
EGO LV1
USER MANUAL

⚠ WARNING ⚠

ADHERE STRICTLY TO THESE AND ALL OTHER SAFETY INSTRUCTIONS AND GUIDELINES!

01. PLEASE READ AND UNDERSTAND ALL INSTRUCTION MANUALS BEFORE USE.

02. The Eclipse Ego LV1 is not a toy. PAINTBALL SAFETY RULES MUST BE FOLLOWED AT ALL TIMES.

03. Careless or improper use, including failure to follow instructions and warnings within this User Manual and attached to the Ego LV1 could cause death or serious injury.

04. Do not remove or deface any warnings attached to the Ego LV1.

05. 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.

06. Hearing protection should be worn.

07. Never shoot at a person who is not wearing proper protection.

08. 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 Ego LV1 whilst the marker is switched on and able to fire.

09. Keep the Ego LV1 switched off until ready to shoot.

10. Treat every marker as if it is loaded and ready to fire.

11. The electronic on/off is the markers safety, always switch off the marker when not in use.

12. Always fit a barrel-blocking device to the Ego LV1 when not in use.

13. Always remove all paintballs from the Ego LV1 when not in use on the field of play.

14. Never point the Ego LV1 at anything you do not intend to shoot.

15. Do not shoot at persons within close range.

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

17. Do not pressurise the Ego LV1 without all the components of the marker correctly installed, as high-pressure gas may be emitted.

18. Do not fire the Ego LV1 without the bolt correctly installed.

19. Never put your finger or any foreign objects into the paintball feed tube of the Ego LV1.

20. Never allow pressurised gas to come into contact with any part of your body.

21. Always remove the first stage regulator and relieve all residual gas pressure from the Ego LV1 before disassembly.

22. Always remove the first stage regulator and relieve all residual gas pressure from the Ego LV1 for transport and storage.

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

⚠ WARNING ⚠

ADHERE STRICTLY TO THESE AND ALL OTHER SAFETY INSTRUCTIONS AND GUIDELINES!

24. Always store the Ego LV1 in a secure place.

25. Persons under 18 years of age must have adult supervision when using or handling the Ego LV1.

26. Observe all local and national laws, regulations and guidelines.

27. Use only professional paintball fields where codes of safety are strictly enforced.

28. Use compressed air/nitrogen only. DO NOT use any other compressed gas or pressurised liquid including CO_2.

29. Always follow instructions, warnings and guidelines given with any first stage regulator you use with the Ego LV1.

30. Use 0.68 inch calibre paintballs only.

31. Always measure your marker's velocity before playing paintball, using a suitable chronograph.

32. Never shoot at velocities in excess of 300 feet (91.44 meters) per second, or at velocities greater than local or national laws allow.

33. Any installations, modifications or repairs should be carried out by a qualified individual at a licensed and insured paintball facility.

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 (SEE SERVICE CENTRES PAGE 68).

This Users 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 monde d'emploi, demandez conseil à un expert.

ESTE MANUAL DE USUARIOS (OPERARIOS) USARIOS ESTÁ EN INGLÉS.
Contiene importantes normas de seguridad e instrucciones. Si no está seguro de algùn punto o no entiende los contenidos de este manual debe consultar con un experto.

DIESE BEDIENUNGS - UND BENUTZERANLEITUNG IST IN ENGLISCH.
Sie enthält wichtige Sicherheitsrichtlinen und -bestimmungen. Solten Sie sich in irgendeiner Weise unsicher sein, oder den Inhalte dies Heftes nicht verstehen, lassen Sie sich bitte von einen Experten beraten.

6 USING THE EGO LV1

Details on setting up the Ego LV1 and information on the user interface. This section is essential reading for everyone.

27 ADVANCED SET-UP

In depth information on setting up the Ego LV1.

42 MAINTENANCE
A guide to cleaning and performing routine maintenance on specific areas of the Ego LV1.

64 FAULT FINDING
Information on how to resolve any problems that might arise with your Ego LV1.

68 SERVICE CENTRES
Information on the location of your nearest Eclipse Service Centre.

69 TECHNICAL RESOURCES
Illustrated diagrams and component lists for key areas of the Ego LV1.

81 MENU TREE
A quick reference guide to the user interface.

85 ECLIPSE E-PORTAL
Information on the Eclipse E-Portal upgrade for Ego LV1.

86 INDEX
Ego LV1 Manual Index

WARRANTY CARD
Tear-out product registration card to be completed and returned. Alternatively register online at www.planeteclipse.com

FACTORY SET-UP GUIDE

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Before using the Ego LV1 it is important to make sure the SL4 inline regulator, low pressure regulator, solenoid flow restrictors (SFR) and all electronically controlled parameters are set correctly. All of these can have a negative effect on the performance of the marker if set incorrectly.

The steps below will restore the Ego LV1 settings to the factory settings. These settings will give the Ego LV1 a more balanced performance, ideal for the average user.

Inline Regulator Output Pressure
Check the inline regulator adjuster screw is set to 3 turns clockwise from its maximum out position *(SEE FIGURE 1A)*. This will ensure the SL4 inline regulator is set to an output pressure that will not damage the Ego LV1 when supplied with compressed air/nitrogen (see page 18 for more information on SL4 inline regulator adjustment).

LPR Output Pressure
Insert a 1/8" hex key into the LPR adjuster screw *(SEE FIGURE 1B)*. Gently screw the adjuster clockwise until a small amount of resistance is met. Now screw the adjuster counter-clockwise 1 turn. This is the factory LPR setting, see page 18 for more information on LPR adjustment.

Solenoid Flow Restrictor Settings
Check that the SFRs *(SEE FIGURE 1C)* are set to the following levels; return restrictor Ⓐ to level 5, forward restrictor Ⓑ to level 7. To access the SFRs, unscrew and peel away the right side of the grips. See page 19 for more information on the solenoid flow restrictors.

Electronically Controlled Parameters
Load the FACTORY preset *(SEE FIGURE 1D)* stored on the Ego LV1 circuit board. This preset will restore all the electronic parameters to their default settings. See page 29 on loading the FACTORY preset.

FIG 1A

FIG 1B

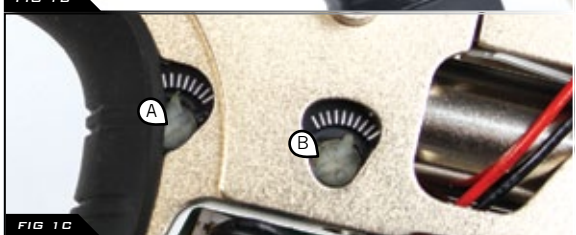


FIG 1C


FIG 1D

INSTALLING A 9V BATTERY

Ensure that the Ego LV1 is switched off. Lay the marker on a flat surface in front of you with the feed tube furthest away and with the barrel pointing to the right.

Use a 5/64" (2mm) hex key to remove the two countersunk screws that hold the rubber grip onto the frame *(SEE FIGURE 2A)*. Peel the grip to the right to expose the circuit board within the frame.

Remove the fitted battery by sliding your thumb or finger into the recess below the battery and levering the battery out of the frame *(SEE FIGURE 2B)*.

DO NOT pull on the top of the battery to remove it as this can cause the battery terminals to bend and will result in a poor electrical connection.

Fit a 9-volt alkaline battery (type PP3, 6LR61 or MN1604) into the recess with the battery terminals away from you. The positive terminal should be on the right hand side, nearest to the front side of the frame *(SEE FIGURE 2C)*. Planet Eclipse recommends using a branded high quality alkaline 9V battery. Budget and rechargeable batteries may cause performance issues.

Ensure that all of the wires are within the recess of the frame and away from the trigger, micro-switch and OPTO sensors so as not to interfere with their operation. Replace the rubber grip and screw in the two countersunk screws.

DO NOT OVER-TIGHTEN THE SCREWS.

FIG 2A

FIG 2B

FIG 2C

SWITCHING ON THE EGO LV1

To switch on the Ego LV1 press the ⏻ button twice in quick succession, referred to elsewhere in this manual as *'double-clicking'*. The Ego LV1 can also be switched on by pushing and holding the ⏻ button *(SEE FIGURE 3A)*.[1]

SWITCHING OFF THE EGO LV1

Press and hold the ⏻ button *(SEE FIGURE 3A)* until the display shows TURN OFF. Release the ⏻ button and re-press it to turn off the Ego LV1. Alternatively double click the ⏻ button to enter the menu tree then press ⏻ to turn off the Ego LV1.[1]

FIRING THE EGO LV1

Pull the trigger *(LABELLED Ⓐ IN FIGURE 3B)* to fire the Ego LV1. The entire firing sequence is controlled electronically by the Ego LV1 circuit board, enabling any user to easily achieve high rates of fire.

FIG 3A

FIG 3B

[1] *The double clicking feature is user selectable, factory default is set to on. It can be turned off using the Double Click parameter in the Hardware menu (see page 39).*

USING THE BREAK BEAM SENSOR SYSTEM

The Break Beam Sensor System, referred to elsewhere in this manual as *'BBSS'* is used to detect when a paintball is ready to be fired from the Ego LV1. If no paintball is ready then the BBSS will inhibit the Ego LV1 from firing. This prevents the Ego LV1 from "chopping" paintballs that are not fully loaded into the marker.[1]

To switch off the BBSS, press and hold the button for 0.5 seconds *(SEE FIGURE 4A)*. The BBSS indicator on the top right of the LCD will change from (enabled) to (disabled).

To switch the BBSS back on, press and hold the button for 0.5 second. The indicator will change back to .

When the BBSS is enabled, the indicator will change depending upon whether the system has detected a ball or not. When no ball has been detected the indicator will look like this . When a ball has been detected the icon changes to look like this .

Additional features of the Ego LV1's Break Beam Sensor System are covered in full on page 23 of this operators manual.

[1] *When the Ego LV1 is turned on, the Break Beam Sensor System is automatically enabled.*

FIG 4A

THE EGO LV1 NAVIGATION CONSOLE

At the rear of the Ego LV1 grip frame you will find the navigation console *(SEE FIGURE 5A)* which is used for:

> Turning the Ego LV1 on and off using the button.

> Scrolling through menus with the and buttons.

> Selecting parameters to edit using the button.

> Editing parameters using the and buttons.

> Turning the Ego LV1 BBSS on and off using the button (push and hold).

> Resetting recorded values using the button (push and hold).

> Controlling the game timer with the button (quick push and release).

> Scrolling through the various run screens using the Button (quick push and release).

FIG 5A

⚠WARNING⚠

THE BACKLIGHT ON THE LCD DISPLAY TURNS OFF AFTER A PERIOD OF TIME. WHEN THIS HAPPENS THE MARKER IS STILL ON AND ABLE TO FIRE.

TO ADJUST THE LCD BACKLIGHT SEE PAGES 38-39

INSTALLING A BARREL

⚠WARNING⚠

MAKE SURE THE MARKER IS TURNED OFF AND THAT NO PAINTBALLS ARE IN THE MARKER OR LOADER BEFORE INSTALLING A BARREL.

Every Ego LV1 comes complete with an Eclipse Shaft4 barrel (see page 72). The bore size of the Shaft4 barrel back is engraved on the barrel back just in front of the body threads.

To install the Shaft4 barrel, firstly screw the barrel tip and barrel back sections together. The threads on the Shaft4 barrel tip are REVERSE THREADED. To screw the two sections together, with the barrel pointing away from you, turn the barrel tip in a clockwise direction *(SEE FIGURE 6A)*.

While pointing the Ego LV1 marker in a safe direction, insert the assembled Shaft4 barrel into the front of the Ego LV1 body and screw the Shaft4 barrel into the Ego LV1 (in a counter-clockwise direction). Continue to screw the Shaft4 barrel into the Ego LV1 body until the barrel becomes snug in the body *(SEE FIGURE 6B)*. **DO NOT** over tighten the barrel.

Install a barrel blocking device over the barrel such as the Eclipse barrel sock supplied with the Ego LV1[1] *(SEE FIGURE 6C)*. You have now installed the barrel.

[1] *Instruction on using the Eclipse Barrel Sock can be found on the Eclipse Barrel Sock warning label.*
The Eclipse Barrel Sock that comes with the Ego LV1 may differ from that pictured in this manual.

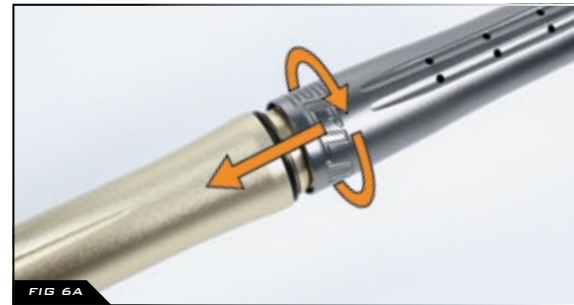


FIG 6A

FIG 6B

FIG 6C

TRIGGER ADJUSTMENT

The Ego LV1 provides the user with the option to use either a micro-switch or an OPTO sensor (default OPTO) as the means for detecting trigger pulls. Before you begin to adjust and set your trigger, you must first select the method of trigger detection that you wish to use by entering the main menu and making your selection from the hardware menu (see page 37).

There are five adjustment points on the trigger – the front stop screw, the rear stop screw, the magnet return strength screw, the micro-switch activation screw and the spring return strength screw.

Figure 7A Key

Ⓐ - Trigger leaf spring
Ⓑ - Spring return strength screw
Ⓒ - Trigger pin retaining screw
Ⓓ - Front stop screw
Ⓔ - Magnet return strength screw
Ⓕ - Micro-switch activation screw
Ⓖ - Rear stop screw
Ⓗ - OPTO sensor activation prong

As standard each Ego LV1 comes with a factory set trigger travel of approximately 2mm in total length; one millimeter of travel before the firing point and one millimeter of travel after the firing point, and the trigger detection method set to OPTO.

The front stop screw is used to set the amount of trigger travel prior to the marker firing. Turn this screw clockwise to reduce the amount of travel. Do not turn the screw too far or the trigger will be pushed past the firing point and the marker will not work. Turn this screw counter-clockwise to increase the amount of trigger travel *(SEE FIGURE 7B)*.

The rear stop screw is used to set the amount of travel after the marker has fired. Turn this screw clockwise to reduce the amount of travel. Do not turn the screw too far or the trigger will be prevented from reaching its firing point and the marker will not work. Turn this screw counter-clockwise to increase the amount of travel *(SEE FIGURE 7C)*.

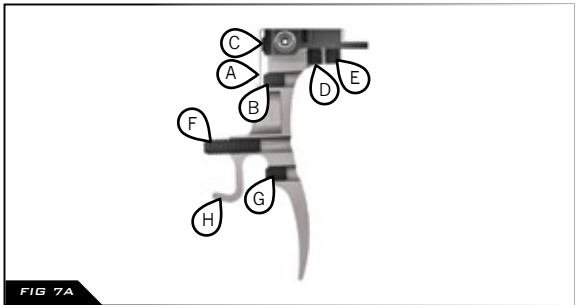


FIG 7A

FIG 7B

FIG 7C

CONTINUED

The magnet return strength screw is used to adjust the amount of force with which the trigger is returned to its rest position by the magnet. Turn the screw clockwise to increase the amount of force. Do not turn the screw too far or it will negate the position of the front stop screw. Turn the screw counter-clockwise to reduce the amount of force. Do not turn the screw too far or there may not be enough force to return the trigger *(SEE FIGURE 7D)*.

The micro-switch activation screw is used to adjust the point in the trigger pull at which the micro-switch is activated (only if the Trigger parameter on page 37 is set to 'SWITCH'). Turn the screw clockwise to decrease the amount of trigger travel to the activation point. Turn the screw counter-clockwise to increase the amount of trigger travel to the activation point *(SEE FIGURE 7E)*. Do not set the micro-switch activation screw too far out when using the OPTO sensors, as the screw can stop against the micro-switch before the trigger prong enters the OPTO sensors.

The spring return strength screw is used to adjust the spring strength that returns the trigger to its resting position. Turn the screw clockwise to increase the amount of spring return strength in the trigger pull. Turn this screw counter-clockwise to reduce the amount of spring return strength in the trigger pull. Do not turn the screw too far counter-clockwise or there will not be enough force to return the trigger consistently *(SEE FIGURE 7F)*.

When setting the trigger it is important to ensure that the electronic trigger detection is working correctly. When the trigger is fully depressed the Trigger Detection Indicator (TDI) should point upwards ▲. When the trigger is fully released the TDI should point downwards ▼.
For more information, see understanding the Trigger Detection Indicator (TDI) on page 24 and the Filter menu on pages 34-35.

FIG 7D

FIG 7E

FIG 7F

ATTACHING A LOADER

⚠WARNING⚠

DO NOT OVER TIGHTEN THE CLAMPING FEED TUBE AS THIS MAY DAMAGE THE LOADER OR FEED TUBE ITSELF.

Using a 5/32" hex key or your fingers, turn the sprocket screw of the clamping feed tube counter-clockwise *(SEE FIGURE 8A).*

Release the clamping lever on the feed tube *(SEE FIGURE 8B)* and test to see if your loader can easily be pushed into the top of the feed tube. If the loader cannot easily be pushed into the feed tube, loosen the sprocket screw of the clamping feed tube a little more by turning it counter-clockwise using a 5/32" hex key or your fingers *(SEE FIGURE 8A).*

When you have managed to push your loader into the clamping feed tube, close the clamp to secure it firmly in place *(SEE FIGURE 8C).* If the loader is loose then you will need to release the clamp, tighten the sprocket screw slightly by turning it clockwise with a 5/32" hex key or your fingers and close the clamp. Repeat this process as necessary to secure your loader in place.

You have now attached a loader to your Ego LV1. Once you have filled your loader and air tank you will then be ready to begin using your Ego LV1.

FIG 8A

FIG 8B

FIG 8C

THE GAS THROUGH PIPE

⚠WARNING⚠

IF THE GAS PIPE ASSEMBLY IS NOT CORRECTLY INSTALLED HIGH PRESSURE GAS WILL BE EMITTED.

THERE IS NO NEED TO UNSCREW OR REMOVE THE GAS PIPE ASSEMBLY DURING DAY TO DAY USAGE OF THE MARKER.

Compressed gas is transferred from the frame to the inline regulator via gas pipe assembly *(SEE FIGURE 9A)*, comprising of a gas pipe section Ⓐ and pipe nut section Ⓑ. It is essential that this gas pipe assembly is correctly installed before the marker is supplied with compressed gas.

IF THE PIPE IS NOT CORRECTLY INSTALLED HIGH PRESSURE GAS WILL BE EMITTED.

Before installing the gas pipe assembly, firstly inspect the o-rings on the pipe for any debris or damage *(LABELLED Ⓒ FIGURE 9A)*. Cleaning or replacing as necessary.

