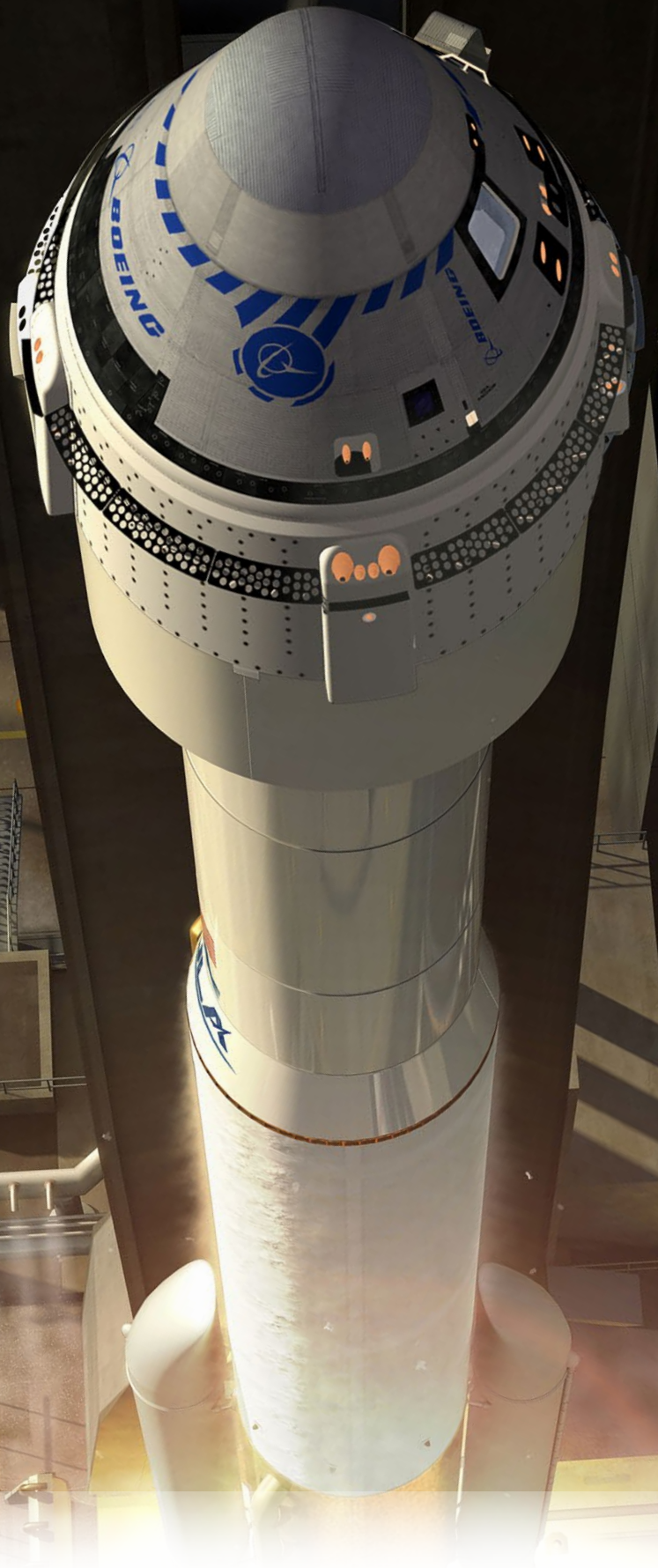


ATLAS V
STARLINER
Paper Model Kit



ATLAS V STARLINER

This paper rocket kit is designed to help you build a 1:150 scale model of the Atlas V rocket with your printer and basic tools. As with all paper model kits, your level of success will depend on your precision and the time you take. It is recommended to let the glue fully dry in each step before the next. Please take care not to cut yourself and do not leave children unattended with sharp tools.

Your Atlas V Starliner paper model kit will require:

- 8.5" x 11" cardstock prints of the 4 pages at the end of this document, (save paper and ink by only printing the pattern pages 17-19 and view the instructions online)
- A cutting mat
- Scissors and/or an x-acto knife (children should not use x-acto or be left unattended with cutting tools and anyone attempting this kit should take care to avoid injury from cuts)
- Glue (super glue or other adhesive is not necessary)
- A straight edge or ruler
- A pin or sewing needle

Optional supplies:

- A few toothpicks for applying glue to small areas
- A small dish to hold a dollop of glue while building
- A long wooden dowel or chopstick to help you apply pressure to glued areas far into the rocket body
- A pencil (not shown)



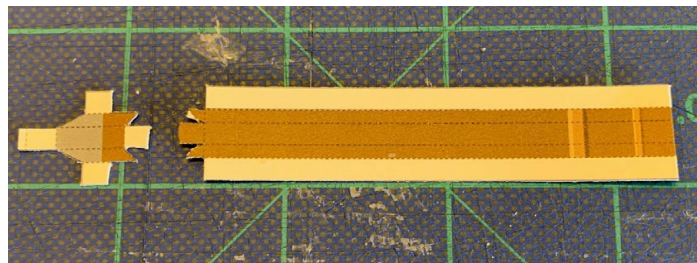
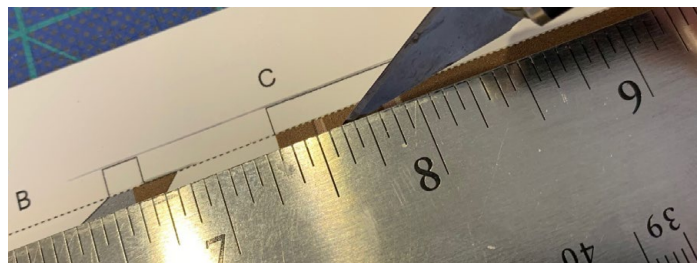
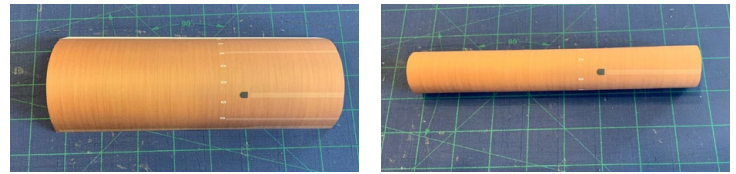
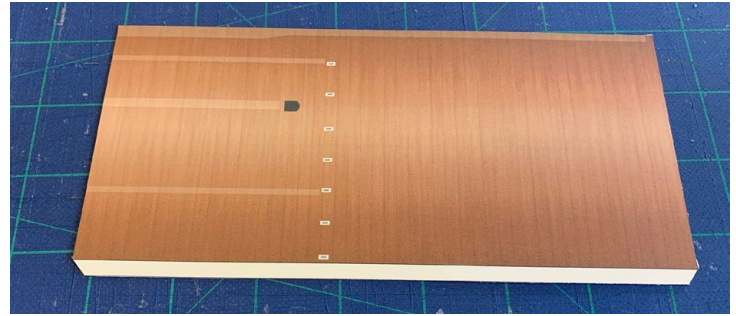
STEP 1

Trim out the booster (A)

Trim out piece A. Apply glue to the white strip on the side of the piece.

Gently curl the booster to make a tube and hold the glue until it dries in place.

You can use a wooden dowel or chopstick to put pressure on the inside of the tube where your fingers may not reach.



STEP 2

Score and trim the fuel line (B & C)

With the open blade of your scissors or an x-acto blade, you will lightly score the dotted lines on part B and C. With an x-acto, you will want to either use the back of the blade or extremely light pressure to avoid cutting the score lines. You may want to practice this first on a blank area of the cardstock. These will be fold lines.

With scoring done, trim out each piece.

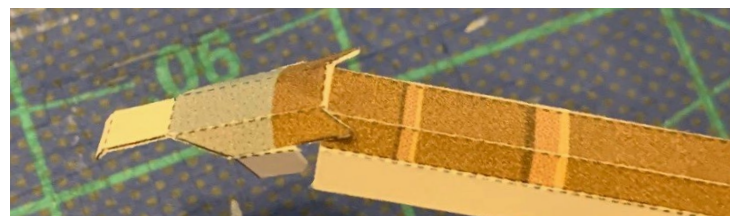
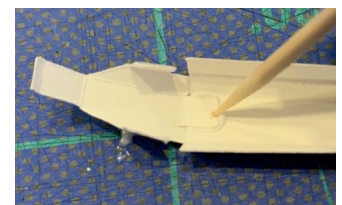
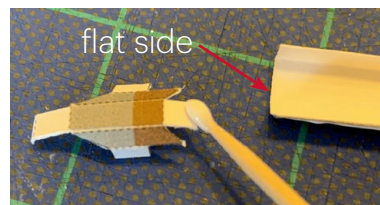
STEP 3

Fold and attach the pieces

Fold along the scored edges on B and C to start to form box shapes out of each piece.

