ECLIPSE

ETEK

USER MANUAL: ENGLISH EDITION

WARNING!

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

- Please read and understand all instruction manuals before use.
- The Eclipse ETEK5 is not a toy. PAINTBALL SAFETY RULES MUST BE FOLLOWED AT ALL TIMES.
- Careless or improper use, including failure to follow instructions and warnings within this User Manual and attached to the ETEK5 could cause death or serious injury.
- Do not remove or deface any warnings attached to the ETEK5.
- Paintball industry standard eye/face/ear and head protection designed specifically to stop paintballs and meeting ASTM standard F1776 (USA) or CE standard (Europe) must be worn by the user and any person within range. Proper protection must be worn during assembly, cleaning and maintenance.
- Hearing protection should be worn.
- Never shoot at a person who is not wearing proper protection.
- Never look directly into the barrel of the marker. Accidental discharge into the eyes may cause permanent injury or death. Never look into the barrel or breech area of the ETEK5 whilst the marker is switched on and able to fire.
- Keep the ETEK5 switched off until ready to shoot.
- Treat every marker as if it is loaded and ready to fire.
- The electronic on/off button is the marker's disabling device, also known as a safety, which prevents the marker from firing. Always switch off the marker when not in use.
- Always fit a barrel-blocking device to the ETEK5 when not in use.
- Always remove all paintballs from the ETEK5 when not in use on the field of play.
- Never point the ETEK5 at anything you do not intend to shoot.
- Do not shoot at persons within close range.
- Do not field strip or remove any parts while the marker is pressurised.
- Do not pressurise the ETEK5 without all the components of the marker correctly installed, as high-pressure gas may be emitted.
- Do not fire the ETEK5 without the bolt correctly installed.
- Never put your finger or any foreign objects into the paintball feed tube of the ETEK5.
- Never allow pressurised gas to come into contact with any part of your body.
- Always remove the first stage regulator and relieve all residual gas pressure from the ETEK5 before disassembly.
- Always remove the first stage regulator and relieve all residual gas pressure from the ETEK5 for transport and storage.
- Always follow guidelines given with your first stage regulator for safe transportation and storage.
- Always store the ETEK5 in a secure place.
- Persons under 18 years of age must have adult supervision when using or handling the ETEK5.
- Observe all local and national laws, regulations and guidelines.

WARNING!

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

- Use only professional paintball fields where codes of safety are strictly enforced.
- Use compressed air/nitrogen only. Do not use any other compressed gas or pressurised liquid including CO2.
- Always follow instructions, warnings and guidelines given with any first stage regulator you use with the ETEK5.
- Use 0.68 inch calibre paintballs only.
- Always measure your marker's velocity before playing paintball, using a suitable chronograph.
- Never shoot at velocities in excess of 300 feet (91.44 meters) per second, or at velocities greater than local or national laws allow.
- Any installations, modifications or repairs should be carried out by a qualified individual at a licensed and insured paintball facility.

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 62).

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.

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Details on how to get up and running quickly with your ETEK5.
This section is essential reading for everyone.

ADVANCED SET-UP

In depth information on setting up the ETEK5.

ETEK5 OLED BOARD

In depth information covering all aspects of the ETEK5 OLED Circuit Board.

MAINTENANCE

A guide to performing routine maintenance on your ETEK5.

FAULT FINDING

How to resolve any problems that may arise with your ETEK5.

SERVICE CENTRES

Information on the location of your nearest ETEK5 Service Centre.

TECHNICAL RESOURCES

Essential illustrated diagrams and component lists for the ETEK5.

WARRANTY CARD

Tear-out product registration card to be completed and returned.

Alternatively register online at **www.planeteclipse.com**

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NOTES

USING THE ETEK

How to get up and running quickly with your ETEK5.

FACTORY SET-UP GUIDE

Before using the ETEK5 it is important to make sure that the inline regulator, low pressure regulator and all electronically controlled parameters are set correctly, as some of these may have a negative (and potentially damaging) effect on the marker (in terms of performance and reliability), if incorrectly set.

The steps below will restore the ETEK5 to the state that it left the factory.

Reset the control parameters to the factory settings (see page 28).

Check the inline regulator adjuster screw is set to 4 turns clockwise from its maximum output (counter-clockwise) position ***(see figure 1A)***. This will ensure the inline regulator is set to an output pressure that will not damage the ETEK5 when supplied with compressed air/nitrogen (see page 21 for more information on the inline regulator).

Check the low pressure regulator adjuster screw is set to one turn anti-clockwise from its fully inwards position ***(see figure 1B)*** (see page 21 for more information on the low pressure regulator).

FIG 1A

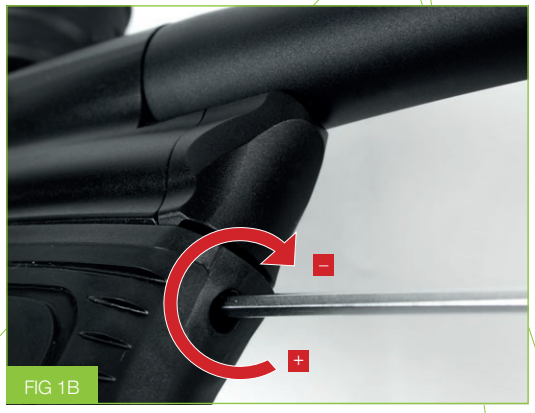


FIG 1B

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.

USING THE ETEK5

INSTALLING A 9V BATTERY

Ensure that the ETEK5 is switched off. Place the marker on a flat surface in front of you with the feed tube furthest away from you and the barrel pointing to the right.

Using a 5/64" (2mm) hex key, remove the two countersunk screws that hold the rubber grip onto the right side of the grip frame ***(see figure 2A)***. Peel the rubber grip to the right to expose the battery within the grip frame.

If present, remove the existing 9 volt battery by sliding your thumb or finger into the recess provided at the bottom of the battery and lever the battery gently out of the frame ***(see figure 2B)***.

Connect a new 9 volt Alkaline battery (type PP3, 6LR61, 1604A)[1] to the battery connector ***(see figure 2C)***.

Fit the battery upside down inside the ETEK5 frame, with the battery connector at the bottom. If you are unsure of how to install a new battery please contact your nearest Eclipse Service Centre.

Ensure that the battery wire is tucked into the recess within the frame as pictured ***(see figure 2D)***, then replace the rubber grip and tighten the countersunk grip screws using the 5/64" (2mm) hex key.

DO NOT OVER-TIGHTEN THE SCREWS.

1 *Do not use rechargeable batteries or low quality batteries.*


FIG 2A

FIG 2B


FIG 2C


FIG 2D

USING THE ETEK5

SWITCHING ON THE ETEK5

At the rear of the frame is the navigation console which houses the Select button ⭘ *(labelled* A *figure 3A)*. This button is the disabling device for the ETEK5, used to switch the marker on and off. Press and hold the Select button ⭘. Release the Select button ⭘ when the LED lights up and your ETEK5 will begin its power up sequence.[1,2]

SWITCHING OFF THE ETEK5

Press and hold the Select button ⭘. Release the Select button ⭘ when the LED on the navigation console turns red.

FIRING THE ETEK5

If the Breech Sensor (BS) is disabled, pull the trigger to fire the ETEK5. If the Breech Sensor is enabled and there is a paintball in the breech, pulling the trigger will also fire the ETEK5. The entire firing sequence is controlled electronically by the ETEK5 circuit board and solenoid, enabling any user to achieve high rates of fire easily.

FIG 3A

1 *When the ETEK5 is turned on, the Breech Sensor is automatically enabled.*

2 *The colours displayed during the power up sequence may vary depending on the region the marker was originally purchased.*

USING THE ETEK5

SWITCHING ON THE ETEK5 WITH OLED BOARD FITTED

At the rear of the frame is the navigation console which houses the Select button ⭘ *(labelled A figure 4A)*. This button is the disabling device for the ETEK5, used to switch the marker on and off. Press and hold the ⭘ button until the ETEK5 OLED board begins its power up sequence.[1,2]

SWITCHING OFF THE ETEK5 WITH OLED BOARD FITTED

Press and hold the ⭘ button until the display shows GOODBYE. Release the ⭘ button.

FIRING THE ETEK5 WITH OLED BOARD FITTED

If the Breech Sensor (BS) is disabled, pull the trigger to fire the ETEK5. If the Breech Sensor is enabled and there is a paintball in the breech, pulling the trigger will also fire the ETEK5. The entire firing sequence is controlled electronically by the ETEK5 board and solenoid, enabling any user to achieve high rates of fire easily.

FIG 4A

1 *When the ETEK5 is turned on, the Breech Sensor is automatically enabled.*

2 *By continuing holding down the ⭘ button when turning on the ETEK5 OLED board the software version number will be displayed.*

USING THE ETEK5

THE ETEK5 CIRCUIT BOARD

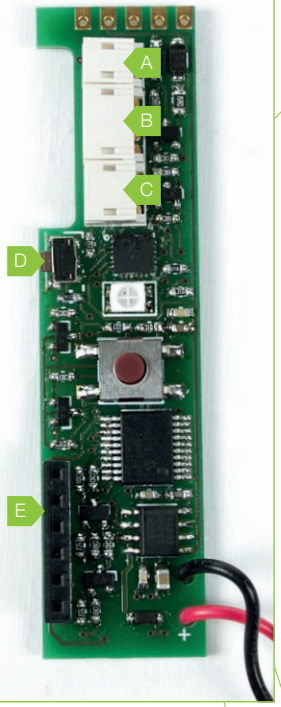
The ETEK5 circuit board sits within the frame and is accessible by removing the rubber grips (see page 29 to learn more).

There are three sockets on the ETEK5 circuit board ***(see figure 5A)***, the ETEK5 solenoid connector A, the BS connector B and the micro-switch connector C.

There is also a tournament lock button D and the OLED board connector E.

Information on the tournament lock button functionality can be found on page 24.

FIG 5A



1 *When the ETEK5 is turned on, the Breech Sensor is automatically enabled.*

2 *The colours displayed during the power up sequence may vary depending on the region the marker was originally purchased.*

USING THE ETEK5

THE ETEK5 OLED BOARD

The ETEK5 OLED board connects to the existing ETEK5 circuit board, which sits within the frame and is accessible by removing the rubber grips (see page 29 to learn more).

There are three sockets on the ETEK5 circuit board *(see figure 6A)*, the ETEK5 solenoid connector A, the BS connector B and the micro-switch connector C.

There is also a tournament lock button D.

Information on the tournament lock button functionality can be found on page 24.

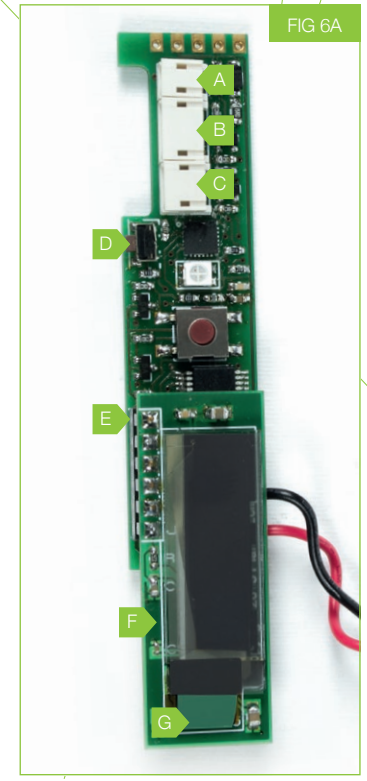
The OLED board *(labelled F figure 6A)* attaches to the standard ETEK5 board via the connector at the bottom of the ETEK5 circuit board *(labelled E figure 6A)*.

