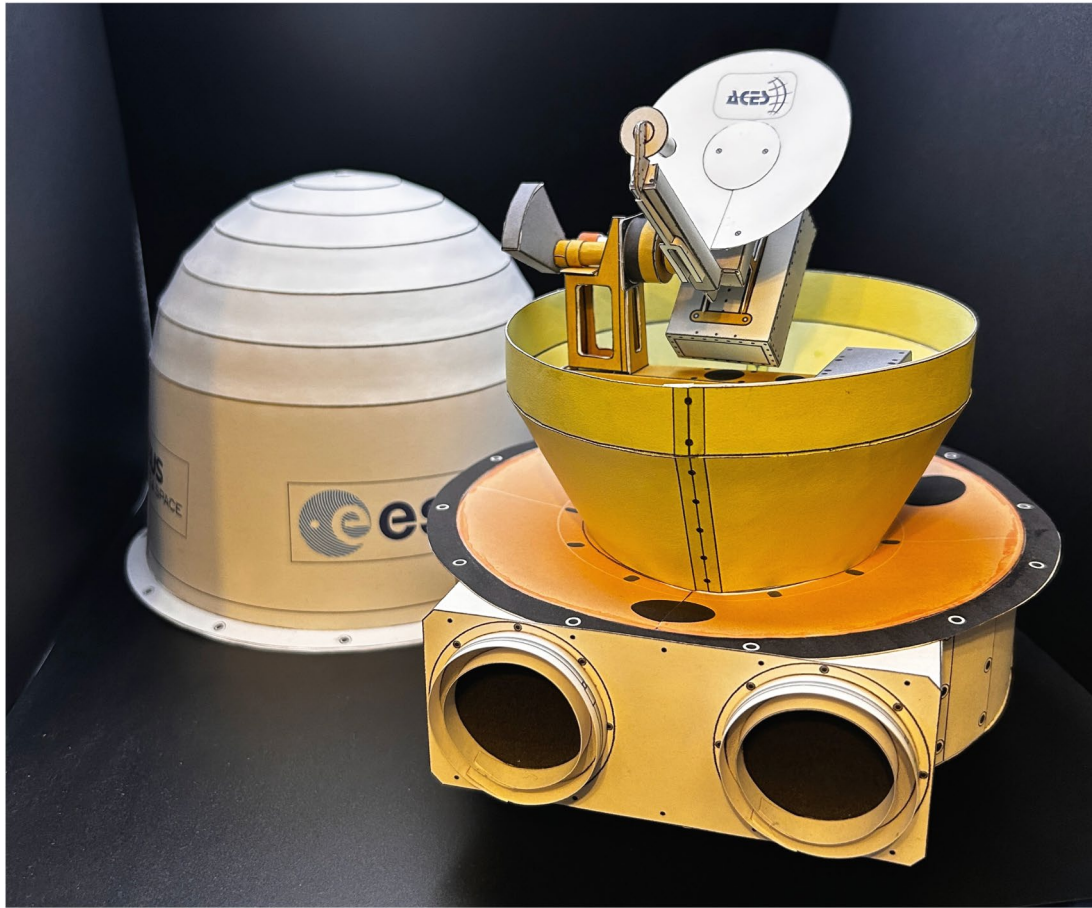


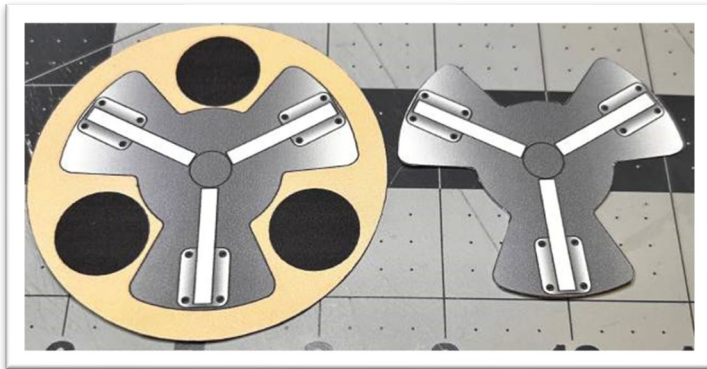


ACES Ground Terminal (GT) 1:10 Scale Paper Model Instructions

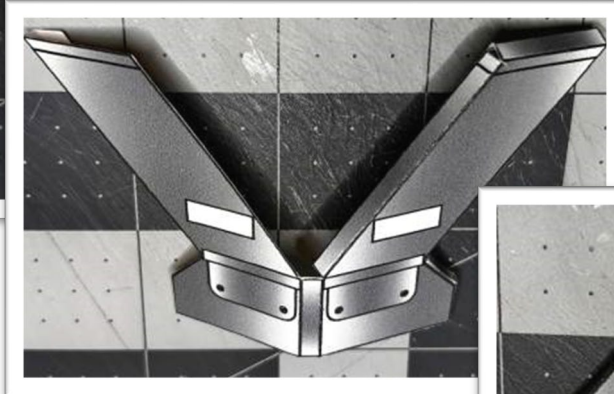
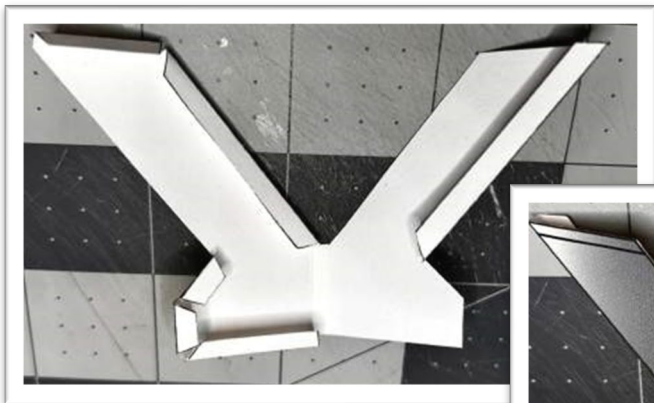


Assembly of the GT Pedestal

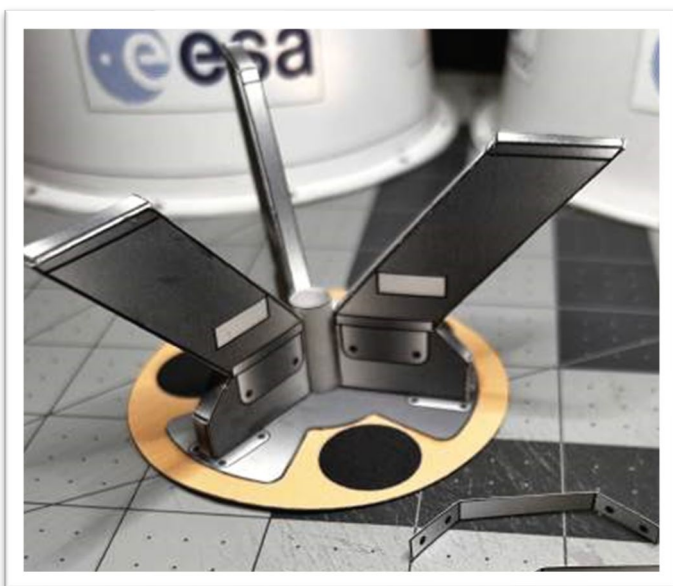
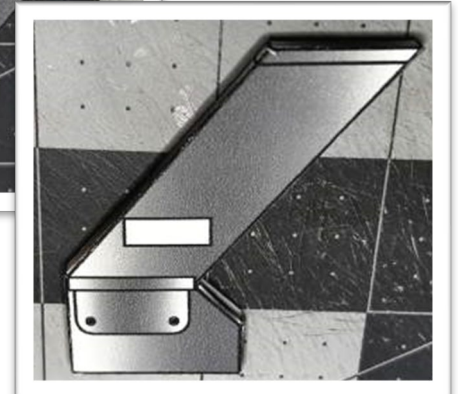
← Glue one piece on top of the other. Then make the cylinder and glue it on top. ↓



