

I-100TH SCALE MERCURY ATLAS BUILDERS KIT

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Additional Parts Required:

- 1) 29mm heavy walled LOC tube (precut to 117mm long)
- 1) BT-20 motor tube (precut to 70mm long)
- 1) 24 inch length of elastic shock cord
- 1) 70 mm motor clip
- 1) 12 inch parachute
- 1) 16 inch parachute

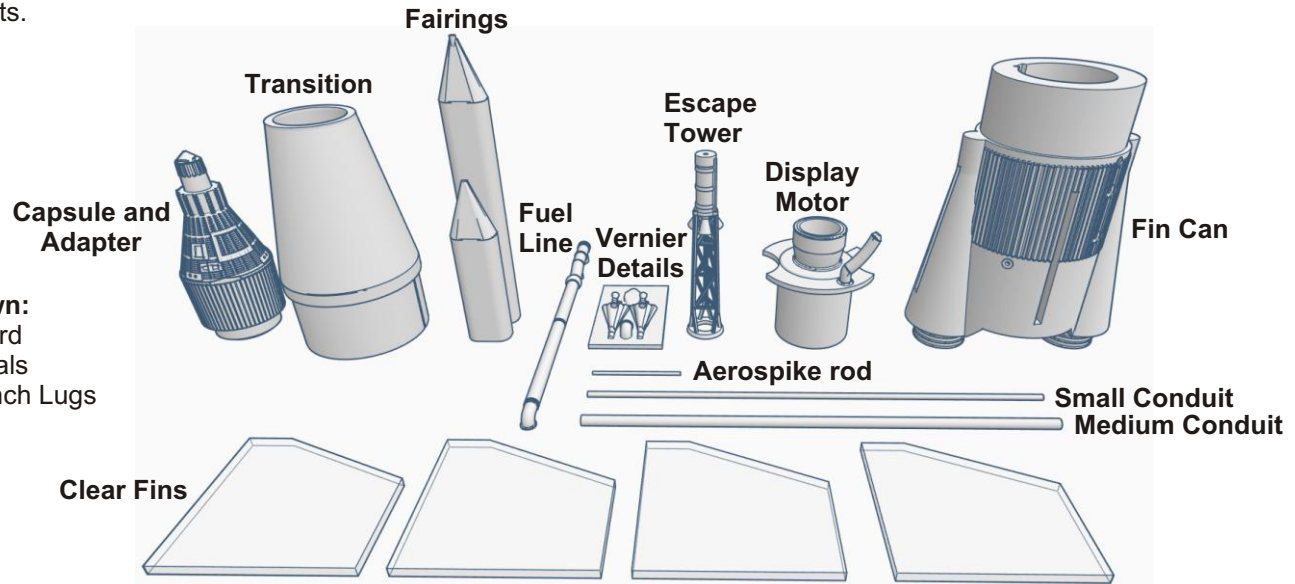
Plus assorted glues, sandpaper, paint and standard hobby tools.



1/100th Scale Mercury Atlas Builders Kit

Thank you for purchasing a Boyce Aerospace Hobbies 1/100th scale Mercury Atlas builders kit. Please review the drawings below before gluing and assembling your kit. Also please visit us at boyceaerospacehobbies.com for more scale model rocket kits.

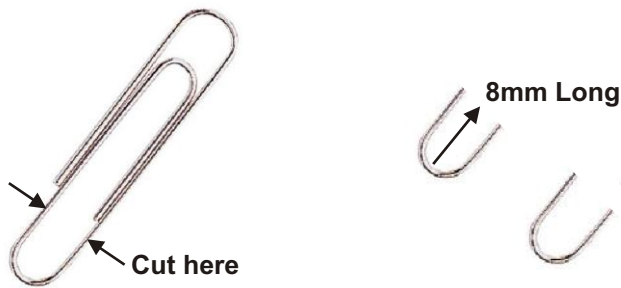
Start by test fitting all parts before gluing and sand all parts with 600 grit sandpaper until you have a nice slide fit between all mating parts.



Not Shown:
Kevlar Cord
Vinyl Decals
Wire Launch Lugs

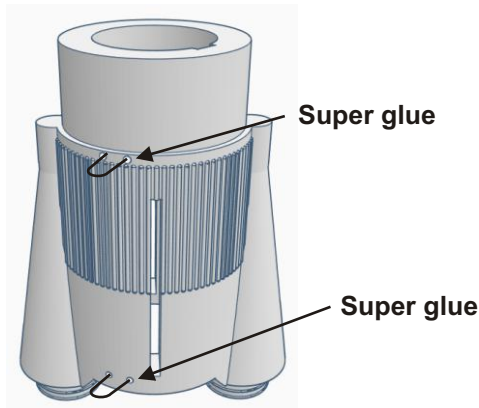
1

Find the two paper clips provided in the kit. Cut both them with diagonal cutters as shown below.



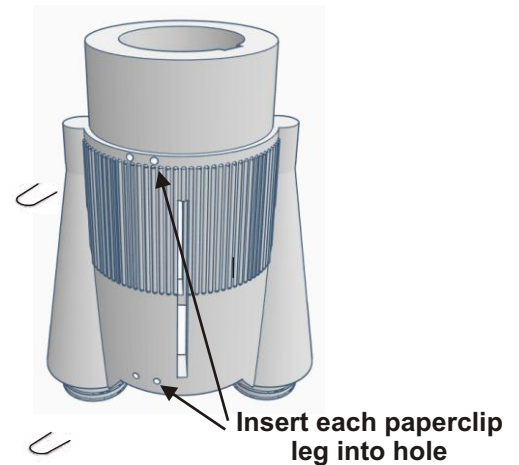
3

Apply a small drop of super glue to the base of each launch lug where it is inserted into the fin can. Set aside to dry.



