

Estes Industries Rocket Plan No. 52

JAGUAR JGD-2

3-ENGINE CLUSTER
'CHUTE RECOVERED!

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1. Cut three 8.55" lengths of BT-20, make a slit 2-1/2" from the end of each tube and glue an EH-2 in each tube. Wrap a 2-1/2" strip of TH-1 around the tube/EH-2 assembly 1-1/4" from the end of each tube.
2. Lay two of the tubes side by side on a flat surface and join with a heavy layer of glue. When the glue has set, glue the third tube into the "V" formed by the first two tubes.
3. Cut out the transition base plate and the transition tubes using the template. Glue the transition plate to the forward end of the three-tube engine assembly. Glue the flat edges of the transition tubes together. Let this assembly dry, then run a glue fillet on the inside of each joint.
4. Glue the tube assembly to the transition plate, center the assembly very carefully and let dry. Run a glue fillet on the inside of the tube-plate joint.
5. Put glue on the end of the long tabs of the second stage body tube and insert into the hole in the top of the transition, making sure that the tabs seat between the holes in the plate. Run a line of glue around the top of the transition and let dry.
6. Cut out the transition shroud and glue together. When the shroud is dry, slide it into place over the transition. Lightly mark the joint made by the shroud and transition - slide the shroud back and run a thin line of glue around the joint line and slide the shroud into place. Run a thin fillet of glue around the joint at the top end of the shroud and smooth out with a finger. Set the assembly aside to dry thoroughly.
7. Cut a 3.63" length of BT-5 and glue to the TA-520. Make a nose cone (as shown in the upper right side of the plans) and glue into the forward end of the BT-5.
8. Cut out the engine shroud and glue together. When it has dried, slide the shroud into place on the rear of the rocket. Fit the rear edge of the shroud flush with the rear edges of the engine tubes.
9. Trace the fin root and tip formers onto heavy cardboard for a template or trace directly onto a sheet of BFS-40. Repeat this step with the fin brace pattern, but if traced directly to wood, make the brace pieces of BFS-20. Cut three pieces of BFS-40 2" x .15" for the trailing edges of the fins. Assemble the fins and glue into place on the lower shroud.

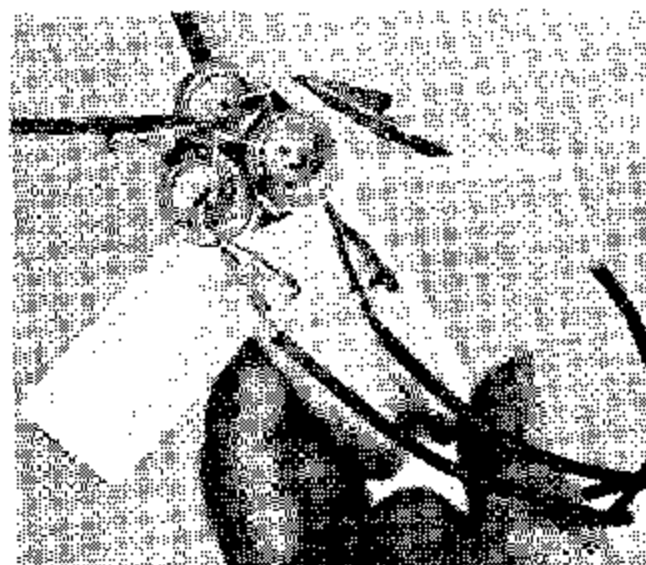
10. Assemble the parachute following the instructions in the kit. Tie the screw eye in the bottom of the TA-520 in the usual way. Assemble cord mount and install the shock cord at least 5/8" deep into the top of the rocket. Tie the free end of the shock cord and the free ends of the lines to the screw eye and your Jaguar's recovery system is complete.

11. Glue the launching lugs into place at the locations shown on the

GENERAL INFORMATION

If you have built and flown the Astron Ranger or the Astron Cobra you have no problem in preparing the Jaguar for flight. If this is your first rocket bird, it will be to your benefit to prepare the "whip" shown in the . . . An alternative method is shown in the Idea Box page of M. R. N. Vol. . . .