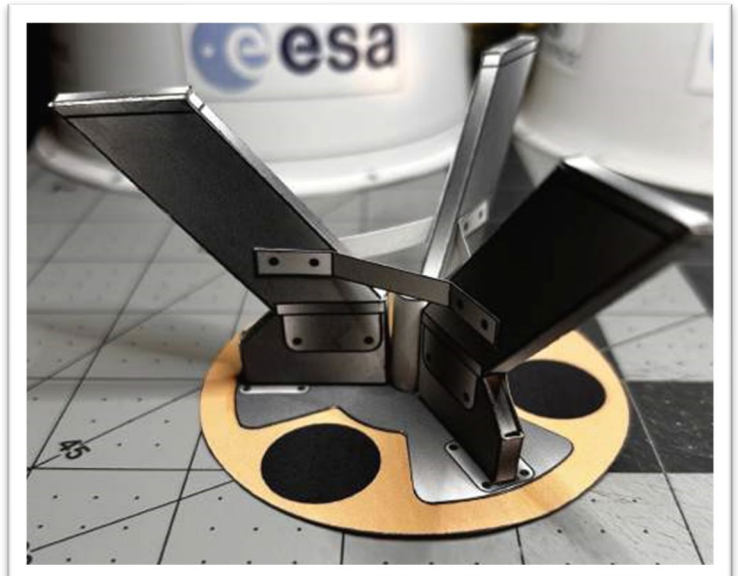
Fold and glue each leg onto itself. ↓



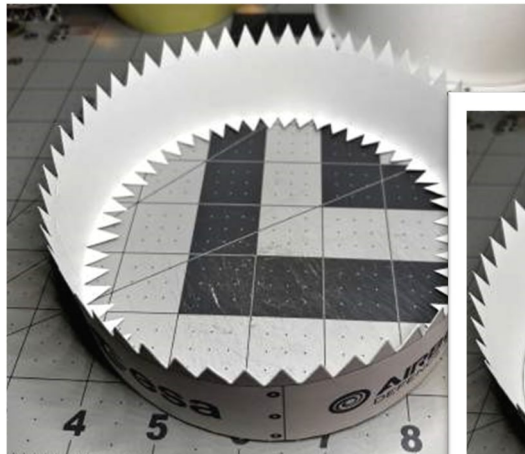
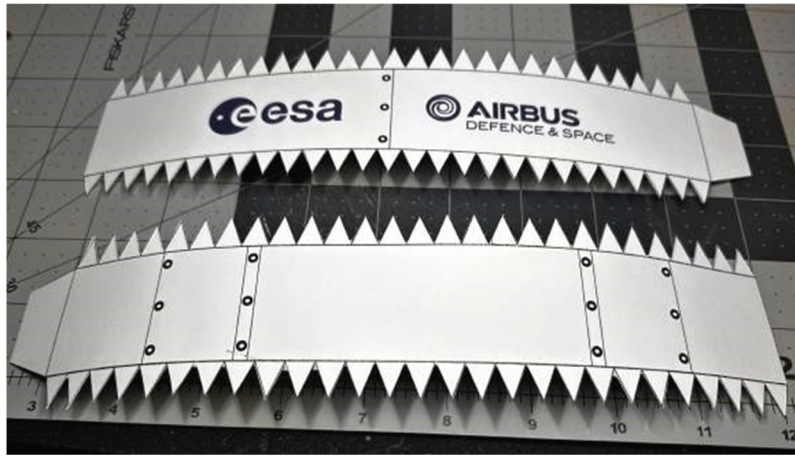
Glue each leg to the bottom plate and glue each bracket one piece onto the other (grey on white). ↓



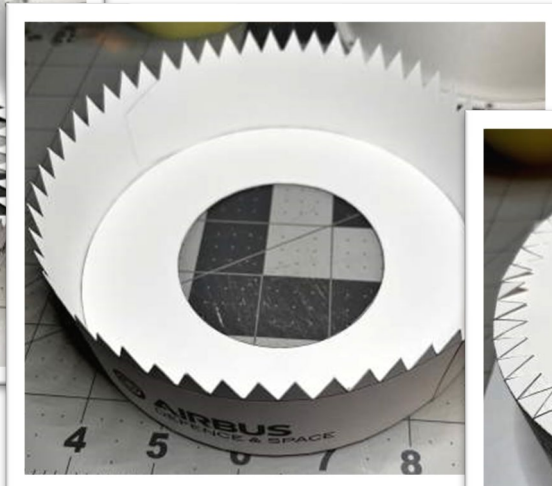
Glue each bracket between two legs. →



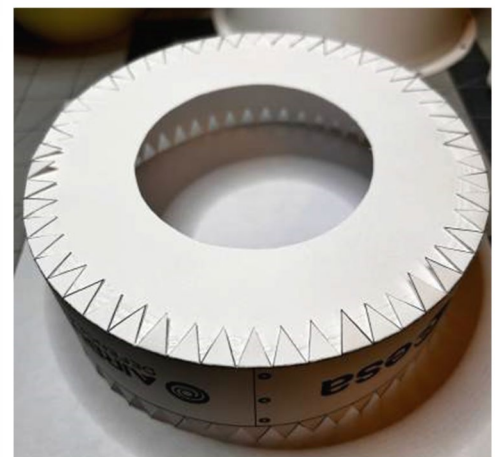
Assembly of the Air Distribution Manifold and Radome Support Dish



↓ Glue the *Manifold Inner Bottom*



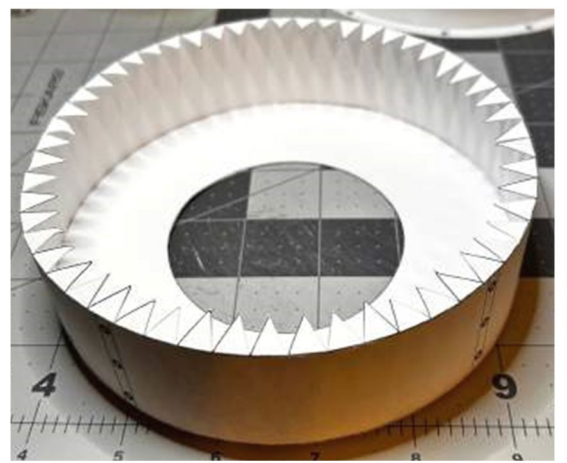
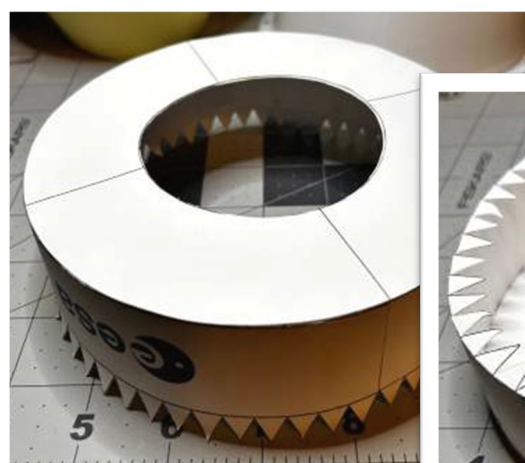
↓ Flip

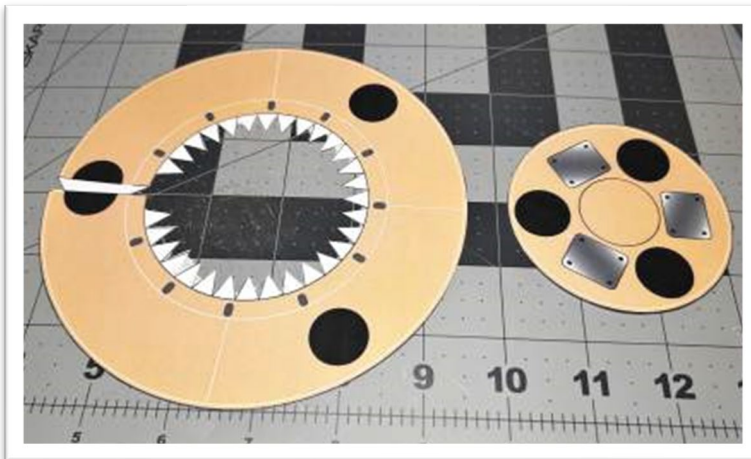


↓ Glue the *Manifold Outer Bottom*

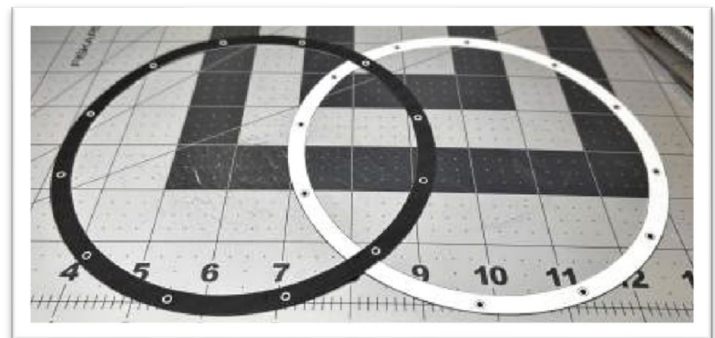
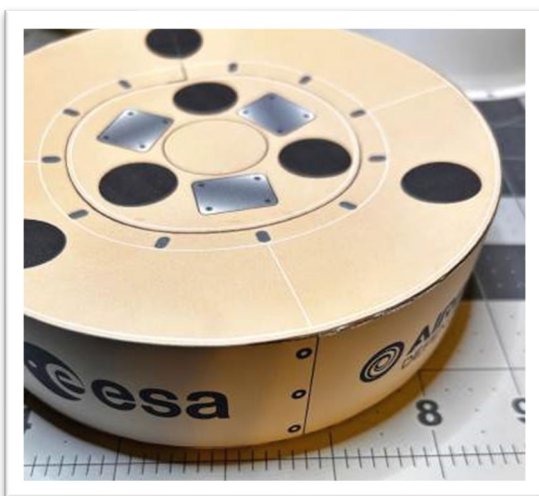
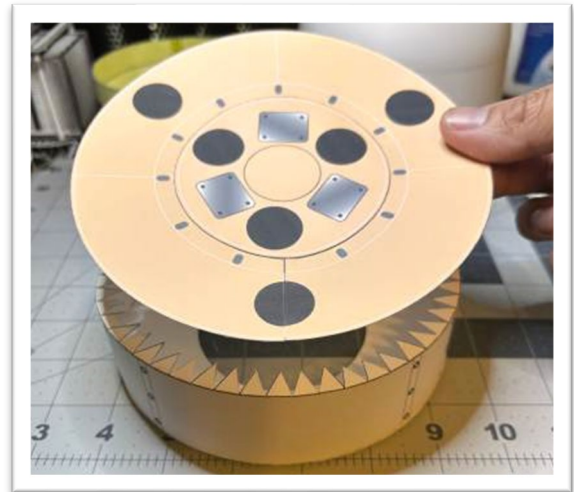


