



# ZOOIAC OWNERS MANUAL





<b>DESCRIPTION</b> .....	2
<b>FEATURES</b> .....	2
<b>CAUTIONS</b> .....	3
<b>USING YOUR MARKER</b> .....	4
<b>AIR SUPPLY</b> .....	4
<b>TURNING ON YOUR MARKER</b> .....	4
<b>GUN ACCESSORIES</b> .....	5
<b>GUN ACCESSORIES CONTINUED</b> .....	6
<b>INTEGRATED BOLT ENGINE</b> .....	7
<b>LOW PRESSURE REGULATOR</b> .....	8
<b>TROUBLE SHOOTING GUIDE</b> .....	9
<b>BOLT MAINTENANCE</b> .....	10
<b>BATTERY/ASA MAINTENANCE</b> .....	11
<b>HATER PAGE(S)</b> .....	12-23
<b>WARRANTY INFORMATION</b> .....	23

# TABLE OF CONTENTS

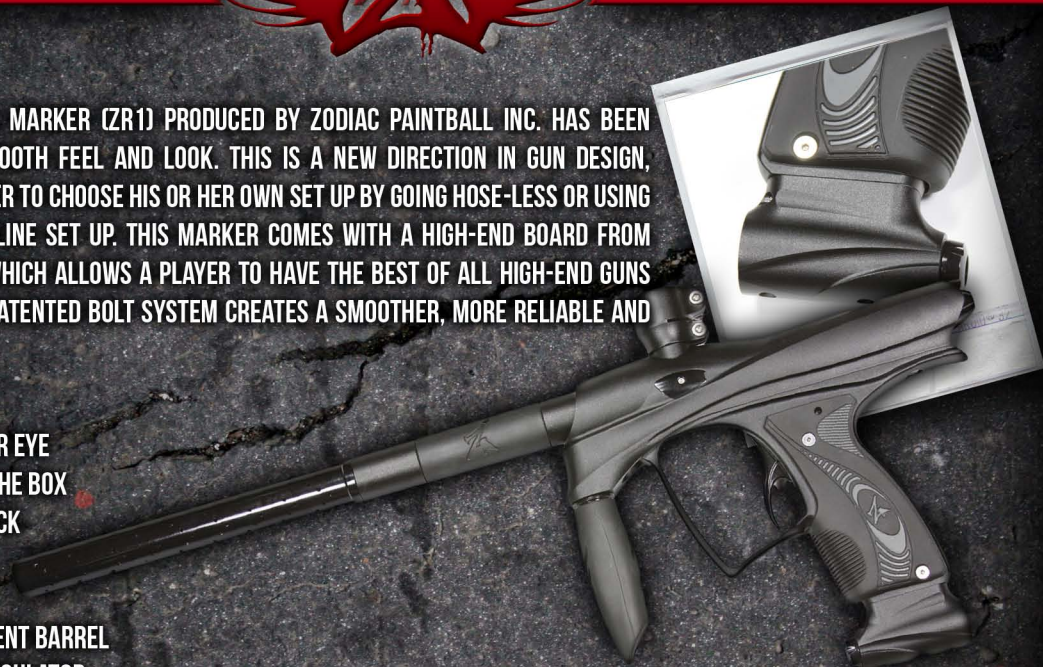




THE NEW RENEGADE MARKER (ZR1) PRODUCED BY ZODIAC PAINTBALL INC. HAS BEEN FORMED WITH A SMOOTH FEEL AND LOOK. THIS IS A NEW DIRECTION IN GUN DESIGN, ALLOWING THE PLAYER TO CHOOSE HIS OR HER OWN SET UP BY GOING HOSE-LESS OR USING STANDARD BOTTOM LINE SET UP. THIS MARKER COMES WITH A HIGH-END BOARD FROM HATER PAINTBALL, WHICH ALLOWS A PLAYER TO HAVE THE BEST OF ALL HIGH-END GUNS TODAY. THE NEWLY PATENTED BOLT SYSTEM CREATES A SMOOTHER, MORE RELIABLE AND EFFICIENT MARKER.

### FEATURES

- ☒ BREAK BEAM LASER EYE
- ☒ RF READY OUT OF THE BOX
- ☒ CLAMPING FEEDNECK
- ☒ PILLOW BOLT
- ☒ HATRED BOARD
- ☒ 2-PIECE TOURNAMENT BARREL
- ☒ HOSE LESS ASA/REGULATOR



# DESCRIPTION - FEATURES



- ⊠ THE RENEGADE MARKER IS NOT A TOY; MISUSE MAY CAUSE SERIOUS INJURY OR DEATH
- ⊠ PLEASE READ, UNDERSTAND AND FOLLOW THE DIRECTIONS IN THE OWNERS MANUAL.
- ⊠ EYE PROTECTION SPECIFICALLY DESIGNED FOR PAINTBALL THAT 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 RENEGADE MARKER AS IF IT WERE LOADED AND ABLE TO FIRE.
- ⊠ ONLY USE COMPRESSED AIR OR NITROGEN GAS IN THE RENEGADE MARKER. DO NOT USE CO2.
- ⊠ **DO NOT EXCEED 650 PSI INPUT PRESSURE.**
- ⊠ ENSURE ALL AIR LINES AND FITTINGS ARE TIGHTENED AND SECURED BEFORE GASSING UP THE RENEGADE MARKER.
- ⊠ ALWAYS CHRONOGRAPH THE RENEGADE MARKER BEFORE PLAYING PAINTBALL.
- ⊠ NEVER SHOOT THE MARKER AT VELOCITIES IN EXCESS OF 300 FEET PER SECOND, OR AT VELOCITIES GREATER THAN LOCAL OR NATIONAL LAWS ALLOW.
- ⊠ NEVER LOOK INTO THE BARREL OR BREECH AREA OF THE RENEGADE MARKER WHEN THE MARKER IS SWITCHED ON AND ABLE TO FIRE.
- ⊠ ALWAYS FIT A BARREL BLOCKING DEVICE TO YOUR RENEGADE MARKER 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 RENEGADE 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 RENEGADE MARKER WITHOUT THE INTEGRATED BOLT ENGINE.
- ⊠ IF YOU READ THESE INSTRUCTIONS AND ARE UNSURE OF YOUR ABILITY TO MAKE NECESSARY ADJUSTMENTS PROPERLY, CONTACT [ZODIACPB.COM](http://ZODIACPB.COM).

# CAUTIONS



## **AIR SUPPLY**

SCREW IN YOUR AIR SYSTEM ALL THE WAY INTO THE ASA/REGULATOR GOING IN A CLOCKWISE MOTION. ENSURE THE AIR SUPPLIED TO THE ASA/REGULATOR IS AT A REGULATED PRESSURE OF NO MORE THAN 650 PSI.

