Installation instructions
8–10–12 ft Antennas with split reflectors

Split reflectors and backring assembly

NMT 252-07(e)

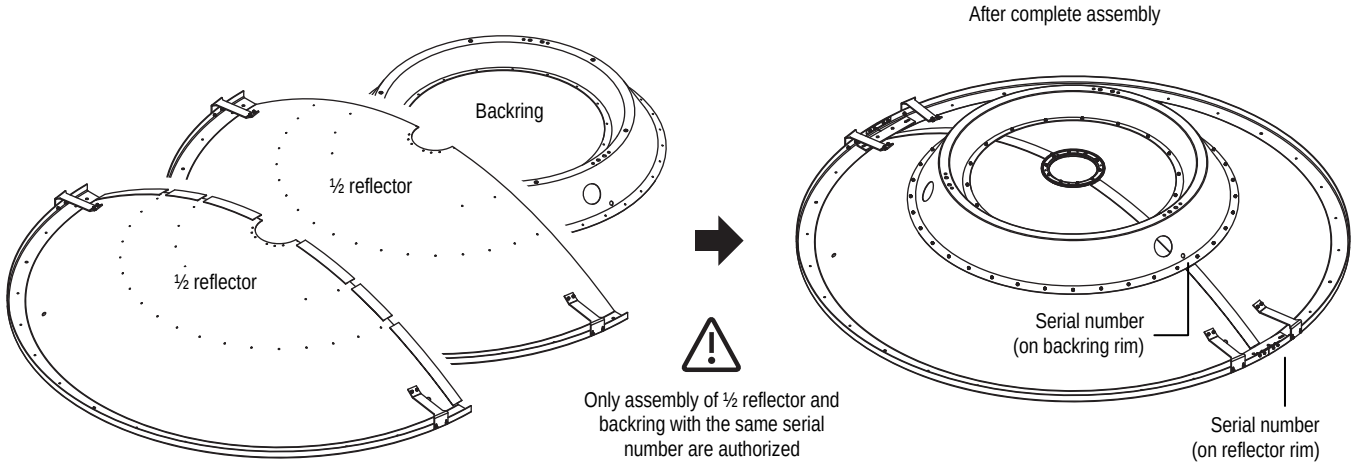
These installation instructions have been written for qualified, skilled personnel. The antenna shall be inspected once per year by qualified personnel to verify proper installation, maintenance, and condition of equipment. It is important to adhere precisely to all parts of the installation instructions. RFS disclaim any responsibility resulting from improper or unsafe installation. RFS reserves the right to alter details at any time, especially with respect to technical improvements.

1 – Tools and accessories required (not supplied)

- 4 trestles or similar stands with same height (0.6 m minimum), for a man accessibility under the reflector for tightening process
- Combination wrenches for hexagon bolts : M6(10), M12(18/19), a cordless screwdriver with hexagonal adaptors and rechargeable batteries may be helpfull
- Torque wrench from 8 to 50 Nm
- Tape measure, digger, complete individual safety equipment

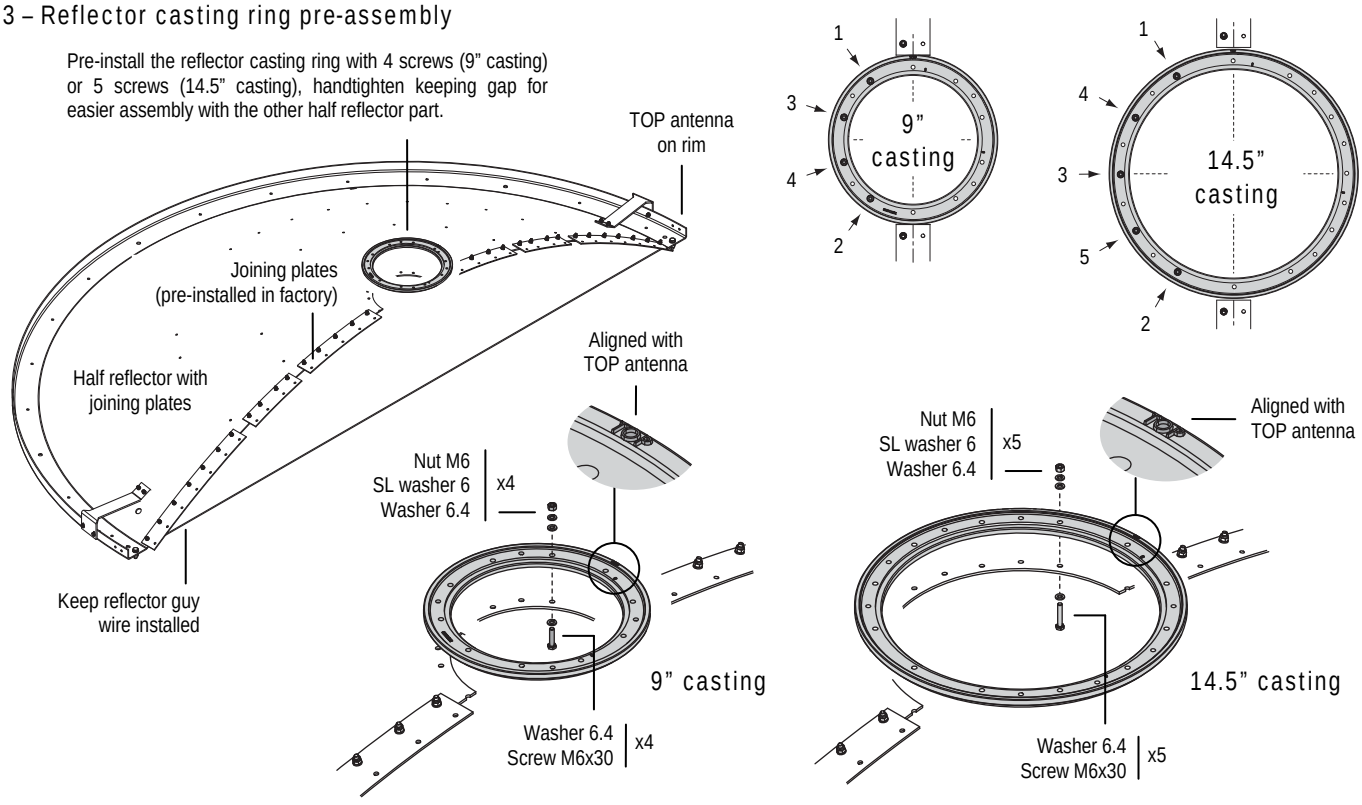
*(values in brackets = openings of spanners)

