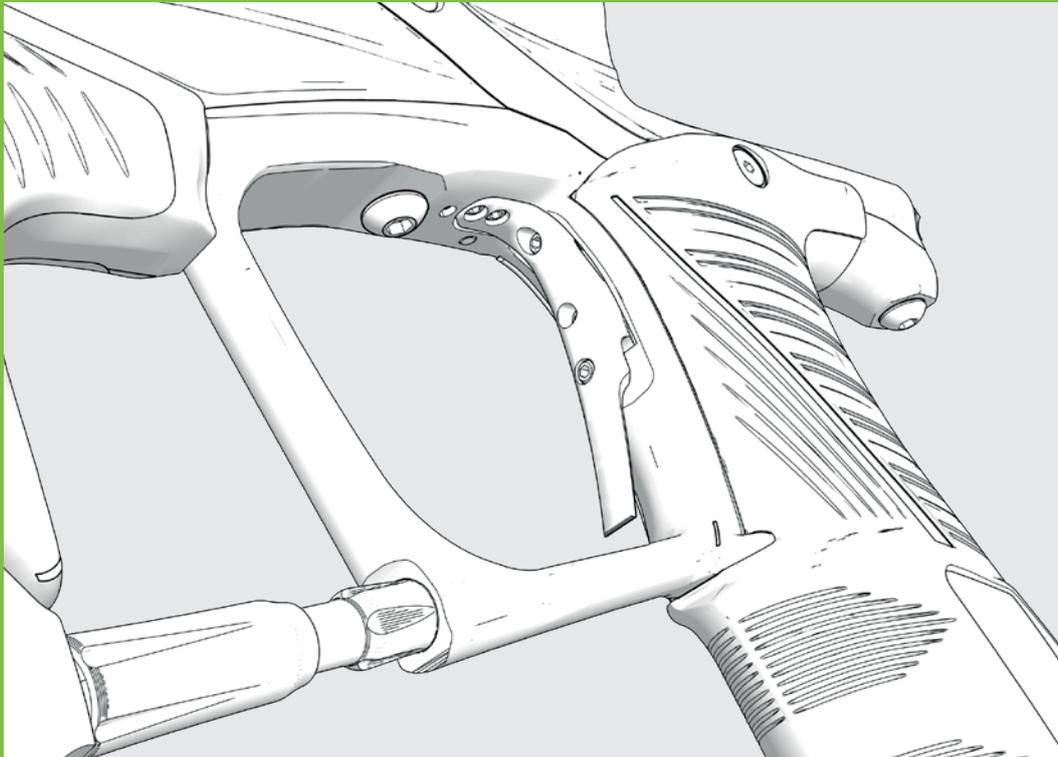


AIR



6.8 CAL

**APT**  
ECLIPSE<sup>®</sup> ADVANCED  
PAINTBALL TECHNOLOGY



# WARNINGS

## READ CAREFULLY BEFORE USE

-  **THE PLANET ECLIPSE LV1.6 IS NOT A TOY. PAINTBALL SAFETY RULES MUST BE FOLLOWED AT ALL TIMES.**
-  Careless or improper use of the marker, including failure to follow instructions and warnings within this User Manual could cause serious injury or even death.
-  Do not remove or deface any warnings attached to the marker.
-  Paintball industry standard eye/face/ear and head protection designed specifically to stop paintballs and meeting ASTM standard F1776 (USA) or CE standard (Europe) must be worn by the user and any person within range. Proper protection must be worn during assembly, cleaning and maintenance.
-  Hearing protection should be worn.
-  Never shoot at a person who is not wearing proper protection.
-  Never look directly into the barrel of the marker. Accidental discharge into the eyes may cause permanent injury or even death. Never look into the barrel or breech area of the marker whilst the marker is switched on and able to fire.
-  Keep the marker switched off until ready to shoot.
-  Treat every marker as if it is loaded and ready to fire.
-  The electronic On/Off button is the marker's disabling device, also known as a safety. Always switch the marker off when not in use.
-  Always fit a barrel-blocking device to the marker when not in use.
-  Always remove paintballs from the marker when not in use.
-  Do not field strip or remove any parts while the marker is pressurised.
-  Do not pressurise the marker without all the components of the marker correctly installed, as high-pressure gas may be emitted.
-  Do not fire the marker without the bolt correctly installed.
-  Never put your finger or any foreign objects into the paintball feed tube of the marker.
-  Never allow pressurised gas to come into contact with any part of your body.
-  Always remove the first stage regulator and relieve all residual gas pressure from the marker before disassembly.
-  Always remove the first stage regulator and relieve all residual gas pressure from the marker for transport and storage.
-  Always follow guidelines given with your first stage regulator for safe transportation and storage.
-  Always store the marker in a secure place.
-  Observe all local and national laws, regulations and guidelines.

# WARNINGS

## READ CAREFULLY BEFORE USE

- ⚠ Persons under 18 years of age must have adult supervision when using or handling the marker.
- ⚠ Only use professional paintball fields where codes of safety are strictly enforced.
- ⚠ Use compressed air/nitrogen only. Do not use any other compressed gas or pressurised liquid including CO<sub>2</sub>.
- ⚠ Always follow instructions, warnings and guidelines given with any first stage regulator you use with the marker.
- ⚠ Use 0.68 inch calibre paintballs only.
- ⚠ Always measure your marker's velocity before playing paintball, using a suitable chronograph.
- ⚠ Never shoot at velocities in excess of 300 feet (91.44 metres) per second, or at velocities greater than local or national laws allow.
- ⚠ Any installations, modifications or repairs should be carried out by a qualified individual at a licensed and insured paintball facility.

## WARNING!



This user manual must accompany the product in the event of resale or new ownership. Should you be unsure at any stage you must seek expert advice.



### This User Manual is in English.

It contains important safety guidelines and instructions. Should you be unsure at any stage, or unable to understand the contents of this manual you must seek expert advice.



### Le mode d'emploi est en Anglais.

Il contient des instructions et mesures de sécurité importantes. En cas de doute, ou s'il vous est impossible de comprendre le contenu du mode d'emploi, demandez conseil à un expert.



### Este manual de usuarios (operarios)

Usuarios está en Inglés. Contiene importantes normas de seguridad e instrucciones. Si no está seguro de algún punto o no entiende los contenidos de este manual debe consultar con un experto.



### Diese Bedienungs - und Benutzeranleitung ist in Englisch.

Sie enthält wichtige Sicherheitsrichtlinien und -bestimmungen. Sollten Sie sich in irgendeiner Weise unsicher sein, oder den Inhalte dieses Heftes nicht verstehen, lassen Sie sich bitte von einem Experten beraten.

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# WE GOT YOUR BACK!!!

OUR ARMY OF PLANET ECLIPSE PRO TECHS ATTEND PAINTBALL EVENTS ALL OVER THE WORLD TO MAKE SURE THAT YOU AND YOUR ECLIPSE MARKER ARE FIRING ON ALL CYLINDERS, AT ALL TIMES, IN ALL GAME SCENARIOS.

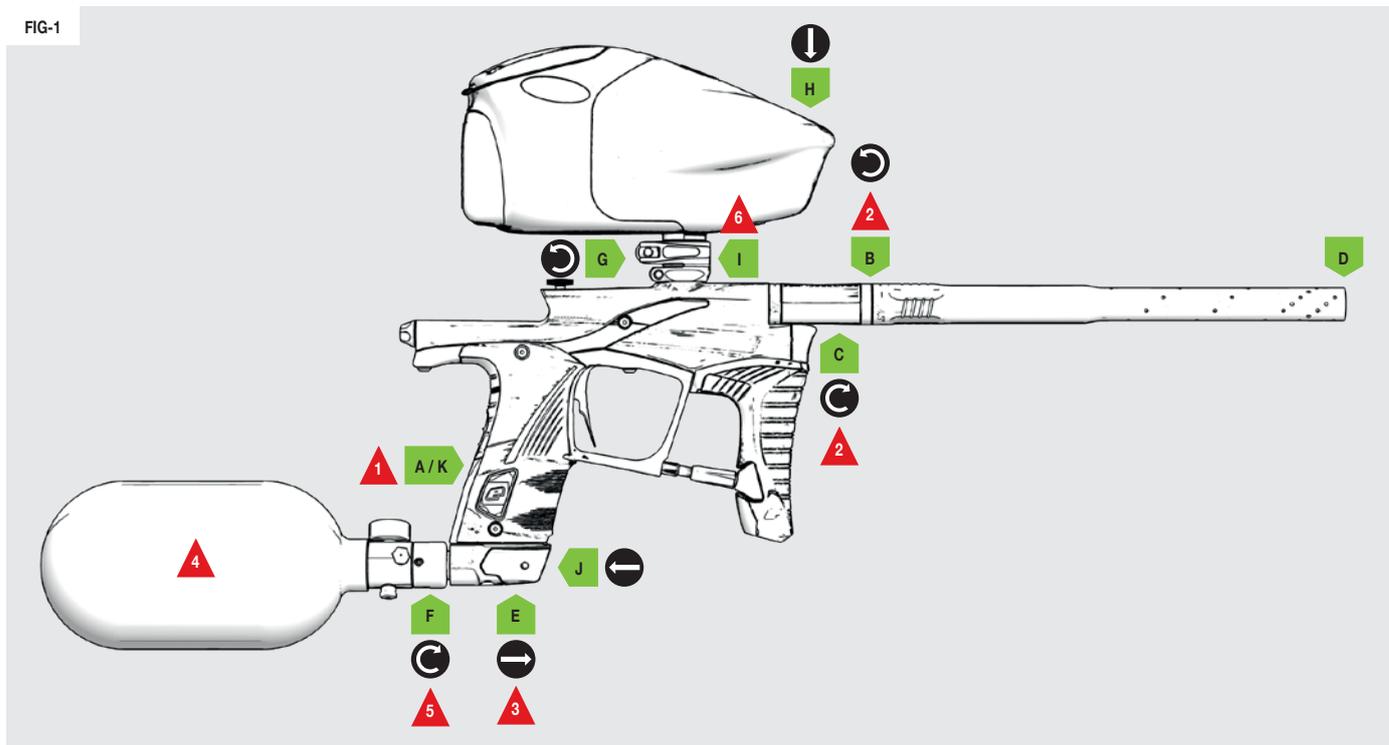


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# 06 INTRODUCTION

## SETTING UP

FIG-1



**FIG-1**

- A Ensure that the marker is switched OFF before you begin.**
- B Connect both parts of the barrel together.**  
Rotate the barrel tip counter-clockwise onto the barrel insert.
- C Attach the complete barrel to the marker.**  
Rotate the barrel clockwise into the marker body.
- D Fit a barrel blocking device for safety.**
- E Ensure the marker is de-gassed.**  
Push in and hold the POPS button and pull the POPS bonnet away from the POPS body.
- F Attach a pre-set air system.**  
Rotate the air system clockwise into the POPS body.
- G Loosen the clamping feed-neck.**  
Open the feed-neck lever away from the feed-neck.  
Rotate the feed-neck lever screw counter-clockwise.
- H Attach a loader.**  
If the feed-neck is too tight, loosen the clamping feed-neck more.
- I Secure the loader.**  
Rotate the feed-neck lever screw clockwise to tighten.  
Close the feed-neck lever to secure.
- J Gas the marker.**  
Push the POPS bonnet into the POPS body until it engages.
- K Switch ON the LV1.6.**

- 1 IMPORTANT!** To switch OFF/ON, see page 08.
- 2 DO NOT** over-tighten the barrel.
- 3 IMPORTANT!** Ensure that the marker is de-gassed when setting up.
- 4 NEVER** use CO2. Compressed air or nitrogen only.
- 5 DO NOT** use a preset regulator that outputs over 650 psi.
- 6 DO NOT** over-tighten the feed-neck. This may damage the marker or the loader.

## WARNING!



Always make sure the marker is Off with a barrel blocking device installed and that no paintballs are in the marker or loader before installing an air system.

Compressed air and nitrogen systems can be extremely dangerous if handled or used incorrectly.

Only attach an air system certified for use within the country of use.

Never add lubricants or grease into the fill adaptor of the air system regulator.

Ensure that all screws are tightened and no parts are loose before installing an air system.

Do not pressurise the marker without the bolt system correctly installed, as high pressure gas will be emitted.

Do not install a compressed air system or load paintballs into the marker until you feel confident with your ability to handle the marker safely and responsibly.

# 08 INTRODUCTION

## SWITCHING ON/OFF

FIG-1

The navigation console houses the LCD screen **A** and the navigation buttons: Up **B**, Down **C** and Select **D**.

Use the navigation console to switch the LV1.6 On or Off and change the marker settings.

### Switching ON

Press and hold the Select button **D** – or double-click it <sup>1</sup> – until the Eclipse logo is displayed.

### Switching OFF

Press and hold the Select button **D** – or double-click it <sup>1</sup> – until the TURN OFF option is displayed. Press the Select button again to switch off.

### Firing the marker

Pull the trigger to fire the marker. The breech sensor (BS) will indicate whether the marker is able to fire.

To switch the breech sensor ON/OFF push and hold the Up button **B** for 0.5 seconds when the marker is switched on. See page 10 for BS indicator details.

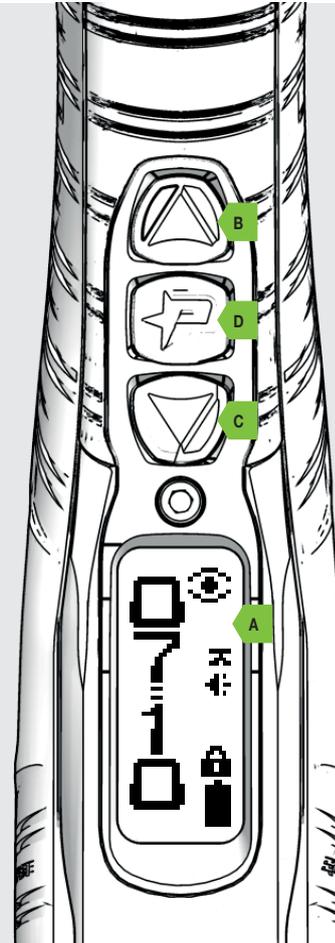
<sup>1</sup> The double-click feature can be disabled in the HARDWARE menu (see page 35).

# WARNING!



DO NOT dry fire your marker as this may lead to damage over a sustained period of dry firing.

FIG-1

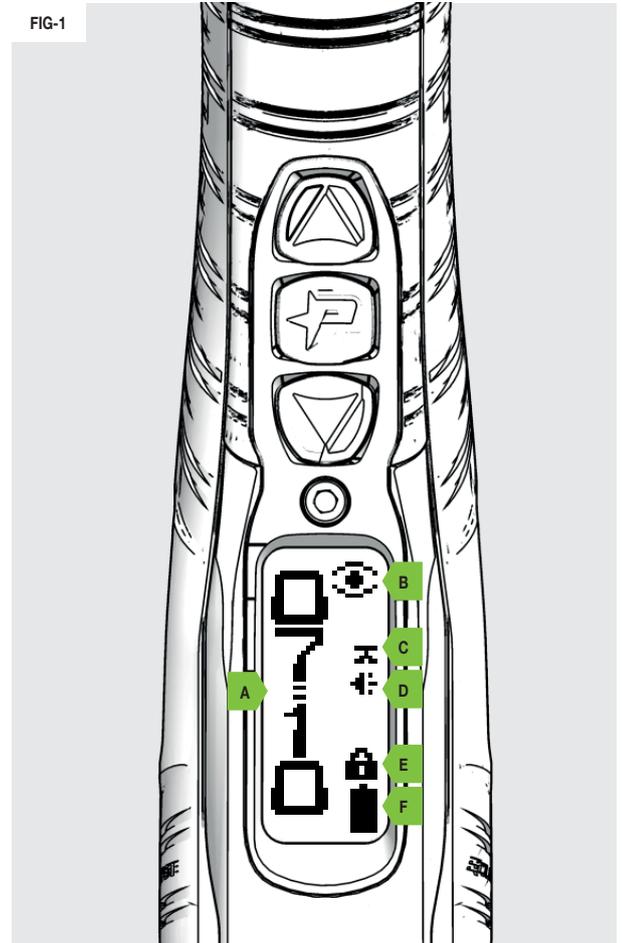


### FIG-1

Once powered-up a run screen will be displayed. There are a number of run screens and, with the exception of the splash screen, all have the same layout.

