

**dye**<sup>®</sup>

**DSR PRO**

**CHOICE OF CHAMPIONS**

**OWNER'S MANUAL**

# CHAMPIONSHIP LEVEL PERFORMANCE



## INCLUDED WITH YOUR DSR PRO MARKER

### Boomstick-i Insert Barrel System

- (1) .688" insert sleeve
- (1) Boomstick-i Aluminum Back
- (1) Boomstick-i Aluminum Tip

- Allen tool set
- 1/4 oz slick lube
- Parts kit
- Barrel sock

- Start-up guide
- Warranty card
- Software upgrade cable





## **WARNING**

### **IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES**

- The DSR PRO marker is not a toy. Misuse may cause serious injury or death.
- Please read, understand and follow the directions in the DSR PRO 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. Persons under 18 must have adult supervision.
- Always treat the DSR PRO marker as if it were loaded and able to fire.
- Only use compressed air or nitrogen gas in the DSR PRO marker. DO NOT USE CO<sub>2</sub>.
- Do not exceed 850 psi input pressure.
- Ensure all screws and components on DSR PRO are tightened and secured before gassing up.
- Always chronograph the DSR PRO marker before playing paintball.
- Never shoot the DSR PRO 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 DSR PRO when the marker is switched on and able to fire.
- Always fit a barrel-blocking device to your DSR PRO 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 DSR PRO 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 DSR PRO without the ARC+™ bolt locked in place.
- 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.

# **DSR PRO OWNER'S MANUAL**

## **TABLE OF CONTENTS**

IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES .....	PAGE 01
QUICK REFERENCE .....	PAGE 02
METHOD OS (MOS) .....	PAGE 03
TRAINING MODES .....	PAGE 08
SOFTWARE & BOOT SCREEN UPGRADE .....	PAGE 09
POWER SUPPLY .....	PAGE 10
EDGE2 TRIGGER ADJUSTMENT .....	PAGE 11
STICKY GRIP .....	PAGE 12
ARC™ BOLT .....	PAGE 13
HYPER6™ .....	PAGE 15
SHIFTPORT ASA .....	PAGE 17
LOCK DOWN CLAMPING FEEDNECK .....	PAGE 18
EYE PIPE ANTI CHOP EYES/BALL DETENTS .....	PAGE 19
TROUBLE SHOOTING GUIDE .....	PAGE 20
DSR PRO MENU TREE .....	PAGE 22
EXPLODED VIEW .....	PAGE 23
WARRANTY INFORMATION .....	PAGE 24

## POWER SUPPLY

Grasp the battery cover locking nut and rotate it clockwise 180° to unlock the battery cover. Once unlocked pull the cover down. Plug a high quality 9 volt into the plug and mount the battery into the housing. slide the cover over the battery housing and rotate the locking nut clockwise 180 deg to secure the cover.



## AIR SUPPLY

The DSR PRO should be operated using air/nitrogen gas only. This needs to be supplied at a regulated pressure of no more than 850psi.

## GASSING UP DSR PRO

Screw your air system into the airport and rotate the side lever counter clockwise until the internal stop is reached.

## ! WARNING

- **A LOW BATTERY WILL NOT BE ABLE TO POWER BOTH THE ACE EYE AND THE TRIGGER SWITCH, CAUSING ACE EYE FAILURE.**
- **IF THE BATTERY IS LOW, IT MAY NOT BE ABLE TO POWER THE SOLENOID CORRECTLY. THIS WILL AFFECT THE DSR PRO'S VELOCITY, CAUSING IT TO BECOME INCONSISTENT AND/OR LOW.**

## TURNING ON DSR PRO

To power on your DSR PRO marker depress and hold the Joystick, located on the back of the grip frame, for 2 seconds. The LED will illuminate and the boot screen will appear on the OLED display.

The anti-chop eye system is automatically powered on during boot up.

To turn the eyes on or off, press and hold the joystick down toward 6 O'clock for 2 seconds.

## LED LIGHT COLOR INDEX

The LED light provides feedback for the anti-chop eye system.

To get the best performance out of your DSR PRO it is recommended that you use a motorized loader system. Preferably the Rotor R-2 Loader.

## VELOCITY ADJUSTMENT

The velocity is controlled through the Hyper6 regulator located in the grip frame. The hyper6 is factory set at approximately 115psi. at this pressure the DSR PRO should shoot about 285fps.

Your paint-to-barrel fit will also have a noticeable effect on your velocity.

To adjust the velocity through Hyper6 regulator use a 1/8" wrench to turn the adjustment screw, located at the bottom of the airport. Turning the adjustment screw clockwise or in, will lower the velocity by decreasing the operating pressure. Turning the adjustment screw counterclockwise or out will raise the velocity by increasing the operating pressure. check velocity every time you make an adjustment, it is recommended to make small, 1/4 turn or less adjustments.

## QUICK REFERENCE



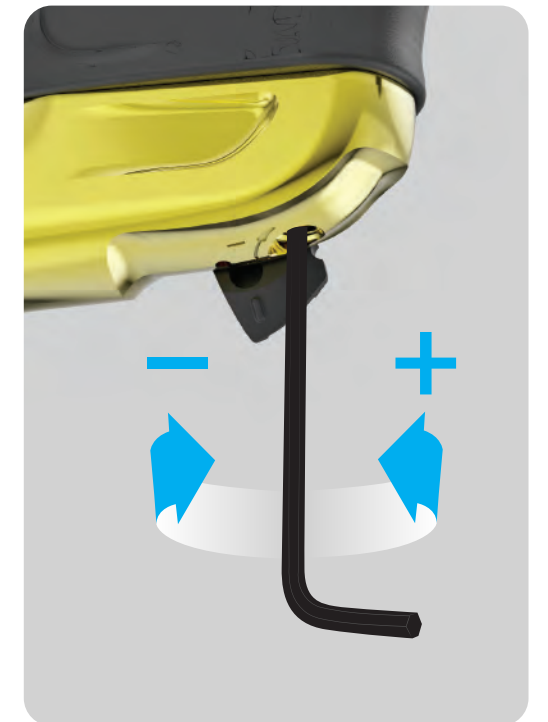
**Blue:** Boot sequence

**Red:** Breech is clear, no ball (eyes on)

**Green:** Ball in breech, ready to fire (eyes on)

**Blinking Red:** Eyes are off


**Blinking Green:** Eye failure



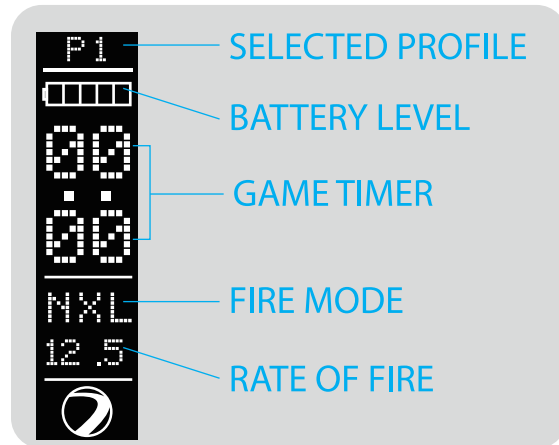
## MOS METHOD OPERATING SYSTEM (MOS)

The DSR PRO is powered by DYE's Method Operating System. The MOS gives the operator unrestricted access to precision tuning, and unsurpassed performance. The 5-way Joystick control and high contrast OLED display screen provide an intuitive user interface. The optimized MOS programming logic ensures lightning fast response time, long battery life, precision tuning, and dual player profiles to store your exact playing specifications. Communication between frame and Body is facilitated through the Freewire connector pins. Press fit pins ensure a positive connection between performance driving hardware and the MCU. DYE Freewire connector pins eliminate awkward wire routing, and dramatically improving serviceability. The DSR PRO's MOS truly is advanced performance in the palm of your hand.

## 5-WAY JOYSTICK CONTROL INDEX

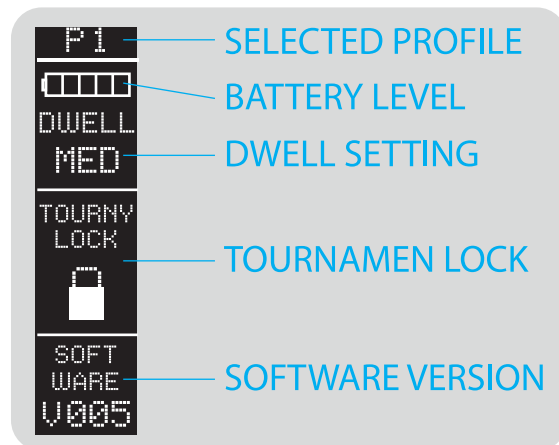
	PLAY MODE		SETTINGS ADJUSTMENT MENUS	
1	ENTER CONFIGURATION MODE (HOLD 2 SEC)		VALUE UP (TAP)	EXIT (HOLD 2 SEC)
2	GAME TIMER START/STOP (TAP)	GAME TIMER RESET (HOLD 2 SEC)	SCROLL RIGHT THROUGH MENU (TAP)	
3	EYES ON/OFF (HOLD 2 SEC)		VALUE DOWN (TAP)	
4	SYSTEMS CHECK (TAP ONCE)	SHOT COUNT RESET (HOLD 2 SEC)	SCROLL LEFT THROUGH MENU (TAP)	
5	POWER ON - HOLD 1 SEC OFF - HOLD 1 SEC		SELECT (TAP)	SAVE VALUE (TAP)

# METHOD OS (MOS)



## PLAY SCREEN

You are able to select between 3 play screens depending on what information you wish to display. Option 1 is the default setting, for more play screen options select Play Screen under profile settings. (see page 6 for more info)



## SYSTEM CHECK SCREEN

From the play screen you can quickly access the Systems Check Screen by pressing the joystick LEFT. The System Check Screen gives you an overview of your guns dwell, tourney lock status, and software version.



