

# Interceptor

2005

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By



## Warning:

This is a dangerous piece 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 Products INC. (Alien) assumes no liability for its use or misuse or for injury or death due its to misuse or mishandling. Please follow all Federal, state and local ordinances.

Risk of injury, especially blindness, can be greatly reduced by the proper handling of the marker. It is of utmost importance that user and everyone within 200 feet of the marker have proper paintball goggles on at all times when this weapon is ready for firing.

Remember it is the "unloaded" gun that shoots and hurts people. This marker retains air even after the bottle has been taken off. It can retain a charge hours or even days after the bottle has been removed. Before removing protective eye gear always check and double check that there are no balls in the chamber and the marker has no pressure.

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

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# Safety

The Interceptor marker will propel a paintball at speeds fast enough to blind, even with the barrel removed or at the lowest operating pressures.

Goggles means: safety approved paintball goggles, when on the paintball field or approved safety glasses when servicing or making repairs.

- Read the entire manual before operating the Interceptor marker.
  - Never point the marker at anyone not wearing goggles.
  - Never look down the barrel of your marker while it is attached to the marker, even if you are wearing goggles.
  - Never look into the firing chamber of a marker without goggles on and the barrel and bolt removed.
  - Never look down the feed neck of a marker without goggles on.
  - Extra care is needed when handling a marker when the bolt is removed as a ball or exploded ball can additionally fire out of feed neck or back of marker.
  - Turn off marker when operation is not desirable.
  - Play only at commercial playing fields. Proper fields will have a Chronograph, referees and clearly marked safety areas. Chronograph your marker before every game at safety limit of 280 feet per second.
  - You will be held liable if some else is hurt from a paintball shot from your marker, regardless of fault. Make sure you are not shooting at unsafe velocities and that everyone present has proper eyewear
- 
- The manual on disassembly is for those confident and experienced in marker repair. If uncertain take your marker to a trained Air smith
  - Depressurized markers before maintenance or disassembly, ALWAYS wear safety glasses when pressure testing a partially disassembled marker. Be especially careful of LPR piston when LPR cap is removed

Congratulations on your purchase of the **Interceptor** paintball marker by:



We believe it to be the best paintball marker available today and the best value.

## Limited Warranty

Alien warrants the Interceptor against damages in manufacturing and defects for the period of One Year from time of purchase. Copy of sales receipt must be included for all warranty work.

Electrical components are covered for a period of 90 days. Warranty on wiring harnesses is limited to defects in manufacturing.

Misuse, abuse or alteration of the marker voids the warranty. Disassembly of the pneumatic valve voids its warranty.

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

## Operating Design

The Interceptor is an open bolt, pneumatic ram design, yet it is a new design in this category. The Interceptor uses a patent pending "Structurally Independent Ram Housing". Other markers put a round ram into a housing. Alien placed the solenoid on the ram and the ram on the trigger frame. This eliminates the torturous air paths cut into the body or, in their absence, lengthy additional hoses. The constant air supply is attached right to the ram. The result is the shortest air passages practical, short passages equating to faster cycling times. Having the ram housing outside the receiver body gives you a smaller, tighter marker and one that has a unique and appealing look.

Further the Interceptor utilizes a patent pending "Sweep Valve" and "Sweep Bolt" to minimize turbulence and to cause the air to flow under and around the ball. The "Sweep Air System" improves accuracy.

We believe that even a brief use of the Interceptor marker will show its improved trajectory, fast reliable operation and that it is comfortable to hold and easy to aim and shoot. By taking a new path, Alien again ended up "Light-years Ahead"

## Interceptor Specifications

Weight	2 lbs. 4.5 ozs. with Invasion barrel
Length	18.5 inches with 12 inch barrel
Height	6.75 inches; 8.5 inches with riser
Range	175+ feet
Ball detents	Dual rubber catch bumpers
Power	Single nine volt. Alkaline battery recommend
Barrel	Included is an ultra-premium 13.5 inch gun drilled and honed .688-caliber barrel.

## High Pressure Air (HPA) & Nitrogen

The Interceptor includes a HPA Inline regulator. This accepts high preset tanks (800 to 850 psi), low preset tanks (400 to 500 psi), or adjustable tanks. Adjustable tanks should be set to, at least, the upper limits of low-pressure tanks (500 psi) so as not to starve the Inline regulator and cause slower cycling of the marker or low shots. High preset tanks are recommended for their lower weight, compared to adjustable tanks, and their ability to be used with more of the aftermarket regulators, as some Inline regulators creep with low input pressure.

## CO2

CO2 is not recommended. High firing rates can freeze the pneumatic valves in electro pneumatic paintball markers and damage O-Rings. This is the main reason for limiting the warranty on electrical parts to 90 days. Damage from using CO2 can be minimized by using an Anti-Siphon tank or a remote harness mounted tank with hose. Nevertheless performance loss can occur and will be more noticeable on colder days. Should liquid CO2 get into the solenoid it will likely freeze the valve and you will be done playing until the valve can be replaced.

