

**Venus Model Rocketry**  
Exploring New Horizons in Model Rocket Design

## GIZZARD Scissor-Flop Winged RG Assembly Instructions and Information Guide

Model rocketry is a fun, educational and exciting hobby for people of all ages. It involves many principles such as math, science, mechanics and physics, and challenges your imagination and skills. It does all of this while allowing you to create real flying models that you can be proud of, that show your craftsmanship and abilities.

Rocketry is about discovery...explore what you can do with it!

EXPLORE THE HEAVENS!

**WARNING!** Rockets travel at high speeds and can be dangerous if they are not respected and used in accordance with their design. Always follow the Model Rocket Safety Code when flying models and if you have never built a model rocket kit before, seek the assistance of someone who has successfully flown them and is willing to teach you the proper techniques.

For additional information about model rocketry, seek out the National Association of Rocketry (NAR) website at [www.nar.org](http://www.nar.org)

Before you begin construction, lay out all of the pieces on your work area then browse through the instructions to familiarize yourself with where the parts go. Once you feel confident that you know what goes where, begin the assembly.



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You will need the following items, not included, to complete this model rocket:

### FOR CUTTING

- ◆ X-Acto type 1 handle with a new #11 blade, or your favorite equivalent
- ◆ Scissors
- ◆ Rotary tool from Dremel, Black&Decker, etc

### FOR SANDING

- ◆ Various grits of sandpaper
- ◆ Sanding block

### FOR BONDING

- ◆ Titebond, Elmer's Glue All or equivalent water based adhesive
- ◆ Cyanoacrylate (CA) type instant glue
- ◆ CA accelerator

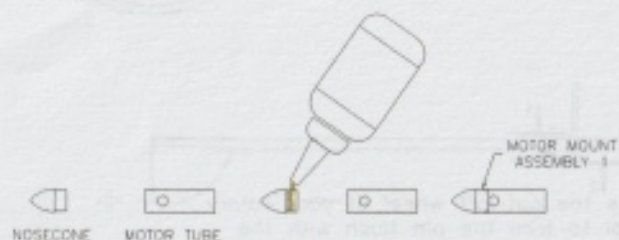
### MISCELLANEOUS

- ◆ Straightedge ruler
- ◆ Masking tape and cellophane tape
- ◆ Cotton or Polyester thread
- ◆ SCOTCH Extreme reinforced packing tape-IMPORTANT!

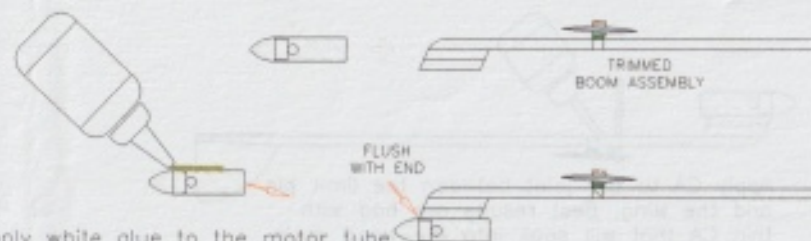
This kit contains the following items:

- (1) Main wing
- (1) Nosecone
- (1) Motor tube
- (1) Motor mount
- (1) Pylon stock
- (1) Tail group-Fin and Stabilizer
- (1) Main boom
- (1) Pivot tube
- (1) Wing sleeve
- (8) Steel hooks
- (1) Wing limiter stock
- (1) Instruction set
- (1) Launch lug
- (1) Bundle of streamer material
- (2) Sets of elastic bands

