



The **FireBird**

Recessed Ejection Charge Wells

Features:

- Mounts almost flush with the bulkhead!
- No wires breach the bulkhead!
- No wire terminals are needed on top of the bulkhead!
- Precision Machined heat treated aluminum
- Super CLEAN Appearance!
- Nicely anodized for corrosion protection
- Anodized finish protects e-matches from short circuiting
- Capped and sealed with common drinking water bottle tops
- Safely co-exists partly in the avionics bay
- Complete kit with mounting hardware, sealing putty and sealing o-rings
- Common drinking water bottle caps
- Lightweight construction
- Works with Black Powder ONLY!
- Lifetime Tech Support & Lifetime Warranty

Double FireBird Charge Well Kit includes:

- Two Precision Machined Aluminum Charge Wells
- Two Mounting Retention Nuts
- Charge Cup Sealing Putty & Sealing O-rings
- Half Dozen of very common Drinking Water Bottle Caps
- In short, everything you need to set up two FireBird Charge wells!
- The FireBird charge wells are offered in 3 sizes to meet almost any need



The **FireBird** Recessed Ejection Charge Well Kit (3G kit shown)

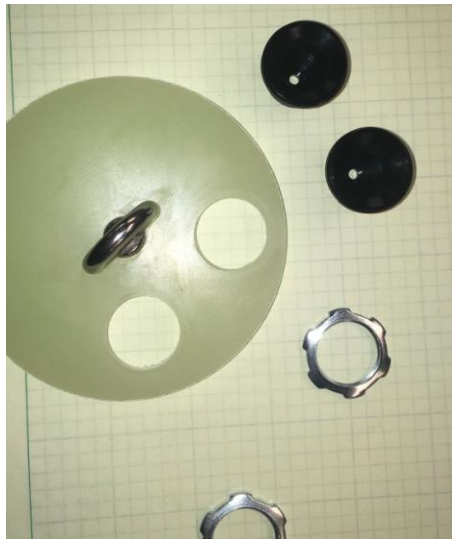
4-19-23 User Instructions

Note: These instructions are written for "Rocketry Folks" and it is assumed that all directions will be closely followed. If you are not a "rocket" guy or gal or you do not feel that you can follow these directions exactly, **please do not use this device!**

Step 1 - Prepare the Bulkhead

I will cover this subject in greater detail at a later time. In the meantime, If you have a plywood bulkhead and possibly 3-D printed plastic too, drill the bulkhead as needed with a 7/8" paddle drill. If you have a fiberglass bulkhead, use a 7/8" or 22mm diamond hole saw that you can purchase at your local hardware store (Tinder Rocketry will soon be stocking these for your convenience)

I will have complete instructions on how to use a diamond hole saw on FG soon. In the mean time, if you are to undertake using a diamond hole saw to drill a FG bulkhead, use plenty of running water!



Step 2 - Install your FireBird Recessed Charge Wells

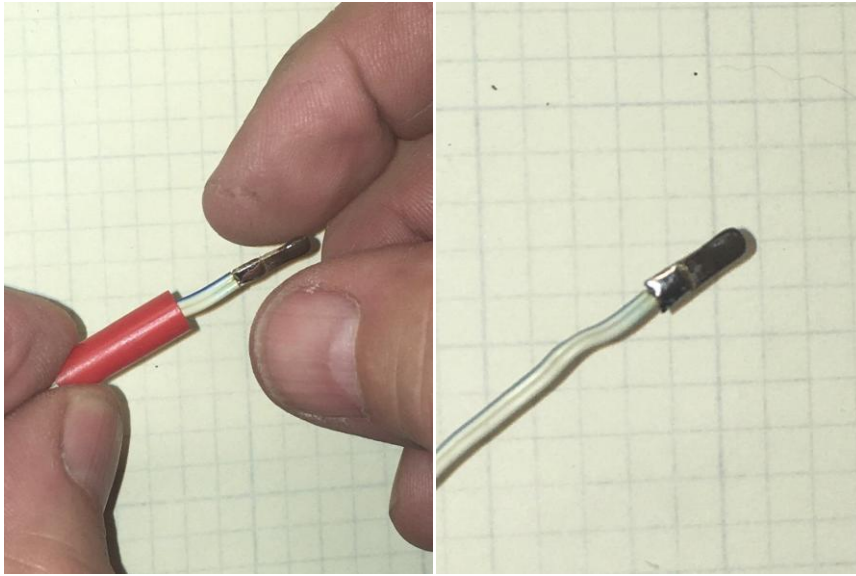
Though not absolutely necessary, you may wish to install the FireBird Recessed Charge Wells on your bulkhead before loading, at this point I will assume this to be the case.

