

SpaceX Starhopper rocket



SpaceX is building a test article dubbed “StarHopper” for its proposed two-stage reusable spaceship dubbed the “Starship.”

StarHopper has a serious engineering purpose: testing liftoff, hovering and landing for the proposed much larger spacecraft. But it is also a work of art. It resembles nothing less than one of those retro rocketships that Buck Rogers and Flash Gordon flew into battle evil aliens in those 1930s serials. 1950s science fiction featured such spacecraft, especially the classic “Destination Moon.”

The image is derived from StarHopper’s bullet-like shape, the control fins on its stern, and especially the use of stainless steel, as Ars Technica notes. Modern rockets, especially SpaceX’s Falcon launch vehicles, are built primarily of carbon composites because of their high strength and lightweight.

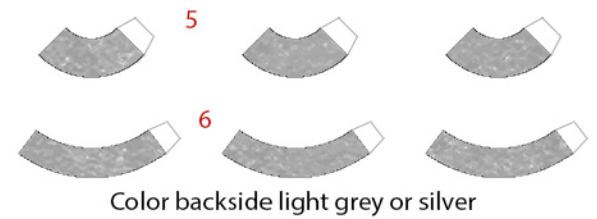
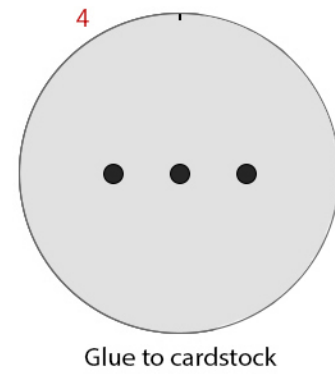
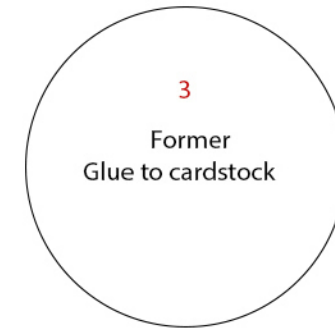
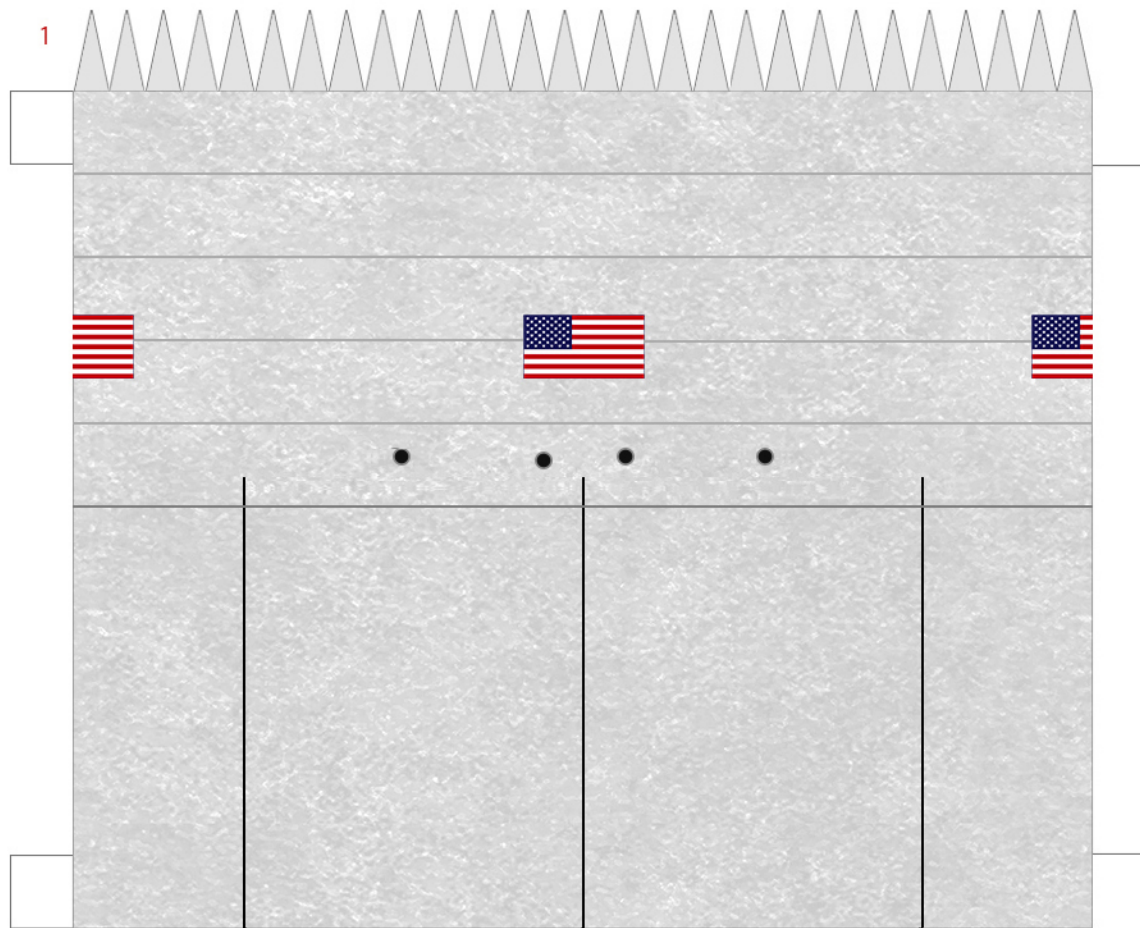
Stainless steel was used to build StarHopper because it performs slightly better than carbon composites at cold temperatures, worse at room temperatures and “vastly better” at high temperatures. The latter is the key.