## PROFILE SELECTION

To enter into Profile programming press and hold the joystick Up for 2 seconds. this will take you to the Profile Selection menu. Scroll left or right to move through menu options. press the Center of the joystick to select.

There are 2 fully adjustable profiles and 1 locked Factory default profile.

Once you have selected your desired profile press and hold UP on the joystick to return to Play Mode screen, or press the CENTER of the joystick to enter into the Settings Adjustment menu.



## PROFILE SETTINGS

will affect the DSR PRO's shooting performance. These settings are not adjustable when the tournament lock is on.



**GENERAL SETTINGS** are for reviewing collected data, display controls, and system parameters.

Scroll LEFT OR RIGHT to display menu options.

Press the CENTER of the joystick to select the displayed menu option. Once selected the setting's values can be adjusted using the joystick. Once the desired value or setting has been entered press the CENTER of the joystick to save the value, and continue scrolling through menu options.

**NOTE: To exit scroll till the "exit" screen appears and then press the CENTER of the Joystick. At any point you can also press and hold the Joystick UP to exit to the Profile selection screen.**

## PROFILE SETTINGS



### GAME TIMER

Set countdown game timer. (Default 2:30) To operate game timer in play mode press the joystick right to start and stop the game timer, Press and hold the joystick RIGHT for 2 seconds to reset.



### TRIGGER TOUCH

Values 1 - 20 (Factory Default 3)  
Trigger sensitivity is the amount of time that the trigger must be released before the next trigger pull is allowed.



### RATE OF FIRE

Values 1 - 18 (Factory Default 12.5 bps)  
The ROF setting is used to set the maximum rate of fire. ROF is adjustable by 1/10th per second.



### FIRE MODE

(Factory Default Semi-Auto)  
Choose between 4 different fire modes:  
Semi-Auto: One trigger pull = one shot  
Millennium/ NXL Ramp: Compliant with Millennium series rules  
Burst: Compliant with PSP series rules  
Full Auto: Continuous fire with trigger depressed after 3rd trigger pull



### DWELL

Dwell is the amount of time, in milliseconds, that the solenoid is activated for each shot. Setting the dwell too high will decrease rate of fire, setting the Dwell to low will not be sufficient to ensure the gun will cycle properly.



### ABS ON/OFF

ABS is the amount of time, in Milliseconds, that the dwell is increased for the first shot after a period time of no shots. This is to help prevent bolt stick, and first shot drop off.



## ABS WAIT TIME

Values 10-90 seconds in increments of 5 sec (Factory Default 20)  
 ABS wait time is the time, in seconds, that must expire between shots before the ABS activated.



## SHOT TRACK

The shot tracker helps you monitor your paint consumption during a game or a day. choose between countdown and sum track. The Shot tracker can be set to zero from the settings Menu. and reset from the play mode screen. To reset from the Play mode screen press and hold the joystick left for 2 seconds. When you select countdown track in the data settings menu you will be prompted to enter your how much paint you will start with. Tap joystick up and down to adjust. When starting count is displayed tap center of joystick to save. Once you exit to the play screen every shot will be tracked.



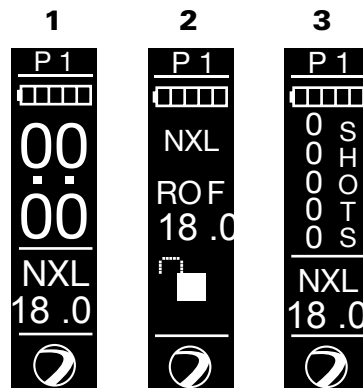
## EYE DELAY

Values 01-20 (Factory Default 8)  
 Eye Delay is the amount of time, in milliseconds, that the eyes must read a paintball in the breach before the DSR PRO is allowed to fire. This helps to prevent ball chop in the breach. It is recommended to increase the Eye Delay for slower feeding loaders.



## SCREEN CONTRAST

Control the screen brightness for better visibility of the screen



## SELECT PLAY SCREEN

Values 1-3 (Factory Default 1)  
 Select the best play mode screen for your style of play.



## SCREEN SLEEP

Values 15 sec - 10 min (Factory Default 1 min)  
 The screen will go to sleep after a predetermined amount of time. This is to conserve battery life when playing. To activate the screen tap the Joystick in any direction.



## SOUND

(Factory Default ON)

Turn the sound off or on for navigation .The game timer alarm cannot be turned off.



## RESET SYSTEM

At any time you can reset the profile you are in to Factory Default settings.



## AUTO POWER OFF

Values 10 – 60 min (Factory Default 10 min)

The board will automatically shut down if the marker is not used for a set period of time. You can adjust the shut off time.

## WARNING

### BEFORE SERVICING YOUR MARKER:

- MAKE SURE TO REMOVE THE BARREL FROM THE DSR PRO.
- MAKE SURE YOUR HOPPER IS REMOVED FROM THE DSR PRO.
- MAKE SURE THERE ARE NO PAINTBALLS IN THE BREECH OF THE DSR PRO.
- ALWAYS RELIEVE ALL RESIDUAL GAS PRESSURE FROM THE DSR PRO BEFORE COMMENCING ANY DISASSEMBLY.
- THE DSR PRO CAN HOLD A SMALL RESIDUAL CHARGE OF GAS, AFTER THE AIR SUPPLY HAS BEEN REMOVED. ALWAYS DISCHARGE THE MARKER IN A SAFE DIRECTION TO RELIEVE THIS RESIDUAL GAS PRESSURE.

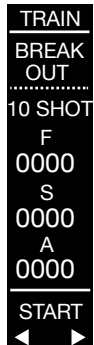
## WARNING

- THE DSR PRO IS NOT WATER RESISTANT. EXCESS MOISTURE WILL CAUSE DAMAGE TO ELECTRONIC PARTS.
- KEEP THE BOARD AND ALL ELECTRICAL COMPONENTS CLEAN OF DIRT, PAINT AND MOISTURE.
- TO CLEAN THE BOARD, USE CANNED AIR. IF A MORE AGGRESSIVE CLEANING METHOD IS NEEDED, LIGHTLY SCRUB THE COMPONENTS WITH A SOFT, DRY BRUSH. HEAVY SCRUBBING WILL DAMAGE THE BOARD.



## TRAINING MODES

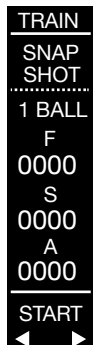
The DSR PRO has 2 training drills to help you hone your skills. Access the training mode in the profile selection menu. Scroll LEFT OR RIGHT to reach the Training Mode screen. Press the CENTER of the joystick to select. Scroll LEFT OR RIGHT to select the training mode of your choice. With the Desired Drill screen displayed press the center of the joystick to start the drill.



### BREAKOUT DRILL

Designed to help improve speed and accuracy when standing and shooting from the starting box.

- Line up at the starting box, with a designated target down field. Press the joystick and wait for the beep.
- On the beep turn, aim, and fire 10 shots (the DSR PRO will only allow 10 shots to be fired). When you reach 10 shots the DSR PRO will beep twice.
- On the double beep reset at the starting box and wait for the next single beep.
- Repeat 5 times to complete 1 set.
- At the end of the 5th rep the DSR PRO will beep 3 times and display your fastest, slowest, and average response time it took you to turn and shoot 10 balls.



### SNAPSHOT DRILL

Designed to improve speed, accuracy, and muscle memory when snap shooting from behind cover.

- Set up behind any bunker with a designated target down field. From behind the bunker press the joystick and wait for the beep.
- On the beep lean out from behind cover, aim, shoot one ball (the DSR PRO will only allow one ball to be fired), and return to cover.
- Wait for the next beep and repeat.
- You will repeat 10 times to complete one set.
- At the end of the 10th rep the DSR PRO will beep 3 times, display your fastest, slowest, and average time it took you to shoot one ball.



### TOURNAMENT LOCK

View the system check screen to see if lock is engaged or not. The pad lock icon will display as locked or unlocked. To change tournament lock on or off open the right side of grip by using 5/64" Allen tool to unscrew upper right corner screw. Once grip is opened locate the Dip Switch #2. To lock: slide #2 switch down into the ON position. To unlock: slide switch #2 up into the OFF position.



When the tournament lock is engaged settings that could affect the gun's performance will not be able to be adjusted until the tournament lock is turned off.

Note: the #1 dip switch has no function.

# SOFTWARE UPGRADE



**Periodically DYE will release new updated software for the DSR PRO. The new software will be available on [www.dyepaintball.com/DSR PRO](http://www.dyepaintball.com/DSR PRO) and [www.dyepaintball.com](http://www.dyepaintball.com)**

## TO UPDATE YOUR DSR OPERATING SYSTEM FOLLOW THESE SIMPLE DIRECTIONS.

- Save the new operating software to any standard flash drive.
- Plug the flash drive into a USB /Micro USB adapter cable
- Plug the adapter cable into the Micro USB port located under the stichy grip on the right side.
- To access the port, open the right side grip by using a 5/64" Allen tool to unscrew the upper right corner screw.

- Power on your DSR PRO, the USB sync screen will be displayed.
- Press the Center of the joystick to initiate the upgrade process.

