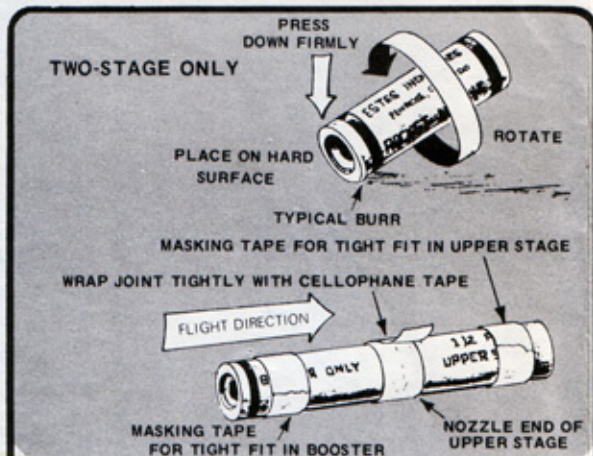


16. Form an electrical igniter and insert it in the engine as directed in the instructions which came with the engine.



15. It is important to use the correct Series III engine in each stage for two stage flights. The lower (booster) stage should contain either a $\frac{1}{2}$ A6-0S or a A5-0S engine. The upper stage can use either a $\frac{1}{2}$ A6-4S or a A5-4S engine.

14. Select your engines. Remove any burrs from the ends of the engine casings by holding them against a smooth surface and rotating them as shown.

13. Position the engines with the nozzle of the upper stage engine against the top end of the booster engine and wrap a layer of cellophane tape tightly around the joint as shown. BE SURE the engines are in their proper relative positions.

12. Wrap masking tape around the upper stage engine (about midway) so it makes a tight fit in the upper stage body tube. Slide the engines, upper stage first, into place against the engine block in the upper stage.

11. Wrap masking tape around the booster engine just below the cellophane tape joint, until the engine makes a tight fit in the booster body tube. Slide the booster unit into place until it fits snug against the upper stage rocket.

10. Form an electrical igniter and insert it in the booster engine as directed in the instructions which came with the engines.

9. Place the rocket in the launcher. Check to be sure the panel is disarmed. Clean the micro-clips and attach them to the igniter.

8. Clear the launch area, alert the recovery crew and trackers.

7. Check for low flying aircraft and unauthorized persons in the recovery area.

6. Arm the launch panel.

5 4 3 2 1 LAUNCH!