Recommended engines; 1 1/2 A. 8-2, A. 8-3 B 8-4, B 8-6.

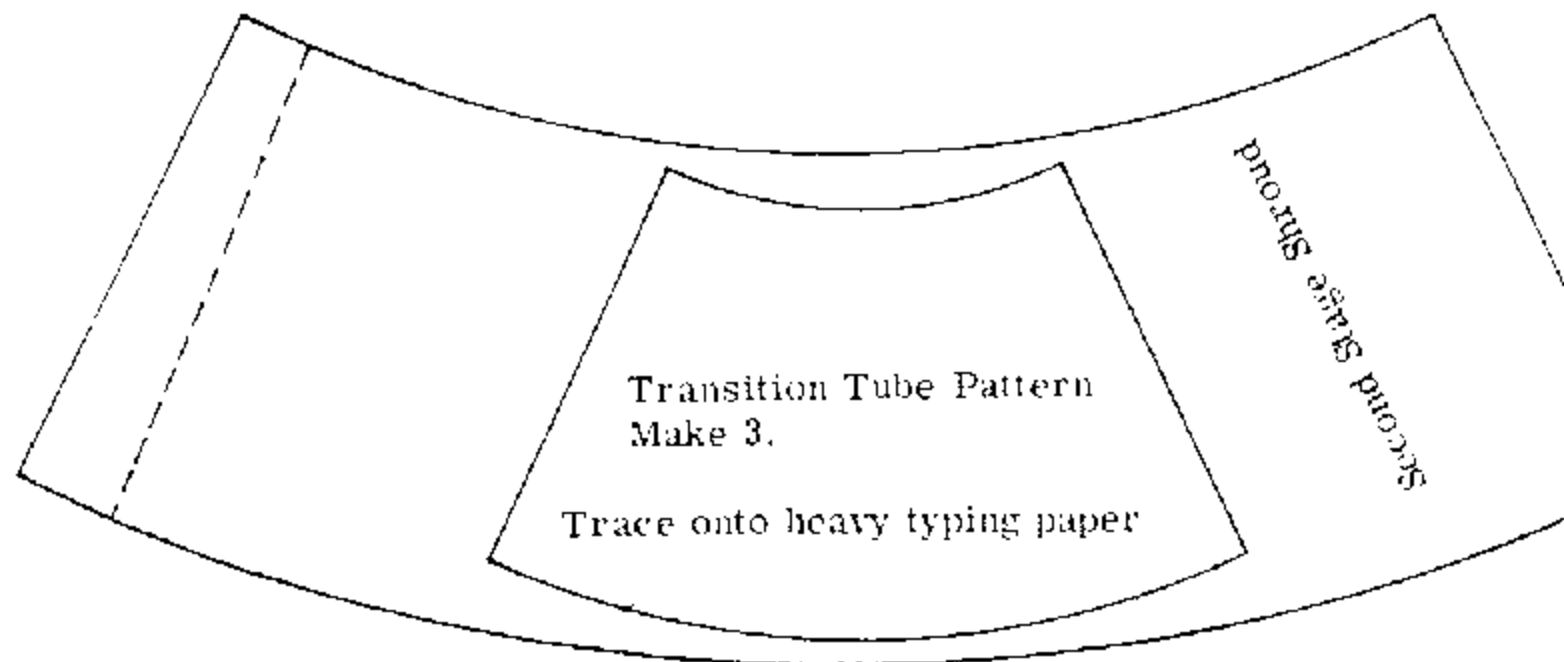
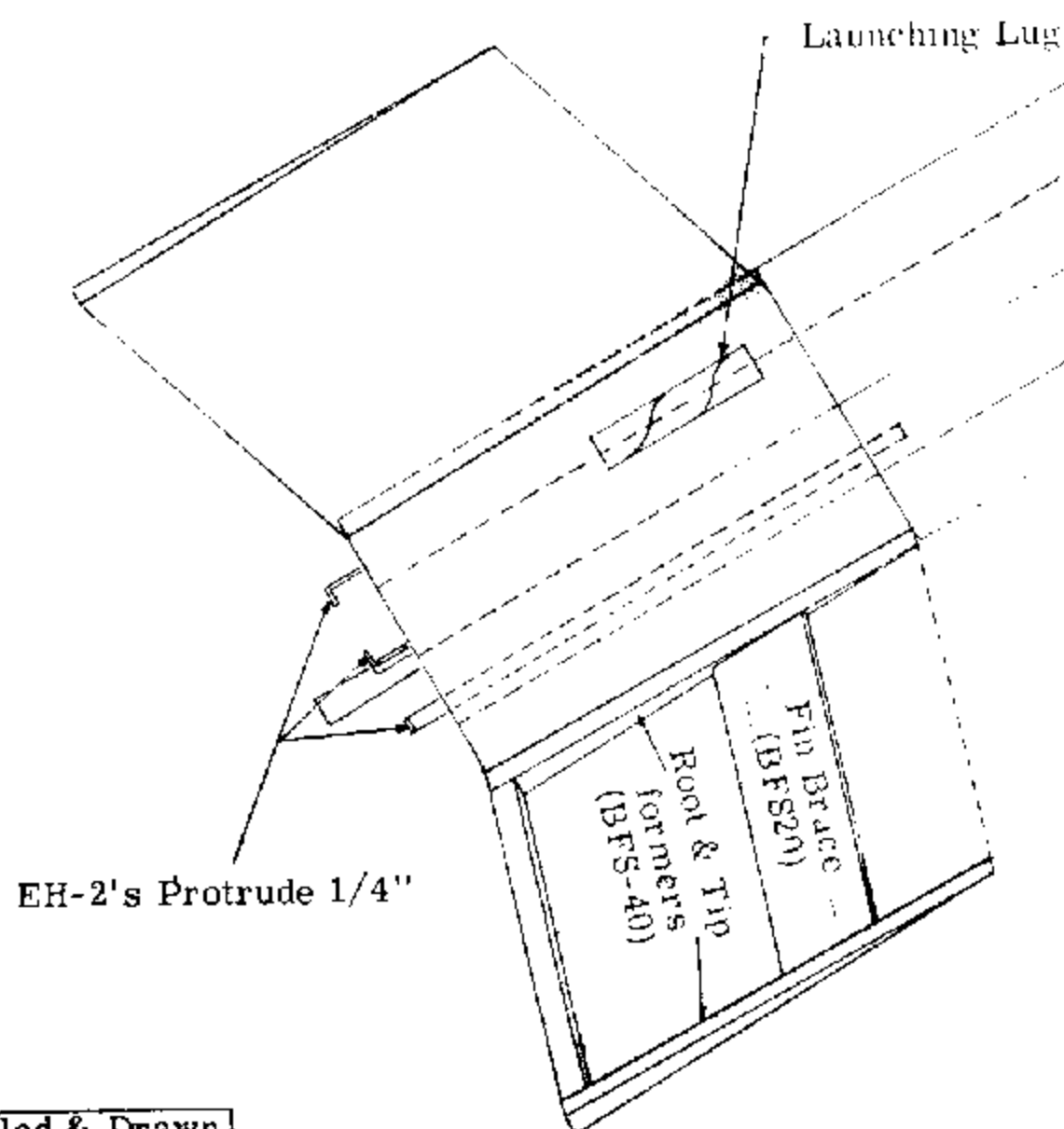