Next, turn part C over to show the white side, with a flat end, and apply glue to part B on the part as shown.

With the end of part B glued, flip B over and glue to part C, so just the tab sticks to the center-folded section, see photo at left. This will make a bend in the final part.

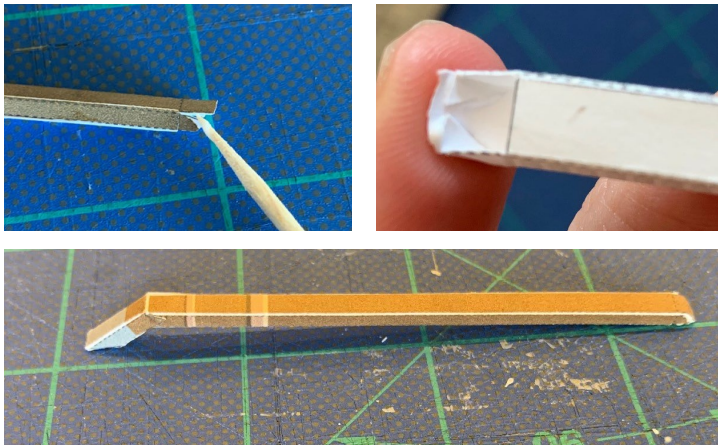
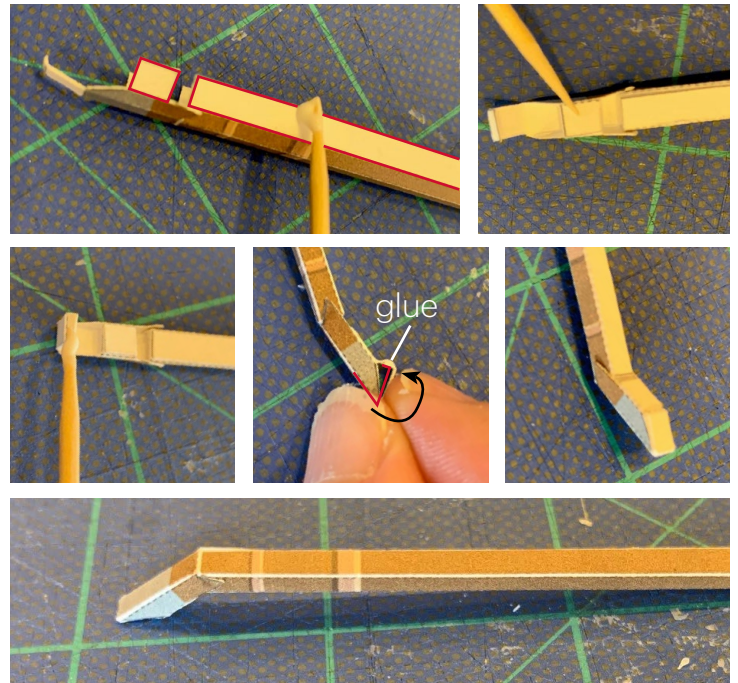


STEP 4

Fold and finish part B of the fuel line

Next, add glue to the white section of part C and fold to make a long rectangular box. Add glue to the same area on part B and fold it over as well to match (see red areas on right).

On Part B, fold the two scored areas on the white tab and add glue to the smallest folded area. Next, fold it into the backside to make a flat ramp, as shown in the photo.



STEP 5

Finish the fuel line

On the back side of part C, apply glue to the white triangles and fold the scored areas to close the back side of the part.

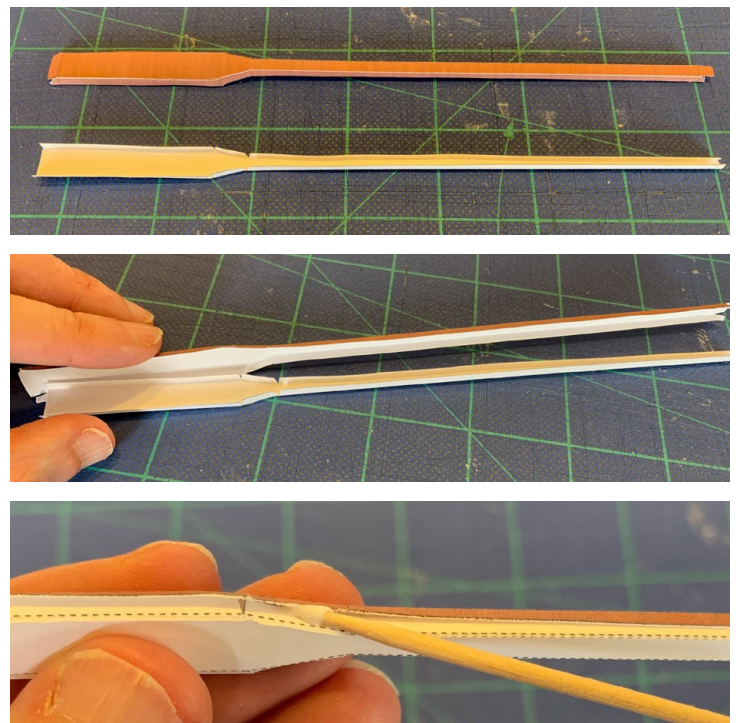
You have finished the fuel line, set it aside for now.

STEP 6

Make the cable raceway (D & E)

Score the dotted lines on part D and E before trimming them out. These two parts will attach to one another, as a top and bottom to the cable raceway.

Fold the scored lines downward for each part. Flip part E over and fit part E into part D and glue the edges on the sides. The two pieces will fit together to form one piece with part E making the back side of the finished piece.

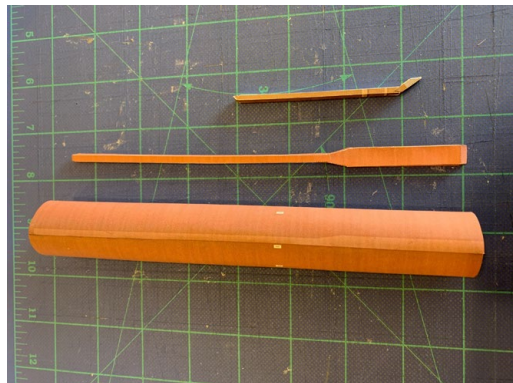
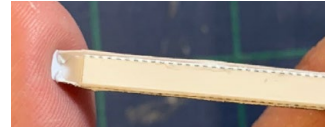
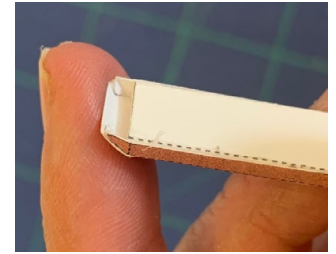
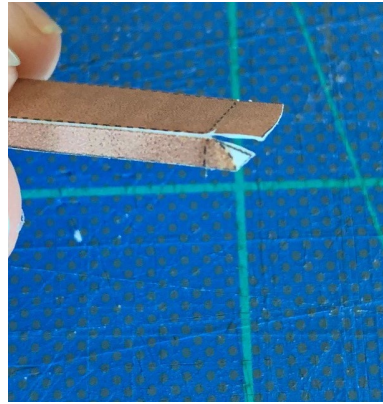


STEP 7

Finish the cable raceway ends

Each end of the raceway will need to be finished in the same way you finalized the fuel line. Fold the scored white triangles inward and add glue to them, then fold the center down and glue the triangles to the center flap, making a rounded end cap.

Do this to both ends to finish the cable raceway.

