

# Estes Industries Rocket Plan No. 58

# ZETA

September 1968 Design of the Month  
By Michael Dilsaver

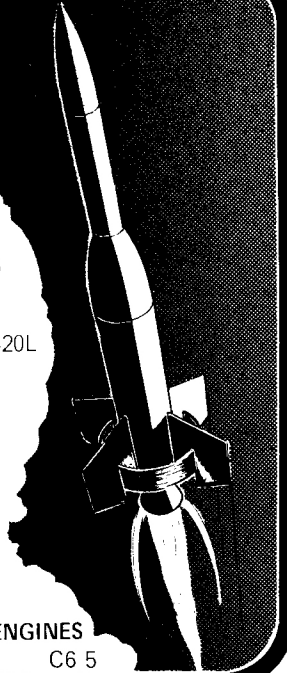
## ZETA

### PARTS YOU'LL NEED FOR CONSTRUCTION:

- 1 Engine Block—Part #EB-20A
- 1 Body Tube—Part #BT-20G
- 3 Adapter Rings—Part #RA-2055
- 1 Stage Coupler—Part #JT-55C
- 1 Body Tube—Part #BT-55
- 1 Sheet Balsa Stock—Part #BFS-20L
- 1 Tail Ring—Part #RT-70A
- 1 Launching Lug—Part #LL-2B
- 1 Screw Eye—Part #SE-1
- 1 Nose Block—Part #NB-20
- 1 Body Tube—Part #BT-20D
- 1 Nose Cone—Part #BNC-20N
- 1 Parachute—Part #PK-18
- 1 Shock Cord—Part #SC-1
- 1 Snap Swivel—Part #SV-12
- 1 Tail Cone—Part #BTC-55Z

