



PVC Flagpole Construction

A gathering of materials for TVARC Flagpole Antenna Project. I started with an assortment of stainless steel fasteners. 2 snap hooks, a rope cleat, stainless eyehook, a pulley, rope and of course a Flag.

Most all items purchased at Home Depot

Swivel ring = \$2.98

Snap rings = \$1.94

Rope Cleat \$1.98

Eyebolt = \$1.98

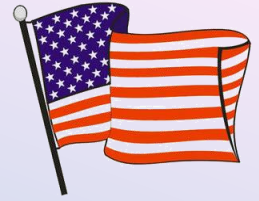
Rope = \$4.24

Flag = \$5.00*



*Marion flea market

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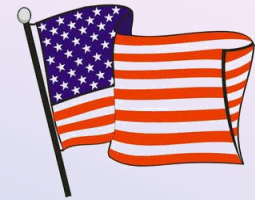
The real Antenna

I used solid #10 copper wire

My first prototype used ladder line. This was changed later

This was excess wire from my collection which my XYL calls junk

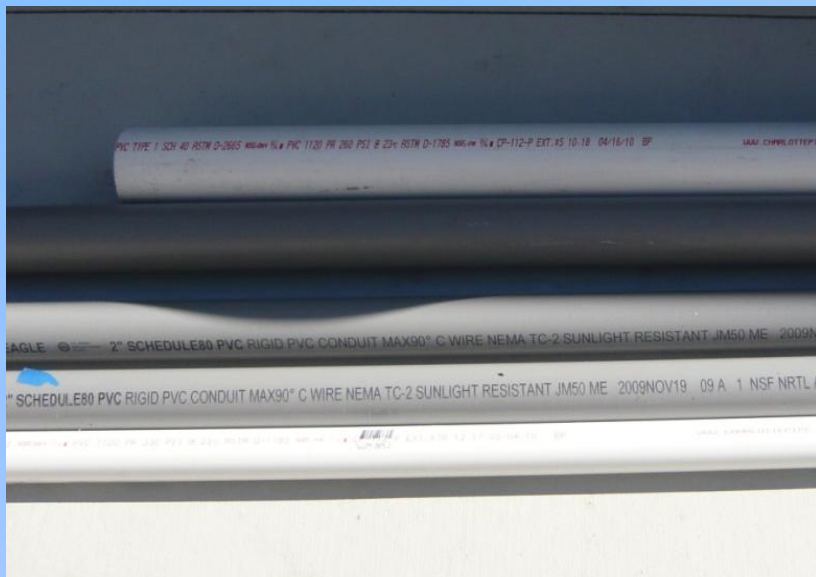




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Pipe Galore

I used 2- 10' lengths of electrical 2" schedule 80 PVC conduit. Schedule 80 is thick walled and sunlight resistant. There is 1 length of 2-1/2" schedule 40 conduit.



