

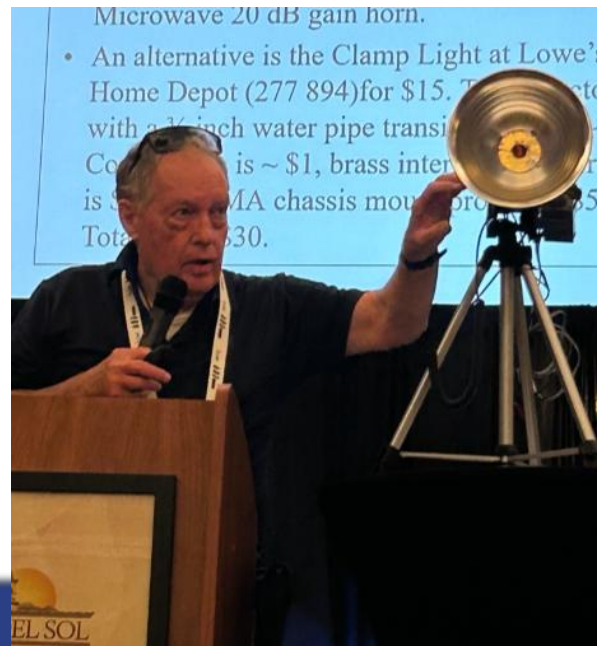
Building the K4QF Trojan Dish

KM5PO – Feb. 14, 2026

NTMS

K4QF Ben Lowe and the Dish

- Ben brought the “Trojan” dish in his carry-on luggage on his flight to Microwave Update in Tucson last year.
- The dish is lightweight and has some gain and directivity.
- Perfect for back packing or a “quick fix” (Ben terminology)
- The dish made my WSS loud.

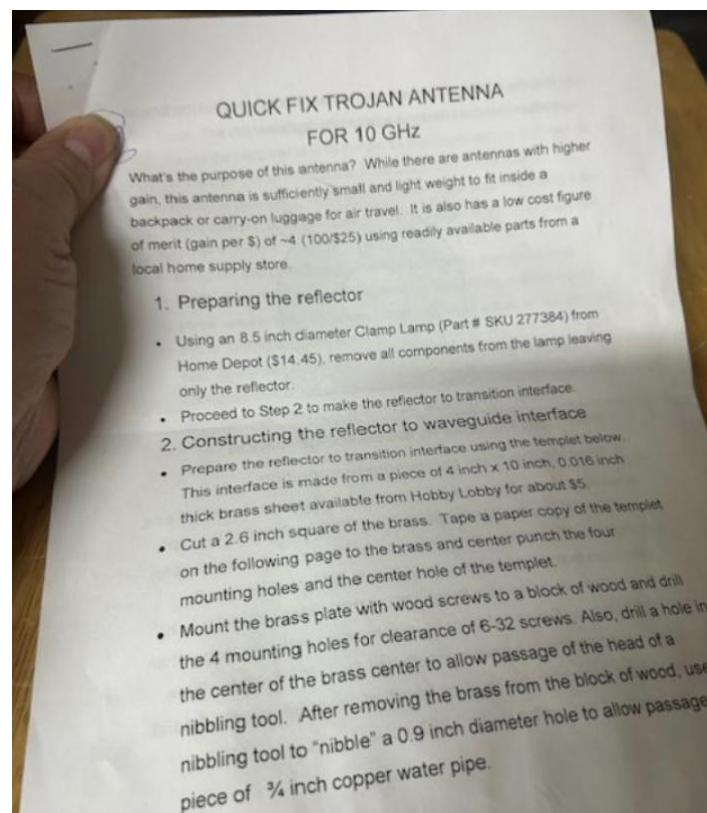


BOM



Part	Approx cost
8.5" dia. Clamp light Home Depot SKU 277384	14.45
Brass .016" Hobby Lobby	5.49
$\frac{3}{4}$ " x 2' copper pipe	3.36
$\frac{3}{4}$ " pipe cap	.67
$\frac{3}{4}$ " pipe coupler	2.98

Instructions from Ben

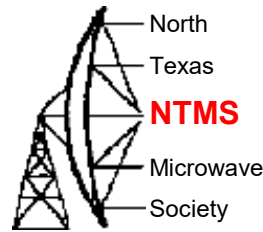


[Link to building instructions for K4QF dish](#)