UPGRADE  
ENABLED  
NO  
SOFTWARE  
FOUND  
USB  
USB

UPGRADE  
SOFTWARE  
> NO  
YES



COMPLETE  
REMOVE  
USB  
USB

OK  
POWER  
OFF  
USB

- Confirm you wish to upgrade the software.

- The system will begin to upgrade the software.
- This may take several minutes.

- Do not unplug the cable until you are prompted to do so.

- Once the cable has been unplugged the board will automatically power off. This signifies the upgrade is done, and the DSR PRO is ready for use.

## POWER SUPPLY

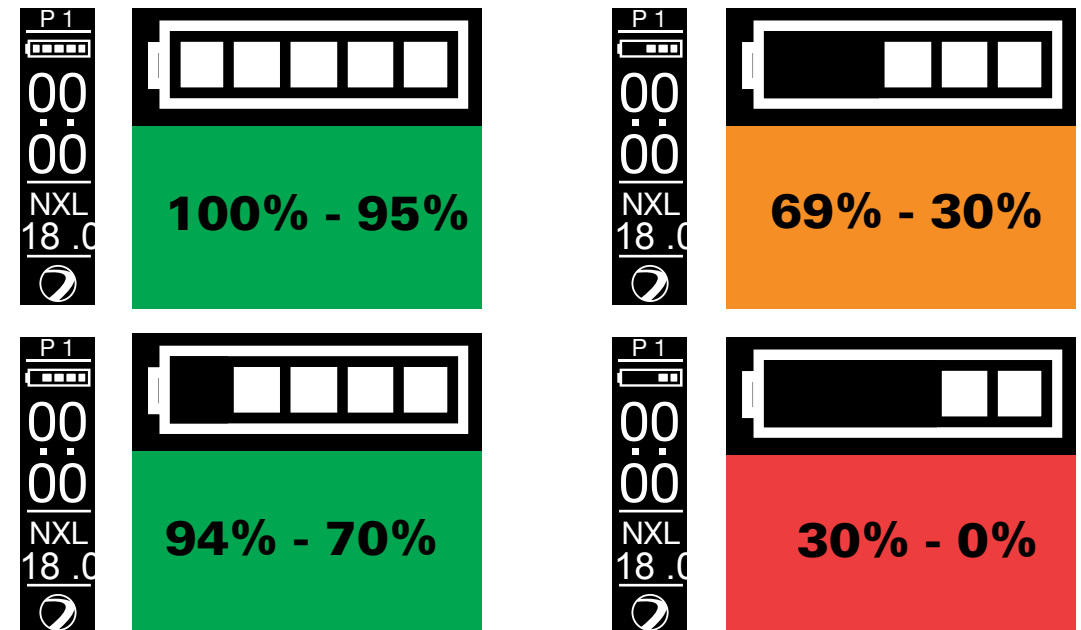
Use a coin, screwdriver, or thumb nail and rotate the locking nut counter-clockwise 180 deg to unlock the battery cover. Once unlocked pull the cover down. Plug a high quality 9volt into the plug and mount the battery into the housing. slide the cover over the battery housing and rotate the locking nut clockwise 180 deg to secure the cover.



### LOW BATTERY

When the battery level drops below 30% the LED light will flash Blue. When the low battery alert flashes the battery should be replaced as soon as possible to prevent improper function.

### BATTERY LEVEL CHART



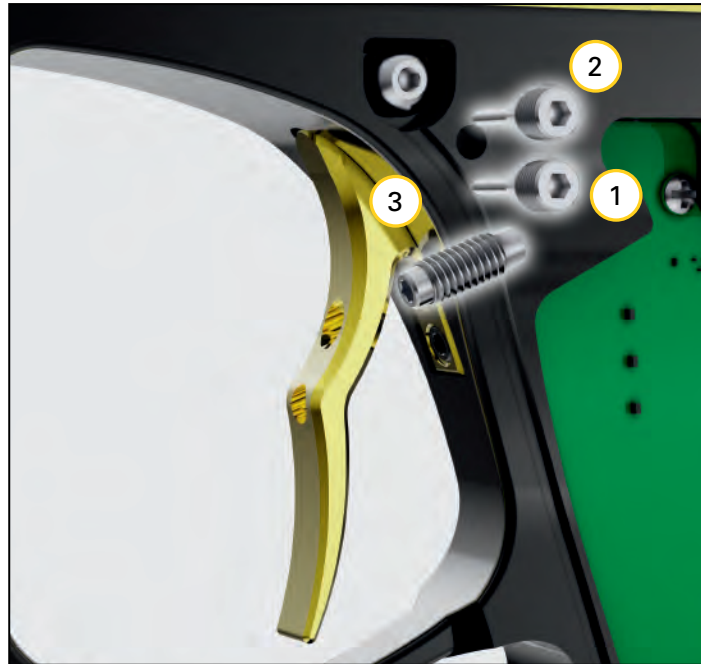
## ! WARNING

- A LOW BATTERY WILL NOT BE ABLE TO POWER BOTH THE ACE EYE AND THE TRIGGER SWITCH, CAUSING ACE EYE FAILURE.
- IF THE BATTERY IS LOW, IT MAY NOT BE ABLE TO POWER THE SOLENOID CORRECTLY. THIS WILL AFFECT THE DSR PRO'S VELOCITY, CAUSING IT TO BECOME INCONSISTENT AND/OR LOW.

## EDGE2 TRIGGER ADJUSTMENT

### ADJUSTING YOUR EDGE2 TRIGGER

The trigger's travel and reach angle are fully adjustable so that you can fine-tune the trigger to your preference. You do not need to remove the frame or grip from the gun in order to make an adjustment to the trigger. There are two adjustment screws located on the left side of the Ultralite frame and two more adjustment screws behind the trigger. The two screws on the side of the frame adjust the travel of the trigger. The one located behind the trigger will adjust the spring tension and activation set point.



### TO ADJUST TRIGGER TRAVEL:

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

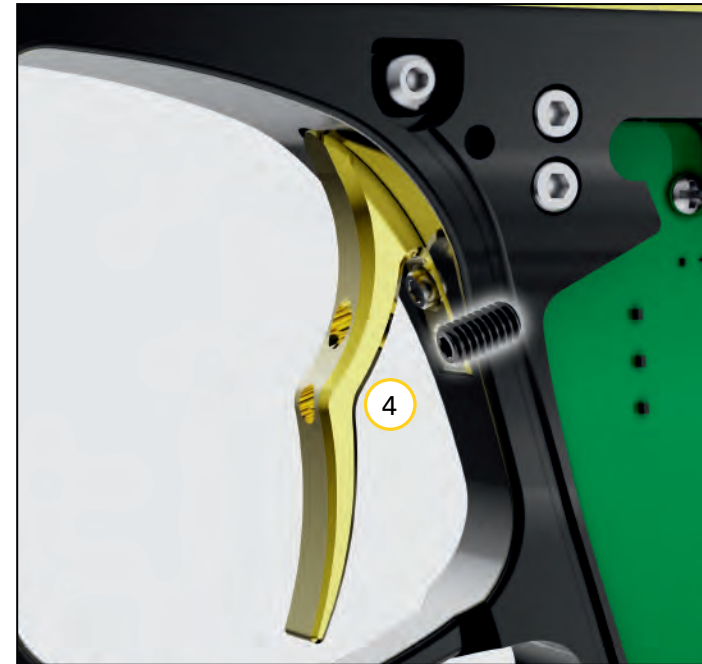
**NOTE: IF THIS SCREW IS ADJUSTED TOO FAR, THE SWITCH WILL BE HELD DOWN AT ALL TIMES AND THE MARKER WILL NOT FIRE.**

- The top screw (2) controls the over travel. By turning this screw you can adjust how far the trigger will travel after it reaches the firing point. Screwing it in will shorten the trigger's length of pull after activation

**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. Insert the Allen wrench through the hole behind the trigger blade (3).
- To make the trigger pull stronger, turn the Allen wrench clockwise or in.
- To make the trigger pull weaker, turn the Allen wrench counterclockwise or out.



### TO ADJUST THE ACTIVATION POINT:

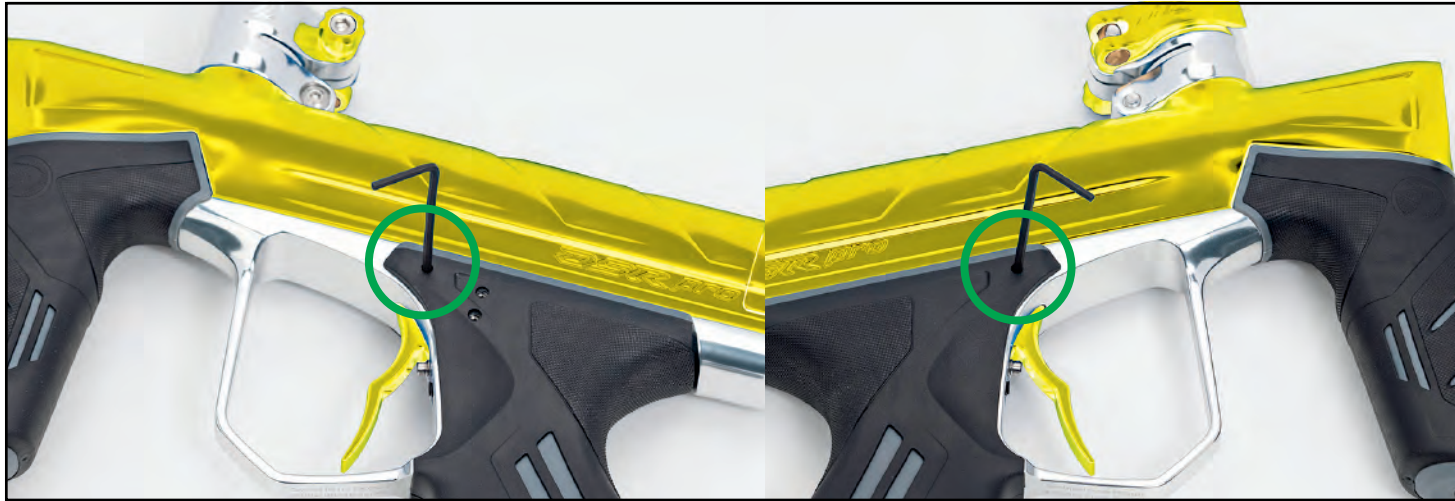
- Use a 5/64" Allen wrench to make the desired adjustment. Insert the Allen wrench through the hole in the trigger blade, and turn the lower set screw (4).
- Set the activation point to be approximately 2/3rds through the trigger's travel.
- turning the screw clockwise will move the activation point earlier in the trigger pull.

