Station One Tower

ARRL Field Day 2016
Loudoun Amateur Radio Group

Moving Into Position

Moving the trailer into position

Moving Antenna Parts

Removing Antenna Parts

Unpacking Parts

Removing Antenna Parts

Removing Antenna Parts

Removing Antenna Parts

Leveling

Leveling

Man use “rock” to level tower

Leveling

Man use “rock” to level tower

Leveling

“Planning”

Leveling

Moving the trailer onto the cinder block to try to level it

Leveling

Close but no cigar

Leveling

The trailer is pulled forward onto a pair of bricks. This gets it close enough.

Leveling

Lowering the front supports so the truck and be pulled away.

Leveling

Checking that it’s level in all directions

Leveling

Making sure it doesn’t move

Antenna

Assembling the antenna

Antenna

Assembling the antenna

Antenna

Assembling the antenna

Anchors

Guy wire anchor install

Anchors

Guy wire anchor install

Coax

Laying out coax so that it doesn't get caught up when the tower is raised

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Time to refuel

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna rotor

Antenna Rotor

Attaching the antenna mast to the rotor

Antenna Rotor

Attaching the antenna mast to the rotor

Wire Antenna Pulley

A pulley is attached near the top of the mast. The white rope pictured is used with the pulley to raise a wire antenna.

Wire Antenna Pulley

The rope needs to be laid out so that it won’t get caught up.

Wire Antenna Pulley

Stop taking pictures of me and help!

Wire Antenna Pulley

The rope needs to be laid out so that it won’t get caught up.

A Small Rise

The tower is raised a small amount so that the antenna can be attached.

A Small Rise

Getting in position to use the crank

A Small Rise

The side crank is used to change the angle of the tower to the ground

A Small Rise

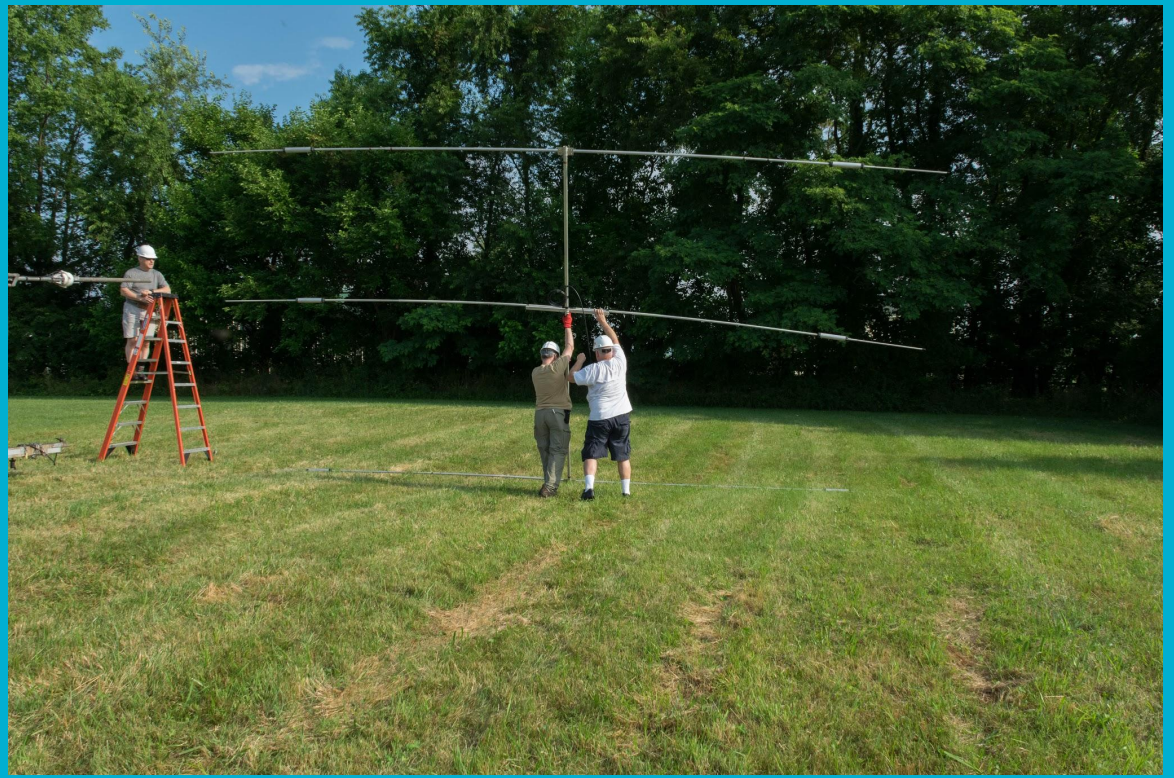
The side crank is used to change the angle of the tower to the ground