Push the FireBird through the 7/8" hole and secure with the supplied retaining nut



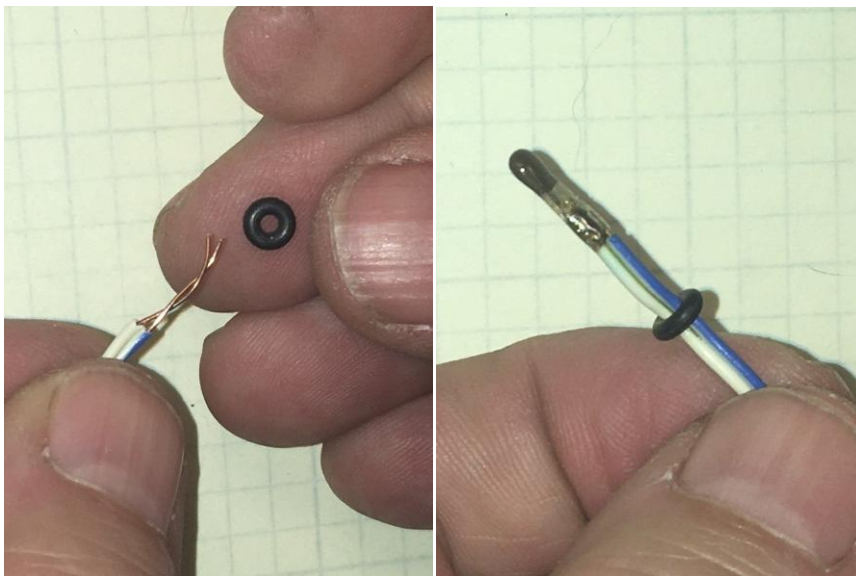
Step 3 - Prepare and install the e-match(s)

Remove the red plastic sheath from the e-match

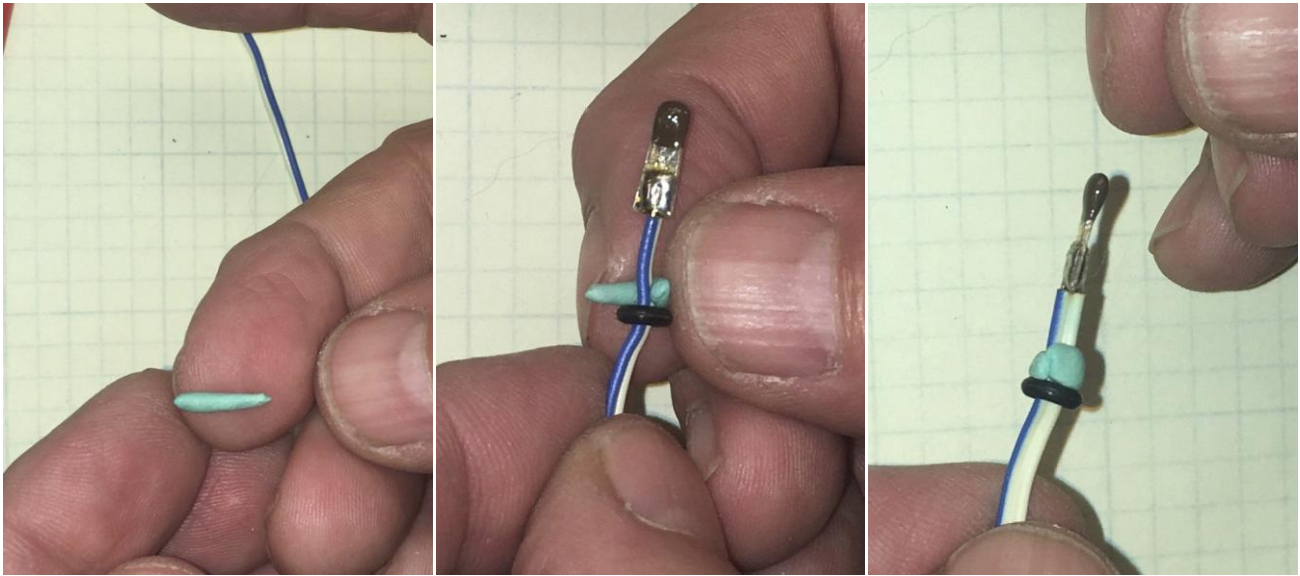


If you are using only a single e-match in your FireBird (Not recommended),
install one of the supplied 004 o-rings onto the e-match.

