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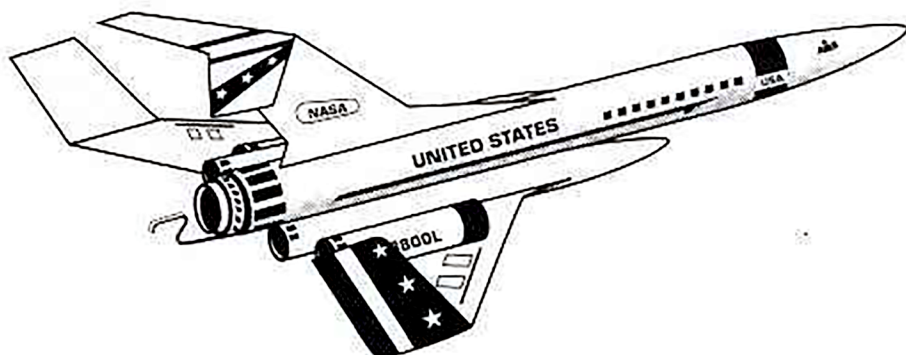
SST

THE ROCKET PLAN

Plan Number
77A

STRATOS

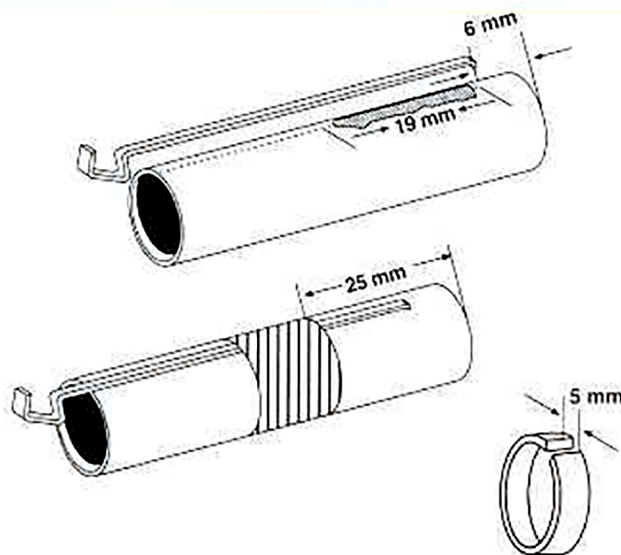
Passenger Shuttle Rocket



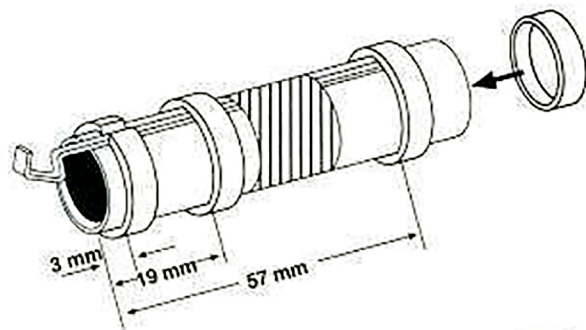
This plan appeared in the May 1973 issue of the Model Rocket News (Vol 13, No. 1). The Stratos was designed by Tim Barber of Deer Park, Washington. The plan has been slightly modified to include updated parts and revised hints. Have fun!

PART DESCRIPTION	QUANTITY	PART NUMBER
Engine tube - BT-20J	1	30326-1
Body tube - BT-50	1	30352
Body tube - BT-5	1	30302
Nose cone - BNC-5W	2	70218
Nose cone - BNC-50Y	1	70266
BFS-30	3	32108
Centering rings - AR-2050	3	3100
Engine block	1	3131
Launch lug	1	2321
18" Parachute kit	1	2267
Shockcord - SC-1	1	2276
Engine holder	1	3140
Screw eye	1	2279
Shroud line 51 cm (20")		2340
Masking tape 13 mm (1/2") x 90 mm (3-1/2")		

1. Cut a 3 mm (1/8") slit in the BT-20J, 6 mm (1/4") from one end. Apply a drop of glue to the slit and also straight along the tube for approximately 19 mm (3/4").
2. Push one end of the metal engine hook into the slit. Press the hook into the glue and align straight along the tube. Wipe away any excess glue.
3. Tightly wrap the 90 mm (3-1/2") piece of 13 mm (1/2") wide masking tape around the 25 mm (1") from the end with the slit.
4. Using a sharp hobby knife, cut a 5 mm (3/16") section from one of the AR-2050. Smear glue around the cut ends. This will keep the ends from unravelling.