↓ Flip

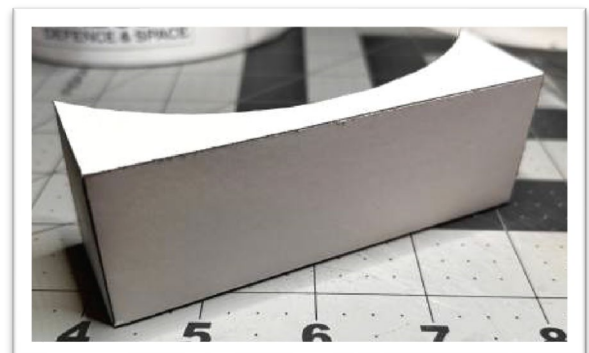
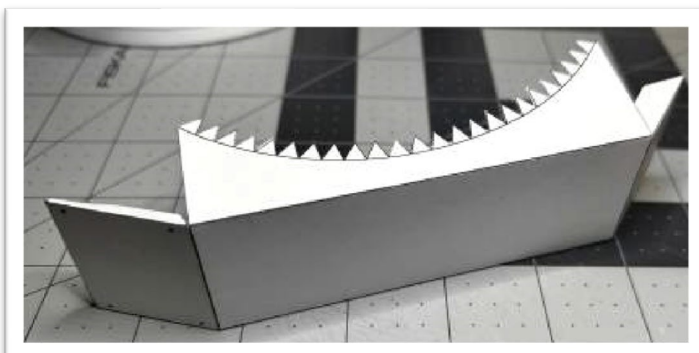
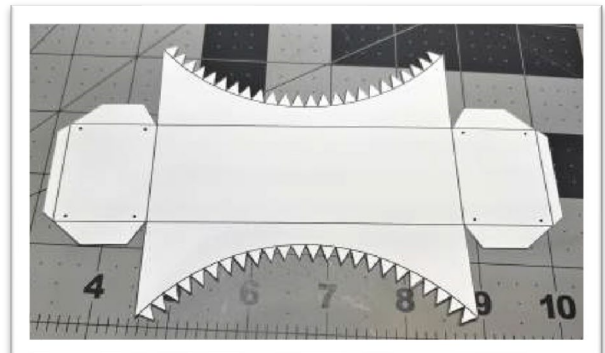
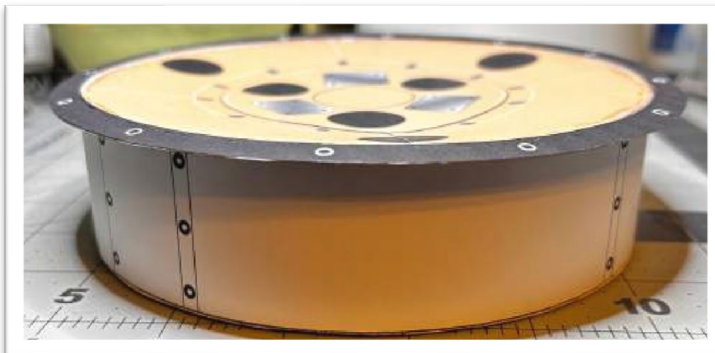


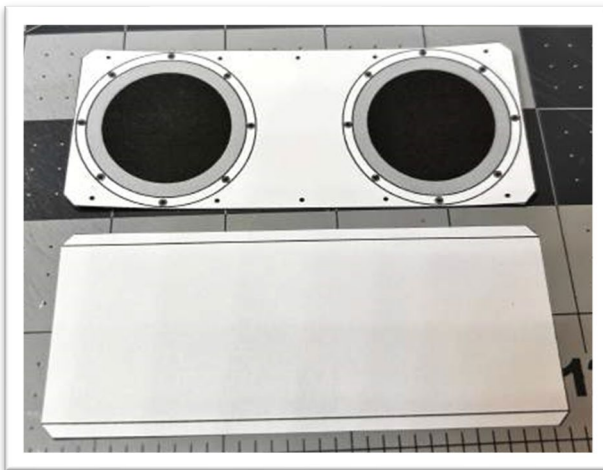
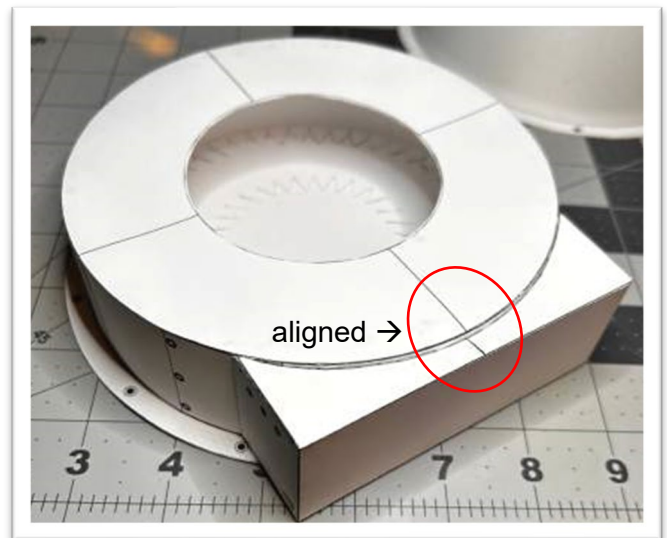
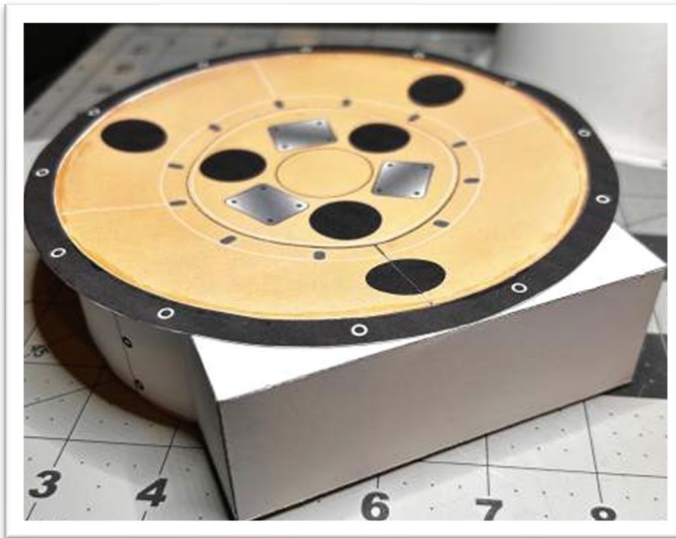


← When glued, the outer disc should be slightly concave (curving inwards).

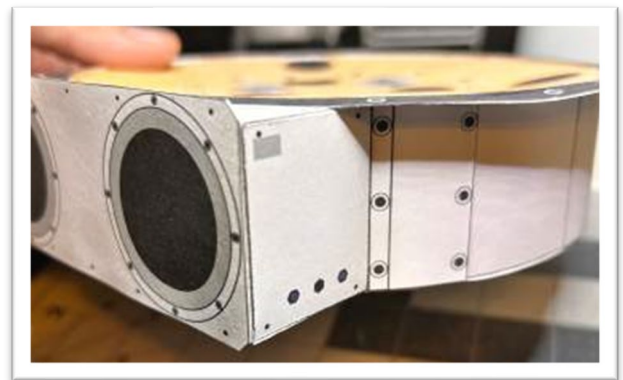


Glue the three edge discs (top, reinforcer, bottom) together ↑ before gluing them onto the concave disc ↓ to form the radome support dish.

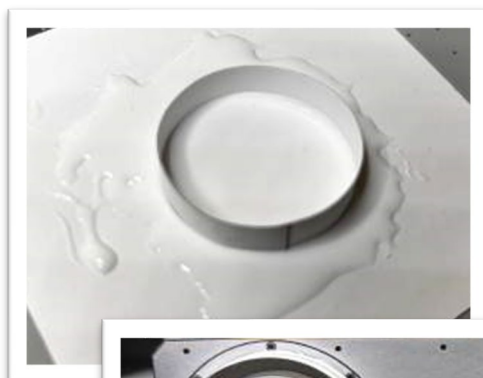




← Glue these two pieces back-to-back before gluing them onto the rest of the manifold duct ports.