*\*NOTE: ROTATING THE ADJUSTMENT SCREW CLOCKWISE WILL RAISE THE HPR OUTPUT PRESSURE. THE PRESSURE IS SET AT 210 FROM THE FACTORY; THIS PRESSURE SETTING SHOULD HAVE THE MAKER SHOOTING AT 285 FPS.*

## **TURNING ON YOUR MARKER**

TWO BUTTONS CONTROL THE RENEGADE POWER; THE TOP BUTTON TURNS YOUR MARKER ON AND OFF WHILE THE BOTTOM BUTTON TURNS THE EYES OFF. THE LED IN THE GRIP WILL ILLUMINATE DURING THE BOOT SEQUENCE.

*\*NOTE: RED IS BOOT SEQUENCE AND BREECH IS CLEAR; BLUE IS BALL IN BREECH AND READY TO FIRE; BLINKING RED INDICATES THAT EYES ARE OFF. PUSH AND HOLD THE TOP BUTTON; GREEN INDICATES BATTERY IS GOOD, RED INDICATES BATTERY SHOULD BE CHANGED.*

## **LPR**

THE LPR IS PRESET FROM THE FACTORY AT APPROXIMATELY 75 PSI AND SHOULD NOT NEED ADJUSTMENT; HOWEVER, A FINE TUNING ADJUSTMENT MAY BE DESIRED OR NEEDED. YOU MUST BE SURE THAT YOU ARE ADJUSTING THE LPR CORRECTLY. SEE PAGE 08.

# USING YOUR MARKER



### **ASA/REGULATOR (HPR)**

THE RENEGADE COMES EQUIPPED WITH ASA/REGULATOR ATTACHED TO THE BOTTOM OF THE FRAME. TO ADJUST THE HPR, TURN THE ADJUSTMENT SCREW CLOCKWISE. TURNING THE ADJUSTMENT SCREW WILL INCREASE THE PRESSURE OF THE AIR.

*\*NOTE: 450-650 PSI TANKS RECOMMENDED.*

### **CAM LEVER FEEDNECK**

THE FEEDNECK IS ADJUSTABLE AND CAN FIT ANY STANDARD LOADER. TO ADJUST THE CAM LOCKING SYSTEM, TURN THE ADJUSTMENT SCREW CLOCKWISE TO TIGHTEN OR COUNTER CLOCKWISE TO LOOSEN. NEXT, PRESS THE CAM LEVER DOWN AGAINST THE FEED COLLAR TO SECURE THE LOADER. TO LOOSEN THE LOCKING SYSTEM AND REMOVE THE LOADER, LIFT THE CAM LEVER AWAY FROM THE FEED COLLAR.

### **ADJUSTABLE TRIGGER**

USE A .05 ALLEN WRENCH TO MAKE DESIRED ADJUSTMENTS. (1) THE TOP SCREW CONTROLS THE MAGNET TENSION. TO MAKE THE TRIGGER PULL STIFFER, TURN THE ALLEN WRENCH CLOCKWISE OR TO MAKE TRIGGER PULL LIGHTER, TURN THE ALLEN WRENCH COUNTER CLOCKWISE. (2) THE MIDDLE SCREW CONTROLS THE FIRING POINT. \* (3) THE BOTTOM SCREW CONTROLS THE TRIGGER STOP POINT.

*\*NOTE: IF THIS SCREW IS ADJUSTED TOO FAR THE SWITCH WILL BE HELD DOWN AT ALL TIMES AND NOT FIRE.*

# **GUN ACCESSORIES**



## ANTI CHOP LASER EYES/BALL DETENTS

THE ANTI CHOP EYES WILL PREVENT THE RENEGADE FROM CHOPPING PAINT BY NOT ALLOWING THE MARKER TO FIRE UNTIL THE BALL IS FULLY SEATED IN FRONT OF THE BOLT. THE EYES USE A LIGHT BEAM ACROSS THE BREECH. ONE SIDE IS A TRANSMITTER AND THE OPPOSITE SIDE IS A RECEIVER. IN ORDER FOR THE MARKER TO FIRE WITH THE EYES TURNED ON, THE SIGNAL BETWEEN THE TWO EYES MUST BE BROKEN.

*\*NOTE: IF THE BATTERY IS LOW, THE MARKER MAY ACT AS IF THE EYES ARE DEFAULT OR MAY NOT READ AT ALL.*

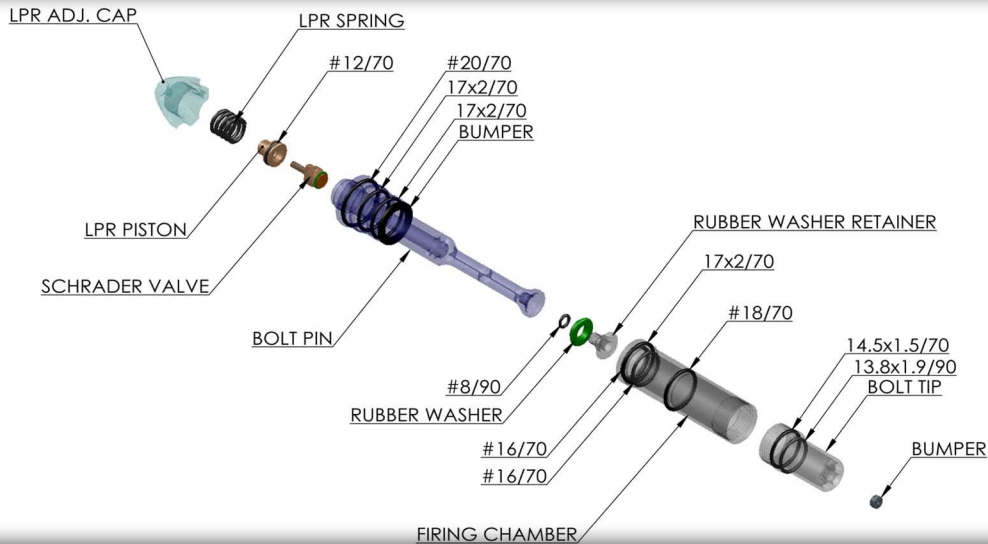
BALL DETENTS SYSTEM IS CLIPPED TO THE INSIDE OF THE EYE COVERS. THE DETENTS SHOULD FIT EASILY AND FLEX OUT OF THE WAY WITH A LITTLE FORCE, SUCH AS A PAINTBALL MOVING PAST. IF YOU EXPERIENCE DOUBLE FEEDING OR CHOPPING, CHECK THE CONDITION OF YOUR BALL DETENTS AND SPRING.

