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M8 OWNER'S MANUAL

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INCLUDED WITH YOUR M8

- M8 Marker
- Allen tool set including 1/16", 5/64", 3/32", 1/8", 5/32", 3/16" and 1/4"
- 1/4 oz. Slick Lube™
- Parts Kit
- Barrel Sock
- Owner's Manual
- Warranty Card

ADDITIONAL RECOMMENDED TOOLS

- 5/16" Allen wrench
- Canned Air

TABLE OF CONTENTS

WARNING

IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES

- The M8 marker is not a toy. Misuse may cause serious injury or death.
- Please read, understand and follow the directions in the M8 owner's manual.
- Eye protection that is designed specifically for paintball and meets ASTM/CE standards must be worn by user and persons within range.
- Recommend 18 years or older to purchase. Person under 18 must have adult supervision.
- Always treat the M8 marker as if it were loaded and able to fire.
- Only use compressed air or nitrogen gas in the M8 marker. DO NOT USE CO_2.
- Do not exceed 850 psi input pressure.
- Ensure all air lines and fittings are tightened and secured before gassing up the M8.
- Always chronograph the M8 marker before playing paintball.
- Never shoot the M8 marker at velocities in excess of 300 feet per second, or at velocities greater than local or national laws allow.

WARNING

IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES

- Never look into the barrel or breech area of the M8 when the marker is switched on and able to fire.
- Always fit a barrel blocking device to your M8 when not in use on the field of play.
- The owner's manual should always accompany the product for reference or in the event of resale and new ownership.
- Do not point the M8 marker at anything that you do not intend to shoot.
- Do not shoot at people, animals, houses, cars or anything not related to the sport of paintball.
- Do not fire the M8 without the Fuse™ bolt screwed in completely.
- If you read these instructions and do not fully understand them or are unsure of your ability to make necessary adjustments properly, call DYE or your local pro shop for help.

QUICK REFERENCE
USING YOUR MARKER

AIR SUPPLY

The M8 should be operated using air/nitrogen gas only. This air needs to be supplied to the Hyper3™ in-line regulator at a regulated pressure of no more than 850 psi. The Hyper3™ in-line regulator comes factory preset at 185psi.

GASSING UP YOUR M8

Screw in your air system to the ON/OFF airport and turn the knob of the airport clockwise, all the way in.

TURNING ON YOUR M8

The M8's power is controlled by two buttons. The top button turns the marker on and off, while the bottom button turns the eyes on and off. Hold the power button for 3 seconds to turn the marker on. The LED in the grip will illuminate during the boot sequence.

NOTE: If the eye is not working properly, try replacing the battery.

Blue:	-	Boot sequence
Red:	-	Breech is clear, no ball (eyes on)
Green:	-	Ball in breech, ready to fire (eyes on)
Blinking Red:	-	Eyes are off
Blinking Green:	-	Eye failure (see page 26)
Blinking Blue:	-	Indicates a low battery, battery should be changed as soon as possible

LPR

The LPR is pre-set from the factory at approximately 75-80 psi and should need no adjustment out of the box. If fine tuning adjustment is desired or needed, you must be sure that you are adjusting the LPR correctly. See page 20 for detailed instructions. If the LPR is improperly adjusted, you could dramatically hinder the M8's performance or prevent the marker from functioning at all.

QUICK REFERENCE
USING YOUR MARKER

NOTE: Turning the adjustment screw clockwise, or in, will lower the LPR's output ressure. Turning the adjustment screw counterclockwise, or out, will raise the LPR's output pressure.

HOPPER

To get the best performance out of your M8, it is recommended that you use a motorized loader. Preferably one that force feeds the paint really, really fast!

ADJUSTING VELOCITY

The velocity is adjusted through the Hyper3™ in-line regulator. The Hyper3™ in-line is preset from the factory at approximately 185 psi. This pressure setting should have the marker shooting at about 285fps. Your paint-to-barrel fit will also have a noticeable affect on your velocity. Make sure that the paintball fits into the barrel loosely but does not drop through.

NOTE: For the Hyper3™, turning the adjustment screw clockwise, or in, will lower the output pressure, decreasing the velocity. Turning the adjustment screw counterclockwise, or out, will raise the output pressure, increasing the velocity.

NOTE: If the battery is too low, it may not be able to power the solenoid correctly. This will affect your M8's velocity, causing it to become inconsistent and/or low.

FIGURE 1

TURNING THE M8 ON AND OFF

To turn on the M8, press and hold the power button (see figure 1) until the LED's turn blue. The blue light indicates board bootup. After the bootup sequence, the LED's will turn either RED (no ball) or GREEN (ball ready to fire). To turn the M8 off, press and hold the power button until the LED's turn off.

NOTE: The M8 automatically switches off after 10 minutes of non-use.

FIRING THE M8

As soon as the marker is turned on and the LED's turn from blue to either red or green, the M8 is ready to fire. If there is no ball and the LED's are RED, you need to hold the trigger for 1 second to force the M8 to fire once. If there is a paintball inside the breech and the LED is green, just press the trigger to fire the marker.