A SUBSIDIARY OF DAMON

Astron BETA

FLY IT
SINGLE STAGE
OR
MULTI-STAGE



\$1.35

BETA

KIT NO. K-45

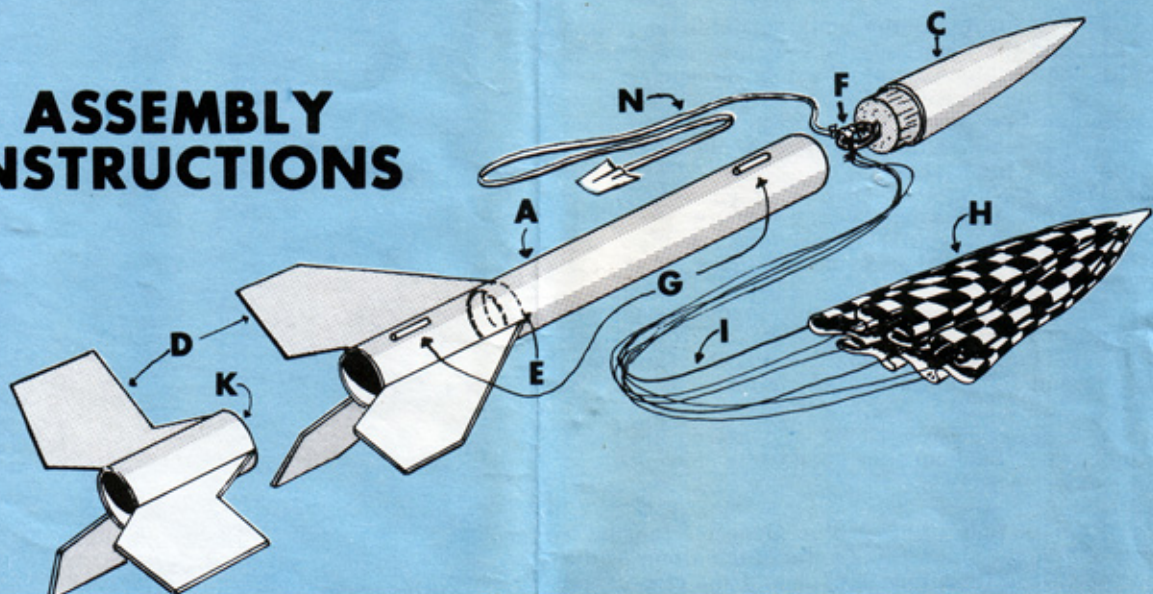
SPECIFICATIONS		RECOMMENDED ENGINES
Body Diameter	0.736 in.	SINGLE OR UPPER STAGE
SINGLE STAGE	TWO STAGE	$\frac{1}{2}$ A6-2S, $\frac{1}{2}$ A6-4S, A5-4S
Length 12- $\frac{1}{2}$ in.	Length 13- $\frac{1}{2}$ in.	BOOSTER
Weight 0.55 oz.	Weight 0.75 oz.	$\frac{1}{2}$ A6-0S A5-0S

PARACHUTE RECOVERY

ASTRON BETA

SINGLE OR TWO STAGE
SPORT ROCKET

ASSEMBLY INSTRUCTIONS

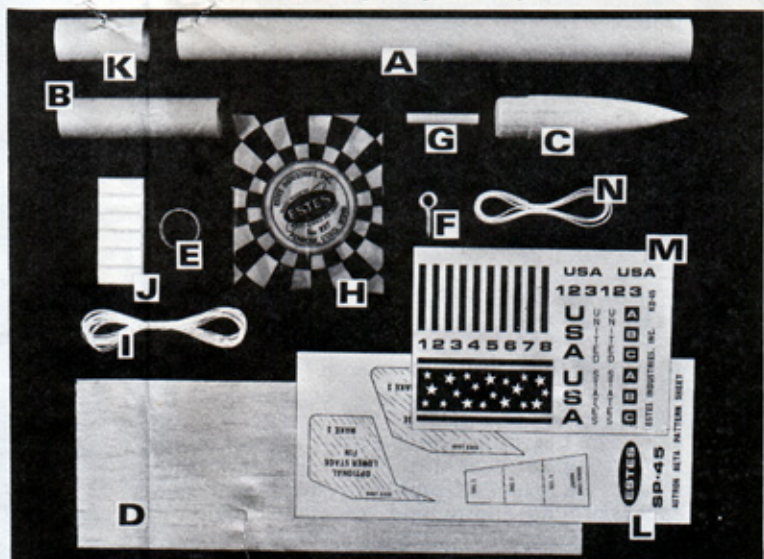


Check to be sure your kit is complete. Then read the entire instructions before beginning to assemble your rocket. Check off each step as you complete it.

PARTS LIST

A	BODY TUBE	BT-20B
B	ENGINE CASE	EC-2
C	NOSE CONE	BNC-20N
D	BALSA FIN STOCK	BFS-20
E	ENGINE BLOCK	EB-20A
F	SCREW EYE	SE-2
G	LAUNCH LUG	LL-2A
H	8" PARACHUTE	PK-8A
I	SHROUD LINE	SLT-12
J	TAPE STRIPS	TD2-F
K	BODY TUBE	BT-20AE
L	PATTERN SHEET	SP-45
M	DECAL SHEET	KD-45
N	SHOCK CORD	SC-1

In addition to the parts above, you will need scissors, white glue, a sharp model knife (or razorblade), masking tape and paint or dope.