**NOTE: IF THIS SCREW IS NOT ADJUSTED APPROPRIATELY, THE TRIGGER WILL NOT BE ALLOWED TO TRAVEL FAR ENOUGH TO DEPRESS THE SWITCH AND FIRE THE MARKER.**

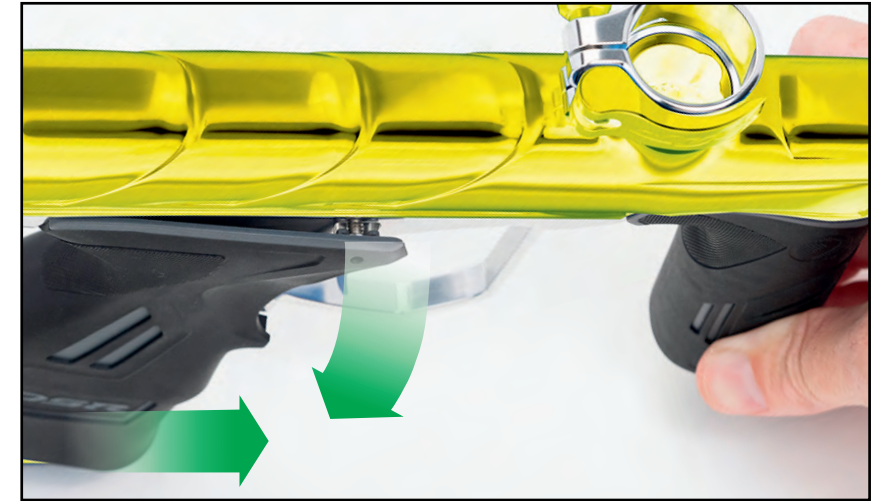
## **!** WARNING

**BE SURE THE TRIGGER IS NOT ADJUSTED TO THE POINT WHERE IT IS TOO SENSITIVE AND MAY CAUSE ACCIDENTAL DISCHARGE OF THE MARKER.**

## STICKY GRIP REMOVAL



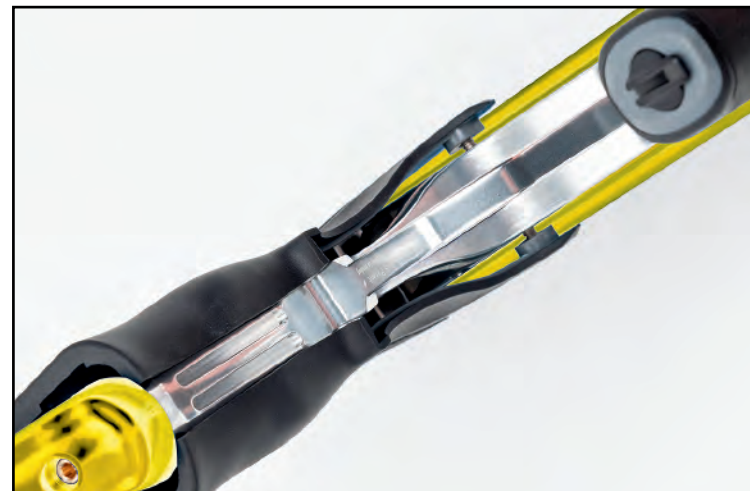
1. Use a 5/64" Allen wrench to remove the screw located at the top front under the grip.



2. Pull the top of the grip away from the frame and forward to allow the upper rear locking hook to clear the frame.



3. Pull the grip forward and down.



4. In doing so, you will have released the last three locking tabs that are under the molded finger grooves.

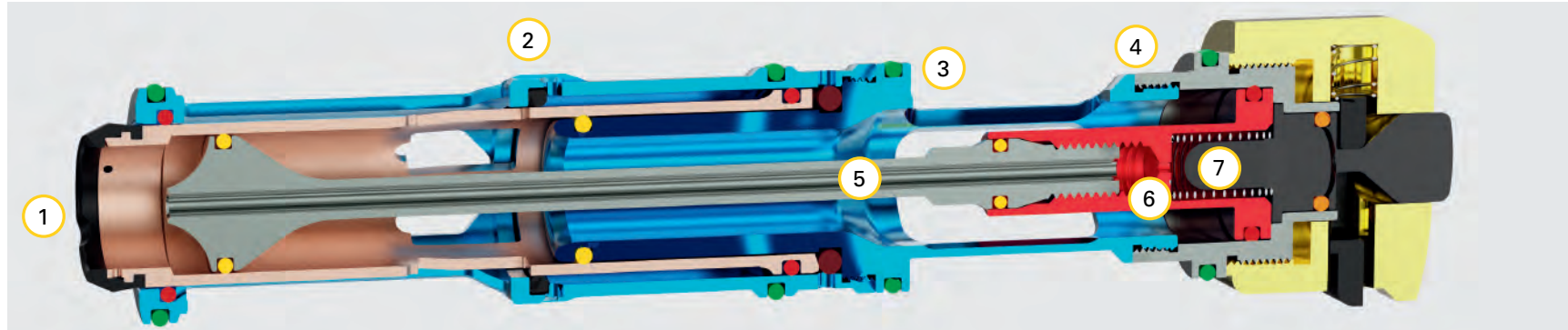


5. Repeat instructions for reverse side and slide the grips off the frame.

### INSTALL STICKY TOOL-LESS GRIPS

- Slide the Sticky grip on to the frame from the rear.
- Press the locking tabs under the molded finger grooves into the corresponding slots on the frame's front strap.
- Pull the top of the grip panel back in order to allow the top rear locking hook to drop into the frame.
- Place the screw into the screw holder at the top of the Sticky grip.
- Press the screw into the matching pocket on the frame.
- Use a 5/56" Allen to tighten the screw down.

# ARC+™ BOLT ASSEMBLY AND MAINTENANCE



## ARC+™ BOLT OPERATION

The ARC+ Bolt has been designed with reliability in mind. The ARC Bolt features a state-of-the-art design that has been factory tuned to provide the user with trouble-free operation in all environments.

The ARC Bolt consists of 7 components:

- 1 Bolt**
- 2 Bolt Can**
- 3 Bolt Guide**
- 4 Reaction Cage**
- 5 Reaction Rod**
- 6 Reaction Rod Tail**
- 7 ARC Core Spring**

Energy is supplied to the ARC Bolt through the solenoid outside of the Bolt Can. This air supplies the shot chamber and serves as the bolt return. During firing, air supply to the shot chamber is shut-off from the Hyper6™ while air is routed from the shot chamber to supply the rear of the bolt. The VVP (Variable Vent Path) adjuster provides optimized acceleration to allow your DSR PRO to perform at the highest-level. When the Bolt reaches the forward position, air is released, firing the paintball. The Reaction Rod then shifts forward to 1) trap air in the shot chamber for optimum air efficiency and 2) allows the bolt reset to begin. 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.

As the solenoid deactivates, air is then supplied to the shot chamber again resetting the Reaction Rod and the Bolt. This system is not sensitive to environmental variations and reducing dwell does NOT provide any benefit in the shot or efficiency of your DSR PRO.

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

## **!**WARNING

### WHEN SERVICING YOUR MARKER:

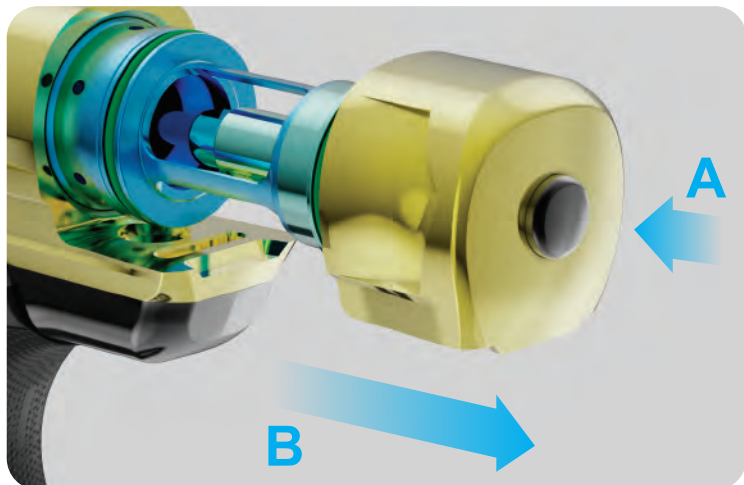
- **MAKE SURE YOUR HOPPER IS REMOVED FROM THE DSR PRO.**
- **MAKE SURE THERE ARE NO PAINTBALLS IN THE BREACH OF THE DSR PRO.**
- **ALWAYS REMOVE THE AIR SUPPLY AND RELIEVE ALL GAS PRESSURE IN THE DSR PRO BEFORE DISASSEMBLY.**
- **WHEN USING THE MARKER IN TEMPERATURES BELOW 50° FAHRENHEIT IT MAY BE NECESSARY TO LUBE THE ARC+™ BOLT MORE FREQUENTLY.**
- **THE DSR PRO CAN HOLD A SMALL RESIDUAL CHARGE OF GAS, AFTER THE AIR SUPPLY HAS BEEN REMOVED. ALWAYS DISCHARGE THE MARKER IN A SAFE DIRECTION TO RELIEVE THIS RESIDUAL GAS PRESSURE.**

# ARC+™ BOLT ASSEMBLY AND MAINTENANCE

## ARC+ BOLT MAINTENANCE

Regular ARC+ Bolt maintenance is vital to the performance of the DSR PRO. If the ARC+ Bolt is not kept well greased and the O-rings in good shape, the performance of the DSR PRO will be hindered.