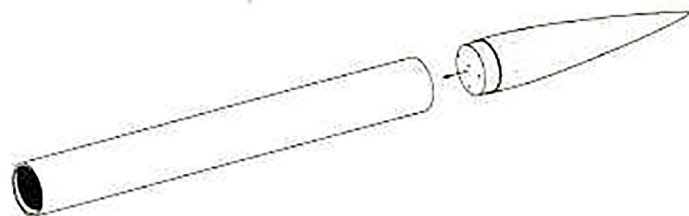


- 5. Glue the EB-20A engine block into the end of the BT-20J so that it touches the EH-2 engine holder. Mark the tube 3 mm (1/8"), 19 mm (3/4"), and 57 mm (2-1/4") from the end as shown.



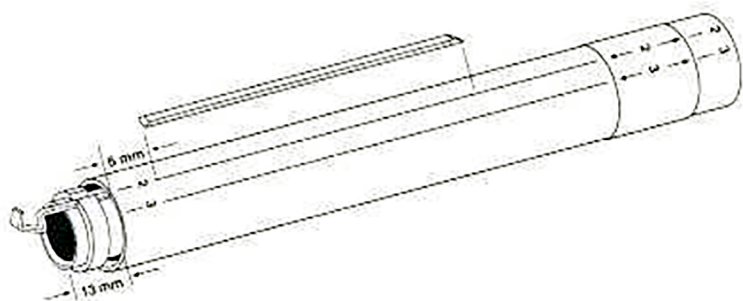
- 6. Glue the two uncut AR-2050's on the forward edges of the 19 mm (3/4") and 57 mm (2-1/4") marks. Glue the cut AR2050 on the forward edge of the 3 mm (1/8") mark.

- 7. Cut two 140 mm (5-1/2") lengths from the BT-5. Glue a BNC-5W nose cone into one end of each of the BT-5's. This would be a good time to sand seal the nose cones.



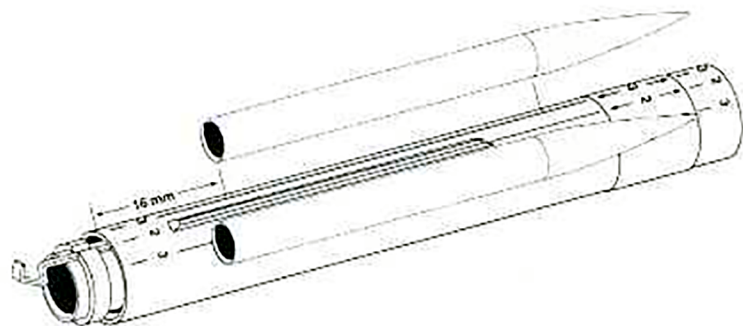
- 8. Cut the BT-50 to 267 mm (10-1/2"). Wrap the tube marking guide around it and mark at the arrows. Connect the tube marks with straight lines.

- 9. Repeat the procedure on the pods, using the BT-5 marking guide. Number all lines.



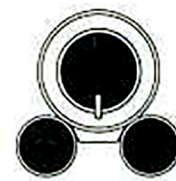
- 10. Trace pod brace pattern #2 onto balsa, cut out, and shape as shown. Slightly bevel the sides. See rear view figure below. Glue brace to BT-50 straight along line #2, 6 mm (1/4") from end of the tube.

- 11. Glue the engine mount assembly into the end of the BT-50. Leave 13 mm (1/2") of the end of the engine mount extending from the end of the BT-50. The EH-2 engine holder must be in line with the brace and line #2. The "cut" AR-2050 ring will remain exposed.



