

## More Notes

## 3D ROCKETRY

# FS2 -3" INSTRUCTIONS



### 3D Rocketry, Statement of Limitation of Liability

Limitation of Liability: Model rockets are not toys. Model rockets are functional rockets constructed of lightweight materials and launched using pre-manufactured, NAR safety certified model rocket motors in accordance with the NAR Model Rocket Safety Code. Model rockets, if misused, can cause injury, property damage and even death. 3D Rocketry certifies that it has exercised reasonable care in the design and manufacture of its products. Once sold, we cannot assume any liability for product storage, transportation or usage. 3D Rocketry shall not be held responsible for any property damage or personal injury whatsoever arising from the handling, storage, use or misuse of our product. The buyer assumes all risks and liabilities there from and accepts and uses 3D Rocketry products on these conditions.

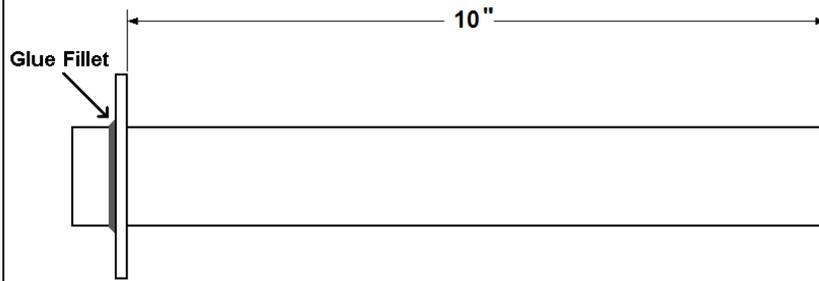
# 3D ROCKETRY

## Step 1

Glue forward centering ring to motor tube 10" from bottom of tube as shown. Apply a few layers of fillet glue at the **top of forward ring only!** (Tip: Yellow carpenter's glue works well.) Let each layer of fillet glue dry before applying next layer. Set aside to dry.

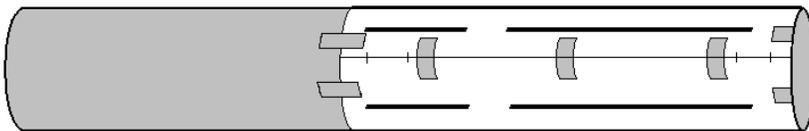
**Do not glue rear centering ring in place at this time.**

**(Tip: Be sure to sand entire motor tube with coarse sand paper for better ring and fin adhesion.)**



## Step 2

Cut out fin slot template guide and tape slot guide snugly around body tube lining it up with the small side guide lines and the end of body tube. Tape as shown. Next tape fin guide at end of tube and at top of fin guide. The slots can be cut out a couple of different ways. 1) Cut out black slots with a new sharp hobby knife marking the tube and carefully cut out slots freehand or with a straight edge. 2) Trace slots and cut slots using a dremel tool. After cutting slots sand or trim slots so fins slide through easily but snugly. **Optional Upper Fins:** Draw a straight line on the same side of each slot along the body tube past the point where you will attach the upper fins..



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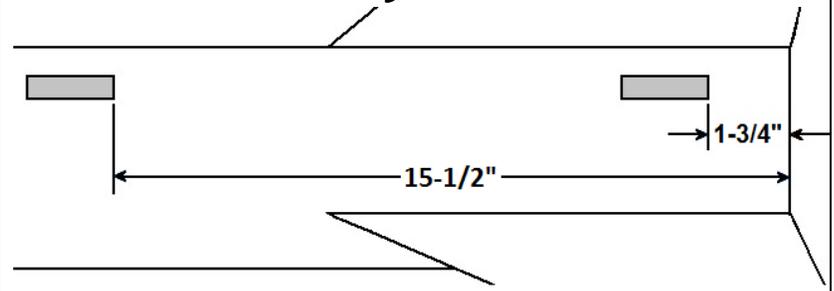
## Step 9

Cut the 3" launch lug into two pieces. Recommended launch lug placement is at 1-3/4" and 15-1/2" from the bottom of the body tube. Lug distances can be adjusted to your personal preference.

**(Tip 1 : Making launch lug standoffs with scrap bass-wood or plywood will help prevent scratching your body tube when launching.) (Tip 2 : Rail buttons work very well when attached into the centering rings.)**

Attach your recovery device and most importantly.....

