

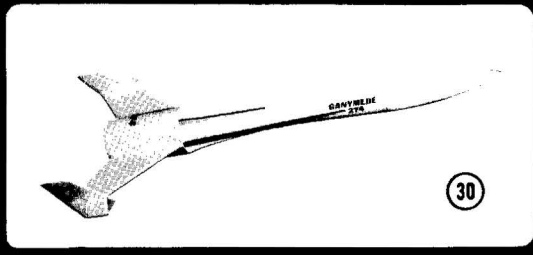




# Estes Industries Rocket Plan No. 59

## GANYMEDE 274

FUTURISTIC DESIGN...  
ANOTHER FINE SPORTS FLYER

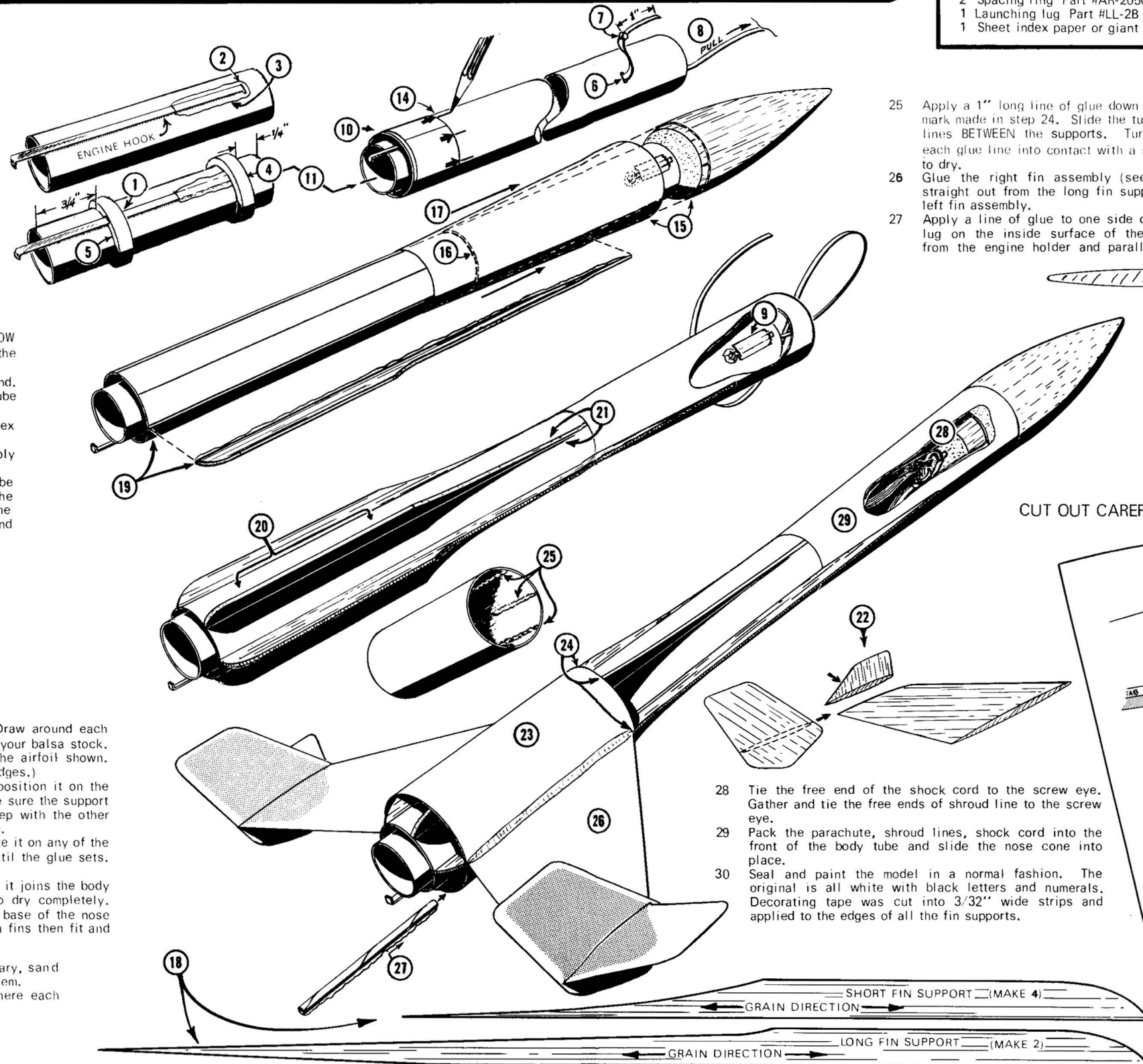


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### PARTS LIST

- 1 Body tube Part #BT-50W
- 1 Body tube Part #BT-60J
- 1 Body tube Part #BT-20J
- 1 Nose cone Part #BNC-50AD
- 1 Sheet balsa fin stock Part #BFS-30L
- 1 Screw eye Part #SE-1
- 1 1/8" shock cord Part #SC-1
- 1 12" Parachute kit Part #PK-12
- 1 Engine holder Part #EH-2
- 2 Spacing ring Part #AR-2050
- 1 Launching lug Part #LL-2B
- 1 Sheet index paper or giant post card

- 1 Cut a slot 3/32" wide and 1/16" deep in one AR-2050 spacing ring.
- 2 Slit the BT-20J body tube 1/4" from one end and apply glue in the area as shown.
- 3 Push one end of the engine holder into the slit and press the main part of the hook into the glue.
- 4 Slide the non-slotted ring onto the front of the tube. Apply a line of glue to both sides at the tube-ring joint.
- 5 Install the slotted ring (engine holder in slot) 3/4" from the rear of the tube. Glue this ring on both sides also.
- 6 Cut a 1/8" by 1/16" hole 1-1/2" from one end of the BT-50W body tube.
- 7 Tie a knot at one end of the shock cord, leaving about 1" of cord on the short side of the knot.
- 8 Insert the other end of the shock cord into the hole in the body tube and pull it on through until the knot is against the tube.
- 9 Anchor the short end of cord on the outside of the tube with a strip of masking tape. (Apply extra glue to the knot.)
- 10 Spread glue around the inside of the other end of the BT-50W body tube covering an area 3/4" to 2-1/2" from the end of the tube.
- 11 Pick up the engine mount unit by the extended hook end. Push it into the body tube until 1/4" of the engine tube projects from the body tube.
- 12 Trace the cone pattern and the tube marking guide onto index paper and cut them out.
- 13 Pre-form the paper cone by wrapping it around itself. Apply glue to the flap area and join the edges.
