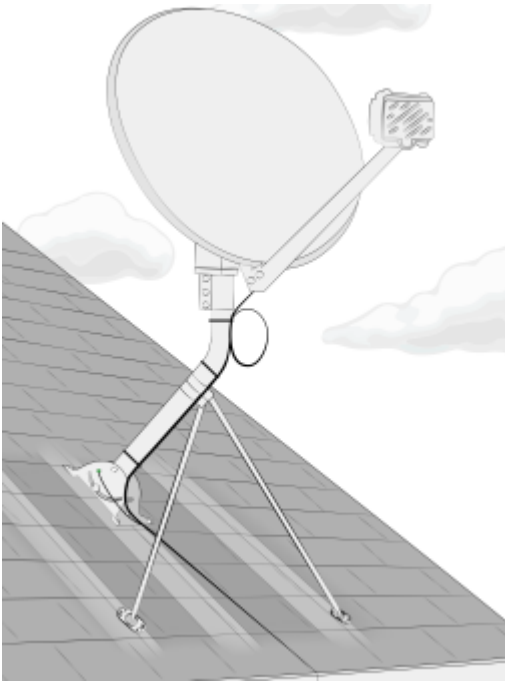


# Roof Mount Job Aid

## Installing a Roof Mount



### *Surfaces*

The *only* approved surface for a sloped roof mount is a sloped roof:

- Made of asphalt shingles
- Not damaged or decayed

- With no more than 3 layers of shingles

### *Structural Elements*

The approved structural elements for a sloped roof mount are: rafters or trusses.

- What must be secured in the structural elements?
- The 2 center 5/16 X 3 inch lag screws in the footplate

### *Important considerations*

**DANGER!** Locate power lines before you start the installation. These include overhead and underground power lines, electric lights, and power circuits.

### *Other Considerations*

- The ground block must be within 20 feet of the NEC approved ground
- The total cable run from the modem to the TRIA must be less than 150 feet
- All antennas must be located at least 20 feet from any overhead power lines and 3 feet from any standard power circuit or electric light
- Position the mount so that the bottom of the reflector is at least 4' above any walking surface

### *Mounting Materials for Footplate and Monopoles*

The Technician must provide the following materials:

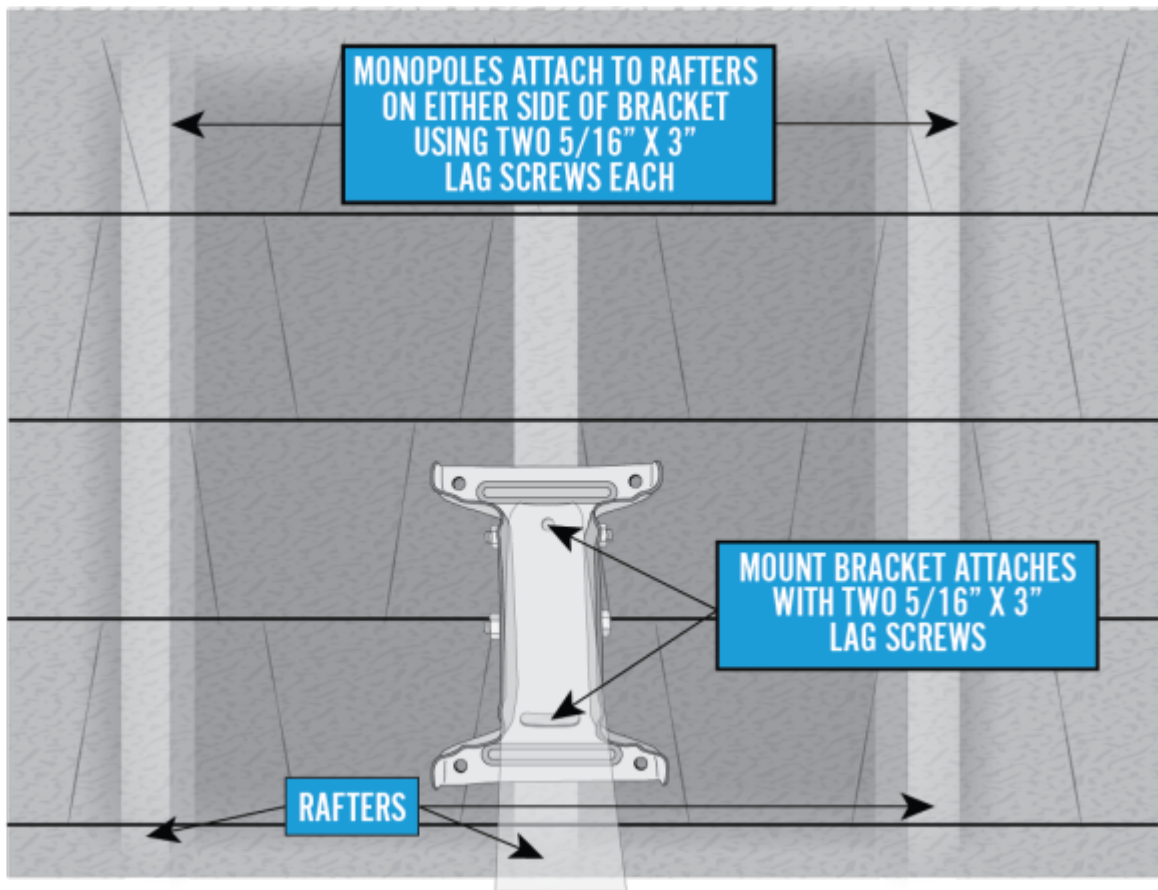
- Tar-based sealant (Bishop Tape preferred)