This is a prototype built “for suborbital [vertical take-off and landing] tests” to prove that the world’s biggest-ever spaceship can both launch from and land back on Earth, just like SpaceX’s smaller Falcon 9 and Falcon Heavy rockets.

After those VTOL tests are complete, SpaceX will proceed to build an “orbital version” of the rocketship that will be taller, with thicker skins and a smoothly curving nose section.

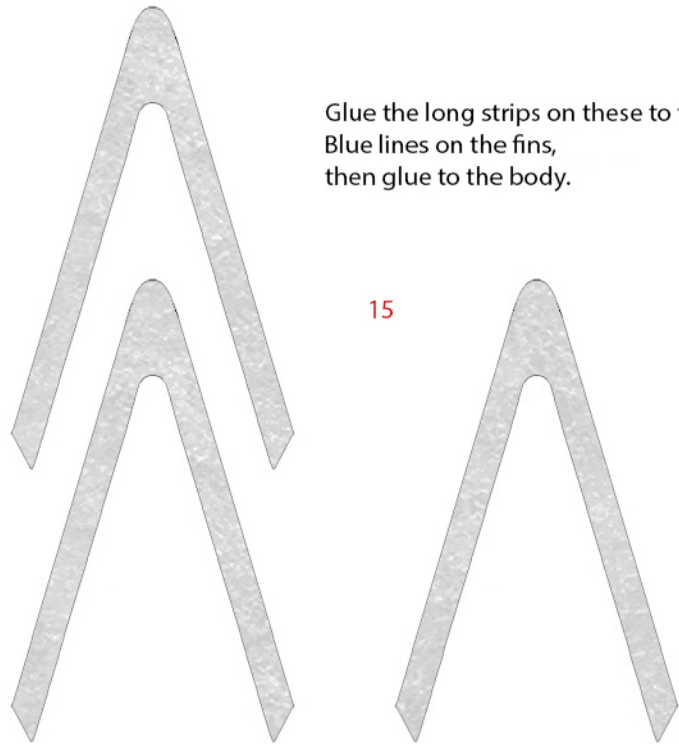