Cut a 3.6" length of $\frac{3}{4}$ " pipe



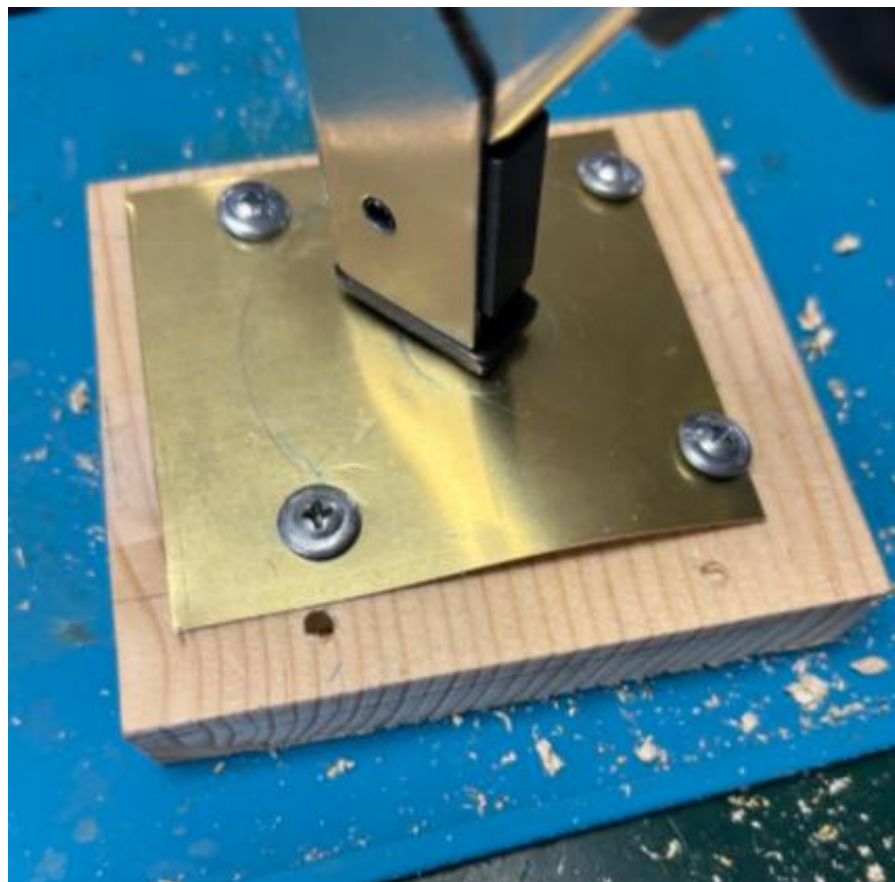
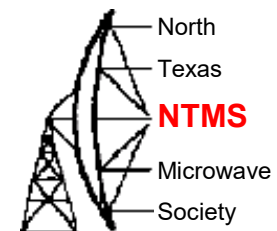
Mount brass sheet and paper template to wood block



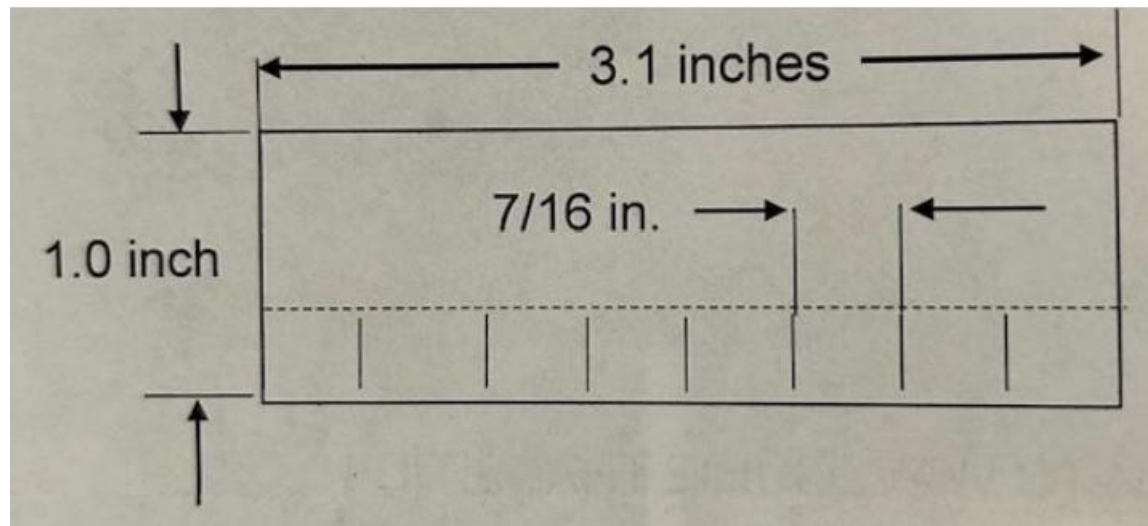
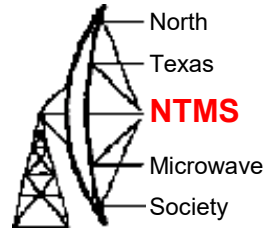
Transfer center hole dimensions to brass sheet



