GENERAL PARTS LOCATION

Parts are shown in their relative positions with the part number of each item.

This Kit Contains:

1. BODY TUBE - Part #BT-50H
2. ENGINE MOUNT TUBE - Part #BT-20J
3. NOSE CONE - Part #NCE-50K
4. SHEET BALSA FIN STOCK - Part #BFS-30
5. ENGINE HOLDER - Part #EH-2
6. SHOCK CORD - Part #SC-1
7. SCREW EYE - Part #SE-1
8. LAUNCHING LUG - Part #LL-2A
9. PARACHUTE - Part #PAR-12A
10. SPACER RINGS - Part #ARA-2050
11. 72" SHROUD LINE CORD - Part #SLT-2C
12. TAPE STRIPS - Part #TB-2
13. PATTERN SHEET - Part #PS-25
14. TECHNICAL REPORT - Part #TH-1

In addition to the materials included in this kit you will also need the following tools and supplies:
1. Modeling knife or razor blade
2. Tube extra strong white glue
3. Ball point pen or pencil
4. Sheet of extra fine sandpaper
5. Bottle paint or dope of each color

BECOME FAMILIAR WITH ALL PARTS AND STEPS OF ASSEMBLY BEFORE STARTING WORK ON YOUR ROCKET. FOLLOWING EACH STEP IN ORDER WILL MAKE YOUR ROCKET GO TOGETHER QUICKLY AND EASILY.

Countdown Checklist

-10. Pack finerproof recovery wadding into the body tube from the top. Fill the tube for a distance of 1-1/2" sealing along the sides of the tube. Hold the parachute at it's center and pass the other hand down it to form a "spike" shape. Fold this spike in two and pack into the tube on top of the wadding. Pack the shroud lines and shock cord in on top of the parachute and slip the nose cone into place.

-10. Select an engine. Use a 1/2A8-2 for the first flights. Later flights may be made with A.8-3 and B.8-4 engines. Install an electrical igniter in the engine as directed in the instructions which came with the engine.

-9. Insert the engine into the engine holder tube, springing the engine holder up enough to admit the front of the engine.

-8. Place the motor on the launcher. Check to be sure the launch controller is disarmed. Clean and attach the micro-clips to the igniter leads.

-7. Clear the launch area, check for low flying aircraft and alert recovery and tracking crews.

-6. Arm the launch controller.

-5. -4. -3. -2. -1. LAUNCH!

ASTRON ALPHA PARACHUTE RECOVERY

K-25

GREAT FOR
* BEGINNERS
* SPORT FLYING
* ROCKETY DEMONSTRATIONS

ONLY $1.50

ESTES Industries, Inc.
Devoted to Safety and Education in Rockety
Box 227, Penrose, Colorado 81240
1. **Attach Engine Holder**

- Measure 1/4" from one end of the engine holder and punch a hole using the forward hook of the engine holder. Apply glue to the area shown and put the hole into position. Hold the assembly until the glue has set.

2. **Spacing Rings Are Next**

- Slide one ring on the engine tube so that it is against the front of the engine holder. Cut a 3/16" slot in the second ring. Slip the ring 1/16" over the rear of the tube centering the slot on either side of the engine holder.

3. **Prepare Shock Cord Holder and Install Shock Cord**

- When cut out, prefold at the dotted lines. When cut out, prefold at the dotted lines.

   **Step 1:**
   - Apply glue to section 1. Lay the end of the shock cord into place. Fold the last section over the second one as shown.

   **Step 2:**
   - Apply glue over the backside of the first and the exposed part of section 2. Lay the shock cord as shown and fold the cord and section 2 over section 3.

   **Step 3:**
   - Apply glue to the inside of the body tube where the shock cord will seat. Hold the shock cord as shown and place the mount into position, pressing it to conform to the inside curve of the body tube.

4. **Mark the Body Tube for Fins and Launching Lug**

- Cut the fin marking guide from the pattern sheet and wrap it around the body tube as shown.

5. **Layout, Cutting, and Sanding of Fins**

- Cut the fin pattern from the pattern sheet and lay out 3 fins on the fin stock. Cut out the fins and sand them to the shape shown. Leave the root edge flat. Round the lead and taper the rear edges.

6. **Install the Engine Holder Assembly into the Body Tube**

- Slide the engine holder assembly into the body tube until the rear edges of each are parallel. Hold the body tube in a vertical position and apply a film of glue around the circumference of both ring-tube joints. Do not get glue in the 3/16" slot. It may obstruct the spring action of the engine holder.

7. **Attach the Fins and Launching Lug**

- Apply a line of glue along the root edge of a fin. Carefully align this edge on one side of a guide line so that it is parallel to the line and sticks straight out from the body tube as shown in the rear view. Do the same with the other two fins. Apply a line of glue along the launching lug and place it centered between two fins as indicated on the fin mounting guide. Stand this assembly on its forward end and allow to dry.

8. **Install the Screw Eye**

- Put the screw eye into the base of the nose cone and remove it. Squirt a bit of glue into the hole and insert the screw eye.

9. **Parachute Assembly**

- Trim the 'Chute and spread it on a flat surface. Cut all the lines to 12" in length and tape them to the 'Chute at the anchor points.

10. **Apply Final Fillets, Sealers and Paint**

- Preparation for Base Coat

   - Apply all fillets to fins and launching lug as shown in Step 7. In the rear view, let all fillets dry completely. Apply sanding sealer to all balsa surfaces. Allow the sealer to dry and sand it smooth. Re-paint this step as much as needed to fill all the grain lines in the wood.

   - Bronze Finish

   - Butyrate dope may be thinned up to 50% for good brushing qualities. Apply 4 or more coats of the base color sanding lightly between all coats until a smooth clean finish is obtained. If a second color trim is to be painted, allow the first color to dry overnight to keep from "bleeding" the base color thru the second color as it is applied.

   - Spray Enamel:

     - Spray a "mist" coat of base color and let dry. Spray 2 more "mist" coats sanding your rocket lightly between each coat. The final coat is applied "wet" (glue just appears) and is set aside to dry. Trim color may be applied with tape, decals or sprayed on.

11. **Final Assembly**

- Thread the shock cord thru the screw eye and tightly wrap with the remaining tape strips as shown. Tie the shock line to the screw eye. Now you are ready to go on thru the countdown checklist.
YOUR FIRST
ROCKET

BUILDING THE ASTRON ALPHA
A TYPICAL MODEL ROCKET

The construction of the Astron Alpha is shown here both to give the beginning rocketeer plans for a good first model and to illustrate the way a typical model rocket is built. The assembly techniques used in this and other model rockets are explained in greater detail on the following pages.

To build the Astron Alpha you will need the parts listed below. The Alpha is also available from Estes Industries as a complete kit (Kit #K-25) with detailed instructions for easy assembly.

PARTS LIST

1 BODY TUBE - Part #BT-50H
1 ENGINE MOUNT TUBE - Part #BT-20J
1 NOSE CONE - Part #N-50K
1 SHEET BALSA FIN STOCK - Part #BFS-30
1 ENGINE HOLDER - Part #EH-2
1 SHOCK CORD - Part #SC-1
1 SCREW EYE - Part #SE-1
1 LAUNCHING LUG - Part #LL-2A
1 PARACHUTE - Part #PK-12
2 SPACER RINGS - Part #AR-2050

In addition you will need the following tools and supplies:

1 Modeling knife or razor blade
1 Tube extra strong white glue
1 Ball point pen or pencil
1 Sheet of extra fine sandpaper
1 Paint or dope

58