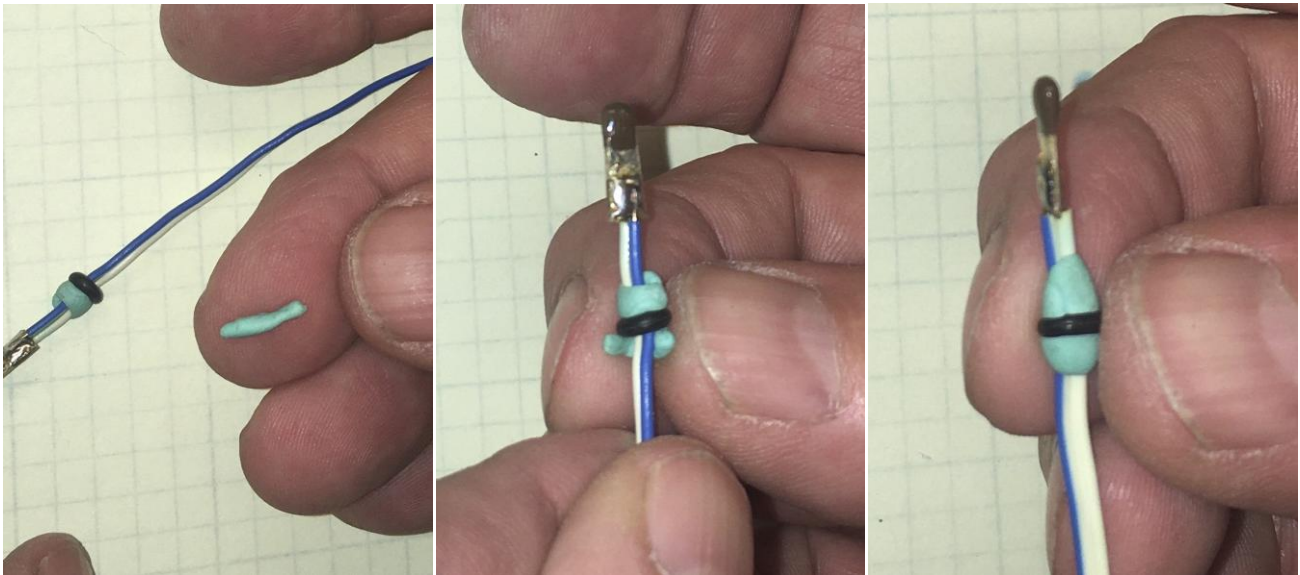
How close the o-ring needs to be to the e-match tip is dependent on which FireBird you are using, the
3G device is shown



