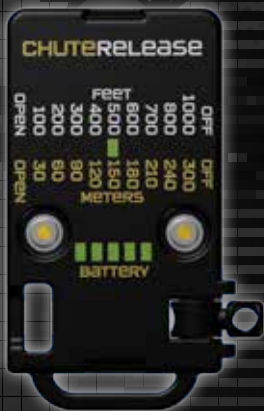# jolly logic
CHUTE RELEASE

You Control
When Your Parachute
Opens

For Model Rocketry

Quick Start

Welcome!

I am delighted to introduce you to Chute Release for model rocketry. I think it will change the way you think about parachute deployment, and surprise you with the fun and excitement it adds to every launch.

The magic of Chute Release is that it puts you in control of parachute deployment in a very simple, convenient way. It's fun to use, and it's built to stand up to punishment.

Proper parachute packing and ejection are still critical to success. Your challenge, should you choose to accept it, is to learn new and better ways of folding and packing your chute now that you have Chute Release. Share your techniques with everyone else!

More complete information is available online at **www.jollylogic.com**. You can also shop for accessories and read stories about how others are using Chute Release on our News page.

Happy flying,

John Beans
Founder, Jolly Logic
Danville, California
john@jollylogic.com

Always Remember

❶ Don't forget to turn it on!

❷ Attach the tether, or you'll lose it

❸ Chute Release holds your parachute closed; it should never carry ANY shock cord tension

❹ Perform shake and release tests before every flight!

❺ Depending on how you fold your chute, it may take 50-125 feet below the release altitude to open and slow your rocket; keep that in mind as you select a release altitude

Visual Tour

Left Button

Use the tip of your finger (not a sharp object). Press to lower the release altitude.

Each press lowers the setting one level.

Press past the lowest setting to begin a countdown to open for a ground test.
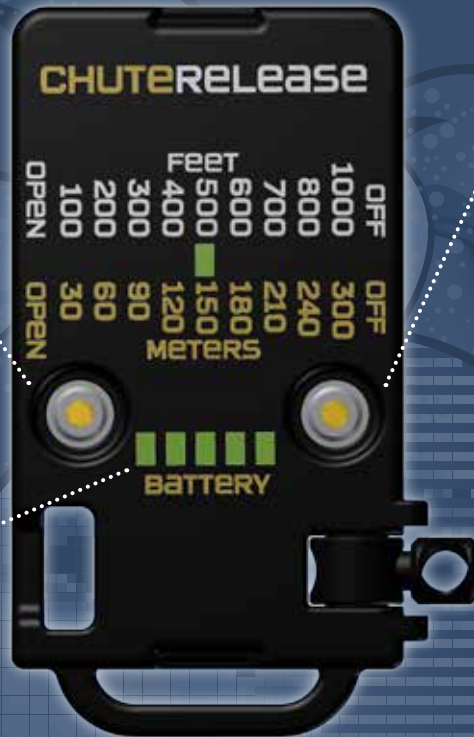
Battery Level

For good battery health, try to keep charged to 4 or 5 bars.

If you see just one bar flashing, you should immediately recharge.

Use the included USB Micro-B cable to recharge in any standard USB port.

See *Recharging* section for more info.

Right Button

Press to raise the release altitude. Each press raises the altitude one level. To turn off power, press past the highest setting.

Release Pin

Released at the selected altitude. Avoid pulling too hard on the pin, or it will not release properly. Use stretchy bands of the proper length to hold your chute securely, but not overly tight.

Tether Point

Fasten Chute Release to your rocket with a tether so that you don't lose it after it releases.

The tether should only be used to hold the weight of Chute Release.

CHUTERELEASE

FEET
OPEN 100 200 300 400 500 600 700 800 1000 OFF
OPEN 30 60 90 120 150 180 210 240 300 OFF
METERS

BATTERY

Setup

Attach the Tether

The tether keeps Chute Release from getting lost after release.

- The tether is only designed to carry the weight of Chute Release, not a parachute or shock cord load

- Attach the tether to your rocket BEFORE you wrap your chute with the band (once you wrap the chute, it's harder to attach the tether)

Attach the Elastic Band

- Attach a band to the bar on the side of Chute Release, then attach a pin to the other end. Use the "cow hitch" method shown.

- Choose a band that wraps firmly around your parachute without slip, but not so tightly that it might break or get wedged into the chute

  Smaller Band   Parachutes smaller than about 36"

  Larger Band   Parachutes larger than about 36"

- Of course, the size you need depends on how you fold your chute, and for larger chutes, use a larger band or combine two bands.

- Once you see a band start to tear a little or become brittle, replace it.

- High quality bands (with latex content > 50%) are stretchier and don't wear out as fast as common ones
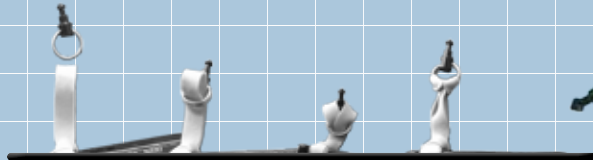
Parachute Loading Steps

Steps to follow for each launch:

- Fold the parachute (see our website for tips)
- Attach the tether to the shock cord line or one shroud line ❶
- Wrap the band around the chute, snap in the pin ❷
- Perform a shake test and a ground test (see next page)
- Turn on and set the release altitude
- Load chute into rocket
- If this is the first time you've loaded this rocket, perform a puff test (see next page)
- Launch!

