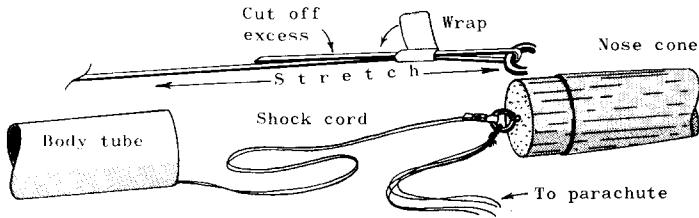


ARCAS'

- (20) Tie the free end of the shock cord to the screw eye in the nose cone. Stretch the rubber as shown and wrap the remaining tape strip tightly around the ends of the cord. Tie the parachute shroud lines to the screw eye. A drop of glue on the knot will give an extra-secure attachment.

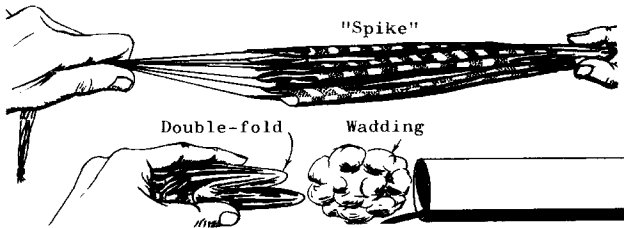


General Information

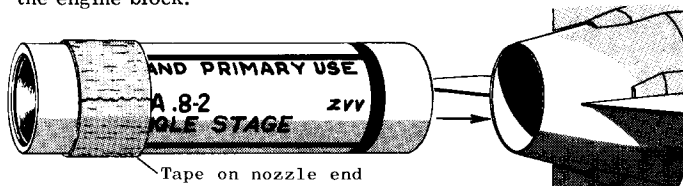
The engine types recommended for use in this model are the 1/2A, 8-2, A, 8-3 and B, 8-4. For the first test flights 1/2A, 8-2 engines should be used. Due to the model's slow takeoff characteristics, it is best to launch it on calm days. Launch your rocket using a standard electrical launching system with a 1/8" diameter guide rod at least 36" long.

Countdown Checklist

- 13- Pack flameproof recovery wadding into the body tube from the top. The wadding should fill the tube for a distance of about 1-1/2 to 2 inches and fit along the sides of the tube (5 or 6 squares of RP-1A are recommended). 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 three sections as shown in the illustration. Push the folded parachute down into the tube on top of the wadding and pack the shroud lines and shock cord in on top of the parachute. Slide the nose cone into place.



- 12- Install an electrical igniter in the engine as directed in the instructions which came with the engine.
- 11- Wrap the engine with masking tape until it makes a tight fit in the engine holder tube. This fit must be tight so the engine will not blow out when the ejection charge is activated. Insert the engine into the tube until its forward end rests against the engine block.



- 10- Remove the safety interlock or key from the launch control panel. (If a simple spring switch is used, install the protector on the switch to separate the contacts.) 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 the 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!

Scale Model ARCAS

ROCKET KIT

K-26

PARACHUTE
RECOVERY

SPECIFICATIONS

Length 22.82"
Fin Span 3.82"
Body Dia. 1.325"
Weight 1.44 Oz.

Only
\$2.00

• SCALE MODEL
OF THE
ATLANTIC RESEARCH
CORPORATION
SOUNDING ROCKET.

KIT MANUFACTURED BY



Industries, Inc.

