

## CERT Pole Plans Vertical Mast and Antenna

**These instructions have NO provisions for base anchors or guy wires to prevent this base/antenna assembly from toppling due to wind or other factors. Before using this assembly, provide safety measures to prevent toppling and possible injury to personnel. Do not erect or use this assembly near power lines or utility lines.**

### Option #1

The simplest way to complete your CERT pole is with a telescoping painter's pole of your choosing. They come in various lengths, 4-ft to 8-ft., 6-ft to 12-ft. (2-section poles) all the way up to a 3-section 8-ft. to 24-ft. I used a 6-ft to 12-ft one from Home Depot, about \$18. Next, screw a ½" floor flange (plumbing piece) onto the threaded tip of the pole. A mag mount antenna base with antenna is then stuck on the flange to finish off your CERT pole.

Connect your coax cable to the antenna and your radio and you're ready to go!

### Option#2

I customized mine (a) to get a pole that would store flat in the trunk of my car and (b) to eliminate the need to use the mag mount and plumbing flange on the CERT pole, cutting down on that weight at the top of the pole. I measured and found that a 4'-6" pole would be the maximum length for my trunk area. Photo #5 shows original 6-ft pole, my 4'-6" pole and 3<sup>rd</sup> section before trimming.

(1) Drill out the rivets and remove the threaded tip from the end of the pole. [photo #6]

(2) Carefully remove the rubber grip on the bottom end of the pole by gently prying the grip away from the pole. Add some soapy water or WD-40 to make removal easier.

(3) Tighten the pole clamp so that about 1-1/2" of the inner pole is protruding beyond the locking clamp, to leave something to pull on when extending the pole. [photo #6]

(4) Cut pole to length (in my case, 54") by cutting the excess off the handle end. Cut both the inner and outer pieces at the same time. De-

burr as needed, then slide the rubber grip back in place.

(5) You can add a 3<sup>rd</sup> section for increased antenna height, using either (a) a PVC extension that slips over the upper portion of the pole or (b) a steel or aluminum 3<sup>rd</sup> section that fits inside the upper portion, as described below.

### Making a PVC extension:

Use about 1-ft. of 1" PVC to fit over the telescoping pole; attach 1"-to-3/4" reducer, then a length of 3/4" PVC to get your desired height. Next, skip to "Making the Antenna attachment" section.

### Making a steel "Extension Pole" section:

The 5-ft."Extension Pole" fits perfectly inside the inner telescoping pole. First, drill out the two rivets holding the threaded end on the pole and remove it. To find the right length for this section, insert the rivet hole end all the way into your collapsed telescoping pole. Mark, then cut this 3<sup>rd</sup> section so that it protrudes about 1" out of section 2. [photo #6]

When extended, sections 2 and 3 are held together with a hitch pin clip through the rivet holes in each tube. You can add a couple layers of vinyl electrical tape near the rivet holes of section 3 to get a snug fit between the two sections. [photo #7]

### Making the Antenna attachment:

This arrangement works with a Diamond NR-770HA dual band antenna. A combination of small pieces of 3/4" PVC and unions are used to make a connector that holds the antenna in place and slips over the end of the 3<sup>rd</sup> section. [photo #8, #9] Other antennas may require some different PVC pipe sizes to achieve the same results.