

***FANOTEC***  
**Nodal Ninja**



**Nodal Ninja 6**  
OPERATING MANUAL

*July 20, 2022*

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# Introduction

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**Wikipedia:** *"Panoramic photography is a technique of photography, using specialized equipment or software, that captures images with horizontally elongated fields of view. It is sometimes known as wide format photography."*

Panoramic photography, for our purpose of this manual, is better defined as capturing multiple adjoining images and stitching them together with the use of third-party software to form a single seamless higher resolution composite.

There are various types of panoramic photography one of which is creating a full 360°x180° spherical image. These types of images are easy and fun to shoot and produce. Wide-angle lenses such as the Sigma 8mm when used with full-frame DSLR's are capable of capturing a full 360°x180° spherical image in as little as 4 shots. Some field workflows can be shot in seconds and post-production completed within minutes.



Another type of panoramic photography is multi-row/multi-column composite/mosaic shooting in rows and columns. The resulting image becomes an extremely detailed and high-resolution composite.

The Nodal Ninja 6 – NN6 – series heads can also act as a free movement gimbal head, giving added use and flexibility, making it ideal for wildlife photography as well.

While the market is currently dominated with lower-cost one-shot solutions, there is no substitution for quality output when using DSLR, Micro-Four-Thirds, or even compact cameras. Our heads allow the photographer to adjust a camera/lens precisely over its horizontal and vertical axis points (called the entrance pupil, aka Nodal Point). This eliminates parallax error when shooting multiple images side by side. Without parallax, a photographer can seamlessly

stitch multiple photographs together, forming a larger, higher resolution composite image.

The Nodal Ninja 6 series heads are well suited for entry-level as well as semi-professional and even professional use.

