

Alpha Satcom 9.0 Meter & Under Installation Sequence

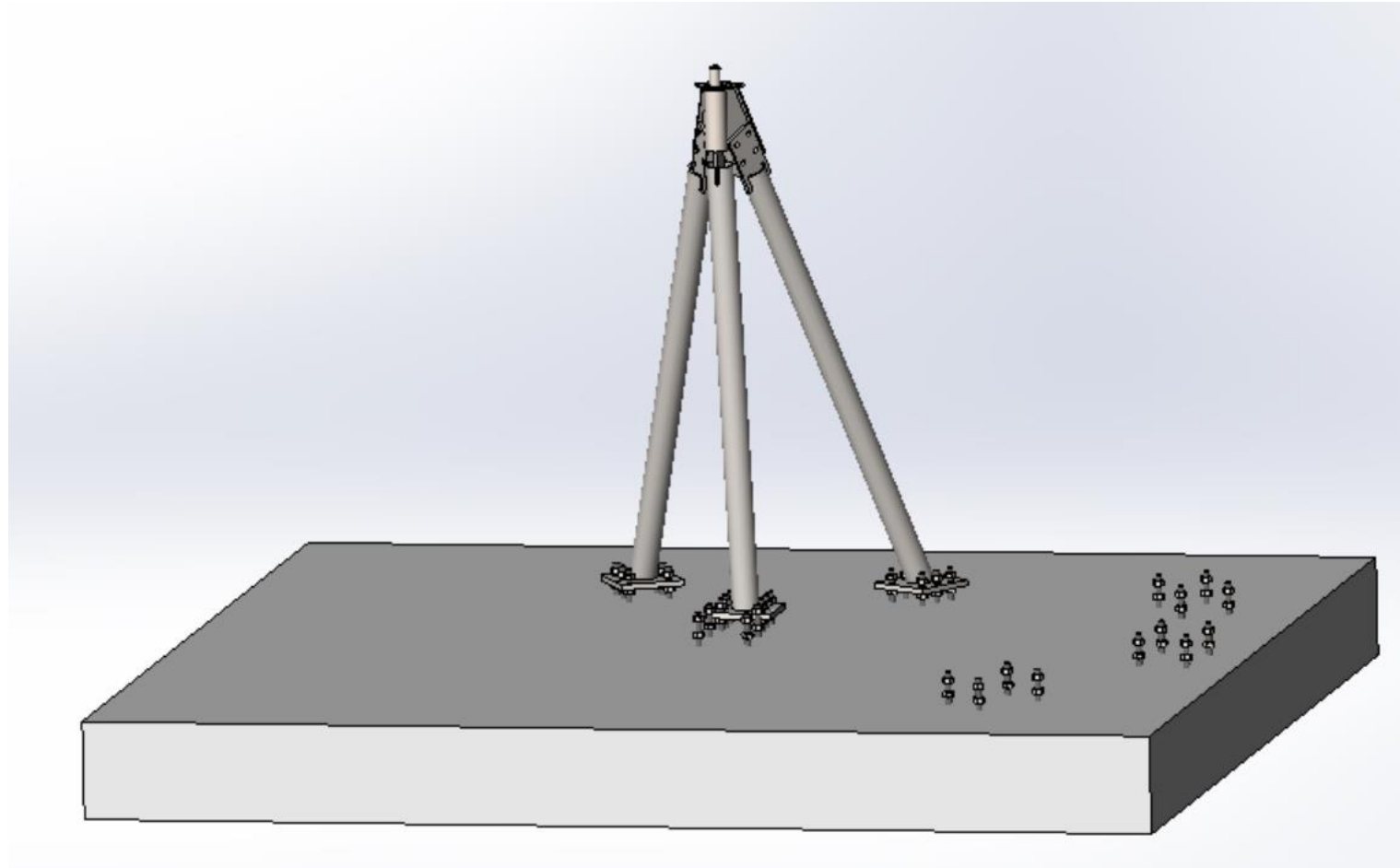
Alpha Satcom, Inc.

Inventory

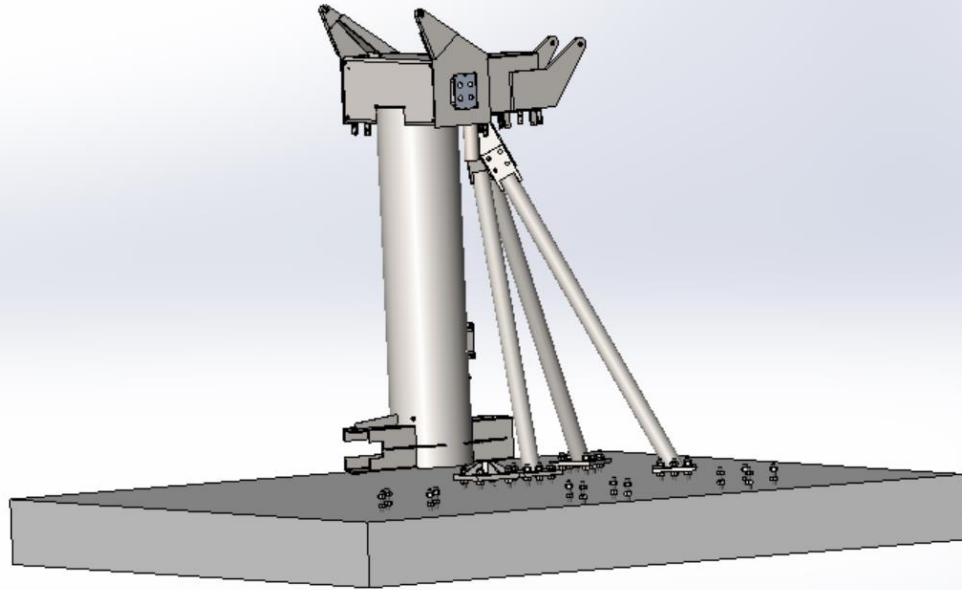
- ▶ Inventory all components according the Shipping Bill of Materials.
- ▶ If a part is missing or damaged, send an email to Alpha Satcom stating the drawing number and part number of missing part or damaged component.