Also inspect the receiver holes in the frame *(SEE FIGURE 9B)* and SL4 inline regulator *(SEE FIGURE 9C)* for any debris or dirt, cleaning as necessary.

Screw the pipe section into the nut section fully before attempting to install the gas pipe assembly in the marker *(SEE FIGURE 9D)*.

Insert the o-ring end of the pipe nut section into the SL4 regulator swivel *(SEE FIGURE 9E)*.

Rotate the swivel and gas pipe assembly to align the gas pipe section with the gas port in the frame.

Holding the pipe nut section in place inside the SL4 regulator swivel, screw the gas pipe section clockwise to extend it into the frame *(SEE FIGURE 9F)*.

If the gas pipe assembly can slide backwards and forwards, then the pipe is not fully installed and needs to be extended further.

THE GAS PIPE ONLY NEEDS TO BE REMOVED FOR MAINTENANCE PROCEDURES THAT REQUIRE REMOVAL OF THE SL4 INLINE REGULATOR OR THE FRAME ASSEMBLY.

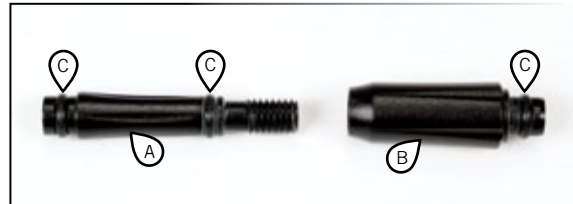


FIG 9A


FIG 9B


FIG 9C


FIG 9D


FIG 9E


FIG 9F

⚠ WARNING ⚠

MAKE SURE THE MARKER IS TURNED OFF WITH A BARREL BLOCKING DEVICE INSTALLED AND THAT NO PAINTBALLS ARE IN THE MARKER OR LOADER BEFORE INSTALLING AN AIR SYSTEM.

COMPRESSED AIR AND NITROGEN SYSTEMS CAN BE EXTREMELY DANGEROUS IF HANDLED OR USED INCORRECTLY.

ONLY USE AN AIR SYSTEM CERTIFIED FOR USE WITHIN THE TERRITORY OF INTENDED USE.

THE EGO LV1 CANNOT BE USED WITH CO2. ONLY USE COMPRESSED AIR OR NITROGEN.

NEVER ADD ANY LUBRICANTS OR GREASES INTO THE FILL ADAPTER 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 EGO LV1 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 EGO LV1 UNTIL YOU FEEL COMPLETELY CONFIDENT WITH YOUR ABILITY TO HANDLE THE MARKER SAFELY AND RESPONSIBLY.

ALWAYS RELIEVE ALL RESIDUAL GAS PRESSURE FROM THE EGO LV1 BEFORE UNSCREWING THE PRESET AIR SYSTEM.

CONTINUED

CHECK THAT THE GAS PIPE ASSEMBLY IS CORRECTLY INSTALLED. SEE PAGE 15 FOR INSTALLATION INSTRUCTIONS OF THE GAS PIPE.

CHECK THAT THE POPS RETAINING SCREWS ARE TIGHT. IF THE POPS CAN BE MOVED ON THE FRAME THE SCREWS ARE TOO LOSE. USE A 5/32" HEX KEY TO TIGHTEN THE SCREWS.

Every Ego LV1 comes complete with an Eclipse Push On Purge System *(POPS)* which provides a direct connection for a preset air system. Before screwing an air system into the POPS ensure that the bonnet is disengaged in its forward position *(SEE FIGURE 10A)*. If the bonnet is engaged, depress the latch button and slide the bonnet forward.

Screw the preset air system into the POPS *(SEE FIGURE 10B)* so that the bottle screws in all the way and is tight. Pull the bonnet backwards allowing the POPS pin to depress the pin in the preset air system causing the Ego LV1 to become pressurised (providing that there is sufficient air in your tank) *(SEE FIGURE 10C)*. When the bonnet has been pulled back far enough it engages with the POPS body.[1,2]

You have now installed a preset air system onto your Ego LV1.

FIG 10A

FIG 10B

FIG 10C

[1]*High, mid and low pressure output preset air systems can be used with the Ego LV1, providing the Ego LV1 has the SL4 inline regulator originally supplied with the marker.*

[2]*The force needed to engage the bonnet may vary depending on the output pressure and internal design of the air system being used.*

VELOCITY ADJUSTMENT

When using your Ego LV1, you may wish to change the velocity at which your Ego LV1 is firing. This is done by inserting a 1/8" hex key into the adjuster screw at the bottom of your Ego LV1 inline regulator and adjusting it accordingly *(SEE FIGURE 11A)*. By turning this adjuster screw clockwise you decrease the output pressure of the inline regulator and consequently the velocity; by turning the adjuster screw counter-clockwise you increase the output pressure of the inline regulator and consequently the velocity. On the bottom of the inline regulator sleeve there are arrows to illustrate which direction to turn the hex key to make the relevant adjustment.[1,2,3]

FIG 11A

LOW PRESSURE REGULATOR ADJUSTMENT

When using the Ego LV1, you may wish to change the output pressure of the LPR. This is easily done by inserting a 1/8" hex key into the adjuster screw at the front and adjusting it accordingly *(SEE FIGURE 11B)*. However we recommend that the LPR adjuster screw be left set 1 turn out (counter-clockwise) from the adjuster screws maximum closed position (clockwise). This is the factory default setting (see page 6).

By turning the adjuster screw clockwise, you decrease the output pressure of the LPR and consequently reduce the pressure driving the rammer back and forth. By turning the adjuster screw counter-clockwise, you increase the output pressure of the LPR and consequently increase the pressure driving the rammer back and forth.

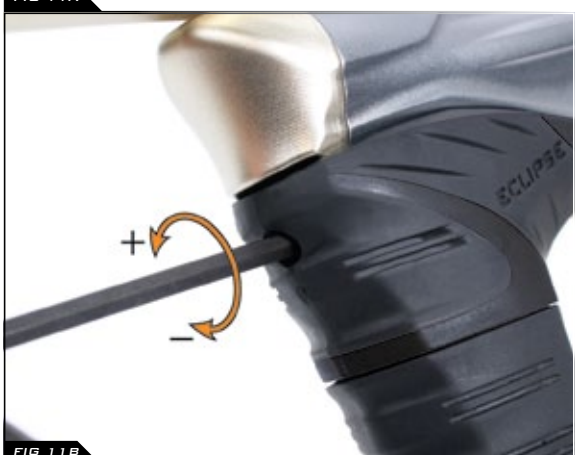


FIG 11B

[1]After each adjustment fire two clearing shots to gain an accurate velocity reading. Never exceed 300fps.
[2]High, mid and low pressure output preset air systems can be used with the Ego LV1, providing the Ego LV1 has the SL4 inline regulator originally supplied with the marker.
[3]Turning the SL4 adjuster screw in too far will prevent the Ego LV1 from firing.

SOLENOID ADJUSTMENT

The following section covers direct adjustment of the solenoid valve which should only be undertaken by users with a sound knowledge of the Ego LV1 firing cycle. Setting either restrictor incorrectly may cause performance issues.

Built into the right side of the solenoid valve are two solenoid flow restrictors SFR(s) which control the exhaust flow from the rammer bore on the backward stroke (Restrictor Ⓐ) and forward stroke (Restrictor Ⓑ) *(SEE FIGURE 12A)*. By controlling the exhaust flow from the rammer bore, the speed of the rammer during its forward and backward strokes can be sped up or slowed down. The SFRs can be adjusted using a small flat headed screw driver.

Each restrictor has a range of adjustability from 1(-) to 10 (+). Setting an SFR at 1 will provide the MINIMUM level of exhaust flow from that restrictor. Setting an SFR at 10 will provide the MAXIMUM level of exhaust flow.

By setting these restrictors at different levels of flow the user can control how the marker performs and feels when firing the marker.

Setting the restrictors to a higher level of flow will allow for higher cycles per second (dependent on the ROF Cap, see page 30). However these higher settings will also reduce the smoothness of the firing cycle compared to setting the restrictors at a lower level of flow.[1]

Setting the restrictors to a lower level of flow will increase the smoothness of the firing cycle, however reducing the flow also lowers the cycling rate of the Ego LV1.[1]

RESTRICTOR B CONTROLS THE FORWARD STROKE OF THE RAMMER. AS SUCH IT HAS THE ABILITY TO DIRECTLY CONTROL THE VELOCITY OF THE PAINTBALL. SETTING RESTRICTOR B BELOW LEVELS 6-7 ON THE SCALE WILL START TO REDUCE THE VELOCITY BELOW THE OPTIMAL SETTING. THIS HOWEVER MAY BE IDEAL FOR INDOOR/RE-BALL USE.

SOLENOID FLOW RESTRICTOR PRESETS

Below are a list of recommended settings and their effects on the Ego LV1. The settings are expressed in the following format 1/6 where the first number is the flow level of Restrictor A and the second is the flow level of Restrictor B.[1]

> EGO LV1 FACTORY SETTING - 5/7 - this setting will provide a smooth shooting marker with a reasonable rate of fire, ideal for most ramping presets (eg PSP10, PSP12 etc).

> HIGH RATE OF FIRE - 10/10 - this setting will provide optimal cycling speeds but will have slightly more kick than the factory setting. Ideal for unlimited rate of fire modes

> SMOOTH SHOT - 1/7- this setting will provide a very smooth shot and a low cycling speed. Ideal for low rate of fire modes.

[1] *These results may differ due to the LPR output pressure and Dwell settings on the Ego LV1.*

⚠ WARNING ⚠

EXCESSIVE FORCE OR ADJUSTMENT WITH ANYTHING OTHER THAN THE RECOMMENDED TOOLS AND/OR OUTSIDE OF THE RECOMMENDED RANGES MAY DAMAGE THE SOLENOID VALVE

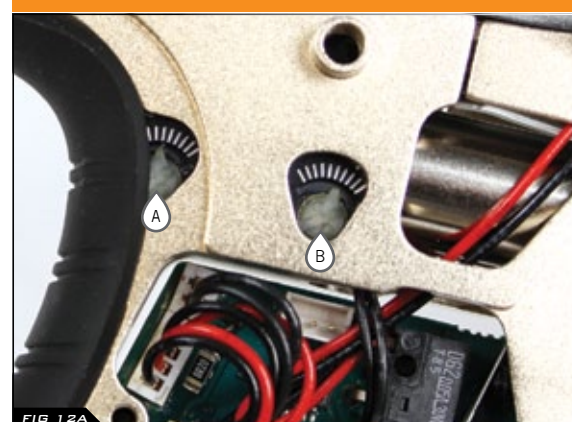


FIG 12A

UNLOADING THE EGO LV1

⚠WARNING⚠

ALWAYS KEEP THE ECLIPSE EGO LV1 POINTED IN A SAFE DIRECTION AND ENSURE ALL PERSONS WITHIN RANGE CONTINUE TO WEAR FACE PROTECTION, UNTIL MARKER IS COMPLETELY UNLOADED AND SAFE.

Securely attach a barrel blocking device such as the Eclipse Barrel Sock[1] (supplied with the Ego LV1) to the marker as shown in *FIGURE 13A*.

Turn off the Ego LV1 electronics by holding down the ⏻ button on the back of the frame. When the screen turns off and the marker speaker emits the 'off' tone (if the *Sound* parameter is enabled), the marker has been turned off *(SEE FIGURE 13B)*.

With the Ego LV1 pointing away from you. De-gas the marker by depressing the POPS latch button allowing the bonnet to slide forward and vent air. Only when the POPS has fully degassed the Ego LV1 marker, unscrew and remove the air system[2] *(SEE FIGURE 13C)*.

Open the clamping lever on the feed tube and slacken off the sprocket screw if necessary on the feed tube. Carefully pull the loader out of the feed tube *(SEE FIGURE 13D)*.

Looking down the feed tube, check to see if there are any paintballs still in the breech, if there are, turn the marker upside down while still keeping the barrel facing away from any persons within firing range then tip out any paintballs within the breech *(SEE FIGURE 13E & 13F)*.

Next remove the barrel blocking device, and unscrew the barrel *(SEE FIGURE 13G)*. Remove any paintballs within the barrel. The Eclipse Ego LV1 has now been unloaded and is ready for storage.

[1]*Instruction on using the Eclipse Barrel Sock can be found on the Eclipse Barrel Sock warning label.*

[2]*The LPR on the LV1 is not self purging and may store a small amount of air in the LP hose after de-gassing the marker. This stored gas will move the rammer and bolt a small amount if the marker is fired but will not fire a complete shot. To purge the LPR, turn the marker back on after unloading it of any paintballs and fire a shot in a safe direction with the BBSS disabled.*


FIG 13A


FIG 13B

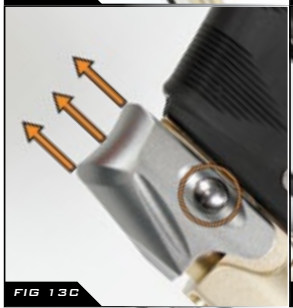


FIG 13C


FIG 13D


FIG 13E

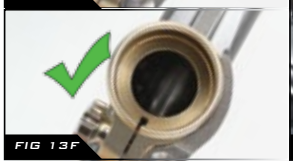


FIG 13F


FIG 13G

STORAGE AND TRANSPORTATION

CAUTION: NEVER CARRY YOUR ECLIPSE EGO LV1 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 ECLIPSE EGO LV1 (OR ANY OTHER PAINTBALL MARKER) IN A SUITABLE MARKER CASE SUCH AS THE ONE IN WHICH IT WAS SUPPLIED.

-Your Eclipse Ego LV1 must be clear of all paint and propellant during transportation or storage.

-Make sure the Eclipse Ego LV1 marker is off.

-Remove the barrel from the marker.

-Make sure the marker is clean of any paint residue, dirt and moisture.

-Store your Eclipse Ego LV1 in a clean, cool, dry place.

-Keep your Eclipse Ego LV1 away from any unauthorized and unsafe users.

-It may be a good idea to remove the battery when storing your Eclipse Ego LV1 to prevent unauthorized use.

-Protect your Eclipse Ego LV1 from excessive heat during transportation.

-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.

-Observe and obey all local and national laws concerning the transportation of paintball markers. For information concerning any of the laws in your area, contact your nearby law enforcement agency.

-When shipping the Eclipse Ego LV1 for any reason, Planet Eclipse recommends using the case in which the marker was originally supplied to protect the marker against rough handling during transport.

THE USER INTERFACE

The Ego LV1 has a simple user interface through which all aspects of its electronic control system can be monitored and adjusted by means of the three push buttons and graphical LCD which comprise the navigation console.

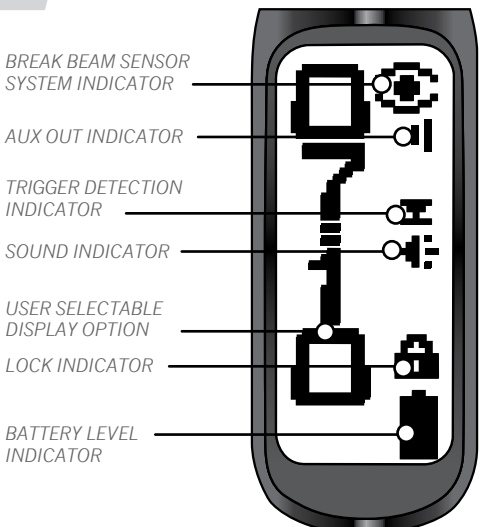
THE RUN SCREEN LAYOUT

The root of the user interface is the run screen which is the screen that is displayed most often when the Ego LV1 is on. The run screen has five display functions and the user can scroll through these functions by repeatedly pressing the button on the navigation console.

- *> GAME TIMER*
- *> SHOT COUNTER*
- *> PEAK RATE OF FIRE INDICATOR*
- *> ACTUAL RATE OF FIRE INDICATOR*
- *> SPLASH (MARKER LOGO[2])*

With the exception of the Splash, the run screen is vertically divided with the screen function displayed on the left and a series of status icons displayed on the right.

The SPLASH run screen will display the marker logo with a flashing / alternating backlight. THE MARKER IS STILL ABLE TO FIRE WHEN THIS SCREEN IS DISPLAYED.



[1] *The layout of the run screen is correct at time of printing. However newer versions of the Ego LV1 software may have a different layout of the run screen from what is printed in this manual. You may find some icons have been added or removed entirely. If you are unsure about any icons which do not feature in the manual contact your local dealer/service centre or Planet Eclipse directly.*
[2] *The splash graphic can be modified to display custom graphics with the Eclipse E-portal software sold separately (see page 85 for more information on Eclipse E-portal).*

THE BBSS INDICATOR

The BBSS is able to switch itself off in the event of a blockage or contamination preventing it from functioning correctly. In this instance, the BBSS will switch itself back on once the blockage is cleared and the correct operation can be resumed.

The BBSS indicator on the main screen is used to indicate the eight possible states of the BBSS as follows:

BBSS ENABLED AND BALL DETECTED
The Ego LV1 can be fired at the maximum rate of fire determined by the chosen firing mode.

BBSS FAULT HAS BEEN CLEARED AND BALL DETECTED
The system has been re-enabled. A ball is detected and the Ego LV1 can be fired at the maximum rate of fire determined by the chosen firing mode.

BBSS DISABLED
The Ego LV1 can be fired at a maximum rate of fire as set by the *BS OFF ROF* parameter (see page 30).

BBSS ENABLED IN TRAINING MODE
The BBSS has been over-ridden as the user has selected training mode. As the user has chosen to leave the BBSS on, the achievable rate of fire is limited by the firing mode.

BBSS ENABLED NO BALL DETECTED
The Ego LV1 cannot be fired.

BBSS FAULT HAS BEEN CLEARED AND NO BALL DETECTED
The system has been re-enabled. No ball is detected so the Ego LV1 cannot be fired. To reset the BBSS icon, use the button to switch off the BBSS and then back on again.

BBSS FAULT DETECTED
The system is disabled. The Ego LV1 can only be fired at a maximum rate of 2bps less than the maximum rate of fire, up to a maximum of 10 bps.

BBSS DISABLED IN TRAINING MODE
The BBSS has been over-ridden as the user has selected training mode. As the user has chosen to turn the BBSS off, the achievable rate of fire is limited by the *BS OFF ROF* parameter (see page 30).

THE AUX OUT INDICATOR

The auxiliary socket on the Ego LV1 circuit board allows third party products such as loaders or RF transmitters to be interfaced to the Ego LV1.

The AUX out indicator is turned on and off via the *AUX OUT* parameter (see page 39).

There are two possible conditions that can be indicated:

AUX OUT ENABLED
The AUX OUT is enabled. Each time the circuit board detects a valid trigger pull a signal will be sent to the AUX connector on the circuit board.