- A** Run screen specific information.  
Tap the Up button to cycle through the run screens.
- B** The breach sensor (BS) indicator (see page 10 for BS indicators and their meanings).
- C** The trigger detection indicator (see page 11).
- D** The sound indicator.
- E** The lock indicator (to change the lock state see page 13).
- F** The battery level indicator (see page 13).

FIG-1



# INTRODUCTION

## BREACH SENSOR (BS) INDICATOR

FIG-1

The BS indicator **A** displays the various states of the breach sensor.



### BS enabled and a ball is detected

The marker can be fired up to the selected rate of fire.



### BS enabled and NO ball is detected

The marker cannot be fired.



### BS disabled

The marker can be fired up to the rate of fire set by the BS OFF ROF parameter (see page 27).



### BS enabled in training mode

Training mode is enabled and simulates firing up to the selected rate of fire.



### BS disabled in training mode

Training mode is enabled and simulates firing up to the rate of fire set by the BS OFF ROF parameter.



### BS fault detected

Breach Sensor is temporarily disabled. The marker can be fired up to a rate of fire that is 2bps lower than that set by the BS OFF ROF parameter.



### BS fault has been cleared and a ball is detected

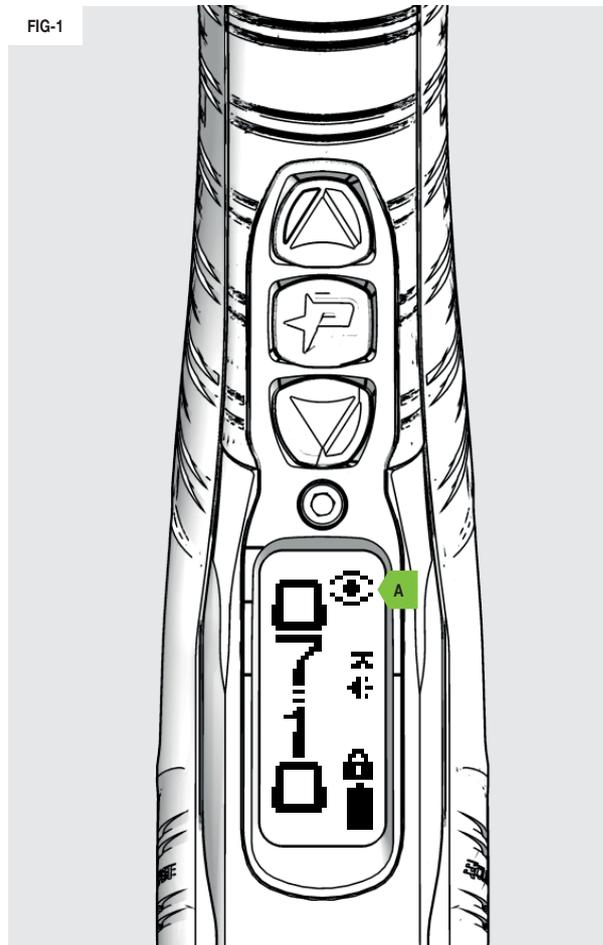
The marker can be fired up to the selected rate of fire.



### BS fault has been cleared and NO ball is detected

The marker cannot be fired.

FIG-1



# INTRODUCTION

## TRIGGER DETECTION INDICATOR

FIG-1

The trigger detection Indicator (TDI) **A** relays the state of the trigger, ranging from fully released to fully depressed:

- 
**OPTO sensor selected, reading 0%**  
 OPTO reads 0% meaning the trigger is fully released.
- 
**OPTO sensor selected, reading below RELEASE point**  
 OPTO senses that the trigger is in a released state.
- 
**OPTO sensor selected, reading mid-range**  
 OPTO senses that the trigger is in a half-pulled state.
- 
**OPTO sensor selected, reading above PULL point**  
 OPTO senses the trigger is in a pulled state.
- 
**OPTO sensor selected, reading 100%**  
 OPTO reads 100% meaning the trigger is fully depressed.
- 
**Microswitch selected, actuated**  
 The trigger is in a pulled state.
- 
**Microswitch selected, non actuated**  
 The trigger is in a released state.

The OPTO is the factory default trigger sensor setting. This can be changed to the microswitch via the HARDWARE menu (page 33).

FIG-1

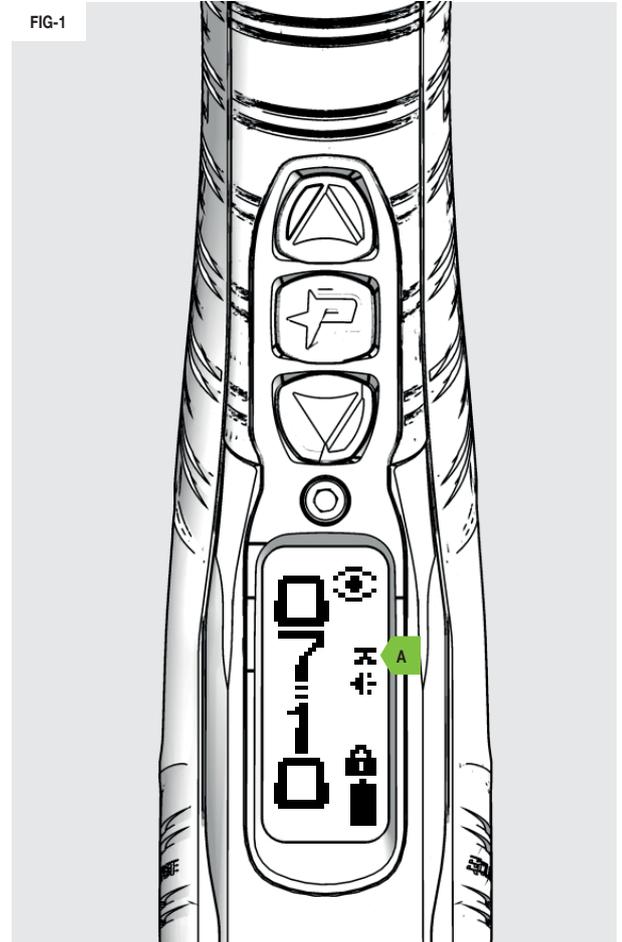


FIG-1

### The Sound Indicator

The sound indicator **A** shows the status of the sound system. See page 33 for more details.



#### Sound enabled

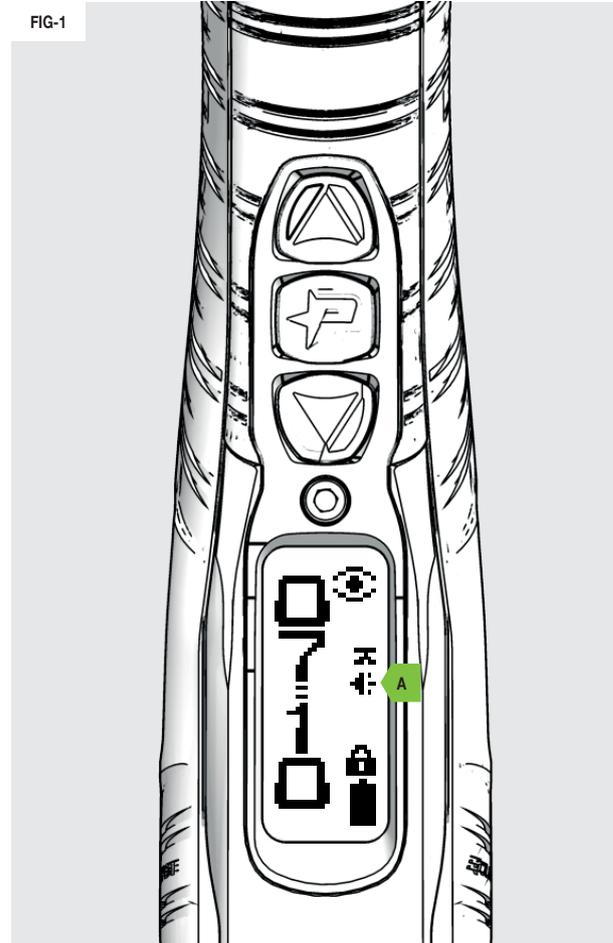
Sound will be used to indicate certain events.



#### Sound disabled

Sound will not be used.

FIG-1



# INTRODUCTION

## TOURNAMENT LOCK / BATTERY INDICATOR

FIG-1

The Lock Indicator **A** shows the status of the Tournament Lock (see page 17).



### Locked

Firing mode parameters cannot be changed. Tournament legal state.



### Unlocked

Firing mode parameters can be changed.

### The Battery Indicator

The Battery Indicator **B** shows the level of charge the battery has.



### Full battery

The battery is fully charged.



### Drained battery

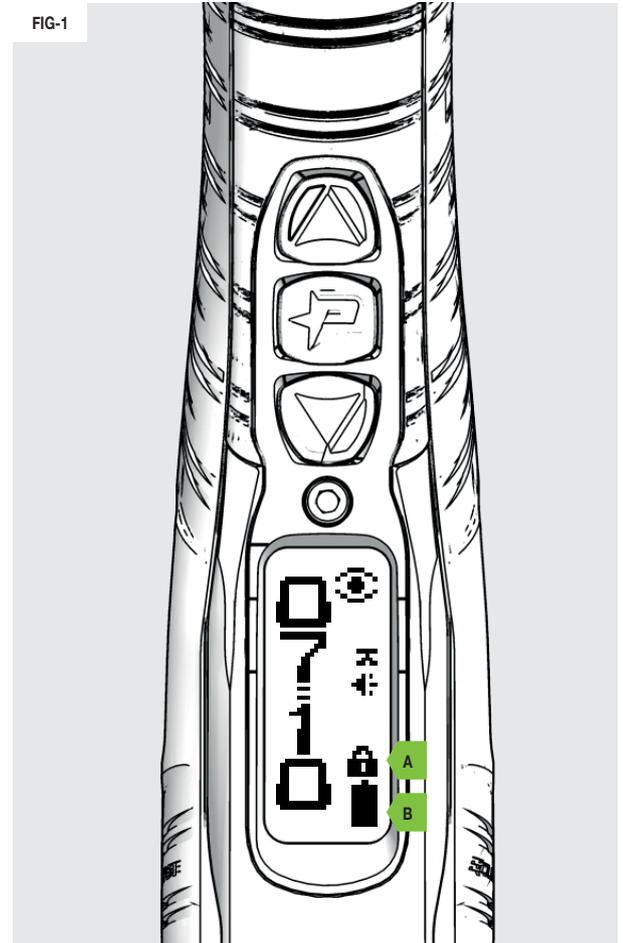
Battery is at approximately 50% of useful charge.



### Battery circuit fault

The battery level cannot be determined.

FIG-1



# INTRODUCTION

## FIRMWARE VERSION CHECK / UPDATE

### FIG-1

To check which version of firmware your marker is currently running simply follow the sequence below.

- 1 Push and hold the Select button **A** to switch the marker ON.
- 2 When the LV1.6 logo appears let go of the Select button then push and hold immediately to freeze the version screen.
- 3 The version screen (Fig-2) will now be displayed. Release the Select button to continue the start-up process.

### FIG-2

The Version number **B** indicates the software version of the marker.

FIG-1

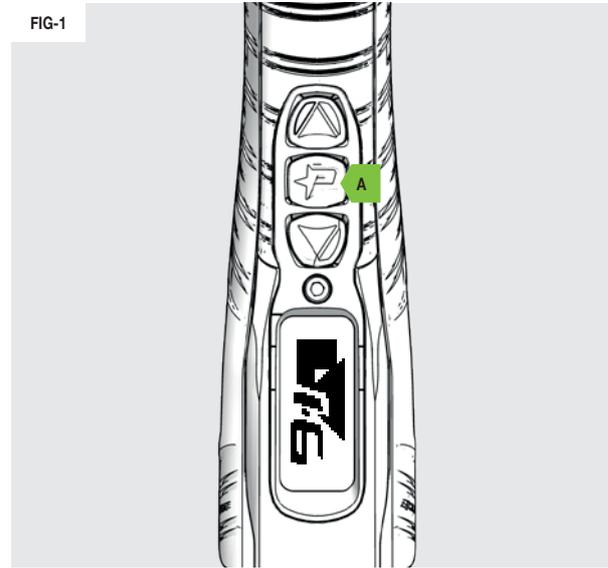
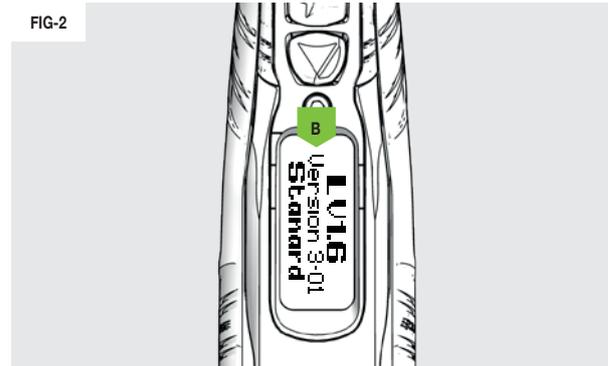


FIG-2



### FIG-1

The LV1.6 velocity adjustment screw is accessed from the bottom of the foregrip.

Insert a 1/8 hex key **A** into the velocity adjuster screw **B** to adjust the velocity.

- 1 Turn the hex key clockwise to reduce velocity.
- 2 Turn the hex key counter-clockwise to increase velocity.
- 3 Fire two clearing shots after each velocity adjustment for an accurate velocity reading.

**1** **DO NOT** turn the adjustment screw in too far. This will prevent the marker from firing.

## WARNING!



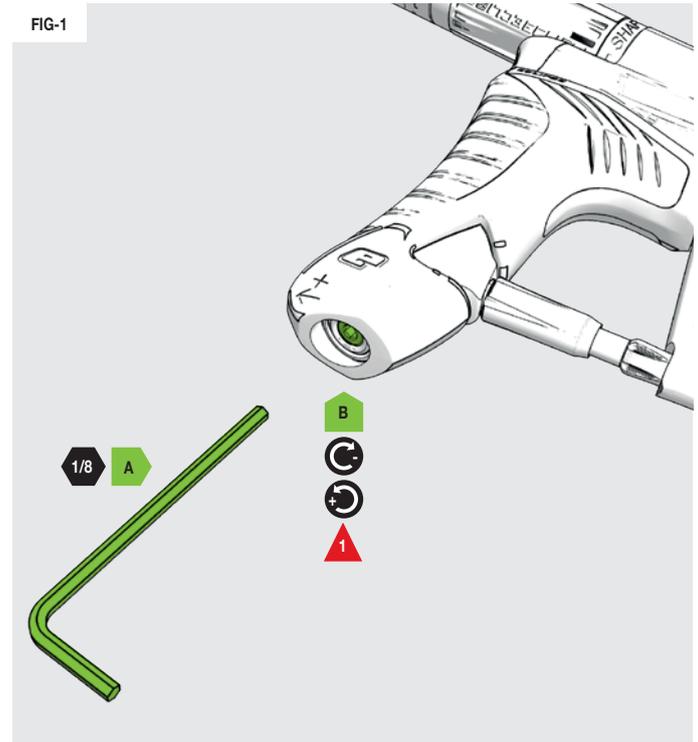
DO NOT exceed 300FPS.