A Small Rise

The point where the antenna attaches is now high enough off the ground for the antenna to fit

Attaching The Antenna

Moving it into place



Attaching The Antenna

Moving it into place

Attaching The Antenna

Moving it into place

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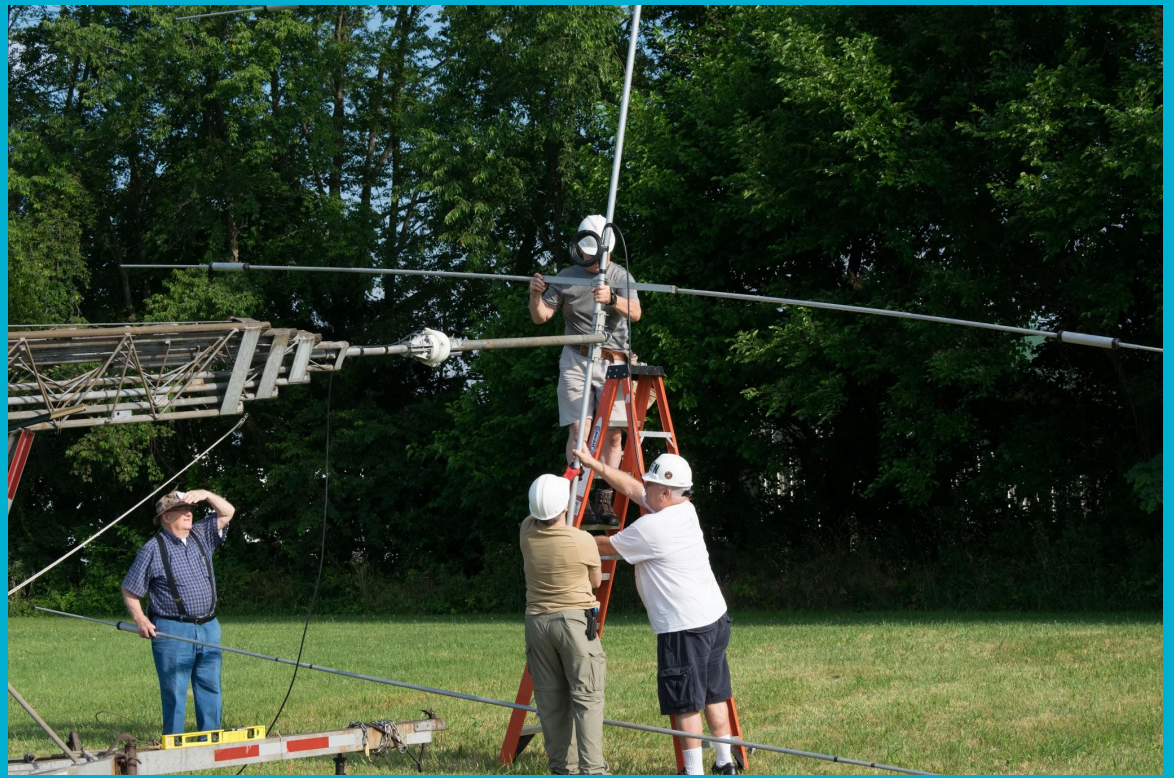
Moving it into place