AUX OUT DISABLED
The AUX OUT is disabled. No signal will be sent to the AUX connector on the circuit board.

THE SOUND INDICATOR

The sound indicator on the run screen is used to convey if the Sound parameter in the Hardware menu (page 37) is switched on or off.

There are two possible conditions that can be indicated:

SOUND ENABLED
The *SOUND* parameter is enabled. The Ego LV1 will make sounds when switched on and off and when the game timer alarms or times out.

SOUND DISABLED
The *SOUND* parameter is disabled. The Ego LV1 will not make any sounds.

THE TRIGGER DETECTION INDICATOR

In order for the trigger to be successfully operated it must first be released and then pulled. The trigger detection indicator (TDI) is used to indicate each of the possible trigger states.

OPTO SENSOR SELECTED, READING 0%
The Ego LV1 is configured to use the OPTO sensor to detect trigger pulls. The OPTO sensor is currently reading 0%, i.e. the trigger is fully released.

OPTO SENSOR SELECTED, READING BELOW RELEASE POINT
The Ego LV1 is configured to use the OPTO sensor to detect trigger pulls. The OPTO sensor is currently reading below the OPTO release point, i.e. the trigger is considered 'released'.

OPTO SENSOR SELECTED, READING MID-RANGE
The Ego LV1 is configured to use the OPTO sensor to detect trigger pulls. The OPTO sensor is currently reading somewhere between the OPTO release point and the OPTO pull point, i.e. the trigger is half depressed.

OPTO SENSOR SELECTED, READING ABOVE PULL POINT
The Ego LV1 is configured to use the OPTO sensor to detect trigger pulls. The OPTO sensor is currently reading above the OPTO pull point, i.e. the trigger is considered 'pulled'.

OPTO SENSOR SELECTED, READING 100%
The Ego LV1 is configured to use the OPTO sensor to detect trigger pulls. The OPTO sensor is currently reading 100%, i.e. the trigger is fully depressed.

MICRO-SWITCH SELECTED, NOT ACTUATED
The Ego LV1 is configured to use the micro-switch to detect trigger pulls. The micro-switch is not currently actuated, i.e. the trigger is released.

MICRO-SWITCH SELECTED, ACTUATED
The Ego LV1 is configured to use the micro-switch to detect trigger pulls. The micro-switch is currently actuated, i.e. the trigger is pulled.

From the factory the Ego LV1 will have the OPTO sensor enabled. The micro-switch can be enabled from the Hardware menu (see page 37).

THE LOCK INDICATOR

The Ego LV1 has a tournament lock which prevents the user from making changes to any parameter that affects the way in which the Ego LV1 shoots, without the need for tools. This feature is necessary in order to make the Ego LV1 legal for tournament play. To enable or disable the tournament lock see *Accessing the Menu System* on page 27.

When the lock is enabled the lock indictor will show a closed padlock .

When the lock is disabled the lock indictor will show an open padlock .

THE BATTERY LEVEL INDICATOR

The battery level indicator is used to show the state of the battery within the Ego LV1. When the battery is fresh the indicator will show a 'full' battery and as the battery is drained, so will the indicator show the battery emptying. When the battery reaches a point at which the Ego LV1 will no longer function reliably, the indicator will start to flash. At this point the battery must be changed immediately.

As well as displaying the voltage level of the battery, the indicator also warns if the battery being used has an incorrect voltage to operate the electronics reliably. The icon for a battery with an incorrect voltage output is . If this icon is shown the battery must be replaced immediately.

THE GAME TIMER

When the game timer is shown on the run screen then it can be started by pressing the button and the timer will start to count down. The game timer can also be configured to start on a trigger press with the *START* parameter (see page 41).

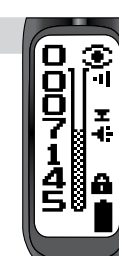
When the game timer reaches the *ALARM TIME* the gamer timer will start to flash and the audible alarm will sound every second, provided that the *SOUND* parameter is on.

When the game timer reaches 00:00, **GAME OVER** will be displayed and the audible alarm will sound continually, provided that the *SOUND* parameter is set to 'ON'.

To stop the game timer at any time press and hold the button for 0.5 seconds.

To reset the game timer to it's preset start time, push and hold the button for 0.5 second. The game timer will also be reset whenever the Ego LV1 is switched off.

THE SHOT COUNTER



The shot counter will increment every time that the circuit board registers a trigger pull, regardless of whether the shot counter is displayed or not. When the shot counter is displayed on the run screen it can be reset to 0 by pressing and holding the button for 0.5 seconds.

There is also an optional shot gauge that can be displayed on this run screen. The gauge counts down from a user adjustable number. To alter the gauge settings see page 40. The gauge is reset whenever the Ego LV1 is switched off or the button is pressed.

The shot counter does not function when the Ego LV1 is in Training Mode (see page 40).

THE ACTUAL RATE OF FIRE

When the actual ROF is selected for display the run screen will look something like the screen to the right. The value displayed in the top left of the screen represents the number of full cycles completed in a second - the actual rate of fire over that second. The value below it is the maximum actual rate of fire that has been achieved. The graph below this number shows the actual rates of fire achieved over time where each bar represents the amount of pulls in that second. To reset the maximum, press and hold the button for 0.5 second.

THE PEAK RATE OF FIRE

When the peak ROF is selected for display the run screen will look something like the screen to the right, which differs from the display of the actual ROF by the inclusion of the indicator 'PK'. The value displayed in the top left of the screen represents the maximum rate of fire that has been recorded over the last second. The value below it is the maximum peak rate of fire that has been achieved. The graph below this number shows the peak rates of fire achieved over time. To reset this maximum, press and hold the button for 0.5 seconds.

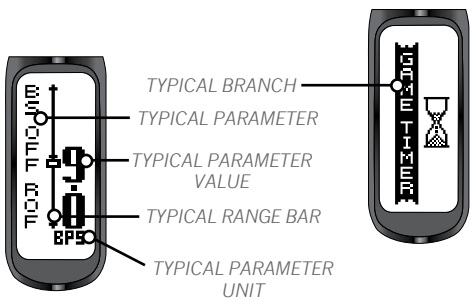
The peak ROF is typically higher than the actual ROF as it is much easier to fire two shots in quick succession than it is to maintain a string over a longer period of time.

THE MENU SYSTEM

Behind the run screen is a structured menu system comprised of two layers of menus. Each menu contains a number of menu items and each menu item can either be a parameter or a branch to another menu. Branches have an animated graphic on the right of the display, whereas parameters have their current value.

On parameter screens a range bar will be displayed where there is a large scale of adjustability in that parameter. The current parameter value is displayed as a box on the range bar which is used to indicate the range of adjustability in the parameter value.

At the bottom of the parameter screen the unit for that parameter will be displayed. Some parameters will not have units, such as on or off parameters.



ACCESSING THE MENU SYSTEM

To access the Main menu from the run screen double-click the ▣ button and the first item on the Main menu will be displayed. Alternatively, push and hold the ▣ button for 2 seconds.

Some of the parameters in the menu system can have a tournament lock applied to them. This lock can be toggled on and off by pressing the tournament lock button on the circuit board *(SEE Ⓐ IN FIGURE 14A).*

When trying to select a parameter that is locked, the a 'LOCKED' message will be briefly displayed.

FIG 14A

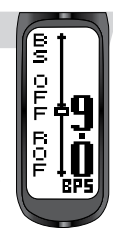
MOVING AROUND THE MENUS

⚠WARNING⚠

THE MARKER CAN BE FIRED WHILE NAVIGATING ALL MENUS AND PARAMETERS.

Press and release the ▼ button to display the next item on the menu. When the last menu item is displayed, pressing the ▼ button will display the first item.
Press and release the ▲ button to display the previous item on the menu. When the first menu item is displayed, pressing the ▲ button will display the last item.
When the displayed item is a branch, as indicated by an animation on the right of the screen, press the ▣ button to move to another menu.

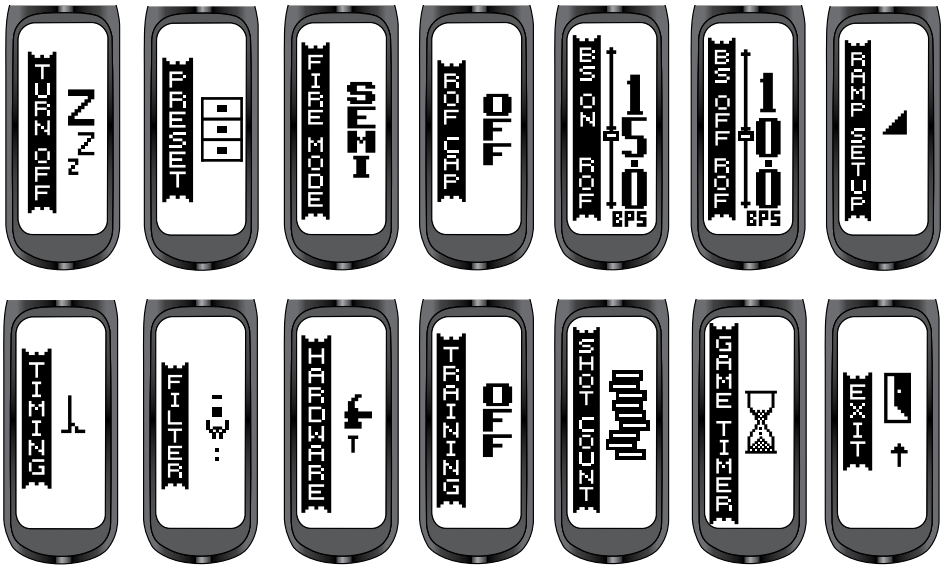
ALTERING PARAMETERS



When the displayed item is a parameter, as indicated by a parameter value on the right of the screen, pressing the ▣ button will activate the EDIT mode which allows the parameter value to be altered. When EDIT mode is active, the black box surrounding the parameter name disappears. There are two types of parameter, numeric parameters and choice parameters.

A numeric parameter has a numeric value whereas a choice parameter is one that has a small number of distinct choices. Altering parameter values is essentially the same for both types of parameter. To alter a numeric parameter, first activate the EDIT mode. Press the ▲ button to increase the parameter value one step at a time. Press and hold the ▲ button to increase the parameter value rapidly. When the value reaches it's maximum it will revert to its minimum value. Press the ▼ button to decrease the parameter value one step at a time. Press and hold the ▼ button to decrease the parameter value rapidly. When the value reaches its minimum it will revert to it's maximum value. When the required parameter value is displayed press the ▣ button to accept the value and end the EDIT mode.

To alter a choice parameter, first activate the EDIT mode. Press the ▼ button to display the next choice in the list. When the last choice is displayed, pressing ▼ will display the first choice in the list. Press the ▲ button to display the previous choice in the list. When the first choice is displayed, pressing the ▲ button will display the last choice in the list. When the required choice is displayed press the ▣ button to accept the choice and end the EDIT mode. If the displayed choice is CANCEL then pressing the ▣ button will end the EDIT mode and restore the parameter to the value that is was prior to editing.



The Main menu contains both editable parameters and sub-menus which contain editable parameters. Some of these parameters affect the way the Ego LV1 shoots and are tournament locked as standard from the factory.[1]

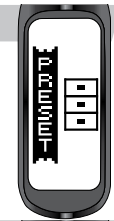
The Main menu also contains the TURN OFF option. Selecting this option will immediately turn off the EGO LV1, preventing it from firing.

Parameters followed by a * are part of the Smart Menu System and will only be displayed depending on your chosen settings. (e.g. The BS ON ROF parameter will only become available if the ROF CAP parameter is set to on).

[1] *The layout of the Main menu is correct at time of printing. However newer versions of the Ego LV1 software may have a different layout of the Main menu, sub-menus and parameters from what is printed in this manual. You may find some parameters have been added or removed entirely. If you are unsure about any parameters which do not feature in the manual contact your local dealer/service centre or Planet Eclipse directly.*

PRESET *MENU*

In order to simplify the set up of the Ego LV1 a number of preset configurations are available for selection. Choosing one of these presets will cause all of the necessary parameters to be set in such a way as to make the Ego LV1 comply with the rules governing a particular paintball league[1]. It is also possible for the user to save up to two preset configurations of their own.



LOAD *PARAMETER*

This parameter is used to load the required preset configuration and has the following choices:

> USER 1: Load a set of custom firing mode parameters that have been previously saved by the user.

> USER 2: Load a set of custom firing mode parameters that have been previously saved by the user.

> FACTORY: Reset every parameter to the factory set default. The Ego LV1 leaves the factory set in this way.

> NPPL: Load a set of parameters that configures the Ego LV1 to comply with the NPPL rules governing firing modes.[1,2]

> PSP 10: Load a set of parameters that configures the Ego LV1 to comply with the PSP rules governing firing modes in lower divisions (10bps).[1,2]

> PSP 12: Load a set of parameters that configures the Ego LV1 to comply with the PSP rules governing firing modes in higher divisions (12bps).[1,2]

> MS10: Load a set of parameters that configures the Ego LV1 to comply with the 2010 Millennium Series rules governing firing modes.[1,2]

> CANCEL: Editing is cancelled and the parameter remains unchanged.

SAVE *PARAMETER*

This parameter is used to save the current set of parameters as a user defined custom preset configuration.

This parameter has the following choices:

> USER 1: Save the current parameters as the preset 'USER 1'.

> USER 2: Save the current parameters as the preset 'USER 2'.

> CANCEL: Editing is cancelled and the parameter remains unchanged.

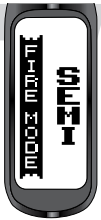
[1] *Some presets and fire modes may only be available in certain countries and on some models of the Ego LV1.*
[2] *All presets are correct at time of printing. It is the users responsibility to ensure that the loaded preset complies with the event rules the marker is intended to be used in.*

FIRE MODE *PARAMETER*

This parameter is used to select the firing mode of the Ego LV1 and has the following choices:

> SEMI: This is the default and in this firing mode the Ego LV1 will fire one shot for every trigger pull.
> RAMP: In this firing mode, the rate of fire is increased above the rate at which the trigger is pulled once certain criteria have been met. These criteria are set by the parameters on the *RAMP SETUP* menu.[1]
> CANCEL: Editing is cancelled and the parameter is unchanged.

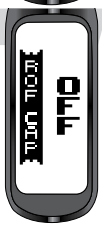
[1]*Some presets and fire modes may only be available in certain countries and on some models of the Ego LV1.*



ROF CAP *PARAMETER*

The *ROF CAP* parameter is used to specify whether or not the Ego LV1 should have a limited / capped rate of fire. When the *ROF CAP* is enabled (and the BBSS is enabled), the maximum achievable rate of fire is set by the *BS ON ROF* parameter. Choices for the *ROF CAP* parameter are:

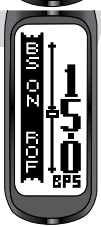
> OFF: Rate of fire only limited by the loader.
> ON: Rate of fire limited to the *BS ON ROF* parameter value.
> CANCEL: Cancel editing and leave the parameter unchanged.



BS ON ROF *PARAMETER**

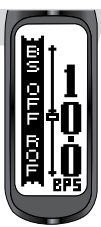
The *BS ON ROF* parameter is used to set the maximum achievable rate of fire from the Ego LV1. The value of this parameter can be adjusted between 4.0 and 30.0 balls per second in 0.1bps increments.

The *BS ON ROF* parameter will only be displayed if you have set the *ROF CAP* parameter to 'ON'.



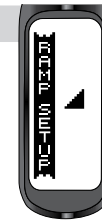
BS OFF ROF *PARAMETER*

The *BS OFF ROF* parameter is used to control how fast the Ego LV1 cycles when the Break Beam Sensor System is disabled. This parameter can be set between 4.0 and 15.0 balls per second and should always be set to the slowest speed of the loading system in use.



RAMP SETUP *MENU*

This menu is only available when ramping has been selected with the *FIRE MODE* parameter and comprises a list of parameters that control the way in which the Ego LV1 ramps, as shown below.



TYPE *PARAMETER*

This parameter is used to select the ramping style and has the following choices:

> STEP: Step ramping will cause the Ego LV1 to shoot 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*. At this point the rate of fire will step up to the maximum rate of fire as set by *BS ON ROF* (or the maximum loader speed if the *ROF CAP* parameter is set to off). Ramping is maintained as long as the user continues to pull the trigger at a required rate set by *SUSTAIN*.

> LINEAR: Linear ramping will cause the Ego LV1 to shoot 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*. At this point the rate of fire will equal the rate of trigger pulls increased by the percentage specified by *RATE* up to a maximum rate of fire as set by *BS ON ROF*, if the *ROF CAP* is on. Ramping is maintained as long as the user continues to pull the trigger at a required rate set by *SUSTAIN*.

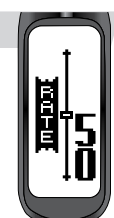
> CANCEL: Editing is cancelled and no changes are made to the parameter.

RATE *PARAMETER**

The parameter is only available when *LINEAR* ramping is selected and is used to set the percentage increase in rate of fire over rate of trigger pulls.

For example, if the user is pulling the trigger at a rate of 10 pulls per second and the *RATE* parameter is set to 50% then the rate of fire is 10 plus 50% extra which is 15 balls per second.

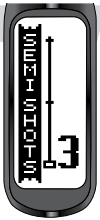
This parameter can be set between 0 and 100% in 10% increments.



[1]*Always calibrate your Ego LV1 ROF CAP parameters to the local field BPS meter as readings may vary from meter to meter.*

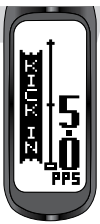
SEMI SHOTS *PARAMETER*

The parameter sets the number of shots in semi-automatic that are required at the *KICK IN* rate before ramping will start. The parameter can be set between 3 and 9 pulls in 1 pull increments.



KICK IN *PARAMETER*

This parameter sets the minimum rate at which the user has to pull the trigger in order to start ramping. This parameter can be set between 3.3 and 10.0 pulls per second in 0.1 pulls per second increments.

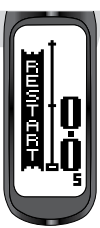


SUSTAIN *PARAMETER*

Once the Ego LV1 is ramping the user has to continue to pull the trigger at a minimum rate in order to maintain the ramping. This parameter sets this rate and can be between 3.3 and 10.0 pulls per second in 0.1 pulls per second increments.

RESTART *PARAMETER*

The *RESTART* parameter defines the amount of time after the last trigger pull during which the ramp can be restarted with a single trigger pull. If a trigger pull occurs after the *RESTART* time has expired, then the other ramp start conditions have to be met before ramping will restart. This parameter can be set between 0.0 and 1.0 seconds in 0.1 second increments.