*\*NOTE: BE CAREFUL NOT TO LOSE THE SPRINGS WHEN REMOVING EYE COVER.*

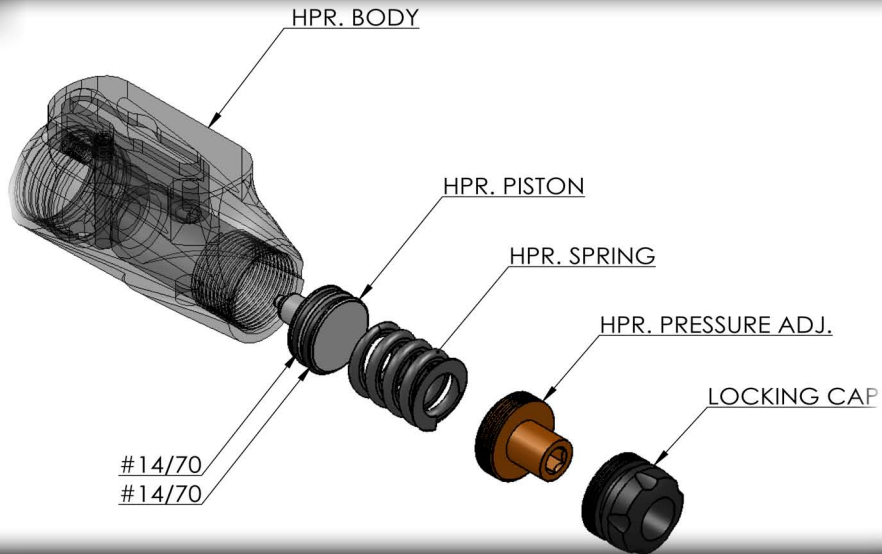


# GUN ACCESSORIES





INTEGRATED BOLT ENGINE



LOW PRESSURE REGULATOR



## TROUBLESHOOTING

- AIR LEAKING FROM THE BACK OF THE MARKER: CHECK THE O RING ON THE BACK OF THE BOLT PIN CLOSEST TO THE LPR ADJUSTMENT CAP #.019 O RING.
- AIR LEAKING DOWN THE BARREL: CHANGE #.017 ON MIDDLE OF BOLT, OR GREEN WASHER ON BOLT PIN TIP
- AIR LEAKING IN THE FRAME: CHECK HIGH PRESSURE AIR SEAL #17X2 O RING AND POTENTIAL VALVE CORE LEAK
- AIR LEAKING FROM ASA/REGULATOR: CHANGE #.013 O RINGS ON PISTON, WHICH CAN ALSO CAUSE HPR INCONSISTENCY. IF THE LEAK IS BETWEEN THE FRAME AND ASA, CHANGE #.003 O RING ON BOTTOM OF FRAME.
- AIR LEAKING BETWEEN THE BODY AND FRAME: CHANGE #.003 O RING NEXT TO SOLENOID
- AIR LEAK FROM LPR CAP: CHANGE #.010 O RING LPR PISTON

## CHANGING THE BATTERY

-THE BATTERY IS HOUSED ON THE RIGHT SIDE OF THE GRIP FRAME. REMOVE THE TWO SCREWS HOLDING THE RIGHT SIDE GRIP PANEL DOWN; CAREFULLY LIFT THE BATTERY OUT OF THE FRAME. WHEN INSERTING A NEW BATTERY, NOTICE THE + AND - MARKS ON THE BOARD. INSERTING THE BATTERY BACKWARDS DOES NOT DAMAGE THE BOARD, BUT IT WILL NOT FUNCTION.

*\*NOTE: A LOW BATTERY WILL NOT BE ABLE TO POWER THE EYES AND THE TRIGGER SWITCH. IF THE BATTERY IS TOO LOW IT MAY NOT BE ABLE TO POWER THE SOLENOID CORRECTLY, THIS WILL AFFECT THE VELOCITY AND CAUSE MARKER TO BECOME INCONSISTENT AND/OR LOW.*

# TROUBLE SHOOTING GUIDE



## **BOLT MAINTENANCE**

REGULAR BOLT MAINTENANCE IS VITAL TO THE PERFORMANCE OF THE RENEGADE. IF THE BOLT IS NOT KEPT WELL GREASED AND THE O RINGS IN SHAPE, THE PERFORMANCE OF THE MARKER WILL BE GREATLY HINDERED.

TO REMOVE THE BOLT YOU WILL NEED A 3/16 ALLEN WRENCH. UNSCREW THE BOLT FROM THE REAR OF THE MARKER; IT ONLY TAKES 3 REVOLUTIONS TO UNSCREW THE BOLT SO THAT IT CAN BE PULLED OUT. AFTER THE BOLT HAS BEEN CLEANED AND GREASED AND IS READY TO INSERT INTO THE BODY, SLOWLY PUSH THE BOLT INTO THE BODY. TAKE CARE NOT TO CUT OR KNICK THE O RINGS AS THEY PASS THE THREADS.

*\*NOTE: GREASE THE RENEGADE MARKER BOLT EVERY 8 TO 10 THOUSAND SHOTS AND CHECK THE CONDITION OF THE O RINGS.*

IF YOU DO NOT GREASE THE BOLT, YOU WILL RUN THE RISK OF DAMAGING O RINGS. THIS WILL CREATE EXCESSIVE DRAG ON THE BOLT AND ULTIMATELY RESULT IN BREAKING THE BOLT.

# **BOLT MAINTENANCE**



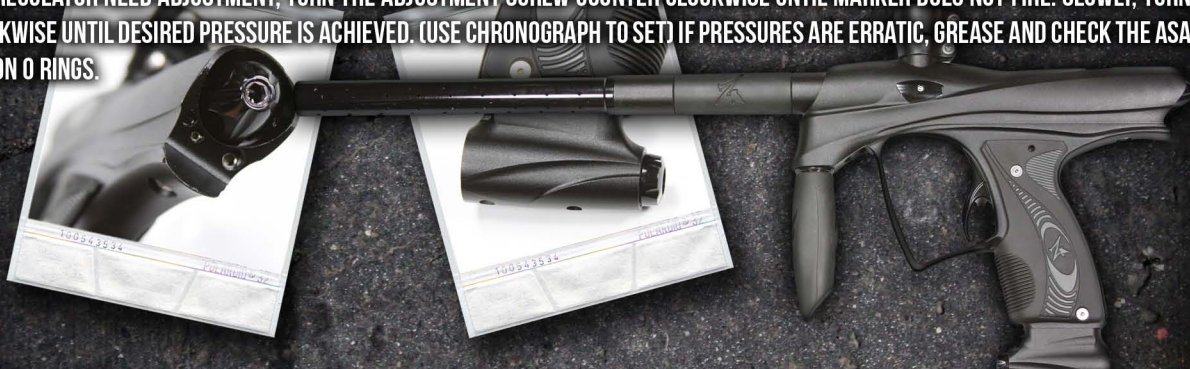
## **BATTERY**

TO CHECK THE BATTERY, PUSH AND HOLD THE TOP BUTTON. IF THE LIGHT IS FLASHING GREEN, THE BATTERY IS GOOD. IF THE LIGHT IS FLASHING RED, THE BATTERY NEEDS TO BE REPLACED. SEE TROUBLE SHOOTING GUIDE TO ASSIST WITH CHANGING THE BATTERY.