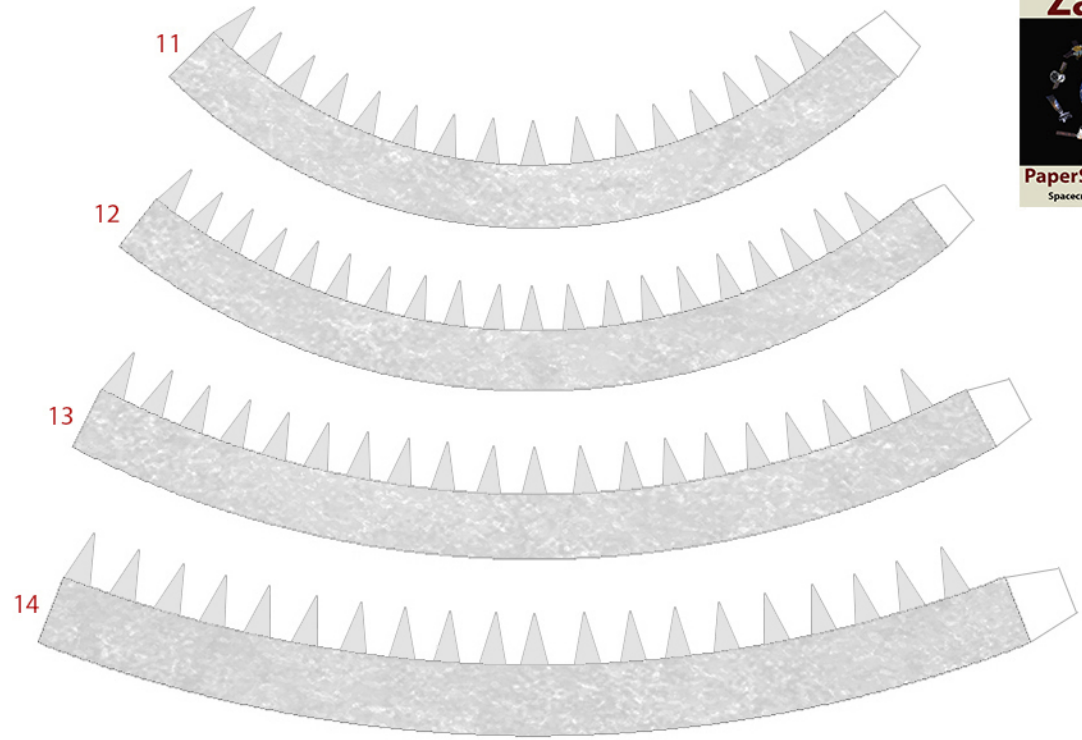
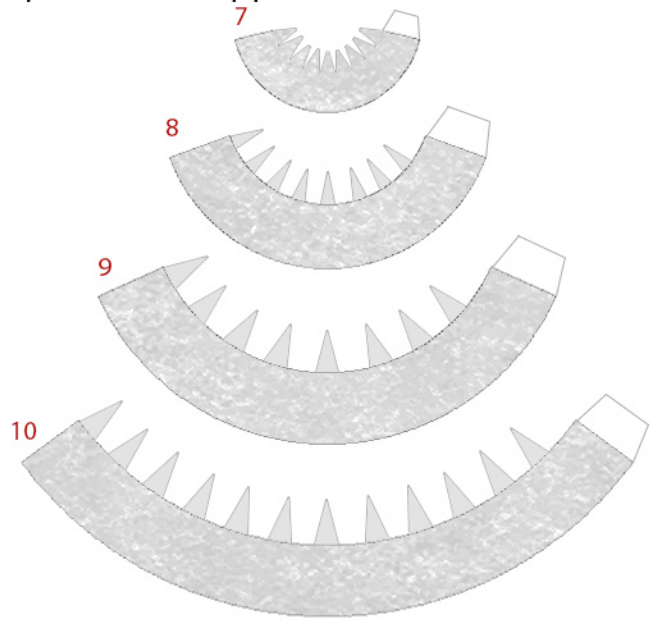
This test vehicle will use three Raptor engines to lift off and ascend into low atmosphere and then reduce engine power and make a controlled descent later this spring. At this point the prototype has an assembled fuel tank, aft engines, stabilizer fins, and nose cone. It’s reflective, gleaming exterior is suspected to play a role in heat resistance, lowering weight through a reduced need for heat shielding.

