

Deception

By



ALIEN

Warning:

Paintball markers are dangerous pieces of sporting equipment. Like any air rifle or air pistol, it can cause injury or death.

By purchasing this paintball marker you assume all liability. Alien Paintball Equipment, INC. (Alien) assumes no liability for its use, misuse, injury or death. Please follow all federal, state and local ordinances.

Remember it is the "unloaded" gun that hurts people.

Risk of injury, especially blindness, can be greatly reduced by proper use and handling. It is of the utmost importance that user and everyone within 300 feet of the marker have proper paintball goggles on at all times.

Some "finned" paintballs can increase this distance to over 500 feet.

Always have a safety plug in, or a safety sock on, between uses. Always put on a paintball-approved safety goggles before uncovering the barrel. Always cover the barrel before removing safety goggles.

Eyes are not a safety feature! Eyes limit ball breakage.

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Safety

The basic rule of paintball is: Safety First! Paintball markers propel a paintball at speeds fast enough to cause blindness, even with the barrel removed or at the lowest operating pressures.

Do not play or allow others to play or watch without wearing goggles designed specifically for the sport of paintball. Never allow anyone to lift their goggles while a gun is capable of firing. Never clean or adjust goggles during play. Goggles can fog over; paint can reduce vision – Do not lift your Goggles, or allow other to lift their goggles, while a gun is capable of firing.

- Play only at commercial playing fields. Proper fields will have a Chronograph, referees and clearly marked playing areas. Chronograph your marker before every game at the field's safety limit, usually about 280 feet per second
- You can be liable if someone is hurt from a paintball shot from your marker. Make sure you shoot at safe velocities and that everyone has proper eyewear
- Never point the marker at anyone not wearing goggles
- Remove the barrel and bolt before looking into the firing chamber and wear goggles or approved safety eyewear
- Use extra caution when the bolt is removed as a ball, or part of a ball (shell and/or liquid) can fire out of feed neck or back of marker
- Read the entire manual before operating the marker. The LPR should not be adjusted until the player has read the LPR section
- Degas the marker before servicing or cleaning
- Turn off marker when shooting a paintball is not desired.

Thank you for your purchase of the **Deception** paintball marker by:



ALIEN

The Pinnacle of paintball performance without the mountaintop pricing

Limited Warranty: Alien warrants the Deception against defects in manufacturing for a period of One Year from date of purchase. Copy of sales receipt must be included for all warranty work. Pneumatic valves (solenoids) are not made by Alien and are not covered either by their maker or by Alien. Warranty on wiring harnesses is limited to defects in manufacturing. Misuse, abuse or alteration of the marker voids the warranty.

Alien will pay for return shipping costs only on warranty work. Owners will pay shipping to Alien for warranty work. Owner will pay shipping costs for both directions on non-warranty work.

Operating Design: Deception is an open bolt, pneumatic ram design, yet it is a design distinct to Alien. The smoother quieter shot of the Deception is achieved by a lighter rammer than is possible with others guns because instead of a Poppet being rammed open against the firing pressure, the Deception works on a unique principle of a “Morph” valve which is an Impacted Balanced Spool. The balanced valve’s opening isn’t as constrained by the firing pressure, and the Sealing is more reliable because an O’Ring slides to seal in a bore, instead of two flat surfaces being pressed together.

Alien also utilizes our patented “Sweep Bolt” with our new Morph Valve to minimize turbulence and to cause the air to flow under and around the ball. The resulting “Sweep Trajectory” improves accuracy. The ball is no longer poked out of the gun, rather swept on a rotating expanding pulse of air towards its destination

A brief use of the Deception shows its improved trajectory, that it is fast, reliable, comfortable to hold and easy to aim and shoot.

Deception Specifications:

Weight:	1 lb. 9.5 oz. without barrel or battery 1 lb. 14.5 oz. with battery, barrel attached
Length	8.375 inches – body 20.5 inches - to the tip of the Mayday barrel
Height	2.25 inches - top of the gun body to opening for the trigger guard (two tubes & top rail of the trigger frame) 7 inches - top of the riser to the bottom of the trigger grip 8 inches - top of the riser to bottom of bottle adapter
Effective Range	200+ feet with excellent accuracy – paintballs still break on opponents at well over 300 feet
Ball detents	Dual rubber bumpers
Power	Nine volt. Alkaline batteries are recommended. Batteries use a mAh rating. Batteries that are close to or over the 1,000-mAh rating are best; batteries that are below 600-mAh will give unsatisfactory performance. The first step in looking to solve a new problem with shot performance is to replace the battery with a new sealed battery.

Operation:

Because Invasion is a tournament level gun it is assumed that the user has the knowledge to correctly attach a loader and an air tank.

High Pressure Air (HPA) & Nitrogen: The HPA Inline regulator in the bottle adaptor. Deception performs best on SLP - Super Low Pressure tanks. Most Tanks used in high performance paintball are approximately 450 PSI output and they work very well. However some tanks designed for use with blowback guns have an output of 800 PSI or higher. They do not work as well and can cause inconsistent shots and sputtering. If you have a tank with very high output you should check the owner's manual to see how to change the Bellville Washers/spring to lower the pressure.

CO2: CO2 cannot be used. High firing rates will freeze the pneumatic valves in electro pneumatic paintball markers and damage O-Rings. Once frozen, the valve must be replaced.

Barrels: Alien guns use "standard" barrel threading, the same as found on Cockers and most high-end guns.

Hopper and Paint: Only the fastest hoppers are capable of keeping up with the Deception's rate of fire. While a slower loader will not harm the Deception in any way, players may notice a slower firing rate. Likewise the use of top quality paintballs is necessary for highest performance and accuracy. If your Deception is not shooting accurately the cause is almost certainly the paint.



Controls: Red Top Button - On/OFF, Yellow Button - Eye Mode, Clear Middle Window – LED window. Large bottom window is for optional OLED readout.

Pressing Top Red Button turns the board On.

Pressing and holding Top Red Button until LED light flashes turns the board Off.

Quickly pressing the Top Red Button changes between firing modes if multiple firing modes are enabled. See Software Section for Firing Modes and Programming

Pushing Yellow Button turns eyes On and Off

Regulators - For both regulators:

Clockwise, In, increases the air pressure

Counter Clockwise, Out, decreases the air pressure.

Dwell, LPR, and Inline Regulator Adjustments:

Three factors can control the ball speed.