Devoted to Safety and Education in Rocketry

Box 227, Penrose, Colo. 81240

Assembly Instructions

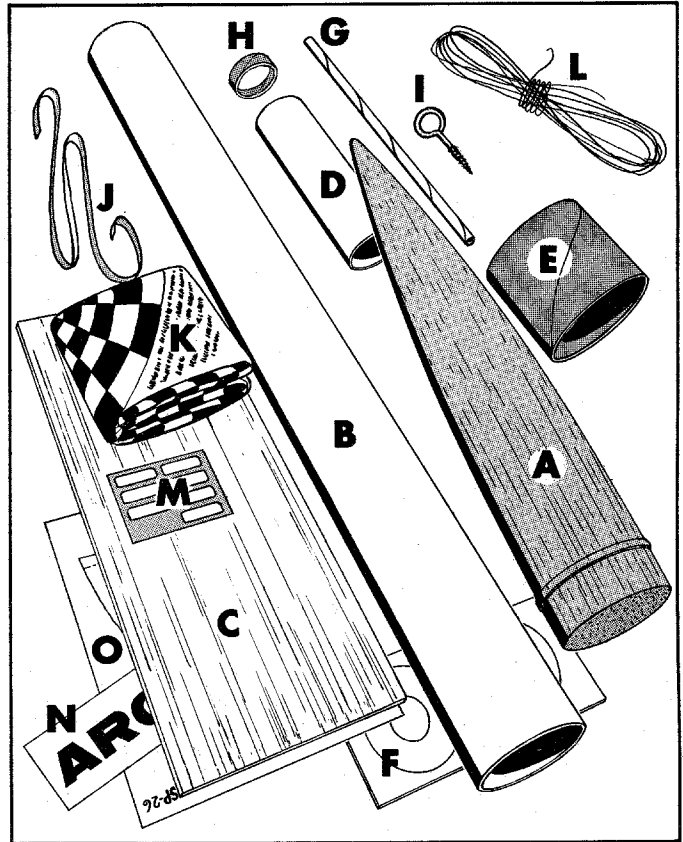
PARTS LIST

Your scale model ARCAS® rocket kit consists of the following parts as illustrated in the drawing at right:

- A) 1 Nose Cone --Part #BNC-55AC
- B) 1 Body Tube--Part #BT-55V
- C) 1 Balsa Fin Stock--Part #BFS-30
- D) 1 Engine Holder Tube--Part #BT-20J
- E) 1 Tube Coupler--Part #JT-55C
- F) 2 Adapter Rings--Part #RA-2055
- G) 1 Launching Lug--Part #LL-2A
- H) 1 Engine Block--Part #EB-20A
- I) 1 Screw Eye--Part #SE-1
- J) 1 Shock Cord--Part #SC-1
- K) 1 Parachute--Part #PK-18A
- L) 108" Shroud Line Cord--Part #SLT-1C
- M) 7 Tape Strips--Part #TD-2G
- N) 1 Decal--Part #KD-26
- O) 1 Pattern Sheet--Part #SP-26

In addition to the materials included in your kit you will also need the following tools and materials:

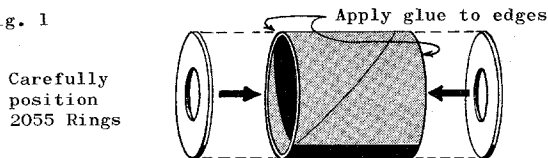
- 1) Modeling knife or single edge razor blade
- 2) Scissors
- 3) Extra-strong white glue
- 4) Ball point pen or pencil
- 5) Fine and extra fine grit sandpaper
- 6) White paint or dope



Read the entire assembly instructions carefully before beginning work on your rocket. Then start construction, following each step in order, checking off each step as it is completed.

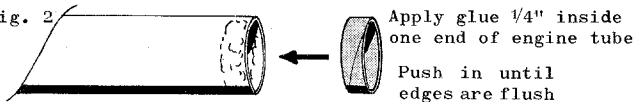
- (1) Glue one adapter ring to each end of the tube coupler as shown in fig. 1. The rings should be centered perfectly on the coupler. Apply enough glue to make a permanent, strong joint, but do not leave any excess glue on the outside of the unit. Set the assembly aside to dry thoroughly.

Fig. 1



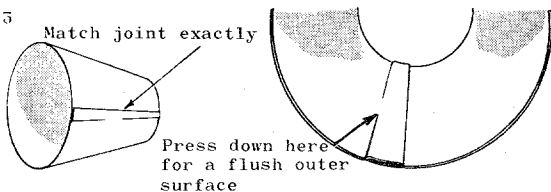
- (2) Glue the engine block in one end of the 2-3/4" long engine holder tube. To do this, apply glue to the last 1/4" of the inside of the tube, then slide the engine block into the tube until the end of the block is even with the end of the tube (see fig. 2).

Fig. 2



- (3) Cut out the shroud along its edge lines. This must be done carefully if it is to fit correctly. Form the shroud into a cone with the markings on the outside. Apply glue to the flap and press it into position. Hold it in place until the glue sets, then set it aside to finish drying.

Fig. 3



- (4) Cut out the fin pattern. Lay the pattern on the balsa fin stock with the grain of the wood and the grain shown on the pattern matched perfectly. Trace out four copies of the fin. Cut out the fins carefully. Be especially careful when cutting the root edges and the rear corners of the fins. Trim the root edges as needed to match the pattern. Apply a line of white glue to the root edges of the fins and support them vertically while the glue dries. This strengthens the fin for following operations.

