

Geodesic Dome Electrical Conduit Model

For the
WINDSTAR FOUNDATION
SYMPOSIUM 2004

24 Sepetember 2004

Designed by:
Joseph D. Clinton

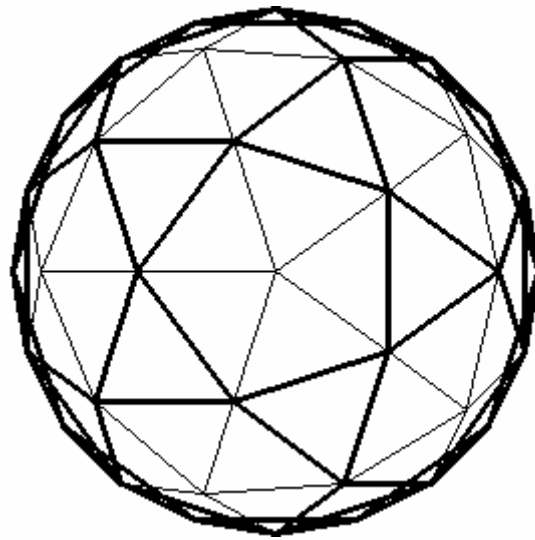


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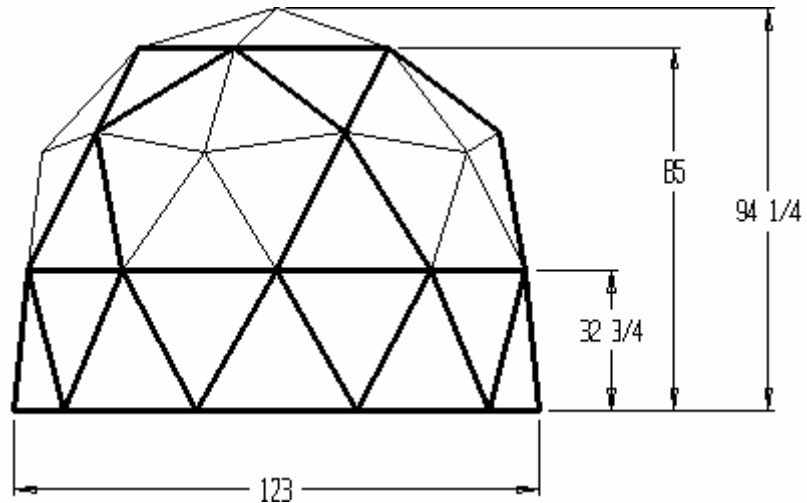
Required Materials:

- 32 10-foot lengths of 3/4 inch diameter galvanized electrical conduit
- 72 1/4 inch fender washers
- 36 1/4-20 SS Acorn nuts
- 46 1/4-20 hex-head jamb nuts
- 16 1/4-20 X 1 1/2 inch SS fully threaded hex-head machine screws
- 30 1/4-20 X 1 3/4 inch SS fully threaded hex-head machine screws

Note: Check material stack at connections for final bolt lengths.



