

Robin

ASSEMBLY INSTRUCTIONS:

Insert plastic egg capsule into body tube to check fit. Capsule should fit snug but not tight. If tight, sand lightly. If loose, wrap with cellophane tape. See Flying Instructions for loading egg.

Cut two slots in the gauze shock cord anchor about 1/2" apart and thread shock cord into anchor as shown. Smear lots of glue the size of the anchor inside the body tube about 1" from end using a brush or cotton swab. Insert anchor and shock cord into body tube and push into glue with a pencil until securely in place. Add more glue if necessary. Allow to dry.

Tie 1/4" shock cord securely to string in egg capsule.

Glue engine block into RB74 engine compartment flush with top edge. Allow to dry. Insert engine into completed compartment. Smear glue around inside of body tube 2" from rear and push engine with compartment into body tube until end of engine is flush with body tube. Remove engine.

Material for the forward fin reinforcing is furnished in the kit. If desired, cut out to size shown in drawing and glue to fins before sanding to shape. They may be omitted with little change in flight performance.

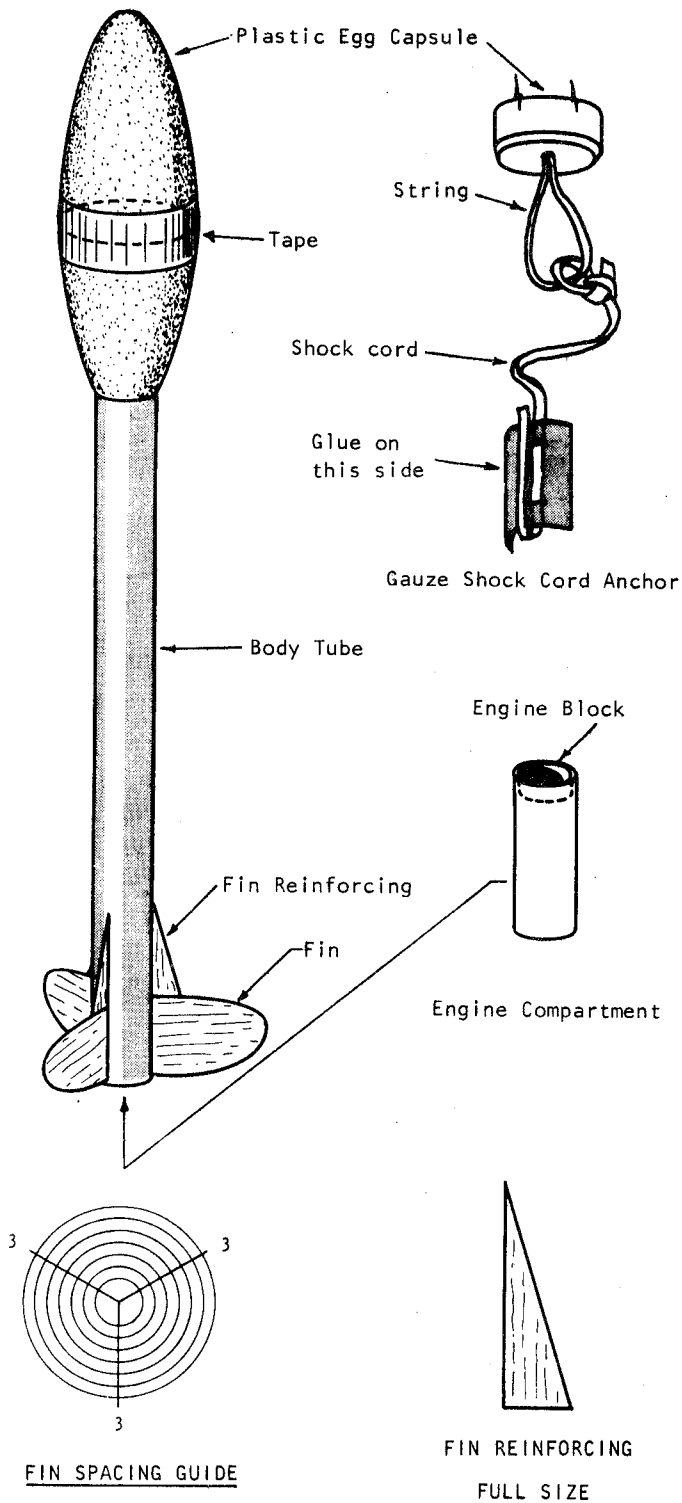
Sand fins to an airfoil shape. The front (leading) edge should be rounded while the rear (trailing) edge should be sharp like a knife. The root edge (part that glues to the body) should be straight and square.

