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DYE Precision, Inc. U.S. Patent # *5,613,483*. OTHER U.S. AND INT'L PATENTS PENDING.
Covered by one or more of the following U.S. Patents,
5,613,483; 5,881,707; 5,967,133; 6,035,843 and 6,474,326.

WWW.DYEPAINTBALL.COM

dye DM9

PATENTED SPOOL VALVE TECHNOLOGY

U.S. Patent #5,613,483. OTHER U.S. AND INT'L PATENTS PENDING.

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INCLUDED WITH YOUR DM9
- DM9 Marker
- 1/4 oz. Slick Lube™
- Parts Kit
- Allen tool set including 1/16", 5/64", 3/32", 1/8", 5/32", 3/16" and 1/4"
- Barrel Sock
- Owner's Manual
- Warranty Card

ADDITIONAL RECOMMENDED TOOLS
- 5/16" Allen wrench
- Canned Air
- 7/32" Socket Wrench
- Cotton Swabs
- 7/16" Crescent Wrench

TABLE OF CONTENTS

WARNING

IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES

- The DM9 marker is not a toy. Misuse may cause serious injury or death.
- Please read, understand and follow the directions in the DM9 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 DM9 marker as if it were loaded and able to fire.
- Only use compressed air or nitrogen gas in the DM9 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 DM9.
- Always chronograph the DM9 marker before playing paintball.
- Never shoot the DM9 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 DM9 when the marker is switched on and able to fire.
- Always fit a barrel blocking device to your DM9 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 DM9 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 DM9 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.

AIR SUPPLY

The DM9 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 145psi.

GASSING UP YOUR DM9

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 DM9

The DM9'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 23 for detailed instructions. If the LPR is improperly adjusted, you could dramatically hinder the DM9'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 pressure. Turning the adjustment screw counterclockwise, or out, will raise the LPR's output pressure.

HOPPER

To get the best performance out of your DM9, it is recommended that you use a motorized loader. Preferably one that force feeds the paint 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 145 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.

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.

- A low battery will not be able topower 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 DM9's velocity, causing it to become inconsistent and/or low.

FIGURE 1

TURNING THE DM9 ON AND OFF

To turn on the DM9, press and hold the power button for 3 seconds (see figure 1) until the LED's turn blue. The blue light indicates board boot up. After the boot up sequence, the LED's will turn either RED (no ball) or GREEN (ball ready to fire). To turn the DM9 off, press and hold the power button until the LED's turn off.

NOTE: The DM9 automatically switches off after 10 minutes of non-use.

FIRING THE DM9

As soon as the marker is turned on and the LED's turn from blue to either red or green, the DM9 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 DM9 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 DM9 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 DM9. They will always show the same information and it does not matter which LED you look at. One is mounted behind the DM9 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 DM9 in the position you would while playing a game.

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

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

DM9 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 DM9 (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 DM9 Eye, page 26)
Blinking Blue:	-	Indicates a low battery; battery should be changed as soon as possible

To turn the eyes off, press and hold the lower button until the light begins flashing red.
To turn the eyes back on, hold the lower button until the LED turns either red or green.

NOTE: With the eye off the DM9 will shoot the rate of fire value set in Configuration Mode.

When servicing your marker:
- Make sure a barrel sock is fitted to the DM9.
- Make sure your hopper is removed from the DM9.
- Make sure there are no paintballs in the breech of the DM9.
- Always remove the first stage regulator and relieve all residual gas pressure from the DM9 before disassembly.
- The DM9 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.

FIGURE 1

BOARD SETTINGS AND CONFIGURATION MODE

There are five settings you can alter on the DM9 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 DM9 uses.

There are two DIP switches mounted on the board of the DM9 (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 DM9 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.

DM9 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 DM9 can register more trigger pulls than what was actually pulled. This can cause the DM9 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 DM9 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.

DM9 BOARD
SETTINGS AND FUNCTIONS

Blue - Rate Of Fire (ROF)

Values 1 - 34 (factory default 13.33 bps)
The ROF setting is used to set the maximum rate of fire of the DM9. 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 **14** (**13.33 bps**).

