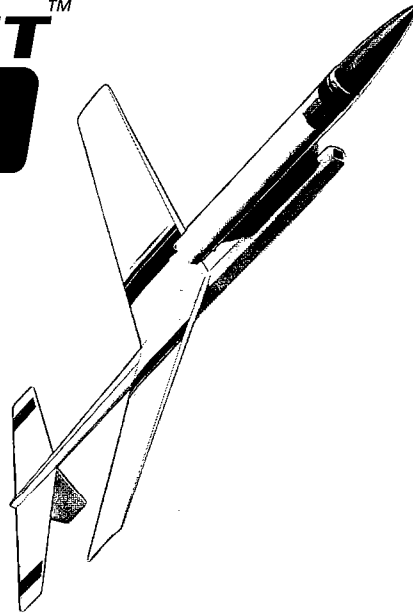


FLAT CAT™ ASSEMBLY INSTRUCTIONS



Prod. No. 3006
Skill Level Three



Things You'll Need To Assemble this Kit:

Hobby Knife and Pencil



Sandpaper (220 or 320 Grit)



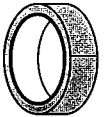
White Glue

Aliphatic Resin glues work best such as TITEBOND or ELMER'S CARPENTER'S WOOD GLUE



Plastic Cement

Use TESTORS TUBE Plastic Cement, PACTRA LIQUID CEMENT or other comparable brands.



Tape & Paint

Scotch Magic Tape or Paper Masking Tape and Spray Paint

Scissors, and Wax Paper

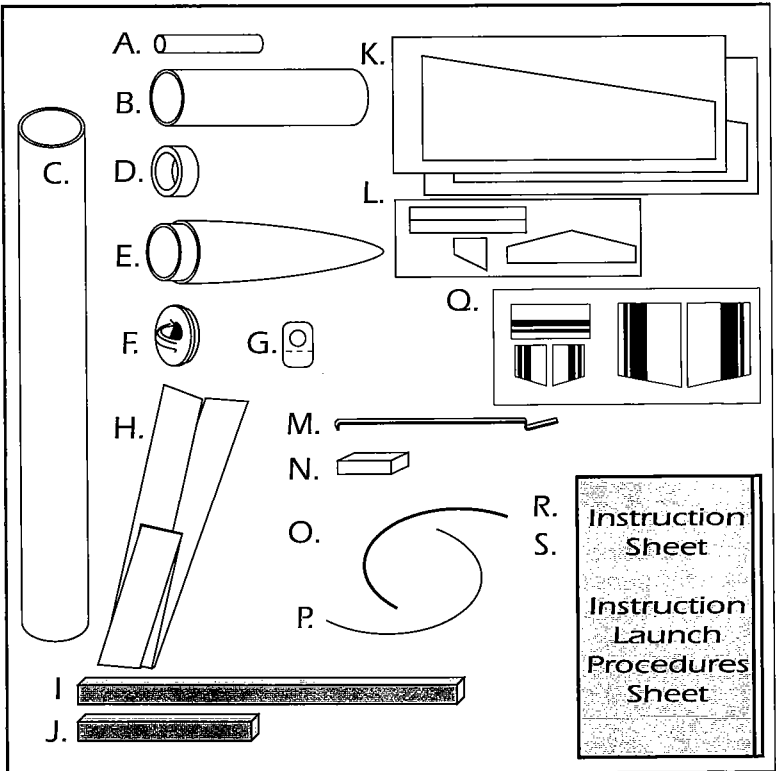


BEFORE STARTING ASSEMBLY, READ THROUGH THESE INSTRUCTIONS. IT IS BEST TO TEST FIT ALL PARTS BEFORE APPLYING ANY GLUE. READ AND FOLLOW THE NAR MODEL ROCKET SAFETY CODE.

