



PLANET ECLIPSE: GEO CS1

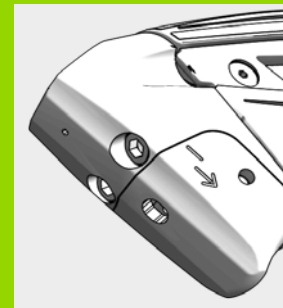
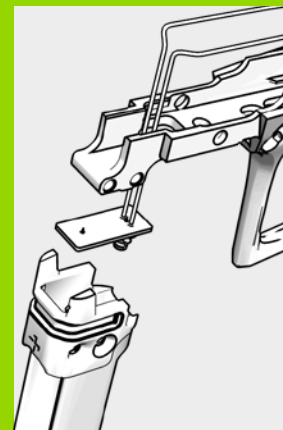
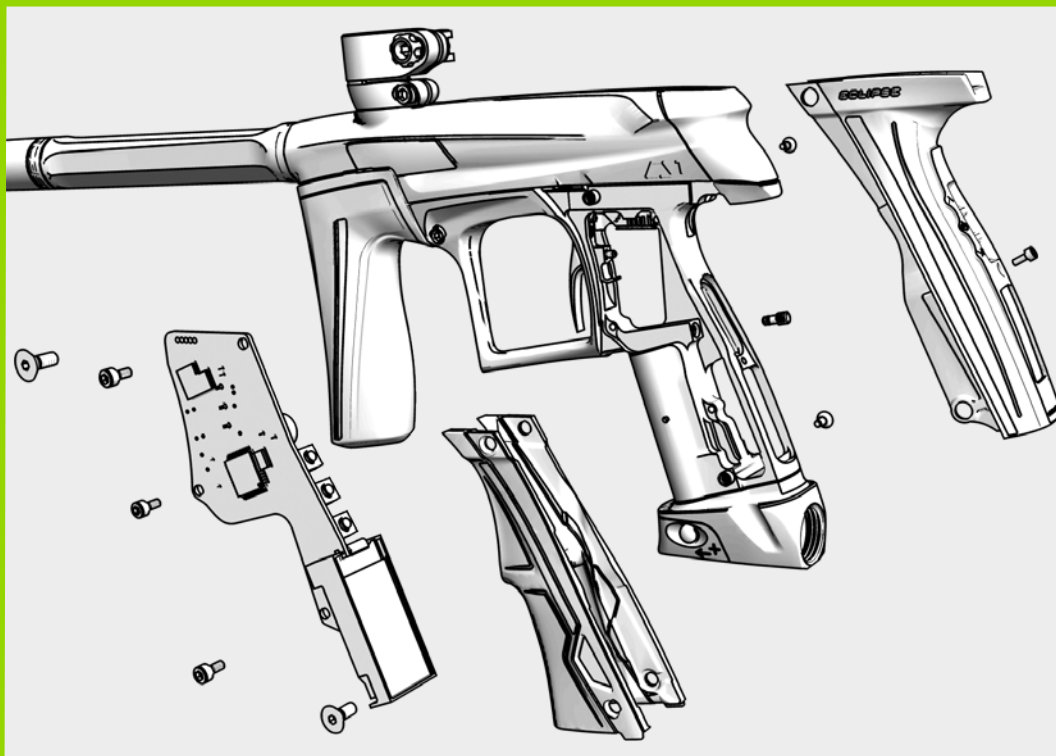
USER MANUAL / ENGLISH

GEO

CS1

.68 CAL


APT
ECLIPSE® ADVANCED
PAINTBALL TECHNOLOGY




WARNINGS

READ CAREFULLY BEFORE USE


THE PLANET ECLIPSE CS1 IS NOT A TOY. PAINTBALL SAFETY RULES MUST BE FOLLOWED AT ALL TIMES.


 Careless or improper use of the CS1, including failure to follow instructions and warnings within this User Manual could cause serious injury or death.

 Do not remove or deface any warnings attached to the CS1.


 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 death. Never look into the barrel or breech area of the CS1 whilst the marker is switched on and able to fire.


 Keep the CS1 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 off the marker when not in use.


 Always fit a barrel-blocking device to the CS1 when not in use.


 Always remove paintballs from the CS1 when not in use.


 Do not field strip or remove any parts while the marker is pressurised.

 Do not pressurise the CS1 without all the components of the marker correctly installed, as high-pressure gas may be emitted.


 Do not fire the CS1 without the bolt correctly installed.

 Never put your finger or any foreign objects into the paintball feed tube of the CS1.


 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 CS1 before disassembly.

 Always remove the first stage regulator and relieve all residual gas pressure from the CS1 for transport and storage.









 Always follow guidelines given with your first stage regulator for safe transportation and storage.

 Always store the CS1 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 CS1.
-  Use only 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 CS1.
-  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 dies Heftes nicht verstehen, lassen Sie sich bitte von einen Experten beraten.

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QUICK START

SETTING UP THE CS1

FIG-1

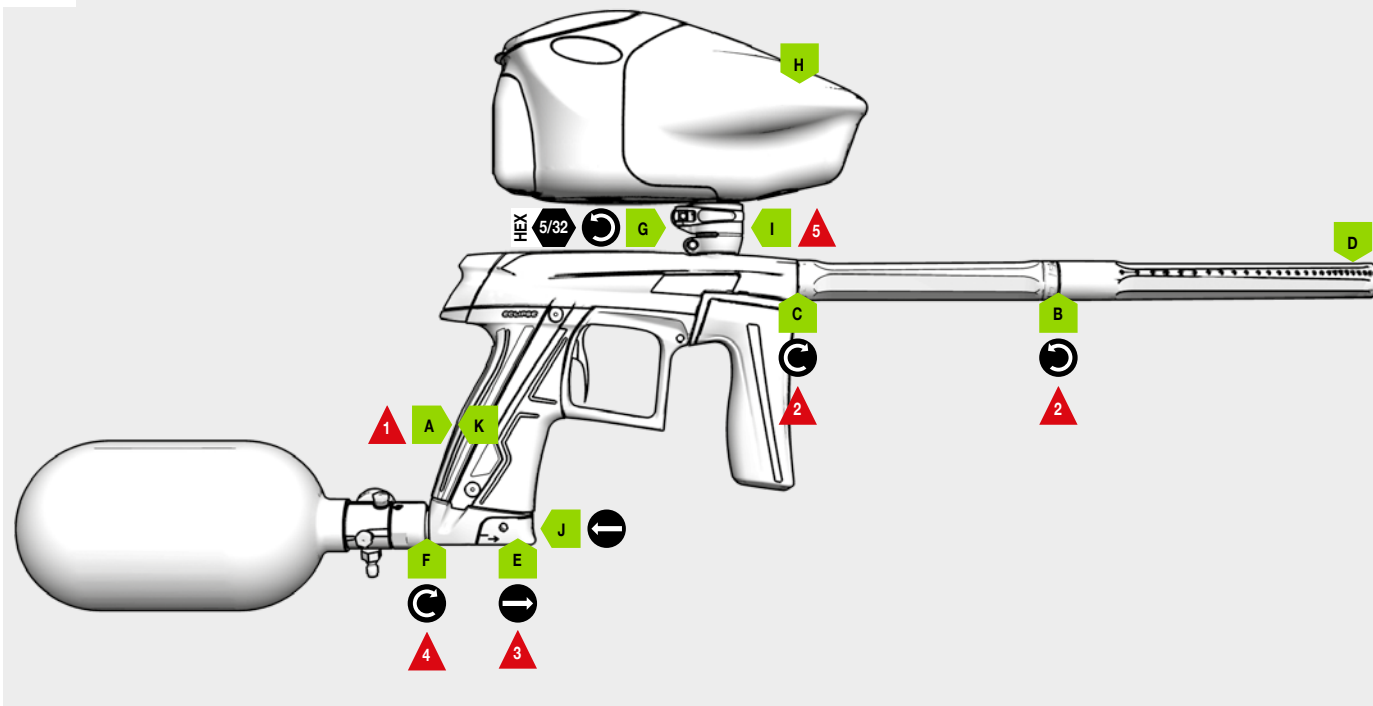


FIG-1

- A Ensure the marker is switched Off before you begin.**
- B Attach both ends of the barrel together.**
Screw the barrel tip counter-clockwise into the barrel back.
- C Attach the complete barrel to the marker.**
Screw 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 the pre-set air system.**
Screw the air system clockwise into the POPS body.
- G Loosen the clamping feed neck.**
Open the feed neck lever away from the feed neck.
Unscrew the feed neck lever screw counter-clockwise.
- H Attach the loader.**
If the feed neck is too tight, loosen the clamping feed neck more.
- I Secure the loader.**
Screw the feed neck lever screw clockwise to tighten.
Close the feed neck lever to secure.
- J Gas the marker.**
Pull the POPS bonnet backwards until it engages.
- K Switch On the CS1.**

- 1 IMPORTANT!** To switch Off/On, see page 08.
- 2 DO NOT** over-tighten the barrel.
- 3 IMPORTANT!** Ensure the marker is de-gassed when setting up.
- 4 NEVER** use CO2. Compressed air or Nitrogen only.
- 5 DO NOT** over-tighten the feed neck. This may damage the CS1 or the loader.

WARNING!



Always make sure the marker is Off with a barrel blocking device installed and that no paintballs are in the CS1 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 CS1 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 CS1 until you feel confident with your ability to handle the marker safely and responsibly.

QUICK START

SWITCHING THE CS1 ON/OFF

FIG-1

The navigation console **A** houses the Select button **B**, the LCD screen **C**, the LCD display navigation buttons Up **D** and Down **E** and the rear grip screw **F**. Use the navigation console to switch the CS1 On/Off and change the marker settings.

Switching On the CS1

Press and hold the Select button **B**, or double-click it, until the Planet Eclipse logo is displayed. ¹

Switching Off the CS1

Press and hold the Select button **B**, or double-click it, until the TURN OFF option is displayed. Press the Select button again to switch off the CS1. ¹

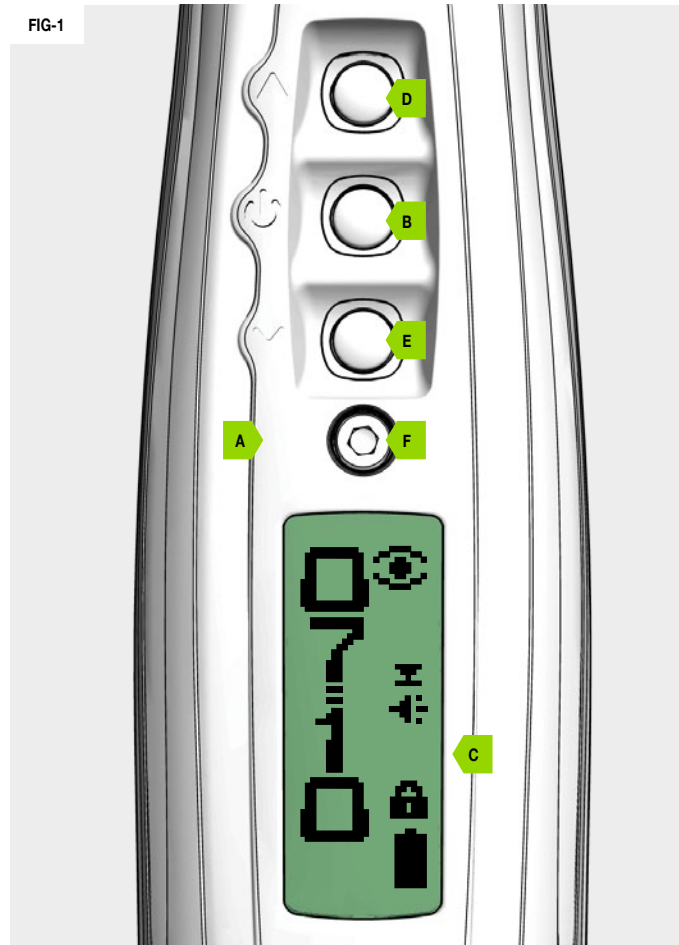
Firing the CS1

Pull the trigger to fire the CS1. The breech sensor (BS) will dictate how the CS1 fires. See page 18 for details.

1 **DO NOT** dry fire your CS1 as this may lead to damage over a continual period of dry firing.

¹ The double-click feature can be disabled in the HARDWARE menu (see page 31).

FIG-1



QUICK START

USER INTERFACE RUN-SCREEN

FIG-1

After power-up the run screen will be displayed. The run screen has the following information displayed:

- A** User selectable information, tap the Up push button to cycle between game timer, shot counter peak ROF, average ROF and splash screen.
- B** The breach sensor (BS) indicator (see page 18 for BS indicators and their meanings).
- C** The trigger detection indicator (see page 19).
- D** The sound indicator.
- E** The lock indicator. To change the lock state see page 13.
- F** The battery level indicator.

The sound indicator

The sound indicator relays the SOUND parameter settings. See page 29 for details.



Sound enabled

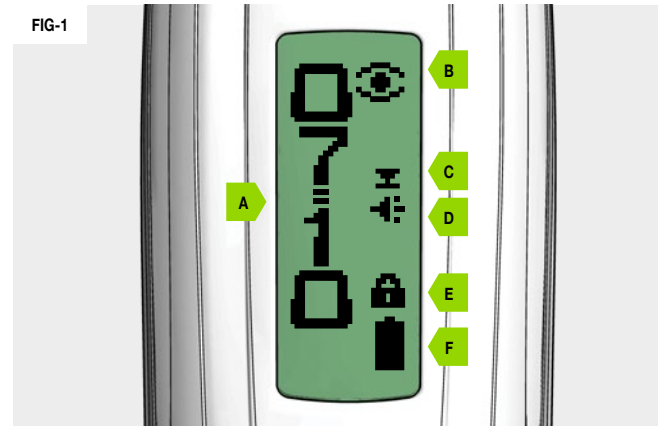
All sound options are activated. These include powering up/down, game timer alarms or times out.



