



## FLOWLIGHT OPTIMIZATION GUIDE

### -G1 WATERMELON-



The flowlight was born of a passion for beauty and movement, and engineered to meet the need for a high-performance, rechargeable light source for kinetic activities and entertainment.

The flowlight serves as a versatile pixel of light in the Flowtoys Modular System with the ability to link to each other and fit into a variety of poi, staffs, juggling and martial flow props. They are interchangeable among various flowtoys, so feel free to mix, match and switch them around.

Clip a flowlight to your clothing, backpack or bicycle. Use it as a flashlight or for ambient lighting, while you are at a festival, camping, or at home. With 11 light modes and a range of color schemes, the possibilities are limited only by your imagination.

**Note:** Your flowlight is a high-performance electronic instrument. We think of it like a musical instrument, sports equipment, or tool. Understanding its features and giving it a little care will enable maximum performance. Keep this guide for an optimal flowlight experience!

### **OPTIMIZING YOUR GLOW – UNDERSTANDING YOUR BATTERIES**

We designed the flowlight to run all 3 LEDs at optimum brightness off one AAA battery using a DC-DC voltage converter – this means you can use common rechargeable batteries and that your flowlights will run at full brightness for the life of the battery, i.e. it does not dim over the course of the night, just in the last few minutes when it's time to change your battery (<0.9V).

**How long does a battery last?** There are batteries and there are Batteries. With fully charged NiMH rechargeables or good alkalines, flowlights normally last for 3+ hours in “bold” mode, 7 hours in most of other modes and 11 hours in beacon.

Cheapo disposable batteries and rechargeable alkalines may last less than 30 minutes, as they cannot handle the current draw of the flowlight, and they will turn off easily. High-quality alkalines might last as long as rechargeables, but they do not maintain their voltage well under heavy loads and do not offer as good performance as rechargeables. NiCD batteries do not hold much charge. 3-3.6V rechargeable lithiums are not appropriate for flowlights, as they will be overdischarged.

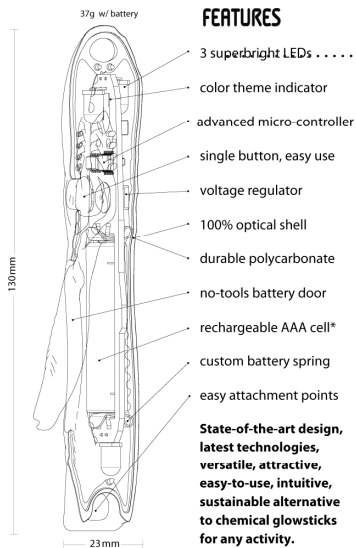
**How long will a rechargeable battery hold a charge?** Typical NiMH rechargeables hold a good charge for a few weeks. After that they may have less than 50% of their charge left, so we recommend that you charge your batteries within a week of any important uses, like festivals, parties or performances.

**Tip: USE RECHARGEABLE NiMHs (NOT Li-ions!) and charge them shortly before use!**

### **FLOWLIGHT COLORS**

Flowlights come in a variety of colors to suit your style. There is an Elemental Series: Air, Water, Fire, Earth and Spirit; and an Astral series: Sol, Luna, Nebula and Spectrum. There are also limited-edition colors that come out from time to time. Check flowtoys.com for the latest available colors. Each flowlight has a color code to tell you what color the light is without turning it on. There is a color indicator printed on the right side of the circuit board between the button and battery door – the LEDs are colored accordingly.

FEATURES AND OPERATING INSTRUCTIONS



FEATURES

- Bright:** 3 superbright LEDs, low-profile circuitry and voltage... regulator for maximum brightness with no dimming until end of battery life
- Long lasting:** rechargeable NiMH AAA provides 4 to 11 hours of full brightness depending on mode
- Durable:** ultrasonically welded polycarbonate shell, structural design, surface mount components
- Easy to use:** single-button interface, intuitive control, radical and compact battery door requiring no tools
- Sustainable:** replaces chemical glowsticks, runs on 1 AAA battery, rechargeable, repairable, built to last
- Hackable:** constant-current driver, 0.9v to 5v power range and convenient re-programming pads for easy customization
- State-of-the-art:** "ATtiny24" micro-controller is super-efficient and powerful for complex functionality and programming
- Beautiful design:** carefully designed to optimize light distribution, durability, functionality, look and feel

FLOWLIGHT MODES

There are 11 different light modes in every flowlight designed for a variety of applications from ambient lighting to a convenient flashlight to safety lighting and of course modes that leave awesome trails when the light is moving!