Always wear correct protective equipment when firing your marker.

NEVER leave the marker gassed up when unloading.

NEVER point your marker in the direction of other people when not on the field.

FIG-1



# 16 INTRODUCTION

## TRIGGER ADJUSTMENT

FIG-1

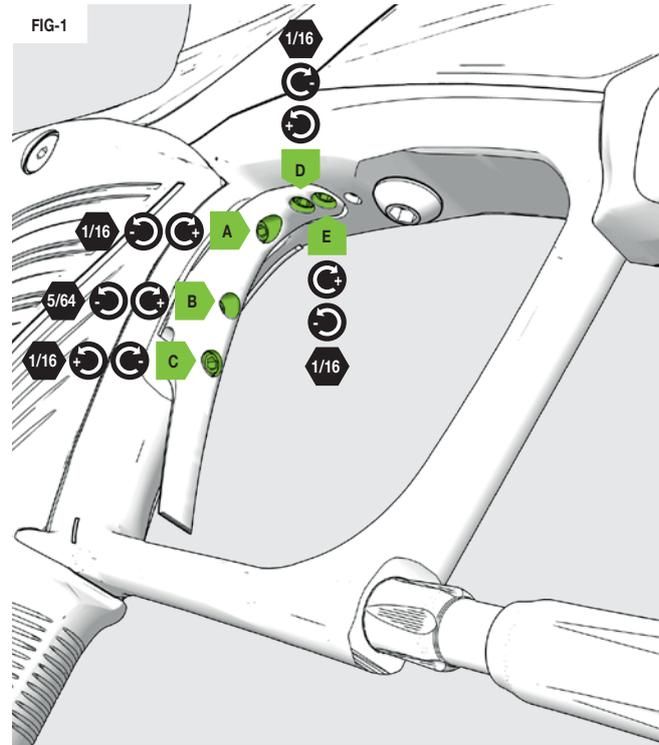
The spring return screw **A** controls the spring strength of the trigger return. Clockwise increases the strength, counter-clockwise decreases it.

The microswitch screw **B** adjusts the distance between the trigger and microswitch. Clockwise increases the distance, counter-clockwise reduces it.

The post-travel screw **C** adjusts the distance the trigger travels once pulled. Clockwise reduces the amount of travel (shortening the trigger), counter-clockwise increases the trigger pull distance.

The pre-travel screw **D** adjusts the distance the trigger travels before being pulled. Clockwise reduces the amount of travel (shortening the trigger), counter-clockwise increases the trigger pull distance.

The magnet adjuster screw **E** adjusts the strength of the trigger return. Clockwise increases the strength, counter-clockwise reduces it.



## WARNING!



Do not wind the screws in too far as this may prevent the marker from firing or even damage it. If the pre-travel screw is wound in too far this could cause the marker to fire unintentionally.

# 17

## INTRODUCTION THE TOURNAMENT LOCK BUTTON

### FIG-1

To access the tournament lock button use a hex key **A** to remove the grip screws **B** (both sides of the grip frame) then pull and remove the grips.

You can access the tournament lock button by just releasing the right side of the rubber grips.

### FIG-2

Push the tournament lock button **C** to toggle the tournament lock state – which will be displayed on the LCD. See page 13 for more.

Replace the rubber grips as per **FIG-1**.

FIG-1

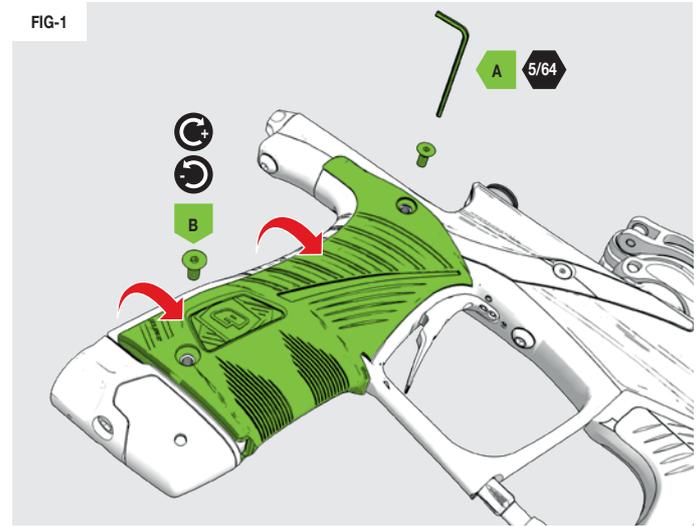
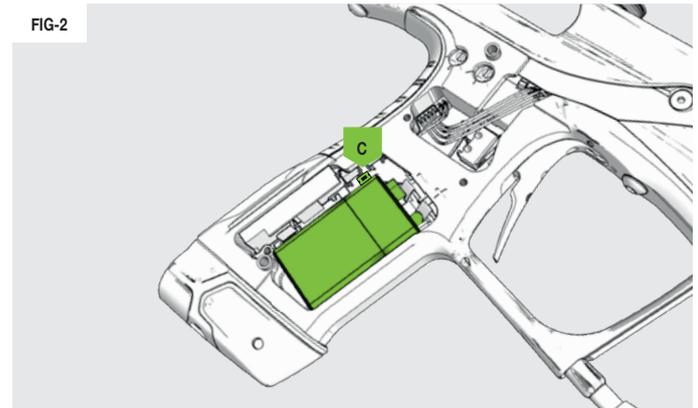


FIG-2



## WARNING!



Always ensure the marker is made safe before changing the tournament lock state to avoid accidentally firing the marker.



### FIG-1

**A Ensure that a barrel blocking device is still fitted for safety.**

**B Switch the marker OFF.**

**C De-gas the marker.**

Push in and hold the POPS button and pull the POPS bonnet away from the POPS body.

**D Remove the pre-set air system.**

Rotate the air system counter-clockwise from the POPS body.

**E Loosen the clamping feed-neck.**

Open the feed-neck lever away from the feed-neck.  
Rotate the feed-neck lever screw counter-clockwise.

**F Remove the loader.**

If the feed-neck is too tight, loosen the clamping feed-neck screw.

**G Remove the barrel from the marker body.**

Rotate the barrel counter-clockwise to remove.

**H Remove the barrel tip from the barrel insert.**

Rotate the barrel tip clockwise to remove.

**1**

**IMPORTANT!** Extra precaution to avoid injury.

**2**

**IMPORTANT!** To switch OFF/ON, see page 08.

**3**

**IMPORTANT!** Always de-gas before unloading.

**4**

**IMPORTANT!** Always remove air system before unloading.

**5**

**IMPORTANT!** Always remove any paintballs from the breech of the marker once the loader has been removed.

**6**

**IMPORTANT!** The barrel tip is reverse threaded so unscrew it **CLOCKWISE**.

## WARNING!



Always make sure the marker is Off with a barrel blocking device installed and that no paintballs are in the breech or loader before unloading.

Compressed air and nitrogen systems can be extremely dangerous if handled or used incorrectly.

NEVER leave the marker gassed up when unloading.

NEVER point your marker in the direction of other people when not on the field.

Remove any paintballs from the breech before storing your marker.

# 20 INTRODUCTION

## AIR TRANSFER PIPE

The Air Transfer Pipe (AT Pipe) enables air to move through the marker and allow it to fire. To do this consistently, without leaks, you need to ensure that it is seated correctly.

### FIG-1

The AT Pipe is in two parts **A** and **B** and both parts screw into each other with ease. If **B** is in the open position as shown here (not seated in the frame) it will not be sealed causing air to leak.

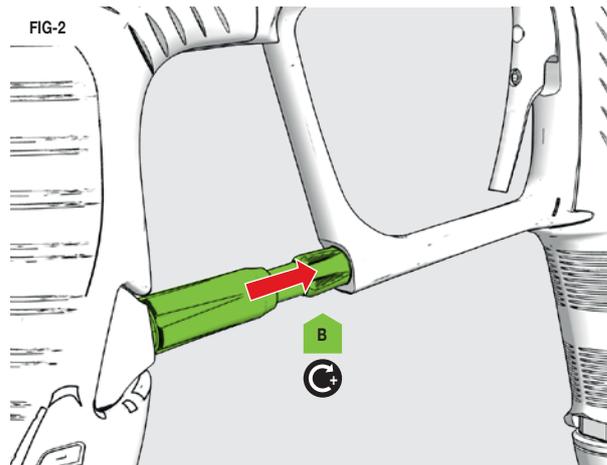
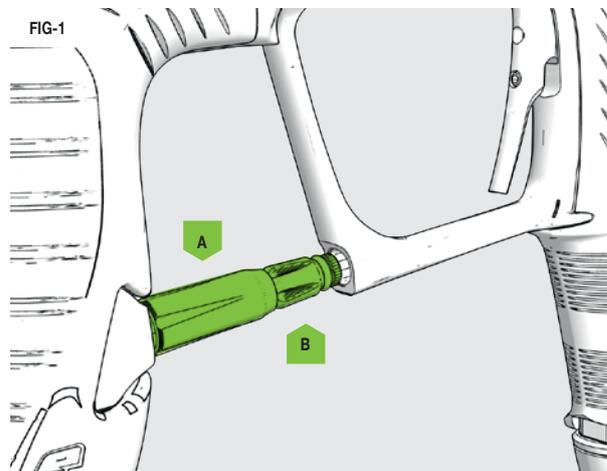
### FIG-2

Rotate **B** clockwise towards the frame (using your fingers) until it sits firmly within the frame seat. This will prevent any leaks and ensure a consistent transfer of air.

## WARNING!



If air still leaks make sure the o-rings are present and undamaged.  
Always check for dirt inside both sections of the AT Pipe before reinstalling.



# INTRODUCTION

## STORAGE AND TRANSPORTATION

- 1 Your marker must be clear of all paint and propellant during transportation or storage.
- 2 Make sure the marker is switched off.
- 3 Remove the barrel from the marker.
- 4 Make sure the marker is clean of any paint residue, dirt and moisture.
- 5 Store your marker in a clean, cool, dry place.
- 6 Keep your marker away from any unauthorized and unsafe users.
- 7 Remove the batteries when storing your marker to prevent unauthorized use.
- 8 Protect your marker from excessive heat during transportation.
- 9 When transporting a paintball marker by air, check with the airline regarding their policies on transporting paintball equipment as hold luggage before arriving at the airport.
- 10 Observe and obey all local and national laws concerning the transportation of paintball markers.
- 11 Use the box in which the marker was originally supplied to protect the marker against rough handling during transport.

## WARNING!

Never carry your marker un-cased when not on a playing field. The non-playing public and law enforcement personnel may not be able to distinguish between a paintball marker and a real firearm. For your own safety and to protect the image of paintball, always carry the marker in a suitable case such as the one in which it was supplied.



# MAINTENANCE

## ONLINE MAINTENANCE VIDEOS

For step-by-step maintenance videos to help you service and maintain your marker check out our YouTube channels below.

From simple, to more advanced maintenance videos, we get your back!

[YOUTUBE.COM/PLANETECLIPSETV](https://www.youtube.com/planetecclipsetv)

For new products, documentaries and other cool video features visit:

[YOUTUBE.COM/PLANETECLIPSE](https://www.youtube.com/planetecclipse)



**FIG-1**

The marker can be configured through editable parameters that are arranged in a menu system.

To access the menu when the marker is on, push and hold the Select button until the TURN OFF menu item is displayed. Double-clicking will also access the menu if enabled. See page 35.

The top level menu shown opposite is comprised of menu items, some of which are sub-menus and some of which are editable parameters.

Some parameters affect the way the marker shoots. These parameters can only be modified when the tournament lock is off. See page 17.

The availability of some menu items is dependent upon the setting of other parameters (e.g. the RAMP SETUP sub menu is only available when FIRE MODE is set to RAMP).

Select EXIT to return to the previous menu level, or, if already on the top level, to leave the menu system.

Select TURN OFF to turn off the marker.

The layout and parameters shown in this manual are correct at the time of printing.

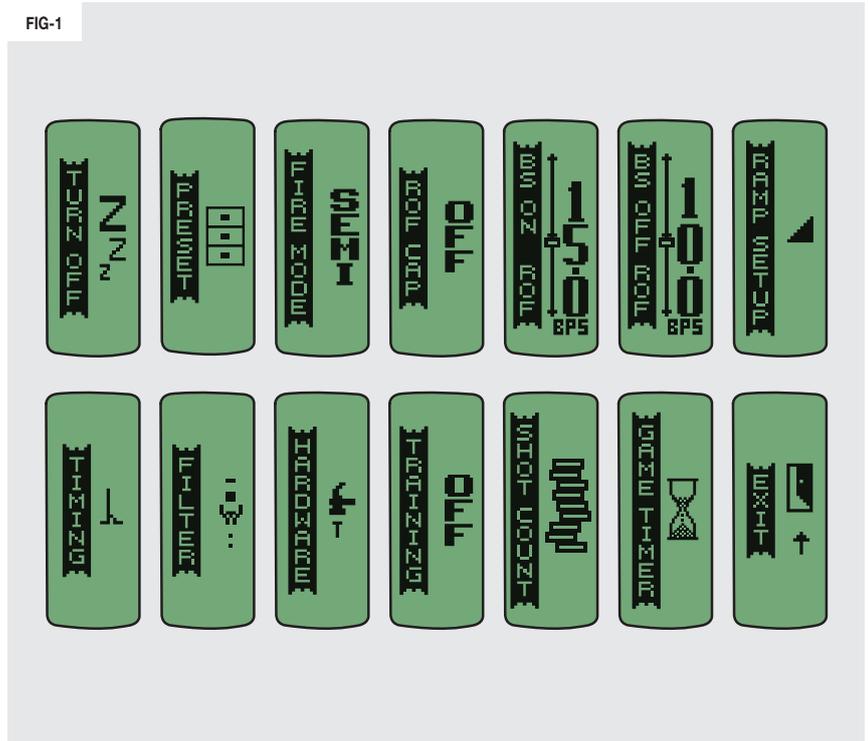
**FIG-1**


FIG-1

Once in a menu use the Up **B** and Down **C** buttons to navigate through the menu items.

Use the Select button **A** to select the item. If the item is an editable parameter then it can be adjusted with the Up and Down buttons and accepted with another push of the Select button.

FIG-2: Example - changing the TRAINING parameter

- 1 Turn the marker On.
- 2 Push and hold Select button until the TURN OFF menu item appears.
- 3 Up or Down buttons are used to find TRAINING.
- 4 Select button selects the TRAINING parameter for editing.
- 5 Up and Down buttons scroll the TRAINING parameter options (ON/OFF).
- 6 Select button confirms the desired option.
- 7 Up or Down buttons are used to find exit.
- 8 Select button saves the change and returns the user to the run screen.