2 – Half reflectors and backring assembly principle (overview)



3 – Reflector casting ring pre-assembly

Pre-install the reflector casting ring with 4 screws (9" casting) or 5 screws (14.5" casting), handtighten keeping gap for easier assembly with the other half reflector part.



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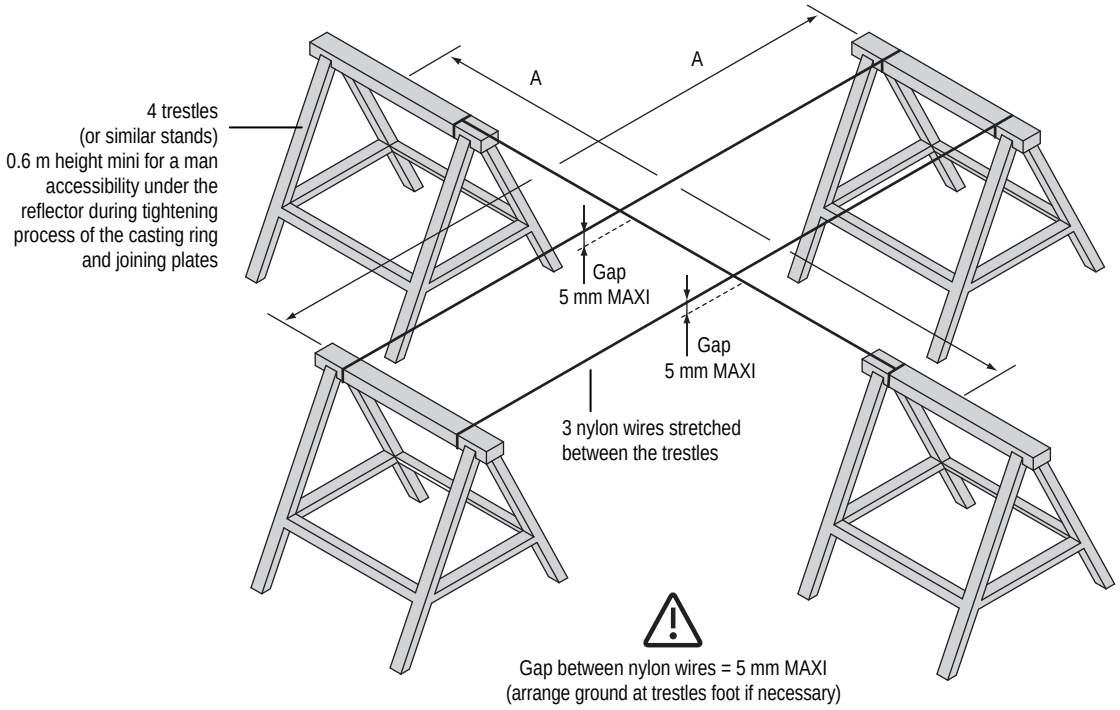
4 – Preparation of the assembly area

This operation must be carried out with great care, the final geometric qualities of the parabolic reflector assembled are dependent of the respect of assembly rules of 2 half reflectors and its backring (for example, at 7/8 GHz a 10 ft reflector assembled without precaution, may generate 1 to 1.5 dBi of gain losses)