A piece of scrap 1-1/2" plumbing PVC pipe

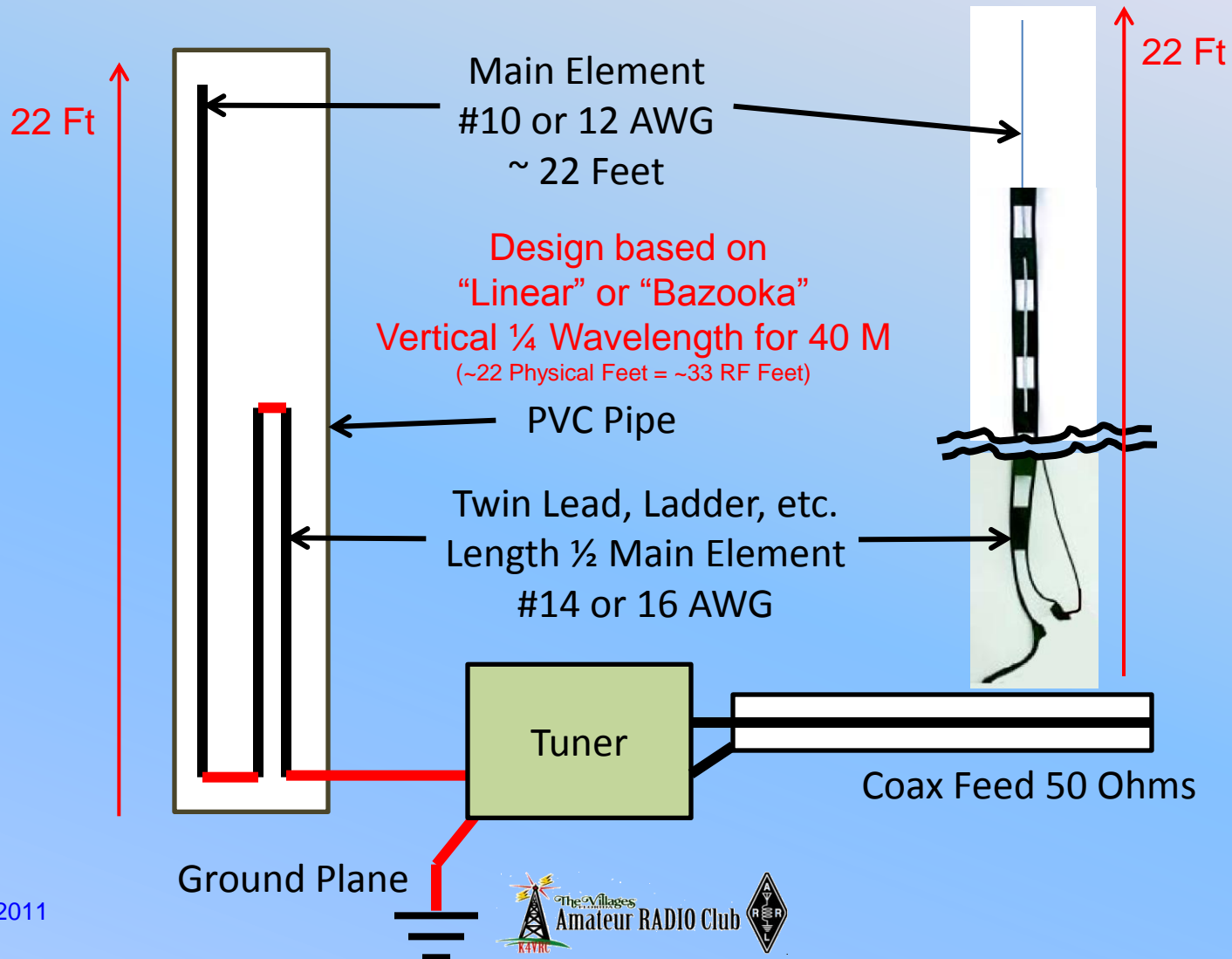
A piece of scrap 3" plumbing PVC pipe

The schedule 80 2" pipe was \$6.47 per 10'

The 2-1/2 schedule 40 was \$7.04 per 10'

The 3" and 1-1/2" plumbing pipe will cost about \$6.00
(Home depot sells 3' shorts)

