



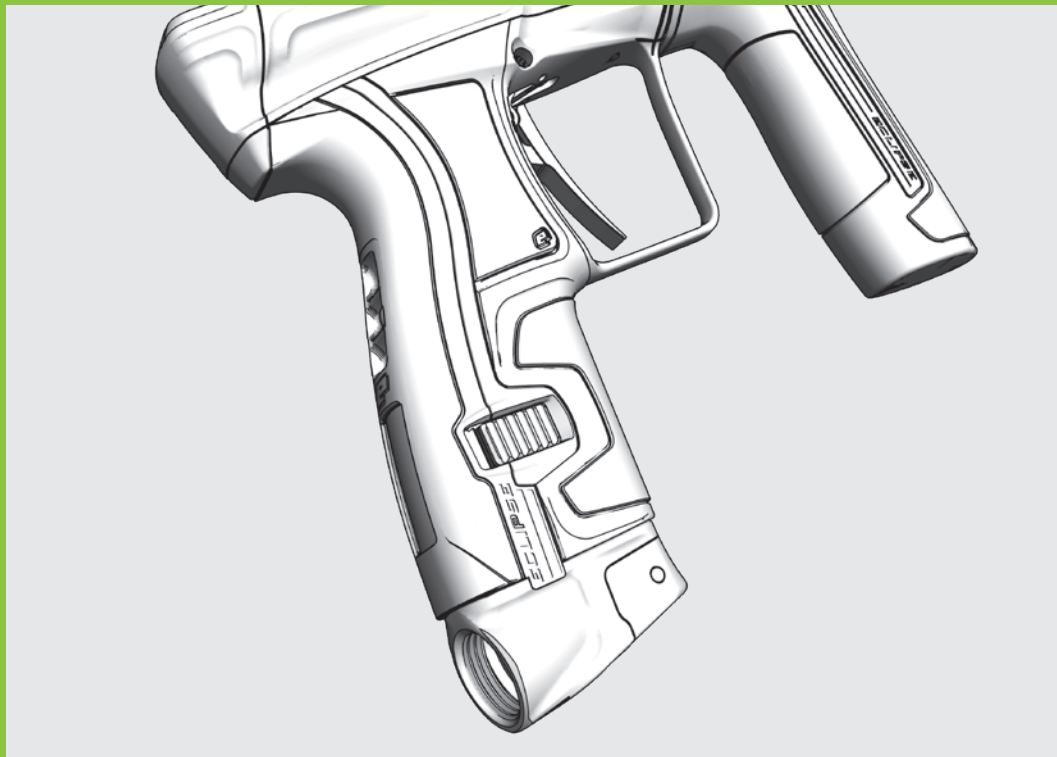
# PLANET ECLIPSE: CS2

USER MANUAL / ENGLISH

CS2























.68  
CAL

POWERED BY











# WARNINGS

## READ CAREFULLY BEFORE USE

-  **THE PLANET ECLIPSE CS2 IS NOT A TOY. PAINTBALL SAFETY RULES MUST BE FOLLOWED AT ALL TIMES.**
-  Careless or improper use of the CS2, 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 CS2.
-  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 CS2 whilst the marker is switched on and able to fire.
-  Keep the CS2 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 CS2 when not in use.
-  Always remove paintballs from the CS2 when not in use.
-  Do not field strip or remove any parts while the marker is pressurised.
-  Do not pressurise the CS2 without all the components of the marker correctly installed, as high-pressure gas may be emitted.
-  Do not fire the CS2 without the bolt correctly installed.
-  Never put your finger or any foreign objects into the paintball feed tube of the CS2.
-  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 CS2 before disassembly.
-  Always remove the first stage regulator and relieve all residual gas pressure from the CS2 for transport and storage.
-  Always follow guidelines given with your first stage regulator for safe transportation and storage.
-  Always store the CS2 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 CS2.
-  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 CO2.
-  Always follow instructions, warnings and guidelines given with any first stage regulator you use with the CS2.
-  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.



FOLLOW OUR OFFICIAL PLANET ECLIPSE SOCIAL MEDIA CHANNELS TO KEEP UP TO DATE WITH OUR TECH SUPPORT EVENTS CALENDAR.





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 CS2.**

- 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 CS2 or the loader.

## WARNING!



Always make sure the marker is Off with a barrel blocking device installed and that no paintballs are in the CS2 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 CS2 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 CS2 until you feel confident with your ability to handle the marker safely and responsibly.

# INTRODUCTION

## SWITCHING THE CS2 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 CS2 On or Off and change the marker settings.

### Switching ON the CS2

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

### Switching OFF the CS2

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 once to switch off the CS2.

### Firing the CS2

Pull the trigger to fire the CS2. The breech sensor (BS) will indicate whether the CS2 is able to fire.

To switch the breech sensor ON/OFF push and hold **B** for 0.5 seconds. See page 10 for BS indicator details.

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

FIG-1



## WARNING!



DO NOT dry fire your CS2 as this may lead to damage over a sustained period of dry firing.



# INTRODUCTION

## USER INTERFACE RUN-SCREEN

**FIG-1**

After power-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 between firing mode, game timer, shot count, peak ROF, average ROF and splash run screens.
- B** The breech sensor (BS) indicator (see page 10 for BS indicators and their meanings).
- C** The factory preset indicator.
- D** The trigger detection indicator (see page 11).
- E** The sound indicator.
- F** The Bluetooth indicator.
- G** The lock indicator. (To change the lock state see page 13).
- H** The battery level indicator.

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 CS2 can be fired up to the selected rate of fire.



### BS enabled and NO ball is detected

The CS2 cannot be fired.



### BS disabled

The CS2 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 has been cleared and a ball is detected

The CS2 can be fired up to the selected rate of fire.



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

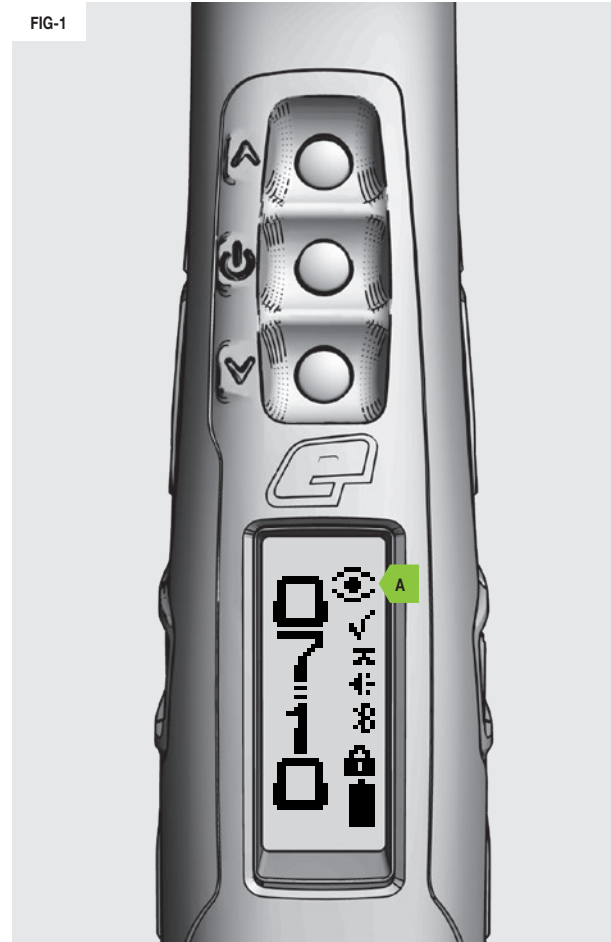
The CS2 cannot be fired.



### BS fault detected

Breach Sensor is temporarily disabled. The CS2 can be fired up to a rate of fire that is 2bps lower than that set by the BS OFF ROF parameter.

FIG-1



# INTRODUCTION

## FACTORY PRESET / TRIGGER DETECTION INDICATOR

**FIG-1**

Factory Presets are default sets of parameters designed to control the firing mode of the CS2 to conform to the rules of various paintball leagues and venues.

The Factory Preset Indicator **A** shows whether or not the current marker settings have been selected from the available Factory Presets.



### Factory Preset

The parameters conform to a factory preset.



### Not a Factory Preset

The parameters do not conform to a factory preset.

### The Trigger Detection Indicator

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



### Microswitch actuated

The trigger is in a pulled state.



### Microswitch not actuated

The trigger is in a released state.

**FIG-1**




# INTRODUCTION


## SOUND / BLUETOOTH INDICATOR

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.

### The Bluetooth Indicator

The Bluetooth indicator **B** shows the status of the on-board Bluetooth system. See page 33 for more details.

 **Bluetooth enabled**  
Bluetooth is On.

 **Bluetooth disabled**  
Bluetooth is Off.

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.



### Estimated battery

The battery level is not accurate until the CS2 is fired.

FIG-1



# 14

## INTRODUCTION FIRMWARE VERSION CHECK / UPDATE

**FIG-1**

To check which version of firmware your CS2 is currently running simply follow the sequence below.

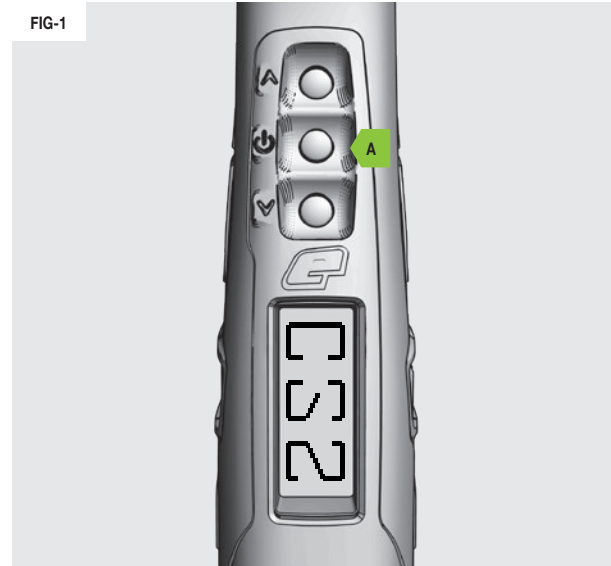
- 1 Push and hold the Select button **A** to switch the CS2 ON.
- 2 When the CS2 logo appears let go of the Select button.
- 3 The version screen (Fig-2) will now be displayed.<sup>1</sup>

**FIG-2**

The Pri number **A** indicates the software version of the Primary circuit board and the Sec number **B** indicates the software version of the Secondary circuit board.