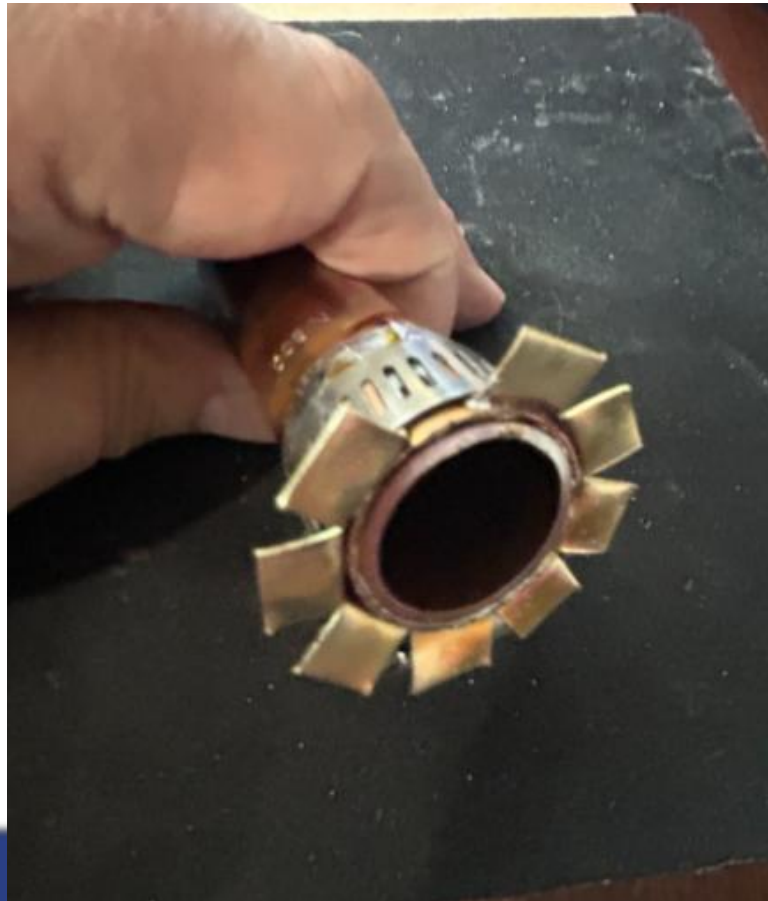
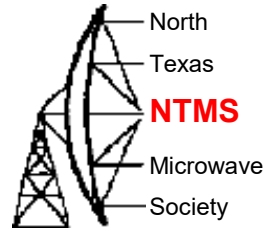
Drill starter hole to allow nibbler



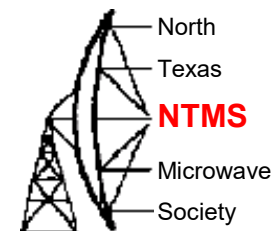
With sharpie, scribe a flange pattern on brass sheet



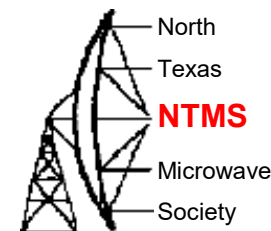
Use a hose clamp to hold
brass flange to $\frac{3}{4}$ " coupler
over the feed horn