## **Attaching the Footplate**

The footplate is the centerpiece of the mount, so correctly attaching it to the surface is critically important.

Locate the structural elements (rafters) that will place the footplate in position to meet all of the appropriate considerations listed above. Do not forget to allow room for the adjustable monopoles.

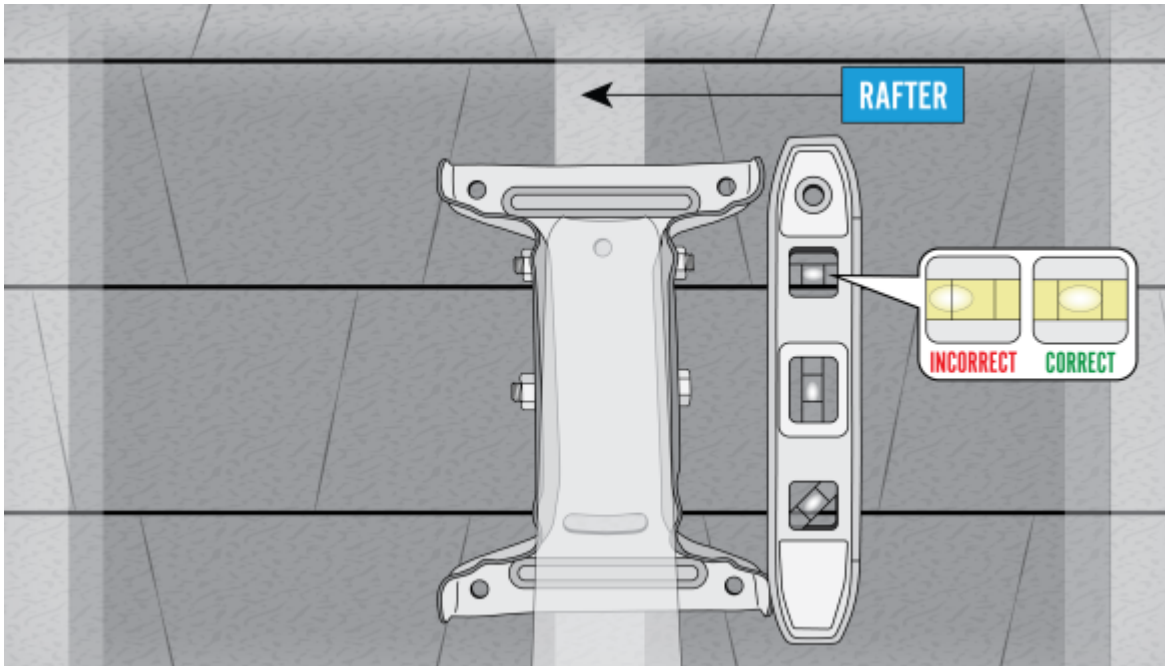
**Note: Use a deep-scan stud finder to locate the rafter/structural elements.**



Hold the footplate in the center of the stud and mark the top and bottom center holes. Remove the footplate and predrill 1/8 inch holes on the two marks.

