INCLUDED WITH YOUR DM7
- DM7 Marker
- 1/2 oz. Dye Slick Lube™
- Parts Kit
- Barrel Sock
- Owner’s Manual
- Warranty Card

ADDITIONAL RECOMMENDED TOOLS
- 3/8" Allen wrench
- 5/16" Allen wrench
- Canned Air

< SPECS >
WEIGHT [1.7 LBS]
WIDTH [1.25”]
LENGTH [9”]
HEIGHT [8”]
EFFICIENCY [1,300 SHOTS OFF 68CU 4500PSI]
BATTERY LIFE [40,000 SHOTS]
OPERATING PRESSURE [145PSI]
CYCLE PRESSURE [70PSI]
MAX RATE OF FIRE [30+BPS, LIMITED TO HOPPER FEED RATE]
BARREL THREAD [COCKER]
Using your marker

Turning On Your DM7 - The DM7’s power is controlled with two buttons on the back side of the grip frame. The top button turns the marker on and off, while the bottom button turns the eye on and off. To turn the DM7 ON, press and hold the power button until the LED lights turn blue. The LED’s 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 (eye on)
Green - Ball in breech, ready to fire (eye on)
Blinking Red - Eye is off
Blinking Green - Eye failure (see DM7 Board, page 4)
Blinking Blue - Indicates a low battery, battery should be changed as soon as possible

On/Off - The On/Off knob is located under the barrel at the front of the DM7. To turn the gas on, turn the knob counter-clockwise. To turn the gas off, turn the knob clockwise. All gas will vent from the DM7 when the knob is turned off. Air may still be present in the LPR and solenoid after the air has been vented by the marker by the on/off. Be sure all air has been verified by discharging the marker in a safe direction. If servicing the marker, remove off the bolt will also allow any trapped air to escape.

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 10 for detailed instructions. If the LPR is improperly adjusted, you could dramatically hinder the DM7’s performance or prevent the marker from functioning at all.

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 DM7, it is recommended that you use a motorized loader. Preferably one that force feeds the paintball really, really fast!

Feed Neck - To secure your loader into the adjustable feed neck simply adjust the thumbscrew by turning it clockwise to loosen. Be careful not to over-tighten the collar as it can cause the neck to break.

Adjusting Velocity - The velocity is adjusted through the Hyper™ in-line regulator. The Hyper™ 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 Hyper™, 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 DM7’s velocity, causing it to become inconsistent and/or low.

WARNING

IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES

• The DM7 marker is not a toy. Misuse may cause serious injury or death.
• Please read, understand and follow the directions in the DM7 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. Must have adult supervision if under 18.
• Always shoot at 300 feet per second or less, at a pressure greater than local or national laws allow.
• Never look into the barrel or breech area of the DM7 when the marker is switched on and able to fire.
• Always fit a barrel blocking device to your DM7 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 DM7 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 DM7 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.
Turning the DM7 ON and OFF

To turn on the DM7, 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 DM7 off, press and hold the power button until the LED’s turn off.

NOTE: The DM7 automatically switches off after 10 minutes of non-use.

Firing the DM7

As soon as the marker is turned on and the LED’s turn from blue to either red or green, the DM7 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 DM7 to fire. 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 DM7 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 DM7. They will always show the same information and it does not matter which LED you look at. One is mounted behind the DM7 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 DM7 in the position you would while playing a game.

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

- **Blue** - Boot up Sequence
- **Red** - Breech is clear, no ball detected inside the DM7 (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 DM7 Eye, page 13)
- **Blinking Blue** - Indicates a low battery, battery should be changed as soon as possible

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

Board settings and configuration mode

There are five settings you can alter on the DM7 board with the DIP switches inside the grip frame (see figure 2):

- **ABS**
- **Anti-Bolt Stick**
- **Trigger Sensitivity**
- **Dwell**
- **RDF**
- **Rate Of Fire**
- **Firing Mode**
- **Eye**

There are two DIP switches mounted on the board of the DM7 (See figure 2). The first one is used for the ABS setting and the second one is used to access a configuration mode used to change 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 ABS off

(3 default)

When servicing your marker:

- Make sure a barrel sock is fitted to the DM7.
- Make sure your hopper is removed from the DM7.
- Make sure there are no paintballs in the breech of the DM7.
- Always remove the first stage regulator and relieve all residual gas pressure from the DM7 before disassembly.
- The DM7 can hold a small residual charge of gas even if the first stage regulator remains installed. Always discharge the marker in a safe direction to relieve this residual gas pressure.