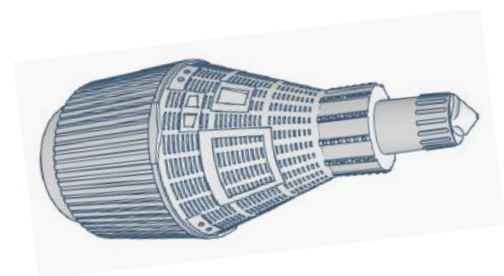
2

Insert the cut ends of the paperclips as shown. If the holes in the fin can are too small use a piece of the discarded cut paperclip as a reamer to enlarge the holes. Make sure the cut ends of the paper clips do not protrude into the inside of the fin can.



4

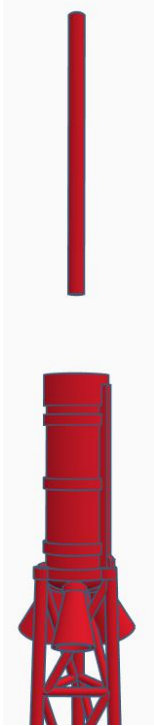
Tape off the shoulder of the capsule/adapter after washing the capsule with soap and water and drying it. Spray paint the capsule with black spray paint using the lightest spray possible in order to preserve the capsule's detail.



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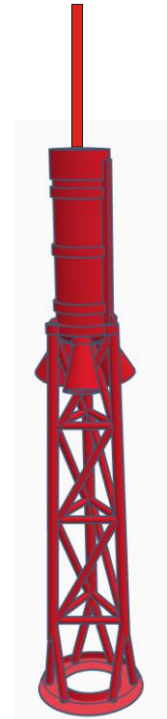
5

Find and cut a 13.25 mm long section of the provided extruded plastic rod. Glue the rod into the top of the escape tower.



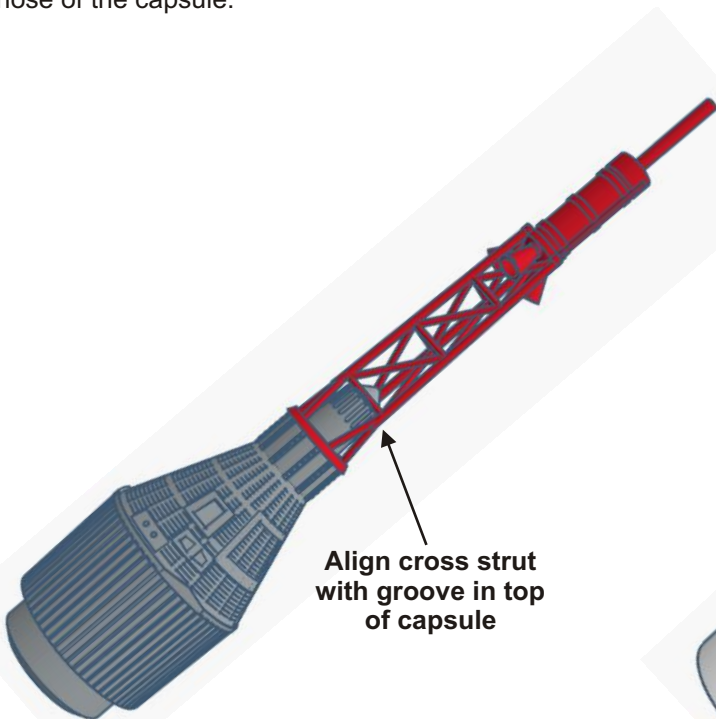
6

Spray paint the tower bright red.



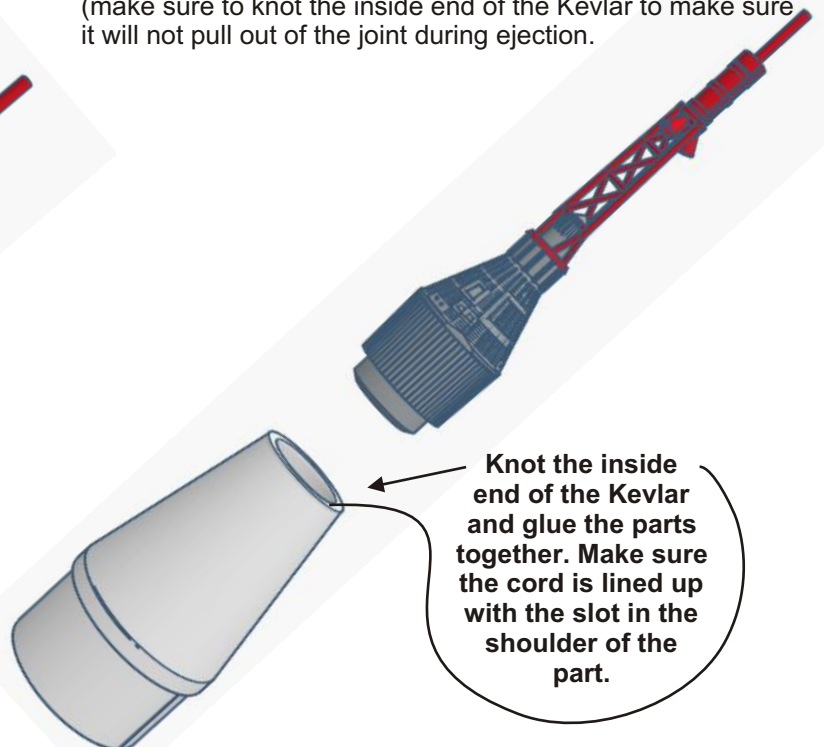
7

When dry super glue the tower in place making sure to align the lower tower cross struts with the recessed grooves in the nose of the capsule.



