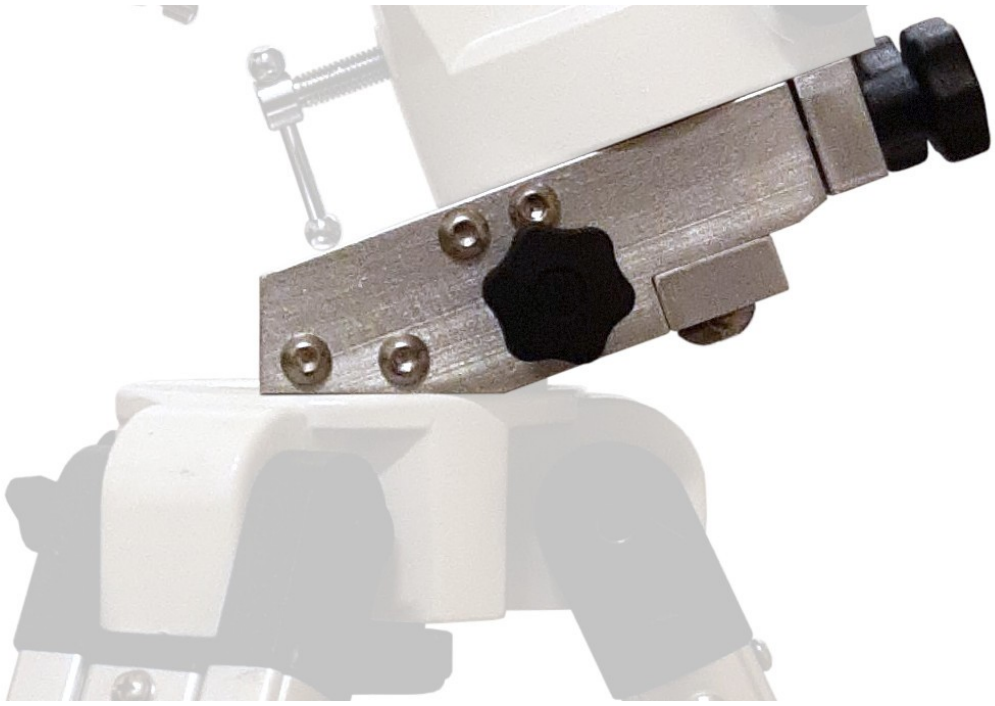
Nienna EQ5 (*) Northifier Manual

(*) This product does not only work with the Sky-Watcher EQ5 as the name would imply, but also with a great number of other telescope mounts. See further below in this manual!

Manual Version EQ5NORTHIFIER-2024-03-25.1EN



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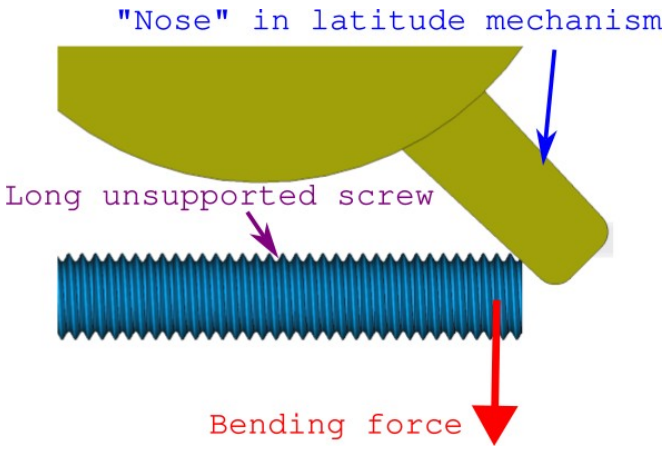
1. Introduction

Many classic equatorial telescope mounts have been designed for use in the most common latitudes, typically up to at most 60–65 degrees of latitude. This makes some sense as only a few million people live above 60 degrees northern latitude, and nearly nobody lives below 55 degrees southern latitude. As such, the decision to simplify the design and limit the possible latitudes is understandable, but no less frustrating for those of use who live outside this range.

