



RULES FOR SAFE MARKER HANDLING

- 1) Treat every marker as if it were loaded.
- 2) Never look down the barrel of a paintball marker.
- 3) Keep your finger off the trigger until ready to shoot.
- 4) Never point the marker at anything you don't wish to shoot.
- 5) Keep the marker on safe until ready to shoot.
- 6) Keep the barrel blocking device in/on the marker's muzzle when not shooting.
- 7) Always remove paintballs and propellant source before disassembly.
- 8) After removing propellant source, point marker in safe direction and discharge until marker is degassed.
- 9) Store the marker unloaded and de-gassed in a secure place.
- 10) Follow warnings listed on propellant source for handling and storage.
- 11) Do not shoot at fragile objects such as windows.
- 12) Every person within range must wear eye, face, and ear protection designed specifically to stop paintballs and meeting ASTM standard F1776.
- 13) Always measure your marker's velocity before playing paintball and never shoot at velocities in excess of 91.44 meters (300 feet) per second.



ProMaster™

INSTRUCTION MANUAL Version 1.2 Indian Creek Design, Inc. PROMASTER™

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STATEMENT OF LIABILITY

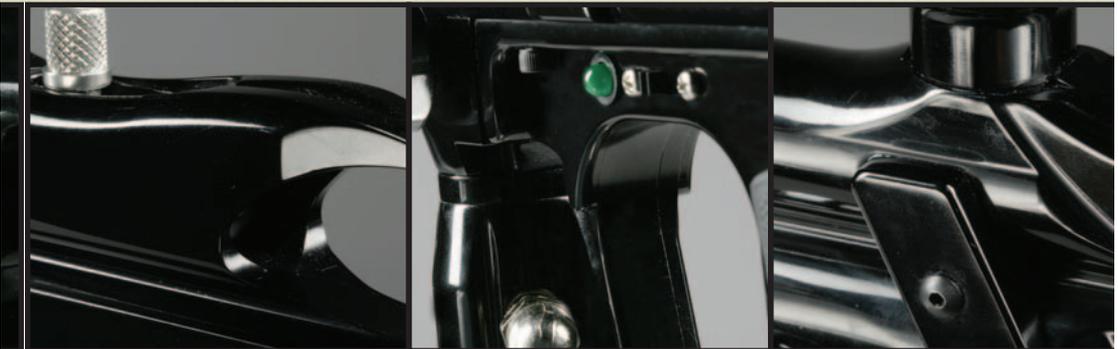
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⚠WARNING:

This is not a toy. Misuse may cause serious injury or death. Eye protection designed specifically for paintball use must be worn by the user and any person within range. Recommend 18 years of age or older to purchase. Persons under 18 years of age must have adult supervision. Obey all local, state and federal laws. Follow the rules of safe paintball marker handling.

READ OWNER'S MANUAL BEFORE USING.



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INDIAN CREEK DESIGN, INC. LIMITED WARRANTY

Indian Creek Design, Inc., warrants the replacement of any original part due to defect in materials and/or workmanship of this marker. This warranty does not cover wearable items such as but not limited to o-rings, cup seals and springs. This warranty will be in effect for twelve (12) months for parts and twelve (12) months for labor following the original date of purchase for the original purchaser. Such warranty service will be provided only if the warranty registration card included with this manual is filled in completely and on file at Indian Creek Design, Inc. All other service will be duly charged for and returned via UPS C.O.D.

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There are no other warranties or guarantees, expressed or implied, made by Indian Creek Design, Inc., on this marker. The sole and exclusive liability of Indian Creek Design, Inc., and/or its authorized dealers, affiliates, or agents pursuant to this warranty will be for repair or replacement of the defective part; incidental or consequential damages are expressly excluded hereunder.

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For warranty parts, service or information contact:

Indian Creek Design, Inc.
1019 First Street North
Nampa, Idaho 83687
(208) 468-0446





PROMASTER™ OVERVIEW

The PROMASTER™ is a high quality marker specially designed to meet the needs of the professional style tournament player. The PROMASTER™ is an electronic solenoid actuated computer controlled marker. The major components of the PROMASTER™ are machined from solid, aircraft-grade aluminum, and then hard anodized. No castings are used in the construction of the PROMASTER™, thereby providing the end user with a high-quality, precision-engineered marker.

Paintball markers get a lot of abuse. Indian Creek Design, Inc., has designed the PROMASTER™ with this in mind. All internal parts, wear and contact surfaces have been heat treated or hard anodized. The toughest and most resilient materials and components have been used in the design of this product.

The PROMASTER™ uses a single standard 9-volt battery for operation. The circuitry is a microprocessor based digital controller.

The PROMASTER™ operates on low-pressure. The main operating pressure is 250-300 PSI nominally adjusted to visually via the gauge on the primary (input) regulator. The secondary pressure is factory pre-set and regulated to 85-95 PSI. Gas usage is controlled through these 2 internal regulators. A unique feature of this marker is the regulator adjustment. This allows precise adjustment for the velocity control of the marker and for optimal gas efficiency.

The PROMASTER™ comes with a removable barrel system. This feature allows the user to select a barrel that is most suitable for the playing conditions. All barrels are honed with straight and spiral tip porting and stock length is 11".



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OPERATION

Read the entire manual before you prepare your PROMASTER™ for play. Safety and safe marker handling are the most important aspects of the sport of paintball. Please practice each of the following steps with an unloaded marker before attempting to charge your marker with compressed air and paintballs. Do not load compressed air and paintballs into your PROMASTER™ until you feel completely confident with your ability to handle your PROMASTER™ safely.