1	10.00 BPS	**10**	12.60 BPS	**19**	14.29 BPS	**28**	16.39 BPS
2	11.10 BPS	**11**	12.82 BPS	**20**	14.49 BPS	**29**	16.66 BPS
3	11.63 BPS	**12**	12.99 BPS	**21**	14.71 BPS	**30**	20.00 BPS
4	11.76 BPS	**13**	13.16 BPS	**22**	14.93 BPS	**31**	22.22 BPS
5	11.90 BPS	**14**	**13.33 BPS**	**23**	15.15 BPS	**32**	25.00 BPS
6	12.05 BPS	**15**	13.51 BPS	**24**	15.38 BPS	**33**	28.57 BPS
7	12.20 BPS	**16**	13.70 BPS	**25**	15.63 BPS	**34**	33.33 BPS
8	12.35 BPS	**17**	13.89 BPS	**26**	15.87 BPS		
9	12.50 BPS	**18**	14.08 BPS	**27**	16.13 BPS		

Yellow - Firing Mode

Values 1 - 4 (default 1)
This setting changes the firing mode of the DM9. 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/Semiautomatic Mode
Value 2 - Millennium Mode
Value 3 - PSP 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.

DM9 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 the marker to malfunction.

- 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 DM9's velocity, causing it to become inconsistent and/or low.

ON/OFF AIRPORT - FEEDNECK

ON/OFF AIRPORT

The DM9 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. To remove the airport from the UL frame see page 13.

CAM LEVER FEED NECK

The Cam lever feed neck is adjustable to fit any standard loader. To adjust the cam locking system turn the thumb adjustment knob clockwise to tighten, or counterclockwise to loosen. Press the cam lever down against the feed collar to secure the loader in the feed neck. To loosen the locking system and remove the loader, lift the cam lever away from the feed collar. Take care not to over tighten the cam locking system. The cam lever should not be difficult to lower into the locked position.

NOTE: Even with the air supply removed the marker may have gas inside. Be sure to vent this gas. Make sure there are no paintballs in the breech and dry fire the marker in a safe direction.

ULTRALITE FRAME

REMOVING ULTRALITE FRAME FROM THE DM9

If there is ever need to remove the Ultralite frame from the DM9 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 wrench, 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 DM9.

To connect the frame follow above steps in reverse order.

INTEGRATED LOCKING DOVETAIL FEATURE

The Ultralite frame comes equipped with an integrated locking dovetail. There is a horizontal locking screw located on the bottom right side of the Ultralite frame. It can be accessed with a 1/8" Allen wrench 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.

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.

TRIGGER ADJUSTMENT

ADJUSTING YOUR TRIGGER

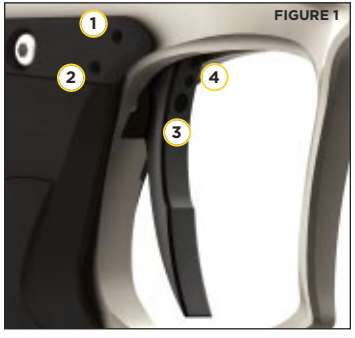


FIGURE 1

The trigger's forward and over travel, spring tension, and reach are fully adjustable so that you can fine-tune the trigger to your exact liking. You do not need to remove the frame or grip 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 (SEE FIGURE 1)

Use a 5/64" Allen wrench to make the desired adjustments.
• The screw toward the front of the trigger **(1)** controls the forward travel. Screwing it in will shorten the trigger's length of pull.

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 **(2)** 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 (SEE FIGURE 1)

• Use a 5/64" Allen wrench to make the desired adjustment. The adjustment is made by pushing the Allen wrench through a hole in the trigger **(3)**.
  • To make the trigger pull stiffer, turn the Allen wrench clockwise or in.
  • To make the trigger pull lighter, turn the Allen wrench counterclockwise or out.

TRIGGER ADJUSTMENT

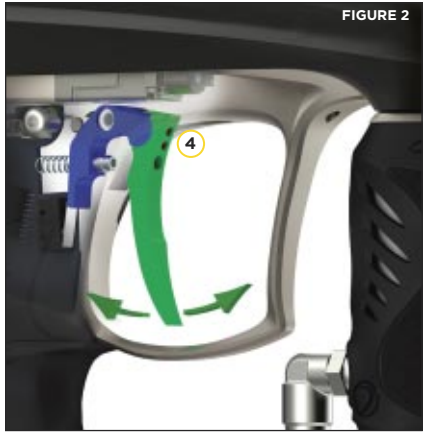


FIGURE 2

ULTRALITE REACH TRIGGER

The DM9 has a new external reach adjustment for the Ultralite trigger.
This adjustment changes the angle that the trigger sits without the need to take off the gripframe or Sticky3 Grip.