Sound disabled

No sounds will be made.

FIG-1



The lock indicator



Locked

Set-up mode cannot be accessed. Tournament legal state.



Unlocked

Set-up mode can be accessed.

The Battery indicator



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 CS1 is fired.

QUICK START

VELOCITY ADJUSTMENT

FIG-1

The CS1 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 of the CS1.

- 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 adjuster screw in too far. This will prevent the CS1 from firing.

WARNING!



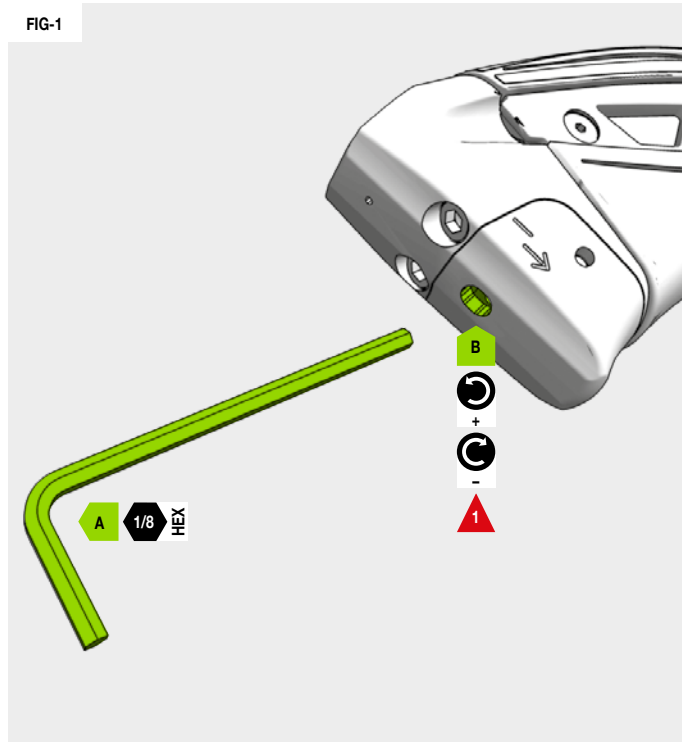
DO NOT exceed 300FPS.

Always wear correct protective equipment when firing your marker.

NEVER leave the CS1 gased up when unloading.

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

FIG-1



QUICK START

SOLENOID FLOW RESTRICTOR (SFR)

FIG-1

The Solenoid Flow Restrictor (SFR) **A** controls the exhaust flow from the bolt through the solenoid. Adjusting the SFR will change the speed of the bolt's forward stroke.

Use a 1/8 hex key **B** and turn clockwise to decrease the flow (reducing the speed of the bolt) or counter-clockwise to increase the flow (increasing the speed of the bolt).

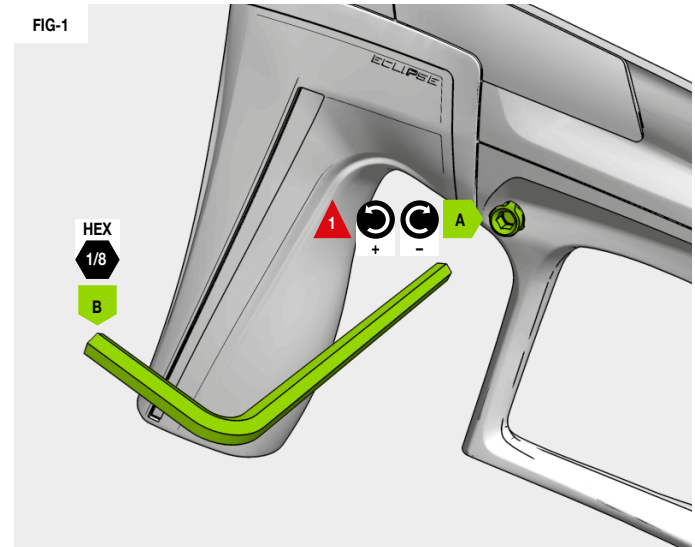
Minimum flow (fully clockwise) will improve the smoothness of the firing cycle but will lower the cycling rate.

Maximum flow (fully counter-clockwise) will reduce the smoothness of the firing cycle but increase the cycling rate.

The SFR flow rate can be set anywhere between maximum and minimum flow.

1 **ALWAYS** chronograph your marker once any changes have been made. Changes to the SFR flow can directly affect the velocity of the paintballs.

FIG-1



WARNING!



Setting the flow restrictor too low (especially in extreme weather conditions) may result in: low velocity, inconsistent velocity or preventing the bolt from cycling. If this occurs, increase the SFR flow setting.

QUICK START

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.

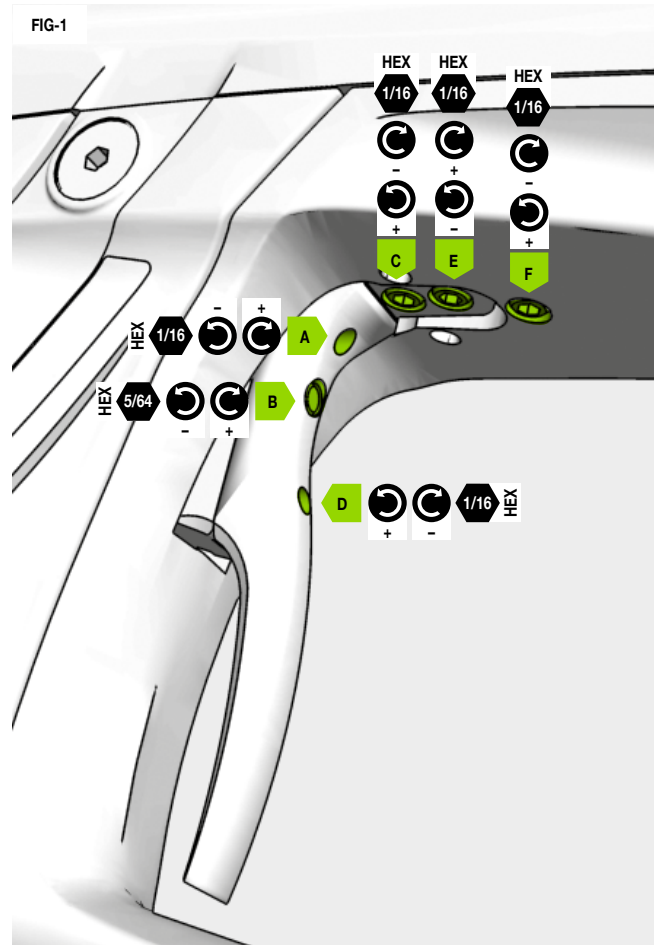
The trigger shoe retaining screw **B** is only to be removed to change to a new shape trigger shoe (sold separately). Remove the frame to access the screw. Counter-clockwise removes the screw, clockwise tightens it.

The pre-travel screw **C** 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 microswitch screw **D** adjusts the distance between the trigger and microswitch. Clockwise reduces the distance, counter-clockwise increases it.

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

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



WARNING!



Do not wind the screws in too far as this may prevent the CS1 from firing or even damage the marker. However, if the pre-travel screw is wound in too far this could cause the CS1 to fire unintentionally.

QUICK START

THE TOURNAMENT LOCK BUTTON

FIG-1

To access the tournament lock button use the 5/64" (2mm) hex key **A** to remove the grip screws on the right hand side of the grip **B**.

FIG-2

Lift the front part of the grips away from the frame to access the tournament lock button **C**. The rear grips **D** do not need to be removed for access.

To lock/unlock your marker push the button once.

The LCD will display the locked/unlocked mode status (see page 09).

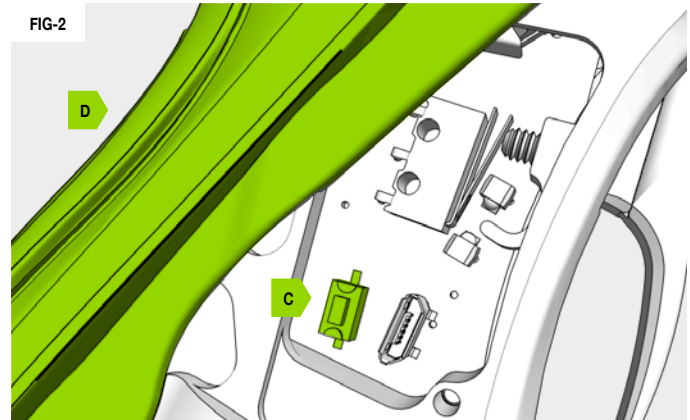
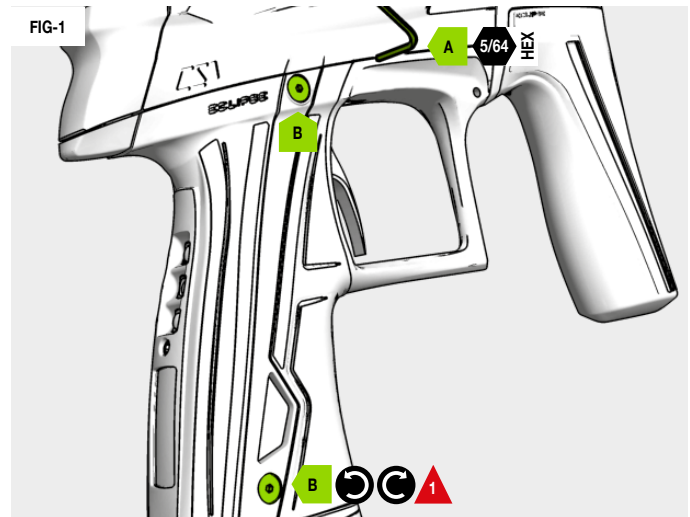
Replace the rubber grips and screws as per **Fig-1**.

i **DO NOT** over-tighten the screws.

WARNING!



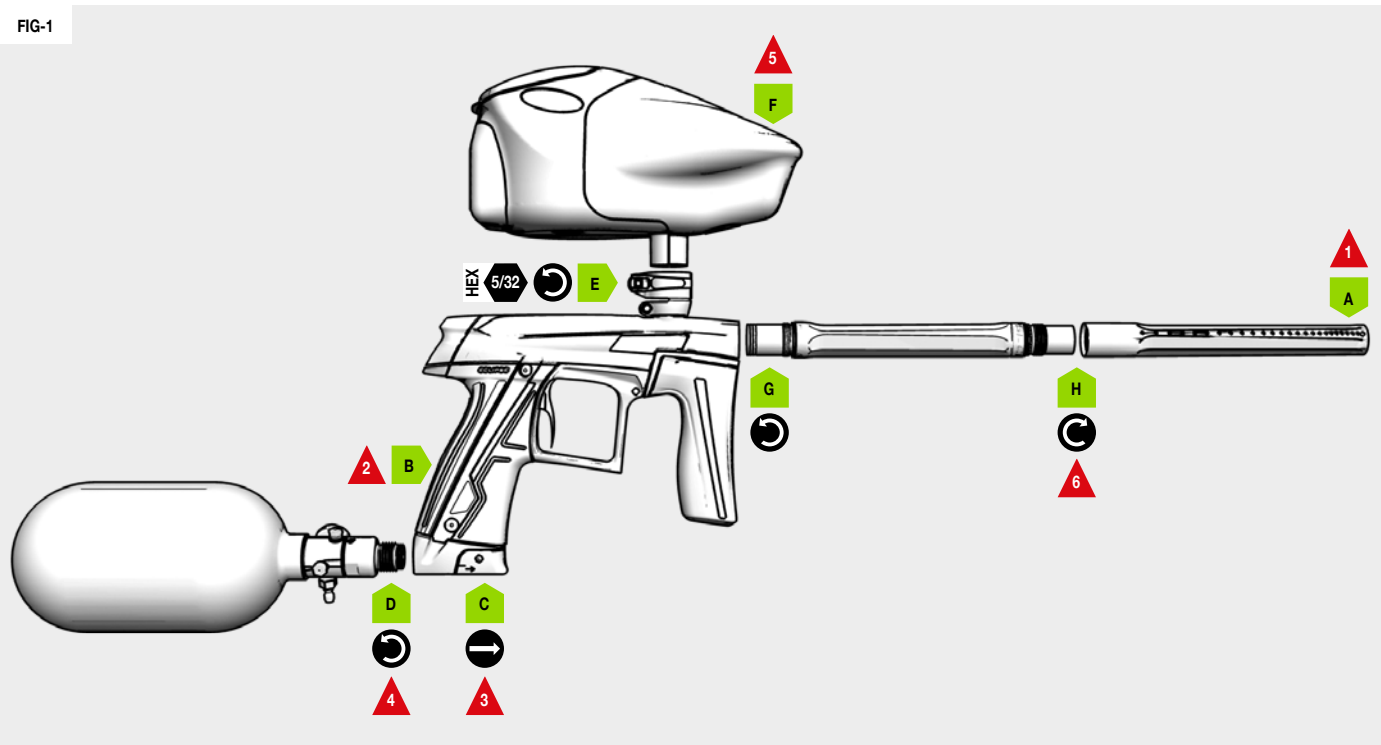
Always ensure the marker is made safe before changing the tournament lock state to avoid accidentally firing the marker.