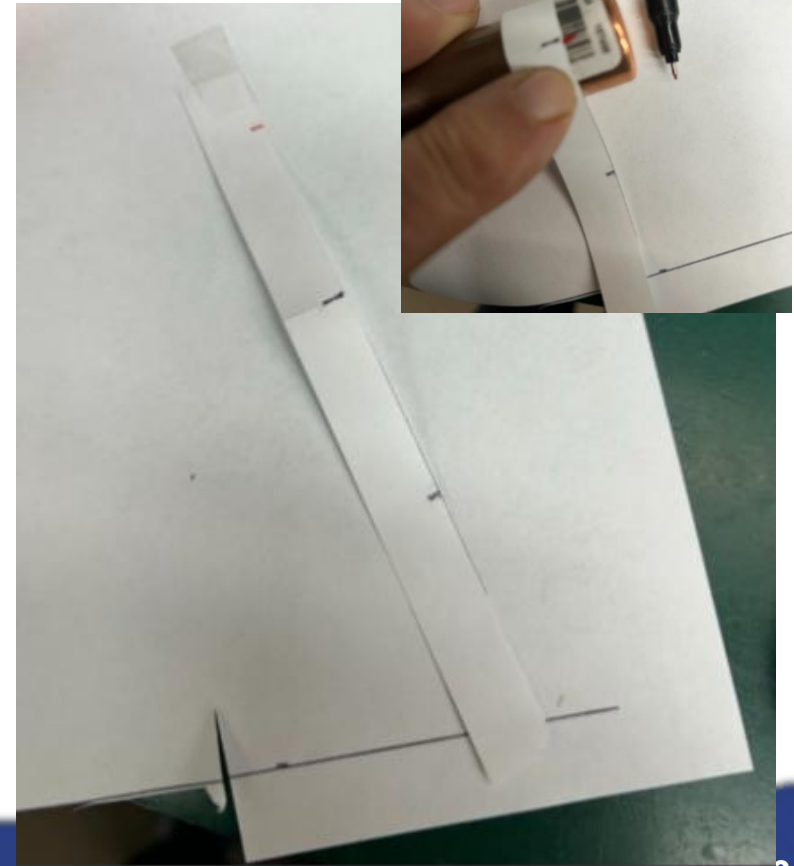
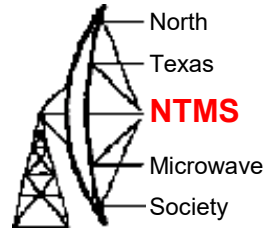
Flange with fingers is soldered to $\frac{3}{4}$ " coupler



Flange fingers are soldered to reflector to waveguide brass



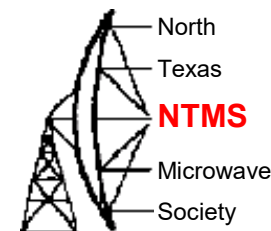
Using a strip of paper to mark holes 180 deg. apart on pipe cap



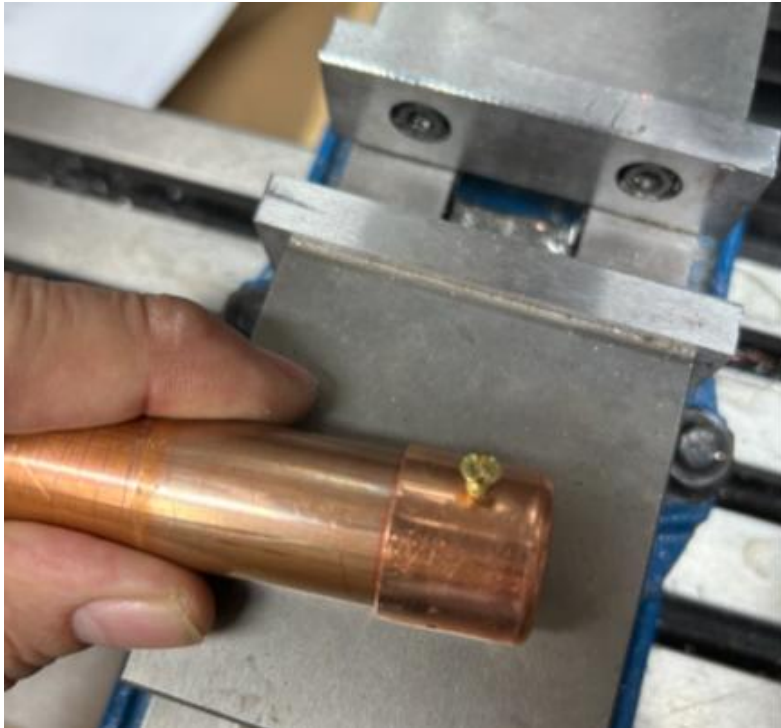
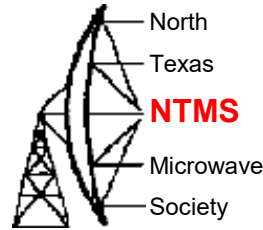
Locate SMA probe center