8

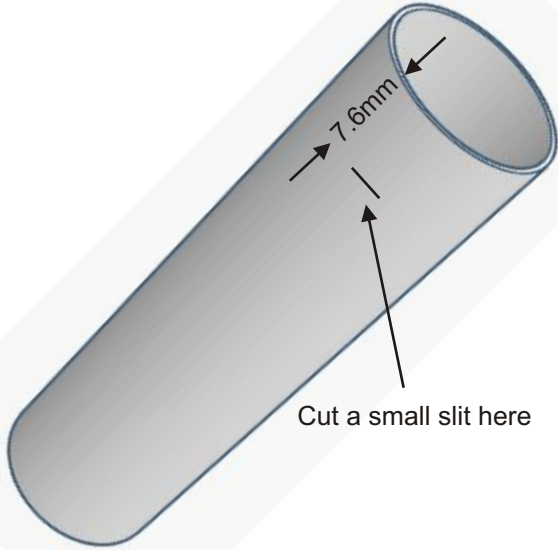
Sand and paint the upper booster transition metallic silver.. When dry, glue the capsule section onto the transition with a piece of Kevlar cord sandwiched in between the two parts (make sure to knot the inside end of the Kevlar to make sure it will not pull out of the joint during ejection).



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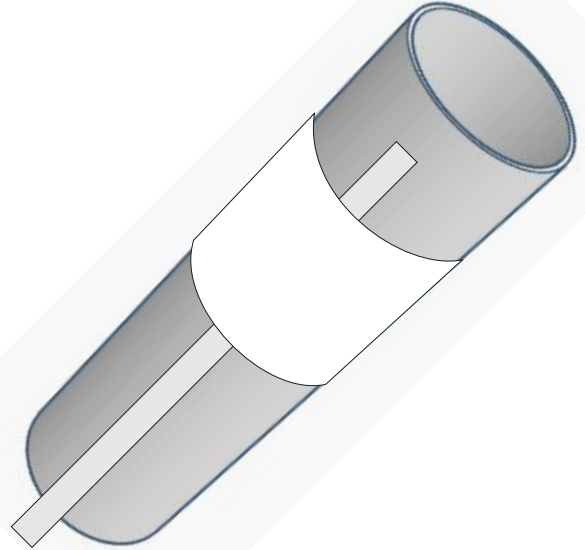
9

Find your precut BT-20 motor tube and cut a small slit in the tube 7.6mm from one end.



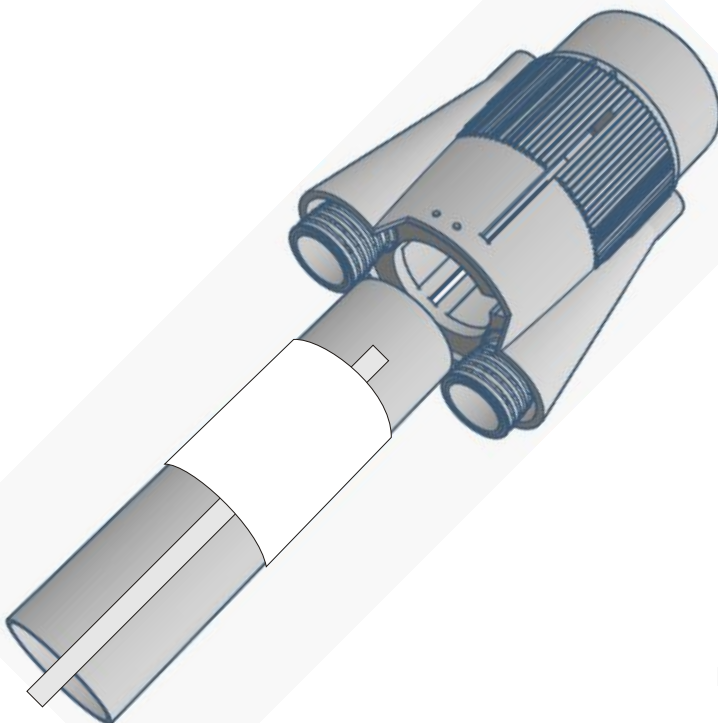
10

Apply a small amount of super glue gel to the backside of the upper part of the engine clip and glue the clip in place with the upper bend of the clip inserted into the cut slit. Wrap one piece of masking tape around the clip and motor tube as shown.