QUICK START

UNLOADING THE CS1

FIG-1



QUICK START

UNLOADING THE CS1

FIG-1

- A Ensure that a barrel blocking device is 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.**
Unscrew 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.
Unscrew 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.**
Unscrew the barrel counter-clockwise to remove.
- H Remove the barrel tip from the barrel back.**
Unscrew 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!** Unscrew the barrel tip **CLOCKWISE**.

WARNING!



Always make sure the marker is Off with a barrel blocking device installed and that no paintballs are in the CS1 breech or loader before unloading.

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

NEVER leave the CS1 gased 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 CS1.

QUICK START

STORAGE AND TRANSPORTATION

- 1 Your CS1 must be clear of all paint and propellant during transportation or storage.
- 2 Make sure the CS1 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 CS1 in a clean, cool, dry place.
- 6 Keep your CS1 away from any unauthorized and unsafe users.
- 7 Remove the batteries when storing your CS1 to prevent unauthorized use.
- 8 Protect your CS1 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 CS1 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 CS1 (or any other paintball marker) in a suitable marker case such as the one in which it was supplied.



MAINTENANCE

ON-LINE MAINTENANCE VIDEOS

To help demonstrate how to maintain and service essential parts of the CS1 we've created a collection of dedicated marker maintenance videos to guide the user through each step.

From basic, to more advanced parts of the CS1, we've got your back.

Visit our **Tech Room** YouTube channel and check out the CS1 Maintenance playlist.

www.youtube.com/planetecclipsetv



ELECTRONICS

BREECH SENSOR (BS) INDICATOR

FIG-1

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



BS enabled and a ball is detected

The CS1 can be fired at the maximum firing mode Selected.



BS fault has been cleared and a ball is detected

The CS1 can be fired at the maximum firing mode Selected.



BS disabled

The CS1 can be fired at the BS OFF ROF setting (page 18).



BS enabled in training mode

CS1 training mode is enabled and simulates firing at the maximum firing mode Selected with BS On.



BS enabled and NO ball is detected

The CS1 cannot be fired.



BS fault has been cleared and NO ball is detected

The CS1 cannot be fired. Use the Up button to switch the BS off then on again.



BS fault detected

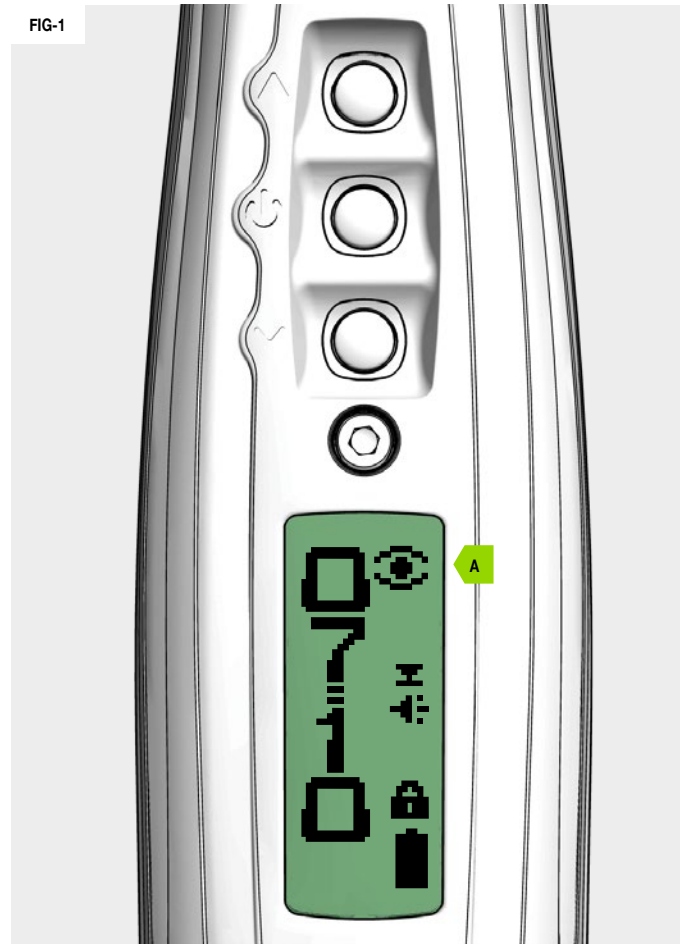
System is disabled. The CS1 can be fired at 2 bps less than the max ROF - limited to 10 bps max.



BS enabled in training mode

CS1 training mode is enabled and simulates firing at the maximum firing mode Selected with BS Off.

FIG-1



ELECTRONICS

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 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.
- 
OPTO sensor selected, reading mid-range
 OPTO senses that the trigger is in a half-pulled state.
- 
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 29).

FIG-1

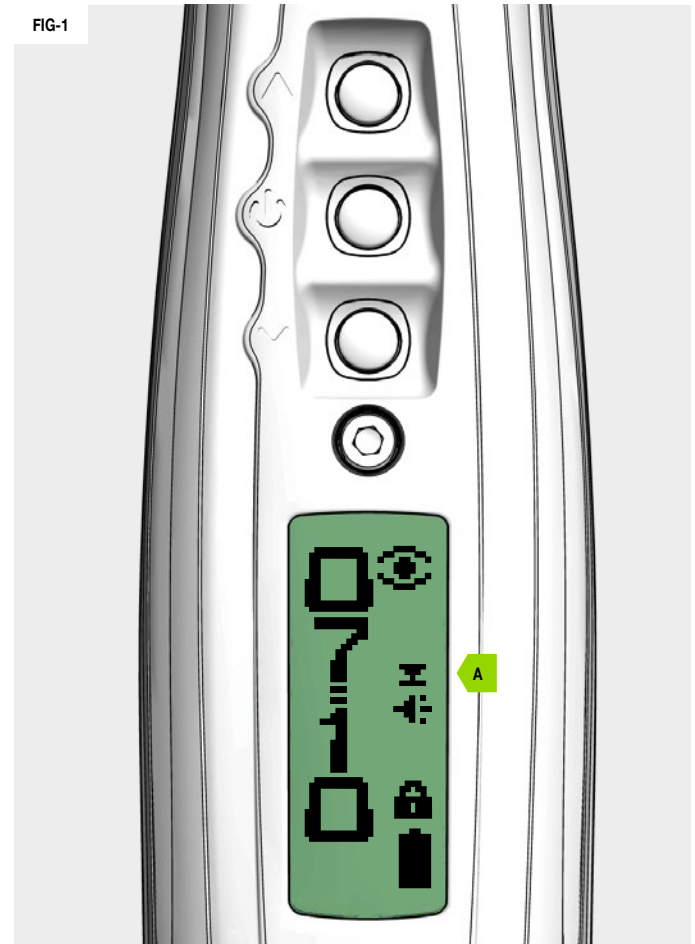


FIG-1

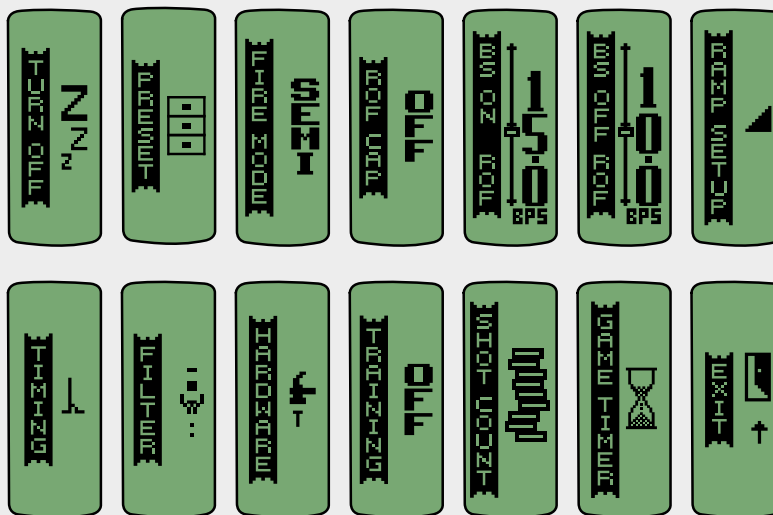
The user interface is clear and simple to make it easy for all players to alter or restore their marker settings.

The menus shown opposite contain a series of editable parameters within them. For the complete menu tree, see pages 34 to 37.

Some of the parameters affect the way the CS1 shoots and are tournament locked from the factory.

The menus also contain the TURN OFF action which immediately switches the CS1 Off.¹

FIG-1



¹ The layout and parameters shown in this manual are correct at the time of printing.

ELECTRONICS

NAVIGATING THE USER INTERFACE

FIG-1

Once on, the CS1 LCD menu system is navigated using the Up and Down buttons **B** and **C** to scroll the menu options.

The Select button **A** is used to select the parameter options you wish to adjust and the Up and Down buttons are then used to scroll the editable parameter options for that selection.

The Select button is used to confirm any adjustments you make and returns you to the top level menu options.

FIG-2 - EXAMPLE NAVIGATION

- 1 CS1 is On.
- 2 Push and hold Select button until the TURN OFF screen appears.
- 3 Up and Down buttons are used to find the TRAINING options.
- 4 Select button confirms the TRAINING Selection.
- 5 Up and Down buttons scroll the TRAINING parameter options.
- 6 Select button confirms the TRAINING ON Selection.
- 7 Up and Down buttons are used to find the EXIT option.
- 8 Select button confirms, saves and returns the user to the run screen.

FIG-1

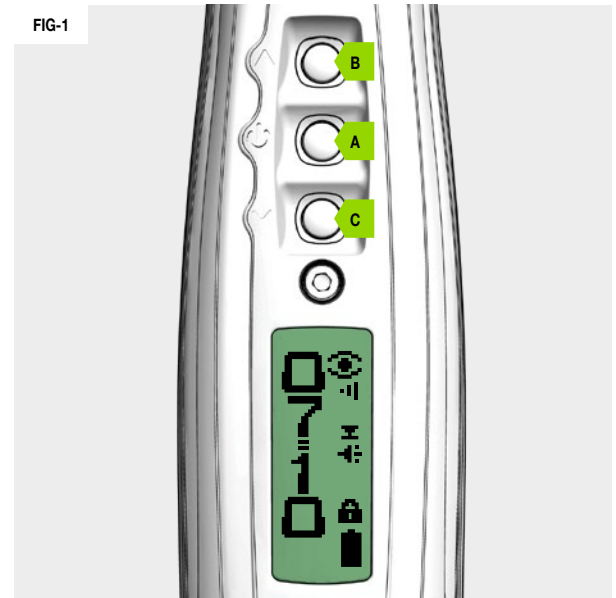


FIG-2

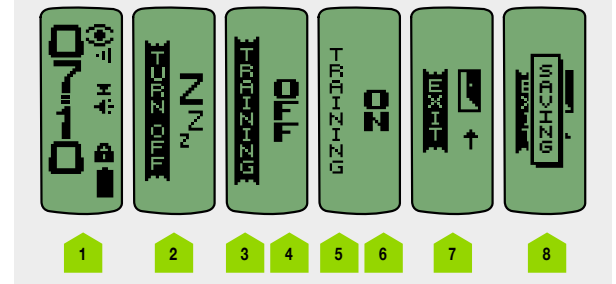


FIG-1 - PRESET MENU

The CS1 preset firing modes automatically adjust the marker settings to comply with the rules of the major paintball leagues. There are also two pre-sets for the user to save their own custom settings.

FIG-2 - LOAD PARAMETERS

This parameter is used to load the required pre-set configuration: ^{1,2}

- > USER1: Load a set of custom firing mode parameters saved by the user.
- > USER2: Load a set of custom firing mode parameters saved by the user.
- > FACTORY: Reset every parameter to the factory set default.
- > PSP10: Load a set of parameters that are PSP compliant (Divisional teams only).
- > MS10: Load a set of parameters that are Millennium Series compliant (2010 rules).
- > CANCEL: Editing is cancelled and the parameter remains unchanged.

FIG-3 - SAVE PARAMETERS

This parameter has the following options:

- > USER1: Save the current parameters as the pre-set USER1.
- > USER2: Save the current parameters as the pre-set USER2.
- > CANCEL: Editing is cancelled and the parameter remains unchanged.

FIG-1

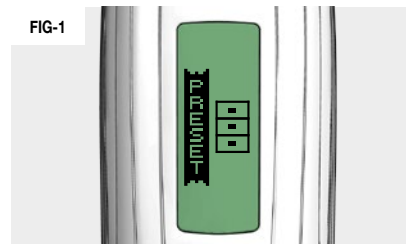


FIG-2



FIG-3



1 Some pre-sets may only be available in certain countries and on some models of the CS1.

2 All pre-sets are correct at the time of printing.

FIG-1 - FIRE MODE PARAMETER

Select and edit the firing mode of the CS1 outside of the pre-set modes.

- > SEMI: Default mode. 1 shot per trigger pull.
- > RAMP: See ramp setup (page 24).
- > CANCEL: Editing is cancelled and unchanged.

FIG-2 - ROF CAP PARAMETER

This implements a cap to the maximum rate of fire the CS1 will achieve.

- > ON: ROF limited to the BS ON ROF value.
- > OFF: ROF limited to loader speed.
- > CANCEL: Editing is cancelled and unchanged.

FIG-3 - BS ON ROF PARAMETER

Limits the maximum rate of fire the CS1 will achieve with the breech sensor (BS) On. This will only be displayed if the ROF CAP is On.

- > Range: 4.0 - 30.0 bps (balls per second)
In 0.1 increments. ¹

¹ Always calibrate your ROF CAP parameters to the local field meter for consistency.