<sup>1</sup> If you push and hold the Select button again once the version screen appears, this screen will pause and show until you release the Select button.

**FIG-1**



**FIG-2**





**FIG-1**

The CS2 velocity adjustment screw is accessed from the underside of the POPS bonnet.

With the POPS bonnet in the rear (engaged) position, 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 CS2 from firing.

## WARNING!

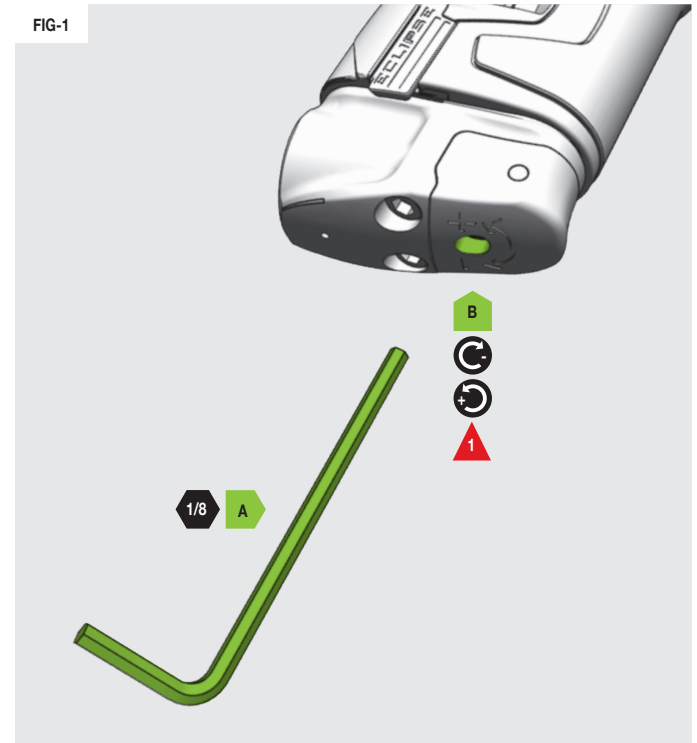


DO NOT exceed 300FPS.

Always wear correct protective equipment when firing your marker.

NEVER leave the CS2 gassed up when unloading.

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

**FIG-1**

**FIG-1**

The rake adjustment screw **A** controls the angle adjustment of the trigger shoe. Turning the screw counter-clockwise loosens the shoe for manual angle adjustment. Clockwise locks the shoe back in place.

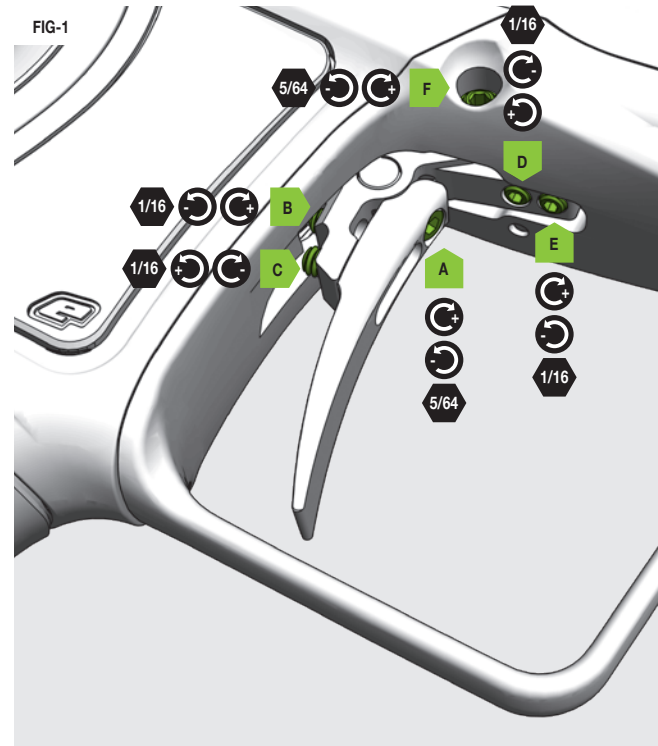
The spring return screw **B** controls the spring strength of the trigger return. Clockwise increases the strength, counter-clockwise decreases it.

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.

The trigger retaining screw **F** holds the trigger assembly in place. Remove the screw and the complete assembly can be removed through the trigger guard.



## WARNING!



Do not wind the screws in too far as this may prevent the CS2 from firing or even damage the marker. If the pre-travel screw is wound in too far this could cause the CS2 to fire unintentionally.

# 17

## INTRODUCTION THE TOURNAMENT LOCK BUTTON

**FIG-1**

To access the tournament lock button push the grip release tabs (both sides) **A** towards the front of the frame to release the rear grip section **B** then simply remove the rear grip.

**FIG-2**

Open and remove the front grip section **C**.

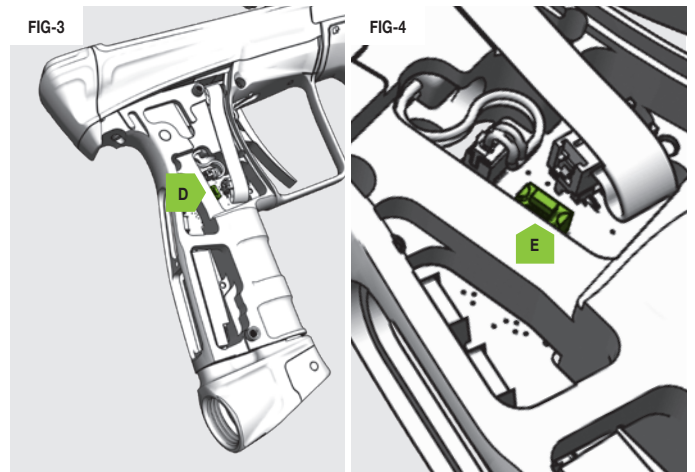
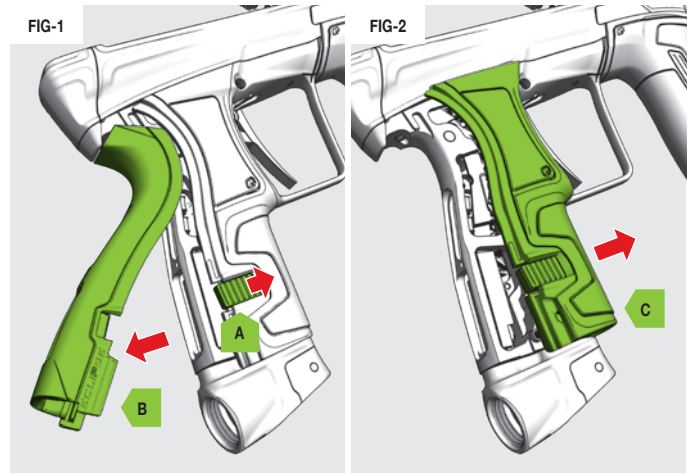
**FIG-3**

You can now locate the tournament lock button **D**.

**FIG-4**

Push the tournament lock button **E** 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** and **FIG-2**.



### WARNING!



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

# INTRODUCTION

## UNLOADING THE CS2

FIG-1

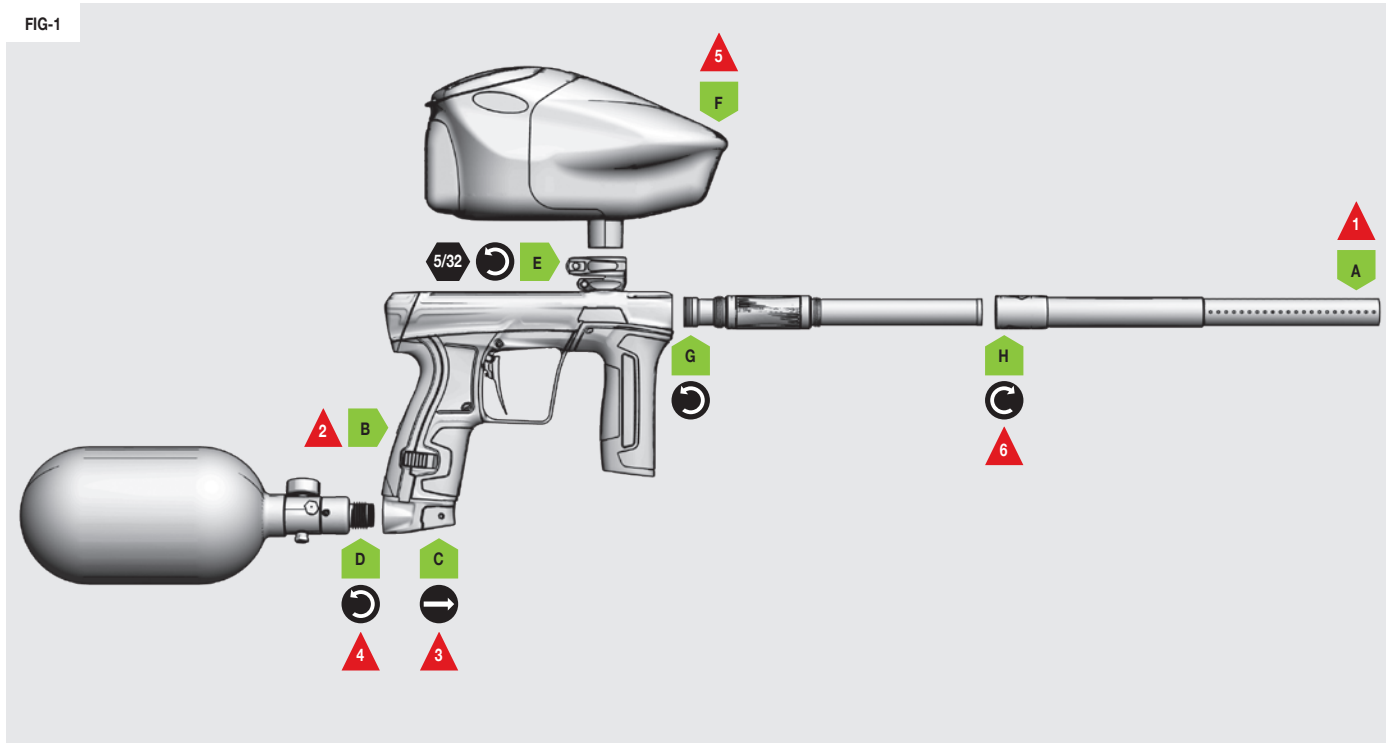


FIG-1

- 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 CS2 breech or loader before unloading.