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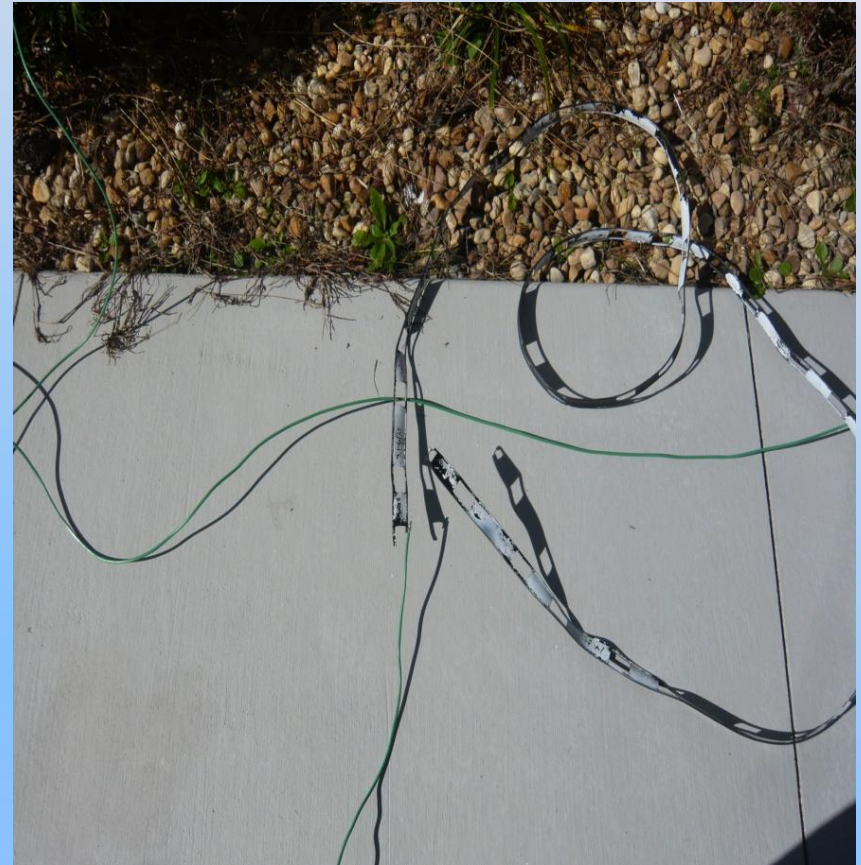
The # 10 solid wire is 22'.

The Ladder Line is 11'.

I soldered together the both sides of the ladder line at the top.

One side of the bottom of the ladder line is soldered to the # 10 wire.

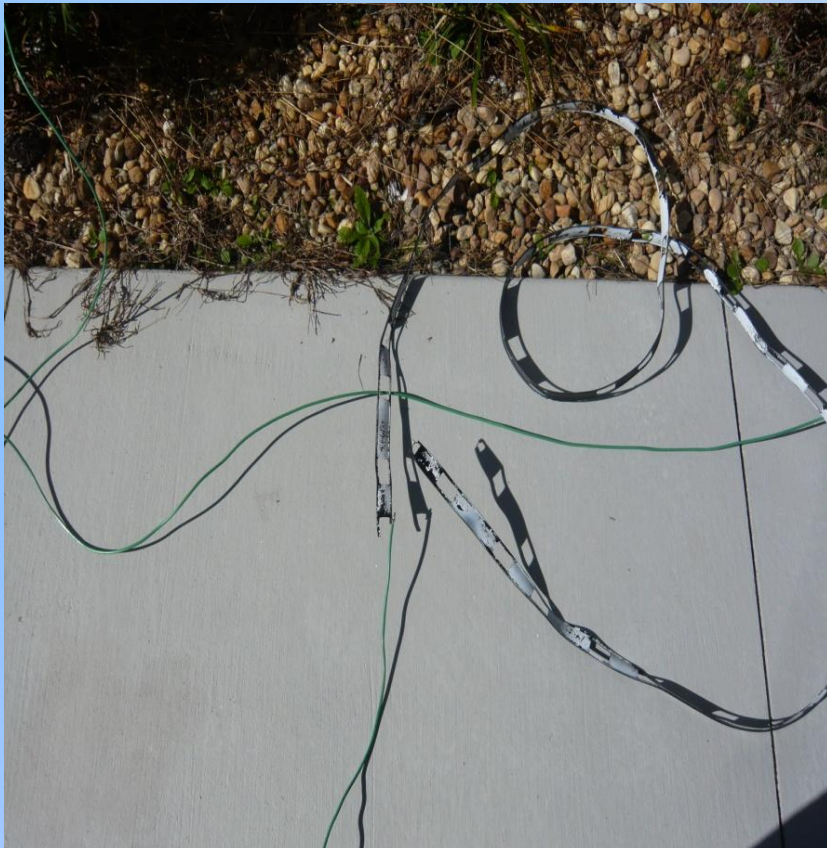
I soldered a piece of # 14 stranded copper wire on the other lead of the bottom ladder line to serve as the connection point to the tuner.



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Close up of solder joints.



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I used a 2" pipe cap on the top of the antenna. I painted this a bright gold.

I was going to couple the 2 pieces of 2" together but used the bell end on the conduit instead.