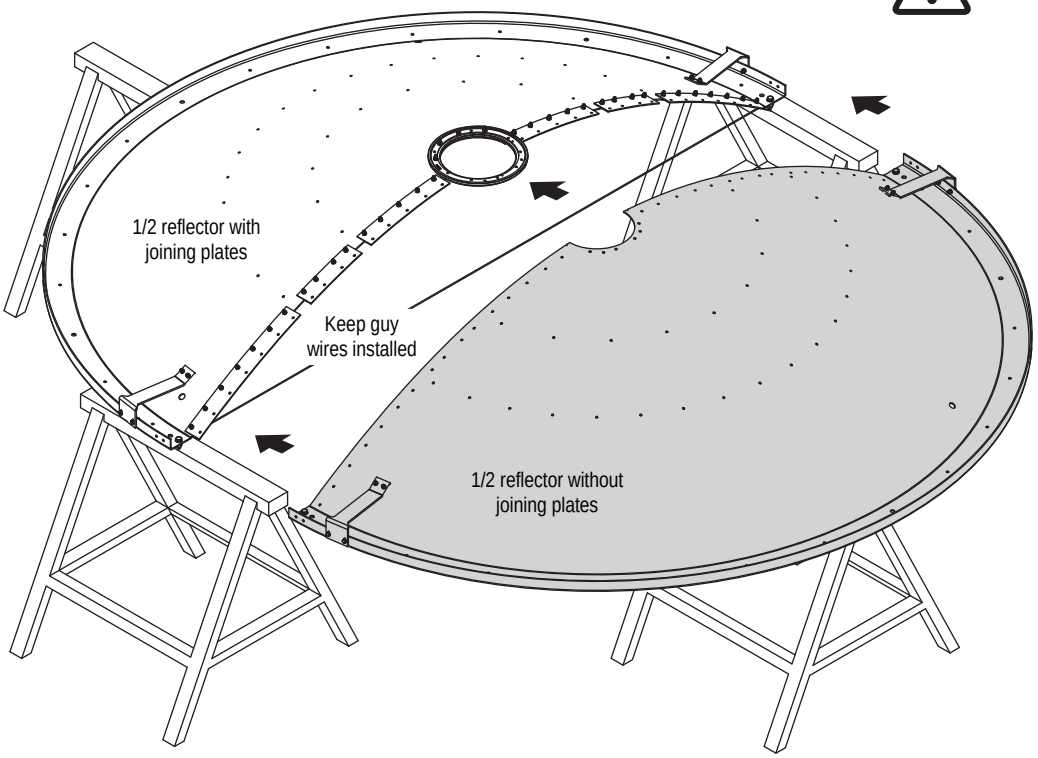
- The assembly area must be flat and clear, with a size at least 2x the antenna diameter, so approx. Ø5.5 m (8 ft), Ø6.5 m (10 ft) and Ø8 m (12 ft).
- Arrange the trestles on the area (see indicative trestles spacing dimensions, to help you for positioning).
- Attach the nylon wires as described (check trestles spacing, it must support the 2 half reflectors for the assembly) It is highly important to respect the maximum gap authorized between nylon wires.

Indicative trestles spacing			
Antenna Ø	8 ft	10 ft	12 ft
A	2.52 m	3.13 m	3.75 m

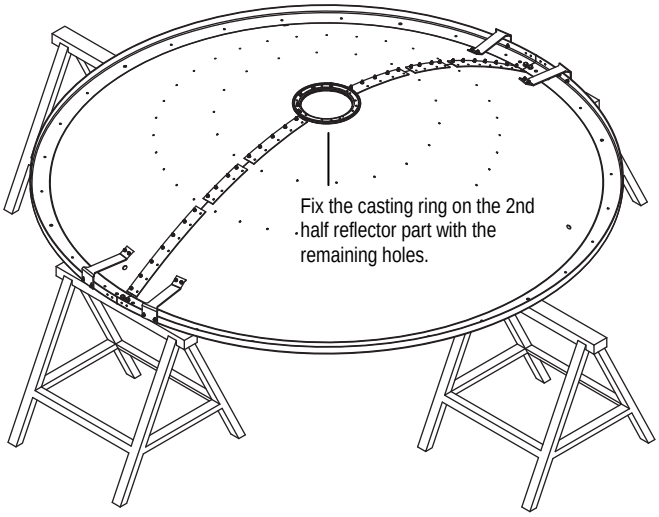


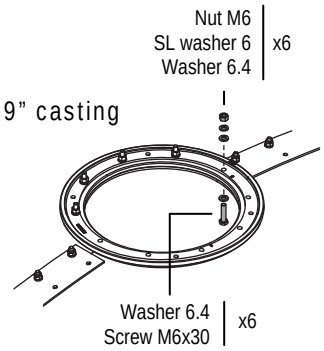
5 – Reflector assembly

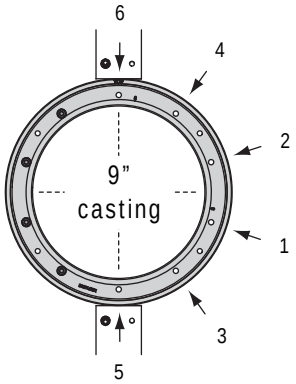
Keep reflector guy wires installed on each ½ reflectors