- 14 Wrap the tube marking guide around the rear of the body tube with the arrows pointing forward. Rotate the guide until the joint in the guide lines up with the engine hook. Mark the body tube at each arrow point. Remove the guide and extend the lines to the ends of the body tube.
- 15 Slide the nose cone into the body tube. Slide the paper cone onto the body tube from the rear and seat its forward end against the outer shoulder of the nose cone.
- 16 Mark the body tube at the rear edge of the paper cone. Slide the cone back, exposing the mark. Put a line of glue around the tube at the mark.
- 17 Grasp the nose cone in one hand. With the other hand slide the paper cone forward, seat its forward end on the outer shoulder of the nose cone.
- 18 Trace the fin and fin support pattern onto stiff paper. Draw around each pattern piece, making the correct number of each piece on your balsa stock. Cut out all pieces carefully and sand all fin pieces to the airfoil shown. (The fin supports are sanded smooth without rounding the edges.)
- 19 Apply glue to the root edge of one long fin support and position it on the second guide line on either side of the engine hook. Make sure the support sticks straight away from the body tube. Repeat this step with the other long fin support, placing it on the opposite side of the tube.
- 20 Apply glue to the root edge of a short fin support and locate it on any of the four remaining guide lines. Align and hold it in place until the glue sets. Attach the other short fin supports in the same way.
- 21 Apply a fillet of glue to both sides of each support where it joins the body tube. Support the assembly horizontally and allow it to dry completely.
- 22 Assemble the parachute kit; install the screw eye in the base of the nose cone; fit and glue the vertical fins to the tips of the main fins then fit and glue the main fin tip extensions into place.
- 23 Check the fit of the BT-60J fin support tube. If necessary, sand the fin supports until the tube makes a slide fit over them.
- 24 Put the fin support tube in place and mark the tube where each support touches. Remove the tube.