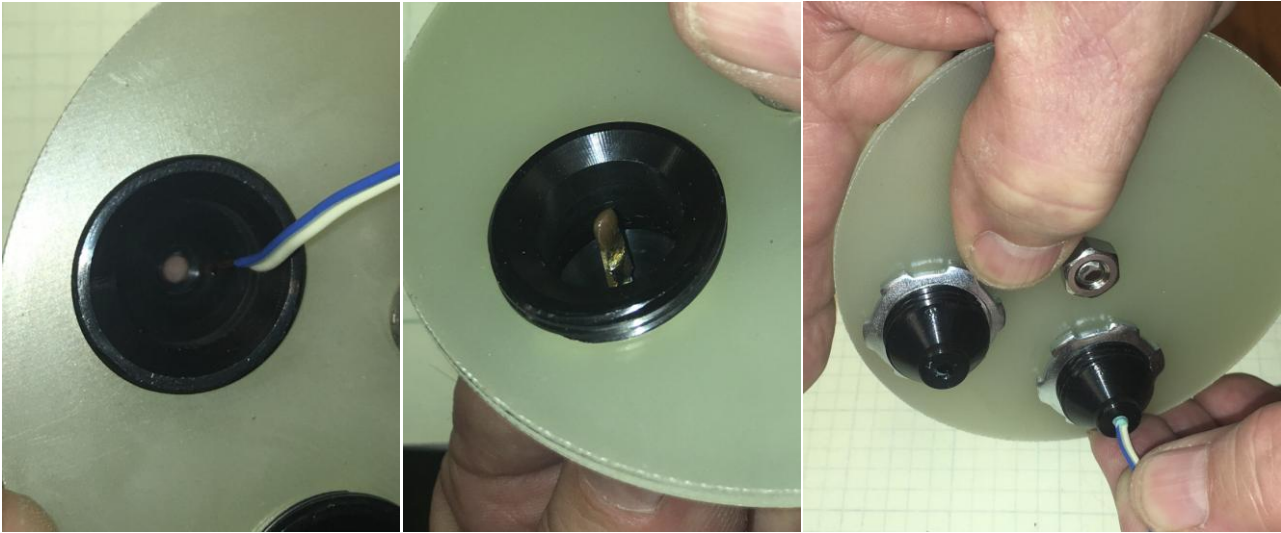
Roll a small amount of putty between your fingers.
The amount to use is about the size of a long grain of rice.
Wrap the putty around the wire on top of the o-ring
Roll the putty with your fingers



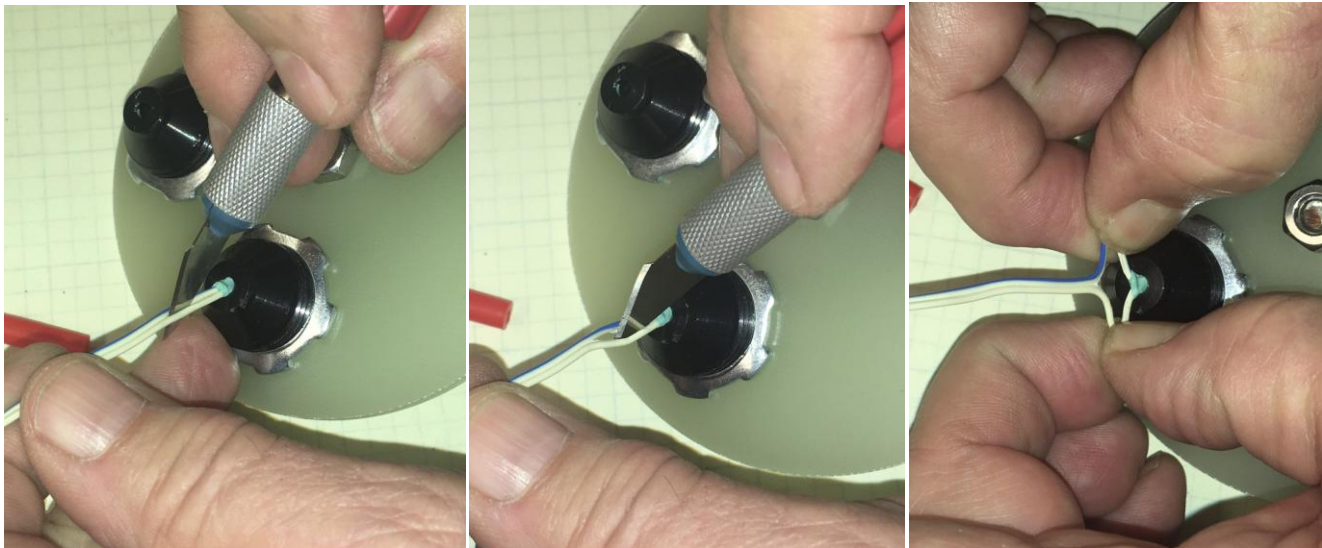
Repeat this procedure by putting putty on the bottom side of the o-ring
Roll once again between your fingers



Insert the e-match into the FireBird
Pull until the e-match is below the top surface of the device.
Verify that at least a tiny portion of putty has oozed through the bottom hole



With a hobby knife or other sharp knife cut a slit between the conductors on the e-match
Use the knife to gently splay the wires just enough just enough to be able to
grab the wires with your fingers to further spread the wires.
Note: The spreading of the wires provides a resistance so that the e-match cannot slide forward
possibly compromising the seal.