- ❖ First, Inline regulator – the pressure of the air used to fire the ball
- ❖ Second, the Low Pressure Regulator (LPR) pressure – air pressure that moves the Rammer
- ❖ Third, the Dwell – the time electricity is applied to the solenoid.

The easiest way to change ball speed is to adjust the inline regulator. LPR is quickly set by having the LPR cap in so that no threads can be seen from the front. Having set your LPR and having the dwell at 8, use the Inline regulator to change the ball speed, then lower the LPR till ball speed drops, turn it back in until again at full speed

Inline regulator: It takes between 160 to 170 psi to shoot 280 to 300 fps.

LPR: The Ram has to contact the pin long enough to open for a sufficient flow of air to fire a paintball. Too short and the valve opens too little, not enough air escapes; Too high gives unneeded kick.

Dwell:

Maximum efficiency is achieved by opening the valve for about 4 thousands of a second. Opening less means the firing air pressure must be increased, resulting in harder air hits on the ball – more ball breaks.

However the amount of time the solenoid is energized is not in direct proportion to the time the board charges the solenoid. The dwell is not the time the valve is open. Rather the dwell is the time that electricity is applied to the solenoid valve. Some pistons move with less energy than others. It does not mean that a gun is better or worse because it using an insignificant amount more or less of electricity. A dwell of around 7 ms is usually best, but some guns shoot as low as 5.

However a Dwell set at 7 may have the valve open for a shorter time than another gun set at 5.5.

After Break-in, two or three cases you may want to optimize the LPR and Dwell setting for maximum efficiency. Begin by putting a new high-grade alkaline battery in the gun and have a full bottle of air. Repeat: New battery and a full bottle of air before you change the settings on your gun. Also have a good supply of both paint and time available.

1. Turn the dwell up, most guns shoot in the 7 to 8 range, turn the dwell up to 9. Chrono to 280 FPS.
2. Turn the LPR in until cap is flush with bottom – gun will have kick.
3. Adjust the inline regulator so the gun is shooting at field speed.
4. Lower the dwell one milliseconds (ms) at a time until the ball speed drops. Raise the dwell 1 ms, chrono, then raise the dwell one more ms, if the ball speed again increased, raise it one more. Find the point where one ms changes the ball speed but the next ms doesn't. Best "consistency" in ball speed is achieved by higher dwell (8-9). Maximum "efficiency" is achieved with the lowest dwell (6-7).
5. After setting the desired dwell - Lower the LPR pressure by quarter turns until the ball speed drops, then raise the LPR until the gun shoots consistently at field speed.

Maintenance: Deception is a set and forget gun. There is no need for maintenance after every week or even months of play.

The main maintenance is cleaning after usage to avoid dirt build up on the bolt and trigger. When the LED flickers red while it is turned on, the battery has to be changed. Annually you should lube the Regs by removing the pistons and lubing them.

90% of the calls we get for help with guns that no longer shoot correctly are from players that have serviced their gun – without needing to. Don't mess with your gun. Especially don't swap out O'Rings. The gun will shoot for years – if you let it.

Sudden inconsistency in shots usually means the battery is low. Always change the battery if the guns performance decreases mysteriously. If you borrow a battery from a buddies bag "that doesn't get it". Batteries have a mAh rating. Batteries that are close to or over the 1,000-mAh rating are best; batteries that are below 600-mAh will give limited performance.

Ball Detents: Double feeding most often comes from worn detents.

Detailed Setup Instruction

Setting the trigger pull: Adjusting the setscrews breaks the Loctite seal and the setscrews need to be Loctite'd again.

There are four (4) adjustments; Two in the top of the trigger and two in the front. The two in the top of the trigger are: one black screw (front) is the magnetic trigger return; silver (back) is trigger position at rest position, pre-travel. The two in the front are: top screw is the travel till the trigger stops, post-travel; the bottom screw is the trigger activation.

Moving any one of the trigger screw usually means adjusting all of them. Be very careful not to adjust any of the screws without making sure that the trigger activation doesn't hit the trigger switch and compress it so hard that it beaks the switch. Moving the trigger back (top silver) will also make the magnetic screw move away front the magnet and make the return pressure less.



To remove the trigger, for cleaning, loosen the setscrews (holding the trigger pin with an Allen wrench). The trigger can easily come out through the trigger guard.

Low and High (Inline) Pressure Regulators:

- Clockwise (In) raises the air pressure
- Counter Clockwise, (Out or Up) lowers the air pressure

The LPR and the HPR use Schrader valves to meter the air. The Schrader should not to be removed. The cap, spring and piston can be removed cleaned and piston lightly greased. Constantly removing the Actuator or the Morph valve or greasing the Regulators is not necessary. Changing O-Rings is also not recommended.

LPR



The Low Pressure Regulator design is simple. A machined screw in the front grip pushes against a spring that, it turn, pushes against a top hat shaped piston that pushes against the Schrader valve opening it

Air pressure, released through the Schrader valve, between that valve and the piston, pushes the piston and spring away from the Schrader valve allowing the Schrader valve to seal so the airflow stops. The balance between the spring pushing on the piston and the air pressure between the piston and the Schrader valve is what

regulates (changes) the operating pressure. Turning in the screw increases the spring pressure, which increases the air pressure released past the Schrader valve before it closes. Unscrewing the setscrew decrease the spring pressure, which decreases the air pressure needed to allow the Schrader to close.

To service remove the setscrew cap. The spring will come out, some bathroom type tweezers can be used and pull the piston out. The only service necessary is to re-lube the O-Ring. Changing O'Rings is not helpful and can result in the LPR leaking and the gun not working correctly.

In the event that you have reg creep that is not fixed by lubing the O-Ring, the Schrader can be tightened down. This is very rare, the LPR screw and piston should be removed. The gun should be aired up and a finger used to seal the LPR bore to confirm that the Schrader is leaking.

HPR



HPR is similar to the LPR with the exception that the Adjusting set screw and a disk fit inside a Front Cap. Remove the cap to service. Once the cap is removed, pull out the spring. The spring holds the piston so it is removed at the same time.

Again, the only service necessary is to re-lube the O-Ring, and in the event that you have reg creep that is not fixed by lubing the O-Ring, the Schrader can be tightened down. This is very rare and the gun should be aired up and a finger used to seal the bore holding the Schrader valve to confirm that the Schrader is leaking. Do not service the Schrader valve if it is not leaking, because removing the Schrader and resetting it, can cause the valve to need to be replaced.