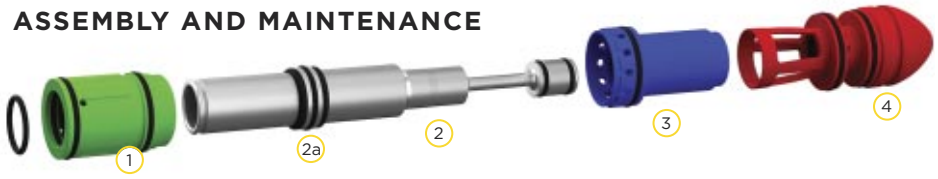
TO ADJUST TRIGGER REACH (SEE FIGURES 1 AND 2)

To adjust, simply loosen the two 6-32 screws **(4)** using a 1/16" Allen wrench. You do not have to remove the screws from the trigger. Now the front of the trigger (shown in green) should rotate freely while the back of the trigger (shown in blue) remains relatively stationary. When the desired reach angle has been achieved, tighten the two 6-32 screws snugly. Be careful not to over tighten and strip the Allen wrench or screws. Using an Allen wrench in good condition will help to avoid stripping the hex.

NOTE: The spring tension adjustment (outlined on page 14) should be set while the trigger's reach is situated in either the rear position or the loose position so the spring tension adjust screw can be externally accessed.

- 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.

FUSE™ BOLT
ASSEMBLY AND MAINTENANCE



FUSE™ BOLT OPERATION

To achieve top performance from your DM9, it is important to understand the basic operation of the DM9'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
2a Bolt Sail
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 DM9 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 DM9.
- Make sure there are no paintballs in the breech of the DM9.
- Always remove the air supply and relieve all gas pressure in the DM9 before disassembly.
- When using the marker in temperatures below 50° Fahrenheit it may be necessary to lube the FUSE™ bolt more frequently.

BOLT MAINTENANCE

Regular DM9 Fuse™ bolt maintenance is vital to the performance of the DM9.
If the Fuse™ bolt is not kept well-greased and the O-rings in good shape, the performance of the DM9 will be greatly hindered.

To remove the bolt, you will need a ¼" 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 DM9 FUSE™ BOLT EVERY 10-15 THOUSAND SHOTS AND CHECK CONDITION OF O-RINGS. BE SURE THE FUSE BOLT CAN MOVE BACK AND FORTH WITHOUT EXCESSIVE FORCE.

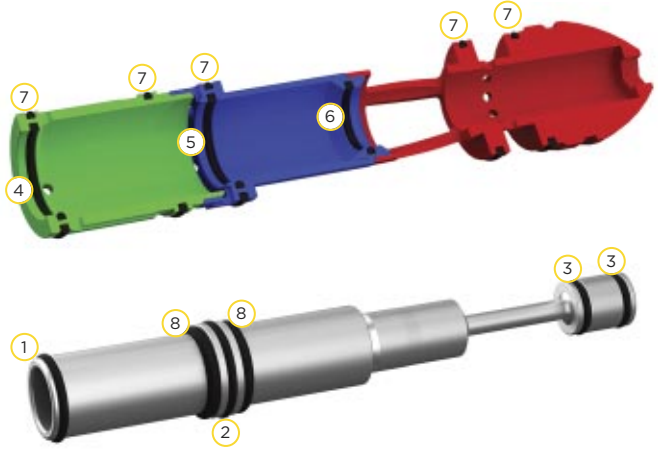
BEFORE INSTALLING THE BOLT INTO THE MARKER, BE SURE ALL BOLT SLEEVE COMPONENTS ARE SCREWED TOGETHER SNUGLY.

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 DM9 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.

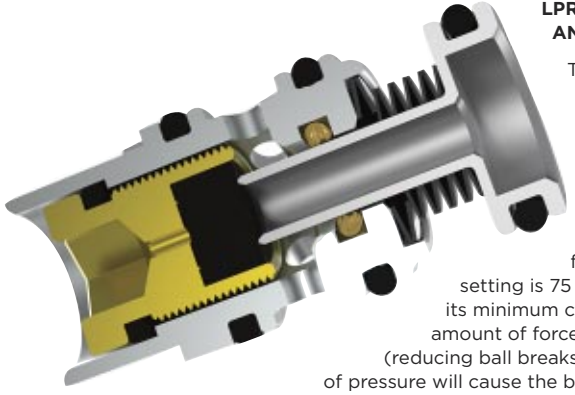
FUSE™ BOLT
ASSEMBLY AND MAINTENANCE

FUSE™ BOLT O-RING LIST

1 Bolt tip (014 BN70)
2 Bolt sail (015 BN70)
3 Bolt stem (011 BN70)
4 Cylinder internal (017 BN70)
5 Top hat large internal (017 BN70)
6 Top hat small internal (014 BN70)
7 Outer sleeve (020 BN70)
8 Sail bumper (111 BN70)