- 12. Glue the pods to the BT-50, one along each side of the brace 16 mm (5/8") from the end of the tube, and with the #2 lines on the pods lined up with the #3 lines on the body. Set aside to dry.

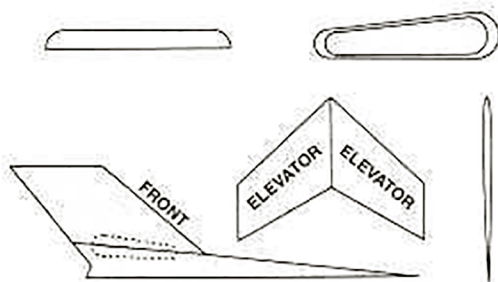
- 13. Trace wings, tail fins, elevators, antennas, radar pod halves, and rudder sections 1 & 2 onto balsa and cut out. Place a piece of wax paper on a flat surface. Glue the two rudder sections and the two elevator sections together. Lay flat on the wax paper to dry.



REAR VIEW

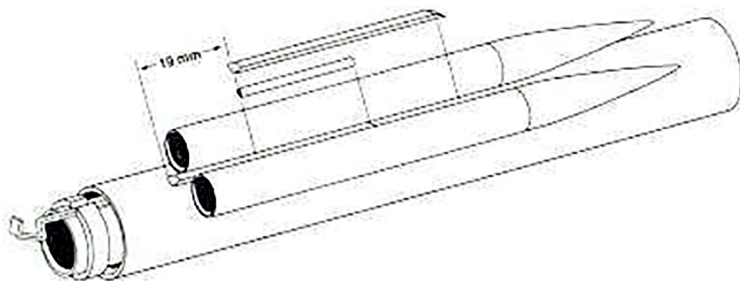
TIP:

To make it easier to glue the jet pod, radar pod and antenna in the proper locations, match the template of the wing to the balsa counterpart cutout in step 13. With a pin, gently punch a series of small shallow holes along the dotted lines. This will "transfer" the correct position of the jet pod and antenna to the balsa wing. Follow this same procedure for the radar pod on the rudder. Remember to do this for both wings and both sides of the rudder.



- 14. When dry, sand all fins to shape shown. Sand radar pod to shape shown.

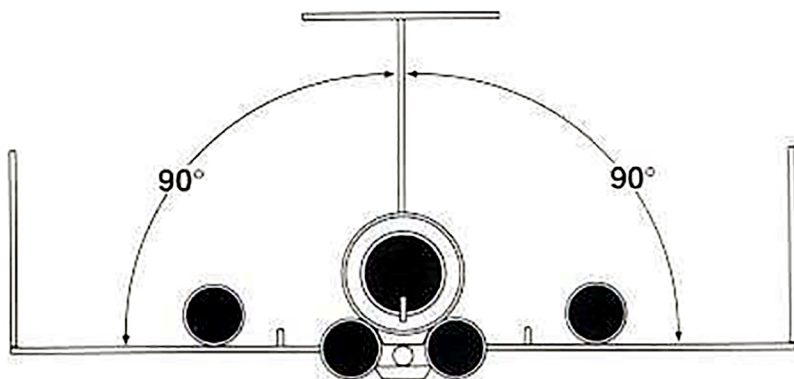
- 15. Glue the launching lug along the center line of pod brace #2 and 19 mm (3/4") from the rear of the brace. Cut out brace #1 and sand to shape. Glue brace #1 between the pods over the launch lug with the rear of the brace even with the rear of the launch lug.



- 16. Glue radar pod halves, the tail fins, and the elevators in the indicated positions. Sand all edges of the antennas flat and glue in place. Let dry completely.

- 17. Cut two 70 mm (2-3/4") lengths of BT-5, glue one to the top of each wing in the position indicated on pattern sheet.