To Outside Wires

To Center

Launching Lug

Transition Tube Assy.



Scaled & Drawn
By: *[Signature]*

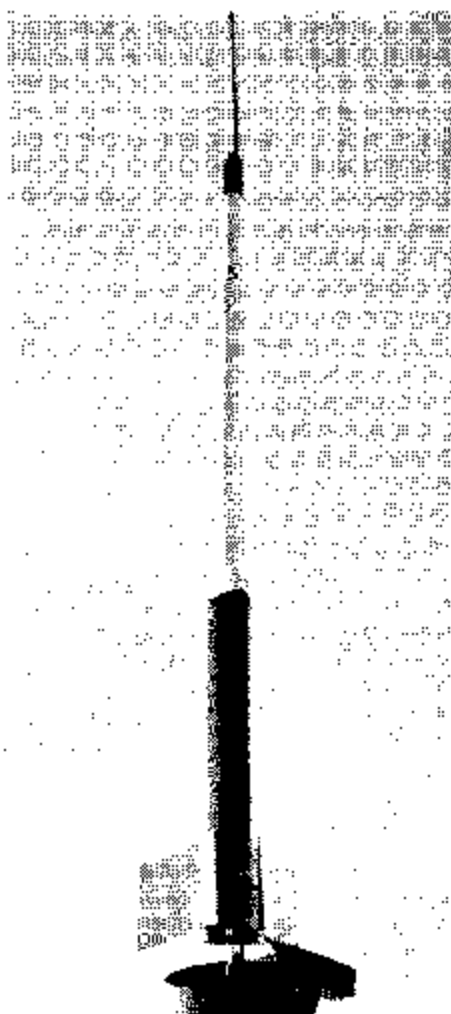
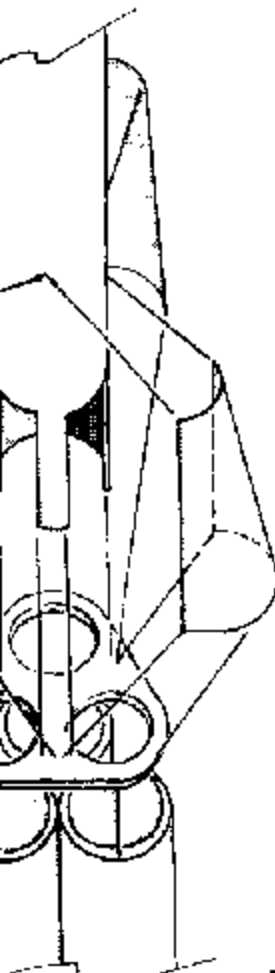
the kit. Install
semble a shock
top end of the
of the shroud
complete.

on the plans.

Cobra you will
our first clus-
in the picture.
Vol. 6, #1.

B 8-6.

Center Wires

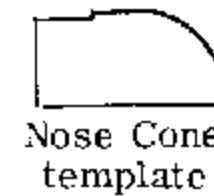


T-MINUS 5...
and COUNTING!

Parts List

- | | | |
|---|------------------|--------|
| 1 | Balancing Weight | NCW-3 |
| 3 | Engine Holders | FH-2 |
| 1 | Sheet Fin Stock | BFS-40 |
| 1 | Launching Lug | LL-2B |
| 1 | Tube Adapter | TA-520 |
| 4 | Body Tubes | BT-20 |
| 1 | Body Tube | BT-5 |
| 1 | Screw Eye | SE-1 |
| 1 | Shock Cord | SC-1 |
| 1 | Parachute | PK-12 |
| 3 | Tape Hinges | TH-1 |

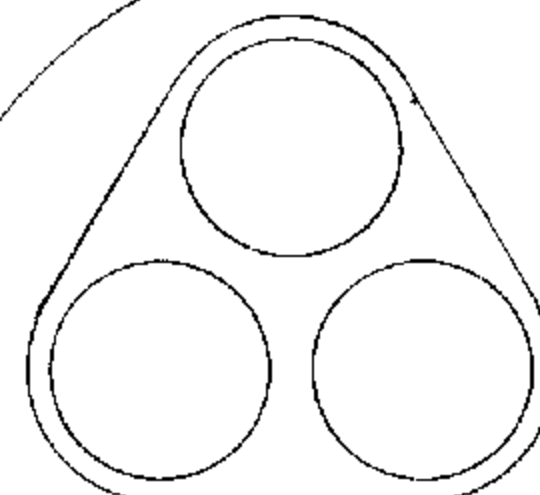
BNC-5V Can be turned down
to make nose cone.