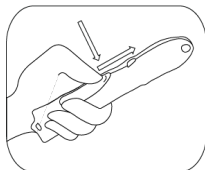
There are 2 dimension of modes. The first dimension has 5 modes and the second dimension has 6 modes. Activate your flowlight by pressing the single button above the battery door to get to dimension 1, mode 1. Press the button again to reach the next mode. The 6th button press will be "off". To enter the next dimension, hold the button down until the flowlight blinks. Press the button to navigate within this dimension. At any point you can turn the flowlight off by holding the button down for just under 2 seconds.

**Memory mode:** The flowlight remembers what mode it was in last. If the flowlight is off and you hold the button down, it will turn on, blink, end enter the last mode it was in. This is particularly useful if you have a lot of lights, and always prefer the same mode.

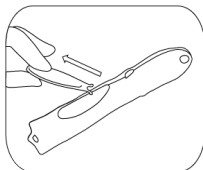
Mode		Description
Dimension 1	1 Breathe	<b>peaceful glow:</b> slowly fades in and out like the breath of a human at rest
	2 Bliss	<b>mesmerizing:</b> each LED fades independently at ever-changing rates
	3 Bold	<b>bright:</b> all LEDs on full power, very useful, but shorter battery life
	4 Beat	<b>solid strobe effect:</b> only visible during movement, extends battery life
	5 Beacon	<b>pulsing:</b> like the heart rate of a person at peace; good camp marking light
Dimension 2	6 Bling	<b>vivid alternating strobe:</b> colors alternate for an eye-catching visual effect
	7 Beads	<b>subtle overlapping strobe:</b> colors blend alternately like beaded jewelry
	8 Blaze	<b>blazing trails:</b> pulsed 3-D effect resembling comets flying through the air
	9 Bounce	<b>delightful alternation:</b> lights appear to bounce up and down in the air
	10 Booyah!	<b>complex effects:</b> strobing, bouncing, alternating, blending...everything!
	11 Bounty	<b>variety/demo mode:</b> cycles through the modes, except beacon

## OPENING YOUR BATTERY DOOR

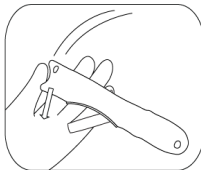
We designed the battery door so that we wouldn't need a screwdriver to open it. The battery door fits within the flowlight's compact form and is designed to be secure, quick to open and help spread light around the battery without compromising the strength of the shell anymore than necessary. Sometimes opening the door can be challenging like a puzzle box, but there are several tricks to make it easy for everyone!



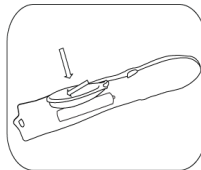
To release the battery door, push the front of the door down firmly and then towards the button. The back should pop out. It may help to use a small object like a battery to push with.



Pull the door out as shown to access the battery. The "antennae" are very strong and durable. You may have to pull hard to pop them out. This is normal.



To remove the battery, tap the tail of the light firmly against the ball of your hand, or other firm surface.  
Note: The battery may be snug.



Insert a battery "+" end first. Replace the battery door by inserting the antennae in first. Push the door down and back to secure it. Power up & enjoy!

Basically there is only **one direction in which you need to apply pressure** to the door to release it and there are several ways to apply that pressure:

There is a slight lip at the tip of the door and the lip needs to go down towards the belly of the light and forwards towards the head of the light. There are "feelers" at the top of the battery door and they need to be released before you can push the door forwards.

You can either use your thumb or another hard object (the tail end of another flowlight works really well) to push down and forwards on the tip of the door. Do not push on the main part of the door itself – this will not release the internal catch. Once you have released the battery door, you can pull firmly on the door to separate the door from the light and access the battery compartment. You can also visit [flowtoys.com](http://flowtoys.com) for video instructions.