Using the fin spacing guide, center the end of the body tube in the circles and mark at the 3. Use a "V" notch of a drawer or door frame and draw a line at the mark parallel to the body. Glue the three fins on this line flush with the bottom of the body. When dry, apply a glue fillet on each side of all fins.

Build "pop" launch lug. (See "Pop" Launch Lug Instructions.)

Finish the rocket by filling all wood surfaces with sanding sealer. Coat several times sanding between each coat until wood is smooth. Coat body tube with sanding sealer and sand until smooth. Paint entire rocket, except nose cone, with a bright color.

Construct parachute. (See Parachute Instructions.)



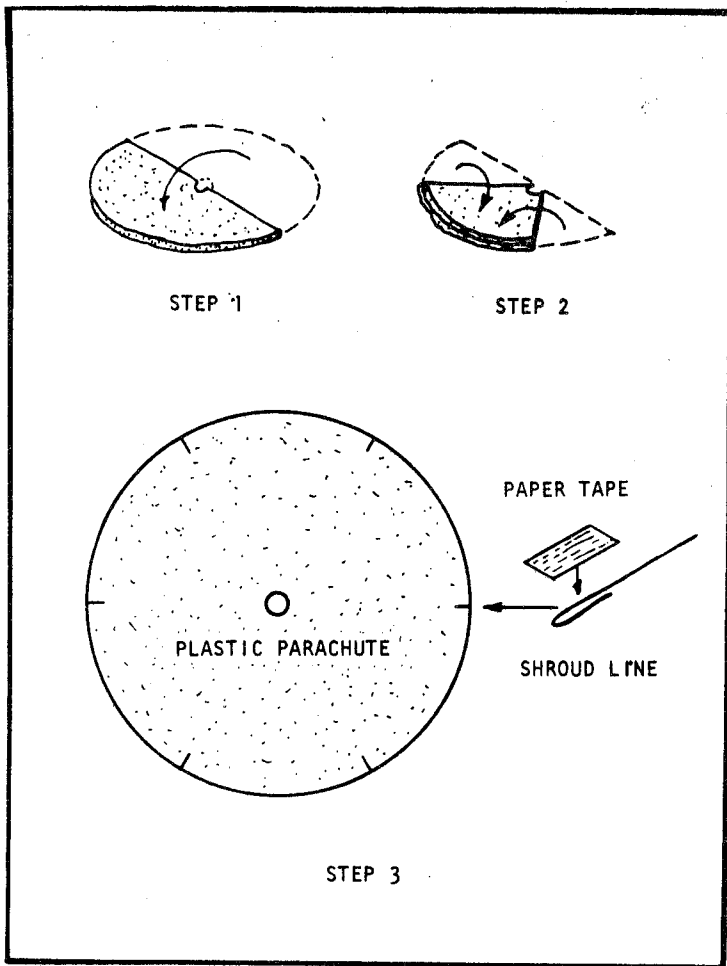
FLYING INSTRUCTIONS:

The Robin is designed for the NAR Egg Lofting Event. However, any form of payload can be used as long as the total weight doesn't exceed the lift-off weight requirements of the engines used. The Robin can be flown single stage or two stage using lower stage CMR Cat. No. C9a. Many combinations of engines can be used depending upon the altitude desired as long as the lift-off weights of the engine manufacturer are observed. Don't overload the bird and expect it to fly properly.

The launch lug furnished is for a ^{3/8"}~~3/16"~~ dia. launch rod. Because of the heavy payload, the 3/16" dia. rod is recommended to reduce rod whip.

To prepare the Robin for flight, remove tape from around nose cone and place egg in the foam rubber lined egg compartment and replace tape. Attach parachute to cord loop on the egg capsule. Push flameproof wadding into body tube until it touches engine block. Fold parachute, put it into the body tube and replace egg capsule.

Wrap the engine with masking tape to fit tight; add igniter and load into rocket body. Attach pop launch lug by inserting into slot in body tube and hook over rear end of body tube. Put rocket on rod, then place a 1" piece of plastic tubing or wrap about two or three turns of masking tape around top of rod. Hook up electrical clips to igniter and fire. The bird should leave the pad smoothly and leave the launch lug on the rod. The bird can be put back on the rail without removing the launch lug from the rod.



