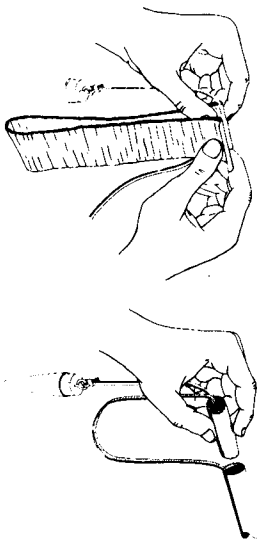




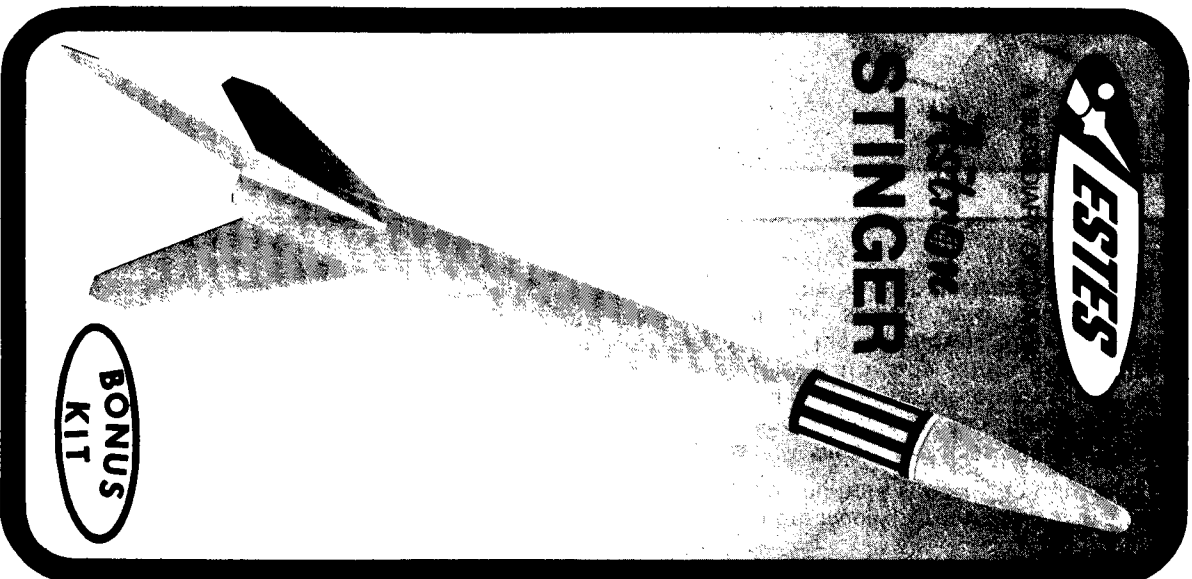
## COUNTDOWN CHECKLIST



- 13** Loosely pack three or four squares of flameproof wadding into the body tube from the top. Fold the streamer in half lengthwise from where it is attached to the shock cord. Roll the streamer compactly enough to enter the body tube easily. Push the rolled streamer down into the body tube on top of the wadding. Pack the shock cord neatly into the tube and slide the nose cone into place.
  - 12** Select an engine. Form an igniter and insert it into the engine nozzle as directed in the instructions which came with the engines.
  - 11** Wrap the rear of the engine with enough masking tape so that it makes a tight fit in the rocket tube. This fit must be tight to obtain proper streamer deployment. Insert the engine into the rocket so the rear of the engine projects 1/4" from the rear of the body tube.
  - 10** Remove the safety interlock key from the launch control panel. (If a simple spring switch is used, install the protector around the spring.) Carry the key or interlock on the person of the launch control officer.
  - 9** Place the rocket on 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 recovery area.
  - 6** Arm the launch panel.
- T minus **5-4-3-2-1 - LAUNCH!**

## GENERAL INFORMATION

Your Astron Stinger is designed for high performance. For best results we recommend making your first flights with 1/2A engines to minimize the chance of losing the model. Because of its high altitude performance, fly the Stinger on calm, clear days. Launch your model using a standard electrical launching system with a 1/8" diameter guide rod at least 36" long.



**ASTRON STINGER**  
**BONUS KIT K-53**  
**SPECIFICATIONS**  
 Length.....12.5 in.  
 Body Dia. ....0.736 in.  
 Weight .....0.75 oz.