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I positioned the 2 pieces of 2" conduit and about 2' of the 1-1/2" pipe.

The 1-1/2" will serve as a sleeve to strengthen the coupling of the 2 pipes.



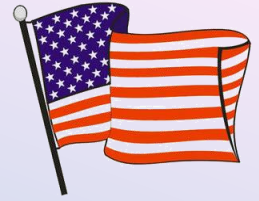
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I marked the center of the 1-1/2" to insure that there would be equal lengths in each side of the joint.



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I drove the 1-1/2" into the bell end of one piece of 2" and the slide in the other side. I did use PVC glue on this joining.



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I attached the screw eye taking care to be just below where the PVC cap will rest. I then attached the pulley to the screw eye.



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This the top end of the coax. The shield and the center wire are soldered together. Be careful when you solder. I now have a large patch on one of my golf shirts.



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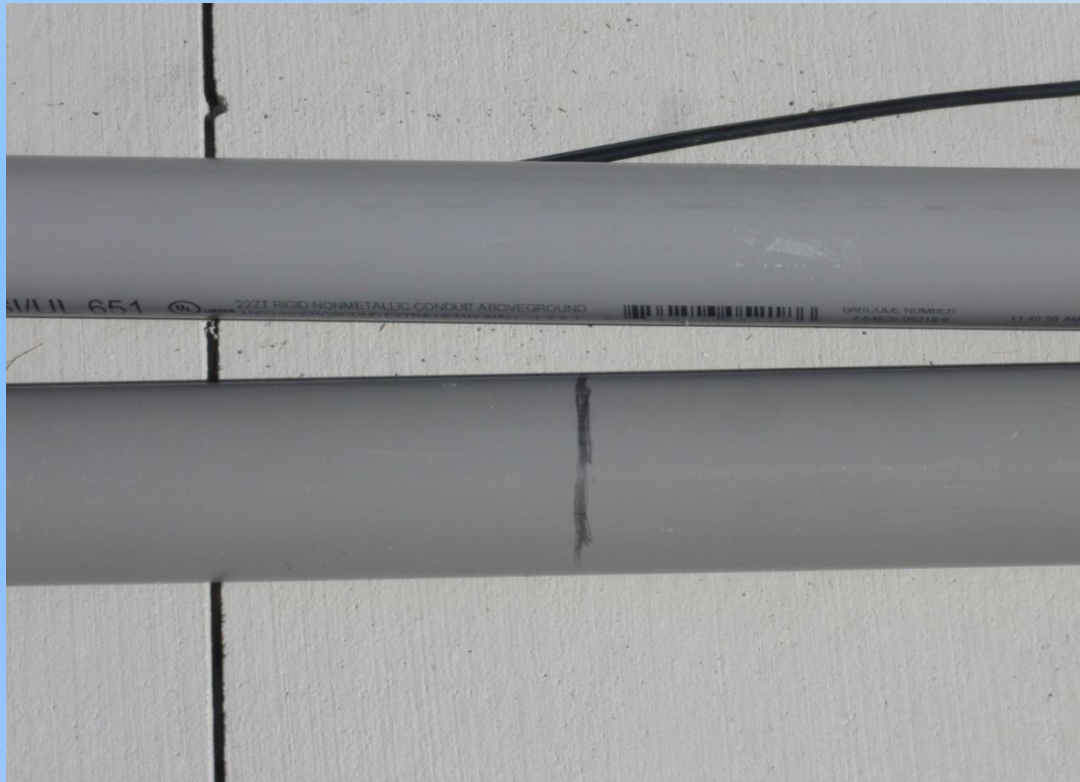
This is the assembled antenna stretched out, ready to be assembled.



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Approximately 1-1/2' of the bottom 2" will slide into the 2-1/2" conduit for extra support. Measure your cuts with care.



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The total length of the Antenna is 22'. You must allow for the slide in length.