Plan



Elevation

Material Stack at Connections

Row 5

Top 5-way and
All other 5-way connections



Row 4



Row 3



Row 2

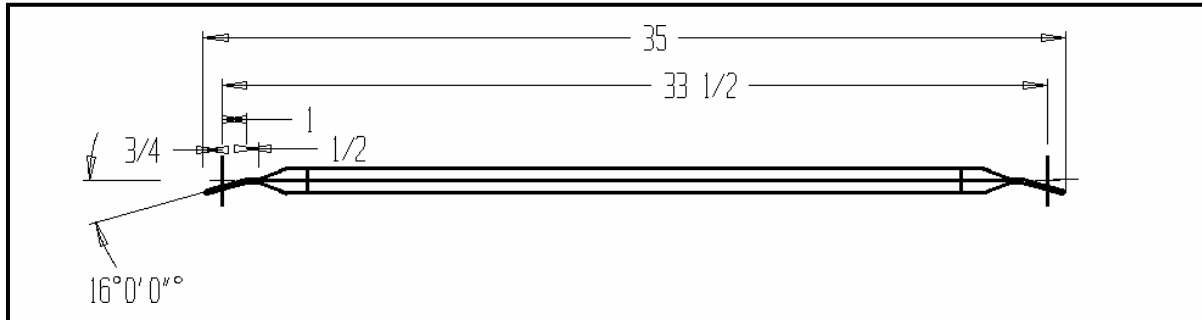


Row 1

Base Connections

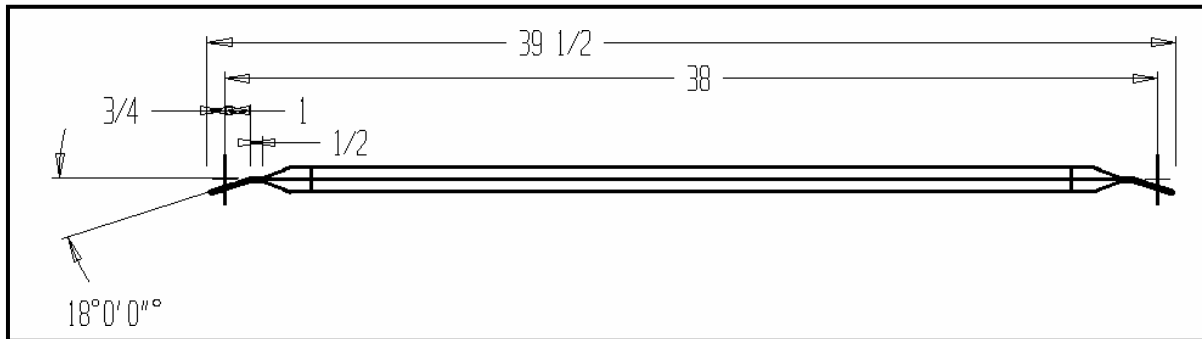


Dome Struts



Short Strut

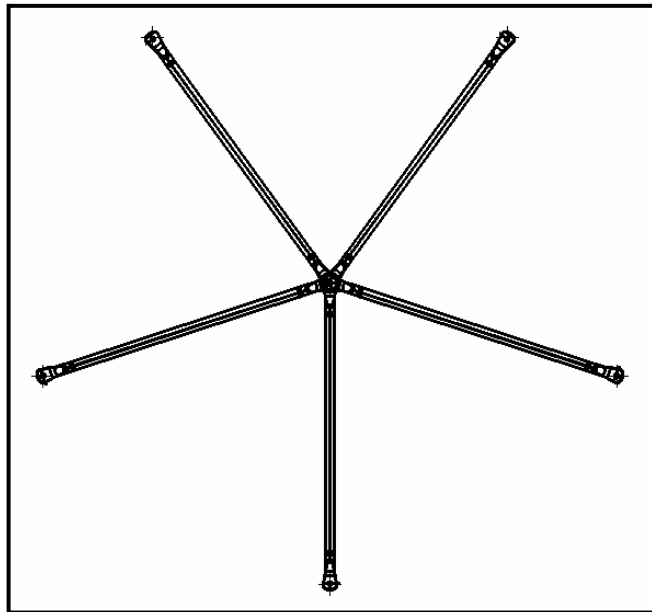
30 required
3/4 inch galvanized electrical conduit
Cut length = 35 inches
Hole-to-hole distance before bending = 32 1/2 inch with a 3/4 inch set back
Crimp and bend 16 degree angle as shown with a 1 3/4 inch crimp set back