Attaching The Antenna

Getting the mast and U bolts lined up



Attaching The Antenna

Getting the mast and U bolts lined up

Attaching The Antenna

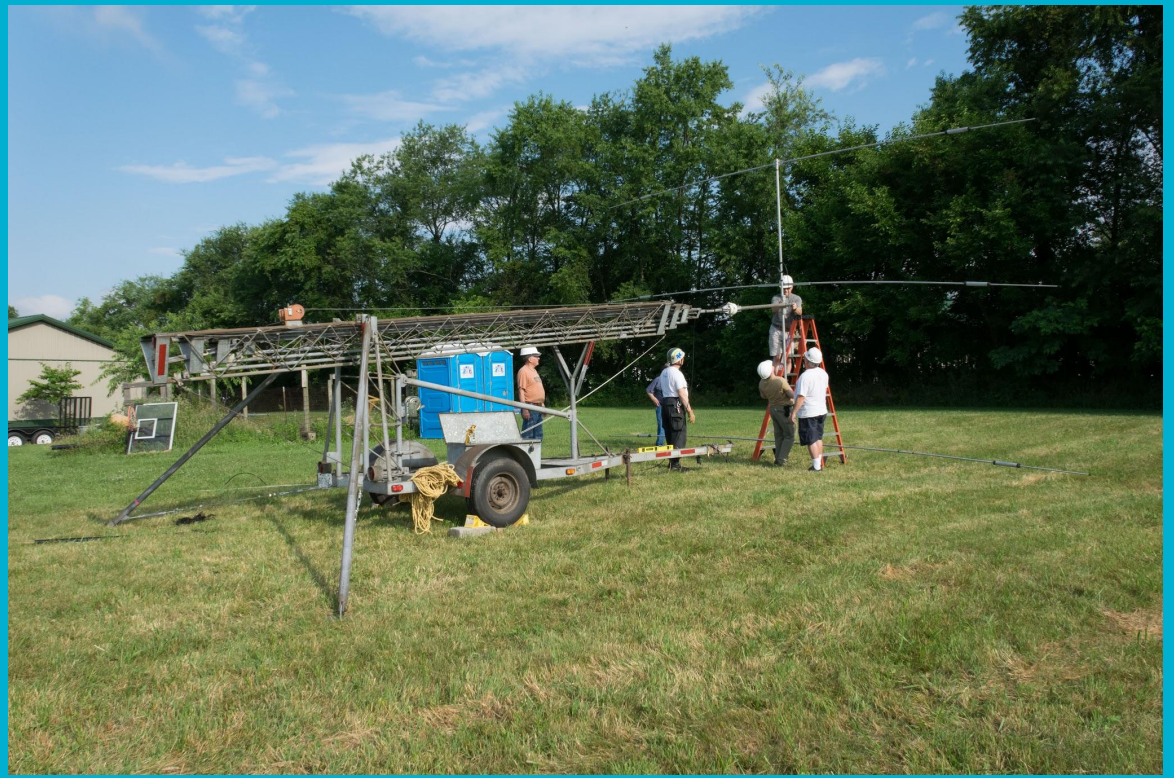
Moving it into place

Attaching The Antenna

Moving it into place

Attaching The Antenna

Moving it into place



Attaching The Antenna

Tightening the bolts up

Attaching The Antenna

Tightening the bolts up

Attaching The Antenna

Connecting the coax from the antenna to the line down the tower

Quick Overview

Quick Overview

Coax

The coax on the ground is laid out in an S pattern to enable it to be pulled up with minimal risk of kinking and catching

Coax

Laying out the coax

Attaching The Antenna

Connecting the coax from the antenna to the line down the tower

Guy Wires

An anchor and guy wire wrapped around a ratchet

Guy Wires

An anchor

Guy Wires

An FIXME

Coax Attached

Coax Attached

Taping the line in place

Coax Attached

Taping the line in place

For The Love Of HF

As all others look up in awe

For The Love Of HF

Is that taped on well enough?

Planning

Finding guy wire tie points

Planning

Discuss!