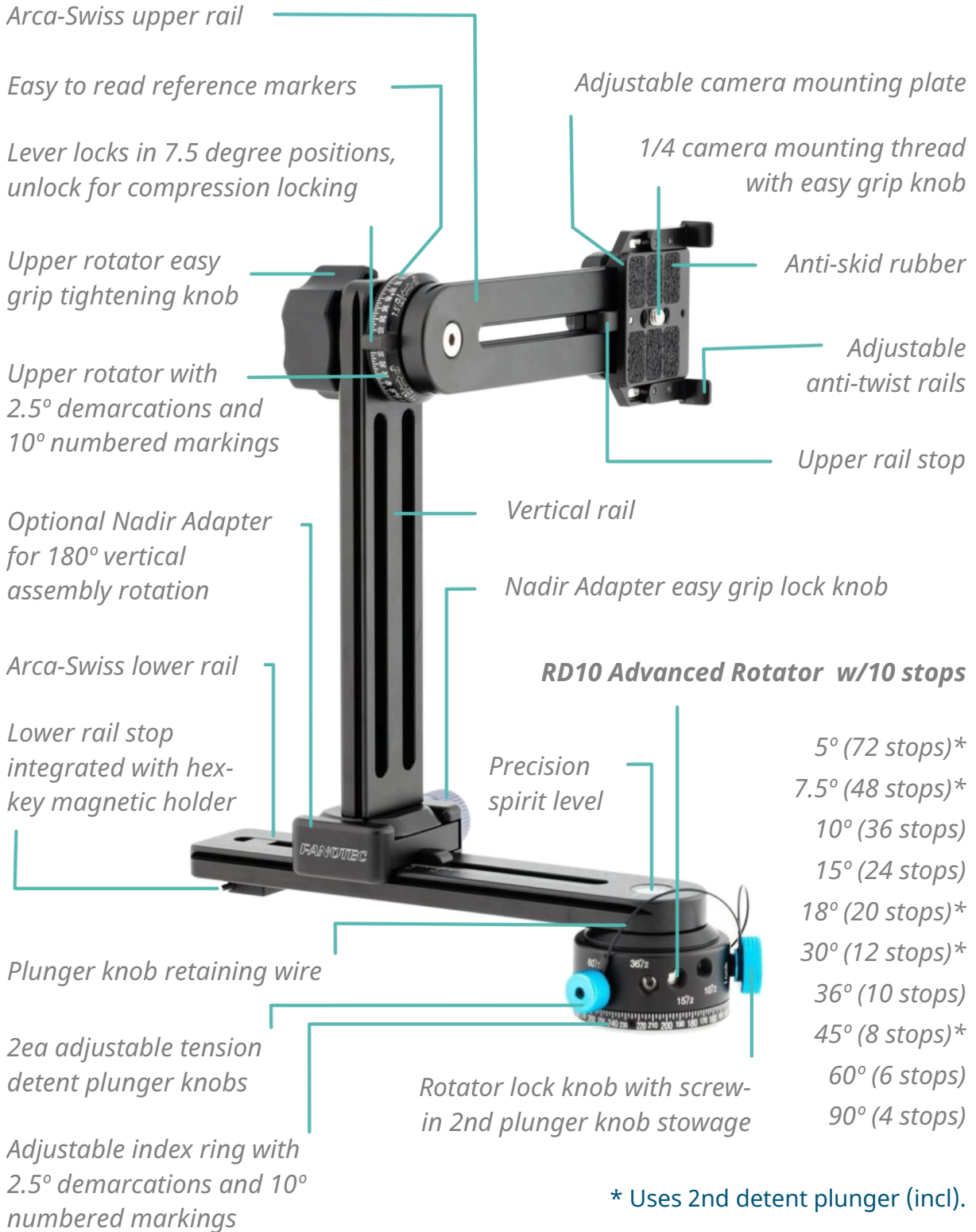
## Features of the NN6 Series

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Fanotec began the development of Nodal Ninja in 2004. The latest generation heads are created using state of the art computer-controlled cutting (CNC) machines resulting in greater precision, uniformity, and cross-compatibility.

Small, sleek, and very attractive. By comparison to other panoramic heads, the NN6 is still lightweight, compact, and very durable. And it's Arca-Swiss compatible making it suitable for most cameras to include compact cameras, Micro Four Thirds (MFT) mirrorless cameras, DSLR's, and even some medium format cameras using these mounts.

The NN6 is similar in design and function to its little brother, the NN3 "MK3".



## Bullet Point Features Include:

- Small, lightweight, and still very compact.
- Built for precision and durability with very high tolerances.
- Upgradable and can be reconfigured to better suit user needs.
- Pre-assembled at the factory, quick and easy to setup, and begin shooting.
- Built-in spirit level to aid in leveling.
- Upper and lower Rail Stops help to remember a camera/lens position.
- Closed rail design – assures your expensive camera won't slip off accidentally.
- Large knurled knobs making operation easy, especially if using gloves.
- Small Rotator Base – smaller nadir (down shot) to edit during post-production.
- Numerical demarcations on horizontal and vertical rotators for easy reference.
- Universal – fits a wide array of cameras including many medium format cameras.
- Double axis rotation allows for full 360° horizontal panning and 180° vertical panning.
- Can be used for shooting in landscape mode with the camera mounted on the lower rail for horizontal panning – ideal for landscape photography.
- Can be used as a gimbal arm, making it useful for wildlife photography.
- Upper rotator on/off lockable 7.5° stops.
- Attractive finish – “non-glare” matt black.
- Full parts and labor lifetime warranty against any manufacturer defects.

# Basic Step by Step Setup Instructions

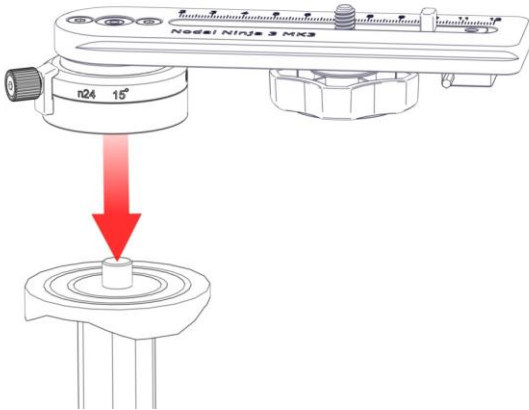
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When purchased as a complete package, all Nodal Ninjas are pre-assembled at the factory. The user has the flexibility to swap out or add some components such as the lower rotator and Nadir Adapter and Offset T-adapter.

To learn more about finding the NPP of a lens, visit section [Finding the No-Parallax Point](#).

In this section, we show the setup of the NN3 series, which is very near identical to the same way user would setup the NN6.