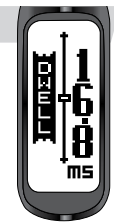


TIMING *MENU*

These parameters all relate to the control of the solenoid valve.

DWELL *PARAMETER*

The *DWELL* parameter sets the amount of time that the solenoid is energized and therefore the amount of gas that is released with each shot of the Ego LV1. Setting this parameter too low will result in low velocity shots and/or excessive shot to shot velocity fluctuations. Setting the parameter too high will simply waste gas and make the Ego LV1 louder. The *DWELL* can be set between 0.0 and 30.0 milliseconds. The factory default setting can normally be reduced after a few thousand shots as the Ego LV1 'beds-in'.



FSD COMP *PARAMETER*

"First shot drop off" is a reduction in velocity of the first shot fired after an extended period of not firing and is caused by the stiction between dynamic o-rings and the surfaces that they are in contact with. In order to compensate for first shot drop-off this parameter can be set to add extra time to the *DWELL* parameter for the first shot. This parameter can be set between 0.0 and 5.0 milliseconds.

FSD DLY *PARAMETER*

The time that has to elapse before the FSD COMP is applied to a shot following a previous shot. This parameter can be set between 00:00 and 04:00 minutes.

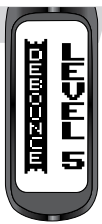
FILTER *MENU*

The parameters on the *FILTER* menu are all used to tune the Ego LV1's software filters which prevent the Ego LV1 from firing unless all of the necessary conditions are met. The factory default settings will be suitable for most set-ups, however certain loader and trigger set-ups may require modification of one or more of these parameters.

DEBOUNCE *PARAMETER*

The *DEBOUNCE* parameter is used to combat any trigger bounce that might occur in the Ego LV1 and can be set between level 1 and level 9 in one level increments.

> LEVEL 9: Level 9 providing the most filtering (least 'bouncy').
> LEVEL 1: Level 1 providing the least filtering (most 'bouncy').
> CANCEL: Cancel editing and leave the parameter unchanged.

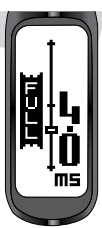


EMPTY *PARAMETER*

In order for the BBSS to function correctly it must first detect that the bolt is fully retracted and the breech is empty, and then detect that a paintball is loaded into the breech before the Ego LV1 is allowed to fire. The parameter can be set between 1.0 and 20.0ms in 0.1ms increments.

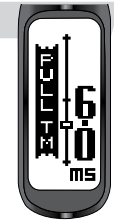
FULL *PARAMETER*

Tumbling paintballs can take time to settle in the breech before they can be successfully fired. This parameter is used to set the amount of time that a paintball has to be in the breech before the Ego LV1 is allowed to fire. This parameter can be set between 1.0 and 20 milliseconds in 0.1ms increments.



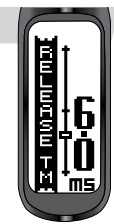
PULL TM *PARAMETER*

The *PULL TM* parameter is used to set the minimum amount of time that the trigger must be pulled before it is recognised as a valid trigger pull. This parameter can be set between 3.0 and 20.0 milliseconds in 0.1ms increments.



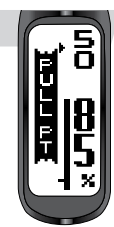
RELEASE TM *PARAMETER*

The *RELEASE TM* parameter is used to set the minimum amount of time that the trigger must be released before it is recognised as a valid trigger release. This parameter can be set between 3.0 and 25.0 milliseconds in 0.1ms increments.



PULL PT *PARAMETER**

The *PULL PT* parameter is only available if OPTO has been selected in the *HARDWARE* menu. *PULL PT* defines the point at which the trigger is considered pulled and is adjustable between 51% and 99% in 1% increments.



RELEASE PT *PARAMETER**

The *RELEASE PT* parameter is only available if OPTO has been selected in the *HARDWARE* menu. *RELEASE PT* defines the point at which the trigger is considered released and is adjustable between 1% and 49% in 1% increments.

BASIC TRIGGER FILTER SET-UP

95% of trigger bounce problems can be eliminated by utilizing one of the nine fixed *DEBOUNCE* choices (LEVEL 1-9). In attempting to eliminate trigger bounce it is advisable to try the nine fixed *DEBOUNCE* choices before attempting any advanced set up of the trigger filters.

ADVANCED TRIGGER FILTER SET-UP

In order to optimize the trigger filters it is necessary to have the *PULL PT* parameter set as high as possible and the *RELEASE PT* parameter set as low as possible:

1. Select the *PULL PT* parameter. Observe that the graphical bar rises and falls as the trigger is pulled and released. The actual value of the graphical bar is displayed in the top right of the display.

2. Set the rear stop screw as required, ensuring that the bar is as close to 100% as possible when the trigger is fully depressed against the set screw. It is advisable to allow for some extra travel in the trigger pull once the bar has reached its maximum value.

3. Adjust the *PULL PT* parameter so that when the trigger is fully depressed the bar settles above the indicator on the left hand side of the screen (see page 35).

4. Select the *RELEASE PT* parameter. Observe that the graphical bar rises and falls as the trigger is pulled and released. The actual value of the graphical bar is displayed in top right of the display.

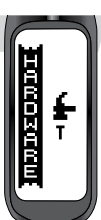
5. Set the front stop screw as required, ensuring that the bar is as close to 0% as possible when the trigger is fully released against the set screw. It is advisable to allow for some extra travel in the trigger release once the bar has reached its minimum value.

6. Adjust the *RELEASE PT* parameter so that when the trigger is fully released the bar settles beneath the indicator on the left hand side of the screen (see page 35).

7. Set the magnet return strength screw and the spring return strength screw as required, making both the spring tension and the return force as strong as possible without compromising the “feel” of the trigger.

HARDWARE *MENU*

This menu comprises parameters that control low level functionality of the Ego LV1 electronic hardware.



TRIGGER *PARAMETER*

The Ego LV1 is fitted with a dual trigger pull detection system. A non-contact OPTO-electronic trigger sensor arrangement is used to detect trigger movement whilst a micro-switch is used to provide a more traditional tactile feedback for the trigger. The *TRIGGER* parameter is used to select which system is used. The choices available are as follows:

> OPTO: Select the OPTO sensor for trigger pull detection.
> SWITCH: Select the micro-switch for trigger pull detection.
> CANCEL: Cancel editing and leave the parameter unchanged.

SOLENOID *PARAMETER*

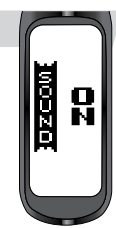
This parameter controls the amount of power used by the solenoid valve and should normally be left at it's default 'LO PWR' setting. Cold weather (sub 0°C/32°F) will cause lubricants to thicken and increase stiction in the marker system which may cause velocity drop-off and/or shot to shot inconsistency. Increasing the solenoid power will often help to eliminate these problems, but will cause more drain on the battery. The choices available for the parameter are:-

> LO PWR: Low power solenoid drive
> HI PWR: High power solenoid drive
> CANCEL: Cancel editing and leave the parameter unchanged

SOUND *PARAMETER*

The Ego LV1 board is capable of emitting a variety of sounds to audibly signal when certain functions have been performed including, but not limited to, powering up, powering off, changing the BBSS mode and resetting various counters and timers. This parameter determines if this feature is switched on or off. Switching it on will cause increased drain on the battery. The choices available for this parameter are:

>OFF: Sounds switched off.
>ON: Sounds switched on.
>CANCEL: Cancel editing and leave the parameter unchanged.



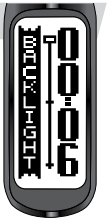
TONES *PARAMETER**

This parameter determines if the Ego LV1 emits a tone each time any of the pushbuttons on the navigation console are activated. As part of the smart menu system the *TONES* parameter will only be shown in the *HARDWARE* menu if the *SOUND* parameter is switched 'ON'. The choices available for this parameter are:

>OFF: Tones switched off.
>ON: Tones switched on.
>CANCEL: Cancel editing and leave the parameter unchanged.

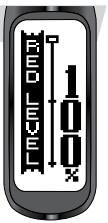
BACKLIGHT *PARAMETER*

This parameter sets the time that the LCD backlight is illuminated after a pushbutton is pressed. The parameter can be set between 00:00 and 00:20 (20 seconds). If set to 00:00 then the backlight will not be illuminated.



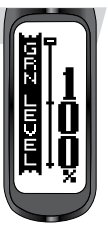
RED LEVEL *PARAMETER**

This parameter sets the percentage of red light in the LCD backlight and can be set between 0% and 100% in 10% increments.



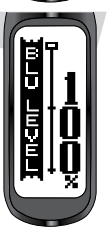
GRN LEVEL *PARAMETER**

This parameter sets the percentage of green light in the LCD backlight and can be set between 0% and 100% in 10% increments.



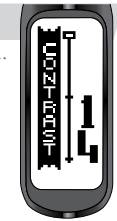
BLU LEVEL *PARAMETER**

This parameter sets the percentage of blue light in the LCD backlight and can be set between 0% and 100% in 10% increments.



CONTRAST *PARAMETER*

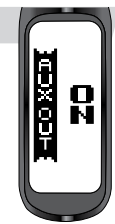
The parameter sets the contrast level of the LCD. This parameter is adjustable between 0 and 30 in increments of 1.



AUX OUT *PARAMETER*

This parameter turns on and off the AUX socket on the PCB. The choices available for this parameter are:

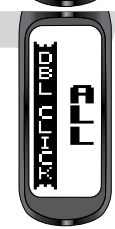
>OFF: AUX socket switched off.
>ON: AUX socket switched on.
>CANCEL: Cancel editing and leave the parameter unchanged.



DBL CLICK *PARAMETER*

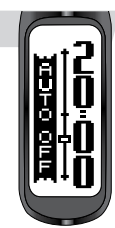
This parameter is used to select where double-clicking the ☞ button can be used. The choices available for this parameter are:

>NONE: Double clicking is disabled entirely. To power up the Ego LV1 and enter the Main Menu the user needs to push and hold the ☞ button.
>POWER UP: Double clicking only works when powering up the Ego LV1. To enter the Main Menu the user still needs to push and hold the ☞ button.
>ALL: Double clicking works when powering up the Ego LV1 and entering the Main Menu. Push and hold still works for these procedures as well.
>CANCEL: Cancel editing and leave the parameter unchanged.



AUTO OFF *PARAMETER*

This parameter sets the time that has to elapse before the Ego LV1 switches itself off if not used. The parameter can be set between 05:00 and 20:00 minutes.



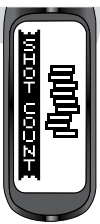
TRAINING *PARAMETER*

In training mode the LV1 simulates the firing cycle so that the user may practice pulling the trigger without wasting air and making lots of noise. The BBSS is overridden in order to simulate paintballs entering the breech and the beeper indicates when a shot is fired. Training mode is indicated with a 'T' in the BBSS indicator.

> OFF: Training mode is disabled and the Ego LV1 functions normally.
> ON: Training mode is enabled.
> CANCEL: Cancel editing and leave the parameter unchanged.

SHOT COUNT *MENU*

This menu is comprised of parameters that control the shot counter.



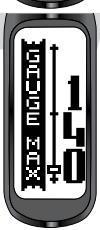
GAUGE *PARAMETER*

This parameter allows the user to toggle the gauge graphic on and off in the shot counter Run Screen. The choices for the *GAUGE* parameter are:

> OFF: Gauge graphic on the shot counter run screen is disabled.
> ON: Gauge graphic on the shot counter run screen is enabled.
> CANCEL: Cancel editing and leave the parameter unchanged.

GAUGE MAX *PARAMETER**

The *GAUGE MAX* parameter allows the user to set the number the gauge counts down from every time the Ego LV1 is fired. The user can set the gauge from 100 to 2000 in increments of 10.



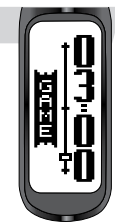
GAME TIMER *MENU*

This menu is comprised of parameters that control the operation of the Game Timer.

GAME *PARAMETER*

This parameter is used to set the Game Time, the time from which the game timer counts down to zero. This parameter can be set between 00:00 and 60:00 minutes in 10 second increments. The factory default is 07:10 (7 minutes 10 seconds).

When the game timer reaches 00:00, GAME OVER will be displayed and the audible alarm will sound continually, provided that the *SOUND* parameter is set to 'ON'.



ALARM *PARAMETER*

An alarm condition is generated whenever the Game Timer counts down to the time set by the *ALARM* parameter. This parameter can be set between 00:00 and 10:00 minutes in 10 second increments.

When the alarm condition is generated the Game Timer will start to flash and the audible alarm will sound every second, provided that the *SOUND* parameter is set to 'ON'.

START *PARAMETER*

This parameter is used to select the event which will cause the Game Timer to begin counting down. This parameter has the following choices:

› BUTTON: Pressing the ▼ button will start the Game Timer.
› TRIGGER: Pulling the trigger will start the Game Timer.
› CANCEL: Cancel editing and leave the parameter unchanged.

THE BREAK BEAM SENSOR SYSTEM

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Undo the retaining screw for the BBSS eye cover on the right hand side of the Ego LV1 using a 5/64" (2mm) hex key *(SEE FIGURE 15A)*.

Remove the eye cover to expose the back of the BBSS unit *(SEE FIGURE 15B)*. Using a dry cotton bud, carefully remove any debris, paint or moisture from the back of the sensor unit and from inside the eye cover.

Lift the BBSS unit free from the Ego LV1 body and using another dry cotton bud, remove any grease or debris build-up from the front of the sensor unit *(SEE FIGURE 15C)*.

Clean the hole under the BBSS unit on the body that allows the BBSS unit to 'see' into the breech. Clean the pocket the BBSS unit sits in.


FIG 15A


FIG 15B

FIG 15C

(CONTINUED)

Remove the rubber Detent and using a dry cotton bud clean the Detent and its location point in the Ego LV1 body, replacing the Detent if it is damaged *(SEE FIGURE 15D)*.

Reinsert the Detent back into the Ego LV1 body and place the BBSS back into the designated slot in the body to re-assemble *FIGURE 15B*. Ensure that the sensor is face down in the body i.e. looking into the breech.[1]

Check that the cam carrier screws are still tight in the body. DO NOT over tighten the screws on the body or cam carrier may be damaged *(LABELLED Ⓐ FIGURE 15E)*.

Before replacing the eye cover ensure the wire is flat in the pocket in the LV1 body and does not lie over the cam carrier or retaining screws. This will prevent the wires being crushed by the eye cover *(LABELLED Ⓑ FIGURE 15E)*.

Replace the eye cover and using a 5/64" hex key, replace the eye cover retaining screw to hold the eye cover in place *(SEE FIGURE 15F)*.

Repeat the procedure for the opposite side of the Ego LV1.

You have now cleaned the BBSS.

[1]*Ensure that the receiver device (indicated by a red mark & red heat shrink) is located on the right-hand side of the marker body.*

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.

FIG 15D

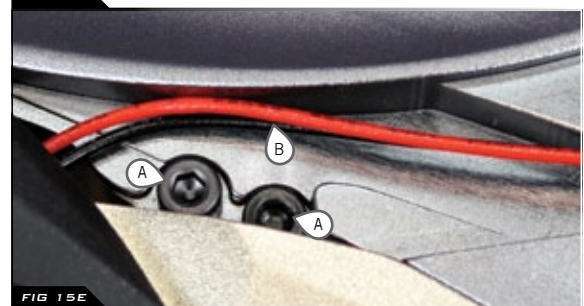


FIG 15E

FIG 15F

THE SL4 INLINE REGULATOR ASSEMBLY

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Unscrew and remove the gas pipe assembly from the SL4 inline regulator *(SEE FIGURE 16A)*. See page 15 for more information on removing the gas pipe assembly.

Grip the SL4 inline regulator tightly through the rubber sleeve and unscrew the SL4 inline regulator from the LV1 body *(SEE FIGURE 16B)*.

Pull the foregrip crown down to free it from the LV1 body *(SEE FIGURE 16C)*.

Inspect the o-ring at the top of the threads on the FRM for damage *(LABELLED Ⓐ FIGURE 16D)*. Replace and re-lubricate as necessary.[1]

Tip both the piston and spring out of the top of the inline regulator *(SEE FIGURE 16E)*.

Insert a 1/8" hex key into the adjuster screw assembly in the bottom of the inline regulator, turn the adjuster screw clockwise through the inline regulator body *(SEE FIGURE 16F & 16G)*, and push the adjuster assembly out of the top of the inline regulator body.[2]

Thoroughly clean the 011 NBR70 o-rings that sits on the outside of the adjuster assembly, then re-lubricate with Eclipse Grease *(SEE FIGURE 16H)*.[1]

Using a dry cotton bud, clean the internal 008 NBR70 o-ring that sits inside the top section of the adjuster top. Then using a small hex key gently apply Eclipse Grease to the o-ring *(SEE FIGURE 16I)*.[1]

[1] *If any o-rings are damaged then replace them. Extra o-rings are available in parts kits available at www.planeteclipse.com*

[2] *The adjuster screw can only be removed by turning it upwards through the bottom section of the inline regulator. The regulator will be damaged if the adjuster screw is removed incorrectly.*


FIG 16A


FIG 16B


FIG 16C

FIG 16D


FIG 16E


FIG 16F


FIG 16G


FIG 16H

(CONTINUED)

At this point if you are maintaining the inline regulator to fix a supercharging issue, turn to page 46 to the *'ADVANCED SL4 INLINE REGULATOR MAINTENANCE'* section. If you are not fixing a supercharging issue then there is no need to perform this advanced maintenance procedure.

Inspect the internal sealing surfaces of the regulator body, removing any dirt or debris with a cotton bud *(SEE FIGURE 16J)*.

Re-install the adjuster assembly into the inline regulator body threaded end first. Apply light pressure to the top of the adjuster, while using a 1/8" hex turn the adjuster screw counter-clockwise until is stops at the base of the inline regulator body *(SEE FIGURE 16K)*.

Take the piston, inspect for damage and clean the 14x2 NBR70 o-ring at the top. Re-lubricate it with a light application of Eclipse Grease *(SEE FIGURE 16L)*. Place the inline regulator spring over the piston, then insert the piston and spring into the top of the inline regulator body *(SEE FIGURE 16M)*.[1]

Ensure that the tuning fork is pushed up into the LV1 body. The base of the fork should be slightly recessed inside the FRM *(SEE FIGURE 16N)*.

To replace the foregrip crown, insert the locating tab into the frame *(SEE FIGURE 16O)*, then push the front of the crown up and over the LPR cap.

Re-attach the inline regulator to the Ego LV1 FRM *(SEE FIGURE 16P)*, then re-connect the gas pipe fitting (see page 15). Basic cleaning of the SL4 inline regulator is complete.

