



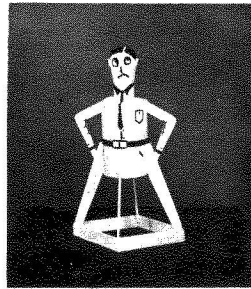
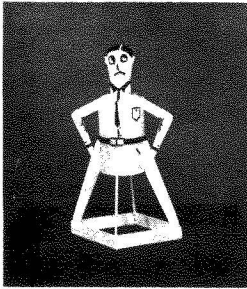
# ASTRON SPACEMAN

Only \$.75

Another Quality Product of

**Estes Industries, Inc.**

**Box 227 Penrose, Colo. 81240**

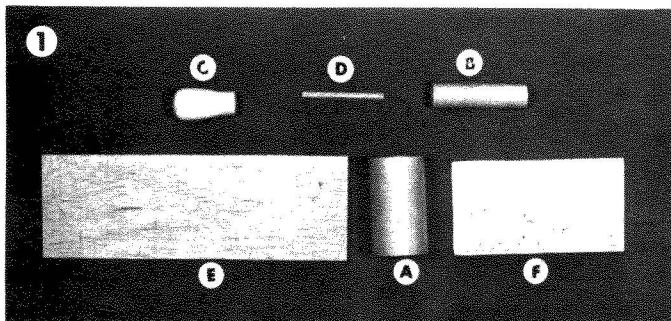


## Assembly Instructions

Your Astron Spaceman rocket kit consists of the following parts as shown in figure 1. Check to be sure your kit is complete, then read the entire instructions before starting assembly.

A. Body, tube	Part #BT-60J
B. Engine holder tube	Part #BT-20J
C. Nose cone (head)	Part #BNC-20P
D. Launching lug	Part #LL-1B
E. Balsa stock	Part #BFS-20
F. Pattern sheet	Part #SP-1

In addition to the parts included in the kit, you will also need scissors, a knife or razor blade, glue, sandpaper, and paint or dope.



1) Cut out the patterns from the sheet exactly on the edge line of each pattern.

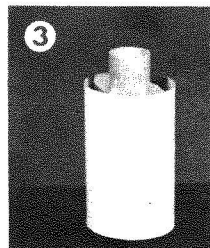
2) Trace the required number of parts onto the balsa stock. Make two of each part except the base, of which four will be needed. Be certain that the grain on each piece runs in the direction indicated on the pattern. Trace out all parts before cutting to insure that their arrangement will allow all to be cut from the balsa provided.

3) Wrap the marking guide from the pattern sheet around the BT-20J engine holder tube. Mark at the arrows to place the spacers 90 degrees apart around the tube.

4) Glue the shoulder spacers to the tube on opposite sides as shown in figure 2. Point A (shown on the pattern) should match the end of the tube. Align the spacers by sighting along the tube.

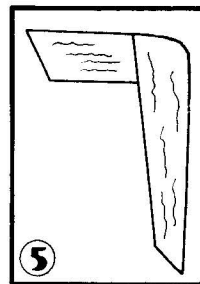


5) Glue the internal spacers to the tube on the remaining marks between the shoulder spacers. Point A on these should also match the end of the tube as in fig. 2. Align and let dry.

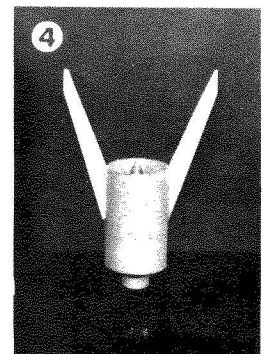


6) Check to be sure the spacers will fit inside the BT-60N body tube. If they stick out too far, sand them lightly until a proper fit is obtained. Apply glue to the outside edges of all four spacers and slide the body into position around them. (See fig. 3.) The bottom of the body should be even with the very end of the spacers. Using a toothpick or a scrap of balsa, work more glue into and around the joints to provide an extra strong bond.

7) Apply glue to edge B of one leg piece. Attach it to the body to match the shoulder spacer as shown in fig. 4. Check its alignment by sighting along the body. Repeat this procedure for the other leg and set the assembly aside to dry.



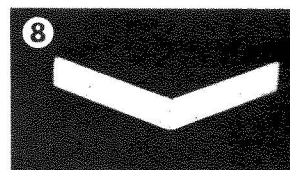
8) Glue one upper arm to one of the lower arms as shown in figure 5. Make sure the proper edges are glued together as in the illustration. Repeat with the other arm pieces. Set aside to dry.