## Barrels and Accessories

The Interceptor uses the most standard threading of the barrel types, which is the same found on Cockers, Timmys and Trixes. All Inline regulators designed for "standard" paintball uses will fit, as will "standard" drops, rails and cradles.

## Operation and Maintenance

As described in the following Equalizer section, depressing the power button turns on the electronics. Next air the marker up and you are now ready to fire.

The gauge on the front block should read as low as 75 lbs, but more commonly closer to 95 lbs. This is the pressure of the air activating the ram. It was once considered best to have as low a cocking pressure as possible. This was due to the widespread use of the self-cocking pneumatic type markers. These markers were prone to chopping balls and the use of extremely low pressure could result in less ball breakage. In electro-pneumatic markers the pressure needs only to be low enough not to cause extra kick or a banging of the ram as it opens and closes. Operating your Interceptor at the lowest end of the spectrum will offer no additional performance and shot consistency will suffer.

To setup your Interceptor, begin with the LPR at 95 or 100, then Chrono your marker by adjusting the inline regulator to the field speed limits, generally 265 to 280 fps. Next, turn down the LPR until either the ball speed drops or the cycling speed drops. Now, turn the LPR pressure up until the marker is performing optimally again, note the pressure shown on the gauge. That is your markers lowest optimal pressure. After shooting several cases it is common for that pressure to drop. Do not try to get too close to the lowest setting. Find the lowest setting and add a few pounds and forget about it. After a few cases you may want to recheck the best LPR setting. At that time you may want to take off the gauge. You will quickly learn how to “feel” the best range for your Interceptor, how low the LPR is set before getting inconsistent shots and how high before it has excessive kick.

The main maintenance on you Interceptor is cleaning it after usage to avoid dirt build up on the bolt and trigger, and keeping an eye on the power light to see when it goes to blinking red and the battery has to be changed. If you want to oil your bolt O-Rings it is best to use a synthetic type oil like the one included with you Interceptor, or at least a pneumatic oil that will not harm the rubber O-Rings. When you clean your Interceptor apply a couple of drops of oil to the piston rod by extending the hammer forward. You can let a small amount of oil run down a screwdriver shaft or apply with a Q-Tip.

## Low Pressure Regulator

Interceptor's LPR is similar to most designs found in use for paintball. The shoulder of a pin presses against a sealing surface. A piston pushes against the



pin to allow air to escape between the pin and seal. The pressure of the escaping air pushes back against that piston, compressing a spring until the piston no longer presses against the pin and air is sealed. Correct pressure. Air is used, pressure drops, pressure against springs is reduced, spring expands pushing piston, piston pushes pin allowing air to escape. Screw down the cap for higher pressure. Unscrew the cap for lower pressure. Perfect!

Well almost perfect. Imperfect seals and contaminated O-Rings cause creeping air pressure. In the event of LPR malfunction degas marker.

### **First, put on Safety glasses or Paintball goggles!**

Careful, the piston can shoot out of the LPR body when the LPR cap is off causing injury or blindness!

Completely unscrew LPR cap. Check cap and spring. If they are dirty clean the cap and spring. If the inside of the LPR body is clean then the piston O-Ring may have become dry through repeated use. A few drops of the supplied synthetic oil will again allow for the piston's smooth travel. Apply directly to the outside of the piston, push piston down and replace spring and screw cap back on and you may have solved the problem. However do this only if you are in a real hurry and intend to clean the piston after play. **Do not gas the marker back up with the piston pushed down and the cap not replaced. Piston can shoot out of the LPR Body.**

For monthly servicing, or complete cleaning of your LPR, first remove spring and cap as above and place a few drops of oil inside LPR. Push Piston down. **With Safety glasses or Paintball goggles on, and pointing the marker towards something soft and intended to catch the piston, gas up the Interceptor, the piston will shoot out of the LPR.**

Listen to the LPR. If there is a leak between the pin and seal you can hear it now that the piston is gone. If it is leaking, degas marker and remove the seal cap with a 3/16ths Allen head wrench. Remove pin and spring and clean all parts of the LPR. Replace the spring, pin, seal and cap as one unit. Screwing them into place with Allen head wrench. It is best to use a new seal. If you do not have a

new seal then the best surface of the seal should be placed against the shoulder of the pin.

If the seal is not leaking do not remove the seal and pin assembly, as the assembly will last for a very long time is left alone. Look at the pressure gauge. If you have degassed the marker and the gauge went to zero and then, after gassing back up the gauge reads pressure again, the back O-Ring on the LPR body is leaking. Remove the LPR from the Front Block and clean it. Replace O-Ring and lightly oil it. If you do not have a new 015 quad ring, inspect O-Ring. If cut you can replace with bottle O-Ring, but they are too narrow and getting it to seal may be difficult. Urethane rings will seal better than standard Buna rubber.