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

NEVER leave the CS2 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 CS2.

# INTRODUCTION

## STORAGE AND TRANSPORTATION

- 1 Your CS2 must be clear of all paint and propellant during transportation or storage.
- 2 Make sure the CS2 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 CS2 in a clean, cool, dry place.
- 6 Keep your CS2 away from any unauthorized and unsafe users.
- 7 Remove the batteries when storing your CS2 to prevent unauthorized use.
- 8 Protect your CS2 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 CS2 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 CS2 (or any other paintball marker) in a suitable marker case such as the one in which it was supplied.



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## MAINTENANCE ON-LINE MAINTENANCE VIDEOS

For step-by-step maintenance videos to help you service and maintain your CS2 check out our online CS2 video playlist below.

You can also check out our other marker playlists, if required.

From simple, to more advanced CS2 maintenance videos, we got your back!

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



### United States

#### Contains transmitter module - FCC ID: A8TBM71S2

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### Canada

#### Contains transmitter module - IC: 12246A-BM71S2

This device complies with Industry Canada's license exempt RSS. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### Europe

#### Compliance testing for transmitter module

CERTIFICATION	STANDARDS	ARTICLE	LABORATORY	REPORT NUMBER
Safety	EN60950-1:2006/A11:2009/ A1:2010/ A12:2011/A2:2013	(3.1(a))	TUV Rheinland	10053210 001
Health	EN 62479:2010	(3.1(b))		10053433 001
EMC	EN 301 489-1 V1.9.2			(3.2)
	EN 301 489-17 V2.2.1	10053433 001		
Radio	EN 300 328 V1.9.1			
Notified Body Opinion	<b>CE0197</b>			10048936 001

**FIG-1**

The CS2 can be configured through editable parameters that are arranged in a menu system.

To access the menu when the CS2 is on, push and hold the Select button until the TURN OFF option is displayed. Double-clicking will also access the menu if enabled. See page 35.

The top level menu shown opposite is comprised of a number of sub-menus and a number of editable parameters.

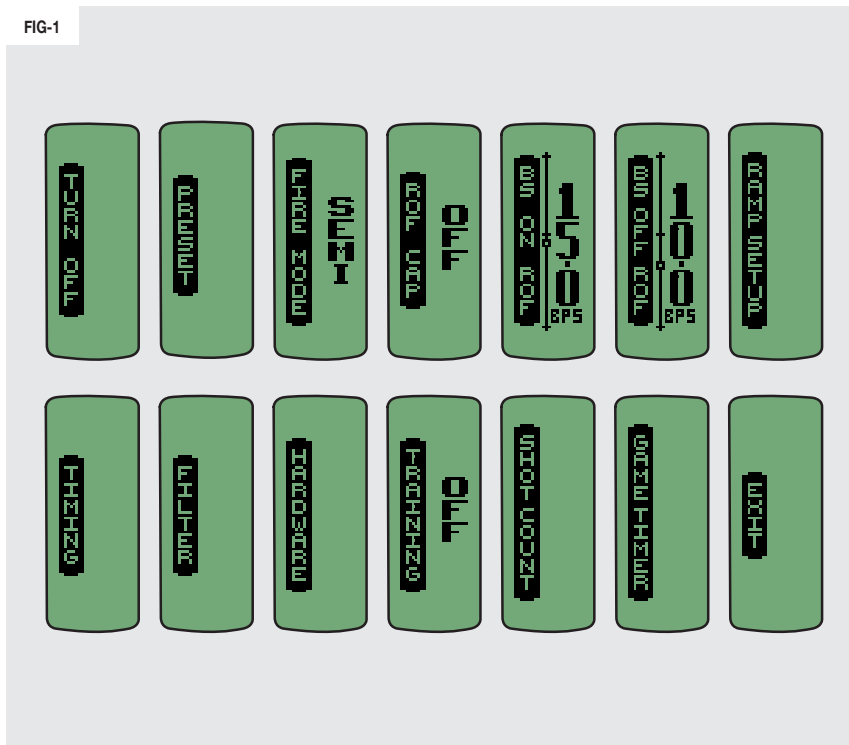
Some of the parameters affect the way the CS2 shoots. These parameters can only be modified when the tournament lock is off. See page 17.

The availability of some parameters and sub-menus is dependent upon the setting of other parameters (e.g. the RAMP SETUP menu is only available when the 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 CS2.

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

**FIG-1**


# ELECTRONICS

## NAVIGATING THE USER INTERFACE

FIG-1

Once on, use the Up and Down buttons **B** and **C** 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.

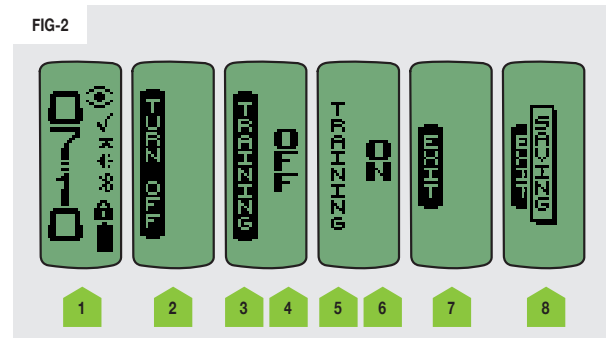
FIG-2 - Navigation example

- 1 CS2 is On.
- 2 Push and hold Select button until the TURN OFF screen 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 displayed 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



### PRESET MENU

A preset is comprised of all of the parameters that together control the way that the CS2 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 and so the CS2 can be quickly configured to comply with the rules laid down by any given league, tournament or field simply by selecting the appropriate preset.

The CS2 has a list of 10 presets and any one of those presets can be modified by the user in order to customise the CS2 to their own requirements. Any changes made will be saved.

FIG-1



### FACTORY PRESETS

The default list of presets is designed to cover all of the major tournament and field rules, these are:

- > SEMI NC: Uncapped semi-automatic.
- > SEMI 10: Semi-automatic capped at 10 bps.
- > SEMI 15: Semi-automatic capped at 15 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.
- > PSP FAST: PSP style ramping capped at 20.0 bps.
- > RETRO: NXL style ramping capped at 5.5 bps.
- > USER 1: User defined preset
- > USER 2: User defined preset
- > TRAIN: Uncapped semi-automatic training mode.

If the selected preset is a factory preset then a [ ✓ ] will be displayed on the run screen, otherwise a [ ✗ ] will be displayed.

The presets can be restored to these factory defaults by selecting the RESET item in the HARDWARE menu and choosing the FACTORY option.

### FIG-1 PRESET PARAMETERS

Select the required preset from the list of available presets (above).<sup>1,2</sup>

<sup>1</sup> Some pre-sets may only be available in certain countries and on some models of the CS2.

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

FIG-1





### FIG-1 - FIRE MODE PARAMETER

Sets the firing mode of the CS2.

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

### FIG-2 - ROF CAP PARAMETER

The maximum rate of fire the CS2 can achieve.

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

### FIG-3 - BS ON ROF PARAMETER

Sets the maximum rate of fire the CS2 can achieve with the breech sensor (BS) enabled.

This parameter is only available if the ROF CAP is set to ON.

- > Range: 4.0 - 20.0 bps (balls per second)  
In 0.1 increments.<sup>1</sup>

<sup>1</sup> Always calibrate your ROF CAP parameters to the local field meter for consistency.

### FIG-4 - BS OFF ROF PARAMETER

Sets the maximum rate of fire the CS2 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>

<sup>1</sup> Always calibrate your ROF CAP parameters to the local field ROF meter to avoid penalties.

FIG-1



FIG-2



FIG-3



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 CS2 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 CS2 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 CS2 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-1



### 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-2



### 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-3



### 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-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 CS2 will waste gas.

This parameter can be set between 15.0 and 35.0 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 1 second increments.

FIG-1



FIG-2



FIG-3



FIG-4



### FIG-1 - FILTER MENU

The FILTER menu parameters are used to tune the CS2 software filters to prevent the CS2 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 TM and RELEASE TM parameters.

- > 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 CS2 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 CS2 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-1



FIG-2





### FIG-1 - HARDWARE MENU

The HARDWARE menu contains items that are used to control the CS2 electronic hardware.

### FIG-2 - BLUETOOTH PARAMETER

Used to enable the on-board Bluetooth module.

- > ON: Enable Bluetooth
- > OFF: Disable Bluetooth

A blue LED (in the top of the trigger guard) will indicate the Bluetooth status.

- > Off: Disabled
- > Single flash: Enabled
- > Double flash: Connected

### 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 3% and 90% in 3% increments.

### 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 CS2 switches itself off.

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

### FIG-4 - RESET

This enables the user to reset all the CS2 parameters back to their factory state.

- > NO: do not perform a reset.
- > FACTORY: reset all parameters to their factory default value.

CAUTION: When FACTORY is selected this will erase all saved settings and restore the CS2 to how it was when it left the factory.

