



*dye*  
**R-2**<sup>TM</sup>  
REVOLUTIONARY PATENTED ROTOR<sup>TM</sup> TECHNOLOGY



**DYE Precision, Inc.**

**USA** 10637 Scripps Summit Ct. San Diego, CA 92131  
**P** 858-536-5183 **F** 858-536-5191

**GERMANY** Albert Einstein Str. 2 B  
77656 Offenburg, Germany  
**P** +49 (0)781 639 349 91

**ASIA** No. 253, Guojhong Rd., Dali Dist.  
Taichung City 412, Taiwan (R.O.C.)  
**P** +886 (0) 4-2407-9135 **F** +886 (0) 4-2407-2090

[www.dyepaintball.com](http://www.dyepaintball.com)

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**Made in Taiwan**

**OWNER'S MANUAL**

# R-2™ LOADER OWNER'S MANUAL

## FEATURES / SPECS.

- Adjustable Ball Capacity: 200/260 Paintballs
- Lid With Integrated Rapid Release Safeguard System
- Tool-Less Disassembly
- Reload Alert System
- Active Power Conservation
- Low Power Indicator
- Dynamic Force Control
- Adjustable Drive Spring Force
- Improved Feed Reliability
- Positive Feed Live Hinge Tray
- Power Supply: Three AA Batteries
- Feed Rate: **52 Balls Per Second**
- **Weight: 1.3 Lbs** (Empty, without batteries)
- Dimensions: **4.75"H X 8.5"L X 4.25"W**

U.S. and International Patents Pending.



## WARNING

### IMPORTANT SAFETY INSTRUCTIONS AND GUIDELINES.

- MISUSE OF PAINTBALL EQUIPMENT MAY CAUSE SERIOUS INJURY OR DEATH.
- PLEASE READ, UNDERSTAND AND FOLLOW THE DIRECTIONS IN THE R-2 LOADER OWNER'S MANUAL.
- EYE PROTECTION THAT IS DESIGNED SPECIFICALLY FOR PAINTBALL AND MEETS ASTM/CE STANDARDS MUST BE WORN BY USER AND PERSONS WITHIN RANGE.
- RECOMMEND 18 YEARS OR OLDER TO PURCHASE. PERSON UNDER 18 MUST HAVE ADULT SUPERVISION.
- 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.

# QUICK GUIDE SET UP

## BATTERY INSTALLATION

No tools are required for battery installation, just follow the simple instructions found on [page 3](#). Three AA batteries are required to operate the R-2 Loader. When installing the batteries make sure to install them the correct way by following the + and - polarity markings on the battery holder.

## MOUNTING R-2 LOADER ON A MARKER

Make sure the R-2 Loader is securely mounted on your marker's feedneck and the R-2 Loader's feed tube is bottomed out on your marker's feed neck.

It is recommended to use an adjustable clamping feed neck system with the R-2 Loader. Do not over tighten your marker's feed neck on the R-2 Loader as it may damage the loader.

## TURNING THE R-2 LOADER ON / OFF

Once the batteries have been installed and the R-2 Loader is fully assembled, simply press the power button at the rear of the R-2 Loader ([see figure 1a](#)). As soon as the LED light indicator comes on, the loader is ready to go.

There is no programming or boot up sequence to worry about, just load up paintballs and go.

## IF R-2 LOADER JAMS PAINT

In the unlikely event that the R-2 Loader jams paint, simply give the jam release trigger a quick pull.

This will turn the center rotor arm in reverse, quickly clearing the jam. The jam release trigger is located on the underside of the R-2 Loader ([see figure 1b](#)).



Figure 1a



Figure 1b

**NOTE:** Results may vary depending on the quality of paintballs used with the rotor loader.

## BATTERY INSTALLATION

### INSTALL / CHANGE BATTERIES

1. Remove the R-2 Loader from your marker.
2. Empty all paintballs from the R-2 Loader.
3. Remove Top Shell, and Tray/Window component (see page 5 for proper disassembly instructions).
4. Install batteries into battery holder. Pay attention to the + and – symbols.
5. Use Velcro strap to secure batteries in place and prevent batteries from coming dislodged during play.
6. Reassemble R-2 by following directions on page 7.