Nose Cone
template



Transition Shroud
Trace onto heavy
typing paper



Transition Plate
(Card stock)

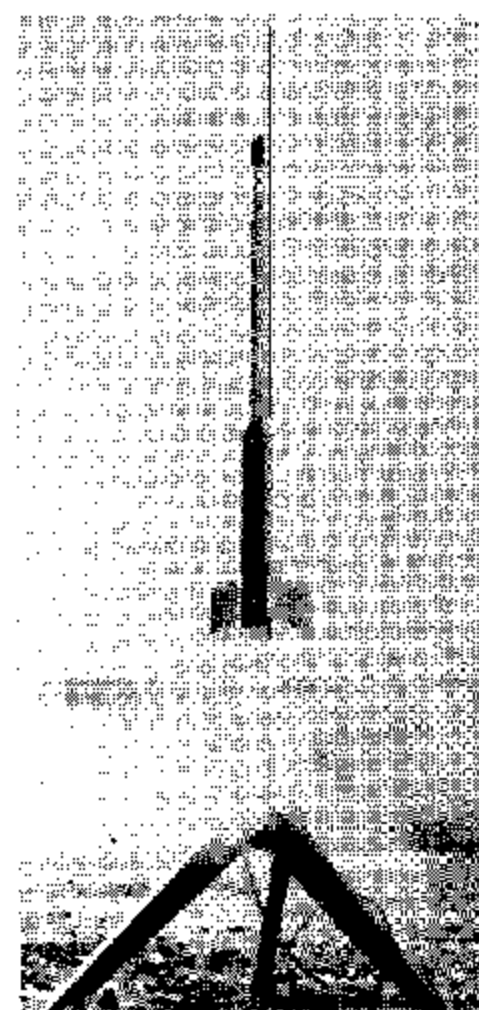
ABOUT THIS BIRD

The Jaguar is an air launched rocket designed to gather data on the natural radiation belts surrounding the earth.

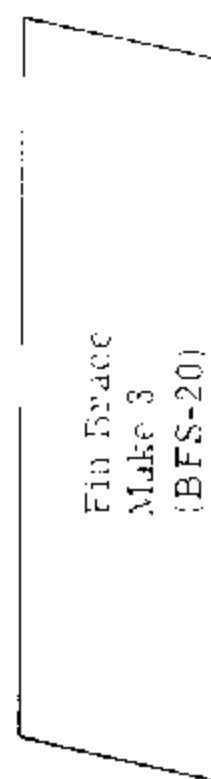
A three stage sounding rocket, the Jaguar consists of a cluster of three recruit motors in the first stage a single recruit motor as a second stage, and a fifth scale Sergeant as a third stage.

A U.S. Air Force project, the Jaguar is launched from B-47 aircraft on a pull-up into a near vertical position.