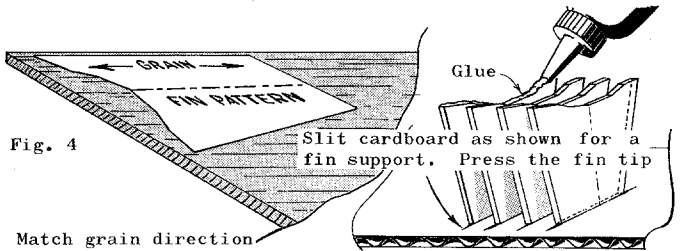
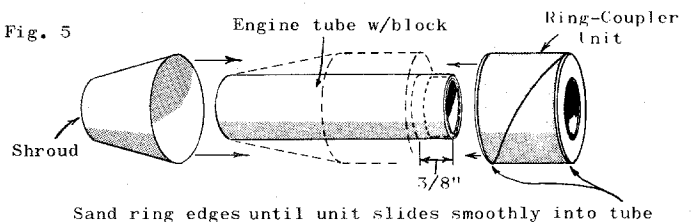


Fig. 4

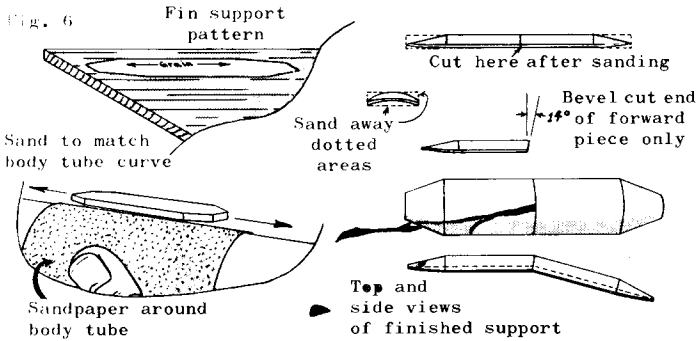
Match grain direction as shown on pattern into slit and apply glue to root edges as instructed.

- (5) Sand the rings on the ring-coupler unit so they are even with the coupler and the unit slides smoothly inside the BT-55V body tube. Push the engine holder tube, engine block end first, through the rings on the ring-coupler unit. Position the shroud on the other end of the engine holder tube and push the ring-coupler unit rearward until it fits into the shroud as shown. Remove the shroud and apply a glue fillet to the ring-tube joints. Set the unit on its end while the glue dries.

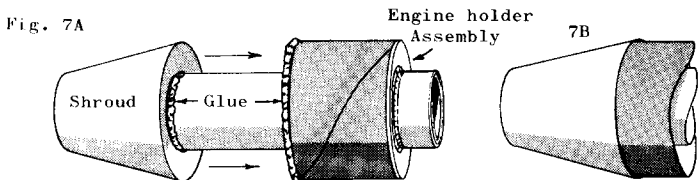
Fig. 5



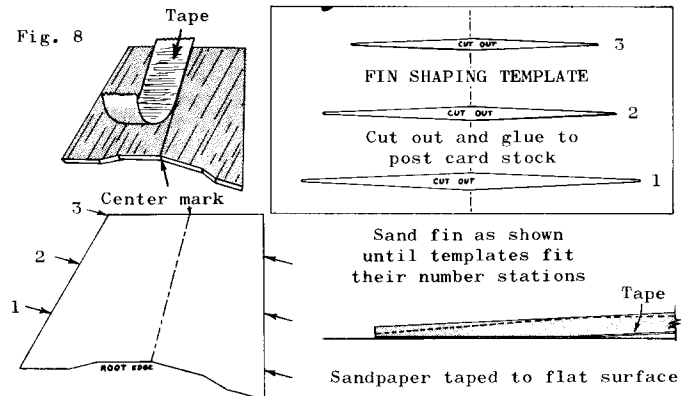
□ (6) Cut out the fin support pattern. Position it on the remaining balsa stock with the grain direction aligned as shown and trace around it. Repeat for three more supports. Cut out the supports and sand them to the shape shown in fig. 6B.



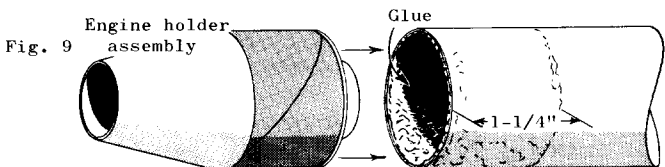
□ (7) Apply glue to the rear ring and the end of the tube on the engine mount unit (fig. 7A). Slide the shroud into place, bringing it all the way forward onto the rear ring as illustrated. Set the unit aside to dry.



