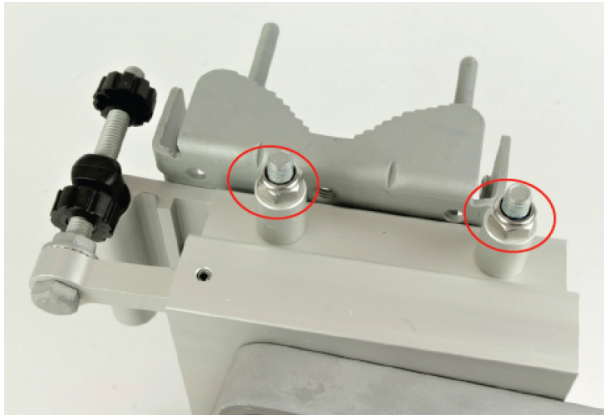
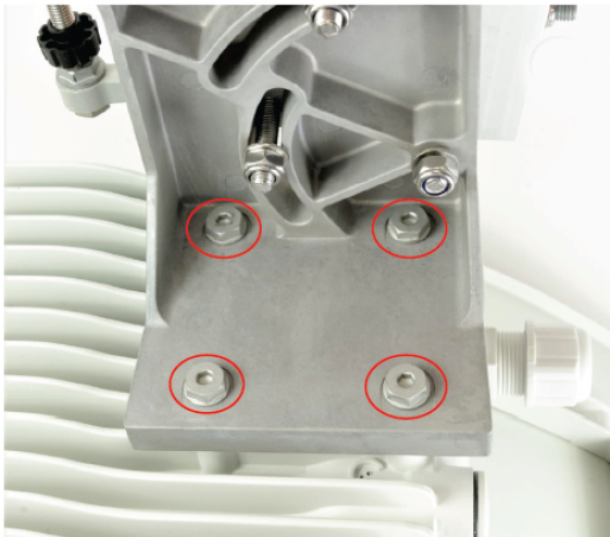


Figure 85: Fixing pacers, plain washers and M8 Nyloc nuts



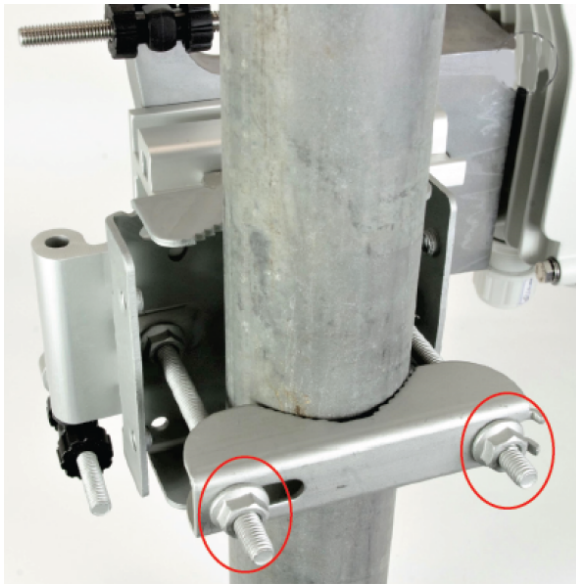
7. Attach the V3000 mount to the radio using the four short M6 bolts. Tighten the four bolts to a torque setting of 5.0 Nm (3.7 lb-ft) using a 13 mm spanner or socket.

Figure 86: Attaching the V3000 mount



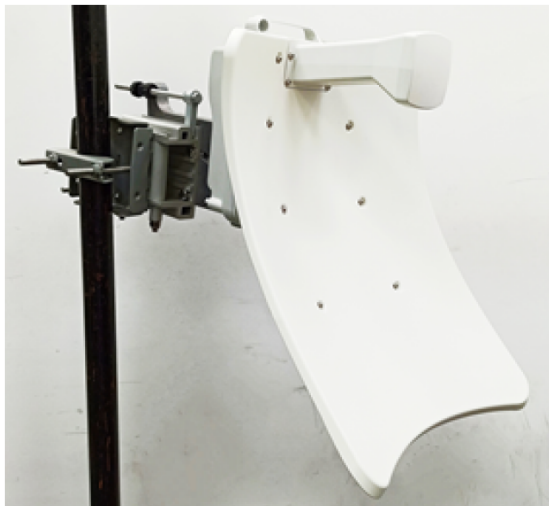
8. Attach the precision bracket to the pole using the clamp and the remaining flanged nuts. Adjust azimuth approximately and tighten the nuts to 10 Nm (7.4 lbft) using a 13 mm spanner.