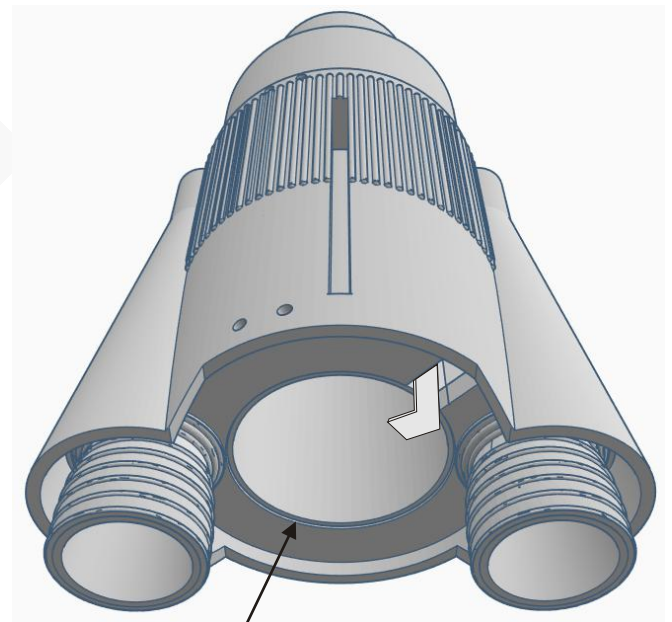
11

Test fit the motor tube assembly into the fin can. Carefully sand the lower mounting ring until the motor mount can be slid into place.



12

Glue the motor mount tube into place using super glue gel. Make sure the bottom of the motor tube is flush with the bottom surface of the fin can as shown.

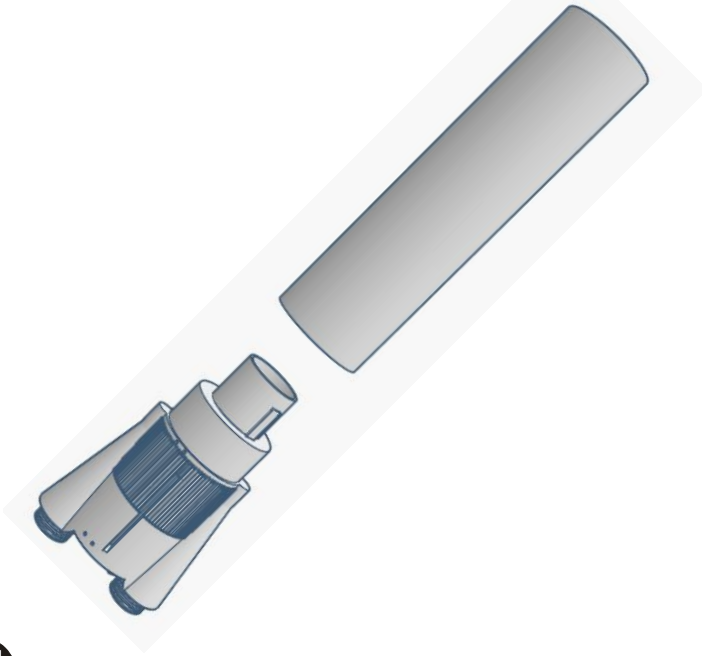


Motor tube glued flush with bottom surface of fin can

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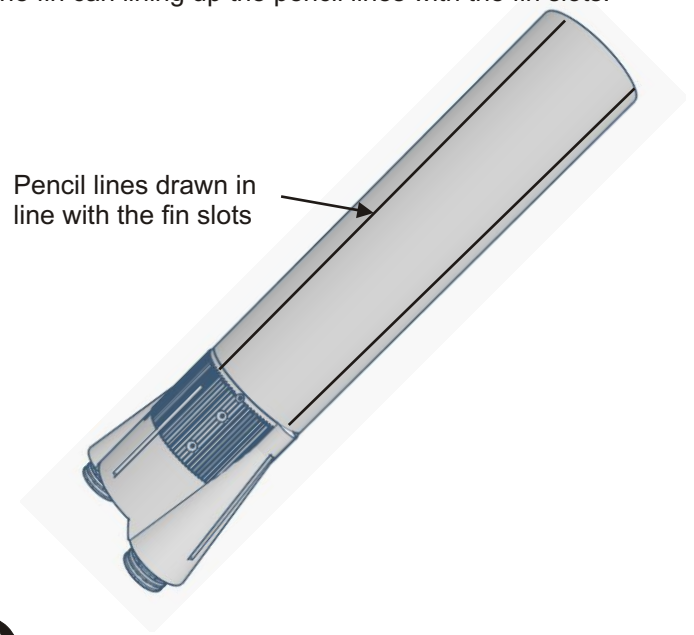
13

Slide the precut 29 mm heavy walled motor tube onto the fin can. Mark the tube with a pencil at each fin slot.



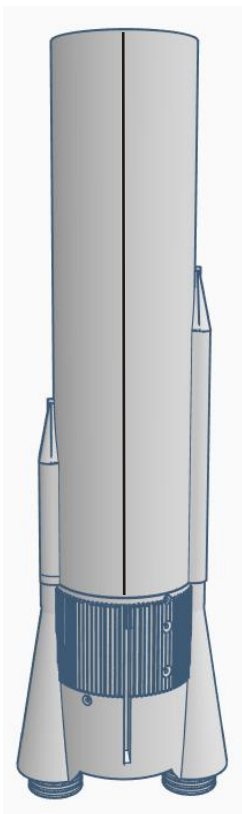
14

Remove the tube and use a piece of angle iron or a door edge to draw pencil lines the entire length of the tube. Glue the tube to the fin can lining up the pencil lines with the fin slots.