Reset the input pressure to the factory default. Set the adjuster screw to 3 turns in from flush with the bottom of the inline regulator. Then adjust to achieve the desired firing velocity from this setting.

[1] *If any o-rings are damaged then replace them. Extra o-rings are available in parts kits available at www.planeteclipse.com*

⚠ WARNING ⚠
IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 16I


FIG 16J


FIG 16K


FIG 16L


FIG 16M


FIG 16N


FIG 16O


FIG 16P

ADVANCED INLINE REGULATOR MAINTENANCE

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

This procedure is only required if your are fixing a supercharging SL4 inline regulator (common symptoms of supercharging are a very high velocity first shot and/or large variances in shot to shot consistency).

Place a 3/32" hex key through the adjuster top *(SEE FIGURE 17A)*, then insert a 1/8" hex key into the bottom of the adjuster screw and carefully turn it counter-clockwise until the two parts begin to unscrew freely *(SEE FIGURE 17B)*. With your fingers fully unscrew the two parts taking care not to lose any of the internal components *(SEE FIGURE 17C)*.

Inside the adjuster screw you will find a regulator seal, purge poppet and spring (purge poppet assembly) *(SEE FIGURE 17D)*. Inspect and clean the regulator seal, turning it over if one side appears excessively worn or damaged or replace if necessary. Inspect and clean the purge poppet or replace if necessary.

Place the purge poppet and attached spring in the central hole in the regulator seal, then insert these parts into the adjuster screw *(SEE FIGURE 17E)*. Ensure is it re-installed correctly, failure to do so may seriously damage the Ego LV1 solenoid.

With the regulator seal, purge valve and spring installed back into the adjuster screw, replace the adjuster top *(SEE FIGURE 17F)*. Screw the two parts tightly together using 1/8" and 3/32" hex keys. Refer to the *'CLEANING THE SL4 INLINE REGULATOR'* section on pages 44-45 to re-assemble the SL4 inline regulator.

⚠ WARNING ⚠
IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 17A


FIG 17B


FIG 17C


FIG 17D


FIG 17E


FIG 17F

THE CURE 5 BOLT ASSEMBLY

⚠ WARNING ⚠

DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Raise the bolt pin and remove the bolt assembly from the Ego LV1 marker body *(FIGURE 18A)*.

Using a dry cotton bud remove any paint or grease from the surface of the bolt.

Lubricate the two bolt o-rings *(LABELLED Ⓐ FIGURE 18B)* with a small drop of oil *(SEE FIGURE 18C)*[1]. Remove any excess oil from the surface of the bolt before re-installing the bolt assembly. Over-lubrication of the bolt may have adverse effects on performance.

Clean and inspect the rubber bolt tip Ⓐ and Detent slots Ⓑ on the bolt. If the bolt tip is heavily worn or damaged then remove and replace *(FIGURE 18C)*. Lubricate the bolt tip with a few small drops of oil around the circumference of the bolt tip.

Replace the bolt assembly checking that the bolt is free to move and moves smoothly back and forth in the LV1 body. If there is any resistance or friction in the bolt movement then replace the two 14x2 o-rings and the rubber bolt tip.

Lock the bolt pin into the designated slot in the rammer using the front o-ring on the bolt as a position reference guide *(LABELLED Ⓐ FIGURE 18D)*.

INCORRECT LOCATION OF THE BOLT CAN SERIOUSLY DAMAGE THE BODY OF YOUR EGO LV1.

[1] *We recommend the use of Eclipse Oil on the Ego LV1 rammer and bolt.*

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 18A

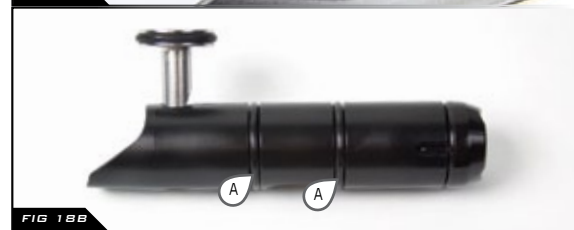


FIG 18B

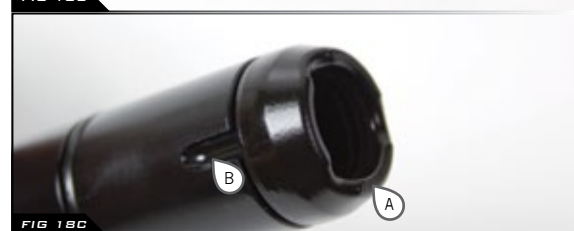


FIG 18C

FIG 18D

THE ZICK3 RAMMER ASSEMBLY

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Included with the Ego LV1 is a lightweight Zick3 rammer *(LABELLED Ⓐ FIGURE 19A)*, in addition to the standard Zick3 rammer installed in the marker *(LABELLED Ⓑ FIGURE 19A)*. The lightweight Zick3 rammer will provide an increase in shot efficiency at the cost of requiring a slightly higher valve operating pressure.

To install the lightweight Zick3 rammer follow the maintenance procedure below, swapping over to the lightweight rammer.

After installation, re-chronograph the Ego LV1 and adjust the SL4 inline regulator accordingly.

ALWAYS CHECK THE SHOOTING VELOCITY OF THE EGO LV1 WITH A CHRONOGRAPH BEFORE USING THE MARKER.

Pull the bolt pin upwards so that it disengages the rammer assembly, allowing the bolt to be removed via the rear of the Ego LV1 *(SEE FIGURE 19B)*.

Using a 3/16" hex key, unscrew and remove the rammer cap at the rear of the Ego LV1 *(SEE FIGURE 19C)*.

Raise the front of the Ego LV1 and tap the Ego LV1 onto your hand until the rammer falls into the palm of your hand *(SEE FIGURE 19D)*.

Thoroughly clean the rammer shaft and all of its o-rings, replacing any o-rings which appear damaged or worn *(LABELLED Ⓐ FIGURE 19E)*. Lubricate all of the seals on the rammer shaft using Eclipse gun oil, do not use grease on the rammer as this may cause adverse performance effects.

Replace any worn seals/bumpers using authentic Eclipse Ego LV1 spare parts. DO NOT use Eclipse Grease on the rammer. Only use light paintgun oil, we recommend Eclipse Oil.
The number of o-rings on the rammer may vary according to the model of Ego LV1 that you have.

FIG 19A

FIG 19B

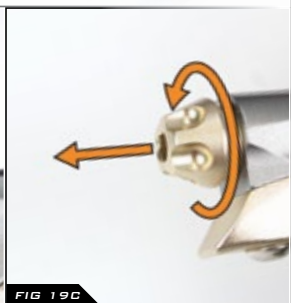


FIG 19C

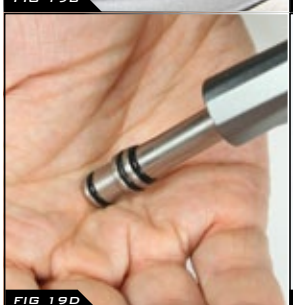


FIG 19D

FIG 19E

(CONTINUED)

Clean and inspect the rammer bumper inside the rammer cap *(LABELLED Ⓐ FIGURE 19F)*. If the face of the bumper is damaged or worn then the bumper can be flipped over to the reverse side and re-inserted. Using a pick or small hex key, carefully remove the rammer bumper from inside the rammer cap. If both sides are damaged or worn then replace with a new bumper. The bumper does not require lubrication.

Clean and inspect the o-ring on the outside of the rammer cap *(LABELLED Ⓑ FIGURE 19F)*, replacing if the o-ring is damaged. Inspect the internal surfaces of the rammer cap for debris or dirt, cleaning with a cotton bud if required.

Apply a small amount of grease to the external o-ring on the rammer cap.

Insert the rammer shaft into the LV1 body *(SEE FIGURE 19G)*

Screw the rammer cap back into the body by hand until it is finger tight *(SEE FIGURE 19H)*.[1]

Using a hex key push the rammer shaft back into its rearward position *(LABELLED Ⓐ FIGURE 19I)*, replace the bolt and locate the bolt pin into the designated slot in the rammer shaft using the front o-ring on the bolt as a position reference guide *(LABELLED Ⓐ FIGURE 19J)*.

INCORRECT LOCATION OF THE BOLT CAN SERIOUSLY DAMAGE THE BODY OF YOUR EGO LV1.

[1] *DO NOT over tighten the rammer cap.*

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.

FIG 19F

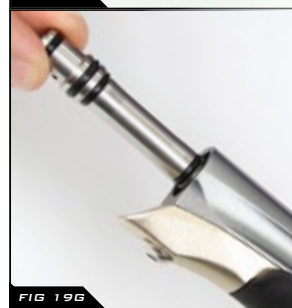


FIG 19G

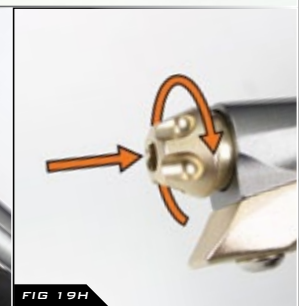


FIG 19H

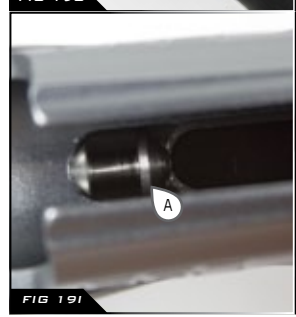


FIG 19I

FIG 19J

THE LOW PRESSURE REGULATOR ASSEMBLY

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Remove the SL4 inline regulator and foregrip crown as detailed on page 44.

Push and hold the front of the LPR assembly and the valve plug back into the LV1 body *(SEE FIGURE 20A)*. While continuing to do this, pull the tuning fork out of the LV1 body *(SEE FIGURE 20B)*.

Pull the valve plug with attached valve stem out of the LV1 body *(SEE FIGURE 20C)* then remove the LPR body assembly *(SEE FIGURE 20D)*.

Tip the spring and piston out of the LPR bore *(SEE FIGURE 20E)* (if the LPR piston is held in place by grease stiction, use some needle-nose pliers to grip the piston and pull it out of the body. Be careful not to damage the piston tip when doing this).

Clean and inspect the 013 NBR70 o-ring on the LPR piston, re-lubricating with a thin layer of grease or replacing if damaged *(LABELLED Ⓐ FIGURE 20F)*. Next clean and inspect the piston tip *(LABELLED Ⓑ FIGURE 20F)*, if the tip is damaged replace the piston. Remove any excess grease on the piston, over lubrication of the LPR assembly can cause adverse effects on performance of the LPR.

Unscrew the LPR cap from the LPR body *(SEE FIGURE 20G)*. Clean and inspect the internal *(LABELLED Ⓐ FIGURE 20H)* and external o-rings *(LABELLED Ⓑ FIGURE 20H)* on the LPR body, replacing if necessary. Lubricate both with a small amount of grease, using a small hex key to gently apply grease to the internal o-ring.


FIG 20A


FIG 20B


FIG 20C


FIG 20D


FIG 20E

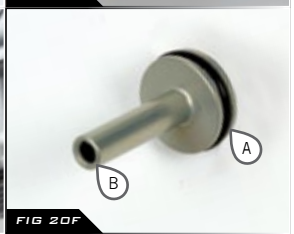


FIG 20F


FIG 20G

FIG 20H

(CONTINUED)

Screw the LPR adjuster out from the LPR cap using a 1/8" hex key *(SEE FIGURE 20I)*. Clean and inspect the adjuster o-ring *(LABELLED Ⓐ FIGURE 20J)*, replacing if necessary. Lubricate the o-ring with a small amount of grease.

Clean and inspect the LPR seal in the tip of the adjuster *(LABELLED Ⓑ FIGURE 20J)*. If the seal is damaged or heavily worn, pull the tip off the adjuster and replace.

Lastly clean and inspect the o-rings on the LPR cap *(SEE FIGURE 20K)*. If the large outside o-ring Ⓐ is damaged replace, otherwise apply a small amount of grease.

Insert the LPR adjuster into the LPR cap. Using a 1/8" hex key screw the adjuster all the way out until the adjuster stops turning *(SEE FIGURE 20L)*.

Screw the LPR cap with LPR adjuster onto the LPR body. Place the spring over the LPR piston and push the piston into the LPR body *(SEE FIGURE 20M)*.

Take the complete LPR assembly and push the assembly into the LPR bore of the LV1 body *(SEE FIGURE 20N)*.

Re-insert the valve plug with attached valve stem *(LABELLED Ⓐ FIGURE 20O)* ensuring the valve stem captures the valve spring *(LABELLED Ⓑ FIGURE 20O)* inside the Ego LV1 body.

Push and hold the valve plug firmly up to the LV1 body, take the tuning fork and insert it into the FRM positioning the forks either side of the LPR body. Push the fork up into the body until the tips of the fork stop against the inside of the body *(SEE FIGURE 20P)*. Replace the foregrip crown and regulator as detained on page 45.

Finally reset the LPR to the factory setting by firstly using a 1/8" hex key to screw the adjuster clockwise until a small amount of resistance is met and then by screw the adjuster counter-clockwise 1 full turn.

[1] The internals of your LPR may vary according to the model of Ego LV1 you have.
[2] The adjuster screw does not need to be removed from the LPR Cap for regular maintenance.

⚠ WARNING ⚠
IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 20I

FIG 20J

FIG 20K

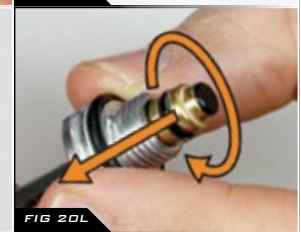


FIG 20L


FIG 20M


FIG 20N

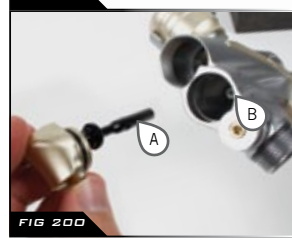


FIG 20O


FIG 20P

REMOVING THE FRAME

⚠ WARNING ⚠

DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Disconnect the gas pipe from the frame (page 15). Using a 5/64" hex key remove the four screws that attach the Ego LV1 rubber grips to the Ego LV1 frame *(SEE FIGURE 21A)*. Unplug the solenoid and BBSS wires from their sockets on the Ego LV1 circuit board *(SEE FIGURE 21B)*.

Using a 1/8" hex key undo the two frames screws *(SEE FIGURE 21C)* and remove the frame from the Ego LV1 body, taking care not to damage any wires or the solenoid assembly *(SEE FIGURE 21D)*.

You have now removed the frame.

ATTACHING THE FRAME

Carefully thread the solenoid and BBSS wires through the access holes in the top of the Ego LV1 frame *(SEE FIGURE 22A)*. Making sure that the BBSS and solenoid wires are not trapped between the frame and body, re-attach the frame to the Ego LV1 body by tightening the two frame screws using a 1/8" hex key *(SEE FIGURE 22B)*.

Ensure that the BBSS cables lie neatly in the slots provided for them in the frame and re-connect the solenoid and the BBSS using relevant sockets on the Ego LV1 circuit board *(SEE FIGURE 22C)*.

Adjust both the solenoid and BBSS wires so that they sit neatly within the frame, making sure the wires do not interfere with the OPTO sensors or micro-switch *(SEE FIGURE 22D)*.

Re-attach the Ego LV1 rubber grips to the frame by using a 5/64" hex key to replace the four grip screws.

Reinstall the gas pipe assembly. See page 15.

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 21A


FIG 21B


FIG 21C


FIG 21D


FIG 22A


FIG 22B


FIG 22C


FIG 22D

THE CAM-LEVER ASSEMBLY

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

With the frame removed, remove both the eye covers (see page 42) to expose the cam carrier retaining screws.

Using a 5/64" hex key remove the four retaining screws to release the cam lever assembly from the body *(SEE FIGURE 23A)*.

Remove the cam-lever assembly from the Ego LV1 body *(SEE FIGURE 23B)*. Slide the cam axle out of the carrier, allowing the lever to be removed.

Clean any dirt or paint off the lever, axle and carrier *(SEE FIGURE 23C)*. Inspect the lever for any excessive wear on the contact surfaces.

Align the holes in the cam lever with those on the cam carrier *(SEE FIGURE 24D)*. Slide the cam axle into the cam carrier. The lever must be installed the correct way facing the rammer in order to function. The diagram in figure 23E illustrates the orientation in which to install the lever in relation to the rammer and exhaust valve.

With the lever pointing into the LV1 body, insert the cam assembly vertically. Then flip the screw end down into the body *(SEE FIGURE 23F)*.

Check that the holes in the cam carrier and body are all aligned before reinserting the retaining screws. Use a 5/64" hex key to tighten the four retaining screws *(SEE FIGURE 23G)*.

DO NOT over tighten the retaining screws.

⚠ WARNING ⚠
IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 23A


FIG 23B


FIG 23C


FIG 23D

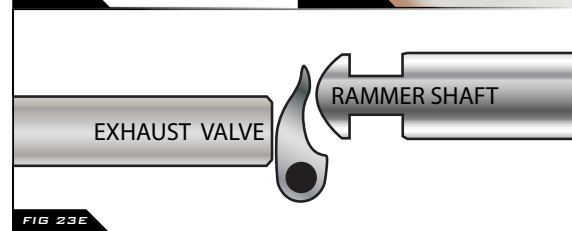


FIG 23E


FIG 23F


FIG 23G

THE TRIGGER ASSEMBLY

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

Having removed the frame completely from the Ego LV1 body (see page 52). Unscrew the two M2.5x5 retaining screws which hold the bearing carrier in the frame *(SEE FIGURE 24A)*.

Gently lift the bearing carrier and trigger assembly free from the frame taking care not to damage the micro-switch or the OPTO sensors *(SEE FIGURE 24B)*.

Remove the trigger spring from the bearing carrier, removing any paint or moisture *(SEE FIGURE 24C)*.

Using a 1/16" hex key, loosen the trigger pin retaining set screw from the back of the trigger *(SEE FIGURE 24D)*.

Use a small hex key to push the trigger pin out of the bearing carrier from one side *(SEE FIGURE 24E)*, then remove the bearing carrier from the trigger *(SEE FIGURE 24F)*.

Clean the trigger and bearing carrier thoroughly and also clean the space within the frame that the trigger sits in.