Disassembly:

The following pages on disassembly will show in detail how the gun operates. However the best performance is generally obtained by not unnecessarily taking the gun apart.

It is best NOT to take the board out of the marker - ever - as the board and especially the wires can be easily broken. Taking the eyes out of the board puts stress on the thin eye wires when pulling them out of the board. This should be done carefully and only if absolutely needed. The board should only be removed if you are swapping out the board.



The Morph valve should only be removed because you have a leak down the barrel. To service the Morph Valve remove the eye covers, and loosen the eye wires. Next, with the barrel facing away from you, take the grip panel off the right side of the gun. Disconnect the battery so it doesn't fall out and break the wire lead to the board. Disconnect the solenoid. The solenoid wires are stronger, pull on both wires equally and remove from the board, noting they go into the two wire plug. Next, take the eye covers off

and loosen the eye wire from the gun body if you haven't done so already

Remove the three screws holding the gun together. One is on the underside at the back of the gun. One is in the middle under the trigger guard. The third is at the front and is accessible when the Front Cap is removed. Next, slide the trigger frame and the gun body apart while feeding the solenoid wire up through the trigger frame until the frame is completely separated from the body. Set the trigger frame aside – noting that the back edge is thin and falling from the work surface can damage it.

To remove the Morph Valve assembly, first remove the ram assembly. Next remove the set screw in the middle of the gun body holding the valve in place. The setscrew is a machined part – not easily replaced – don't lose it! With the dowel (or handle of a long wooden spoon) push the Morph valve out the back of the gun body. Always in and out - from the "back".





Look for a cut on the thinner O’Ring in the middle of the valve body. If it is not cut, remove the cap. Look for a cut O-Ring on the spindle. Lastly look for a cut on the cap. Replace any cut O’Rings.



Reassembly: lube lightly spindle O’Rings.



Make sure the spring is there and the O’Ring Bumper is between the Spindle and the Cap. Lightly Lube the O-Rings on the outside of the Valve Body.

From the back of the gun, slide the valve into the body. Don’t force it as the O-Rings can be cut. Use the dowel to slide the valve into place. The wall are thinner inside the gun body, if it takes a lot of pressure to slide the valve in – be sure you are pushing on the cap of the valve body - and not against

the lip on the inside wall of the gun

MAKE SURE the cap goes into the body first! The pin faces the Rammer. If your gun no longer shoots, but still cycles, make sure the Morph valve assembly isn’t turned around! Replace and tighten the set screw that holds the Morph valve. The body is machined so that the set screw tightens into the body but does not press against the Morph valve. Tighten until snug. Tighten with short end of the Allen wrench - until the screw is level with the body. Tightening by pulling on the long end of the Allen wrench will force the screw in too far and press against the valve body and can eventually cause the gun to leak. Tighten the setscrew to a snug fit. The setscrew rests against the grip frame and won’t unloosen. Check to see screws holding down the solenoid are tight. They are small, don’t overtighten them.



The solenoid electronics are offset. Check to see that the eye wires are wrapped around the front of the solenoid electronics going to the side that has extra space. Feed the solenoid wire back through the top of the trigger frame. Slide the gun body onto the trigger frame. The gun easily slides completely together!!!

If the gun hangs up or does not slide completely together, check the solenoid wire, pull it down. If the gun does not slide together fully, and you force it, you will cut either the eye wires or the solenoid wire.

AGAIN: Do not force the gun together. If it does not fit together perfectly check both sides for wires that are holding the gun apart. Forcing the gun together will pinch or cut the wires. Pull the wires into the grip frame as you fit the two half together. Check both sides of the gun to make sure the wires feed into the grip frame and are not cut as the gun goes together.

When the two fit snugly without force, screw the gun together with the three screws, tightening with the short end of the Allen Wrench so that you **DO NOT OVERTIGHTEN.**

Reattach the eye covers making sure the eye bumps face into the gun and that the detents are in place.

Alien Deception Board

By Advanced Paintball Electronics

Your Deception comes ready to use in 15 BPS, Semi Auto

Power on your Deception: Press the Power Button (top button)

Shutting down your Deception: Press and hold the Power Button until the LED light Flashes

Eyes are switched on and off by quickly pressing Bottom Button – Eye Button.

The Firing Mode toggle feature is idle at factory preset. Power Button only turns marker ON and OFF

The Board is the most advanced and programmable board in paintball. Read this tutorial carefully and watch the video so you are familiar with its operation. The wide variety of options can seem puzzling until understood. Once understood the board is easy to use and intuitive.

When a word is in all caps such as: PROFILE, MENU or SETPOINTS – that is because the board uses caps on the OLED.

PROFILE: To make the board easy to use for everyday playing there are the 6 factory preset, but user definable, “PROFILE” selections. These “PROFILES” are designated by the letters “A” through “F”. The “letter” of the active PROFILE shows in the OLED window and is displayed as a “folder” icon.

Programing: the first thing you see is “START MENU” in reverse lighting. Below that is an arrow pointing to “LOAD PROFILE”. This allows you to: Pick one of your 6 PROFILES - load it - and go back to playing in less than a minute.

You will rarely need or want to do more than this. However the boards can be set in a wide range of options.

There are 6 factory default PPROFILES: A) Semi 15, B) Semi Uncapped, C) PSP 3 at 12.5, D) PSP at 10.2, E) Millennium 10.2, F) Semi/Burst/Auto at 15

For step by step instructions on how to select between A-F go to page 17

Programing Tree Graph (Last Page)

The Programing Tree is needed to fully program the board because of the wide variety of choices.

Programing Tree graph is navigated with numbers and letters.

Numbered selections have windows below for their sub settings. Letters are used for final selections.

To change a feature – Look at “Lettered” features! Numbers show how to get to the features.

On the Board: If a window says “MENU...” in the backlit portion, there are selections in screens below. Think of it as a sign post directing to selections. If it does not contain the word MENU – but instead says “LOAD PROFILE”, “SETPOINTS” etc., then those are final selections – a destination.

LOAD PROFILE (11 A-F, see tree graph) chooses between PROFILES.

LOAD PROFILE does not change factory settings.

“PROGRAM MENU” (13) changes one of the PROFILES performances.