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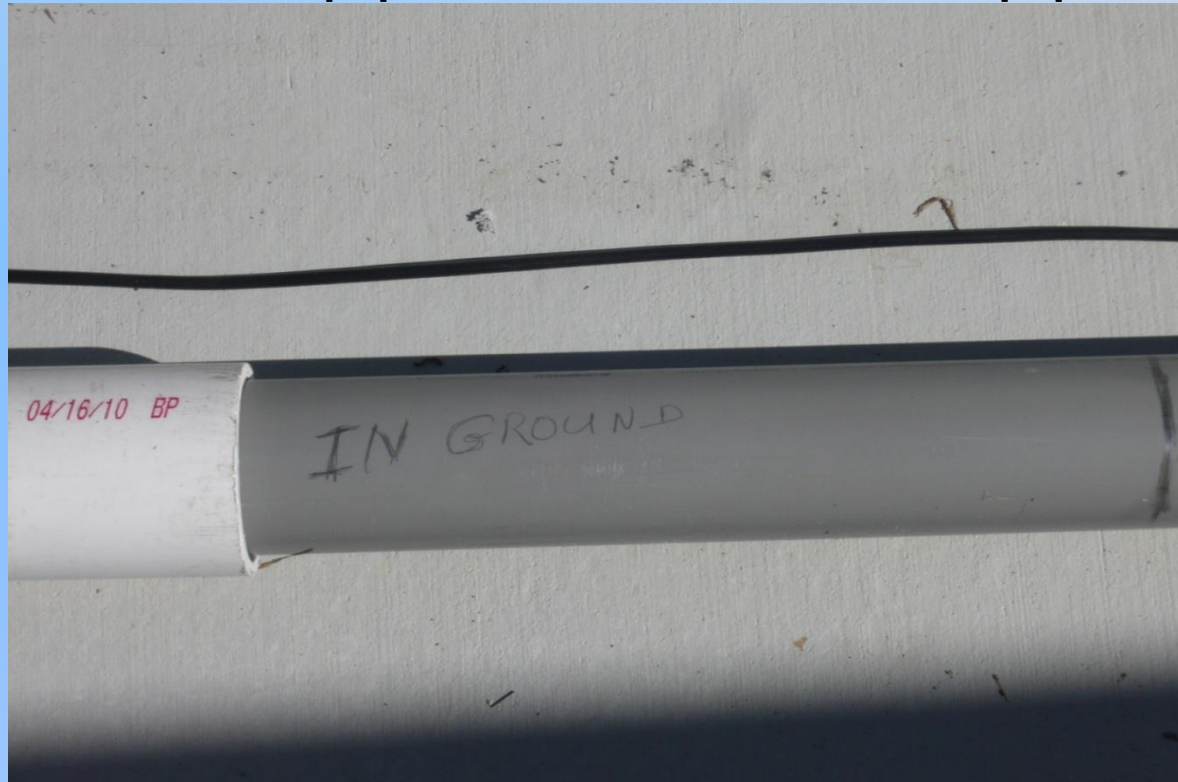
Approximately 30" of 2-1/2" conduit will slide into the 3" pipe. The 3" will be encased in concrete.