FIG 24A

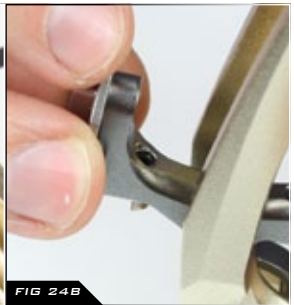


FIG 24B


FIG 24C


FIG 24D

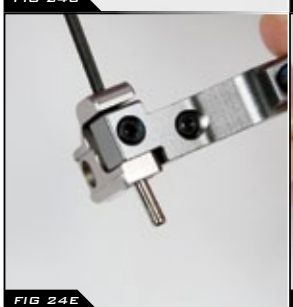


FIG 24E

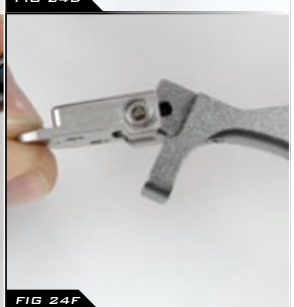


FIG 24F

(CONTINUED)

Position the trigger so that the hole through the trigger lines up with the holes in the bearing carrier, slide the trigger pin into place *(SEE FIGURE 24G)*.

Gently lower the trigger assembly and bearing carrier into the frame, taking care not to damage the micro-switch or the OPTO sensor, and ensuring that the trigger is positioned correctly *(SEE FIGURE 24H)*.

Using a 5/64" hex key screw the right side M2.5x5 retaining screw into place but do not fully tighten it into place *(SEE FIGURE 24I)*.

Ensure the trigger moves freely within the frame, then using a 1/16" hex key tighten down the trigger pin retaining set screw.

Place the trigger spring over the bearing carrier in its designated groove, align the hole in the trigger spring with the front/left hole in the bearing carrier, then screw the retaining screw into the frame. Tighten both screws with a 5/64" hex key *(SEE FIGURE 24J)*.

DO NOT OVERTIGHTEN THE RETAINING SCREWS. DOING SO MAY DAMAGE THE TRIGGER SPRING AND THREADS IN THE FRAME.

You have now stripped and cleaned your Ego LV1 trigger assembly.

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.

FIG 24G

FIG 24H

FIG 24I

FIG 24J

REPLACING A DAMAGED VALVE ASSEMBLY

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

THE VALVE GUIDE SHOULD ONLY BE REMOVED IF THE VALVE GUIDE IS DAMAGE, CAUSING A LEAK DOWN THE BARREL, FEED TUBE OR RAMMER SLOT. THE VALVE GUIDE DOES NOT NEED TO BE REMOVED FOR GENERAL MAINTENANCE.

Lift the bolt pin and slide the bolt assembly out of the rear of the marker *(SEE FIGURE 25A)*. Disconnect the gas pipe and unscrew the inline regulator from the FRM as detailed in the SL4 inline regulator section of this maintenance guide (page 44). Pull the foregrip crown off the LV1 body *(SEE FIGURE 25B)*.

Push and hold the front of the LPR assembly and the valve plug back into the LV1 body *(SEE FIGURE 25C)*. While continuing to do this, pull the tuning fork out of the LV1 body *(SEE FIGURE 25D)*.

Remove the valve plug with attached valve stem from the LV1 body *(SEE FIGURE 25E)*. Then carefully tip the exhaust valve and spring out *(SEE FIGURE 25F)*.


FIG 25A


FIG 25B


FIG 25C


FIG 25D


FIG 25E


FIG 25F

(CONTINUED)

Ensure that the rammer is in its rear position and taking an L-shaped hex key, place it down through the bolt pin slot in the top of the body so that you can apply light pressure to the cam lever to pop the valve guide out of its place in the Ego LV1 body *(SEE FIGURE 25G)*.

Inspect the sealing face of both the exhaust valve *(LABELLED Ⓐ FIGURE 25H)* and valve guide *(LABELLED Ⓐ FIGURE 25I)* for any excessive wear or damage. If either the exhaust valve or the valve guide are damaged/scratched then replace with authentic Ego LV1 parts.

Lubricate the o-ring on the valve guide *(LABELLED Ⓑ FIGURE 25I)*.

Lubricate the o-ring on the valve plug *(LABELLED Ⓐ FIGURE 25J)*.

Place the exhaust valve in the valve guide, making sure that the sealing faces are next to each other *(SEE FIGURE 25K)*, and place the valve spring over the end of the exhaust valve and then place this sub-assembly into the valve stem *(SEE FIGURE 25L)*.


FIG 25G

FIG 25H

FIG 25I

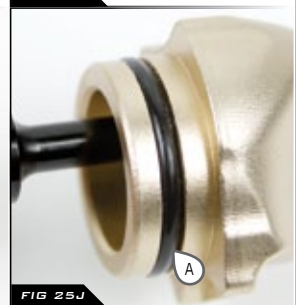


FIG 25J


FIG 25K


FIG 25L

(CONTINUED)

Ensure the LPR assembly is still correctly in place in the body *(SEE FIGURE 25M)*.

Make sure the exhaust hole in the valve guide is pointed directly upwards and the lip on the valve plug is pointed downwards *(SEE FIGURE 25N)*. Then slide the entire valve guide, exhaust valve, valve stem and valve plug into the body.

Ensure the valve guide is fully inserted into the LV1 body.

Push and hold the valve plug firmly up to the LV1 body *(SEE FIGURE 25O)*, take the tuning fork and insert it into the FRM positioning the forks either side the LPR body. Push the fork up into the body until the tips of the fork stop against the inside of the body and the base of the tuning fork is flush with the threads on the FRM *(SEE FIGURE 25P)*.

You have now successfully stripped and cleaned your Ego LV1 valve assembly. See page 45 on how to attach the SL4 inline regulator.

FIG 25M

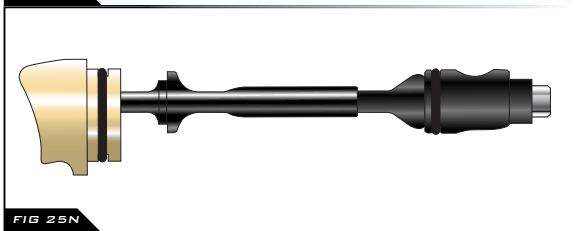


FIG 25N

FIG 25O

FIG 25P

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.

THE SOLENOID MANIFOLD

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

THERE IS NO NEED TO REMOVE THE SOLENOID VALVE OR MANIFOLD FOR ANY KIND OF REGULAR MAINTENANCE. THERE ARE NO SERVICEABLE PARTS WITHIN THE SOLENOID VALVE OR MANIFOLD THAT REQUIRE MAINTENANCE.

With the frame separated from the Ego LV1 body and the solenoid and BBSS wires unplugged from the circuit board (see page 52) use a small flat headed screw driver to undo and remove the two screws that hold the solenoid valve onto the solenoid manifold *(SEE FIGURE 26A)*.

After removing the solenoid valve, the three retaining screws which hold the solenoid manifold onto the Ego LV1 body will be accessible. Remove these using a 5/64" hex key *(SEE FIGURE 26B)*.

With the solenoid manifold completely removed from the Ego LV1 body the bottom of the Ego LV1 body should now resemble *FIGURE 26C*. Ensure that the air transfer holes in the bottom of the body are free from contamination from any dirt, debris, paint or moisture and clear away any excess grease if it appears to be blocking any of the air transfer holes.

Check the top face of the solenoid manifold to ensure that it is free from damage or debris *(SEE FIGURE 26D)*. Remove, clean and inspect the manifold rubber gasket as shown in *FIGURE 26E*. Replace the gasket ensuring that it lies flat in its designated groove in the solenoid manifold body *(SEE FIGURE 26D)*.[1]

[1] *Replace any worn/damaged seals using authentic Eclipse Ego LV1 spare parts.*


FIG 26A


FIG 26B


FIG 26C


FIG 26D


FIG 26E

(CONTINUED)

Check the bottom face of the solenoid manifold to ensure that it is also free from damage or debris *(SEE FIGURE 26F)*. Remove, clean and inspect the solenoid rubber gasket as shown in *FIGURE 26G*. Replace the gasket ensuring that it lies flat in its designated groove in the solenoid manifold body *(SEE FIGURE 26F)*.[1]

Inspect and clean the solenoid valve, removing any moisture, dirt and debris, paying particular attention to the top sealing surface and exhaust ports *(SEE FIGURE 26H)*.

DO NOT ATTEMPT TO DISASSEMBLE THE SOLENOID VALVE UNIT OR THE USER WARRANTY WILL BE VOID.

Hold the solenoid manifold onto the bottom of the Ego LV1 body taking care to line it up correctly with the screw holes in the body and to avoid pinching the BBSS wires underneath it. Use a 5/64" hex key to tighten the three screws that hold the solenoid manifold onto the Ego LV1 body *(SEE FIGURE 26I)*.[1]

DO NOT over tighten the retaining screws for the manifold or solenoid. Doing so can crack the manifold.

Hold the solenoid valve onto the bottom face of the solenoid manifold ensuring the small solenoid rubber gasket is still in place, line up the two screw holes. Screw the solenoid retaining screws into the solenoid manifold *(SEE FIGURE 26J)*.[2]

You have now successfully stripped and cleaned your Ego LV1 solenoid assembly.


FIG 26F


FIG 26G

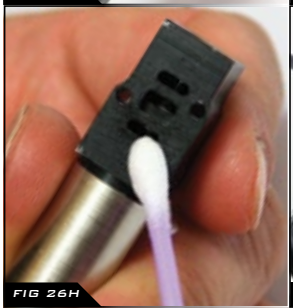


FIG 26H


FIG 26I


FIG 26J

[1]Replace any worn/damaged seals using authentic Eclipse Ego LV1 spare parts.
[2]DO NOT over tighten retaining screws, doing so may strip the threads or damage the part being retained.

⚠WARNING⚠
IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.

THE SOLENOID VALVE

The Ego LV1 solenoid valve (SEE FIGURE 27a) is Non-Serviceable unlike some previous Planet Eclipse marker solenoid valves. Any attempt to strip, service or modify the Ego LV1 solenoid valve will immediately void your warranty.

If you experience any issue with your Ego LV1 solenoid valve then please contact your nearest Eclipse Service Centre for details on replacement solenoid valves.

See page 68 for Eclipse Service Centre details.

FIG 27A

THE PUSH ON PURGE SYSTEM

⚠ WARNING ⚠
DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

THERE IS NO NEED TO REMOVE THE POPS FROM THE EGO LV1 FRAME FOR GENERAL MAINTENANCE. IF THE POPS IS REMOVED, ENSURE THE O-RING IS CORRECTLY SEATED BEFORE POPS RE-ATTACHMENT.

Fully depress the latch button then slide the bonnet forward while continuing to depress latch button *(SEE FIGURE 28A)*.

When the bonnet is in the forward position *(SEE FIGURE 28B)* remove the latch button and spring from the bonnet *(SEE FIGURE 28C)* then slide the bonnet off the POPS body *(SEE FIGURE 28D)*. Be careful not to lose the spring.

Carefully slide the push rod out from either side of the POPS body, taking care not to lose the two o-rings on the push rod *(SEE FIGURE 28E)*.

Clean off any dirt, debris or moisture from the bonnet, the POPS body and the latch button *(SEE FIGURE 28F)*.

Remove the POPS insert assembly using a 5/32" hex key *(SEE FIGURE 28G)*. Remove the POPS pin from the POPS Insert.

Clean and check the condition of the 007 NBR70 o-ring on the outside of the POPS insert, replacing as necessary *(SEE FIGURE 28H)*.

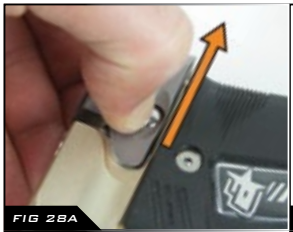


FIG 28A


FIG 28B

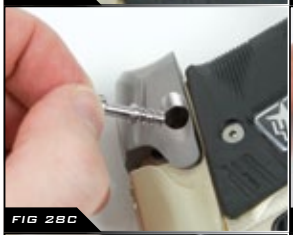


FIG 28C


FIG 28D


FIG 28E


FIG 28F


FIG 28G


FIG 28H

(CONTINUED)

Clean and check the condition of the single internal 005 NBR90 o-ring in the front of the POPS insert, replace if necessary *(SEE FIGURE 28I)*. Lubricate this o-ring liberally using Eclipse grease.

Lubricate the narrow end of the POPS pin with a smear of Eclipse grease and push the pin, narrow end first, into the POPS insert so that it sits in the POPS insert and pokes through to the front *(SEE FIGURES 28J & 28K)*.

Screw the POPS insert back into the POPS body ensuring that the o-ring end goes in first *(SEE FIGURE 28G)*.

Replace the push rod into its designated slot *(SEE FIGURE 28L)*, then side a 004 NBR70 o-rings on both ends of the push rod. Make sure the push rod is centred in the POPS body *(SEE FIGURE 28M)*.

Slide the bonnet over the POPS body and align the hole on the bonnet with the front hole on the POPS body *(SEE FIGURE 28N)*.

Ensure the spring is on the latch button then slide them both into the POPS body through the hole in the bonnet, spring end first, making sure the latch button pokes out the right side of the bonnet *(SEE FIGURE 28O)*.

Push the button down as far as it will go, then (while still holding down the button) slide the bonnet back until the button engages with the POPS body and cannot slide into the forward position *(SEE FIGURE 28P)*.

You have now successfully cleaned and maintained the Push On Purge System.

⚠ WARNING ⚠

IF YOU ARE UNSURE ABOUT PERFORMING A MAINTENANCE PROCEDURE PLEASE CONTACT YOUR NEAREST SERVICE CENTRE.


FIG 28I


FIG 28J


FIG 28K


FIG 28L


FIG 28M


FIG 28N


FIG 28O


FIG 28P

The Fault Finding guide covers common symptoms, causes and solutions that are likely to be encountered by the average user. If a issue with the Ego LV1 cannot be solved using the Fault Finding guide, contact your nearest Eclipse Service Centre for assistance.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Although a new battery has been fitted, the Ego LV1 will not switch on.	The battery has been fitted incorrectly.	Fit the battery correctly with the positive terminal nearest to the side of the frame.
	The battery has drained on the shelf.	Replace with another battery.
	The battery terminals are not making proper contact with the battery.	Remove the battery, gently bend the terminals towards where the battery will sit and then replace the battery.
The battery does not seem to last very long.	The battery type is of a low quality.	Use an fresh alkaline or lithium battery. Do not use a low quality or rechargeable battery.
The Ego LV1 leaks from the solenoid and/or manifold.	Either of the two gaskets are damaged and/or not seated correctly in its designated pocket in the manifold body.	Ensure the gasket is seated correctly.
		Replace the gasket if damaged using Ego LV1 parts kit.
	Solenoid valve and/or manifold is over-pressurising.	Check the LPR output pressure. Adjust accordingly.
		Clean and inspect the LPR assembly paying particular attention to the piston o-ring, piston tip and rubber seal. Replace damaged components as necessary.
	Damaged or incorrect seals on rammer.	Replace seals.
	Damaged manifold inlet barb or low pressure hose	Check Low Pressure Hose for cuts or replace barb.
	Damaged Ego LV1 solenoid valve.	Replace Ego LV1 solenoid valve.
The Ego LV1 leaks down the barrel.	Damaged exhaust valve.	Replace exhaust valve.
	Damaged valve guide.	Replace valve guide and o-rings.
	Incorrect o-ring on the valve guide.	Replace front o-ring on valve guide with a new 013 NBR70 o-ring
Gas vents quickly down barrel as soon as the Ego LV1 is gassed up.	The exhaust valve has become jammed in the valve guide.	Replace exhaust valve and valve guide as necessary (see Maintenance section).
The Ego LV1 fires but the bolt doesn't move.	The bolt pin is not located in rammer correctly.	Lift bolt pin and line up with position of rammer correctly (See Maintenance section).

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Low rate of fire / rate of fire not reaching the ROF cap.	The rear solenoid flow restrictor (SFR) is set too low.	Set the rear SFR to it factory level. (See page 6)
	The force setting of the loader is too low.	Adjust the loader force feed setting.
The marker is chopping or trapping paint.	The paint is of a poor quality.	Try a higher quality of paint.
	The BBSS is switched off.	Switch on the BBSS.
	The bolt is dirty, causing the BBSS to incorrectly detect a paintball.	Clean the bolt and breach.
	The BBSS is dirty causing the incorrect detection of paintballs.	Clean the BBSS.
	Incorrectly seated rubber bolt tip.	Re-seat the rubber bolt tip.
	Damaged rubber bolt tip	Replace the rubber bolt tip.
The Ego LV1 does not fire.	The POPS is not fully engaged.	Push the POPS bonnet back until the unit engages.
	The solenoid flow restrictors (SFRs) are set too low.	Set the SFRs to their factory levels. (See page 6)
	The battery quality or charge level is very low.	Install new high quality alkaline battery.
	The battery is flat.	Replace the battery.
	The training mode is enabled.	Disable training mode.
	The dwell parameter is set too low.	Increase the dwell parameter.
	The trigger is set up incorrectly.	Set trigger up correctly. (See Advanced Set-Up Section)
	The solenoid is not plugged into the Ego LV1 PCB.	Plug solenoid wire into port on the Ego LV1 PCB.
	The BBSS is enabled but there is no paint in the breech.	Fill loader with paint.
	The OPTO sensor/micro-switch is not being activated.	Adjust trigger screws accordingly.
	The PCB is damaged.	Replace PCB.
	The solenoid valve is damaged.	Replace solenoid valve.
Low constant velocity.	The SL4 regulator output pressure set too low.	Increase the output pressure of the SL4 regulator.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Low constant velocity.	The LPR is set too low.	Increase the output pressure of the LPR (see page 18).
	The solenoid flow restrictor (SFR) B is set too low.	Set SFR B to level 6-7.
	The cam-lever has been re-installed incorrectly.	Strip down and re-install the cam-lever assembly correctly.
Low velocity first shot.	The FSD comp parameter is too low to overcome stiction on solenoid and / or rammer o-rings.	Increase FSD comp parameter.
High velocity first shot.	The FSD comp parameter is set too high.	Reduce FSD comp parameter.
	The inline regulator pressure is creeping.	Strip and clean the inline regulator replacing the piston seal if necessary.
	The LPR pressure is creeping.	Strip and clean the LPR replacing the piston seal if necessary.
Velocity drop-off during rapid fire.	The battery quality or charge level is low.	Install a new high quality alkaline battery.
	The solenoid flow restrictor set too low.	Increase the SFR settings to factory default.
	The air system regulator does not have a high enough flow to keep up.	Try another air system.
	Dirty/partially blocked SL4 regulator.	Strip, clean, lubricate and rebuild the SL4 regulator. (see page 44-45)
The trigger is very “bouncy”.	Incorrect filter settings.	Check that your trigger filter and debounce settings suit your trigger set-up.
	The trigger pull is too short and the return strength is too low.	Refer to Advanced Set-Up section for guidelines of how to adjust your Ego LV1 trigger accordingly.
The BBSS does not appear to be reading correctly.	The break beam sensor system is dirty.	Keep the break beam sensors clean to ensure correct readings (See Maintenance Section).
The BBSS is not reading at all.	The break beam 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 of the cables.
		Check for cuts or pinches in the sensor cables.
	Either sensor is back to front.	Check that the sensors face each other when installed.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
BBSS turns itself off after firing and the display shows the BBSS fault icon in the top right.	The sensor is dirty.	Clean the BBSS.
	The sensor is faulty.	Replace the BBSS.
	The sensor is out of place.	Re-Install BBSS. Check alignment.
Two or more balls are being fed into the breech.	Worn/damaged Detents.	Change the rubber Detent.
	The feed force too high from loader.	Adjust loader settings/use lower force loader.
Ego LV1 is inconsistent.	The inline regulator is supercharging.	Strip and clean inline regulator, replacing SL4 regulator seal.
	The dwell is too low.	Increase the dwell parameter.
	The front SFR is set too low.	Increase the front SFR setting.
	Poor quality paintballs.	Use better quality paintballs.
	Poor paintball size to barrel bore match.	Use a closer paintball to barrel bore size.
	Inconsistent air supply from air system.	Use a good quality air system.
Ego LV1 is inefficient	The dwell is excessively high	Reduce the dwell.
	LPR is set too high.	Reduce LPR output pressure.
	Poor paintball size to barrel bore match	Use a closer paintball to barrel bore size.
Low rate of fire	The rear SFR is set too low	Increase the rear SFR setting.
Leaking rammer assembly (Leak gets louder when bolt is removed).	The front rammer shaft o-ring deteriorated.	Replace the front rammer shaft o-ring.
When the Ego LV1 powers up, no game timer / shot counter / ROF indicator is displayed and the gun will not fire.	The trigger is permanently depressed.	Turn the front stop set screw in the top of the trigger counter-clockwise until the display reads correctly. If there is sufficient trigger adjustment then turn the return force set screw counter-clockwise also.
The Ego LV1 leaks out of the LPR body vent hole (small hole behind the fore grip crown on the LV1 body).	The LPR piston o-ring or either of the two LPR body o-rings are damaged or dirty.	Clean and inspect the o-rings. Replace if damaged.