## Inserting and removing the battery

Insert the positive end of the battery (pointy end) in the direction of the head of the flowlight (pointy end). Push the battery forwards and down. All flowlights that were released since 2010 have a transparent battery pull tab – make sure you insert the battery with the tab across the bottom of the compartment. Pull the tab to release battery. A firm tap on a table or other semi-hard object will also cause the battery to pop out of the compartment - we like using the edge of a bin when changing lots of batteries.

## DURABILITY

While they serve as attractive ambient and safety lighting devices, many flowlights spend their lives being swung around, tossed, dropped and hit against each other. They are designed to handle the typical impacts of a kinetic lifestyle and we continually work to make this electronic device with a full-size battery handle the kind of impacts that would destroy a well-built flashlight, cell-phone or wristwatch. However nothing is indestructible! Flowlights are sensitive electronic instruments - hard butterfly collisions and dropping your rigs over a hard floor may eventually break some lights, so you might want to consider using protective crystal cases or flowpoi casings, or practicing over carpeting or grass if you drop frequently.

**Interesting note:** We calculated the impact during a simple butterfly move to be over 100mph. The force during impact is equivalent to a 5 ton elephant standing on an iPod!

**Please note:** Chemical glowsticks release gaseous esters that break down polycarbonate and make it brittle, this occurs normally and is not a result of broken or leaking glow-sticks. Avoid exposure!

## **TROUBLESHOOTING**

While we test every light, some duds still get through. However most apparently “faulty” flowlight behavior is easily remedied. A truly defective flowtoys product can always be sent back for free repair or replacement, but generally they just require a good battery or a little care.

### **99% OF “FAULTY” FLOWLIGHT BEHAVIOR IS SIMPLY A BATTERY ISSUE!!!**

Does your flowlight turn off easily when bumped OR dim out OR turn off shortly after it has been turned on for no apparent reason? Charge/change you battery, clean your contacts, check the following:

**1. Use only rechargeables or good alkalines.** The circuitry is optimized for rechargeables. The light is bright and draws a lot of power, so cheapo batteries don't last long, can't keep up and makes the light turn off easily. The difference can be the light lasting under 30 minutes or 7 hours!

**2. Your battery is low.** Try a battery that you are sure is good; switch your batteries around to double check. It can be very hard to tell when the battery is low and the light may appear faulty, as it turns on at full brightness and quickly dims out or shuts off for no apparent reason. One way to tell if your battery is low is to turn the light to BOLD mode and wait ... If your battery is low, the light will dim and turn off soon.

**3. There is something obstructing battery contact!** Check that the clear battery pull tab is not wedged between your battery and the battery contact. Check that your batteries are clear of physical debris. The battery connection is tight, so the plastic cover on some batteries gets torn off a little and sticks to the underside of the battery, preventing a good connection. We trim the extra plastic off all our batteries before sending them out.

**4. There is oxidation on your contacts.** Do the battery or spring contacts have black marks or debris on them? This is oxidation from the battery's contacts caused by friction/vibration. Clean the battery and battery springs with your fingers, a clean cloth or paper towel and apply a tiny bit of petroleum jelly (vaseline) to the springs. This works wonders to ensure electrical conductivity and prevent future oxidation.

## **FLOWLIGHT ACCESSORIES**

Flowlights were designed as a versatile pixel of light that can be used as a stand alone LED lightstick, as well as linked together in the Flowtoys Modular System to create poi, staffs, juggling clubs, martial flow props and more. Check out [www.flowtoys.com](http://www.flowtoys.com) for the whole range of accessories and possibilities.

Highly recommended: Get crystal cases to protect and cushion your flowlights, and flowmass to add more weight if you like heavier rigs. We also offer top quality, comfortable handles and leashes.



## **LIFETIME WARRANTY**

Our goal is to provide you with the best possible illuminate equipment for flow, and enable you to enjoy it for as long as possible. While we can't guarantee that flowlights will not break, we do want to enable you to enjoy them freely and offer a fair and flexible warranty program. Contact us at [info@flowtoys.com](mailto:info@flowtoys.com) if you have any questions.

## **MAY THE FLOW BE WITH YOU!**

Visit [www.flowtoys.com](http://www.flowtoys.com) for more information, videos instructions and tips.