Attaching Guy Wires

The tower needs to be extended a bit so that guy wire tie points are accessible

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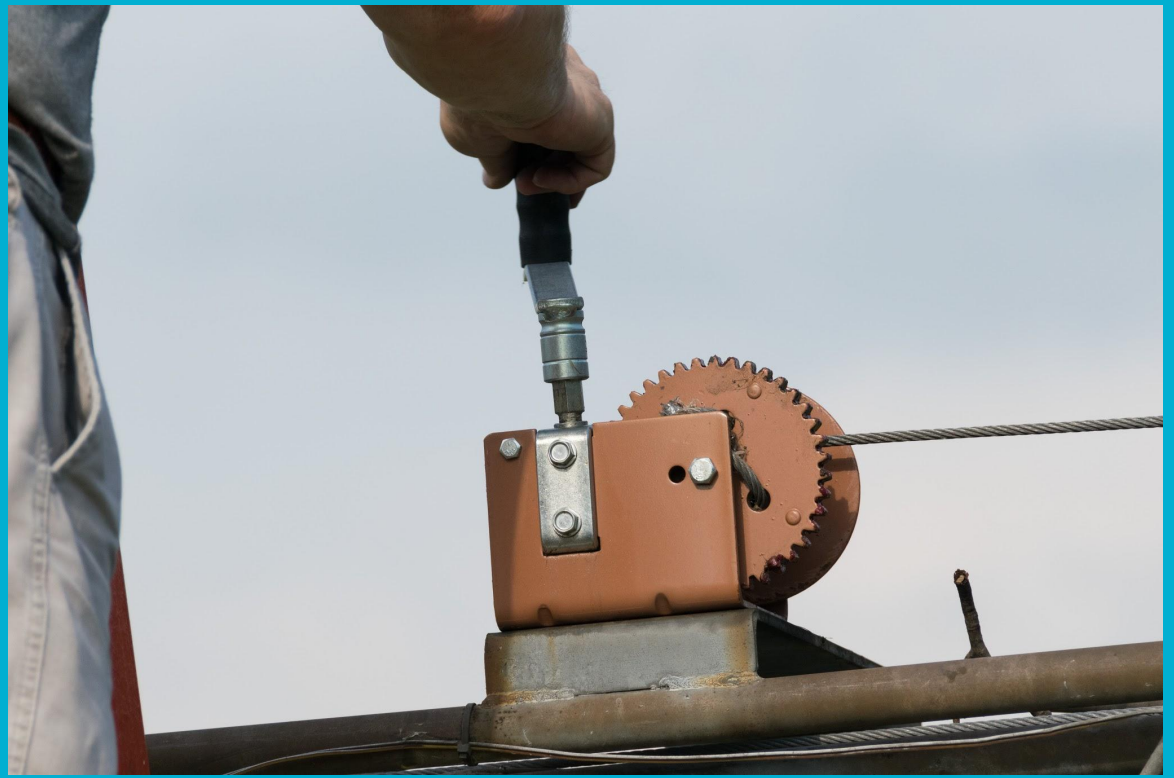
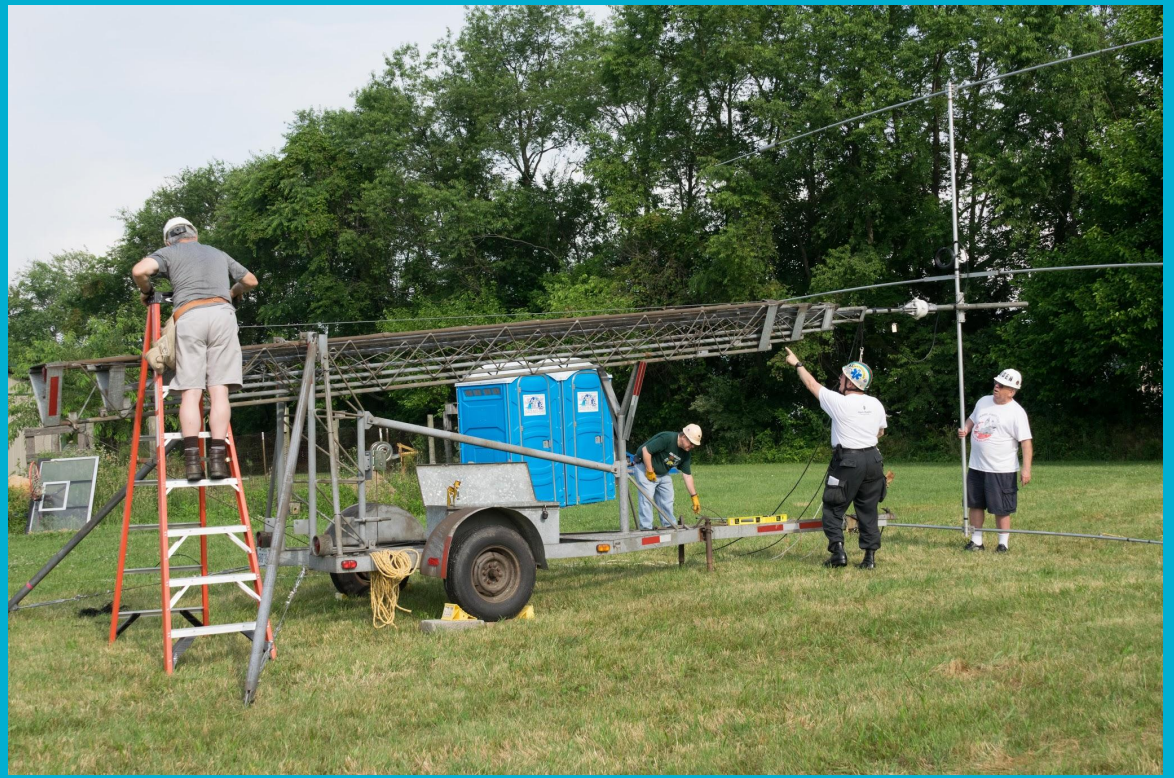