WARNING

- The DM7 is not water resistant. Excess moisture can cause damage to electronic parts.
- Keep the board and all electrical components dry and clean.
- 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.

When servicing your marker:

- Make sure a barrel sock is fitted to the DM7.
- Make sure your hopper is removed from the DM7.
- Make sure there are no paintballs in the breech of the DM7.
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- 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.
**DM7 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 marker will be in configuration mode once you have entered the 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)

Triggersensitivity 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 DM7 can register more trigger pulls than what was actually pulled. This can cause the DM7 to shoot full auto, even in semi-automatic mode. To fix this, set 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:

1. Remove load and any paintballs from the DM7 marker.
2. With the dwell set at 0, start increasing the value until the marker begins to fire.
3. When you reach the setting where the marker begins to fire, get some paint and a loader and go to a chronograph.
4. Increase the dwell until you see no increase in the velocity. This is the optimal dwell setting to use. For tournament use, when the battery voltage starts to go too low, you will notice your velocity starts to decrease and the board can turn off. 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.

**Blue - Rate Of Fire (ROF)**

When Anti Chop Eye (ACE) is deactivated

Value = BPS 1 10 11 15.6

The ROF setting is used to set the maximum rate of fire of the DM7. The values do not correspond directly to a certain BPS value. You will need to use the table below to locate your desired maximum ROF setting.

<table>
<thead>
<tr>
<th>Value</th>
<th>BPS</th>
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<tbody>
<tr>
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<tr>
<td>10</td>
<td>15.9</td>
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<td>19</td>
<td>25</td>
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<td>20</td>
<td>26</td>
</tr>
</tbody>
</table>

**Yellow - Firing Mode**

Value 1 - 5 (factory default 20bps)

The ROF setting is used to set the maximum rate of fire of the DM7. The values do not correspond directly to a certain BPS value. You will need to use the table below to locate your desired maximum ROF setting.

<table>
<thead>
<tr>
<th>Value</th>
<th>BPS</th>
</tr>
</thead>
<tbody>
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<td>21</td>
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<tr>
<td>10</td>
<td>22</td>
</tr>
</tbody>
</table>

**NOTICE:**

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.

**TO CHANGE THE VALUE OF A SETTING:**

1. While in configuration mode, pull the trigger and hold it for more than one second. The LED will flash to indicate the previous setting. After that, you can set the new value with the trigger. For example, if you want to change the trigger sensitivity to 7 units:

   - Pull and hold the trigger until the LED starts to flash (factory default for trigger sensitivity setting is 5 units, so the LED will flash 5 times).
   - When the LED stops flashing, pull and release the trigger seven times in a fast pace. The new value is set.

2. Cycle through menus by pulling and releasing the trigger until the LED shows GREEN (triggersensitivity). The new value is saved. All other configurations are changed the same way. Just as in part 2 above, change the mode to RED for “dwell” or BLUE for “ROF” to change the desired configurations.

3. 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 and types of batteries. Use of high capacity alkaline or lithium ion batteries is not recommended. When the battery voltage starts to go too low, you will notice your velocity starts to decrease 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 (see figure 1).

**Changing the battery**

The battery is housed on the right side of the frame. To access the battery, remove the three screws holding the right side grip panel down. Use a 5/32 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.
When servicing your marker:

- Make sure your hopper is removed from the DM7.
- Make sure there are no paintballs in the breech of the DM7.
- Always remove the air supply and relieve all gas pressure in the DM7 before disassembly.
- When using the DM7 in temperatures below 50º it may be necessary to lubricate the FUSE™ bolt more frequently.

**WARNING**

To achieve top performance from your DM7, it is important to understand the basic operation of the DM7’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

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 DM7 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. 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.