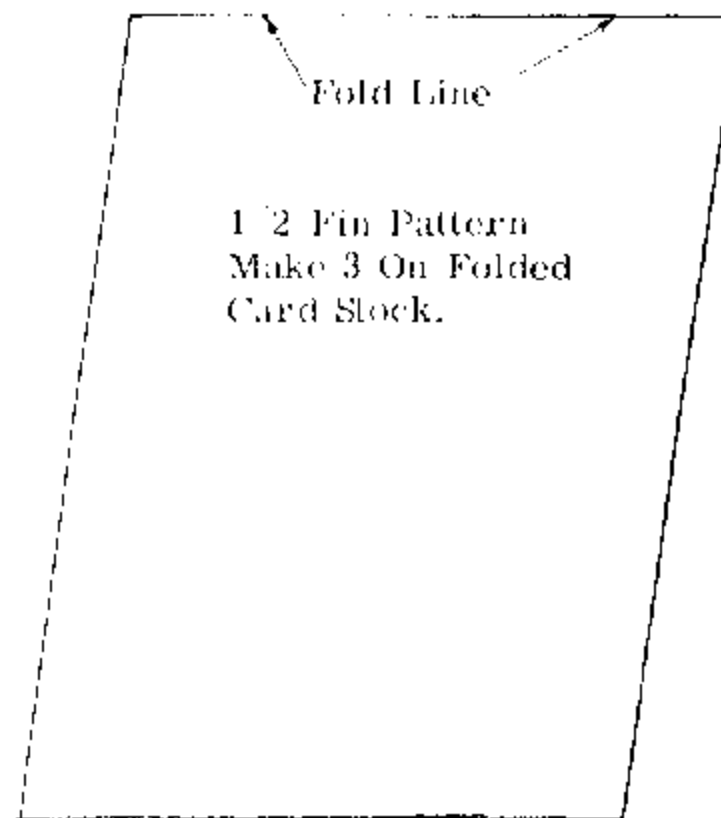
- Length, ft: 29
- Diameter, in: 15
- Weight, lb:
 - Loaded: 1,700
 - Payload: 35
- Altitude, miles: 500-600
- Reference;
 - International Missile and Spacecraft Guide.



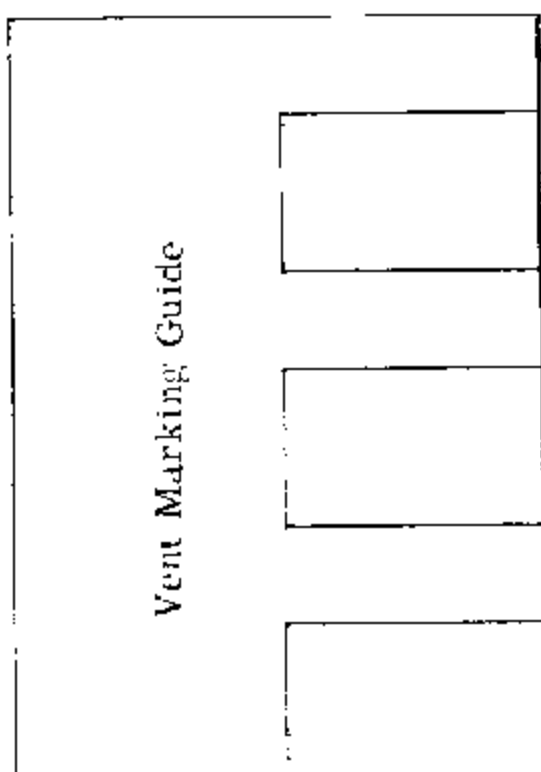
T + .0042 Sec.
and LIFTING!



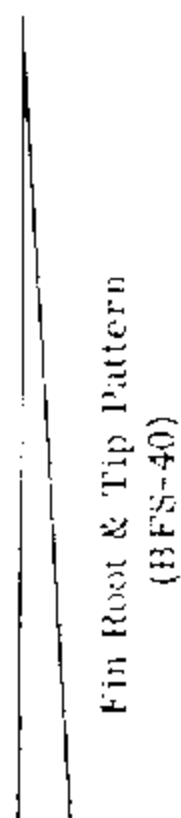
Fin Brace
Make 3
(BFS-20)