NOTE: Part numbers matching the exploded diagram (located on page 12) are shown in parentheses throughout this manual.

Keep your finger out of the trigger guard and away from the trigger; point the muzzle of the marker in a safe direction at all times. Keep the marker turned off until ready to operate. The PROMASTER™ uses an on-off switch as one of its safety features. Always keep your PROMASTER™ pointed in a safe direction. Always use a barrel plug or barrel blocking device. Remember that the ultimate safety device is you, the operator.

Installing the 9 volt Power Source

The PROMASTER™ requires a single 9-volt battery as the electronic power source. The use of long life batteries is recommended.

The 9-volt battery is located in the grip behind the trigger and below the on-off switch. The battery is accessed through the right grip located on the right side of the marker.

Remove the two screws (54) that hold the grip panel in place. Slide the Grip Panel out of the way. Remove the four screws (56) that hold the right clamshell in place. Carefully lift the clamshell up and away from the marker. Connect the battery to the terminal and place the battery inside the frame carefully, being sure that the black and red wires to the terminal are toward the top. Make sure that there are no abrupt kinks and the wires are comfortably placed, do not force them into place. Replace the right clamshell grip and tighten the 4 screws (56). Replace the grip panel and 2 screws(54).





COMPRESSED AIR USAGE

▲DANGER:

Cylinders can fly off with enough force to kill if the valve unscrews from the cylinder. **STOP** if the cylinder starts to unscrew from the valve. Screw the cylinder back on and take it to a qualified person to repair.

The PROMASTER™ comes with a female – Push-In fitting adapter on the input of the regulator. The PROMASTER™ can be set up to use a nitrogen or compressed air system. Although it may be used, CO2 is not recommended for use as the propellant. Generally the CO2 that we use as an industry is industrial grade CO2. It is dirty, pumped from large tanks full of contaminants including dirt, rust and metal flakes. CO2 can be used most successfully if used with anti-siphon systems and filters. Be aware that under the conditions of CO2 the results may not be as expected. Consult the place where you purchased your PROMASTER™, or a recognized and competent airsmith, for instruction in the safe handling of compressed-air cylinders before purchasing or connecting one to your PROMASTER™.

Adjustable regulator compressed air systems:

The input pressure from your compressed air system should be regulated down to 450-500 PSI output pressure. Use a VERY HIGH FLOW low pressure output tank and regulator set-up for your best results. The PROMASTER™ will work just fine with a pre-set regulated tank or an adjustable output regulated tank. **Note:** on MOST systems, there is a large difference between cylinder's filled pressure and the actual output operating pressure.

Fixed output regulated compressed air systems:

The PROMASTER™ will work just fine with a pre-set output air system although, you will get much better performance from a HIGH FLOW low output pressure tank/regulator than with a high pressure (750-850) output. You must **VERIFY** the output pressure from the regulator. If your compressed air system does not have an output pressure gauge on its regulator, we do not recommend its use.

Continued>>>



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CO2 usage:

Although it may be used, CO2 is not recommended for use as the propellant. Generally the CO2 that we use as an industry is industrial grade CO2. It is dirty, pumped from large tanks full of contaminants including rust and metal flakes. CO2 can be used most successfully if used with anti-siphon systems and filters. Be aware that the use of CO2 may result in less than optimal performance. CO2 use is NOT covered under warranty.

REMEMBER: CO2, compressed air or nitrogen systems can be extremely dangerous if misused  improperly handled. Use only cylinders meeting D.O.T., T.C, Pi or other specifications as applicable to your location. Do not perform any work to your tank or tank regulator. NEVER disassemble your tank or tank regulator. Only a qualified and trained technician should perform work to your tank and tank regulator.

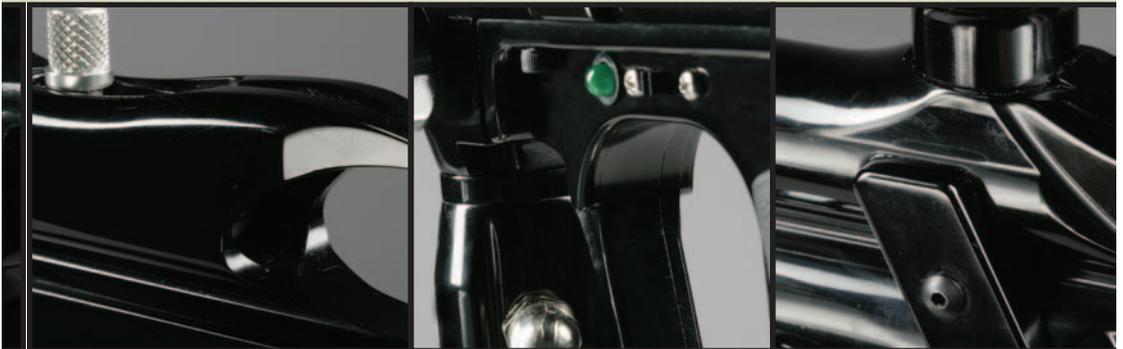
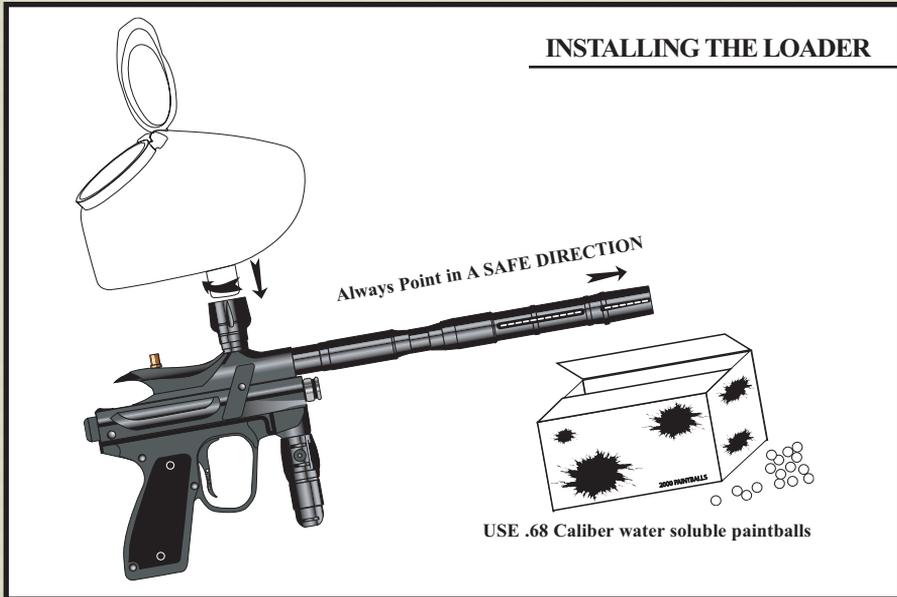
Before pressurizing your PROMASTER™, check to make sure that you and anyone within range are wearing eye protection designed specifically for paintball. Be sure you have a barrel blocking device in place and make sure there are no paintballs in the marker. The on-off switch should be OFF. Air can now be applied, the marker will become pressurized and the bolt will slide backwards.





