

Pole Mount Materials and Installation Guide

Well it's that time of the year here in MN. where pole mounts can be installed again, some customers elect to do this themselves. This saves money and time when the installer shows up, best to do it at LEAST one day ahead of the install to give it time to dry!

These instructions are only to assist you in the installation of a pole mount (ground mount) for your satellite television or satellite Internet system. Note that most satellite television and satellite Internet companies will not warranty your system alignment unless the pole is installed by a certified (LICENSED) dealer / installation provider!

First things First:

1. Be sure to check for power, gas, sewer, telephone lines, etc. prior to digging!
 2. Be sure that you have a clear line of site to the approximate pointing direction.
- All pole sizes shown here reflect Schedule 40 steel (black or galvanized) pipe, which is what we use and therefore recommend for reliability! (usually available from your local hardware store or plumbing supply facility)

SYSTEM SPECS REQUIRE LENGTH IN GROUND ABOVE GROUND HOLE SIZE PREMIX CONCRETE

Off-Air Antenna 1 1/4" OD 1" ? ? ? ? ?

DISH - 500 1 5/8" OD 1 1/4" 6' 2' 4' 2' x 8" 2 - 3 60# Bags

DISH - 1000 1 5/8" OD 1 1/4" 6' 2' 4' 2' x 8" 2 - 3 60# Bags

DISH - SuperDish 2" OD 1 1/2" 6' 2' 4' 2' x 8" 2 - 3 60# Bags

DIRECTV - 18" 1.6" OD 1 1/4" 6' 2' 4' 2' x 8" 2 - 3 60# Bags

DIRECTV 3 Phase 1.6" OD 1 1/4" 6' 2' 4' 2' x 8" 2 - 3 60# Bags

DIRECTV 5 (AT9) 2" OD 1 1/2" 6' 2' 4' 2' x 8" 2 - 3 60# Bags

WildBlue 2" OD 1 1/2" 7 1/2' 2' 6" 5' 2' 6" x 10" 3 - 5 60# Bags

HughesNet .74m 2 3/8" 2" 7 1/2' 2' 6" 5' 2' 6" x 10" 3 - 5 60# Bags

HughesNet .98m 2 3/8" 2" 7 1/2' 2' 6" 5' 2' 6" x 10" 3 - 5 60# Bags

ViaSat 1.0m 2 7/8" 2 1/2" 8' 3' 5' 3' x 12" 6 - 8 60# Bags

ViaSat 1.2m 2 7/8" 2 1/2" 8' 3' 5' 3' x 14" 7 - 9 60# Bags

Materials List:

- Pole (see above for size)

- Pre-mix Concrete (we recommend 60# bags as they are easy to handle)
- Water (approx. 1 – 1.25 gallon(s) for every 60# bag should do)
- Buckets, Wheelbarrow, etc. (to mix concrete in)
- Drill & 3/8” bit (to drill holes in pipe for support spikes)
- 2 - 10” x 16p Spikes or equivalent (to stick through pipe to prevent turning in concrete)
- Level (to ensure the pole is plumb)
- Conduit (if placing in concrete next to pole)

Instructions:

- Dig hole to approx. size as mentioned in the above chart
- Drill 2 holes through pole for spikes in opposite directions... (one approx. 4” up from the bottom of the pole and one approx. 8” above that)
- Stick spikes through the pole, centering them in the pole
- Stick pole in the hole and center accordingly
- If you are using conduit for cabling, etc. place the conduit in the hole prior to adding concrete.
- Mix concrete and pour into hole, centering pole with every bag. (we recommend mixing one bag at a time, keeping the mix thick enough to support the pole, yet thin enough to fill the gaps)
- Tamp the hole with a stick, stake or something to ensure that the concrete is in place and to reduce air gaps.
- Once the hole is full of concrete... center the pole and if necessary support with string and stakes, etc. to keep level during setup.
- Place the level on two sides of the pole to ensure it is as plumb as possible in both directions.
- Smooth the top of the concrete to help water run-off, etc.
- Let set for at least 24 – 36 hours prior to attempting installation!

Tips:

- Use warm water while mixing the concrete... this will help the concrete set up faster, especially in colder temperatures
- Filling the pole with concrete will add strength to the mount and prevent water buildup in the pole (rust, etc.)
- Painting the pole with primer and then a cover paint of your choice (we use flat black) will look better and prevent rust as well!
- If you have a welder, you can also tack some rebar onto the pole instead of drilling and installing the spikes (anything to prevent turning)

Pole Mount Installation Process Photos

This photo shows the 16 penny 10” spikes through the pole to prevent the pole from turning in the concrete. You can also weld something onto the pole, or stick long bolts, rebar, etc. through the pole, or anything that will keep the pole from turning in the concrete... which it will do if you do not put something on or through the pole. Here we are measuring the hole to insure that we are at the proper depth to get below the frost line yet keep the top of the pole we are installing at least 5’ above ground.
(required for most satellite Internet system installations)

Be sure to center the pole in the hole! Once we’ve mixed and poured a couple 60 # bags of concrete in the hole, we want to make sure that the pole is level by checking two close sides of the pole with a level. Hint... checking opposite sides does nothing, and setting the level across the top of the pole is far from accurate. For example... check the south side, then the east side and so on back and forth until level. Almost full of concrete... we check the level on two sides again to ensure that the pole is plumb.

When finished filling the hole we will clean up the excess, wipe the pole down and paint it to help keep the rust away. Be sure to let it set for a day or so to set up. We used warm water for this “winter” installation and covered it with a blanket to help keep the heat in so we were able to install the dish late the next day. A summer photo of the completed project!

Note that when possible, we leave the concrete level with the ground to provide for water run-off and easy mowing around the pole, etc.

Taller Pole Mounts.....

In several areas where snow accumulation can reach 4 – 6 feet or more, or where a taller pole mount is required, we recommend the use of a heavier pipe for a base, then weld or reduce the top 8” – 1’ of the pole to the correct size pipe for the intended mount.

The problem with simply purchasing and installing a longer pole is that anything

over 4' or 5' will increase the chances of winds taking the system off line due to the swaying that the longer pole will allow.

By using a heavier pole for a base, the stronger pole will keep the dish stable under windy conditions.

For example:

When we mount a DirecWay .74m dish at 7' above ground, we purchase a 10' section of schedule 40 steel pipe, threaded on one end, as well as a 3" to 2" reducer, and a 8" long piece of 2" schedule 40 (threaded on one end). We then put the reducer in place and weld it there to prevent turning.

Since we are now higher above the ground, we go further into the ground and use additional concrete to prevent movement. Now, with approx. 4' under ground and approx. 7' above ground, we can install the dish and have an extra 24" of protection from the snow over the normal 5' above ground pole mount.

The same holds true for the television dishes when a taller mount is required! We will use a 2" or 2 1/2" schedule 40 steel pipe and reduce the last 6" or so to the proper size (usually 1 1/4" schedule 40 to produce 1 5/8" OD).