installation@alpha-satcom.com

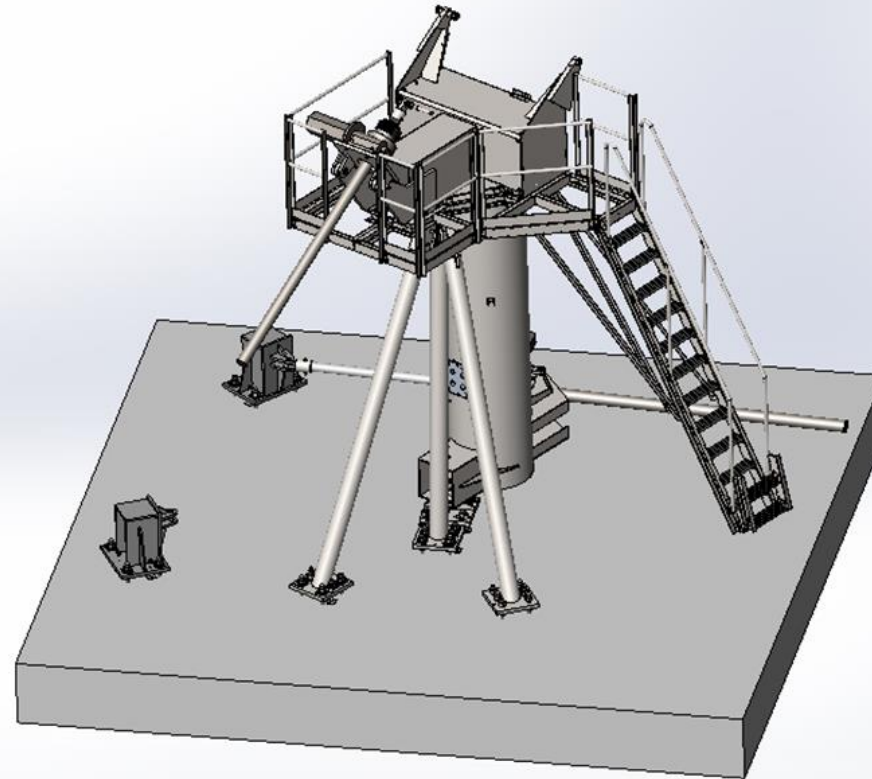
Install Rear Leg on Foundation



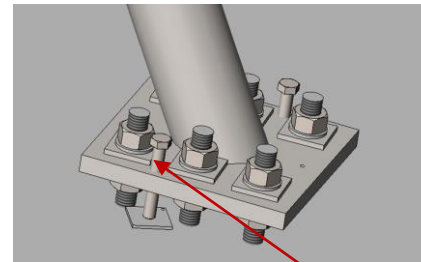
Pedestal Installation



1. Platform can be installed to pedestal before lifting pedestal by crane.
2. Lift Pedestal.
3. Pedestal rough Verticality Alignment by level meter.

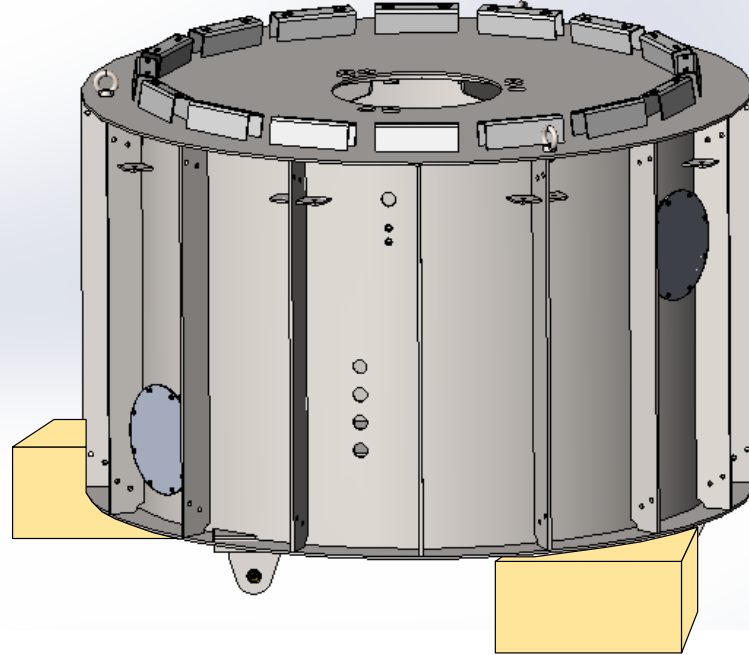
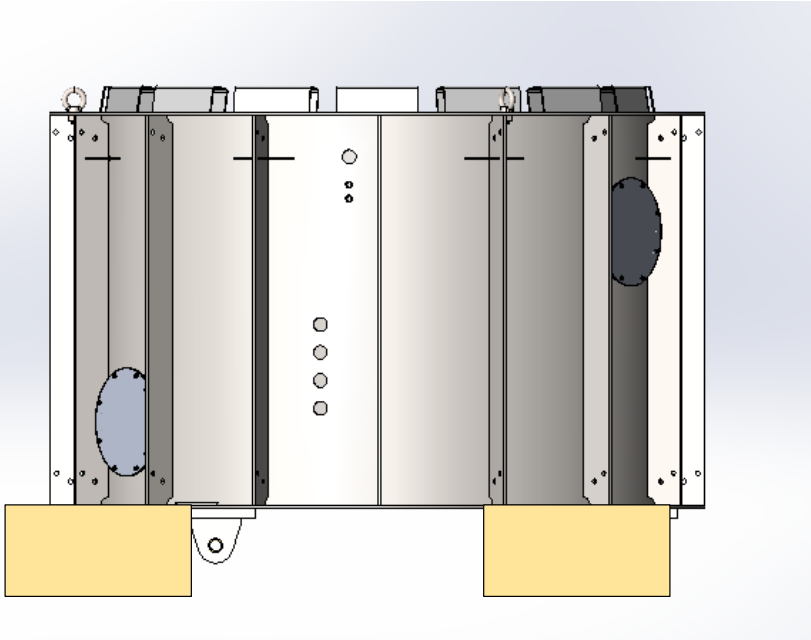


