Assembling Toroidal

Thanks for choosing Toroidal. This file is developed to assist you in assembling and aligning Toroidal Dish.

With Toroidal dish, you are aiming for more than 1 satellite and therefore this process will require more time for assembling and aligning the dish. If you follow this process carefully, you will cut down the installation time and achieve optimal signal strength for all satellites you are aiming for.

TIP: Assemble and align Toroidal at ground level with small TV and receiver right next to you. This will save you a tremendous time. (If you have a sat finder equipment, maybe not.) After the alignment, you can put the assembled dish on your roof and adjust azimuth only, take a minute and reducing the risk and sweat!

Before You Begin

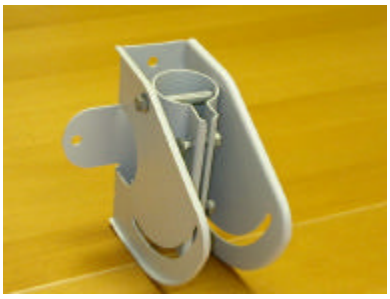
You will find two pouches including bolts and nuts. One pouch is to assemble the dish and the other is for the pole mount. (Pole mount assembly is not illustrated here. Use the diagram in the box.)

- Print out (if you have not) the part list. Sort and group the bolts and nuts according to the part list. This will save a lot of time and confusion.
- You will need Phillips Screw Driver and 10, 11, 12, 13 mm Wrenches for the assembly.
- Begin the process on flat surface.
- Make sure your location is not blocked from building or a huge tree. Remember you are installing more than one satellite, thus you need a wider clear view of the sky.

Now let's go ahead and start assembling.

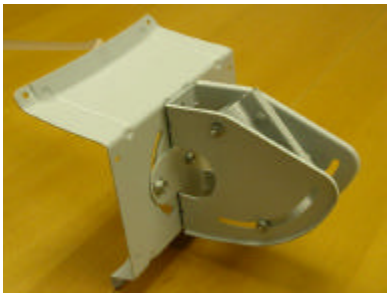
Step 1: Assembling the Toroidal

Start with Weaving tube. Do not tighten since you will need to put this over the pole mount later on.	
Parts: B11, B13	Tools:



Place Enduring tube across weaving tube and Back Mount Elevation. Tighten with bolt and nut.	
Parts: A6, A13, B9, B13	Tools:

Insert B10, B13. Make sure that nuts are outside of Back Mount. This is where you make elevation adjustment later on. For T90, use washer for extra holds. Washer also makes it easier adjusting elevation control later on.	
Parts: B10, B13, Washer	Tools:



There are 3 connection points on Back Mount Tilt unit. Use B8 on the center with B13. Use Phillips driver to tighten. Then, tighten B4 with B14 with hands. Nuts should be on the back the unit so you can adjust skew angle later on.	
Parts: B8, B13, B4, B14	Tools: Phillips

Attach LNBF Guide Seat onto Support Arms. Then, plug in Support Arm Cap.	
Parts: A3, A8, B4, A12	Tools: Phillips

Assemble Support Arms on both side using B3 & B13. Do not use B2.	
Parts: B3, B13	Tools: Phillips, Wrench

Attach Sub Reflector using B2 & B12. You will find a little hold on the center of the side. This side with hole should be placed down.	
Parts: B2, B12	Tools: Phillips, Wrench

Attach LNBF Guide using B5. Pay attention the orientation of LNBF Guide.	
Parts: A4, B4	Tools: Phillips

Attach Main Reflector using B1, B12.	
Parts: B1, B12	Tools: Phillips, Wrench

Step 2: LNBF Mounting and Location

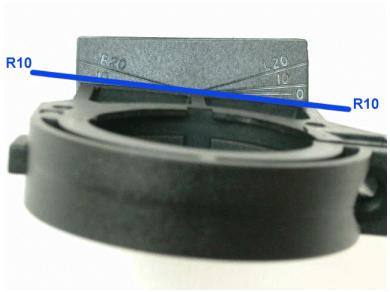
For illustration purpose, we will use the following setting for A city. The following table is provided for major cities in the homepage of Wavefrontier (www.multilnbdish.com). If you have not received one from Wavefrontier or cannot find one for your location on the website, contact Wavefrontier by send email to support@multilnbdish.com. We will forward information to you. Make sure you indicate your zip code and satellites you are aiming for.