Two problems follow from this limitation:

- Some equatorial mounts simply cannot be used in some areas on the globe, such as parts of Scandinavia, Alaska, Canada, and northern Russia.

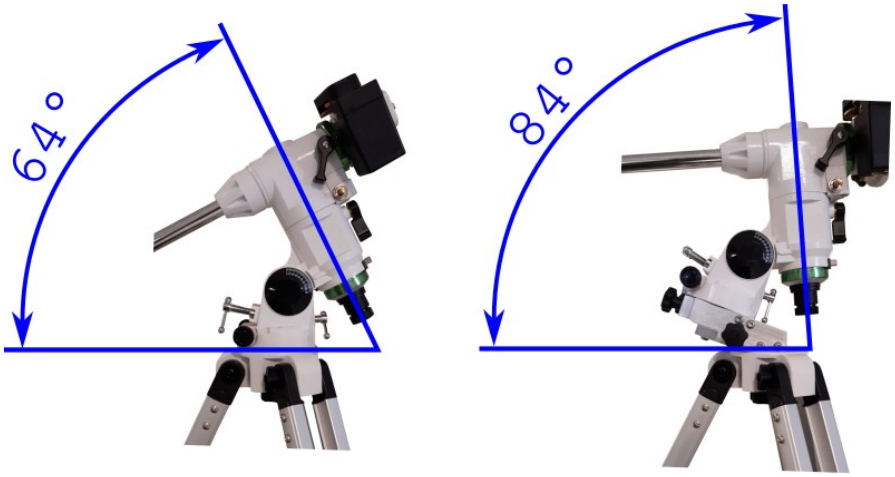
- Even at more moderate latitudes above about 45–50 degrees, the polar alignment mechanism is strained in one of the most common designs for polar alignment mechanisms. In these mounts the latitude screw pushes onto a nose within the latitude mechanism. This happens at more of an oblique angle the higher the latitude, causing a significant bending force on the screw. More than a few latitude screws have been bent out of shape because of this, sometimes entirely getting stuck in the mount, requiring expensive repair.



Niennas Northifier addresses both of these problems.

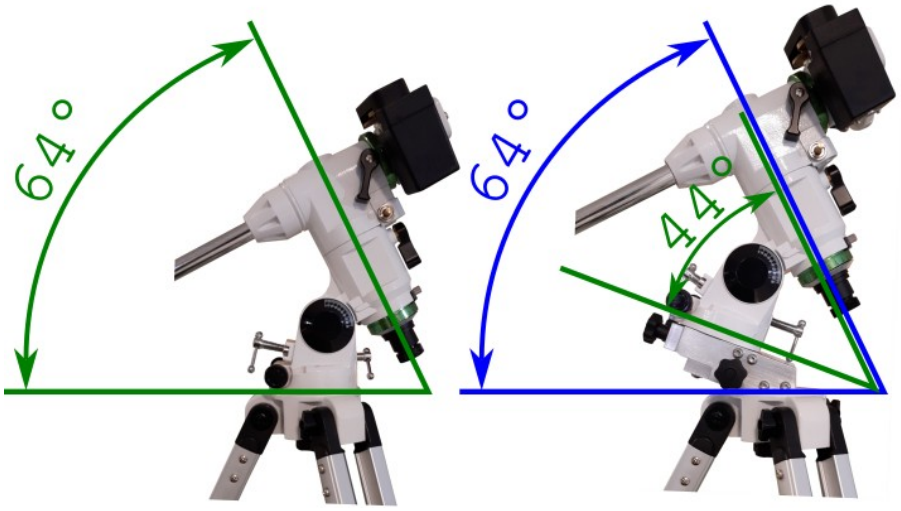
2. Design principle

The Northifier is attached between the mount an its tripod, angling the mount up by an additional 20 degrees. This allows the user to angle up the mount 20 degrees more in total than what would otherwise be possible.



Example: this EQ3 mount is originally limited to approximately 64 degrees. (Some variation seems to exist in different generations of EQ3 mounts.) With the Northifier this is immediately increased to 84 degrees. Please note that the lowest latitude is also increased by 20 degrees, thus the Northifier is not suitable for use at latitudes near the equator.