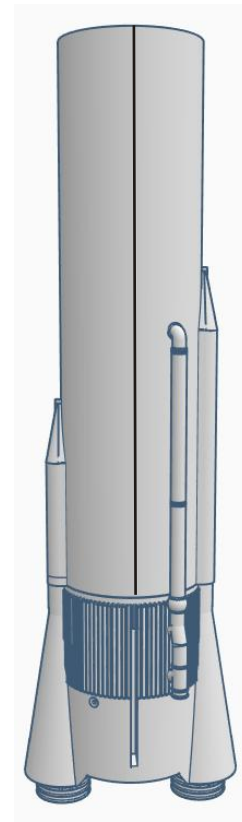
15

The two large booster side fairings are now glued to the airframe as shown. Make sure that the longer fairing is glued to the right of the fuel line attachment holes. Use a straight pin to make a series of small holes in the tube where the fairings will be attached.



16

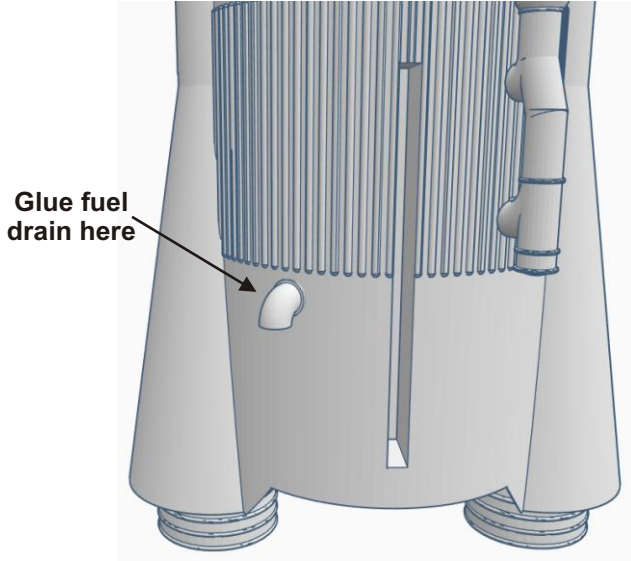
Next attach the fuel loading tube to the side of the fin can and the side of the airframe tube. Make sure to again make a small hole in the body tube where the upper part of the fuel tube will be glued.



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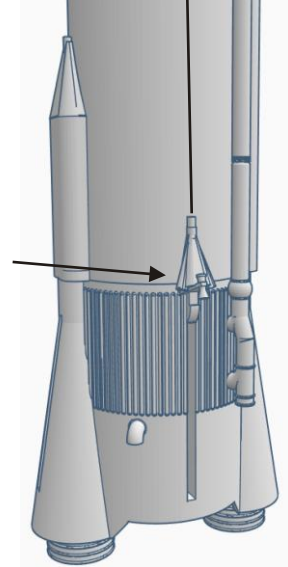
Using tweezers glue the fuel drain into position.



18

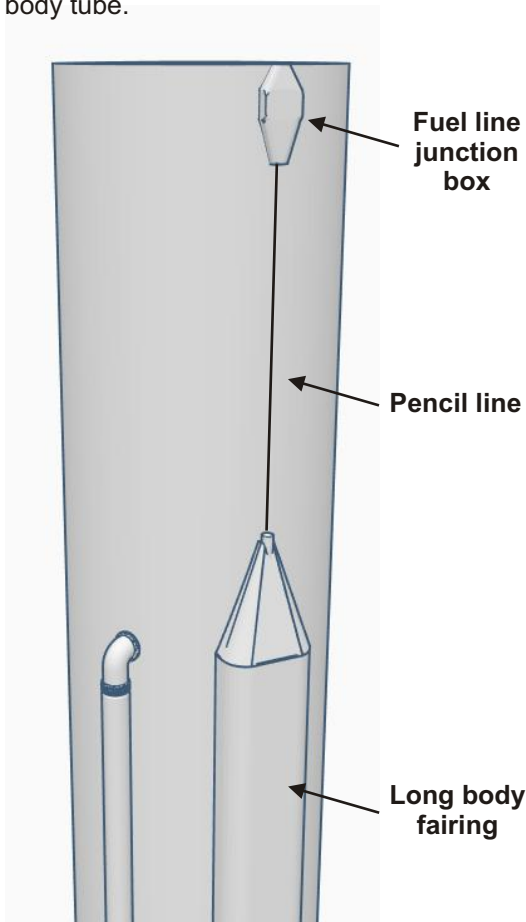
Sand the base of the vernier motors and glue in place on both sides of the vehicle as shown.

Glue the vernier motors on each side, the bottom of each part even with the top of the fin slot



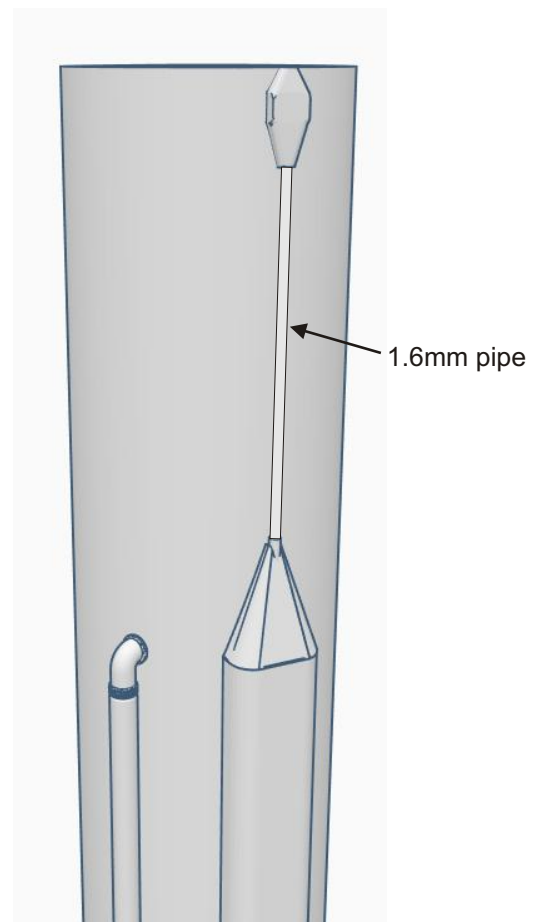
19

Glue the fuel line junction box in place centered on the pencil line above the long side fairing as shown. It should be even with the top of the body tube.