FIG-1

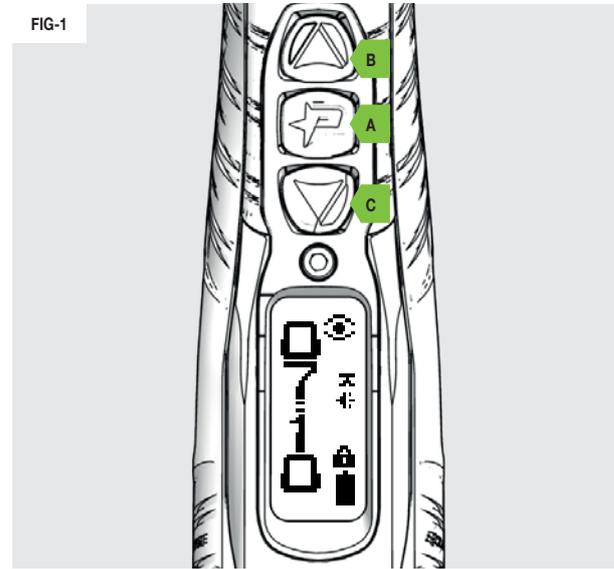
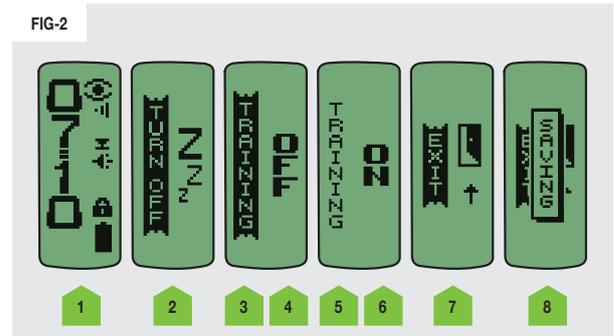


FIG-2



### WHAT IS A PRESET?

A preset is comprised of all of the parameters that together control the way that the marker fires. These parameters are -

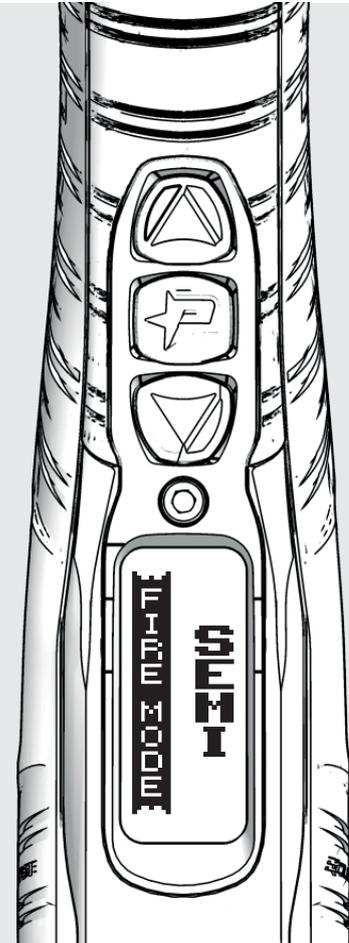
- > FIRE MODE
- > ROF CAP
- > BS ON ROF
- > BS OFF ROF
- > RAMP TYPE
- > RAMP RATE
- > SEMI SHOTS
- > KICK IN
- > SUSTAIN
- > RESTART
- > TRAINING

Selecting a preset changes each of these parameters so your marker complies with the relevant league or event settings.

The factory defined presets have been created to comply with the most common rules around the world. These presets cannot be changed however they can be used as a starting point for customizing settings and if any preset parameters are changed then the preset name will change to CUSTOM.

There are also 2 user defined presets.

FIG-1



### AVAILABLE PRESETS

The default list of presets are listed below:

- > FACTORY: Default factory settings.
- > SEMI NC: Uncapped semi-automatic.
- > SEMI 10: Semi-automatic capped at 10 bps.
- > NXL 2016: Ramping capped at 10.2 bps compliant with 2016 NXL Rules.
- > PSP 2015: Ramping capped at 10.2 bps compliant with 2015 PSP Rules.
- > RETRO: NXL style ramping capped at 5.5 bps.
- > USER 1: User defined preset
- > USER 2: User defined preset

Note: To restore your marker to how it was when it left the factory simply load the FACTORY settings then make the adjustments outlined on page 42.

### FIG-1 LOAD PRESET PARAMETERS

Enter the PRESETS menu<sup>1,2</sup>, push LOAD then scroll to the desired preset option (listed above).

### FIG-2 SAVE PRESET PARAMETERS

Enter the PRESETS menu<sup>1,2</sup>, push SAVE then select USER 1 or USER 2 to save your current user defined marker settings.

<sup>1</sup> Some presets may only be available in certain countries and on some models of the LV1.6.

<sup>2</sup> All presets are correct at the time of printing.

FIG-1

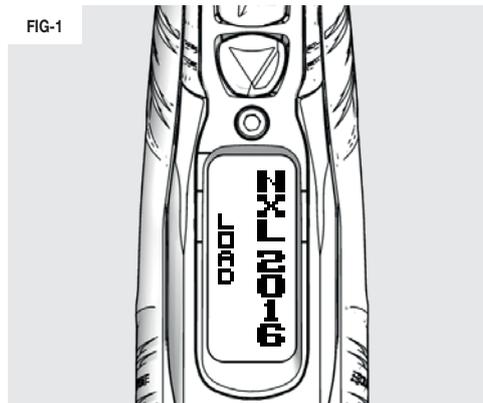
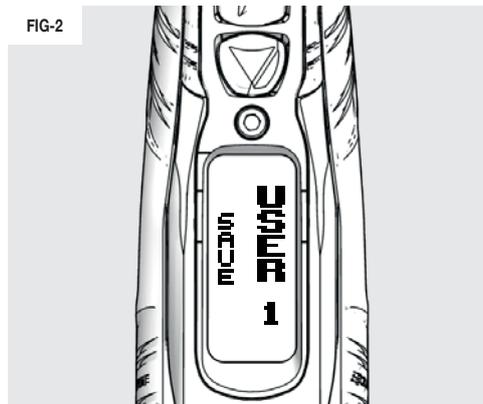


FIG-2

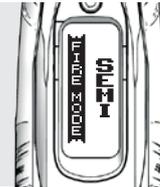


### FIG-1 - FIRE MODE PARAMETER

Sets the firing mode of the marker.

- > SEMI: 1 shot per trigger pull.
- > RAMP: Ramping, multiple shots per trigger pull under certain conditions. See page 28.

FIG-1

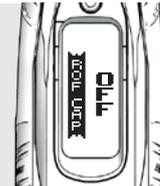


### FIG-2 - ROF CAP PARAMETER

The maximum rate of fire the marker can achieve.

- > ON: ROF limited to the BS ON ROF value.
- > OFF: ROF limited by loader speed.

FIG-2

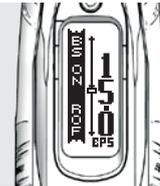


### FIG-3 - BS ON ROF PARAMETER

Sets the maximum rate of fire the marker can achieve with the breech sensor (BS) enabled. This parameter is only available if the ROF CAP is set to ON.

- > Range: 4.0 - 30.0 bps (balls per second) In 0.1 increments.<sup>1</sup>
- 1 Always calibrate your ROF CAP parameters to the local field meter for consistency.

FIG-3

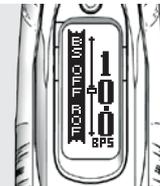


### FIG-4 - BS OFF ROF PARAMETER

Sets the maximum rate of fire the marker can achieve with the breech sensor (BS) disabled. This should be set to the slowest feed rate of the loader in order to avoid chopping paintballs.

- > Range: 4.0 - 15.0 bps (balls per second) In 0.1 increments.<sup>1</sup>
- 1 Always calibrate your ROF CAP parameters to the local field ROF meter to avoid penalties.

FIG-4



### FIG-1 - RAMP SET-UP MENU

This menu is only available when RAMP has been selected as the FIRE MODE parameter.

### FIG-2 - TYPE PARAMETER

Select the type of ramping required:

- > STEP:  
The marker will fire in semi-automatic until a number of trigger pulls (set by SEMI SHOTS) have been made at a minimum pull rate (set by KICK IN). The marker will then fire at up to the maximum rate of fire (set by BS ON ROF) as long as the trigger is continually pulled at a required rate (set by SUSTAIN).
- > LINEAR:  
The marker will fire in semi-automatic until a number of trigger pulls (set by SEMI SHOTS) have been made at a minimum pull rate (set by KICK IN). The rate of fire will then equal the rate of trigger pulls increased by a percentage (specified by RATE) up to a maximum rate of fire (set by BS ON ROF). Ramping is maintained as long as the trigger is continually pulled at a required rate (set by SUSTAIN).

### FIG-3 - RATE PARAMETER

Only available when the RAMP TYPE parameter is set to LINEAR. This sets the percentage increase in rate of fire over rate of trigger pulls.

If the RATE is 50% and the trigger is pulled at 10 bps then the actual rate of fire is 15 bps (10 + 50%).

This parameter can be set between 0 and 100% in 10% increments.

FIG-1

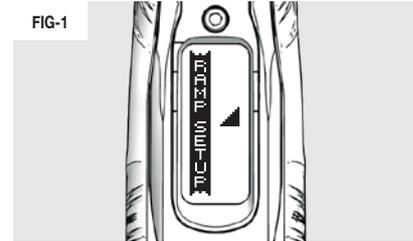


FIG-2

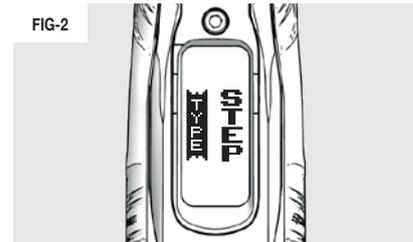
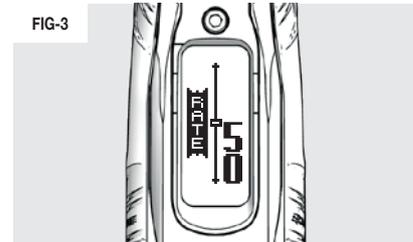


FIG-3



### FIG-1 - SEMI SHOTS PARAMETER

This sets the number of shots in semi-automatic required at the KICK IN rate before ramping starts.

This parameter can be set between 3 and 9 pulls in 1 pull increments.

### FIG-2 - KICK IN PARAMETER

This sets the rate at which the trigger has to be pulled in order to start ramping.

This parameter can be set between 3.3 and 10.0 pulls per second in 0.1 increments.

### FIG-3 - SUSTAIN PARAMETER

This sets the rate at which the trigger must be continually pulled in order to maintain ramping.

This parameter can be set between 3.3 and 10.0 pulls per second in 0.1 increments.

### FIG-4 - RESTART PARAMETER

This sets the amount of time that can elapse, after the final ramped shot is fired before ramping is reset and must be restarted again by meeting the defined conditions (above).

This parameter can be set between 0.0 and 1.0 seconds in 0.1 increments.

FIG-1

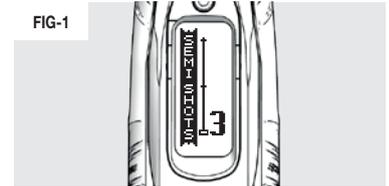


FIG-2



FIG-3



FIG-4



### FIG-1 - TIMING MENU

The TIMING menu parameters control the energise time of the solenoid valve.

### FIG-2 - DWELL PARAMETER

Sets the amount of time that the solenoid valve is energised during each firing cycle. Setting this parameter too low will result in low velocity shots and excessive velocity/shot fluctuations.

If set too high the marker will waste gas.

This parameter can be set between 5 and 20.0 milliseconds in 0.1 increments.

### FIG-3 - FSD COMP PARAMETER

'First Shot Drop-Off' is a reduction in velocity of the first shot when the marker has not been fired for some time. This parameter adds extra DWELL time to the first shot in order to compensate.

This parameter can be set between 0.0 and 5.0 milliseconds in 0.1 increments.

### FIG-4 - FSD DLY PARAMETER

This sets the amount of time that must pass before the FSD COMP is applied to a shot.

This parameter can be set between 00:00 and 04:00 minutes in 5 second increments.

FIG-1



FIG-2

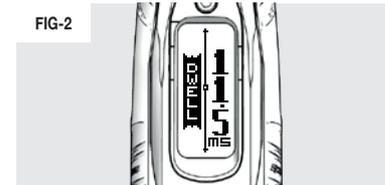


FIG-3

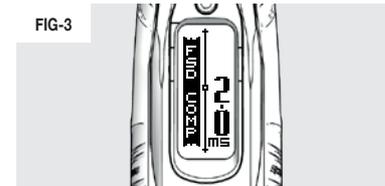
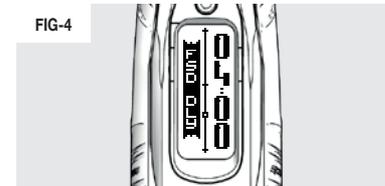


FIG-4



### FIG-1 - FILTER MENU

The FILTER menu parameters are used to tune the marker software filters to prevent the marker from firing unless all of the necessary conditions are

met. Factory default settings are suitable for most set-ups however, certain loader and trigger set-ups may require filter adjustments.

### FIG-2 - DEBOUNCE PARAMETER

This sets the amount of trigger bounce that is allowed and can be set from level 1 to level 9. Changing this parameter directly changes the

PULL PT, PULL TM, RELEASE PT and RELEASE TM.

- > LEVEL1: Least filtering (most bounce).
- > LEVEL9: Most filtering (least bounce).

### FIG-3 - EMPTY PARAMETER

This sets the amount of time that the breech has to be empty before the marker registers that it is actually empty.

This can be set between 1.0 and 20.0 milliseconds in 0.1 increments.

### FIG-4 - FULL PARAMETER

This sets the amount of time that the breech has to be full (paintball in place) before the marker registers that it is actually full.

This parameter can be set between 1.0 and 20.0 milliseconds in 0.1 increments.

FIG-1

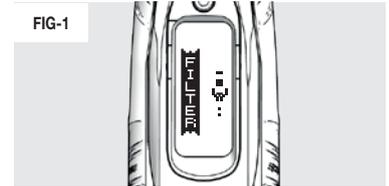


FIG-2

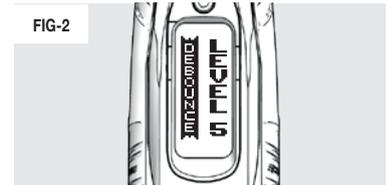


FIG-3

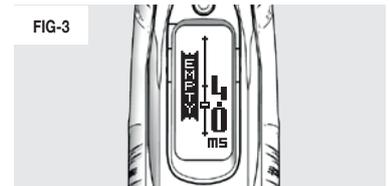
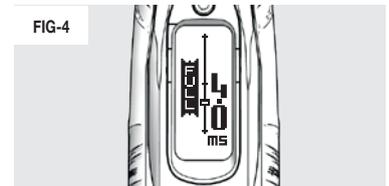


FIG-4



### FIG-1 - PULL TM PARAMETER

Sets the minimum amount of time that the trigger must be pulled for in order to be recognised as a valid trigger pull.

This parameter can be set between 3.0 and 20.0 milliseconds in 0.1 increments.

### FIG-2 - RELEASE TM PARAMETER

Sets the minimum amount of time that the trigger must be released for in order to be recognised as a valid trigger release.

This parameter can be set between 3.0 and 25.0 milliseconds in 0.1 increments.

### FIG-3 - PULL PT PARAMETER

This is only available if OPTO is enabled from the HARDWARE menu. It defines the point at which the trigger is considered pulled.

This parameter can be set between 51% and 99% in 1% increments.

### FIG-4 - RELEASE PT PARAMETER

This is only available if OPTO is enabled from the HARDWARE menu. It defines the point at which the trigger is considered released.

This parameter can be set between 1% and 49% in 1% increments.