Furthermore, the additional angle can be used to unload the mount's own latitude mechanism.



Example: a user living at 64 degrees of latitude can set the mount to only 44 degrees, generating much less bending force on the latitude screw.

3. Compatible mounts

The Northifier will work on many different mounts. It is known to work with the following:

- Celestron: Omni-XLT mount (also known as CG4)
- Sky-Watcher: EQ3 (in all variants, also known as NEQ3 or EQ3-2.), EQ3 Pro, EQM35, EQ5, HEQ5. Technically it also fits for the AZ-EQ5, but that mount has no need for this upgrade.
- Vixen GP, GP-DX, GP2, GPD2
- Meade LXD-75

There are several other mounts that use the same connector between mount and tripod and which therefore might be compatible. This has however not yet been confirmed through testing. Candidates of mounts that may be compatible are Bresser Exos 2, TS-Optics Astro 5, Meade LXD55.

4. Incompatible mounts

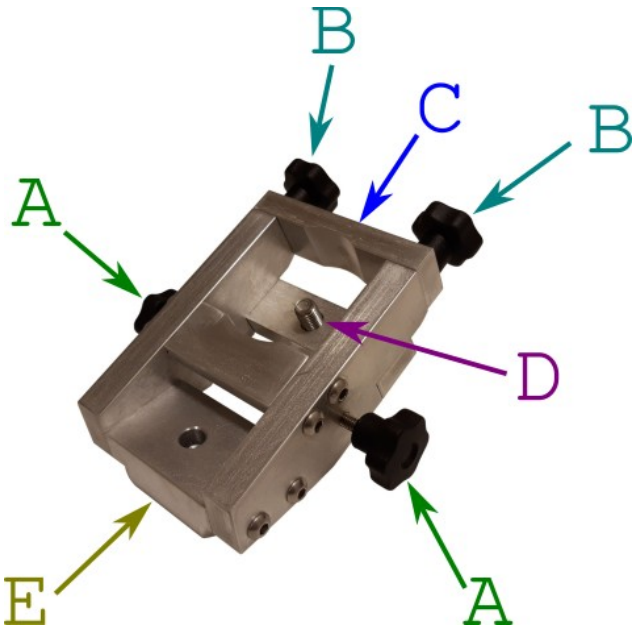
Due to the greater length of the azimuth-pin on the tripod the following mounts unfortunately do not work with the Northifier:

- Celestron Advanced GT (CG5)
- Celestron Advanced VX – this one has a very solid latitude screw and its latitude range is pretty large, so the upgrade is not necessary.

5. Parts

The Nienna EQ5 Northifier comes pre-assembled. These are its functional parts:

- Azimuth adjustment screws (A).
- Mount rotation locking screws (B).
- Mount rotation locking bar (C).
- Mount attachment screw (D).
- Tripod base with M10 thread (E)



Tools needed for operation, not included:

- Allen wrench 6mm

6. Assembly instructions

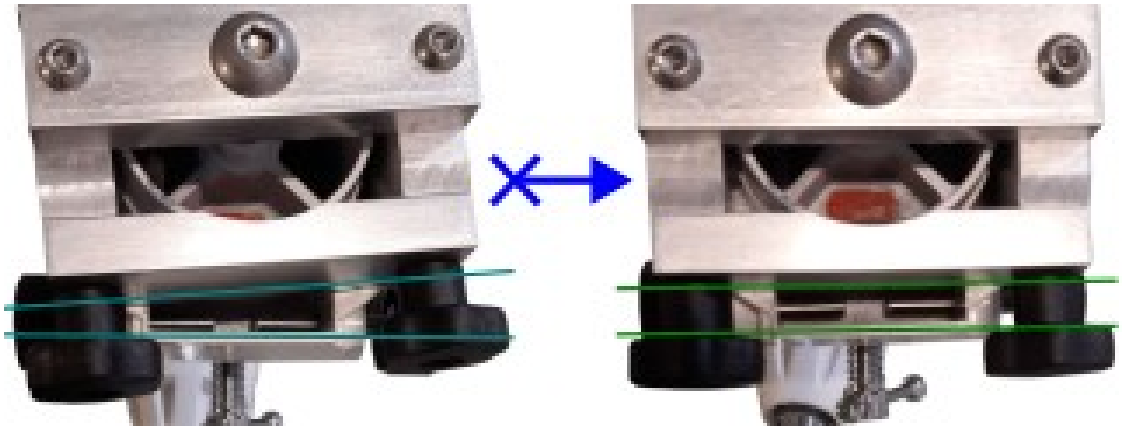
It is recommended to attach the Northifier to the mount first, and then to attach the assembly to the tripod. This will allow easier access to the attachment screw (D).