□ (8) The accuracy of your scale model depends on the amount of time and effort put into it. For exact scale, the fins should be sanded to the shape shown in fig. 8. To do this, cut the fin pattern apart on its center line. Lay the front half of the pattern on a fin, match the front edges and mark the centerline. Repeat on both sides of all four fins. Apply a strip of masking tape to the fin so its edge matches the centerline as shown and begin sanding. When one side has been sanded, remove the tape and apply another piece with the opposite edge on the line. Follow this procedure until all four sections of each of the fins have been sanded.

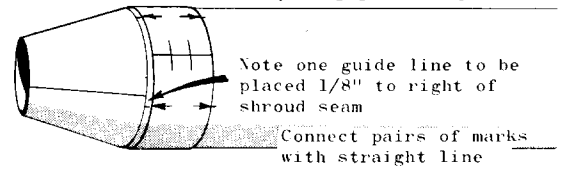


□ (9) Smear glue around the inside of the body tube to cover an area 1-1/4" into the tube at one end. Slide the engine mount unit into this end of the body so the shroud is against the end of the tube. Do not pause, or the glue may set with the mount in the wrong position.

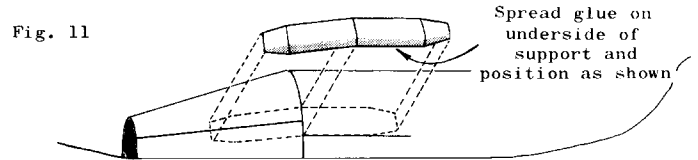


□ (10) Cut out the fin spacing guide. Wrap it around the end of the body tube with one mark 1/8" to the right of the seam in the shroud as shown. Mark the rocket body at all 8 points, front and rear. Connect the corresponding pairs of marks with a straight line.

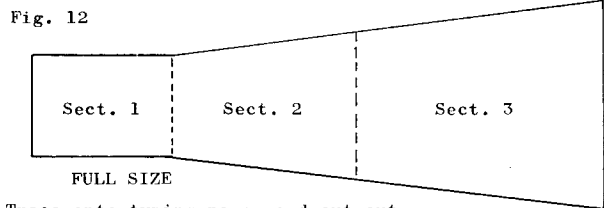
Fig. 10 Fin spacing guide in place



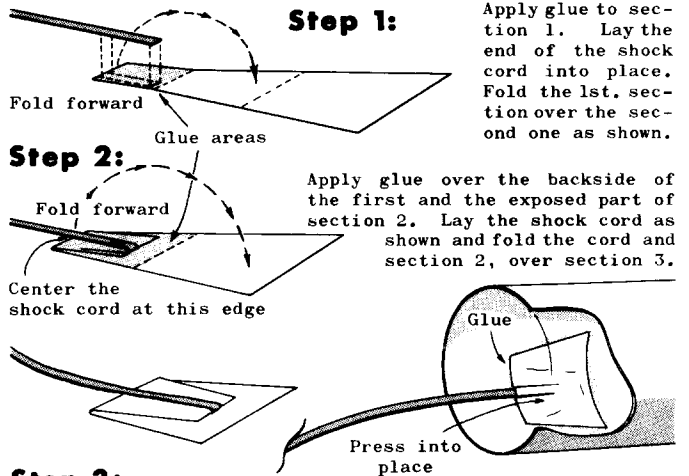
□ (11) Apply glue to the underside of one fin support. Press it in place on the rear of the rocket over the shroud seam with the edge of the support even with the line on the body. The bend in the support should be even with the shroud-body joint. Attach the other 3 supports in the same way. Make sure all supports are on the same sides of the guide lines.



□ (12) Cut out the shock cord mount. Prefold it on the dotted lines, then flatten it out. Smear glue over section 1. Lay the end of the shock cord in place and fold section 1 over. Apply glue to the back of section 2 and fold again. Clamp the unit together with your fingers while the glue sets. Apply glue to the inside of the body tube over an area approximately 1" from the front end. The glue should cover a shape approximately the same as the shock cord mount. Press the mount onto the glue and hold it until the glue sets.