PAINBALL AND LOADER USAGE

The PROMASTER™ comes equipped to accept 1.03" OD feed neck loaders. Fit the loader directly into the vertical feed tube. Always twist it down in a CLOCKWISE direction. Always twist it off in a CLOCKWISE direction as well. The PROMASTER™ uses .68 caliber, water-soluble paintballs. The paintballs are gravity fed from the loader through the direct vertical feed nipple and into the breech of the marker.



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MODES - RATE-OF-FIRE

The PROMASTER™ will fire “Semi-Auto” or single shot per trigger pull with a maximum rate of fire governed to 15 balls-per-second or unlimited. The PROMASTER™ may also be set in three different enhanced modes. These include “Ramp”, “Ramp-Auto” and “Ramp-Burst”.

SETTING MODES, RATE-OF-FIRE AND DWELL

Before adjusting firing modes, rate of fire or dwell, always remove propellant source from the PROMASTER™, install barrel blocking device and make sure the on-off slide switch is in the “Off” position (LED will be off).

- 1) Place PROMASTER™ on a flat surface with muzzle pointing to the right.
- 2) Using a 5/64 hex wrench, remove the two grip panel screws (55) and pull back the wrap around grip cover (64). This will expose a set of 4 dip switches labeled 1 through 4.
- 3) The dip switches are off when pointing away from the printed numbers on the switch box and are on when pointing towards the printed numbers on the switch box.
- 4) The following covers the dip switch settings and the corresponding firing modes:



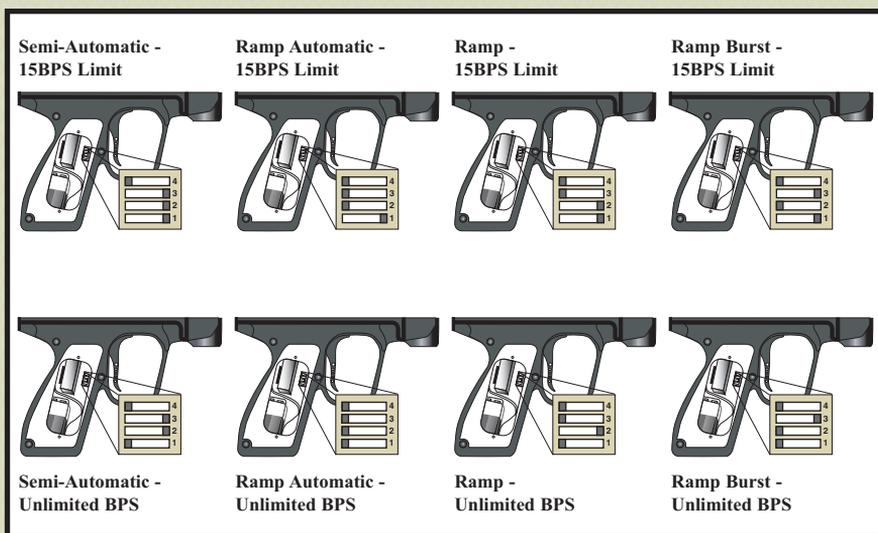


SETTING MODES, RATE-OF-FIRE AND DWELL

Rate of Fire - Balls Per Second (BPS) Controlling Switch

Switch #1 is only used to control BPS limits. When Switch #1 is in the **ON** position the BPS is limited to 15. When Switch #1 is in the **OFF** position, the BPS is only limited by the marker's maximum cycling speed which may vary depending on pressure inputs, dwell setting and other considerations.

