

TREX

VCOM USER MANUAL

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QUICK START

Installing Air Tank

Much like any other tournament marker, the TREX VCOM requires the use of compressed air only. If using an adjustable-output air system, set the system's output to between 450 and 550 psi. Make sure the ASA (Air Source Adapter) is in the off position by turning the chrome cam drive knob on the bottom of the ASA. Attach your compressed air tank by screwing it into the ASA. When you are ready to chrono your marker turn the cam drive knob clockwise until it completes turning, this is shortly after you hear air pressurizing the marker.

Powering On Marker

Press and release the power button on the back of the grip frame to turn the marker on. The startup sequence has a battery indicator which will show the current power level of your battery with a flickering red, yellow, or green LED light as the marker powers up. If the LED is showing Red on startup replace the battery before using your marker. After the startup battery indication the LED will display a solid or blinking blue light.

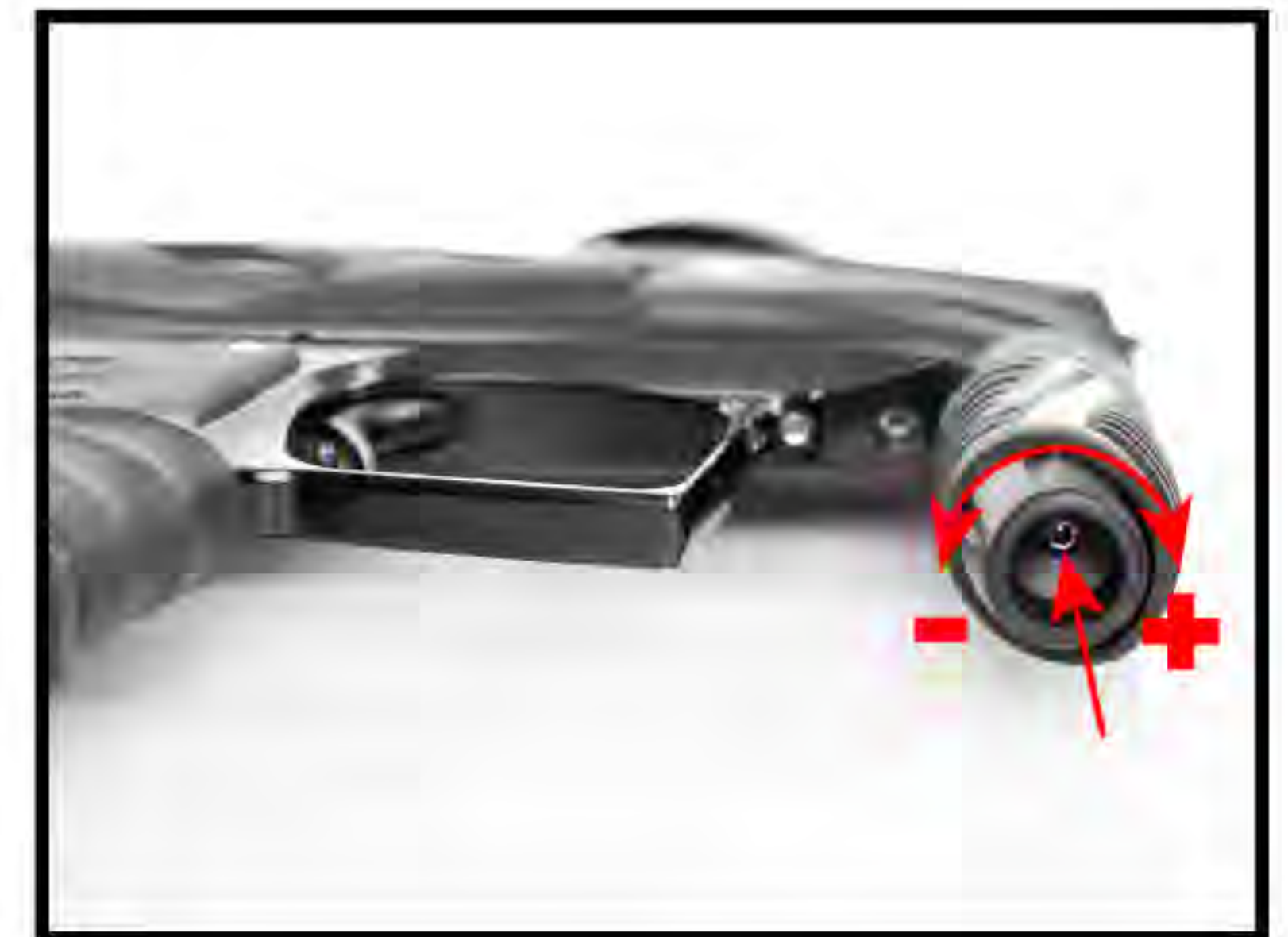
To power off marker: Press and hold the power button for 1.5 seconds, until the LED turns off, then release. Every time the marker is turned on, the eyes are enabled. The marker can be turned off regardless of the state of the eyes.