PARTS LIST

- A. 10001 2 Inch Launch Lug
- B. 10303 Yellow Motor Mount Tube
- C. 11201 8.5 Inch White Body Tube
- D. 14000 Blue Motor Thrust Ring
- E. 20075 Plastic Nose Cone
- F. 20076 Plastic Nose Cone Base
- G. 28000 Single GRIPPER Tab
- H. 28150 24 Inch Plastic Streamer
- I. 33013 1/4"x1/2"x16" Balsa Fuselage
- J. 33014 1/4"x1/2"x4" Balsa Pylon
- K. 33015 Balsa Wing (2)
- L. 33016 Balsa Parts Set
- M. 49000 Motor Mount Clip
- N. 49027 Trim Clay
- O. 50014 21 Inch White Elastic Shock Cord
- P. 50051 18 Inch Yellow Kevlar Cord
- Q. 91513 Chrome Decal
- R. 96015 Instruction Sheet
- S. 96115 Instr./Launch Procedures Sheet

* Kevlar is a registered trademark of Dupont

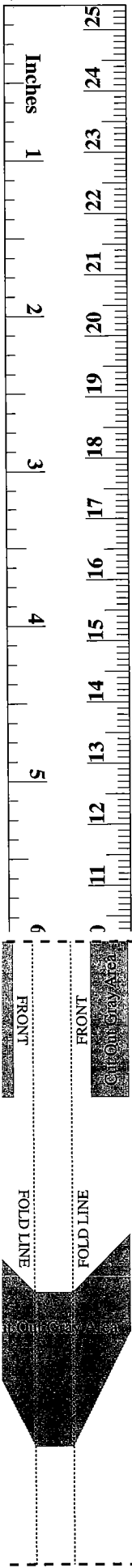
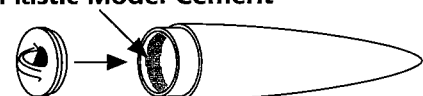


PARTS NOT TO SCALE

STEP 1

A. Apply plastic model cement (not white glue) around the inside edge of the plastic nose cone. Push the base into the nose cone. Set aside to dry.

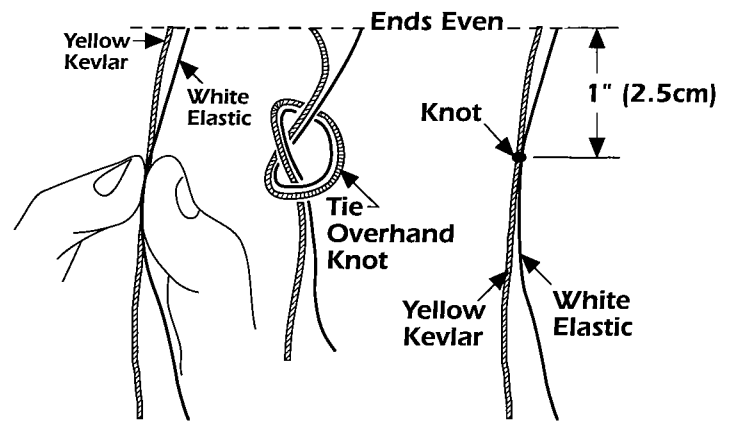
Plastic Model Cement



STEP 2

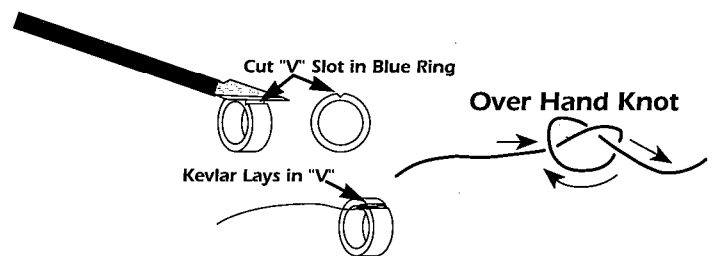
- Hold the Yellow Kevlar Shock Cord and the White Elastic Shock Cord side by side. Pull one end of each cord so that they are even with each other.
- While holding the two cords together, tie a single overhand knot approximately 1 inch (2.5cm) from the even ends as shown.
- Gently pull on both cords to set the knot and prevent it from slipping.

NOTE: THIS IS A VERY IMPORTANT STEP. IF YOU TIE A DIFFERENT KNOT THAN SHOWN, THE TWO CORDS MAY SEPARATE DURING FLIGHT.