LED LIGHT INDICATOR

The M8 uses two super bright LED's mounted on the circuit board inside the grip frame. These two lights are used to provide information to the user about the M8. They will always show the same information and it does not matter which LED you look at. One is mounted behind the M8 logo on the left side of the grip panels. The other one can be seen by looking at the top left side of the grip frame while holding the M8 in the position you would while playing a game.

BLUE ***RED*** ***GREEN***

NOTE: The eye is always activated when you turn the marker on.

M8 BOARD
SETTINGS AND FUNCTIONS

When you turn on the marker in normal operation mode with the power button, the light colors mean the following:

Blue:	-	Boot sequence
Red:	-	Breech is clear, no ball detected inside the M8 (eye is on)
Green:	-	Ball in breech, ready to fire (eye on)
Blinking Red:	-	Eye is turned off
Blinking Green:	-	Eye failure, eye is blocked or dirty (see M8 Eye, page 26)
Blinking Blue:	-	Indicates a low battery; battery should be changed as soon as possible

When servicing your marker:
- Make sure a barrel sock is fitted to the M8.
- Make sure your hopper is removed from the M8.
- Make sure there are no paintballs in the breech of the M8.
- Always remove the first stage regulator and relieve all residual gas pressure from the M8 before disassembly.
- The M8 can hold a small residual charge of gas, typically 2 shots, with the first stage regulator removed. Always discharge the marker in a safe direction to relieve this residual gas pressure.

M8 BOARD
SETTINGS AND FUNCTIONS

FIGURE 1

BOARD SETTINGS AND CONFIGURATION MODE

There are five settings you can alter on the M8 board with the DIP switches inside the grip frame (see figure 1):

ABS	Anti Bolt Stick.
Trigger Sensitivity	This setting adjusts the delay between two trigger pulls.
Dwell	This is the time the solenoid is activated for.
ROF	Rate Of Fire when the eye is deactivated.
Firing Mode	This is the firing mode the M8 uses.

There are two DIP switches mounted on the board of the M8 (See figure 1). The first one is used for the ABS setting and the second one is used to access a configuration mode which changes the other four settings.

Anti Bolt Stick - When ABS is activated, the dwell is increased after 15 seconds of non-use for the next shot fired. This helps to prevent bolt-stick, but may result in higher velocity for the first shot.

ABS ON (DEFAULT)

ABS OFF

- The M8 is not water resistant. Excess moisture can cause damage to electronic parts.
- Keep the board and all electrical components clean of dirt, paint and moisture.
- To clean the board, use canned air. If a more aggressive cleaning method is needed, lightly scrub the components with a soft, dry brush. Heavy scrubbing will damage the board.

M8 BOARD
SETTINGS AND FUNCTIONS

Configuration Mode - The following settings can only be modified in configuration mode. To activate the configuration mode, turn your marker off and set DIP switch 2 to the ON position. Next, turn your marker on. The LED's cycle through all colors for one second to indicate that you have entered the configuration mode.

NORMAL MODE

CONFIGURATION MODE

To cycle through different settings, pull and release the trigger. Configuration mode has 4 settings that can be changed.

Green - Trigger Sensitivity Values 1 - 20 (factory default 5)
Trigger sensitivity is the amount of time that the trigger has to be released before the next trigger pull is allowed. In some situations with too low of a value, the M8 can register more trigger pulls than what was actually pulled. This can cause the M8 to shoot full auto, even in semi-automatic mode. To fix this, adjust trigger sensitivity setting higher.

Red - Dwell Values 1 - 30 (factory default 18)
Dwell is the amount of time that the solenoid will be activated. Follow these steps for the best way to set your dwell:

- Remove loader and any paintballs from the M8 marker.
- With the dwell set at 10, start increasing the value until the marker begins to fire.
- When you reach the setting where the marker begins to fire, get some paint and a loader and go to a chronograph.
- Increase the dwell until you see no increase in the velocity. This is the optimal dwell setting to be used.

M8 BOARD
SETTINGS AND FUNCTIONS

Blue - Rate Of Fire (ROF)

Values 1 - 20 (factory default 20bps)
The ROF setting is used to set the maximum rate of fire of the M8. The values do not correspond directly to a certain Balls Per Second (BPS) value. You will need to use the table below to locate your desired maximum ROF setting.
The factory setting is 20 (30bps).

1	10 BPS	**8**	14.9 BPS	**15**	20 BPS
2	11 BPS	**9**	15.2 BPS	**16**	22 BPS
3	12 BPS	**10**	15.4 BPS	**17**	24 BPS
4	13 BPS	**11**	15.6 BPS	**18**	26 BPS
5	14 BPS	**12**	15.9 BPS	**19**	28 BPS
6	14.5 BPS	**13**	16 BPS	**20**	30 BPS
7	14.7 BPS	**14**	18 BPS		

Yellow - Firing Mode

Values 1 - 4 (default 1)
This setting changes the firing mode of the M8. Default is semiautomatic. In the semiautomatic mode, one trigger pull shoots out one paintball. The PSP/NPPL mode and the Millennium mode follow the rules of the paintball tournament series.

Value 1 - NPPL/Semi-automatic Mode
Value 2 - PSP Mode
Value 3 - Millennium Mode
Value 4 - NXL

NOTE: You cannot turn your marker off with the power button when the marker is in configuration mode. You must first set DIP switch 2 to the OFF position.