The mating connector sits to the upper left of the OLED board, which sits inline with the ETEK5 circuit board and extends downwards.

Before installation into your ETEK5 frame make sure you gently remove the OLED display's protective film using the green tab *(labelled G figure 6A)*.

For further details of how to install the OLED board see page 29.

FIG 6A



1 *When the ETEK5 is turned on, the Breech Sensor is automatically enabled.*

2 *By continuing holding down the ⏻ button when turning on the ETEK5 OLED board the software version number will be displayed.*

USING THE ETEK5

USING THE BREECH SENSOR

The Breech Sensor (BS) is used to detect when a paintball is ready to fire from the ETEK5. If no paintball is ready then the BS will inhibit the ETEK5 from firing. This prevents the ETEK5 from 'chopping' paintballs that are not fully loaded into the marker.

When the ETEK5 is powered up, the Breech Sensor (BS) is automatically enabled.

To switch off the Breech Sensor, push and hold the Select button ⭘ *(labelled* B *figure 7A)* for 0.5 seconds. The LED *(labelled* A *figure 7A)* on the navigation console (see page 14 for more information about the navigation console) will flash purple indicating that the Breech Sensor has been disabled.

To switch on the Breech Sensor, push and hold the Select button ⭘ for 0.5 seconds. The LED on the navigation console will flash either yellow (no ball detected) or light blue (ball detected) indicating that the Breech Sensor has been enabled.

Additional features of the ETEK5 Breech Sensor are covered in full in the 'Understanding the Breech Sensor Operation' section on page 25 of this User Manual.

FIG 7A

WARNING! ⚠

The ETEK5 may still fire even if there is no paintball in the breech. Always ensure all safety guidelines are followed when the ETEK5 is switched on.

USING THE ETEK5

USING THE BREECH SENSOR WITH OLED BOARD FITTED

When the ETEK5 is powered up, the Breech Sensor (BS) is automatically enabled.

The LED on the navigation console will display the same Breech Sensor information regardless of the ETEK5 OLED board being installed or not.

To switch off the Breech Sensor, press and hold the Select button on the navigation console (see page 14 for more information about the navigation console) for 0.5 second ***(labelled A figure 8A)***.

The Breech Sensor indicator on the top right of the OLED display will show to indicate its 'Disabled' status ***(labelled B figure 8A)***.

To switch the Breech Sensor to 'Enabled', press and hold the button for one second. The indicator will change back to .

More detailed features of the ETEK5 OLED board's Breech Sensor are covered in full on page 32 of this user manual.

FIG 8A

WARNING!

The ETEK5 may still fire even if there is no paintball in the breech. Always ensure all safety guidelines are followed when the ETEK5 is switched on.

USING THE ETEK5

THE ETEK5 NAVIGATION CONSOLE

The ETEK5 utilises a coloured LED *(labelled* A *figure 9A)* to display all of the information that the user requires.

The console looks slightly different if you have upgraded to the ETEK5 OLED board *(see figure 9B)*. The LED colour information is further supported by the OLED display *(labelled* C *figure 9B)*.

The various functions of both the Select button ⭘ *(labelled* B *figure 9A)* and the LED are outlined below.

The select button ⭘ is used to:

- Switch the ETEK5 on and off.
- Switch the BS (eye system) on and off.
- To scroll through parameters and edit parameters.

The LED on the navigation console is used to:

- Display the status of the BS (eye system).
- Display the value of a parameter.
- Display the status of the battery.
- Display power up and power down status.
- Display tournament lock status.
- Display that factory settings have been restored.
- To confirm whether a parameter value has been accepted or rejected.

Please note: the information displayed on the LED is different when the ETEK5 OLED board is installed.

STANDARD CONSOLE

FIG 9A

OLED DISPLAY

FIG 9B

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.

USING THE ETEK5

SETTING UP THE ETEK5

Before you can begin to use your ETEK5, you will need to attach a barrel, an air system and a paintball loader.

INSTALLING A BARREL

Every ETEK5 comes complete with an Eclipse Shaft4 barrel (see page 66).

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 10A)***.

While pointing the ETEK5 marker in a safe direction, insert the assembled Shaft4 barrel into the front of the ETEK5 body and screw the Shaft4 barrel into the ETEK5 (in a counter-clockwise direction). Continue to screw the Shaft4 barrel into the ETEK5 body until the barrel becomes tight in the body ***(see figure 10B)***.

DO NOT over tighten the barrel.

Install a barrel blocking device over the barrel such as the Eclipse Barrel Sock supplied with the ETEK5[1] ***(see figure 10C)***. You have now installed the barrel.

FIG 10A

FIG 10B

FIG 10C

1 *Instruction on using the Eclipse Barrel Sock can be found on the barrel sock warning label.*

USING THE ETEK5

STRAIGHT MACROLINE FITTINGS

A straight macroline fitting can be found on the inline regulator swivel *(see figure 11A)* and the On/Off Purge System (OOPS) *(see figure 11B)*. These fittings are secured using thread lock and DO NOT need to be removed during regular maintenance.

MACROLINE HOSING

To aid the longevity of your macroline hosing, it is very important to remove it from and install it back into the fittings in the correct manner:

Pull back the collet section of the hose fitting and keep the collet depressed.

Pull the macroline hose out of the hose fitting and release the collet.

Before installing the macroline hose into the fitting ensure that the end has been trimmed correctly and is the correct length to ensure a tight fit in the hose fitting.

FIG 11A

FIG 11B

WARNING!

If the macroline becomes worn, damaged or is the wrong length, replace it immediately.

Replace the macroline hose with the following grade or higher - 1/4” OD x 1/8”ID Semi Rigid Nylon 11.

If unsure contact your nearest Eclipse Service Centre.

USING THE ETEK5

INSTALLING A PRESET AIR SYSTEM

WARNING!

Make sure the marker is turned off with a barrel blocking device installed and that no paintballs are in the ETEK5 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 country of use.

The ETEK5 cannot be used with CO2. Only use compressed air or nitrogen.

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

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

Do not pressurise the ETEK5 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 ETEK5 until you feel completely confident with your ability to handle the marker safely and responsibly.

Always relieve all residual gas pressure from the ETEK5 before unscrewing the preset air system.

USING THE ETEK5

INSTALLING A PRESET AIR SYSTEM (CONTINUED)

High, mid and low pressure output preset air systems can be used with the ETEK5, providing the ETEK5 is fitted with the SL4 inline regulator originally supplied with the marker.

There are two retaining screws on the On/Off Purge System (OOPS) body underside ***(see figure 12A)***. These are used to clamp the OOPS onto the frame. It is advisable to make sure that these screws are tight using a 5/32" hex key before attaching an air system.

The Eclipse ETEK5 comes complete with an Eclipse On/Off Purge System (OOPS) which provides a direct connection for a preset air system. Before screwing an air system into the OOPS ensure that the OOPS knob is fully unscrewed ***(see figure 12B)***. In this position the OOPS is off and will not pressurise the ETEK5 when an air system is screwed into the OOPS.

Lining the threads up correctly between the OOPS and the air system, screw the air system into the OOPS until the air system is screwed all the way in and tight on the OOPS. The air system MUST be screwed all the way in before turning on the OOPS ***(see figure 12C)***.

Now with the air system attached and the barrel pointing away from you, start to slowly turn the OOPS knob counter-clockwise to turn the OOPS on and pressurise the ETEK5. Keep turning the knob until it stops against the OOPS body as shown in ***figure 12D***.

You have now installed a preset air system onto your ETEK5.

FIG 12A

FIG 12B

FIG 12C

FIG 12D

USING THE ETEK5

ATTACHING A LOADER

Release the clamping lever on the feed neck *(see figure 13A)* and test to see if your loader can easily be pushed into the top of the feed neck. If the loader cannot easily be pushed into the feed neck, loosen the top screw on the feed neck by turning it counter-clockwise using a 5/32" hex key *(see figure 13B)*.

When you have managed to push your loader into the feed neck, close the clamping lever to secure it firmly in place *(see figure 13C)*. If the loader is loose then you will need to release the clamping lever, tighten the top screw slightly by turning it clockwise with a 5/32" hex key *(see figure 13B)*, then close the clamping lever. Repeat this process as necessary to secure your loader in place

You have now attached a loader to your ETEK5. Once you have filled your loader and air tank you will then be ready to begin using your ETEK5.

FIG 13A

FIG 13B

FIG 13C

WARNING!

Do not over tighten the Clamping Feed Neck as this may damage the loader or feed neck itself.

USING THE ETEK5

SETTING THE TRIGGER

There are three adjustment points on the trigger – the pre-travel screw, the post-travel adjuster screw, and the magnet adjuster screw.

As standard each ETEK5 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.

The pre-travel adjuster 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 14A)*.

The post-travel adjuster 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 14B)*.

The magnet adjuster screw is used to adjust the amount of return force with which the trigger is returned. Turn the screw clockwise to increase the amount of magnet return force. Do not turn the screw to far or it will negate the position of the pre-travel adjuster screw. Turn the screw counter clockwise to reduce the amount of magnet return force *(see figure 14C)*.

FIG 14A

FIG 14B

FIG 14C

USING THE ETEK5

ADJUSTING THE VELOCITY

When using your ETEK5, you may wish to change the velocity at which your ETEK5 is firing. This is done by inserting a 1/8" hex key into the adjuster screw at the bottom of your ETEK5 inline regulator and adjusting it accordingly *(see figure 15A)*. 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[1]. On the bottom of the inline regulator there are engraved arrows to illustrate which direction to turn the hex key to make the relevant adjustment.

ADJUSTING THE LPR PRESSURE

When using your ETEK5, you may wish to change the output pressure of your low pressure regulator (LPR). This is easily done by inserting a 1/8" inch hex key into the adjuster screw at the front and adjusting it accordingly *(see figure 15B)*. However, we recommend that the LPR screw be left set at one turn anti-clockwise from its fully inwards position.

By turning the adjuster screw clockwise, you decrease the output pressure of your LPR and consequently reduce the pressure driving your rammer back and forth. By turning the adjuster screw counter clockwise, you increase the output pressure of your LPR and consequently increase the pressure driving your rammer back and forth.[2]

FIG 15A

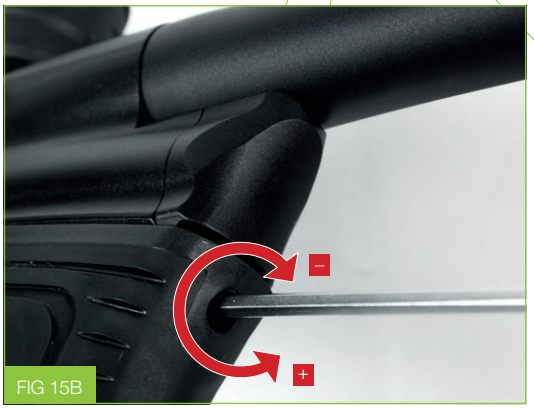


FIG 15B

1 *After each adjustment fire two clearing shots to gain an accurate velocity reading. Never exceed 300fps.*

2 *Turning the adjuster screw in too far will prevent the ETEK5 from firing.*

USING THE ETEK5

UNLOADING THE ETEK5

Securely attach a barrel blocking device such as the Eclipse Barrel Sock[1] (supplied with the ETEK5) to the marker as shown in ***figure 16A***.