20

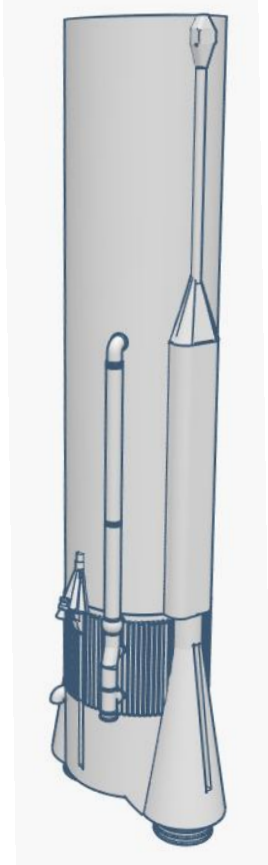
Measure and cut a section of the 1.6mm plastic pipe carefully gluing it in place along the pencil line as shown.



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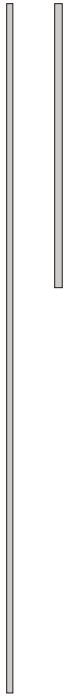
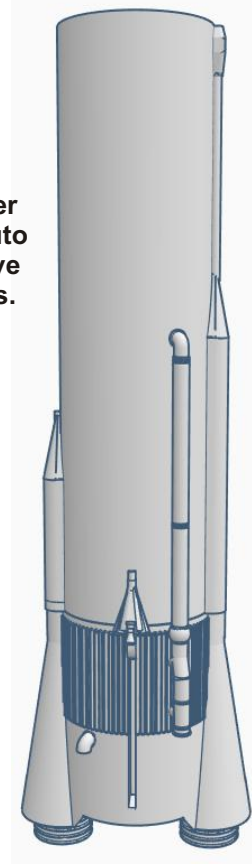
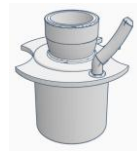
Your Atlas airframe should look like this. As soon as everything is dry sand away any super glue that will mar your final paint job.



22

At this point paint the airframe, the dummy motor (mask off the shoulder), and the remaining sections of plastic tube.

We used a silver metallic Ford auto paint which gave us good results.

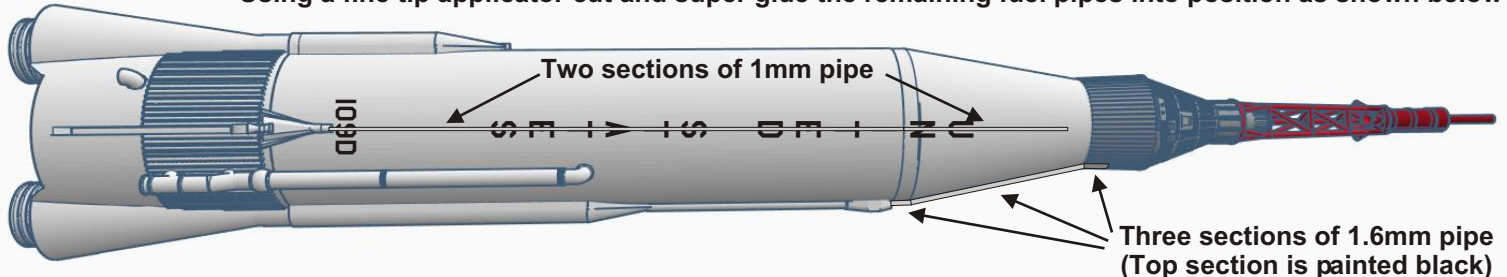


23

It's decal time! Cut the United States decals apart from each other. Get a small bowl of warm water and put a drop or two of dish washing detergent (the liquid kind) into the water and mix. Carefully peel the paper off the back side of the decal. Using your finger wet the decal back side. This allows you to reposition the decal for a minute or two until you get it in the correct position. Carefully apply each decal as shown below. When each decal is in the right spot carefully press it with your fingers applying pressure to all the letters through the transfer tape. **ALLOW THE DECAL TO DRY!** When dry rub the backside of the transfer tape one more time with a credit card then slowly peel away the tape to reveal the decal. Apply the decals as shown on both sides of the model.