In “PROFILE MENU” (131) you first pick which PROFILE (A-F) to change.

In the window below PROFILE MENU (131) are “MARKER SETPOINTS” (1311), “FIRING SETPOINTS” (1312) and “FIRING MODE ENABLE” (1313), and these 3 selections change a PROFILE.

Before changing a Profile’s Setting(s), first decide on the change, and find it on the Programing Tree. We have some popular changes on the last two pages, with step by step instructions on how to make those changes. By reading those instructions, and then doing those changes, you can understand how the board works.

If you make all 7 of the sample changes you will be a master of this board! It will take some time and effort, the reward is that you will be able to control more than any other.

The Programing Tree is needed to change setting. You may want to take a picture of the tree and keep it in your smart phone so you have it if needed.

Board Overview:

Top Button (Red) is the Power Button.

The Bottom Button (Yellow) is the EYE On/Off Button.

Screen: Power up by pushing the Power Button, the red light will flash; the board displays the Playing Screen

Upper left will show battery life as a picture of battery

Upper right will show current PROFILE gun is using (default is A) as a file folder

Below is eye ON/OFF as a picture of eye open, or half closed.

To the right of the eye is the Tournament Lock, as picture of a lock, open or locked.

In the middle of the Board is Eye Display - to show if board currently sees a ball.

At Bottom Left is current FIRING MODE in up to 4 letters.

At Bottom Right is BPS Cap

During Play: The Bottom Button (Yellow) is the Eye On/Off – Eye Button. Tap the Eye Button to toggle the eye function between ON or OFF. Board will display the “Eyes On” icon on your OLED display ON or OFF.

The Power Button is also the Firing Mode Button. To avoid confusion the board comes with only one mode active per PROFILE (Profile F excepted). Therefore the Firing Mode feature is idle. You have the option of loading 2, 3 – up to 8 modes (5 standard and 3 custom) and toggle between them while playing.

Forced Shot: Marker is forced to fire (solenoid to cycle), during empty breech conditions, by holding the trigger down for one second. Forced Shot is useful for initial paint loading using sound activated hoppers

Board Programing Overview

Board programing is done mostly through the trigger, also by Power Button and Eye On/Off Button.

To program: Hold down the trigger and press Power Button – light will flash red, release both.

Note: Board will bypass programming (goes to playing screen) if the Tourney Lock switch is on.

To scroll down between selections, toggle/tap the trigger. Arrow will show current selection.

To select the choice indicated by the arrow (to make changes in programming) pull and hold trigger until board beeps; if pulling and holding trigger doesn't take you to a lower program (window), the board wants you to change selection by using the Power and Eye Buttons. The Top Button increases value, Bottom Button decreases value.

START MENU (1) – For numbering see Tree graph – page 20.

When you first enter the programing mode you see START MENU (1) in reverse lighting, and the first three selection show on the OLED screen.

They are 5 selections: LOAD PROFILE (11), LOAD HOT START (12), PROGRAM MENU (13), TRIGGER TRAINER (14), and STATISTICS (15).

Understanding these 5 selections is the base of using the board.

You can easily “LOAD a PROGRAM” or “LOAD HOT START” or even use the “TRIGGER TRAINER” or find “STATISTICS”. However to use “PROGRAM MENU (13)” you should have the Tree Graph and know the location, on the Tree Graph, of the change you want.

LOAD PROFILE (11) – This tells the board which of your six Profiles (11 A – F) you want to use.

LOAD PROFILE – does not change a PROFILE's performance. Rather it chooses between them.

The 6 PROFILE's are factory preset as: A: SEMI 15, B: SEMI at uncapped, C: PSP 3 at 12.5, D: PSP3 at 10.2, E: Millennium 10.2, F: SEMI/BURST/AUTO at 15

LOAD HOT START (12) is a “Quick Change” that lets you change to one of the three following options:

UNCAPPED FIRING (12A): Overrides a cap the board will normally start in. Example: If you have set the board so it opens in PSP3 and you active “LOAD HOT START” board will fire in what is essentially full auto after 3 trigger pulls - if you keep pulling the trigger. That is it will fire 3 round bursts and if you pull the trigger at 7 times a second the gun will be firing at full auto with a 21 BPS rate.

BREAKOUT MODE (12B): To use this feature you will need to define it. This is really a cheater function that is best used for renegade ball or scenario “spray and pray” games.

DRY FIRE MODE (12C): Bypasses eyes for dry firing at the “Eyes On” rate of fire. (Does not lower DWELL)

PROGRAM MENU (13): This is where the program goes deep and can get as involved as you want.

Pull and hold trigger at PROGRAM MENU, board beeps and takes you to PROFILE MENU (131).

From there you choose MARKER SETPOINTS (1311), FIRING SETPOINTS (1312), FIRING MODE ENABLE (1313), GLOBAL MENU (1314), TUNE ASSIST (1315), and RESET (1316).

MARKER SETPOINTS (1311), And FIRING SETPOINTS (1312), allow you to very finely tune your board for the performance you want.

Descriptions of the SETPOINTS and FIRING MODES are on following pages.

FIRING MODE ENABLE (1313) is where you tell the board if, and how many, FIRING MODES you want to be able to toggle through while playing.

GLOBAL SETUP MENU (1314) lets you change settings used by all the PROFILES at the same time.

TUNE ASSIST (1315) this lets you quickly determine the board and your ear tells you what are the best DWELL and BOLT RETURN Delay settings.

Understand - TUNE ASSIST overwrites the setting for DWELL and BOLT RETURN Delay in all PROFILES.

To start TUNE ASSIST, your marker Must Be Unloaded. NOTE: Be sure you are starting with a Full tank of air, have your marker’s regulator set to fire paint at approximately 285 fps and make sure your LPR is set on the high side. Also, you may need to make adjustments to your regulators settings after the TUNE ASSIST.

Hold a towel over the end of you barrel to simulate a balls back pressure.

When firing the marker in TUNE ASSIST, pause at least 1 second between trigger pulls. Select START:

DWELL will start at 5 ms. Each time you pull the trigger, your marker will dry fire a 3 shot burst and will increase the DWELL by 1ms. Keep pulling the trigger until your marker fires the burst with a consistent “pop” or report. Note: You can press the Eye Button to decrease the current dwell value should you want to repeat the procedure for a given range of dwell values. Press the Power Button to move on to the BOLT RETURN Delay adjustment. Pull the trigger again firing a three shot burst. BOLT RETURN Delay will start at the maximum value and decrease 1ms with each pull. Continue to pull the trigger until the LED flashes and the onboard speaker beeps. Your board will automatically restart with the new optimal values. You may want to use these new setting or you may want to return to factory presets.