Figure 87: Attaching the precision bracket



9. Lock the antenna alignment by tightening the five Nyloc nuts (see [step 5](#) and [step 8](#)) to 10 Nm (7.4 lb-ft) using a 13 mm spanner or socket.

Figure 88: Locking the antenna alignment



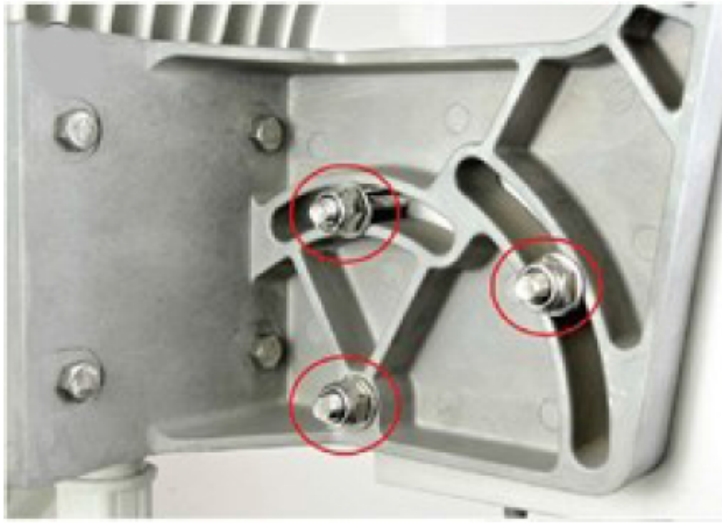
Note

Visit the [Cambium Learning website](#) to learn more on the precision bracket assembly:

Precision bracket alignment

1. Ensure that the three Nyloc screws for securing the bracket in elevation are loose and the fine elevation adjuster is holding the weight of the unit.

Figure 89: Three Nyloc screws on the unit



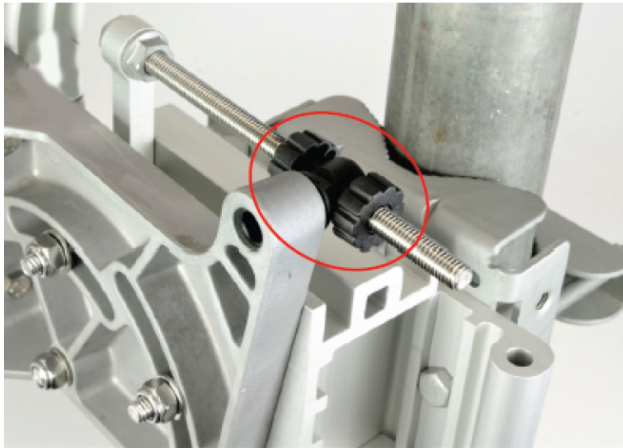
2. Ensure the two Nyloc screws for securing the bracket in the azimuth are loose.

Figure 90: Two Nyloc screws in the azimuth



3. Before starting the mechanical alignment, move the fine elevation adjuster $\frac{2}{3}$ of the way across the screw until the unit is sitting at approximately 0 degrees in elevation.