**BOLT MAINTENANCE**

Regular DM7 FUSE™ bolt maintenance is vital to the performance of the DM7. If the FUSE™ bolt is not kept well-greased and the o-rings in good shape, the performance of the DM7 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 DM7 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 DM7 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 below should be generously greased during 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 (015 BN70)
10. Rear bumper (111 BN70)

NOTE: ALL REMAINING O-RINGS SHOULD HAVE A THIN COATING OF GREASE AS WELL.
The Low-Pressure Regulator (LPR) is located in the lower back of the DM7 (see figure 1). 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 DM7 for its minimum cycle pressure. This will reduce the amount of force of the bolt hitting the ball (reducing ball breakage) and lower air efficiency. Too low of a pressure will cause the bolt to not cycle, move sluggishly or not at all. If you experience problems such as this, down the pressure. Too high of pressure will cause the marker not to shoot as smoothly, potentially increase bolt 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)
2. Piston 7 Main seal (mounted in the seal retainer)
3. Piston spring 8 Seal retainer o-ring (010 BN70)
4. Screw LPR back cover in place securely.
5. Body o-rings (4pcs, 013 BN70)

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.

CHANGING THE SEAL RETAINER

To change the seal retainer, follow these instructions:

1. Take frame off the marker.
2. Screw out LPR seal assembly (brass) using a 5/64" Allen wrench.
3. Screw out LPR seal assembly (brass) from the body and pulling it out.
4. Screw LPR back cover in place securely.

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

1. Take frame off the marker.
2. Screw out LPR seal assembly (brass) using a 5/64" Allen wrench.
3. Screw out LPR body (brass) from the body and pulling it out.
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 back cover securely.

The LPR pressure can be set quite accurately even without an LPR test tool. Screwing the adjustment screw (counterclockwise, or out) will raise the LPR's output pressure. Turning the screw clockwise, or in, will lower the LPR's output pressure. For example, turning the screw 5 complete turns out 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. Turning the screw counterclockwise, or out, will raise the LPR's output pressure.

WARNING

When servicing your marker:
- Make sure your hopper is removed from the DM7.
- Make sure there are no paintballs in the breech of the DM7.
- Always remove the air supply and relieve all gas pressure in the DM7 before disassembly.
- It is not recommended for the user to disassemble LPR from the body and disassemble it.

MAINTENANCE

The on/off needs very little maintenance. To help prevent o-ring failure and leaks, grease the on/off every four months or sooner, depending on the severity of playing conditions. Cold, wet weather will shorten the effective life of the grease. Heavy dust or sand can infiltrate the on/off and prevent it from moving smoothly and/or cut the o-rings.

NOTE: Air may still be present in the LPR and solenoid after the air has been vented from the marker by the on/off. Be sure all air has been vented by discharging the marker in a safe direction. If servicing the marker, removal of the bolt will also allow any trapped air to escape.

When servicing your marker:
- Make sure your hopper is removed from the DM7.
- Make sure there are no paintballs in the breech of the DM7.
- Always remove the air supply and relieve all gas pressure in the DM7 before disassembly.
- It is not recommended for the user to remove the LPR from the body and disassemble it.

FIGURE 1

FIGURE 2

FIGURE 3

ON/OFF: USAGE AND CHANGING O-RINGS

The On/Off knob is located under the barrel in the front of the DM7 (see figure 2). It controls the flow of gas to the marker. To turn the gas on, turn the knob so that it is facing sideways. If you had gas inside, the marker, it will bleed out. To turn the gas on, turn the knob so that it faces vertically.

The On/Off has four o-rings:
1. 009 UR90
2. 009 BN70 / 011BN70
3. Set screw holding on/off in place (screw just in front of the front frame screw).
4. Main seat (mounted in the seal retainer).
5. Push back in.
6. Screw back in.
7. Put frame back on.
8. Gas up and test.

ON/OFF VALVE - Maintenance and Changing O-rings

The On/Off needs very little maintenance. To help prevent o-ring failure and leaks, grease the on/off every four months or sooner, depending on the severity of playing conditions. Cold, wet weather will shorten the effective life of the grease. Heavy dust or sand can infiltrate the on/off and prevent it from moving smoothly and/or cut the o-rings.

NOTE: Air may still be present in the LPR and solenoid after the air has been vented from the marker by the on/off. Be sure all air has been vented by discharging the marker in a safe direction. If servicing the marker, removal of the bolt will also allow any trapped air to escape.
ADJUSTMENTS AND MAINTENANCE

HYPER2™ REGULATOR

- Excessive dirt and debris can affect the need for servicing. Always remove the regulator from the DM7 before servicing.
- Inspect all O-rings for nicks or cuts.
- Clean off all old grease that may be contaminated with dirt; reapply fresh grease to the piston and other necessary areas.