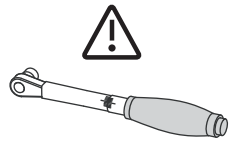


6 – Reflector casting ring assembly on second half reflector part

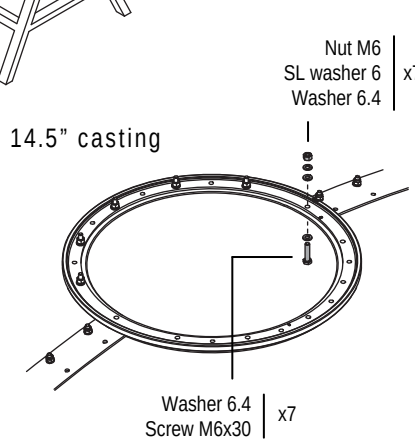


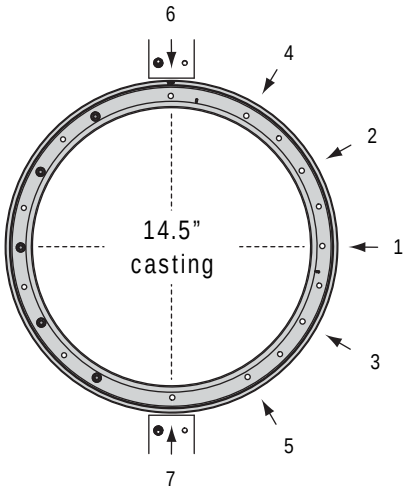






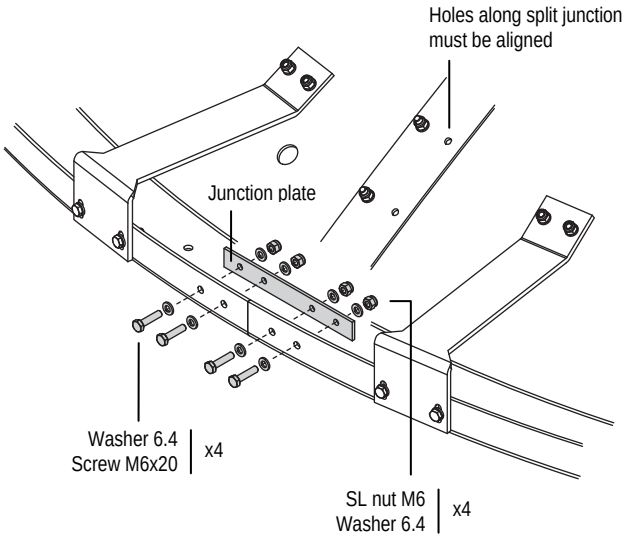
After complete screws installation,
torque tighten M6 casting bolts
in opposite diagonal mode
M6 (8 Nm)



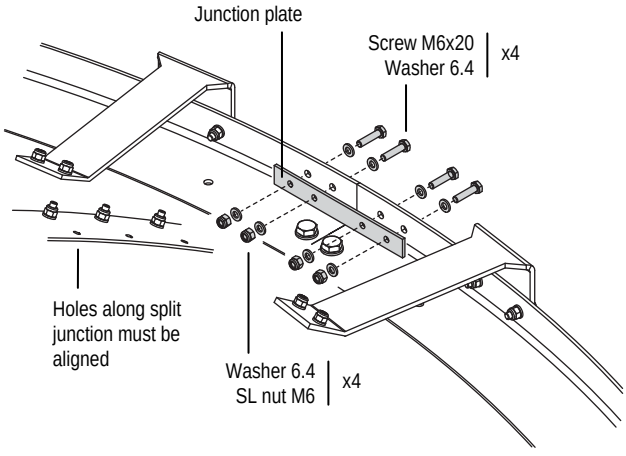


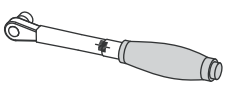
7 – Junction plates installation inside reflector rim

Reflector junction
(bottom)