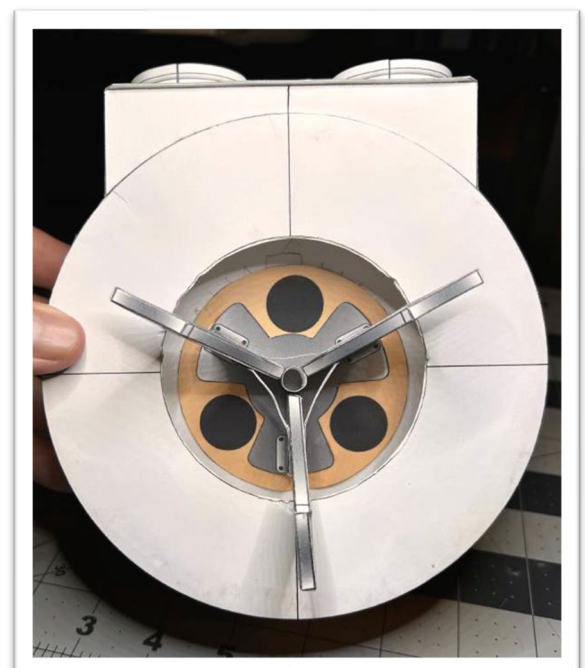
Glue the four round duct connectors onto themselves to form rings.



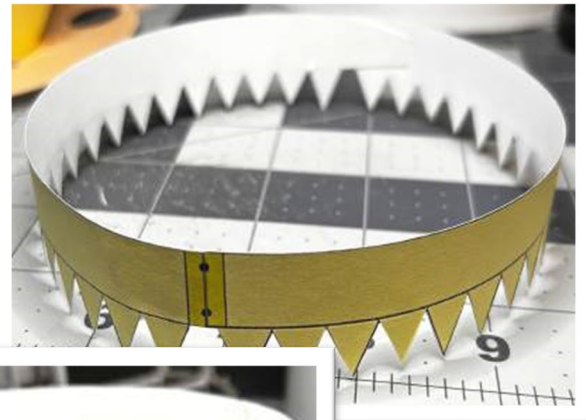
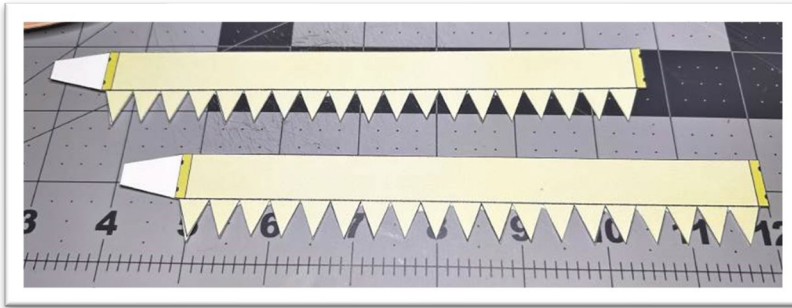
← Dip the rings into glue and then glue them to the duct ports. ↓



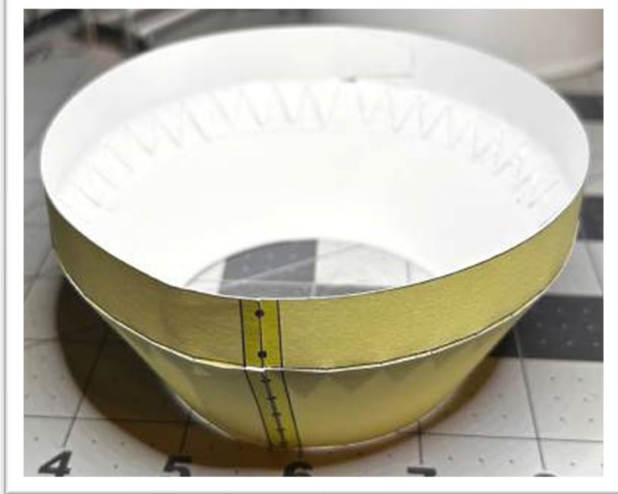
Glue the pedestal under the air distribution manifold. →



Assembly of the Air Diffuser



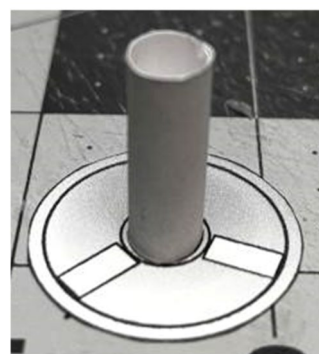
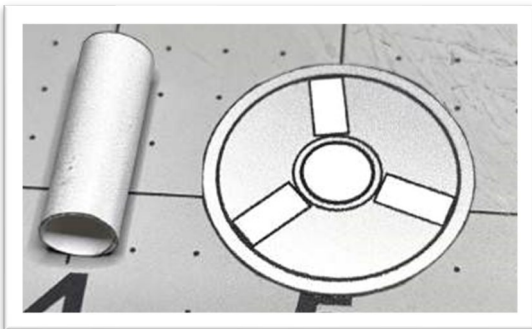
↑ Start with the *Outer Skin*.

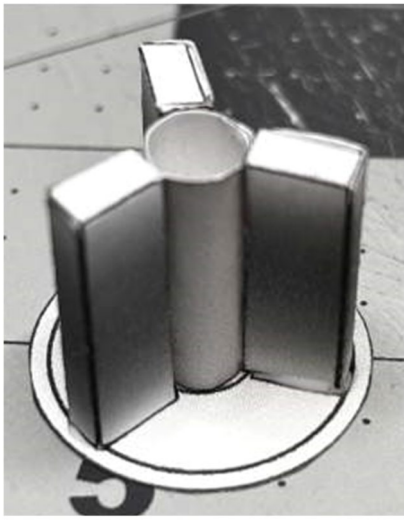


Glue one by one the six parts of the *Inner Skin* inside the already formed *Outer Skin*. →

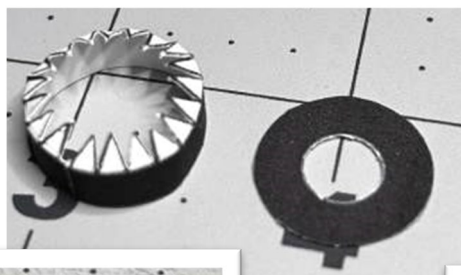
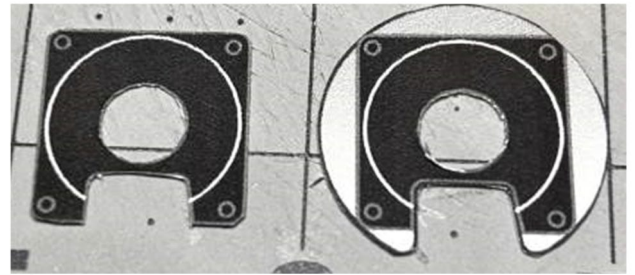


Assembly of the Antenna Steering Unit Base (including Azimuth Actuator)

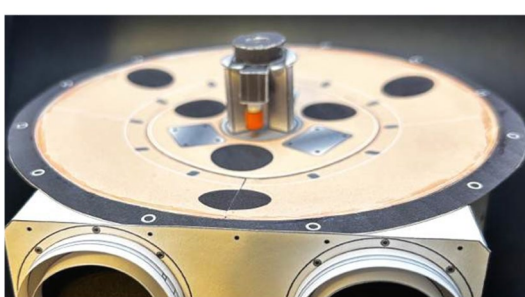
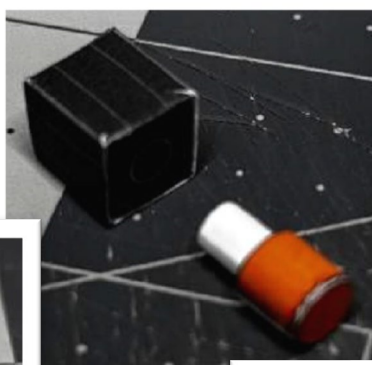
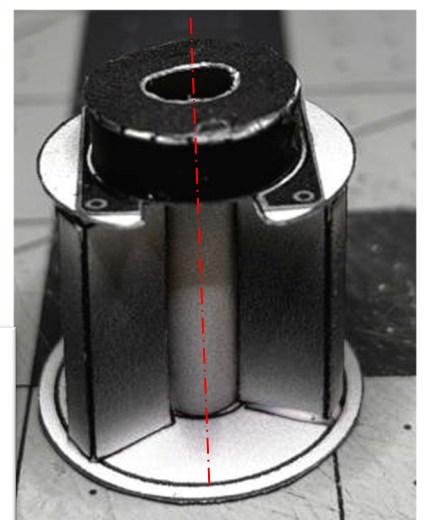
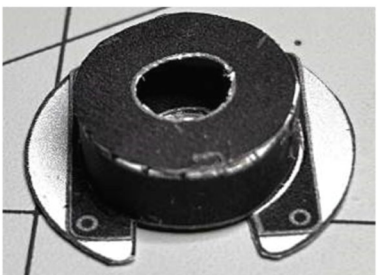
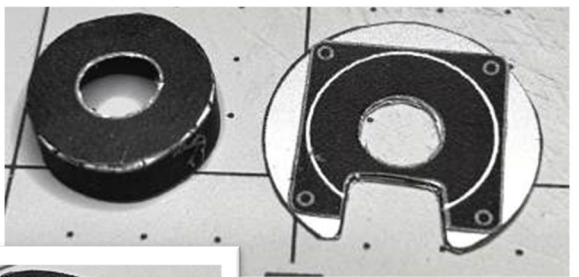