Turn off the ETEK5 - see pages 8 and 9 for information on turning off the ETEK5 via the navigation console ***(see figure 16B)***.

With the ETEK5 barrel pointing away from you. De-gas the marker by turning OOPS knob clockwise until the OOPS begins to vent air. Only when the OOPS has fully degassed the ETEK5 marker should you unscrew the air system from the OOPS ***(see figure 16C)***.

Open the clamping lever on the feed neck and slacken off the top feed screw if necessary on the feed neck. Carefully pull the loader out of the feed neck ***(see figure 16D)***.

Looking down the feed neck, 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 16E)***.

Next remove the barrel blocking device, and unscrew the barrel ***(see figure 16F)***. Remove any paintballs within the barrel.

The ETEK5 has now been unloaded and is ready for storage.

1 Instruction on using the Eclipse Barrel Sock can be found on the sock warning label.

WARNING!

Always keep the Eclipse ETEK5 pointed in a safe direction and ensure all persons within range continue to wear face protection, until marker is completely unloaded and safe.

USING THE ETEK5

STORAGE AND TRANSPORTATION

- Your ETEK5 must be clear of all paint and propellant during transportation or storage.
- Make sure the ETEK5 marker is switched off.
- Remove the barrel from the marker.
- Make sure the marker is clean of any paint residue, dirt and moisture.
- Store your ETEK5 in a clean, cool, dry place.
- Keep your ETEK5 away from any unauthorized and unsafe users.
- It may be a good idea to remove the battery when storing your ETEK5 to prevent unauthorized use.
- Protect your ETEK5 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 ETEK5 for any reason, Planet Eclipse recommends using the box in which the marker was originally supplied to protect the marker against rough handling during transport.

WARNING!

Caution: Never carry your ETEK5 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 ETEK5 (or any other paintball marker) in a suitable marker case such as the one in which it was supplied.

USING THE ETEK5

THE TOURNAMENT LOCK

The ETEK5 has an electronic tournament lock which, once enabled, prevents the user from making any changes to the set-up parameters of the marker. This tournament lock complies with the rules of all major tournaments and must be enabled prior to entering the field of play in order to avoid penalties.

TO ENABLE THE TOURNAMENT LOCK -

1. Unscrew the two screws from the left hand side of the rubber grips *(see figure 17A)* using a 5/64" hex key.
2. Turn on the ETEK5.
3. Locate and press the lock button on the circuit board *(labelled A in figure 17B)*. The LED on the navigation console will flash green to indicate that the tournament lock has been enabled. If the OLED is fitted then the LED will do nothing but the lock indicator on the OLED display will show a closed padlock.
4. Replace the two rubber grip screws using a 5/64" hex key.

TO DISABLE THE TOURNAMENT LOCK -

1. Unscrew the two screws from the left hand side of the rubber grips *(see figure 17A)* using a 5/64" hex key.
2. Turn on the ETEK5.
3. Locate and press the lock button on the circuit board *(labelled A in figure 17B)*. The LED on the navigation console will flash red to indicate that the tournament lock has been disabled. If the OLED is fitted then the LED will do nothing but the lock indicator on the OLED display will show an open padlock.
4. Replace the two rubber grip screws using a 5/64" hex key.

FIG 17A

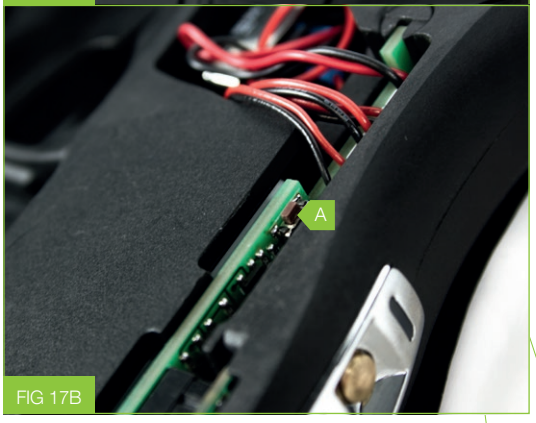


FIG 17B

USING THE ETEK5

UNDERSTANDING THE BREECH SENSOR OPERATION

The ETEK5 displays the status of the Breech Sensor using the LED on the navigation console as follows:

INDICATION	BREECH SENSOR STATUS
Flashing yellow	BS enabled. No paintball detected - Marker will not fire
Flashing light blue	BS enabled. Paintball detected - Marker will fire
Flashing purple (slow)	BS disabled - Marker will fire
Flashing purple (fast)	Blockage detected - BS temporarily disabled - Marker will fire

Any changes to the Breech Sensor status will be displayed immediately. This provides valuable feedback to the user.

The BS is able to switch itself off in the event that a blockage or contamination prevents it from functioning correctly. This is represented by a fast flashing purple LED on the navigation console. The ETEK5's ROF will be capped at 2bps less than the Maximum ROF with BS Off up to a maximum of 10bps. In this instance, the BS will switch itself back on once the blockage is cleared and the correct operation of the BS can then be resumed.

WARNING!

When the battery level indicator is being displayed the marker is still on and will fire if the trigger is pulled (dependant on the condition of the BS).

THE BATTERY LEVEL INDICATOR

When the ETEK5 is turned on, the level of the battery will be displayed on the LED (after an initial blue flash[1] signifying the ETEK5 has powered on).

The status of the battery can be displayed manually on the LED by quickly pressing and releasing ⏺ on the navigation console.

When the battery is fresh the LED will flash green. As the battery is drained the LED will change colour from green to yellow then red.

When the battery reaches a level where it will no longer function reliably, the LED will start to flash red. At this point the battery must be changed for a new one. For instructions on installing a new battery see page 7.

1 *The colour of this flash may vary depending on the region the marker has originally been purchased.*

ADVANCED SET-UP

In-depth information on setting up the ETEK5.

THE SET-UP MODE

To enter the set-up mode, fully depress and hold the trigger and then switch on the ETEK5. The LED should flash white. Release the trigger.

If the LED flashes red then the tournament lock is on. The set-up mode can only be accessed if the tournament lock is off (see page 24).

Once in set-up-mode, each parameter is represented by a different colour on the LED. Press and release the trigger to cycle through all of the parameters.

COLOUR	PARAMETER	RANGE
Red	Preset	1 to 4
Green	Maximum ROF with BS on (capped modes only)	4.0 to 15.0 BPS
Blue	Maximum ROF with BS off	4.0 to 15.0 BPS
Purple	Dwell	8.0ms to 16.0ms
Light Blue	Debounce	1 to 10

To see the value of the selected parameter, push and quickly release the select button. The value will be indicated in units (long flashes) and then tenths (short flashes) on the LED display in the colour of the selected parameter.

E.g. A Dwell of 14.5ms would be indicated as follows:

- 14 long flashes of the purple LED
- 5 short flashes of the purple LED

A zero is indicated by no flashes. E.g. A Dwell of 11.0ms would be indicated as follows:

- 11 long flashes of the purple LED
- 0 short flashes of the purple LED

MODIFYING A PARAMETER

You can modify a parameter as follows.

1. Ensure that you are in set-up mode.
2. Choose the parameter that you wish to modify by repeatedly pressing the trigger until the LED turns to the parameter colour.
3. Push and hold the select button for 1 second. The LED will go off.
4. Set the units value by pulling the trigger once for each unit, the LED will flash with each trigger pull.
5. Push and release the button to switch to the tenths value[1].
6. Set the tenths value by pulling the trigger once for each unit, the LED will flash with each trigger pull. DO NOT pull the trigger if the required digit is zero[1].
7. Push and release the button. The LED will flash three times. If the colour is green then the value has been accepted and saved. If the colour is red then the value has been rejected and remains unchanged.

For example to set a parameter to 14.5 when following the steps above:

- Pull the Trigger 14 times when at step 4 then press
- Pull the Trigger 5 times when at step 6 then press

To leave a parameter unchanged having already started to modify it, do not pull the trigger for 5 seconds and the value will be rejected.

Exiting Set-up mode

To exit set-up mode, push and hold the button until the LED turns blue. Then release the button, the ETEK5 will exit set-up mode and the LED will start flashing, displaying the current BS status.

1 If the parameter does not support tenths then these steps are skipped.

ADVANCED SET-UP

SET-UP PARAMETERS

The first three set-up parameters will need to be set to comply with the rules of the field or site at which this ETEK5 is used. It is the user's responsibility to ensure that these parameters are correctly set.

THE PRESET PARAMETER

A preset provides a quick way to configure the ETEK5 to comply with the most common rules governing firing modes. The preset parameter is indicated by a red LED on the navigation console.

1. **Uncapped Semi**
   This fires one shot per trigger pull with no limit on maximum rate of fire.
2. **Capped Semi**
   This fires one shot per trigger pull with a maximum rate of fire set at 15.0 BPS.
3. **PSP 12.2**
   This activates PSP style ramping which kicks in after 3 consecutive shots are fired, with a maximum ramped rate of fire set to12.2 BPS.
4. **MILL 10.2**
   This activates Millennium style ramping which kicks in after 3 consecutive shots are fired, with a maximum ramped rate of fire of 10.2BPS.

Certain modes may only be available in certain countries and on certain models of the ETEK5.

MAXIMUM ROF WITH BREECH SENSOR ON (CAPPED MODES)

In capped firing modes this parameter is used to control how fast the ETEK5 can cycle.

The Maximum ROF with BS On parameter is indicated by a green light on the navigation console when you are in the set-up mode.

This is adjustable between 4.0 balls per second and 15.0 balls per second in 0.1 bps increments.

MAXIMUM ROF WITH BREECH SENSOR OFF

This parameter is used to control how fast the ETEK5 cycles when the Breech Sensor has been disabled.

The Maximum ROF with BS Off parameter is indicated by a blue light on the navigation console when you are in the set-up mode.

This parameter is adjustable between 4.0 balls per second and 15.0 balls per second in 0.1 bps increments.

This parameter should be set to match the slowest speed of the loading system in use.

The ETEK5 software parameters and presets are correct at time of printing. However newer versions of the ETEK5 software may have different parameters and presets to those printed above. Some parameters may have ben added or removed entirely. Please contact your nearest service centre if you have any queries regarding the ETEK5 software installed in your marker.

ADVANCED SET-UP

DWELL

The Dwell parameter controls the amount of time that the solenoid valve is energised and therefore the amount of gas that is released with each shot.

The Dwell parameter is indicated by a purple light on the navigation console when you are in the set-up mode.

This parameter is adjustable between 8.0ms and 16.0ms in 0.1ms increments.

DEBOUNCE

The Debounce parameter is used to set the level of Debounce (anti-trigger bounce) on the ETEK5.

The Debounce parameter is indicated by a light blue LED on the navigation console when you are in the set-up mode.

This parameter is adjustable between 1 and 10 with a higher value reducing the amount of trigger bounce.

THE FACTORY RESET

Whilst in set-up mode, it is possible to reset all of the control parameters to the factory default settings in the following way:

1. Push and hold the tournament lock button (see page 24 for information on the tournament lock button) for two seconds.
2. The LED on the navigation console will repeatedly flash blue to indicate that the factory default settings have been restored.

The ETEK5 software parameters and presets are correct at time of printing. However newer versions of the ETEK5 software may have different parameters and presets to those printed above.