O-Ring creep is only possible if either air is escaping past pin and seal assembly, or past back O-Ring.

Air leaking past Front O-Ring will have an audible leak from the surface between the LPR body and the Front Block.

Air leaking out the front cap is caused by bad Piston O-Ring seating. Do not degas! Slowly unscrew Cap and remove spring and piston. Check to see if piston is tilted. If so the piston is dry, lubricate. If not then it is likely that the O-Ring is cut or torn. Replace and lubricate. When reassembling the LPR stack the cap, spring and piston and lower the LPR body onto the three stacked pieces to that the piston does not get tilted when assembling them. Tighten the cap to just flush and the gas the marker up to make the final LPR adjustment.



## Hopper and Paint

The interceptor is capable of extremely fast firing and only the fastest hoppers are capable of keeping up with it and demonstrating its full capabilities. Likewise the use of top quality paintballs will be necessary for highest performance and accuracy. NOTE: The Interceptor anti-chop eyes can be fooled by sunlight. Take the hopper out and let the sunlight hit the eyes and you will notice the LED will go from blinking green to pulsating green even without a ball in place. Therefore the use of clear hoppers is not recommended with the Interceptor. While a clear hopper can be used, you will likely find that the use of clear hoppers on sunny days will cause your Interceptor to skip and chop at high rates of fire.

## Setting the trigger pull

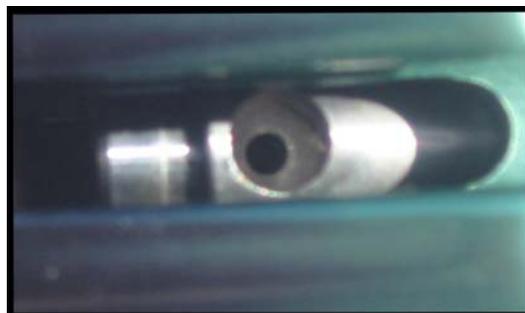
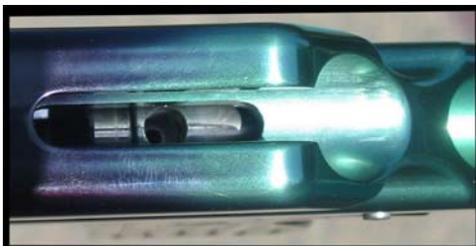
Your Interceptor has been designed so the trigger travel can be easily adjusted without disassembly of you marker. The contact point is fixed. There are two adjustments, one for forward travel and one for backward travel. Adjustments are made with Allen head drivers, 1/16 for the front screw and 5/64 for the back screw. Both adjustments are accessible by removing the bolt and looking down to see the hammer. When the hammer is back you can see the trigger stop plate.



Back setscrew hits ledge in trigger frame. Front cap screw hits plate.

The front screw limits the travel after the switch is activated. The setscrew hitting the “stop plate” limits travel. This plate is also what the return spring rests against. Again the front hole in the trigger plate accesses the screw to adjust the travel past the firing point. Turning clockwise lowers the screw and increases the travel. Turning counter clockwise raises the screw and limits the travel.

Move the hammer forward 1/2 inch or so and you will be able to look through the hole in the hammer to see the back hole in the stop plate. To adjust the travel before the switch is activated, place an Allen head wrench through the hole in the hammer and through the hole in the stop plate and into the screw.



NOTE: the two adjustment screws are opposite. Screwing clockwise increases the travel on one, but decreases travel on the other. Make small adjustments until you are sure which way you need to turn. Half turns are adequate. Large movements mean you are turning the wrong way.

## Electronics

# WICKED AIR SPORTZ<sup>TM</sup>

## Equalizer

### Usage in Alien Interceptor

Equalizer is a trademark of Wicked Air Sportz

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## USAGE

The Equalizer has numerous features, which can be a bit overwhelming to those that are not use to having so much flexibility. However, every possible step has been taken to make sure that the use of this product is extremely simple.

### Turning on the Equalizer

To turn on the Equalizer, press and hold the power button (located on the back of the grip frame) for ½ of a second, and release it. The LED should light solid orange or flickering orange and stay that way for several seconds after releasing the button.

### Turning off the Equalizer

To turn off the Equalizer, press and hold the power button until the LED becomes solid red, and then release the button. The LED will blink red while the button is being held, this is normal.

## Bypassing the Eye System

In order to be able to “dry fire” the marker, the eye system must be bypassed. When the eye system is enabled, the marker will not fire unless there is something in the breach. To bypass the eye system, press and hold the power button for ½ second. The LED will then blink orange (instead of green) indicating that the eye system has been bypassed. Repeating this procedure will enable the eye system.

## General Usage Tips

The LED boot sequence is as follows: solid or flickering orange (booting), followed by either solid green (normal mode) or solid red (competition mode). The LED will be flickering orange at boot-up if the Firing Mode is not set to semi-auto. Viewing the LED boot-up is an easy way for tournament organizers to determine if the marker is in a semi-auto mode, and/or locked.

