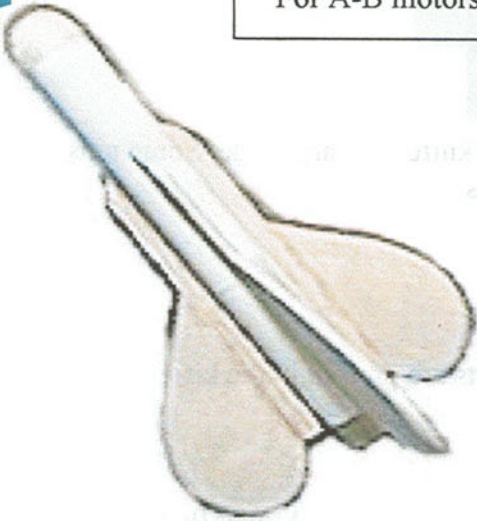


For A-B motors



A Simple Rocket!

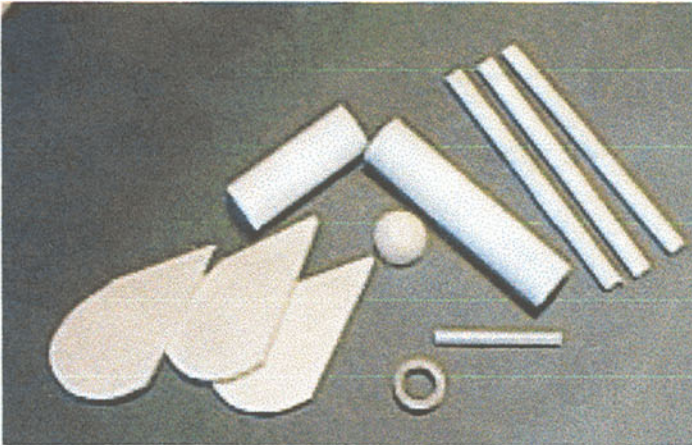
The Gnat uses three methods of recovery in one very small rocket! The model separates in flight so that the pieces are aerodynamically unstable. The upper section, with one fin attached, spins to the ground like a sycamore leaf. The bottom section, holding the spent motor, tumbles back. Even if the rocket doesn't separate, its small mass means that it does no damage falling to earth.

Manufactured and distributed in the
USA by

LawnDart
Rocketry

www.lawndartrocketry.com

Westfield Row, Acworth, Georgia
30102-6900



The kit should contain:

- 1 balsa nosecone
- 2 body tubes
- 2 Launch lugs
- Balsa for fins
- 3 stringers
- 1 spacer ring

You will also need white glue (PVA glue) and a craft knife or sharp blade. Some pins might come in handy to hold parts while the glue dries.

Construction

Begin constructing your Gnat by checking that all parts are present in the kit.

Assemble the kit in stages:

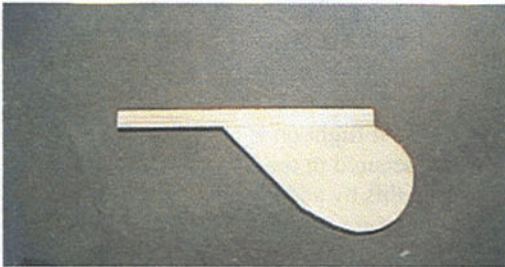
Fins

Upper Pod

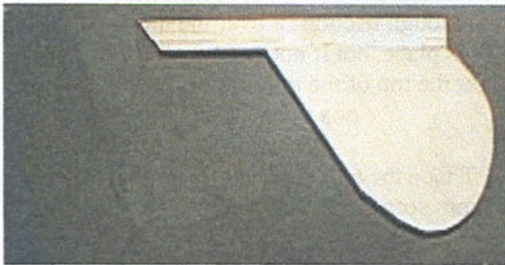
Lower Pod

LawnDart Rocketry has taken reasonable care in the design and manufacture of its products. LawnDart Rocketry cannot control the use and storage of same once sold and cannot assume any responsibility for personal or property injury resulting from the use, storage and/or handling of its products. The buyer assumes all risks and liabilities therefor and accepts the use of LawnDart Rocketry products on these conditions. No warranty either expressed or implied is made regarding LawnDart Rocketry products, except for replacement or repair, at LawnDart Rocketry's option, of those products proven to be defective in manufacture within one month from the date of original purchase. For repair or replacement under warranty, please contact LawnDart Rocketry. Proof of purchase will be required. Note: Your state may provide additional rights not covered by this warranty.