FIG-3 - BS OFF ROF PARAMETER

Limits the maximum rate of fire the CS1 will achieve with the breech sensor (BS) disabled. This should be set to the loader's slowest speed.

- > Range: 4.0 - 15.0 bps (balls per second)
In 0.1 increments. ¹

¹ Always calibrate your ROF CAP parameters to the local field meter for consistency.

FIG-1



FIG-2



FIG-3

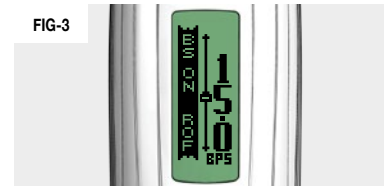


FIG-4

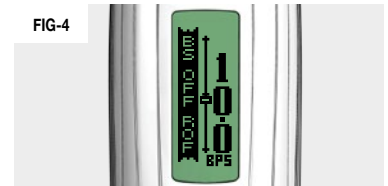


FIG-1 - RAMP SET-UP MENU

This menu is only available when ramping has been chosen from the FIRE MODE menu.

FIG-2 - TYPE PARAMETER

Select the type of ramping based on the options below:

- > STEP: The CS1 will be fired 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 CS1 will then STEP up to the maximum rate of fire (set by BS ON ROF). Ramping is maintained as long as the user continues to pull the trigger at a required rate (set by SUSTAIN).
- > LINEAR: The CS1 will be fired 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 user continues to pull the trigger at a required rate (set by SUSTAIN).
- > CANCEL: Editing is cancelled and no changes are made to the parameter.

FIG-3 - RATE PARAMETER

Only available in LINEAR ramping mode. 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 ROF is 15 bps (10 + 50%).

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

FIG-1

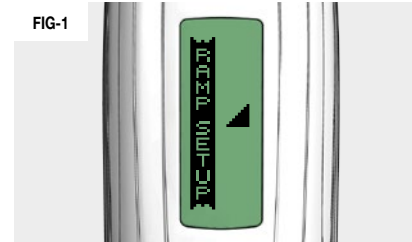


FIG-2

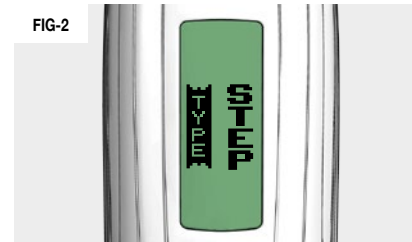


FIG-3

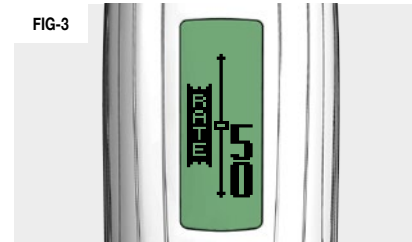


FIG-1 - SEMI SHOTS PARAMETER

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 maximum rate at which the user has to pull the trigger to start ramping.

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

FIG-3 - SUSTAIN PARAMETER

Whilst ramping, this sets the rate at which the user must continue to pull the trigger to maintain ramping.

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

FIG-4 - RESTART PARAMETER

This defines the amount of time that elapses, after the final ramped shot is fired before ramping will begin again after 1 trigger pull. If the RESTART time expires, the other ramping conditions must be met.

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

FIG-1

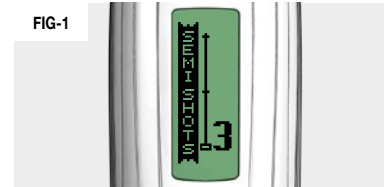


FIG-2

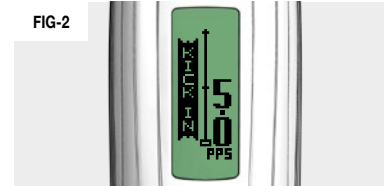


FIG-3

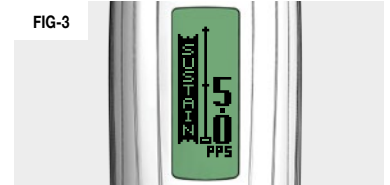


FIG-4



FIG-1 - TIMING MENU

The following TIMING parameters control the timing of the solenoid valve.

FIG-2 - DWELL PARAMETER

Sets the amount of time the solenoid valve is energised, therefore how much gas is used per shot. Too low will result in low velocity shots and excessive velocity/shot fluctuations, too high will waste gas.

This parameter can be set between 15.0 and 35.0 milliseconds (default is 27.0).

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 adds extra DWELL time to the first shot to compensate.

This parameter can be set between 0.0 and 5.0 milliseconds.

FIG-4 - FSD DLY PARAMETER

The time before the FSD COMP is applied to a shot.

This parameter can be set between 00.00 and 04.00 minutes.

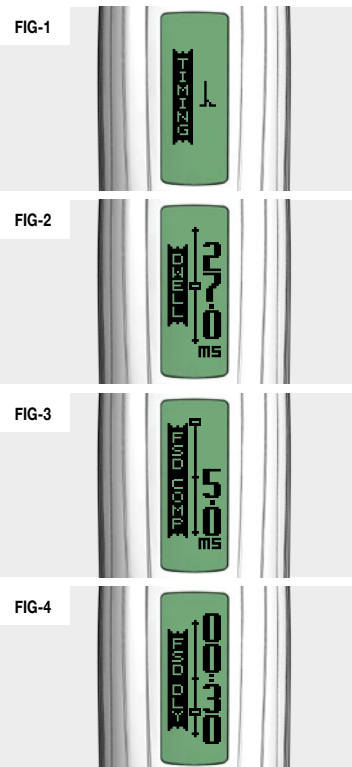


FIG-1 - FILTER MENU

The FILTER menu parameters tune the CS1 software filters which prevent the CS1 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 more modification.

FIG-2 - DEBOUNCE PARAMETER

This sets the amount of trigger bounce that may be present and can be set from level 1 to level 9.

- > LEVEL1: Least filtering (most bounce).
- > LEVEL9: Most filtering (least bounce).
- > CANCEL: Editing is cancelled and unchanged.

FIG-3 - EMPTY PARAMETER

This sets the time delay between the breech sensor (BS) recognising the breech as EMPTY (bolt retracted) and the next shot being allowed to fire.

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

FIG-4 - FULL PARAMETER

This sets the delay between the paintball landing in the breech and the marker being allowed to fire.

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

FIG-1

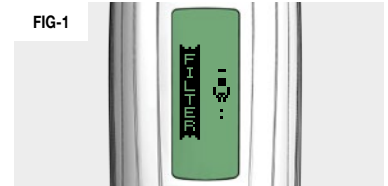


FIG-2

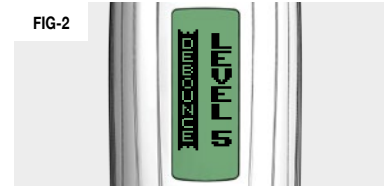


FIG-3

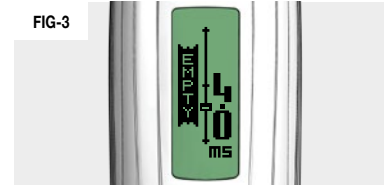


FIG-4

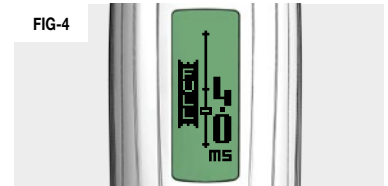


FIG-1 - PULL TM PARAMETER

This 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 millisecond increments.

FIG-2 - RELEASE TM PARAMETER

This 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 millisecond 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

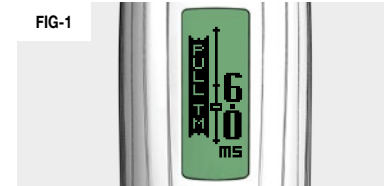


FIG-2

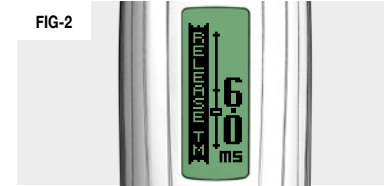


FIG-3

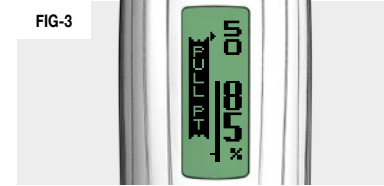


FIG-4

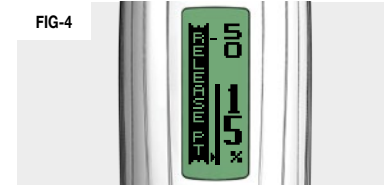


FIG-1 - HARDWARE MENU

The HARDWARE menu contains low level functionality from the CS1 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

Startup sounds, parameter changing sounds and alarms can all be switched to silent if required.

- > ON: Default sounds On.
- > OFF: Default sounds Off.
- > CANCEL: Editing is cancelled and unchanged.

FIG-4 - TONES PARAMETER

The push button tones can be switched off with all other sounds still audible, if the SOUNDS parameter is set to On.

- > ON: Default tones On.
- > OFF: Default tones Off.
- > CANCEL: Editing is cancelled and unchanged.

FIG-1



FIG-2



FIG-3



FIG-4



FIG-1 - BACKLIGHT PARAMETER

This 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. At 00.00 no backlight will be present.

FIG-2 - RED LEVEL PARAMETER

This sets the percentage of red in the LCD backlight colour.

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

FIG-3 - GRN LEVEL PARAMETER

This sets the percentage of green in the LCD backlight colour.

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

FIG-4 - BLU LEVEL PARAMETER

This sets the percentage of blue in the LCD backlight colour.

This parameter can be set between 0% and 100% 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 0 and 30 and in increments of 1.

FIG-2 - DBL CLICK PARAMETER

This enables/disables the option to double-click the Select button as opposed to holding it down to switch the CS1 on and off.

- > NONE: Double-click disabled.
- > POWER UP: Double-click to power up only.
- > ALL: Double-click to also access menus.
- > CANCEL: Editing is cancelled and unchanged.

FIG-3 - AUTO OFF PARAMETER

This sets the amount of time that elapses before the CS1 switches itself off.

This parameter can be set between 05:00 and 20:00 minutes and in increments of 5 minutes.

FIG-1



FIG-2



FIG-3

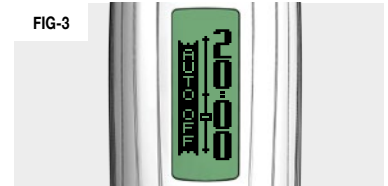


FIG-1 - TRAINING PARAMETER

This simulates the firing cycle (in unloaded state) using a BEEP on each trigger pull, so the user can practice their trigger technique off the field.

- > ON: TRAINING mode enabled.
- > OFF: TRAINING mode disabled.
- > CANCEL: Editing is cancelled and unchanged.

FIG-2 - SHOT COUNT MENU

This menu controls controls the shot counter parameters.

FIG-3 - GAUGE PARAMETER

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

- > ON: GAUGE graphic enabled.
- > OFF: GAUGE graphic disabled.
- > CANCEL: Editing is cancelled and unchanged.

FIG-4 - GAUGE MAX PARAMETER

This sets the number that the gauge counts down from every time the CS1 is fired.

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



FIG-1 - GAME TIMER MENU

The following parameters control the game timer.

FIG-2 - GAME PARAMETER

This sets the game timer, which counts down from the time set, to zero. When the timer reaches zero the audible alarm will sound (if the alarm parameter is set to On) and GAME OVER shows on the LCD screen.

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

FIG-3 - ALARM (1 AND 2) PARAMETER

This sets the Alarm(s). Once the game timer counts down to the designated alarm time, the audible alarm will sound (if the SOUND parameter is set to On). The timer will continue to count down until the GAME PARAMETER has expired.

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

FIG-4 - START PARAMETER

This sets which function activates the game timer's countdown.

- > BUTTON: Select button starts the timer.
- > TRIGGER: Trigger pull starts the timer.
- > CANCEL: Editing is cancelled and unchanged.

FIG-1



FIG-2

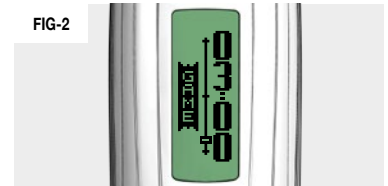


FIG-3

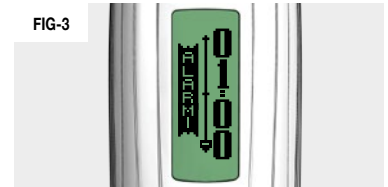


FIG-4



MAIN MENU	TURN OFF	Turn off the CS1		
	PRE-SET			
		LOAD	USER1	LOAD USER1 Settings
			USER2	LOAD USER2 Settings
			FACTORY (Default)	LOAD the default FACTORY settings (semi-automatic)
			PSP10	LOAD the PSP 10 bps compliant settings (divisional teams only)
			MS10	LOAD the Millennium Series 10 bps compliant settings (2010)
			CANCEL	Cancel the LOAD operation
		SAVE		
			USER1	SAVE the current settings as the USER1 settings
			USER2	SAVE the current settings as the USER2 settings
			CANCEL	Cancel the SAVE operation
		BACK		
		FIRE MODE	SEMI (Default)	Select semi-automatic firing mode
			RAMP	Select ramping firing mode
			CANCEL	Cancel the FIRE MODE Selection
		ROF CAP	ON	Rate of fire cap On
			OFF (Default)	Rate of fire cap Off
			CANCEL	Cancel ROF CAP Selection
		BS ON ROF *	4.0 - 30.0 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 parameters that can only be accessed when the tournament lock is switched Off (see page 13).