The Starhopper, SpaceX’s prototype starship, is set to begin inaugural hop tests as soon as March or April of 2019. Starhopper’s design is unorthodox — and that’s why it’s expected to work so well.

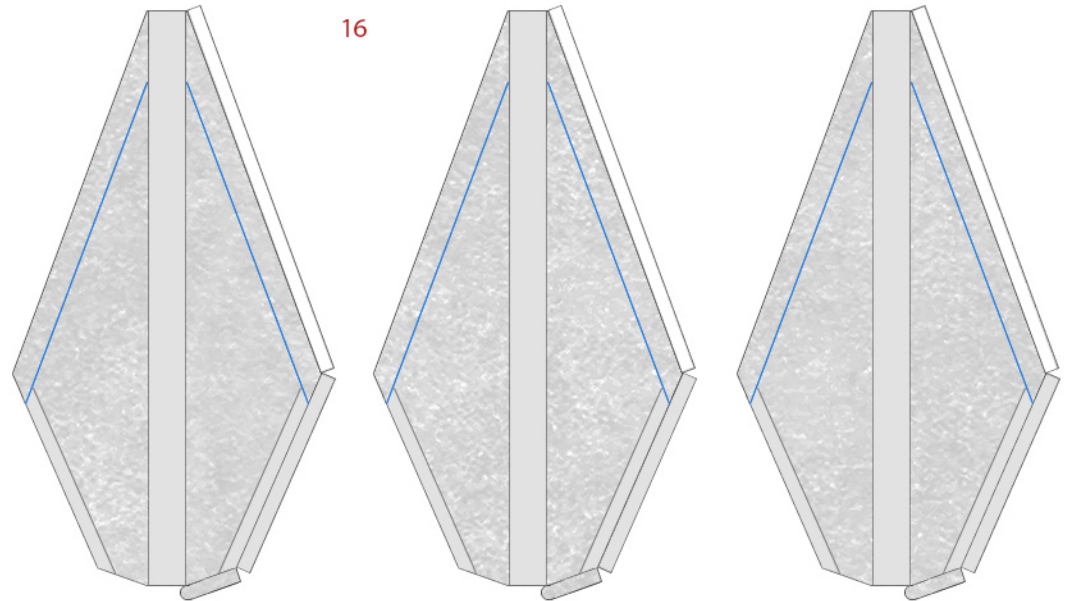


Glue to inside bottom edge of the body.

SpaceX Starhopper rocket



Glue the long strips on these to the Blue lines on the fins, then glue to the body.



Instructions

Keep all seems aligned during assembly.

roll the top of part 7 as shown in the photo.

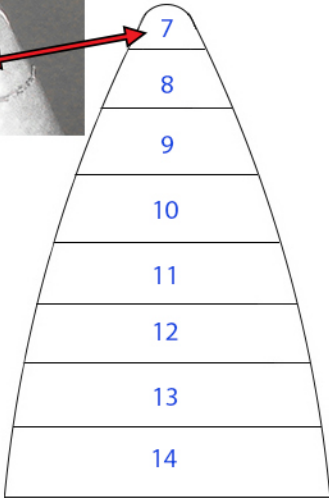
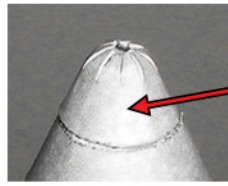
Glue Part 2 to the inside bottom of the main body (1).

Glue 4 into the body with the three dots facing down and against part 2, match the black marker on part 4 with the long black line under the flag on the body.

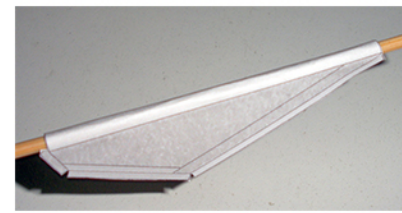
Add extra cardstock to the inside of the body for strength.