1. Loosen the rotation locking screws (B) by several turns. Pull out the locking bar (B) a little bit and push the Northifier onto the base of the mount. In its correct orientation the Northifier will stick out below the polar scope (or the bottom of the RA axis if no polar scope is present).

2. Tighten the mount attachment screw (D) a little bit with a 6mm allen key. Do not fully tighten it just yet. The screw should hold the Northifier in place but still allow it to be rotated.

3. Tighten the rotation locking screws (B) a little bit. Once again do not tighten them fully just yet, but try to tighten them both equally so that the gap on either side of the Northifier is about the same.

4. Check the alignment of the Northifier. Most mounts have a straight edge that runs below their azimuth adjustment screws. This edge should be visible even with the Northifier attached. Rotate the Northifier until the edge is parallel to the rotation locking bar (C). Note: it is not necessary to be very precise in this step. A slight misalignment will be automatically corrected for when you do the polar alignment later on.



5. Now tighten down first the attachment screw (D) and then the rotation locking screws (B).

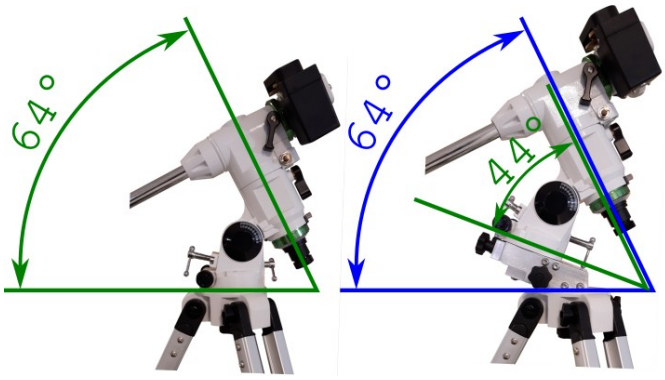
6. Loosen the azimuth adjustment screws (A) by several turns to allow the azimuth-pin on the tripod to fit between the screws. Attach the assembly on top of the tripod with the azimuth adjustment screws on either side of the azimuth pin. Tighten down the adjustment screws.

7. Polar alignment with the Northifier

You can perform the polar alignment as you would normally, but with two changes:

- The latitude in the mount's polar alignment mechanism needs to be set 20 degrees lower than normal.

  Examples: if you live at 50 degrees of latitude, you should set the mount to 30 degrees. If you live at 64 degrees of latitude then the mount should be set to 44 degrees.



  In case you are unsure of your latitude one way to find out is to go to Google Maps and right click on your location. The pop-up will tell you what your northern or southern latitude is. Please also refer to any instructions for your mount.

- Azimuth adjustment is made with the two adjustment screws (A) on the Northifier, not with the mount's own adjustment screws.

8. Notes

1. There usually is a small gap between the Northifier itself and the rotation locking bar (C). This is necessary because the exact diameter and angle of the cylinder at the bottom of the mount's base varies a little between mounts. You can attempt to tighten down the rotation locking screws in such a way that the gap on both sides is the same size. This would only serve aesthetics however and is not important for proper function of the device.

2. Don't worry if you don't get the angle between the mount and the Northifier quite right. When you do the polar alignment you will compensate for any deviation. No extra steps need to be taken, this happens automatically when you do the alignment.

Do you have questions or feedback? Contact us!

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