*\*NOTE: LOW OR ERRATIC VELOCITY MAY BE DUE TO LOW BATTERY, IN THIS CASE CHANGE BATTERY.*

## **ASA/REGULATOR**

THE ASA/REGULATOR IS ALREADY PRESET IN THE FACTORY AT 210 PSI. EXCEEDING 300 PSI CAN CAUSE DAMAGE TO BOLT SYSTEM. SHOULD THE REGULATOR NEED ADJUSTMENT, TURN THE ADJUSTMENT SCREW COUNTER CLOCKWISE UNTIL MARKER DOES NOT FIRE. SLOWLY, TURN CLOCKWISE UNTIL DESIRED PRESSURE IS ACHIEVED. (USE CHRONOGRAPH TO SET) IF PRESSURES ARE ERRATIC, GREASE AND CHECK THE ASA PISTON O RINGS.



# BATTERY/ASA MAINTENANCE



## FEATURES:

- THE FIRST EVER PAINTBALL CIRCUIT BOARD WITH A FULLY INTEGRATED WIRELESS TRANSCIVER!
- FULLY COMPATIBLE WITH ALL SYMBIO WIRELESS PRODUCTS.
- INCLUDES 22 FIRING MODES INCLUDING FULLY CUSTOMIZABLE RAMP MODES.
- PROPRIETARY MULTI-TASKING ALGORITHMS CONTINUOUSLY MONITOR ALL TRIGGER AND EYE EVENTS TO ENSURE THAT ALL PULLED SHOTS REGISTER AND ARE PROCESSED.
- TEN TIMES FASTER THAN THE TOP-RANKED COMPETITOR! THIS TRANSLATES TO 900,000 MORE OPERATIONS PER SECOND THAN ANYONE ELSE.
- FULLY ADJUSTABLE ABS FEATURES ADD TO THE MARKER'S DWELL TO ELIMINATE THAT PESKY FIRST SHOT DROP-OFF.
- ANTI-MECHANICAL BOUNCE (AMB) ALGORITHMS SOLVE THE PROBLEM OF PHYSICAL SWITCH BOUNCE. NO NEED TO WORRY WHEN THE REFS PULL THAT OLD SLOW TRIGGER PULL TRICK ON YOUR GUN.
- A "FORCED SHOT" FEATURE ALLOWS THE USER TO CLEAR THE MARKER OF EYE FAULTS.
- INSTANT ON FEATURE. AFTER ALL, YOU WANNA PLAY NOW!
- INSTANTANEOUS BATTERY STATUS.
- TOURNAMENT LOCK FEATURE ALLOWS THE USER TO "LOCK OUT" THE PROGRAMMING MODE IN ORDER TO MEET SPECIFIC FIELD/TOURNAMENT GUIDELINES.

# WATER PAINTBALL

"HATRED RENEGADE BOARD"  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1



## **INSTALLATION**

**MAKE SURE THE MARKER IS NOT CONNECTED TO AN AIR SOURCE AND DOES NOT HAVE PAINTBALLS IN THE BREACH DURING INSTALLATION!**

- 1. REMOVE THE SCREWS THAT SECURE THE GRIPS. THIS WILL EXPOSE THE BOARD.**
- 2. CAREFULLY REMOVE THE FRAME FROM YOUR MARKER.**
- 3. UNPLUG THE EYE AND SOLENOID CONNECTORS FROM THE BOARD.**
- 4. REMOVE THE TWO MOUNTING SCREWS AND THEN REMOVE THE OLD CIRCUIT BOARD.**
- 5. CAREFULLY PLACE THE NEW HATRED BOARD INTO YOUR FRAME. MAKE SURE YOUR BUTTONS AND MICROSWITCH ALIGN CORRECTLY BEFORE BOLTING THE HATRED BOARD TO YOUR FRAME.**
- 6. REATTACH FRAME. BE VERY CAREFUL NOT TO PINCH ANY OF YOUR EYE OR SOLENOID WIRES BETWEEN THE GUN BODY AND CIRCUIT BOARD!**
- 7. PLUG IN YOUR EYE AND SOLENOID WIRES INTO THE HATRED BOARD.**
- 8. INSTALL FRESH 9V BATTERY. MAKE SURE THE POSITIVE TERMINAL (SMALLER TERMINAL) IS CLOSEST TO YOUR POWER AND EYE BUTTONS!**
- 9. REPLACE GRIPS.**
- 10. POWER ON AND PLAY!**

# **WATER PAINTBALL**

**“HATRED RENEGADE BOARD”  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1**



## POWER

**POWER ON:** THE HATRED BOARD COMES EQUIPPED WITH AN INSTANT ON FEATURE. SIMPLY PRESS THE POWER BUTTON (TOP BUTTON) AND YOUR MARKER WILL INSTANTLY POWER ON. YOU WILL SEE A FLICKERING **GREEN** OR **RED** LED. THE **GREEN** INDICATES A GOOD BATTERY AND THE **RED** MEANS REPLACE THE BATTERY AS SOON AS POSSIBLE. REGARDLESS OF **GREEN/RED** BATTERY INDICATION, YOUR MARKER WILL REGISTER YOUR FIRST TRIGGER PULL! PLEASE BE CAREFUL!

**POWER OFF:** TO TURN THE MARKER OFF, PRESS AND HOLD THE POWER BUTTON UNTIL THE LED GOES THROUGH A RAINBOW POWER DOWN SEQUENCE. PLEASE NOTE THAT THIS PARTICULAR RAINBOW LED SEQUENCE DOES NOT INDICATE THAT YOU'RE ENTERING THE PROGRAMMING MENU.