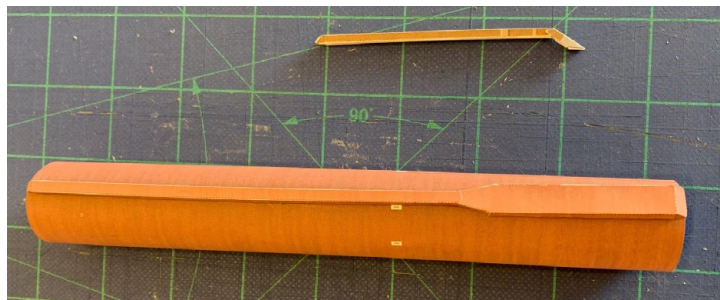


STEP 8

Attach the cable raceway to the booster

The backside of the booster, near the seam, will have an area that matches the cable raceway shape. Apply glue to the back of the cable raceway and affix it to this location on the booster. Be sure to keep the cable raceway on the booster, top to bottom as the glue dries.

Do not glue the fuel line in place yet.

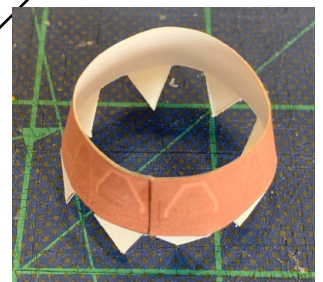
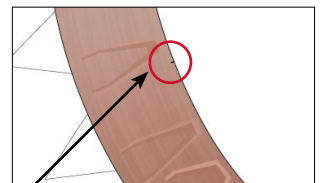
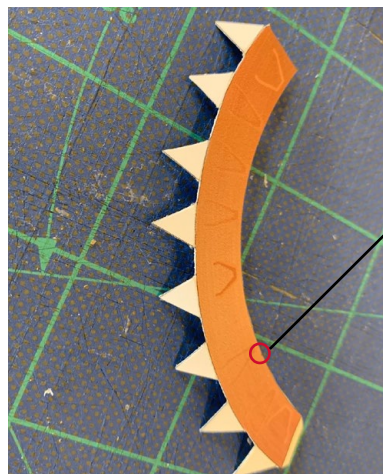


STEP 9

Attach the bottom of the booster (F)

Trim out part F which will be the bottom of your booster. Please note this part has a very small black dot in one location that will act as a locator when you add the heat shield. Be careful not to trim this dot off.

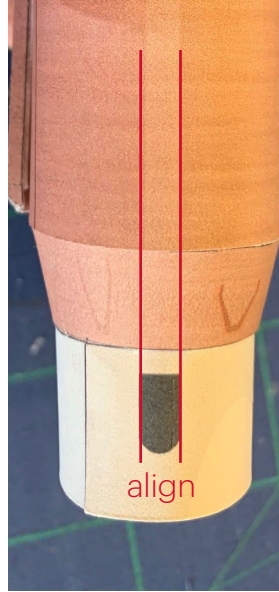
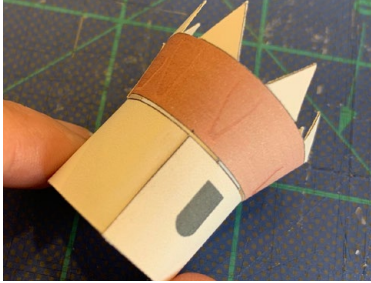
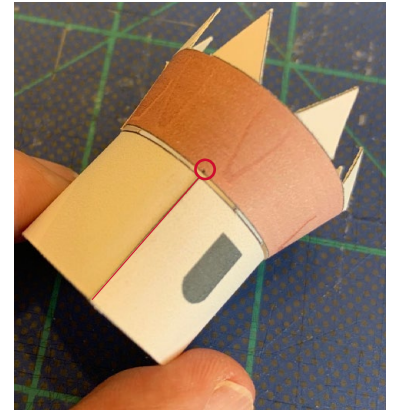
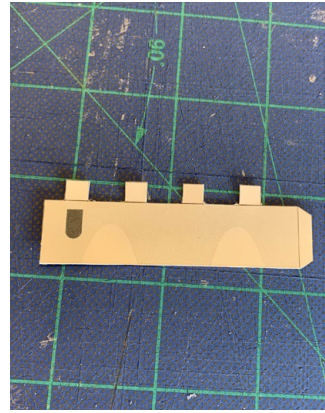
Wrap this base around and make a cone of part F, and set this piece aside.



STEP 10

Make the heatshield (G)

Trim out the heatshield (part G) and wrap it around, gluing it into a cylinder. Next, glue the rectangular ends and attach this heat shield to the booster piece you just made (F), lining up the seam of the heatshield with the locator dot on part F.



STEP 11

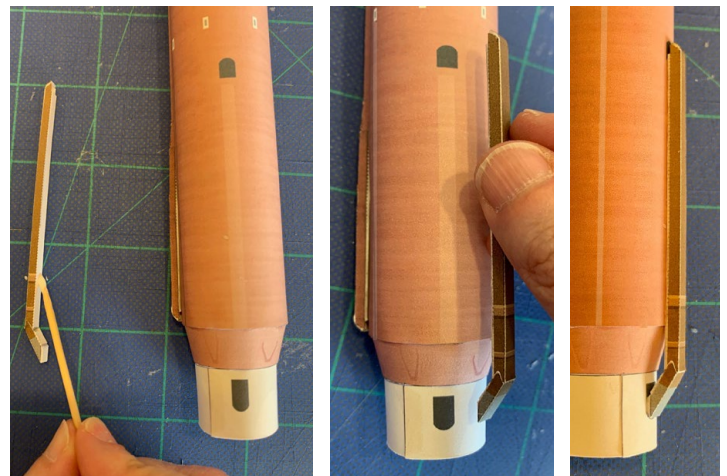
Attach the heatshield and base to the booster

Apply glue to the triangles of the bottom of the booster (part F), and rotate the booster so that the seam to part F and the seam to the booster align. With those seams lined up, you'll notice the gray shape on the heatshield lines up with the lighter line on the booster (shown to the left). You can reach into the bottom of the heat shield to secure the glued triangles in place when the alignment is correct.

STEP 12

Attach the fuel line

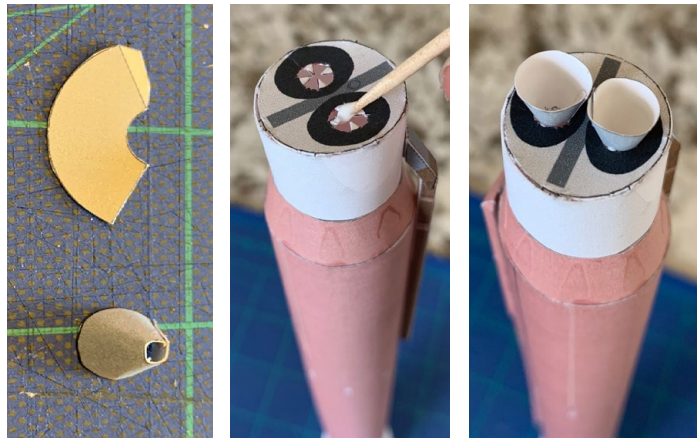
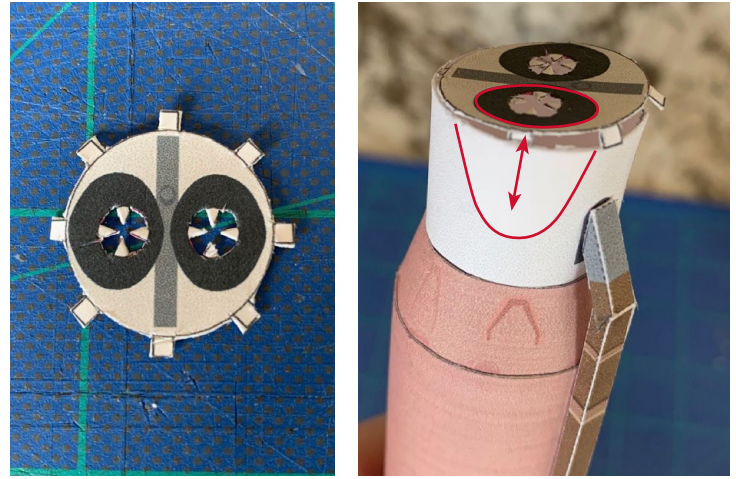
Add glue to the top half of the fuel line, and align the top of the fuel line to the dark gray shape on the booster, as shown at the right. Once the top is in place, add a small dot of glue to the bottom attach point on the fuel line, to attach the angled part to the gray area on the heatshield.