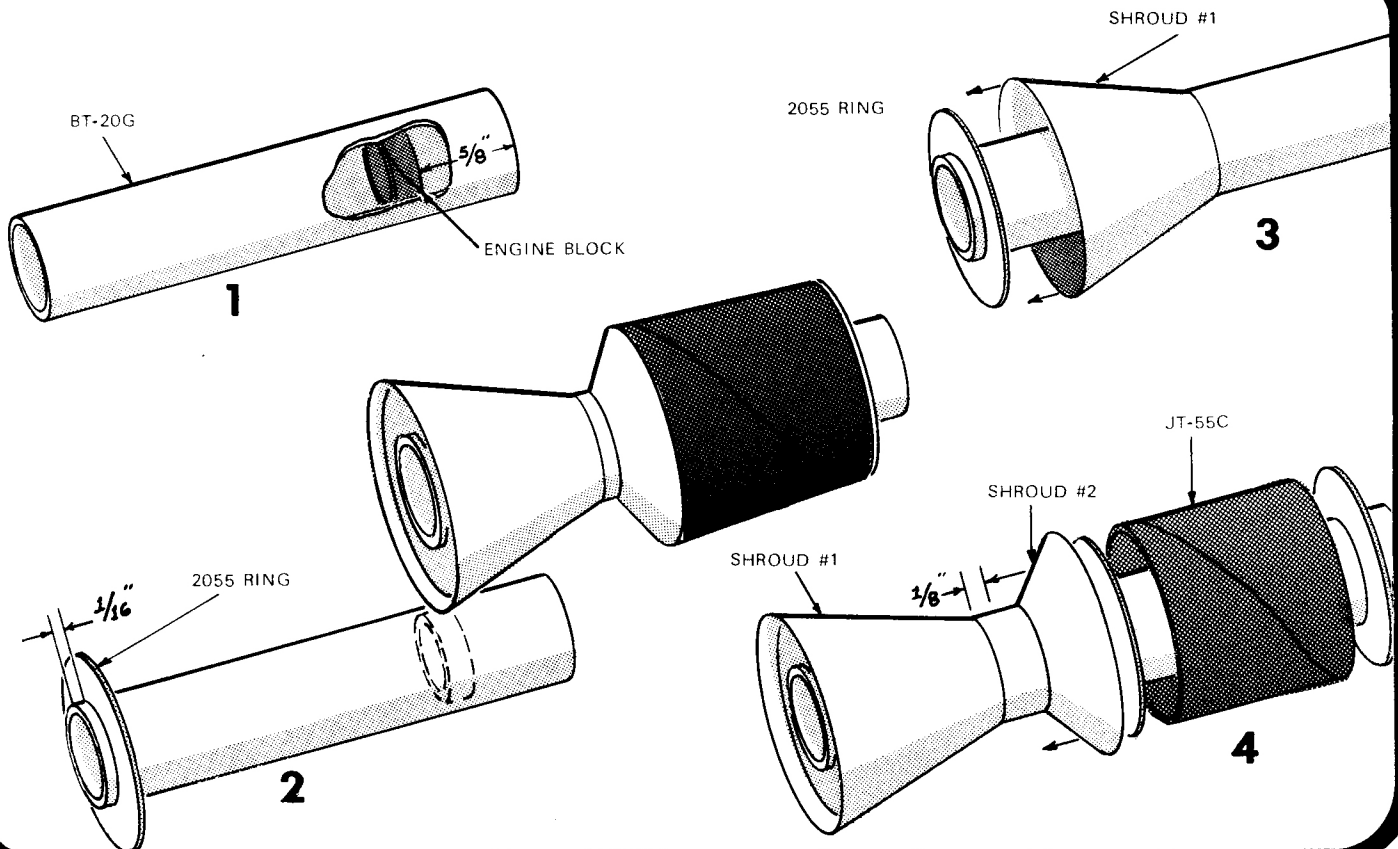
### RECOMMENDED ENGINES

A8 3    B6 4    C6 5



## ENGINE MOUNT ASSEMBLY

1. Glue the engine block into the BT-20G engine mount tube so it is  $5/8''$  from one end of the tube.
2. Glue one 2055 adapter ring to the BT-20G about  $1/16''$  from the end *opposite* the engine block.
3. *Trace* the nozzle shroud patterns onto heavy paper. Cut out the copies you have made, then overlap and glue the indicated areas of them. Slide nozzle shroud #1 down so that the large end fits snugly over the 2055 ring and then glue it in place. Slide nozzle shroud #2 down (small end first), then slide a 2055 ring up against it. Keeping the #2 shroud against the adapter ring, adjust the positioning of ring and shroud so that the small ends of the nozzle shrouds are about  $1/8''$  apart. Glue nozzle shroud #2, RA-2055 ring and the tube together.
4. Glue the end of the JT-55C stage coupler to the outer edge of the 2055 ring attached to nozzle shroud #2. Glue the third 2055 ring to the other end of the stage coupler and to the BT-20G engine mount tube. Set the completed unit aside to dry.