# WATER PAINTBALL

“HATRED RENEGADE BOARD”  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1





## PROGRAMMING

THE BOTTOM DIP SWITCH MUST BE IN THE OFF POSITION IN ORDER TO ENTER THE PROGRAMMING MENU. IF THE BOTTOM DIP SWITCH IS ON, "TOURNAMENT LOCK" WILL BE ENABLED AND THE USER WILL BE UNABLE TO PROGRAM THE MARKER. TO ENTER THE PROGRAMMING MENU, HOLD THE TRIGGER DOWN AND THEN TURN THE MARKER ON. THE LED WILL INFORM THE USER THAT THE PROGRAMMING MODE HAS BEEN ACCESSED BY FLASHING SEVERAL COLORS RAPIDLY.



<u>LED Color</u>	<u>Setting</u>	<u>Default Setting</u>	<u>Adjustable Range</u>
Purple	Fire Mode	1	1-22
Green	Debounce	8ms	1-50 ms
Red	Dwell	5 ms	5-35 ms
Blinking Red	Dwell	10	1-10
Red	High Resolution		
Blue	Max ROF	20 cps	10-35 cps
Blinking Blue	ROF	10	1-10
Blue	High Resolution		
Teal	AMB	10 ms	1-60 ms
Yellow	Eye Delay	1 ms	1-20 ms
White	Wireless Address	1	1-32
Flickering Purple	ABS	10 ms	1-20 ms
Flickering Green	Ramp Activation	9 bps	6-15 bps
Flickering Red	Ramp Percent	10%	1-20 (10-200%)
Flickering Blue	Reset Defaults	n/a	n/a

# WATER PAINTBALL

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SOFTWARE REVISION ZR 1



## PROGRAMMING CONTINUED

- 1.) PULLING AND RELEASING THE TRIGGER WILL ALLOW THE USER TO TOGGLE THROUGH THE DIFFERENT PROGRAMMING OPTIONS.
- 2.) ONCE THE DESIRED SETTING/LED COLOR IS REACHED, PULL AND HOLD THE TRIGGER TO SELECT THAT SETTING. THE LED WILL THEN GO BLANK.
- 3.) ONCE THE LED GOES BLANK, PULL THE TRIGGER FOR THE DESIRED SETTING. FOR EXAMPLE, IF THE USER WISHES TO SET THE DEBOUNCE TO 2, HE OR SHE MUST PULL THE TRIGGER TWO TIMES.  
*-IF THE USER WANTS TO VIEW THEIR CURRENT VALUE FOR A PARTICULAR SETTING, HE OR SHE NEED ONLY TO CONTINUE HOLDING THE TRIGGER IN AFTER THE SETTING IS SELECTED FROM THE MENU. THE SOFTWARE WILL THEN BLINK BACK THE USER'S CURRENT VALUE FOR THAT PARTICULAR SETTING.*
- 4.) THE SOFTWARE WILL INDICATE THAT THE NEW VALUE HAS SUCCESSFULLY BEEN ENTERED BY BLINKING THE VALUE BACK TO THE USER THEN RAPIDLY FLASHING THE LED THROUGH A SPECTRUM OF COLORS.  
*-AS THE SOFTWARE BLINKS BACK THE NEW SETTING, THE USER MAY ABORT THIS PROCESS BY SIMPLY CLICKING THE TRIGGER ONCE. THE NEW SETTINGS WILL STILL BE SAVED.*
- 5.) AFTER A SETTING HAS BEEN CHANGED, THE USER MAY CHANGE ANOTHER OPTION OR POWER THE GUN OFF TO SAVE THE SETTINGS.

NOTE: ALL "PROGRAMMING CLICKS" CORRESPOND EXACTLY TO THEIR SETTINGS. IF YOU WANT TO CAP THE ROF AT 15, PULL THE TRIGGER 15 TIMES. IF THE USER SETS THE VALUE TOO LOW (2 CPS ROF CAP FOR EXAMPLE), THE SOFTWARE WILL AUTOMATICALLY DEFAULT TO THE LOWEST ACCEPTED VALUE. THE INVERSE IS ALSO TRUE FOR USER INPUTS WHICH ARE BEYOND THE ADJUSTABLE RANGE.

# WATER PAINTBALL

"HATRED RENEGADE BOARD"  
INSTRUCTION MANUAL  
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### TO SET THE FIRING MODE TO PSP MODE

1. TURN THE MARKER OFF.
2. HOLD THE TRIGGER DOWN; THEN TURN THE MARKER ON. ONCE THE LED FLASHES MANY COLORS, RELEASE THE TRIGGER.
3. TAP THE TRIGGER UNTIL THE LED TURNS PURPLE.
4. HOLD DOWN THE TRIGGER UNTIL THE LED GOES BLANK.
5. TAP THE TRIGGER TWO TIMES.
6. ONCE THE LED FLASHES MANY COLORS, TURN THE MARKER OFF.

### TO SET THE MAX ROF TO 15 BPS.

1. TURN THE MARKER OFF.
2. MAKE SURE THE TOP DIPSWITCH (DIPSWITCH 1) IS IN THE ON/UP POSITION.
3. HOLD THE TRIGGER DOWN; THEN TURN THE MARKER ON. ONCE THE LED FLASHES MANY COLORS, RELEASE THE TRIGGER.
4. TAP THE TRIGGER UNTIL THE LED TURNS BLUE.
5. HOLD DOWN THE TRIGGER UNTIL THE LED GOES BLANK.
6. TAP THE TRIGGER 15 TIMES.
7. ONCE THE LED FLASHES MANY COLORS, TURN THE MARKER OFF.

### TO SET THE EYE DELAY TO 5 MS

1. TURN THE MARKER OFF.
2. HOLD THE TRIGGER DOWN; THEN TURN THE MARKER ON. ONCE THE LED FLASHES MANY COLORS, RELEASE THE TRIGGER.
3. TAP THE TRIGGER UNTIL THE LED TURNS YELLOW.
4. HOLD DOWN THE TRIGGER UNTIL THE LED GOES BLANK.
5. TAP THE TRIGGER 5 TIMES.
6. ONCE THE LED FLASHES MANY COLORS, TURN THE MARKER OFF.

### Dip Switch Settings:

Switch	<u>UP</u>	<u>DOWN</u>
1 (top)	ROF Cap ON	ROF Cap OFF
2 (bottom)	Tournament Lock	Programming Mode

# WATER PAINTBALL

“HATRED RENEGADE BOARD”  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1



## EYE SENSOR OPERATION

WHEN THE HATRED BOARD IS POWERED ON, THE EYES ARE ENABLED BY DEFAULT. TO DISABLE THE EYES, PRESS AND HOLD THE EYE BUTTON ON YOUR MARKER.

-WHEN THE EYES ARE DISABLED (BLINKING **RED** LED), YOUR ROF WILL DEFAULT TO THE USER PROGRAMMED GLOBAL ROF CAP.