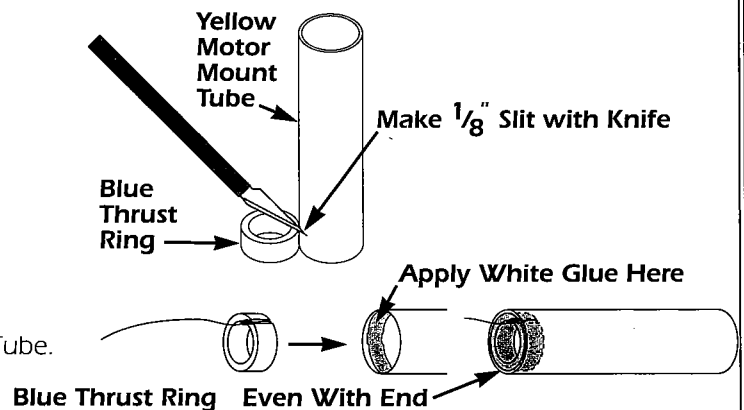
STEP 3

- Use a sharp hobby knife to cut a shallow "V" slot in the Blue Thrust Ring as shown. Test fit the Blue Thrust Ring into one end of the Yellow Motor Mount Tube. If the fit is tight, sand the outside of the Blue Thrust Ring until you get a looser fit.
- Tie the Yellow Kevlar Shock Cord onto the Blue Thrust Ring using two overhand knots as shown. Be sure the shock cord lays in the "V" you made in the Blue Thrust Ring.



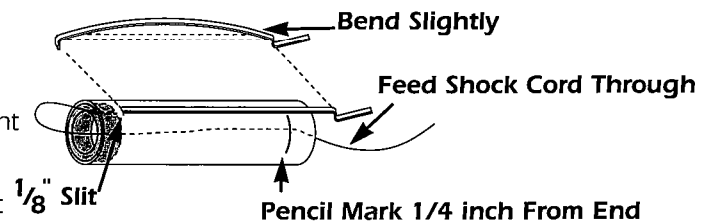
STEP 4

- Place the Blue Thrust Ring up against the side of the Yellow Motor Mount Tube and use it as a guide to cut a 1/8 inch long slit in the side of the Yellow Motor Mount Tube as shown.
- Apply white glue around the inside edge of the Yellow Motor Mount Tube as shown.
- Insert the Blue Thrust Ring into the Yellow Motor Mount Tube with the Yellow Kevlar and knot facing as shown until it is even with the end of the Yellow Motor Mount Tube.



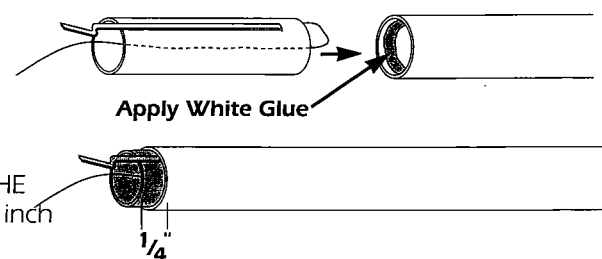
STEP 5

- Using the ruler on the front of the instruction sheet, make a pencil mark 1/4 inch from the end of the Yellow Motor Mount Tube as shown.
- "Feed" the shock cord back through the Yellow Motor Mount Tube as shown.
- Make a slight bend in the motor clip as shown. Insert the clip into the slot you made in the Yellow Motor Mount Tube.



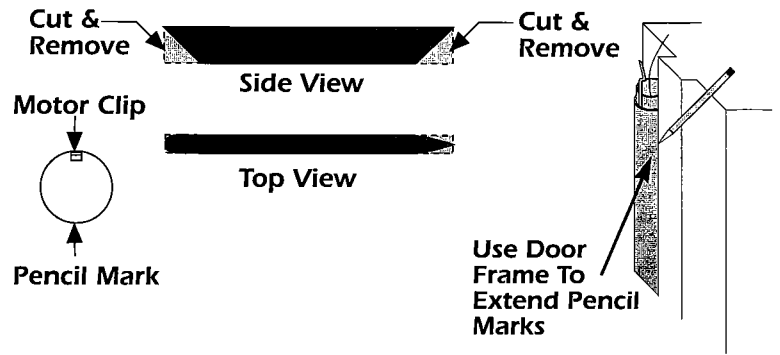
STEP 6

- Apply white glue around the inside of one end of the White Body Tube.
- Orient the Yellow Motor Mount tube as shown and immediately insert it into the White Body Tube and PUSH INTO THE BODY TUBE WITH ONE FAST & SMOOTH MOTION up to the 1/4 inch pencil mark on the Yellow Motor Mount Tube as shown.