4. Install AZ jack and EL jack to pedestal.
5. Install Deadman, ladder and handrail.



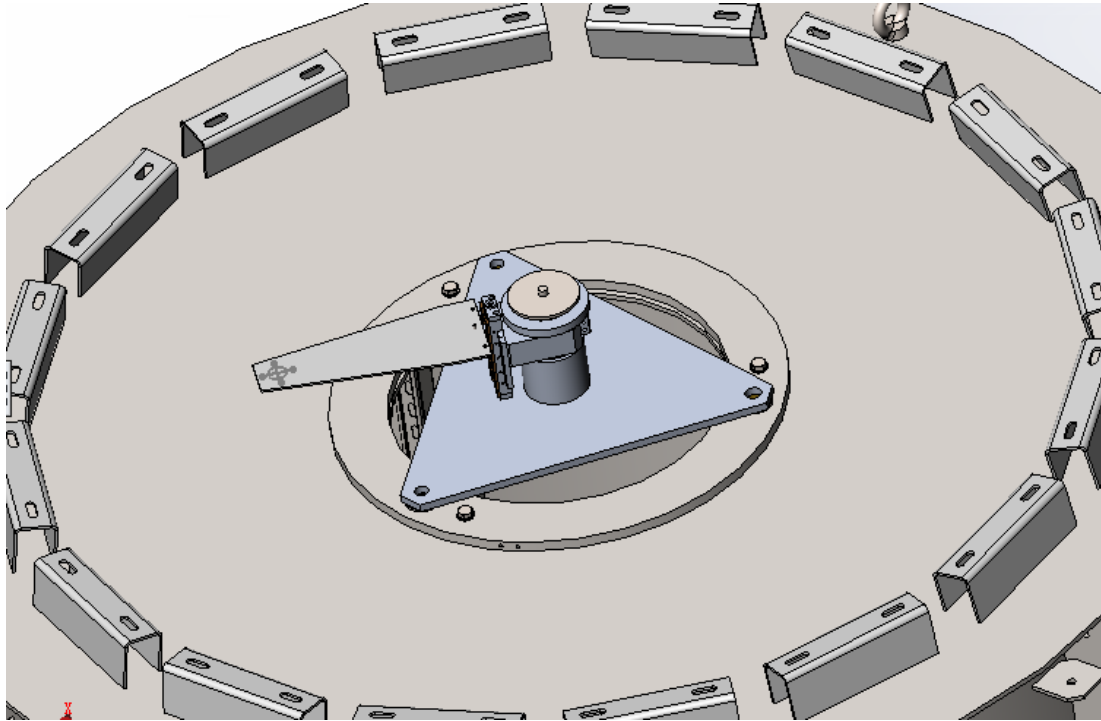
Adjustment Bolts

Antenna Dish Installation



1. Put hub in free space, install radial beams onto hub.
2. Put 3 pieces of wood or bricks under the hub, in order for people able to go inside of hub.

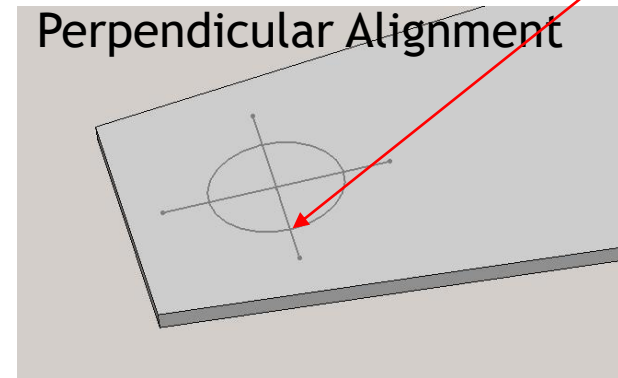
Tools Alignment



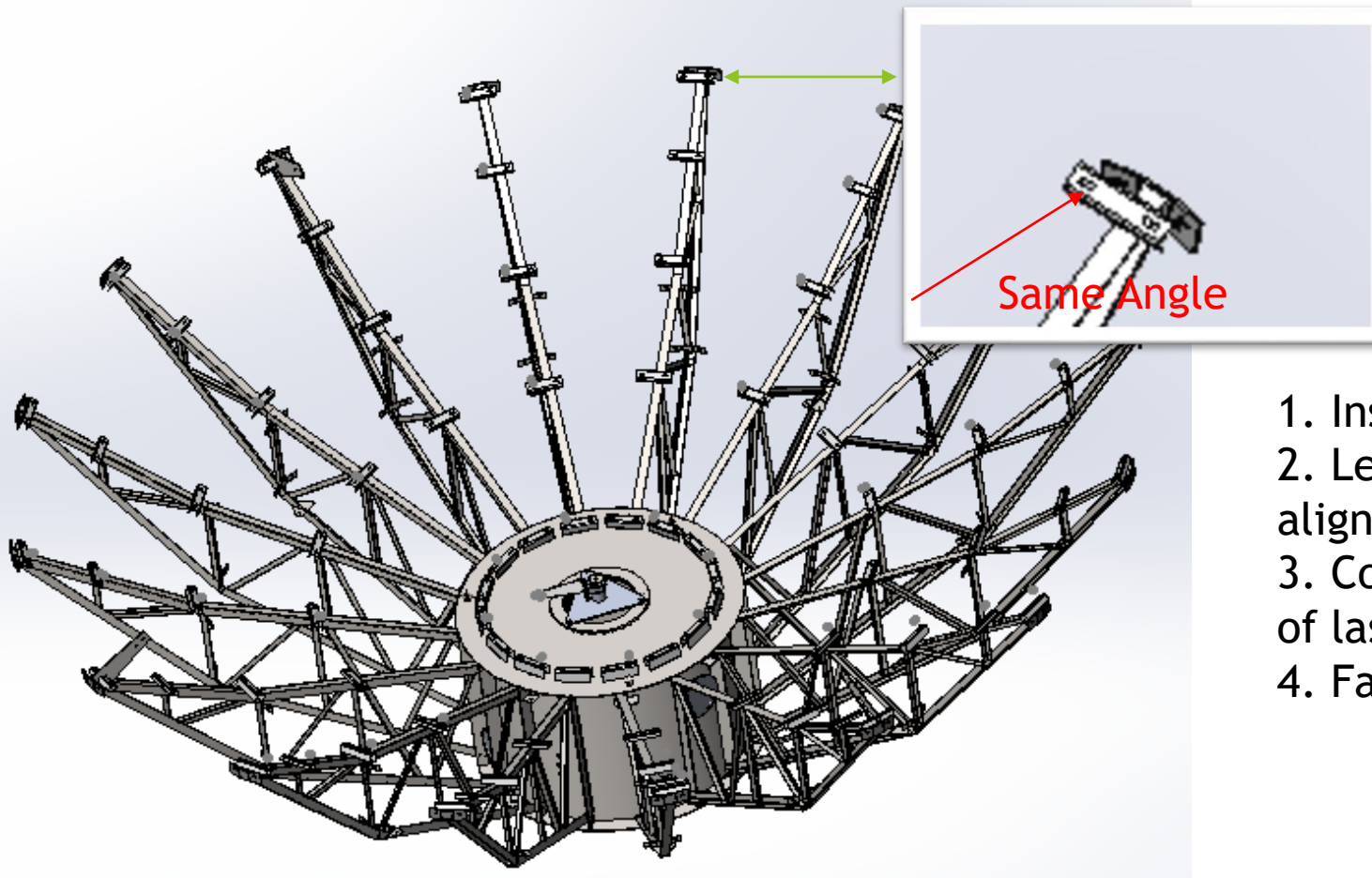
1. Install hub ring on hub.
2. Mount spindle and theodolite to hub ring.
3. Use theodolite for perpendicular alignment.
4. Report theodolite LOS (Line of Sight) measurement to top of spindle plate to Alpha.
5. Alpha will return alignment data to supervisor.