-WHEN THERE IS AN EYE FAULT (BLINKING **BLUE** LED), YOUR ROF WILL AUTOMATICALLY DEFAULT TO 15 CPS.

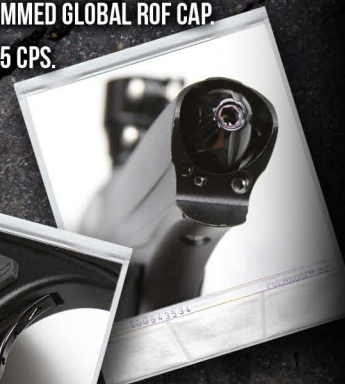
## LED REPRESENTATION:

SOLID **BLUE**.....EYES ON; PAINT IN BREACH.

BLINKING **BLUE**.....EYES ON W/ BLOCKED/DIRTY ERROR.

SOLID **RED**.....EYES ON; NO PAINT IN BREACH.

BLINKING **RED**.....EYES DISABLED.



# WATER PAINTBALL

HATRED RENEGADE BOARD™  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1



## FIRING MODES

*(PLEASE NOTE THE FIRING MODE ORDER ON THE BACK OF THE HATRED BOX DOES NOT CORRESPOND TO THE ACTUAL ORDER.)*

**1. SEMI AUTO/NPPL** – 1 TRIGGER PULL = 1 SHOT FIRED.

**2. PSP MODE** – THE FIRST THREE SHOTS ARE SEMI AUTO. ON THE 4TH SHOT, THE GUN WILL SHOOT IN 3 SHOT BURSTS. THIS BURST MODE WILL CONTINUE AS LONG AS THE TRIGGER IS BEING PULLED. AFTER A ONE SECOND DELAY OF TRIGGER INACTIVITY, THE 3 SHOTS SEMI-AUTO SEQUENCE WILL RESTART.

-THE GLOBAL ROF CAP MUST BE SET TO 15 BPS TO COMPLY WITH PSP RULES.

**3. NXL** – THE FIRST THREE SHOTS ARE SEMI AUTO. ON THE 4TH SHOT, THE USER MAY HOLD IN THE TRIGGER AND THE GUN WILL SHOOT IN FULL AUTO UNTIL THE TRIGGER IS RELEASED. AFTER A ONE SECOND DELAY OF TRIGGER INACTIVITY, THE 3 SHOTS SEMI-AUTO SEQUENCE WILL RESTART.

-THE GLOBAL ROF CAP MUST BE SET TO 15 BPS TO COMPLY WITH NXL RULES.

**4. MILLENNIUM** – RAMPING MODE SPECIFICALLY DESIGNED FOR EUROPE'S MILLENNIUM SERIES.

**5. RAMPING** – USES A LINEAR RAMPING ALGORITHM TO INCREASE YOUR RATE OF FIRE. YOU CAN CHOOSE WHEN YOU WANT YOUR MARKER TO START RAMPING AND HOW FAST YOUR MARKER WILL RAMP.

-THE RAMP DEACTIVATION IS ALWAYS 2 BPS LOWER THAN THE RAMP ACTIVATION.

-EACH "PROGRAMMING CLICK" CORRESPONDS TO A 10% INCREASE IN RAMPING SPEED. EG: 1 CLICK = 10%, 10 CLICKS = 100%, 20 CLICKS = 200%

-THE RAMPING PERCENTAGE AND RAMP ACTIVATION SETTINGS IN THE PROGRAMMING MENU ARE GLOBAL SETTINGS. ANY OTHER FIRING MODE WHICH HAS A RAMPING SUBROUTINE WILL USE THE RAMP ACTIVATION AND PERCENTAGES AS DICTATED BY THE PROGRAMMING MENU.

**6. FULL AUTOMATIC** – THE GUN WILL SHOOT IN FULL AUTOMATIC FOR AS LONG AS YOU HOLD DOWN THE TRIGGER.

**7. AUTO RESPONSE** – THE MARKER WILL FIRE ONCE WHEN THE TRIGGER IS PULLED AND ONCE WHEN THE TRIGGER IS RELEASED. THIS IS ESSENTIALLY A 100% RAMPING MODE WITH A 0 BPS ACTIVATION.

**8. PSP STYLE RAMPING** – THE FIRST THREE PULLS ARE SEMI AUTO. ON THE 4TH SHOT, THE MARKER WILL FIRE IN RAMPING MODE. AFTER A ONE SECOND DELAY OF TRIGGER INACTIVITY, THE THREE SHOT SEMI-AUTO WILL RESTART.

**9. PSP AUTO RESPONSE** – THE FIRST THREE PULLS ARE SEMI AUTO. ON THE 4TH SHOT, THE MARKER WILL FIRE IN AUTO RESPONSE MODE. AFTER A ONE SECOND DELAY OF TRIGGER INACTIVITY, THE THREE SHOT SEMI-AUTO WILL RESTART.

**10. PSP BREAKOUT MODE** – THE FIRST TRIGGER PULL IS FULL AUTO THEN THE MARKER WILL CONVERT TO PSP MODE.

**11. LANING MODE** – THE FIRST THREE TRIGGER PULLS ARE SEMI AUTO; THE NEXT THREE TRIGGER PULLS ARE FULL AUTO; THEN, THE MARKER CONVERTS TO SEMIAUTOMATIC.

**12. FAST START MODE** – THE FIRST THREE TRIGGER PULLS ARE SEMI AUTO; THE NEXT 100 TRIGGER PULLS ARE AUTO RESPONSE; THEN, THE MARKER CONVERTS TO SEMI-AUTOMATIC.

**13. SEMI/AUTO RESPONSE TRANSITION** – THE FIRST THREE PULLS ARE SEMI AUTO; THE GUN THEN CONVERTS TO AUTO RESPONSE MODE.

**14. FAST START MODE** – THE FIRST THREE SHOTS ARE SEMI AUTO; THE MARKER THEN CONVERTS TO RAMPING MODE.

**15. SEMI/FULL AUTO TRANSITION** – THE MARKER WILL SHOOT AN UNLIMITED NUMBER OF SHOTS IN SEMI AUTO AS LONG AS THE TRIGGER PULLS ARE ALL LESS THAN 8BPS. ONCE 8 BPS IS ACHIEVED, THE MARKER WILL CONVERT TO FULL AUTO.