# LOWER BODY ASSEMBLY

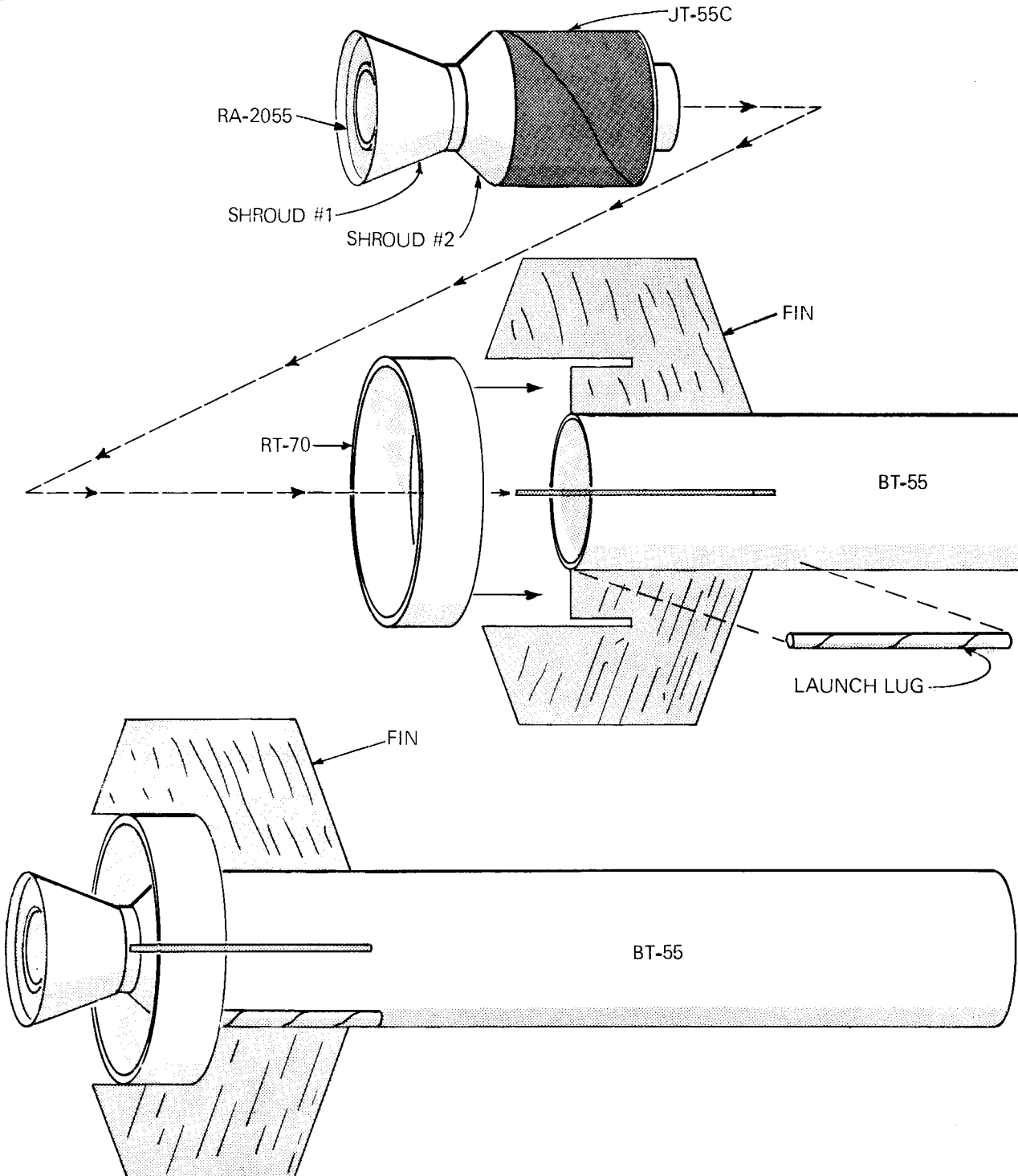
5. Following the procedure shown in the Construction Tips section of your Estes catalog, cut a 6 inch long section from a BT-55. Mark the 6" tube for 4 fins at 90 degree angles to each other.

6. Trace the fin pattern onto heavy paper and cut out the copy. Trace around the copied pattern to mark four fins on the BFS-20L balsa sheet. Cut out the fins, sand them to an airfoil shape and glue them to the body on the marks made in step 5. Be sure the fins run perfectly straight on the body.

7. Glue the launch lug to the body tube midway between two of the fins.

8. When the engine mount assembly is completely dry, spread glue inside the rear end of the body for about an inch. Insert the engine holder into the end of the body tube and wipe off any excess glue from the outside of the model.