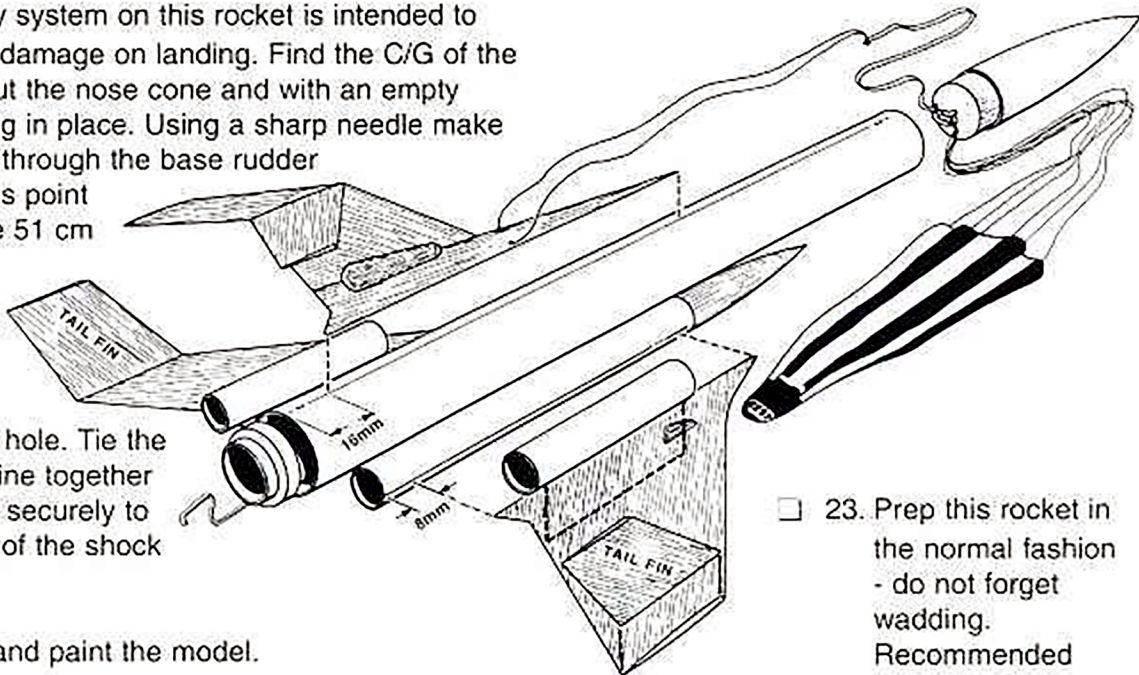
- 18. Apply glue to the root edge of the rudder assembly. Glue it straight along line #1 with the rear edge 16 mm (5/8") forward from the rear of the body tube. Make sure it sticks straight away from the tube. Glue the wings along the #1 lines on the pods with the rear edge 8 mm (5/16") ahead of the rear of the pods.



IMPORTANT:
The rudder is glued at a 90° angle from the wings. Let dry

- 19. Twist the screw eye into the base of the nose cone, twist out, squirt a drop of glue into the hole and twist screw eye back in. Assemble the parachute per instructions in the 'chute kit, gather the shroud lines, and tie them to the screw eye. Tie one end of the shock cord to the screw eye. Apply a fillet of glue to all joints and allow to dry until hard and clear.

- 20. The recovery system on this rocket is intended to minimize fin damage on landing. Find the C/G of the model without the nose cone and with an empty engine casing in place. Using a sharp needle make a small hole through the base rudder section at this point and pass the 51 cm (20") shroud line through to the center of the line. Squirt a little glue into the hole. Tie the ends of the line together and tie them securely to the free end of the shock cord.



- 21. Sand, seal, and paint the model.
- 22. You can decorate your model in several ways. The new Estes decal set (EST 2995, 2886, and 2997) may offer you some choices. The decal set (037465) from the Deep Space Transport (EST 2034) would work well. Another option is to ask your local hobby shop if they stock airline decals.

- 23. Prep this rocket in the normal fashion - do not forget wadding. Recommended engines are A8-3, B6-4, B4-4, and C6-5.