STEP 13

Create the bottom of the heat shield (H)

Trim out part H, being sure to cut out the pink portion of the piece. Fold the rectangles back and add glue, and set the piece into the bottom of the heatshield. Take care to place the two black circular shapes, to match up with the white "U" shapes on the side of the heatshield as shown on the right.



STEP 14

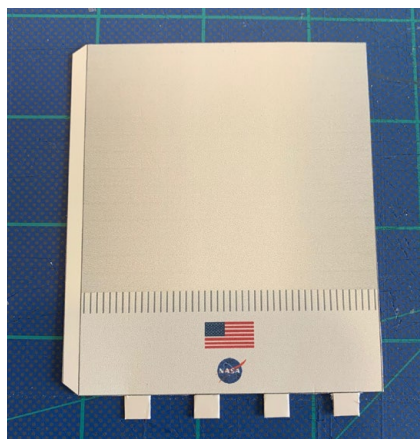
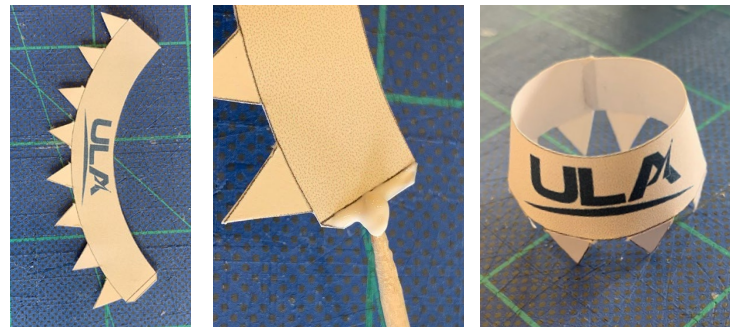
Make the RD-180 engine nozzles (I & J)

Trim out part I and J on your pattern and wrap each part around, gluing the ends in order to make two cones. Next, add glue to the small triangles at the base of the heat shield. Push the engine nozzle cones into each hole and even them out to each other.

STEP 15

Make the bottom of the interstage adapter (K)

Trim out part K and wrap it around to make a slight conic shape. Glue the ends together and let the part dry.



STEP 16

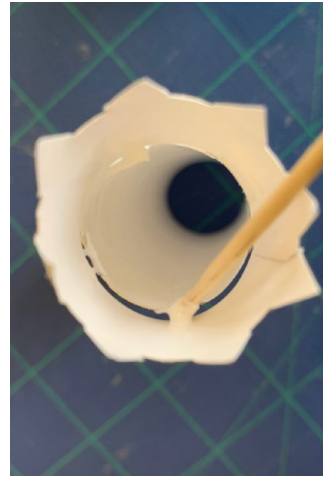
Make the top of the adapter and the Centaur (L)

Trim out part L and wrap it into a tube shape. Glue the ends together and let the part dry.

STEP 17

Attach the interstage to the Centaur upper stage

Now that you have these two parts, you can connect them by pushing the tabs of the Centaur section into the conical section of the interstage. Make sure all your logos are facing up and near each other as seen in the photo on the right, then glue the tabs and hold them in place while the it dries.



STEP 18

Attach the interstage and Centaur to the booster

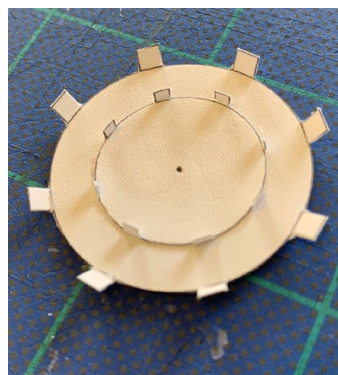
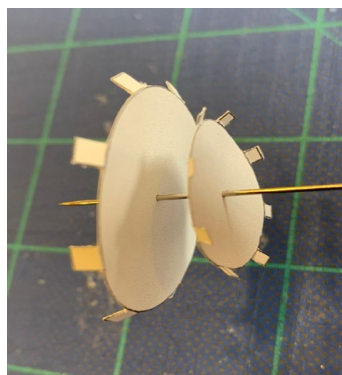
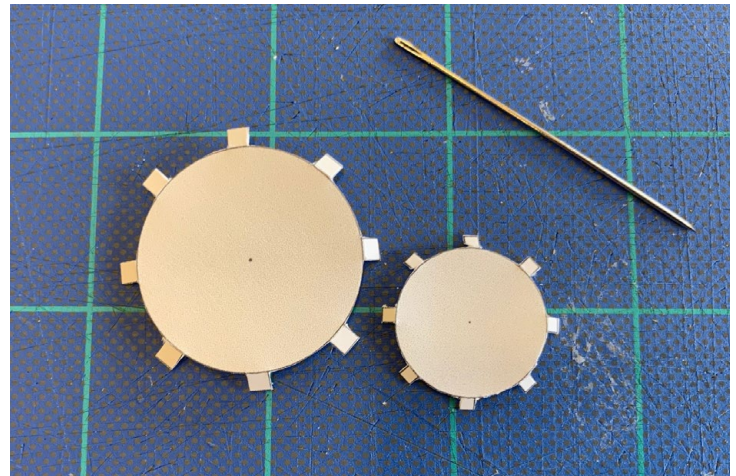
Add glue to the triangles of the interstage adapter and, lining up the seams on the back of the booster to the seams of the interstage, glue them together.

STEP 19

Make the Centaur cap (M) and attach point for the aeroskirt (N)

These parts don't exist on the rocket, but for the paper model, there are two circular shapes that will transition the model into the Starliner stage.

First, cut out part M and N, and fold the tabs down.



STEP 20

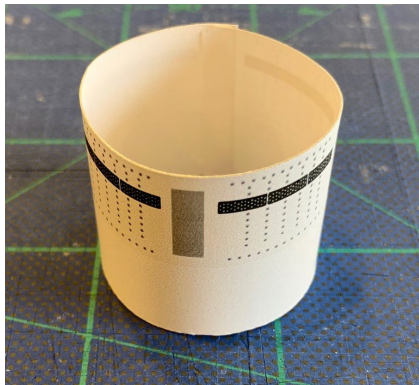
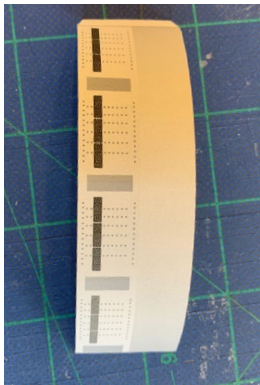
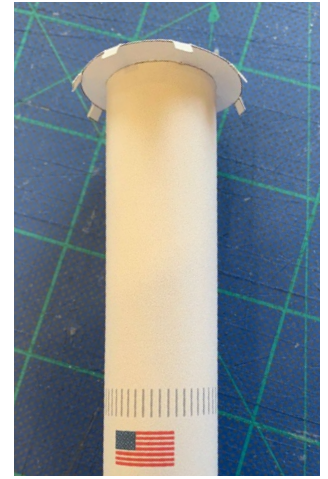
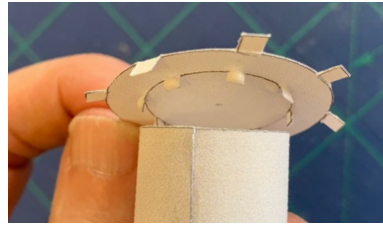
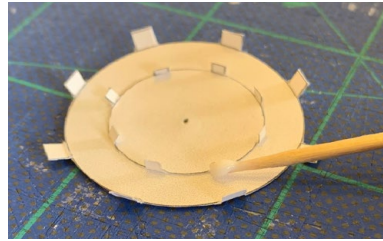
Attach the two circle shapes (M & N)

You'll see a small dot in the middle of each circle. Put your sewing needle or pin through this dot on both parts to get each piece perfectly centered to the other. Glue the pieces together while centered. Fold the tabs all the same direction, as pictured. Press the glued area as flat as possible to avoid any rippling.