Reset (134) - individually RESET: PROFILES or STATISTICS - or - DEFAULT ALL - to factory settings.

Trigger scroll until arrows points to the item (A-I) you want to reset, then pull and hold the trigger. A confirmation screen will then ask you to CONFIRM RESET. Pull and hold trigger to confirm.

TRIGGER TRAINER (14) Practice your trigger speed. Pull the trigger as fast as you can. When you stop, the display will show your PEAK and AVRG pull rates. This is done with the air off.

STATISTICS (15) Shows: PEAK PULL RATE, TOTAL PULLS, and TOTAL SHOTS

To exit programming: power down the marker - or - when scrolling an “x” appears in the upper right: Pull and hold trigger while “X” is shown and boards goes straight into playing mode.

Description of Selections

Marker Setpoints (1311):

- Trigger LEADING EDGE DB (Debounce) (1311A): the minimum amount of time the trigger switch contacts must be closed to validate a trigger pull. This filters out the effects of mechanical recoil. Mechanical recoil disturbances can physically “retrip” the trigger switch
- Trigger TRAILING EDGE DB (Debounce) (1311B): the minimum amount of time the trigger switch contacts must be open to validate a trigger release
- TRIGG FILTER (1311C): Prevents trigger activity from being “registered and queued up”. Like ABS it is for high inertial bolts (Shocker/Spool guns). Not needed with Deception – Set to 0
- SOLENOID DWELL (1311D): adjusts how long the solenoid is energized (in milliseconds). Higher Dwell times will consume more power and air when the solenoid is energized. Lower Dwell times consume less power and air. Lowering too much prevents the solenoid valve from opening long enough, causing inconsistency

- ABS DWELL (1311E): adds additional dwell time (in milliseconds) to your solenoid dwell setting to overcome Bolt Stick. This affects only the first shot fired after the Bolt Stick Reset Time is exceeded. Should not be needed with Deception unless you have LPR set too low
 - ABS RESET TIME (1311F): This setting allows you to set the amount of time the trigger can remain idle before adding the ABS DWELL time. If ABS RESET TIME is zero this function is ignored.
 - BREECH DELAY (1311G): the amount of time (in milliseconds) the eyes must see a ball. This ensures a ball has dropped fully into the breach before the marker fires
 - EYE MODE (1311H): 4 eye control modes:
 - IFLT (iFault): While your eyes are functioning, your marker will fire at the BPS EYES ON rate. If your marker's eyes become disabled, iFault™ will switch to the BPS EYES OFF rate. If your eye functionality returns, iFault™ will resume firing at the BPS EYES ON rate – Recommended
 - STD (Standard): While your eyes are functioning, your marker will fire at the BPS EYES ON rate
 - OFF: If eyes are disabled the marker operates at the BPS EYES OFF rate of fire
 - DEMO: Dry fire mode - fires at the BPS EYES ON rate while eyes are bypassed
 - EYE PROCESS (1311I): board can process Eye Input in two ways:
 - Standard processing (STD): checks for a “ball in breach” status after each trigger pull before firing the marker
 - Recommended
 - Advanced processing (ADV): looks for a “ball in breach” status immediately after the bolt cycle is complete. Once this condition is met, the marker is allowed to fire again immediately upon trigger pull
- Note: STD is slightly slower because it waits for the breach delay time after the trigger pull. ADV may break paint if gun is turned sideways or ball has moved in breach - because board does not again look for ball to be in place once ball-in-place has been confirmed
- BOLT RETURN (1311J): the amount of time (in milliseconds) after firing a round that the board waits to see the ball, so the bolt has moved back past the eyes
 - AUTO SHUTOFF (1311K): adjusts “If or When” your marker will auto shut off after - no firing activity. Range from 0 to 20 minutes. When AUTO SHUT OFF is set to 0 - board remains on until you shut it off (if board is left on, battery will completely drain). Default is 20 (minutes)
 - AUDIO CONTROL (1311L): Audio and LED feedback can be enabled or disabled. 7 combinations so that perhaps you want to play at night, and you didn't want the OLED on. You find the correct setting and OLED or would be off. Feedback occurs during all programming

Firing Setpoints (1312)

- TOURNEY MODE (1312A): Determines the mode used for Tournaments when the Tourney Lock is ON
- CAPPED FIRING (1312B): Maximum firing rate with BPS EYES ON. To fire at unlimited rate of fire, turn CAPPED FIRING option OFF
- BPS EYES ON (1312C): Sets the “EYES ON” Rate of Fire (in Balls Per Second) for all firing modes
- BPS FINE (1312D): This adds a 1/10th (.1) bps to the BPS EYES ON setting,
- BPS EYES OFF (1312E): Sets the “Eyes OFF” Rate of Fire (in Balls Per Second) for all firing modes.
- BURST SHOTS (1312F): Sets the number of shots fired for each trigger pull
- REACTIVE SHOTS (1312G): Sets the number of rounds fired for each trigger pull and for each release
- RAMP SEMI SHOTS (1312H): Defines the number of semi shots required before ramping is activated. If setpoint is zero, ramping starts with first shot
- RAMP PULL RATE (1312I): Trigger pull rate (number of trigger pulls per second) that needs to be achieved before ramping starts. If setpoint is zero, ramping starts with first shot
- RAMP MODE (1312J): Firing mode board ramps to (BURST, REACTIVE, AUTO, or RAMPING).
- RAMP VALUE (1312J): Depends on Ramp Mode selected. For Burst mode and Percent ramping (100%), it's 1 for 1, for each number (2 is 2 shots per trigger pull. 5 is 5 shots per trigger pull). In Reactive mode it's the number of shots fired with each trigger pull and each release
- RAMP TIMER (1312L): The amount of time (in seconds) the trigger can be at rest before reverting back to Semi. If zero, the board will reset ramping when the trigger is released after 0.2 seconds. Ramping will also reset when trigger pull rate drops below the RAMP PULL RATE setpoint
- FIRING MODE ENABLE (1313)- Turns the different FIRING MODES ON or OFF in each PROFILE. If you turn OFF all the FIRING MODES the board will default to SEMI. Turn on all 8 and the 8 modes FIRING MODES are active.