## Basic steps in setting up your Nodal Ninja



Mount rotator to tripod.

### Step 1

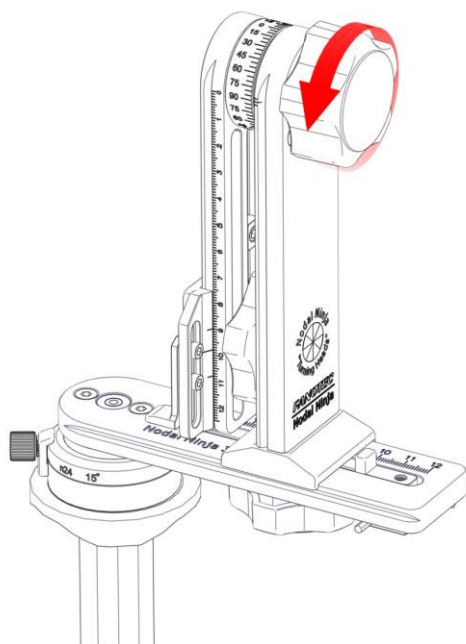
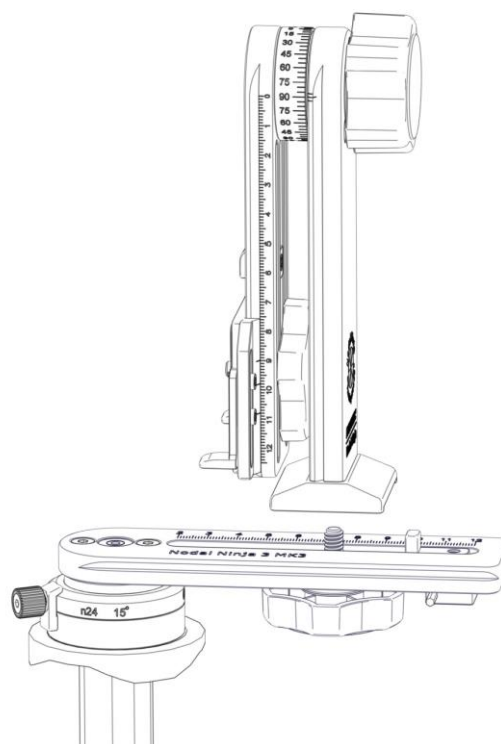
Mount rotator to the tripod. Every Nodal Ninja uses a 3/8" female mounting system. We also include a 3/8"-1/4" thread adapter for free to accommodate mounts using 1/4" male threads.



Mount vertical assembly to lower rail  
and tighten vertical rail knob.

## Step 2

Mount vertical assembly to lower rail  
and tighten using the large knurled  
vertical rail mounting knob. Note the  
relative position of vertical assembly  
before mounting.



Loosen  
upper rotator knob.

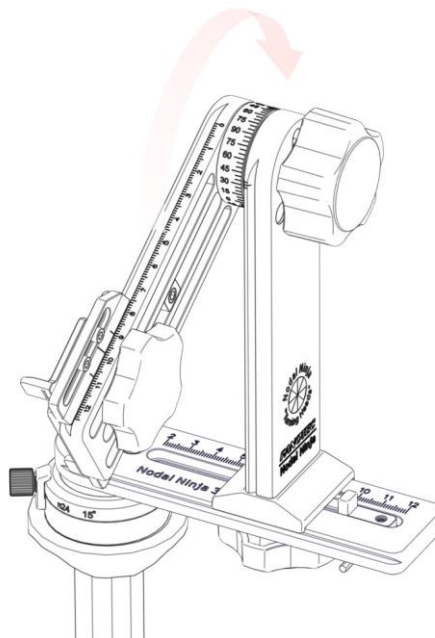
## Step 3

Loosen upper rotator knob by  
turning counter-clockwise.

Flip up  
the upper rail.