* The asterisk denotes parameters that are part of the Smart Menu System and are dependant on other settings being active.

MAIN MENU	RAMP SET-UP *	Fire mode dependant		
	TYPE	STEP (Default)	STEP ramping	
		LINEAR	LINEAR ramping	
		CANCEL	CANCEL Selection	
	RATE *	0 - 100%	Percentage LINEAR RAMP rate (TYPE dependant). Default 50%	
	SEMI SHOTS	3 - 9	Number of shots before ramping can start. Default 3	
	KICK IN	3.3 - 10.0 pps	Rate which the trigger has to be pulled in pulls per second (pps) before ramping starts. Default 5 pps	
	SUSTAIN	3.3 - 10.0 pps	Rate which the trigger has to be pulled in pulls per second (pps) to maintain ramping. Default 5 pps	
	RESTART	0.0 - 10.0 s	Time in seconds (s) after last trigger pull during which ramping can be restarted. Default 0.0 s	
	BACK			
	TIMING			
	DWELL	00.0 - 30.0 ms	Solenoid energise time in milliseconds (ms) for each shot. Default 26.2 ms	
	FSD COMP	0.0 - 5.0 ms	First shot drop-off compensation time in milliseconds (ms). Default 5.0 ms	
	FSD DELAY	00:00 - 04:00	First shot drop-off delay. Default 00:30 seconds	
	BACK			
	FILTER			
	DEBOUNCE	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	
	EMPTY	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	
	FULL	1.0 - 20.0 ms	Time in milliseconds (ms) that a paintball must be in the breech before the CS1 will fire. Default 4.0 ms	
	PULL TM	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	
	RELEASE TM	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	
	PULL PT *	51 - 99%	Percentage at which the trigger OPTO sensor pull point is set (TRIGGER dependant). Default 85%	
	RELEASE PT *	1 - 49%	Percentage at which the trigger OPTO sensor release point is set (TRIGGER dependant). Default 15%	
	BACK			

MAIN MENU	HARDWARE		
	TRIGGER	OPTO (Default) SWITCH CANCEL	Use OPTO to detect trigger operation Use micro-switch to detect trigger operation CANCEL TRIGGER detection Selection
	SOUND	ON (Default) OFF CANCEL	Turn On audible indicators Turn Off audible indicators CANCEL audible SOUND indicator Selection
	TONES	ON (Default) OFF CANCEL	Turn On audible tone when any button is pressed (SOUND dependant) Turn Off audible tone when any button is pressed (SOUND dependant) CANCEL audible tone Selection
	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 of RED light in the backlight (BACKLIGHT dependant)
	GRN LEVEL	0 -100%	Percentage of GREEN light in the backlight (BACKLIGHT dependant)
	BLU LEVEL	0 -100%	Percentage of BLUE light in the backlight (BACKLIGHT dependant)
	CONTRAST	0 - 30	LCD contrast level. Default 14
	AUTO OFF	05:00 - 20:00 m	Time in minutes (m) after which the CS1 will automatically switch itself Off. Default 20:00 m
	DBL CLICK	ALL (Default)	Double click is fully enabled
		POWER UP	Double click to activate POWER up only
		NONE	Double click is fully disabled
		CANCEL	CANCEL the DOUBLE CLICK Selection
	BACK		
	TRAINING		
	ON		Training mode enabled
	OFF		Training mode disabled
	CANCEL		Cancel the TRAINING MODE Selection

MAIN MENU	SHOT COUNT			
		GAUGE	ON (Default)	Shot gauge On
			OFF	Shot gauge Off
			CANCEL	CANCEL GAUGE Selection
		GAUGE MAX	100 - 2000	Shot gauge maximum (reset value - GAUGE dependant). Default 140 shots
		BACK		
		GAME TIMER		
		GAME	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	BUTTON (Default)	Pressing the down button starts the game timer
			TRIGGER	A trigger pull starts the game timer
			CANCEL	CANCEL game timer START Selection
		BACK		
		EXIT		

The CS1 software may change over time.

For the most up to date versions of the CS1 user manual visit our product support section online:

planetecclipse.com/site/product_support

RESET FACTORY RESET

Follow these steps in order to set the CS1 to the way that it left the factory.

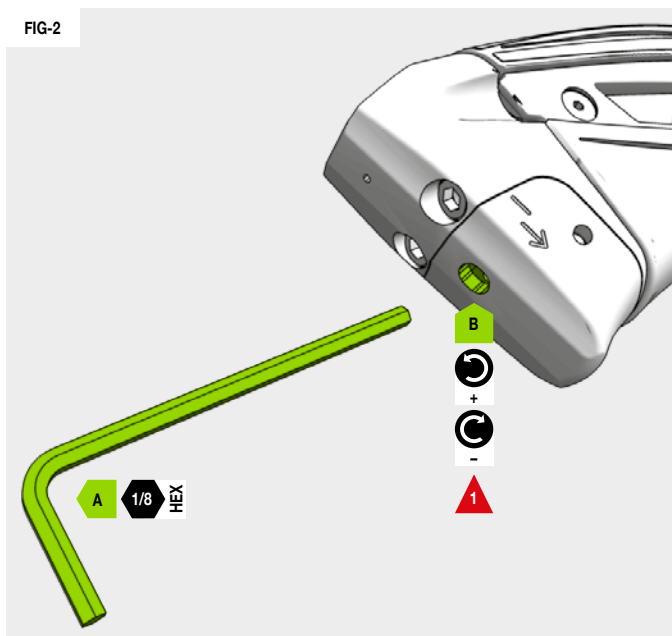
FIG-1

Load the factory preset from the LOAD menu (page 22).

FIG-2

Using the 1/8 hex key **A** turn the velocity adjuster screw **B** 6 turns clockwise from it's fully screwed-out position.

1 **DO NOT** turn the adjuster screw in too far. This will prevent the CS1 from firing.



RESET

INSTALLING THE BATTERIES

The CS1 uses 2 x AA (LR6, 1.5V) batteries situated in the foregrip.

Switch off the CS1 and place on a flat surface - with the feed neck facing away from you and the barrel pointing to the right.

FIG-1

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

FIG-2 / FIG-3

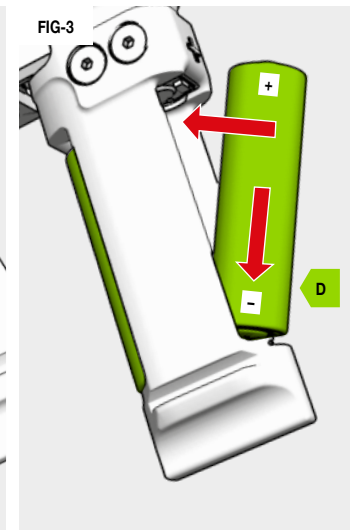
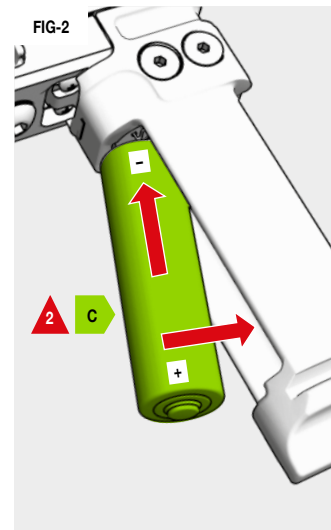
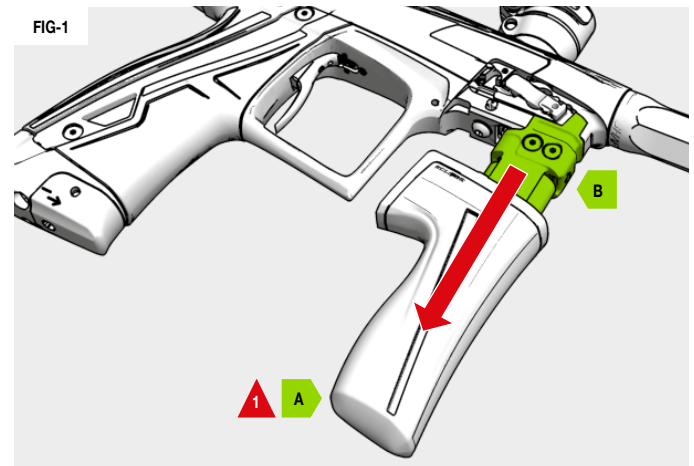
Insert a new AA battery in the rear recess **C** with the positive terminal pointing down as shown.

Insert a new AA battery in the front recess **D** with the positive terminal pointing up as shown.

Replace the rubber foregrip as in **FIG-1**.

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

2 **DO NOT** use re-chargeable or poor quality batteries.



FAULT FINDING

FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The CS1 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.
	The Solenoid Flow Restrictor (SFR) is set too low.	Increase the flow setting on the SFR.
	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 high quality alkaline or lithium batteries. Do not use low quality or rechargeable batteries.
The CS1 is inconsistent.	The DWELL parameter is set too low.	Increase the DWELL parameter.
	The Solenoid Flow Restrictor (SFR) is set too low.	Increase the flow setting on the SFR.
	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 into POPS.	Use a good quality preset air system.
The CS1 is inefficient.	Poor propshaft performance.	Clean and grease rear propshaft seal. Check condition of propshaft spring.
	A poor paintball to barrel bore match.	Use a better paintball to barrel bore size match.
CS1 leaks down the barrel.	Front or rear propshaft 14 x2 NBR 70 o-rings are damaged, dirty or dry.	Replace, clean and grease 14 x 2 NBR 70 o-rings on propshaft.
	Internal 017 NBR 70 o-ring and external 020 NBR 70 o-rings on the can are damaged, dry or dirty.	Replace, clean and grease 017 NBR 70 o-ring and 020 NBR 70 o-rings on the can.

FAULT FINDING

FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The CS1 has low rate of fire.	The Solenoid Flow Restrictor (SFR) is set too low.	Increase the flow setting on the SFR.
	The force setting on the loader is too low.	Adjust the loader force feed setting.
	The breech sensor (BS) is switched off.	Switch the breech sensor (BS) on.
	The breech sensor (BS) is in default mode.	Clean the breech sensor (BS) and ensure the breech sensor holes in the body are free of debris.
	The rate of fire cap (ROF CAP) is on and set to a low value.	Increase the rate of fire cap (BS ON ROF) or turn off the ROF CAP in the settings menu.
The CS1 leaks from the solenoid assembly.	Damaged, missing or incorrectly assembled solenoid gaskets.	Check that the three solenoid gaskets are intact and seated in their designated pockets both in and around the solenoid manifold. Replace any of the solenoid gaskets if damaged.
	CS1 solenoid assembly is over-pressurising.	Check the inline regulator output pressure and consequent velocity. Adjust accordingly. Strip and clean the inline regulator. Replacing the regulator seals as necessary.
	Debris on/damage to solenoid spool seals.	Clean/grease/replace solenoid spool seals.
	Damaged CS1 solenoid pilot valve.	Replace the CS1 solenoid pilot valve.
	The frame seal is damaged.	Replace the frame seal.
The CS1 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.
	Missing or damaged rubber bolt tip.	Replace the rubber bolt tip.

FAULT FINDING

FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The CS1 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.
The CS1 has high velocity on the first shot.	The DWELL is too low.	Increase the DWELL slightly.
	The inline regulator output pressure is creeping.	Strip, clean and maintain inline regulator. Replace inline regulator seal if necessary.
CS1 has velocity drop-off during rapid fire.	The batteries are of poor quality or have insufficient charge.	Replace the batteries. Use an Alkaline or lithium batteries. Do not use low quality or rechargeable batteries.
	The Solenoid Flow Restrictor (SFR) is set too low.	Increase the flow setting on the SFR.
	Air system/regulator does not 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.
Constant low velocity.	Poorly maintained inline regulator.	Strip, lubricate and rebuild the inline regulator.
	The inline regulator is set too low.	Increase the output pressure of the inline regulator.
The breech sensor does not appear to be reading correctly.	The breech sensor is dirty.	Clean the breech sensor.
	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 on the breech sensor cables. Check for cuts or pinches in the breech sensor cables.
Two or more balls are being fed into the breech.	Either breech sensor is back to front.	Check that the breech sensors face each other when installed.
	Worn, damaged or missing ball detents.	Change the rubber ball detent.
	The feed force is too high from loader.	Adjust the loader settings/use lower force loader.