# ENJOY!!!



### **NOTES:**

#### **Recommended 29MM Motors for first flight :**

<u>Aerotech Single Use</u>	<u>Aerotech Reloads</u>	<u>CTI Reloads</u>
F27-4	F37-6	F36-5
F20-7	F62-6	F29-6

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## Step 8

Assemble the 3/16" eyebolt into the small disk before gluing the smaller disk into the coupler tube. **(TIP: Add a few drops of super glue to the eyebolt threads to keep the eyebolt nut from loosening.)** Glue the bulkhead stop ring flush with one end in the baffle tube. Glue the smaller disk with the eyebolt against the stop ring. Apply an inner fillet of glue to the smaller disk before gluing the larger disk. Glue the larger disk at the other end of baffle coupler tube flush with baffle tube end. You must alternate the openings to block the ejection heat and hot particles.

(See Figures 1 and 2)

After the baffle glue is completely dry attach your shock cord to the eyebolt and then the baffle can be glued at least 11" from the top of the main body tube or farther if desired. When the main tube glue is dry, apply fillets around the outer edges of the baffle to reinforce it in the main tube. (See Figure 3)

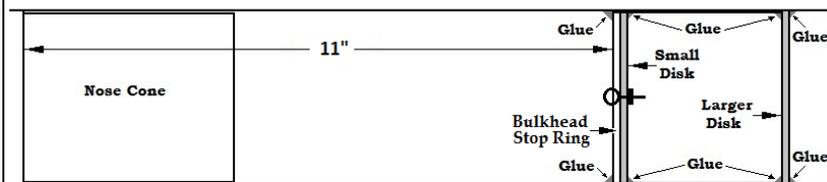
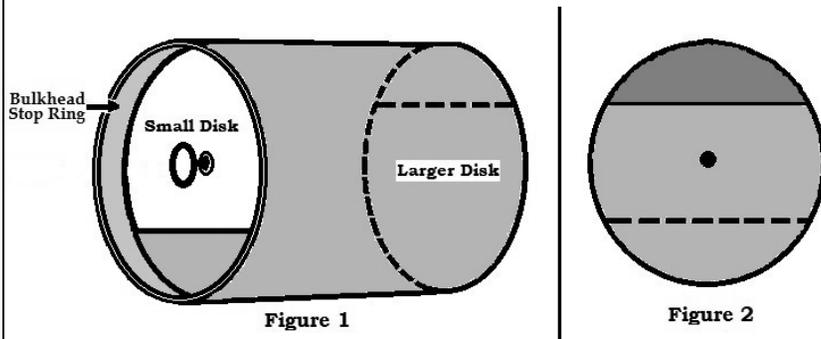
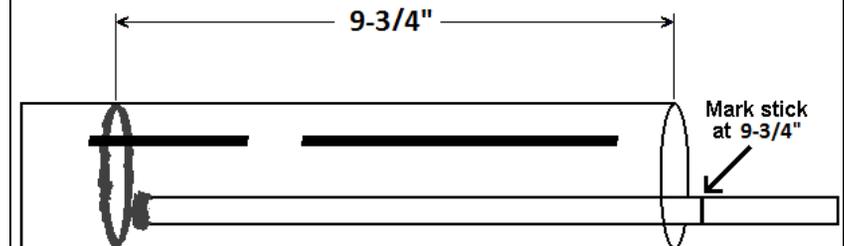


Figure 3

# 3D ROCKETRY

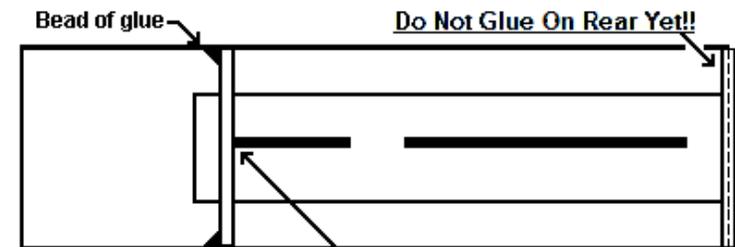
## Step 3

Find a scrap piece of stick that's about 12 in. to 14 in. long and mark the scrap piece at 9-3/4 in. Apply a generous ring of glue inside the main body tube at the 9-3/4 in. mark as shown.