The R-2 has a low battery indicator built in. The R-2's LED will flash red if the batteries are low and need to be replaced.

### **!**WARNING

- LOW BATTERIES MAY CAUSE THE R-2 LOADER NOT TO FUNCTION PROPERLY.
- DIRT AND HEAVY DUST CAN CREATE EXCESS FRICTION AND CAUSE THE LOADER TO MALFUNCTION.
- OVER FILLING THE ROTOR LOADER WITH PAINTBALLS AND FORCING THE LID CLOSED WILL CAUSE JAMMING.



## CAPACITY ADJUSTMENT, RAPID RELEASE SAFEGUARD SYSTEM

### BALL CAPACITY ADJUSTMENT

The R-2 gives you the freedom to switch between high and low capacity. You can choose between 200 ball and 260 ball capacity at any time without the need of tools or spare parts.

To adjust the Top Shell from the low position to the high position simply push the Top Shell Slide Button to the left, and lift the rear of the Top Shell. Once the Top Shell is in the high capacity position, release the Top Shell Slide Button. The slide button will return to its center position. The Top Shell is now locked into the High Capacity position.

To drop the Top Shell to the Low Capacity position, follow the directions in reverse.

### RAPID RELEASE LID OPERATION

The R-2 benefits from the new rapid release safeguard system. This system allows you to change between lid and quick feed at a moment's notice depending on your playing needs.

### LID / QUICK FEED REMOVAL

1. Open the lid.
2. Push forward on the release button, located on the top of the hinge arm.
3. Lift lid away from Top Shell.

### LID / QUICK FEED INSTALLATION

1. Position the lid in the fully open position.
2. Place the spring arm in the spring retaining groove.
3. Line up the cross pins with the cross pin guides and press down.
4. The cross pins will snap into place, locking the lid into the Top Shell.

### **!**WARNING

- OVER FILLING THE R-2 LOADER WITH PAINTBALLS AND FORCING THE LID CLOSED WILL CAUSE JAMMING.



# DISASSEMBLY

## REMOVE TOP SHELL

1. Push, and hold Top Shell Slide Button to the right.
2. Push the rear of the Top Shell up until it clears the Tray/Window Component (figure 3a).
3. Once the Top Shell is clear of the Tray/Window Component push the Top Shell forward to release the front locking hook.

## REMOVE TRAY / WINDOW COMPONENT AND ROTOR CAROUSEL

1. Unlock the two center locking tabs by sliding them rearward (figure 3a).
2. Depress the two rear locking tabs and pull up on the rear of the Tray/Window Component (figure 3b).
3. Pull the rear of the Tray/Window Component upward.
4. Rotor Carousel can now be removed from the bottom shell.

## REMOVE GEAR BOX

1. Rotate the two red locking tabs inward (figure 3c).
2. The gear box may now be removed from the bottom tray.
3. There is no need to disassemble the gear box.



Figure 3a



Figure 3b



Figure 3c

# ASSEMBLY

## INSTALL GEAR BOX

1. Make sure the jam release trigger is in the forward position.
2. Place the rear edge of the gear box under the retaining ledge at the back of the bottom shell (figure 4a).
3. Lower the front of the gear box into position.
4. Make sure the gear box is fully seated and resting level in the bottom shell.
5. Rotate the two red locking tabs over the gear box to secure the gear box into the bottom shell.



Figure 4a

## INSTALL ROTOR CAROUSEL

1. Place the Planetary Gear Assembly on the floor of the bottom shell. Make sure the outer teeth mesh with the white cheese gear.
2. Install the Rotor Base over the planetary gear assembly. Make sure the outer teeth mesh with the gray main drive gear.
3. Install the Center Rotor arm. The Center Rotor arm should only rotate counter clockwise 1/2 turn. You should feel constant spring tension while rotating it.
4. Install the Upper Rotor. The Upper Rotor should sit level on the rotor base. The Upper Rotor should only rotate 1/2 turn.