Shoot the crosshairs and make sure angles are same measurement at 0° , 90° , 180° , 270° .

Perpendicular Alignment

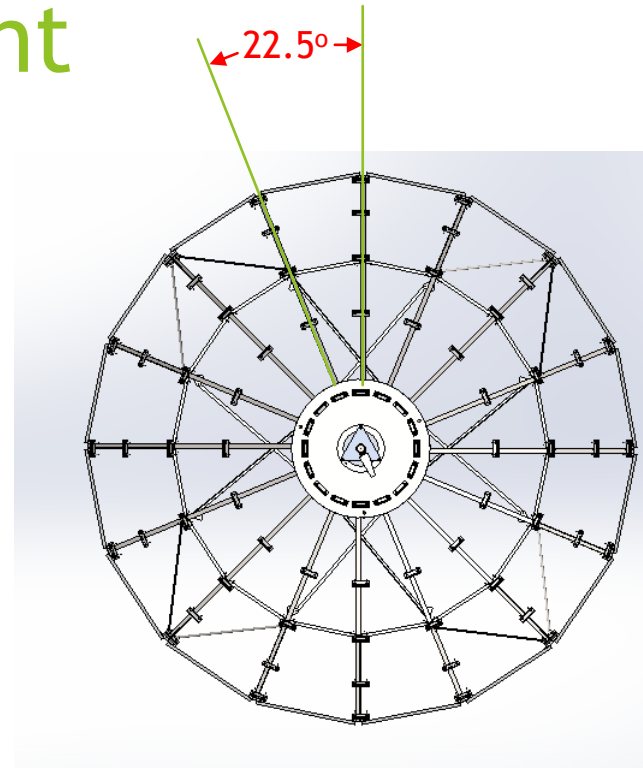
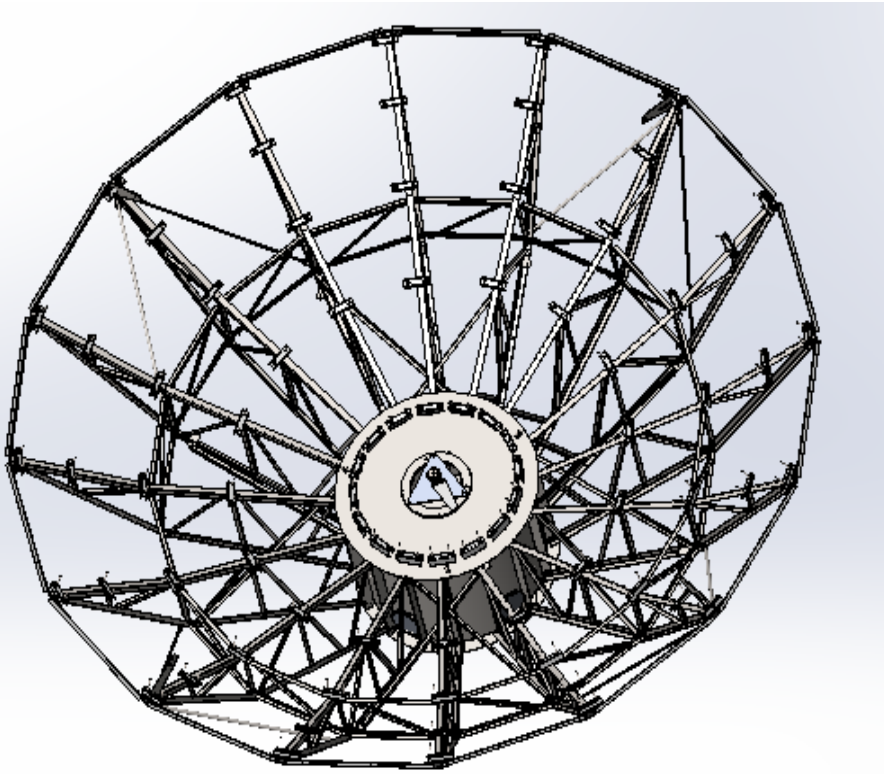