M8 BOARD
BATTERY

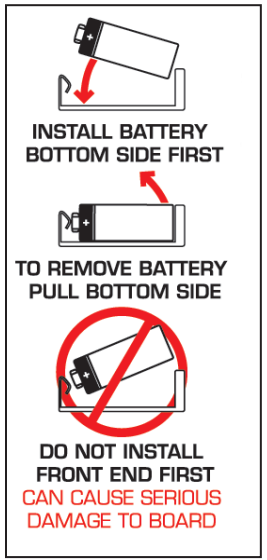
TO CHANGE A VALUE OF A SETTING

1. While in the configuration mode, choose the color you wish to change by pulling the trigger.
2. When the LED indicates the color you wish to change, pull and hold the trigger until the LED starts to flash.
3. The LED will flash as many times as the previous setting was and it will then turn off. Now pull the trigger as many times as you wish the new setting to be.
4. When done, the LED will cycle through all the colors again to indicate setting was saved and turn back to green. You can now change another setting or quit the configuration mode.
5. To exit configuration mode, set DIP 2 to the OFF position.

BATTERY

Standard 9V batteries will last for about 40,000 shots. Please be aware that there are substantial differences in performance between different brands of batteries. Use of high quality alkaline or lithium ion batteries is recommended for maximum battery life. If you plan not to use your marker for a long period of time (a month), it is recommended that you remove the battery from the marker.
An intermittent blinking blue light indicates a low battery. A low battery can cause malfunctions to the marker. In this case, the battery should be changed as soon as possible. When the battery voltage starts to go too low, you will notice a decrease in your velocity and the board can turn off. For tournament use, it is recommended to change the battery for each tournament. When changing your battery, take special care to ensure the wiring harness is not pinched under the battery.

M8 BOARD
BATTERY



CHANGING THE BATTERY

The battery is housed on the right side of the grip frame. To access the battery, remove the three screws holding the right side grip panel down. Use a 3/32" Allen wrench. Carefully lift the battery out of the frame. When inserting a new battery notice the + and - marks on the board. The positive lead of the 9V battery goes to the left and the negative lead to the right. Inserting the battery backwards does not damage the board but it will not function.

NOTE: If the marker will not function with the eye on, there is a good chance the battery needs to be changed.

- A low battery will not be able to power both the ACE eye and the trigger switch, causing ACE eye failure.
- If the battery is low, it may not be able to power the solenoid correctly. This will affect the M8's velocity, causing it to become inconsistent and/or low.

ON/OFF AIRPORT

ON/OFF AIRPORT

The M8 comes equipped with an On/Off Airport attached to the bottom of the frame. To turn on the gas supply, twist the ON/OFF knob clockwise, all the way in. To turn off the gas supply, twist the ON/OFF knob counterclockwise, all the way out. As you turn the knob out, the residual gas between the Hyper3™ and the ON/OFF airport is vented.

TRIGGER ADJUSTMENT

ADJUSTING YOUR TRIGGER

The trigger's forward travel, over travel and spring tension are fully adjustable so that the user can fine-tune the trigger to his or her exact liking. You do not need to remove the frame from the gun in order to adjust the trigger pull.

• There are two adjustment screws located on the right side of the Ultralite frame and one adjustment screw behind the trigger. The two screws on the side of the frame adjust the travel of the trigger.

The one located behind the trigger is used to change the tension of the trigger spring.

TO ADJUST TRIGGER TRAVEL

• The screw toward the front of the trigger controls the forward travel. Screwing it in will shorten the trigger's length of pull.

• Use a 5/64" Allen wrench to make the desired adjustments.

NOTE: If this screw is adjusted too far, the switch will be held down at all times and the marker will not fire.

• The screw toward the rear of the trigger controls the over travel. By turning this screw you can adjust how far the trigger will travel after it reaches the firing point.

NOTE: If this screw is adjusted too far, the trigger will not be allowed to travel far enough to depress the switch and fire the marker.

TO ADJUST SPRING TENSION

• Use a 5/64" Allen wrench to make the desired adjustment. The adjustment is made by pushing the Allen key through a hole in the trigger.

• To make the trigger pull stiffer, turn the Allen key clockwise or in.

• To make the trigger pull lighter, turn the Allen key counterclockwise or out.

INTEGRATED LOCKING DOVETAIL FEATURE

The UltraLite frame comes equipped with an integrated locking dovetail. There is a locking screw located on the bottom right side of the UltraLite frame. It can be accessed with a 1/8" Allen key through a hole in the grip panel. To unlock a part attached to the dovetail of the frame, turn the locking screw counterclockwise one full turn and slide part off the rail. To attach a part to the rail, slide the part on and turn the locking screw clockwise until part is firmly locked in place.

REMOVING ULTRALITE FRAME FROM THE M8

If there is ever need to remove the Ultralite frame from the M8 make sure to follow these steps.

• Remove three grip panel screws with a 3/32" Allen wrench from the right side of UltraLite frame.

• Disconnect the solenoid wire and the eye wire from their sockets by gently pulling them out.

• Using a 3/32" Allen key, turn the front frame screw counterclockwise one full turn.