01. Upper Rotor

02. Center Rotor Arm

03. Rotor Base

04. Planetary Gear Assembly



## INSTALL TRAY / WINDOW COMPONENT

1. Slide front of tray floor under retaining ledge at front of bottom shell.
2. Lower back of floor tray down until rear locking tabs snap into place (figure 4b).
3. Slide center locking tabs forward (figure 4b).



Figure 4b

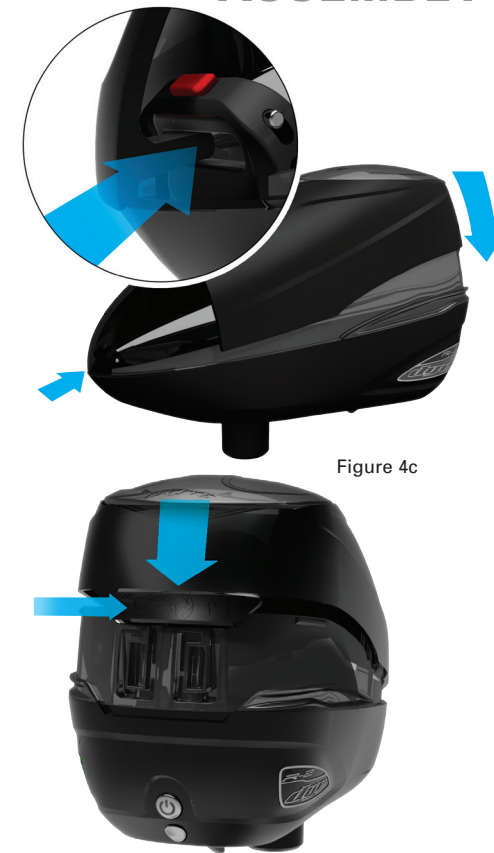
## ATTACH TOP SHELL

1. Secure front locking hook (figure 4c).
2. Push, and hold the Top Shell Slide Button to the right.
3. Make sure slide button tabs align with guide paths at rear of Tray/Window component. (figure 4c).
4. Lower Top Shell until it engages with Tray / Window Component, make sure the tongue and groove mate up properly.
5. Once engaged you may release Top Shell slide button.
6. Press Top Shell down until slide tabs lock Top Shell into lower playing position.



Figure 4c

# ASSEMBLY



## OPERATING SYSTEM

### RELOAD ALERT SYSTEM

The R-2 is equipped with a reload alert system. This system will alert you when your hopper is low on paint and it is time to reload. The R-2 gives you a progressive alert as you deplete the R-2's paint level.

The R-2 will beep twice when you have fired 96 paintballs, and three times when you have fired 144 paintballs. Once you reload your hopper, press the alert reset button and the R-2 will start tracking your paintball consumption again.

You can reset the ball consumption monitoring system at any point in the ball count cycle, simply by pressing the reset button. The reload alert system will start each time the hopper is turned on.

If you choose not to use the reload alert system, you can let the hopper perform its first count cycle and then not press the alert reset button. Or you can choose to turn the sound off by turning off dip switch #2, located on the bottom of the gear box. (See page 10 for dip switch information).



Figure 5a

## OPERATING SYSTEM

### SOUND AND LED CONTROL

Because there are many different formats and styles of play, the R-2 allows you to turn the sounds and/or LED light off and on depending on your preferences. The R-2 comes from the factory with both the sound and LED light on. Both sound and LED are controlled by the dip switches mounted on the bottom of the gear box (figure 5b). To access the gear box and dip switches see page 7 for disassembly instructions.

**Dip switch #1 controls the LED light. Turn the LED light off by flipping Dip switch #1 to the off (down) position.**

**Dip switch #2 controls the Sounds. Turn the sound off by flipping Dip switch #2 to the off (down) position.**

### DRIVE SPRING TENSION ADJUSTMENT

You are able to manually adjust the Drive Spring tension. Adjusting the tension of the Drive Spring will increase or decrease force applied to the paintballs. Too much force and you risk crushing paint in the feed stack. Too little force and you will risk paint jamming.

Use a 1/8" Allen wrench to make any adjustments.