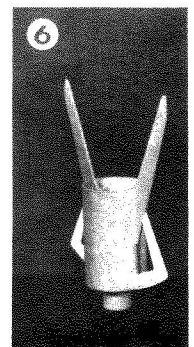
9) After the glue on the legs and arms has dried, glue the arm assembly to the body and legs as shown in figure 6.



10) Sand a 45 degree bevel in each end of each base piece as shown in fig. 7.



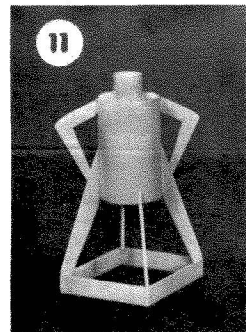
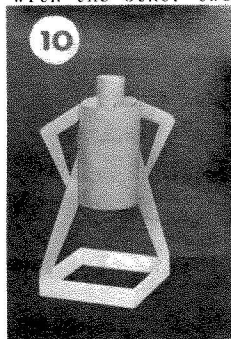
11) Glue two of the base pieces together as shown in figure 8. Set the assembly on one side as in the illustration, and while the glue



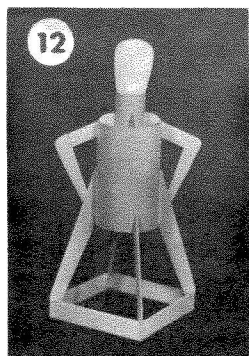
is still soft, adjust the angle of the joint until the far ends of the two pieces just match the opposite points on the leg pieces. Repeat with the other two base pieces and let dry.



12) Prop the assembled body and leg assembly up vertically as in figure 9. Glue the base pieces to the legs. The joint should resemble that shown in figure 13. When the glue has dried, the man should look like figure 10.

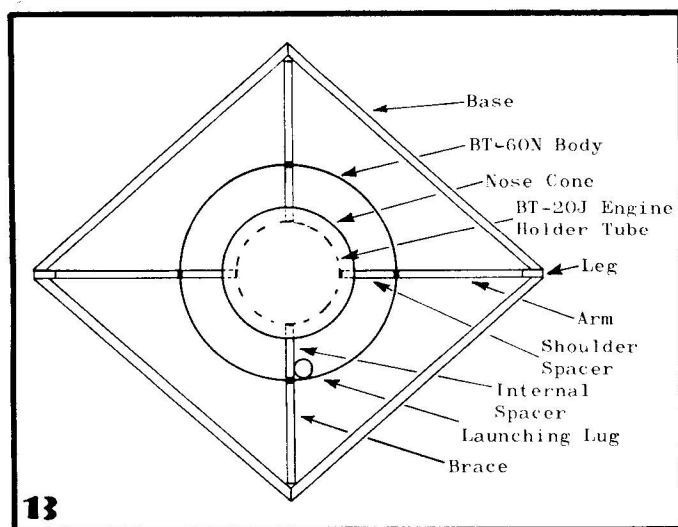


13) Apply glue to the opposite ends of the braces and attach them between the corners of the base and the outside of the body over the internal spacers as in fig. 11.



14) Glue the nose cone (head) into the top end of the engine holder tube as in figure 12. To do this, simply apply glue to the inside of the engine holder tube at the top and insert the head.

15) Apply a liberal amount of glue to one side of the launching lug. Attach this side of the lug to the inside of the body at a joint between a spacer and the body as in figure 15.



16) If desired, scraps of balsa may be cut and glued to the head to make the ears and nose. Use your own favorite shapes here.