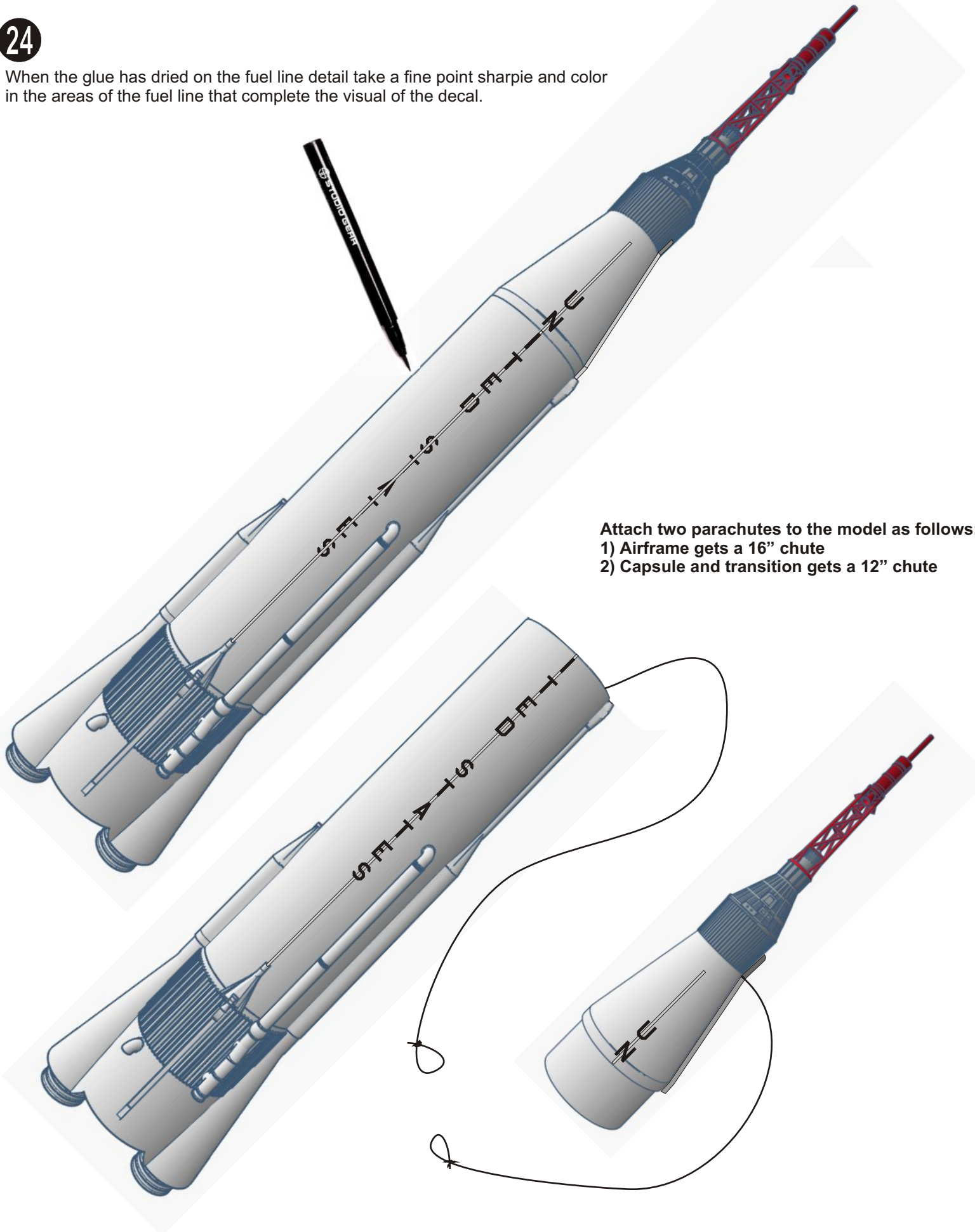
Using a fine tip applicator cut and super glue the remaining fuel pipes into position as shown below



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When the glue has dried on the fuel line detail take a fine point sharpie and color in the areas of the fuel line that complete the visual of the decal.



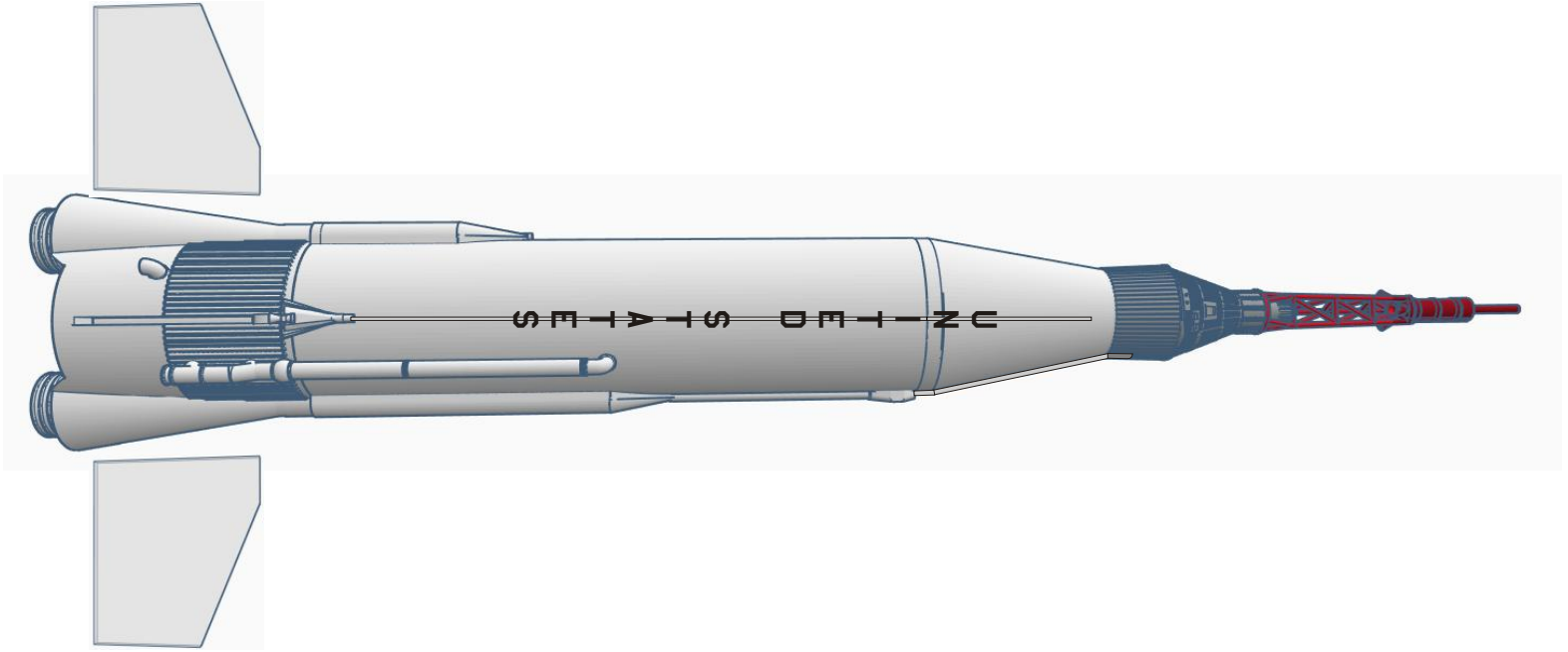
- Attach two parachutes to the model as follows:
- 1) Airframe gets a 16" chute
 - 2) Capsule and transition gets a 12" chute