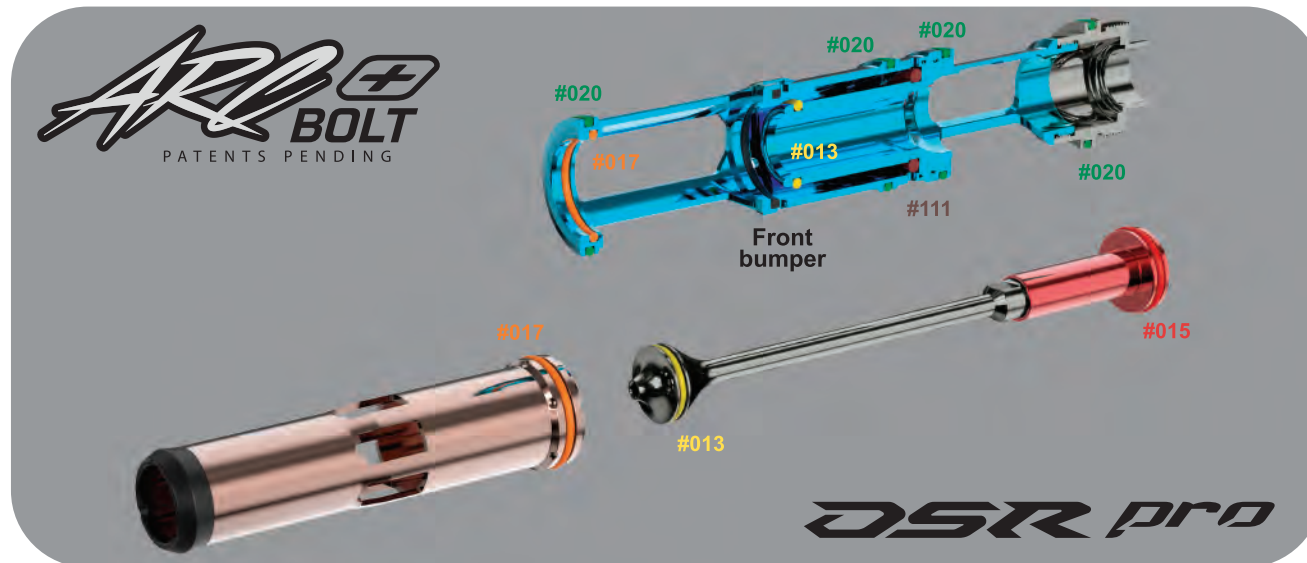
**USE DYE SLICK LUBE TO GREASE THE ARC+ BOLT AFTER EVERY 4,000 TO 8,000 SHOTS, DEPENDING ON PLAYING CONDITIONS. CHECK CONDITION OF O-RINGS. BE SURE THE DSR PRO BOLT AND REACTION CORE CAN MOVE BACK AND FORTH WITHOUT EXCESSIVE FORCE.**



To remove the ARC+ Bolt, secure the back cap between index and middle finger and depress the push button. With the push button fully-depressed, pull firmly back to remove the ARC+ Bolt.

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

If you do not grease the ARC+ Bolt you will run the risk of damaging O-rings. This will create excessive friction and drag on the moving components, which will result in reduced performance. When greasing the ARC+ Bolt, pay special attention to all O-rings that are on the bolt and that ride on a surface of the bolt as well as those on the reaction core.



## ARC+™ BOLT O-RING LIST (COLOR CODED)

- 1 Bolt Can Internal (**017 BN70**)
- 2 Outer Sleeve (**020 BN70**)
- 3 Bolt Sail (**017 BN70**)
- 4 Bolt Guide Main (**013 BN70**)
- 5 Bolt Guide Bumper (**111 BN70**)
- 6 Reaction Rod Valve (**015 BN70**)
- 7 Reaction Rod Joiner (**007 BN70**)
- 8 Reaction Rod Stabilizer Sail (**015 BN70**)
- 9 Push Button (**011 BN70**)



# HYPER6™ REGULATOR DISASSEMBLY INSTRUCTIONS

## BASIC VELOCITY ADJUSTMENT

### ADJUSTMENTS

The Hyper6 regulator controls your velocity. It is pre-set at approximately 115 psi.

This will enable your gun to shoot about 285 FPS.

The DSR PRO's velocity will be affected by paint size, weather conditions, altitude and other factors.

- To adjust your velocity use a 1/8" Allen wrench to turn the brass adjustment screw, located at the bottom of the airport.

- **To lower the velocity** turn the Allen wrench clockwise (inward), this will decrease the pressure.

- **To raise the velocity** turn the Allen wrench counter clockwise (outward), this will increase the pressure.

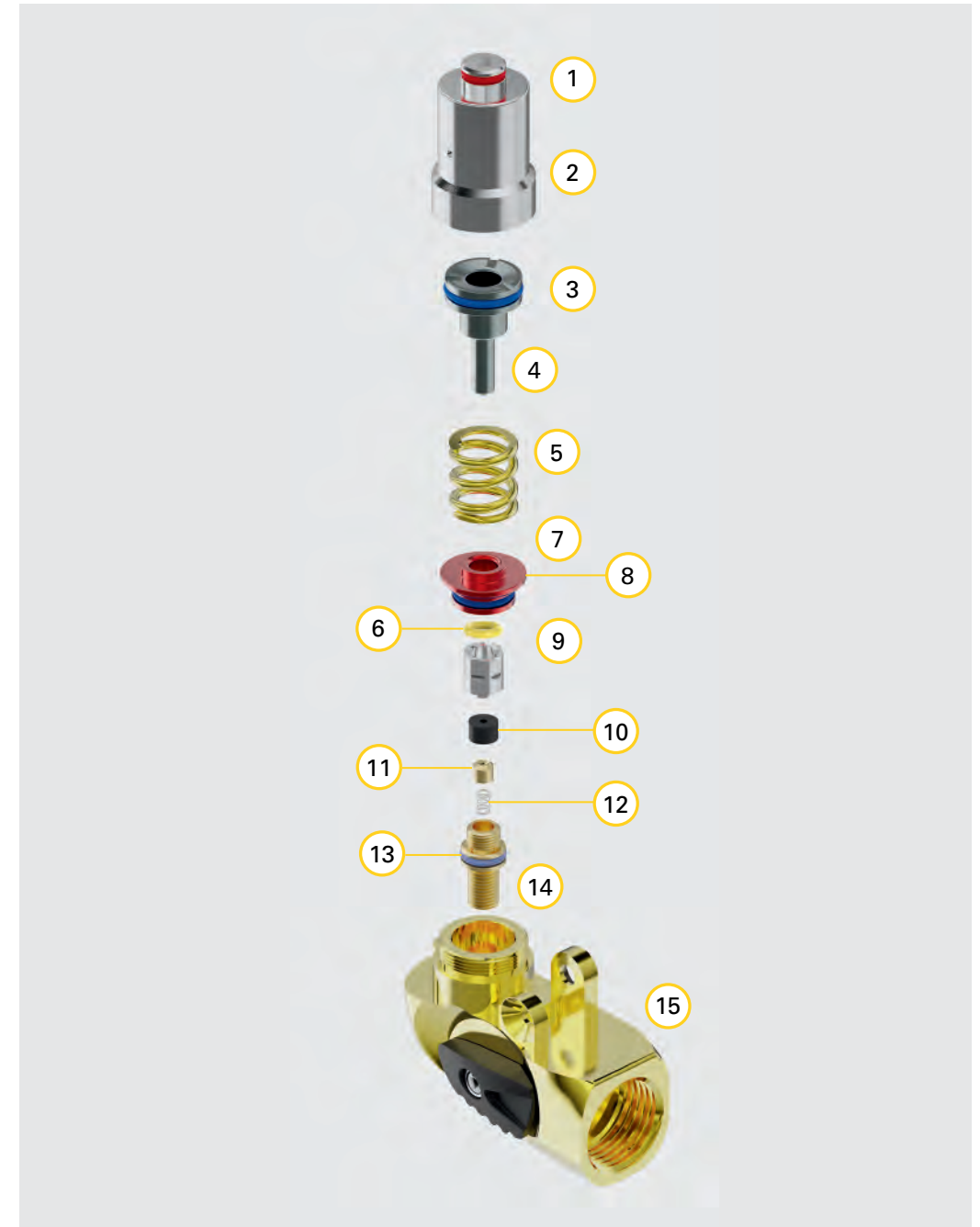
Each 1/2 turn will change the Hyper5 reg output Pressure by approximately 15PSI.