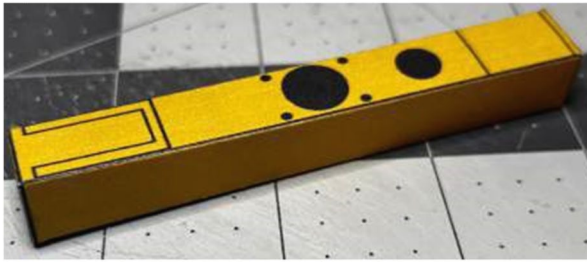
Glue one piece on top of the other. →



Make sure the holes and cylinder are aligned and concentric. ↓

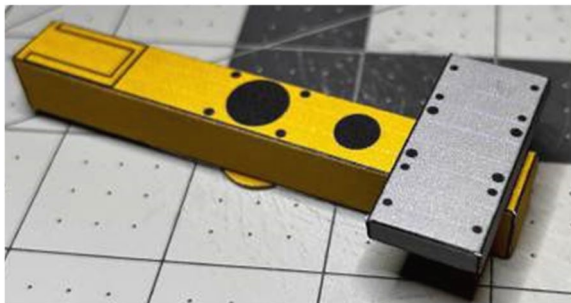


Assembly of the Steering Unit

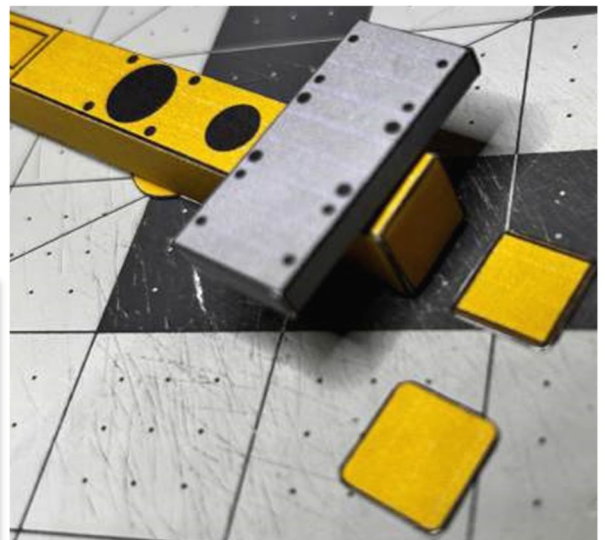
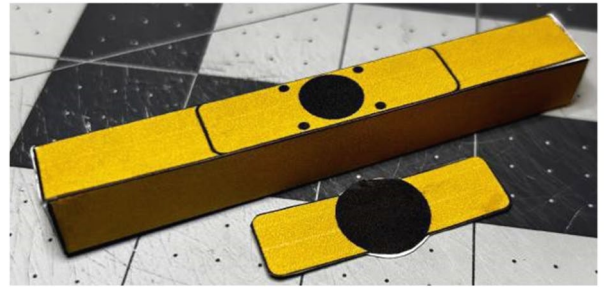


← Glue these two pieces back-to-back before gluing them below the rectangular tube. ↓

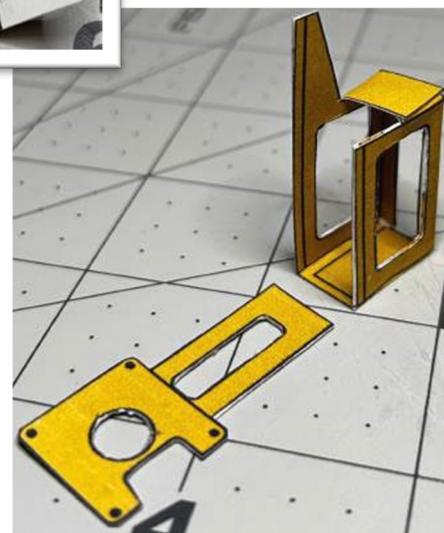
Build the counterweight and glue it on the rectangular tube. ↓

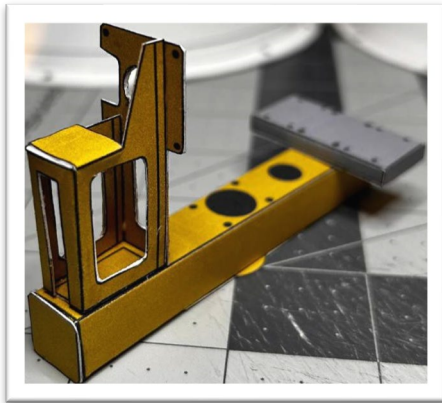


Glue the square pieces back-to-back before gluing them on both sides of the rectangular tube. →

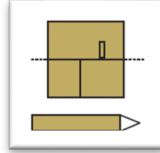


Glue the symmetrical pieces back-to-back before gluing them to the rest of the azimuth actuator interface. →

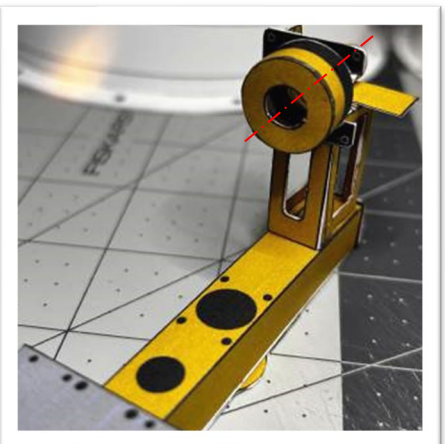
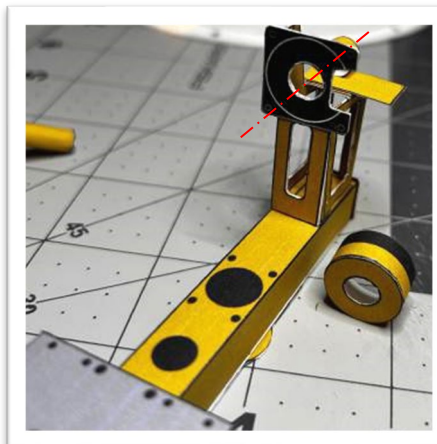
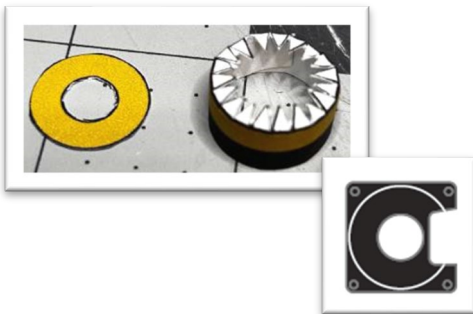
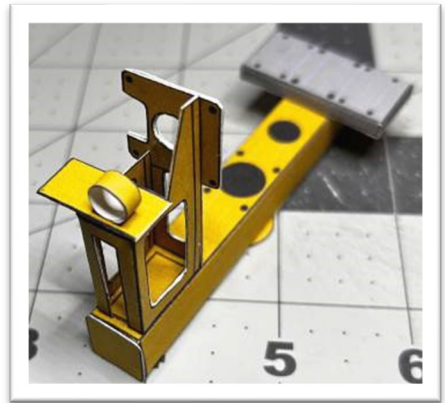




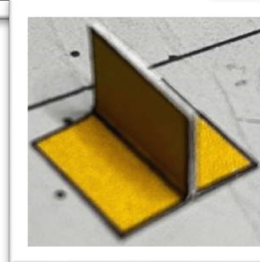
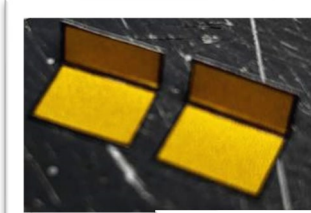
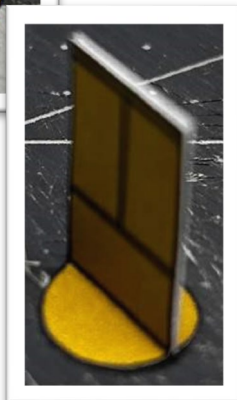
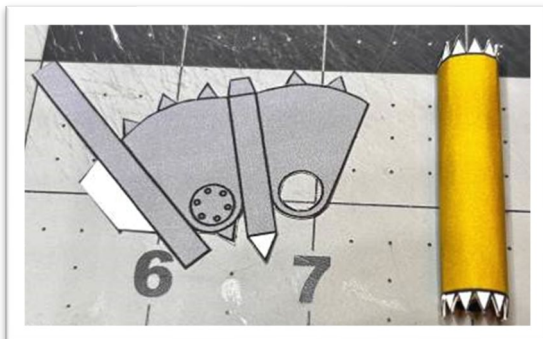
Fold and glue the square piece onto itself to form a rectangle and roll and glue the other piece to form a ring. ↘