The rate of fire is limited only by how fast the pneumatics will cycle, how fast you can pull the trigger, and how fast your loader can feed your marker.

Because the Equalizer can easily exceed the feed rate of any loader in existence, it is recommended that you use a force-feed type of loader for the best possible performance.

## LED Colors and Meanings

The LED used with the Equalizer can light up in one of 3 different colors. The Equalizer uses this to indicate to the user when certain events are occurring. This is a breakdown of what the LED states represent:

Blinking Green (once per second): Normal operation, anti-chop system is enabled, Eye Mode 1 (rate of fire capped at user preset).

Blinking Green (twice per second): Normal operation, anti-chop system is enabled, Eye Mode 2 (unlimited rate of fire).

Blinking Orange: Normal operation, anti-chop system is disabled.

Blinking Red: Battery is low.

Red/Green toggle: There is an error with the anti-chop system (Eye Mode 2 only).

Flickering green: object is in the breach.

## Tournament Lock

It is possible to put the Equalizer into a tournament lock (COMPETITION) mode. You can do this by making sure the power off, grounding (connecting) the two center pins on the Equalink interface connector, and then turning on the power. Each time you 'reboot' with the pins grounded, the NORMAL and COMPETITION modes will toggle. The marker will not fire with the jumper in place! Removing the jumper will allow the normal operation of the marker.

You can also change the tournament lock mode using the Equalink.

**It is necessary to remove the battery after changing the tournament lock or using the Equalink to alter settings or update firmware.**

## Trigger Programming

The Dwell, Debounce™, Eye Mode, BIP Delay™, ROF Cap, Eye Power, and Firing Mode functions are programmable by following these instructions:

Make sure the power turned off. During trigger programming, make sure that your marker has a barrel condom in place and the air supply shut off. Although it is not possible to fire the marker while in programming mode, it is always good to practice safe marker handling.

Pull the trigger, and hold it in the back position. Now, press and hold the power button for ½ second. During this time, the LED will light up green.

Now, release the trigger. The LED will light red. The marker is now in "trigger programming mode".

Pulling and releasing the trigger will change the LED color, advancing to the next programming feature. This is also known as the "programming menu". The following colors equate to the feature selected:

Solid Red: Dwell programming mode.

Solid Green: Debounce™ programming mode.

Solid Orange: Eye Mode programming mode.

Flickering Red: Ball In Place (BIP) Delay™ programming mode.

Flickering Green: Rate of Fire (ROF) cap programming mode.

Flickering Orange: Eye Power programming mode.

Alternating Green/Orange: Firing mode.

Once you have reached the last feature (alternating green/orange), an additional trigger pull will start the sequence of colors over again. This is also known as the "programming menu start".

When you decide which programming feature you want to change, pull the trigger and hold it until the LED goes out, and then release the trigger. There will be a 2 second pause, and then the LED will flash the same color of the programming mode you are in (red=Dwell, green=Debounce™, orange=Eye Mode, etc.) the number of times that represents something associated with that feature. For example, if you were programming the Debounce™ and the settings were the factory default (10ms), you would see the LED flash green 10 times in a row, indicating the Debounce™ is set to 10ms. The flashing of the LED shows you the current setting *before* you change it.

Once the LED is done flashing, there is a 5 second time period to begin programming the new setting. To change the setting, pull and release the trigger the number of times equal to how you wish to program the feature. On each pull of the trigger, the LED will light up (indicating that the pull has been detected). If you decide not to change the feature setting at all, simply do not touch the trigger at all for 5 seconds. The LED will then blink green/red alternately to indicate there was a programming error, and then go back to the programming menu. The feature setting will not be changed.

Once you have pulled and released the trigger the number of times you wanted the feature setting to be, do not touch the trigger. After 5

seconds, the LED will flash a rainbow of colors indicating that the feature setting change has been accepted. After this, the marker is in the programming menu again. If you program a feature outside of its specifications (for example, programming the dwell to 1ms) the LED will blink green/red alternately indicating that there was a programming error.

Each feature and its programming are described in detail below:

## Dwell

Trigger programming for changing the dwell is different than any other feature as there are two steps involved instead of one due to allowing for .1ms (tenths) increments.

After selecting the Dwell programming feature, and once the LED stops flashing, you can now pull and release the trigger once for every FULL 1ms of time you want the dwell to be. Once you have pulled the trigger the number of times you want the full milliseconds to be, after a 2 second pause the LED will blink orange and then off. You can then pull the trigger again, but this time with each trigger pull being 1/10<sup>th</sup> of a millisecond (.1ms). So, if you wanted to set the dwell to be 6.3ms, you would select the dwell programming mode by pulling/releasing the trigger until the LED was solid red. Next, you would hold the trigger until the LED went out. Next, the current dwell setting (say 7.5ms) would be shown as 7 red flashes, a pause, an orange flash, a pause, and then 5 red flashes. The orange flash is there to separate the full milliseconds from the 1/10<sup>th</sup> of a millisecond (.1ms) intervals.