Setting Firing Modes

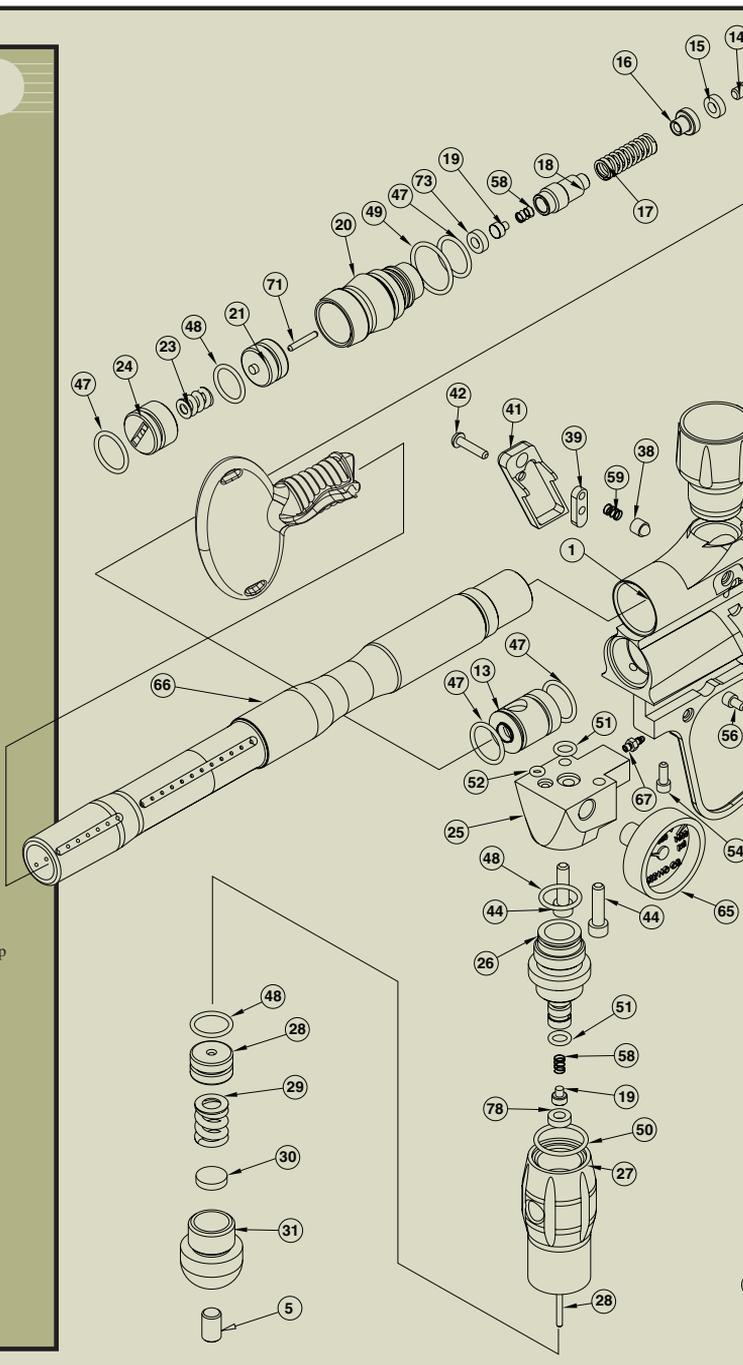




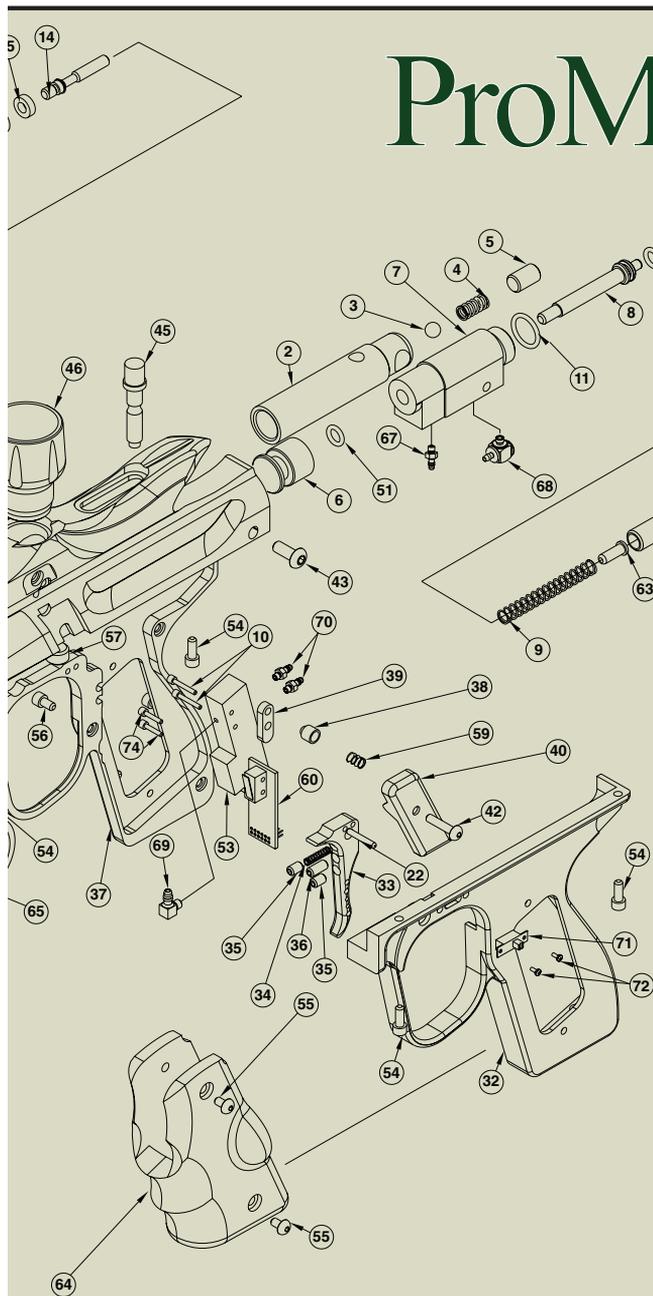
ProMaster™ Technical Layout

Parts List

Part #	Description
1	Main Body
2	Bolt
3	1/4 Bolt Chrome Bearing
4	Bolt Retention Spring
5	5/16-24x1/2 Set Screw
6	Hammer
7	Cylinder Body
8	Piston
9	Cylinder Main Spring
10	1-72x1/2 SHCS
11	H-015 O-Ring
12	Cylinder End Cap
13	Valve Seat
14	Valve Pin
15	Valve Seal
16	Valve Cup
17	Valve Spring
18	LP Cup Housing
19	Regulator Cup
20	LP Regulator Body
21	LPR Piston
22	3-32x5/8 Dowel Pin
23	LP Regulator Main Spring
24	LP Adjustment Screw
25	Regulator Mount
26	HP Regulator Top
27	HP Regulator Body
28	HPR Piston
29	HP Regulator Main Spring
30	HP Spring Spacer
31	HP Regulator Bottom
32	Left side of Clamshell Grip
33	Trigger
34	Trigger Spring
35	8-32x1/4 Set Screw
36	8-32x1/2 Set Screw
37	Right Side of Clamshell Grip
38	Ball Detent
39	Eye Holder
40	Left Eye Cover
41	Right Eye Cover
42	6-32x5/8 Buttonhead
43	10-32x1/2 Buttonhead
44	10-32x3/4 SHCS
45	Link Pin
46	Feed Tube
47	H-016 O-Ring
48	H-015 UR90 O-Ring
49	H-019 O-Ring
50	H-020 O-Ring
51	H-010 O-Ring
52	H-006 O-Ring
53	Solenoid
54	6-32x3/8 SHCS



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Parts List (Cont'd.)

Part #	Description
55	6-32x1/4 Button Head
56	6-32x3/8 SHCS
57	3-8/24x1/4 Set Screw
58	Regulator Cup Spring
59	Anti-Double Feed Spring
60	Circuit Board
61	Barrel Plug
62	Cylinder Spring Assist Sleeve
63	Cylinder Spring Guide
64	Rubber Grip
65	700 p.s.i. Gauge
66	Barrel
67	10/32 Barb
68	QEV
69	90 Degree 3 MM Barb
70	3 Millimeter Barb
71	On/Off Switch
72	3/48x3/16 Pan Head Phillips Machine Screw
73	Regulator Seal
74	1-72x3/8 SHCS

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Dwell Setting – Electronic Impulse Controlling Switch

Switch #4 is only used to control the length of the electronic impulse sent to actuate the solenoid. The longer the dwell setting the slower the maximum cycling rate but the stronger the impulse to the solenoid. The shorter the dwell setting the faster the potential cycling rate but the more likely to experience skipping.

CAUTION: Over shortening the dwell time will render the ProMaster inoperable.

To Adjust Dwell Setting

- 1) Turn Switch 4 to **ON** position.
- 2) Pull trigger and hold.
- 3) Turn on marker.
- 4) While watching the LED (Light Emitting Diode), release trigger.
- 5) Count the number of LED flashes, 1 flash = 1 millisecond dwell 8 flashes = 8 millisecond dwell. After flashing has stopped, LED will stay on.
- 6) Pull and release trigger one time for every desired millisecond of dwell. Wait at least 1 but less than 5 seconds between each trigger pull and release.