Adjusting Velocity

Both the High Pressure and Low Pressure regulators on the Victory come preset from the factory. Prior to play you may need to adjust them to account for paint to bore match, atmospheric differences, and your field's maximum chronograph limit. The velocity of your marker is controlled through the HPR, which is adjusted with a 1/8" hex wrench.

Turning the screw clockwise (or inward) will increase your velocity; turning the screw counterclockwise will decrease your velocity. Only turn the wrench 1/8th - 1/16th of a turn with each adjustment.



Turning Eyes On/Off

Each time the marker is turned on the eyes are enabled regardless of status when the marker was shut off. To disable the eyes briefly press and release the power button when the marker is turned on. Briefly press it a second time to re-enable the eyes.



Adjusting the Trigger

The VCOM trigger has two adjustment screws. The bottom screw is for trigger post-travel and the top screw adjusts the activation point (where the marker fires). To adjust the screws insert a hex key and turn the screw. The screws have Loctite to prevent the adjustment from slipping, so a firm steady pressure is needed for the adjustment.



Removing/Replacing Trigger

For most operation and maintenance the trigger does not need removal. If an aftermarket trigger is being installed or debris enters the trigger area removal and cleaning may be necessary.

In order to remove the trigger use a 5/64" hex wrench to remove the trigger mounting screw. The trigger will slide towards the front of the grip frame when the mounting screw is removed. If you have any problems removing the trigger from the front remove the grip frame then remove the trigger from the top.



Ensure that the bearing spacer is in the right side of the grip frame when installing a trigger. The picture to the right shows the position of the spacer with the grip frame removed.





Maintaining the Eyes and Detents

In the event of a chopped ball or debris in the breach, your VCOM eyes may need cleaning.

1. Remove the eye cover screw using a 5/64" hex wrench, and remove the eye cover.
2. Gently peel the eye away from the body of the marker.
3. Use a clean cotton swab to clean the surface of the eye, the eye holes, detent and detent hole. Dampen the swab with alcohol if necessary.

NOTE: If the eye holes are not clear of all debris, eyes will not properly work.



Maintaining the HPR (In-Line-Regulator)

Your VCOM comes equipped with the best regulators on the market. To ensure the best consistency and the highest flow possible, it is recommended that you clean and lubricate the in line regulator (HPR) according to the maintenance schedule.

1. Degas the marker and ensure that there are no paintballs in the breech or barrel of the marker.
2. Unscrew the regulator base from the marker counter-clockwise.
3. Reach into the regulator base with tweezers or needle nose pliers to remove the regulator piston.
4. After the piston is removed turn the regulator base upside down and tap the spring stack and spring follower into your hand.
5. The main valve does not need to be removed from the marker body or serviced. Never replace or attempt to service a working main valve.
6. Inspect the surface of the piston and piston oring for excessive wear or nicks and replace as necessary.
7. Inspect the interior walls of the regulator base. Use a swab on the interior of the regulator base to clean debris and old grease.
8. When reassembling the spring follower (spring stack assembly) make sure that the top and bottom spring washers curve to the outside. A close up of the spring assembly with the retaining o-ring is shown to the right. The retaining o-ring does not require lubrication
9. Grease the piston o-ring with and gently replace the spring follower (spring stack assembly) and piston into the regulator base. There is a concave area around the o-ring that holds additional lube and reduces the need for frequent maintenance. Reassemble the regulator to the marker.



SETTING INITIAL HPR PRESSURE

The HPR pressure is adjusted through a hex screw at the bottom of the regulator. Turning the screw clockwise increases the pressure and therefore the velocity. Turning it counterclockwise will lower the pressure and velocity. Only turn the wrench in small increments – for example 1/8th -1/16th of a turn with each adjustment.

After servicing the regulator you can perform an initial adjustment before setting pressures using the tester. Begin with the adjustment screw flush with the bottom of the regulator body. Attach the air tank to the marker and gas up the marker. Gradually turn the adjustment screw clockwise until you hear air enter the marker. Then turn the adjustment screw one complete turn additionally. **ALWAYS TEST YOUR VELOCITY WITH A CHRONOGRAPH AFTER ADJUSTING YOUR HPR.**

SETTING INITIAL LPR PRESSURE

The Low Pressure Regulator is adjusted through a hex screw at the bottom of the grip frame in front of the trigger guard as shown in the picture to the right. Turning the screw clockwise increases the pressure. Turning it counterclockwise will lower the pressure. Only turn the wrench in small increments i.e. 1/8th -1/16th of a turn with each adjustment.

After servicing the regulator you can perform an initial setting before setting pressures using the tester. Start by positioning the adjustment screw flush with the LPR Adjustment Assembly before reattaching your grip frame. This doesn't require a huge amount of force.





