

Installation Instructions

IMPORTANT *Consult a local utility company prior to installation. Proper installation and site conditions are the responsibility of the installer. Check for any obstacles prior to site preparation.

MANPOWER REQUIRED

Two installers are required to install both top and frame

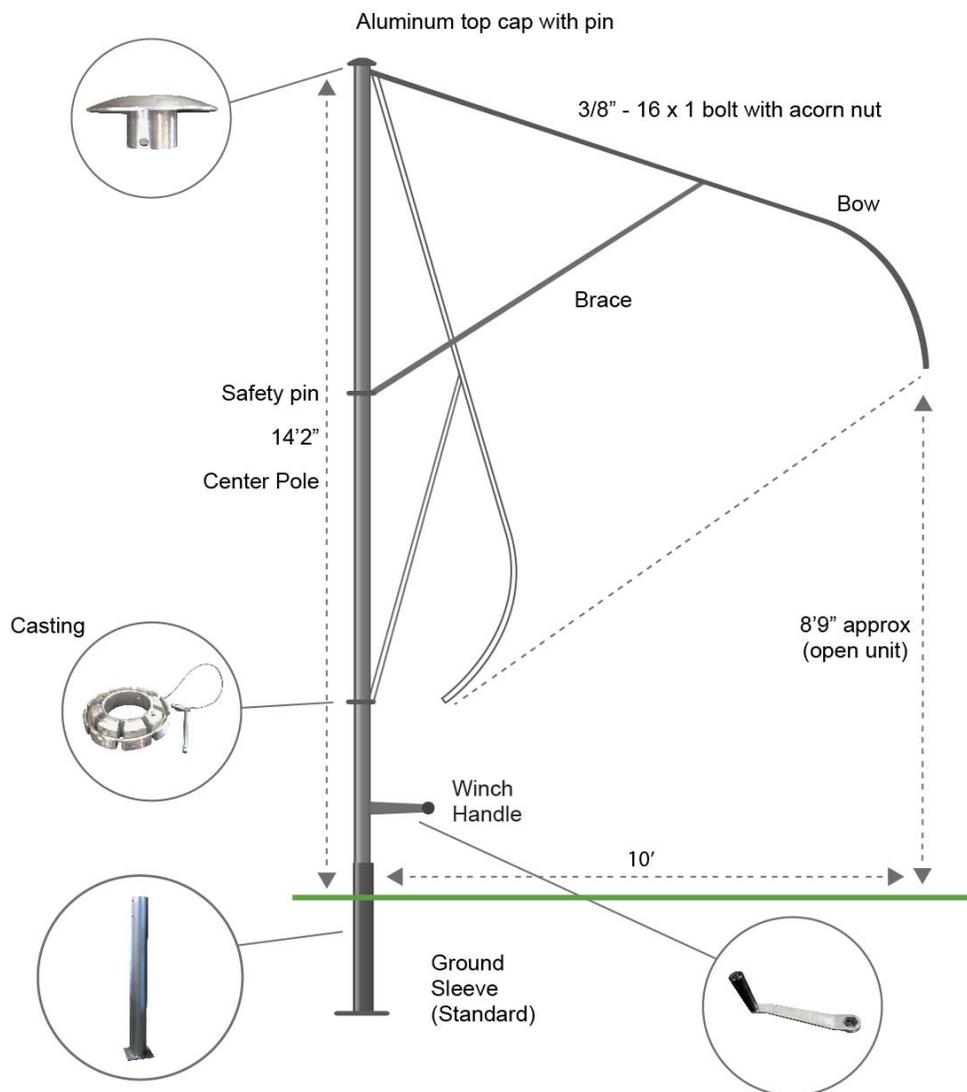
TOOLS REQUIRED

2 - 9/16" Wrenches
 1 pair of pliers
 1 - 14' step ladder

Quantity Per Size

PARTS LIST

	20'	12' & 14'
3/4" Ground Sleeve	1	1
17' 0" Aluminum Center Pole	1	0
14' 0" Aluminum Center Pole	0	1
Zinc Plated Steel Bows	14	8
Zinc Plated Steel Braces	14	8
3/8" - 16 x 1" Bolts	14	8
3/8" - 16 x 5" Bolts	2	2
Winch Handle	1	1
Aluminum	1	1
3/8" Slef Locking Nuts	14	8