- 7) Each trigger pull will cause LED to flash once.
- 8) After trigger pulls wait 10 seconds and marker will flash LED with the new dwell count.
- 9) Turn marker off.
- 10) Turn off switch 4 to lock in new dwell setting.





FIRING THE PROMASTER™

Keep your finger out of the trigger guard and away from the trigger; point the muzzle of your marker in a safe direction at all times during this process. Be sure you and everyone within range is wearing eye protection designed specifically for paintball. Make sure the on-off toggle slide switch is in the off position.

Always keep your PROMASTER™ pointed in a safe direction!

- 1) Place the empty loader onto the marker. Be sure that it is securely mounted in place.
- 2) Apply the propellant source, pressurizing the marker.
- 3) Put the paintballs into the loader.
- 4) Remove the barrel blocking device.
- 5) Aim the marker at the target.
- 6) Push the on-off switch to the **ON** position, the LED will light up.
- 7) Place your finger on the trigger.
- 8) Pull the trigger with a smooth squeezing motion. BANG. . . .



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UNLOADING THE PROMASTER™

Keep your finger out of the trigger guard and away from the trigger; point the muzzle of your marker in a safe direction at all times during this process. Be sure you and everyone within range is wearing eye protection designed especially for paintball.

- 1) Tilt the marker so that the loader is lower than the body of the marker.
- 2) Remove the paintball loader from the direct vertical feed tube, turning the loader in a clockwise direction.
- 3) Reposition the marker so that it is pointing in a safe direction and discharge any paintballs that remain in the feed neck or breech.
- 4) Install the barrel blocking device.
- 5) Point the marker toward the ground and unscrew the propellant source approximately three quarters of a turn. This allows the depressor pin on the propellant source to shut off the gas supply.
- 6) Pull the trigger until the gas trapped between the ASA (Air Source Adapter) and the valve is completely expelled.
- 7) Unscrew the propellant source and remove from the marker.
- 8) Push the On-Off switch to the “Off” position. The LED will turn off.
- 9) Store the marker and the propellant source in a secure location to prevent access by unauthorized persons.





MAINTENANCE

⚠ CAUTION: Before attempting to perform any maintenance operations or any marker disassembly, make sure that all paintballs and propellant sources have been removed from the marker. Install a barrel blocking device, push the on-off switch to the OFF position and keep the marker in this "SAFE" mode.