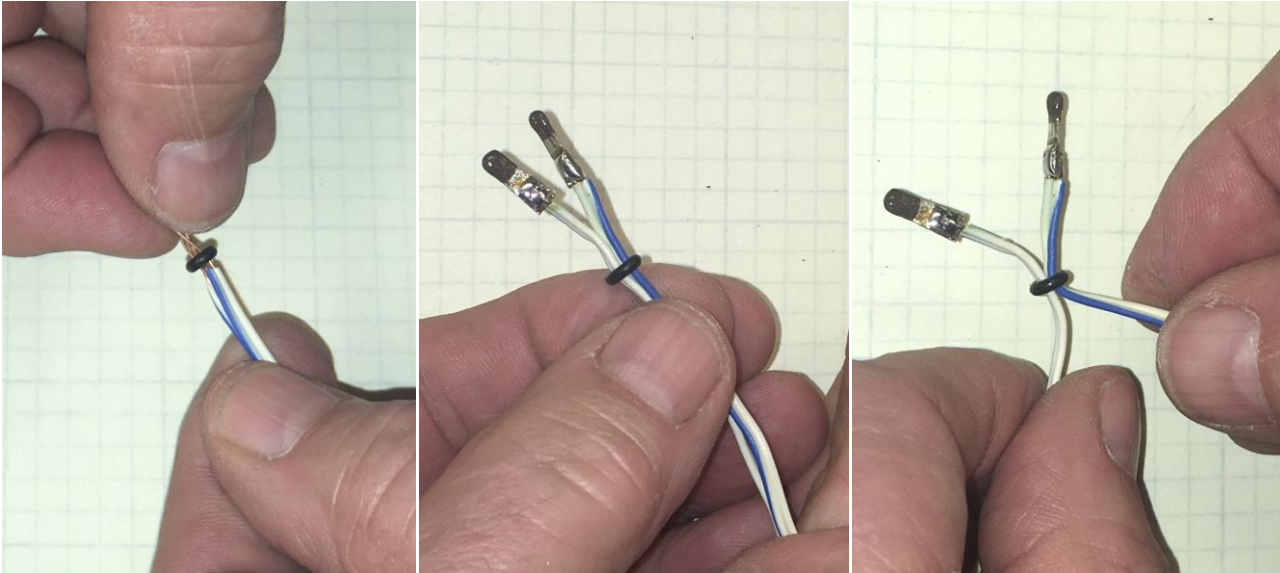


If you are using two e-matches (Recommended)

Install one of the supplied 004 o-rings onto the e-matches.

How close the o-ring needs to be to the e-match tips is dependent on which FireBird you are using
(The 3G device is shown)

Bend the wires slightly forming an "X".



Roll a small amount of putty between your fingers.

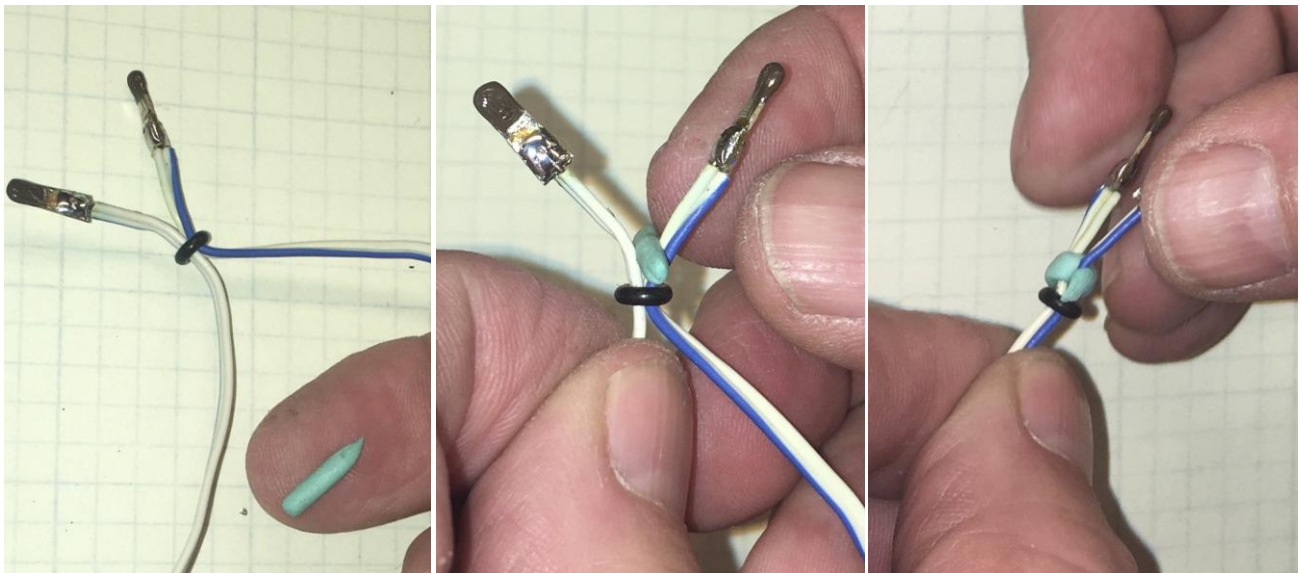
The amount to use is about the size of a long grain of rice.