# WATER PAINTBALL

**"HATRED RENEGADE BOARD"**  
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SOFTWARE REVISION ZR 1



## FIRING MODES CONTINUED

*(PLEASE NOTE THE FIRING MODE ORDER ON THE BACK OF THE HATRED BOX DOES NOT CORRESPOND THE ACTUAL ORDER.)*

**16. RAMPING/SEMI TRANSITION** – FOR THE FIRST 300 PULLS, THE MARKER WILL BE IN RAMPING MODE; AFTER THE 300TH PULL, THE MARKER WILL CONVERT TO SEMI AUTO.

**17. FULL AUTO/RAMPING/SEMI TRANSITION** – THE FIRST PULL IS FULL AUTO; THE NEXT 300 PULLS ARE RAMPING; THEN THE MARKER WILL CONVERT TO SEMI AUTO.

**18. SEMI/FULL AUTO/RAMPING TRANSITION** – THE FIRST 10 PULLS ARE SEMI AUTO; THE NEXT THREE PULLS ARE FULL AUTO; THE MARKER THEN LOCKS INTO RAMPING MODE.

**19. TWO SHOT BURST** – FOR EVERY TRIGGER PULL, THE MARKER WILL FIRE TWO PAINTBALLS.

**20. THREE SHOT BURST** – FOR EVERY TRIGGER PULL, THE MARKER WILL FIRE THREE PAINTBALLS.

**21. FOUR SHOT BURST** – FOR EVERY TRIGGER PULL, THE MARKER WILL FIRE FOUR PAINTBALLS.

**21. MUSKET BALL MODE** – THIS IS ESSENTIALLY A DWELL RAMP MODE. THE USER MUST HOLD IN THE TRIGGER TO “CHARGE” THEIR MARKER. THE GUN ACTUALLY FIRES ON THE TRIGGER RELEASE. WHEN THE TRIGGER IS FIRST PULLED AND HELD DOWN, THE SOFTWARE WILL START AT THE USER SET DWELL (18 MS DEFAULT) MINUS 10 MS. OVER THE COURSE OF FIVE SECONDS, THE SOFTWARE WILL ADD 2 MS OF DWELL UP TO THE USER SET DWELL FOR EVERY SECOND THE TRIGGER IS CONTINUALLY DEPRESSED. AFTER 5 SECONDS, THE MARKER WILL BE FULLY CHARGED.

-IF THE USER JUST PULLS THE TRIGGER AND IMMEDIATELY RELEASES, THE PAINTBALL PROBABLY WON'T MAKE IT OUT OF THE BARREL; IF THE USER HOLDS THE TRIGGER FOR 3 SECONDS, THE VELOCITY OF THE PAINTBALL WILL BE EXTREMELY LOW, ETC.



# WATER PAINTBALL

“HATRED RENEGADE BOARD”  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1



## WIRELESS OPERATION

THE HARDWARE ON THE HATRED BOARD WAS DEVELOPED WITH TWO PRIME CONCERNS: OVERALL SPEED AND WIRELESS EXPANDABILITY. YOUR HATRED BOARD COMES EQUIPPED WITH A HIGH-PERFORMANCE WIRELESS TRANSCIVER WHICH IS FULLY CAPABLE OF AN ALMOST UNLIMITED ARRAY OF WIRELESS APPLICATIONS. THE BOARD YOU JUST PURCHASED IS WHOLLY CAPABLE OF COMPUTER AND PDA SYNCHRONIZATION, WIRELESS "INTELLIFEEDS," AND STATISTICAL TRANSMISSION AND ANALYSES. THE HATRED BOARD COMES PRE-LOADED WITH SYMBIO SYNC LOADER BOARD SOFTWARE. TO SYNCHRONIZE YOUR HATRED BOARD WITH YOUR SYMBIO LOADER BOARD:

- 1.) MAKE SURE YOUR SYMBIO IS FULLY POWERED OFF. PRESS AND CONTINUE TO HOLD THE SYMBIO LOADER BOARD'S BUTTON UNTIL THE LED FLASHES WHITE. RELEASE THE BUTTON; THE LED SHOULD NOW BE SOLID WHITE.
- 2.) ENTER THE PROGRAMMING MENU ON YOUR HATRED GUN BOARD AND SCROLL TO THE WIRELESS ADDRESS SELECT (WHITE LED).
- 3.) SET YOUR HATRED GUN BOARD TO THE DESIRED WIRELESS ADDRESS. YOUR SYMBIO WILL PULSE TO SIGNIFY ACCEPTANCE OF THE CHANGE AND THEN ENTER NORMAL WIRELESS MODE.

EACH AND EVERY HATRED GUN BOARD BROADCASTS THAT GUN'S CURRENT RATE OF FIRE WITH EVERY WIRELESS TRANSMISSION. SIMPLY, THE FASTER YOU SHOOT, THE FASTER THE SYMBIO LOADER BOARD WILL LOAD PAINTBALLS — AN INDUSTRY FIRST. THE ROF TRANSMISSIONS ALLOW YOUR LOADER TO INFER EXACTLY HOW FAST YOUR MARKER IS SHOOTING AND LOAD PAINTBALLS ACCORDINGLY. YOUR SYMBIO WILL NEVER STARVE YOUR MARKER AND SIMULTANEOUSLY WILL NEVER OVERFEED AND SMASH BRITTLE PAINT.

THE REVISION 2 HATRED GUN BOARD WILL SEND A WIRELESS LOAD COMMAND ON EVERY SHOT FIRED —AND- ON EVERY TRIGGER PULL. IF YOUR EYES ARE ON WITH NO PAINT IN THE BREECH AND YOU PULL THE TRIGGER, THE HATRED WILL ASSUME YOU ARE TRYING TO FILL UP THE FEEDSTACK AND WILL SEND A WIRELESS LOAD COMMAND IN AN ATTEMPT TO DO SO. THIS FEATURE ENABLES YOU RUN YOUR LOADER DRY AND THEN REFILL WITHOUT STARVING YOUR MARKER.

# WATER PAINTBALL

**"HATRED RENEGADE BOARD"**  
INSTRUCTION MANUAL  
SOFTWARE REVISION ZR 1



## DEFINITIONS

**DEBOUNCE** – THE HATRED'S DEBOUNCE ALGORITHM ASSISTS IN ELIMINATING UNWANTED SHOTS CAUSED BY "TRIGGER NOISE," WHILE SIMULTANEOUSLY ENSURING THAT EVERY PULL IS READ. IF THE MARKER HAS INTERMITTENT OR CONTINUOUS "FULL AUTO" LIKE FIRE, INCREASE THE DEBOUNCE SETTING.

**DWELL** – DWELL IS THE AMOUNT OF TIME THAT THE SOLENOID IS "CHARGED." A DWELL THAT IS TOO LOW MAY RESULT IN A GUN THAT DOESN'T FIRE, IS INCONSISTENT AND/OR HAS DROP OFF. IF THE DWELL IS SET TOO HIGH, THE OVERALL RATE OF FIRE WILL DECREASE AND THE MARKER MAY BECOME LESS AIR EFFICIENT.