Simple Maintenance

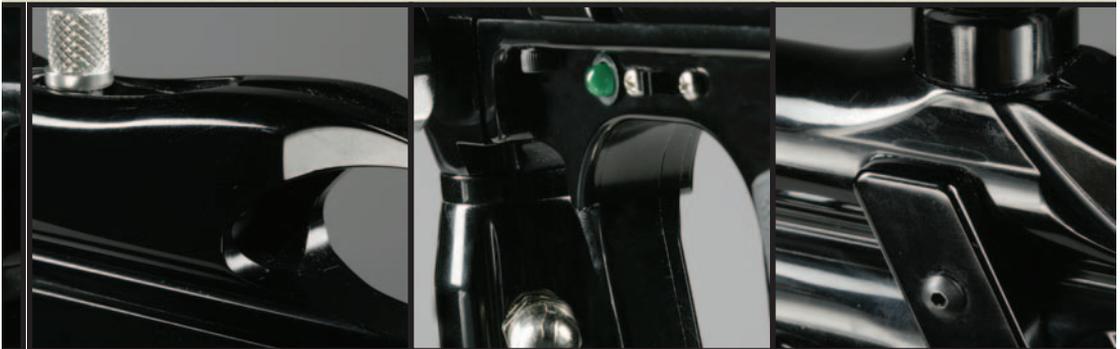
Keep your PROMASTER™ clean and lubricated to eliminate the friction that would prevent reliable operation. Clean and lube the marker before each use, and do not put it away dirty. **USE NO OILS!** Do not use oils made for paintball markers, real firearms or pneumatic tools, do not use oils at all. Do not use petroleum-based lubricants in the lubrication of this marker. Teflon or silicon spray lubricants may be used for lubrication for the bolt area only of the main housing. Lithium grease such as Dow 33 is recommended for lubricating the regulator pistons and the cylinder assembly. Be sure it is Lithium Grease and not axle grease.

Cleaning Paint from the Barrel

Unscrew the barrel to remove for swabbing/cleaning. Keep the barrel clean to insure the continued accuracy of the PROMASTER™. Gelatin from the paintballs has a tendency to build up in the barrel. As part of your regular cleaning process, wash out the barrel with hot soapy water and rinse it well.

PDS (Paintball Detection System)

The PDS is designed to detect whether or not a paintball is seated in the breech ready to fire. If a paintball is not there, it will not cycle. To dry fire the marker without the PDS system, hold in the trigger while turning the marker on, and wait for the LED to stop flashing. If you attempt to dry fire the marker with the PDS on, the marker will only fire once and then stop firing. Keep the infrared emitters and detectors clean for your best results.



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Removing the Bolt/Cylinder Assembly (Field Stripping)

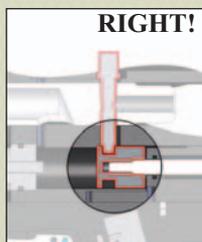
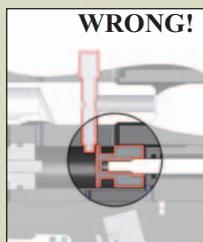
Remove the paintballs and propellant source from the marker. While the marker may be field-stripped while pressurized, this is not recommended.

- 1) Remove the link pin from the top of the marker. Pull the bolt out the back of the main body.

Once the bolt assembly is removed, it is possible to clean the entire upper receiver of the marker, including the breech and feed tube area. You may slightly lubricate the rear section of the bolt with a light synthetic spray before re-installing the bolt. Do not use petroleum/oil-based lubricants. The bolt tip is **NOT** a simple plastic; it is a natural Delrin acetate material, which is a Dupont 3M material, developed specifically for this type of application. The use of a metal tipped bolt will void all warranties.

- 2) Point the barrel downward and slide the bolt in until the link pin hole lines up with the slot in the hammer. **VERIFY** that the air passage hole in the tip of the bolt is facing down. Carefully install the link pin. Slide the link pin back and forth to verify that it is properly seated in the groove of the hammer.

CAUTION: You must be sure that the link pin is engaged properly with the hammer. **If the link pin is not properly replaced, you may damage the hammer/cylinder assembly.**



Link Pin Placement:

Verify that the Link Pin is set within the groove of the hammer.

Improper placement of the Link Pin is **NOT** covered under warranty.





STORAGE AND TRANSPORTATION

- Your PROMASTER™ must be clear of all paintballs and propellant source when not being used.
- Be sure the on-off switch is off and the LED is not lit.
- Put the barrel blocking device in its place.
- Make sure the marker is clean.
- Store your PROMASTER™ in a clean, cool, dry place.
- Keep your PROMASTER™ away from unauthorized users.

▲ CAUTION: This is not a toy. Misuse may cause serious injury or death. Eye Protection designed specifically for paintball must be worn by the user and persons within range. Recommend 18 years of age or older to purchase. Persons under 18 years of age must have adult supervision.

Your PROMASTER™ must be clear of all paint and any source of propellant during transportation to and from the playing field. Keep your barrel blocking device in place. Keep the on-off switch in the off position. Protect your PROMASTER™ from excessive heat during transportation. Observe and obey all local, state and federal laws concerning the transportation of paintball markers. For information concerning any of the laws in your area, contact your nearby law enforcement agency.

IMPORTANT: Never carry your PROMASTER™ uncased when not on a playing field. The non-playing public and law enforcement personnel may not be able to distinguish between a paintball marker and firearm. For your own safety and to protect the image of the sport, always carry your PROMASTER™ in a suitable marker case or in its original box.