### COMPONENT LIST (COLOR CODED)

1 009 BN 70	6 008 BN 90	11 Check Valve
2 Regulator Cap	7 Isolator Plate	12 Check Valve Spring
3 014 BN 70	8 012 BN 70	13 010 BN 70
4 Piston	9 Seat Retainer	14 Adjustment Screw
5 Regulator Spring	10 Purging Reg Seat	15 Airport

## ! WARNING

- **THE HYPER6™ CAN HOLD A SMALL RESIDUAL CHARGE OF GAS, ALWAYS DISCHARGE THE MARKER IN A SAFE DIRECTION TO RELIEVE THIS RESIDUAL GAS PRESSURE.**
- **EXCESSIVE DIRT AND DEBRIS CAN AFFECT THE HYPER6™'S PERFORMANCE AND INCREASE THE NEED FOR SERVICE.**



# HYPER6™ REGULATOR DISASSEMBLY INSTRUCTIONS

**NOTE: IT IS IMPORTANT TO KEEP THE SEAT AND PISTON FACE CLEAN OF ALL DIRT AND DEBRIS. CLEAN THE SEAT AND PISTON FACE AND APPLY FRESH GREASE EVERY 6 MONTHS OR 75,000 - 100,000 SHOTS, DEPENDING ON PLAYING CONDITIONS.**

## HYPER6™ REGULATOR DISASSEMBLY INSTRUCTIONS

The Hyper6™ assembly is housed in the ASA assembly. A fouled Hyper6™ cartridge can be quickly removed for service. In most cases the only seal that needs to be serviced is the regulator seat, located in the seat retainer.

- Remove the sticky grip panels.
- Using a 3/32" Allen wrench, Unscrew and remove the 2 screws retaining the Hyper6™ assembly. Pull down to remove it from the frame.
- Using a 5/32" Allen wrench, Unscrew and remove the Hyper6™ reg cap. The Hyper6™ piston, spring and isolator plate may or may not come off within the reg cap.
- If the piston, spring and isolator plate remain in the reg cap, use your fingers to remove the isolator plate, then use needle nose pliers to gently pull out the piston.

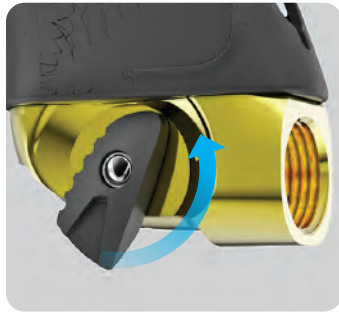
## CHANGING THE HYPER6™ REG SEAT

- With the regulator cap and isolator plate off, use a 1/8" Allen wrench to turn the brass Adjustment Screw clockwise to remove the purging seat assembly.
- Unscrew and remove the brass Hyper6™ seat retainer using a 1/8 Allen wrench in the Adjustment Screw and an adjustable wrench to hold the regulator Seat Retainer.
- Be careful not to lose the check valve and spring under the reg seat.
- Place the regulator Seat Cap on a flat surface and use a 3/16" Allen wrench to press the seat from the retainer.
- To install a new reg seat, turn the seat retainer over and press a new reg seat into the retainer.
- Lube the O-ring and install the adjustment screw assembly into the ASA body using a 1/8" Allen wrench and turning it counter clockwise.



## ⚠️ WARNING

- **THE HYPER6™ CAN HOLD A SMALL RESIDUAL CHARGE OF GAS. ALWAYS DISCHARGE THE MARKER IN A SAFE DIRECTION TO RELIEVE THIS RESIDUAL GAS PRESSURE.**
- **EXCESSIVE DIRT AND DEBRIS CAN AFFECT THE HYPER6™'S PERFORMANCE AND INCREASE THE NEED FOR SERVICE.**



## TRUCAM ON/OFF ASA

The DSR PRO comes equipped with a the TruCam on/off ASA attached to the bottom of the frame. To turn on the gas supply, rotate the side lever counter clockwise until the internal stop is reached. To turn off the gas supply, rotate the side lever clockwise until the other stop is reached. As you rotate the side lever past the mid point, the residual gas n the marker will vent.

## REMOVE PIN-HOUSING ASSEMBLY

To disassemble the TruCam on/off ASA use the airport tool included on the DYE Multi-Tool. However, a pair of needle-nose pliers can be used to unscrew the Pin Housing. Just take care to not scratch or damage the threads or Pin Housing.

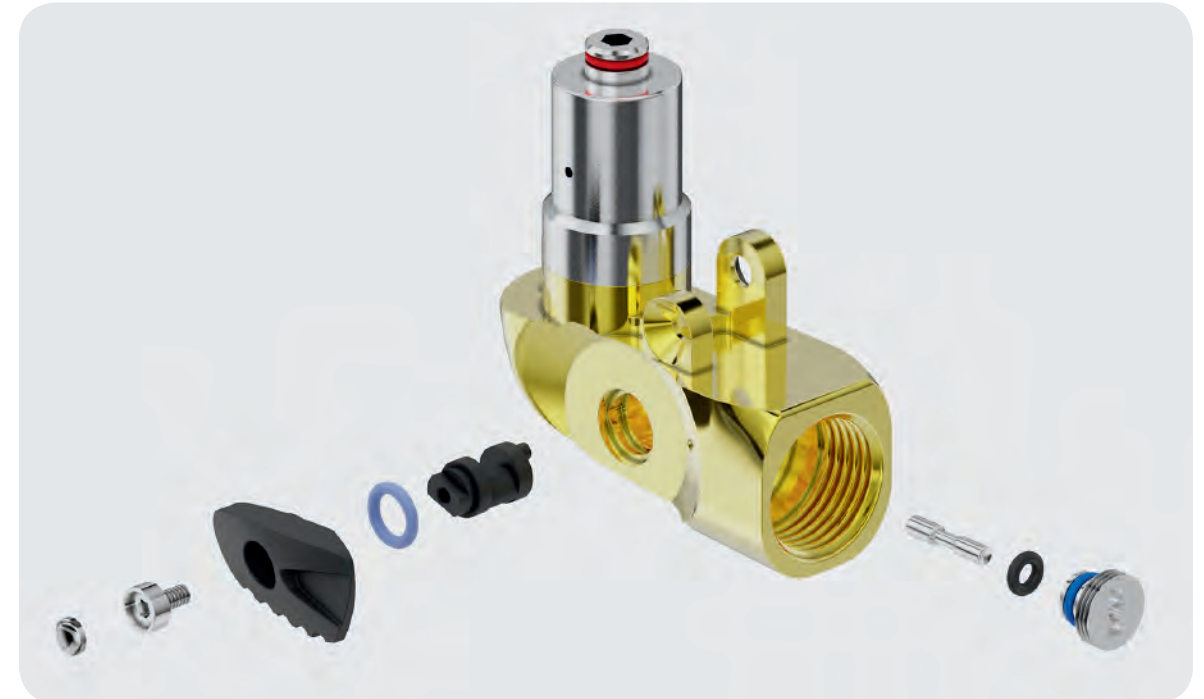
- Insert the airport tool into the Pin Housing and turn counterclockwise 3-4 revolutions. Note that the airport lever must be in the OFF position for the tool to grab the housing. Remove housing out of the airport body.
- The pin and **006 O-ring** may or may not come out with the housing, if necessary use a pair of needle-nosed pliers to pull the pin out and a dental pick to remove the **006 O-ring**.

## INSTALL PIN HOUSING ASSEMBLY

- Coat the **006 O-ring** in lube and drop it into the airport body. Use the tip of a 1/4" Allen wrench to fully seat the O-ring in place by pushing gently on it.
- Insert the Pin into the Pin Housing from the backside.
- Place the housing onto the airport tool and insert the housing into the airport body.
- Turn clockwise until the Pin Housing fits snugly into the airport body.

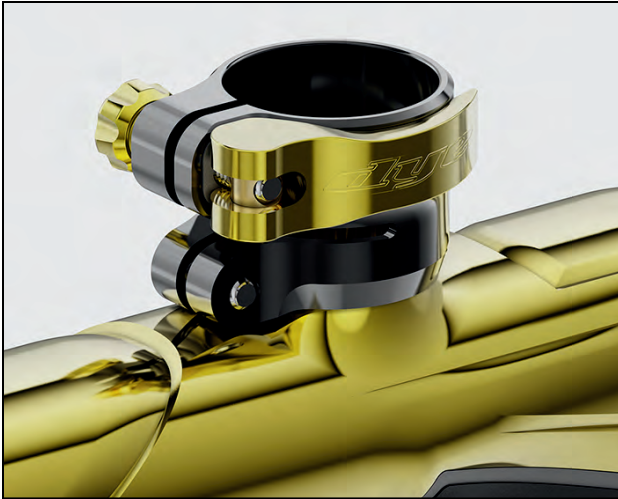
## WARNING

**EVEN WITH THE AIR SUPPLY REMOVED THE MARKER MAY HAVE GAS INSIDE. BE SURE TO VENT THIS GAS. MAKE SURE THERE ARE NO PAINTBALLS IN THE BREECH AND DRY FIRE THE MARKER IN A SAFE DIRECTION.**



**NOTE: IF THE AIRPORT TOOL IS NOT AVAILABLE, A PAIR OF NEEDLE-NOSE PLIERS CAN BE USED TO UNSCREW THE PIN HOUSING. JUST TAKE CARE TO NOT SCRATCH OR DAMAGE THE THREADS OR PIN HOUSING.**

# ULTRALITE FRAME & LOCK DOWN MICRO FEED NECK



## LOCK DOWN MICRO FEED NECK

The Lock Down Micro Feedneck is adjustable to fit any standard loader. To adjust the cam locking system, lift the cam lever away from the feed collar, and rotate the lever clockwise to tighten or counterclockwise to loosen the grip on the loader. Once the cam lever is facing in the forward direction, press the cam lever down against the feed collar to secure the loader in the feedneck. To loosen the locking system and remove the loader, lift the cam lever away from the feed collar. Take care not to over-tighten the cam locking system. The lever should not be

overly difficult to lower into the locked position.