FIG-1

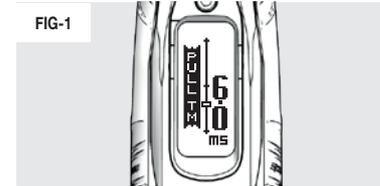


FIG-2

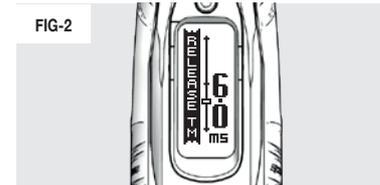


FIG-3

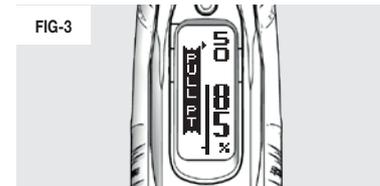
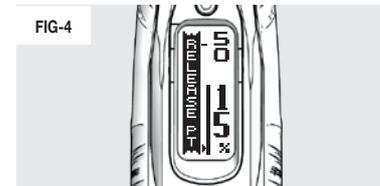


FIG-4



### FIG-1 - HARDWARE MENU

The HARDWARE menu contains items that are used to control the marker's electronic hardware.

### FIG-2 - TRIGGER PARAMETER

This allows the user to select their trigger detection system preference.

OPTO is the factory default selection.

- > OPTO: OPTO-Electronic trigger pull sensor.
- > SWITCH: Microswitch trigger pull detection.
- > CANCEL: Editing is cancelled and unchanged.

### FIG-3 - SOUND PARAMETER

Used to enable sound.

- > ON: Sound enabled.
- > OFF: Sound disabled.

### FIG-4 - CLICK TONE PARAMETER

Pushbutton tones can be independently disabled.

This item is only available if the SOUND parameter is set to ON.

- > ON: Tones enabled.
- > OFF: Tones disabled.

FIG-1

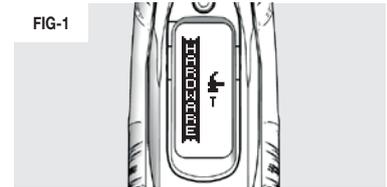


FIG-2



FIG-3

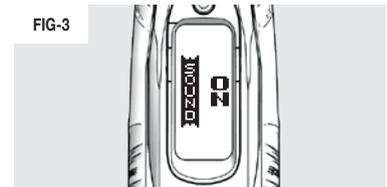
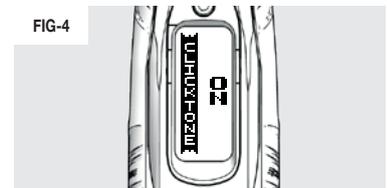


FIG-4



### FIG-1 - BACKLIGHT PARAMETER

Sets the time that the LCD backlight is illuminated for after a push-button is pressed.

This parameter can be set between 00:00 and 00:20 seconds. Setting this parameter to 00:00 will prevent the backlight from coming on.

### FIG-2 - RED LEVEL PARAMETER

Sets the power level of the red backlight LED.

This parameter can be set between 0% and 100% in 1% increments.

### FIG-3 - GRN LEVEL PARAMETER

Sets the power level of the green backlight LED.

This parameter can be set between 0% and 100% in 1% increments.

### FIG-4 - BLU LEVEL PARAMETER

Sets the power level of the blue backlight LED.

This parameter can be set between 0% and 100% in 1% increments.

FIG-1

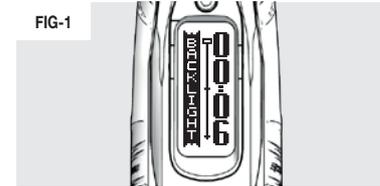


FIG-2

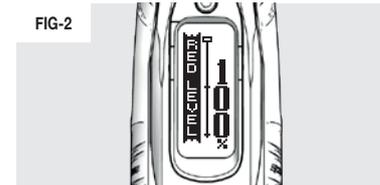


FIG-3

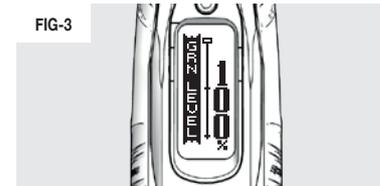
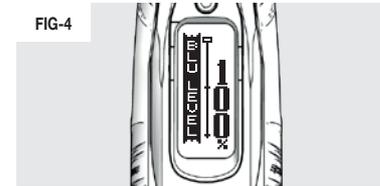


FIG-4



### FIG-1 - CONTRAST PARAMETER

This sets the contrast level of the LCD screen.

This parameter can be set between 1 and 31 in increments of 1.

### FIG-2 - DBL CLICK PARAMETER

Sets where the Select button double-click can be used.

- > NONE: Double-click disabled.
- > POWER UP: Double-click to power up only.
- > ALL: Double-click to power up and access menus.

### FIG-3 - AUTO OFF PARAMETER

Sets the amount of time that elapses before the marker switches itself off.

This parameter can be set between 05:00 and 60:00 minutes in 00:05 minute increments.

FIG-1

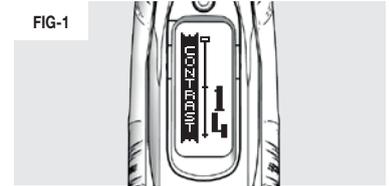
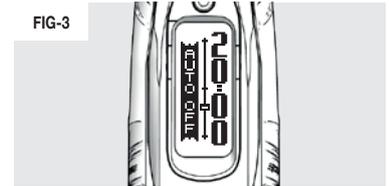


FIG-2



FIG-3



### FIG-1 - TRAINING PARAMETER

This simulates the firing cycle (in unloaded state) using a BEEP to simulate a shot fired, allowing the user to practice their trigger technique off the field without firing the marker.

- > ON: Training mode enabled.
- > OFF: Training mode disabled.

### FIG-2 - SHOT COUNT MENU

This menu contains items associated with the shot counter.

### FIG-3 - GAUGE PARAMETER

This toggles the visibility of the shot counter gauge graphic on the run screen.

- > ON: Gauge graphic enabled.
- > OFF: Gauge graphic disabled.

### FIG-4 - GAUGE MAX PARAMETER

Sets the number that the gauge counts down from every time the marker is fired.

This parameter can be set between 100 and 2000 in increments of 10.

FIG-1



FIG-2



FIG-3



FIG-4



### FIG-1 - GAME TIMER MENU

The game timer menu contains items associated with the game timer.

### FIG-2 - GAME PARAMETER

This sets the game timer start point, from which the timer counts down to zero. When the timer reaches zero the audible alarm will sound (if the alarm parameter has a value greater than zero) and

GAME OVER is displayed on the LCD.

This parameter can be set between 00:00 and 60:00 minutes in 10 second increments.

### FIG-3 - ALARM (1 AND 2) PARAMETER

An audible alarm is sounded when the game timer reaches the value set by this parameter.

This parameter can be set between 00:00 and 60:00 minutes in 10 second increments.

The timer will continue to count down until the GAME PARAMETER has expired.

### FIG-4 - START ON PARAMETER

This sets which function starts the game timer.

- > BUTTON: Select button starts the timer.
- > TRIGGER: Trigger pull starts the timer.

FIG-1

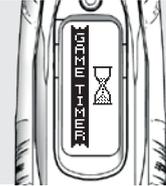


FIG-2

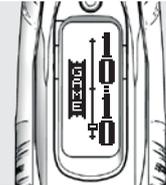


FIG-3



FIG-4



MAIN MENU	TURN OFF	Turn off the marker	
	PRESET		
		FACTORY	Load preset - reverts to factory marker settings
		SEMI NC	Load preset - semi auto with no rof cap
		SEMI 10	Load preset - semi auto with 10bps rof cap
		NXL 2016	Load preset - NXL 2016 rulebook compliant
		PSP 2015	Load preset - PSP 2015 rulebook compliant
		PSP FAST	Load preset - PSP ramping with a 20bps rof cap
		RETRO	Load preset - NXL ramping with a 5.5bps rof cap
		USER 1	User defined preset
		USER 2	User defined preset
	 FIRE MODE	SEMI (Default)	Select semi-automatic firing mode
		RAMP	Select ramping firing mode
	 ROF CAP	ON	Rate of fire cap On
		OFF (Default)	Rate of fire cap Off
	 BS ON ROF *	4.0 - 20.0 bps	Maximum rate of fire with breech sensor (BS) on (ROF CAP dependant). Default 10.0 bps
	 BS OFF ROF	4.0 - 15 bps	Maximum rate of fire with breech sensor (BS) Off. Default 10.0 bps



The lock icon indicates items that can only be selected when the tournament lock is switched off. See page 17.

\* The asterisk denotes items whose availability is dependant upon the options selected for other parameters.



MAIN MENU	<b>RAMP SET-UP *</b>	Fire mode dependant	
	<b>TYPE</b>	STEP (Default)	STEP ramping
		LINEAR	LINEAR ramping
		CANCEL	CANCEL Selection
	<b>RATE *</b>	0 - 100%	Percentage LINEAR RAMP rate (RAMP TYPE dependant). Default 50%
	<b>SEMI SHOTS</b>	3 - 9	Number of shots before ramping can start. Default 3
	<b>KICK IN</b>	3.3 - 10.0 pps	Rate which the trigger has to be pulled in pulls per second (pps) before ramping starts. Default 5.0 pps
	<b>SUSTAIN</b>	3.3 - 10.0 pps	Rate which the trigger has to be pulled in pulls per second (pps) to maintain ramping. Default 5.0 pps
	<b>RESTART</b>	0.0 - 10.0 s	Time in seconds (s) after last trigger pull during which ramping can be restarted. Default 0.0 s
	<b>TIMING</b>		
	<b>DWELL</b>	5.0 - 20.0ms	Solenoid energise time in milliseconds (ms) for each shot. Default 11.5 ms
	<b>FSD COMP</b>	0.0 - 5.0 ms	First shot drop-off compensation time in milliseconds (ms). Default 2.0 ms
	<b>FSD DELAY</b>	00:00 - 04:00	First shot drop-off delay. Default 00:30 seconds
	<b>FILTER</b>		
	<b>DEBOUNCE</b>	LEVEL 9	Use trigger de-bounce LEVEL 9 (highest level of trigger bounce filtering)
		LEVEL 8 - 2	Use trigger de-bounce LEVEL 8 - 2 (Default setting 5)
		LEVEL 1	Use trigger de-bounce LEVEL 1 (lowest level of trigger bounce filtering)
		CANCEL	CANCEL DEBOUNCE Selection
	<b>EMPTY</b>	1.0 - 20.0 ms	Time in milliseconds (ms) that the breech must be empty before BS looks for a paintball. Default 4.0 ms
	<b>FULL</b>	1.0 - 20.0 ms	Time in milliseconds (ms) that a paintball must be in the breech before the marker will fire. Default 4.0 ms
	<b>PULL TM</b>	3.0 - 25.0 ms	Time in milliseconds (ms) that the trigger must be pulled for a shot to be fired. Default 6.0 ms
	<b>RELEASE TM</b>	3.0 - 25.0 ms	Time in milliseconds (ms) that the trigger must be released for a pull to be registered. Default 6.0 ms
	<b>PULL PT *</b>	51 - 99%	Percentage at which the trigger OPTO sensor pull point is set (TRIGGER dependant). Default 85%
<b>RELEASE PT *</b>	1 - 49%	Percentage at which the trigger OPTO sensor release point is set (TRIGGER dependant). Default 15%	

MAIN MENU	HARDWARE		
	TRIGGER	OPTO (Default) SWITCH	Use OPTO to detect trigger operation Use micro-switch to detect trigger operation
	SOUND	ON (Default) OFF	Turn on audible indicators Turn off audible indicators
	CLICK TONE	ON (Default) OFF	Turn on audible tone when any button is pressed (SOUND dependant) Turn off audible tone when any button is pressed (SOUND dependant)
	BACKLIGHT	00:00 - 00:20 s	Time in seconds (s) that the backlight stays on for (00:00 = no backlight). Default 00:06 s
	RED LEVEL	0 -100%	Percentage power level of the red backlight LED (BACKLIGHT dependant)
	GRN LEVEL	0 -100%	Percentage power level of the green backlight LED (BACKLIGHT dependant)
	BLU LEVEL	0 -100%	Percentage power level of the blue backlight LED (BACKLIGHT dependant)
	CONTRAST	1 - 31	LCD contrast level. Default 17
	DBL CLICK	ALL (Default) POWER UP NONE	Double click is fully enabled Double click to activate power up only Double click is disabled
	AUTO OFF	05:00 - 60:00 m	Time in minutes (m) after which the marker will automatically switch itself Off. Default 20:00 m
	TRAINING		
		ON	Training mode enabled
		OFF	Training mode disabled

MAIN MENU	SHOT COUNT			
		GAUGE	ON (Default)	Shot gauge on
			OFF	Shot gauge off
		GAUGE MAX	100 - 2000	Shot gauge maximum (reset value - GAUGE dependant). Default 140 shots
	GAME TIMER			
		GAME TIME	00:00 - 60:00	Countdown game timer start time in minutes. Default 10:10 m
		ALARM 1	00:00 - 60:00	Alarm activation time in minutes. Default 01:00
		ALARM 2	00:00 - 60:00	Alarm activation time in minutes. Default 00:00
		START ON	BUTTON (Default)	Pressing the down button starts the game timer
			TRIGGER	A trigger pull starts the game timer
	EXIT			

Firmware and manuals may change over time.  
For the latest updates visit our knowledgebase right here:

**[PLANETECLIPSE.COM/KB](http://PLANETECLIPSE.COM/KB)**

# RESET

## FACTORY RESET

Follow these steps in order to reset the LV1.6 to the way that it left the factory.

### FIG-1

Navigate to the PRESET menu and load the FACTORY settings. See page 26.

### FIG-2

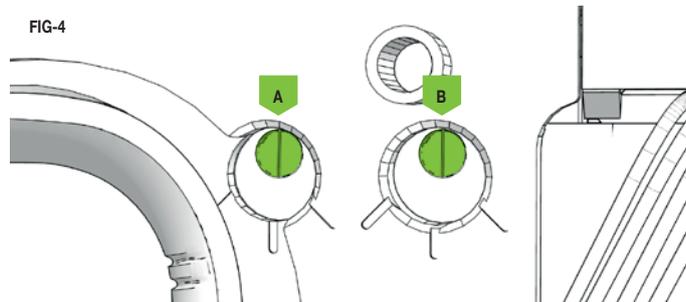
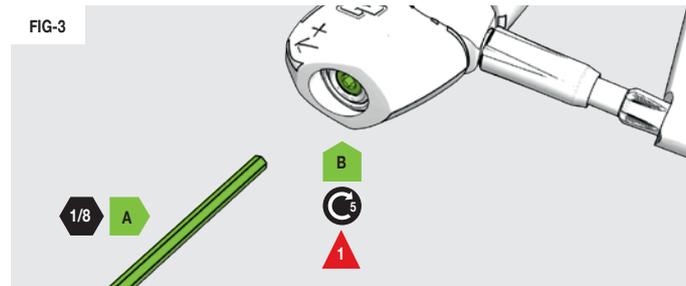
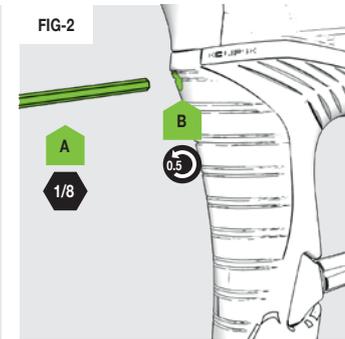
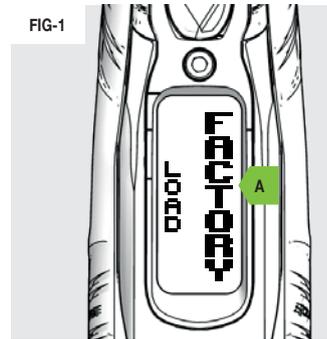
Using the 1/8 hex key **A** turn the LPR adjuster screw **B** 1/2 turn counter-clockwise from it's fully screwed-in position.