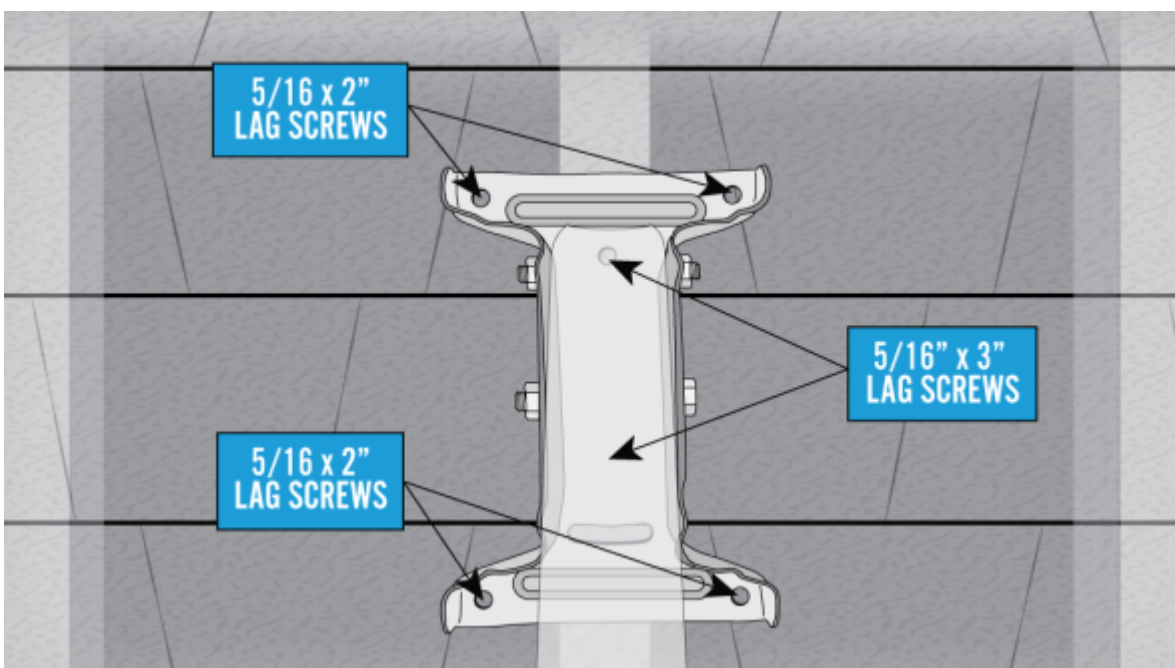
Use a level to verify that the center line of the footplate, defined by the footplate's center holes, is level.

Mark and predrill the remaining four 1/8 inch holes; one in each outside corner.



Cover the bottom of the entire footplate with tar-based sealant.

Secure 5/16 X 3 inch lag screws through the top and bottom center hole of the footplate and the rafter. Leave these loose enough to level the footplate.



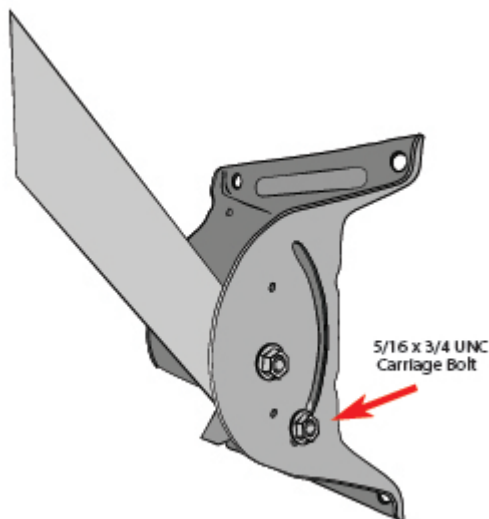
Correctly align the footplate over the 1/8 inch holes. This will allow correct placement directly over rafters or trusses.

Install a 5/16 X 2 inch flanged lag screw in each of the outside corners.

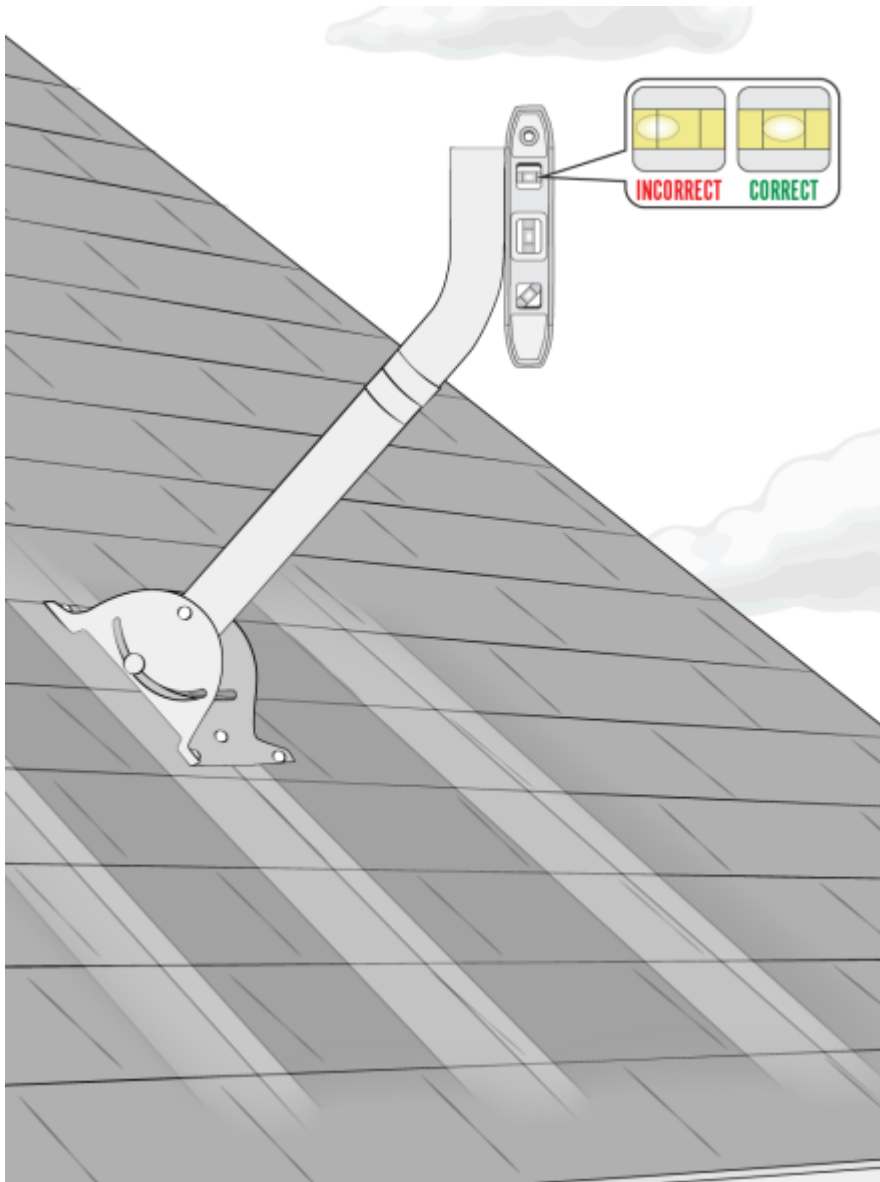
Verify that the footplate is level and securely tighten all the screws.