- 25 Apply a 1" long line of glue down the inside of the tube from each mark made in step 24. Slide the tube back into place with the glue lines BETWEEN the supports. Turn the fin support tube to bring each glue line into contact with a support. Set the assembly aside to dry.
- 26 Glue the right fin assembly (see #22) to the fin support tube straight out from the long fin support. Repeat this step with the left fin assembly.
- 27 Apply a line of glue to one side of the launching lug. Mount the lug on the inside surface of the fin support tube, directly out from the engine holder and parallel to the body tube centerline.

CUT OUT CAREFULLY 12

PAPER CONE PATTERN

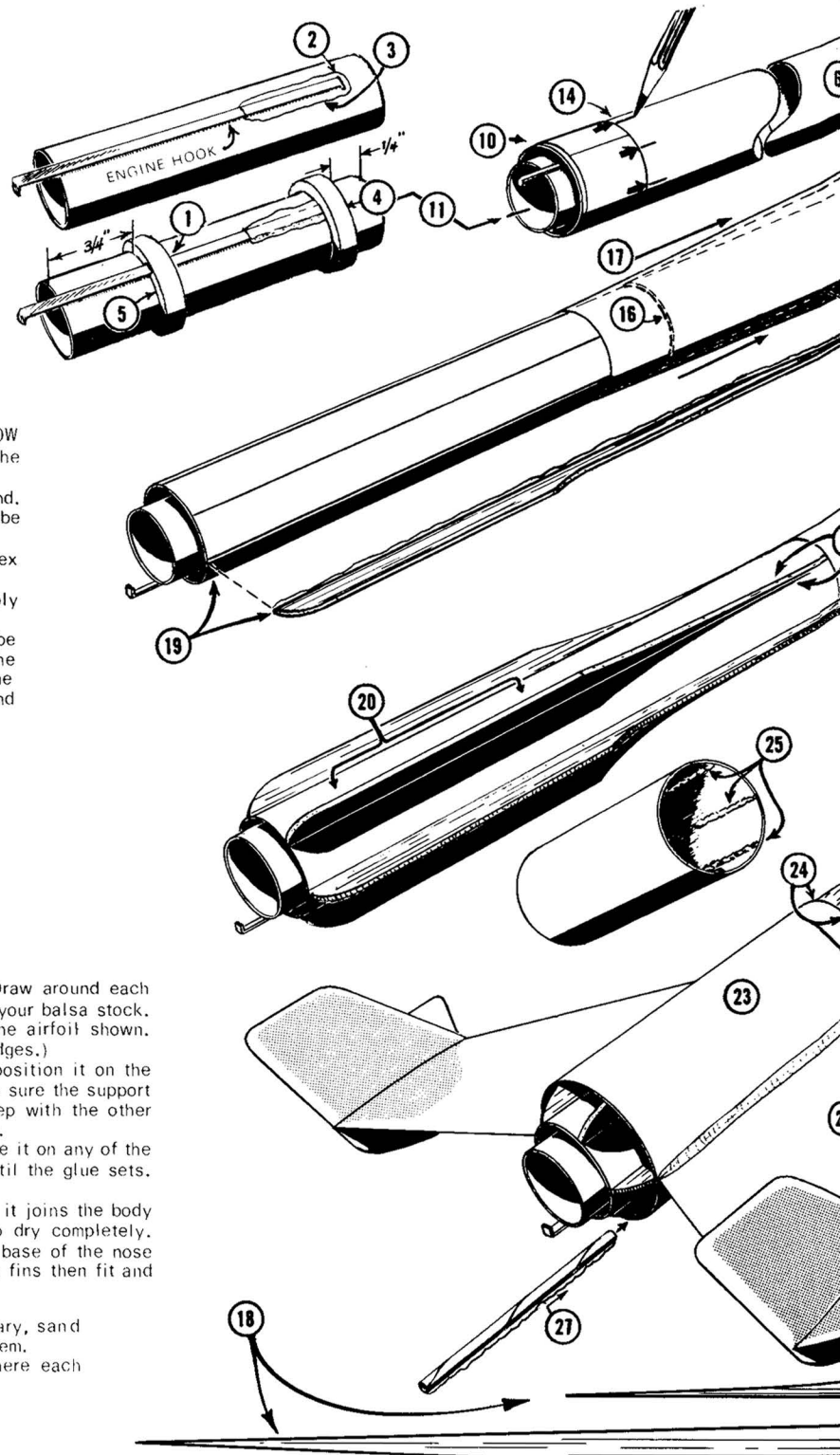
# Estes Industries Rocket Plan No. 59

## GANYMEDE 274

FUTURISTIC DESIGN . . .  
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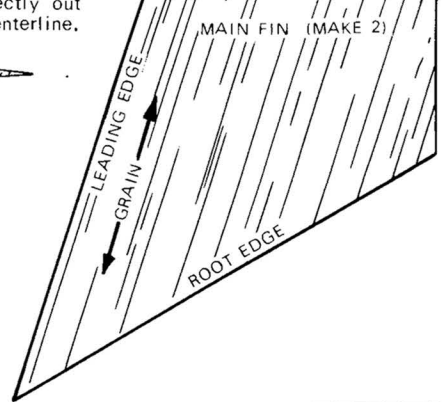
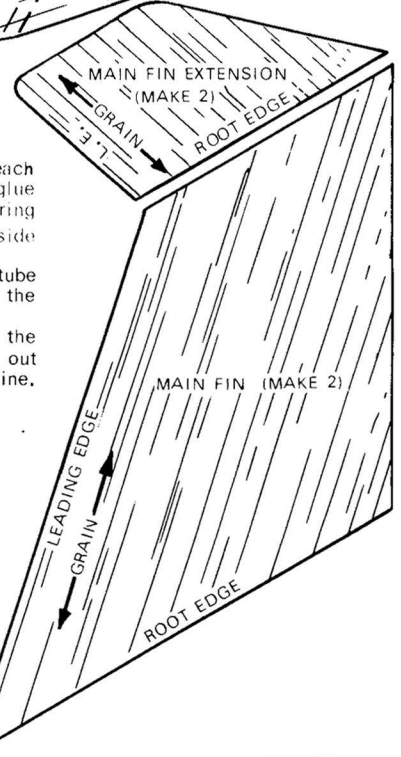
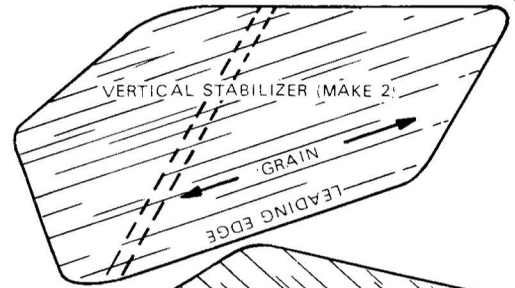
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- 1 Cut a slot 3/32" wide and 1/16" deep in one AR-2050 spacing ring.
- 2 Slit the BT-20J body tube 1/4" from one end and apply glue in the area as shown.
- 3 Push one end of the engine holder into the slit and press the main part of the hook into the glue.
- 4 Slide the non-slotted ring onto the front of the tube. Apply a line of glue to both sides at the tube-ring joint.
- 5 Install the slotted ring (engine holder in slot) 3/4" from the rear of the tube. Glue this ring on both sides also.
- 6 Cut a 1/8" by 1/16" hole 1-1/2" from one end of the BT-50W body tube.
- 7 Tie a knot at one end of the shock cord, leaving about 1" of cord on the short side of the knot.
- 8 Insert the other end of the shock cord into the hole in the body tube and pull it on through until the knot is against the tube.
- 9 Anchor the short end of cord on the outside of the tube with a strip of masking tape. (Apply extra glue to the knot.)
- 10 Spread glue around the inside of the other end of the BT-50W body tube covering an area 3/4" to 2-1/2" from the end of the tube.
- 11 Pick up the engine mount unit by the extended hook end. Push it into the body tube until 1/4" of the engine tube projects from the body tube.
- 12 Trace the cone pattern and the tube marking guide onto index paper and cut them out.