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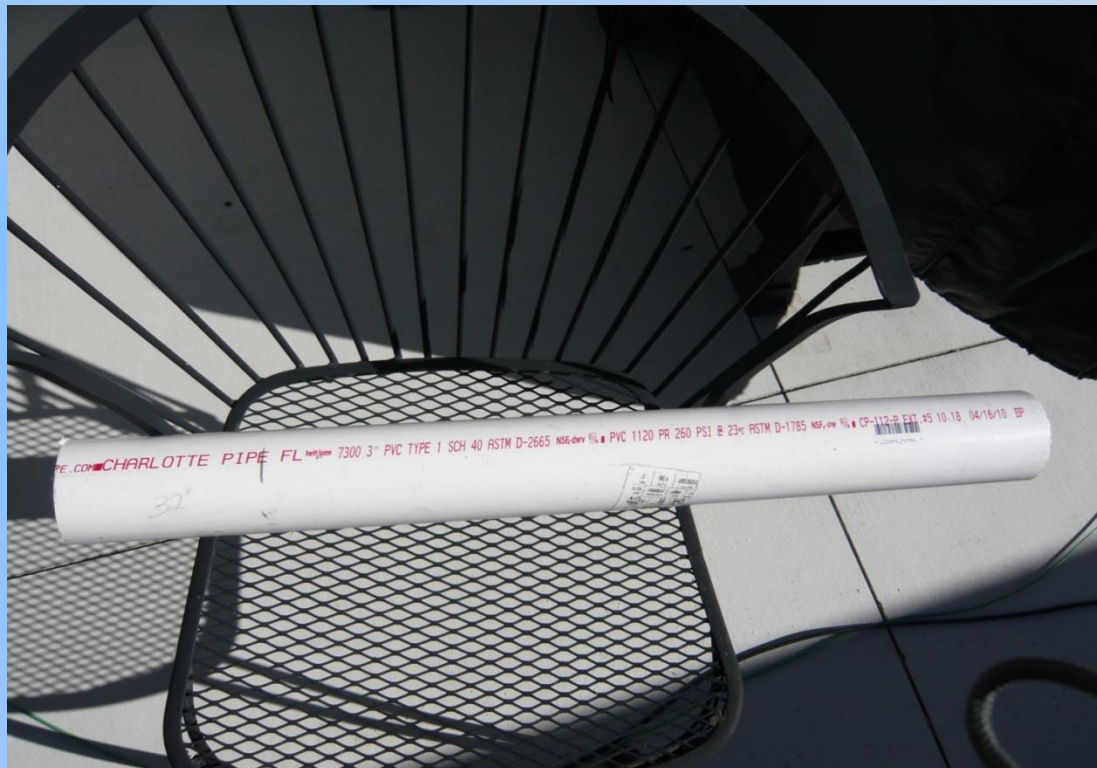
Again. Please measure and mark your cuts accurately.
30 Inches of 2-1/2" pipe slides into the 3" pipe.





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32 Inch Length of 3 Inch Sch 40 pipe. Home Depot sells 3 Ft. shorts in the plumbing department.



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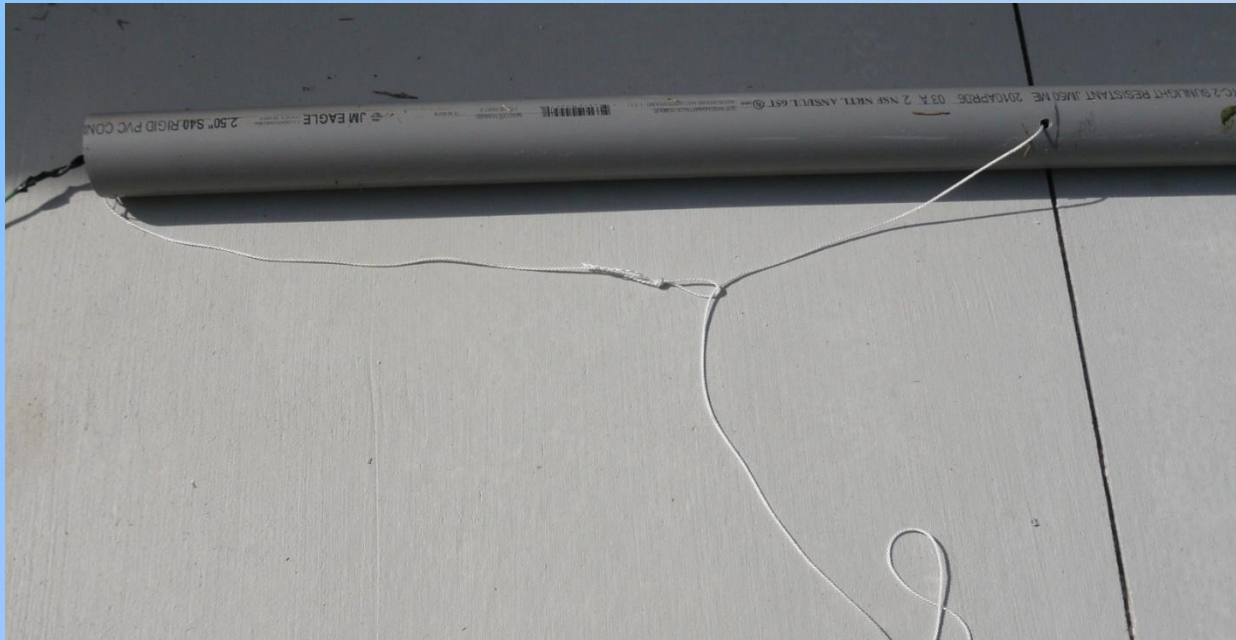
This is the finished flag pole cut to the proper length



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Drill a 1/2" hole at approximately 22-1/2" from the bottom of the flag pole. Fish a piece of twine in the hole and out of the bottom of the 2-1/2" pipe. Tie the twine to keep it in place and to prevent it from disappearing when you pull in the antenna.