STEP 21

Attach the circular part to the Centaur upper stage

Add glue to the tabs of the smaller circle, and attach the tabs to the top of your rocket, the Centaur upper stage. Make sure this part is level and centered properly, then let the glue dry.



STEP 22

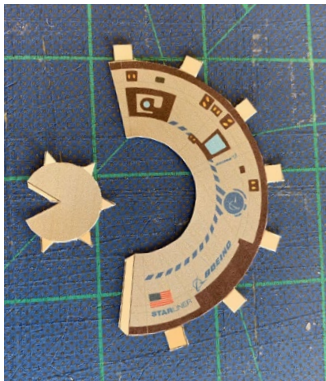
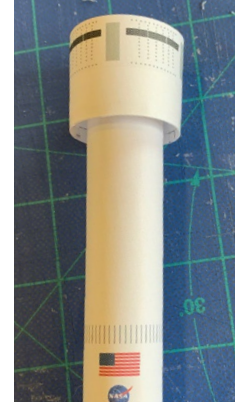
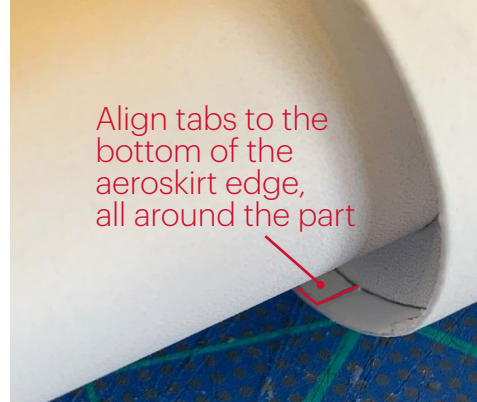
Make the aer skirt (O)

Trim out part O which is the aer skirt and bottom of the Starliner. Wrap the piece around and glue it to make a cylinder. Please note that the top of the part has the black grid and dots, the bottom is the plain white.

STEP 23

Attach the aer skirt (O)

Add glue to the outside tabs of the attached wheel we made in step 21. Slide the aer skirt over top of the glue tabs and those tabs, when glued properly, should all touch the bottom of the aer skirt for proper scaling (see photo at right). Make sure the seam is in the back.



STEP 24

Make Starliner (P & Q)

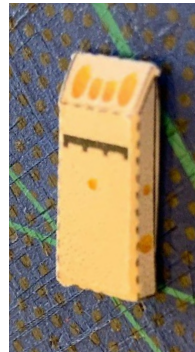
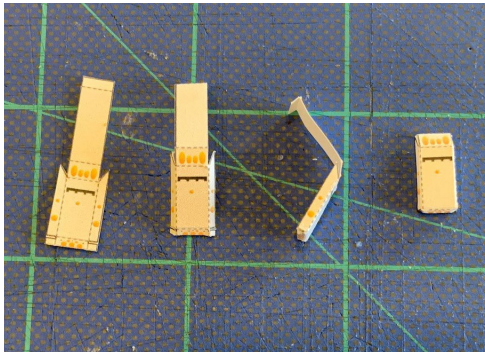
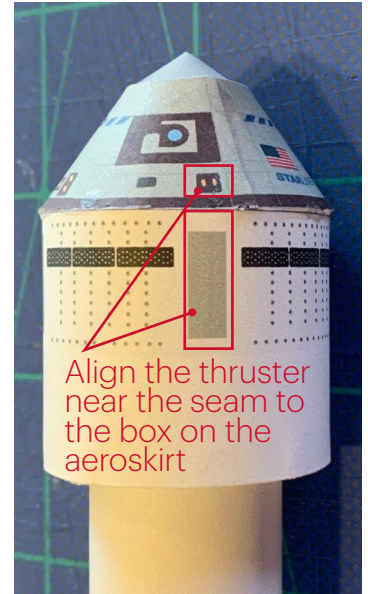
Trim out parts P and Q and wrap them around, gluing the ends to make each part as shown on the left. Fold the tabs down to prep for adding glue.

STEP 25

Attach Starliner (P & Q)

Add glue to the tabs of the smaller piece (part Q) and drop it into the bottom of the larger cone shape (part P). Center the pieces to look as shown on the right and press the tabs down, letting the glue dry.

Next, add glue to the tabs on part P, now the Starliner capsule, and glue it into the aeroskirt. The seam of the Starliner will be in the front. Align the front thruster with the gray rectangle as shown on the right.



STEP 26

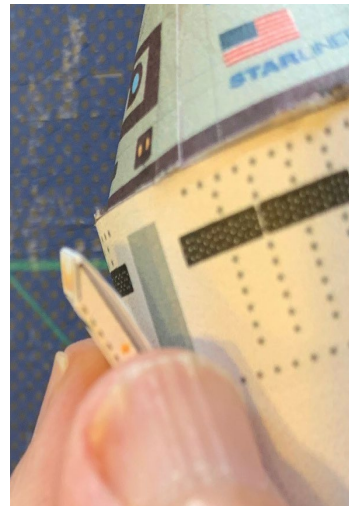
Make the Starliner thrusters (R)

Trim out all four pieces (R) which will be the four thrusters on Starliner. You may choose to gently score the dotted lines. Fold each piece and add glue to make small boxes with a slanted top (see photos on the left).

STEP 27

Attach thrusters to Starliner

Add glue to the back of each thruster and secure it to the gray rectangle on the aeroskirt/Starliner part. There will be four locations to attach thrusters. Glue the slanted section facing up, with the black line aligned to the black grid pattern on the base (see photo at right). Be sure to let the glue dry on each before rotating for the next piece.

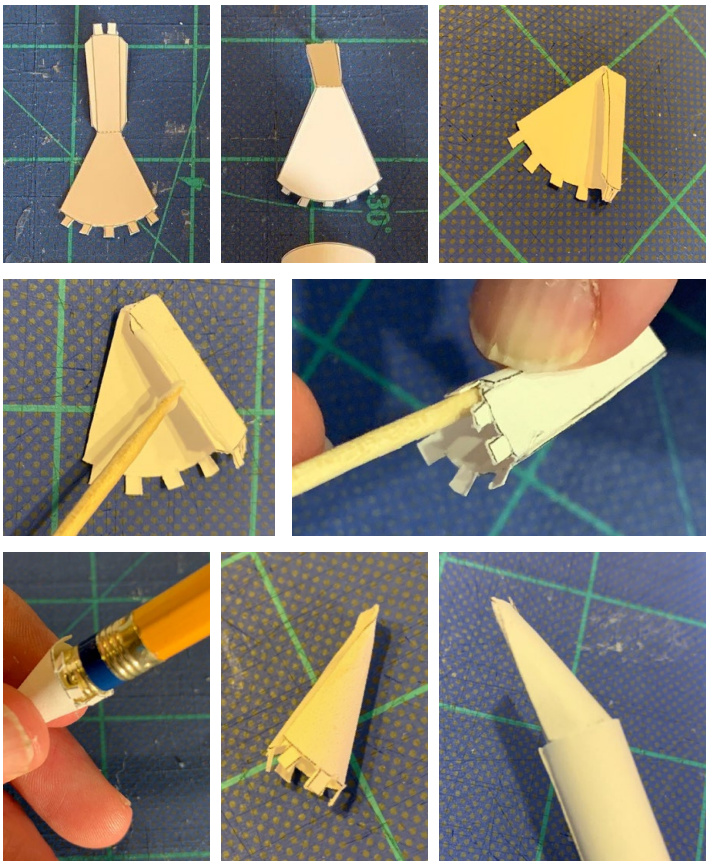
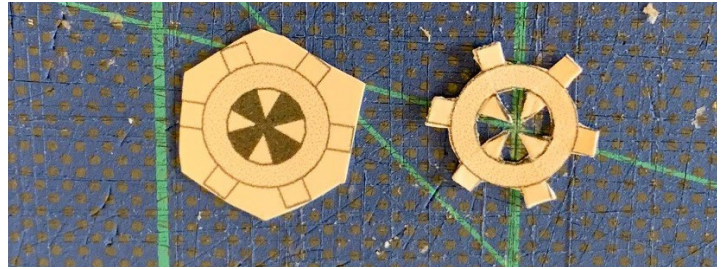
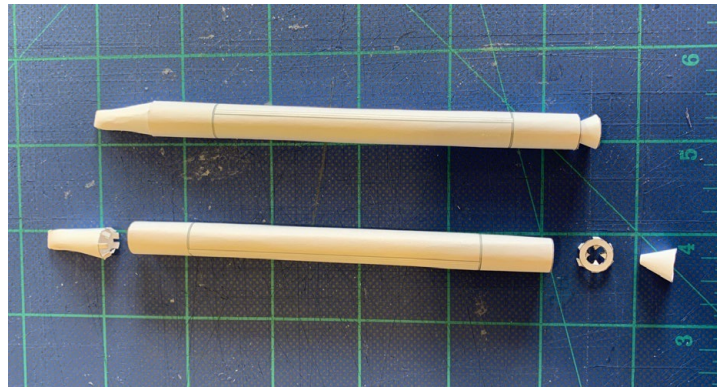


STEP 28

Trim out the SRBs

Each SRB will require one each of parts S, T, U and V. Cut out two of each part for the Atlas V Starliner configuration.