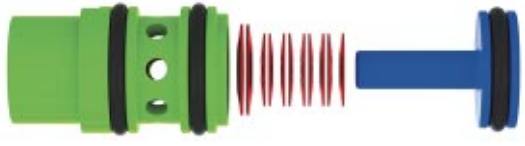
LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE



LPR ASSEMBLY, CLEANING, TESTING AND CHANGING SEALS

The Low-Pressure Regulator (LPR) is located at the back of the DM9 under the bolt (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 DM9 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 fully 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 excess kick, potentially increase ball breakage, and cause 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.

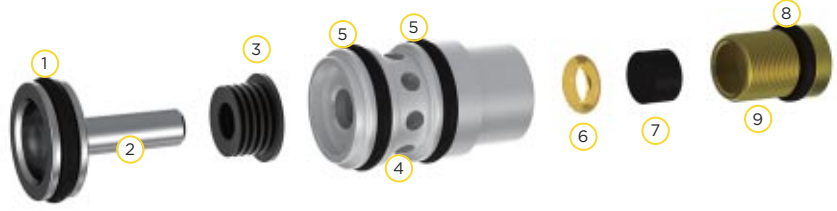


LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE

The LPR has five components and six seals

1 Piston O-ring (012 BN70)
2 Piston
3 Shim stack
4 LPR Body
5 Body O-rings (2 pcs, 012 BN70)
6 Body internal O-ring (007 UR90)
7 Seat (mounted in the seat retainer)
8 Seat retainer O-ring (010 BN70)
9 Seat retainer (functions as an adjustment screw also)

The only user-serviceable part in the LPR is the seat retainer (see page 22). This seal needs to be changed in the unlikely case the LPR is allowing gas through the regulator, increasing pressure sent to the solenoid.



When servicing your marker:
- Make sure your hopper is removed from the DM9.
- Make sure there are no paintballs in the breech of the DM9.
- Always remove the air supply and relieve all gas pressure in the DM9 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 SEAT RETAINER

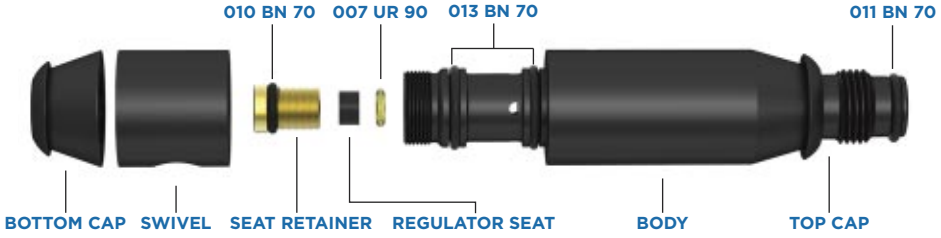
1 Unscrew the LPR cap from the back of the DM9 with a 1/4" Allen wrench.
2 Unscrew and remove the brass LPR seat assembly using a 3/16" Allen wrench.
3 Use a dental pick or sharp object to remove the old seat from the retainer and replace it with a new one. Use a flat object to press it into place.
4 Lube the #010 O-ring and screw the seat retainer assembly back into the LPR assembly.
5 Screw the LPR back cover back into the DM9.

If the user needs to replace the whole LPR assembly, follow these instructions:
1 Take the frame off of the marker (see page 13 for removal instructions).
2 Unscrew the LPR set screw from the underside of the body using a 5/64" Allen wrench.
3 Unscrew the LPR cap from the back of the DM9 with a 1/4" Allen wrench.
4 Pull out the LPR, making sure that the piston is not left in the DM9 body.
5 Insert a new LPR Assembly.
6 Tighten LPR screw lightly, being sure to align it with the keyway cut on the LPR body.
7 Screw the LPR back cover into the DM9 body.
8 Replace frame (see page 13 for replacement instructions).