Some parameters may have ben added or removed entirely. Please contact your nearest service centre if you have any queries regarding the ETEK5 software installed in your marker.

INSTALLING THE ETEK5 OLED BOARD

Remove the ETEK5 grips by unscrewing the four retaining screws with a 5/64" hex key *(see figure 18A)*.

Peel the right side of the grip off, exposing the battery. Remove the battery and unplug the battery from the connector as detailed on page 7.

Turn the marker over and peel the left side of the grip off. The grips can now be removed.

Unplug the BS, solenoid and microswitch connectors from the ETEK5 circuit board *(see figure 18B)*.

Remove the ETEK5 logo plate by sliding it out from the guides holding it in place *(see figure 18C)*. Once removed gently push the circuit board from the right side out of the left side frame then remove the board *(see figure 18D)*.

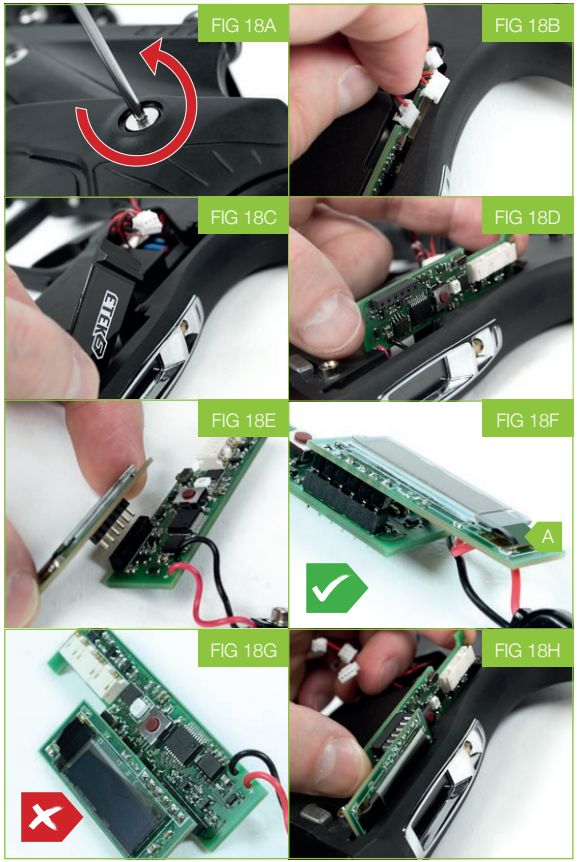
Plug the OLED board into the six pin socket on the ETEK5 circuit board as shown in *figure 18E*. Make sure the OLED board pins are seated correctly in the connector *(see figure 18F)*. The OLED board MUST be seated with the pins to the left of the OLED board NOT to the right *(see figure 18G)*. Incorrect fitment of the OLED board may damage both the ETEK5 and the OLED board and it will not fit in your ETEK5 frame. Gently remove the OLED display's protective film using the green tab *(labelled A in figure 18F)* before installation.

Check that the retainer clip is correctly located in the frame so that you can then re-install the board with the OLED board attached *(see figure 18H)* making sure the button on the circuit board does not jam on the metal push button in the frame. Tilt the console downwards so that the metal push button slides away from the circuit board.

Reinstall the battery as detailed on page 7, replacing the right side of the grip using two retaining screws.

Reconnect the BS, microswitch and solenoid to the circuit board. Then replace the left side of the grip using two retaining screws.

You have now installed the ETEK5 OLED board.



ETEK5 OLED BOARD

ETEK5 OLED BOARD NAVIGATION CONSOLE

The optional ETEK5 OLED Board provides an enhanced interface which gives the user more detailed information about the state of the ETEK5 and provides a quicker and more visual way of altering your marker settings.

The OLED display C is used to:

- Convey information and marker settings to the user.

The LED A is used to:

- Provide Breech Sensor status.
- Serve as a high visibility reminder that the ETEK5 is switched on.

The select button B is used to:

- Switch the ETEK5 on and off.
- Switch the Breech Sensor on and off.
- Select a parameter for editing.
- End parameter editing.
- Exit set-up mode.

The trigger (not shown) is used to:

- Enter set-up mode.
- Cycle through the control parameters.
- Adjust the control parameters.

FIG 19A

WARNING!

De-gas your marker, discharging any stored gas in a safe direction, and remove the barrel, loader, air system and any paintballs before adjusting.

ETEK5 OLED BOARD

SWITCHING ON

Switch on the ETEK5 by pushing and holding the ⭘ button A. The OLED display will show a splash screen which includes model and firmware version details. This splash screen will remain until the ⭘ button is released.

RUN SCREEN LAYOUT

During normal operation, the OLED will display the Run Screen. This screen shows the status of the ETEK5 at a glance and a typical example of the Run Screen is shown on the right *(see figure 20A)*.

The left of the Run Screen shows the current firing mode of the ETEK5, in this case UNCAPPED SEMI (see page 34 for other options). The right of the Run Screen displays user selectable information (see page 36) which in this case is the shot counter.

The Breech Sensor Indicator allows you to see the status of the BS at a glance.

The lock indicator shows the state of the tournament lock.

Firing mode BPS setting differs per mode, in this case it is indicated by an infinity symbol to represent the unlimited (or uncapped) firing rate.

The battery level indicator provides an indication of remaining battery life.

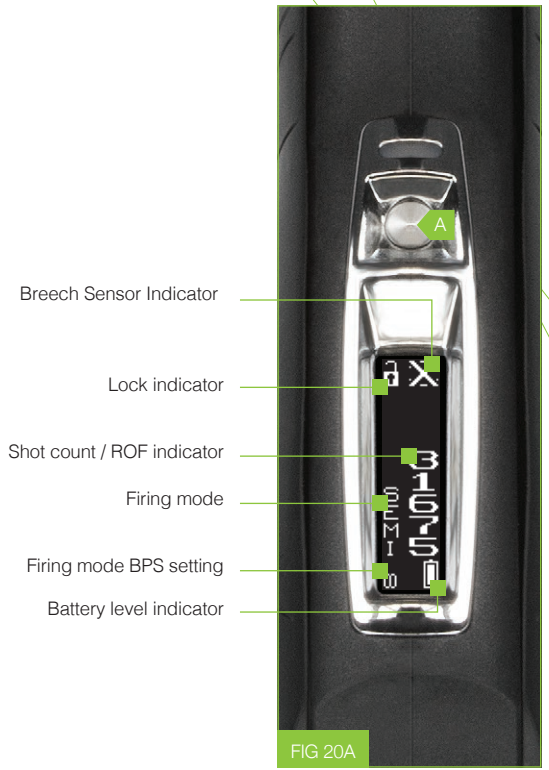


FIG 20A

ETEK5 OLED BOARD

THE BREECH SENSOR INDICATOR

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

BS Enabled and ball detected
The ETEK5 can be fired at the maximum rate of fire determined by the chosen firing mode.

BS Enabled no ball detected
The ETEK5 cannot be fired.

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

BS Disabled
The ETEK5 can be fired at a maximum rate of fire as set by the BS OFF ROF parameter (see page 34).

BS Fault detected
The system is disabled. The ETEK5 can only be fired at a maximum rate of 2 bps less than the maximum rate of fire, up to a maximum of 10 bps.

THE LOCK INDICATOR

The ETEK5 has a tournament lock which prevents the user from making changes to any parameter that affects the way in which the ETEK5 shoots.

When the lock is enabled the lock indicator will show a closed padlock .
When the lock is disabled the lock indicator will show an open padlock .

To enable or disable the tournament lock see (see page 24).

Locked
Set-up mode cannot be accessed and therefore no parameters can be changed. This is the tournament legal state.

Unlocked
Set-up mode can be accessed.

THE BATTERY LEVEL INDICATOR

When the battery is fresh the indicator will show a 'full' battery . As the battery drains the indicator will reflect this and when the battery needs to be replaced the indicator will start to flash.

At this point the battery must be changed immediately.

The indicator will also show if there is a problem with the battery monitoring circuit.

Full battery
The battery is fully charged.

Drained battery
Battery is at approximately 30% of useful charge.

Battery circuit fault
The battery level cannot be determined.

THE SET-UP MODE

To enter the set-up mode, fully depress the trigger and then turn on the ETEK5. After displaying the splash screen The OLED should display SETUP.

Release the trigger.

If the OLED displays LOCKED then the tournament lock is on. The set-up mode can only be accessed if the tournament lock is off (see page 24).

Once in set-up mode, press and release the trigger to cycle through all of the adjustable parameters.

ETEK5 OLED BOARD

Once the user has activated the set-up mode you can cycle through the following menu options and make the changes described below. [1]

1 *Some presets and fire modes may only be available in certain countries and on some models of the ETEK5.*

PRESET

A preset provides a quick way to configure the ETEK5 to comply with the most common rules governing firing modes. Selecting a preset will also change the parameters marked * below.

- SEMI ∞ (Uncapped semi): This fires one shot per trigger pull with no limit on maximum rate of fire.
- SEMI 15.0: This fires one shot per trigger pull with a maximum rate of fire set at 15.0 BPS.
- PSP 12.2: This activates PSP style ramping which kicks in after 3 consecutive shots are fired, with a maximum ramped rate of fire set to 12.2 BPS.
- MILL 10.2: This activates Millennium style ramping which kicks in after 3 consecutive shots are fired, with a maximum ramped rate of fire of 10.2 BPS.set to 10.2 BPS

BS ON ROF*

Maximum rate of fire with Breech Sensor on.

- Available range: 4.0 - 15.0 BPS
- Default setting: 15.0 BPS

BS OFF ROF*

Maximum rate of fire with Breech Sensor off.

- Available range: 4.0 - 15.0 BPS
- Default setting: 10.0 BPS

CONTINUED

KICK IN*

Rate at which the trigger has to be pulled in pulls per second (pps) before ramping can start.

- Available range: 3.3 - 10.0 pps
- Default setting: 3.3 pps

DWELL

Solenoid energise time in milliseconds (ms) for each shot.

- Available range: 8.0 - 15.0 ms
- Default setting: 12.0 ms

RESTART*

Time in seconds (s) after the last trigger pull during which ramp can be restarted.

- Available range: 0.0 - 1.0 s
- Default setting: 1.0 s

DEBOUNCE

Trigger anti-bounce settings.
(1=lowest level of filtering / 10=highest level of filtering).

- Available range: 1-10
- Default setting: 5

ETEK5 OLED BOARD

CONTINUED

SLEEP

Auto power off time in minutes (m).

- Available range: 0 - 60 m
- Default setting: 20 m

DISPLAY

Defines what information is displayed on the run screen.

- SHOTS: Disply the shot counter
- ROF: Display the ROF indicator

ZERO

Allows the user to reset the counters and indicators.

- NONE: Don't zero anything
- SHOTS: Zero the shot counter
- ROF: Zero the ROF indicator
- BOTH: Zero both the shot counter and the ROF indicator

CLEANING THE BREECH SENSOR (BS)

Undo the retaining screw for the Breech Sensor cover on the right hand side of the ETEK5 using a 5/64" (2mm) hex key *(see figure 21A)*.

Remove the cover to expose the back of the Breech Sensor *(see figure 21B)*. Using a dry cotton bud, carefully remove any debris, paint or moisture from the back of the Breech Sensor and from inside the cover.