If you must ship your PROMASTER™ for any reason, the box in which you purchased the marker is acceptable to all major carriers. Never ship a pressurized CO2 or compressed gas cylinder.



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ADJUSTING THE TRIGGER PULL

You will notice three (3) screws in your trigger. These screws adjust the length of pull, actuation point and spring tension of the trigger. The bottom screw adjusts your trigger stop point (length of pull). The middle screw is the contact point for your micro switch or actuation point. The top screw is the spring tension adjustment screw.

- 1) Place a small drop of blue loctite on the treads of the screws prior to adjusting will help prevent them from backing out due to normal vibrations created while playing. **DO NOT** apply more than a small drop of the loctite to the threads, it can cause damage to the micro switch if you use too much.
- 2) Begin by adjusting the bottom screw to your desired pull. Screw it in to lessen the distance the trigger must travel.
- 3) Very Carefully screw in the middle screw. Making large adjustments can force the screw into the micro switch and damage it. You will want to screw it in to the point where it makes contact with the micro switch but does not permanently rest on it. Continually check to verify that the LED flashes off and then back on when you pull the trigger. If you pull the trigger and the LED goes off and stays off, you have adjusted the screw in too far. back it out.
- 4) Adjust the spring tension by turning the top screw in for more tension and out for less tension.
- 5) Clean up any excess loctite and let it dry for at least an hour before using your PROMASTER™. This ensures the screws will remain in place.





PROMASTER™ TUNING GUIDE

Velocity Adjustment - Using the Main Input Pressure Regulator:

The PROMASTER™ operates on a proven and innovative system. Take the time to understand this section. The pressurized gas is regulated internally. The high-pressure air is used to propel the paintball. The low-pressure air is used to operate the 4-way solenoid valve located in the rear of the marker. The high-pressure regulator is externally adjustable via the screw on the bottom of the high-pressure regulator (inline regulator). A 5/32 hex key for this screw has been provided to adjust this screw. To increase the pressure, turn the screw clockwise.

NOTE: Only slight turns are needed to accomplish changes in the pressure used to shoot the paintball.

To decrease the pressure shown on the gauge, turn the screw counter-clockwise. You must take a clearing shot before the change in the decreasing direction can be registered.

A pressure gauge has been installed into the regulator body to indicate the exact operating pressure of the marker. This gauge is extremely useful. The regulator is set at the factory to provide an output pressure of 250-300 PSI with an input pressure of 500 PSI using Compressed air as the base propellant. Under normal circumstances these settings will produce paintball velocities of approximately 280-300 fps. The input pressure from your propellant source should be set at 450-500 PSI. Higher input pressures will not provide increased performance. There is a specific input side and output side of the main input regulator. If the gauge and input sides are switched, the result will be the main input regulator is totally bypassed.



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LOW PRESSURE REGULATOR ADJUSTMENT

Low Pressure Regulator Adjustment:

The low-pressure regulator is externally adjustable via the adjustment screw in the front of the low-pressure regulator. The low-pressure regulator is pre-set at the factory to 85-95 PSI to operate the 4-way solenoid actuated valve located in the rear of the marker. It may be necessary to re-adjust the low-pressure regulator from time to time to achieve desired velocities, if you are unable using the Main Input Pressure Regulator. Bench adjusting the regulator can be done by pressurizing the marker, be sure the input regulator is set properly, and then turning the adjustment screw inward (clock-wise) until you hear a leak coming from the 4-way valve in the grip area. The 4-way valve has an over-pressurization relief valve that will start to bleed off at approximately 125 PSI, once you hear the leak start then back off the adjustment screw 1/2 turn and the leak will stop. That will approximate the pressure to about 90 PSI. The low-pressure regulator is designed to shut down and preserve the integrity of the low pressure system if it sees an input pressure over approximately 400 PSI coming from the main input regulator.

This marker was designed with safety in mind. If you attempt to shoot paintballs higher than established safety standards, the marker may not function properly.

*****Replacing or removing the original regulators voids all warranties.*****

NOTE: NEVER DISASSEMBLE THE SOLENOID VALVE. THIS WILL PERMANENTLY DAMAGE IT BY DISRUPTING THE MAGNETIC FIELD AND WILL VOID YOUR WARRANTY.





TROUBLE SHOOTING GUIDE

Leak related problems

- 1) The PROMASTER™ has a leak down the barrel.

Reason: Gas is leaking through or around the valve pin seal or O-ring area.

- a) Can you hear the leak when the gas is removed?
Yes? There is no leak. You hear the ocean.
- b) The valve seal is marred, scratched, worn out, or dirty.
Try cleaning it with rubbing alcohol. If this does not work, replace it.
- c) Replace the O-ring around the valve seat.

- 2) The PROMASTER™ has a leak around the low-pressure regulator seam.

Reason: The seal between the regulator body and regulator adapter body is bad, or the regulator is loose.

- a) Tighten the regulator to the body.
- b) Replace the O-ring on the low-pressure regulator body.

- 3) The PROMASTER™ has a leak around the high-pressure regulator seam.

Reason: The seal between the regulator body and ASA adapter is bad, or the regulator is loose.

- a) Tighten the regulator to the adapter
- b) Replace the urethane O-ring on the high-pressure regulator body.

- 4) The PROMASTER™ has a leak inside the grip/battery area.

Reason: The solenoid valve or internal hose is leaking.