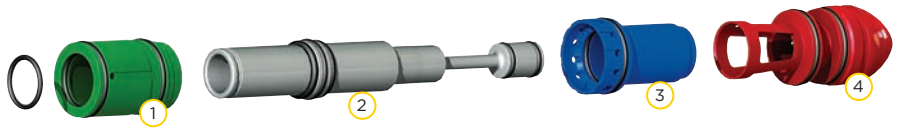
• Finally, turn out the back frame screw and slide the frame back and down until it comes off the M8.

To connect the frame follow above steps in reverse order.

NOTE: Be sure that the frame and trigger assembly are kept clean. If there is excess dirt or paint build up around the trigger, the trigger will no longer move freely. In addition, paint and dirt can cause the microswitch to not function properly or fail. Be sure you do not pinch the wires between the frame and the body when reattaching the frame and body.

- Be sure the trigger is not adjusted to the point where it is too sensitive and may cause accidental discharge of the marker.
- Removing the trigger spring will cause premature wear on the microswitch, resulting in failure.
- **Be sure you do not pinch the wires between the frame and body when reattaching the frame to the body.**

FUSE™ BOLT
ASSEMBLY AND MAINTENANCE



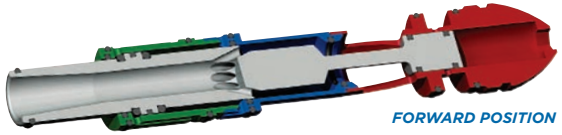
FUSE™ BOLT OPERATION

To achieve top performance from your M8, it is important to understand the basic operation of the M8's patented FUSE™ bolt system.

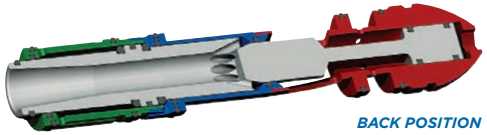
This design consists of three sleeves threaded together
to capture the only moving part of the system, the bolt.

The FUSE™ Bolt has four components:

1 Cylinder
2 Bolt
3 Top Hat
4 Rear Cap



FORWARD POSITION



BACK POSITION

Air is supplied to the bolt at two points. A high-pressure supply of air is routed to the back of the bolt into the supply chamber. This air source is responsible for propelling the ball. Low-pressure air is supplied from the LPR to the solenoid. From the solenoid, the air is routed through two small holes to the section of the bolt referred to as the cylinder.

When the M8 is aired up, air is transferred by the solenoid to the front of the cylinder. This air pushes against the bolt sail and the bolt is held in the back position.

FUSE™ BOLT
ASSEMBLY AND MAINTENANCE

When the bolt is held back, the 014 O-ring in the top hat seals around the bolt and contains the air in the supply chamber. When the marker is fired, the microswitch is pressed, telling the solenoid to switch the flow of air from the front of the cylinder to the rear of the cylinder. Air that enters the rear of the cylinder will push on the bolt sail, moving the bolt forward. The air in the front of the cylinder is vented.

As the bolt moves forward, the tapered stem passes through the top hat. Once the bolt stem can no longer seal against the 014 O-ring, the air contained in the supply chamber is released. The air passes through the venturi ports in the bolt and out the front of the bolt to propel the ball. When the bolt is in the forward position, the inside bolt stem O-ring prevents the flow of air from continuously flowing through the marker when the bolt is forward. This helps the marker shoot much more efficiently.

NOTE: LOW OR ERRATIC VELOCITY MAY BE DUE TO A LOW BATTERY NOT SUPPLYING AMPLE ELECTRICAL CURRENT TO THE SOLENOID. IN THIS CASE, CHANGE THE BATTERY.

When servicing your marker:
- Make sure your hopper is removed from the M8.
- Make sure there are no paintballs in the breech of the M8.
- Always remove the air supply and relieve all gas pressure in the M8 before disassembly.
- When using the marker in temperatures below 50° Fahrenheit it may be necessary to lube the FUSE™ bolt more frequently.

FUSE™ BOLT
ASSEMBLY AND MAINTENANCE

BOLT MAINTENANCE

Regular M8 Fuse™ bolt maintenance is vital to the performance of the M8.
If the Fuse™ bolt is not kept well-greased and the O-rings in good shape, the performance of the M8 will be greatly hindered.

To remove the bolt, you will need a 1/4" Allen wrench. Unscrew the bolt from the rear of the marker. It only takes one and one half revolutions to unscrew the bolt so that it can be pulled out. After the bolt has been cleaned and greased and is ready to be inserted into the body, be sure all bolt sleeve components are screwed together snugly. Slowly push the bolt into the body. Take care not to cut or nick the O-rings as they pass the threads.

GREASE THE M8 FUSE™ BOLT EVERY 10-15 THOUSAND SHOTS.

BEFORE INSTALLING THE BOLT INTO THE MARKER, BE SURE ALL BOLT SLEEVE COMPONENTS ARE SCREWED TOGETHER SNUGLY.