## Step 4

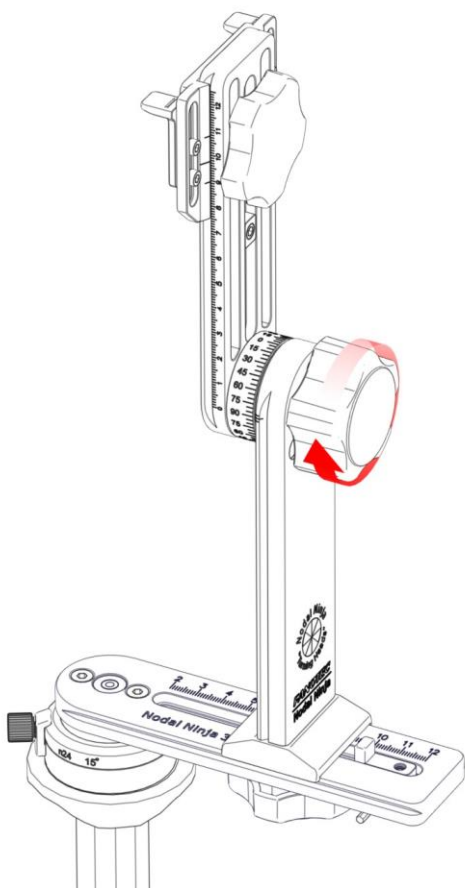
Flip or rotate upper assembly rail  
180°.



Tighten  
upper rotator knob.

## Step 5

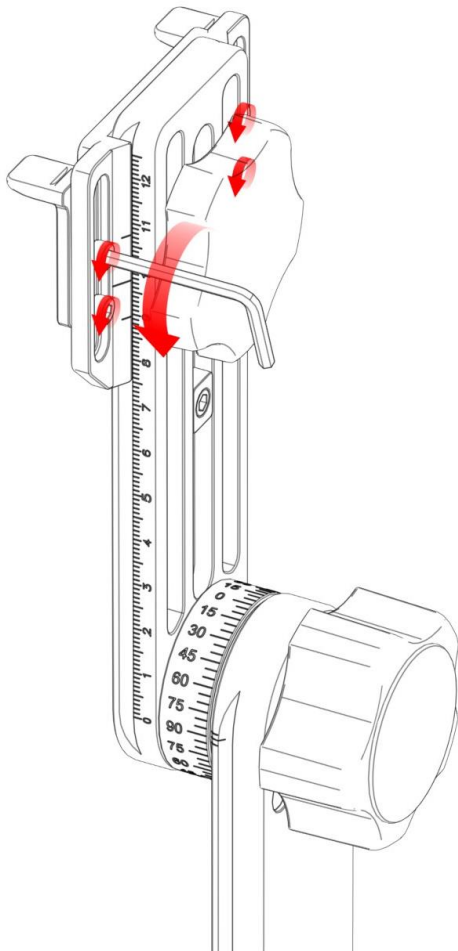
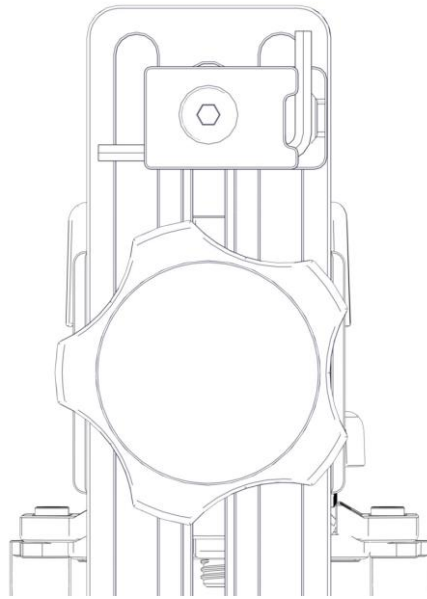
After the rail is rotated to a vertical position, tighten using the upper rail rotator knob turning clockwise.



Remove the hex key  
from its holder.

## Step 6

Located on the underside of the lower rail is the hex key holder. Remove the hex key by rotating and pulling straight out. The hex key is held in place by a magnet located inside its holder.



Loosen the screws of anti-twist plates  
**slightly** using the hex key.