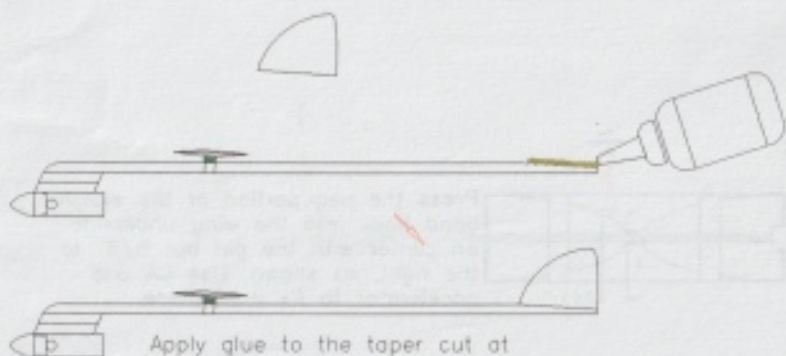
# 1 GIZZARD SCISSOR-FLOP WINGED RG-ARF



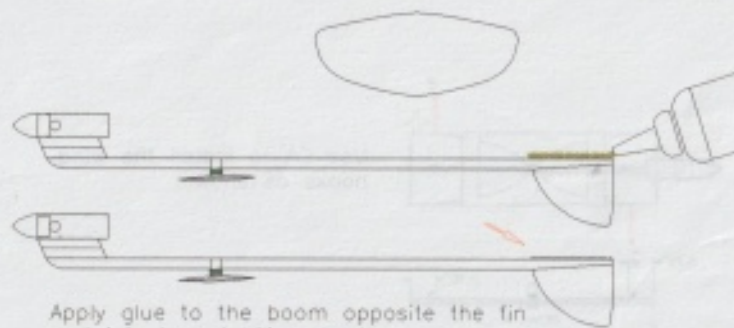
Use white glue to join the nose cone and the motor tube.



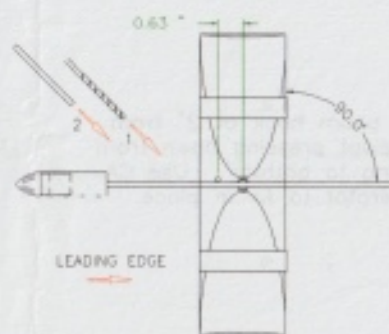
Apply white glue to the motor tube assembly and join with the pylon, as shown.



Apply glue to the taper cut at the rear of the boom and join the fin to the boom.



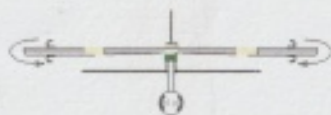
Apply glue to the boom opposite the fin and join the stabilizer to the boom.



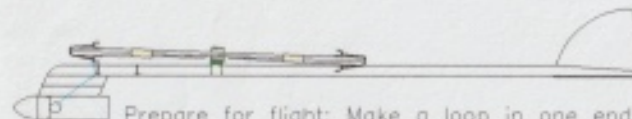
Rotate the wing so that it's 90° to the boom.

1. Drill a hole smaller than the limit pin diameter (0.120") so that it's lower quadrant is tangent to the boom.
2. Insert the limit pin into and about 1/8" thru the topside of the wing perpendicular to the wing's underside. Adjust it so that it holds the wing at the 90° angle.

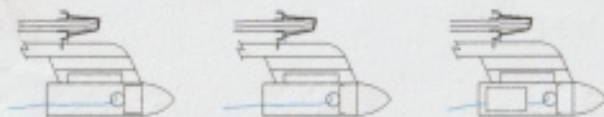
### 3 GIZZARD SCISSOR-FLOP WINGED RG-ARF



Stretch one small rubber band from each outer panel hook to the main panel hook. Do the same for the wing swing rubber band, stretching it from the boom hook to the wing pivot hook. You may remove the masking tape from the wing panels.



Prepare for flight: Make a loop in one end of a piece of thread. Place that over the S-hook then over the front body hook. Thread it into the vent hole then to the right side of the pod.



Prepare for flight: Pull the thread through the tube and along the tube towards the motor end. Tape this to the tube.



Prepare for flight: Pull the thread towards the vent and place a second piece of tape over it to fix in place. Friction fit/tape the motor in the pod so that the end of the casing is just visible at the vent (Use a 1/2A3-2T, A3-4T or A10-3T).

#### OTHER NOTES BEFORE FLIGHT

The Gizzard was designed to be flown from a piston for maximum performance. The instructions include the addition of a launch lug for 1/8" steel launch rods. If you prefer flying from a piston all the time, omit the step dealing with launch lug attachment.

There is 1/4" of motor protruding from the motor mount when flying. This is suitable for sleeve/motor engagement when using a piston. Be sure to use guides along the side of the piston sleeve when using that type of launcher. There is no forgiveness at 100 mph! Motor casing release from a piston sleeve is not consistent and can lead to tip-off and horizontal flight if not executed properly. Know your launch equipment and how to use it properly!

The Gizzard uses a hardwood nosecone to provide front motor tube streamlining and balance weight for glide. If your Gizzard should experience stalling during glide, add a small amount of clay or putty to the launch lug side of the pod. If your Gizzard is diving after transition, check the horizontal stabilizer for warps. If there are none, consider adding very small amounts of clay or putty to the joint between the stabilizer and boom until you get a gentle descent. Naturally, if your model is severely out of whack, give me a call at (443) 622-4663 and describe to me what you are experiencing. I want you to be satisfied with this unique flying machine which has brought me plenty of enjoyable flights.

Many happy landings with your GIZZARD, Scissor-Flop Winged Rocket Glider!