Long Strut

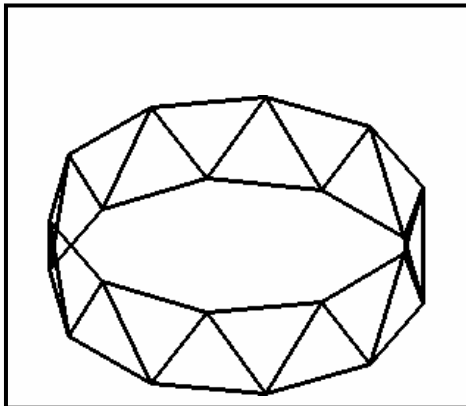
65 required
3/4 inch galvanized electrical conduit
Cut length = 39 1/2 inches
Hole-to-hole distance before bending = 38 inch with a 3/4 inch set back
Crimp and bend 18 degree angle as shown with a 1 3/4 inch crimp set back

Pre-assemble Pentagon Star

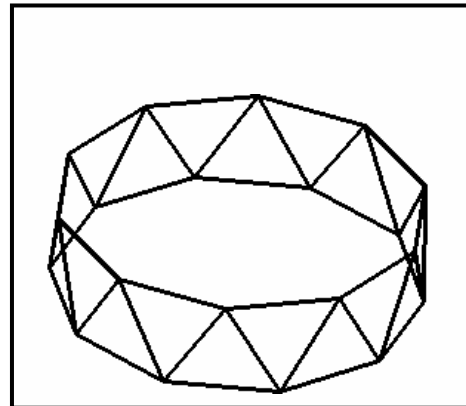


Using the 30 short struts, and the appropriate hardware as per connector diagram - Row 5 , assemble 6 pentagon star assemblies as illustrated.

Assemble Base Support



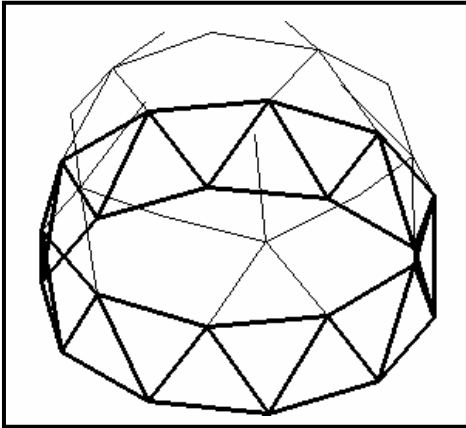
Right Stereo



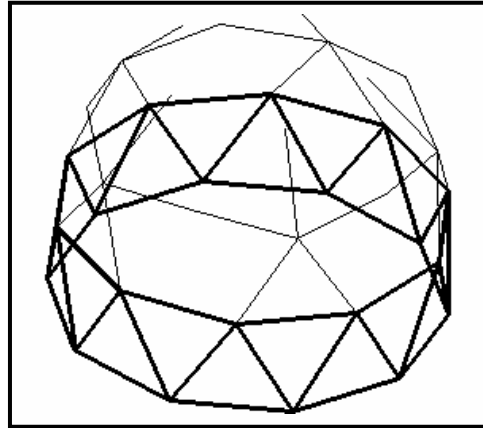
Left Stereo

Using the 40 long struts, and the appropriate hardware as per connector diagrams - Rows 1 & 2 - , assemble the base support as illustrated.