The Fault Finding guide covers common symptoms, causes and solutions that are likely to be encountered by the average user. If a issue with the Ego LV1 cannot be solved using the Fault Finding guide, contact your nearest Eclipse Service Centre for assistance.

ECLIPSE SERVICE CENTRES

Are you unsure of where to send your Ego LV1 to be repaired or serviced? If your local Eclipse dealer can't assist you, why not contact your nearest certified Eclipse Service Centre and arrange for them to undertake any work that you require.

A map listing all of our Service Centres and their contact details can be found in the SUPPORT section of the Planet Eclipse web site at

WWW.PLANETECLIPSE.COM/SITE/SERVICE-CENTRES

For any Technical Support or Customer Service enquiries please ensure that you have registered your product (where applicable) using the Warranty Card in this manual or online prior to contacting the appropriate representative in your region.

EGO LV1 OPERATIONAL OVERVIEW

Below is a brief overview of what happens during the Ego LV1 firing cycle. The location of parts discussed in the text below can be found on pages 70-71.

Assuming the Ego LV1 is gassed up and turned on, *FIGURE 29A* shows the marker in its idle position. The rammer is held in its rear position with pressurised gas from the LPR directed through the solenoid to the front of the rammer. The valve chamber is full of pressurised gas from the inline regulator.

Providing a ball is in the breech, when the trigger is pulled, a signal is sent to the solenoid which redirects the supply of gas from the front of the rammer to the rear, which pushes the rammer and bolt forward toward the valve lever *(FIGURE 29B)*. As this happens the gas in front of the rammer is vented out through an exhaust port in the solenoid valve.

The rammer makes contact with the valve lever and continues to be pushed forward, now pushing the exhaust valve forward with it. This opens the exhaust valve allowing pressurised gas to flow up through the valve guide and into the bolt and vent down the barrel, propelling the ball *(SEE FIGURE 29C)*.

The time that the rammer is held in this forward position is dependant on the dwell parameter. The longer this dwell time the longer the Ego LV1 vents gas down the barrel. When this dwell time has elapsed, the solenoid redirects the supply of gas from the back of the rammer to the front, pushing the rammer and bolt back to the rear position. This loss of forward force allows the exhaust valve to re-seal and the valve chamber is re-pressurised. The valve lever is pushed back into position by the exhaust valve closing. As the rammer moves back, the gas behind it is vented through an exhaust port in the solenoid valve *(SEE FIGURE 29D)*.

The Ego LV1 has now completed a full cycle.

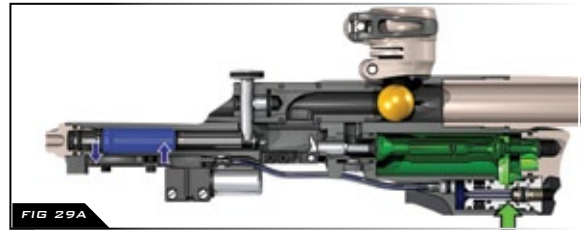


FIG 29A

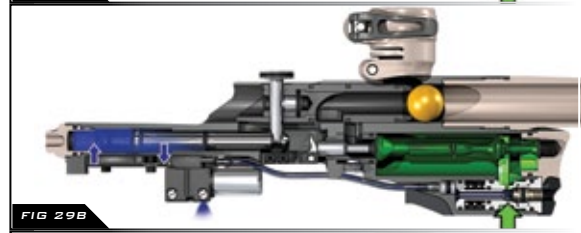


FIG 29B

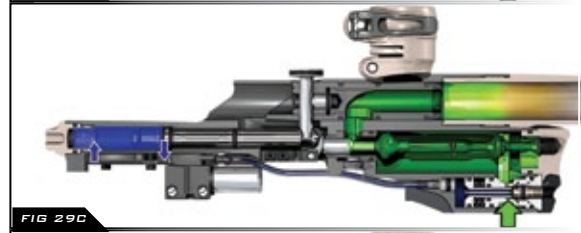


FIG 29C

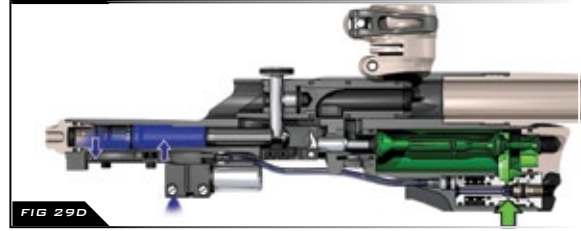
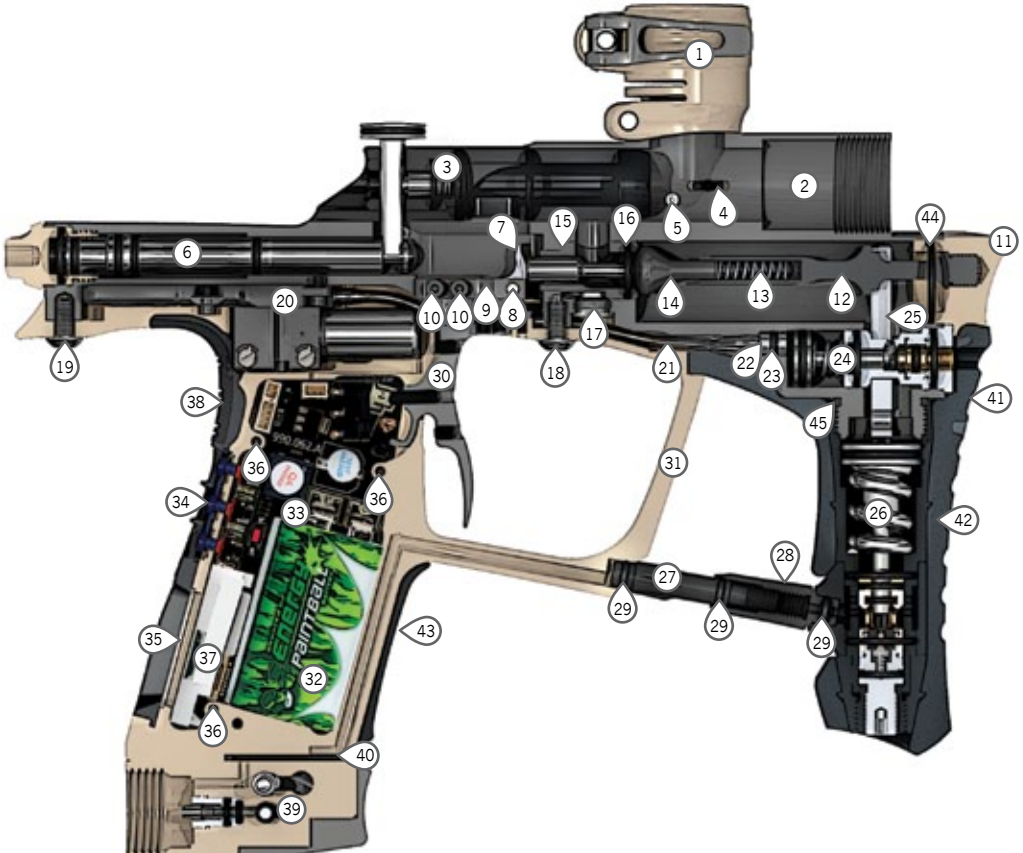


FIG 29D

PARTS LIST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PAINTBALL
Energy

PARTS LIST

01 Clamping feed tube assembly
02 Body
03 Bolt assembly
04 Rubber Detent
05 BBSS unit
06 Rammer assembly
07 Cam-lever
08 Cam axle
09 Cam carrier
10 Cam carrier retaining screw
11 Valve plug
12 Valve stem
13 Valve spring
14 Exhaust valve
15 Valve guide
16 Valve guide o-ring
17 Valve screw
18 Front frame screw
19 Rear frame screw
20 Solenoid assembly
21 Low pressure hose
22 Low pressure barb
23 Low pressure barb o-ring
24 LPR assembly
25 Tuning fork
26 SL4 inline regulator assembly
27 Gas pipe
28 Pipe nut
29 Gas pipe assembly o-ring
30 Trigger assembly
31 Frame
32 9V battery
33 Printed circuit board
34 Push button strip
35 Display window
36 PCB screw
37 LCD module
38 Navigation console
39 POPS assembly
40 POPS seal
41 Foregrip crown
42 Foregrip sleeve
43 Rubber grip
44 Valve plug o-ring
45 Body FRM o-ring

SHAFT 4 BARREL

The Eclipse Ego LV1 comes as standard with an Eclipse Shaft4 barrel.[1,4]

The barrel screws into the body of the Ego LV1 using a right hand thread meaning that if you hold the Ego LV1 pointing away from you the barrel screws into the body in a counter-clockwise direction.[2]

The barrel comprises of two parts, a barrel back (A) and a barrel front (B). The two parts are joined together with a left hand thread meaning that if you hold the barrel, with the back nearest you, the front unscrews in a counter-clockwise direction. The bore size of the barrel back is engraved at the end of the barrel back (C).[3]

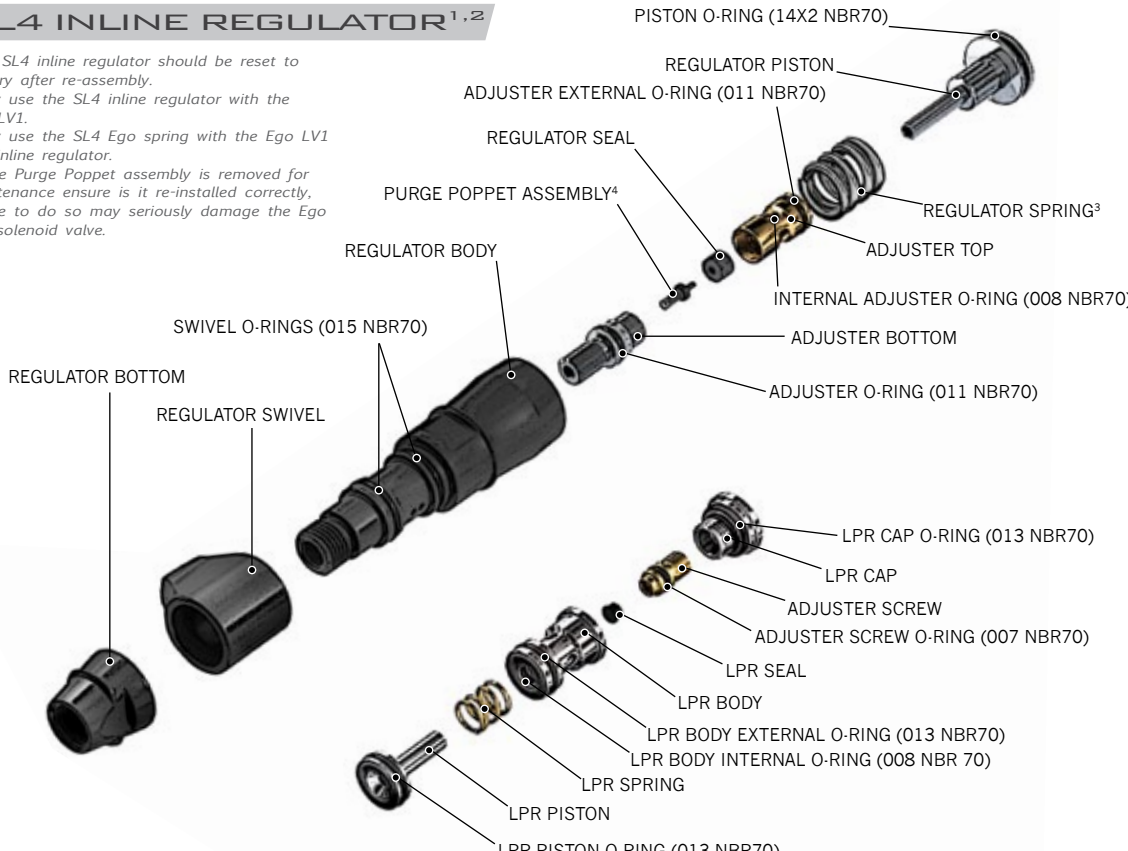
On the barrel back there is a 016 NBR 70 o-ring (D) which prevents the barrel from vibrating loose from the Ego LV1 body when the marker is fired. There is also a 016 NBR 70 o-ring on the tip of the barrel back (E) helps with alignment when the two sections are screwed together.

Replace and lubricate these o-rings with Eclipse Grease as necessary.

[1] *The bore size of your Shaft4 may vary according to the model of Ego LV1 you have.*
[2] *The Ego LV1 will only accept COCKER threaded barrels. Do not use any other type of barrel thread.*
[3] *The Eclipse Shaft4 front and back barrel sections are not interchangeable with older version shaft front and back barrel sections (including Shaft3 barrel kits).*
[4] *The model of barrel accompanying your Ego LV1 may differ from described.*

SL4 INLINE REGULATOR[1,2]

[1]*The SL4 inline regulator should be reset to factory after re-assembly.*
[2]*Only use the SL4 inline regulator with the Ego LV1.*
[3]*Only use the SL4 Ego spring with the Ego LV1 SL4 inline regulator.*
[4]*If the Purge Poppet assembly is removed for maintenance ensure is it re-installed correctly, failure to do so may seriously damage the Ego LV1 solenoid valve.*



[5]*The low pressure regulator should be reset to factory after re-assembly.*

LOW PRESSURE REGULATOR[5]

CURE5 BOLT

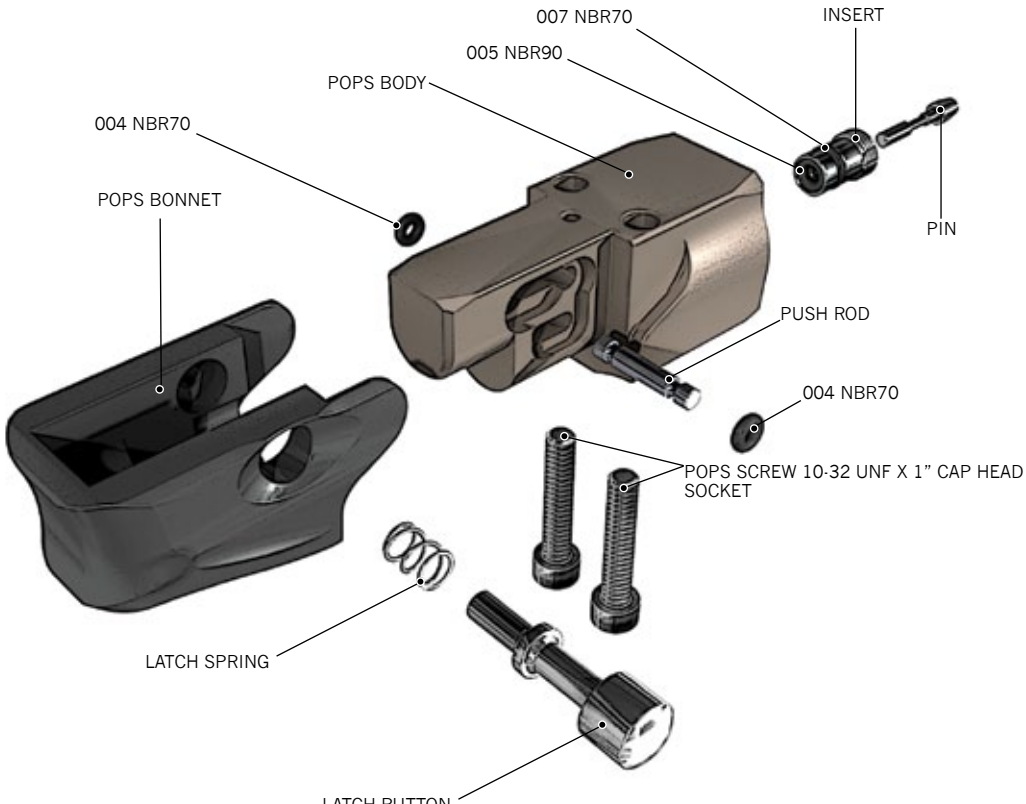
[1]*The Ego LV1 comes with two rammer assemblies, a standard rammer (installed in the marker from factory) and a lightweight rammer. See page 48 for more information on the Ego LV1 rammers.*

ZICK3 RAMMER[1]