Place the putty BETWEEN the wires,

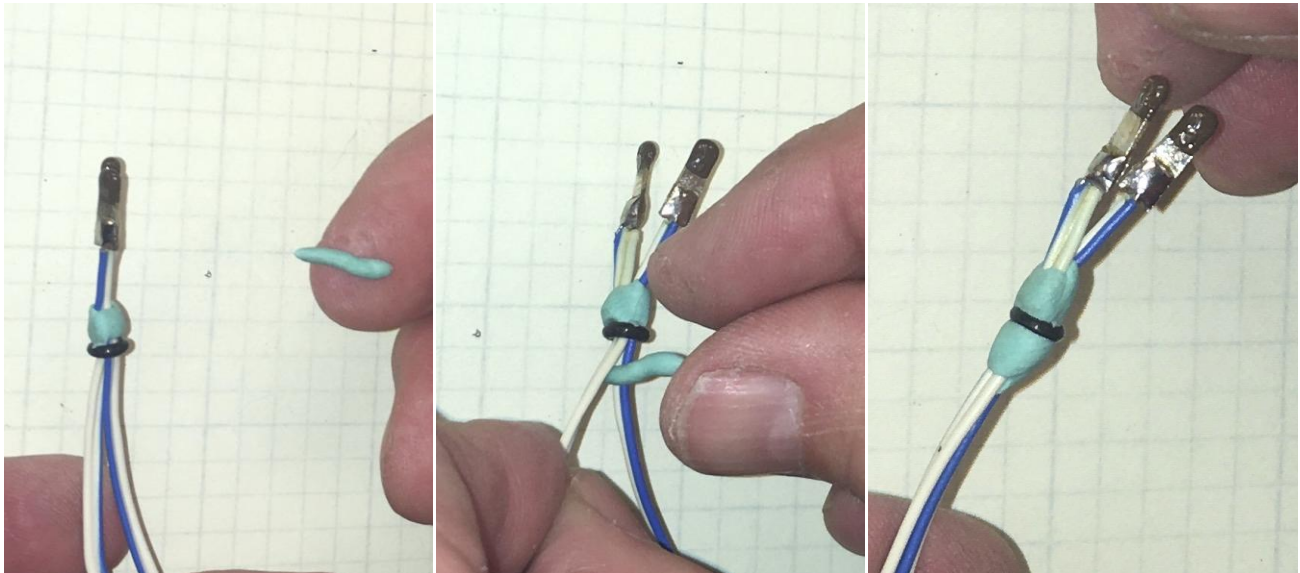
Then wrap the putty around both of the wires on top of the o-ring

Roll the putty between your fingers

Important Note: To achieve a proper seal, you MUST first place the putty BETWEEN the wires!



Repeat this procedure by putting putty on the bottom side of the o-ring
Be sure you place the putty BETWEEN the wires,
then wrap the putty around both of the wires on the bottom of the o-ring
Roll the whole thing between your fingers



Insert the e-matches into the FireBird
Pull until the e-matches are below the top surface of the device.
Verify that at least a tiny portion of putty has oozed through the bottom hole.
Splay the 2 pairs of wires by gently pulling them apart.

Note: The spreading of the wires provides resistance so that the e-matches do not slide forward possibly compromising the seal.