Glue 3 (former) near the inside top.

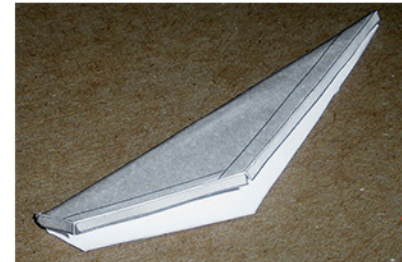
Glue the nozzles together and glue to the three dots on part 4



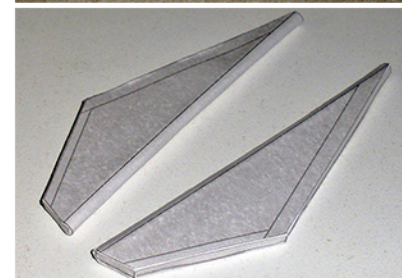
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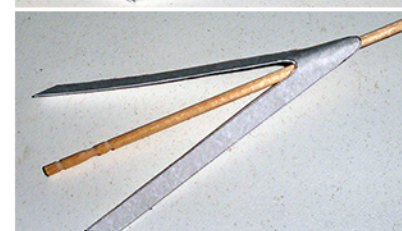
Wrap middle of each fin around a tooth pic as shown



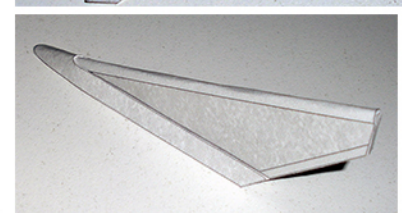
Fold-glue the three tabs to the inside edge on the other side to create a fin that is around 2 mm thick.



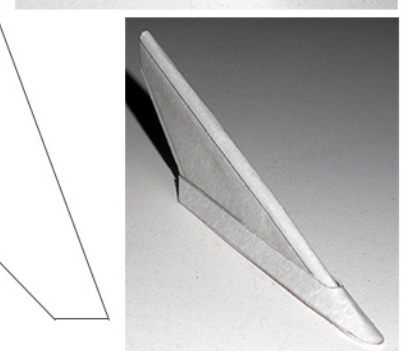
Should look like this on each side.



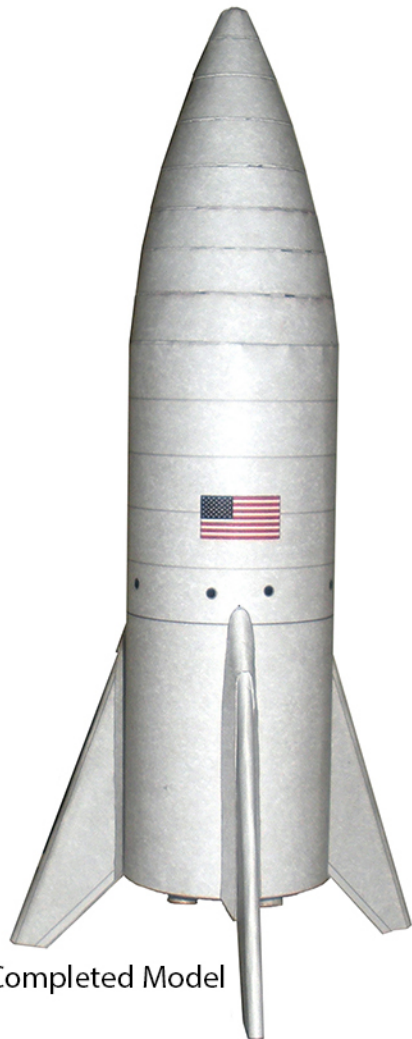
Wrap the pointed end of part 15 around a tooth pic as shown.



Glue the long legs of part 15 to the blue lines on both sides of each fin as shown. The fins should look these on the two photos.



Pinch part 15 inward and glue each fin onto the long Black line on the body. Part 15 should be against the body with a slight outward angle as shown on one of the photos on the left.



Completed Model