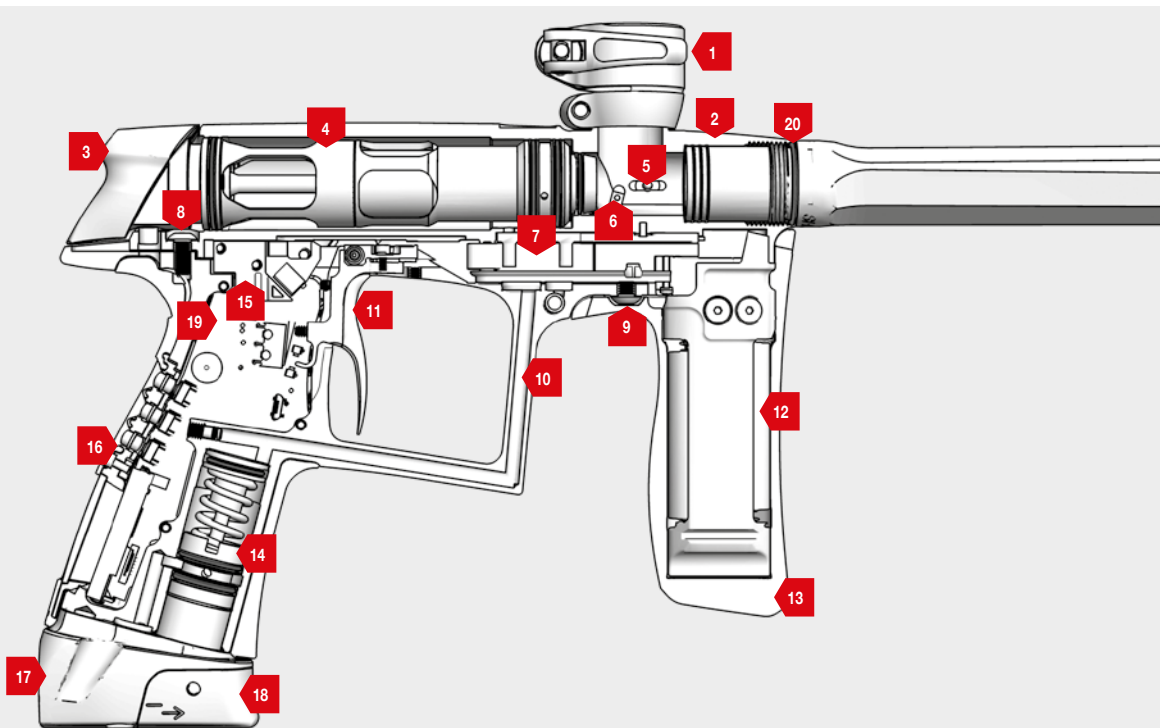
FAULT FINDING

FAULT FINDING TABLES

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The breech sensor defaults after firing.	The breech sensor is dirty.	Clean the breech sensor.
	The breech sensor is faulty.	Replace the breech sensor.
	The breech sensor is out of place.	Re-install the breech sensor then check the alignment.
On power up, the right hand side of the screen is not displayed and the marker will not fire.	The trigger is permanently depressed.	Adjust the trigger until the selected trigger detection method is de-activated when the trigger is released.
The CS1 does not fire.	The CS1 is not powered on.	Power up the CS1 using the button on the back of the CS1 grip frame.
	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 the trigger correctly to fully open and close the micro/opto switch.
	The solenoid is not plugged into the CS1 body PCB.	Plug the solenoid wire into port on the CS1 body PCB.
	The BS is enabled and there is no paint in the breech.	Fill the loader with paint. Check that the rubber bolt tip is seated correctly.
	The PCB is damaged.	Replace the PCB.
The solenoid valve is damaged.	Replace the solenoid valve.	

If an issue with the CS1 cannot be solved using the fault finding guide, contact your nearest Eclipse Service Centre for assistance.

FIG-1

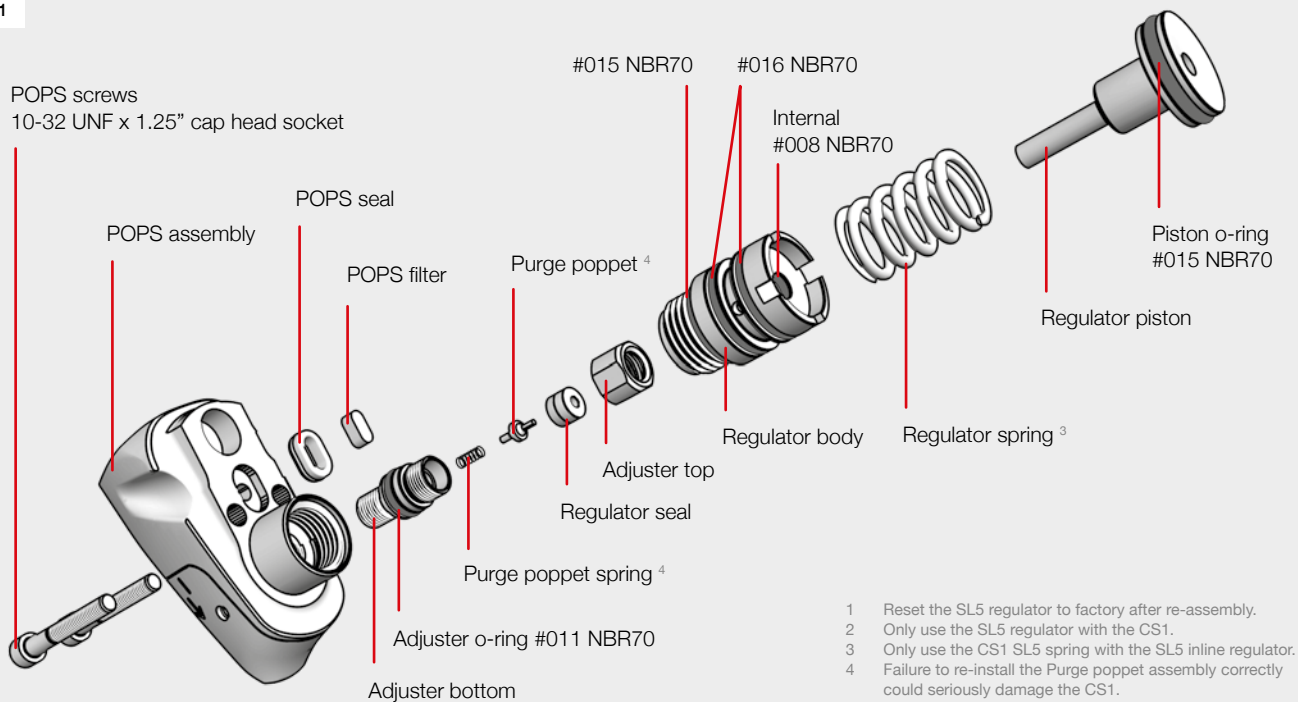


-
- | | | | |
|----|-----------------------------|----|---------------------------------|
| 1 | Clamping feed tube assembly | 11 | Trigger assembly |
| 2 | Marker body | 12 | Battery holder |
| 3 | Quick-release bolt | 13 | Foregrip |
| 4 | Bolt assembly | 14 | SL5 inline regulator assembly |
| 5 | Rubber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