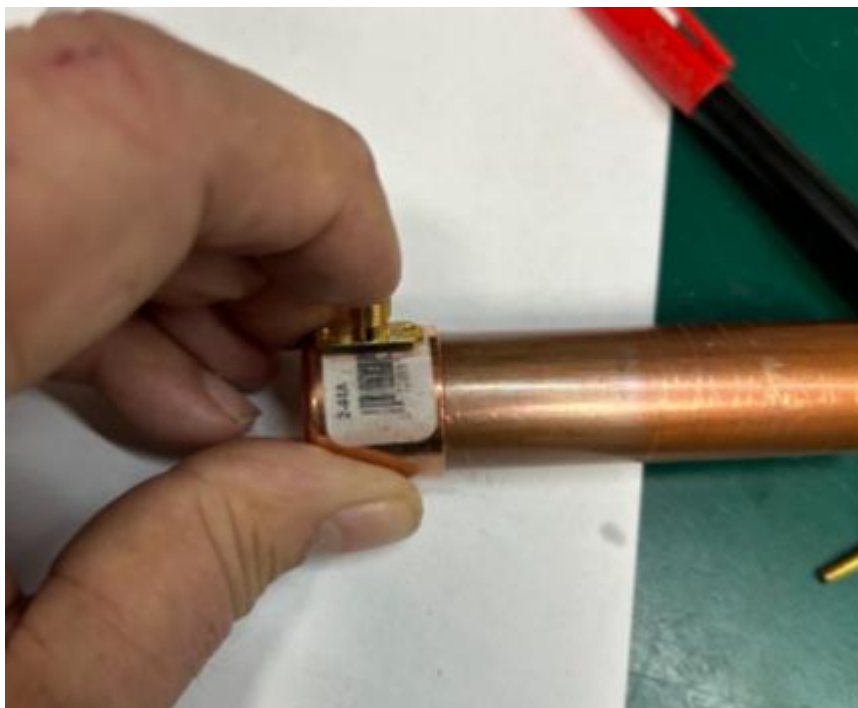
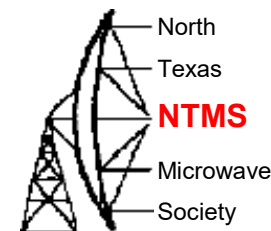
Drill & tap for 4-40 tuning bolt



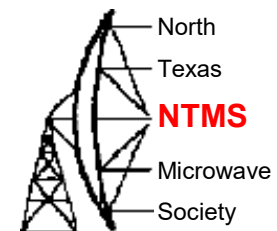
After threading 4-40 bolt, flip over pipe cap & feed horn and drill a pilot hole for SMA probe



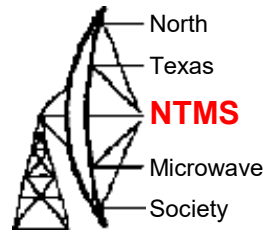
Drill $5/32''$ hole for SMA
insulator and nibble out pipe
cap to allow SMA body fit



Solder SMA connector



Fit waveguide to reflector black insulator using shim as needed



Tack solder feed horn to waveguide / reflector brass

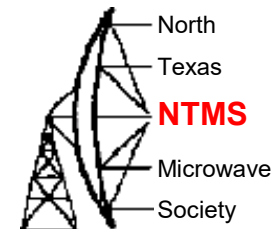


Return Loss is good

- Tuning bolt with best measurement from nut to bottom of bolt head = 0.1625".
- Return Loss tuned from 25 to 26 dB with bolt turned from all in to best measurement 0.1625".
- Return Loss varies a small amount depending on what you point the dish at 😊



Big dish little dish ~ 4 S units difference



Questions?