The default dwell is 8.0ms. The lowest allowable dwell time is 4.0ms and the longest allowable time is 50.0ms. According to the solenoid manufacturer, the dwell should never be below 6.0ms for proper operation.

## Debounce™

Pull and release the trigger once for every 1ms of time you want the setting to be. For example, if you were programming the Debounce™ to 5ms, you would pull and release the trigger 5 times. The default Debounce™ setting is 10ms.

## Eye Mode

Pull and release the trigger the number of times necessary to set the Eye Mode to what you want to use.

The following is a list of the possible Eye Modes and the flashes (also trigger pulls required):

- 1 flash - Bypassed mode
- 2 flashes - Eye Mode 1 (uses rate of fire cap)
- 3 flashes - Eye Mode 2 (monitors bolt)
- 4 flashes - Simulate mode

If you pull and release the trigger more than 4 times, then the LED will toggle green/red alternately to indicate there was a programming error, and then go back to the programming menu. The default Eye Mode is 2.

## BIP Delay™

Pull and release the trigger once for every 1ms of time you want the setting to be. For example, if you were programming the BIP Delay™ to 5ms, you would pull and release the trigger 5 times. The default BIP Delay™ setting is 3ms.

## Rate of Fire (ROF) Cap

Pull and release the trigger once for the number of times you want the Rate of Fire (ROF) cap to be. For example, 20 pulls/releases would be 20 bps. The ROF cap is only used with Eye Mode 1. In Eye Mode 2, the rate of fire is unlimited. The default ROF Cap is 15 bps.

## Eye Power

Pull and release the trigger once for the number of times you want the Eye Power to be. Each trigger pull represents a level increase. So, a setting of 5 would make the eye more powerful (able to see through

liquid paint) than a setting of 4. Higher values use more battery life. The default Eye Power is 10.

## Firing Mode

Pull and release the trigger the number of times necessary to set the Firing Mode to what you want to use.

The following is a list of the possible Firing Modes and the flashes (trigger pulls required):

- 1 flash - Semi-auto (NPPL legal)
- 2 flashes - 3 shot ramping (PSP legal)
- 3 flashes - 3 shot full auto (NXL legal)

If you pull and release the trigger more than 3 times, then the LED will toggle green/red alternately to indicate there was a programming error, and then go back to the programming menu. The default Firing Mode is 1.

## Programming Complete

Once you pulled and released the trigger the number of times necessary to set the function, wait a few seconds. The LED will flash red/green/orange in rapid succession (numerous times) to let you know that the new setting has been saved. After this, the LED will return to the color representing what the current programming menu item is. At this point, you can once again pull and release the trigger to toggle between Dwell, Debounce™, Eye Mode, BIP Delay™, ROF Cap, Eye Power, and Firing Mode programming modes.

You can perform a complete **reset**, restoring all settings to the factory defaults. To do this, just hold down the trigger for 6 full seconds. It does not matter what programming mode you are currently in. The LED will start flashing red, letting you know that a reset operation is being performed. After this occurs, you will be back to the programming starting point. DO NOT release the trigger until you see the LED flashing red or the reset will not occur.

## Computer Programming Mode (Equalink)

Just as with all other Equalizer boards, this version has an Equalink port. This port allows customers to fine tune settings as well as download the latest firmware updates for the board from our website (free of charge!)

To get into computer programming mode, hold the trigger and press the power button for ½ second and release the power button... but not the trigger! Keep holding the trigger until the LED switches from the normal green color to off. The Equalizer is now ready to connect to a PC. If you accidentally get into computer programming mode, you can get out by pressing and holding the power button until it turns RED and release it. If your trigger adjustment setscrew is adjusted too far in so that it depresses the trigger switch when in the released position, the marker will go into computer programming mode when it is turned on!

## Terminology

### Dwell

Dwell is the amount of time that the solenoid will be activated. This time is measured in milliseconds (1/1000<sup>th</sup> of a second). The user can alter the Dwell only when in NORMAL mode. In COMPETITION mode, the Dwell menu item is not available. Possible values are from 4.0ms to 50.0ms. The factory default is 8.0ms. Changes are made in .1ms units via the trigger.

Increasing your Dwell will increase the velocity of your marker. If you are experiencing a great variance in your chrono results, try increasing your Dwell and lowering your high pressure regulator. If your dwell is too low, consistency will suffer greatly.

### Debounce™

Debounce™ is the amount of time the trigger switch must be stable in the up position before checking for another trigger pull. This time is measured in milliseconds. The user can alter the Debounce™ only when in NORMAL mode. In COMPETITION mode, the Debounce™ menu item is not available. Possible values are from 1ms to 50ms. The factory default is 10ms. Changes are made in 1ms units.

If you find that your marker is double firing, increase the Debounce™ time. To make your marker fire faster due to being more responsive to the trigger, decrease the Debounce™ time.