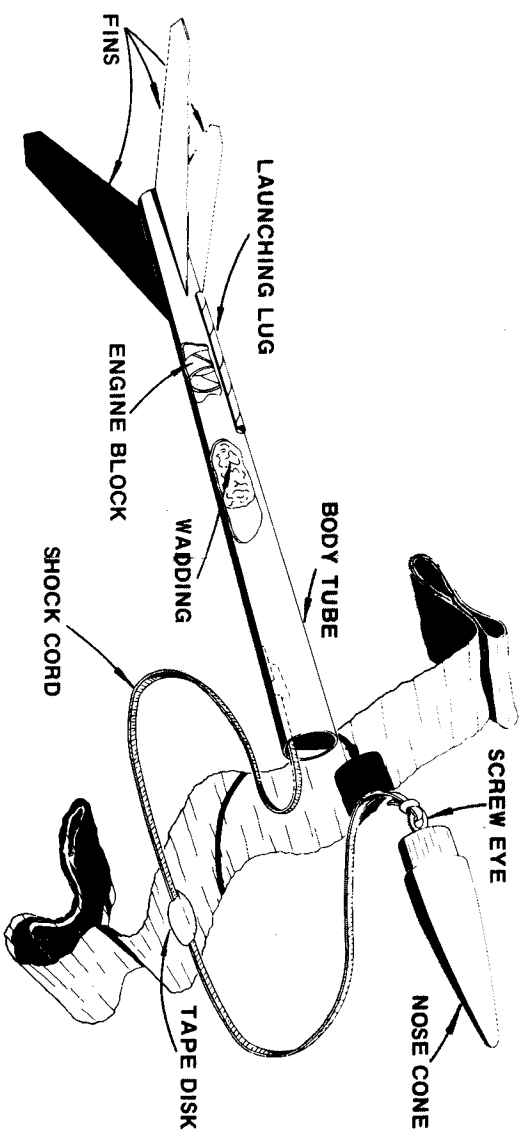
**RECOMMENDED ENGINES**  
 1/4A-2, A5-4, A8-3  
 B4-6, B6-6, C6-7

**STREAMER RECOVERY**

## Astron STINGER K-53

Designed by Bill Simon

## ASSEMBLY INSTRUCTIONS



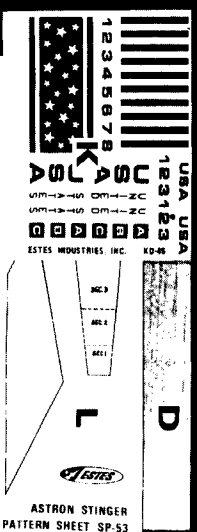
## PARTS PHOTO

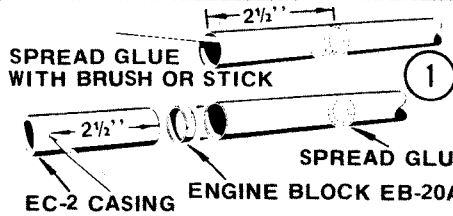
Check to be sure your kit is complete. Then read the entire instructions before beginning to assemble your rocket. Check off each step as you complete it.

## PARTS LIST

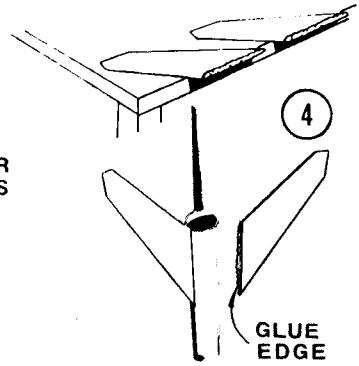
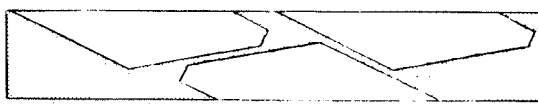
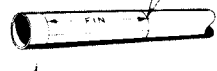
A	1	Body Tube	BT-20B
B	1	Engine Case	EC-2
C	1	Nose Cone	BNC-20AM
D	1	Balsa Fin Stock	BFS-20D
E	1	Engine Block	EB-20A
F	1	Screw Eye	SE-2
G	1	Launch Lug	LL-2B
H	1	Streamer	SM-2C
I	1	Tape Disc	TD-1A
J	1	Shock Cord	SC-1
K	1	Decal Sheet	KD-45
L	1	Pattern Sheet	SP-53