The Screen names and function of the first 5 are set to SEMI, BURST, REACTIVE AUTO AND RAMPING. There are 3 custom selections. In programming they will always be TOURNEY 1, TOURNEY 2, TOURNEY 3; However the screen name can be changed to any 4 letters or numbers. Features of each can be set do almost whatever you want a board to do.

Global Menu (132) - This menu changes SETPOINTS in all PROFILE(s). They are three groups:

Global Setpoints (1321)

- START PROFILE (1321A): determines which profile (11 A-F) your marker will use when it starts
- TOURNEY PROFILE (1321B): determines which profile (11 A-F) your marker will use when Tournament Lock is turned on (Most tournaments do not require a Tournament Lock)
- SPLASH SCREEN (1321C): determines if the SPLASH SCREEN is displayed when board is turned on
- GAME TIMER (1321D): time (in minutes). A value of zero disables GAME TIMER
- TMR START PULLS (1321E): indicates which trigger pull will start the GAME TIMER after board start up. Allows "x" number of clearing shots before starting timer. Example: Set TMR to 4 and the power board on before the game. Pull 3 clearing shots, and then when game starts immediately pull the trigger (4th pull) and timer starts.

• **Breakout Setup (1322)** - defines a custom breakout mode. * *Alien Paintball does not endorse the use of Breakout setting. If you want to be "That Guy" then here is how to set it up, but understand that you are being a jerk and you should feel bad and you deserve all the penalties you get! **

- ENABLED (1322A): turns on/off the breakout mode
- ACTIVATION PULL (1322B): which trigger pull starts the breakout mode starts - similar to TMR (1321E)
- ADDED BPS (1322C): number of additional balls per second
- FIRING MODE (1322D): the mode the marker will fire in breakout mod
- BREAKOUT END (1322E): Choose 0 to end the breakout mode operation once the trigger is idle for .2 seconds, or choose the length of time (in seconds) the Breakout mode will remain active.
- AUTO CLEAR (1322F): Hides the fact you used a breakout mode. Breakout function will have to be re-enabled via the programming menu or through the Hot Start option. If Auto Clear is set to No, powering on the board re-enables the Breakout mode.

TOURNEY RULES (1323)

3 programmable tournament modes, referred to as "TOURNEY 1 (13231) TOURNEY 2 (13232), TOURNEY3 (13233). Factory default is PSP, NXL and Millennium tournament formats. You can change these as they leagues change their rules, set new tournament formats and rename them as they appear on the screen.

- FORMAT CHAR (1323A) (1-4): Defines up to a 4 character "name" for the OLED display for the TOURNEY RULES (13233 A-C). You can choose any 4 character combination.
- RAMP SEMI SHOTS (1323B): number of Semi shots required before any ramping is allowed. If Setpoint is zero ramping starts immediately
- RAMP PULL RATE (1323C): This is the trigger pull rate (trigger pulls per second) that needs to be achieved before ramping. Any semi shots defined must first be satisfied prior to ramping by pull rate. If this setpoint is zero, the marker will ramp immediately after this defined number of semi shots is satisfied.
- RAMP MODE (1323D): Determines which firing mode to ramp to (BURST, REACTIVE, AUTO)
- RAMP FIRING MODE (1323E): This value is associated with the Ramp Mode. In Burst mode, it's the number of shots in a burst. In Reactive mode it's the number of shots fired with each trigger pull and release. In Percent ramping, it's the percentage of ramping used (Percentage is 100%, 1 is 1 shot, 2 is 2 shots, 3 is 3 shots...)
- RAMP RESET (1323F): Determines the amount of time the trigger can be at rest and still remain in the current ramping stage before reverting back to Semi Mode. This time value is entered in seconds. If zero, the board will reset ramping when the trigger is released after 0.2 seconds. Ramping will also reset when trigger pull rate drops below the RAMP PULL RATE setpoint

Examples of frequently made changes - step by step on how to make them

In all programming examples we will assume that you have PROFILE 'A' set as SEMI at 15 and PROFILE "C" is factory set as PSP 3 at 12.5 and PROFILE "D" is factory set as PSP 10.2

1) Changing the PROFILE for a single game.

The most frequent, and the easiest programming change is between PROFILES.

We will assume that you are entering a game where the field rules are PSP 12.5 (Profile C)

Remember you cannot change the board (enter programming mode) if the tournament switch is on.

Hold trigger down and press power button and release both trigger and power button.

You will see START MENU (1) in reverse lighting; below that an arrow pointing to LOAD PROFILE (11), below that LOAD HOT START

Pull and hold trigger until board beeps, release and you see an arrow pointing to LOAD PROFILE A (131).

Below that is LOAD PROFILE B, below that LOAD PROFILE C.

Toggle trigger 2 times until arrow points to LOAD PROFILE C

Pull and hold trigger until it beeps the board loads PROFILE C and you are ready to play – simple.

2) Changing the PROFILE when the board powers up. If you usually play in PROFILE C and don't want to LOADPROFILE C before every game, you can do it once and then board will start in C until you change it. Find "START PROFILE" on the "Programming Tree" - 13231A.

To program: With board off: Hold trigger down and press power button release them both

You see START MENU (1) in reverse lighting, below that an arrow in front of LOAD PROFILE (11), below that LOAD HOT START (12), below that PROGRAM MENU (13).

Toggle down twice so that arrow is in front of PROGRAM MENU (13)

Pull and hold trigger until board beeps and you see the PROGRAM MENU in reverse lighting, below that an arrow in front of "SET PROFILE A", below that "SET PROFILE B", below that "SET PROFILE C" (131)

Toggle trigger 6 times until arrow points to GLOBAL SETUP MENU.

Pull and hold trigger until it beeps and you see GLOBAL SETUP MENU in reverse lighting, below that an arrow in front of GLOBAL MENU (1321), below that two more lines...

Pull and hold trigger until board beeps and you see GLOBAL SETPOINT in reverse lighting. Below that an arrow in front of START PROFILE and to the right a letter A-F (current setting)

Use Power Button and FIRING Mode Button to change to C

Board will now load PROFILE C every time the board is powered on

To power off: Hold power button down until red light flashes.