Radial Beam Installation and Level



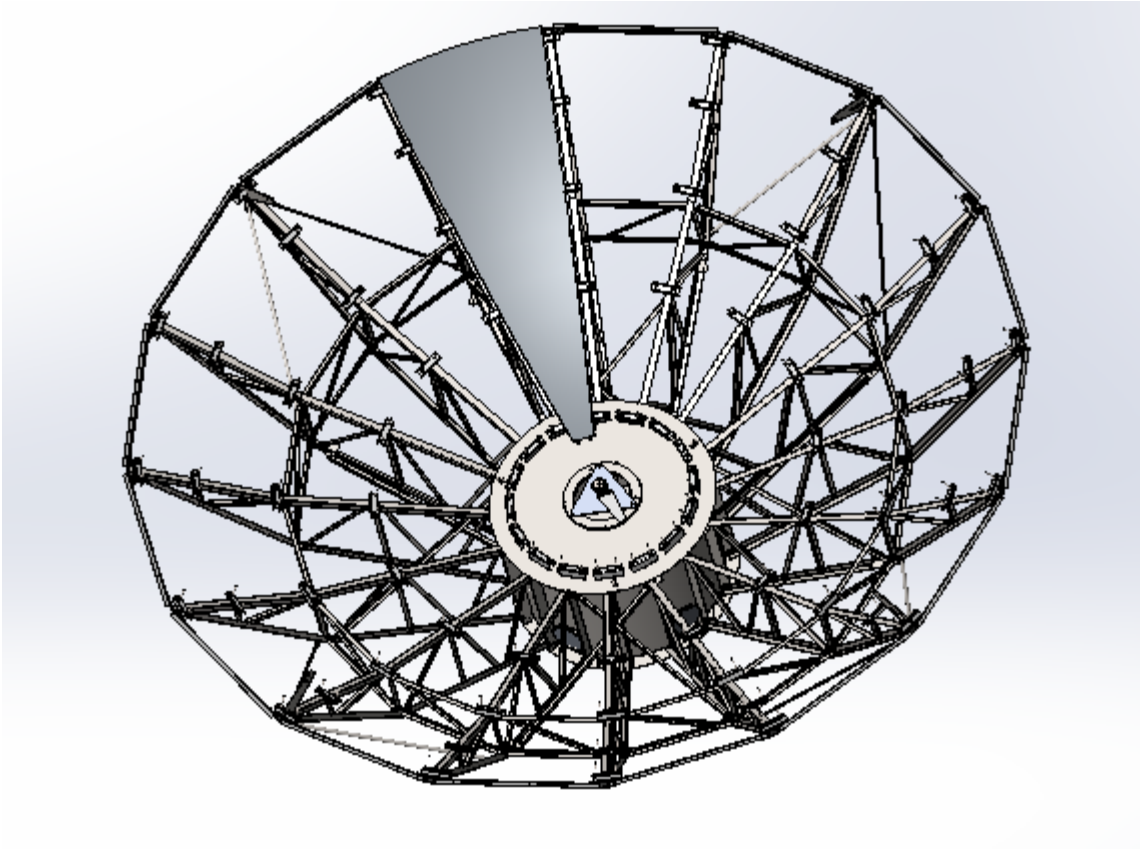
1. Install radial beam on hub.
2. Level radial beam based on alignment data.
3. Confirm theodolite look angle of last hole are same angle.
4. Fasten radial beam onto hub.

Install Lacing and Alignment



1. Install lacing.
2. Align radial beams - leave 22.5° between two radial beams.
3. Fasten lacing between radial beams and between radial beam and hub.

First Panel Installation

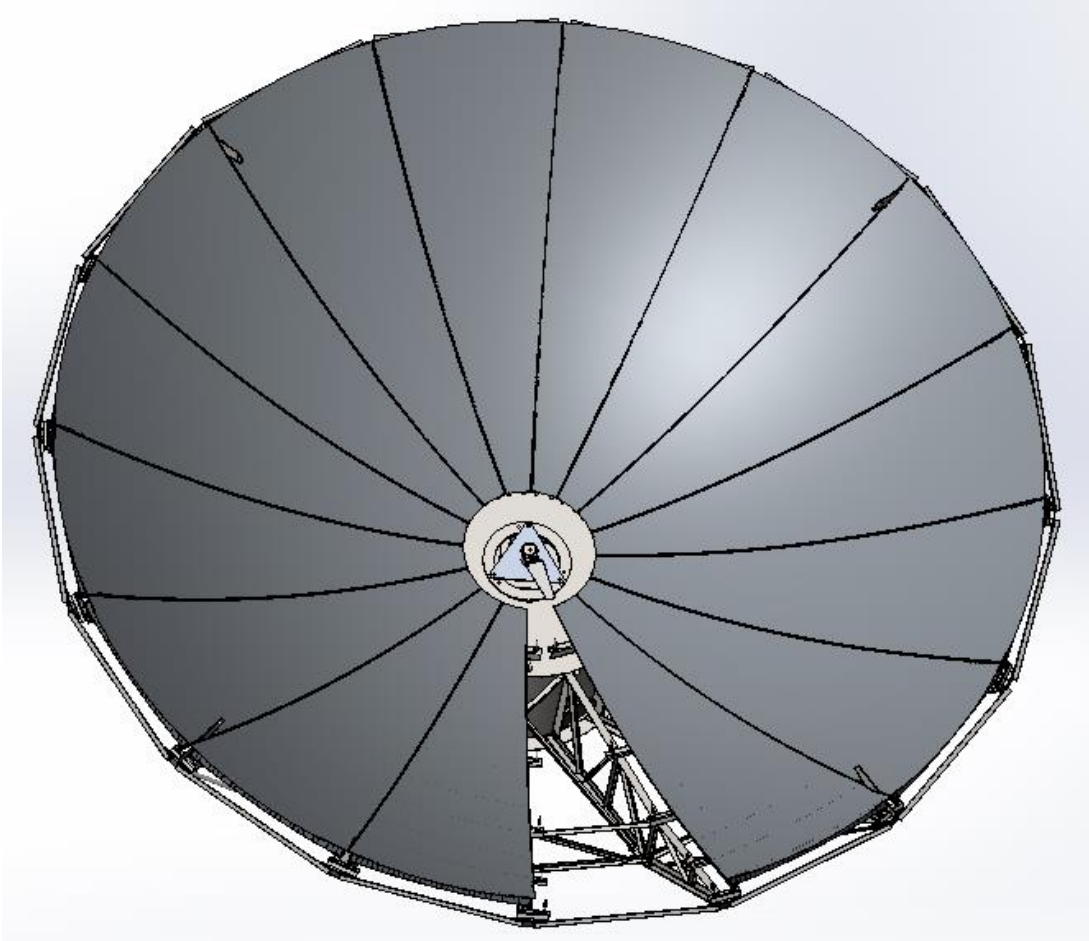


1. Install first panel.
2. Lay drill tape onto the panel.
3. Position and align first panel based on alignment data from Alpha.
4. Panel gaps should be 3.175 mm.