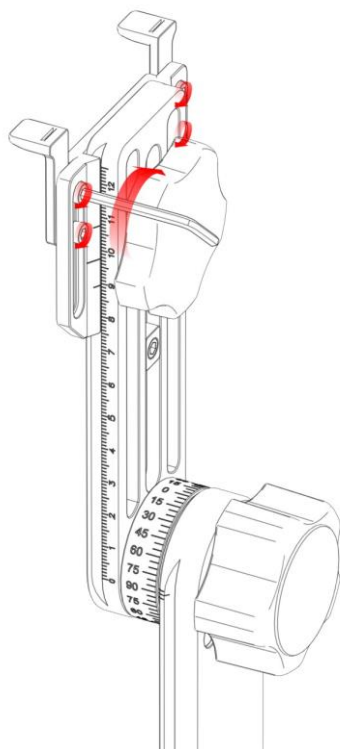
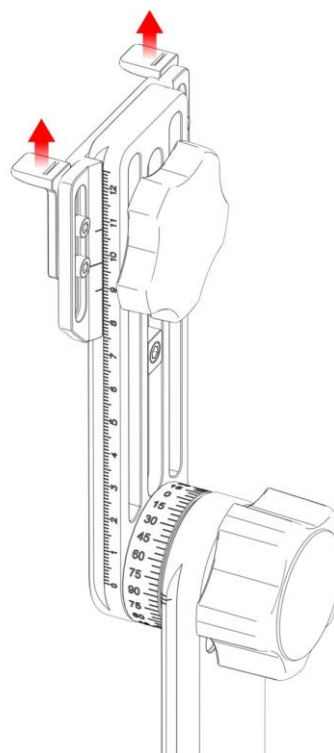
## Step 7

Loosen the 4 set screws of the anti-twist plates **slightly** using the provided hex key.

Lift up  
the anti-twist plates.

## Step 8

Lift or slide upwards the anti-twist  
plates.



Retighten screws slightly  
to keep them in place.

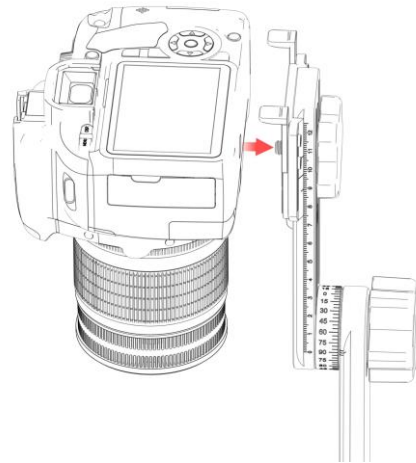
## Step 9

Retighten set screws slightly to hold  
them in place.

Mount the camera to the camera mounting plate. Tighten gently.

## Step 10

Mount your camera/lens onto the camera mounting plate and secure by gently tightening the camera mounting knob being careful not to overtighten.



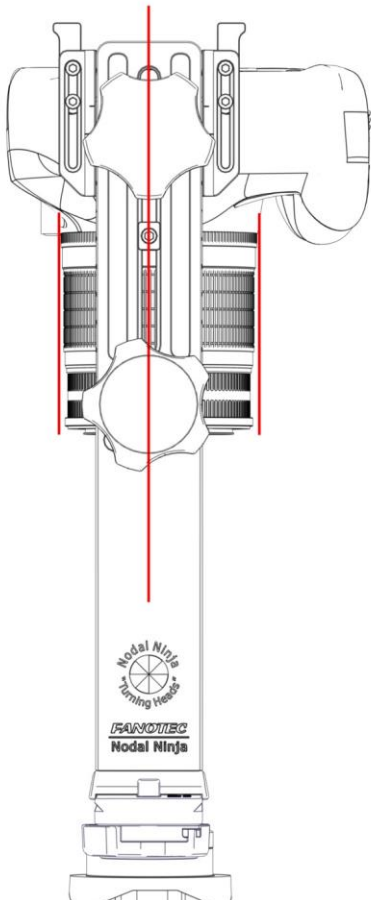
Check the camera is aligned to upper rail by looking from bottom view of camera.

Use straight line features as assistance. Twist the camera as needed.

## Step 11

Check to ensure the camera is aligned to the upper rail by looking from the bottom view side of the camera.