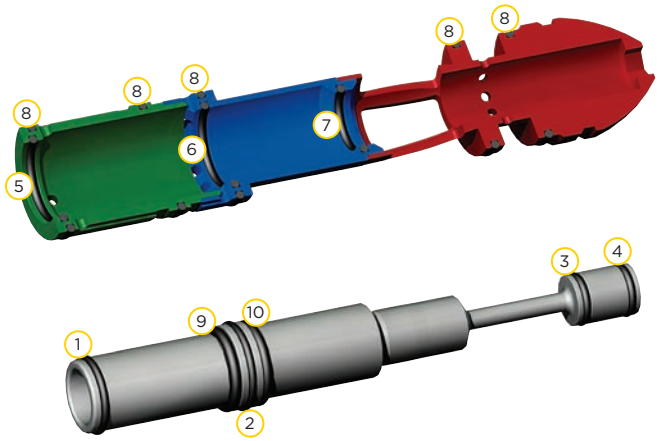
If you do not grease the bolt, you will run the risk of damaging O-rings. This will create excessive friction and drag on the bolt, ultimately resulting in breaking the bolt. When greasing the M8 Fuse™ bolt, pay special attention to all O-rings that are on the bolt and that ride on a surface of the bolt. The first seven O-rings listed on the following page should be generously greased during maintenance.

FUSE™ BOLT
ASSEMBLY AND MAINTENANCE

FUSE™ BOLT O-RING LIST

1 Bolt tip (014 BN70)
2 Bolt sail (015 BN70)
3 Inside bolt stem (011 BN70)
4 Rear bolt stem (011 BN70)
5 Front wall internal (017 UR70)
6 Top hat (017 UR70)
7 Top hat (014 BN70)
8 Outer sleeve (020 BN70)
9 Front bumper (111 BN70)
10 Rear bumper (111 BN70)

NOTE: All remaining O-rings should have a thin coating of grease as well.



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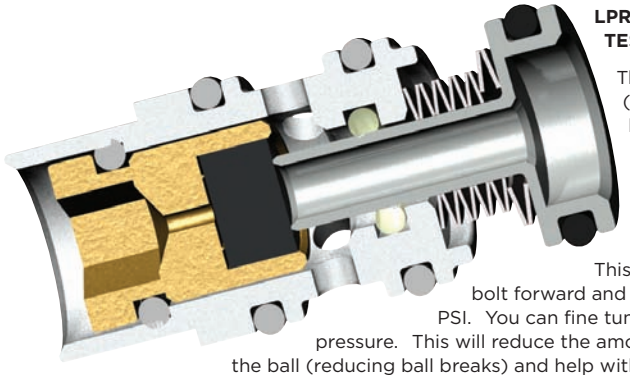
LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE



LPR ASSEMBLY, CLEANING, TESTING AND CHANGING SEALS

The Low-Pressure Regulator (LPR) is located under the frame between the Hyper3™ and Trigger Guard (see page 23). The function of the LPR is to lower the air pressure supplied to the marker by the in-line before it reaches the solenoid. This pressure is used to move the bolt forward and back. The factory setting is 75 PSI. You can fine tune your M8 to its minimum cycle pressure. This will reduce the amount of force of the bolt hitting the ball (reducing ball breaks) and help with efficiency. Too low of pressure will cause the bolt to not cycle, move sluggishly or not at all. If you experience dramatic shoot down during rapid fire, the LPR may be adjusted too low. Too high of pressure will cause the marker not to shoot as smoothly, potentially increase ball breakage and cause undue wear and fatigue on the bolt components.

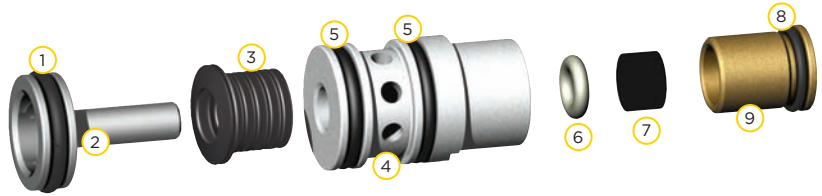
It is important to keep the seat and piston face clean of all dirt and debris. Clean the seat and piston face and grease the retainer O-ring every six months or 60,000 shots.

The LPR has five components and six seals
1 Piston large O-ring (012 BN70) 6 Piston small O-ring (007 UR90)

LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE

2 Piston
3 Shim stack
4 Body
5 Body O-rings (2 pcs, 012 BN70)
7 Main seal (mounted in the seal retainer)
8 Seal retainer O-ring (010 BN70)
9 Seal retainer (functions as an adjustment screw also)

The only user-serviceable part in the LPR is the seal retainer. This seal needs to be changed in the unlikely case the LPR is creeping up.



When servicing your marker:
- Make sure your hopper is removed from the M8.
- Make sure there are no paintballs in the breech of the M8.
- Always remove the air supply and relieve all gas pressure in the M8 before disassembly.
- It is not recommended for the user to remove the LPR from the body and disassemble it.

LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE

CHANGING THE SEAL RETAINER

1 Take frame off the marker.
2 Screw out LPR seal assembly (brass) using a 3/16" Allen wrench.
3 Screw in new LPR seal assembly.
4 Replace frame.