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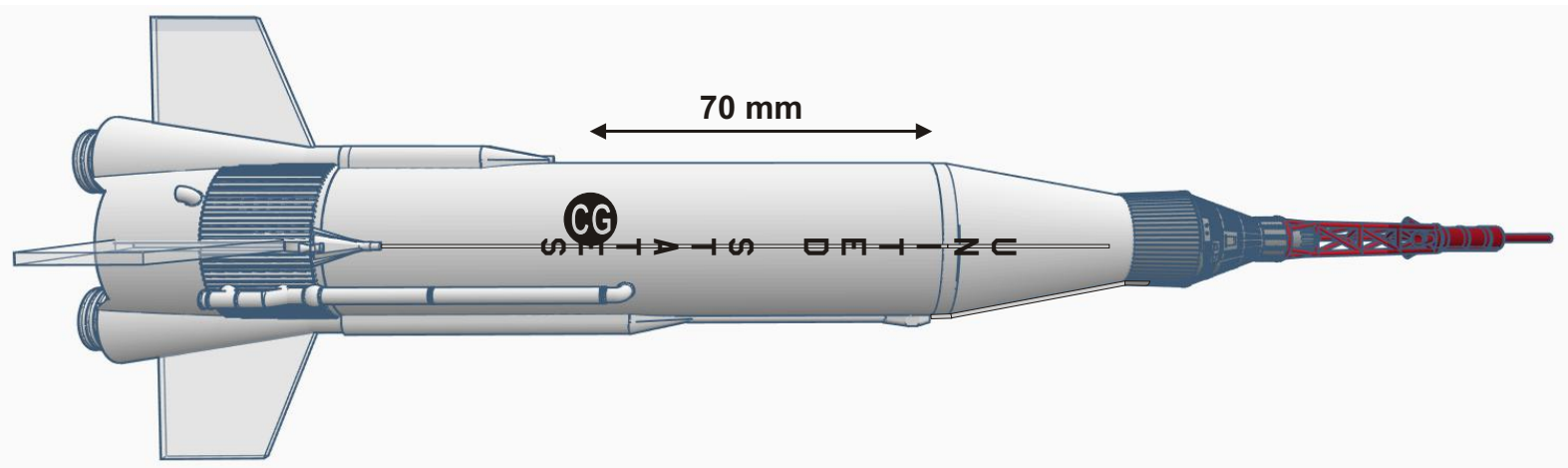
25

The clear fins can be attached in two different ways as follows:

- 1) Permanent attachment - Using a fine tipped super glue applicator apply glue in the bottom of each fin slot while holding the model horizontally. Slide each fin into its slot until seated against the motor tube.
- 2) Removable attachment - Apply a small cut strip of masking tape wrapped along the root edge of each fin and pressure fit each fin in place. The strip of tape should be applied the depth that each fin sits in its appropriate slot.



At this point nose weight must be added to move the model's center of gravity ahead of its center of pressure in order to assure the model's stability. Slide the capsule section onto the airframe and install the motor you plan on using for the first flight. Fold and install both parachutes and recovery wadding. Apply a piece of masking tape to the model and draw a line on the tape exactly from the front edge of the airframe tube. The model must balance at or forward of this point. To add nose weight we recommend pressing clay into the recess in the nose cone until the model is balanced as shown.



Please note that this procedure must be repeated if you use a larger/heavier rocket motor on later flights. Failure to correct the model's center of gravity may result in an unstable flight which can damage or destroy the model and cause harm to personal property and human life.

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Flight preparation for the model:

1) Install your flight motor:

Estes B6-4 Estimated altitude 210 feet
Estes C6-5 Estimated altitude 560 feet

2) Place a small amount of recovery wadding in the model.

3) Fold and place both parachutes into the body tube with the nose cone chute under the main body chute.

4) Put the nose cone in place.

5) Install the ignitor in the rocket motor per the manufacturer's instructions.

6) Slide the model on the launch rod and attach the ignitor clips.

7) When the range is clear proceed with your countdown and launch!

Please follow the NAR safety code and your motor manufacturer's instructions for igniting and flying your model.
Enjoy your Boyce Mercury Atlas.