### FIG-3

Using the 1/8 hex key **A** turn the velocity adjuster screw **B** 5 turns clockwise from it's fully screwed-out position.

### FIG-4

The rear SFR **A** should be set to the 12 o'clock position and the front SFR **B** should also be set to the 12 o'clock position.



# WARNING!



Do not turn the adjuster screw in too far. This will prevent the marker from firing.

# RESET

## INSTALLING THE BATTERY

The LV1.6 uses 1 x 9V alkaline battery (IEC 6LR61 / ANSI 1604A) situated in the frame.

Switch the marker off before you begin.

### FIG-1

Using a hex key **A** remove the grip screws **B** (both sides of the grip frame) then pull and remove the grips.

You can access the battery by just releasing the right side of the grips.

### FIG-2

To remove the battery **C** use the pocket at the base of the battery **D** to leverage the battery out.

Install a fresh battery and replace the grips as per **FIG-1**.

FIG-1

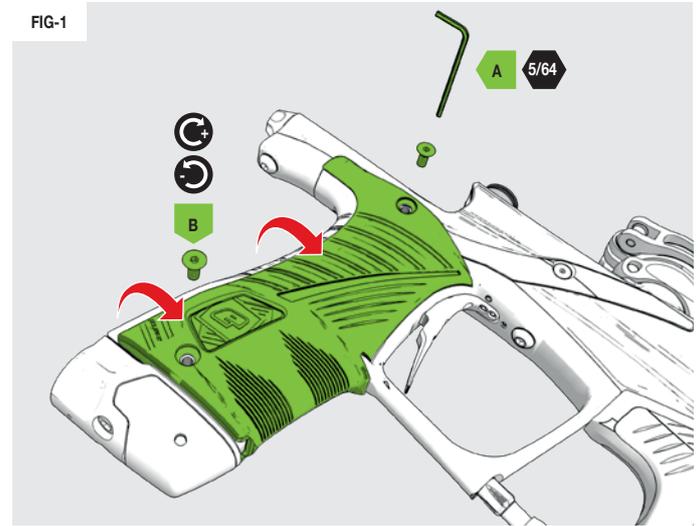
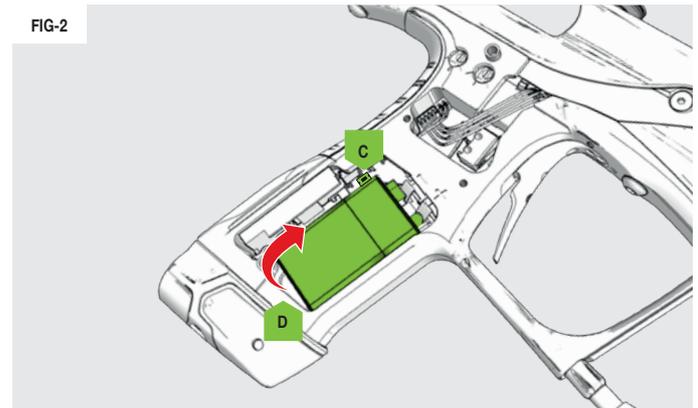


FIG-2



# WARNING!

DO NOT use poor quality batteries.



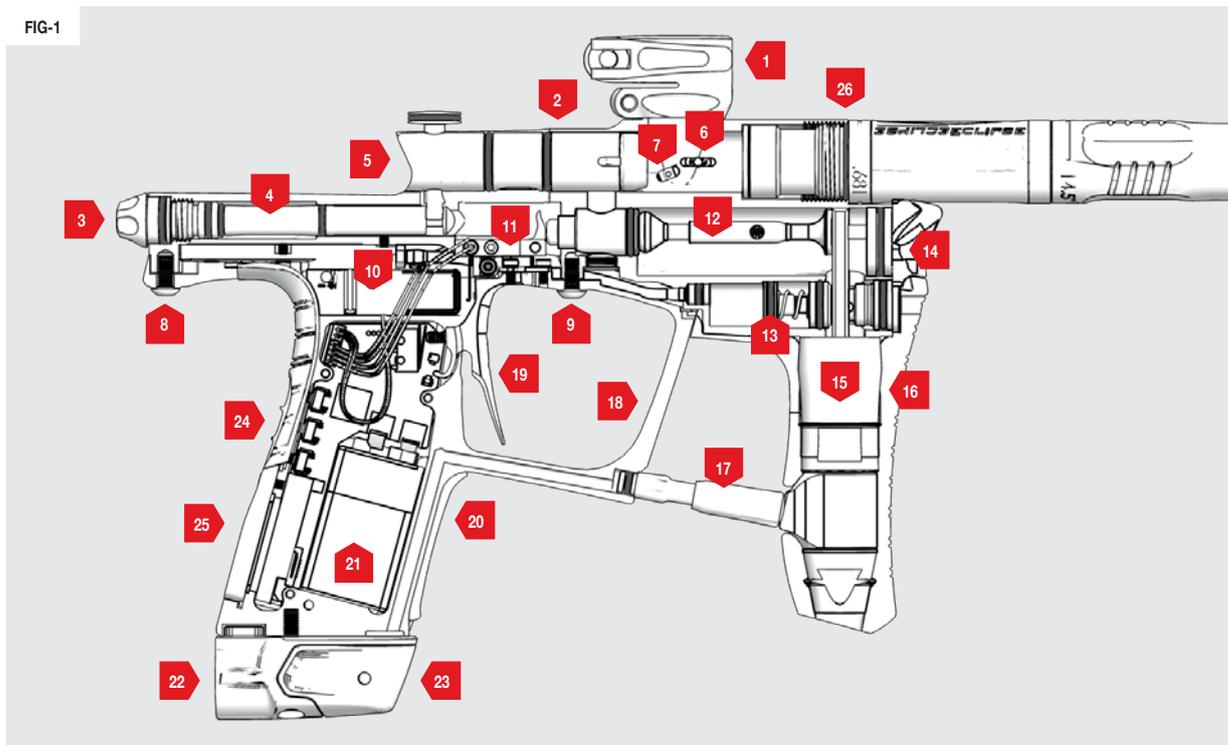
SYMPTOM	POSSIBLE CAUSE	SOLUTION	
The marker will not switch on.	Battery needs replacing.	Replace the battery.	
	New battery has drained on the shelf.	Replace with another battery.	
	Battery is fitted incorrectly.	Fit the battery correctly aligning the terminals correctly.	
	Battery terminals are not making a proper connection with the battery.	Remove the battery, gently bend the terminals towards the battery for a better connection and replace the battery.	
The battery doesn't last very long.	The battery is low quality.	Use a fresh good quality Alkaline or Lithium battery. Do not use rechargeable batteries.	
The marker leaks from the solenoid and/or manifold.	Either of the two gaskets are damaged and/or not seated correctly in the manifold body pocket.	Ensure gasket is seated correctly.	
		Replace the gasket if damaged using the LV1.6 parts kit.	
	Solenoid valve and/or manifold is over-pressurising.	Check the LPR output pressure. Adjust accordingly.	
		Clean and inspect the LPR assembly paying particular attention to the piston o-ring, piston tip and rubber seal. Replace damaged components as required.	
		Damaged or incorrect seals on rammer.	Replace the rammer seals.
		Damaged manifold inlet barb or low pressure hose.	Check low pressure hose for cuts or replace the barb.
Damaged solenoid valve.	Replace the LV1.6 solenoid valve.		
The marker leaks down the barrel.	Damaged exhaust valve.	Replace the exhaust valve.	
	Damaged valve guide.	Replace valve guide and o-rings.	
	Incorrect o-ring on the valve guide.	Replace front o-ring on valve guide with a new #013 NBR70 o-ring.	
The marker fires but the bolt doesn't move.	The bolt pin is not located in the rammer correctly.	Lift bolt pin and align correctly with the position of the rammer.	
Gas vents quickly down the barrel once the marker is gassed up.	The exhaust valve is jammed in the valve guide.	Replace exhaust valve and valve guide as necessary.	

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Low rate of fire/rate of fire not reaching the ROF cap.	Rear solenoid flow restrictor is set too low.	Set the rear SFR to its factory level.
	The force setting of the loader is too low.	Adjust the loader force feed settings.
The marker is chopping or trapping paint.	The paint is poor quality.	Try a higher quality of paint.
	The BS is switched off.	Switch on the BS.
	The bolt is dirty causing the BS to incorrectly detect a paintball.	Clean the bolt and breech.
	The BS is dirty causing the incorrect detection of paintballs.	Clean the BS.
	Incorrectly seated rubber bolt tip.	Replace the rubber bolt tip.
	Damaged rubber bolt tip.	Replace the rubber bolt tip.
Low constant velocity.	The regulator output pressure is set too low.	Increase the output pressure.
	The LPR is set too low.	Increase the output pressure of the LPR.
	The solenoid flow restrictor (SFR) B is set too low.	Set SFR B to level 6-7.
	The cam-lever is incorrevtly installed.	Strip down and re-install the cam lever assembly correctly.
Low velocity first shot.	The FSD comp parameter is too low to overcome stiction on solenoid and/or rammer o-rings.	Increase FSD comp parameter.
High velocity first shot.	The FSD comp parameter is set too high.	Reduce FSD comp parameter.
	The inline regulator pressure is creeping.	Strip and clean inline regulator replacing piston seal if necessary.
	The LPR pressure is creeping.	Strip and clean the LPR replacing piston seal if necessary.
The trigger is very 'bouncy'.	Incorrect filter settings.	Check trigger filter and debounce settings suit your trigger setup.
	Trigger pull is too short and return strength is too low.	Return the trigger operation to standard, then adjust.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The marker does not fire.	The POPS is not fully engaged.	Push the POPS bonnet back until it engages.
	The solenoid flow restrictors (SFRs) are set too low.	Set the SFRs to their factory settings.
	The battery quality or charge level is very low.	Install a new high quality Alkaline battery.
	The battery is flat.	Replace te battery.
	The Training mode is enabled.	Disable Training mode.
	The Dwell parameter is set too low.	Increase the Dwell parameter.
	The trigger is set up incorrectly.	Set up the trigger correctly so that it pulls freely.
	The solenoid is not plugged into the PCB.	Plug solenoid wire into the port on the PCB.
	The BS is enabled but there is no paint in the breech.	Fill loader with paint.
	The OPTO sensor/micro-switch is not being activated.	Adjust the trigger accordingly.
	The PCB is damaged.	Replace the PCB.
Velocity drop-off during rapid fire.	The battery quality or charge level is low.	Install a new high quality Alkaline battery.
	The solenoid flow restrictor (SFR) is set too low.	Increase the SFR settings to factory default.
	The air system regulator flow is too low.	Try another air system.
	Dirty/partially blocked regulator.	Strip, clean, lubricate and rebuild the regulator.
The Breech Sensor (BS) does not appear to be reading correctly.	The BS is dirty.	Access and clean the Breech Sensors.
Two or more balls are being fed into the breech.	Worn/damaged detents.	Replace the rubber detents.
	The feed force is too high from the loader.	Adjust the loader settings accordingly.

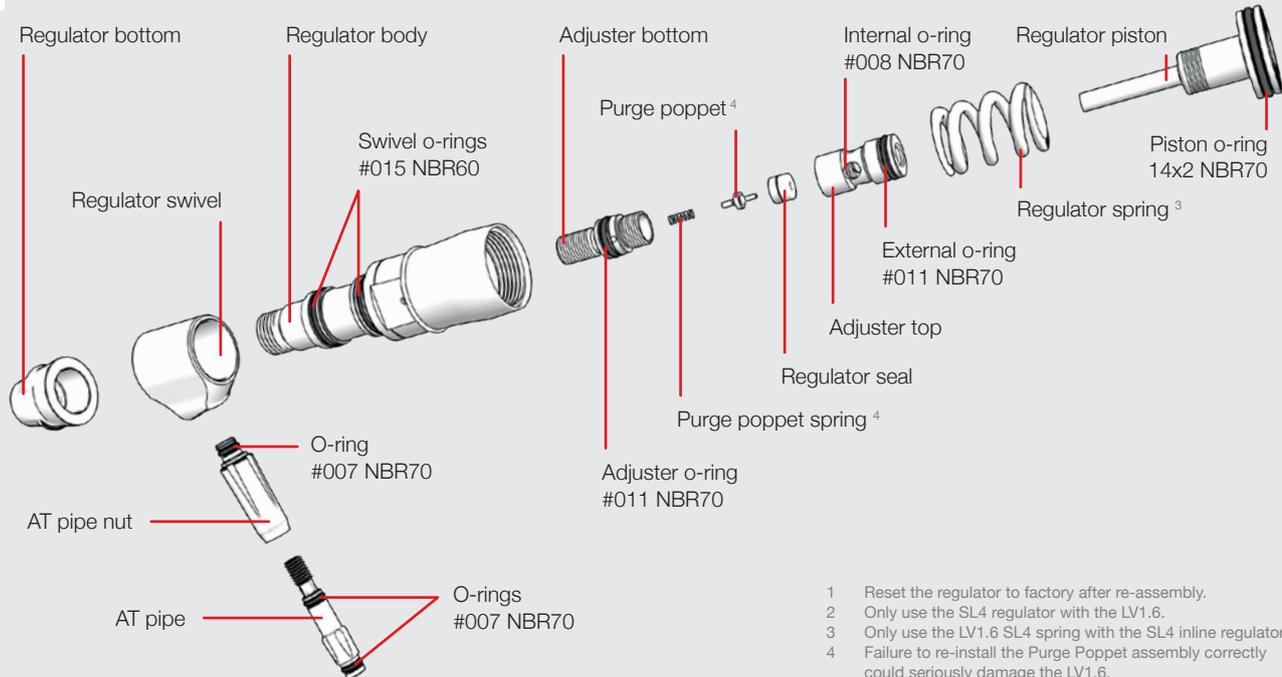
SYMPTOM	POSSIBLE CAUSE	SOLUTION
The BS is not reading at all.	The Breech Sensors are the wrong way around.	Check that the red receiver is on the right-hand side of the breech.
	There is a broken wire or contact, or a short circuit on either of the breech sensor cables.	Check the plug and cables.
		Check for cuts or pinches in the sensor cables.
The Breech Sensor turns itself off after firing and the display shows the BS fault icon.	Either sensor is back to front.	Check that the sensors face each other when installed.
	The sensor is dirty.	Clean the BS.
	The sensor is faulty.	Replace the BS units.
The marker is inconsistent.	The sensor is out of place.	Reinstall the BS. Check alignment.
	The inline regulator is supercharging.	Strip and clean the regulator replacing the regulator seal.
	The Dwell is too low.	Increase the Dwell parameter.
	The front SFR is set too low.	Increase the front SFR setting.
	Poor quality paintballs.	Use better quality paintballs.
	Poor paintball size to barrel bore match,	Use a closer paintball/bore size match.
The marker is inefficient.	Inconsistent air supply from air system.	Use a better quality air system.
	The Dwell is excessively high.	Reduce the Dwell parameter.
	LPR is set too high.	Reduce the LPR setting.
Low rate of fire.	Poor paintball size to barrel bore match,	Use a closer paintball/bore size match.
	The rear SFR is set too low.	Increase the rear SFR setting.
Leaking rammer assembly (louder when bolt is removed).	The front rammer shaft o-ring has deteriorated.	Replace the front rammer shaft o-ring.
The marker leaks from the LPR body vent hole (behind foregrip crown).	LPR piston o-ring or either of the two LPR body o-rings are damaged or dirty.	Clean and inspect the o-rings. Replace if damaged.