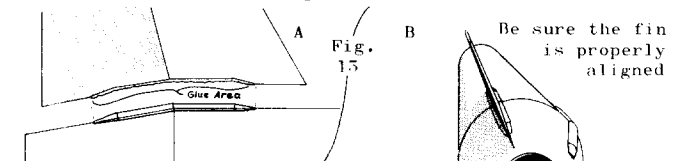
Trace onto typing paper and cut out



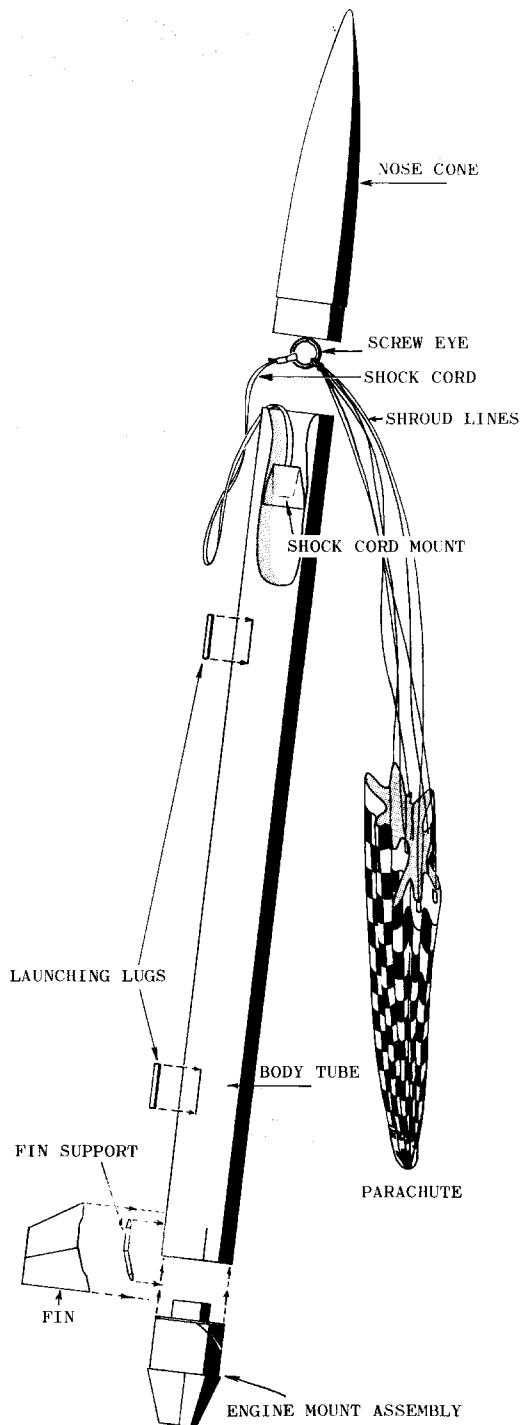
Step 3:

Apply glue to the inside of the body tube where the shock cord mount 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.

□ (13) Apply glue to the root edge of a fin over the area shown in fig. 13A. Attach the fin to one of the supports so it is centered and runs straight fore and aft. Sight along the fin as shown and align it straight with the center of the rocket. Repeat with the other three fins, double check alignment and set the rocket on its nose while the glue sets.

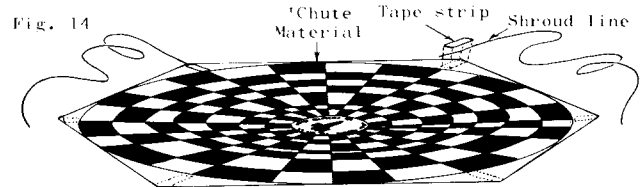


PARTS PICTORIAL

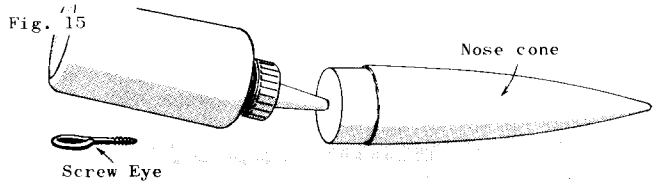


NOTE: Only one fin and fin support is shown above for clarity.

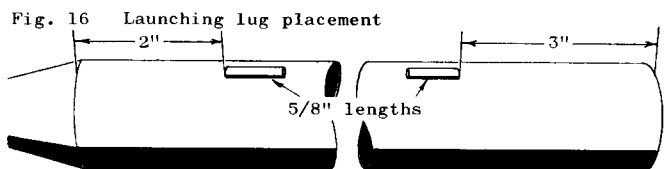
- (14) Cut out the parachute on its edge lines as indicated on the plastic. Cut six 18" lengths of shroud line cord and attach one shroud line to each point of the parachute with a tape strip as shown in fig. 14. Tie the free ends of the lines together.