Place your thumb or finger on the wires at the bottom of the device.

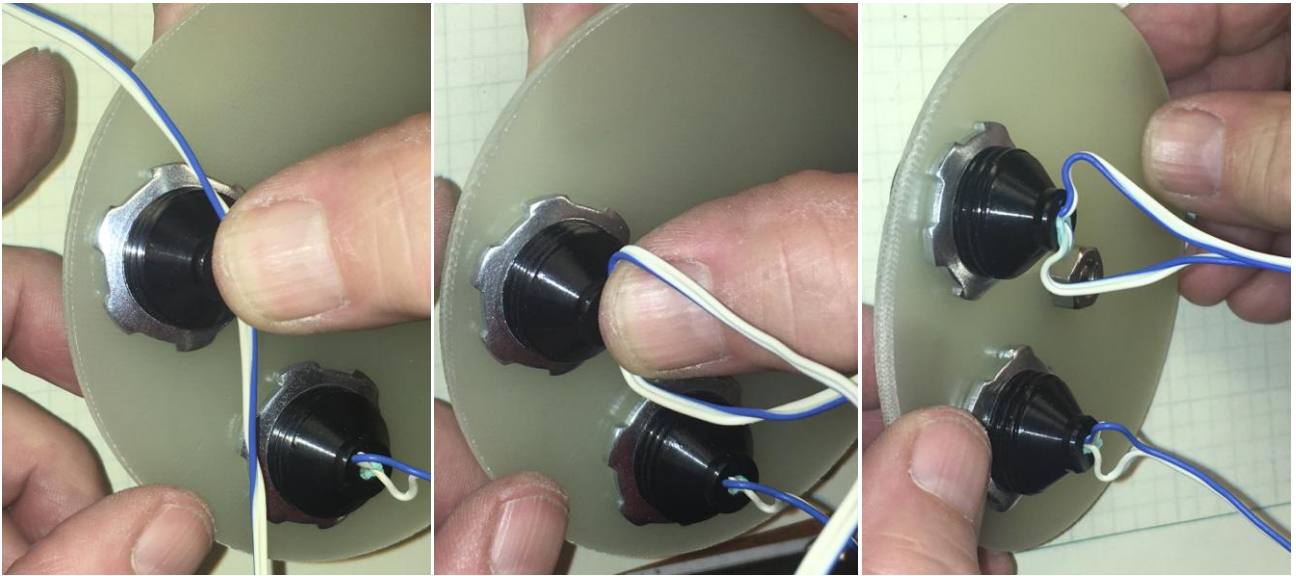
Bend the wires back over your thumb

Further bend the wires back toward the device.

Remember, the spreading of the wires provides resistance so that the e-matches cannot slide forward possibly compromising the seal.

Note: Be certain you did not push the wires back up into the device, if you did, just pull the wires back down and re-spread the wires!

Also note: Both the single e-match and the dual e-matches are shown in the 3rd picture!



Step 4 - Load the Powder and Seal the Device

Add the appropriate amount of Black Powder

Install and tighten the cap

The FireBird is now ready for flight or ground testing!



VERY IMPORTANT Note:

Do not ever use smokeless powder or flash powder in this device!

(Or any Tinder Rocketry device for that matter) **Use black powder ONLY!**

The powder from a "disassembled bullet" is NOT black powder!

The powder from a "disassembled fire cracker" is NOT black powder!

Even the use of black powder substitutes such as Pyrodex is NOT recommended in this device. The use of smokeless powder or flash powder will likely result in significant damage to the device and to your rocket!

Use 3F or 4F Black Powder ONLY!

A word on drinking water bottle caps...

Sorry to say but not all water bottle caps are the same. Obviously there are the older style deeper caps occasionally still found and they obviously will NOT work. The FireBird was designed to use the newer more "Environmentally friendly" caps that use less plastic. But even these are not all the same.

This device works well with bottle caps from several brands of bottled water to include the Costco (Kirkland) brand.

NOTE: These instructions are still under construction and will be updated SOON!



Final note:

This device has been specially designed and manufactured to the highest standards to do a job and do it well. I have gone to great effort to explain how to use this most excellent little device! If this device is used exactly as described, you can expect it to work 100% of the time, 100% as expected!



Contact me if you see or feel that there have been omissions or if you still have questions.

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