Attach Pentagon Stars to Base



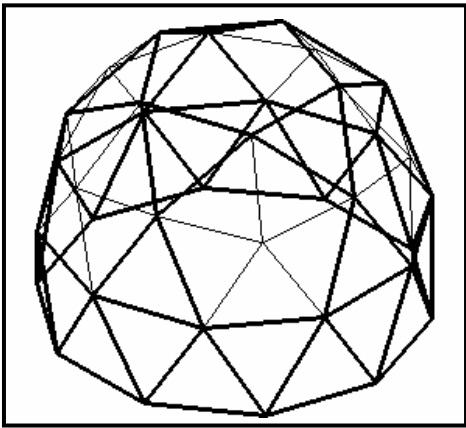
Right Stereo



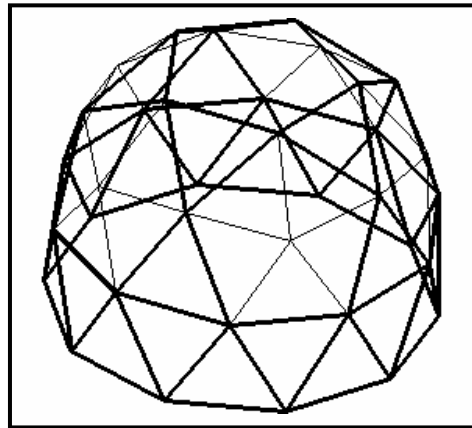
Left Stereo

Using 5 pre-assembled pentagon star assemblies, and the appropriate hardware as per connector diagrams – Rows 2 & 3, assemble as illustrated.

Assemble Long Struts



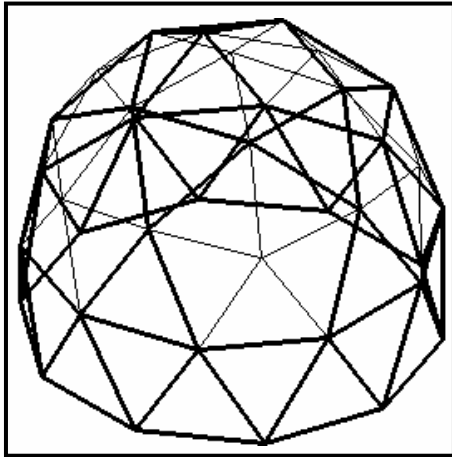
Right Stereo



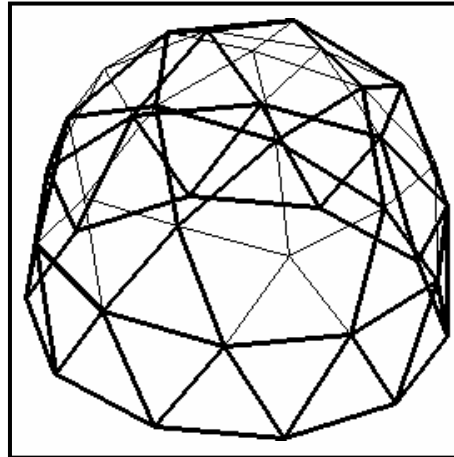
Left Stereo

Using the last 30 long struts, and the appropriate hardware as per connector diagrams – Rows 3 & 4, assemble as illustrated.

Attach Top Pentagon Star



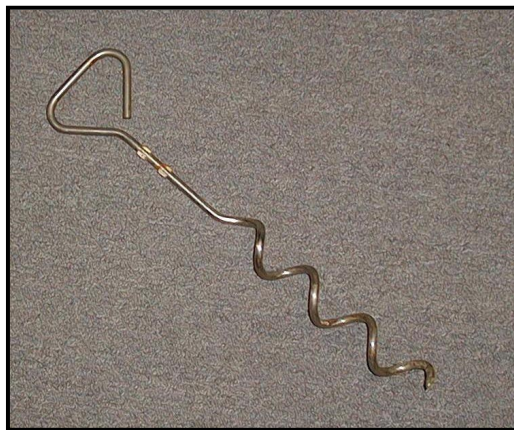
Right Stereo



Left Stereo

Using the last pre-assembled pentagon star assembly, and the appropriate hardware as per Connector row diagram – Row 4, attach as illustrated.

Finish Dome



Using the 36 ¼-20 SS Acorn nuts install one on each bolt.

If the dome is to be used as playground equipment or as a structure that is clad, then tie the dome to the ground using 5 dog anchors. The dog anchors should be attached to the 5 equally spaced nodes around the parameter at the base. Five ¼ inch eye nuts may be substituted for the five Acorn nuts and used for this purpose.