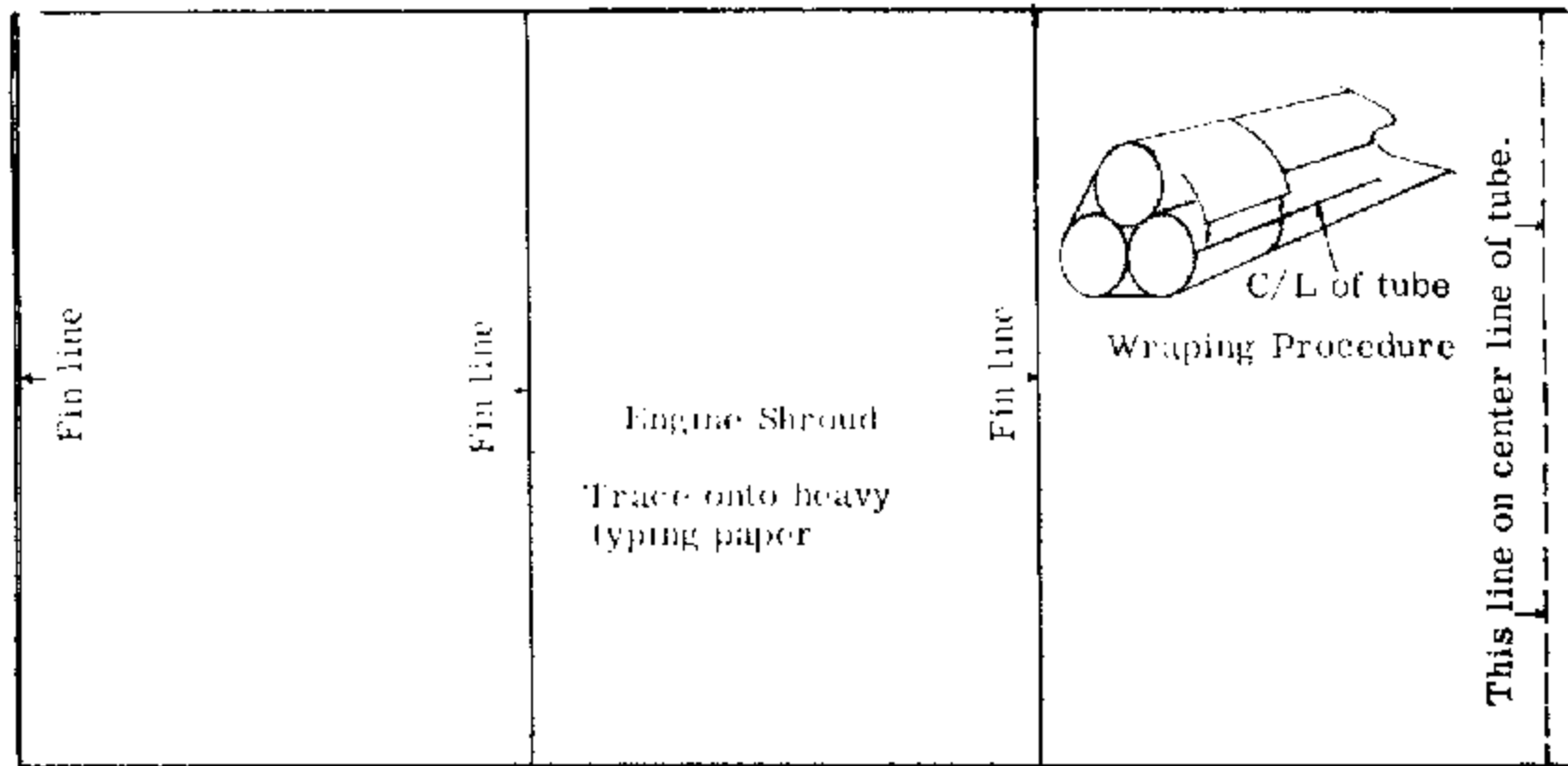
1/2 Fin Pattern
Make 3 On Folded
Card Stock.



Vent Marking Guide



Fin Root & Tip Pattern
(BFS-40)

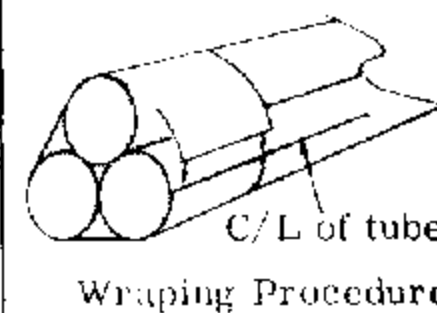


Fin line

Fin line

Engine Shroud
Trace onto heavy
typing paper

Fin line



C/L of tube
Wrapping Procedure

This line on center line of tube.