FIG-1



- 
- |    |                                      |    |                                  |
|----|--------------------------------------|----|----------------------------------|
| 1  | Low rise clamping feed tube assembly | 14 | Valve plug                       |
| 2  | Marker body                          | 15 | SL4 inline regulator assembly    |
| 3  | Rammer cap                           | 16 | Foregrip sleeve                  |
| 4  | Rammer assembly                      | 17 | Air Transfer Pipe assembly (ATP) |
| 5  | Bolt assembly                        | 18 | Frame assembly                   |
| 6  | Rubber detent                        | 19 | Trigger assembly                 |
| 7  | Breech sensor (BS) unit              | 20 | Rubber grips                     |
| 8  | Rear frame screw                     | 21 | 9V battery                       |
| 9  | Front frame screw                    | 22 | AT2 Push On Purge System (POPS)  |
| 10 | Solenoid assembly                    | 23 | AT2 POPS bonnet                  |
| 11 | Cam assembly                         | 24 | Navigation console               |
| 12 | Valve assembly                       | 25 | LCD display                      |
| 13 | LPR assembly                         | 26 | Barrel o-ring #016 NBR70         |

FIG-1



- 1 Reset the regulator to factory after re-assembly.
- 2 Only use the SL4 regulator with the LV1.6.
- 3 Only use the LV1.6 SL4 spring with the SL4 inline regulator.
- 4 Failure to re-install the Purge Poppet assembly correctly could seriously damage the LV1.6.

# TECHNICAL INFORMATION

## LV1.6 BOLT ASSEMBLY

FIG-1

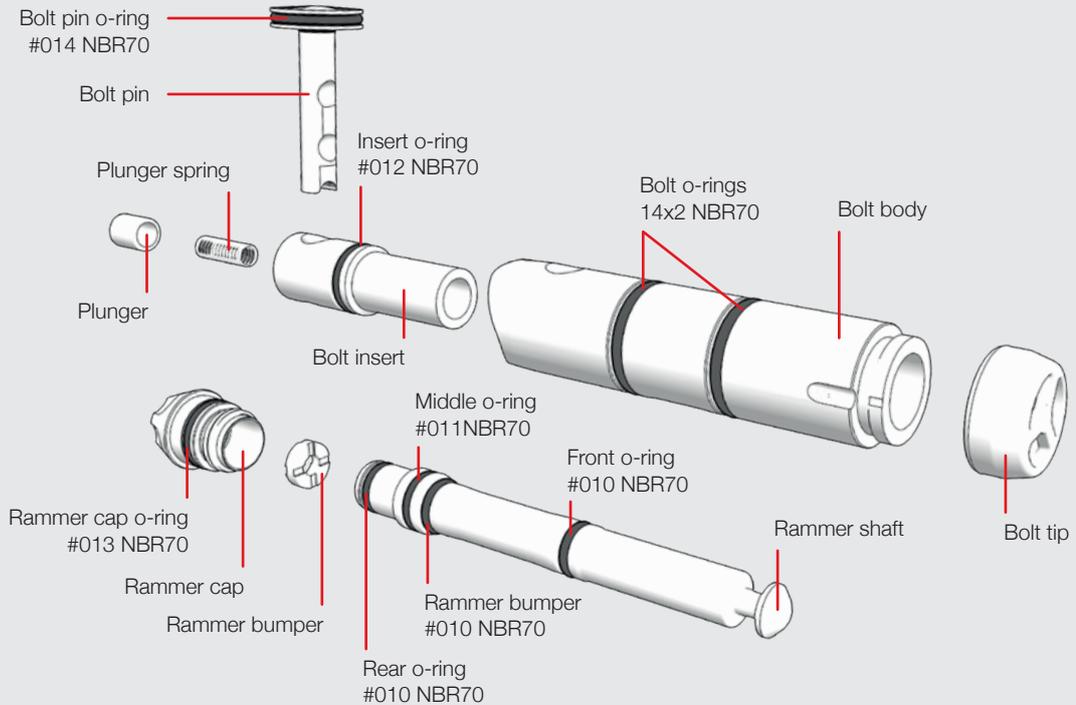


FIG-1

- A** Solenoid pilot
- B** Solenoid plug
- C** M1.7x16 (cross pan-head screws)
- D** Solenoid manifold gasket
- E** M2.5 x 5 (cap-head socket)
- F** Solenoid plate
- G** Manifold body gasket
- H** Inlet filter
- I** Manifold barb and 1/8" low pressure hose

FIG-1

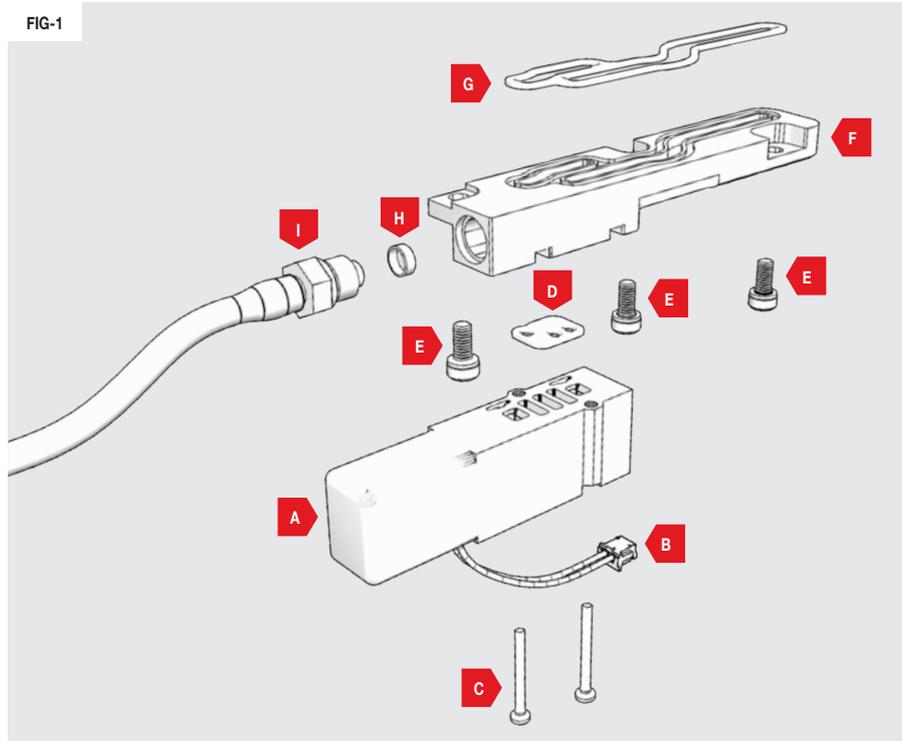


FIG-1

- A** POPS body
- B** POPS bonnet
- C** #004 NBR70
- D** POPS gasket
- E** Inlet filter
- F** Latch button
- G** Latch spring
- H** POPS screws  
10-32 UNF X1"  
Cap head socket
- I** Push rod
- J** #004 NBR70
- K** POPS insert
- L** #007 NBR70
- M** #005 NBR90
- N** POPS pin

FIG-1

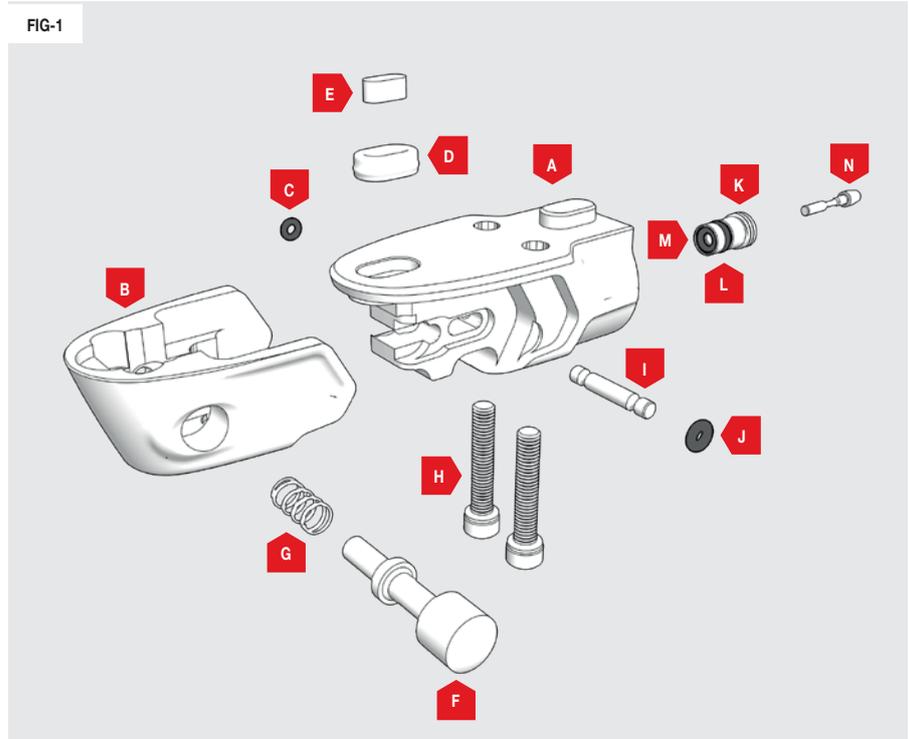
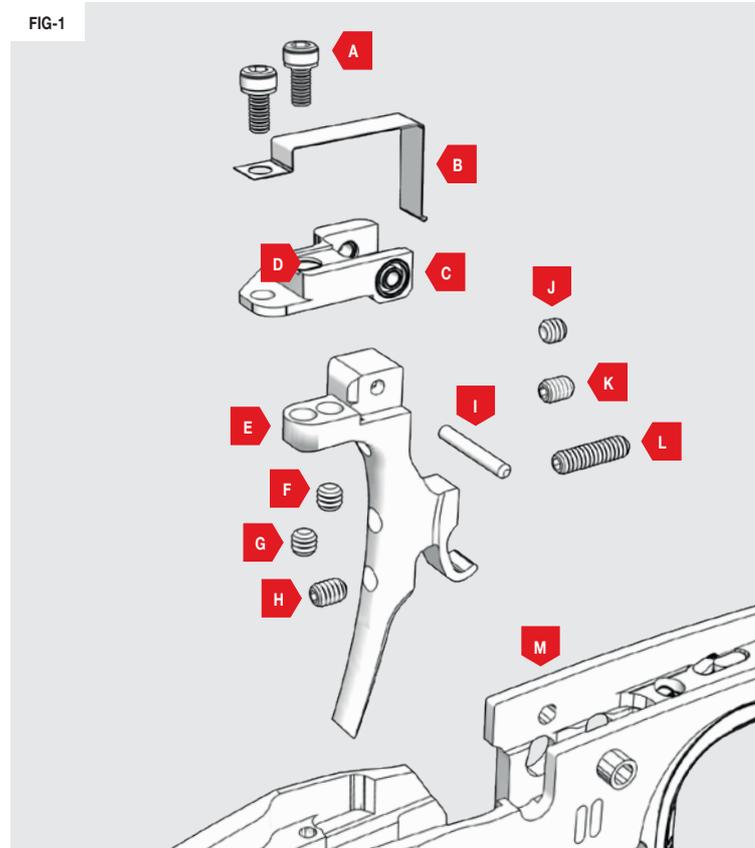


FIG-1

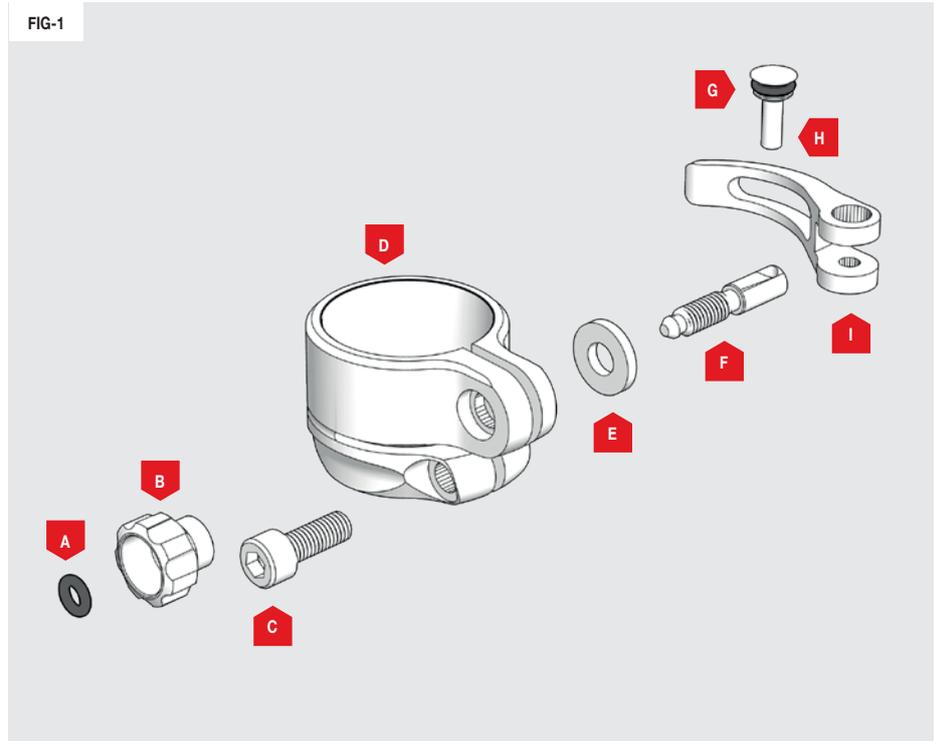
- A** Bearing carrier screws (M2.5 x 5 cap-head socket)
- B** Leaf spring
- C** Bearing carrier
- D** Magnet
- E** Trigger
- F** Pre-travel adjuster screw (6-32 UNC x 1/8" socket set)
- G** Magnet adjuster screw (6-32 UNC x 1/8" socket set)
- H** Post-travel adjuster screw (6-32 UNC x 3/16" socket set)
- I** Trigger pin
- J** Trigger pin locking screw (6-32 UNC x 1/8" socket set)
- K** Spring adjuster screw (6-32 UNC x 3/16" socket set)
- L** Micro-switch screw (6-32 UNC x 1/2" socket set)
- M** LV1.6 frame

FIG-1



**FIG-1**

- A** Clamping feed nut o-ring  
#004 NBR70
- B** Clamping feed nut
- C** Short clamping feed screw  
10-32 UNF x 1/2"
- D** Feed tube
- E** Feed insert
- F** Machined clamping feed screw
- G** Feed swivel o-ring  
#006 NBR70
- H** Feed swivel
- I** Feed lever

**FIG-1**

**FIG-1**

Using a flat-head screw driver you can adjust the front and rear SFRs.

For factory settings adjust both the front and rear SFRs to the 12 o'clock position.

**A** Rear SFR

**B** Front SFR

NOTE: The SFR's control the speed of the bolt and rammer. The Front SFR controls the speed in the forward direction. Moving the SFR towards the + symbol will increase the forward speed. Moving it towards the - symbol will decrease the speed. Setting the speed too low will cause low and inconsistent velocity.

The Rear SFR controls the speed of the bolt and rammer in the rearward direction. Moving the SFR towards the + symbol will increase the rearward speed. Moving it towards the - symbol will decrease the rearward speed. Setting the speed too low will cause very slow rates of fire.