To go immediately go to playing mode – toggle the trigger until an X appears in the upper right of the MENU bar (7 pulls). Pull and hold trigger until it beeps and the gun is ready to fire and play.

To go back up the programming tree: toggle trigger until the arrow is reversed - in the reverse lighting portion

Pull and hold trigger until it beeps, board will move up from 1321 to GLOBAL MENU 132

3) Changing BPS - Balls per second

First pick in which Profile you want to change the BPS.

Balls Per Second Eyes On is founder under "C" in "1312" of the Programming Tree

We will change the BPS in F - the last of the 6 Profiles. We will change from 15 to 18;

With board off: Hold trigger down and press power button, release both trigger and power button.

You see START MENU (1) in reverse lighting, below that an arrow in front of LOAD PROFILE (11), below that LOAD HOT START (12), below that PROGRAM MENU (13).

Toggle down twice so that arrow is in front of PROGRAM MENU (13) Pull and hold trigger until board beeps and you see the PROGRAM MENU in reverse lighting and below that is an arrow point to "PROFILE A MENU", below that "PROFILE B MENU", below that "PROFILE C MENU" (131)

Toggle trigger 5 times, arrow points to PROFILE F MENU

Pull and hold trigger until it beeps and you see PROFILE D MENU (131) in reverse lighting, below two more lines...

Pull Trigger once and arrow will point to FIRING SETPOINTS (1312), two more lines...

Pull and hold trigger until it beeps. You see "FIRING SETPOINT" in reverse lighting and below that an arrow in front of "TOURNY MODE" (1312A), below that "CAPPED FIRING ON" (1312B), below that "BPS EYES ON" (1312C)

Pull the trigger twice and arrow will point to BPS EYES ON with a number (5-35) on the right
Press Power Button and Firing Mode Button to make the number 18. This changes the whole number.
To also change FINE NUMBER, toggle trigger once and arrow will drop down to BPS fine.
Press Power Button and Firing Mode Button to change the BPS FINE in one-tenths

To power off: Hold power button down until red light flashes.

To go immediately go to playing mode – toggle the trigger until an X appears in the upper right of the MENU bar (11 pulls). Pull and hold trigger until it beeps and the gun is ready to fire and play.

To go back up the programming tree: toggle trigger until the arrow is reversed - in the reverse lighting portion (10 pulls). Pull and hold trigger until it beeps, board will move up the Programming Tree.

4) Changing to PSP and setting BPS (home field allows 15, instead of factory presets of 12.5 or 10.5)

The board is PSP factory set with PROFILE C at 12.5 and PROFILE D at 10.2. We change PROFILE F to PSP 15:

Find changes in Programming Tree. PSP is FIRING MODE ENABLE - 1313F is set to PSP, and BPS is 1312

Remember, you cannot change the board (enter programming mode) if the tournament switch is on

With board off: Hold trigger down and press power button, release both trigger and power button.

You see START MENU (1) in reverse lighting, below that an arrow in front of LOAD PROFILE (11), below that LOAD HOT START (12), below that PROGRAM MENU (13).

Toggle down twice so that arrow is in front of PROGRAM MENU (13). Pull and hold trigger until board beeps and you will see the PROGRAM MENU in reverse lighting, the arrow in front of "PROFILE MENU A", below that "PROFILE MENU B", below that "PROFILE MENU C" (131)

Toggle trigger 5 times, arrow points to PROFILE F MENU

Pull and hold trigger until it beeps, you see PROFILE F MENU in reverse lighting, below it the arrow points to MARKER SETPOINTS (1311), below that FIRING SETPOINTS (1312), below that FIRING MODE ENABLE (1313).

Toggle down 1 time, arrow points to FIRING SETPOINTS.

Pull and hold trigger until it beeps, FIRING SETPOINTS is in reverse lighting bar, the arrow points to TOURNY MODE, below that CAPPED FIRING (set to on), below that BPS EYES

Toggle trigger 2 times, arrow points to BPS EYES ON

Press Top or Bottom Button until BPS EYES ON is 15

Toggle down twice, arrow is in front of BPS FINE

Press Top or Bottom Button until BPS FINE is 0

Now that ball speed is set we will change PROFILE F to PSP MODE

Toggle trigger 9 times. Arrow is in reverse lighting bar and points away from FIRING SETPOINTS (to go back up tree). Pull and hold trigger until it beeps and you see PROFILE F MENU in reverse lighting and below it the arrow points to MARKER SETPOINTS (1311), FIRING SETPOINTS (1312), and FIRING MODE ENABLE (1313).

Toggle trigger 2 times, arrow points to FIRING MODE ENABLE

Pull and hold trigger until it beeps, FIRING MODES is in reverse lighting bar the arrow points to SEMI, below that BURST, REACTIVE.

There are 8 selection (SEMI, BURST, REACTIVE, AUTO, RAMPING TOURNY1, TOURNY 2, TOURNY3), using the Mode Button to turn off, and the Power Button to turn on, turn off all modes except Tourney 1 (factory set to PSP)

To power off: Hold power button down until red light flashes.

To go immediately go to playing mode – toggle the trigger until an X appears in the upper right of the MENU bar (11 pulls). Pull and hold trigger until it beeps and the gun is ready to fire and play.

To go back up the programming tree: toggle trigger until the arrow is reversed - in the reverse lighting portion (10 pulls). Pull and hold trigger until it beeps, board will move up from 1312 Firing Selections to 131 Profile

5) Change Tournament PROFILE and changing Tournament Lock PROFILE

Remember, you cannot change the board (enter programming mode) if the tournament switch is on

As above in: 2 Different PSP BPS PROFILES, the PROFILES you want are preset in two or more different PROFILES A-F.

Most tournaments do not require the board to be in Tournament Lock. This makes changing between Tournament PROFILES very easy. Simply enter Start Menu, pick LOAD PROFILE and load the PROFILE A-F that you have setup. In examples above you now have 3 PSP setups to pick from. PROFILE E has been set to 15 and PROFILES C and D are Factory Set to 10.5 and 12.5 respectively.

The first example: "Changing the PROFILE you want to use", gives step by step instructions on how to pick a PROFILE. Review it if you are still uncertain or if you have forgotten.

If you are in the rare situation where the tournament requires the use of a tournament lock:

To pick the PROFILE you want to use as default (you may want to set PROFILE without using Tournament lock)

Find TOURNEY PROFILE (1321B) on Programming Tree

With board off: Hold trigger down and press power button, release both trigger and power button.