❶ Tether

❷ Band

This attachment technique is called a cow hitch. It's faster than knots or fasteners for the band and tether.

6   jolly logic   jolly logic   7

Keys to Success

Understand the Mission of Chute Release

Chute Release prevents your parachute from opening. It is designed to wrap around your chute and keep it folded in turbulent wind as your rocket tumbles.

It should NEVER be exposed to shock loads. You should be able to pull your nosecone and fuselage all of the way apart until your shock cord is stretched tight without affecting Chute Release's grip on your chute.

Always Ground Test!

There are two ground tests you should always perform before each flight:

1. The Shake Test:

If you shake the shock cord, does the parachute slip out?

2. The Release Test

Using the left button repeatedly, activate the Ground Test mode to open the release. Does the band fully release the chute?

Don't Get Stuck in the Tube ("Puff Test")

Chute Release may make it harder to fit your parachute in your rocket. Find a way to fold your chute and attach Chute Release so that it fits well.

You may not be able to fold your parachute the way that you have before. Watch videos on our website that show some chute folding methods that work well with Chute Release.

One technique is to attach your parachute closely to your nosecone, rather than leaving very much shock cord between them. If the chute is attached directly to the nosecone (or close to it), when the nosecone flies off it will drag the chute out with it. This works best if the chute is fairly loose in the fuselage.

If possible, test your packing technique with a "puff test" by quickly blowing in the engine tube and seeing if you can eject the nosecone and chute with just your breath. If you can, you have a good technique.

Flight Logic
Also: "What do all of those flashing lights mean?"

Firmware Version

• When you turn Chute Release on, the first thing that it will show is its firmware version number. The first digit is indicated in the battery bar, the second in the altitude setting bar. If the first battery light and the second altitude light (200) flash briefly when you turn it on, you have firmware version 1.2.

Ground Level

• After startup, Chute Release will detect atmospheric pressure at ground level. While it is sampling, the altitude indicator will scroll from left to right a couple of times. If it stops and flashes ALL of the lights several times and then turns off then it failed to find a ground pressure. If it does this every time you turn it on, it probably means that your pressure sensor needs repairing.

Detecting Flight

• Chute Release senses a launch by sensing altitude. A valid flight is one that has been above 100 feet for 3 seconds or more.

Deciding When to Release

• Once it is in flight, Chute Release waits for the flight to begin falling.

• Once it is falling, Chute Release waits for the flight to approach the release altitude and triggers the release at exactly that altitude.

• If the flight never reaches the selected release altitude and is falling, Chute Release will open right away.

• Chute Release measures altitudes relative to the launch pad. If your flight may land far away in hills or valleys, you should take them into account.

Recharging

Chute Release's lithium polymer battery will last for many flights, but when the battery gauge gets down to a couple of bars it's time to recharge it. Just use the included cable to plug Chute Release into any USB port.

Red Light

Your altimeter is charging correctly. Recharging should be complete in less than 2 hours. If you don't see a red light when you first plug it in, try another port.

Green Light

Your altimeter is 100% charged.

Red + Green Light

Problem! Either this USB port is not providing enough power, or your battery has a problem.

1. Try another USB port.

2. Open your altimeter and make sure the battery connector is snapped in. See our website for instructions on how to do this.

3. Contact support@jollylogic.com.

How Often Should I Charge It?

Lithium batteries are happiest being about 50% charged and kept in a cool place. Leaving it on a charger will slightly reduce its lifetime. The best policy is to charge it up when it gets down to a couple of bars, and try to store it in a cool place.

What Type of Connector Does Chute Release Have?

The very common USB Micro-B.

Can I Use My Own Charger?

Yes. Chute Release needs less current than most devices (about 90 milliamps), so if you happen to already have a USB charger for something you own (like your phone or a headset), you can use that for Chute Release. Electronics stores usually have a nice selection of "USB Micro-B" rechargers.

Why Does the Red Light Come On Every Time I Plug It In?

Even when it is 100% charged, the red light will come on when you first plug in Chute Release while the recharging logic checks the status of the battery. In just a few moments, it will turn green again. This is normal behavior.

Will the Battery Eventually Wear Out?

All batteries wear out. If it gets to the point that your battery drops several bars during a day of flights, you should consider replacing it. This is a unique, custom-sized battery; Jolly Logic is the only place you can get a replacement. See our website for instructions.

How Long Before Chute Release Automatically Powers Down?

Until the battery runs out of power, which can take days on a full charge. But you should try to turn on Chute Release as close to launch time as possible so that you get an up-to-date and accurate ground level close to launch time.

More Info & Support

More info is available at www.jollylogic.com, including helpful videos, tutorials, FAQs, and troubleshooting guides.

The plastic case and battery are user-replaceable. If you damage your Chute Release, please see www.jollylogic.com to order replacement parts and to see repair instructions.

Have questions or suggestions? Contact us at **support@jollylogic.com**. We'd love to hear from you, including your experiences with Chute Release.