FIG-1



FIG-2



FIG-3



FIG-4



### 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 CS2.

- > 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 CS2 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 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 CS2	
	PRESET		
		SEMI NC	Load preset - semi auto with no rof cap
		SEMI 15	Load preset - semi auto with 15bps 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
		TRAIN	Load preset - uncapped semi auto training
	 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 15.0 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>🔒 RAMP TYPE</b>	STEP (Default)	STEP ramping	
		LINEAR	LINEAR ramping	
	<b>🔒 RATE *</b>	0 - 100%	Percentage LINEAR RAMP rate (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 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 pps	
	<b>🔒 RESTART</b>	0.0 - 1.0 s	Time in seconds (s) after last trigger pull during which ramping can be restarted. Default 0.0 s	
	<b>BACK</b>			
	<b>🔒 TIMING</b>			
	<b>🔒 DWELL</b>	15.0 - 35.0 ms	Solenoid energise time in milliseconds (ms) for each shot. Default 23 ms	
	<b>🔒 FSD COMP</b>	0.0 - 5.0 ms	First shot drop-off compensation time in milliseconds (ms). Default 5.0 ms	
	<b>🔒 FSD DELAY</b>	00:00 - 04:00	First shot drop-off delay. Default 00:30 seconds	
	<b>BACK</b>			
	<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)	
	<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 CS2 will fire. Default 4.0 ms	
<b>BACK</b>				

MAIN MENU	HARDWARE		
	<b>BLUETOOTH</b>	ON OFF (Default)	Turn Bluetooth on Turn Bluetooth off
	<b>SOUND</b>	ON (Default) OFF	Turn on audible indicators Turn off audible indicators
	<b>CLICK TONE</b>	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)
	<b>BACKLIGHT</b>	00:00 - 00:20 s	Time in seconds (s) that the backlight stays on for (00:00 = no backlight). Default 00:06 s
	<b>RED LEVEL</b>	0 - 100%	Percentage power level of the red backlight LED (BACKLIGHT dependant)
	<b>GRN LEVEL</b>	0 - 100%	Percentage power level of the green backlight LED (BACKLIGHT dependant)
	<b>BLU LEVEL</b>	0 - 100%	Percentage power level of the blue backlight LED (BACKLIGHT dependant)
	<b>CONTRAST</b>	3 - 90%	LCD contrast level. Default 51%
	<b>DBL CLICK</b>	ALL (Default) POWER UP NONE	Double click is fully enabled Double click to activate power up only Double click is disabled
	<b>AUTO OFF</b>	05:00 - 60:00 m	Time in minutes (m) after which the CS2 will automatically switch itself Off. Default 20:00 m
	<b>RESET</b>	NO FACTORY	Current settings retained Resets control parameters to their FACTORY state. CAUTION: Erases ALL changes
	<b>BACK</b>		
	<b>TRAINING</b>	ON OFF	Training mode enabled 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
		BACK		
		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
		BACK		
		EXIT		

The CS2 firmware may change over time.

For the most up to date versions of the CS2 user manual visit our product support section online:

[planeteclipse.com/site/product\\_support](http://planeteclipse.com/site/product_support)

# RESET

## FACTORY RESET

Follow these steps in order to reset the CS2 to the way that it left the factory.

### FIG-1

Navigate to the RESET item in the HARDWARE MENU and select the FACTORY option. See page 35.

### FIG-2

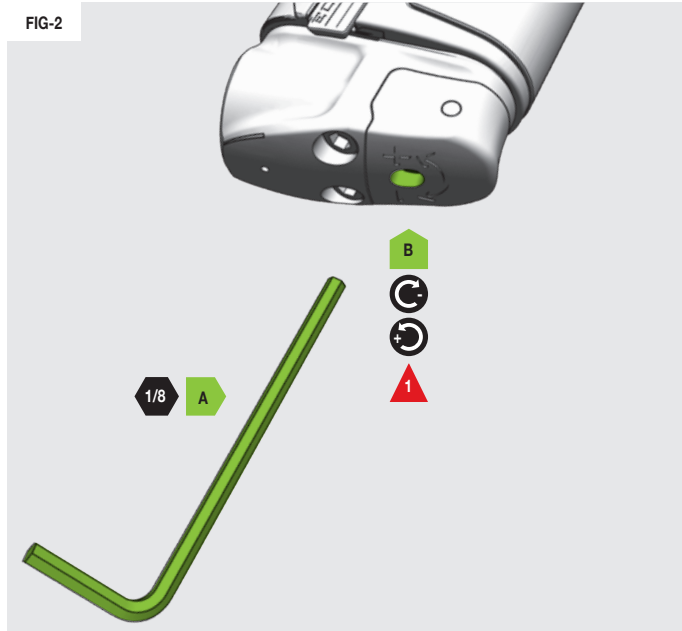
Using the 1/8 hex key **A** turn the velocity adjuster screw **B** 3 turns clockwise from it's fully screwed-out position.

**1** **DO NOT** turn the adjuster screw in too far. This will prevent the CS2 from firing.

FIG-1



FIG-2



# RESET

## INSTALLING THE BATTERIES

The CS2 uses 2 x AA (LR6, 1.5V) batteries situated in the foregrip.

Switch off the CS2 before you begin.

### FIG-1

Pull the foregrip **A** away from the body to expose the battery holder **B**.

### FIG-2

Pinch the locking battery housing clips **C** and remove the housing from the bottom **D**.

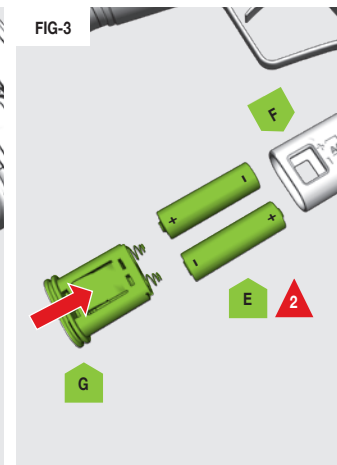
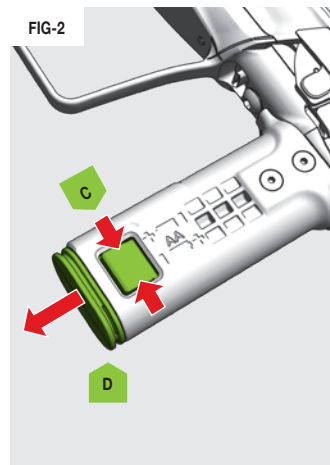
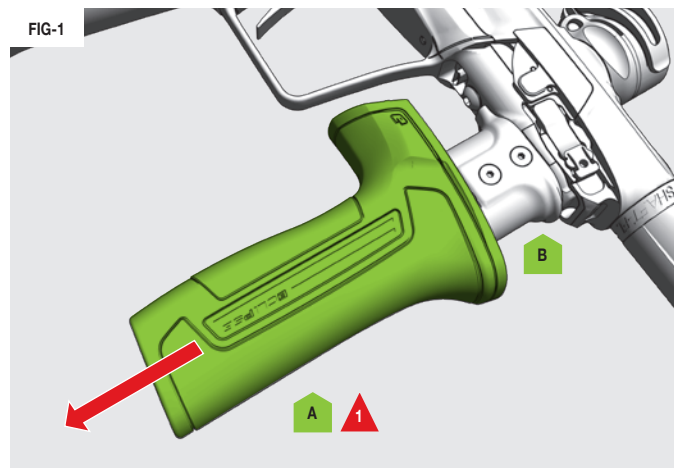
### FIG-3

Insert two new AA batteries **E** into the battery holder **F** ensuring the batteries are facing the correct way for the terminals (+ and - symbols are clearly visible on the battery holder body).

Re-insert the locking battery housing **G** and replace the rubber foregrip as per **FIG-1**.

**1** **ALWAYS** pull in a straight, downwards motion **NOT** at an angle or with a twist.

**2** **DO NOT** use poor quality batteries.



# FAULT FINDING

## FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The CS2 does not cycle fully.	The bolt assembly is dirty or incorrectly lubricated.	Clean, re-lubricate and replace the o-rings on the bolt as necessary.
	The DWELL parameter is set too low.	Increase the DWELL parameter.
	A sticky or faulty solenoid spool in the solenoid body.	Check the spool, clean and replace seals as necessary.
	There is a fault with the solenoid pilot.	Replace the solenoid pilot.
	The batteries' power is low or the batteries are of a poor quality.	Replace the batteries. Use alkaline or lithium batteries. Always use high quality batteries.
	The paintballs are too tight in the barrel.	Use a better paintball to barrel bore size match.
The CS2 is inconsistent.	The DWELL parameter is set too low.	Increase the DWELL parameter.
	Using poor quality paintballs.	Use better quality paintballs.
	A poor paintball to barrel bore match.	Use a better paintball to barrel bore size match.
	The inline regulator requires servicing.	Strip and clean inline regulator. Replace o-rings and regulator seal.
	Poor / inconsistent air supply to the POPS.	Use a good quality preset air system.
The CS2 is inefficient.	Poor Spool performance.	Clean and grease rear spool seals. Check condition of spool spring.
	A poor paintball to barrel bore match.	Use a better paintball to barrel bore size match.
Rate of fire is low and can't be altered.	Issues with the loader	Try different loader. Replace loader batteries. Check force and sensitivity settings.
The CS2 has low velocity on the first shot.	The FSDO parameters are set too low to overcome o-ring stiction.	Adjust FSD COMP and FSD DLY parameters.
	The bolt assembly is dirty or incorrectly lubricated.	Clean, re-lubricate and replace the o-rings on the bolt as necessary.

# FAULT FINDING

## FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
CS2 has velocity drop-off during rapid fire.	The batteries are poor quality or have insufficient charge.	Replace the batteries. Use alkaline or lithium batteries. Always use high quality batteries.
	Air system/regulator doesn't flow fast enough to keep up.	Use a good quality preset air system.
	The bolt assembly is dirty or incorrectly lubricated.	Clean, re-lubricate and replace the o-rings on the bolt as necessary.
	Poorly maintained inline regulator.	Strip, lubricate and rebuild the inline regulator.
The CS2 is breaking paintballs in the barrel or the breech.	The loader has too high a force feed setting.	Adjust the loader to a lower force feed setting.
	The ball detents are damaged or missing.	Replace the ball detents.
	Poor quality paintballs.	Use better quality paintballs.
	The breech sensor is switched off.	Switch on the breech sensor.
	A poor paintball to barrel bore match.	Use a better paintball to barrel bore size match.
	Unseated rubber bolt tip.	Reseat the rubber bolt tip.
On power up the marker will not fire.	Missing or damaged rubber bolt tip.	Replace the rubber bolt tip.
	The trigger is permanently depressed.	Adjust the trigger until the selected trigger detection method is deactivated when the trigger is released.
Constant high velocity / Unable to lower velocity to desired fps.	Output pressure of the preset regulator is too high.	Use a preset regulator with an output pressure below 650 psi. Consult the preset regulator manufacturer for possible faults / maintenance requirements.
Although a fresh battery has been fitted, the CS2 will not switch on.	The batteries have drained on the shelf.	Replace with new batteries.
	The batteries are fitted incorrectly.	Remove the batteries. Gently squeeze the large terminal on the battery connector to reduce its diameter. Reconnect the batteries.