The drive spring adjustment screw is located at the rear of the gear box (figure 5b). The drive spring adjustment screw is set at the factory flush with the back of the gear box. It is not recommended to turn the screw more than two full rotations in either direction of the factory setting.

To increase the spring tension, turn the screw clockwise. To decrease the spring tension, turn the screw counter clockwise.

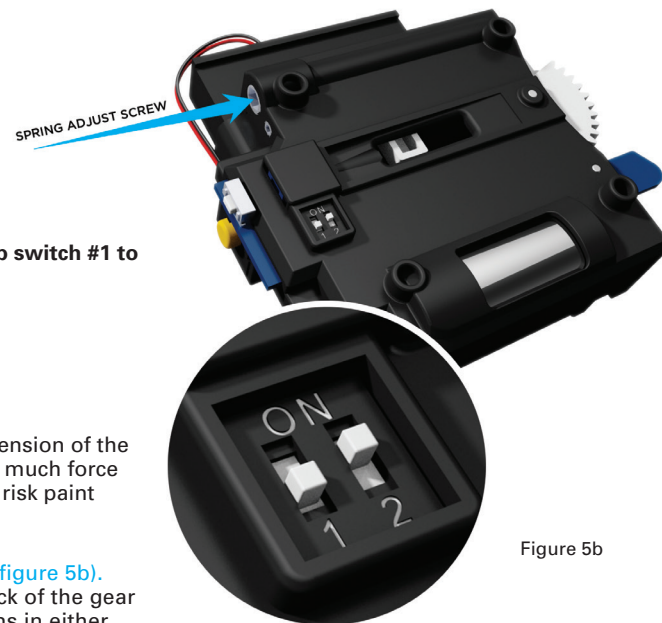


Figure 5b

# OPERATING SYSTEM

## ACTIVE POWER CONSERVATION

The R-2 automatically adjusts power supply levels. By actively lowering, and raising the power supply level to the operating system and motor, the R-2 is able to optimize available power and extend the battery life. Power is not wasted by supplying more than is needed at any given moment. This active conservation of power makes the R-2 extremely efficient and provides exceptional battery life.

## DYNAMIC FORCE CONTROL

The R-2 operating system limits the drive force each time the motor is activated for a short period of time. This limitation of force is done in order to prevent excessive force applied to the ball stack. The dynamic force control allows the drive spring and motor to drive the Rotor Carousel independently. Once the tension is released from the drive spring, the motor takes over as the main driver. The R-2's smart operating system prevents both drive spring, and motor from driving the Rotor Carousel at the same time. This provides a softer, more consistent drive force, and eliminates excessive force on the paintballs.

# CLEANING AND GENERAL MAINTENANCE

Clean your R-2 Loader immediately (same day) after each use or whenever it is dirty or covered with paint.

## WARNING

- **KEEP GEARBOX FREE OF WATER.**
- **CLEAN ONLY WITH PLAIN WATER. CHEMICAL CLEANERS (WINDEX®, 409®, SIMPLE GREEN®, ETC.) CONTAIN ALCOHOL AND DETERGENTS WHICH CAN WEAKEN THE ROTOR LOADER.**
- **NEVER STORE THE DYE R-2 LOADER IN AREAS THAT MAY HAVE CHEMICAL FUMES. GASOLINE, KEROSENE, ALCOHOL AND OTHER CHEMICALS AND FUMES WILL WEAKEN THE ROTOR LOADER.**
- **NEVER STORE THE DYE R-2 LOADER IN AREAS OF EXTREME HEAT OR COLD. TEMPERATURE EXTREMES WILL DAMAGE THE ROTOR LOADER.**
- **STORE THE R-2 LOADER IN A COOL, WELL-VENTILATED PLACE.**

# TROUBLESHOOTING

## R-2 LOADER NOT TURNING ON

If your R-2 Loader does not turn on when the on/off button is pressed check the following steps:

1. Make sure the R-2 Loader is empty of all paintballs.
2. Check that the gearbox is inserted correctly into the bottom shell, [follow instructions on page 7](#). You should hear an audible click when pushing the on/off button.
3. Check that the batteries are fresh and installed the correct way. For battery installation [follow instructions on page 3](#).
4. Make sure the wire from the battery pack to the gearbox is fully inserted into the connector.
5. Check that the Jam Release Trigger is all the way forward. If you turn the loader on but there is no spring tension pulling the Jam Release trigger back re-insert the gearbox into the bottom shell.