Attaching Guy Wires

The tower needs to be extended a bit so that guy wire tie points are accessible



Attaching Guy Wires

Turning the crank the fast way

Attaching Guy Wires

Attaching lines used to help stabilize the tower during raising

Attaching Guy Wires

Attaching lines used to help stabilize the tower during raising

Attaching Guy Wires

Attaching lines used to help stabilize the tower during raising

Attaching Guy Wires

The other end of the guy wire

Attaching Guy Wires

Attaching an actual guy wire to the tower. Note how they aren't attached to the plate with a hole in it.

Raising The Tower

The tower is raised to a vertical position

Raising The Tower

Two ugly bags of mostly water are used as counterweights. This helps out since the initial part is the most difficult.

Raising The Tower

Helping the tower up from the other end

Raising The Tower

Don’t let the gnats bite!

Raising The Tower

The tower is vertical

Raising The Tower

The tower is vertical

Guy Wires

Getting a guy wire taught

Guy Wires

Getting a guy wire taught

Guy Wires

Getting a guy wire taught

Guy Wires

Getting a guy wire taught

Guy Wires

Checking if the tower is still level

Leveling

The front of the trailer is raised some to help level out the tower

Leveling

Now it’s level

Securing The Tower

The tower doesn't have a built-in mechanism to hold the bottom of the tower to the trailer other than the wire and crank used to raise it.

Here a rope is used to secure it.

Securing The Tower

More loops are added to ensure the rope is more than strong enough.

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More loops are added to ensure the rope is more than strong enough.

Securing The Tower

More loops are added to ensure the rope is more than strong enough.

More Anchors

Starting to add another anchor

Wire Antenna

Unwrapping the wire antenna

Wire Antenna

Unwrapping the wire antenna

Wire Antenna

Using a rope along with a pulley attached to the top of the tower to raise one end of the wire antenna