# FAULT FINDING

## FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The batteries do not seem to last very long.	The batteries are of a low quality.	Use alkaline or lithium batteries. Do not use low quality or rechargeable batteries.
The CS2 leaks from the solenoid and/or manifold.	The gaskets between the body and the solenoid or the solenoid and the frame are damaged, dirty or missing.	Ensure the gaskets are clean and seated correctly. Replace the gaskets if damaged or missing using CS2 parts kit.
	Pilot valve and/or manifold are over-pressurised.	Check the output pressure of the inline regulator, adjust accordingly. Clean and inspect the inline regulator assembly paying particular attention to the piston o-ring, piston tip and regulator seal. Replace damaged components as necessary.
	Damaged or incorrect seals on the solenoid spool.	Replace and/or lubricate solenoid spool seals.
	Damaged CS2 SMC pilot valve.	Replace CS2 SMC pilot valve.
The CS2 leaks down the barrel.	Dirty or damaged can o-rings.	Clean and lubricate or replace 020 NBR70 and 017 NBR o-rings on the front of the can.
	Dirty or damaged o-rings on the spool.	Clean and lubricate or replace the 011 NBR70 and 012 NBR70 o-rings on the main spool.
	Dirty or damaged bolt o-rings.	Clean and lubricate or replace 14x2 NBR70 o-ring on the back of the bolt.
	Dirty or damaged rear bolt guide o-ring.	Clean and lubricate or replace 017 NBR70 o-ring on the back of the bolt guide.
Low rate of fire / rate of fire not reaching the ROF cap.	The force setting of the loader is too low.	Adjust the loader force feed setting.
	The breech sensor has detected a fault and has reduced the ROF.	Check the position and condition of the breech sensors. Clean or replace the breech sensors as required.
Low constant velocity.	The inline regulator output pressure set too low.	Increase the output pressure of the inline regulator.
High velocity first shot.	The inline regulator pressure is creeping.	Strip and clean the inline regulator replacing the piston seal.
The trigger is very "bouncy".	Incorrect filter settings.	Check that your DEBOUNCE settings suit your trigger set-up.
	Trigger pull is too short and the return strength is too low.	See page 12 for trigger adjustment guidelines.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The marker is breaking paintballs in the barrel or breech.	The ball detents are damaged or missing.	Replace the ball detents.
	The force setting of the loader is too high.	Reduce the loader force feed setting.
	The paint is poor quality.	Try a higher grade of paint.
	The breech sensor is switched off.	Switch on the breech sensor.
	The bolt and/or breech sensor is dirty	Clean the bolt and breech sensor.
	The velocity is set too high.	Check and adjust the velocity of the CS2.
	The paint is too big for the barrel bore size.	Invest in a range of barrels with different bore sizes.
The CS2 does not fire.	The CS2 is not powered up.	Power up the CS2 using the Select button on the navigation console.
	The POPS is not fully engaged.	Pull the POPS bonnet back until it engages..
	The battery quality or charge level is very low.	Install new high quality alkaline or lithium batteries.
	The batteries are flat.	Replace the batteries.
	The DWELL parameter is set too low.	Increase the DWELL parameter.
	The trigger is set-up incorrectly.	Adjust trigger correctly to fully open and close the microswitch.
	The pilot valve is not plugged into the CS2 PCB.	Plug pilot valve wire into its port on the CS2 PCB.
	Breech sensor is enabled but no paint is in the breech.	Fill the loader with paint. Check for blockages in loader or feedtube.
	The PCB is damaged.	Replace PCB.
The pilot valve is damaged.	Replace pilot valve.	
The breech sensor is not reading correctly.	The light pipes are dirty.	Keep the breech sensor light pipes clean to ensure correct readings.
	The breech sensor is fitted incorrectly.	Check that the light pipes are correctly fitted in the eye cover and the eye covers are correctly fitted and secured to the body.
	The sensors on the main board are bent or dirty.	Ensure the sensors on the main board are pointing outwards perpendicular to the board and that the lenses are clean.

# FAULT FINDING

## FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The breech sensor goes into default mode after firing and the display shows that there is a fault with the breech sensor.	The light pipes are dirty.	Clean the light pipes.
	Pocket in the breech is blocked.	Remove eye covers and clean the pockets in the breech.
	The sensors are out of place.	Check alignment of sensors on the main board.
Two or more balls are being fed into the breech.	Worn, damaged or missing ball detents.	Change the rubber ball detents.
	The feed force is too high from the loader.	Adjust loader settings/use a lower force loader.
CS2 is inconsistent.	The inline regulator is supercharging.	Strip and clean inline regulator, replace regulator seal.
	The DWELL is too low.	Increase the DWELL setting.
	Poor quality paintballs.	Use better quality paintballs.
	Poor paintball size to barrel bore match.	Use a closer paintball to barrel bore size.
CS2 is inefficient.	Inconsistent air supply from air system.	Use a good quality air system.
	Poor paintball size to barrel bore match	Use a closer paintball to barrel bore size.
The CS2 omits 3 audible beeps when switched on.	The secondary circuit board is not responding to the primary circuit board.	Check that the ribbon cable is connected at both ends.
		Make sure the orientation of the ribbon cable is correct.
		Check the ribbon cable for damage.
		Check the ribbon mounted connectors for paint or water ingress.
The CS2 omits 4 audible beeps when switched on.	The primary circuit board does not recognise the secondary circuit board.	Check the board mounted connectors for paint or water ingress.
		Determine which board is faulty and replace it.

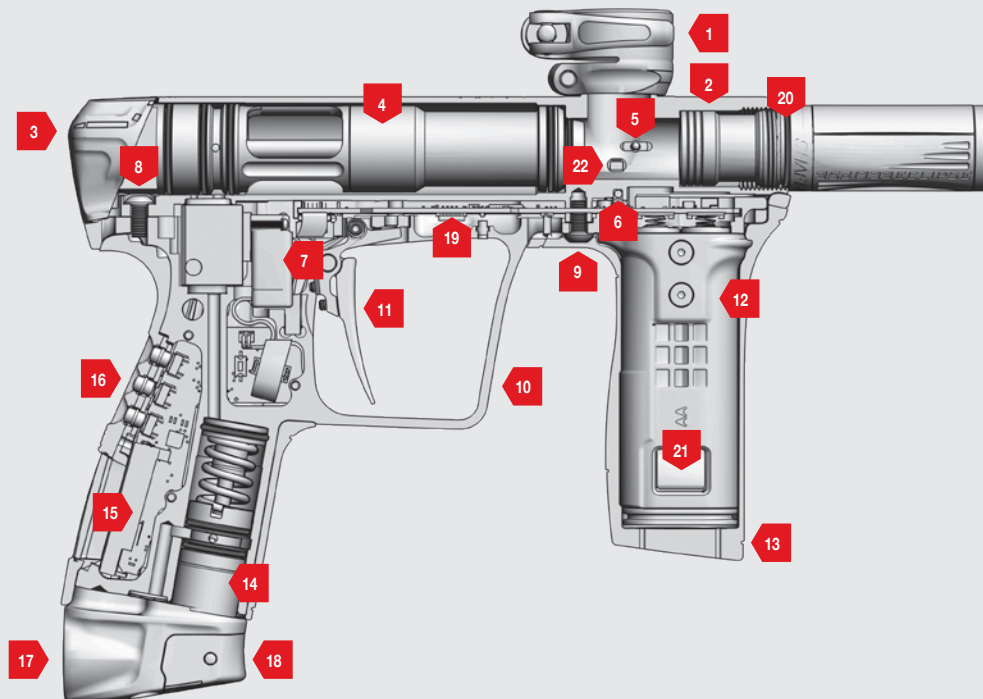


# FAULT FINDING

## FAULT FINDING TABLES

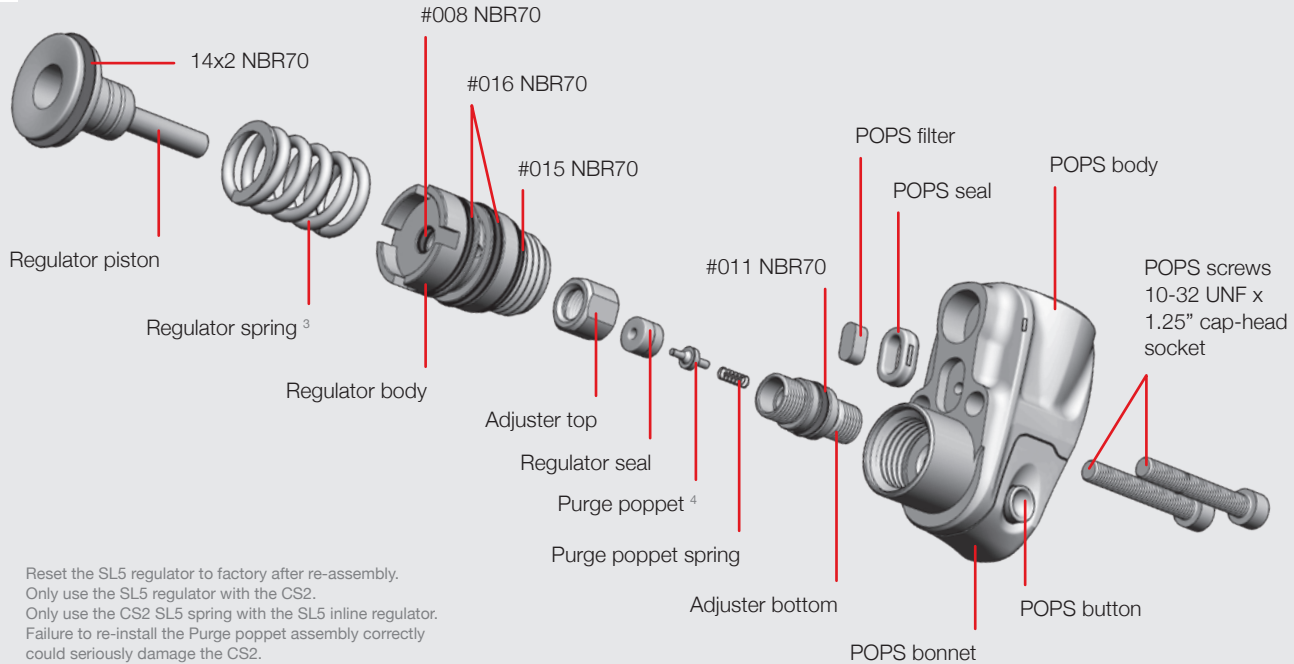
SYMPTOM	POSSIBLE CAUSE	SOLUTION
NO COMMS is shown on the CS2 LCD.	Secondary circuit board is not receiving information from the primary circuit board.	Check the ribbon cable for damage.
		Check the ribbon mounted connectors for paint or water ingress.
		Check the board mounted connectors for paint or water ingress.
BAD PID is shown on the CS2 LCD.	Secondary circuit board does not recognise the primary circuit board.	Determine which board is faulty and replace it.
BAD SID is shown on the CS2 LCD.	Primary circuit board does not recognise the secondary circuit board.	Determine which board is faulty and replace it.
BAD SVR is shown on the CS2 LCD.	The version of Firmware in the secondary circuit board is not compatible with the Firmware in the primary circuit board.	Reprogram the primary circuit board, secondary circuit board, or both.
NO PARAMS is shown on the LCD.	The secondary board has not received the control parameters from the primary board.	This message normally removes itself once parameters have been received. If not, refer to NO COMMS above.