## Eye Mode

The Eye Mode is can be set to one of four different modes:

Bypass - The anti-chop system is disabled. When this occurs, the maximum rate of fire is limited to 13 balls per second to help prevent chopping of balls in the breech.

Eye Mode 1 – In this mode, the marker will not fire unless there is a ball in the breech. This mode uses a rate of fire cap to determine the speed of the cycling. The bolt is not monitored.

Eye Mode 2 - In this mode, the marker will not fire unless there is a ball in the breech. This mode works by monitoring the bolt position, and thus the rate of fire is unlimited. **This is the default eye mode.**

Simulate – In this mode, a ball is simulated to be in the breech. This allows you to fire the marker with just air, at the full speed that the marker is capable of firing! This mode can be used for practicing trigger pull methods, without wasting paint. **DO NOT SHOOT PAINT IN THIS MODE!**

## BIP Delay™

The BIP Delay™ is a feature that allows you to adjust for the differences in the eye sensor, its installation, and the loader being used. When using a slower gravity-feed loader it may be necessary to have a longer BIP Delay™ to prevent balls from being chopped.

Possible values are from 1ms to 50ms. The factory default is 3ms. Changes are made in 1ms units.

## ROF Cap

The rate of fire (ROF) cap sets the maximum cycle speed of the marker when Eye Mode 1 is used. Setting this value to low will reduce the usable speed of the marker. Setting this value too high can cause misfires if the marker pneumatics are very slow due to bad o-rings or swollen bolt.

Possible values are from 10 bps to 30 bps. The factory default is 15 bps. Changes are made in 1 bps units.

## Eye Power

The eye power controls how much power the eye system uses when transmitting infrared energy to the receiver. Setting this value too low will cause problems if debris such as paint, dirt, etc. is between the transmitter and receiver. Setting this value too high can cause problems with paint that uses a clear shell (the infrared is transmitted through the shell). Possible values are from 1 to 20. The factory default is 10. Changes are made in 1 unit increments.

## Firing Mode

The Firing Mode determines how the marker will fire. Possible modes are semi-auto (one pull/release of the trigger fires the marker one time), 3 shot ramping (adheres to the 2005 PSP rules), and 3 shot full auto (adheres to the 2005 NXL rules).

The firing mode controls how the marker fires regardless of other settings. For example, if the Eye Mode is set to Eye Mode 2 (unlimited rate of fire), and the Firing Mode is set to 3 (full auto), then the marker will fire in full auto as fast as the hopper can feed. Now, if you changed the Eye Mode to Eye Mode 1 (capped), then the ROF Cap would determine the maximum rate of fire while in full auto.

## Reset

This option will reset ALL of the settings to the factory default! If you find that you are having problems remembering the factory defaults, just use this option to reset your board and start over! The user can reset the board only when in NORMAL mode.

*This is the end of the copyrighted Wicked Air Sportz Equalizer use section. Hope you got all that!*

## Disassembly

The Interceptor can be pulled into its three main pieces, powered up and fired. Each piece is visible, most O-rings can be inspected for leaks, both ends of the hose can be inspected and the pin valve is accessible. This ability makes the Interceptor exceptionally easy to trouble shoot. Problems are found quickly and easily, and are just as easy to fix.



### To disassemble:

First, remove the bolt, then open one of the side panels and make sure the wires are loose. Bottom wiring harness goes to the battery and switch. Top wiring harness has four wires, - two black one red and one white - loosen them and kind of push them up.



Second, take the four screws off the back of ram and the one off under the trigger guard and gently pull the marker apart making sure the ram stays attached to the trigger frame.



Hinge it apart if it's a bit sticky. It will easily come apart but be careful not to pull on the wires. Wires should easily slide up from trigger housing. Feed the wires up as necessary.

Third, the limiting factor is the fact that the hose and wires must fit under the trigger stop plate.



Note that the hose is on one side of the stop plate and the wires are on the other. Remove the screws with a Phillips screwdriver and remove the trigger stop plate.



Remove the trigger spring in the trigger. Additionally note that the eye wires go



along the side of the solenoid **but** in front of the ram body.

The wires slide easily between the stop plate and the frame; **and** between the side of the solenoid and the trigger frame body. PULL the four wires partially up and out of the trigger frame noting how much slack is left in the trigger frame.

Forth, put the plate, the two screws and spring in a small receptacle so they don't get lost.

Fifth, you can now air the marker up and turn on the power. You may first want to turn the LPR down to 40 or 50psi. Watch out when you pull the trigger as the ram will jump and the ram can pinch you fingers pretty hard between the ram body and the hammer



Sixth, you may want to take the pin out and remove the trigger to clean and "lightly" oil it. In the case of a sticky trigger the stop plate does not have to be removed and the ram does not have to be taken out of the grip frame. Push the trigger pin out and clean pin and clean the inside of the trigger with a Q Tip

Seventh, to inspect or repair the pin valve assembly, first DEGAS, then remove the eye covers. Next remove the two adjoining setscrews on the bottom of the body, one for the front block and one for the pin valve.