- 13 Pre-form the paper cone by wrapping it around itself. Apply glue to the flap area and join the edges.
- 14 Wrap the tube marking guide around the rear of the body tube with the arrows pointing forward. Rotate the guide until the joint in the guide lines up with the engine hook. Mark the body tube at each arrow point. Remove the guide and extend the lines to the ends of the body tube.
- 15 Slide the nose cone into the body tube. Slide the paper cone onto the body tube from the rear and seat its forward end against the outer shoulder of the nose cone.
- 16 Mark the body tube at the rear edge of the paper cone. Slide the cone back, exposing the mark. Put a line of glue around the tube at the mark.
- 17 Grasp the nose cone in one hand. With the other hand slide the paper cone forward, seat its forward end on the outer shoulder of the nose cone.
- 18 Trace the fin and fin support pattern onto stiff paper. Draw around each pattern piece, making the correct number of each piece on your balsa stock. Cut out all pieces carefully and sand all fin pieces to the airfoil shown. (The fin supports are sanded smooth without rounding the edges.)
- 19 Apply glue to the root edge of one long fin support and position it on the second guide line on either side of the engine hook. Make sure the support sticks straight away from the body tube. Repeat this step with the other long fin support, placing it on the opposite side of the tube.
- 20 Apply glue to the root edge of a short fin support and locate it on any of the four remaining guide lines. Align and hold it in place until the glue sets. Attach the other short fin supports in the same way.
- 21 Apply a fillet of glue to both sides of each support where it joins the body tube. Support the assembly horizontally and allow it to dry completely.
- 22 Assemble the parachute kit; install the screw eye in the base of the nose cone; fit and glue the vertical fins to the tips of the main fins then fit and glue the main fin tip extensions into place.
- 23 Check the fit of the BT-60J fin support tube. If necessary, sand the fin supports until the tube makes a slide fit over them.
- 24 Put the fin support tube in place and mark the tube where each support touches. Remove the tube.