## REMOVING ULTRALITE FRAME

If there is ever a reason to remove the UL frame from the DSR PRO body make sure to follow these steps.

- Remove the front grip to expose the front mounting screw.
- Remove the bolt kit to expose the rear mounting screw.
- Use a 3/32" Allen wrench and remove both front and rear mounting screws.

The DSR PRO utilizes a positive force conector to link the body and frame electrical components together. There are no wires to disconnect when removing the frame from the body.

**NOTE: BE SURE THAT THE FRAME AND TRIGGER ASSEMBLY ARE KEPT CLEAN. IF THERE IS EXCESS DIRT OR PAINT BUILD UP AROUND THE TRIGGER, THE TRIGGER WILL NO LONGER MOVE FREELY. IN ADDITION, PAINT AND DIRT CAN CAUSE THE MICRO SWITCH TO NOT FUNCTION PROPERLY OR FAIL.**



# EYE PIPE ANTI CHOP EYES/ BALL DETENTS

## ANTI CHOP EYES

The Anti Chop Eye (ACE) system will help prevent the DSR PRO from chopping paint by preventing the marker from firing until a ball is fully seated in front of the bolt. The eyes use a light beam across the breech. In order for the marker to fire with the eyes turned on, the signal between the two eyes must be broken (a paintball in the breech). 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 eyes do not see each other. If this is the case, there are normally two reasons. Either there is dirt, paint or grease blocking the beam, or the battery is so low there is not enough power to create a strong enough light beam.

Turning anti chops eyes off or on: The eye system is automatically powered on during boot up.

To turn the eyes on or off, press and hold the joystick down for 2 seconds. The LED light will begin flashing red when eyes are off.

To turn the eyes back on, press and hold the joystick down for 2 seconds until the LED turns either red or green.

## LED LIGHT COLOR INDEX

**Red:** Breech is clear, no ball (eyes on)

**Green:** Ball in breech, ready to fire (eyes on)

**Blinking Red:** Eyes are off

**Blinking Green:** Eye failure

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

## SELF CLEANING EYE PIPE

The DSR PRO is equipped with a patented self-cleaning eye pipe feature. There is a clear polycarbonate sleeve mounted inside the breech of the gun covering the eyes. When the bolt tip O-ring passes through the eye pipe, it sweeps off any dirt, grease or paint that could be blocking the eyes. Normally it is enough to just fire the DSR PRO to clean anything blocking the eyes. If this does not clear the blockage use a swab to clean the inside of the breech.

For a more thorough cleaning, pull the eye pipe with the ball detents out the front of the breech. With the eye pipe out use a swab to clean the breech. This should be enough to clean the eye system.

## CHANGING BALL DETENTS

The ball detent system is clipped to the outside of the eye pipe. The ball detent system needs little or no maintenance. The detents should easily flex out of the way with little force, such as a paintball moving past. If you are experiencing double feeding or chopping, check the condition of your ball detents with your finger to make sure they are not broken, stuck in the up or down position, and that they move in and out of the breech freely. If excessive broken paint or dirt has jammed your ball detents, remove the eye pipe/detent system from the front of the DSR PRO and unclip the detents for a thorough cleaning. Reinstall the detents, and eye pipe after you have sufficiently cleaned the detents and breech.



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

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

## AIR LEAKS

### AIR LEAKING FROM THE BACK OF AIRPORT

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

### AIR LEAKING BETWEEN FRAME & AIRPORT

- Make sure airport locking screw is tight

### AIR LEAKING FROM THE HYPER6™ REGULATOR

- First locate the position of the leak.
- For disassembly instructions consult the technical section under Hyper6™ regulator (see page 16).
- If the leak is coming from the bottom of the regulator you will need to disassemble the regulator and change the 010 O-ring and the seat on the brass seat retainer mounted inside the Hyper6™ regulator.
- If the leak comes from the small hole in the middle of the regulator, heard at the bottom of the frame, there are four possible O-rings causing the problem, the 014 blue O-ring on the piston, the 008 yellow O-ring inside the regulator cartridge, and the upper 008 red o-ring on the top of the Regulator cartridge or the 012 green oring on the isolator plate.

### AIR LEAKING BETWEEN BODY AND FRAME

- Pull out the Bolt kit and change the #017 sail O-ring and the rear 020 O-ring on the outside of the cylinder bolt can, and the 020 O-ring on the outside of bolt guide
- If the solenoid is leaking, remove the solenoid by unscrewing the two screws mounting it down. Apply some lube to the gasket underneath the solenoid and reassemble making sure that the solenoid is well tightened into the body. Remove the submanifold and lube the solenoid switch lightly.
- Hyper6™ may be supplying too low of air pressure. Make sure the Hyper6™ is set correctly. (see page 15).

### AIR LEAKING FROM BACK OF THE DSR PRO

- Check that the bolt kit is fully locked into the DSR PRO.
- If above does not solve the leak, remove the bolt kit and change the 020 O-ring on the back cap. Also change the 011 color O-ring located in the stem of the push button. Lube well and re-insert the bolt kit into the DSR PRO. Check bolt kit break down picture on page 14 for O-ring locations.

### AIR LEAKING FROM FRONT OF THE DSR PRO / DOWN THE BARREL

- Remove the Bolt kit from the marker and change the 017 O-ring located inside of the bolt can, the 013 O-Ring on the reaction rod, the 013 O-ring on the bolt guide and the 015 O-ring located on the reaction stabilizer. Lube well and reassemble.
- If above doesn't help try changing the rear 009 color O-ring located on the rear of the reaction rod. Lube well before re-inserting bolt kit.

### AIR LEAKING FROM ON/OFF KNOB OR BLEED HOLE

- Make sure airport is in full on or off position.
- Check 006 O-ring behind pin housing.
- See page 17 for service details.

## OTHER CATEGORIES

### DOUBLE FEEDING

- If more than one ball is feeding at a time into the breech of your DSR PRO, check to see if the ball detents are stuck behind the eye pipe. To make sure your ball detents and eye pipe are properly assembled see page 19.
- Make sure the ball detents are not excessively worn.

### BREAKING PAINT

- Make sure you use high quality paintballs and that they are stored according to the manufacturers instructions.
- Make sure your loader is working good and that the rate of fire is not set higher than the maximum feed rate of the loader.
- Check that the barrel you are using is not too tight for the paintballs you are using.
- Make sure the ball detent system is working properly. (see pages 19).
- Be sure the Hyper6™ is not set too high (see page 15).

## PROBLEMS WITH ELECTRONICS

### DSR PRO WON'T TURN ON

- Make sure battery is well charged.

### MARKER SHOOTING SLOW WHEN EYE IS ON AND BLINKING GREEN

- The eyes are not working correctly. Clean the eyes. You'll know that they are clean if the LED turns red when there is nothing inside the breech of the DSR PRO.
- Make sure the eye wires are not broken or pinched.
- The battery may be low. In this case, the battery should be changed as soon as possible.

### SOLENOID WILL NOT ACTIVATE / TRIGGER NOT WORKING

- Check that the trigger adjustment is not set so that the micro switch cannot activate. You should hear a small click when pulling the trigger.
- If the DSR PRO fires once when turned on but not after that, your trigger is set so that the micro switch is always activated. Re-adjust the trigger.
- Check that the solenoid cable is attached to the board and to the correct connector (solenoid should be attached to the two-prong connector).

## **TRIGGER BOUNCE / DSR PRO SHOOTING MORE THAN ONE BALL PER PULL IN SEMI-AUTOMATIC MODE**

- Raise the trigger sensitivity level in the configuration mode.
- Check that the trigger is not adjusted too short.

- Change the -013 valve oring and the -013 bolt guide oring as well as the 70 durometer -015 (red) O-ring at the rear of the reaction rod stabilizer.

## **ERRATIC VELOCITY / DSR PRO WON'T FIRE**

### **DSR PRO FIRES BUT BALLS ARE DROPPING OFF OR NOT EVEN COMING OUT OF THE BARREL**

- Make sure a fresh, name-brand battery is installed.
- Make sure bolt is well lubed and moves well. If there is too much friction in the bolt it will cause the DSR PRO to shoot down. Replace O-rings causing this excess friction.
- Make sure air system is screwed in all the way.
- Make sure Hyper6™ is set correctly.

### **FIRST SHOT IS TOO HIGH**

- Change the seat inside the Hyper6™ Regulator and make sure the purging assembly is installed correctly. For disassembly instructions consult page 16 in the technical section.
- Try turning off the ABS feature.

### **VELOCITY IS NOT CONSISTENT**

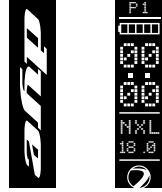
- Make sure the paintballs you are using fit the barrel well and are consistent in size.
- Remove the bolt kit and re-lube it. Change any O-rings causing a lot of friction. Make sure 014 O-ring in bolt tip is in place and in good condition.
- Check that the Hyper6™ regulator is working correctly and that the pressure is consistent.
- Disassemble and change worn out O-rings and the regulator seat in the Hyper6™ regulator.