Lift the Breech Sensor free from the ETEK5 body and using another dry cotton bud, remove any grease or debris build-up from the front of the Breech Sensor *(see figure 21C)*.


FIG 21A


FIG 21B

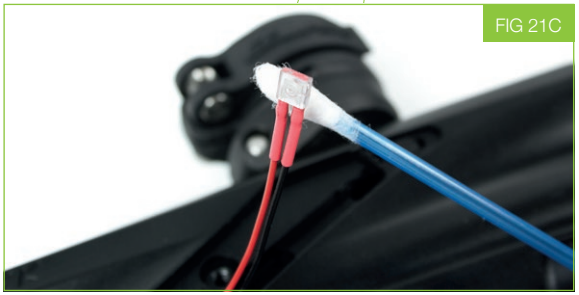


FIG 21C

WARNING!

Always 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.

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 during use, assembly, cleaning and maintenance at all times.

MAINTENANCE

CONTINUED

Remove the rubber detent and using a dry cotton bud clean the detent and its location point in the ETEK5 body, replacing the detent if it is damaged *(see figure 21D)*.

Reinsert the detent back into the ETEK5 body and place the Breech Sensor back into the designated slot in the body *(see figure 21E)*. Ensure that the sensor is face down in the body i.e. looking into the breech.[1]

Replace the Breech Sensor cover and using a 5/64" hex key, replace the retaining screw to hold the eye cover in place *(see figure 21F)*.

Repeat the procedure for the opposite side of the ETEK5.

You have now cleaned your Breech Sensor.

1 *Ensure that the receiver sensor (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 21D

FIG 21E

FIG 21F

MAINTENANCE

THE SL4 INLINE REGULATOR ASSEMBLY

Disconnect the macroline for the inline regulator. See page 16 for more info on removing the macroline.

Peel the bottom of the regulator sleeve over the inline regulator bottom and swivel *(see figure 22A).* Unscrew and remove the inline regulator bottom, then remove the swivel *(see figure 22B)*. Gripping the regulator sleeve firmly at the top, pull the sleeve down and off the marker *(see figure 22C)*. With the regulator sleeve removed, unscrew the inline regulator from the ETEK5 *(see figure 22D)*.

Inspect the o-ring at the top of the threads on the FRM for damage *(labelled* A *figure 22E)*. Replace and re-lubricate as necessary.[1]

Tip both the piston and spring out of the top of the inline regulator *(see figure 22F)*.

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 22G)*, 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 *(labelled* A *and* B *in figure 22H)*.[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 22I)*.[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.*

WARNING! Always 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.

MAINTENANCE

CONTINUED

Inspect the internal sealing surfaces of the regulator body, removing any dirt or debris with a cotton bud *(see figure 22J)*. Inspect the two 015 o-rings on the regulator body. Clean and lubricate with grease or replace as necessary.[1]

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 22K)*.

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 22L)*. Place the inline regulator spring over the piston, then insert the piston and spring into the top of the inline regulator body *(see figure 22M)*.[1]

Ensure the tuning fork is pushed up into the ETEK5 body *(labelled* A *figure 22N)*. **The tuning fork must be correctly installed before attaching the inline regulator.**

Re-attach the inline regulator body to the ETEK5 FRM *(see figure 22O)*. Push the regulator sleeve up over the regulator body and onto the ETEK5 body *(see figure 22P)*. Peel the bottom of the regulator sleeve over the regulator body. Push the swivel onto the regulator body with the macroline fitting pointing down. Then screw the regulator bottom onto the regulator body. Peel the regulator sleeve back over the inline regulator.

Re-attach the macroline hose as described on page 16. Basic cleaning of the SL4 inline regulator is complete.

Reset the input pressure to the factory default before supplying the ETEK5 with compressed air.

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.

MAINTENANCE

ADVANCED SL4 INLINE REGULATOR MAINTENANCE

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 23A)*, 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 23B)*. With your fingers fully unscrew the two parts taking care not to lose any of the internal components *(see figure 23C)*.

Inside the adjuster screw you will find a regulator seal, purge poppet and spring (purge poppet assembly) *(see figure 23D)*. 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 23E)*. Ensure is it re-installed correctly, failure to do so may seriously damage the ETEK5 solenoid.

With the regulator seal, purge valve and spring installed back into the adjuster screw, replace the adjuster top *(see figure 23F)*. Screw the two parts tightly together using 1/8" and 3/32" hex keys. Refer to the 'SL4 Inline Regulator Assembly' section on pages 39-40 to re-assemble the SL4 inline regulator.

WARNING!

Always 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.

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

MAINTENANCE

CLEANING THE LOW PRESSURE REGULATOR

Remove the SL4 inline regulator and regulator sleeve as detailed on page 39.

Push and hold the front of the LPR assembly and the valve plug back into the ETEK5 body *(see figure 24A)*. While continuing to do this, pull the tuning fork out of the ETEK5 body *(see figure 24B)*.

Pull the valve plug with attached valve stem sub-assembly out of the ETEK5 body *(see figure 24C)* then remove the LPR body assembly *(see figure 24D)*.

Tip the spring and piston out of the LPR bore *(see figure 24E)* (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 A figure 24F)*. Next clean and inspect the piston tip *(labelled B figure 24F)*, 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 24G)*. Clean and inspect the internal *(labelled A figure 24H)* and external o-rings *(labelled B figure 24H)* 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.

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

CONTINUED

Screw the LPR adjuster out from the LPR cap using a 1/8" hex key *(see figure 24I)*. Clean and inspect the adjuster o-ring *(labelled* A *figure 24J)*, 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* B *figure 24J)*. 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 24K)*. If the large outside o-ring A 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 24L)*.

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 24M)*.

Take the complete LPR assembly and push the assembly into the LPR bore of the ETEK5 body *(see figure 24N)*.

Re-insert the valve plug with attached valve stem sub-assembly *(labelled* A *figure 24O)* ensuring the ensuring the exhaust valve locates inside the valve guide inside the ETEK5 body.

Push and hold the valve plug firmly up to the ETEK5 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 24P)*. Replace the regulator sleeve and regulator as detailed on page 40.

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 screw the adjuster counter-clockwise one full turn.

1 The internals of your LPR may vary according to the model of ETEK5 you have.

2 The adjuster screw does not need to be removed from the LPR Cap for regular maintenance.


FIG 24I

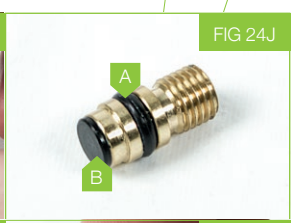


FIG 24J

FIG 24K


FIG 24L


FIG 24M


FIG 24N

FIG 24O


FIG 24P

MAINTENANCE

CLEANING AND LUBRICATING THE BOLT

Raise the bolt pin 1 and remove the bolt assembly 2 from the ETEK5 marker body *(figure 25A)*.

Using a dry cotton bud remove any paint or grease from the surface of the bolt *(see figure 25B)*.

Clean and inspect the rubber bolt tip A and detent slots B on the bolt *(figure 25C)*. If the bolt tip is heavily worn or damaged then remove and replace. Lubricate the bolt tip with a few small drops of oil around the circumference of the bolt tip.

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.

Replace the bolt assembly checking that the bolt is free to move and moves smoothly back and forth in the ETEK5 body, If there is any resistance or friction in the bolt movement then replace the rubber bolt tip.

Lock the bolt pin into the designated slot in the rammer using the small dot on the bolt as a position reference guide *(labelled A figure 25D)*.

Incorrect location of the bolt pin can seriously damage the body of your ETEK5.

1 We recommend the use of Eclipse Oil on the ETEK5 rammer and bolt.

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

FIG 25A


FIG 25B

FIG 25C

FIG 25D

MAINTENANCE

MAINTAINING THE RAMMER

Pull the bolt pin upwards 1 so that it disengages the rammer assembly, allowing the bolt to be removed 2 via the rear of the ETEK5 *(see figure 26A)*.

Using a 3/16" hex key, unscrew and remove the rammer cap at the rear of the ETEK5 *(see figure 26B)*.

Raise the front of the ETEK5 and tap the ETEK5 onto your hand until the rammer falls into the palm of your hand *(see figure 26C)*.

Thoroughly clean the rammer shaft and all of its o-rings, replacing any o-rings which appear damaged or worn *(labelled* A *figure 26D)*. 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 ETEK5 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 ETEK5 that you have.

FIG 26A


FIG 26B


FIG 26C

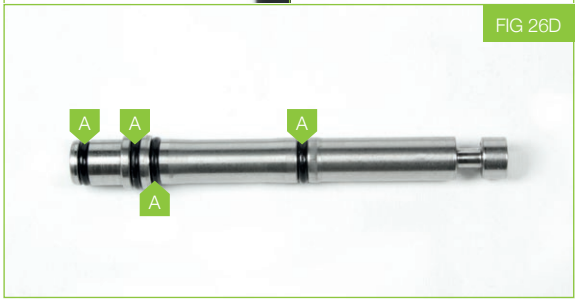


FIG 26D

MAINTENANCE

CONTINUED

Clean and inspect the rammer bumper inside the rammer cap *(labelled* A *figure 26E)*. 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* B *figure 26E)*, 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 ETEK5 body *(see figure 26F)*

Screw the rammer cap back into the body by hand until it is finger tight *(see figure 26G)*.[1]

Using a hex key push the rammer shaft back into its rearward position *(labelled* A *figure 26H)*, replace the bolt and locate the bolt pin into the designated slot in the rammer shaft using the marker on the top of the bolt as a position reference guide *(labelled* A *figure 26I)*.

Incorrect location of the bolt pin can seriously damage the body of your ETEK5.

1 DO NOT over tighten the rammer cap.

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

REMOVING AND ATTACHING THE FRAME

Disconnect any hosing, remove the regulator sleeve and unscrew the inline regulator from the front regulator mount as detailed in 'The SL4 inline regulator assembly' section of this maintenance guide (pages 39-40).

Using a 5/64" hex key remove the four screws that attach the ETEK5 rubber grips to the ETEK5 grip frame *(see figure 27A)*. Unplug the solenoid and Breech Sensor connectors from the ETEK5 circuit board *(see figure 27B)*.

Using a 1/8" hex key undo the two frame retaining screws *(see figure 27C)* and remove the frame from the ETEK5 body, taking care not to damage any wires *(see figure 27D)*.

You have now removed the frame.


FIG 27A


FIG 27B

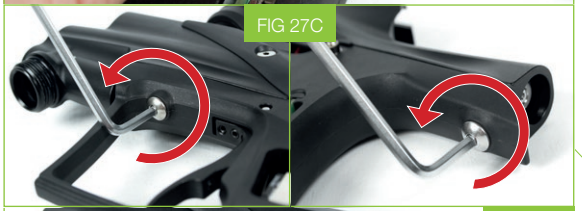


FIG 27C


FIG 27D

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

CONTINUED

To re-attach the frame follow the instructions below.

Carefully thread the solenoid and Breech Sensor wires through the access hole in the top of the ETEK5 *(see figure 27E)* making sure the wires do not obstruct the micro switch arm. Re-attach the grip frame to the marker body by tightening the two grip frame screws using a 1/8" hex key *(see figure 27F)*.

Ensure that the Breech Sensor cables lie neatly in the slots provided for them on the inside of the ETEK5 grip frame and connect the solenoid and the Breech Sensors to their relevant connections on the ETEK5 circuit board *(see figure 27G)*.