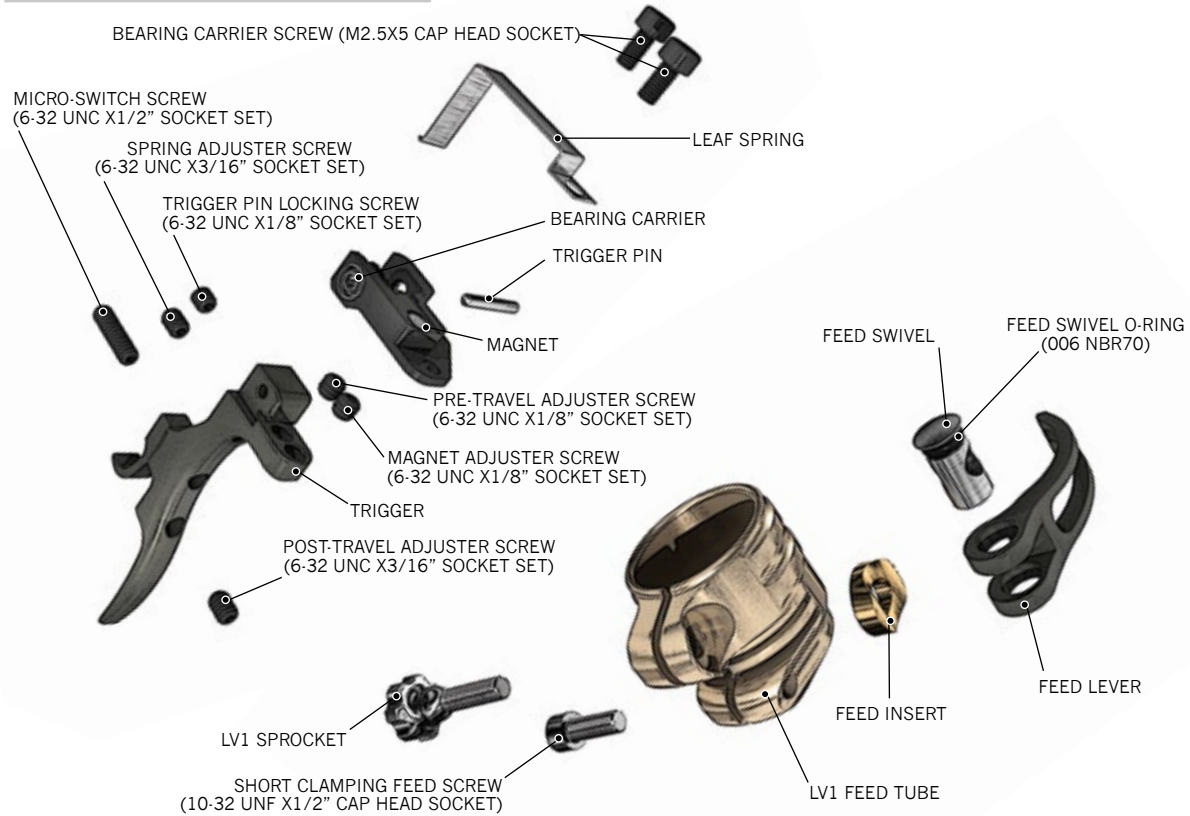
EGO LV1 SOLENOID ASSEMBLY

[1]*The Ego LV1 solenoid valve is NON-SERVICEABLE. Any attempt to strip, dismantle or service the solenoid valve will immediately void your Warranty. For more information on the Ego LV1 solenoid valve please see page 61.*

EGO LV1 PUSH ON PURGE SYSTEM (POPS)

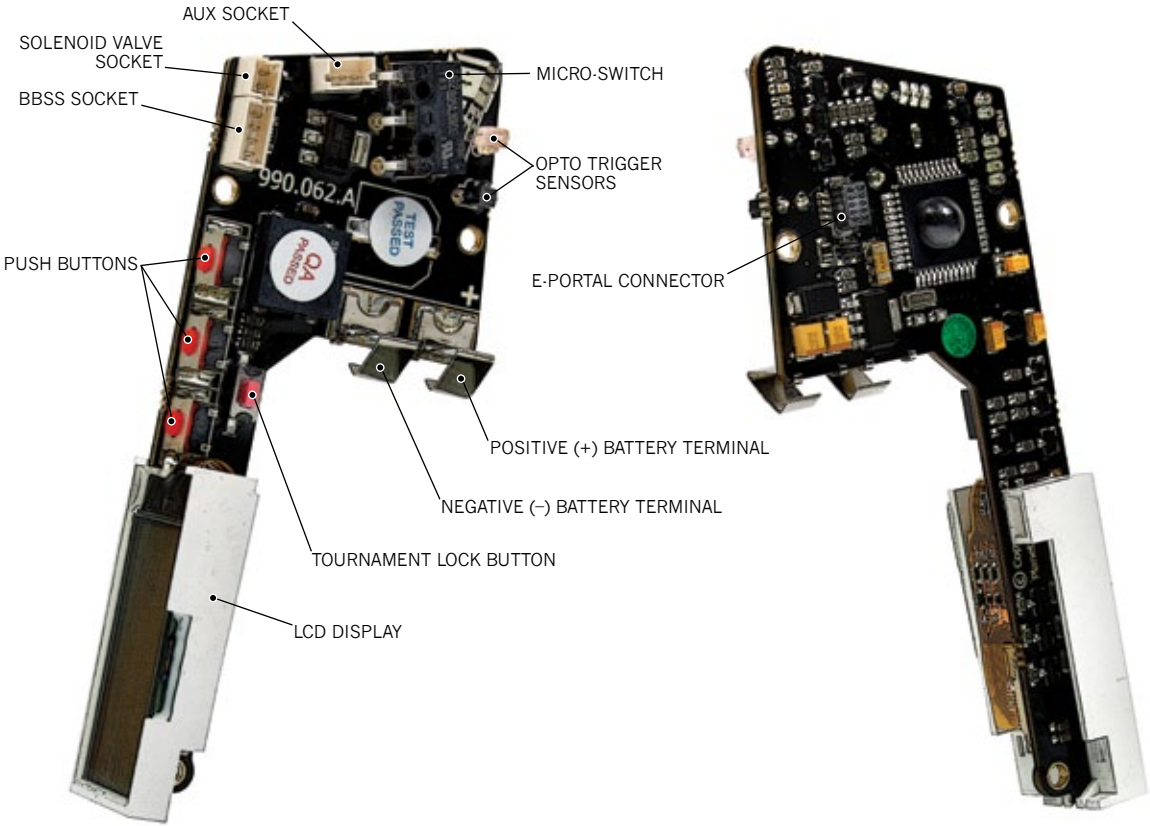


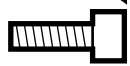
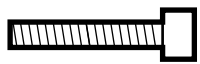
TRIGGER ASSEMBLY

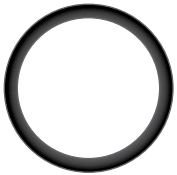
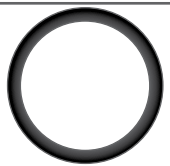
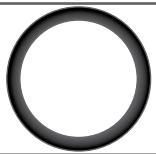


CLAMPING FEED TUBE ASSEMBLY

EGO LV1 CIRCUIT BOARD



SCREW	QTY	DESCRIPTION
	13	PCB SCREW (3), BEARING CARRIER SCREW (2),MANIFOLD SCREW(3), CAM CARRIER(4), NAVIGATION CONSOLE (1) *(M2.5 x 5 CAP HEAD SOCKET)*
	2	SOLENOID SCREW (2) *(M1.7 x 16 CAP HEAD SOCKET)*
	6	RUBBER GRIP SCREW (4), BBSS COVERS SCREW (2) *(6-32UNC x 5/16" COUNTERSUNK SOCKET)*
	1	SHORT FEED NECK SCREW *(10-32UNF x 1/2" CAP HEAD SOCKET)*
	2	POPS SCREW *(10-32UNF x1" CAP HEAD SOCKET)*
	1	MICRO-SWITCH SCREW (6-32 UNC x 1/2" SOCKET SET SCREW)
	2	TRIGGER ADJUSTMENT SCREW (6-32 UNC x 3/16" SOCKET SET SCREW)
	3	TRIGGER PIN RETAINING SCREW (6-32 UNC x 1/8" SOCKET SET SCREW)
	2	FRONT & REAR FRAME SCREW (10-32 UNF x 3/8 SOCKET BUTTON HEAD)

 18x2	POPS Seal
 017	Valve Plug Front Regulator Mount (Body)
 016	Shaft4 Barrel Back (body end) Shaft4 Barrel Back (tip end)
 015	SL4 Swivel
 14x2	Bolt Body x2 SL4 Inline Regulator Piston
 014	Bolt Pin

 013	Valve Guide LPR Piston LPR Body Outside LPR Cap Rammer Cap Outside
 012	Bolt Insert
 011	Rammer Middle SL4 Inline Regulator Adjuster Outside
 010	Rammer Back Rammer Bumper Rammer Front
 008	SL4 Inline Regulator Adjuster Inside LPR Body Inside
 007	Gas Pipe Pipe Nut LPR Adjuster Screw POPS Insert External
 006	LP Hose Barb
 005	POPS Insert Internal (NBR 90)
 004	POPS Push Rod

ALL O-RINGS ARE NBR 70 DUROMETER UNLESS OTHERWISE STATED.

THE MENU TREE

The 🔒 symbol indicates parameters that are locked when the Tournament Lock is on. See Accessing the Menu System on page 27 for instruction on releasing the Tournament Lock.

Parameters followed by a * are part of the Smart Menu System and will only be displayed depending on your chosen settings. (e.g. The BS ON ROF parameter will only become available if the ROF CAP parameter is set to on).

MAIN MENU

- *TURN OFF* — Turn off the Ego LV1.
- *PRESET*
  - 🔒 *LOAD*
    - USER 1 — Load the USER 1 settings.
    - USER 2 — Load the USER 2 settings.
    - FACTORY *(Default)* — Load the default factory settings (semi-automatic).
    - NPPL — Load NPPL compliant settings.
    - PSP 10 — Load the PSP 10 balls per second (BPS) compliant settings.
    - PSP 12 — Load the PSP 12 balls per second (BPS) compliant settings.
    - MS 10 — Load Millennium Series 2010 compliant settings.
    - CANCEL — Cancel the load operation.
  - 🔒 *SAVE*
    - USER 1 — Save the current settings as the USER 1 settings.
    - USER 2 — Save the current settings as the USER 2 settings.
    - CANCEL — Cancel the save operation.
  - *BACK* — Return to Main Menu.
- 🔒 *FIRE MODE*
  - SEMI *(Default)* — Select semi-automatic mode of fire.
  - RAMP — Select ramping mode of fire.
  - CANCEL — Cancel the mode selection.
- 🔒 *ROF CAP*
  - ON — Rate of fire cap on.
  - OFF *(Default)* — Rate of fire cap off.
  - CANCEL — Cancel selection.
- 🔒 *BS ON ROF**
  - 4.0 - 30.0 bps — Maximum rate of fire with breech sensor on (ROF CAP dependant). *(Default 15.0bps)*
- 🔒 *BS OFF ROF*
  - 4.0 - 15.0 bps — Maximum rate of fire with breech sensor off. *(Default 10.0bps)*

- **RAMP SETUP*** *(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 at which the trigger has to be pulled in pulls per second (pps) before ramping can start. *(Default 5pps)*
  - **SUSTAIN**
    - 3.3 - 10.0 pps — Rate at which the trigger has to be pulled in pulls per second (pps) in order to maintain ramping. *(Default 5pps)*
  - **RESTART**
    - 0.0 - 1.0 s — Time in seconds (s) after the last trigger pull during which ramp can be restarted. *(Default 0.0s)*
  - **BACK** — Return to Main Menu.
- **TIMING**
  - **DWELL**
    - 10.0 - 30.0 ms — Solenoid energise time in milliseconds (ms) for each shot. *(Default 16.8ms)*
  - **FSD COMP**
    - 0.0 - 5.0 ms — First shot drop-off compensation time in milliseconds (ms). *(Default 2.0ms)*
  - **FSD DELAY**
    - 00:00 - 04:00 — First shot drop-off delay. *(Default 04:00)*
  - **BACK** — Return to Main Menu.
- **FILTER**
  - **DEBOUNCE**
    - LEVEL 9 — Use trigger Debounce level 9 (highest level of trigger bounce filtering).
    - LEVEL 8 - 2 — Use trigger Debounce level 8 - 2. *(Default LEVEL 5)*
    - LEVEL 1 — Use trigger Debounce 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 remain empty before the BBSS looks for a paintball. *(Default 4.0ms)*
  - **FULL**
    - 1.0 - 20.0 ms — Time in milliseconds (ms) that a paintball must be in the breech for the Ego LV1 to be ready to fire. *(Default 4.0ms)*
  - **PULL TM**
    - 3.0 - 25.0 ms — Time in milliseconds (ms) that the trigger must be pulled for a shot to be fired. *(Default 6.0ms)*
  - **RELEASE TM**
    - 3.0 - 25.0 ms — Time in milliseconds (ms) that the trigger must be released before a pull can be recorded. *(Default 6.0ms)*
  - **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** — Return to Main Menu.

(CONTINUED)

- HARDWARE
  - TRIGGER
    - OPTO *(Default)* — Use OPTO sensor to detect trigger operation.
    - SWITCH — Use micro-switch to detect trigger operation.
    - CANCEL — Cancel trigger detection method selection.
  - SOLENOID
    - LO PWR *(Default)* — Select standard solenoid power level.
    - HI PWR — Select high power level for solenoid.
    - CANCEL — Cancel solenoid power level selection.
  - SOUND
    - OFF — Turn off audible indicator.
    - ON *(Default)* — Turn on audible indicator.
    - CANCEL — Cancel audible indicator selection.
  - TONES*
    - OFF — Turn off audible tone when any button is pressed (SOUND dependant).
    - ON *(Default)* — Turn on audible tone when any button is pressed (SOUND dependant).
    - CANCEL — Cancel audible tone selection.
  - BACKLIGHT
    - 00:00 - 00:20 — Time in seconds that the backlight comes on for (00:00 = no backlight). *(Default 00:06)*
  - RED LEVEL*
    - 0 - 100% — Percentage of red light in backlight (BACKLIGHT dependant).
  - GRN LEVEL*
    - 0 - 100% — Percentage of green light in backlight (BACKLIGHT dependant).
  - BLU LEVEL*
    - 0 - 100% — Percentage of blue light in backlight (BACKLIGHT dependant).
  - CONTRAST
    - 0 - 30 — LCD contrast level. *(Default 14)*
  - AUX OUT
    - OFF — AUX socket output off.
    - ON *(Default)* — AUX socket output on.
    - CANCEL — Cancel AUX socket selection.
  - AUTO OFF
    - 05:00 - 60:00 — Time in minutes after which the Ego LV1 automatically powers off. *(Default 20:00)*
  - DBL CLICK
    - NONE — Double click is disabled entirely.
    - POWER UP — Double click for power up only.
    - ALL *(Default)* — Double click is fully enabled.
    - CANCEL — Cancel the double click selection.
  - BACK — Return to Main Menu.
- TRAINING
  - OFF *(Default)* — Training mode disabled.
  - ON — Training mode enabled.
  - CANCEL — Cancel training mode selection.

- *SHOT COUNT*
  - *GAUGE*
    - OFF — Shot gauge off.
    - ON *(Default)* — Shot gauge on.
    - CANCEL — Cancel selection.
  - *GAUGE MAX**
    - 100-2000 SHOTS — Shot gauge maximum (reset value) (GAUGE dependant). *(Default 140 shots)*
  - *BACK* — Return to Main Menu.
- *GAME TIMER*
  - *GAME*
    - 00:00 - 60:00 — Countdown game timer start time in minutes. *(Default 07:10)*
  - *ALARM*
    - 00:00 - 60:00 — Alarm activation time in minutes. *(Default 01:00)*
  - *START*
    - BUTTON *(Default)* — Pressing the ▼ button starts the Game Timer.
    - TRIGGER — A trigger pull starts the Game Timer.
    - CANCEL — Cancel Game Timer start selection.
  - *BACK* — Return to Main Menu.
- *EXIT*

From time to time the software of the Ego LV1 may be updated, resulting in changes to the default values for some parameters. For the most up to date default values please consult the online version of this manual at www.planeteclipse.com

The arrangement of menus and sub menus displayed in the above menu tree may not be replicated in your marker due to any software updates that may have taken place since printing.

ECLIPSE E-PORTAL

⚠WARNING⚠

DE-GAS YOUR MARKER, DISCHARGING ANY STORED GAS IN A SAFE DIRECTION, AND REMOVE THE BARREL, LOADER, AIR SYSTEM AND ANY PAINTBALLS TO MAKE THE MARKER EASIER AND SAFER TO WORK ON.

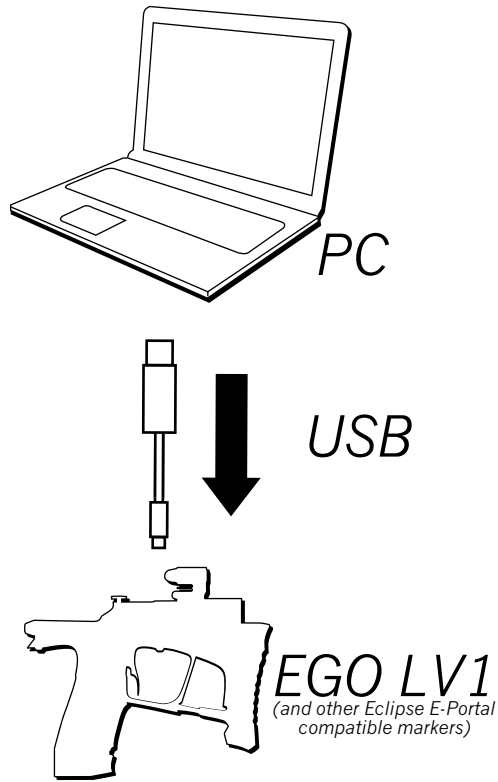
The Ego LV1 is compatible with Eclipse E-Portal Software. This software is an upgrade to the Ego LV1 platform. The Eclipse E-Portal Software, USB cable and USB daughter board are sold as a kit, separate from the Ego LV1.[1]

E-Portal allows you to connect the Eclipse Ego LV1 to a PC, where a number of operations can be performed:[2]

UPDATE THE MARKER FIRMWARE - from time to time new firmware may be released by Planet Eclipse. You can now install the latest firmware using the Eclipse E-Portal.

ALTER THE ELECTRONIC PARAMETERS - the Eclipse E-Portal will give you full access to all of the parameters on the Ego LV1 circuit board.

CUSTOMISE SCREEN GRAPHICS - customise the boot up screen graphic.



[1]If you already own an Eclipse E-portal kit (such as the kit included with the Eclipse SLS or CSL Ego), this kit will be compatible with the Ego LV1.
[2]Minimum system requirements :
Monitor Resolution - 1024x768 or higher, CD-ROM drive,Keyboard, Mouse, USB socket, 5MB of hard disk space, 1GHz Processor, 384Mb RAM, Microsoft® Windows® XP / Windows Vista / Windows 7 / Windows 8, internet connection (required for software and firmware updates).

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