Wire Antenna

Untangling a guy wire and the rope for raising the wire antenna

Wire Antenna

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Wire Antenna

Untangling a guy wire and the rope for raising the wire antenna

Raising The Tower Vertically

A drill is used to crank the tower up vertically

Raising The Tower Vertically

A drill is used to crank the tower up vertically

Raising The Tower Vertically

Feeding the antenna wire so it doesn't get tangled

Raising The Tower Vertically

Tower continues to be raised

Guy Wires

Tightening a rope based guy wire

Guy Wires

The knot used

Guy Wires

Wire Antenna

Tower Is Up

Observing The Tower

Taking The Tower Down

W5ODJ's timelapse video of the tower lowering

Tower Takedown Begins

Tower Takedown Begins

The wire antenna is being lowered

Tower Takedown Begins

The wire antenna is being lowered

Tower Lowering

Lowering the tower

Tower Lowering

Lowering the tower

Tower Lowering

Wrapping up the wire antenna

Tower Lowering

Wrapping up the wire antenna

Tower Lowering

Time for the hard work

Tower Lowering

Removing an anchor

Tower Lowering

Removing an anchor

Tower Lowering

Removing an anchor

Tower Lowered

Tower Lowered

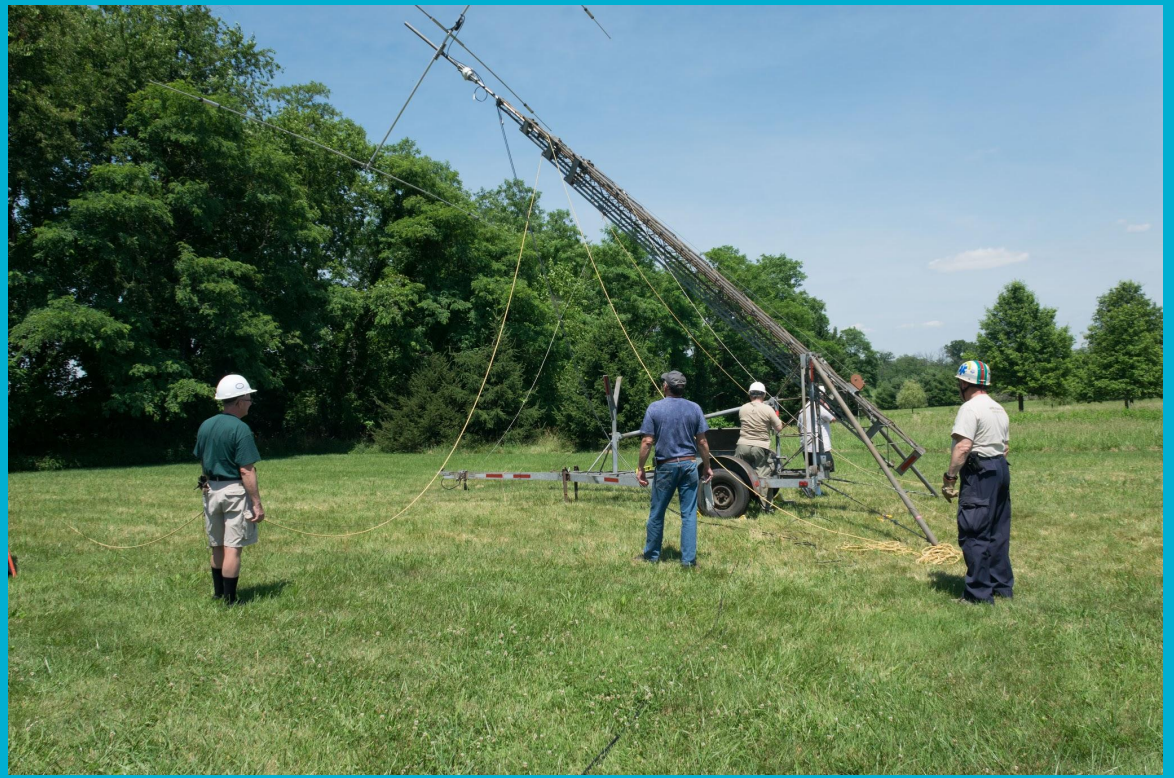
Lowering Tower

Lowering Tower

Lowering Tower

Lowering Tower

Lowering Tower



Lowering Tower

Ham-based counterweight

Lowering Tower

A crank and a couple of hams as counterweight

Guy Wires

Removing guy wires

Guy Wires

Removing guy wires

Antenna

Removing the antenna

Antenna

Removing the antenna

Antenna

Removing the antenna

Antenna

Moving the antenna so it can be taken apart

Antenna

Moving the antenna so it can be taken apart

Lowering Tower

Lowering Tower

Packing Up Tower

Packing Up Tower

Wrapping Up Coax

Back In Place

Back In Place

Packing Up

The antenna is placed back on top of the tower

All Done

Ready to drive off into the sunset