SETTING PRESSURES USING THE PRESSURE TESTER

The most accurate method to get your marker performing great after cleaning the regulators is by setting the pressures using the pressure tester. The LPR controls the marker cycling and contributes to the noise and kick experienced when firing the marker. Setting the LPR too low will result in problems with consistency. The HPR controls the velocity of the marker. Once you have performed the initial settings use a chronograph to fine tune your velocity

1. Remove the engine
2. Insert pressure tester. The LPR (160 psi) gauge faces the rear of the marker and the HPR (300 psi) gauge faces the top of the marker. The gauges on your marker may vary from the size of those pictured but the functionality is the same.
3. Connect air system to the marker and turn on the air
4. Turn on the marker and disable the eye system
5. While adjusting the LPR and HPR pull the trigger to allow pressures to equalize when you decrease either setting.
6. Set the HPR to 180 PSI and LPR to 80 PSI



MAINTAINING THE VCOM ENGINE

Before beginning maintenance on the engine make sure you have a clean surface to work on, something to wipe off old grease, and oil and grease for your marker.

1. Remove the engine by (a) raising the back cap to free the retaining pin then (b) sliding the engine to the rear.
2. Slide the bolt off of the Quick Disconnect Ram Shaft.
3. Unscrew the Volume Chamber from the Ram Housing
4. Slide the Valve Spring and the Blast Guide/Poppet Shaft forward off of the Ram Shaft.
5. The back cap can be removed by unscrewing the engine retaining pin. When reassembling these don't over tighten the screw. A drop of blue Loctite on the threads will ensure it stays snug without requiring excessive force.
6. Once the engine is disassembled wipe all of the old grease from the parts.
7. Inspect the o-rings for any damage to include cuts, or abrasions.
8. Place a fresh layer of lube on the engine o-rings.
9. Reassemble the engine and place a drop of HK Army grease on each bolt o-ring.





BOLT O-RING GUIDE



Part Name	Specifications	Quantity
Rear, Outside of Blast Guide	1 x 12mm (Durometer 70)	1
Back Block to Ram Housing Seal	1 x 14mm (Durometer 70)	1
Outside of Ram Housing	006 Buna (Durometer 70)	4
Rear, Inside of Poppet Shaft	008 Buna (Durometer 70)	1
Rear, Outside of Quick Release Ram Shaft	011 Buna (Durometer 70)	1
Outside of LPR Piston	012 Buna (Durometer 70)	1
Front, Inside of Volume Chamber	014 Buna (Durometer 70)	1
Pillow Bolt	015 Buna (Durometer 70)	2
Brown Poppet Seal (Donut) (Supercharger Kit Only)	020 Buna (Durometer 70)	1
Rear, Inside of Volume Chamber	020 Buna (Durometer 70)	1
Front, Outside of Volume Chamber	021 Buna (Durometer 70)	2

Maintenance

Amount of Time	Estimate cases of paint	Reccomended Upkeep
Before a day of paintball		Removing the engine and barrel Run a clean swab through the firing chamber if there is broken paint or debris in the chamber Put a drop of oil on the bolt o-rings if your friends are still flapping their gums Reinstall engine
After a day of paintball	1-2 Cases	Repeat above steps Wipe down marker outside Clean and lube bolt
After a Weekend of paintball	2-4 Cases	Repeat above steps Clean and grease outside of engine Inspect o-rings for damage Clean debris and old grease from engine area
A Month of paintball	10 Cases	Repeat above steps Clean, inspect, and grease HPR Piston o-ring Disassemble, clean, inspect, and grease all engine o-rings



