

Tilted

(W6PUG)

A year ago, I got my Gap Challenger, and wrote an article about using a garden auger to make the hole for it, as opposed to a backhoe and a major earthmoving event, and that has worked well for me. Now, a year later, I need to do some maintenance on the antenna. A screw came loose in one of the middle (of course!) connections and some other minor maintenance that needs to be done, and here I am with a 32 foot whip stuck up in the air, and a 5-1/2 foot me trying to figure out how to get it down so I can work on it, without constantly imposing on my neighbors. I looked at several tilt-over mechanisms, running in cost anywhere from 100USD to well up over 350USD, and did not feel like I should have to take out a second mortgage on the house so I could work on my antenna. One of the reasons these are so expensive is that the tilting mounts are designed to support a free-standing antenna, which is not what I need, as I have a brace to the patio cover 8 feet above ground.

Off to the scrap bin I went, and dug out a piece of scrap aluminum plate from a previous project and a couple of 1/2x10inch galvanized lag bolts. A quick trip to the hardware store provided me with 4 stainless steel cap screws and nuts with integral star washers, 2 "U-bolt" clamps and nuts, small bag of "Sackrete" (pre-mixed dry concrete) and a hinge. Cost was about 14USD.

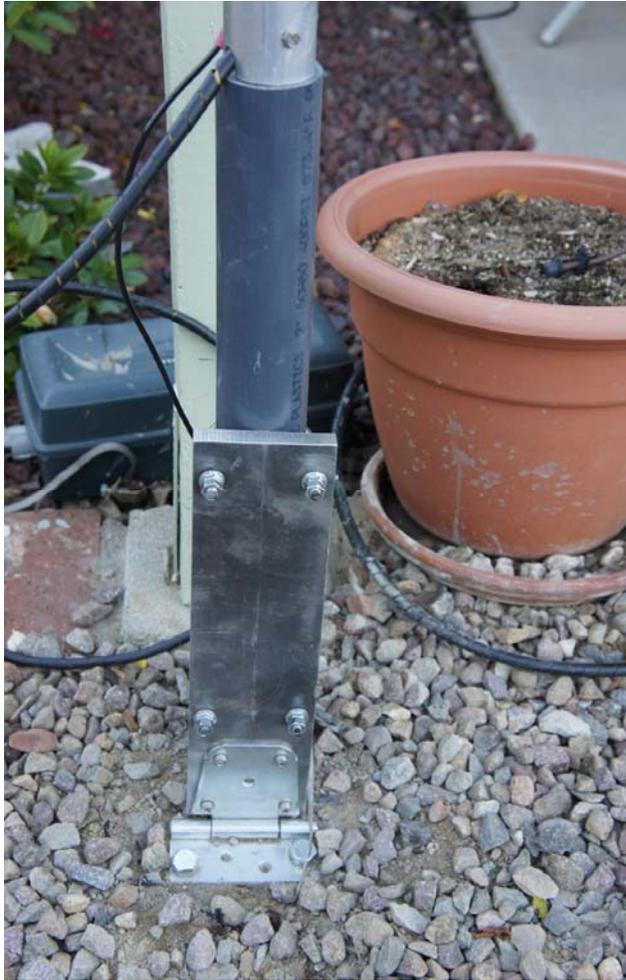
Step 1: Smooth down the edge of the aluminum plate so I have a 4x18x1/2 inch plate. Half inch plate is big overkill, but it is what I had in my scrap pile. Drill 4 holes to match to longer section of the hinge and attach hinge to plate with the stainless cap screws. Drill out the bottom holes in the hinge to allow the lag screws to penetrate.

Step 2: I pulled the PVC isolator out of the ground, and cut it so that it is 1 inch longer than the base section of the antenna base (the Challenger is a folded vertical dipole) – about 18 inches total in length), filled the 36 inch deep hole with sackrete and water, and when semi dry, spray the lag screws with silicone lubricant and screw the lag screws through the hinge into the concrete (I had to use an electric "hammer" drill) and level/plumb the aluminum plate to vertical (perpendicular to ground). Ensure you set the hinge in such a manner that the antenna will have a clear path to "lay down" when tipped over. The feature won't do a lot of good if you tip it into a tree or a hill or something <smile intended>. The silicone spray did enable me to tighten the lags a bit, and they could be withdrawn if necessary (although I cannot imagine why you would do that!)

Step 3: Off for a cup of coffee (tea, to the civilized folks in Aus), and find something else to do until the sackrete has "set". I did not get back to the project for about 6 hours and found the concrete had set fairly well (antenna weighs about 30 imperial pounds).

Step 4: Next morning, I slid the schedule 80 PVC isolator tube down into the U-bolt brackets (ensuring the tube is on the side of the plate opposite of the hinge) and tightened the nuts on the U-bolts snug and tested the hinge over feature – which went perfectly: the isolator tube lays over the hinge as expected, and the hinge is well-anchored to the concrete "mini-pier" in the ground.

Step 5: Slide the antenna into the insulation tube, and commence "hand-walking" your antenna to a vertical position. (note no mention of the neighbor!). Check plumb (perpendicular to ground).



Note the gap between the bottom of the open tube insulator and the ground (arrow), to ensure rainwater can evacuate from inside the insulating PVC tube.

Lash to antenna to a nearby vertical support (assuming you are affixing it to your patio cover or similar), then proceed to put the permanent strut to your vertical support (I used a 1.5 inch pipe flange affixed to the patio cover, a short piece of threaded schedule 80 PVC pipe with a 1/2 inch hole drilled next to a depression "saddle" whittled into the antenna side of the support, and a hose clamp).



Now, when I need to lay the antenna down (which I just did this morning), it is a one-man operation, and easily done. Your own design will vary with your type of antenna and support, but the idea is simple. Adapt

it to fit your own situation. Today, I am having wind gusts of 56kph (35mph), and nothing is even showing a hint of moving! I like simple solutions to simple problems. Hope this gives you some ideas – and no doubt you will invent some improvements!

Cheers to all – 73 W6PUG Doug