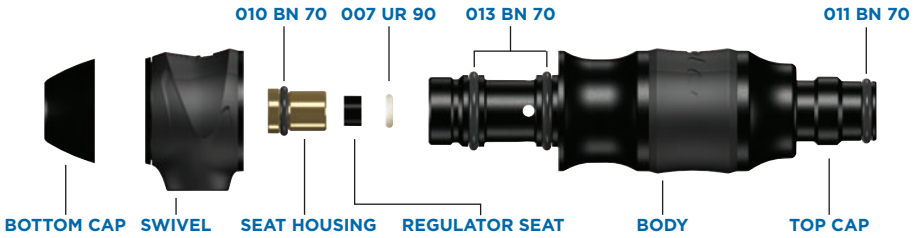
If the user needs to replace the whole LPR assembly, follow these instructions:

1 Take frame off the marker.
2 Screw out LPR set screw using a 5/64" Allen wrench.
3 Pull out the LPR.
4 Put everything back in reverse order. Be sure to grease the #013 O-rings, so as to prevent cutting them upon installation.
5 Tighten LPR retaing screw securely.

LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE

The LPR pressure can be set quite accurately even without an LPR test tool. Screwing the adjustment screw (seal retainer) all the way in will set the LPR pressure to approximately 25 psi. Now turning out the adjusting screw 180 degrees will increase the pressure by approximately 5 psi. For example, turning the screw 5 complete turns out will set the pressure to approximately 75 psi. Use a 3/16" Allen wrench to make all adjustments to the LPR. Turning the adjustment screw clockwise, or in, will lower the LPR's output pressure. Turning the adjustment screw counterclockwise, or out, will raise the LPR's output pressure.

HYPER3™ IN-LINE REGULATOR
ADJUSTMENTS AND MAINTENANCE



USAGE

Carefully connect your air hose from your bottle or air system to the Hyper3™ In-Line. The Hyper3™ In-Line is set by the factory to approximately 185psi. This pressure should give you a velocity of approximately 285fps.

ADJUSTMENTS

The output pressure of the Hyper3™ In-Line is adjusted by turning the brass seat housing. The seat housing screw is located up inside the bottom of the reg. A 3/16" Allen wrench will be needed for this operation. By turning the housing counterclockwise, you will increase the output pressure of the regulator to the marker. By turning the housing clockwise, you will decrease the output pressure of the regulator.

After each adjustment of the output pressure of the Hyper3™ In-Line, you will need to cycle your marker a few times. This will allow your marker and air system to stabilize at their new operating pressure. The Hyper3™ will need a break-in period of about 2,500 shots to let its seat form to the piston and reach its optimum performance.

HYPER3™ IN-LINE REGULATOR
ADJUSTMENTS AND MAINTENANCE

MAINTENANCE

To ensure top performance from the Hyper3™, maintenance should be performed every six months or sooner, depending on the severity of playing conditions. Cold, wet weather will shorten the effective life of the grease. Heavy dust or fine sand can infiltrate the Hyper3™ and prevent the piston from moving smoothly and/or cut the O-rings.

HYPER3™ REGULATOR DIS-ASSEMBLY INSTRUCTIONS

To disassemble the Hyper3™ regulator you will need a 3/16" Allen key and a 5/16" Allen key. Place the 3/16" Allen key inside the top cap and the 5/16" Allen key inside the bottom cap. Unscrew the bottom cap from the Hyper3™ body.

Next unscrew the Brass seat housing from the body with a 3/16" Allen key. Slide the swivel from the body.

To change the seat, pull out the old seat from the housing with a sharp object. Insert the new seat in place and push it down with a flat object. Notice that it takes about 2000 shots for the seat to perfectly sit into the seat housing. This is called the break in period for the regulator.

Remember to apply lube to the 010 and 013 O-rings in the regulator before re-assembly.

Further disassembly to service the top section of the Hyper3™ should be performed by a trained Tech.

- The Hyper3™ can hold a small residual charge of gas, typically 1 shot. Always discharge the marker in a safe direction to relieve this residual gas pressure.
- Always remove the regulator from the M8 before servicing.
- Excessive dirt and debris can affect the Hyper3™'s performance and increase the need for servicing.

ANTI CHOP EYES/ BALL DETENTS
MAINTENANCE AND CHANGING

ANTI CHOP EYES

The Anti Chop Eye (ACE) system will prevent the M8 from chopping paint by not allowing the marker to fire until a ball is fully seated in front of the bolt. The eyes use a beam across the breech. On one side there is a transmitter, and on the opposite side a receiver. In order for the marker to fire with the eyes turned on, the signal between the two eyes must be broken. After every shot, before the next ball drops in the breech, the eye transmitter and receiver must see each other. If there is a malfunction, the LED's on the board will start blinking green. This means that the receiver and the emitter do not see each other. If this is the case, there are normally two reasons, either there is dirt, paint or grease blocking the beam, or the battery is so low there is not enough power to create a strong enough beam.

NOTE: IF THE BATTERY IS LOW, THE MARKER MAY ACT AS IF THE EYES ARE DIRTY OR NOT FIRE AT ALL. IN THIS CASE, REPLACE THE BATTERY.

SELF CLEANING EYE FEATURE

The M8 is equipped with a self cleaning eye feature. There is a clear polycarbonate piece mounted inside the breech of the gun covering the eyes. When the bolt tip O-ring passes through the acrylic piece, it sweeps off any dirt, grease or paint that could be blocking the eyes. Normally it is enough to just fire the M8 to clean anything blocking the eyes. If this does not clear the blockage use a swab to clean the inside of the breech. For a more thorough cleaning, remove the eye covers, you will need a 1/16" Allen wrench. Simply insert the Allen wrench into the hole in the eye cover to access the retaining screw. As you back the screw out, the plate will be pushed up. Next pull out the eye receiver/emitter from the eye seal (avoid pulling the wires) remove the ball detents and finally pull the eye guard out the front of the breech. Avoid scratching eye guard. Use a soft rag and q-tips to clean off any built up paint or grease. When assembling the eye guard system, work backwards from disassemble. The Eye guard is keyed into the breech and can only go in one way. Make sure the Ball Detent holes are lined up.