9. Push the tail ring (RT-70A) into the slits in the fins and glue it in place.



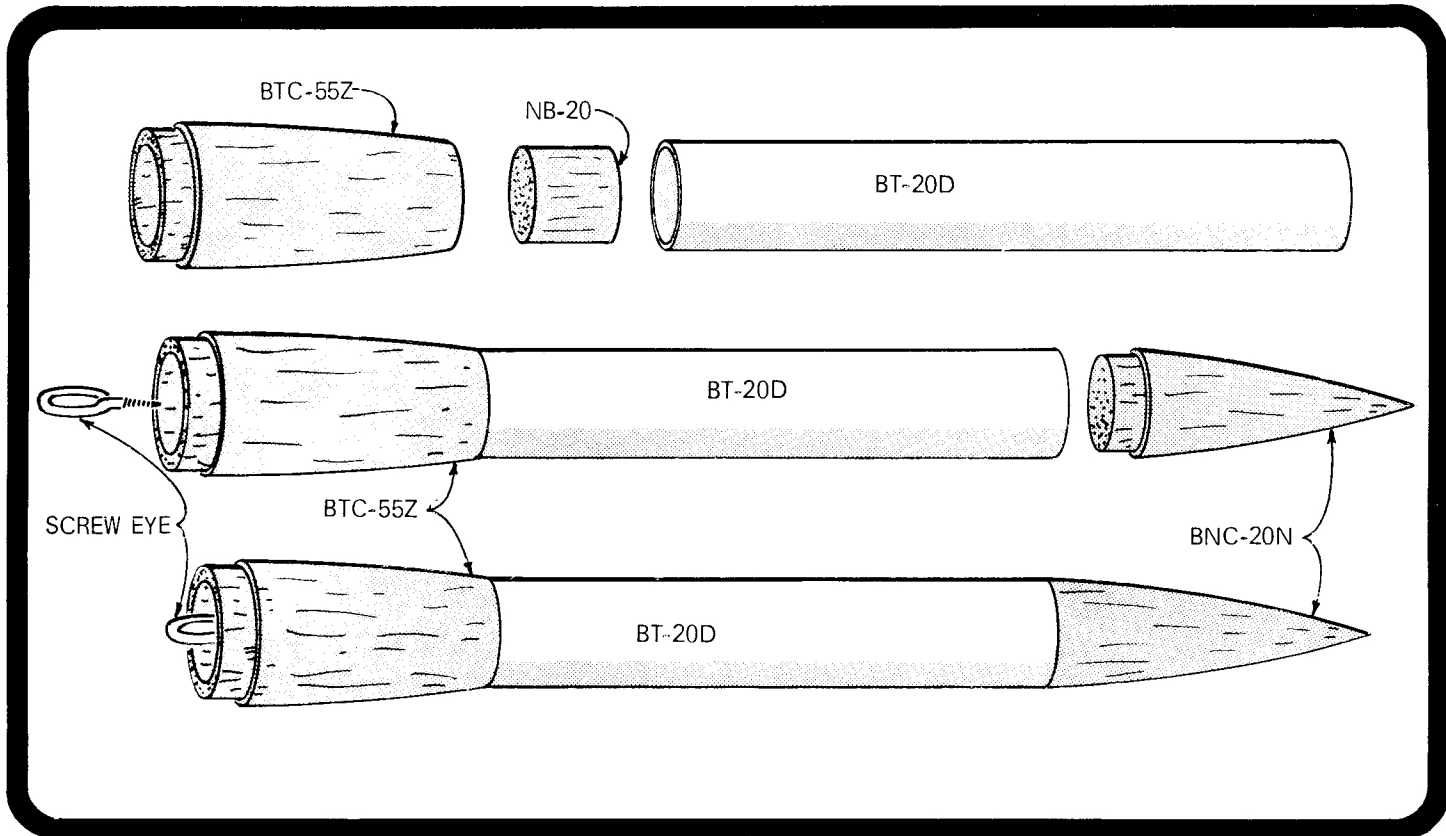
# PAYLOAD SECTION

10. Insert the screw eye into the end of the NB-20 nose block. Remove the eye and squirt glue into the hole. Replace the screw eye and wipe off any excess glue.

11. Glue the nose block into one end of the BT-20D body tube so it is recessed 1/4" with the screw eye closest to the end of the tube.

12. Smear glue around the inside of the tail cone at the bottom (the large end). Insert the BT-20D, nose block end first, into the top end of the tail cone. Push the BT-20D rearward until it is almost to the glue (but does not yet touch the glue) and smear some more glue around the tube where it is entering the tail cone. Now push the tube rearward again until the rear of the tube and the rear of the cone are even. Wipe off the excess glue.

13. Insert (but do not glue) the nose cone into the open end of the BT-20D.



# RECOVERY SYSTEM

14. Cut out the 18" parachute and attach six 18" shroud lines to it. Connect the shroud lines to a snap swivel and hook the snap swivel to the screw eye on the payload section.

15. Mount the shock cord in the body. Use the paper anchor system shown in the recovery information section of your Estes Catalog. Tie the free end of the shock cord to the screw eye on the payload section.

16. Sand, seal and paint your rocket in the normal manner.