LPR (LOW PRESSURE REGULATOR)
ADJUSTMENTS AND MAINTENANCE

The LPR pressure can be set quite accurately even without an LPR test tool. While the DM9 is degassed, screw the brass seat retainer clockwise with a 3/16" Allen wrench until slight resistance is felt.
Applying excessive torque to the seat retainer will damage the LPR seat.
The LPR is now set to approximately 20 psi.
Turning out the retainer 180 degrees counterclockwise will increase the pressure between 10 and 15 psi. For example, turning the retainer 2.5 complete, 360 degree turns out will set the pressure to approximately 70 to 80 psi.
Use a chronograph to fine-tune the pressure to where the DM9 is consistent.

HYPER3™ IN-LINE REGULATOR
ADJUSTMENTS AND MAINTENANCE



USAGE

Carefully connect the ¼" macroline from the airport fitting into the Hyper3™ elbow fitting. The macroline should be cut straight with a sharp knife to prevent leaks.

ADJUSTMENTS

The Hyper3™ regulator is adjusted in the same manner as the LPR (outlined on page 23). With the seat retainer screwed completely in the Hyper3™ will be set to 20 psi. Each 180 degree turn counterclockwise will increase the pressure between 15 and 20 psi. The stock setting is 145 psi (about 3.5 complete 360 degree turns out), which should result in the DM9 shooting velocities of about 285fps.

MAINTENANCE

The Hyper3™ regulator requires little maintenance from regular use. The seat should be replaced every 6 months or 60,000 shots. Shooting the DM9 a few times between each small adjustment to the regulator, will lengthen the life of the seat. Also, O-rings and the seat may wear rapidly if excessive dirt or sand is allowed into the regulator, so the Hyper3™ should be kept clean.

HYPER3™ IN-LINE REGULATOR
ADJUSTMENTS AND MAINTENANCE

HYPER3™ REGULATOR DIS-ASSEMBLY INSTRUCTIONS

The rubber sleeve on the outside of the Hyper3™ does not need to be removed to disassemble the seat assembly, but may make the process easier. Begin by inserting a 3/16" Allen wrench into the topcap and a 5/16" Allen wrench into the bottom cap. Unscrew the bottom cap from the Hyper3™. If the topcap begins to unscrew, try tightening the regulator back together and unscrewing again. Sometimes it is necessary to use a vice to hold the Hyper3™ body to remove the bottom cap. The brass seat retainer and swivel can now be removed from the regulator. If the swivel is stuck, the elbow fitting may need to be removed.

To change the seat, remove the seat retainer from the regulator body. Use a dental pick or sharp object to remove the old seat from the retainer and replace it with a new one. Use a flat object to press it into place.

Any further disassembly should be performed by a trained tech. If you have any questions please call the DYE tech line.

REASSEMBLY

Grease the #010 O-ring on the seat retainer and the two #013 O-rings on the Hyper3™ body. Insert the seat retainer being careful to not screw it in too tightly. Slide the swivel gently back onto the body and screw on the bottom cap. If the elbow fitting was removed, use thread sealant and snugly screw it back into the swivel making sure that the swivel can rotate freely.

- 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 DM9 before servicing.
- Improper stacking of shims will cause failure of the regulator and possible damage to the DM9.
- 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 DM9 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 light 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 light 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 DM9 is equipped with a self cleaning eye feature. There is a clear polycarbonate sleeve mounted inside the breech of the gun covering the eyes. When the bolt tip O-ring passes through the eye pipe, it sweeps off any dirt, grease or paint that could be blocking the eyes. Normally it is enough to just fire the DM9 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, pull the eye pipe with the ball detents out the front of the breech. With the eye pipe out use a swab to clean the breech. This should be enough to clean the eye system. If the system needs further cleaning, pull out the eye carrier and eye wires through the feed neck. To prevent damaging the eye wires, it is best to remove the frame and disconnect the eye wires from the board. Use a soft rag and q-tips to clean off any built up paint or grease.

When re-assembling the eye guard system, work backwards from disassembly. The eye pipe is keyed into the breech and can only go in one way.

ANTI CHOP EYES/ BALL DETENTS
MAINTENANCE AND CHANGING

CHANGING BALL DETENTS

The ball detent system is clipped to the outside of the eye pipe. The ball detent system needs little or no maintenance. The detents should easily flex out of the way with 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 broken, 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 pipe/detent system from the front of the DM9 and unclip the detents for a thorough cleaning. Reinstall the detents, and eye pipe after you have sufficiently cleaned the detents and breech.