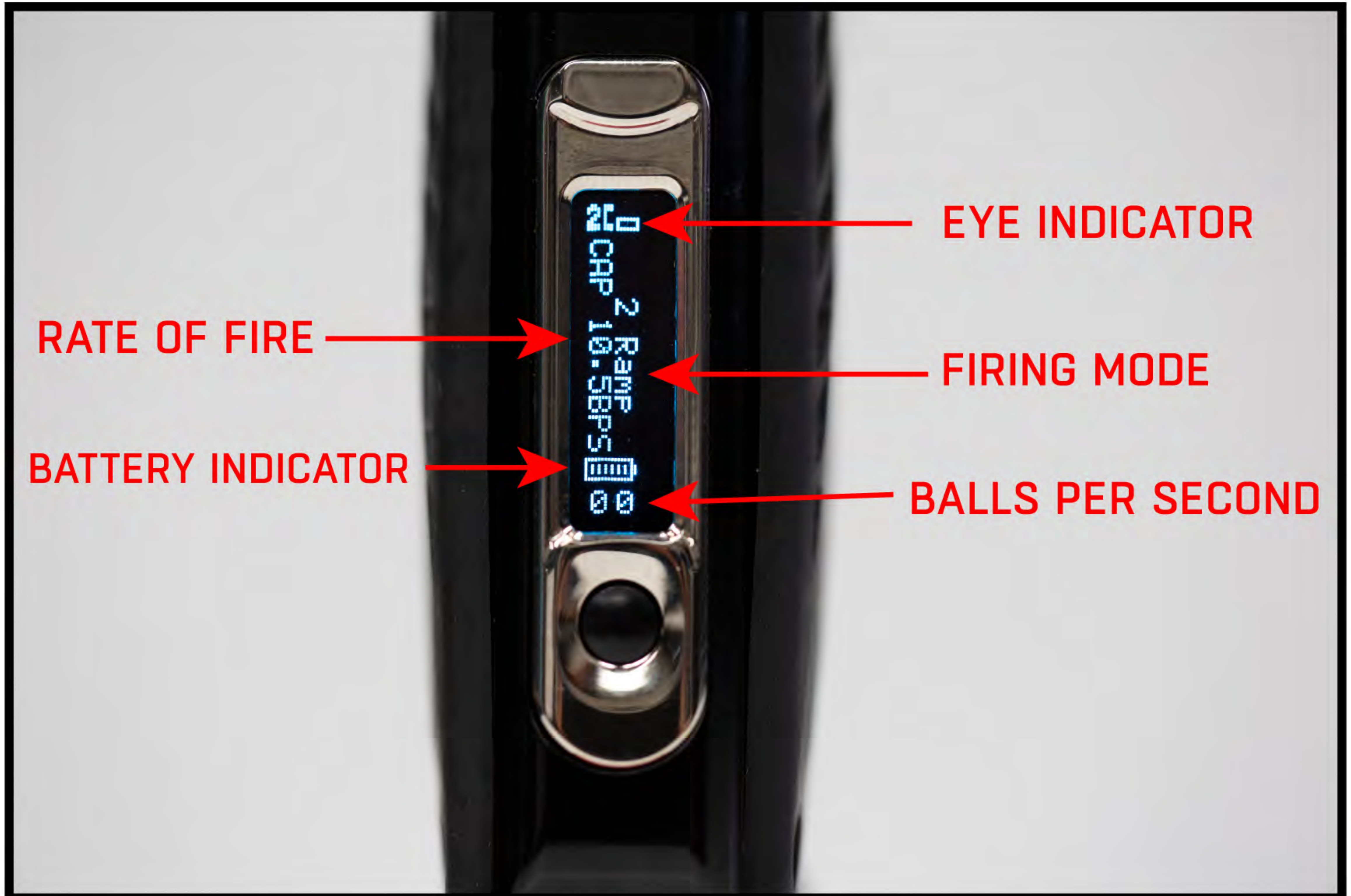
REMOVAL OF THE ASA

1. Remove the grip panels and the battery from the grip frame.
2. Loosen each of the four ASA mounting screws – do not use the ball end of a hex wrench to break the screws free.
3. Once all four screws are broken free, use of a ball end hex wrench will speed their removal
4. Remove the ASA from the grip frame and inspect the o-ring between the ASA and frame for any damage.
5. Lubricate the o-ring and reassemble by reversing the above steps.

NOTE: If you try and tighten all of the screws completely before making sure all four are close to snug you may damage the assembly or have an unstable seal.



OLED DISPLAY



Power Marker On

- > Press and hold power button for 1 full second.
- > Home screen will then appear.
- > Release power button.

Power Marker Off

- > Press and hold power button to begin power-off countdown immediately.
- > Screen will then read 3... 2... 1... Power then shuts off, screen goes blank.
- > If power button is released before countdown sequence completes, home screen regenerates as if power button had never been pressed.

GAME TIMER



To change from "Home Screen" to "Timer Screen", press and hold the power button for 2 seconds. Pull the trigger to start your timer.

Game Timer

- > Game timer may only be operated from the home screen.
- > Game timer will always begin countdown from numeric value chosen within the timer menu.
- > To initiate the game timer, double click the power button.
- > Game timer will then begin flashing the current numeric value.
- > Count down will begin immediately at first trigger pull by user.
- > To exit the game timer and return to home screen, double click the power button once again.
- > Home screen will then return back to standard display of current firing mode.



FIRING MODES

SemiAuto Capped



SemiAuto UnCapped



NXL Ramped Capped



3 Shot UnCapped



3 Shot Capped



Full Auto UnCapped



Full Auto Capped



Enter Main Menu

- > Power marker off.
- > Pull and hold trigger while pressing power button for 1 full second.
- > Main menu will appear displaying the current software version.
- > Release trigger to reveal the first menu category, firing mode.

Exit Main Menu

- > Power marker off.