Remove the Front Block; the hose can be left attached to the ram. Place the Valve pin, valve spring and the two setscrews in a small receptacle so they won't get lost.



With a wooden dowel, and pushing from the back of the valve towards the front of the marker, push the valve out of the receiver body. The valve's sweep features are now visible, the oval outlet hole and the radius on the valve's back wall.

Eighth, In the event a leak is coming from the ram housing area you will want to remove the ram from the trigger grip. Ram is removed by pulling the ram straight up. If it is sticking try carefully rocking it sideways noting that the ram is quite close to the trigger switch connectors and that you don't want to break the wires off of the trigger switch. If you have to, extend the ram and slowly rock up and down on the hammer until rams loosens.



It is best NOT to take the board out of the marker! The alignment of the board in the marker is critical to the proper operation of the On Off switch, the On Off pin is easily lost, and the Equalink port can be broken while sliding the board back into place. No repairs or service is useful by removing board. Should the On Off pin become so dirty as to be unmovable it would be better to remove the wiring harness and wash the trigger frame with the board in place than to remove the board.

## Reassembly



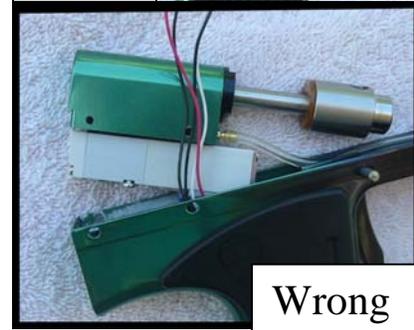
First, put the pin in the valve. While pushing on the valve pin and carefully aligning the valve body so that the O-Rings are not cut, slide the valve into the body making sure the hole is at the top and the alignment recess for the setscrew is at the bottom. Setscrew the valve in place once valve properly centered. Place the spring on the valve pin.



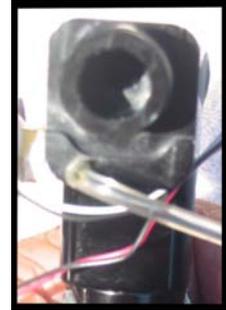
Second, the eye wires are almost all the way out of the trigger grip, you have some room to move.

Slide ram back into trigger frame. Make sure solenoid wires are pulled into trigger frame so they don't interfere with ram seating or trigger movement. Also note

the eye wires. Eye wires slide easily between trigger frame and the solenoid. Be certain to slide Ram straight down. Do not rock ram into place. Properly aligned, the ram will have very little or no resistance. Look at the back of the ram and solenoid, and at the side where the eye wires are and lower it straight into grip frame.



Third, note the channel cut into the front block for the wires. Note the wire groove that is formed between the front block and the body when placed together. At all times **BEING CAREFUL** not to crush the eye wires between the front block and the body, proceed. Slide front block into receiver just past the O-Ring. Align wires so that wires are going down the channel opposite the hose channel. The wire coming from the hose side needs to be under the hose. Twist the front block back and forth in relation to the body to route eye wires past hose. Once the wires are correctly routed under the hose and into the wire channel push the front block snug against the body. **BEFORE you tighten the setscrew for the front**



**block**, remove the eyes from the body and make sure eye wires slides easily and that wires are not between the block and the body. Once the wires move easily and the front block is pressed flat against the body tighten the setscrew. **If there is even a small gap between the body and the front block do not tighten. Tightening will crush the eye wire and disable the eye.** Often the eye wires go right into place and this is a very quick and easy step, BUT it can seem

much more difficult than it is and getting the wires to lie in the channel can be frustrating.



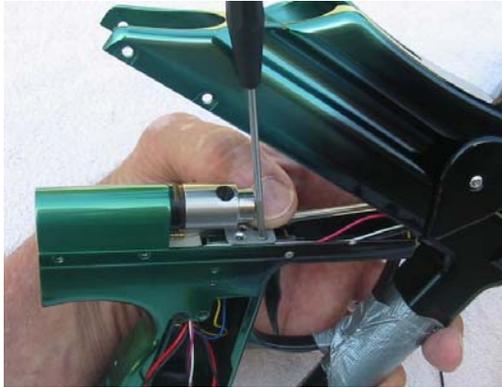
Forth, it is easier if you take a piece of tape and wrap it all the way around the regulator first to avoid scratches. Trigger frame rests inside the body cuts, tape the trigger guard to the regulator.



Place the trigger spring back into trigger. Pull excess wires into frame, push hammer back into ram. And route hose into groove next to trigger. Straighten wire along side of trigger frame and into groove next to trigger and opposite hose. Align trigger stop over screw holes in trigger frame and over trigger return spring.



Start screw in front screw of trigger plate. Check that all wires are in groove and tighten, do not over tighten. Slide hammer forward and screw in second screw. Align hammer so the hole is at the top.