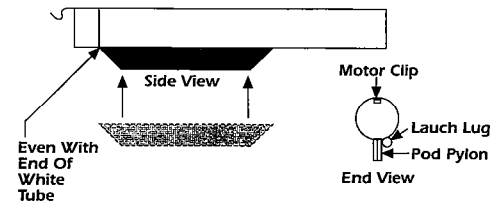
STEP 7

- Use a hobby razor saw or a sharp hobby knife to cut a 45-degree angle on both ends of the Pod Pylon, the 1/2" x 1/4" x 4" piece of balsa.
- With Sandpaper, round the front of the Pod Pylon and taper the rear as shown.
- With a pencil, mark the White Body Tube on the opposite side from where the Motor Clip extends.
- Use a door frame as a guide and extend the pencil mark down the length of the White Body Tube. This line will locate the position for attachment of the Pod Pylon.



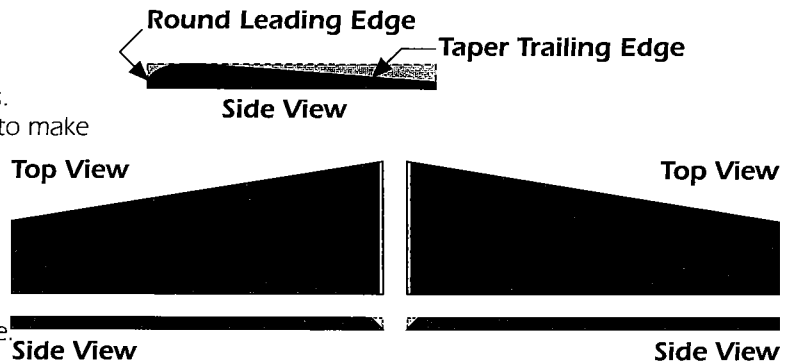
STEP 8

- Apply a bead of white glue along the root edge (the longer edge) of the Pod Pylon.
- Position the Pod Pylon along the pencil line opposite the motor clip with one end even with the end of the White Body Tube. **BE SURE POD PYLON IS LINED UP STRAIGHT WITH PENCIL LINE ON TUBE.**
- Apply white glue to the launch lug and position it along the side of the joint where the White Body Tube and Pod Pylon are joined as shown.



STEP 9

- Separate the two wings from the die-cut balsa sheets. Carefully run a sharp hobby knife along the die cuts to make sure that the wings separate cleanly from the sheet.
- The Flat Cat will fly well without any shaping of the wings. This is why it's called the Flat Cat! However, its glide performance can be improved by sanding each wing to an airfoil shape as shown. Round the leading edge of each wing and taper the trailing edge.

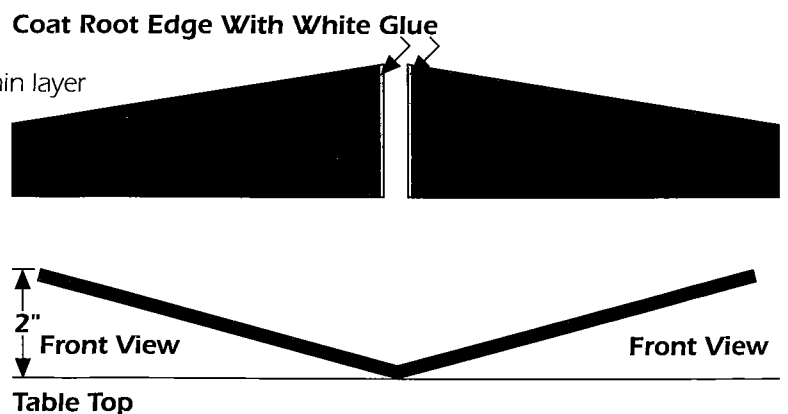


BE CAREFUL! the two wings are not the same! You are making a right wing and a left wing. If you make both wings identical, you will end up with either two left wings or two right wings.

- With a modelers sanding block, bevel the wing root edge of each wing as shown. **BE CAREFUL!** The bevel goes in the opposite direction on each wing.