- a) Check for over-pressurization from the low-pressure regulator. Re-adjust the low-pressure regulator per instructions on the previous pages.
- b) Tighten the solenoid to the manifold. Take care not to over-tighten.
- c) Replace the internal hose if it has visible damage.
- d) Replace the solenoid valve assembly.



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Ball Breakage Problems

- 1) The paintballs break in the breech.
 - a) The paintballs in you loader can bind, messing up your trigger timing. Always use an agitated or force feed loader and verify the PDS is on.
 - b) If the paintball retention ball does not move freely, the paintballs will crush against it or it may have stuck in the depressed position, allowing double feeding. Check its tension regularly and keep this area as clean as possible.
 - c) If the paintball retention is too sloppy, the paintballs will not be held in the proper position. This may allow the next ball to enter the path of the bolt, subjecting it to impact cracking or shearing. Verify the tension.

Regulator Related Problems

- 2) The gauge reads correctly when charged, but climbs in pressure after a few moments.

Reason: The high pressure regulator seal has been contaminated.

- a) Disassemble the regulator and clean the regulator seal (73) with a Q-tip and alcohol. If you need assistance in the disassembly of the regulator, please call tech support at (208) 468-0446.
- 3) The gauge reads correctly when charged, but drops in pressure after a few shots.
 - a) The regulator may not be adjusted correctly. Remove all pressurized gas and back out the regulator adjustment screw until it is flush with the body. Pressurize the system and adjust the pressure back up to the desired pressure.
 - b) Verify that the on/off valve on your bottom line adapter is properly adjusted. If the valve is only partially open, it will restrict air flow into the regulator.
- 4) The gauge reads correctly when charged, but drops in pressure after a few shots, and is slow to climb back to normal pressure.
 - a) The recovery side of the regulator is sluggish and may need cleaning and lubrication. Clean out any debris and lubricate the urethane O-ring on the outside of the HPR Piston (48) . If you need assistance in the disassembly of the regulator, please call (208) 468-0446.
 - b)The regulator seals needs to be replaced if it has a deep groove in it from the regulator cup.





BATTERY RELATED PROBLEMS

- 1) LED functions but the marker does not fire.
- 2) Alternately missed shots.
- 3) Velocity drops while firing several shots.
- 4) Erratic velocities. Jumps of 20 fps or more.
- 5) Unexplainable paint breakage.
- 6) Slight leak from the solenoid in the back of the grip.

Change the Battery. The LED only requires 1.5 volts to function. The solenoid requires a minimum of 5 volts to operate. This means the marker may appear to be getting enough power when it is not. All batteries are NOT created equal. Performance will vary. Therefore, if you experience any erratic behavior, always change the battery first.



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Part #	ICD Item #	Description	Part #	ICD Item #	Description
1	402001	Main Body	39	402007	Eye Holder
2	402012	Bolt	40	402006L	Left Eye Cover
3	D250HCB	1/4 Bolt Chrome Bearing	41	402006R	Right Eye Cover
4	964073	Bolt Retention Spring	42	63258B	6-32x5/8 Buttonhead
5	5162412	5/16-24x1/2 Set Screw	43	103212B	10-32x1/2 Buttonhead
6	402021	Hammer	44	103234	10-32x3/4 SHCS
7	402003	Cylinder Body	45	402029	Link Pin
8	402019	Piston	46	402011	Feed Tube
9	982071	Cylinder Main Spring	47	H-016	H-016 O-Ring
10	17212	1-72x1/2 SHCS	48	H-015UR	H-015 UR90 O-Ring
11	H-015	H-015 O-Ring	49	H-019	H-019 O-Ring
12	402022	Cylinder End Cap	50	H-020	H-020 O-Ring
13	402016	Valve Seat	51	H-010	H-010 O-Ring
14	402017	Valve Pin	52	H-006	H-006 O-Ring
15	D63388	Valve Seal	53	HEA10F5GLD7101W	Solenoid
16	402018	Valve Cup	54	63238	6-32x3/8 SHCS
17	982073	Valve Spring	55	63214B	6-32x1/4 Button Head
18	402009	LP Cup Housing	56	63214S	6-32x1/4 SHCS
19	402024	Regulator Cup	57	82414	3-8/24x1/4 Set Screw
20	402008	LP Regulator Body	58	935075	Regulator Cup Spring
21	982053	LPR Piston	59	935075	Anti-Double Feed Spring
22	33258	3-32x5/8 Dowel Pin	60	PMCB01R	Circuit Board
23	952076	LP Regulator Main Spring	61	BBD	Barrel Plug
24	402025	LP Adjustment Screw	62	402027	Cylinder Spring Assist Sleeve
25	402002	Regulator Mount	63	402028	Cylinder Spring Guide
26	402013	HP Regulator Top	64	Dwrap	Rubber Grip
27	402014	HP Regulator Body	65	D700LPG	700 p.s.i. Gauge
28	982038	HPR Piston	66	402010	Barrel
29	992076	HP Regulator Main Spring	67	10/32Barb	10/32 Barb
30	402031	HP Spring Spacer	68	QEV	QEV
31	402015	HP Regulator Bottom	69	90Barb	90 Degree 3 MM Barb
32	402005L	Left side of Clamshell Grip	70	3MMBarb	3 Millimeter Barb
33	402026	Trigger	71	10SM007	On/Off Switch
34	993074	Trigger Spring	72	348316	3/48x3/16 Pan Head
35	83214	8-32x1/4 Set Screw			Phillips Machine Screw
36	83212	8-32x1/2 Set Screw	73	D63389	Regulator Seal
37	402005R	Right Side of Clamshell Grip	74	17238	1-72x3/8 SHCS
38	402030	Ball Detent			