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Push the solid #10 and the attached coax up the pipe.

You may need to run a fish line to do this.

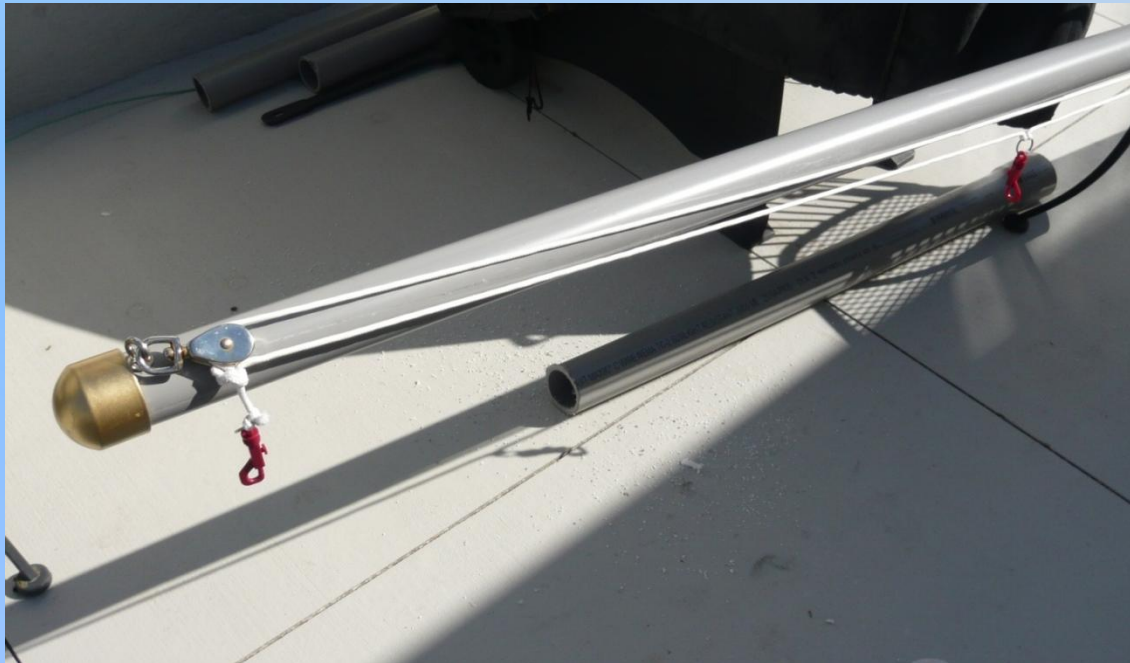
Tie the antenna lead (24" of 14 stranded wire) on to twine and when the antenna is at the top of the flag pole, pull the antenna lead out of the hole.



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Attach cap and pulley. The rope goes through the pulley and down to where the cleat will be mounted. Leave about 4" extra in this loop.



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Attach the cleat with (2) 3" 1/4- 20 ss bolts. Make sure that the bolts pass through the 2-1/2" and the 2" conduit. If you need to detach the pipe, this will be of great value.



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Time for Erection!



It is a wise idea to enlist the help of friends to install the finished antenna.

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View of the finished antenna from Lake Sumter.



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Antenna on a very windy day.
(15 to 20 MPH winds)

The antenna will flex in heavy winds. It is best not to fly your flag under these conditions (as with all flag poles) you will not harm the antenna and it will stand straight in light winds.

Flagpole Construction



Light it up!

A solar powered light cost \$19.95 at Home Depot.
It gives just enough light and last about a year.



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