Figure 91: Moving the elevation adjuster



4. Move the fine azimuth adjuster to approximately the center of the available range and lock in position.

Figure 92: Moving the azimuth adjuster



5. Loosen the clamp which attaches the bracket to the pole until there is enough freedom to rotate the unit in azimuth.
6. From behind the unit, using the sight to aim towards the remote node, rotate the unit until it is approximately aligned in azimuth. Tighten the clamp.
7. While looking for the far node through the site, rotate the fine elevation adjuster until the alignment is complete in the elevation plane. One turn of the adjustment wheel is equivalent to approximately one degree of elevation. Lock the fine elevation adjuster screws in place.

Figure 93: Locking the fine elevation adjuster



You can use the **alignment tube** for adjustment, as described in [Fixing the alignment tube](#).

8. While looking for the far node through the site, rotate the fine azimuth adjuster until the alignment is complete in the azimuth plane. One turn of the adjustment wheel is equivalent to approximately one degree of azimuth. Lock the fine azimuth adjuster screws in place.
9. Make any remaining adjustments to the elevation and azimuth as required. Once complete, tighten the three Nyloc screws in place to fix the elevation alignment and do the same for the two Nyloc screws for azimuth alignment to 10 Nm (7.4 lbft) using a 13 mm spanner or socket.

Precision bracket alignment - optional telescope

1. Attach the telescope mount to the V3000 radio using the knurled screw.
2. Attach the telescope by looping the two elastic O-rings over the ears of the mount, ensuring that the telescope is located securely in the mount.

Figure 94: Attaching the telescope



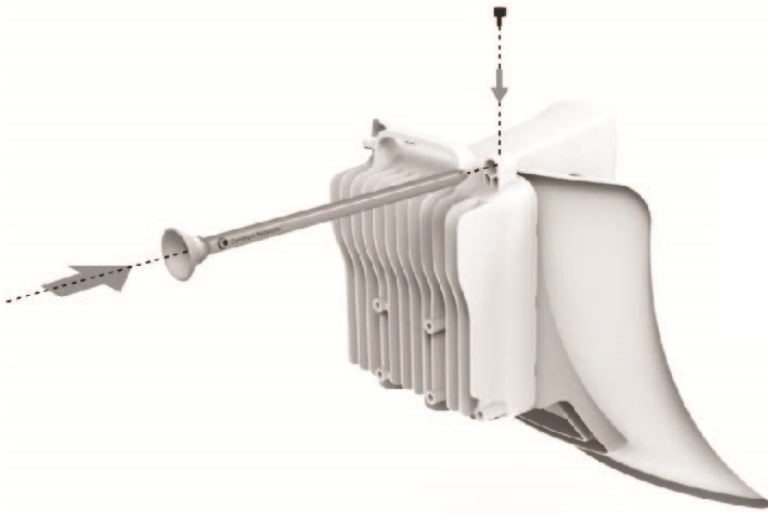
3. If a telescope with a smaller body is used, shorten the O-rings by twisting.
4. Follow the previously described precision bracket alignment method, align the radio starting with the site and later fine-tune using the scope for increased accuracy.

Fixing the alignment tube for V3000

Perform the following steps to fix the alignment tube for V3000:

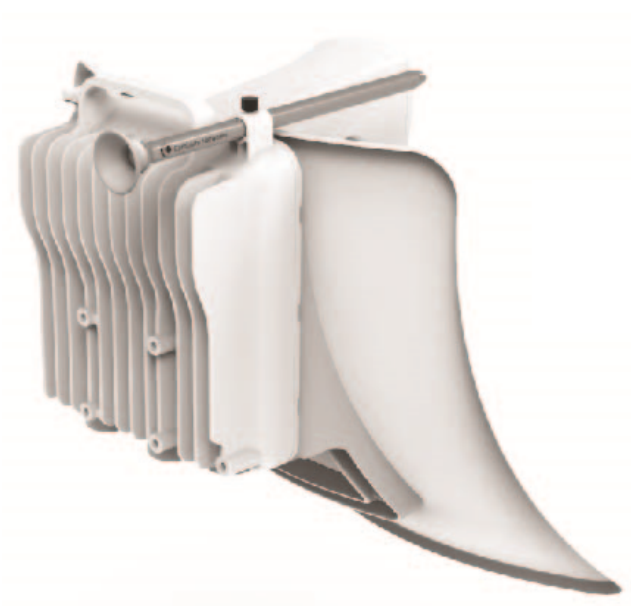
1. Slide the alignment tube through the alignment slot, as shown in [Figure 95](#).

