



Antenna Support Tripod – EMT Construction

This construction project produces a sturdy tripod for small antenna support using readily available electrical metal tubing (EMT), some common hardware, and a tripod bracket fabricated and made available by the Emergency Amateur Radio Club of Honolulu.

Tripod Parts List

- 1 Tripod Plate, pre-drilled and pre-bent
- 3 40" 1/2" Electrical Metal Tubing (EMT) pieces for legs
- 3 Set screw type 1/2" conduit box connectors
- 1 Setscrew type 1" conduit box connector
- 1 24" 1" EMT for center guide pole
- 1 5' 3/4" EMT for center mast
- 1 1/4" x 20 x 3/4" long hex bolt
- 1 1/4" x 20 x 1 1/2" long hex bolt
- 1 1/4" x 20 hex nut
- 1 1/4" lock washer
- 2 1/4" wing nuts
- 3 5/8" Rubber crutch tips to fit EMT legs if desired

Optional 3/8 x 24 Antenna Bracket Parts List

- 1 Gumdrop shaped 3/8 x 24 antenna mount. (MFJ-343 or equivalent)
- 1 Octagonal electrical box extender
- 1 1/2" x 3/4" greenfield type set screw box connector

Assembly of Tripod Plate. Shown below left is the blank tripod plate. The large center hole accepts a screw type 1" conduit connector for the center guide tube, and the three outer holes accept 1/2" screw type conduit connectors for the legs. The 1/4" hole accepts a 1/4" by 3/4" hex bolt, lock washer, hex nut and wing nut, and serves as a counter poise connection point. When all the hardware has been added, the tripod plate appears as shown below. The couplings should be securely tightened with the set screws pointing outward for easy access for installing and removing the legs with a standard screwdriver. The center guide tube is a 24" long piece of 1" EMT, with a 1/4" hole drilled through the center.



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As shown below, this hole accepts a 1 1/2" by 1/4" hex bolt secured by a wing nut. When the hex bolt is in place, the center mast is restricted from going all the way through, which is proper for very light antennas such as ham sticks. When supporting taller vertical antennas, it may be desirable to drive the center mast into the ground for additional support. If so, remove the 1 1/2" by 1/4" hex bolt to facilitate the 3/4 EMT center mast sliding through to the ground below.



Finish assembly of the tripod by securing the 24" center guide tube pictured left into the center 1" conduit coupling installed on the tripod bracket by tightening the set screw. Install the legs and secure with set screws. Fully assembled the tripod should look like the first photos on the following page.

On the right is a close up view of the tripod assembled and ready for the $\frac{3}{4}$ " tripod mast to be inserted into the center guide tube.



A longer view of the same tripod is shown below.



The photo below adds the center mast and tops it with the optional $\frac{3}{8}$ x 24 antenna bracket and a 10 meter ham stick antenna.