Part U requires the most patience and precision to trim. Cut out each section slowly, and remove the black portion in the center to leave a hole and four triangular points, then fold them back. Be careful not to cut yourself, as these parts are tricky and tiny.



STEP 29

Make the SRB nosecones (T)

Cut out part T and fold in half along the dotted line. From the smallest/skinniest side, add glue to one of the glue tabs and wrap the cone shape around to meet and attach to this tab. Let this dry completely before repeating and attaching the second side.

Once both sides are glued, you'll notice the part is a bit oblong. Use a pencil eraser in the end of the nosecone and round the end for an easier fit into the SRB tank. When you glue this part into the tank, you'll want the flat part of the nosecone to match the seam of the tank.

STEP 30

Assemble the GEM-63 SRBs

Nosecone (part T): see previous step.

SRB tank (part S): roll this around a pencil and glue the ends together to form a tube.

SRB Base (part U): will be glued into the bottom of the SRB tank to hold the engine.

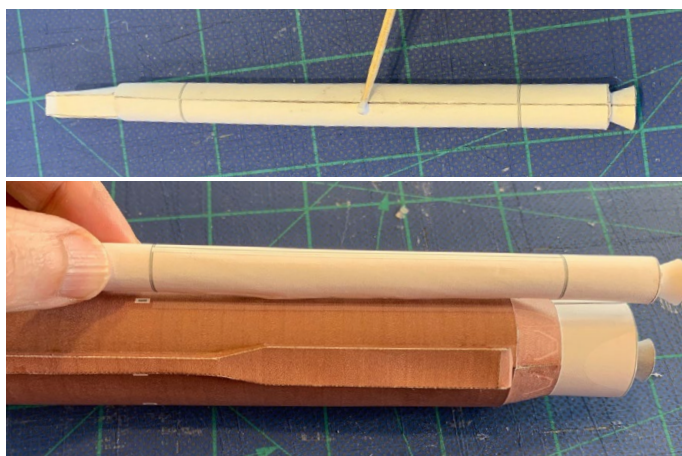
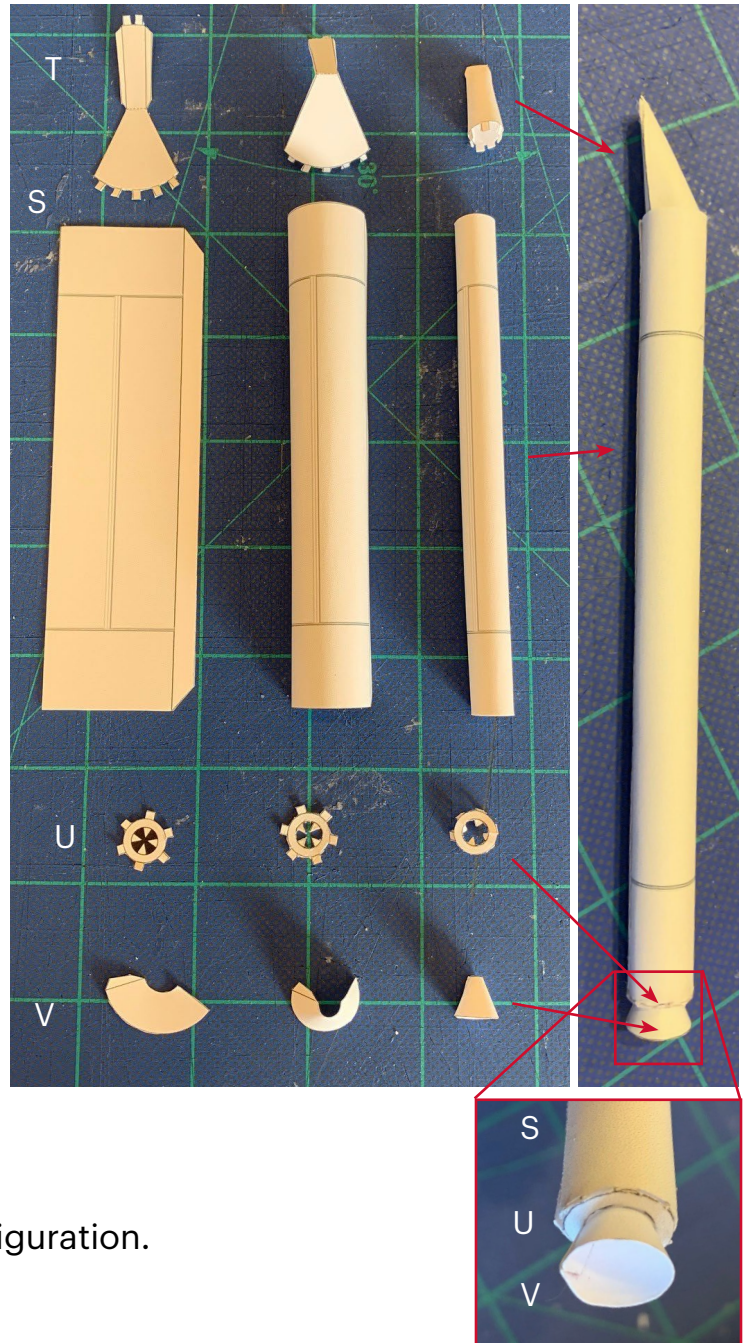
Engine nozzle (part V): wrap around and glue the end to make a cone.

Assemble the SRBs one at a time, making sure the glue dries on each part before proceeding.

Once each part is formed, glue the nosecone into the top of the SRB tank by adding glue to the rectangles and sliding it into the tank tube, flat side of the nosecone should face the SRB tank seam. Then glue the base (part U) into the opposite side of the tank.

Add glue to the triangles in the hole of part U, and attach the engine nozzle (part V) by pushing it into the hole with the glued triangles. Center the part before the glue dries.

Make two SRBs for this Atlas V Starliner configuration.



STEP 31

Glue the SRBs to the rocket

Add glue to the top half of the seamed side of each SRB (this hides the seams) and stick them to the faded lines on the booster, one at a time, letting each one dry and assuring they are straight and lined up to each other. You'll want to align the bottom line of the SRB tank with the seam where the heatshield meets the base of the booster.

COMPLETED ATLAS V STARLINER ROCKET



MODEL STAND

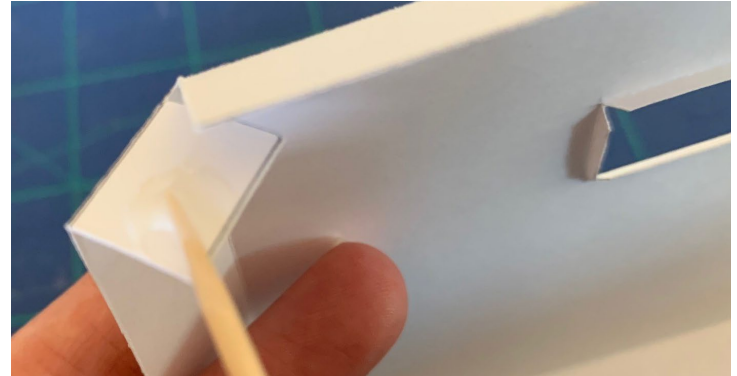
STEP 1

Make the base of the stand (W)

Trim out part W, as shown, and be sure to score all fold lines in this stand model. Score the lines by using the back side of the x-acto knife or cutting very lightly so the blade doesn't go through the line). The folds need to be crisp and 90 degrees to provide a sturdy stand for the rocket.