Fins

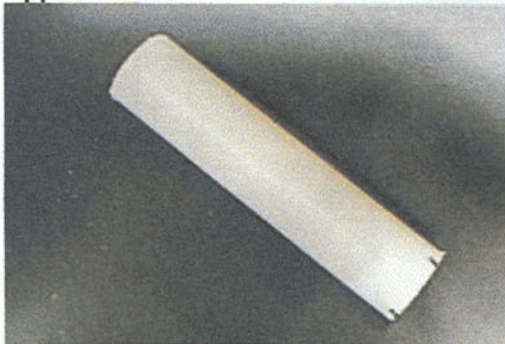


- 1. Glue one fin to each of the stringers, flush with one end. Leave to dry.

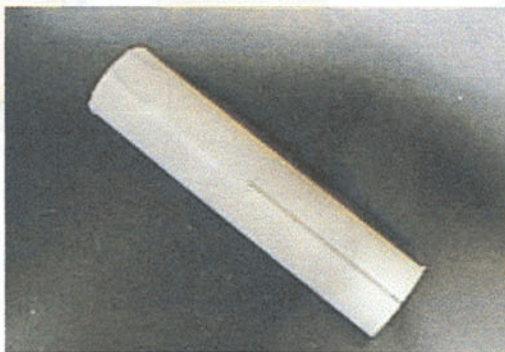


- 2. Trim the top end of each stringer to a more aerodynamic shape.

Upper Pod



- 3. With a pencil mark both tubes with three equally spaced lines (use the guide on the back page to assist).



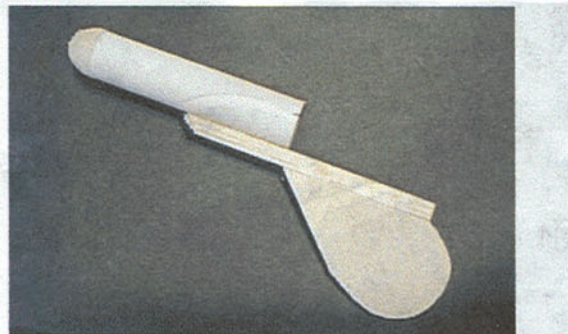
- 4. Draw a line 4.0cm long along the long body tube at one mark.



- 5. Glue the spacer ring into the tube in the end opposite the line. Make sure it is flush with the end of the tube.



- 6. Glue the nosecone onto the body tube by spreading glue on the spacer ring. The nosecone doesn't come off the Gnat and **MUST** be glued on!



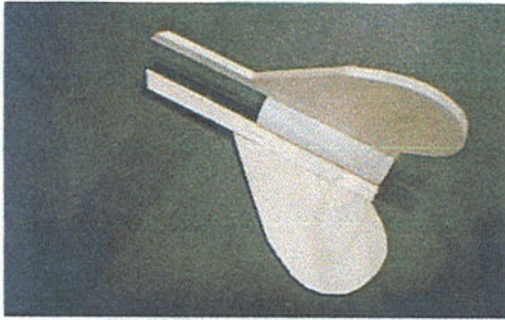
- 7. Glue **ONE** of the fin/stringer units to the upper pod so that its top is at the 4.0cm mark.

Make sure you only glue one fin on. The other two fins go on the other section of tube!

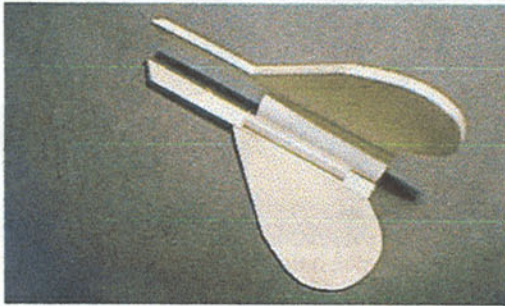
Lower Pod



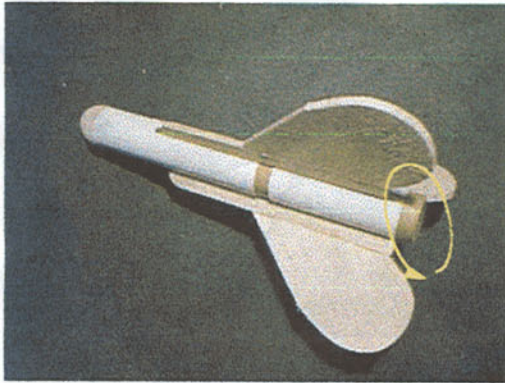
- 8. Extend the lines at the marks the full length of the short body tube.