1. Mark the dummy engine casing (Part #EC-2) 1-1/2" from one end. Spread a quarter inch wide band of glue around the inside of the long body tube (Part #BT-20 B) 1-1/2" inward from one end. Insert the engine block (Part #EB-20 A) into the same end. Push the engine block into place with the dummy casing until the body tube end is in line with the mark on the casing. Remove the dummy casing at once.

2. Cut out the marking guide and wrap it around the long body tube at the same end as the engine block. Mark the tube at each of the arrow points. Remove the guide and draw a straight line passing over each matching front and rear mark. Draw the launch lug line along the entire tube length.

NOTE: TWO-STAGE ONLY: If you choose to build the two stage version, mark the short lower stage (booster) body tube in the same manner, but omit the launch lug line.

3. Cut out the upper stage fin pattern and trace three outlines onto the balsa fin stock sheet exactly as shown. Cut out the fins carefully and sand the edges as shown.

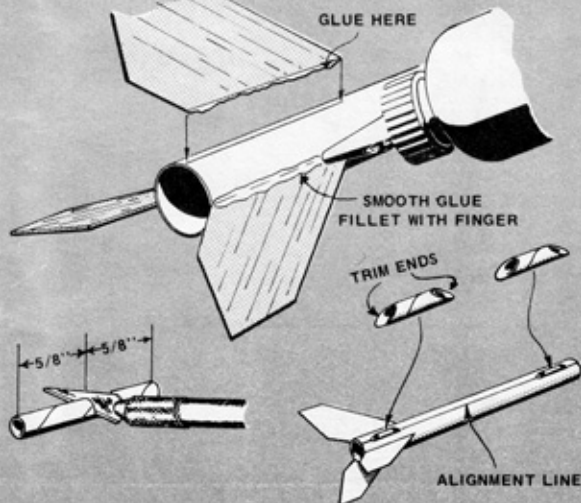
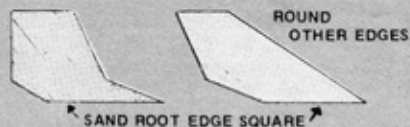
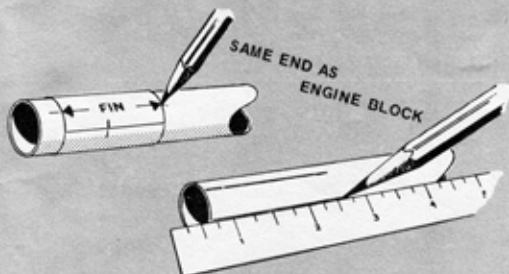
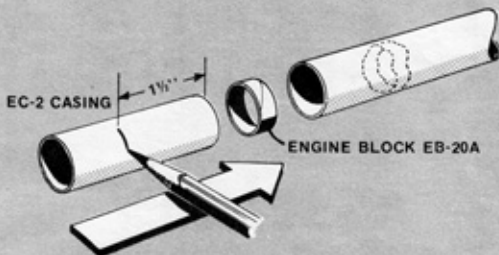
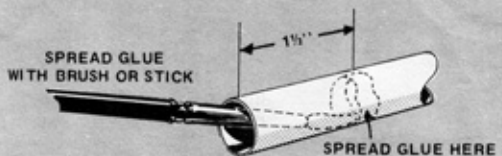
NOTE: TWO STAGE ONLY: Following the same procedure cut out and sand the lower stage (booster) fins.

4. Run a line of glue along the root edge of one upper stage fin. Center it upon one of the upper stage fin alignment lines at the rear of the body tube. Make sure that it projects straight out from the body tube at 90 degrees.. Allow the glue to set. Attach the two remaining fins in the same manner. Apply glue fillets to all joints and set aside.

NOTE: TWO-STAGE ONLY: Following the same procedure as above, glue the three lower stage fins to the short body tube (Part #BT-20 AE) apply glue fillets to all joints and set aside to dry thoroughly. Apart from decoration, the lower booster stage is now complete.

5. Cut the launch lug (Part #LL-2A) in half and trim the ends as shown. Glue one to each end of the long body tube, centering them exactly on the launch lug alignment line.