You see START MENU (1) in reverse lighting, below that an arrow in front of PROFILE LOAD MENU (11), below that LOAD HOT START (12), below that PROGRAM MENU (13).

Toggle down twice so that arrow is in front of PROGRAM MENU.

Pull and hold trigger until board beeps and you will see the PROGRAM MENU in reverse lighting, and arrow in front of "PROFILE MENU A", below that "PROFILE MENU B", below that "PROFILE MENU C" (131)

Toggle trigger 6 times, arrow points to GLOBAL SETUP MENU (132)

Pull and hold trigger until it beeps, you see GLOBAL SEUP MENU in reverse lighting, below it the arrow points to START PROFILE (1321A), below that TOURNEY PROFILE (1321B), below that SPLASH SCREEN (1321C).

Toggle down 1 time, arrow points to TOURNEY PROFILE.

Using the Top Button scroll up and the Bottom Button to scroll down, pick the PROFILE you want.

To engage Tournament Lock

Take off side of Grip opposite of battery access, slide Tournament lock down (says TOURNEY SWITCH on board). Next time board is powered on, the lock on screen will change to closed.

To power off: Hold power button down until red light flashes.

6) Reset to Factory Settings

Remember, you cannot change the board (enter programming mode) if the tournament switch is on

With board off: Hold trigger down and press power button and release both trigger and power button.

You will see START MENU (1) in reverse lighting and you will see an arrow in front of PROFILE LOAD MENU (11), below that HOT START MENU (12), below that PROGRAM MENU (13).

Toggle down twice so that arrow is in front of PROGRAM MENU (13)

Pull and hold trigger until board beeps and you see the PROGRAM MENU in reverse lighting and below the arrow points to "PROFILE MENU A", below that "PROFILE MENU B", below that "PROFILE MENU C" (131)

Toggle trigger 8 times until arrow points to RESET MEUN (134)

Pull and hold trigger until it beeps, you see RESET MENU (134) in reverse lighting and below that the arrow points to PROFILE A (134A), below that PROFILE B (134B), below that PROFILE C (134C)

Toggle trigger 8 times, arrow points to DEFAULT ALL

Pull and hold trigger until board beeps and you see the CONFIRM RESET in reverse lighting and below that the arrow points to YES

Pull and hold until board beeps.

To power off: Hold power button down until red light flashes.

7) Changing Dwell – Dwell is set in each of the six PROFILES. In a scenario game you may want the lowest dwell for best efficiency, for playing air ball where air isn't a problem you may want a higher dwell for maximum consistency. This means after breaking in you may want to change all 6 PROFILES dwell settings. **First Shot Drop Off**, with lower Dwell may experience First Shot Drop Off, it is not usually a problem and it takes several minutes of sitting. If present it can be solved by resetting the ABS (Anti Bolt Stick) Dwell to 1 and ABS RESET TIME to 25.

Let's say you want to change the Dwell to 6 for Field games and set the Dwell to 7 for Airball games.

First pick in which Profile you want to change the BPS. We will change the first three.

SOLENOID DWELL is founder under "C" in "1311" of the Programing Tree. Below Dwell are both ABS DWELL "D" and ABS RESET TIME "E"

With board off: Hold trigger down and press power button, release both trigger and power button.

You see START MENU (1) in reverse lighting, below that an arrow in front of LOAD PROFILE (11), below that LOAD HOT START (12), below that PROGRAM MENU (13).

Toggle down twice so that arrow is in front of PROGRAM MENU (13) Pull and hold trigger until board beeps and you see the PROGRAM MENU in reverse lighting and below that is an arrow point to "PROFILE A MENU", below that "PROFILE B MENU", below that ...

Pull and hold trigger until Board beeps, you see PROFILE A MENU (131) in reverse lighting, below ...

Pull and hold trigger until it beeps. You see "MARKER SETPOINT" in reverse lighting and below that an arrow in front of "LEAD EDGE DB" (1311A) below ...

Toggle trigger three times and arrow will point to SOLINOID DWELL – the current value shown on the right Press Power Button and Firing Mode Button to make the number 6.

Toggle trigger once, Arrow points to ABS DELL

Push On/Off Button and Eye Button to set to 1

Toggle trigger once, Arrow points to ABS RESET TIME

Push On/Off Button to set to maximum of 25

To change the next Profile

Pull the trigger 7 times, the widow shows an arrow in the backlit screen pointing away from the words

Pull and hold trigger, you will see Profile A MENU, below the arrow points to MARKER SETPOINTS

Pull trigger 3 times, arrow point away from words

Pull and hold trigger, Program menu is shown backlit, below arrow points to PROGRAM A MENU

Pull trigger once, arrow points to PROFILE MENU B, below that...

Pull and hold trigger until Board beeps, you see PROFILE B MENU (131) in reverse lighting, below ...

Pull and hold trigger until it beeps. You see "MARKER SETPOINT" in reverse lighting and below that an arrow in front of "LEAD EDGE DB" (1311A) LEADEDGEDB below that TRAILEDGEDB (1311B) below ...

Pull the trigger three times and arrow will point to SOLINOID DWELL – the current value shown on the right Press Power Button and Firing Mode Button to make the number 6.

Toggle trigger once, Arrow points to ABS DELL

Push On/Off Button and Eye Button to set to 1

Toggle trigger once, Arrow points to ABS RESET TIME

Push On/Off Button to set to maximum of 25

To change the next Profile

Pull the trigger 7 times, the widow shows an arrow in the backlit screen pointing away from the words Pull and hold trigger, you will see Profile B MENU, below the arrow points to MARKER SETPOINTS

Pull trigger 3 times, arrow point away from words

Pull and hold trigger, Program menu is shown backlit, below arrow points to PROGRAM A MENU

Pull trigger twice, arrow points to PROFILE MENU C, below that...

Pull and hold trigger until Board beeps, you see PROFILE C MENU (131) in reverse lighting, below ...

Pull and hold trigger until it beeps. You see "MARKER SETPOINT" in reverse lighting and below that an arrow in front of "LEAD EDGE DB" (1311A) below ...

Pull the trigger three times and arrow will point to SOLINOID DWELL – the current value shown on the right Press Power Button and Firing Mode Button to make the number 6.

You can continue until all 6 Profiles have their dwells set, w/wo ABS, to your preferences.