Re-attach the ETEK5 rubber grips to the frame by using a 5/64" hex key to replace the four grip screws.


FIG 27E

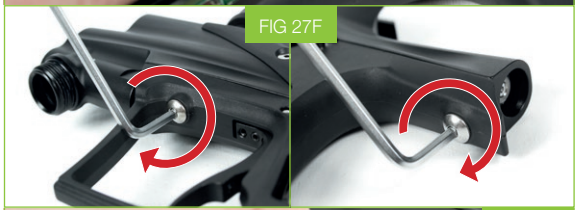


FIG 27F

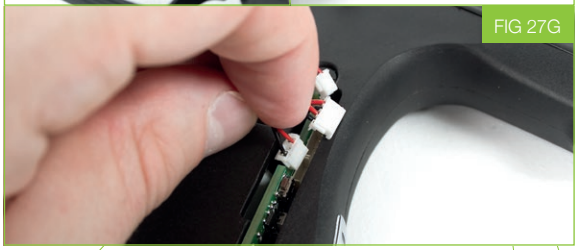


FIG 27G

MAINTENANCE

THE ETEK5 TRIGGER ASSEMBLY

To remove the trigger from the ETEK5, firstly unscrew the four retaining screws that hold the left and right grip panels onto the frame using a 5/64" hex key *(see figure 28A)*, then remove the grip panels.

With a 1/16" hex key, loosen the trigger pin retaining screw *(see figure 28B)*. As the screw is backed out the trigger pin will become free. When the trigger pin moves freely inside the frame use a small hex key to push the trigger pin out of the frame *(see figure 28C)*.

With the trigger pin removed, carefully rotate the trigger forwards, and slide it out of the frame *(see figure 28D)*, making sure not to damage the micro-switch.

The trigger has now been removed for cleaning.


FIG 28A


FIG 28B


FIG 28C


FIG 28D

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

CONTINUED

To replace the trigger simply angle the upper front part of the trigger (where the magnet return screw screw sits) and pivot into the frame *(see figure 28E)*.

Once in place align the trigger pin hole in the trigger, with the triger pin hole in the frame *(see figure 28F)*. Once aligned gently push the trigger pin back into place *(see figure 28G)*.

Finally, tighten the trigger pin retaining screw using a 1/16" hex key*(see figure 28H)*.

The trigger is now secure in the ETEK5 frame.


FIG 28E


FIG 28F


FIG 28G

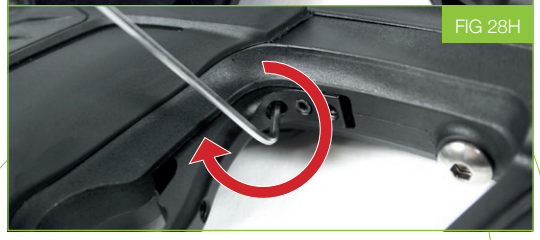


FIG 28H

MAINTENANCE

THE ETEK5 SOLENOID ASSEMBLY

With the frame separated from the ETEK5 body *(see figure 29A)* and the solenoid assembly and BS assembly unplugged from the circuit board (see page 47), use a small Phillips head screw driver to undo and remove the two M1.6x16 screws that hold the solenoid assembly onto the solenoid manifold *(see figure 29B)*.

Removing the solenoid will completely reveal the solenoid manifold *(see figure 29C)*, using a 5/64 hex key remove all three M2.5x5 screws which hold the manifold to the ETEK5 body *(see figure 29D)*.

With the solenoid assembly completely removed from the ETEK5 body the bottom of the ETEK5 body should now resemble *figure 29E*. 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 transfer holes.

Check the top and bottom of the solenoid manifold to ensure that it is also free from damage or debris *(see figure 29E)*. Remove and clean the rubber gaskets as shown in *figure 29F*. Replace the rubber gaskets ensuring that they lie flat in their designated grooves in the solenoid manifold body. Lubricate the gaskets with a small amount of Eclipse Grease.

Re-attach the solenoid manifold to the ETEK5 body with the three M2.5x5 screws.

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

CONTINUED

Gently lever the two solenoid retainer clips off the solenoid *(see figure 29G)*. This will allow you to split the solenoid into two and access the spool valve.

Using a pair of needle-nose pliers remove the spool shaft from the main section of the solenoid *(see figure 29H)*. Note that it is the flat side of the spool shaft that is facing you when you remove the spool shaft. It may be necessary to also remove the front cap of the solenoid to push the shaft out, if it cannot be pulled out with the needle nose pliers.

Thoroughly clean and inspect the spool shaft and its o-rings for any debris or dirt *(see figure 29I)*. Lubricate the o-rings using Eclipse Grease lubricant and re-insert the spool shaft into the solenoid body, insuring that the concave end goes in first. *figure 29J* shows the concave end and *figure 29K* shows the flat end.

Ensure the solenoid manifold is attached to the ETEK5 body before attempting to attach the solenoid.

Replace the two solenoid retaining clips to the sides of the solenoid body. Then having ensured that the small manifold gasket is in place screw the solenoid back into the correct position on the manifold. For reference, the pilot end of the solenoid with the metal casing should be towards the front of the marker as shown in *figure 29L*.

You have now stripped and cleaned your ETEK5 solenoid.

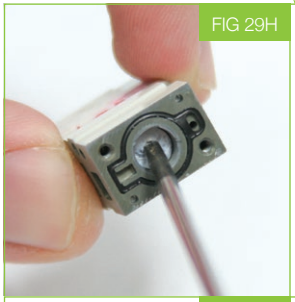


FIG 29H


FIG 29I


FIG 29J


FIG 29K

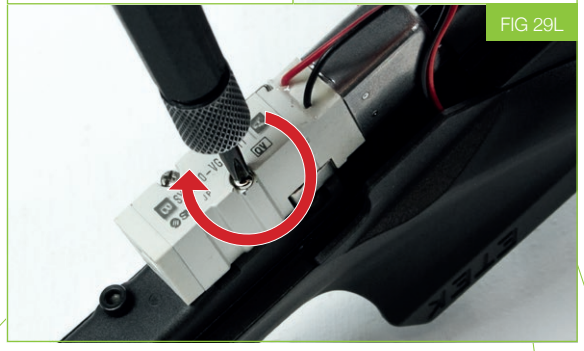


FIG 29L

MAINTENANCE

MAINTAINING THE VALVE ASSEMBLY

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 30A)*. Disconnect the macroline, remove the regulator sleeve *(see figure 30B)* and unscrew the inline regulator from the FRM as detailed in the SL4 inline regulator section of this maintenance guide (page 39).

Push and hold the front of the LPR assembly and the valve plug back into the ETEK5 body *(see figure 30C)*. While continuing to do this, pull the tuning fork out of the ETEK5 body *(see figure 30D)*.

Remove the valve plug with attached valve stem from the ETEK5 body *(see figure 30E)*. The valve plug and valve stem assembly are one complete unit *(see figure 30G)*.

WARNING!

Do not push on the rammer housing valve sealing face to remove the rammer housing from the body. Doing so may cause irreparable damage to the sealing face.

MAINTENANCE

CONTINUED

Ensure the rammer is in its rear position. Insert an L shaped hex key into the front of the bolt pin slot and apply light pressure to the back of the valve guide to push it out of the ETEK5 Body *(see figure 30G)*.

Inspect the sealing face of both the exhaust valve *(labelled* A *figure 30H)* and valve guide *(labelled* A *figure 30I)* for any excessive wear or damage. If either the exhaust valve or the valve guide are damaged/scratched then replace with authentic ETEK5 parts.

Lubricate the o-ring on the valve guide *(labelled* B *figure 30I)*.

Lubricate the o-ring on the valve plug *(labelled* A *figure 30J)*.

Place the exhaust valve in the valve guide, making sure that the sealing faces are next to each other *(see figure 30K)*, and place the valve spring over the end of the exhaust valve and then place this sub-assembly into the valve stem *(see figure30L)*.

FIG 30G

FIG 30H

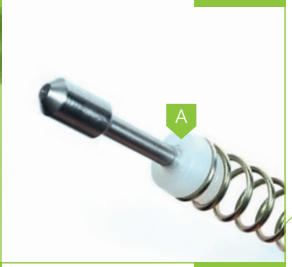


FIG 30I

FIG 30J

FIG 30K

FIG 30L

WARNING!

Always 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 e asier and safer to work on.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

CONTINUED

Ensure the LPR assembly is still correctly in place in the body *(see figure 30M)*.

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 30N)*. 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 ETEK5 body.

Push and hold the valve plug firmly up to the ETEK5 body *(see figure 30O)*, 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 30P)*.

You have now successfully stripped and cleaned your ETEK5 valve assembly. See page 40 on how to attach the SL4 inline regulator.


FIG 30M


FIG 30N


FIG 30O


FIG 30P

WARNING!

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

THE ETEK5 ON/OFF PURGE SYSTEM (OOPS)

Having disconnected the macroline hose from the fitting on the OOPS body, unscrew and remove the OOPS knob from the OOPS body ***(see figure 31A)***.

The push rod and o-rings will now be exposed ***(see figure 31B)***. Carefully slide the push rod out from either side of the OOPS body, taking care not to lose the two o-rings on the push rod ***(see figure 31C)***.

Clean off any dirt, debris or moisture from the OOPS knob and the OOPS body ***(see figure 31D)***.

Remove the OOPS insert assembly using a 5/32" hex key ***(see figure 31E)***. Remove the OOPS pin from the OOPS insert.

Clean and check the condition of the 007 NBR 70 o-ring on the outside of the OOPS insert, replacing as necessary ***(see figure 31F)***.

WARNING!

Always 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.

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

MAINTENANCE

CONTINUED

Clean and check the condition of the single internal 005 NBR 90 o-ring in the front of the OOPS insert and replace if necessary ***(see figure 31G)***. Lubricate this o-ring liberally using Eclipse Grease.

Lubricate the narrow end of the OOPS pin with a smear of Eclipse Grease and push the OOPS pin, narrow end first, into the OOPS insert so that it sits in the OOPS insert and pokes through to the front ***(see figures 31H & 31I)***.

Screw the OOPS insert back into the OOPS body ensuring that the o-ring end goes in first.

Replace the push rod into its designated slot ***(see figure 31J)*** then side 004 NBR 70 o-rings onto both ends of the push rod. Make sure the push rod is centred in the OOPS body ***(see figure 31K)***.

Slide the OOPS knob over the OOPS body and screw the OOPS knob onto the OOPS body ***(see figure 31L)***.

Reconnect the macroline hose to the fitting on the OOPS body ***(see figure 31M)***.

You have now successfully cleaned and maintained your On/Off Purge System.

WARNING!

If you are unsure about performing a maintenance procedure please contact your nearest service centre.

FAULT FINDING

How to resolve any problems that may arise with your ETEK5.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Although a fresh battery has been fitted, the ETEK5 will not switch on.	The battery has drained on the shelf.	Replace with another battery.
	The battery connector is not making proper contact with the battery.	Disconnect the battery. Gently squeeze the large terminal on the battery connector in order to reduce its diameter. Reconnect the battery.
The battery does not seem to last very long.	The battery type is of a low quality.	Use an alkaline or lithium battery. Do not use a low quality or rechargeable battery.
The ETEK5 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 the ETEK5 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 ETEK5 solenoid valve.	Replace ETEK5 solenoid valve.
The ETEK5 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 it is gassed up.	The exhaust valve has become jammed in the valve guide.	Replace exhaust valve and valve guide as necessary (see Maintenance section).