FIG-1



- 
- 1 Low rise clamping feed tube assembly
  - 2 Marker body
  - 3 Quick-release bolt
  - 4 Bolt assembly
  - 5 Rubber detent
  - 6 Breach sensor (BS) unit
  - 7 Solenoid assembly
  - 8 Rear frame screw
  - 9 Front frame screw
  - 10 Frame assembly
  - 11 Trigger assembly
  - 12 Battery holder
  - 13 Foregrip
  - 14 SL5 inline regulator assembly
  - 15 Secondary PCB
  - 16 Navigation console
  - 17 AT2 Push On Purge System (POPS)
  - 18 AT2 POPS bonnet
  - 19 Primary PCB
  - 20 Barrel o-ring #016 NBR70
  - 21 Locking battery release
  - 22 Light pipe

FIG-1



- 1 Reset the SL5 regulator to factory after re-assembly.
- 2 Only use the SL5 regulator with the CS2.
- 3 Only use the CS2 SL5 spring with the SL5 inline regulator.
- 4 Failure to re-install the Purge poppet assembly correctly could seriously damage the CS2.

# TECHNICAL INFORMATION

## CS2 BOLT ASSEMBLY

FIG-1

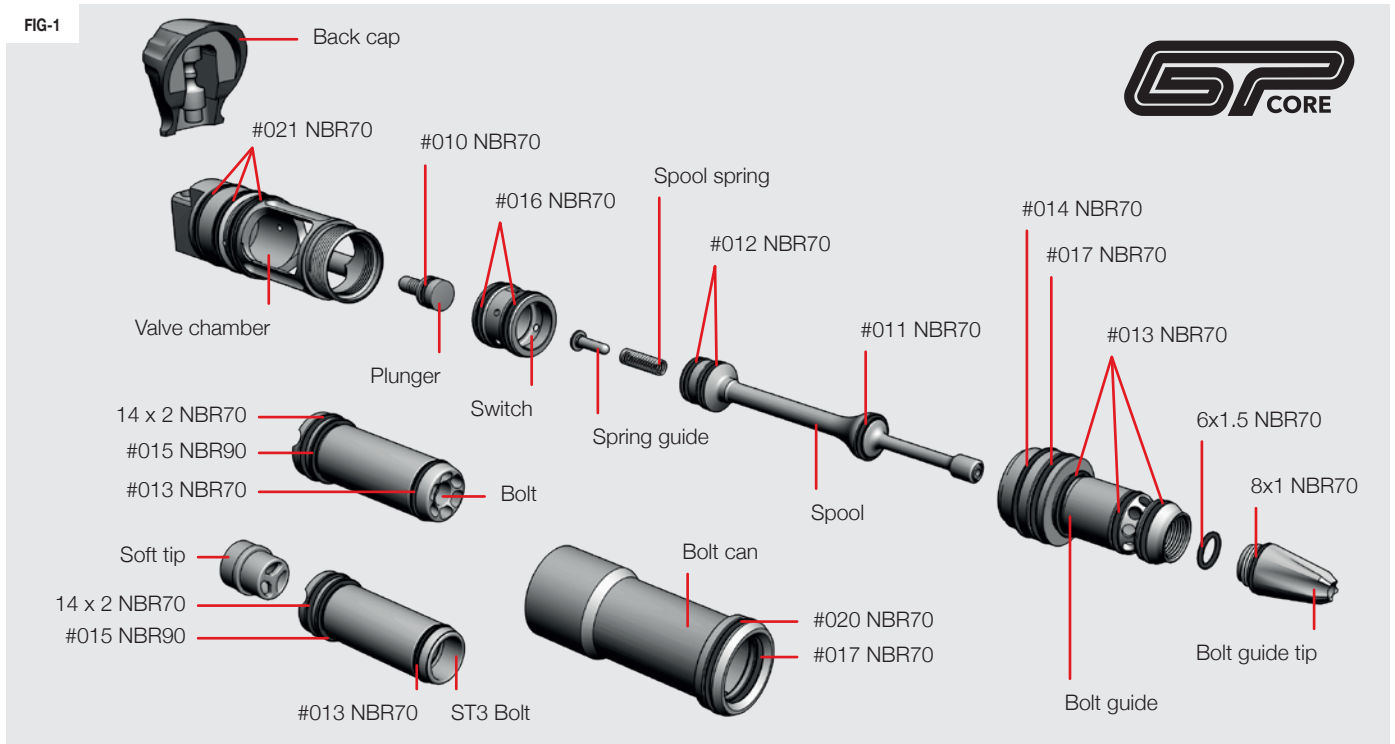
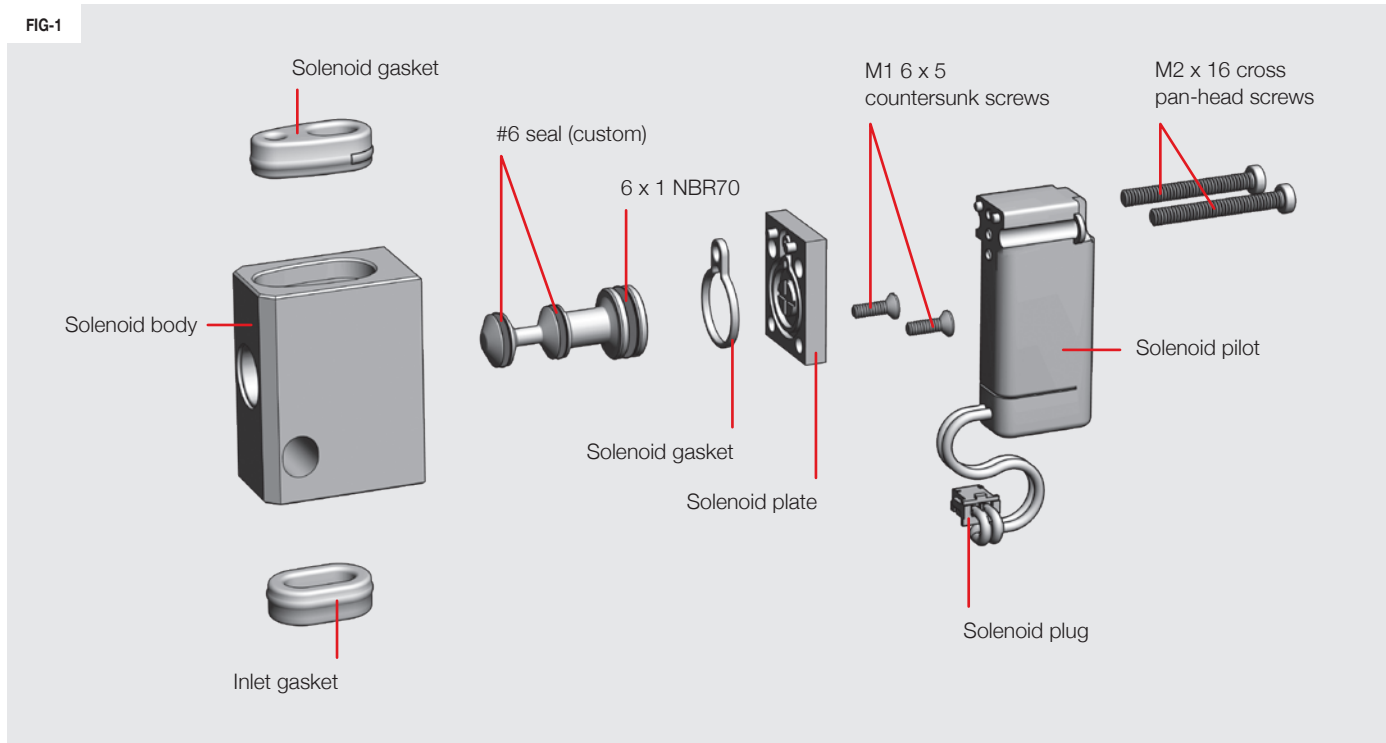