## R-2 LOADER IS LOUD

If the R-2 Loader sounds very loud while running, please do a thorough cleaning of all parts. Dust and dirt will cause excessive sound.

## R-2 LOADER IS JAMMING

If you are getting paintballs jammed in the R-2 Loader please check the following steps.

1. Make sure the two red center locking tabs are in the locked position. [For instructions see page 8](#).
2. Check that all R-2 Loader parts are clean of any dirt and debris.
3. Install new batteries into the R-2 Loader. If you notice a significant increase in the rotating speed of the carousel, this could be the cause.
4. Make sure you are using fresh, good quality paintballs. Use of soft / wet paintballs or reballs can cause jamming.
5. With no paintballs in the R-2 Loader, pull back the Jam Release Trigger. It should have a spring tension pushing it forward. If not, please re-insert the gearbox into the bottom shell.

# EXPLODED VIEW

## PARTS LIST

- 01. Top Shell
- 02. Lid
- 03. Bottom Shell
- 04. Gearbox / Battery Tray
- 05. Planetary Gear Assembly
- 06. Rotor Base
- 07. Center Rotor Arm
- 08. Upper Rotor
- 09. Floor Tray
- 10. Collapsing Floor Plate
- 11. Power Button
- 12. Alert Reset Button



# LEGAL INFORMATION

## LIMITED WARRANTY

DYE Precision, Inc. warrants that your DYE® R-2 Loader will be free from defects in materials and workmanship for 90 days from the date of original retail purchase. Any product determined by DYE® to be defective in materials or workmanship in accordance with the above warranty will be repaired or replaced, at the option of DYE®, free of charge when received at the factory freight prepaid, together with proof of purchase. This warranty is expressly in lieu of all other warranties.

Any implied warranties of merchantability or fitness for a particular purpose are limited to the same duration as this expressed warranty. This warranty does not cover incidental or consequential damages. DYE® shall not be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of implied warranties, incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty does not cover any problem resulting from misuse, abuse, neglect, alteration, failure to perform maintenance as instructed, unauthorized repair or service, or damage caused by contaminants. This warranty does not cover any representation or warranty made by Dealers beyond the provisions of this warranty. This warranty does not cover costs incurred for normal repair, inspection and preventive maintenance. You must establish proof of purchase to obtain warranty service or replacement. You may establish proof of purchase by completing the Warranty Registration Card and mailing it to DYE®. This warranty gives you specific legal rights, and you also have other rights which vary from state to state.

If you have any questions about your DYE® product, please call DYE Precision, Inc. at (858) 536-5183 or visit [www.dyeprecision.com](http://www.dyeprecision.com). U.S. and International Patents Pending. Rotor is a pending trademark of DYE Precision, Inc.

## TECHNICAL SUPPORT

Our Technical Support Departments are open Monday through Friday. Additional support and international contacts are available through our web site [www.dyepaintball.com](http://www.dyepaintball.com).

**USA**  
 DYE Precision, Inc.  
 10637 Scripps Summit Ct.  
 San Diego, CA. 92131  
 858-536-5183 ext.277  
[techsupport@dyeprecision.com](mailto:techsupport@dyeprecision.com)

**EUROPE**  
 DYE Germany GmbH  
 Albert Einstein Str. 2 B  
 77656 Offenburg  
 Germany  
 +49 (0) 781 639 349 91  
[europe@dyeprecision.com](mailto:europe@dyeprecision.com)

**ASIA**  
 DYE Asia  
 No. 253, Guojhong Rd. Dali Dist.  
 Taichung City 412  
 Taiwan (R.O.C.)  
 886 (0) 4-2407-9135  
[asaitech@dyeprecision.com](mailto:asaitech@dyeprecision.com)