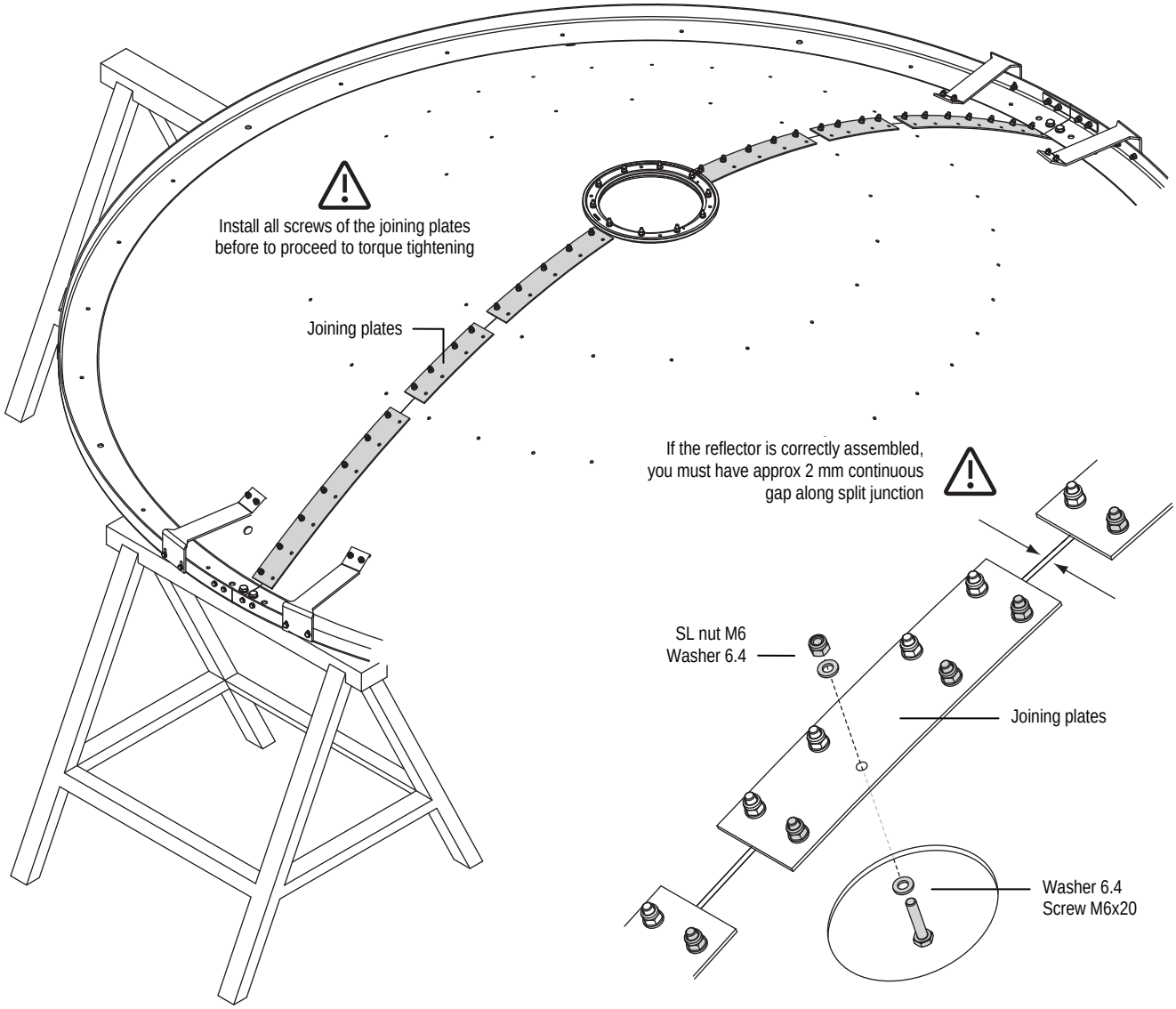
Reflector junction
(top)



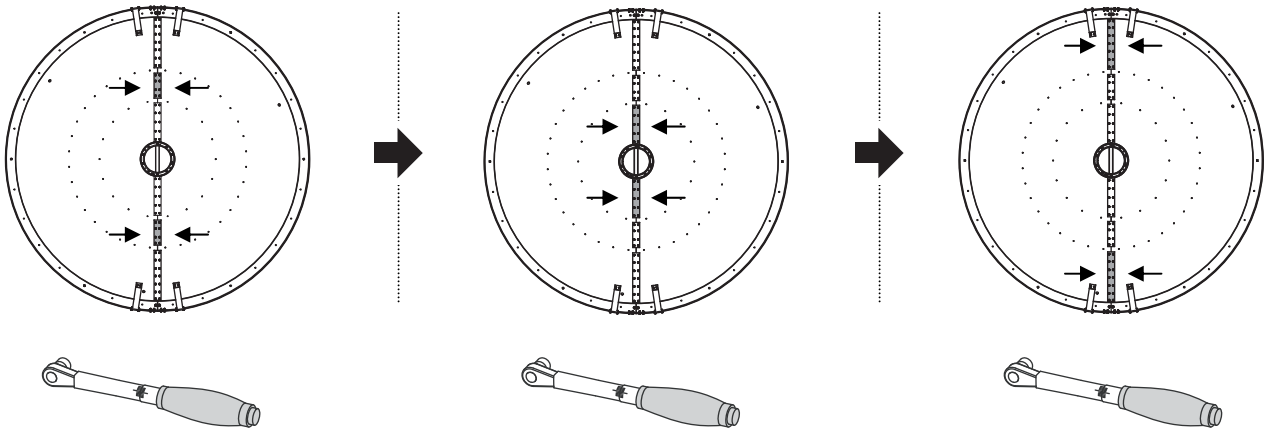


After complete screws installation, torque tighten
M6 bolts of the 2 junction plates.
M6 (8 Nm)