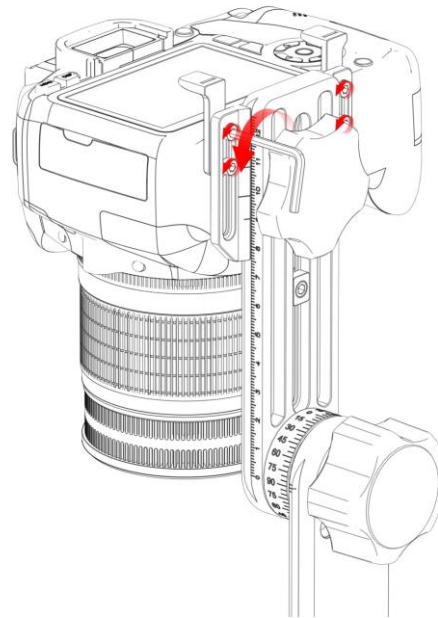
Use straight-line features as assistance. Rotate the camera slightly if needed. Note how the red line centers through the barrel of the lens and runs parallel to upper rail. If your camera appears offset (the mount is not in line with the centerline of the lens) you may need the U5 T-Adapter with offset (SKU# F3315) to correct this.



Loosen the screw  
of anti-twist plates.

## Step 12

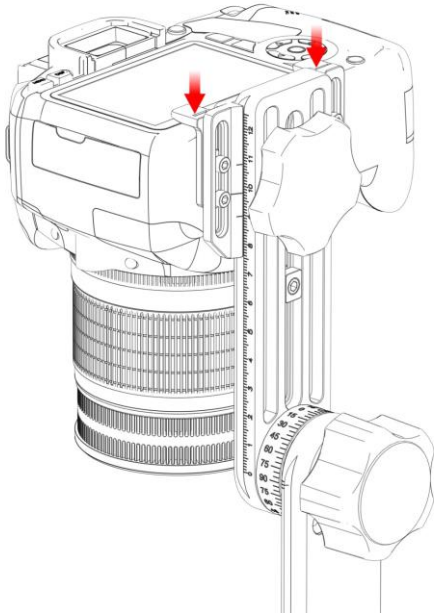
Once you are satisfied with the camera/lens alignment, finish by tightening the “camera” mounting knob securely. Next, loosen the set screws of the anti-twist plates with the provided hex key.



## Step 13

After set screws are loosened, slide the anti-twist tabs downward so they rest against the back of the camera “body” and retighten.

NOTE: THE ANTI-TWIST PLATES SHOULD NOT BE PRESSING OR RESTING AGAINST OR ON THE CAMERA’S REAR DISPLAY DIRECTLY. USE INCLUDED FITTINGS FOR ADDED CLEARANCE.



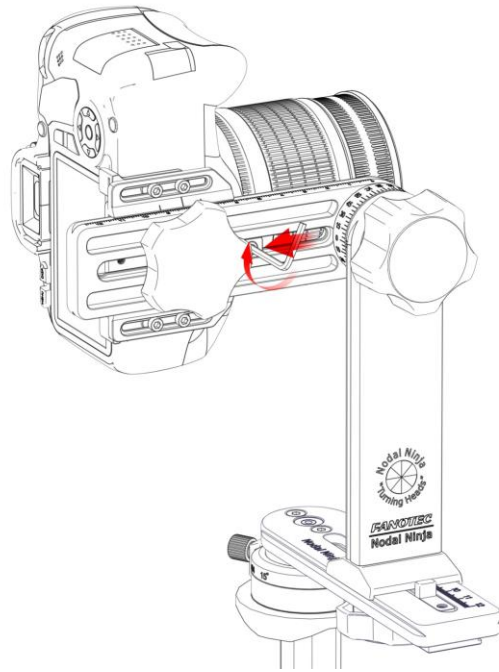
Press the anti-twist plates against the back  
of camera body.



Slide camera to the non-parallax point (NPP) of the lens.  
Tighten securely using camera mounting knob.

## Step 14

Loosen upper rotator knob and rotate upper rail so camera/lens is pointed towards the horizon. Next, while holding the camera, loosen the camera mounting knob and slide the camera to the no-parallax point (NPP) of the lens, after which tighten securely using the camera mounting knob.