[Figure 95](#): *Sliding the alignment tube*



2. Tighten the screw to fix the alignment tube in place, as shown in [Figure 96](#).
The tube fits into the circular area.

[Figure 96](#): *Fixing the alignment tube*



3. Align the device by viewing through the eyepiece, as shown in [Figure 97](#).

Figure 97: *Aligning the device*



V3000 Tilt bracket assembly

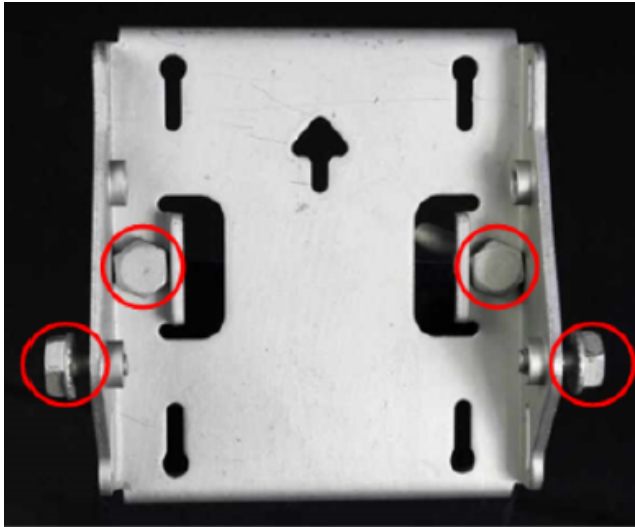
1. Fix the mounting plate of the tilt bracket to the back of the radio using four of the short bolts, ensuring that the arrow in the plate points towards the top of the radio. Tighten the four bolts to a torque setting of 5.0 Nm (3.7 lb-ft) using a 13 mm spanner or socket.

Figure 98: *Fixing the mounting plate of the tilt bracket*



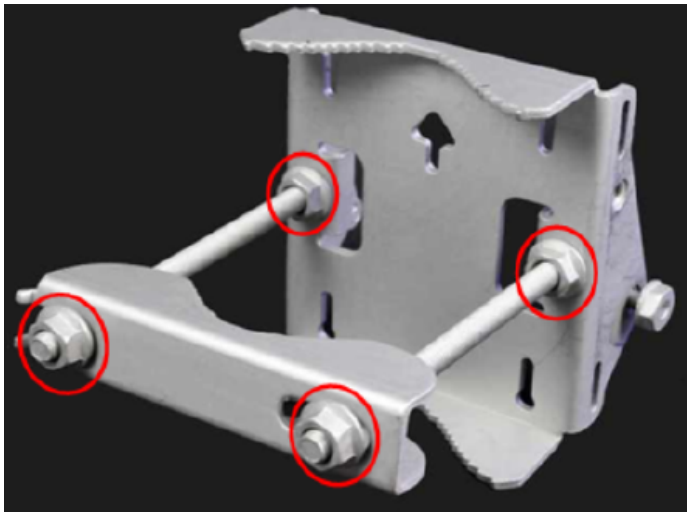
2. Fit the two long bolts through the bracket body so that the bolt heads engage in the slots as shown. Fit two of the short bolts into the side of the bracket body but do not tighten.