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





MARK AT SAME END AS ENGINE BLOCK



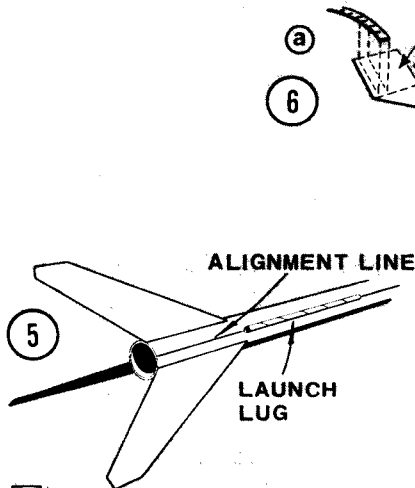
**1** Mark the dummy engine casing (part #EC-2) 2-1/2" from one end. Spread a 1/4" wide band of glue around the inside of the body tube (part #BT-20B) about 2-1/2" in from one end. Insert the engine block (part #EB-20A) into this end. Push the engine block into place with the dummy casing until the mark on the casing is even with the end of the body tube. Remove the dummy casing at once.

**2** Cut out the body tube mark-

ing guide and wrap it around the 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 so it reaches approximately 5" from the end of the tube.

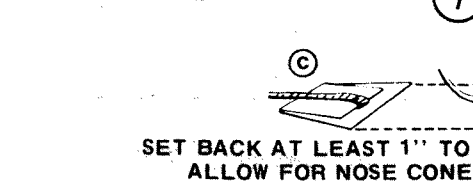
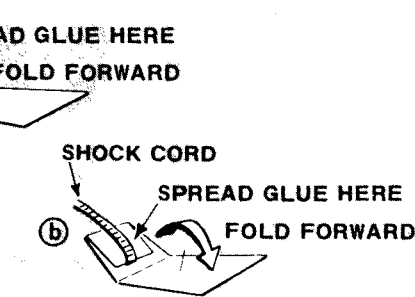
**3** Cut out the fin pattern and trace three outlines onto the balsa fin stock sheet exactly as shown. Cut out the fins carefully with a sharp knife and sand the edges as illustrated.

**4** Run a line of glue along the the root edge of each fin. As you apply the glue to each fin, set it on the edge of the table or other support, as shown. Let the glue on all three fins thicken for half a minute. Stick one of the fins onto the rear of the body tube so it is centered over one of the positioning lines. Make sure that it projects straight out from the body tube. Let the glue set for a moment and then attach the next two fins in the same manner. Support the rocket in a vertical position while the glue dries.



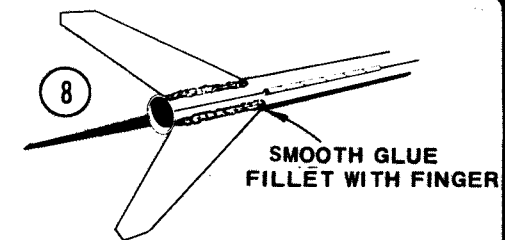
**5** Glue the launch lug to the body tube on the launch lug line so the rear of the lug is even with the front of the fins. Sight along the tube to check the alignment of the lug so it runs exactly parallel to the body tube.

**6** Cut out the shock cord mount from the pattern sheet and pre-fold it on the dotted line. Apply glue to section 1 and lay the shock cord end into the glue. Fold this first section

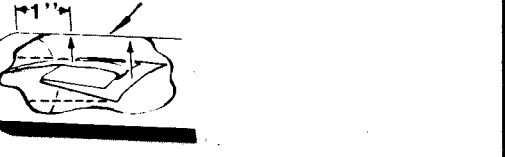


over. Spread glue over the back of the first section and the exposed part of section 2. Lay the shock cord as shown and fold over again. Clamp the unit together with your fingers until the glue sets.