TECHNICAL INFORMATION

SL5 INLINE REGULATOR ^{1,2}

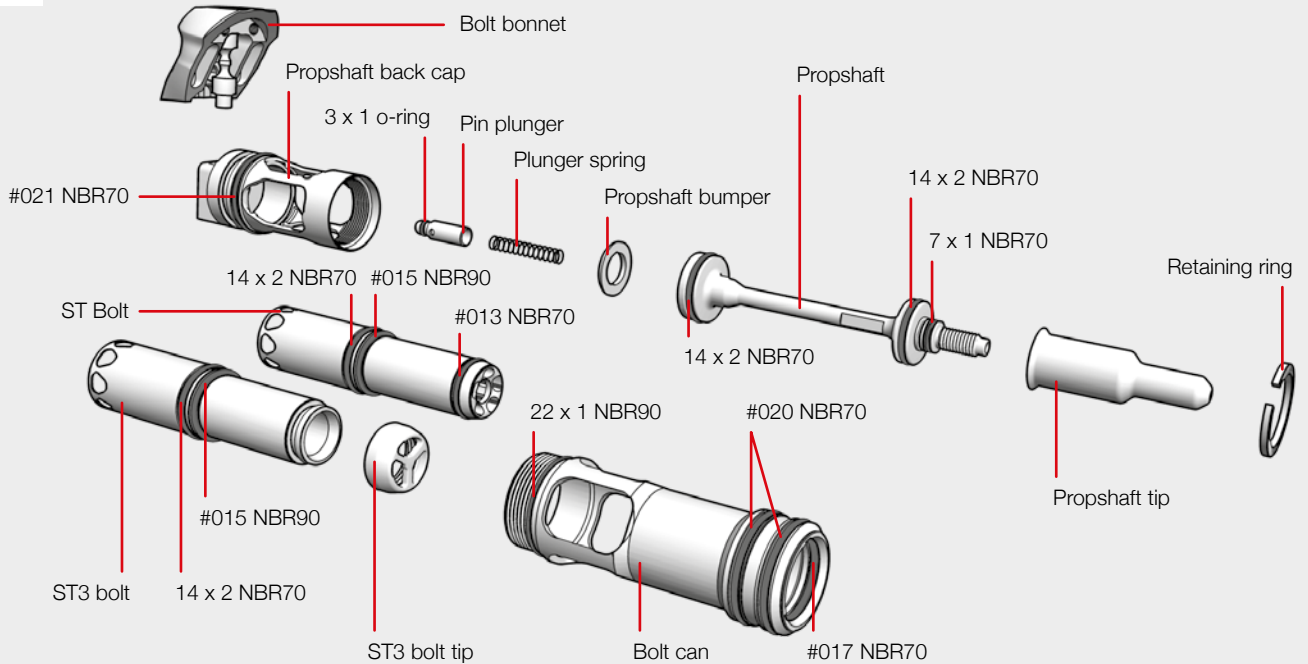
FIG-1



TECHNICAL INFORMATION

CS1 BOLT ASSEMBLY

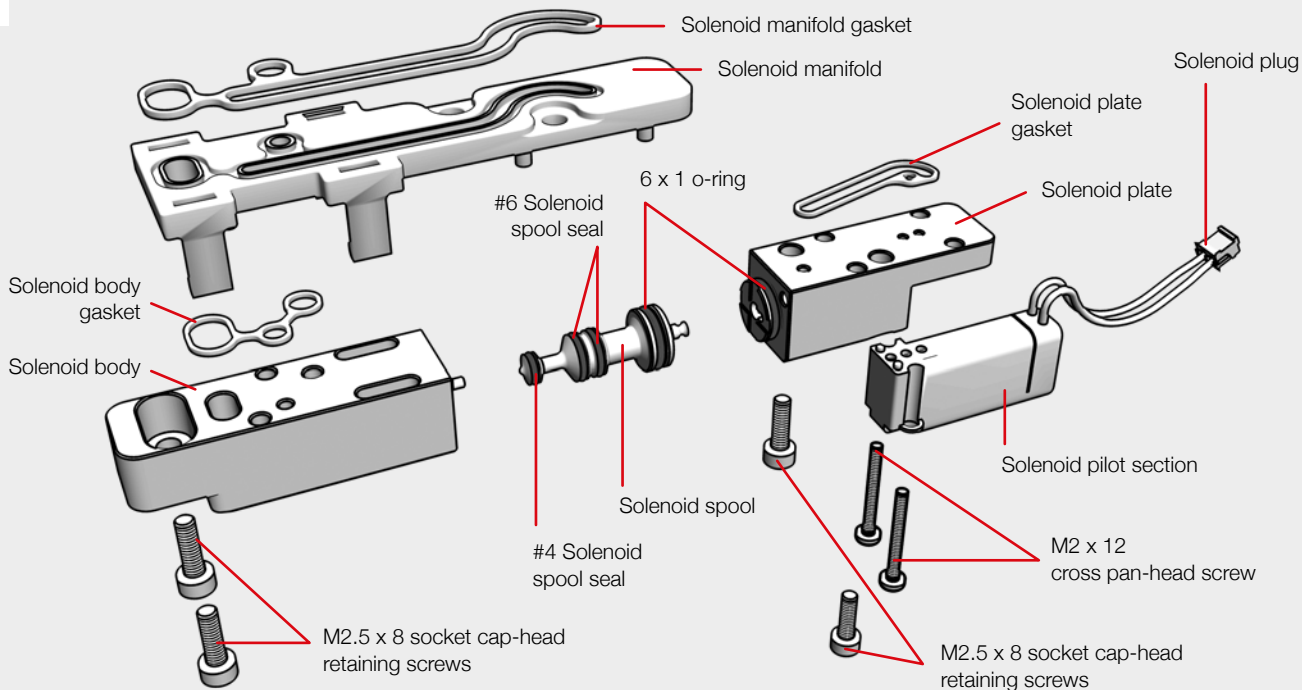
FIG-1



TECHNICAL INFORMATION

SOLENOID ASSEMBLY

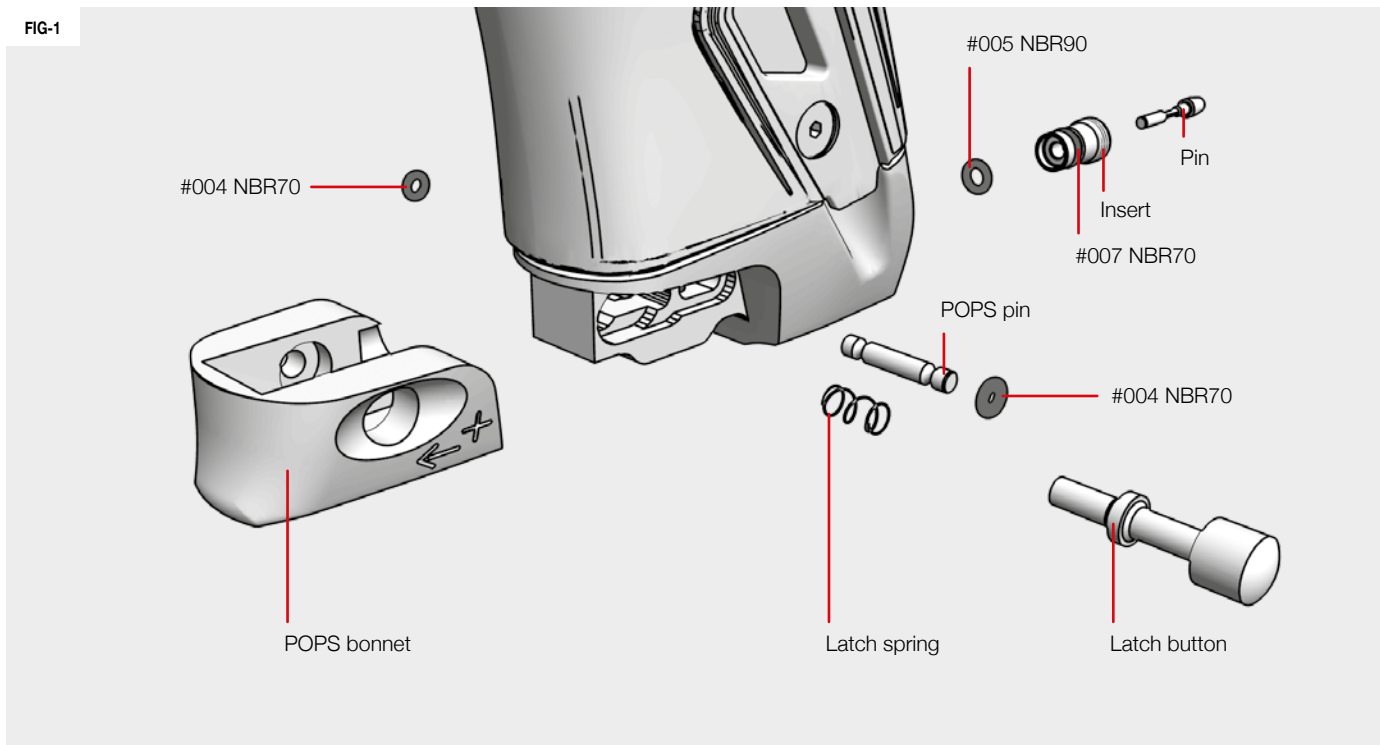
FIG-1



TECHNICAL INFORMATION

PUSH ON PURGE SYSTEM (POPS) ASSEMBLY

FIG-1



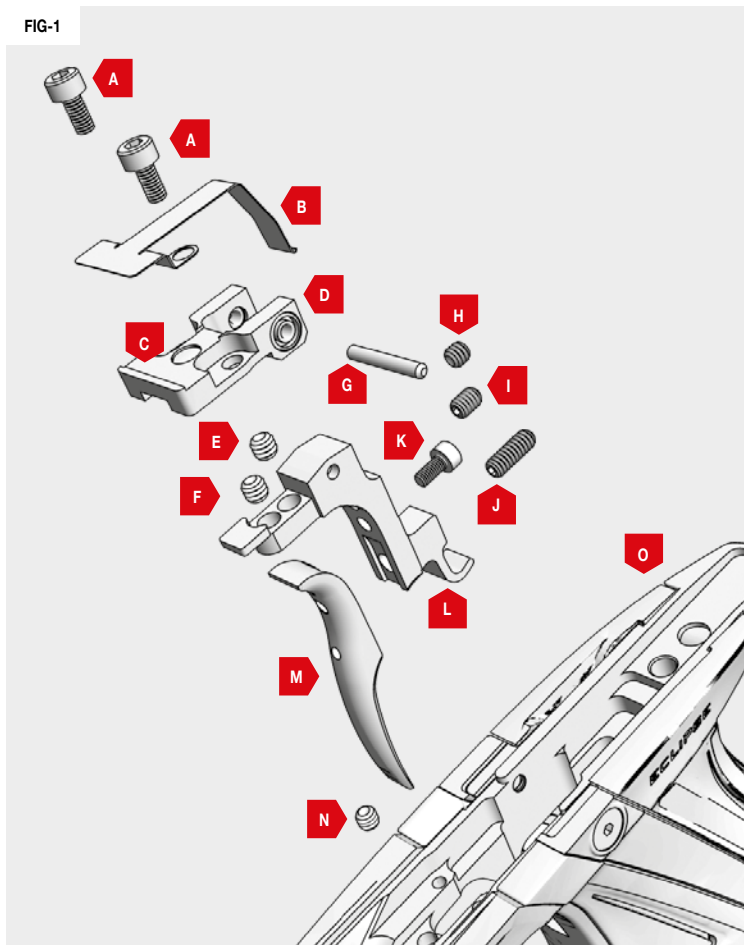
TECHNICAL INFORMATION

TRIGGER ASSEMBLY

FIG-1

- A** Bearing carrier screws (M2.5 x 5 cap-head socket)
- B** Trigger spring
- C** Magnet
- D** Bearing carrier
- E** Pre-travel adjuster screw (6-32 UNC x 1/8" socket set)
- F** Magnet adjuster screw (6-32 UNC x 1/8" socket set)
- G** Trigger pin
- H** Trigger pin locking screw (6-32 UNC x 1/8" socket set)
- I** Spring adjuster screw (6-32 UNC x 3/16" socket set)
- J** Microswitch screw (6-32 UNC x 3/8" socket set)
- K** Trigger shoe retaining screw
- L** Trigger
- M** Trigger shoe
- N** Post-travel adjuster screw (in frame)
6-32 UNC x 1/8" socket set
- O** CS1 frame

FIG-1

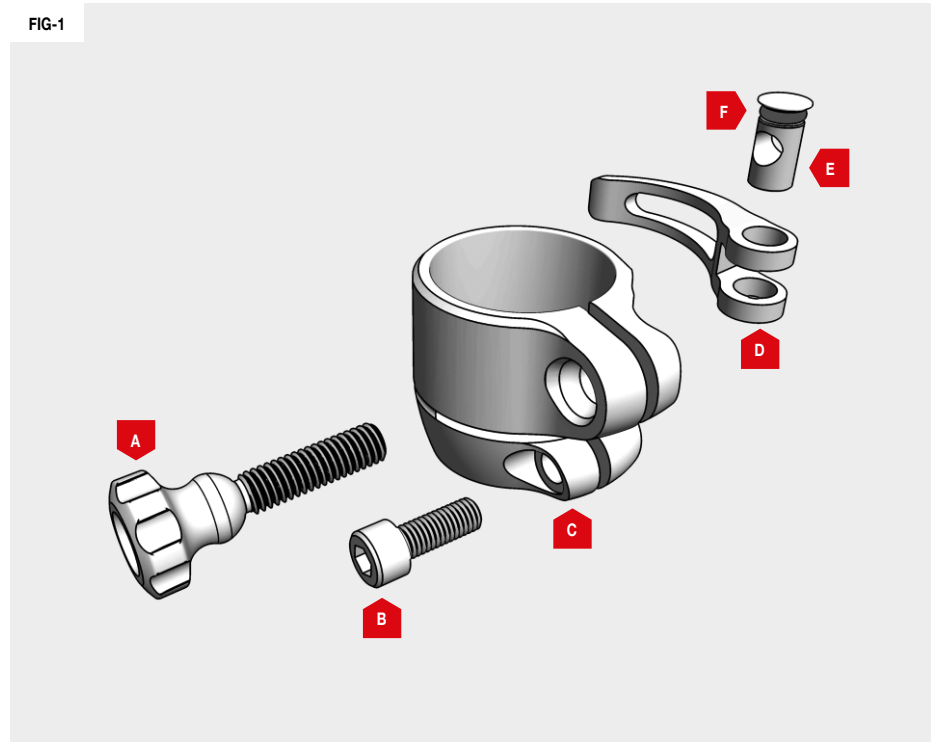


TECHNICAL INFORMATION

CLAMPING FEED TUBE ASSEMBLY

FIG-1

- A** Feed neck lever screw
- B** Short clamping feed screw
10-32 UNF x 1/2"
- C** Feed tube
- D** Feed lever
- E** Feed swivel
- F** Feed swivel o-ring
#006 NBR70

FIG-1

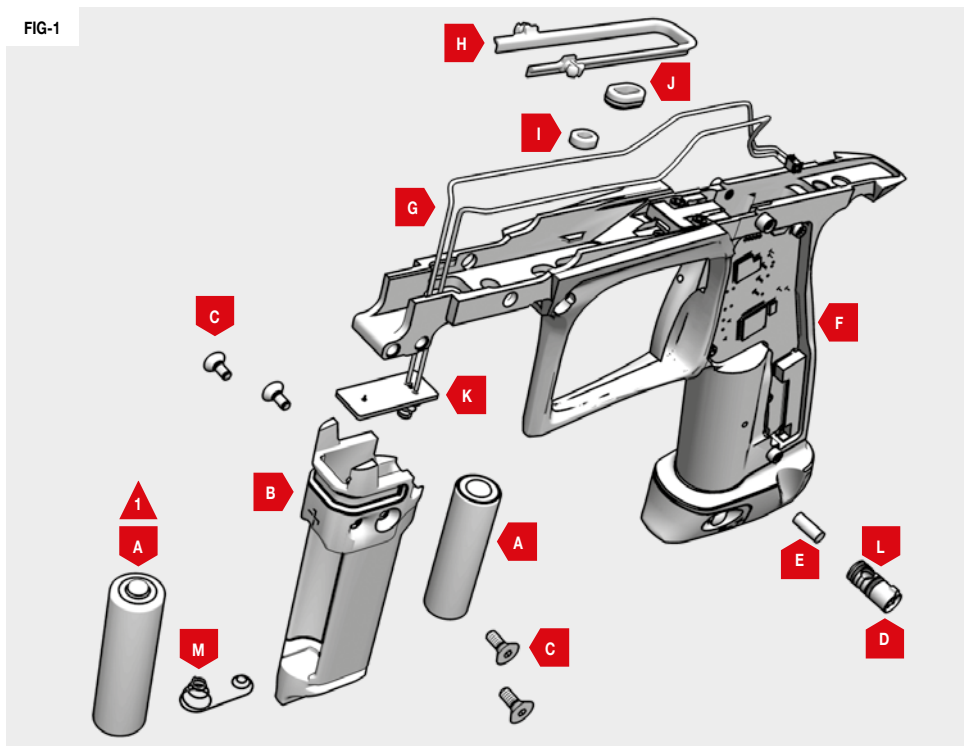
TECHNICAL INFORMATION

FRONT FRAME ASSEMBLY

- A** AA battery
- B** Battery holder
- C** Battery holder screws (x4)
6-32UNC x 5/16
countersunk socket screws
- D** SFR assembly
- E** SFR filter
- F** Frame assembly
- G** Power cable
- H** Wire tidy
- I** Solenoid output seal
- J** Solenoid input seal
- K** Battery terminal circuit board
- L** 4 x 1 o-ring (x2)
- M** Battery jumper

i **DO NOT** use re-chargeable or poor quality batteries.

FIG-1

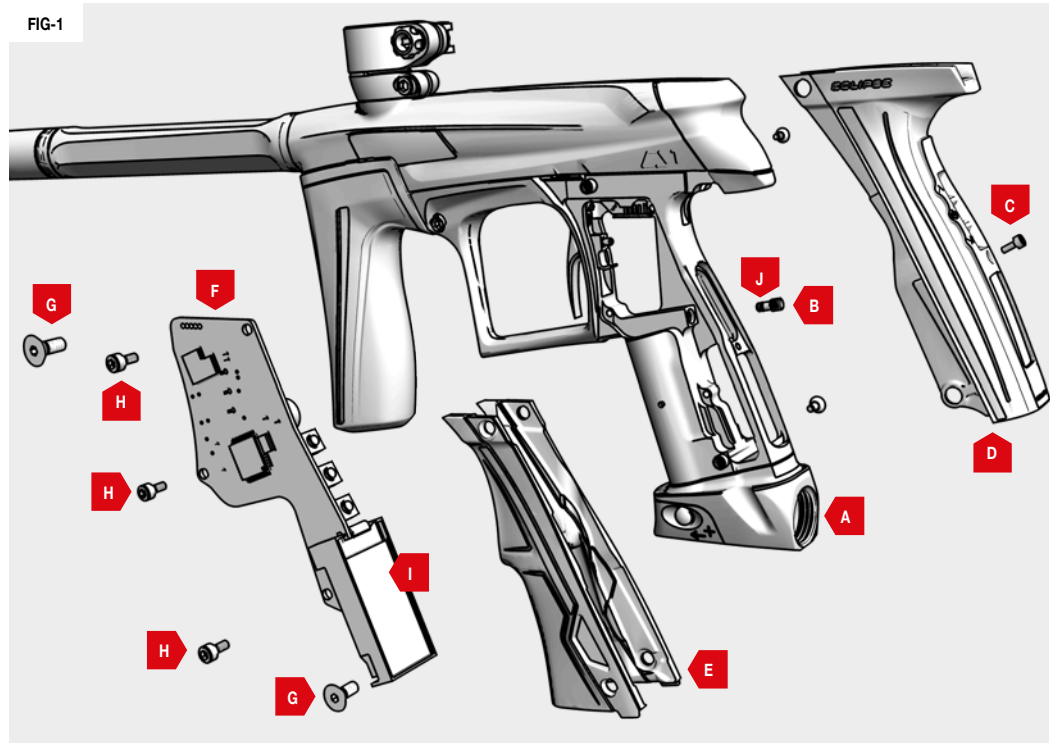


TECHNICAL INFORMATION

REAR FRAME ASSEMBLY

- A** POPS (built into frame)
- B** Frame plug
- C** Rear grip screw
M2.5 x 5 socket cap-head
- D** Rear grip section
- E** Front grip section
- F** Primary circuit board
- G** Grip screws x4
6-32UNC x 5/16
countersunk socket screws
- H** CS1 Circuit board screws (x3)
M2.5 x 5 socket cap-head
- I** LCD module
- J** 2 x 1 o-ring