## PARTS LIST

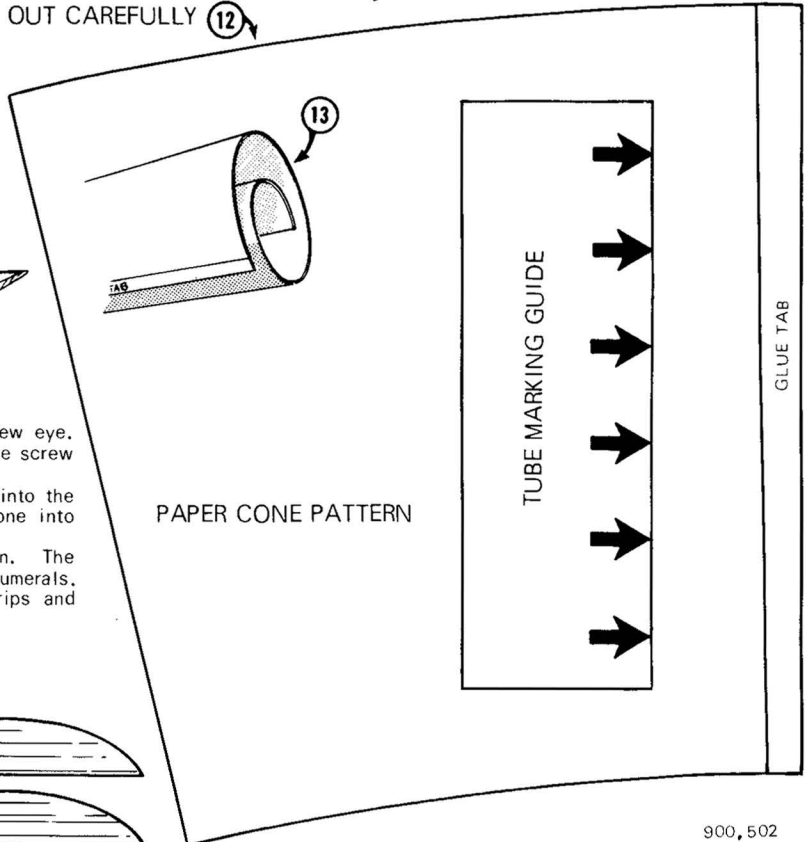
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- 1 Launching lug Part #LL-2B
- 1 Sheet index paper or giant post card



- 25 Apply a 1" long line of glue down the inside of the tube from each mark made in step 24. Slide the tube back into place with the glue lines BETWEEN the supports. Turn the fin support tube to bring each glue line into contact with a support. Set the assembly aside to dry.
- 26 Glue the right fin assembly (see #22) to the fin support tube straight out from the long fin support. Repeat this step with the left fin assembly.
- 27 Apply a line of glue to one side of the launching lug. Mount the lug on the inside surface of the fin support tube, directly out from the engine holder and parallel to the body tube centerline.