Note:

- Distance from center of spindle to edge of inner edge of panel is 600mm.
- Height from top of hub to panel inner edge is 235mm.

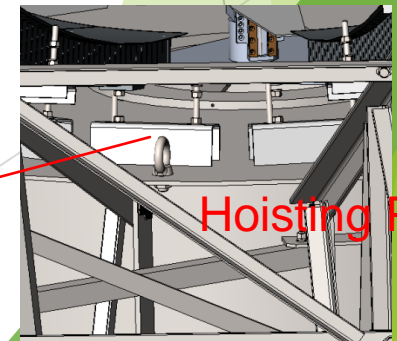
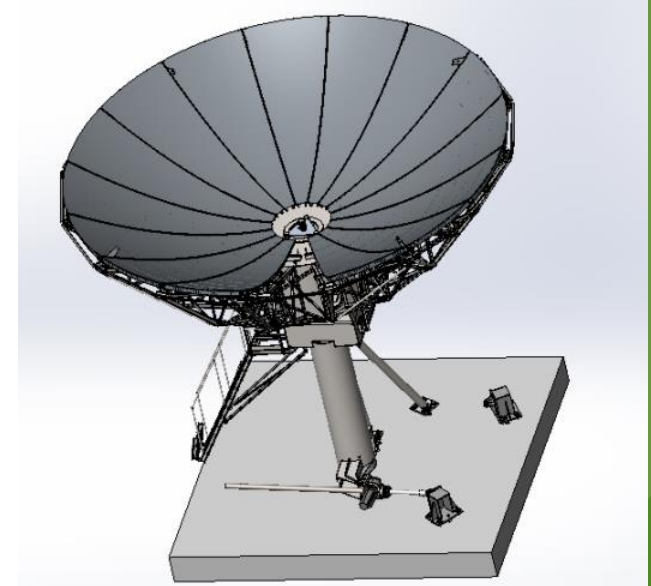
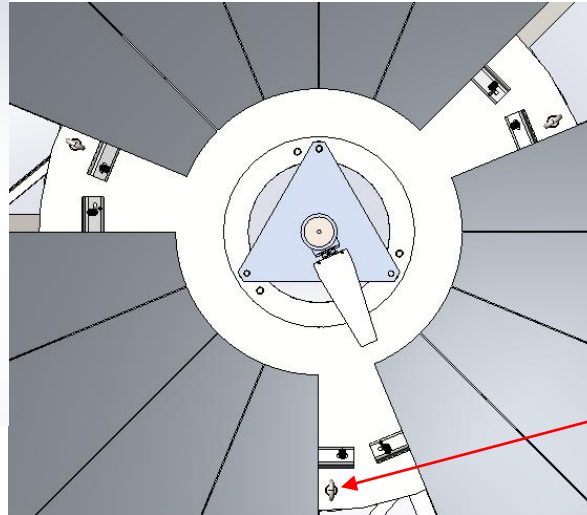
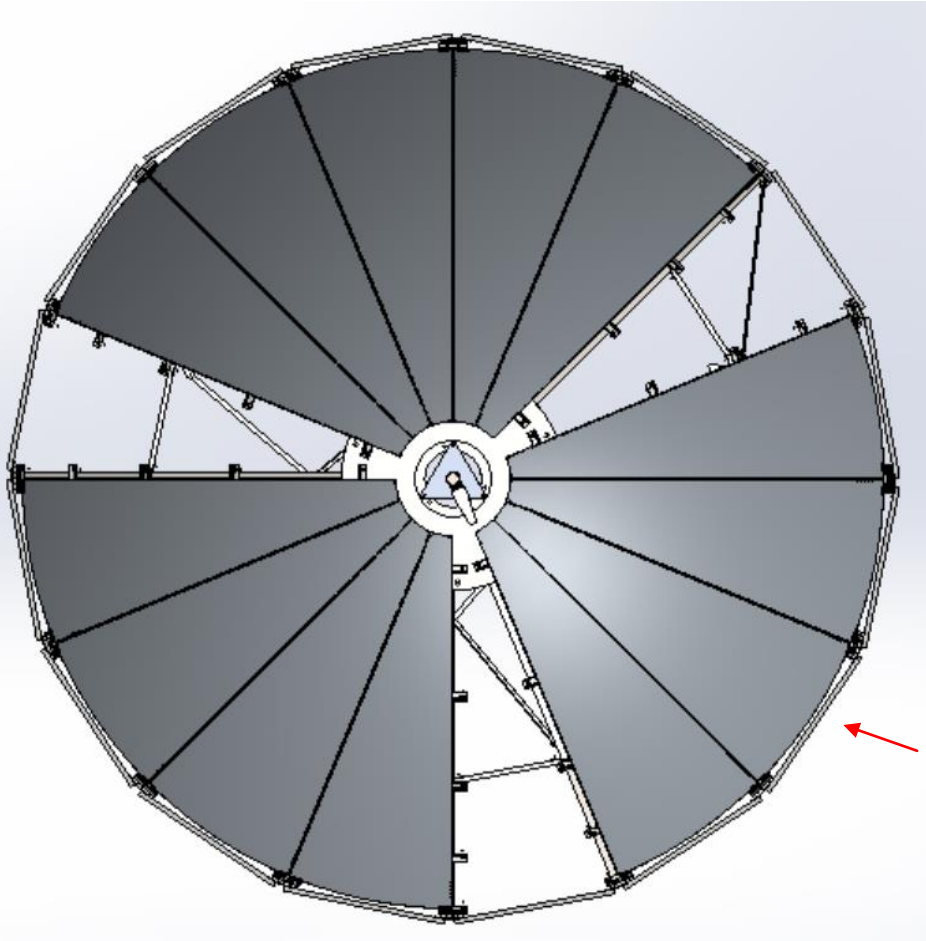
Install all Panels and align Panels on ground



1. Layout panels one by one, leave one panel out for easy access.
2. Align Target #1 (inner target) on drill tape for all 16 panels.
3. Alignment Target #2, 3, 4, 5 on drill tape for all 16 panels.
4. Alignment all targets twice.
5. Contact Alpha before drilling reflector.