8 – Joining plates fixation on the second half reflector part



9 – Torque tightening order of the joining plates (see torque table joined)

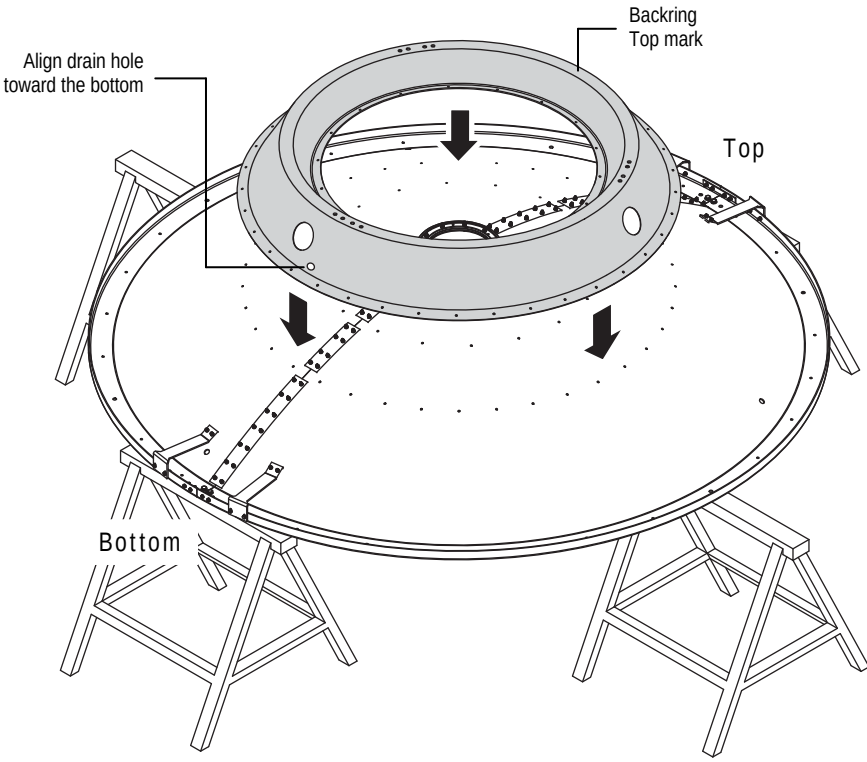


Torque tighten screws
M6 (8 Nm)

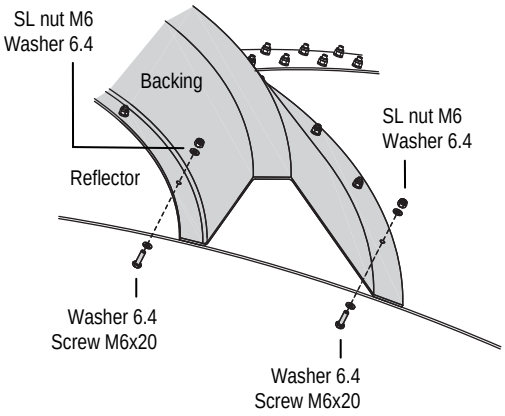
Torque tighten screws
M6 (8 Nm)

Torque tighten screws
M6 (8 Nm)

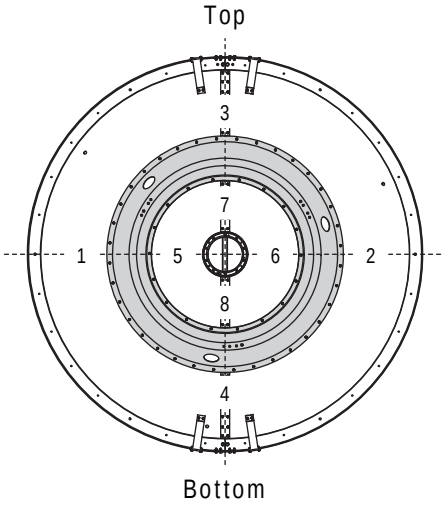
10 – Assembly of the backring



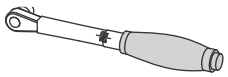
Install all M6x20 bolts in opposite diagonal mode inside and outside backring diameter (do not torque tighten until all bolts are installed)

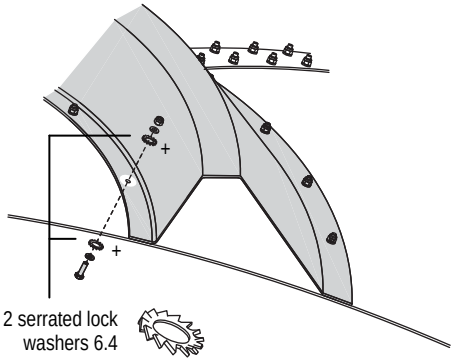


For the 2 holes 90° from the Top on inside backring diameter, add 2 serrated lock washers 6.4