Glue the rectangle on top of the azimuth actuator interface and the ring on top. →

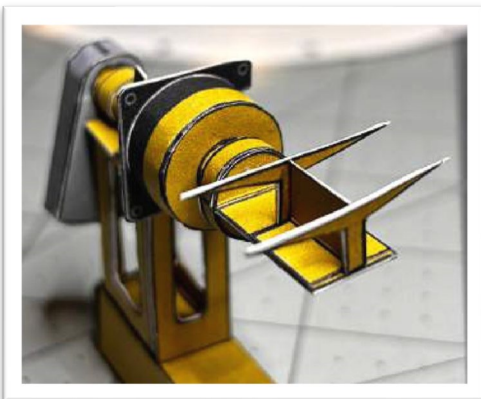
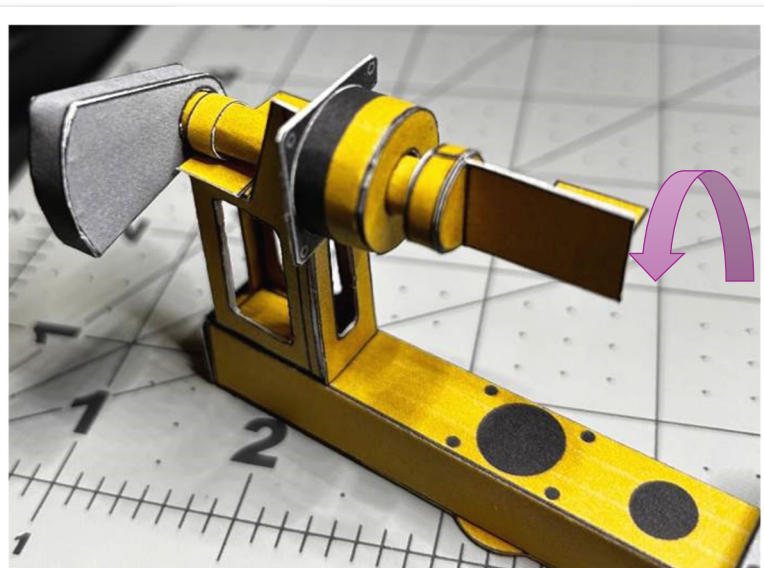


Make sure the hole and rings are aligned and concentric. →



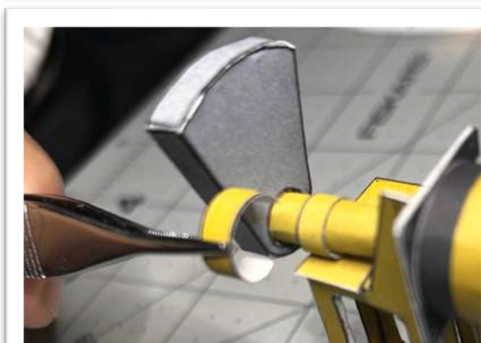
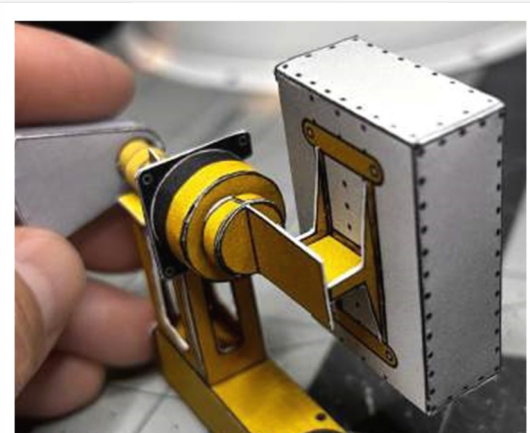


Control the alignment between the counterweight and the antenna holder. The axis should be free to rotate. →



← Glue the four T-shaped pieces back-to-back before gluing them on the antenna holder.

Build the Microwave Link (MWL) Electronic Unit box and glue it. →

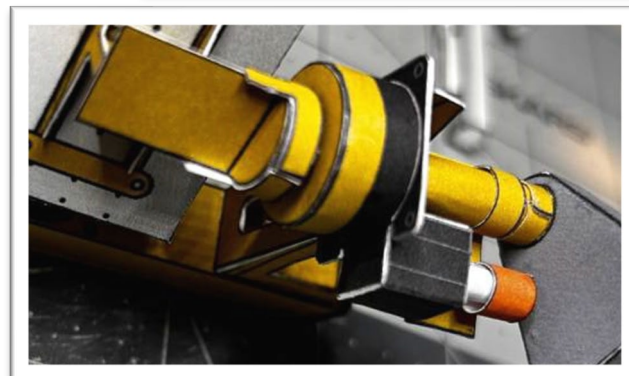


← Glue one ring to the elevation axis to block its translation.

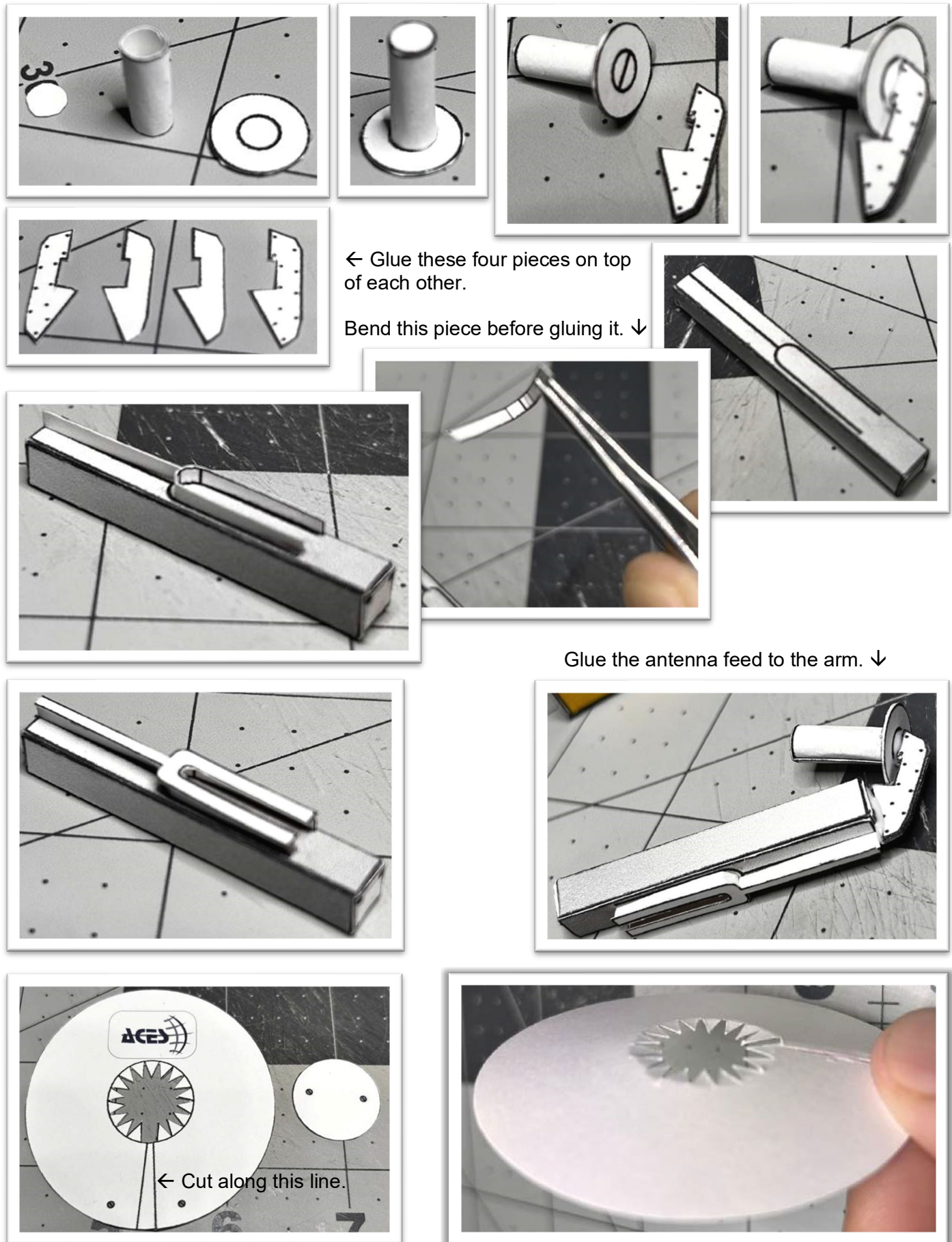
Build the elevation actuator the same way as the azimuth actuator and glue it. →