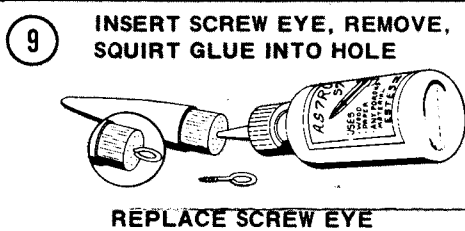
**7** Apply glue to the inside of the body tube at the front (the end opposite the fins) over an area about 1" to 1-3/4" from the end. The glued area should be the same size as the



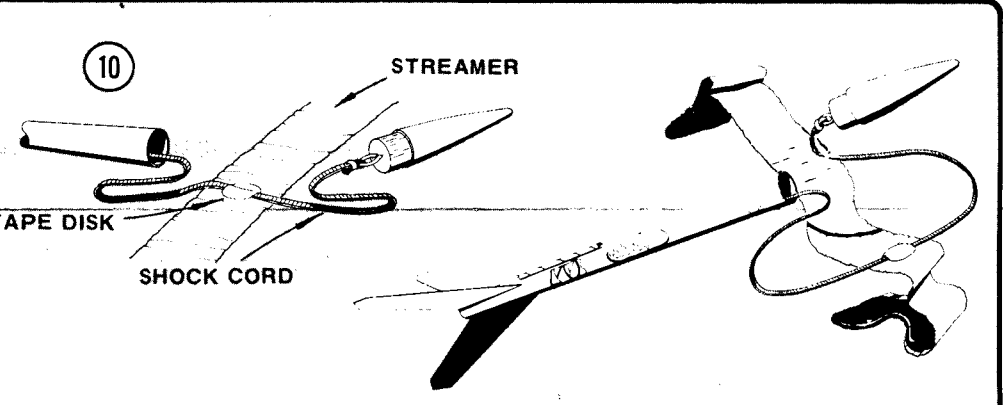
**8** When the first glue on the fins and launching lug has become hard, apply a line of glue (fillet) to each of the fin-body joints and to the launching lug as shown. These fillets should be smooth and bubble-free. Support the rocket horizontally while glue is drying.



**9** Insert the screw eye (part #SE-2) into the base of the nose cone (part #BNC-20AM). Remove the screw eye and squirt a small amount of glue into the hole. Replace the screw eye.



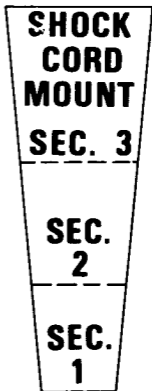
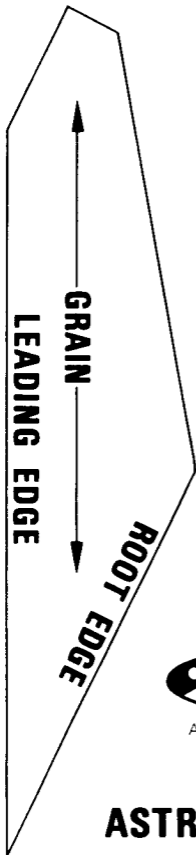
**10** After the glue on the rocket has dried enough so it can be safely handled, tie the free end of the shock cord to the screw eye. Cut a 50' length of streamer material (part #SM-2C). Then, lay the middle of the streamer across the middle of the tape disc (part #TD-1).



**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 sand lightly with extra fine sandpaper. Apply a second coat, let dry, sand again, apply a third coat and repeat the process until the pores in the balsa are filled and the surface looks and feels quite smooth. Give the rocket a clean base coat of gloss white paint or dope. When dry, sand lightly. Repeat if the finish appears

unsatisfactory. Then follow with the color or colors of your choice.

**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.



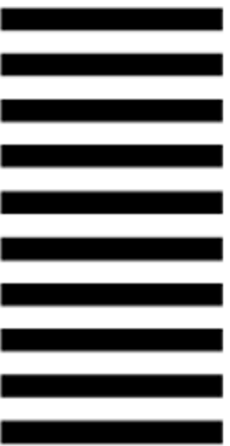
A SUBSIDIARY OF DAMON

# **ASTRON STINGER PATTERN SHEET SP-53**



**USA USA**

**123123**



**1 2 3 4 5 6 7 8**

**USA**

**UNITED**

**A B C**

**ESTES INDUSTRIES, INC.**

**KD-45**

**USA**

**UNITED**

**A B C**



**USA**

**UNITED STATES**

**A B C**

**ESTES INDUSTRIES, INC.**



A DIVISION OF DANN

# Astron STINGER



**BONUS  
KIT**

## STINGER

### BONUS KIT K-53

#### SPECIFICATIONS

Length.....12.5 in.

Body Dia. .... 0.728 in.

Weight ..... 6.75 oz.

#### RECOMMENDED ENGINES

1A8-2, A8-4, A8-5

B4-4, B6-4, C6-7

STREAMER RECOVERY