

## HOW TO BUILD THE ICARUS an adventure in model rocketry

by Jim "Casey" Kukowski

The Icarus of Greek mythology flew so high that the heat of the sun melted his wings, ending his tragic flight. But this Icarus is a "bird" of a different species. . . No tragedy here — just lots of fun building it and then the big thrill of launching your own model rocket.

F YOU'RE JUST beginning in the model rocket hobby, the Model Rocket Industries' "Icarus" is a good vehicle for a start. Not only does it have a parachute return, but the model also contains a small payload compartment. It's a very clean model and looks real sharp when it is painted.

Directions are fairly easy to follow. It should give you a number of very satisfactory flights. Unless you're careful, the parachute may hang up in the body tube when the ejection charge is ignited. If you want to replace the parachute with a paper streamer, you can do so and still not have the model suffer any damage on landing.

It will fly very well with even a ¼A.8-2 engine. I suggest that you don't use any engine larger than an A.8-3. Any B engine will put it out of sight.



 Before building the rocket, check over the parts and the parts list. READ THE DIRECTIONS CAREFULLY. You'll need white glue, an X-acto knife, straight edge rule, sandpaper and, possibly, a pair of scissors. A paint brush, balsa wood filler and assorted paints can be used to finish your "bird".

## ICARUS MODEL ROCKET



2. Prepare the body tube. Take extra care inserting the engine block inside the body tube. Don't be afraid to use plenty of glue. When inserting the body tube with glue applied, don't stop or the glue may lock the engine block in the wrong place.



Follow the instructions for anchoring the shock cord to the body tube. For a neater installation, you can glue the shock cord to the inside of the tube by covering the cord with several layers of gauze thoroughly soaked with glue.



4. On the lcarus model, the fin pattern is color-stamped on the balsa fin stock. Use a straight edge to insure a clean, straight cut. Don't rush your cutting, as the balsa tends to "tear".



5. After the fin stock is cut to size, place the fins together and carefully sand to identical size. Take care not to round off the root chord (the edge that is glued to the body tube). Round off the other edges. Don't sand to a knife edge.

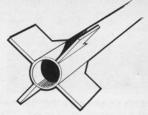


6. Wrap the fin position guide around the body tube and mark off the spot where the leading and trailing edges of the fins go. Use a pencil so that the marks can be erased,



7. Prior to gluing the fins to the body tube, apply a thin layer of glue to the root chord (This can be done during Step No. 5). This will give you a better contact surface for the final coat of glue.





8. Carefully align the fins with the longitudinal axis of the tube (see fig. 0) and glue them to the body tube. Once the fins are glued on, set the unit aside to dry. If the fins tend to lean a bit, you can straighten them as the glue begins to take. Be sure the fins form a perfect cruciform (see fig. 0).



While the fins are drying, prepare the nose cone and payload compartment, parachute and screweye attachment. The screweye should be anchored with glue to the balsa adapter section.



10. Glue the launch lug to the body tube. At the same time, apply a glue fillet to the junction of the fins and the body tube. Place the rocket in a horizontal position so that the glue does not run into a bead.



11. When the glue fillets are dry, attach the payload compartment-recovery system to the shock cord. The balsa adapter must have a relatively losse slip fit into the body tube. A tight fit may prevent parachute deployment upon ejection charge ignition.



12. Finished at last Check your completed model against the direction sheet. Now, if you like, you can paint it approach color you want. Prior to painting apply filler coat to the balsa fins and nose cones. Usually, about three coats are required. Enamel or butyrate dope in spray form will give you a sharp looking model for your first fillot.