Remove the black section marked "cut out and remove." The white portion of this area can be scored and the corners cut to allow each tab to fold down. See photos on the right.

Add glue to corners of the box to make the base for the stand. Allow glue to fully dry.

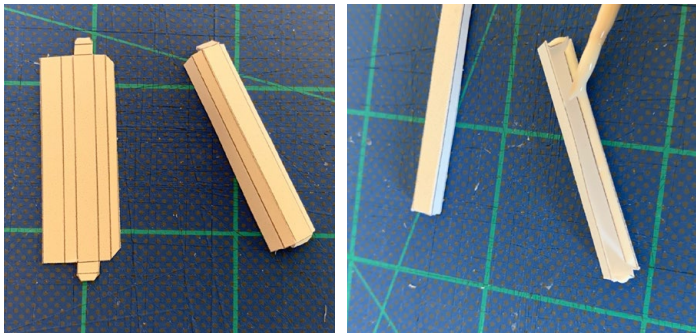
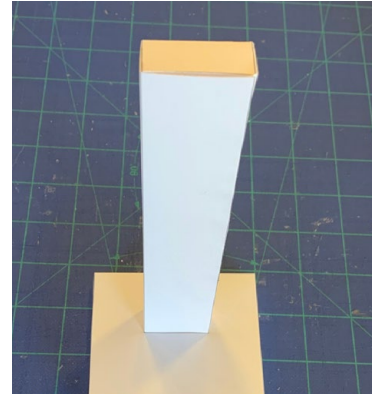
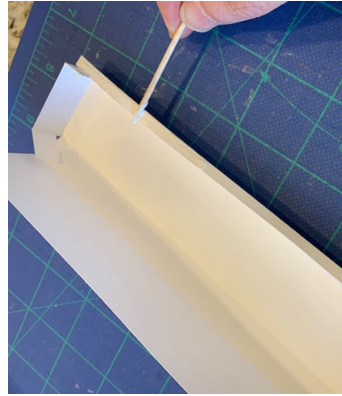
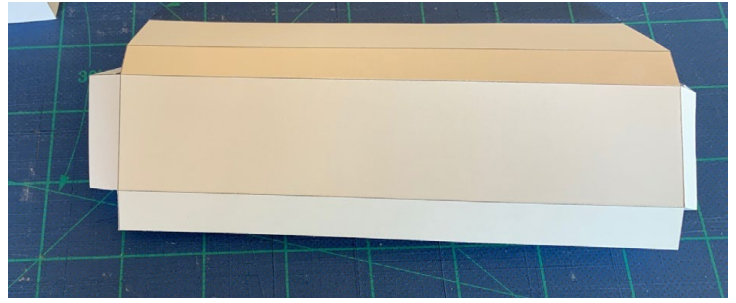


STEP 2

Make the support tower (Z)

Trim out part Z from the pattern, and again, score all the fold lines for a clean fold. Add glue to corners to make the shape in the photo, a tall, thin box.

Insert the support tower (Z) into the base (W) and even the length with the side walls of the base. This will ensure that the support tower is touching the ground or table when it stands and will provide further support. You can also add glue to the folded tabs to secure the base to the tower, once you have the positioning correct.



STEP 3

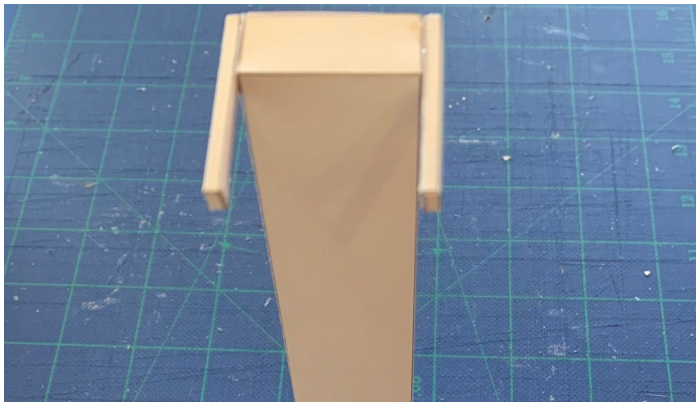
Make the support arms (X & Y)

Trim out parts X and Y, scoring the fold lines, then fold and glue together to make small boxes.

Next, glue the support arms to the sides of the support tower, at the very top, so that the widest surface is attached to the tower. See the photo for reference.

Let glue dry.

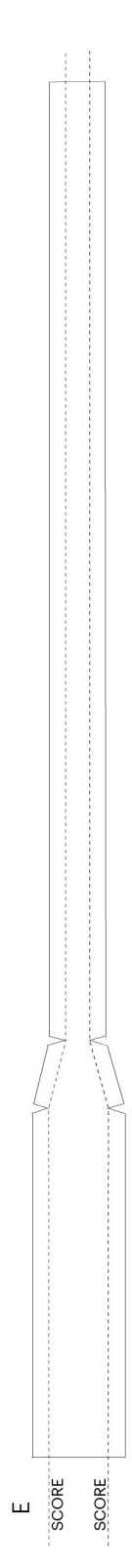
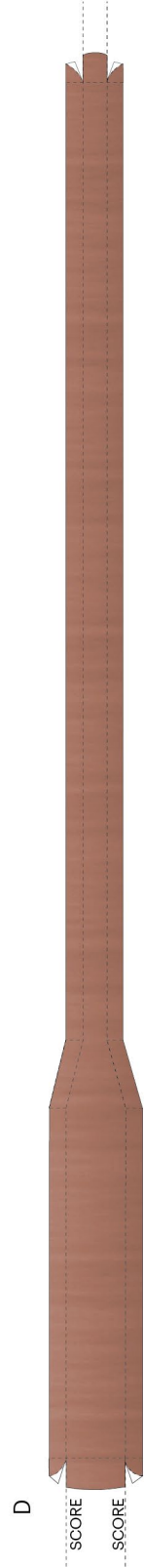
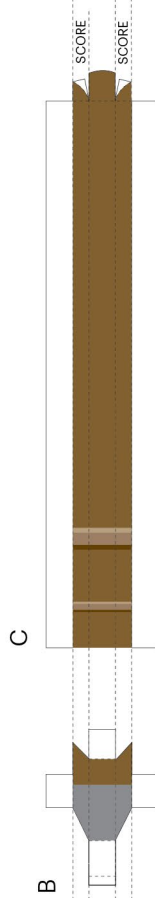
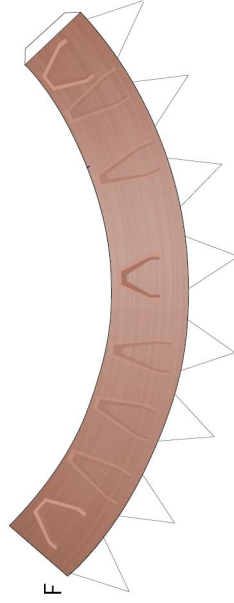
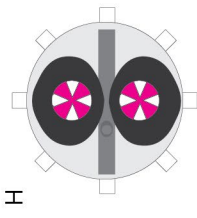
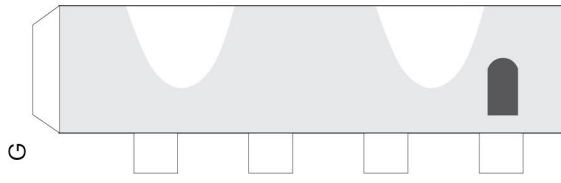
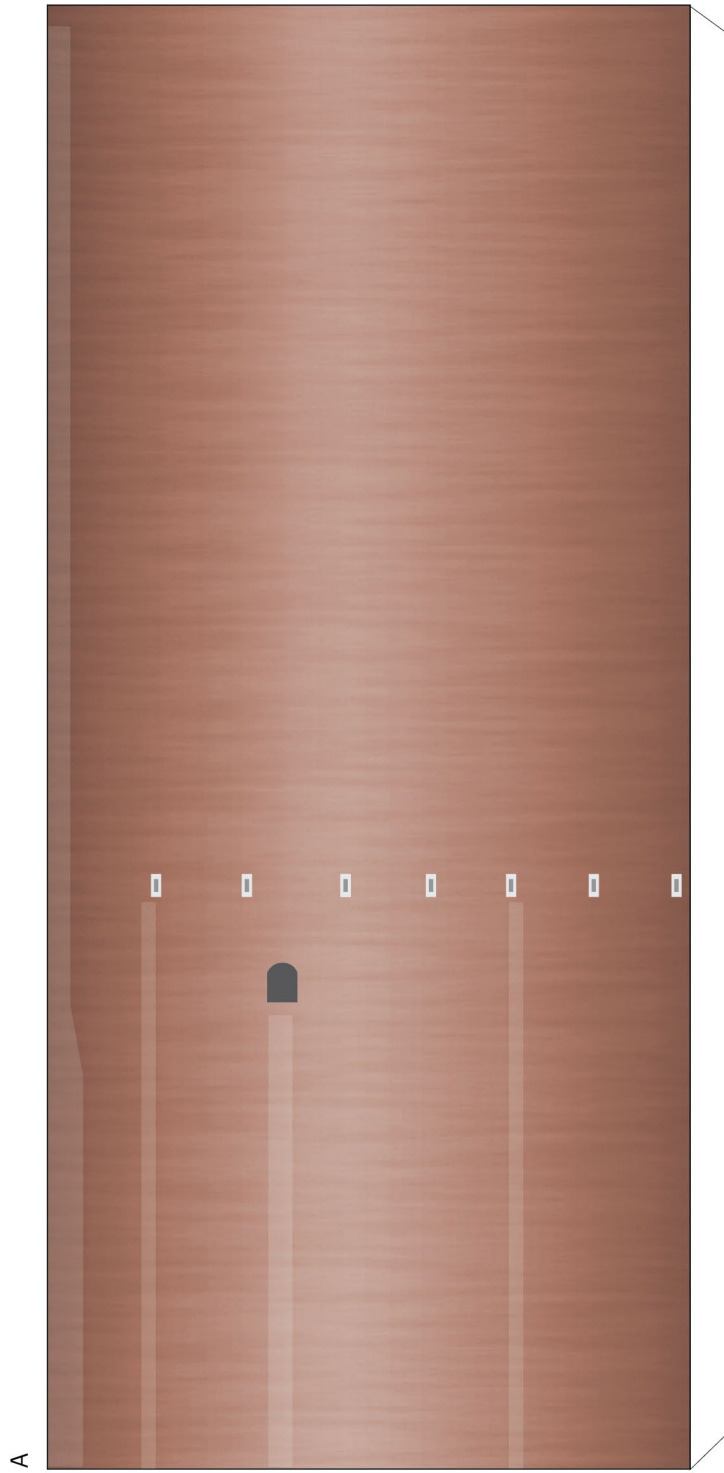
Add the rocket! The support arms should fit nicely around the booster, just above the SRBs.