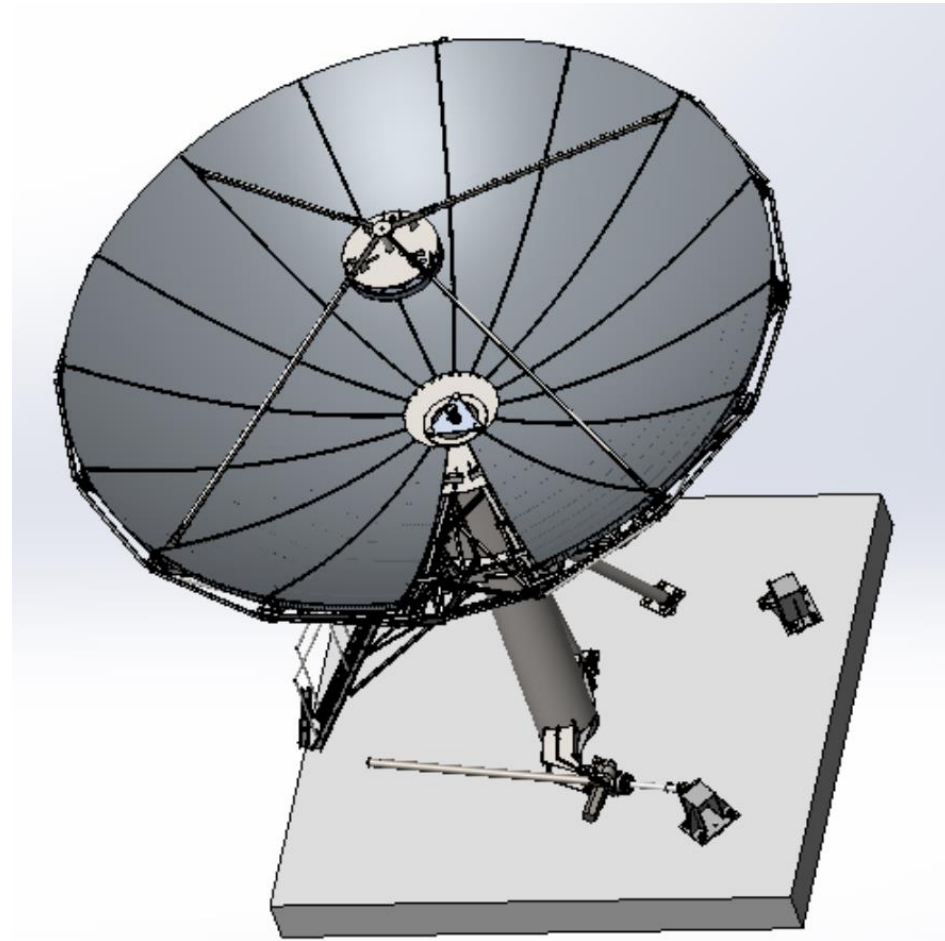
Lifting Preparation

1. Take out 3 panels for dish hoisting.
2. Lift reflector by crane.
3. Install to pedestal and connect Elevation jack to hub.