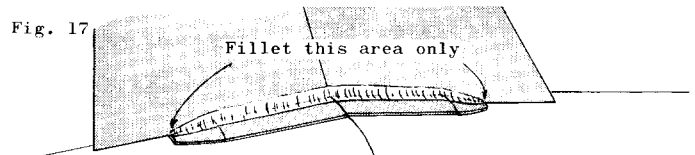
- (15) Insert the screw eye into the base of the nose cone. Remove the screw eye, press the nozzle of the glue bottle to the hole and squirt glue into the hole. Replace the screw eye and wipe away any excess glue.



- (16) Cut the launching lug in half to make two pieces 5/8" long. Glue one lug to the body between two fins 2" from the rear of the tube. Sight through the lug and align it so it is perfectly parallel with the body tube. Attach the other lug to the body in line with the first, 3" from the front of the tube. Sight through it and align it so it points directly at the first lug.



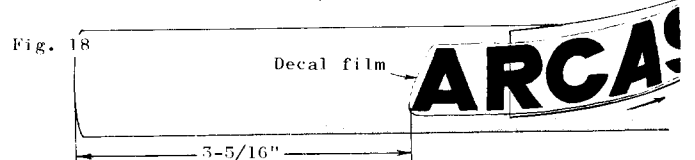
- (17) Apply a glue fillet to each of the fin-fin support joints as shown. The fillets should be smooth and bubble-free. Support the rocket horizontally while the glue dries.



- (18) Before finishing let all the glue on the outside of the rocket dry so 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, sand and apply still another coat until all the pores in the balsa are filled and the surfaces look and feel smooth. Give the entire rocket a coat of glossy white enamel paint or butyrate dope. Let it dry and apply a second coat. Continue until the model has a pure white finish.

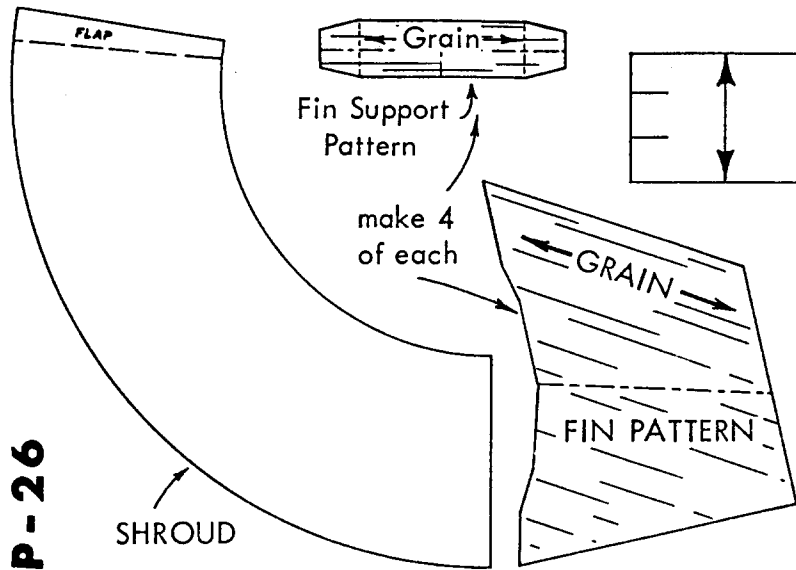
- (19) Read the application instructions on the back of the decal sheet. Soak the decal in lukewarm water for 15 to 20 seconds or until it slides easily on the backing sheet. Apply it to the rocket body in the position shown. Blot away all excess moisture, making sure the edges of the decal remain flat. When the decal has dried completely, several coats of clear acrylic spray may be applied over it to protect it.

The decal goes on the body tube on the side away from the launching lugs with the "A" starting 3-5/16" from the front as shown. Place the decal parallel to the tube centerline.



As the decal becomes workable, slide 1/2" off the left end of the backing sheet. Position and hold the decal in place as you gently slide the backing sheet from under it.

SP-26



Cut all the patterns and shroud around the outer edge lines. Cut carefully.

When using the fin spacing guide, wrap the guide around the rear of the body tube, matching the lines at the ends of the guide. Mark the tube at all eight arrow tips.

ARRCAS[®]