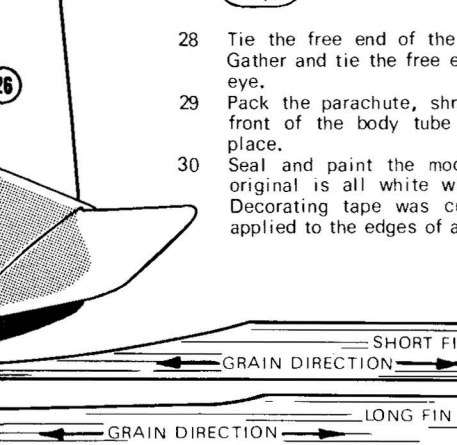
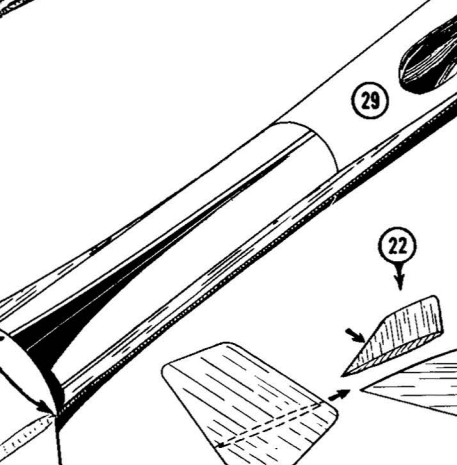
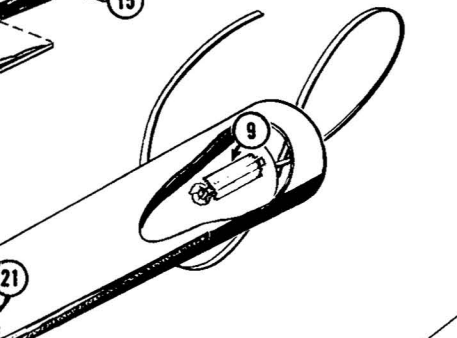
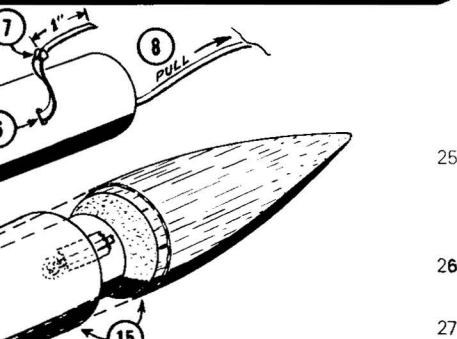
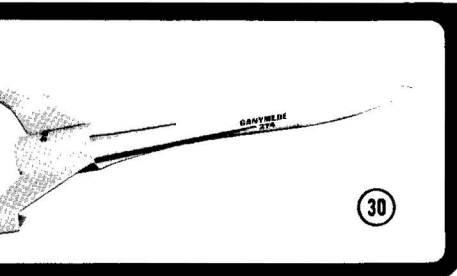
CUT OUT CAREFULLY (12)