*Note: If I can hold all the pieces and balance the screwdriver with one hand and take the picture with the other you can hold the wires and hose and get the screw started with two hands!*

Sixth, Rotate body and align the holes in the ram, body and trigger frame. Pull the wires into the trigger grip. It can help to first pull the wires back under the trigger plate and then into the grip frame, however so long as the wire are straight they can often be pulled straight into the trigger. If wires are not properly aligned they will get crushed between the body and trigger frame. It is helpful to place a little bit of tape on the wires to hold them against the side of the trigger frame. Once you are satisfied that the wires are properly aligned and all excess wire is pulled into the trigger frame, hinge the body completely up.

Seventh, Replace the 5 screws. Start all the screws but DO NOT tighten them. The proper ways to align any screw is to make sure it is perpendicular to the hole and then turn it counterclockwise until it clicks (assuming a standard right threaded screw). The click tells you you've just past the start of the threading of both the screw and the hole. Start turning clockwise and the screw will start to go in. Any binding at this point tells you that the screw is not properly aligned, do not force. Unscrew counterclockwise until you feel and hear the click, then recheck the alignment of the screw to the ram body and screw it in. Do not over tighten. You can get plenty of pressure by holding the short end of most Allen sets. Tightening by holding the long end of an Allen wrench gives enough force to strip out the screws. DO NOT OVER TIGHTEN.

Eighth, before you air up, check to be sure the hammer is aligned so the hole is to the top. If hole does not face the top, reach down with a tool and spin the hammer. If it doesn't spin check to make sure the air is off and the marker has no pressure. The hammer can be turned while the marker is gassed up but it takes substantially more effort. Once aligned, place bolt into body and push bolt pin into hammer.

## Troubleshooting

Problem	Cause	Repair
Inconsistent Shots	Inconsistent Hammer speeds.	Turn up LPR until consistent shot.
	Dirty bolt causing sticking	Remove and clean bolt. Optionally lightly oil O-Rings with approved oil.
	LPR piston is sticky, dry	Remove, clean and lube
	Low power supply	Use fresh, high quality, alkaline batteries.
	Low dwell setting	Turn up dwell
Creeping LPR	Dry O-Ring	Remove Clean and Lube
	Dirty O-Ring	Remove Clean and Lube
	Bad or Dirty Seal	Remove Clean and Lube.
Marker is on, bolt is not firm	Air is off	Turn air on
Marker won't fire, air on, and bolt is firm	Power not turned on	Press on off button
	No ball in chamber	Check for pulsating green light.
Won't turn on	Dead Battery	Replace battery
	Short in Electrical	Turn battery harness around. Check to see if any wires are cut or squished
Unsure if trigger is registering pull.		Press on/off to get blinking orange. Pull trigger, led flashes green, trigger is registering.
Trigger not registering pull.	Trigger has been set incorrectly.	Turn front trigger set screw clockwise until trigger has enough movement.
	Eye Harness in incorrectly	Turn top harness around or align pins correctly
	Trigger wires broken	Replace trigger switch.
Trigger registering pull, won't fire.	Air is off	Turn on air.
	Dwell is too low	Set dwell higher.
	Bolt pin in front of hammer	Align bolt pin to hammer
Firing without ball in place	Eyes bypassed	Turn eyes on
	Eyes are getting sunlight.	Use dark Hopper
Chopping balls	Eyes bypassed	Turn on eyes
	Eyes are getting	Use dark Hopper

	sunlight.	
LED flickers green w/o ball in place	Eyes are getting sunlight.	Use dark Hopper
	Eye harness in incorrectly	Rotated harness or align to pins.
Double Feeding	Worn Ball Detents	Replace Ball Detents
	Misaligned Detents	Push shoulder of detent back through hole in body. Repeated misalignment can require a shim between detent and eye cover.
Adding shots, going "automatic"	Trigger is bouncing	Set Debounce higher
	Soft or missing spring	Replace or increase spring tension.
Sticky Trigger	Paint in trigger	Hinge trigger frame down by removing the screw under trigger frame and front two screws. Remove trigger pin. Clean pin and trigger. Check wires when hinging back up.
Large amount of air is escaping inside trigger frame. Usually during gassing up and a loud Pop is heard.	Air line disconnected from ram or front block, usually because of over pressurizing of LPR	Reconnect airline; check LPR for leaking or creeping.
Smaller amount of air is leaking inside trigger frame.	Over pressurized air valve is leaking	Turn down LPR, Check for creeping LPR
	Air valve has come loose from ram, leaking around solenoid	Tighten valve to ram
	Hose is leaking	Check for cuts, replace as necessary.
	Barbs are leaking	Barbs are held in with sealer. Barbs should not be tightened or removed. Front block needs to be separated from all other parts. Then barb can be heated and removed.
	Blown valve due to overpressure	Return to manufacturer
	Dirt inside air valve	Return to manufacturer
	Deteriorated valve O-Ring	Return to Manufacturer