ANTI CHOP EYES/ BALL DETENTS
MAINTENANCE AND CHANGING

CHANGING BALL DETENTS

The ball detent system is also located under the eye covers. The ball detent system needs little or no maintenance. There is a spring behind each detent, which holds the detent forward. This spring pressure should be easily overcome with very little force, such as a paintball moving past. If you are experiencing double feeding or chopping, check the condition of your ball detents with your finger to make sure they are not stuck in the up or down position and that they move in and out of the breech freely. If excessive broken paint or dirt has jammed your ball detents, remove the eye plates (being careful not to lose the detent springs) and pull the detents out for a thorough cleaning. Reinstall the detents, springs and eye covers after you have sufficiently cleaned the detents and breech.

NOTE: TAKE CARE WHEN REPLACING THE EYE COVERS. OVER-TIGHTENING THE RETAINING SCREW COULD RESULT IN STRIPPING THE THREADS.

TROUBLE SHOOTING GUIDE

AIR LEAKS

AIR LEAKING FROM THE AIRPORT

- Check the O-ring on the Air system. If needed change the O-ring and try again. The O-ring normally used is #15 but some manufacturers might use a different size. Consult the manual of the air system you are using.
- Check that the hose connector is tight. Remove the hose from the connector by pushing the gray plastic towards the connector and pull out hose. Insert a 3/16" Allen key into the connector and tighten. If needed remove and apply thread sealant to the thread and re-tighten. If unsure consult expert advice.
- Check that the end of the hose is cut straight and is not worn out. If needed cut a small piece off the hose with a razor blade and re-insert hose into the fitting. Make sure hose goes all the way to the end.

AIR LEAKING FROM THE HYPER3™ REGULATOR

- First locate the position of the leak.
- For dis-assembly instructions consult the technical section under Hyper3™ regulator.
- If the leak is coming from the bottom of the regulator you will need to dis-assemble the regulator and change the #010 O-ring and the seat on the brass seat retainer mounted inside the Hyper3™ regulator.
- If the leak is coming from the swivel piece where the hose connector mounts you will need to change the two #013 O-rings under the swivel piece or tighten the hose connector.
- If the leak comes from the small hole in the middle of the regulator there are two possible O-rings causing the problem. Change the #015 O-ring on the piston and the #007 urethane O-ring inside the body of the regulator.
- If the leak is from the top of the regulator, change the #011 O-ring on the outside of the cap.

AIR LEAKING FROM THE ASA

- Change the #011 O-ring on the top cap of the Hyper3™ and apply a small amount of lube to the O-ring.

AIR LEAKING BETWEEN BODY AND FRAME

- Leak between the body and the frame can be caused by a couple of things.
- First pull out the Bolt kit and change the #015 sail O-ring and the 2 #020 O-rings on the outside of the cylinder.
- If above doesn't help, remove the frame from the M8 and remove the solenoid by unscrewing the two screws mounting it down. Apply some lube to the seat underneath the solenoid and re-assemble making sure that the solenoid is well tightened into the body and that the eye wire is not pinched underneath the solenoid.
- Check to see if the LPR is leaking. You may need to replace the #010 O-ring on the brass reg adjuster, or replace the lower #012 O-ring on the LPR body. (See page #21).
- Last possibility is that one of the gas passages is leaking. Gas up the M8 without the frame attached and try to locate the exact point of leakage. If leak is coming from one of the blocked holes remove the screw, apply some thread sealant and re-attach screw to the body.

AIR LEAKING FROM BACK OF THE M8

- Check that the bolt kit is tightened all the way into the M8. If the bolt kit is loose, it will start to leak.
- If above does not solve the leak, remove the bolt kit and change the #020 O-ring on the back part of the bolt. Also change the two #011 O-rings located in the stem of the bolt. Lube well and re-insert the bolt kit into the M8. Check bolt kit break down picture on page 19 for O-ring locations.
- Last, check that the gas passage blocking screw located on the center of the M8 is not leaking. If the leak is coming from this hole, remove screw and apply thread sealant to it. Make sure to tighten screw well and wait for sealant to dry before re-gassing marker.

AIR LEAKING FROM FRONT OF THE M8

- Remove the Bolt kit from the marker and change the #017 O-ring located inside of the cylinder and the #014 O-ring located inside the tophat. Lube well and re-assemble.
- If above doesn't help try changing the #020 O-rings located outside of the cylinder. Lube well before re-inserting bolt kit.

PROBLEMS WITH ELECTRONICS

M8 WON'T TURN ON

- Make sure battery is new and well charged.
- Make sure there is no dirt or debris blocking the button from being pressed.