OLED MENU

Rate of Fire



Timer



DB Delay



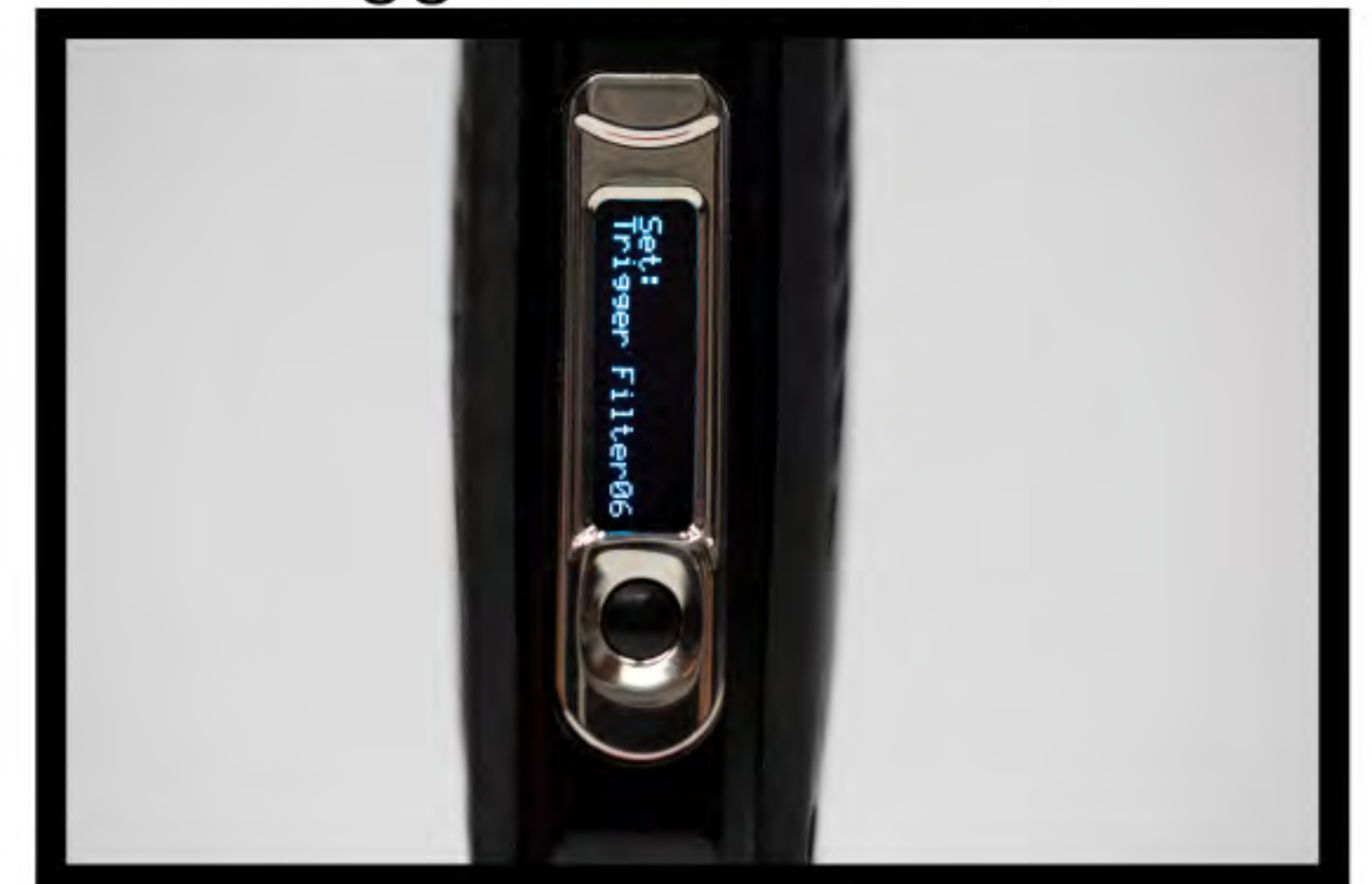
Debounce



Mechanical Debounce



Trigger Switch Filter



Dwell



Bolt Delay



Text Orientation



OLED MENU

Battery Meter

- > Battery meter displays 6 bars of power at the crest of battery strength.
- > Entire battery meter will flash continuously once down to only 1 bar of power.
- > Battery meter will continue to flash until low strength battery has been replaced.

BPS Readout

- > Achieved BPS registers immediately after users shot string.
- > 3 seconds after last shot, BPS readout automatically resets to "00" value.

Tournament Lock

- > Power marker on.
- > Press and release tournament lock button.
- > Current setting will appear for 1 full second and then return to home screen.
- > Each press of the tournament lock button will toggle from "Lock on" to "Lock off" displaying

Eye Indicator

- > Eye indicator upper 50% lights when top eye sensor detects a presence.
- > Eye indicator lower 50% lights when bottom eye sensor detects a presence.
- > The eye indicator will continuously flash "X" if any sensor, or communication pathway, throughout the entire eye system is obstructed or fowled for any reason.
- > Once our program detects the eye system is fowled, the program will immediately default the maximum ROF (rate of fire) to 11 BPS. This slower BPS rate will help minimize paintball breakage due to improper staging.
- > The eye indicator will continue to flash until eye obstruction or lack of communication has been resolved in full.