FAULT FINDING

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The ETEK5 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).
Low rate of fire / rate of fire not reaching the ROF cap.	The force setting of the loader is too low.	Adjust the loader force feed setting.
The marker is chopping or trapping paint.	The paint is poor quality.	Try a higher grade of paint.
	The Breech Sensor is switched off.	Switch on the Breech Sensor.
	The bolt and/or BS is dirty causing incorrect detection of paintballs.	Clean the bolt and Breech Sensor.
	Incorrectly seated rubber bolt tip.	Re-seat the rubber bolt tip.
	Damaged rubber bolt tip.	Replace the rubber bolt tip.
The ETEK5 does not fire.	The OOPS is not fully engaged.	Twist the OOPS knob in until it engages.
	The battery quality or charge level is very low.	Install new high quality alkaline battery.
	The battery is flat.	Replace the battery.
	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 ETEK5 PCB.	Plug solenoid wire into port on the ETEK5 PCB.
	The BS is enabled but there is no paint in the breech.	Fill loader with paint.
	The micro-switch is not being activated.	Adjust trigger screws accordingly.
	The PCB is damaged.	Replace PCB.
	The solenoid valve is damaged.	Replace solenoid valve.

FAULT FINDING

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Low constant velocity.	The SL4 regulator output pressure set too low.	Increase the output pressure of the SL4 regulator.
	The LPR is set too low.	Increase the output pressure of the LPR (see page 21).
High velocity first shot.	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 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 39-41).
The trigger is very “bouncy”.	Incorrect filter settings.	Check that your debounce settings suit your trigger set-up.
	The trigger pull is too short and the return strength is too low.	Refer to Using the ETEK5 section for guidelines of how to adjust your ETEK5 trigger accordingly (see page 20).
The BS does not appear to be reading correctly.	The Breech Sensor is dirty.	Keep the Breech Sensors clean to ensure correct readings. (see Maintenance Section).
The BS is not reading at all.	The Breech Sensor is fitted incorrectly.	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.

FAULT FINDING

SYMPTOM	POSSIBLE CAUSE	SOLUTION
BS turns itself off after firing and the display shows the BS fault icon in the top right.	The sensor is dirty.	Clean the BS.
	The sensor is faulty.	Replace the BS.
	The sensor is out of place.	Re-Install BS. 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.
ETEK5 is inconsistent.	The inline regulator is supercharging.	Strip and clean inline regulator, replacing SL4 regulator seal.
	The dwell is too low.	Increase the dwell setting.
	Poor quality paintballs.	Use better quality paintballs.
	Poor paintball size to barrel bore match.	Use a closer paintball to barrel bore size.
	Inconsistent air supply from air system.	Use a good quality air system.
ETEK5 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.
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 ETEK5 powers up the LED flashes white or red.	The trigger is permanently depressed.	Turn the front stop set screw in the top of the trigger counter-clockwise until the microswitch is released. If there is insufficient trigger adjustment then turn the return force set screw counter-clockwise also.
The ETEK5 leaks out of the LPR body vent hole (small hole behind the regulator sleeve on the left of the ETEK5 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.

ECLIPSE SERVICE CENTRES

Are you unsure of where to send your ETEK5 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.

OPERATIONAL OVERVIEW

Below is a brief overview of what happens during the ETEK5 firing cycle.
The location of parts discussed in the text below can be found on page 67-69.

Assuming the ETEK5 is gassed up and turned on, ***figure 32A*** shows the marker in its idle position. The rammer is held in its rear position with pressurised air from the LPR directed through the solenoid to the front of the rammer. The valve chamber is full of pressurised air 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 air from the front of the rammer to the rear, which pushes the rammer and bolt forward toward the valve ***(figure 32B)***. As this happens the air in front of the rammer is vented out through an exhaust port in the solenoid valve.

The rammer makes contact with the exhaust valve and continues to be pushed forward, now pushing the exhaust valve forward with it. This breaks the valve seal allowing pressurised air to flow up through the valve guide and into the bolt and vent down the barrel, propelling a ball ***(figure 32C)***.

The time that the rammer is held in this forward position is dependant on the Dwell parameter. The longer the dwell time the longer the ETEK5 vents gas down the barrel. When this dwell time has elapsed, the solenoid redirects the supply of air 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 valve to re-seal and the valve chamber is re-pressurised. As the rammer moves back air behind it is vented through an exhaust port in the solenoid valve ***(figure 32D)***.

The ETEK5 has now completed one cycle.

FIG 32A

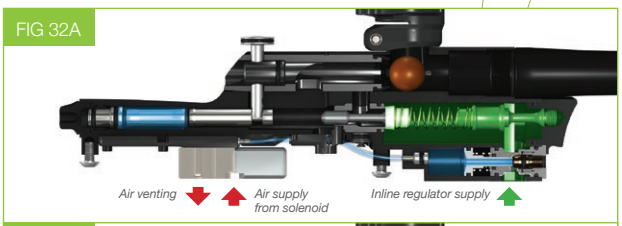


FIG 32B

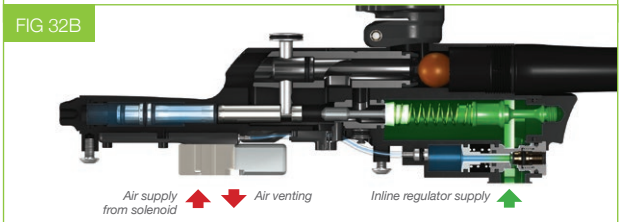


FIG 32C

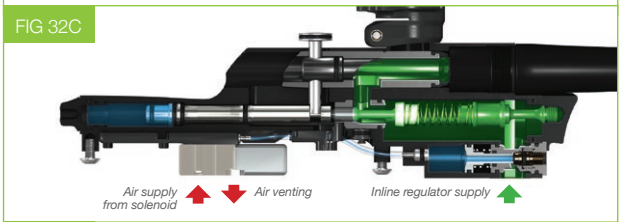
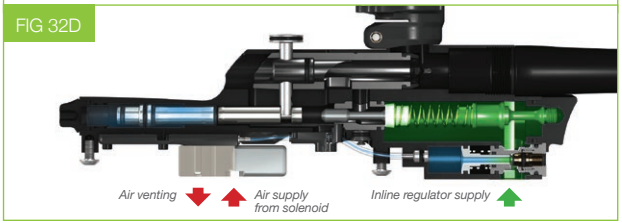


FIG 32D



PARTS LISTS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TECHNICAL RESOURCES

PARTS LISTS

01 Clamping feed tube assembly
02 Body
03 Rubber detent
04 BS unit
05 Bolt assembly
06 Bolt pin
07 Rammer assembly
08 Rammer cap
09 Solenoid assembly
10 Exhaust valve
11 Valve guide
12 Valve bung
13 Low pressure hose
14 Low pressure barb
15 Low pressure barb o-ring
16 LPR assembly
17 Valve spring
18 Tuning fork
19 Valve plug
20 SL4 inline regulator assembly
21 Regulator swivel
22 Regulator sleeve
23 Macroline fitting
24 Macroline
25 OOPS knob
26 OOPS body
27 OOPS retaining nut
28 Navigation console
29 9v Battery
30 Frame
31 Rear frame screw
32 Front frame screw
33 Trigger assembly

THE SHAFT4 BARREL

The ETEK5 comes as standard with an Eclipse Shaft4 barrel.[1,4]

The barrel screws into the front of the ETEK5 using a right hand thread meaning that if you hold the ETEK5 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 tip B.
The two parts are joined together with a left hand thread meaning that if you hold the barrel, with the back section nearest you, the barrel tip screws in a clockwise direction.

On the barrel back there is a 016 NBR 70 o-ring C which prevents the Shaft4 barrel from vibrating loose from the ETEK5 body when the marker is fired.
There is also a 016 NBR 70 o-ring on the front of the barrel back D helps with alignment when the two barrel sections are screwed together.

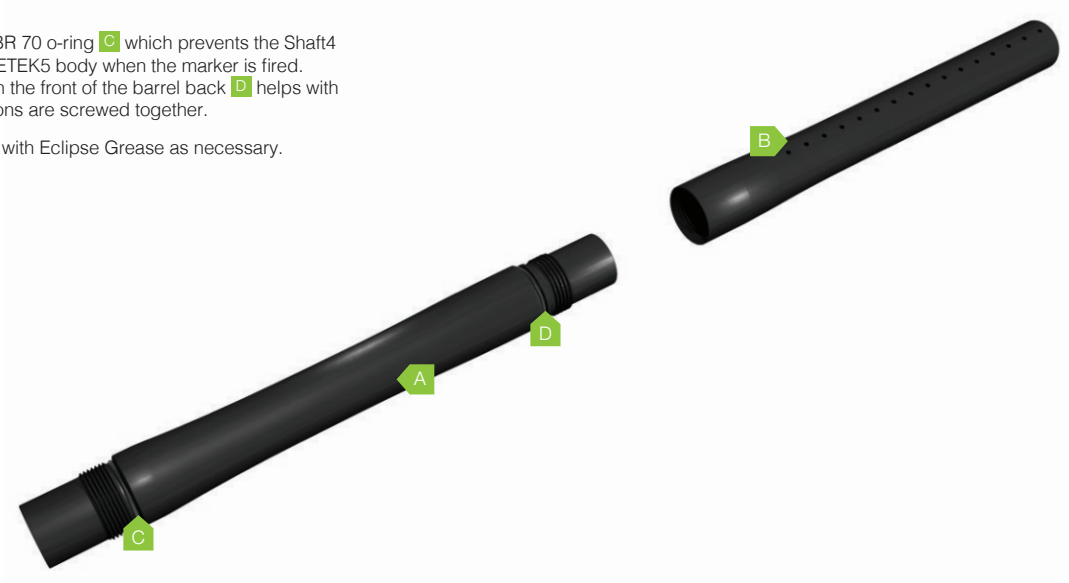
Replace and lubricate these o-rings with Eclipse Grease as necessary.