Model: T55
City: A City, CA
Country: USA

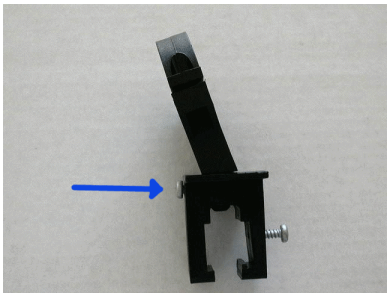
Azimuth	Elevation	Skew	91W	101W	110W	119W
156	45	95	L20.0	L10.0	R0.0	R10.0

Here we will illustrate LNBF Holder setting for **119W** whose setting is **R10.0**

Look closely on the top of LNBF holder supporter. It has grid showing L20, L10, R10, R20.	
Parts: A9	Tools:

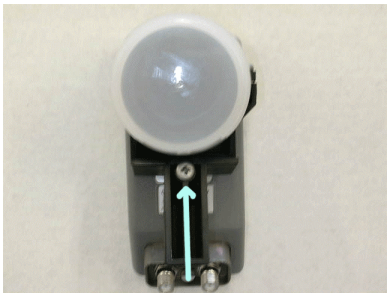


Insert LNBF Holder into the Supporter. Rotate/Align the bottom of Holder so it can align to R10 Grid.	
Parts: A10	Tools:

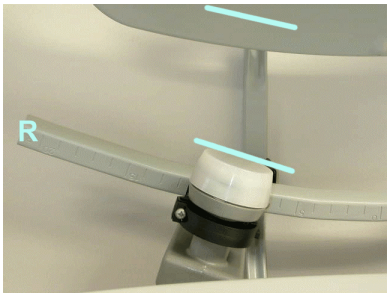


Tighten the aligned holder by using B6. Place another B6 with your hand. Do not tight this one. This (2nd one) will be tightened at the very end of this whole process.	
Parts: B6	Tools: Phillips

Place LNBF inside the holder and tighten another B6. You may need to LNBF Adapter (A11) to secure LNBF depending on the neck size of your LNBF.	
Parts: B6, LNBF	Tools: Phillips



Align the **CENTER** of LNBF Holder Unit at the R10 marking of LNBF Guide.	
Parts:	Tools:

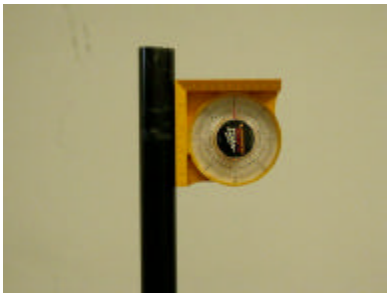


After inserting LNBF Holder Unit into guide, loosely tight screw so that the unit can stay on the guide. You will tighten this screw at the very end of this process. You will find that surface of LNBF and Sub Reflectors are symmetrically aligned.	
Parts:	Tools: Phillips

Install other LNBF Units as you require using same method.	
Parts:	Tools:

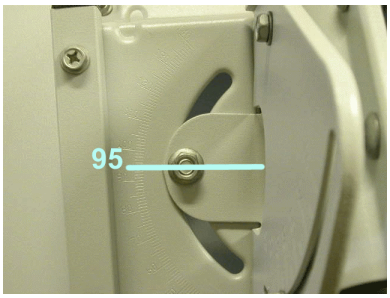
Step 3: Aligning Toroidal

We will use the same setting used before for illustration purpose.



First, makes sure that your pole mount is absolutely vertical. Without vertical pole, all other setting angles are almost meaningless.	
Parts:	Tools:

Without any skew adjustment, adjust elevation. You can use an angle locator as shown or use elevation reading on the bracket. (Align the edge of tube to the readings) If you are using a washer on elevation unit, you may not able to see the edge of the tube.	
Parts:	Tools: Wrench



Make skew adjustment. Tighten but remember you may need to adjust this later on. So do not use excessive force.	
Parts:	Tools: Wrench

Now you are ready to aim for a satellite.

1. Select one LNBF in the center (or the LNBF nearest to the center, 101W for this case) and hook it up to the receiver or sat finder equipment.
2. **Adjust azimuth** by moving antenna unit left and right to find the best signal. Then, tighten Weaving Tube Unit to the pole.
3. **Align elevation** a little bit to get the MAXIMUM signal. Remember elevation is the most critical factor here. Tighten elevation bracket.
4. Hook up to other LNBF and measure signal strength. If adjustment needed, move LNBF holder right or left along the guide until you get the maximum.
5. If you not able to get a satisfactory signal, **adjust skew** angle a little bit, 1 degree up or down. Then adjust LNBF holder to left or right to get an optimal signals.
6. If not satisfied with signals, repeat the steps.
7. Enjoy Toroidal !