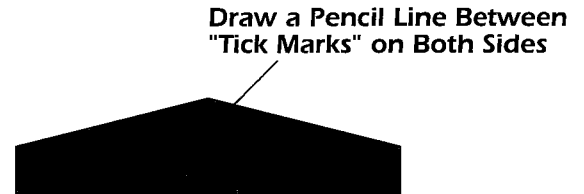
STEP 10

- Coat the beveled root edge of each wing with a thin layer of white glue. Allow the glue to dry to the touch.
- After the glue is dry to the touch, coat the beveled root edge of each wing again with a thin layer of white glue.
- Put the two root edges together. Set the wing assembly down on a sheet of waxed paper (the wax paper will keep the wings from sticking to the table).
- Place a book or other support under each wing so that the tip of each wing is elevated 2 inches as shown. This is the wing dihedral that will help control the rolling of the glider when it flies. The wing dihedral tells the glider which way is up during its glide. Allow this joint to dry thoroughly overnight. It has to be a strong glue joint or the wings may fold up in flight.



STEP 11

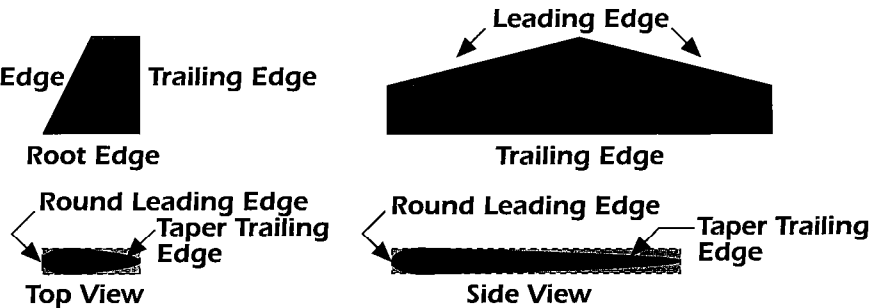
- Use a sharp hobby knife to separate the horizontal stabilizer (stab) and the vertical stabilizer (rudder) from the 1/16" die-cut balsa sheet.
- Use a pencil and a straight edge to draw a line between the two "tick marks" on the stab. Draw a second line the same way on the opposite side of the stab.



STEP 12

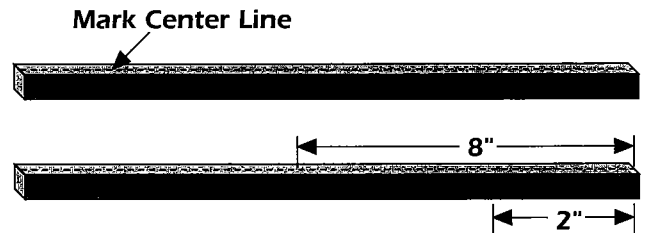
NOTE: If you did not put airfoils on the wings in step 9, skip this step and continue to build a true "Flat Cat" without airfoils.

- Sand a symmetrical airfoil on the stab. Round the leading edge. Taper the straight trailing edge.
- Repeat the procedure and sand a symmetrical airfoil on the rudder. BE CAREFUL - DO NOT ROUND THE ROOT EDGE OF THE RUDDER!
- Put a thin coat of white glue on the root edge of the rudder. Position the rudder along the center line of the stab. Remove the rudder and set both pieces aside to dry separately.



STEP 13

- Take the 1/2" x 1/4" x 16" length of balsa wood and mark a center line down both 1/4" faces. With a pencil, mark an "F" on one end to signify the fuselage front and an "R" on the other end to signify the rear end.
- Measure and mark the location of the wing root trailing edge on one of the 1/4" faces 8 inches from the rear or "R" end of the fuselage as shown.
- Measure and mark the location of the stab root leading edge on the **opposite** 1/4" face of the fuselage 2 inches from the "R" end.



STEP 14

- Use a sharp hobby knife to taper the TOP EDGE of the fuselage from the wing trailing edge mark 8 inches from the "R" end to the "R" end as shown. The fuselage should taper from the full 1/2" thickness at the 8 inch mark to 1/4" thickness at the "R" end. Removing this balsa does not weaken the fuselage but does remove unnecessary weight from the tail of the model.
- Sand the "R" end of the fuselage to a point as shown.