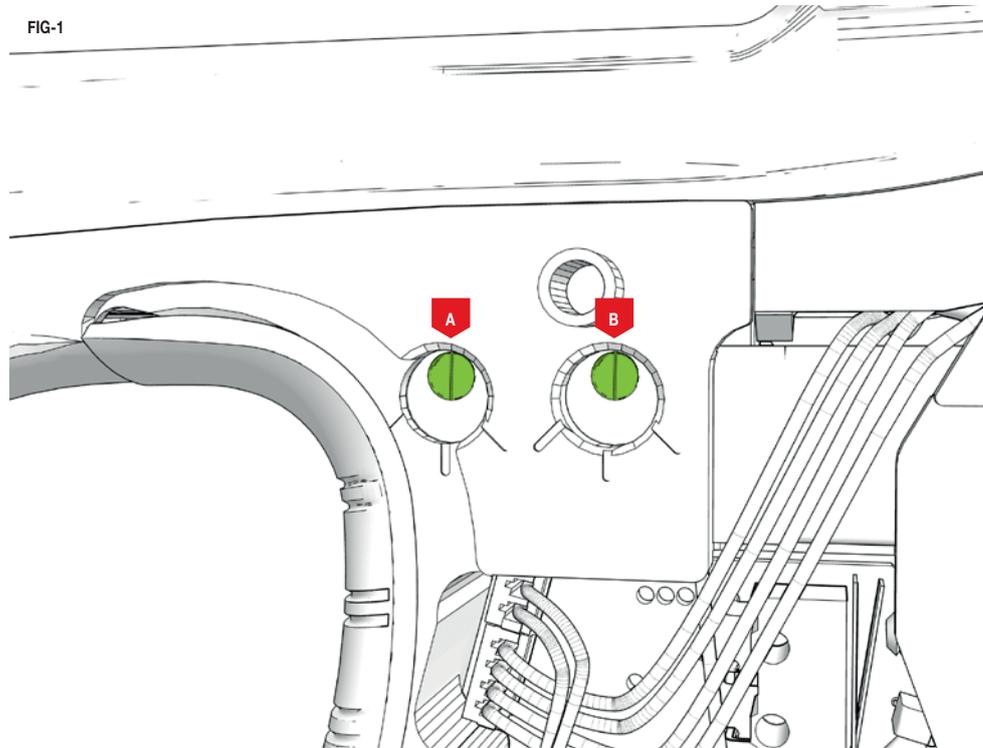
**FIG-1**

FIG-1

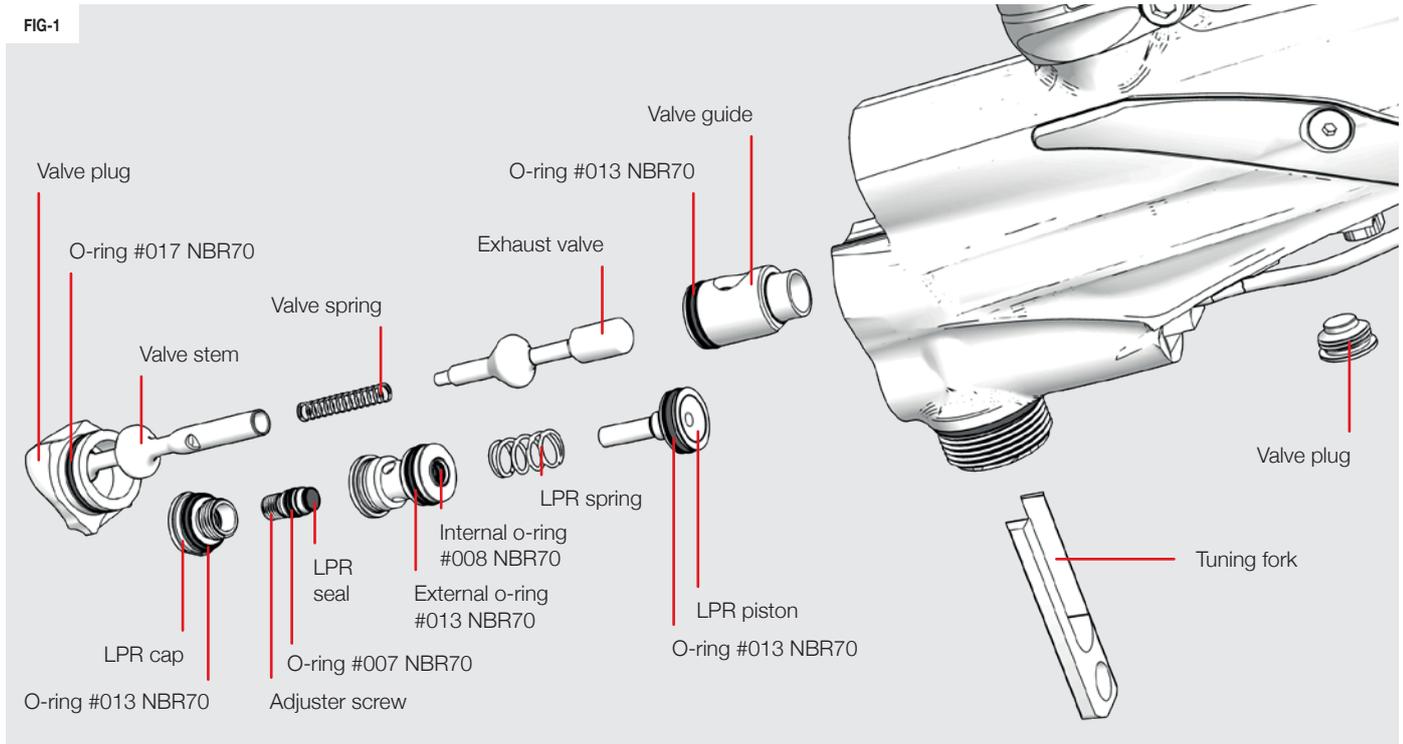
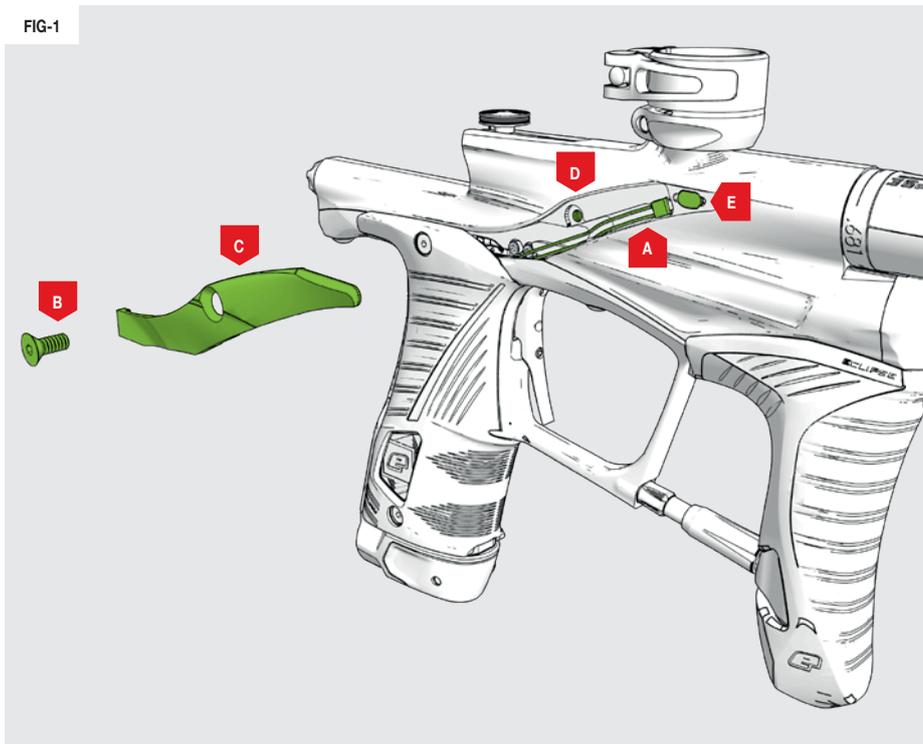


FIG-1

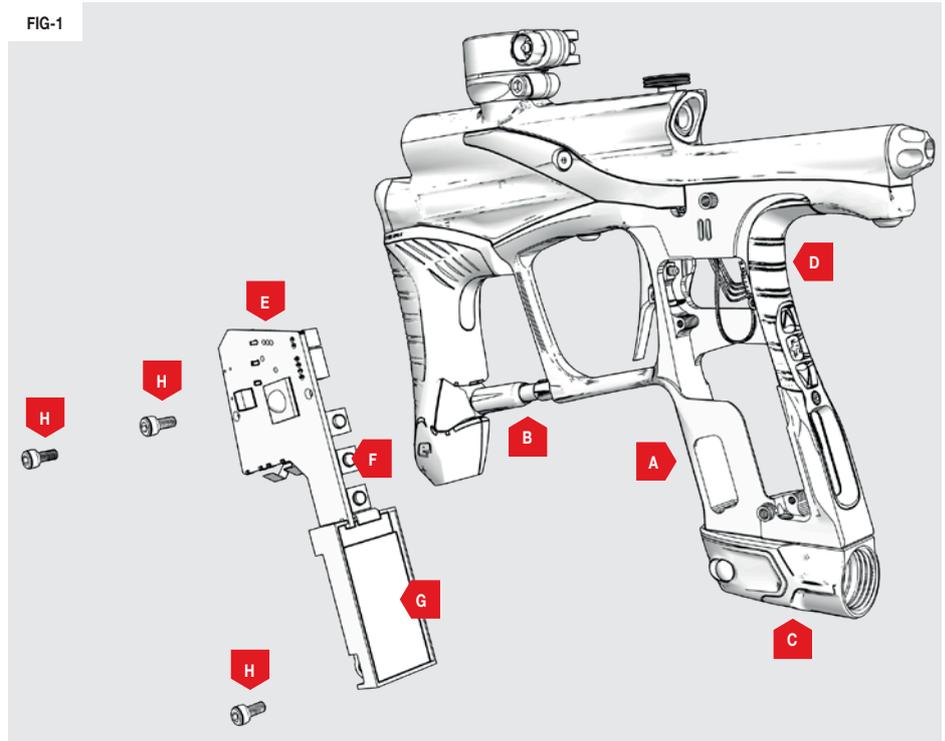
- A** Breech sensor and wires
- B** Breech sensor screw
- C** Breech sensor cover
- D** Breech sensor screw thread
- E** Rubber detent

FIG-1



- A** LV1.6 frame
- B** AT Pipe
- C** POPS assembly
- D** Rear grip section
- E** LV1.6 Circuit board
- F** Push button console
- G** LCD screen
- H** LV1.6 Circuit board screws (x3)  
M2.5 x 5 socket cap-head

FIG-1



**FIG-1**

E-portal 2 is a PC application that lets you connect to your LV1.6 via a USB cable. Amongst other things you can use E-portal 2 to:

- 1 Upgrade the LV1.6 firmware.
- 2 Change the start-up splash screen.
- 3 Modify control parameters.

The E-Portal 2 kit comprises a programming adapter, USB cable and Windows software on CD-ROM. This kit can be purchased from the website below.

**System requirements**

Monitor Resolution - 1024x768 or higher

1GHz processor

1Gb RAM

Microsoft® Windows® 7 / Windows® 8 / Windows® 10 1

10Mb of storage space

- 1 Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Purchase E-Portal 2 from our marker support page:  
[PLANETECLIPSE.COM/EPORTAL/V2](http://PLANETECLIPSE.COM/EPORTAL/V2)

**WARNING!**

Ensure the marker is fully unloaded before connecting to a PC. The air system and loader should be disconnected and any paintballs should be removed from the breech of the marker.

**SUPPORT**

As an Eclipse customer you will have access to our worldwide technical support network that will help you with any technical problems from localised service centres to on-site\* tech support.

**WARRANTY**

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\* Conditions apply, see online policies for full details at [planeteclipse.com](https://www.planeteclipse.com)

**A**

Air system: 07,19,46,47,60  
Air transfer pipe: 04,20,49  
Alarm: 37,41  
AT pipe: 20,59  
Auto off: 35

**B**

Backlight: 34,40  
Barrel: 02,07,19,21,44,47  
Batteries: 04,21,43,44  
Battery indicator: 13  
BLU level: 34,40  
Breach sensor: 08,09,10,27,38,47,58  
BS: 04,08,09,10,25,27,28,38,39,45,46,47,49

**C**

Cam: 49  
Circuit board: 59  
Click tone: 33  
CO2: 03,07,62  
Compressed air: 07,19  
Contrast: 35

**D**

Dbl click: 35  
Debounce: 31,39,45  
Detent: 49,58  
Double-click: 08,35  
Dwell: 30,39

**E**

Empty: 31,39  
E-portal: 04,60

**F**

Factory: 11,25,26,33,38,42,45,46,50,56  
Feed-neck: 07,19  
Filter: 31,39,45,53  
Fire mode: 27,38  
Firmware: 14,60  
Frame: 04,49,62  
Frame screw: 49  
FSD comp: 30,39  
FSD dly: 30  
Full: 31,39,61,65

**G**

Game timer: 09,37,41  
Gauge: 36,41  
Grip: 17,43,59  
GRN level: 34,40

**H**

Hardware: 33,40

**K**

Kick in: 29,39

**L**

LCD: 08,17,34,35,37,40,49,59  
Linear: 28,39  
Loader: 07,19,27,31,45,46,60  
Lock indicator: 13,62  
LPR: 04,42,44,45,47,49,57

**M**

Magnet: 54,62  
Magnet adjuster screw: 16  
Maintenance: 02,04,22  
Marker settings: 08,26,38  
Microswitch: 11,33,62  
Microswitch screw: 16

**N**

Navigation console: 08

**O**

OFF: 07,08,10,19,23,24,25,27,33,36,38,  
40,41  
ON: 05,07,08,14,19,24,25,27,28,33,36,  
38,40,41  
OPTO: 11,32,33,39,40,46

**P**

Parameters: 04,13,23,25,26,27,28,29,30,  
31,32,33,34,35,36,37,38,60  
Pops: 04,07,19,46,49,53,59  
Post-travel screw: 16  
Preset regulator: 07  
Presets: 26  
Pre-travel screw: 16  
Pull PT: 32,39  
Pull TM: 32,39

**R**

Rammer: 49,51  
Ramp: 23,25,27,28,38,39  
Rate: 10,27,28,29,38,39,45,47  
RED level: 34,40  
Regulator: 02,03,04,07,45,46,47,49,50  
Release PT: 32,39  
Release TM: 32,39  
Restart: 29,39  
ROF cap: 27,38

**S**

Select button: 08,14,23,24,35,37  
Semi: 25,26,27,28,38  
Semi shots: 29,39  
SFR: 04,42,45,46,47,56  
Shot count: 36,41  
Software: 14,31  
Solenoid: 04,39,44,49,52,63  
Sound: 09,12,33,37,40  
Sound indicator: 09,12  
Spring return screw: 16  
Step: 28,39  
Sustain: 29,39  
Swivel: 50,55

**T**

Timing: 30,39  
Tournament lock button: 04,17  
Training: 10,24,36,40  
Trigger: 08,09,11,16,27,28,29,31,32,33,36,  
39,40,41,45,46,54  
Trigger detection indicator: 09

**V**

Valve: 49,57  
Velocity: 03,15,30,42,45,56

**W**

Warning: 03,07,08,15,16,17,19,20,21,42,  
43,60  
Warranty: 61,65





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7,556,032; 7,591,262; 7,617,819; 7,617,820; 7,640,925; 7,640,926; 7,866,308;

**APPLICATION NUMBERS:**

12/256,832; 12/613,958; 12/493,777; 11/654,721; 11/747,107; 12/503,504; 11/781,821;  
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