Frequently Asked Questions (FAQ)

- Q:** *My VCOM is very bouncy and I can't do anything! I've topped out the debounce and AMB what else should I do?*

A: Make sure the trigger spring is installed. Back out the trigger activation set screw ½ turn.
- Q:** *Where can I get additional o-ring kits?*

A: HKARMY.COM and authorized dealers can supply kits.
- Q:** *What is the recommended dwell setting?*

A: Dwell should be at 7.0-9.5 when you get the marker and after you use it. There's no advantage to running a higher dwell to "break it in". There are exactly zero heavy springs in the In Line Reg or LPR that need broken in.
- Q:** *What pressure should my LPR and HPR be set to with the tester?*

A: 180 PSI on the HPR. 80 PSI on the LPR.
- Q:** *I am seeing large velocity fluctuations - what should I do?*

A: Check for a good paint to barrel match. Ensure the HPR shim stack is assembled correctly and that your engine, LPR, and HPR are lubed with Dow 55.
- Q:** *I lowered my bolt delay and now the eyes keep reading it as a eye malfunction and lowered my bps to 12. What should I do?*

A: The bolt delay is too low at 8ms, the eyes are activating too early while the bolt is still cycling backwards to prepare itself for the next paintball to drop. The eyes activate, see your bolt, and never register a change from the bolt to the ball coming in place. Raising the setting to 10 will normally clear this problem.
- Q:** *So what is this bolt delay setting?*

A: Bolt delay is actually an eye activation setting and not a bolt setting. Essentially you need a delay added in so the eyes don't turn on as the bolt is on its backward travel. If they turn on too soon, the marker thinks the bolt is a ball and will queue up the next shot. This causes skipped shots and often chops. Keep it at 10 (or higher)...because your board isn't seeing a gap between when the bolt cycles and the ball drops and thinks the eyes are malfunctioning.
- Q:** *How much grease should I put on the bolt?*

A: Just a drop on each o-ring. Put a drop on, then use your finger to put it around the entire ring. Too much grease can cause bolt movement problems or result on oil splattering on the eye system zinextreme zacases.
- Q:** *What threading is the barrel?*

A: Autococker
- Q:** *Is the Stock trigger a roller bearing?*

A: Yep
- Q:** *My feedneck isn't tightly clamping my loader- what should I do?*

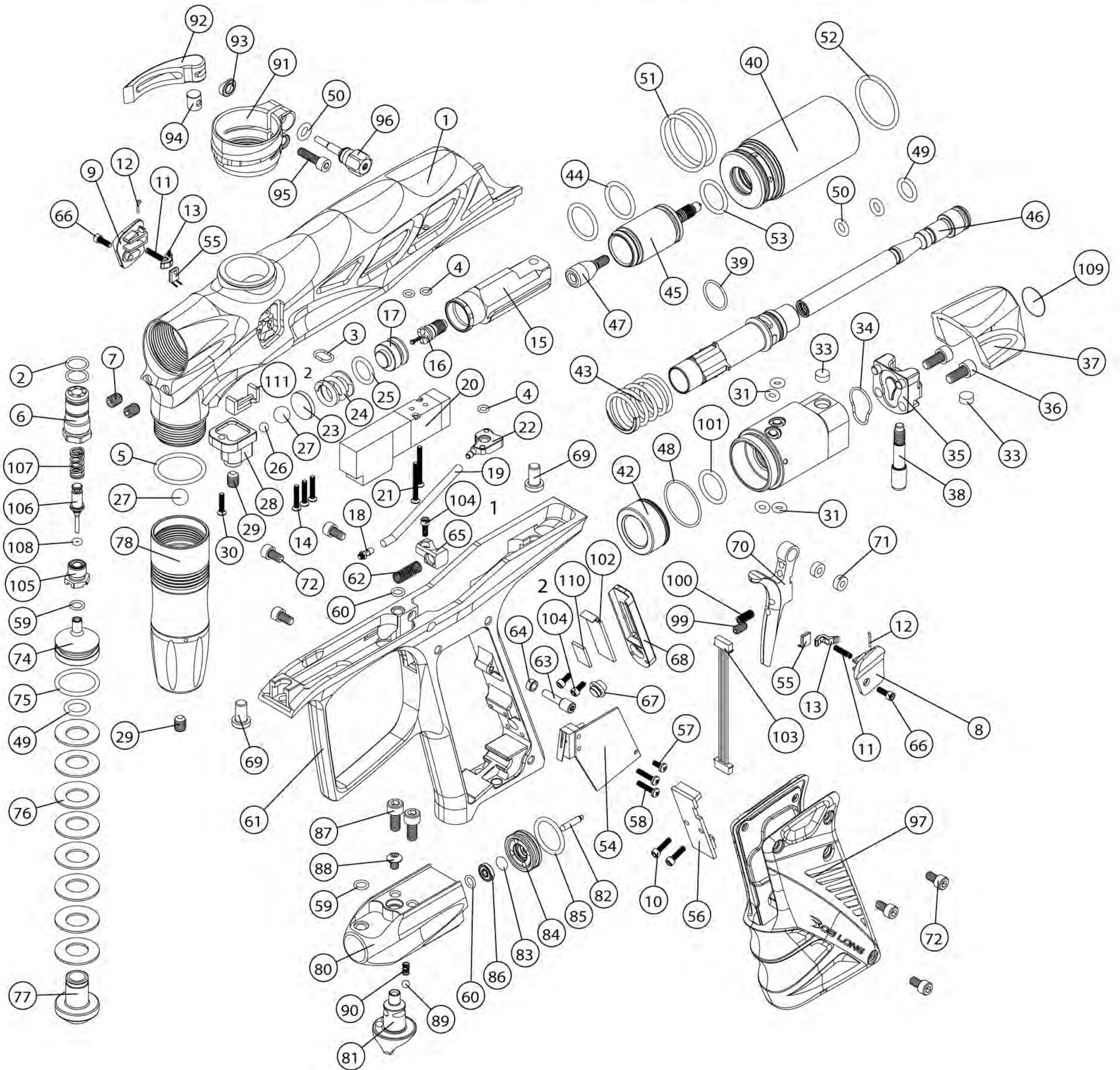
A: Use a hex wrench to tighten the adjustment screw.