6. Cut out the shock cord mount from the pattern sheet and pre-fold it on the dotted lines. Apply glue to section 1 and lay the shock cord end into the glue. Fold this first section over. Spread glue over the back of the first section and the exposed part of section 2. Lay the shock cord as shown and fold over again.. Clamp the unit together with your fingers until the glue sets.



7. Apply glue to the inside of the long body tube at the front (the end opposite the fins) over an area about 1" from the end. The glued area should be the same size as the shock cord mount. Press the mount into the glue and hold it until the glue sets.

8. Insert the screw-eye (Part #SE-2) into the base of the nose cone (Part #BNC-20 N). Remove the screw-eye and squirt a small amount of glue into the hole. Replace the screw-eye.

9. Cut out the parachute (Part #PK-8A) along the edge lines marked on the plastic. Cut six 8" lengths of shroud line and attach one to each point of the parachute with a tape strip as shown. Tie the free ends of the lines together.

10. Tie the shock cord and the parachute shroud lines to the screw-eye as shown.

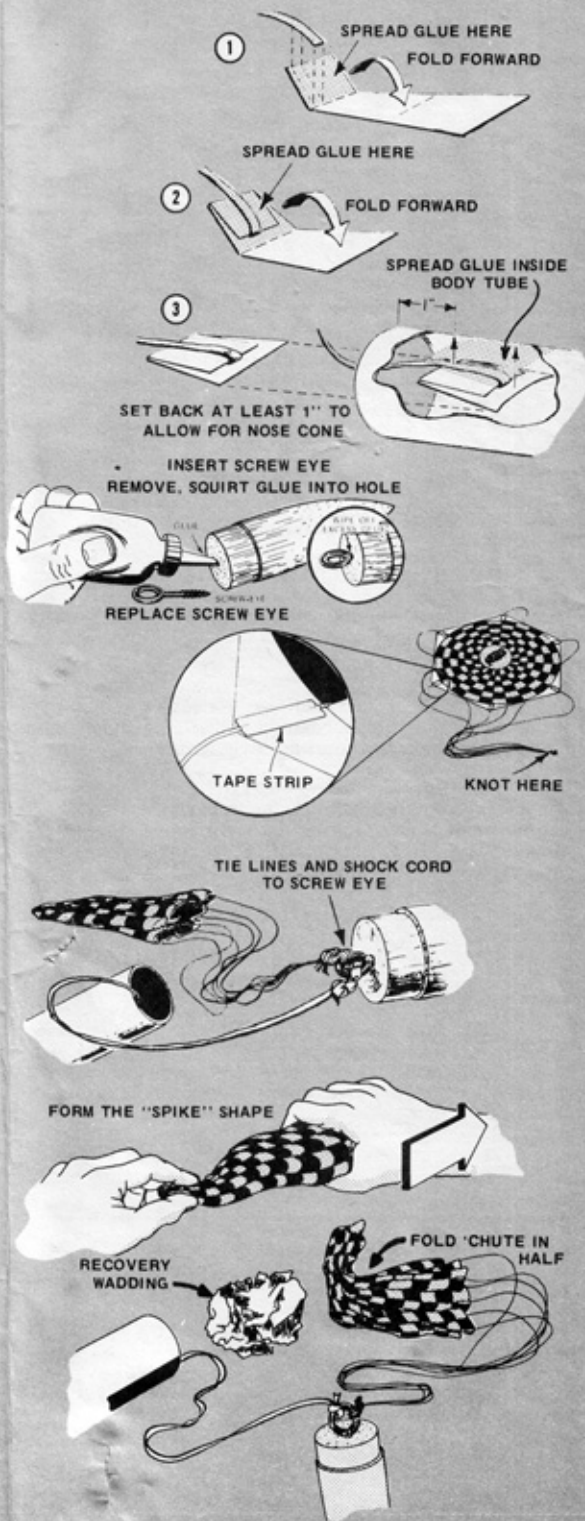
11. Before finishing, let all the glue on the outside of the rocket dry so that it is hard and clear. Cover all balsa surfaces with a coat of sanding sealer. Let it dry completely, and then sand lightly with extra fine sandpaper. Repeat this procedure with as many coats as are required until all the pores in the balsa are filled and the surfaces look and feel quite smooth. Give the rocket a clean base coat of glossy white paint or dope, let dry, and follow with your choice of color scheme which may include areas of high visibility colors such as red, fluorescent orange, etc., to aid in tracking and retrieving.