## Adjusting the Mast Tube

Loosen the 5/16 X  $\frac{3}{4}$  inch carriage bolt that is in the footplate's arched slots and the mast tube



Swing the mast tube up and use a level to level the mast tube. Tighten the footplate carriage bolts to ensure the mast is plumb. Complete final mast tube leveling after installing the monopoles.



## Adding the Monopoles

The installation kit provides the adjustable monopoles that are required on all mounts and sloped roof mounts, except the low profile “stub” mount. These are the only Viasat-approved monopoles; do not use others.

Loosen all of the 5/16 inch joint hardware.

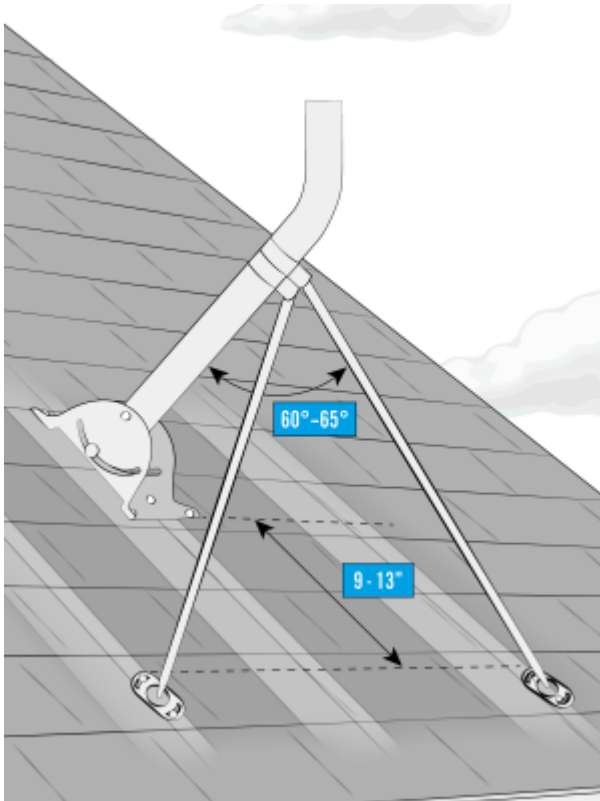
**Caution!** Edges may be sharp; gloves are recommended.

Slide each collar over the top of the mast tube, and down below the bend. Make sure the top collar/sleeve is 2 inches below the bend. Point the collar flanges towards the mount surface.



Position the monopoles 9 to 13 inches from the top edge of the footplate, which should put the monopoles at an angle of  $60^\circ$  to  $65^\circ$  from the tube as shown.





Using the same technique and process as the footplate, attach the foot of each adjustable monopole to the structural element (rafter) using 2, 5/16 X 3 inch lag screws per foot.

Install the monopoles on opposite sides of the mast tube.

Remember to add tar-based sealant to the holes before adding the lag screws.

Tighten all the 5/16 inch hardware joints.

Complete final mast tube leveling after installing monopoles and tighten all mount nuts and screws.

Once the mast tube is level, perform a quick tug test on the

mount to verify that it is stable. Then you are ready to attach the antenna.