### **SLOW RATE OF FIRE/ POOR EFFICIENCY**

- Clean and lubricate your ARC+ Bolt assembly
- Ensure there are no leaks in the solenoid or down the barrel

# DSR PRO MENU TREE

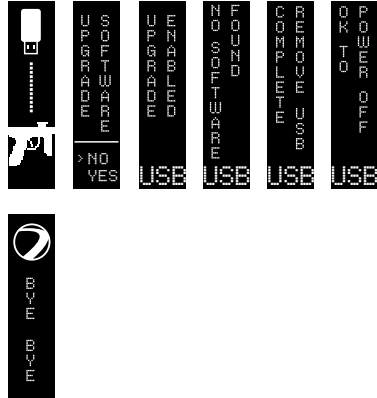
boot screen play screen



SYSTEM CHECK



USB UPGRADE AND SYNC



profile 1 Enter



profile 2 Enter



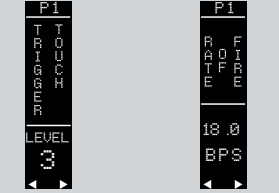
Performance



game timer



TRIG TOUCH SENSE rate of fire



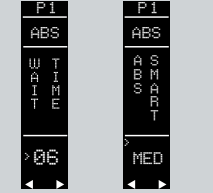
fire mode



dwell



ABS on/off and wait time



eye delay



shot track



play screen (3)



exit



factory profile



general settings



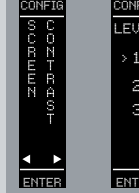
screen sleep time



auto power off



screen contrast



audio on/off



RESET SYSTEM



exit



training mode



break out



snap shot



exit

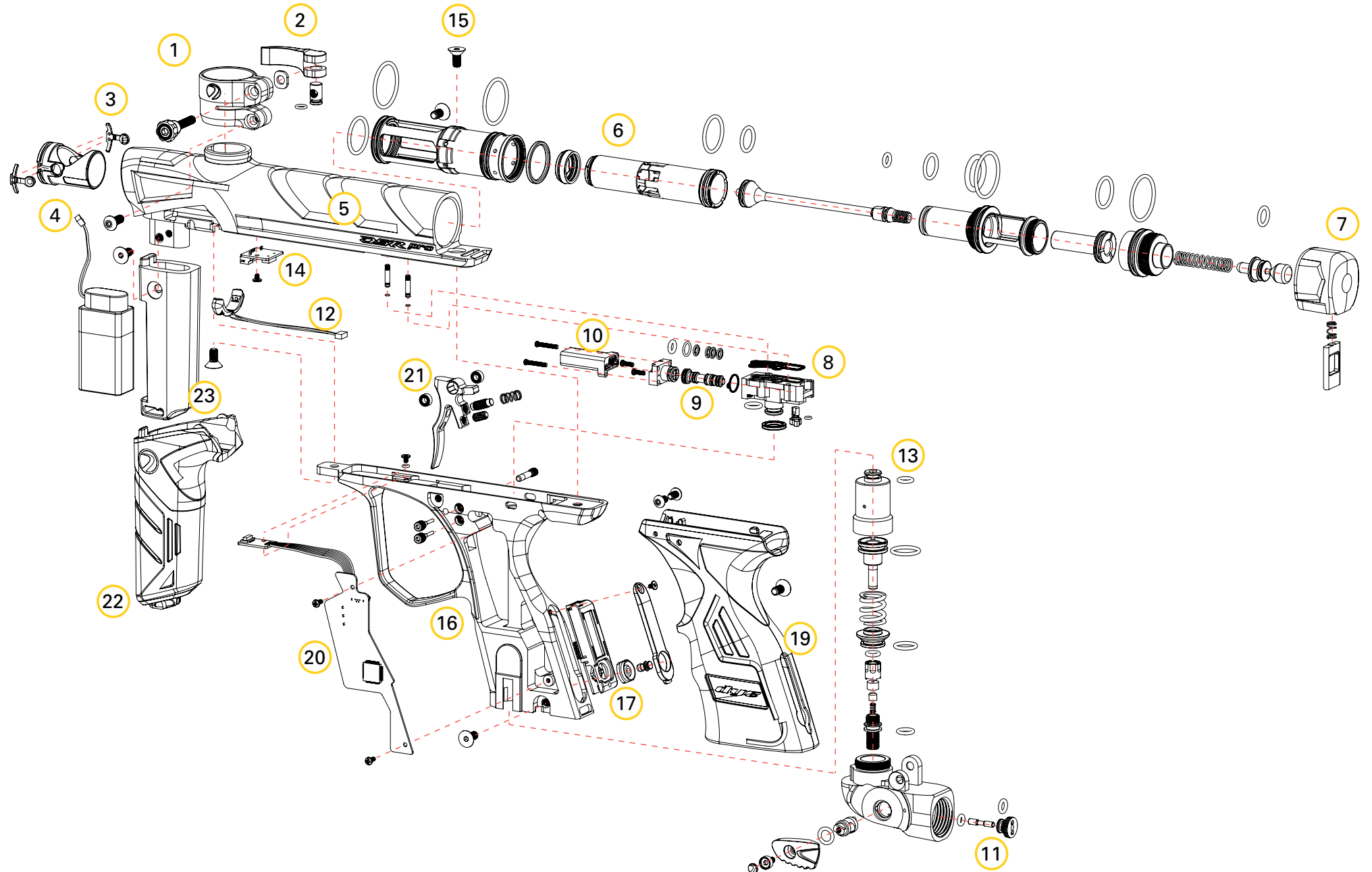


exit



## PARTS LIST

- 1 Feed Neck
- 2 Feed Neck Lever
- 3 Ball Detent Clip
- 4 Eye Pipe
- 5 DSR PRO Body
- 6 ARC+™ Bolt
- 7 Tool-less Back Cap
- 8 Solenoid Body
- 9 Solenoid Sub Manifold
- 10 Solenoid pilot
- 11 TruCam airport
- 12 Eye Wire
- 13 Hyper6™
- 14 Transfer PCB Board
- 15 Rear Frame Mounting Screw
- 16 Ultralite Frame
- 17 OLED Board Assembly
- 18 Airport Knob
- 19 Sticky Grip
- 20 Main PCB Board
- 21 Edge2 Trigger
- 22 Regulator Sleeve
- 23 Battery Housing



# DSR PRO WARRANTY AND LEGAL INFORMATION

## WARRANTY

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

## TECHNICAL SUPPORT

Our Technical Support Departments are open Monday through Friday.

DYE Precision, Inc. Americas can be reached at 858-536-5183 from 9am to 5pm PST.

DYE Precision Germany can be reached at +49 781 120 302 13 from 9am to 6pm GMT+ 1.

DYE Precision Asia can be reached at 886 (0) 4-2407-9135 from 9am to 5pm GMT +8 hours.

Additional support and international contacts are available through our website,  
[www.dyepaintball.com](http://www.dyepaintball.com)

## DISCLAIMER

The specifications & photographs in this material are for information 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 changes in design, specification or appearance consult your local distributor or dealer. The ARC™ BOLT, Hyper6™ and Slick Lube™ are registered trademarks. Design rights, copyrights and all other rights reserved. All patterns, drawings, photographs, instructions or manuals remain the intellectual property of the manufacturer.

DSR PRO and DSR PRO ARC+ Bolt: DYE Precision Inc. U.S. and Int'l PATENTS PENDING U.S. PATENT # 5,613,483; 5,881,707; 6,474,326; 7,765,998; 7,997,260

All rights will be strictly enforced. For a complete list of patents visit [www.dyeprecision.com/patents](http://www.dyeprecision.com/patents)

## CONTACT:

DYE Precision, Inc.  
10637 Scripps Summit  
Court, San Diego CA  
92131, USA  
P. 858-536-5183  
F. 858-536-5191

DYE Germany GmbH  
GmbH, Im Lehbühl 6,  
DE-77652 Offenburg,  
Germany  
P. +4 (0)781 639 349 91

DYE Asia  
No. 47, DaWei Rd, Dali Dist,  
Taichung City 412, Taiwan  
P. +886 (0) 4-2407-9135  
F. +886 (0) 4-2407-2090



# LEVEL 0 SERVICE PREVENT MAINTENANCE

- + WIPE BOLT CLEAN AND APPLY FRESH LUBE  
INSPECT SEALS FOR DAMAGE**
- + CHECK SCREWS ARE TIGHT**
- + INSPECT AND CLEAN EYE PIPE**
- + PSI BETWEEN 115 AND 125**
- + CONFIRM SETTINGS**  
DWELL: 16 / LOW  
ABS: 10  
EYE DELAY: 8

# LEVEL 1 SERVICE LEAK / POOR CYCLE

- + SERVICE BOLT KIT - REPLACE O RINGS**
  - + ORANGE 017 - FRONT CAN**
  - + YELLOW 013 - FRONT VALVE**
  - + YELLOW 013 - BOLT GUIDE**
  - + WIPE CLEAN - APPLY FRESH LUBE**
- + SERVICE SOLENOID**
  - + REPLACE BLACK #6 - 1ST SOLENOID SPOOL SEAL**
  - + WIPE CLEAN AND APPLY FRESH LUBE**
- + SERVICE HYPER REG**
  - + REPLACE YELLOW 008 - REG PISTON SHAFT**
  - + INSPECT REG SEAT, REPLACE OR FLIP AS NEEDED**
  - + WIPE CLEAN AND APPLY FRESH LUBE**