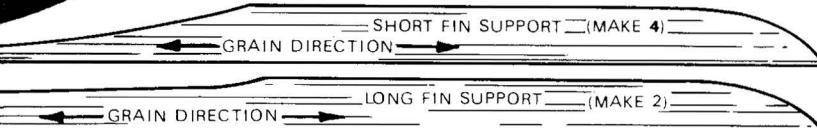
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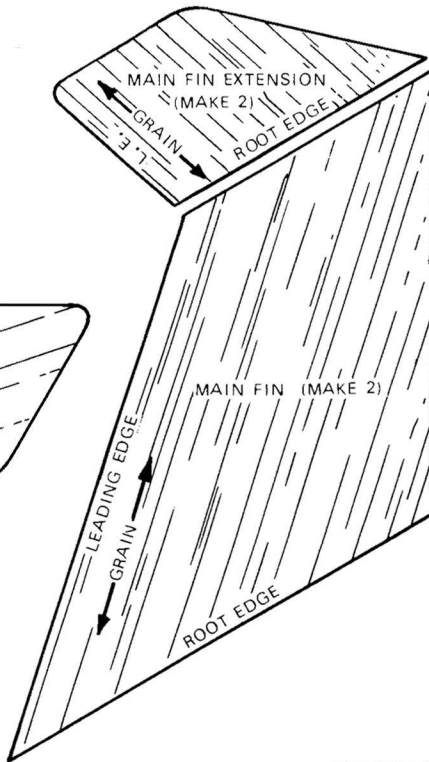
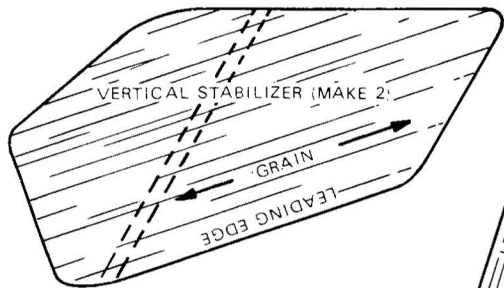
TUBE MARKING GUIDE

GLUE TAB

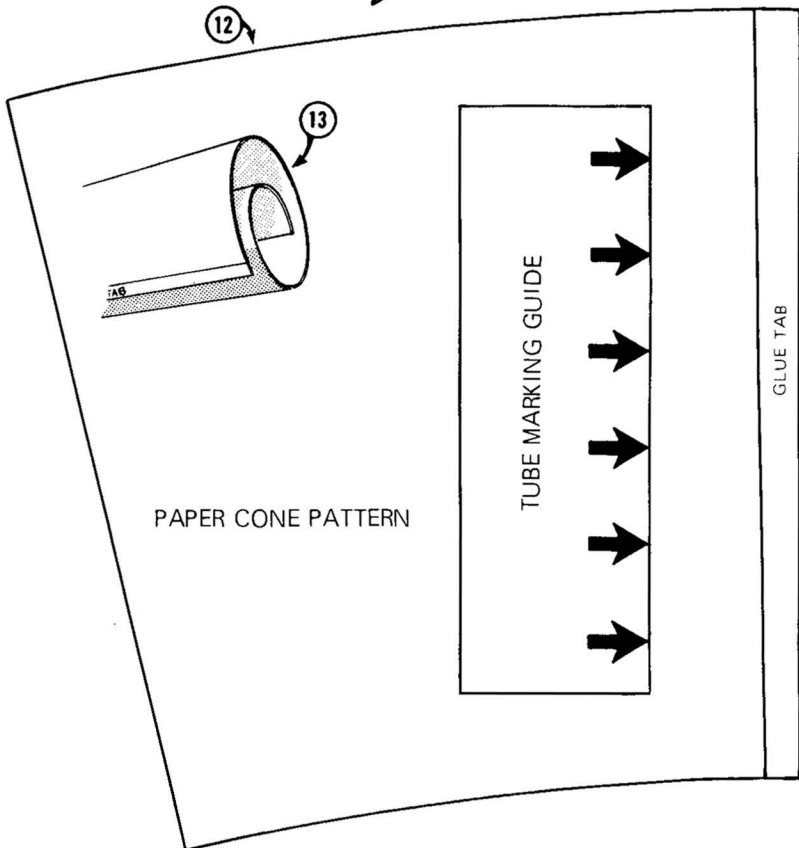


- 28 Tie the free end of the shock cord to the screw eye. Gather and tie the free ends of shroud line to the screw eye.
- 29 Pack the parachute, shroud lines, shock cord into the front of the body tube and slide the nose cone into place.
- 30 Seal and paint the model in a normal fashion. The original is all white with black letters and numerals. Decorating tape was cut into 3/32" wide strips and applied to the edges of all the fin supports.





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