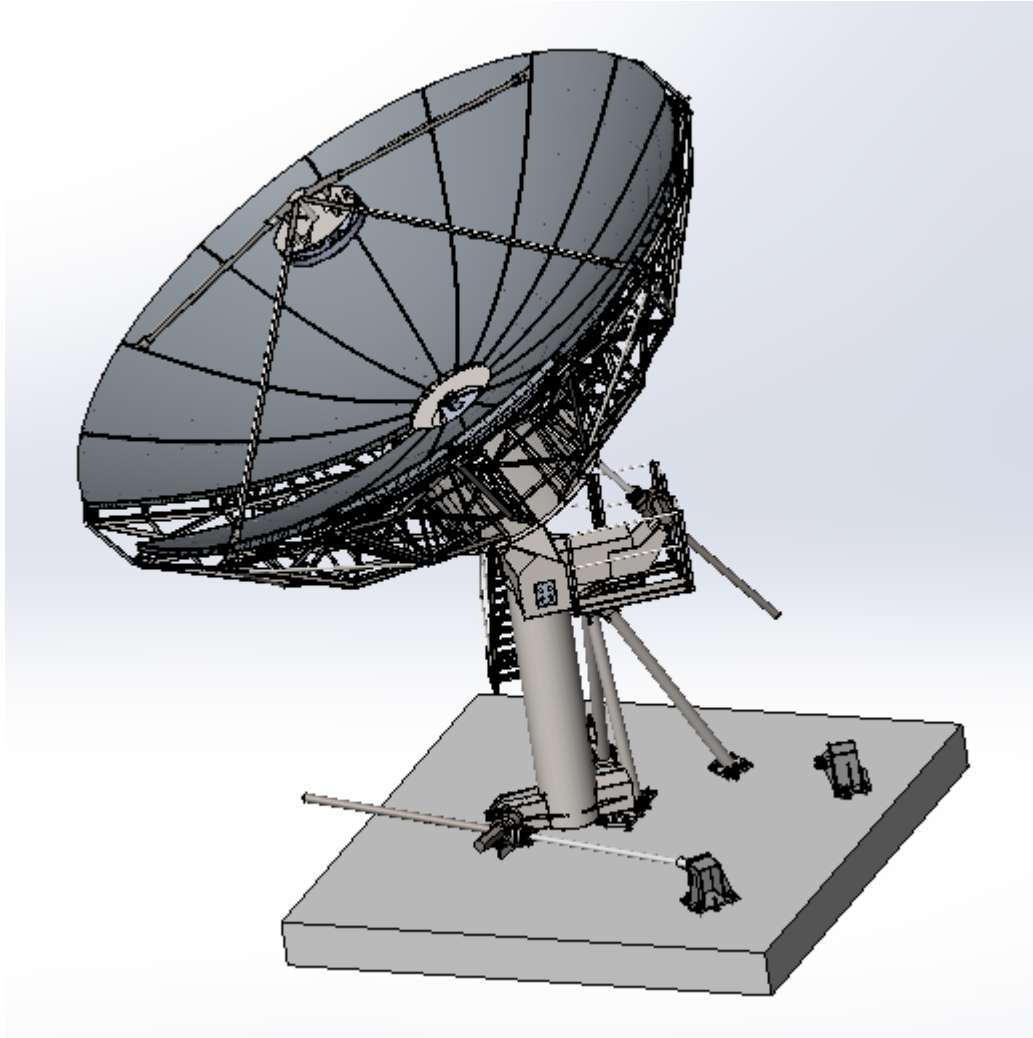
Hoisting Point

Install Apex and Subreflector



1. Install Apex and Subreflector.

Final Panel Alignment



1. Install remaining two panels.
2. Move antenna to working look angle.
3. Final alignment at night at satellite elevation.
4. Record the targets RMS and send back to Alpha.
5. Continue until Alpha agrees alignment is complete.

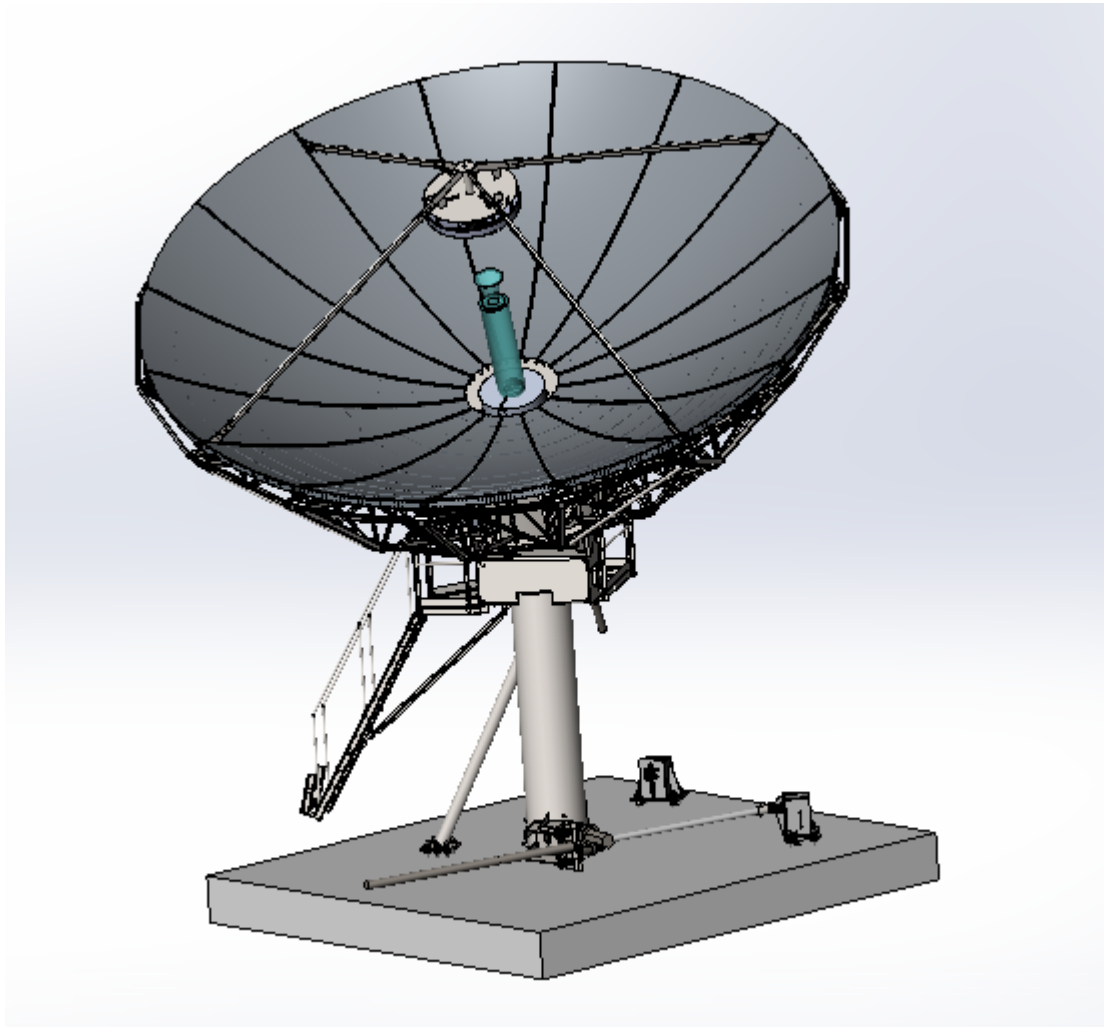
Pedestal and Deadman Alignment

- ▶ Take out the pin between AZ jack and Deadman.
- ▶ Refer to procedure (900-0014) to align the pedestal.
- ▶ Adjust the Deadman level.
- ▶ Install the pin back onto the Deadman.

ACU Installation

- ▶ Install ADU and ACU.
- ▶ Layout cables.
- ▶ Install AZ & EL encoder to antenna.
- ▶ Connect signal cable to ADU.
- ▶ Install limit switch to antenna.
- ▶ Connect signal cable to ADU.
- ▶ Connect motor power cable to ADU.
- ▶ Align AZ & EL encoders per procedure (900-0013).

Install Feed to Dish



- ▶ Install Feed.
- ▶ Install POL drive kit to hub (linear POL).
- ▶ Adjust ACU parameter to move antenna.

Install Electronic Equipment

- ▶ Install LNA.
- ▶ Install HPA.

Subreflector Adjustment and Pattern Test

- ▶ Do RX Pattern test, adjust sub-reflector until patterns report is accepted.
- ▶ Power on HPA and TX pattern test through satellite operator.