Trouble Shooting

Marker will not turn on out of the box	<ul style="list-style-type: none"> -Ensure that the battery that you're using in your new marker is a high quality alkaline 9 volt. -Verify that your battery is correctly oriented (matching with the correct terminals), and that it is making firm contact with the prongs on the circuit board. -Make sure that the wiring harness is correctly inserted into the receptacle, and that the on/off pad is making contact with the switch on the circuit board.
Velocity is inconsistent over the chronograph	<ul style="list-style-type: none"> -Always check that your paintballs are of high quality, and consistent in size, as well as using a good paint to bore match. -Make sure the LPR and the HPR are set to the proper pressures. -If this does not correct your issue, verify that your HPR and LPR are lubricated and that their seals are in good condition. -Replace your battery. -Inspect the engine internal o-rings for nicks or debris and ensure they are properly lubricated
Marker is breaking paint	<ul style="list-style-type: none"> - Always check that your paintballs are of high quality, and consistent in size, as well as using a good paint to bore match. -Make sure the LPR and the HPR are set to the proper pressures. -Ensure that your detents and bolt face are in good condition, and there is no debris in the breech of the marker. -Reset your board settings to factory settings and use a force-fed loader. -Check the tension/pressure settings if you are using a force fed loader. Having too high of a feed pressure with fragile paint can cause balls in the stack to break
Marker does not gas up after tank is connected	<ul style="list-style-type: none"> -Verify that the pin valve on your tank is outputting pressure to the regulator—some tanks will not work properly with certain ASAs. -Attempt gassing up the marker with another tank to see if this remedies the issue.
Marker does not display correct LED indicator color when turned on	<ul style="list-style-type: none"> -Verify that your battery is correctly oriented (matching with the correct terminals), and that it is making firm contact with the prongs on the circuit board. -Verify that the breech of the maker is clear of obstructions, the bolt is in the back position, and that the eyes are clean and plugged into the harness.
Marker is leaking from the ASA	<ul style="list-style-type: none"> -Check the tank o-ring (015 Urethane D90) for nicks or tears. -Check that the ASA is securely connected to the grip frame.
Marker is leaking from the HPR	<ul style="list-style-type: none"> -Replace the piston o-ring inside the regulator.
Air is leaking from the front of the marker frame	<ul style="list-style-type: none"> -Verify that the grip frame screws at the front and back of the marker are tightened.
Marker fires more than one shot per pull, or has trigger bounce	<ul style="list-style-type: none"> -Raise your marker's debounce level, and make sure that your trigger activation level is not too short. -Verify that your trigger has the spring installed and that it is properly functioning. -Verify that your marker is in semi-automatic mode. -Increase the HPR pressure slightly or lower the LPR slightly



Exploded View





PART #	DESCRIPTION	Qty
	BODY ASSEMBLY	1
#01	Body	1
#02	Oring 8*1mm/BUNA 70D/Black	2
#03	Oring 6.5*1mm/BUNA70D/Black	1
#04	Oring 3*1mm/BUNA70D/Black	2
#05	Oring 18.77*1.78mm/BUNA70D/Black	1
#06	Reg top	1
#07	10-32*1/4 set screw	2
#59	Oring 4.5*1mm/BUNA 70D	1
#105	LPR Retainer	1
#106	LPR PLUNGER	1
#107	LPR MAIN SPRING	1
#108	Oring 1.42*1.53mm/BUNA 70D	1
	BACK CAP ASSEMBLY	1
#37	Back cap	1
#33	φ6x2.6mm magnet	1
#38	Back cap screw	1
	Jewel	1
	BOARD ASSEMBLY	1
#54	Main board	1
#55	Sensor wire	1
#56	OLED board	1
#102	OLED screen	1
#103	OLED wire	1
#57	M2-P0.4*4mm screw	1
#58	M2-P0.4*10mm screw	2
	ASA ASSEMBLY	1
#80	ASA	1
#81	Lever ASA on/off	1
#82	Pin ASA	1