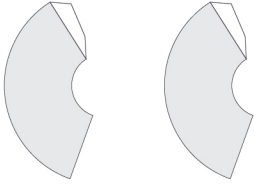
ATLAS V STARLINER ROCKET

With Model Base

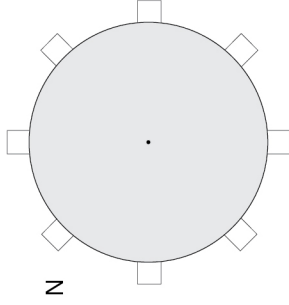
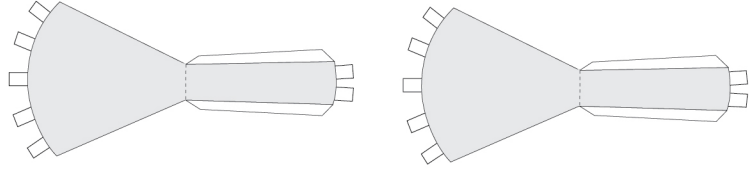




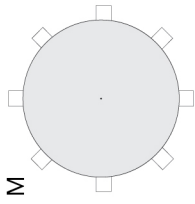
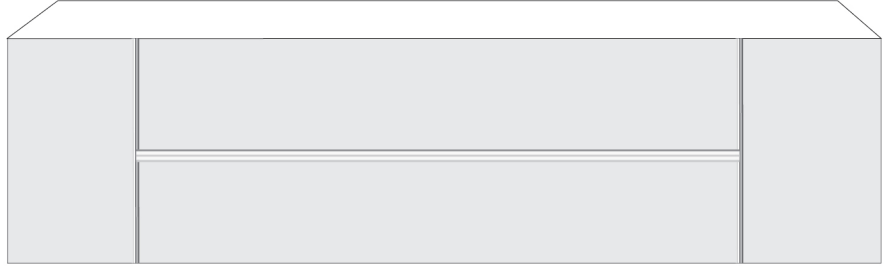
V (2 Parts)



T (2 Parts)

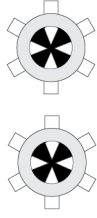


N

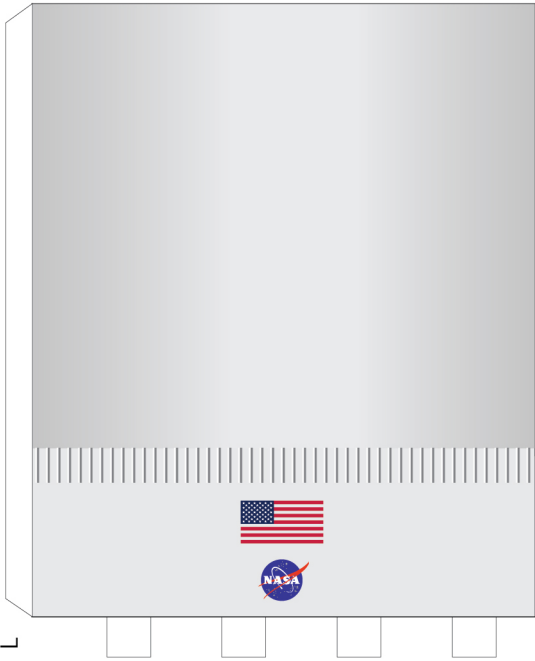


M

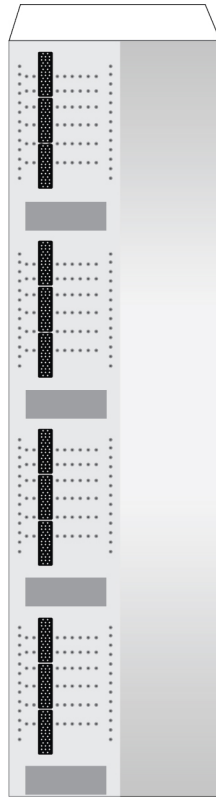
U (2 Parts)



S (2 Parts)

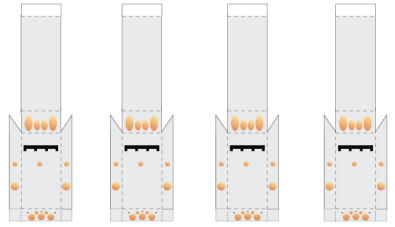


L

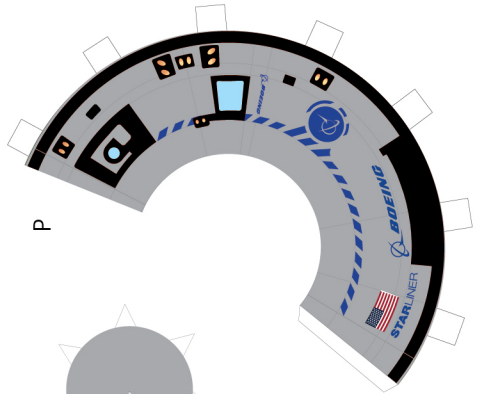


O

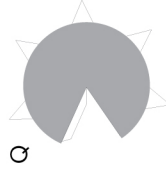
R (4 Parts)



K



P



Q

MODEL BASE

Score all folding lines on this page