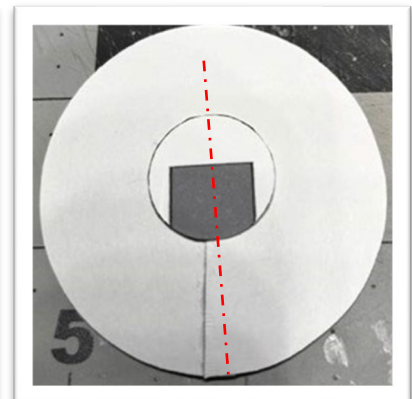
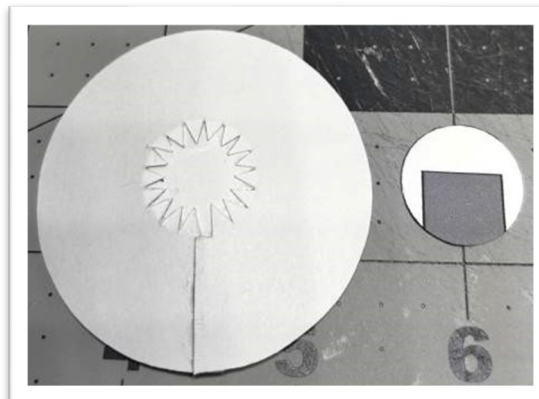


Glue these two T-shape pieces to the antenna holder. ↘

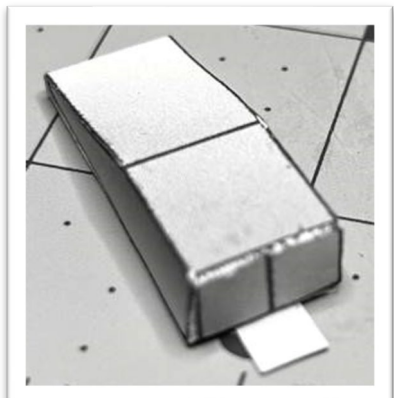
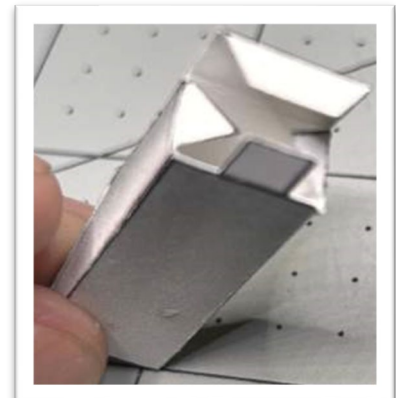
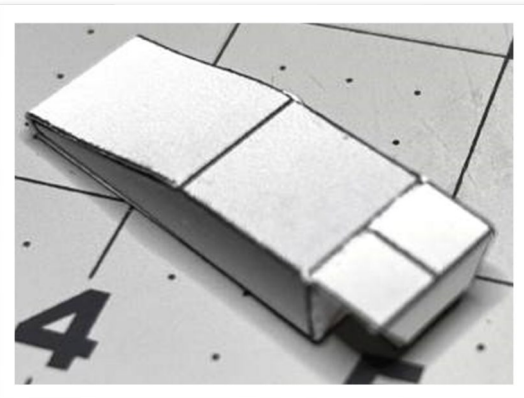
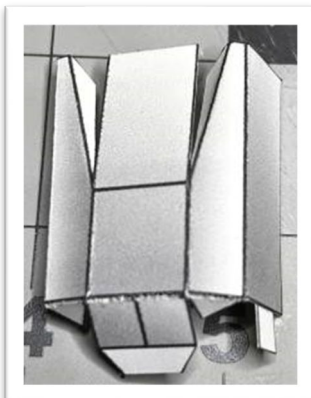


Assembly of the Antenna Unit

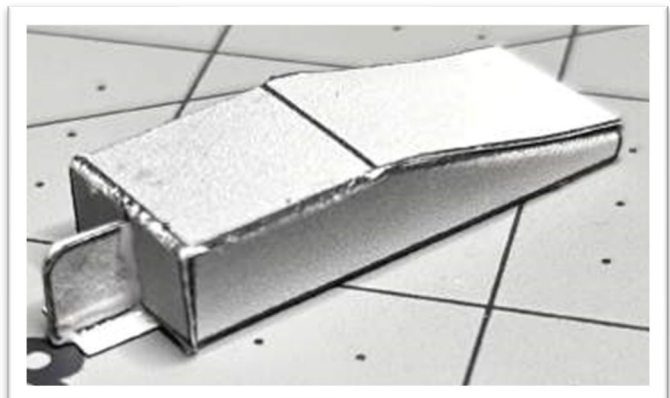




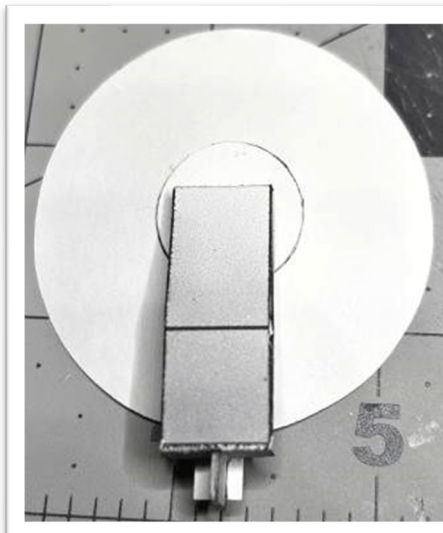
Align the darker area symmetry axis with the vertical axis of the dish surface. ↑

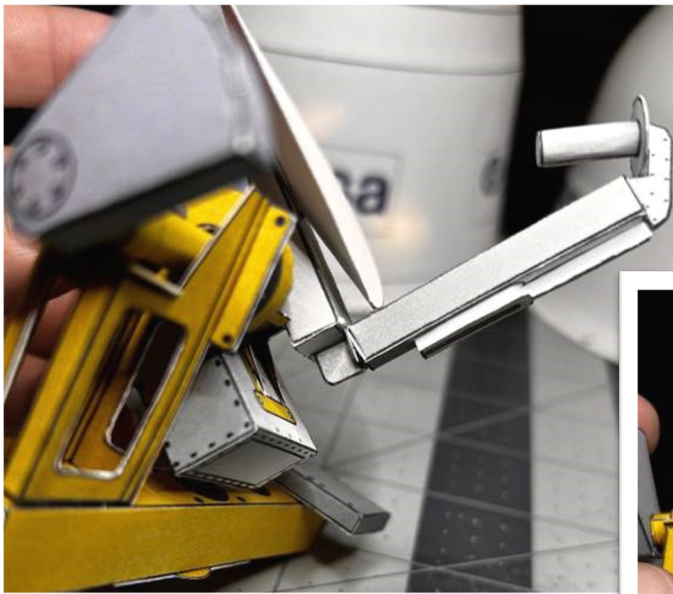


Glue back-to-back the three squarish pieces before gluing them to the dish back structure. →



Glue the back structure to the antenna holder. ↘





← Glue the feed arm to the antenna back structure.

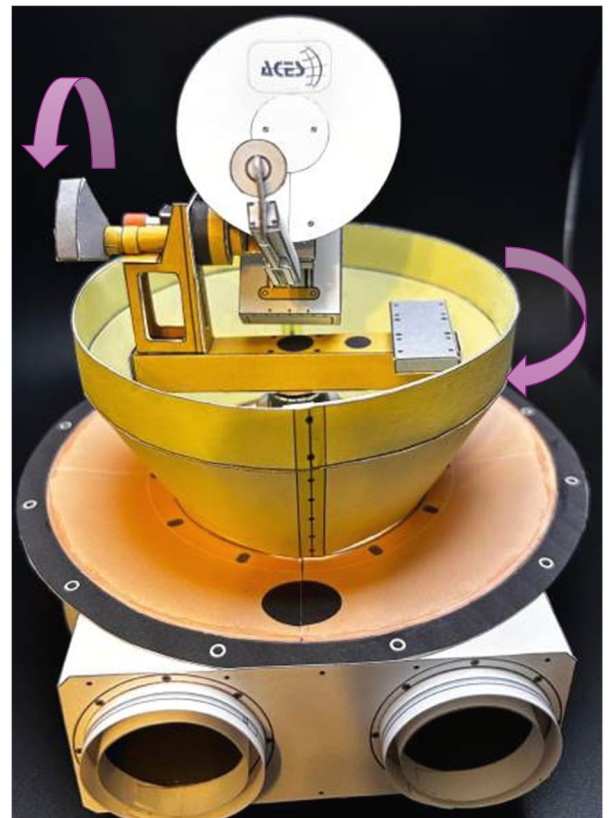
Build the azimuth axis rod →
and glue it to the bottom of the steering unit. ↓