PARACHUTE INSTRUCTIONS:

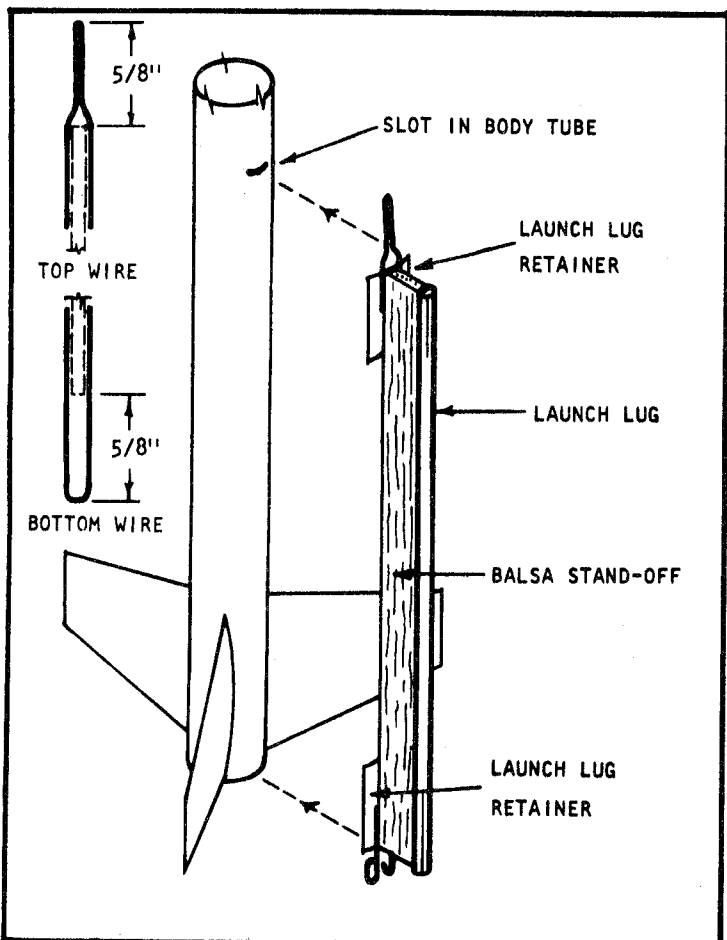
Parachute is precut to a circular shape. Fold in half, then fold in thirds to obtain the location of the shroud lines. Crease parachute at folds or mark with marking pencil. Cut off tip of parachute when folded to provide a vent hole to aid in parachute folding and opening after ejection. When reopened there should be 6 equally spaced places for shroud lines.

Cut 6 shroud lines, equal in length to the diameter of the parachute.

Cut 6 pieces of wide tape about 5/8" long. Peel off paper backing and attach by pressing tape over a loop of shroud line.

Gather free ends of shroud line together, insert through snap swivel and tie into a knot. Apply a drop of glue to knot so it will not loosen. Attach snap swivel to hook in nose cone or payload coupler.

There are many ways of folding a parachute for insertion into a body tube. Experience will dictate the best method for each individual. One way is to first dust the parachute with talcum powder to keep it from sticking to itself. Then form the parachute by holding the snap swivel with one hand and tip of canopy with the other and straighten the chute. Fold the canopy once or twice to fit the space in the body tube and insert it. Pack the shroud lines and shock cord in over the parachute and push the nose cone or payload section into place.



STAND OFF POP LAUNCH LUG INSTRUCTIONS:

Cut two pieces of wire 2 3/4" long. Bend one to fit top and one to fit bottom wire patterns shown at left. Glue two small 3/8" x 1" launch lug retainers to balsa stand-off and lay on flat surface so that retainers are on bottom and stand-off is on top. Place wires into junction of launch lug retainers and stand-off so that 5/8" protrudes beyond edge of stand-off. Add more glue until a good fillet is formed. Glue the launch lug along the top of the stand-off. When dry, shape bottom wire to hook over bottom of rocket body tube.

Hook launch lug over bottom of rocket body tube, or lower stage, mark where bend of top wire intersects rocket body. Cut small slot to fit top wire. Bend slot out slightly to allow wire to be inserted. Two slots or two launch lugs of different lengths are required if bird is to be flown single and two stage. Bend protruding portion of top wire inward slightly so that it fits into the slot more easily. Insert top wire slightly into body tube, then hook over bottom and push into place. Adjust so that launch lug is snug but will come off easily when pushed on top.

The pop launch lug is always attached after the rocket is prepared for launching complete with engine, recovery device and nose cone installed. To use pop launch lug, slide lug over rod, wrap top of rod with 2 or 3 turns of masking tape. Rod must be tight on launch pad. After rocket leaves pad the pop lug will remain on the rod. The rocket can be reattached to the lug without removing the lug from the rod.