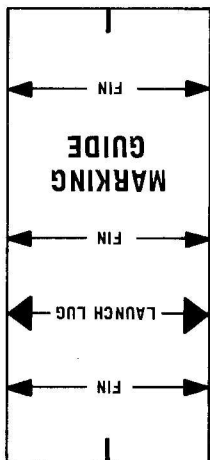
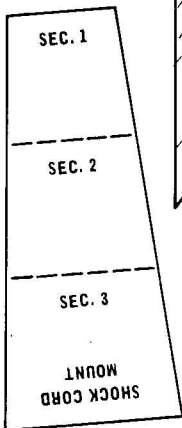
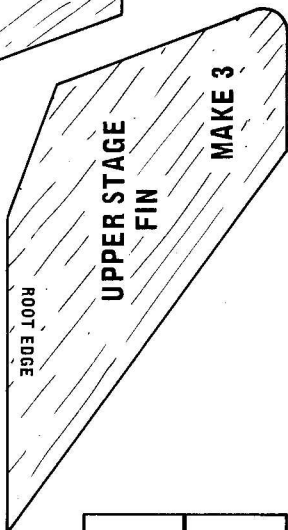
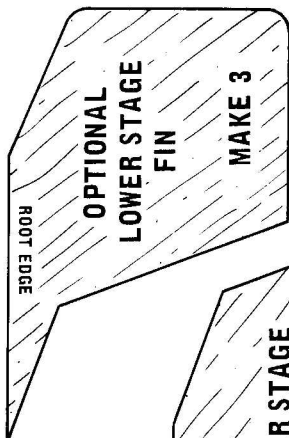
12. Cut out the selected decals from the decal sheet (Part #KD-45). To transfer, dip the decal in lukewarm water for about 30 seconds or until it slides easily on the backing paper. Slide the decal off the paper onto the desired surface and blot dry carefully. Allow the decals to dry for about 24 hours.

COUNTDOWN CHECKLIST:

18. Pack flameproof recovery wadding (three or four squares) into the upper stage body tube from the top. Hold the parachute between two fingers at its center and pass the other hand down it to form a "spike" shape. Fold this spike in half as shown. Push the folded parachute down into the tube on top of the wadding. Pack the shroud lines and shock cord neatly down on top of the parachute, and slide the nose cone into place.

17. Your Astron Beta is designed to fly with Series III Engines only. Select either a 1/2A6-2S or a A5-4S engine for single stage flights. Wrap enough masking tape around the forward and rear ends of the engine to make a snug fit in the body tube.



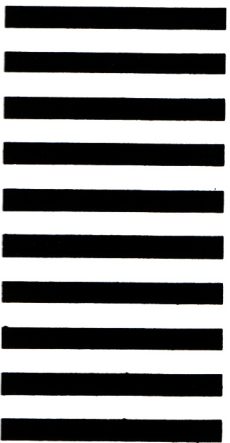


SP-45

ASTRON BETA PATTERN SHEET

USA USA

123123



12345678

USA

UNITED

STATES



USA

UNITED

STATES



ESTES INDUSTRIES, INC.

KD-45

**Estes K-45 Astron Beta
('S" motor version)**

Part Description	Dimensions / Size
Main Body Tube BT-20B	8.65"
Nose Cone BNC-20N	3.25 " (+ .5" shoulder)
Balsa Fin Stock BFS-20	1/16 x 3 x 9"
Launch Lug LL 2A	1.25"
Parachute PK-8A	8"
Booster Body Tube BT-20AE	1.5"