## Step 4

Insert the dry motor tube assembly into the main tube till the top centering ring is at the top of the long fin slot. Place lower centering ring partially on motor tube to align motor tube but do not glue to motor tube yet. Stand up the completed assembly with the motor tube end down until the glue dries. Look down into body tube with flash light and check to make sure you have a good bead of glue around the outside of the centering ring. (Placing a piece of masking tape on ring helps to pull it out after assembly is dry.)



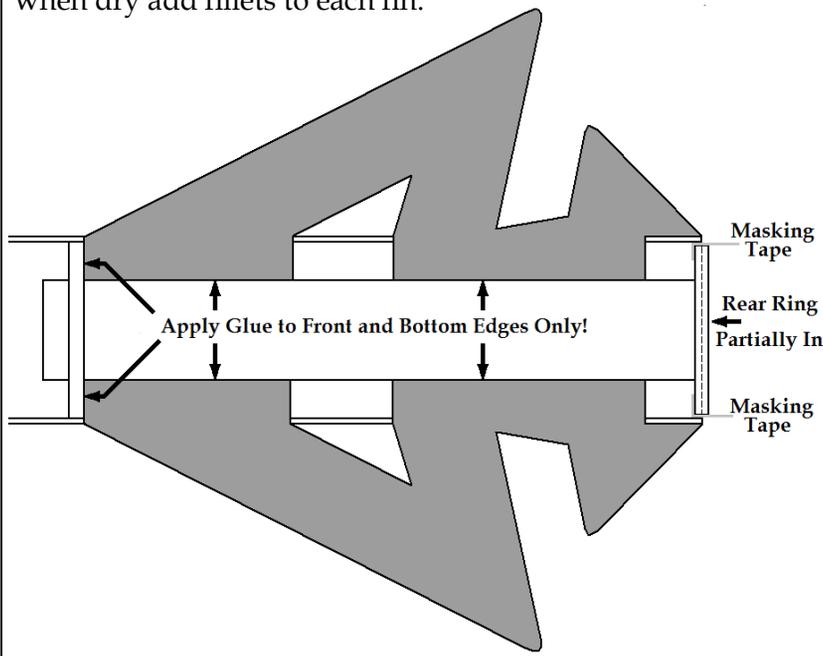
Slot must line up with the Bottom of centering ring.

# 3D ROCKETRY

## Step 5

Cut out the fin angle template and trace onto a piece of heavy cardstock. (**Tip: A used 24 pack soda carton makes great card stock template.**) Apply masking tape to the rear centering ring so you are able to pull ring out and apply optional internal fillets after gluing fins. **Insert rear ring in part way only!** Dry fit fins through slots and make sure fins touch the motor tube before gluing. Sand fins if needed to get the correct fit. Apply glue to the front and bottom edges of the fin only as shown and carefully slide in slot until fin touches motor tube. **Try to keep glue off of the body tube along the slot edges.**

**Optional Upper Fins:** Be sure to sand off or scrape the outer layer of body tube where upper fins will go, glue on fins and when dry add fillets to each fin.

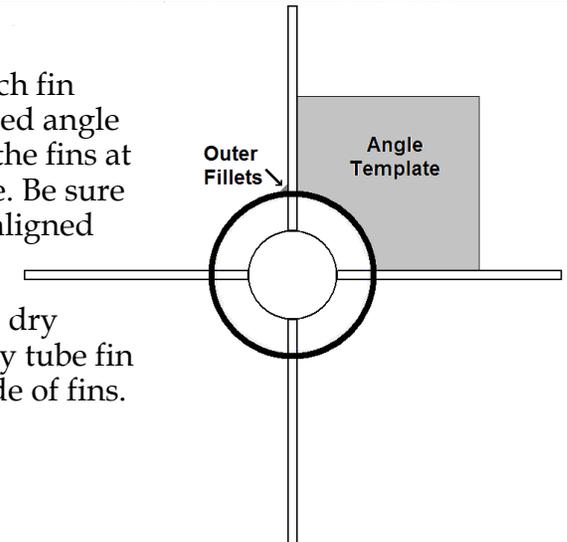


# 3D ROCKETRY

## Step 6

When gluing each fin using the supplied angle template keeps the fins at the correct angle. Be sure your first fin is aligned properly.

After all fins are dry apply outer body tube fin fillets to each side of fins.



## Step 7

After optional motor tube internal fillets have been applied glue rear ring into place. Glue ring to fin ends and motor tube.

(**Tip: Keep glue off of motor tube behind the ring as not to interfere with retainer attachment.**)