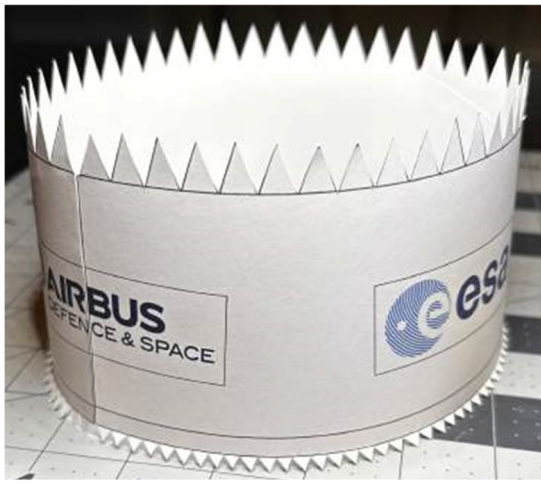
Slide the rod into the steering unit base without gluing them together to allow rotation around the azimuth axis. ↓



The air diffuser can be added in between. →



Assembly of the GT Radome

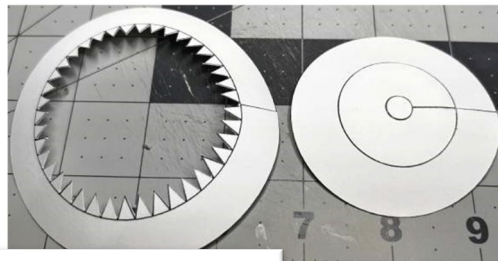
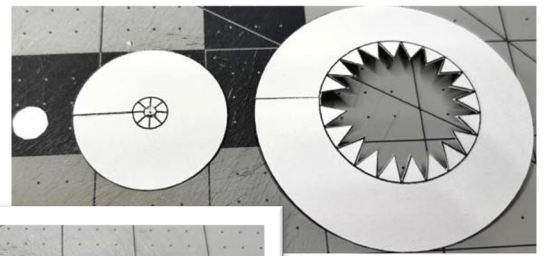


← Glue the two bottom ring halves to form one ring.

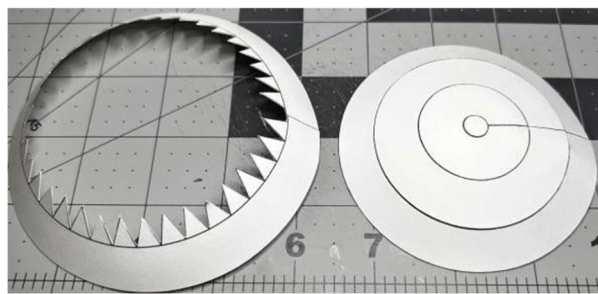
Glue the two ring 6 halves to form one ring and glue it on top of the bottom ring. Align the seamlines of both rings. →



← Glue ring 5 on top of ring 6. The seamline of ring 5 should be centred with an ESA logo.

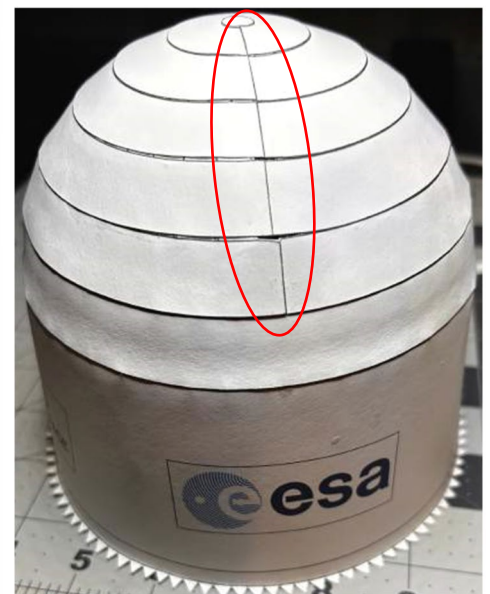


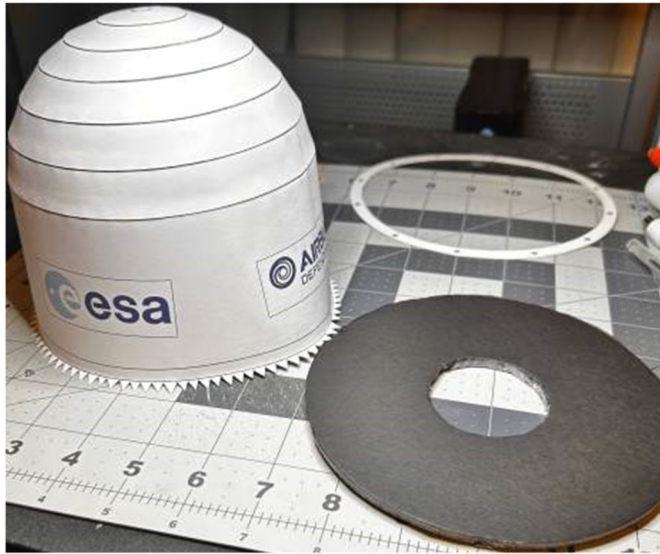
← Glue the top and rings 1 to 4 on top of one another.



Glue the two assemblies together. ↓

Align the seamlines with the centre of an ESA logo. ↓

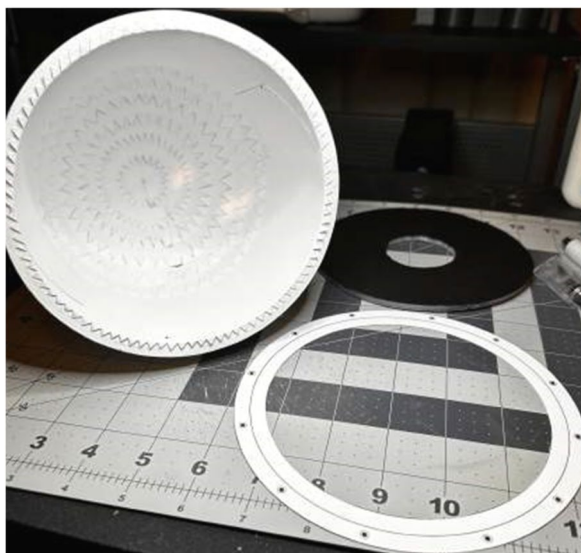




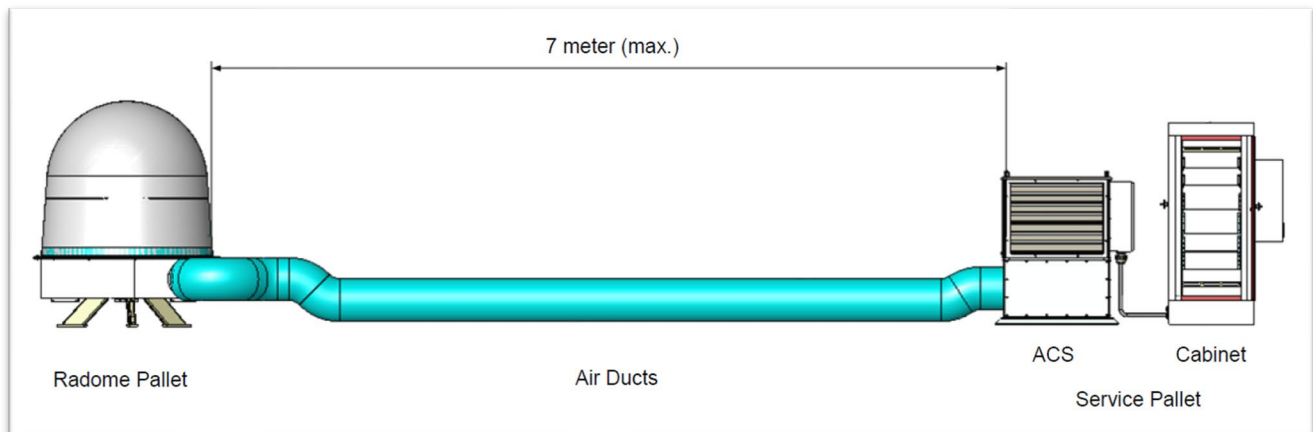
← Cut out a Ø145mm disc in heavy/thick cardboard: it will help keep the radome's shape when gluing the radome *Outer Lip (top)* on the edge. The hole in the thick disc will help for its removal. Do not glue this thick disc. ↓



Remove the thick disc, glue back-to-back the *Outer Lip (reinforcer)* and the *Outer Lip (bottom)* before gluing them against the *Outer Lip (top)*, below the radome. ↓



Description of the GT Service Pallet



The ACES Ground Terminal (GT) Service Pallet, comprised of the Cabinet and the Air Conditioning System (ACS), is the support equipment for the Radome Pallet. Connected with flexible air ducts to the Radome's manifold, the Service Pallet can be placed at a distance of 5 to 7 metres from the Radome Pallet in order to avoid a limitation of the field of view of the antenna.

The paper models of the ACS and the cabinet are straightforward since they are for the most part rectangular boxes. The four round duct connectors should be formed and glued the same way as the duct ports on the air distribution manifold.



The flexible air ducts are not included in the paper models. If one wishes, one can find off-the-shelf flexible corrugated pipes of a suitable diameter to complete the model.