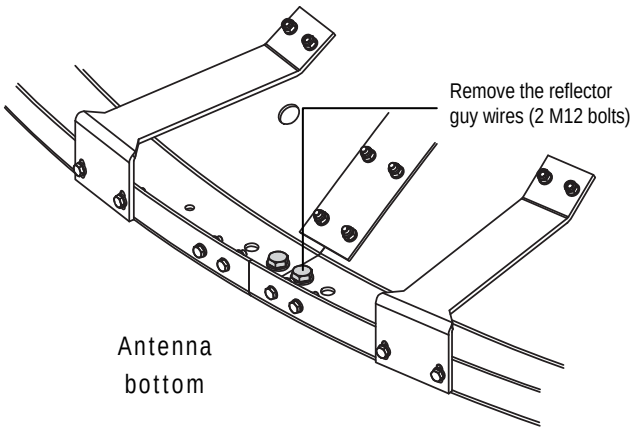


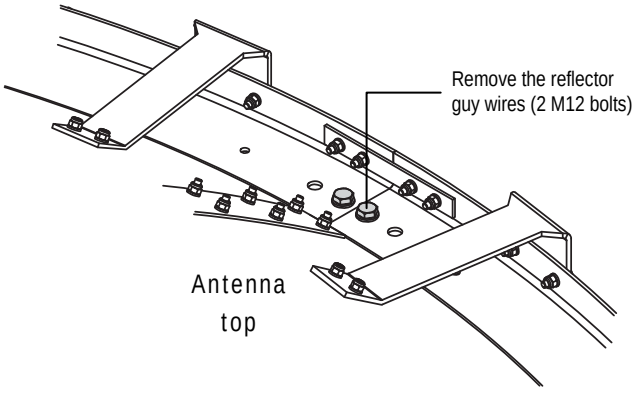
Start torque tightening,
for the remaining screws proceed in opposite diagonal mode
M6 (8 Nm)