MAINTENANCE

- Make sure the inlet and outlet ports and connecting fittings are free of all dirt and paint.
- Carefully connect your air hose from your bottle or air system to the Hyper 2™ In-Line. The Hyper 2™ In-Line is set by the factory to approximately 145psi. This pressure should give you a velocity of approximately 285fps.
- Disassemble the Hyper2™ In-Line is easily done with 3/8" wrenches. The Hyper2™ has eight components and six o-rings.

ADJUSTMENTS

- The output pressure of the Hyper2™ In-Line is adjusted by turning the brass seat housing. The seat housing is located up inside the bottom of the reg. A 3/16" Allen wrench will be needed for this operation. By turning the housing clockwise, you will decrease the output pressure of the regulator. By turning the housing counterclockwise, you will increase the output pressure to the marker. By turning the small piston o-ring (007 UR90) clockwise, 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 Hyper2™ will need a break-in period of about 2,500 shots to let its seat form to the piston and reach its optimum performance.

NOTE: TAKE CARE WHEN REPLACING THE EYE COVERS. OVER-TIGHTENING THE RETAINING SCREW and breech.
- Make sure the inlet and outlet ports and connecting fittings are free of all dirt and paint.
- Carefully connect your air hose from your bottle or air system to the Hyper 2™ In-Line. The Hyper 2™ In-Line is set by the factory to approximately 145psi. This pressure should give you a velocity of approximately 285fps.
- Disassemble the Hyper2™ In-Line is easily done with 3/8" wrenches. The Hyper2™ has eight components and six o-rings.

- The Hyper2™ can hold a small medical charge of gas, typically 50 shots. Always discharge the marker in a safe direction to prevent the marker from discharging while you are performing maintenance checks. The Hyper2™ has eight components and six o-rings.

- The self cleaning eye feature. There is a clear polycarbonate piece mounted inside the breech of the gun covering the eyes (see figure 1). When the bolt tip o-rings pass 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 DM7. If the DM7 does 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 (see figure 2). As you back the screw out, the eye receiver/emitter will come out of the breech (avoid pulling the wires). 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 (see figure 2). As you back the screw out, the eye receiver/emitter will come out of the breech (avoid pulling the wires). The ball detent system is also located under the eye covers. The ball detent system needs little or no maintenance. CHANGING BALL DETENTS
- The bolt tip o-rings pass 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 DM7. If the DM7 does 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 (see figure 2). As you back the screw out, the eye receiver/emitter will come out of the breech (avoid pulling the wires). The ball detent system is also located under the eye covers. The ball detent system needs little or no maintenance. The Anti Chop Eye (ACE) system will prevent the DM7 from chopping paint by not allowing the marker to fire until a ball is fully seated in front of the bolt. This ensures a clean shot 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 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. Make sure the inlet and outlet ports and connecting fittings are free of all dirt and paint. Carefully connect your air hose from your bottle or air system to the Hyper 2™ In-Line. The Hyper 2™ In-Line is set by the factory to approximately 145psi. This pressure should give you a velocity of approximately 285fps.
- Disassemble the Hyper2™ In-Line is easily done with 3/8" wrenches. The Hyper2™ has eight components and six o-rings.

- 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.
- The Anti Chop Eye (ACE) system will prevent the DM7 from chopping paint by not allowing the marker to fire until a ball is fully seated in front of the bolt. This ensures a clean shot 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 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 the instrument is dirty, paint or grease blocking the receiver, or the battery is so low there is not enough power to create a strong enough beam.
- Make sure the inlet and outlet ports and connecting fittings are free of all dirt and paint. Carefully connect your air hose from your bottle or air system to the Hyper 2™ In-Line. The Hyper 2™ In-Line is set by the factory to approximately 145psi. This pressure should give you a velocity of approximately 285fps.

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 DM7 is equipped with a self cleaning eye feature. There is a clear polycarbonate piece mounted inside the breech of the gun covering the eyes (see figure 1). When the bolt tip o-rings pass 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 DM7. If the DM7 does 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 eyes 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 (see figure 2). As you back the screw out, the eye receiver/emitter will come out of the breech (avoid pulling the wires). The ball detent system is also located under the eye covers. The ball detent system needs little or no maintenance.
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- 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.