FIG-1



# TECHNICAL INFORMATION

## PUSH ON PURGE SYSTEM (POPS) ASSEMBLY

FIG-1

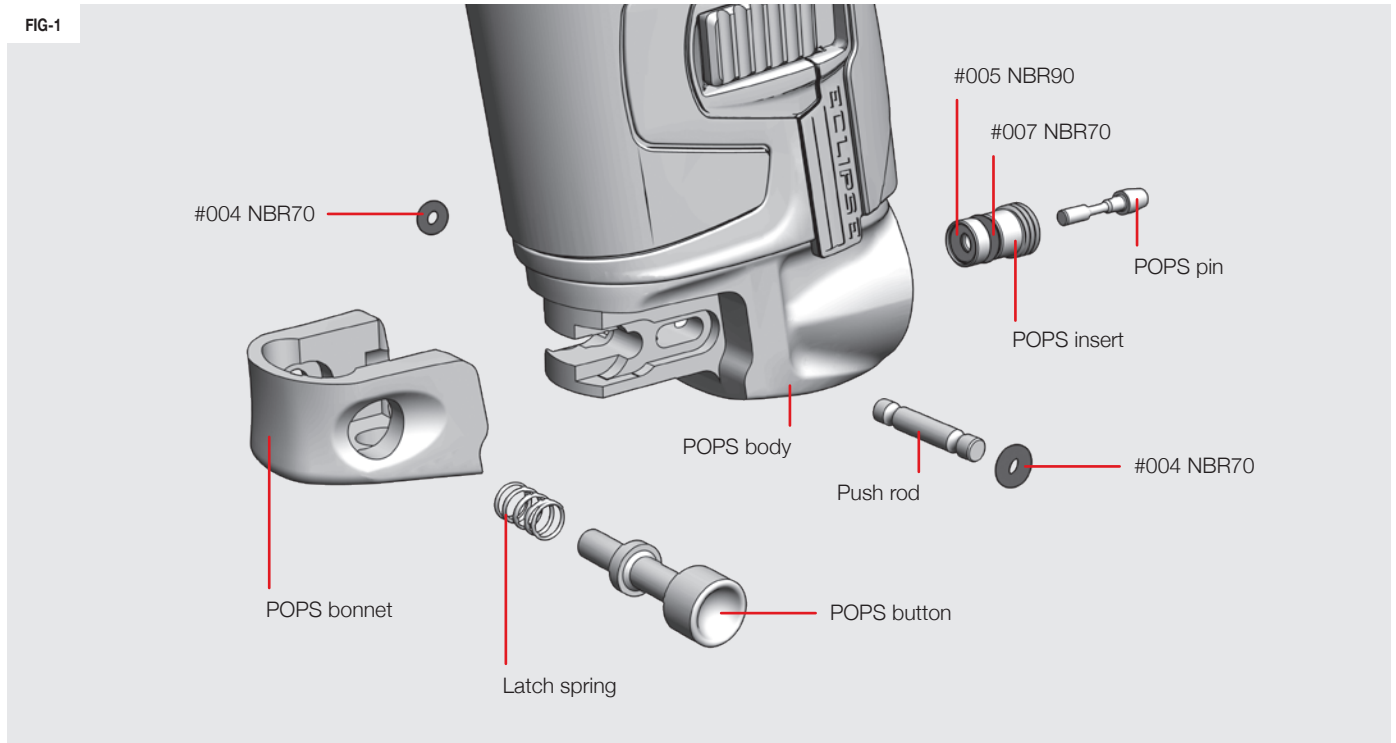
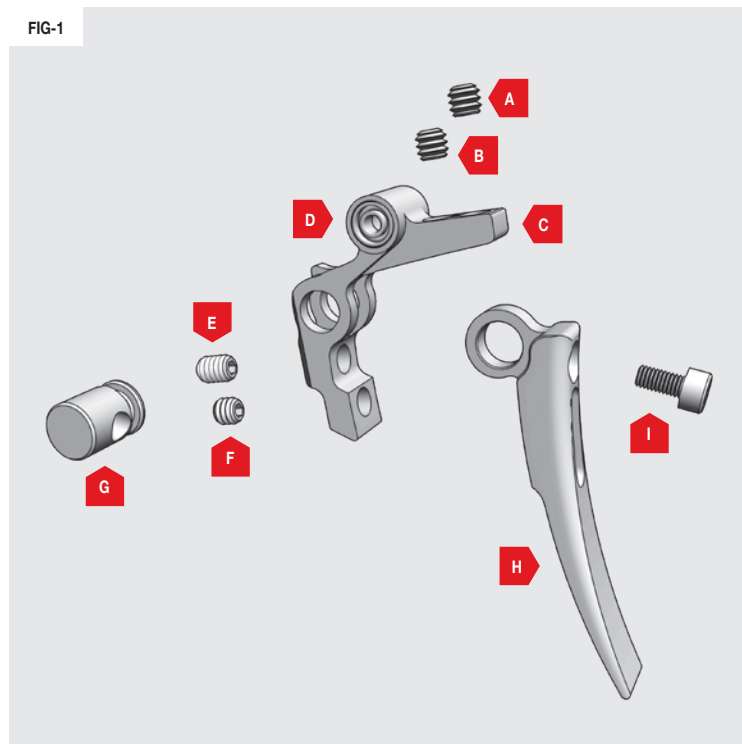


FIG-1

- A** Magnet adjuster screw  
6-32 UNC x 1/8" socket
- B** Pre-travel adjuster screw  
6-32 UNC x 1/8" socket
- C** Trigger
- D** Trigger bearings
- E** Spring return screw  
6-32 UNC x 3/16" socket
- F** Post-travel adjuster screw  
6-32 UNC x 3/8" socket
- G** Trigger axel
- H** Trigger shoe
- I** Rake adjustment screw  
M2.5 x 5 cap-head socket

FIG-1





# TECHNICAL INFORMATION

## LOW RISE CLAMPING FEED TUBE ASSEMBLY

**FIG-1**

- A** Clamping feed nut o-ring  
#006 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  
#004 NBR70
- H** Feed swivel
- I** Feed lever

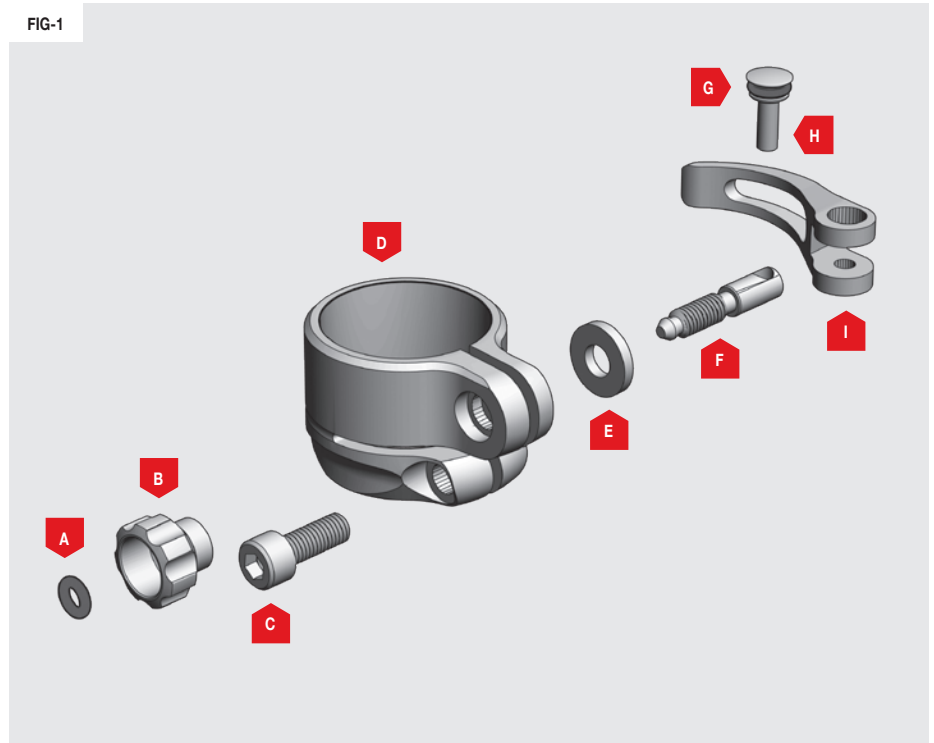
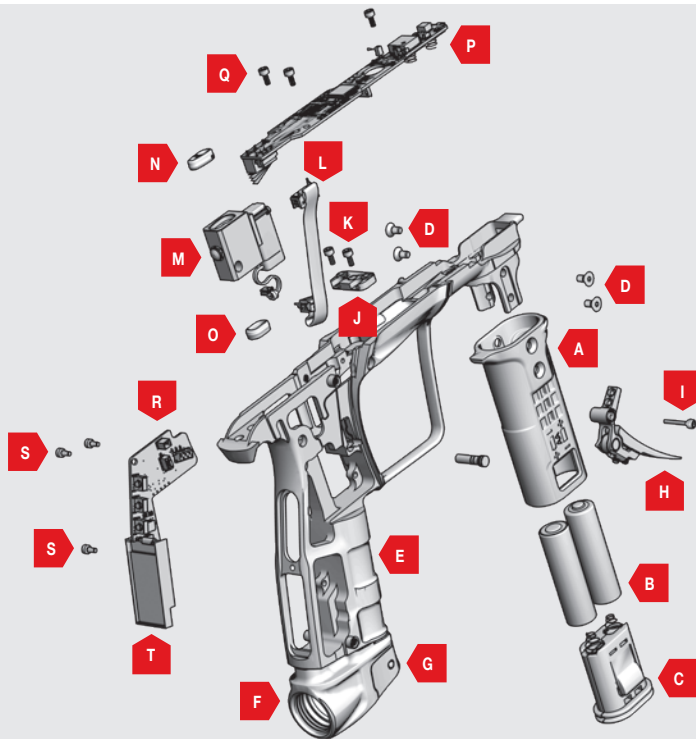
**FIG-1**

FIG-1



- 
- A** Battery holder
  - B** 2 x AA batteries
  - C** Locking battery housing
  - D** Battery holder screws (x4)  
6-32 UNC x 5/16" countersunk socket
  - E** Frame
  - F** POPS body
  - G** POPS bonnet
  - H** Trigger assembly
  - I** Trigger retaining screw
  - J** Magnet housing
  - K** Magnet housing screws  
M2.5 x 5 cap-head socket
  - L** Circuit board ribbon connector
  - M** Solenoid body
  - N** Solenoid gasket
  - O** Inlet gasket
  - P** Primary PCB
  - Q** PrimaryPCB screws  
M2.5 x 5 cap-head socket
  - R** Secondary PCB
  - S** Secondary PCB screws  
M2.5 x 5 cap-head socket
  - T** LCD display

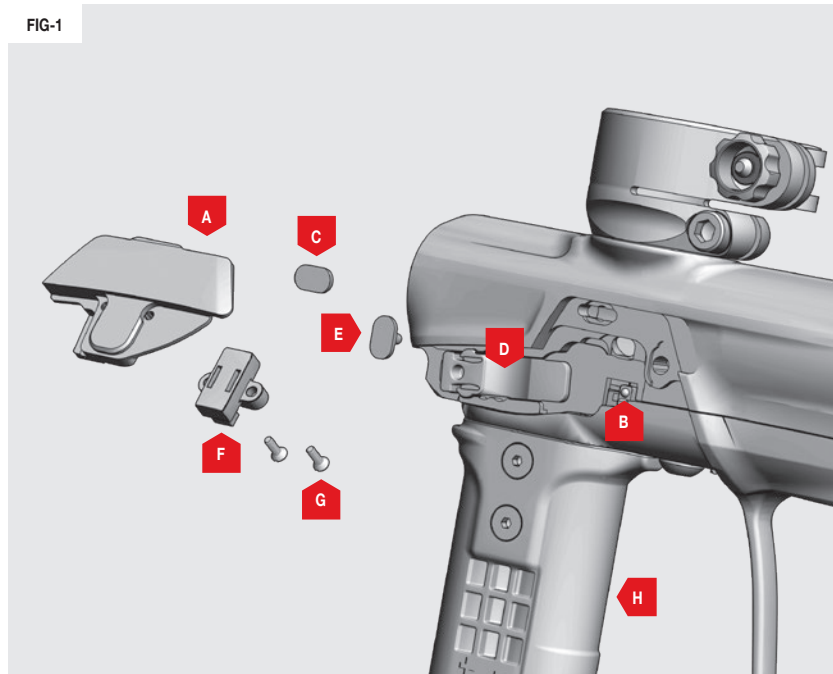
# TECHNICAL INFORMATION

## BREECH SENSOR (BS) ASSEMBLY

FIG-1

- A** Breech sensor cover
- B** Breech sensor
- C** Rubber detent
- D** Breech sensor cover retention clip
- E** Spare rubber detent
- F** Light pipe unit
- G** Light pipe unit screws  
M1 6x5 countersunk screws
- H** Battery holder

FIG-1



The CS2 has two circuit boards. One in the grip part of the frame and one in the top section of the frame where it meets the body.