**EYE DELAY** – THE EYE DELAY IS THE AMOUNT OF TIME THE GUN WILL PAUSE AFTER SENSING A BALL BEFORE IT WILL FIRE. THE STOCK EYE DELAY OF 4 MS IS A CONSERVATIVE SETTING. ON MOST GUNS, THE EYE DELAY CAN BE LOWERED UNTIL THE USER EXPERIENCES CHOPPING. WHEN USING AN AGITATED LOADER, THE EYE DELAY SHOULD BE SET TO 5 MS OR HIGHER. THE HIGHER THE EYE DELAY, THE SLOWER THE MARKER AND LESS CHANCE OF PAINT BREAKAGE.

**ABS** – THE ANTI-BOLT STICK FEATURE INCREASES THE DWELL OF THE MARKER'S FIRST SHOT AFTER A PERIOD OF INACTIVITY. THE ABS FEATURE ASSISTS IN ELIMINATING FIRST SHOT DROP-OFF. THE HIGHER THE ABS, THE "HARDER" THE MARKER'S FIRST SHOT.

**AMB** – ANTI-MECHANICAL BOUNCE FEATURE ASSISTS THE USER IN ELIMINATING MECHANICAL BOUNCE. MECHANICAL BOUNCE IS CAUSED BY THE MARKER RECOILING. INCREASING THE AMB WILL ASSIST IN TUNING YOUR MARKER TO PASS THOSE PESKY SLOW PULL TESTS

**EXTREMELY IMPORTANT** – THE AMB SOFTWARE IN THE HATRED SOFTWARE RELEASE 3 IS DIFFERENT FROM ANY OTHER AMB ALGORITHM ON THE MARKET. THE AMB VALUE WHICH THE USER SETS IS ACTUALLY THE KICK IN TIME FOR THE PLACEMENT OF A AMB WINDOW IN THE FIRING CYCLE. WHILE THE USER SETS THE INITIATION VALUE, THE SOFTWARE AUTOMATICALLY CALCULATES THE CORRECT DURATION OF THE WINDOW ITSELF. THE FASTER THE GUN'S FIRING CYCLE, THE LOWER THE AMB TIME. IF YOUR GUN HAS BOUNCE ISSUES, PLEASE INCREASE AND DECREASE YOUR AMB VALUES BY 2 MS INCREMENTS UNTIL YOUR AMB WINDOW IS POSITIONED CORRECTLY IN YOUR FIRING CYCLE AND YOUR BOUNCE ISSUES ARE ELIMINATED. A HIGHER AMB VALUE DOES NOT MEAN THE GUN WILL BOUNCE LESS!  
*NOTE: SETTING YOUR AMB VALUE TO 1 WILL DISABLE AMB ALTOGETHER.*

**MAX ROF** – THIS FEATURE ALLOWS THE USER TO CAP THE MAXIMUM RATE OF FIRE OF THEIR MARKER. SOME LEAGUES, SUCH AS THE PSP, REQUIRE THAT GUNS NOT EXCEED 15.4 BPS. THE MAX ROF FEATURE IS ADJUSTABLE FROM 10-35 BPS IN 1 BPS INCREMENTS.

*NOTE: DIP SWITCH 1 MUST BE ON FOR YOUR ROF CAP TO BE ENABLED.*

*IMPORTANT: WE HIGHLY RECOMMEND LEAVING YOUR MAX ROFAT 20 CPS OR BELOW. ANYTHING HIGHER THAN THIS CAN BLOW YOUR SOLENOID. HATER PAINTBALL SIMPL CANNOT BE RESPONSIBLE FOR DAMAGED SOLENOIDS.*

**FORCED SHOT** – IF THE EYES ARE ENABLED, BUT THE BREACH IS EMPTY, THE USER MAY FORCE A SHOT BY HOLDING IN THE TRIGGER FOR APPROXIMATELY ONE SECOND. THIS FEATURE IS USEFUL IN THE EVENT THAT A BALL HAS BEEN PUSHED INTO THE DETENTS AND IS UNREADABLE BY THE EYES. A FORCED SHOT WILL CLEAR THE BREACH AND LOAD THE NEXT PAINTBALL AS NORMAL.

# HATER PAINTBALL

**"HATRED RENEGADE BOARD"**  
**INSTRUCTION MANUAL**  
**SOFTWARE REVISION ZR 1**





## DEFINITIONS CONTINUED...

**DEBOUNCE** – THIS FEATURE SETS YOUR RAMP ACTIVATION FOR ALL RAMPING MODES. YOUR RAMPING WILL NOT KICK IN UNTIL THIS ACTIVATION POINT HAS BEEN REACHED. A LOWER RAMP ACTIVATION “KICKS IN” EASIER THAN A HIGH ACTIVATION.

*NOTE: THE RAMP DEACTIVATION IS ALWAYS TWO BPS LESS THAN THE RAMP ACTIVATION.*

**RAMP PERCENTAGE** – THIS APPLIES TO ALL RAMPING MODES AND TELLS YOUR GUN HOW FAST TO RAMP. THE HIGHER THE SETTING, THE FASTER YOUR MARKER WILL SHOOT.

**FACTORY DEFAULT RESET** – TO RESET ALL SETTINGS BACK TO THEIR FACTORY DEFAULTS, GO INTO THE PROGRAMMING MENU AND SELECT THE FLICKERING BLUE LED. CLICK THE TRIGGER ONCE TO RESET EVERYTHING BACK TO ITS FACTORY DEFAULT VALUE.

## WARRANTY

THE HATRED GUN BOARD IS WARRANTED FREE FROM ANY AND ALL MANUFACTURING DEFECTS OR SOFTWARE BUGS FOR THE LIFETIME OF THE PRODUCT. WARRANTIES ARE NON-TRANSFERABLE.

PROBLEMS CAUSED BY CUSTOMER NEGLIGENCE ARE NOT COVERED UNDER WARRANTY. “NEGLIGENCE” INCLUDES, BUT MAY NOT BE LIMITED TO, USING BATTERIES OTHER THAN A SINGLE ALKALINE 9V, BREAKING COMPONENTS OFF THE BOARD, AND OTHER IMPROPER USAGE.

IF YOU NEED REPAIR OR SUPPORT, PLEASE CONTACT FIRST BY PHONE AT 317.354.5201 OR EMAIL AT [INFO@HATERPAINTBALL.COM](mailto:INFO@HATERPAINTBALL.COM).

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SOFTWARE REVISION ZR 1