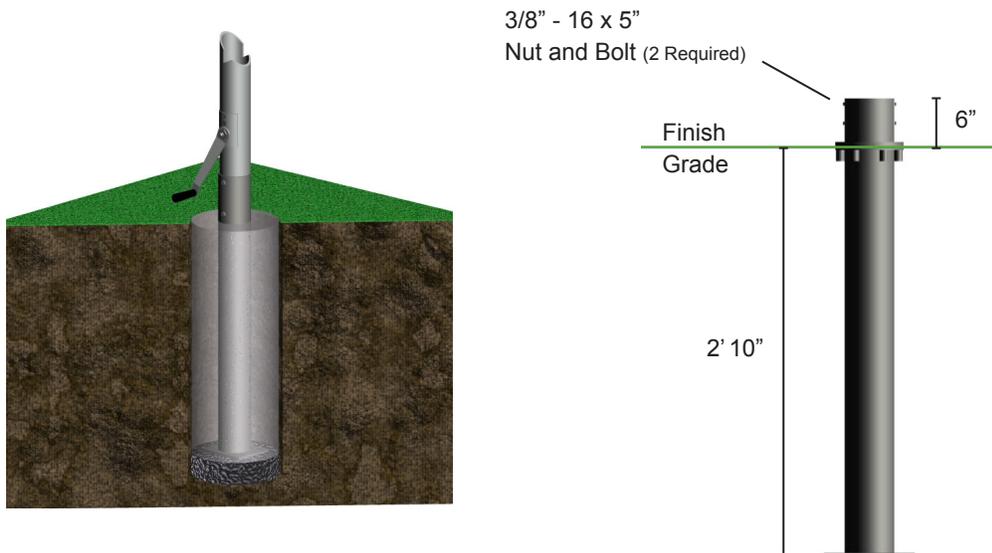


Installing Ground Sleeves

Dig a 15" minimum diameter hole 3'1" deep in either the soil or existing concrete pad. Put in a 3" gravel base to allow for water drainage.

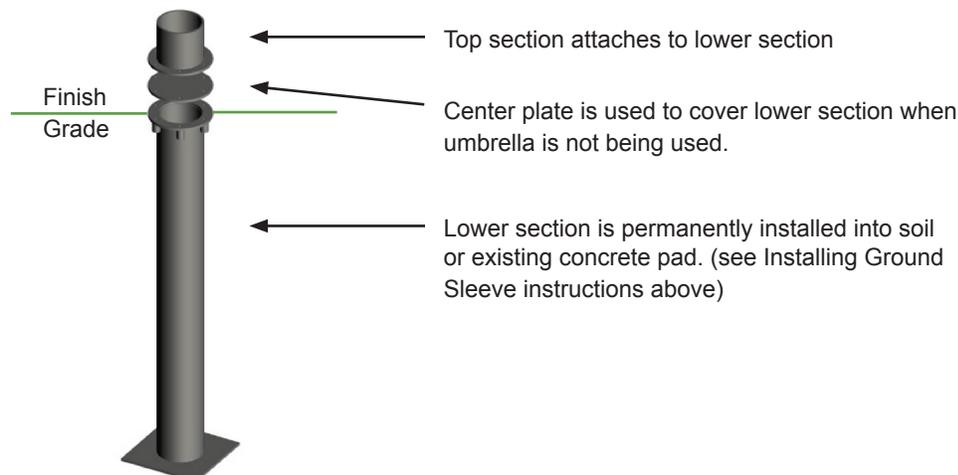
For Standard Ground Sleeves:

Place the ground sleeve into the hole, making sure the top of the ground sleeve is a minimum of 6" above the finish grade. Level and brace the ground sleeve, pour in concrete, and allow to set for at least 72 hours.



For Flush Mounted Ground Sleeves:

Place the ground sleeve into the hole, making sure the top of the lower section is set flush with the finish grade. Bolt the top section to lower section with the included bolts. Level and brace the ground sleeve, pour in concrete, and allow to set for at least 72 hours. When unit is not in use, remove top section and replace with center plate.