1 *The bore size of your Shaft4 may vary according to the model of ETEK5 that you have.*

2 *The ETEK5 will only accept COCKER threaded barrels. Do not use any other type of barrel thread.*

3 *The Eclipse Shaft4 tip and back barrel sections are not interchangeable with older version Shaft tip and back barrel sections (including Shaft3 barrel kits).*

4 *The model of barrel accompanying your ETEK5 may differ from that stated in this manual.*



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 ETEK5.*

3 *Only use the SL4 Ego spring with the ETEK5 SL4 inline regulator.*

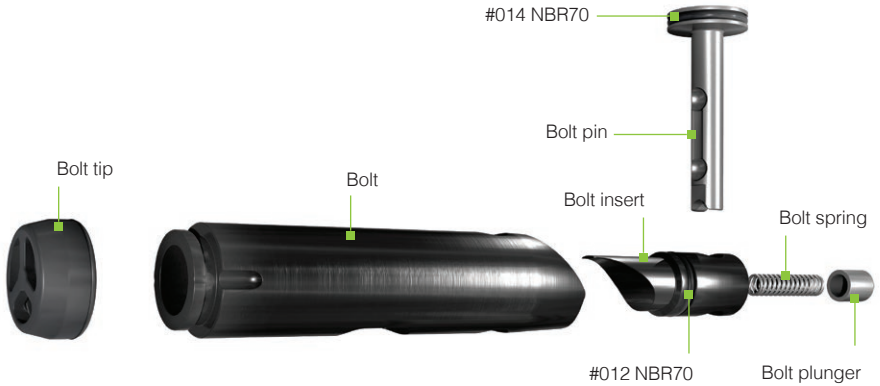
4 *If the Purge Poppet assembly is removed for maintenance ensure is it re-installed correctly, failure to do so may seriously damage the ETEK5 solenoid valve.*

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

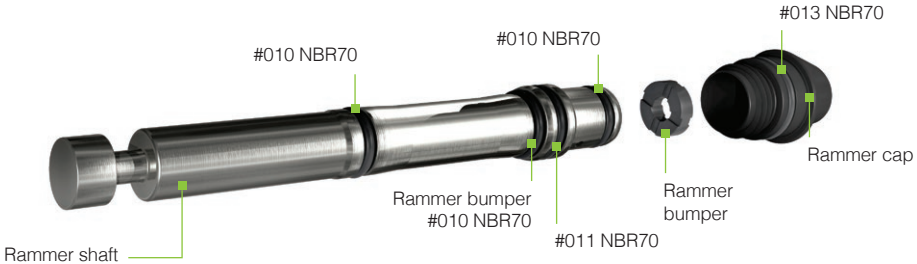
LOW PRESSURE REGULATOR [5]

TECHNICAL RESOURCES

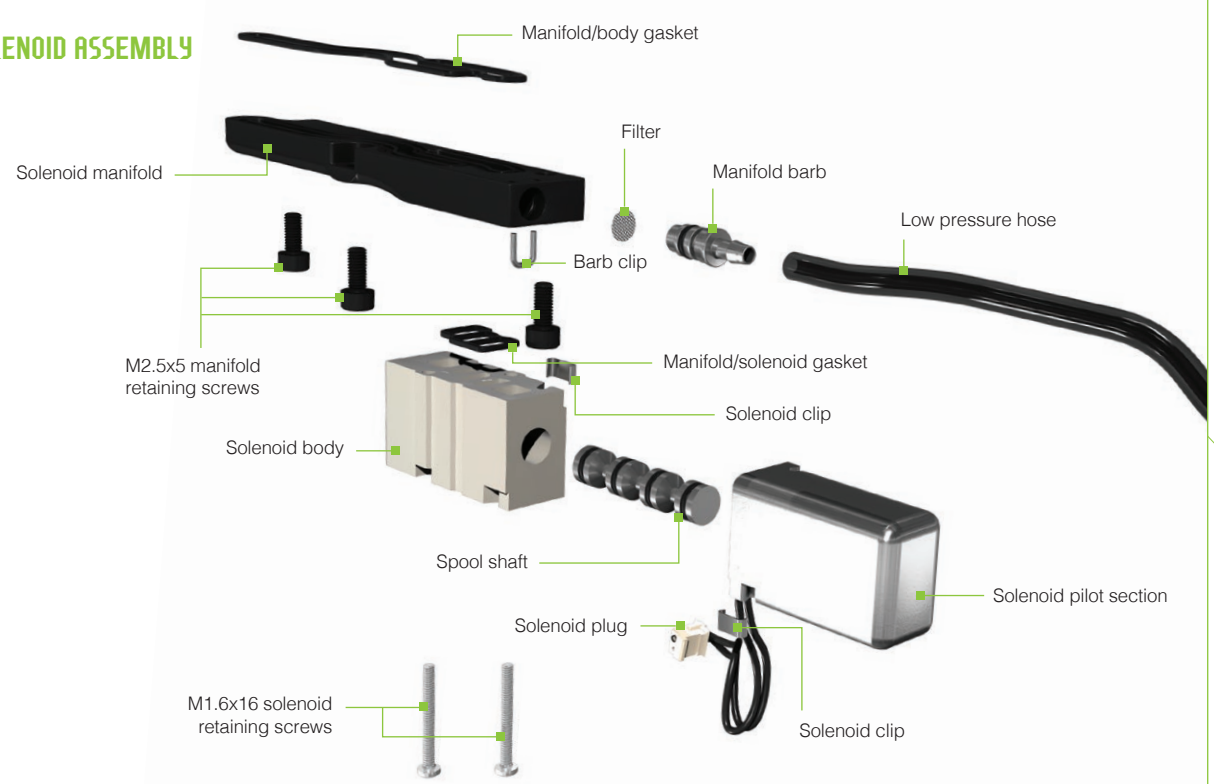
ETEK5 BOLT ASSEMBLY



ZICK3 RAMMER ASSEMBLY



ETEK5 SOLENOID ASSEMBLY



THE ON/OFF PURGE SYSTEM (OOPS)

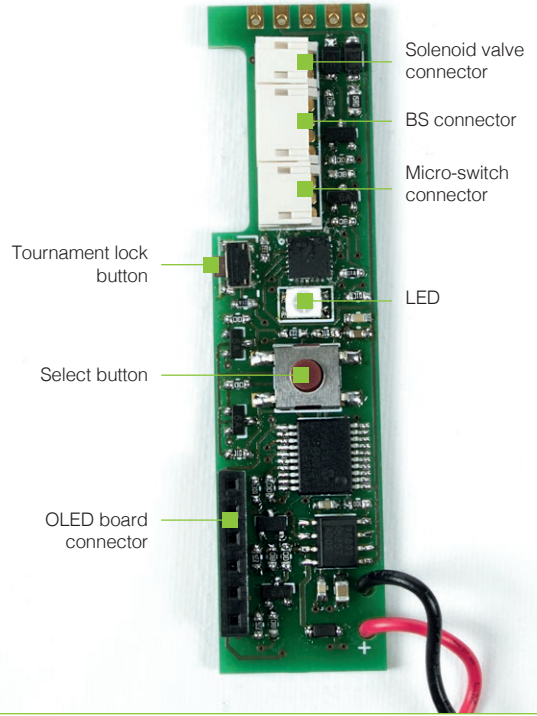
TECHNICAL RESOURCES

TRIGGER ASSEMBLY

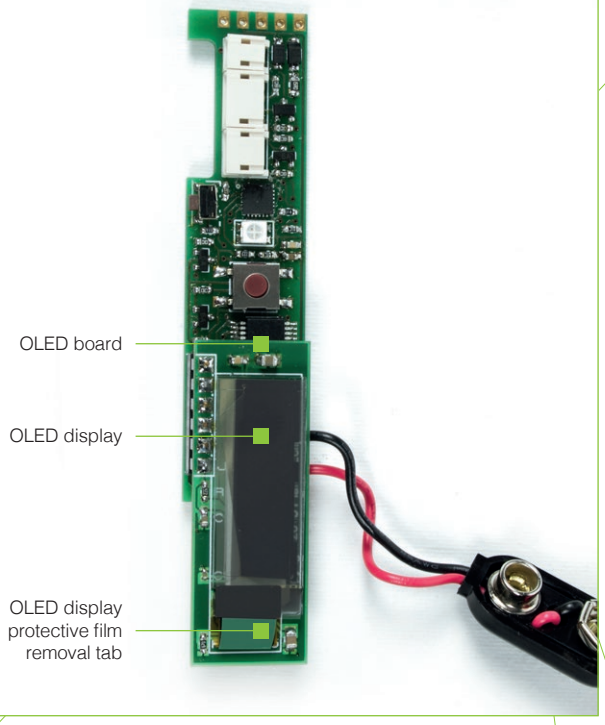
CLAMPING FEED TUBE ASSEMBLY

TECHNICAL RESOURCES

ETEK5 BOARD



ETEK5 BOARD WITH OLED BOARD FITTED



TECHNICAL RESOURCES

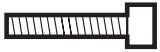
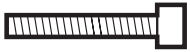
COMMON O-RING SIZE CHART

O-RING	LOCATION
017 	Valve plug Front Regulator Mount (body)
016 	Shaft4 barrel back (body end) Shaft4 barrel back (tip end))
015 	SL4 swivel
14x2 	SL4 inline regulator piston

O-RING	LOCATION
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
009 	Valve bung
008 	SL4 Inline regulator adjuster inside LPR body inside
007 	LPR Adjuster screw OOPS Insert external
006 	LP hose barb
005 	OOPS Insert internal (NBR 90)
004 	OOPS Push rod (x2)

TECHNICAL RESOURCES

COMMON SCREW SIZE CHART

SCREW TYPE	QTY	DESCRIPTION
	3	Solenoid manifold screws (M2.5X5 cap head socket)
	2	Solenoid screw (2) (M1.6X16 Phillips button head)
	6	Rubber grip screw (4), BS covers screw (2) (6-32UNC x 5/16 countersunk socket)
	1	Short feed neck screw (10-32UNF x 1/2" cap head socket)
	1	Long feed neck screw (10-32UNF x 5/8" cap head socket)
	3	Trigger adjustment screw (6-32UNC x 3/16" socket set screw)
	1	Trigger pin retaining screw (6-32UNC x1/8" socket set screw)
	2	OOPS screw (10-32UNF x 1" socket set screw)
	2	Frame screw (10-32UNF x 3/8" socket button head)

TECHNICAL RESOURCES

ETEK5 OLED BOARD PARAMETER OVERVIEW

PRESET	SEMI ∞	Uncapped semi
	SEMI 15.0	Semi capped at 15.0 bps
	PSP 12.2	PSP style ramping set at 12.2 bps
	MILL 10.2	Millennium style ramping set at 10.2 bps
BS ON ROF	4.0 - 15.0 bps	Maximum rate of fire with Breech Sensor on. (Default 15.0bps)
BS OFF ROF	4.0 - 15.0 bps	Maximum rate of fire with Breech Sensor off. Default 10.0bps
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 3.3pps)
RESTART	0.0 - 1.0 s	Time in seconds (s) after the last trigger pull during which ramp can be restarted. (Default 1.0s)
DWELL	8.0 - 16.0 ms	Solenoid energise time in milliseconds (ms) for each shot. (Default 12.0ms)
DEBOUNCE	1-10	Trigger anti-bounce setting (1 = lowest level of filtering / 10 = highest level of filtering) (Default 5)
SLEEP	0 - 60 m	Auto power off time in minutes (Default 20m)
DISPLAY	SHOTS	Display the shot counter
	ROF	Display the rate of fire (ROF) indicator
ZERO	NONE	Don't zero anything
	SHOTS	Zero the shot counter
	ROF	Zero the ROF indicator
	BOTH	Zero both the shot counter and the ROF indicator

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NOTES

NOTES

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This product is covered by and / or licensed under one or more of the following patents:

G.B. Patents: 2,342,710; 2,345,953; 2,352,022; 2,391,292; 2,391,063.

U.S. Patents: 7,836,873; 7,603,995; 7,073,284; 8,104,463; 7,509,953; 7,921,839; 7,089,697; 7,866,307; 8,082,912;7,076,906;7,607,424; 7,980,238;6,311,682; 6,748,938; 6,860,259; 6,941,693; 6,973,748; 5,881,707; 5,967,133; 6,035,843; 6,474,326; 6,637,421; 6,644,295; 6,810,871; 6,901,923; 7,121,272; 7,100,593; 7,610,908; 7,603,997; 7,946,285; 6,349,711; 7,044,119; 7,185,646; 7,461,646; 7,556,032; 7,591,262; 7,617,819; 7,617,820; 7,624,723; 7,640,925; 7,640,926; 7,866,308.

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Additional U.S. and International Patents may be pending.

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