### FIG-1 - CS2 primary circuit board

- A** Battery terminal springs
- B** Breech sensor modules
- C** Micro USB connector
- D** Microswitch
- E** Speaker
- F** Inter-board ribbon cable socket

### FIG-2 - CS2 secondary circuit board

- G** LCD module
- H** Navigation console push buttons
- I** Solenoid socket
- J** Tournament lock button
- K** Inter-board ribbon cable socket

FIG-1

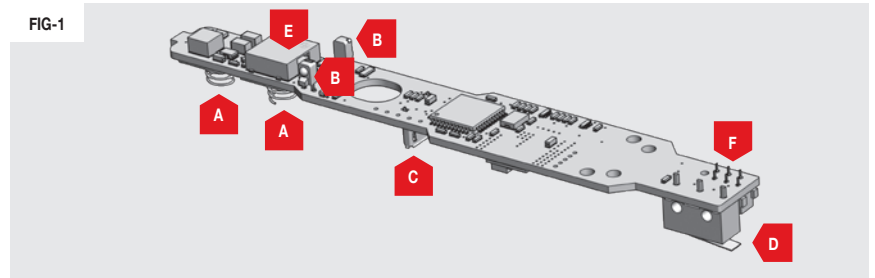
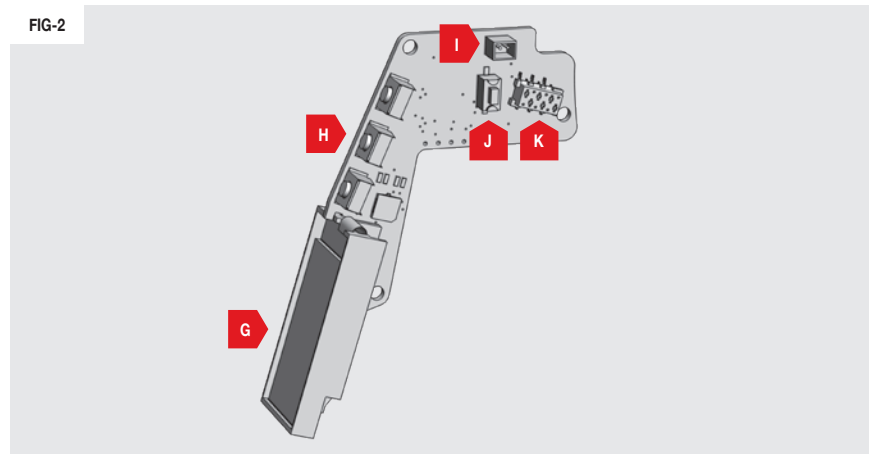


FIG-2



**FIG-1**

E-portal is a PC application that lets you connect to your CS2 via a USB cable. Amongst other things you can use E-portal to:

- 1 Upgrade the CS2 firmware.
- 2 Change the start-up splash screen.
- 3 Modify control parameters.

E-portal can be downloaded from the Planet Eclipse website (see opposite).

### System requirements

Monitor Resolution - 1024x768 or higher

1GHz processor

1Gb RAM

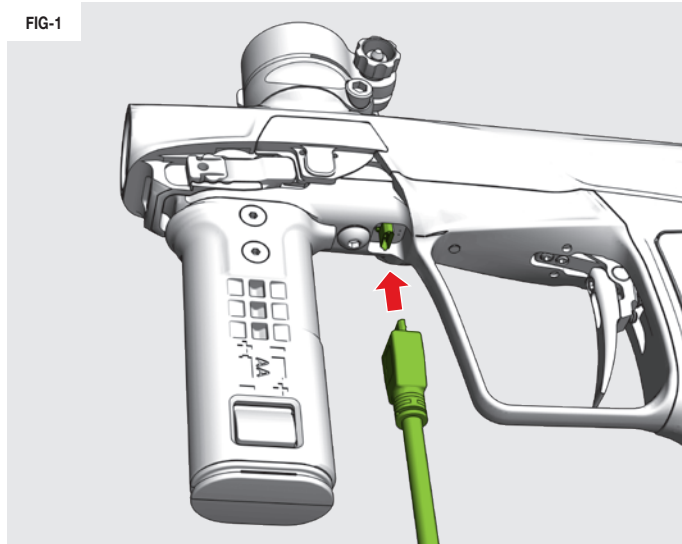
Microsoft® Windows® 7 / Windows® 8 / Windows® 10 1

10Mb of storage space

A USB 2.0 Type A - Micro B 2 cable is required to connect the CS2 to a PC. This cable is not supplied with the CS2.

- 1 Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- 2 This is the older, 5 pin Micro B connector NOT the newer USB 3.0 Micro B connector.

**FIG-1**



Download E-Portal from our marker support page below:

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

## WARNING!



Ensure the CS2 is fully unloaded before connecting to a PC. The air system and loader should be disconnected and any paintballs should be removed from the breach 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.

**QUALITY**

All Eclipse products undergo meticulous checks by experienced specialists who care about the product that arrives at your door. Stringent quality control and precision materials equates to a quality product.

**WARRANTY**

Our exceptional 12 month\* manufacturers warranty backed by our online warranty system offers peace of mind and ensures your claim will be repaired or replaced in a snap!

**STANDARD**

Your Eclipse marker is awesome and requires no aftermarket parts however, your local Eclipse Dealer will stock a range of fantastic Eclipse products and accessories that can enhance your playing style.

For more information about our Planet Eclipse Approved Tech Centres, visit our servicing page online:

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

**A**

Alarm: **37,41**

Auto off: **35**

**B**

Backlight: **34,40**

Barrel: **02,07,19,20,44,45,46,47,48**

Batteries: **04,20,43,44,45,46,47,59**

Battery: **09,13,43,45,47,51,59**

Bluetooth: **04,09,12,33,40**

Bolt: **51,53**

Breech: **02,08,09,10,19,27,31,38,39,45,46,47,48,60,62**

Breech sensor: **04,08,09,10,27,38,45,46,47,48,51,60,61**

BS: **04,08,09,10,25,27,28,38,39,51**

BS disabled: **10**

BS enabled: **10**

BS fault: **10**

**C**

Circuit boards: **04,61**

Click tone: **33**

Compressed air: **07,19**

Contrast: **35**

**D**

Dbl click: **35**

Debounce: **31,39**

Double-click: **08,35**

Down: **08,24**

Dwell: **30,39**

**E**

Empty: **31,39**

E-portal: **04,62**

**F**

Factory: **09,11,26,35,42,52**

Factory preset: **11**

Factory presets: **26**

Feed-neck: **07,19**

Filter: **31,39,46,52**

Fire mode: **23,25,28**

Firing mode: **09,11,27,38**

Frame: **04,51,59**

FSD comp: **30,39**

FSD dly: **30**

Full: **31,39,63**

**G**

Game timer: **09,37,41**

Gauge: **36,41**

Gauge max: **36**

Grip: **17,61**

**H**

Hardware: **33,40**

**I**

Inline regulator: **04,44,45,46,48,51,52**

**K**

Kick in: **29,39**

**L**

LCD: **08,17,34,35,37,40,49,59,61**

Light pipe: **51,60**

Loader: **07,19,27,31,44,45,46,47,48,62**

Lock: **04,09,17,23,38,61**

Lock indicator: **13**

**M**

Magnet adjuster screw: **16**

Maintenance: **02,04,21,45**

Microswitch: **11,61**



**N**

Navigation console: **08,47**

**O**

OFF: **07,08,10,19,23,24,25,27,33,36,38,40,41**

ON: **05,07,08,14,24,25,27,28,33,36,38,40,41**

**P**

POPS: **04,07,15,19,44,47,51,52,55,59**

Post-travel screw: **16**

Power-up: **09**

Preset: **04,07,09,11,25,26,38,44,45**

Presets: **25,26**

Pre-travel screw: **16**

Primary: **14,49,51,59**

Pull tm: **32**

**R**

Rake adjustment: **16**

Ramp: **23,25,27,28,38,39**

Rate: **10,27,28,29,38,39,46**

Release tm: **32**

Reset: **26,35,40,42**

Restart: **29,39**

ROF: **09,10,25,27,28,38,46**

Run screen: **09,24,26,36**

**S**

Secondary: **14,49,51,59**

Select button: **08,14,23,24,35,37,47**

Semi: **26,28,29,38,39**

Shot count: **09,36,41**

Solenoid: **04,39,51,54,59,61**

Sound: **09,12,33,37,40**

Spring return screw: **16**

Start: **29,37,39,41,62**

Storage: **02,20,62**

Sustain: **29,39**

**T**

Timing: **30,39**

Training: **10,24,26,36,38,40**

Training mode: **10,26**

Trigger: **08,09,11,16,27,28,29,31,32,33,36,39,41,45,46,47,56**

Trigger retaining screw: **16**

Type: **28,39**

**U**

Up: **08,09,24**

User: **26,38**

**V**

Velocity: **03,15,30,42,44,45,46,47**

**W**

Warning: **03,07,08,15,16,17,19,20,62**

—



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	Magazines <input type="checkbox"/> Internet <input type="checkbox"/> Friends <input type="checkbox"/>
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Postal/Zip Code:	<b>WRITE SERIAL NUMBER HERE</b>  [ ]  Warranty card MUST be completed in full to be valid and bear the Eclipse marker serial number.
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**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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