Be careful not to over-flex the detents when handling them. Excessive flexing could break or damage the detents.

NOTE: TAKE CARE WHEN REPLACING THE EYE PIPE. BE CAREFUL THAT THE DETENT CLIP IS FULLY SEATED ONTO THE EYE PIPE.

TROUBLE SHOOTING GUIDE

AIR LEAKS

AIR LEAKING FROM THE BACK OF AIRPORT

- Check the O-ring on the Air system. If needed change the O-ring and try again. The O-ring normally used is #015 but some manufacturers might use a different size. Consult the manual of the air system you are using.

AIR LEAKING FROM THE SIDE OF AIRPORT

- Check that the hose connector is tight. Remove the hose from the connector by pushing towards the connector and pull out hose.
  Use a crescent wrench to tighten the fitting.
  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 FRONT OF AIRPORT

- Replace the #006 O-ring located inside the airport. This can be disassembled using a 3/16" Allen wrench and a 7/32" socket wrench.

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, the #015 O-ring on the piston and the #007 urethane O-ring inside the body of the regulator. These O-rings should be replaced by a trained Tech.
- 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 rear #020 O-ring on the outside of the cylinder, and the #020 O-ring on the outside of the top hat.
- 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).
- The LPR may be supplying the solenoid with too much pressure. Make sure the LPR and the Hyper3™ are set correctly.
- Gas up the DM9 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. If the solenoid is leaking, remove the solenoid by unscrewing the two screws mounting it down. Apply some lube to the gasket 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.

AIR LEAKING FROM BACK OF THE DM9

- Check that the bolt kit is tightened all the way into the DM9. If the bolt kit is loose, it will start to leak.
- If above does not solve the leak, remove the bolt kit. Change the rear #020 O-ring on the rear cap and the rear #011 O-ring on the bolt stem. Lube well and insert the bolt kit back into the DM9. Check page 19 for O-ring locations.
- Last, check the gas passage plug screws located under the bolt kit and above the LPR. If these are the source of the leak, remove and apply thread sealant to them. Wait for the sealant to dry before testing.

AIR LEAKING FROM FRONT OF THE DM9

- If air is leaking through the bolt tip, remove the bolt kit from the marker and replace the #014 O-ring located inside the tophat. Be sure the rear sail bumper is a #111 and in good condition.
- If air is leaking from around the bolt, replace the #017 located inside the cylinder and the front #020 on the outside of the cylinder.

PROBLEMS WITH ELECTRONICS

DM9 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.
- Make sure the buttons are able to activate the switches on the board.

DM9 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 being held down. Remove the board from the frame by removing the two screws holding it down and disconnecting the wires. Carefully remove the two buttons and clean them well. Re-assemble and test.
- Note that some batteries are wider than others and may be pushing the buttons on the board against the metal buttons on the frame.
- If problems persist, contact authorized service center for board replacement.

TROUBLE SHOOTING GUIDE

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 DM9.
- 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.

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 DM9 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 correct connector (solenoid should be attached to the two prong connector).

TRIGGER BOUNCE / DM9 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/DM9 WON'T FIRE

DM9 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 DM9 to shoot down. Replace O-rings causing this excess friction (generally the #017s, #011s or the #015 O-rings).
- 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 page 25 in 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 DM9 is .688 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 correctly 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 and the regulator seat 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.
- Replace the seat in LPR (see instructions on page 22).

OTHER CATEGORIES

DOUBLE FEEDING

- If more than one ball is feeding at a time into the breech of your DM9, 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.
- Make sure the ball detent system is working properly. See pages 26 and 27.
- Be sure the LPR and Hyper3™ are not set too high (see pages 23 and 24).

NOTES:

DM9 EXPLODED VIEW

PARTS LIST

1 Clamping Feed Neck
2 Ball Detent Clip
3 Eye Carrier
4 Eye Pipe
5 DM9 Body
6 FUSE™ Bolt
7 LPR Cap
8 LPR
9 LPR Retaining Screw
10 Solenoid
11 Eye Wire
12 Hyper3™
13 Front Frame Mounting Screw
14 Rear Frame Mounting Screw
15 Ultralite Frame
16 Sticky3 Grip
17 On/Off Airport

DM9 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 covered under warranty. The solenoid and electronic components on the marker are covered under warranty 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 sites: www.dyepaintball.com, www.dyematrix.com.

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