FIG-1

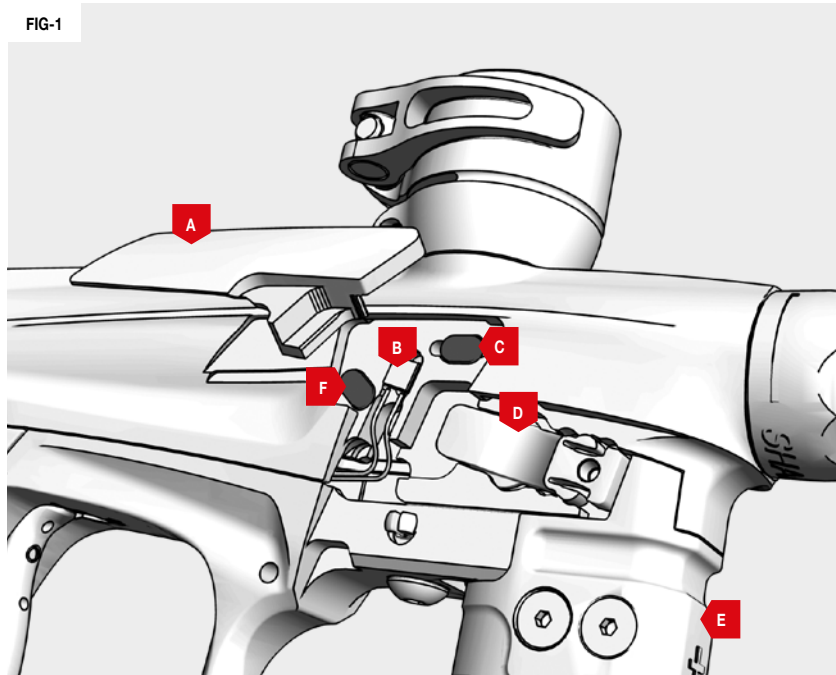


TECHNICAL INFORMATION

BREECH SENSOR (BS) ASSEMBLY

FIG-1

- A** Breech sensor cover
- B** Breech sensor
- C** Rubber detent
- D** Breech sensor cover retention clip
- E** Battery holder
- F** Spare rubber detent

FIG-1

The CS1 has three circuit boards. Two in the grip frame and the battery terminal board in the top of the foregrip, which powers the main circuit board.

FIG-1 - CS1 primary circuit board

- A** LCD module
- B** Navigation console push buttons
- C** Tournament lock button
- D** Power supply socket
- E** Microswitch
- F** Trigger OPTO sensors
- G** E-portal socket
- H** Secondary circuit board connector pins

FIG-2 - CS1 secondary circuit board

- I** Solenoid socket
- J** BS socket
- K** Secondary circuit board connector contacts

FIG-3 - CS1 battery terminal circuit board

- L** Battery terminal circuit board
- M** Primary circuit board power supply
- N** Battery holder

FIG-1

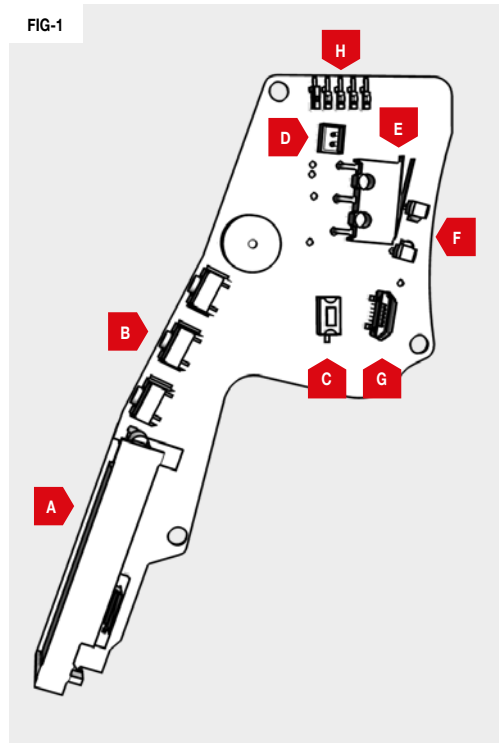


FIG-2

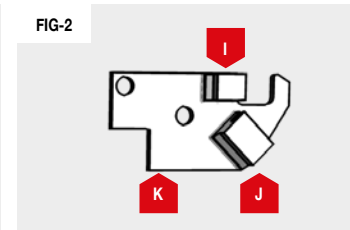
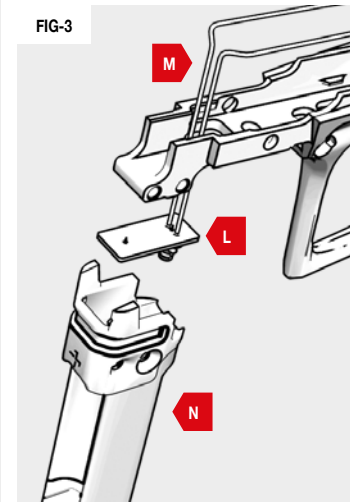


FIG-3



E-portal is a PC application that lets you connect to your CS1 via a USB cable. Amongst other things you can use E-portal to:

- 1 Upgrade the CS1 firmware.
- 2 Change the start-up splash screen.
- 3 Modify control parameters.

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

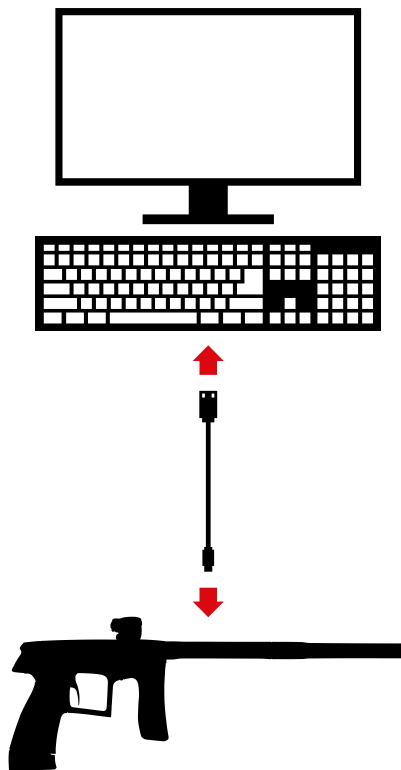
Requirements

A USB Type A - Micro B ¹ cable is required to connect the CS1 to a PC. This cable is not supplied with the CS1 but is available from any good electrical retailer.

¹ This is the older, 5 pin Micro B connector NOT the newer USB 3.0 Micro B connector.

Download E-Portal from our marker support page below:

PLANETECLIPSE.COM/EPORTAL



WARNING!



Ensure the CS1 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

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!



QUALITY

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



STANDARD

Your Eclipse marker is awesome and requires no aftermarket parts, however, for genuine Eclipse accessories that compliment your playing preference or individual style consult your local Eclipse Dealer for upgrade options.

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

A

Adjuster bottom: **46**
 Adjuster o-ring: **46**
 Adjuster top: **46**
 Air system: **07,15,40,42,56**
 ALARM: **33,37**
 ALL: **02,31,36**
 AUTO OFF: **31,36**

B

BACKLIGHT: **30,36**
 Barrel: **02,07,15,16,39,40,41**
 Batteries: **04,16,39,40,42,43,52**
 Battery holder: **39,45,52,55**
 Battery level indicator: **09**
 Battery terminal circuit board: **52,55**
 Bearing carrier: **50**
 BLU LEVEL: **30,36**
 Bolt bonnet: **47**
 Bolt can: **47**
 Breech sensor (BS): **04,08,09,18,23,24,27,3**
4,35,41,43,45,55
 BS OFF ROF: **23,34**
 BS ON ROF: **23,24,34**
 BUTTON: **33**

C

Circuit boards: **04,55**
 Clamping feed neck: **07,15**

Clamping feed tube: **51**
 CONTRAST: **31,36**

D

DBL CLICK: **31**
 DEBOUNCE: **27,35**
 Delay: **27,35**
 Double-click: **08,31**
 Down: **08,21**
 DWELL: **26,35,43**

E

EMPTY: **27,35**
 E-portal: **55,56**
 EXIT: **21,37**

F

Factory: **19,20,22,29,38,46**
 FACTORY: **22,34**
 FAULT FINDING: **04,40,41,42,43**
 Feed neck lever: **07,15**
 FILTER: **27,35,46,52**
 FIRE MODE: **23,34**
 Firing: **08**
 Foregrip: **39,45,55**
 Frame assembly: **45,52**
 Frame plug: **53**
 Front frame screw: **45**
 Front grip section: **53**
 FSD COMP: **26,35**

FSD DLY: **26**
 FULL: **27,35,57**

G

GAME: **09,33,37**
 GAME TIMER: **09,33,37**
 GAUGE: **32,37**
 GAUGE MAX: **32,37**
 Grip screws: **13**
 GRN LEVEL: **30,36**

H

HARDWARE: **08,19,28,29,36**
 HI PWR: **29,36**

K

KICK IN: **24,25**

L

LCD: **08,13,21,30,31,33,36,53,55**
 LEVEL1: **27**
 LEVEL9: **27**
 LINEAR: **24,35**
 LOAD: **22,38**
 Loader: **07,15**
 Lock indicator: **09**
 Lock/unlock: **13**
 LO PWR: **29,36**

M

Magnet: **50**

Magnet adjuster screw: **12,50**
 MAIN MENU: **34,35,36,37**
 Maintenance videos: **04,17**
 Marker settings: **08,20,22**
 Microswitch: **12,19,29,50,54,55**
 Microswitch screw: **12**
 MS10: **22**

N

Navigation buttons: **08**
 Navigation console: **08,45,55**

O

OPTO: **19,28,29,35,36,55**

P

Pin plunger: **47**
 Piston o-ring: **46**
 Plunger spring: **47**
 POPS: **04,07,10,15,40,43,45,46,49,53**
 POPS assembly: **46**
 POPS bonnet: **07,10,15,43,45,49**
 POPS pin: **49**
 POPS screws: **46**
 POPS seal: **46**
 Post-travel adjuster screw: **50**
 Post-travel screw: **12**
 Power cable: **52**
 POWER UP: **31**
 Preset: **22,38,40,42**

PRE-SET: **07,15,22,23,34**
 Pre-travel adjuster screw: **50**
 Pre-travel screw: **12**
 Primary circuit board: **45,53,55**
 Propshaft: **47**
 Propshaft back cap: **47**
 PSP10: **22,34**
 PULL PT: **28,35**
 PULL TM: **28,35**
 Purge poppet: **46**
 Push On Purge System: **04,45**

Q

Quick-release bolt: **45**

R

RAMP: **23,24,34,35**
 RAMP SET-UP: **35**
 Rate: **11,23,24,25,34,35,41**
 Rear frame screw: **45**
 Rear grip screw: **08,53**
 Rear grip section: **53**
 RED LEVEL: **30,36**
 Regulator body: **46**
 Regulator piston: **46**
 Regulator seal: **46**
 Regulator spring 3: **46**
 RELEASE PT: **28,35**
 RELEASE TM: **28,35**

RESTART: **25,35**
 Retaining ring: **47**
 ROF: **09,18,23,24,34,41**
 ROF CAP: **23**
 Rubber detent: **45**

S

SAVE: **22,34**
 Secondary circuit board: **45,55**
 Select button: **08,21,31,33**
 SEMI: **23,24,34**
 SFR: **04,11,40,41,42,52**
 SHOT COUNT: **32,37**
 Shot counter: **09,32**
 SL5 inline regulator assembly: **45**
 Solenoid: **11,26,29,36,40,41,43,48**
 Solenoid assembly: **04,45**
 Solenoid body: **48**
 Solenoid body gasket: **48**
 Solenoid Flow Restrictor: **04,11,40,41,42**
 Solenoid input seal: **52**
 Solenoid manifold: **48**
 Solenoid manifold gasket: **48**
 Solenoid output seal: **52**
 Solenoid pilot section: **48**
 Solenoid plate: **48**
 Solenoid plate gasket: **48**
 Solenoid plug: **48**

Solenoid spool: **48**
 Solenoid spool seal
 #6 o-ring: **48**
 Solenoid valve: **54,55**
 SOUND: **09,29,33,36**
 Sound indicator: **09**
 Spring adjuster screw: **50**
 Spring return screw: **12**
 ST3 bolt: **47**
 START: **04,06,07,08,09,10,11,12,13,14,15,16,25,33,35,37,56**
 ST Bolt: **47**
 STEP: **24,35**
 SUSTAIN: **24**
 SWITCH: **29,36**
 Switching Off: **08**
 Switching On: **08**

T

TIMING: **26,35**
 TONES: **29,36**
 Tournament lock button: **04,13**
 Training: **18,21,32,36**
 Transporting: **16**
 Trigger: **08,09,12,19,23,24,25,27,28,29,32,35,36,37,43,50**
 TRIGGER: **33,35,36,37**
 Trigger assembly: **04,45**
 Trigger detection indicator: **09,19**

Trigger pin: **50**
 Trigger shoe: **50**
 Trigger shoe retaining screw: **12**
 Trigger spring: **50**
 TURN OFF: **08,21**
 TYPE: **24,35**
U
 Up: **08,09,18,21**
 USER1: **22,34**
 USER2: **22,34**
 User interface: **04,09,20,21,22,23,24,25,26,27,28,29,30,31,32,33**

V

Velocity adjustment: **10**

W

WARNING!: **03,07,10,11,12,13,15,16,56**
 WARRANTY: **57**



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U.S. PATENTS:

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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; 60/832,548; 11/965,886; 10/280,115

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