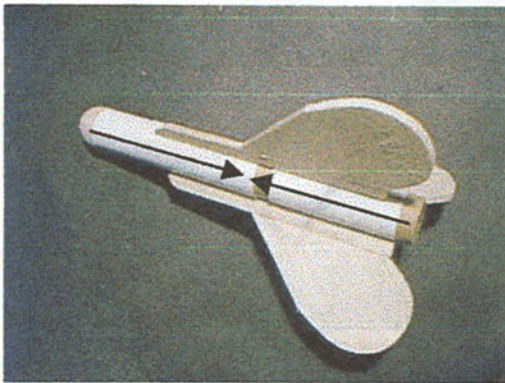
- 9. Glue the remaining two fin/stringer units to the BOTTOM body tube section. Make sure the stringer ends are flush with the bottom edge of the body tube.



- 10. Glue the launch lug along the edge of one stringer, against the body.



- 11. Use a motor to hold the two parts together. Rotate the top section to line up so that the fins are all 120° apart.



- 12. Slide the two halves completely together and the Gnat is now complete.

Finishing & Flying

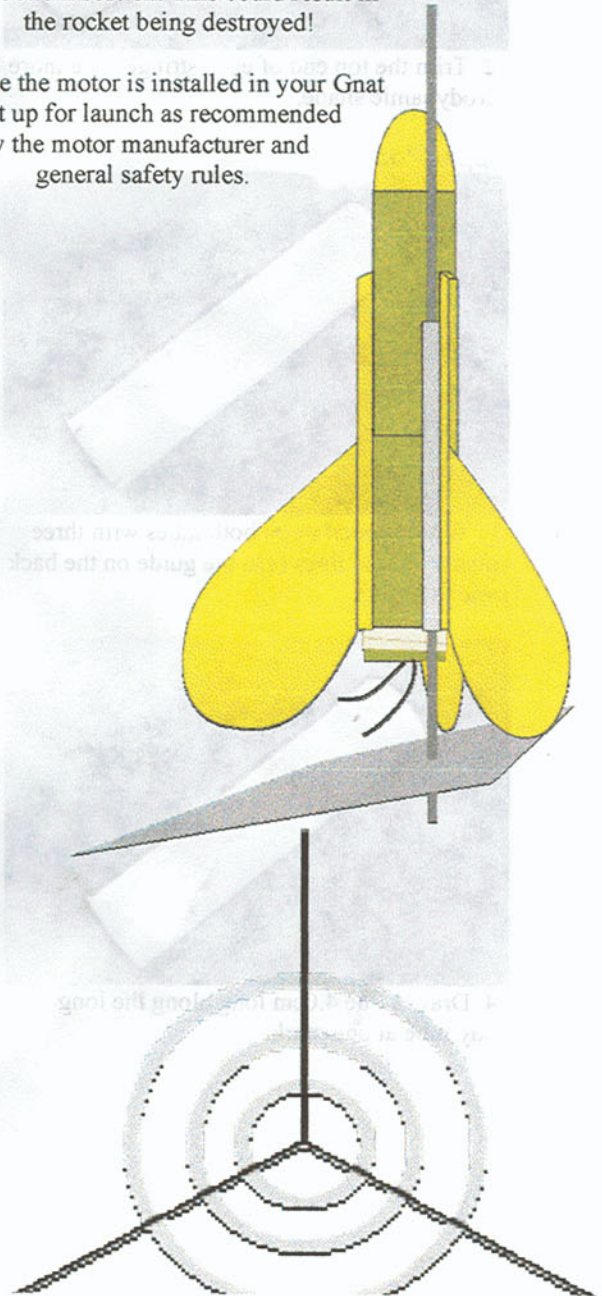
Sand all the balsa surfaces to an aerodynamic shape. You can also paint your Gnat in bright colours but keep it light.

Make your first flight on a A motor. This needs to be secured in the **BOTTOM** body section. Do this by adding a few turns of masking tape around the base of the motor and forcing it **UP** from the bottom into the tube.

Slide the top section over the motor where it pokes through the bottom section. There is usually enough friction fit over the motor to keep it in place, but if not just rough up the surface at the top of the motor with sandpaper or a file.

DON'T tape the top section to the motor or the bottom section. This could result in the rocket being destroyed!

Once the motor is installed in your Gnat set it up for launch as recommended by the motor manufacturer and general safety rules.



THE GNAT

Notes:

1. Plans call for a stub nosecone glued to a motor block ring or an offcut of used motor. Full nosecone can be used instead.
2. Longerons **MUST** be of spruce or very straight grained hard balsa- the harder the better.
3. Two launch lugs are used. This helps keep bits lined up.