Figure 99: Fixing two long and short bolts



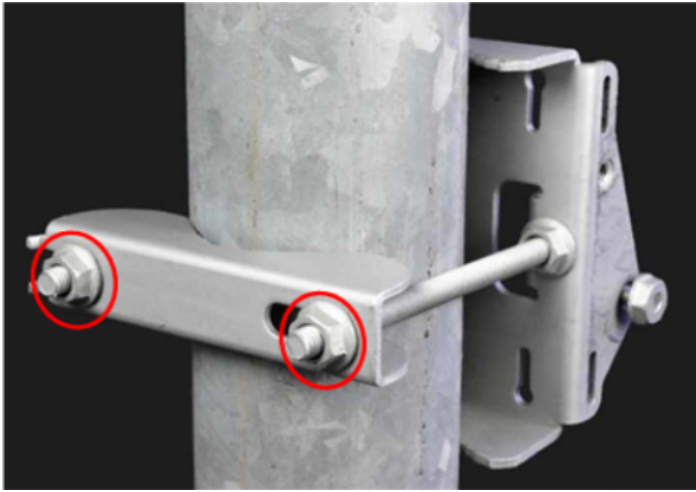
3. Thread two of the nuts to the long bolts and tighten against the bracket body using a 13 mm spanner. Fit the bracket strap and thread the remaining nuts onto the long bolts.

Figure 100: Fixing the bracket strap



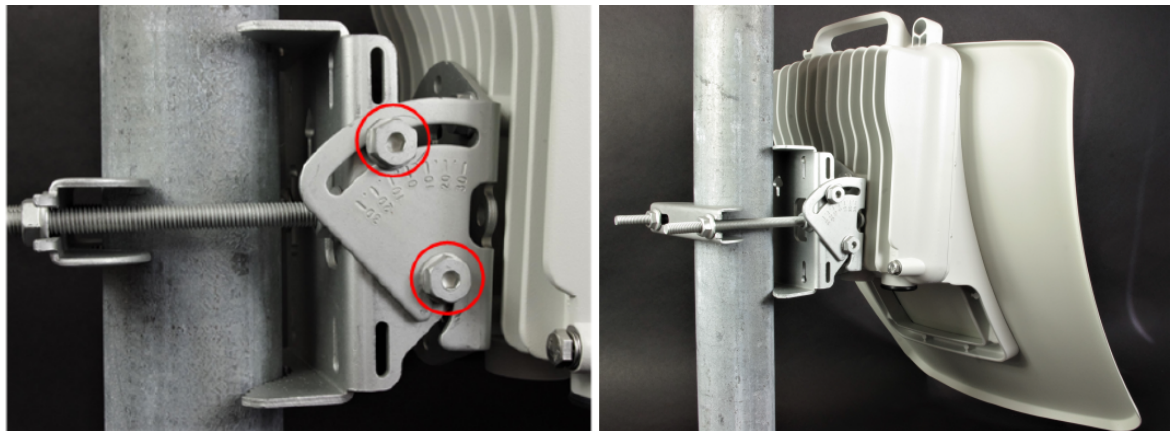
4. Fix the assembled bracket body to the pole, adjust the azimuth angle, and tighten the nuts to a torque setting of 10.0 Nm (7.4 lb-ft) using a 13 mm spanner, ensuring that the arrow in the body is pointing upwards.

Figure 101: Fixing the assembled bracket body



5. Fit the mounting plate to the bracket body by positioning the open- ended slots over the short bolts. Insert the remaining short bolts through the longer curved slots into the threaded holes in the bracket body. Adjust the elevation angle and tighten the bolts to a torque setting of 5.0 Nm (3.7 lb-ft) using a 13 mm spanner or socket.

Figure 102: Fixing the mounting plate and adjusting the elevation



V3000 Tilt bracket assembly with band clamps

Follow the below instructions to assemble the tilt bracket with band clamps:

1. Follow step 1 of the [V3000 tilt bracket assembly](#) procedure.
2. Feed the band clamps through the slots in the bracket body. Secure the bracket body to the pole using band clamps (not supplied by Cambium), ensuring that the arrow in the body is pointing upwards. Adjust the azimuth angle, and tighten the band clamps to a torque setting of 6.0 Nm (4.5 lb-ft).
3. Fix the mounting plate to the bracket body with four of the short bolts, using a 13 mm spanner or socket. Adjust the elevation angle, and tighten the bolts to a torque setting of 5.0 Nm (3.7 lb-ft).