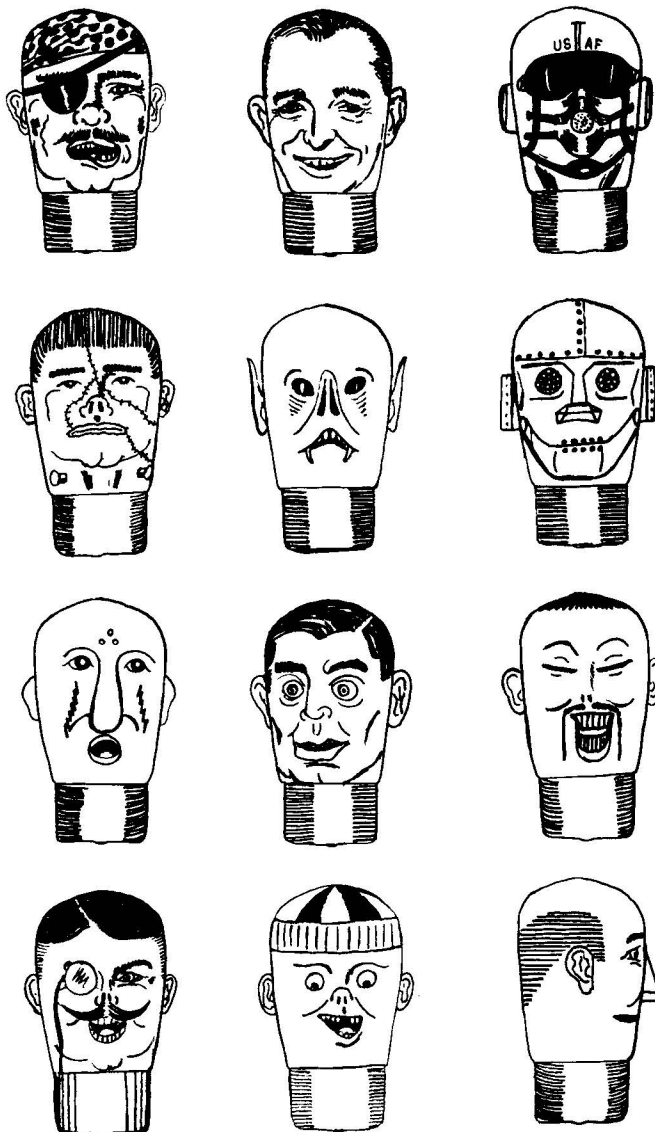
17) When all glue joints have dried thoroughly, the man is ready for sanding and decorating. Sand all exposed balsa parts to a smooth finish using extra fine sandpaper. Apply sanding sealer or a light coat of glossy white paint, let dry thoroughly, and sand all surfaces with extra fine sandpaper. Brush or blow any dust off of the surfaces and repeat the procedure until

all pores in the balsa are closed. Apply several light coats of white paint or dope to give a smooth, white undercoat.

18) Sketch out on a piece of paper possible designs for the features of the man. The man on the front of these instructions was simply painted with black details over the white undercoat. For more realism, the face may be painted light tan, the eyes, hair, cuffs, belt, tie, pocket outline, and other details painted black, the shirt red, and the pants brown or gray. If the white undercoat is an enamel paint and covers the man completely inside and out, tempera paints or water colors may, if carefully applied, be used to put in the finishing touches. One advantage of this is the ease with which the water-base paints may be washed off in case of error. Under no circumstances, however, should too much water be used in the paint, and the rocket must not be soaked.

The Astron Spaceman rocket should be flown first with 1/2A or A engines. The featherweight recovery system is used. In this system, the engine separates from the rocket at peak altitude, and both parts return safely, the engine due to the high drag induced by its instability, and the rocket is slowed down due to its low weight (under 1/2 oz.) and relatively high frontal area and drag. The featherweight system should only be used with rockets under 1/2 oz. and with blunt nose cones.

When placing the Astron Spaceman on the launcher, be careful to pass the launcher leads directly up from underneath to the engine, so they will not catch on the base of the rocket when it is launched. Use only electrically operated launching systems with this rocket.

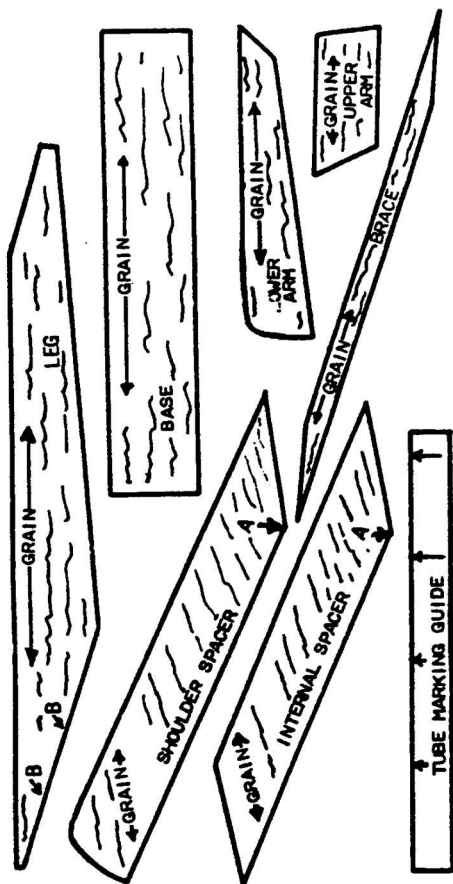


1 Inch

1 Inch

1 Inch

1 Inch



1 Inch

1 Inch

1 Inch

1 Inch



**ASTRON SPACEMAN**  
Only \$**.75**  
Another Quality Product of  
**Estes Industries, Inc.**  
Box 227 Penrose, Colo. 81240



Full Size  
**FULL COLOR CATALOG**

See a world of real space-age hobby of  
model rockets, model rockets, etc.  
Enter the challenge - build the world's  
most exciting hobby, with something you  
can make today!