PART #	DESCRIPTION	Qty
#83	Oring AS-005 2.57*1.78mm/BUNA 70D	1
#84	Plug ASA	1
#86	Insert ASA	1
#60	Oring 4*1mm/BUNA 70D/Black	1
#89	1/8 bearing ball	1
#90	ASA Spring	1
#87	8-32*3/8 set screw	2
#88	6-32*3/16 set screw	1
#85	Oring AS-015 14*1.78mm/BUNA 70D	1
	FRAME ASSEMBLY	
	FRAME ASSEMBLY	1
#59	Oring 4.5*1mm/BUNA70D/Black	1
#60	Oring 4.1mm/BUNA 70D/Black	1
#61	Frame	1
#62	Trigger spring	1
#63	Trigger screw	1
#64	Trigger shoe	1
#65	frame cover	1
#67	ON/OFF button	1
#68	OLED Screen cover	1
#70	Trigger	1
#71	Bearing ball	2
#97	Grip frame	1
#66	2-56*1/4 set screw	1
#104	2-56*3/16 set screw	2
#69	10-32*9mm screw	2
#72	6-32*1/4 screw	6
#99	6-32*1/4 screw	1
#100	6-32*5/16 screw	1
#10	2-56*5/16 screw	2
	9V Battery	1
	CHAMBER ASSEMBLY	
	CHAMBER ASSEMBLY	1
#31	Oring 2.9*1.78mm/BUNA 70D/Black	4



PART #	DESCRIPTION	Qty
#32	Chamber	1
#33	φ6x2.6mm magnet	1
#34	Oring 14*1mm/BUNA 70D	1
#35	chamber cap	1
#36	8-32*3/8 screw	2
#101	Oring 10.82*1.78mm/BUNA 70D/Black	1
	BOLT ASSEMBLY	1
#39	Oring 12*1mm/BUNA 70D/Black	1
#40	Bolt thumb	1
#41	Bolt retainer	1
#42	back cap ring	1
#43	Bolt spring	1
#45	Bolt	1
#46	Bolt back	1
#47	Bolt seat	1
#48	Oring 20*1mm/BUNA/Black	1
#49	Oring AS-011 7.68*1.78mm/BUNA 70D/Black	1
#50	Oring AS-008 4.47*1.78mm/BUNA 70D/Black	2
#51	Oring AS-021 23.52*1.78mm/BUNA 70D/Black	2
#52	Oring AS-020 21.95*1.78mm/BUNA 70D/ Black	1
#53	Oring AS-014 12.42*1.78mm/BUNA 70D/Black	1
#44	Oring AS-015 14.*1.78mm/BUNA 70D/Black	2
	FEEDNECK ASSY	1
#91	Feedneck	1
#92	Feedneck lever	1
#50	Oring AS-008 4.47*1.78mm/BUNA 70D/ Black	1
#93	Feedneck cap	1
#94	Feedneck bushing	1
#96	Feedneck screw	1
#95	screw 6-32*1/2	1
	DETECT ASSEMBLY	1



PART #	DESCRIPTION	Qty
#08	Detent LH cover	1
#09	Detent RH cover	1
#12	detent pin	2
#13	ball detent	2
#11	detent spring	2
#66	2.56*1/4 screw	2
	REG ASSEMBLY	1
#74	Piston REG	1
#76	spring washer	8
#77	spring reg seat	1
#78	REG	1
#29	10-32/1/4 screw	1
#75	Oring AS-016 15.6*1.78mm/BUNA 70D/Black	1
#49	Oring AS-0117.65*1.78mm/BUNA70D/Black	1
#27	φ7mm bearing ball	1
	SOLENOID ASSEMBLY	1
#15	Solenoid body front	1
#17	solenoid pin	1
#16	solenoid busing	1
#18	solenoid head	1
#19	PE tube OD-1/8"ID*1/16"*50mm	1
#20	solenoid	1
#22	solenoid back	1
#04	Oring 3/1mm/BUNA 70D/Black	1
#23	solenoid plate	1
#24	solenoid spring	1
#25	Oring AS-012 9.25*1.78mm/BUNA70D/Black	1
#26	φ4mm bearing ball	1
#27	φ7mm bearing ball	1
#28	VCOM solenoid cap	1
#14	screw M2*12mm	3
#21	screw M2*120mm	2
#29	10-32*1/4 screw	1
#30	M2.5*10mm screw	1
#98	front grip sleeve	1