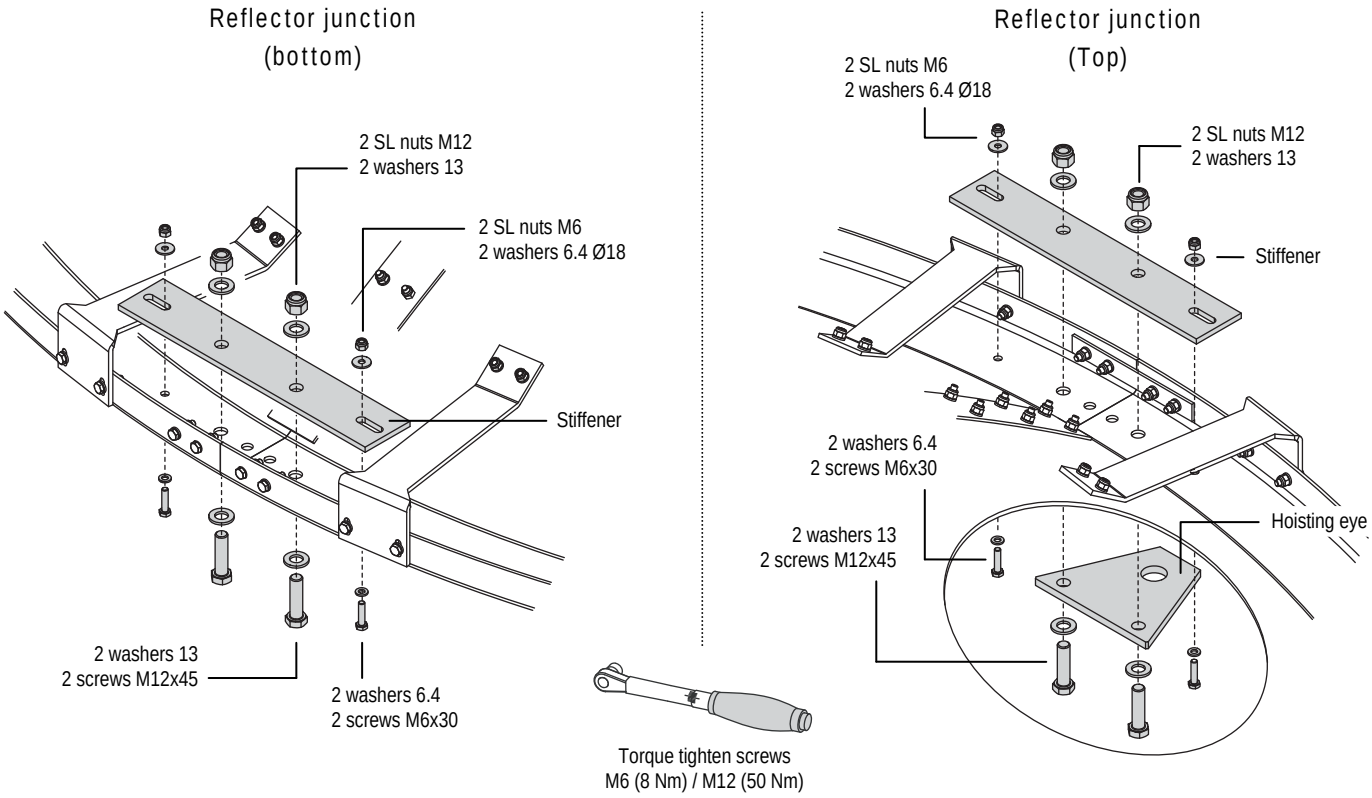


After complete backring torque tightening

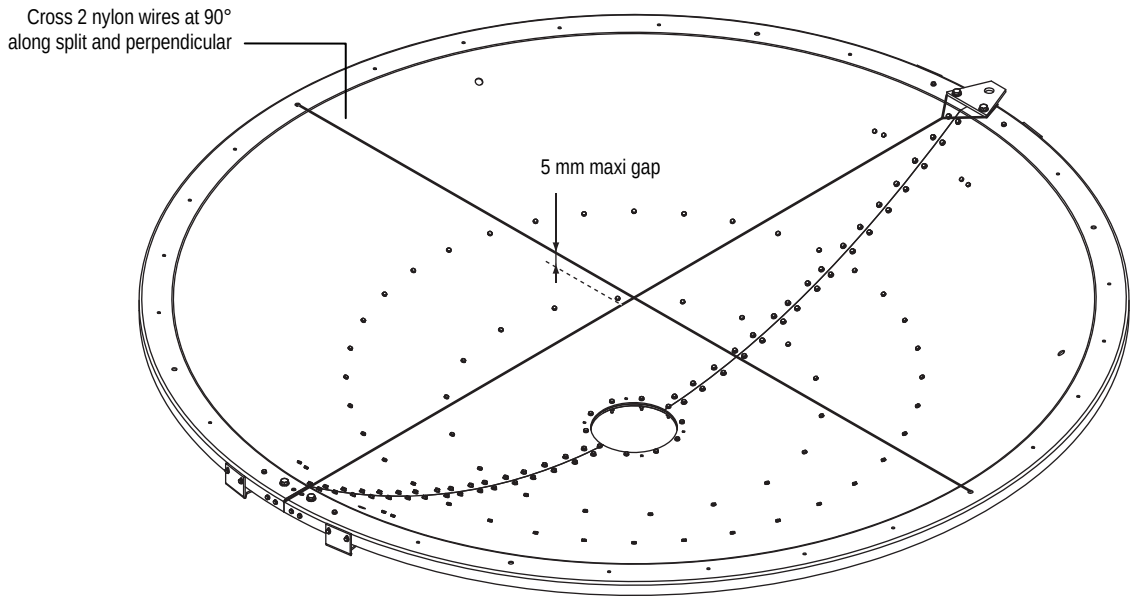




11 – Hoisting eye and stiffener installation



12 – Flattness check



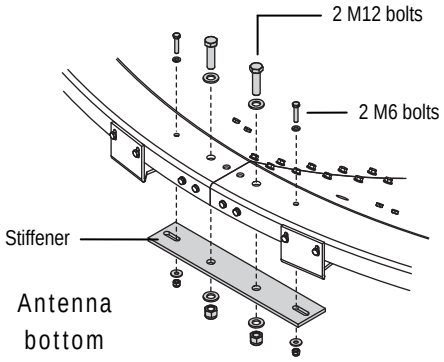
Cross two nylon wires at 90° (along the split and perpendicular) and check the gap between the wires. If the wires touch each other, pass the upper wire under the other wire.

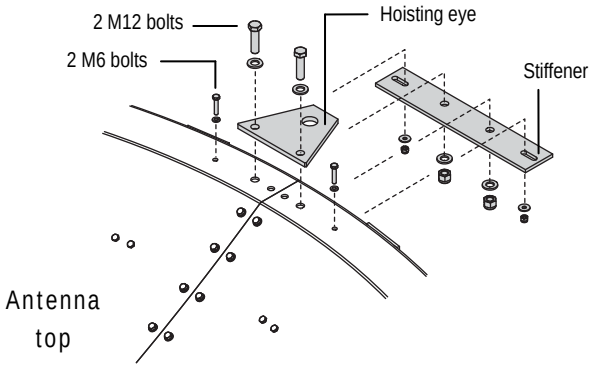
The maximum gap between the wires must be less than 5 mm. If the gap is superior, the antenna gain characteristics will not be optimum.
Example : At 7/8 GHz on a 10 ft, a splitted reflector assembled without precaution (gap between reflector guy wires > 10 mm) the gain losses is in the order of 1 to 1.5 dBi.

If you are in this case, re-install the 2 reflector guy wires along the split junction, then dismantle all the reflector and proceed to a complete re-assembly, following carefully the assembly process. (Take a special care to trestles disposition/adjustment, and tightening order of the different hardware parts).

13 – Hoisting eye and reflector junction removal (only for antenna with shroud, otherwise skip this step)

For DA, DAX, UA, UDA, UXA antenna types, you need to remove the hoisting eye and the stiffeners plates, before the shroud installation.





14 – Next instructions (refer to antenna installation instructions)

Addendum (installation pictures)