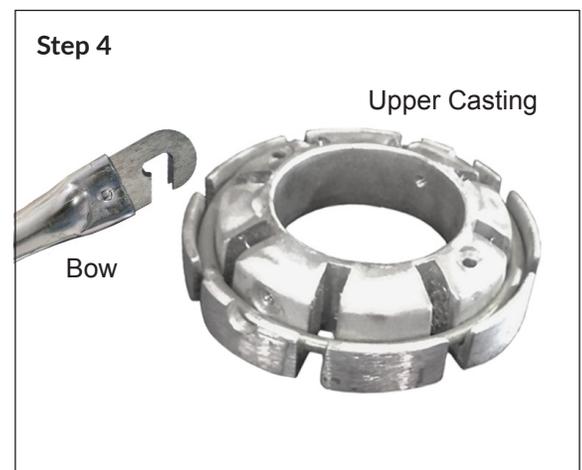
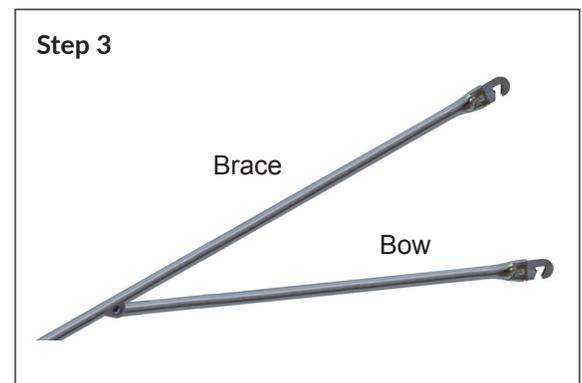
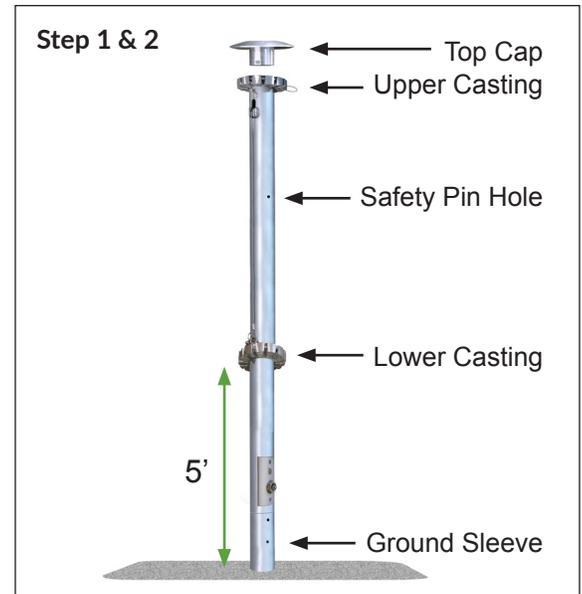
Installing the Top and Frame

1. Remove the top cap from the pole.

2. Raise the center pole and slide it into the ground sleeve. Align the pole and ground sleeve holes, and bolt into place using the two 3/8" x 5" bolts. Using the winch handle, crank the winch clockwise so the lower casting sits approximately 5" above the ground level.

3. Using the 3/8" - 16x1" bolts and the 3/8" self locking nuts, attach the braces to the bows, make sure the brace is centered between the "ears" on the bow and the "hooks" on the bow and brace are both facing the same direction.

4. From the ground, place the hook end of the brace into the lower casting, making sure it is secured on the ring. Grasp the outside end of the bow and slowly "raise" the bow until the hook is aligned with upper casting. Repeat procedure until all bows and braces are attached. **Make sure each bow and hinge are lined up vertically between the upper and lower casting.**



5. Using the step ladder, attach the top cap by sliding it into the top of the center pole, making sure all the bows are hooked properly and the holes are aligned. Insert the attached pin to lock the cap into place. Note: The top cap must be locked into place or the bows could come loose. Failure to secure the top cap can result in damage to the Permabrella and may cause injury.

6. Using the leather patch on the inside of the umbrella top as a guide, place the top on the frame and position on the frame. Open the frame slightly, cranking the winch handle clockwise. Starting with one hook, attach it to the bow and snap the boot around the bow. Go to the opposite side, and continue alternating until all hooks and boots have been completed. Note: A pair of pliers may help in the attachment of the hooks.

7. Finish cranking the unit open until the lower casting is approximately 1'0" above the hole for the safety pin. **Do not over crank.** Insert safety pin attached to the lower casting, and remove the winch handle.

8. To lower umbrella, remove safety pin. Turn winch handle counter-clockwise and lower unit slowly until the lower casting is 6-8 inches above the face plate. Remove the winch handle. **Over cranking in either direction may cause the cable to become crimped and render the cable ineffective.**

9. To remove the unit simply reverse steps 3 through 6.

Maintenance

Periodically check the cable condition and bolts for tightness. Routine adjustment should be expected. The top should be removed during the off season. Store the top in a cool dry area. Never store while wet or damp.

Caution

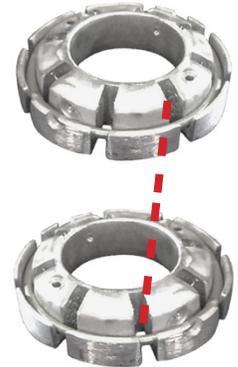
When high winds are expected, place the unit in the closed position.

Step 5

Correct



Incorrect



Bow and Brace should be aligned vertically in the upper and lower casting. Misaligned castings will cause damage to the cable.

Step 6

Permabrella Top



Step 8