M8 WILL TURN ON / OFF BY ITSELF OR THE EYES WILL TURN ON / OFF BY THEMSELVES

- Both of these problems are caused because the button(s) are pressed all the time.
- Remove board from the frame by removing the grip panel on the left hand side, disconnecting the cables and pulling the board out. Carefully remove the two buttons and clean them well.
- Re-assemble and test. If problems persist, contact authorized service center for board replacement.

MARKER SHOOTING SLOW WHEN EYE IS ON AND BLINKING GREEN

- The eyes are not working correctly. Clean the eyes. You'll know that they are clean if the LED turns red when there is nothing inside the breech of the M8.
- Make sure the eye wires are not broken or pinched.
- The battery may be low. In this case, the battery should be changed as soon as possible.
- If nothing above helps contact a store or DYE Precision for eye replacement.

TROUBLE SHOOTING GUIDE

SOLENOID WILL NOT ACTIVATE / TRIGGER NOT WORKING

- Check that the trigger adjustment is not set so that the microswitch cannot activate. You should hear a small click when pulling the trigger.
- If the M8 fires once when turned on but not after that, your trigger is set so that the microswitch is always activated. Re-adjust the trigger.
- Change the battery if not positive about it's charge.
- Check that the solenoid cable is attached to the board and to the right connector (solenoid should be attached to the connector that is marked with the text "SOL").

TRIGGER BOUNCE / M8 SHOOTING MORE THAN ONE BALL PER PULL IN SEMI-AUTOMATIC MODE

- Raise the trigger sensitivity level in the configuration mode.
- Check that the trigger is not adjusted too short.
- Make sure there is a trigger spring inside the frame.

ERRATIC VELOCITY/M8 WON'T FIRE

M8 FIRES BUT BALLS ARE DROPPING OFF OR NOT EVEN COMING OUT OF THE BARREL

- Make sure the battery is good.
- Raise the dwell to factory level (18).
- Make sure bolt is well lubed and moves well. If there is too much friction in the bolt it will cause the M8 to shoot down.
- Make sure air system is screwed in all the way.

FIRST SHOT IS TOO HIGH

- Change the seat inside the Hyper3™ Regulator. For dis-assembly instructions consult the technical section.
- Check that the #014 O-ring on the inside of the top hat is in place and in good condition.
- Try turning off the ABS feature by turning DIP #1 to the OFF position.

VELOCITY IS NOT CONSISTENT

- Make sure the paintballs you are using fit the barrel good and are consistent in size. The stock barrel with the M8 is .690 size. You should be able to blow the paintball through the barrel but they should not roll through the barrel on their own.
- Remove the bolt kit and re-lube it. Change any O-rings causing a lot of friction. Make sure #014 O-ring in bolt tip is in place and in good condition.
- Raise the dwell.
- Change the battery.
- Check that the Hyper3™ regulator is working good and that the pressure is consistent. A separate regulator testing tool is available for this. If needed, dis-assemble and change worn out O-rings in the Hyper3™ regulator.
- Check that the LPR pressure is not set too low. See page 23 for instructions on how to set your LPR pressure.

OTHER CATEGORIES

DOUBLE FEEDING

- If more than one ball is feeding at a time into the breech of your M8, check to see if the ball detents are stuck behind the eye pipe. To make sure your ball detents and eye pipe are properly assembled see pages 26 and 27.
- Make sure the ball detents are not excessively worn.

BREAKING PAINT

- Make sure you use high quality paintballs and that they are stored according to the manufacturers instructions.
- Check that #14 O-ring on bolt tip is in place and in good condition.
- Make sure your loader is working good and that the rate of fire is not set higher than the maximum feed rate of the loader.
- Check that the barrel you are using is not too tight for the paintballs you are using.

NOTES:

M8 EXPLODED VIEW

PARTS LIST

1 Clamping Feed Neck
2 Ball Detent
3 Eye Pipe
4 Eye Seal
5 Eye Plate Screw
6 Eye Plate
7 M8 Body
8 FUSE™ Bolt
9 Solenoid
10 LPR
11 LPR Retaining Screw
12 Eye Wire
13 Front Frame Mounting Screw
14 Rear Frame Mounting Screw
15 Ultra Lite Frame
16 Hyper3™
17 On/Off Airport

MATRIX WARRANTY INFORMATION

WARRANTY AND LEGAL INFORMATION

WARRANTY

DYE Precision, Inc. warrants for one year to the initial retail purchaser, from the initial date of purchase, that the paintball marker and regulator are free from defects in materials and workmanship, subject to the requirements, disclaimers and limitations of this warranty. Disposable parts, normal maintenance and standard wear and tear parts such as batteries, O-rings and seals are not warrantied. The solenoid and electronic components on the marker are warrantied for six months. This warranty does not cover scratches, nicks, improper disassembly, improper re-assembly, misuse, neglect or improper storage. Modification to the product will void the warranty. The only authorized lubricant for the marker is Slick Lube™. Use of any other lubricant will void your warranty. This warranty is limited to repair or replacement of defective parts with the customer to pay shipping costs. Warranty card and proof of purchase must be submitted to DYE Precision for warranty to be in effect. This warranty is not transferable. This warranty does not cover performance. Paintball markers are non-refundable.

TECHNICAL SUPPORT

Our Technical Support Department is open Monday through Friday, from 9am to 5pm, PST, and can be reached at 858-536-5183. Additional support and international contacts are available through our web site, www.protopaintball.com.

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