CHANGING BALL DETENTS
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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 (see figure 1) 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

- Use a 5/64" Allen wrench to make the desired adjustments.
- The screw toward the front of the trigger (#1 in figure 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 in figure 1) 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 grips panels.

To unlock a part attached to the dovetail of the frame, turn the locking screw counter clockwise one full turn and slide part off the rail. To attach a part on the rail, slide the part on and turn the locking screw clockwise until part is firmly locked in place.

REMOVING ULTRALITE FRAME FROM THE DM7

If there is ever need to remove the Ultralite frame from the DM7 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 DM7.

To connect the frame follow above steps in reverse order.

NOTE: BE SURE TO PINCH THE WIRES BETWEEN THE FRAME AND BODY WHEN REATTACHING THE FRAME TO THE BODY.

WARNING

- 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.

PARTS LIST

1. Adjustable Cam Lock Feed Neck
2. Polycarbonate Eye Cover
3. On/Off Knob
4. Ball Detent
5. Eye Cover
6. Self Cleaning Eye Lens
7. Hyper™
8. ACE™
9. Solenoid
10. Ultralite 45 Frame
11. LPR
12. LPR Cap
13. Fuse™ Bolt
14. DM7 Body
15. Front Frame Screw
16. Rear Frame Screw
TRoubleshooting Guide

Troubleshooting

Air leak between the frame and body
- Make sure dwell setting is at stock value.
- Replace the #020 o-ring on the bolt rear cap.
- Dirty seat or damaged piston face. Clean and inspect; if either is damaged, replace.
- Piston or shim stack may be binding due to excessive dirt or lack of lubricant.
- Seat may have excessively deep piston groove cut into it. Replace if needed.
- Adjustment screw may be screwed in too far.
- The button pad may need replacement.

Air leak from the back of the LPR plug
- Rise the trigger sensitivity value.
- Piston o-rings #007 UR90 and #018 BN70 may be damaged. Inspect o-rings. Replace if any o-rings that seem damaged, swollen or in otherwise bad shape. Most likely the piston is in place.

Air leak between the body and rear cap
- There are three possible o-rings that cause this leak:
  - Adjustment screw may be screwed in too far.
  - The button pad may need replacement.
  - Piston o-rings #007 UR90 and #018 BN70 may be damaged.

No or poor air flow
- Piston or shim stack may be binding due to excessive dirt or lack of lubricant.
- Seat may be dirty or damaged. Clean and grease regulator. Inspect and replace if needed.
- Piston or shim stack may be binding due to excessive dirt or lack of lubricant.
- Seat may have excessively deep piston groove cut into it. Replace if needed.
- Adjustment screw may be screwed in too far.
- The button pad may need replacement.

Output pressure creeps up
- Piston o-ring damaged or piston tip is in place. Or, if the piston tip is in place, it is likely there are no o-rings in/out of the regulator.

Air leak from the bottom of the adjustment screw
- The button pad may need replacement.
- The piston o-rings #007 UR90 and #018 BN70 may be damaged.
- Inspect o-rings. Replace if any o-rings that seem damaged, swollen or in otherwise bad shape. Most likely the Piston is in place.

Hyperc2™ Troubleshooting (Refer to Page 12)

1. Make sure there is air pressure in line or regulation. Adjustment screw may be turned too far or into the body. 
2. Release the valve. Remove the battery. Presure should not have any nicks, proper disassembly, improper re-assembly, misuse, neglect or improper storage. Modification to the product will void the warranty. The only authorized lubricant to use on the marker is Stick 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 858-516-5883. Additional support is available through our web site, www.dyeball.com.

Disclaimer

The specifications & photos in this material are for reference and general guidance purposes only. Our products are continually updated and changes may be made to specification, design or appearance from time to time. These are subject to change without notice. Contents of box may therefore vary from owner’s manual. For details of specification, design or appearance consult your local distributor or dealer.

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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. Disallowable parts, normal maintenance and wear are parts such as batteries, o-rings and seals. The solaroid and electronic components on the marker are warrantied for six months. When 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 to use on the marker is Stick 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.

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