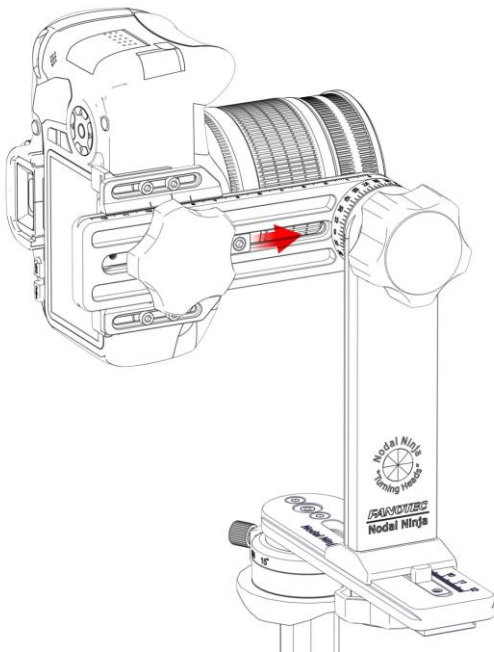
Slide the stop plate against the camera mounting plate.

Tighten screw to set position for that camera and lens.

## Step 15

Slide the upper rail stop plate against the camera mounting plate. Using the provided hex key, tighten the set screw to aid in remembering the position of this rotational axis.

**Note:** Depending on the camera/lens, the stop plate can also be positioned at the rear of the camera.



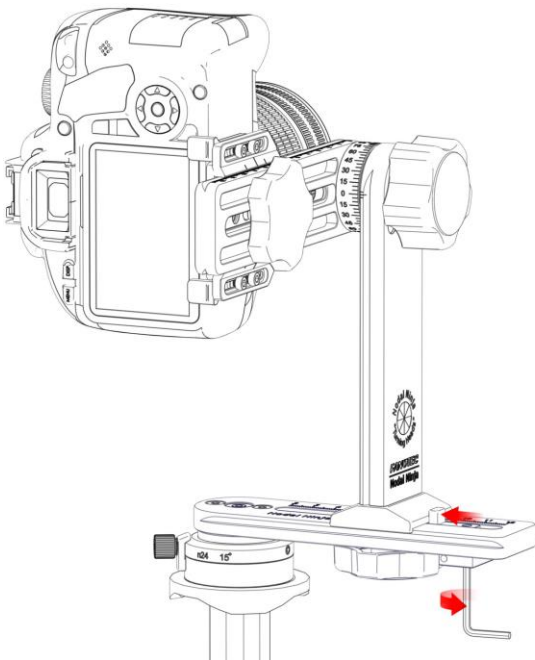
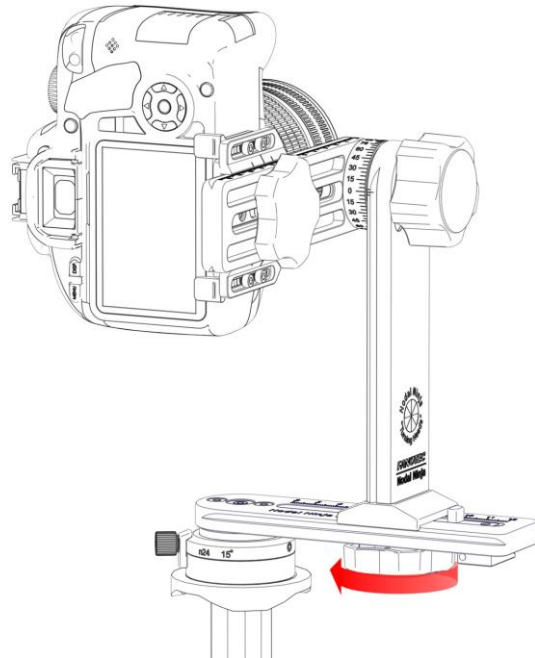


Holding camera!

Loosen the vertical rail mounting knob slightly.

## Step 16

While holding the camera, loosen the vertical rail mounting knob just enough to allow the vertical assembly to slide back and forth on the lower horizontal rail.



Loosen the screw of hex key holder, which also acts as a stop plate.

## Step 17

Slide camera and position so the center of the lens is directly positioned over the center of the lower rotator. Next, slide the stop plate against the vertical rail and tighten to remember this position.

This concludes the basic setup. The example we showed was the NN3 MK3 with Rotator Mini V2 (SKU# F3302-1). This setup guide can also be used for the NN6 and other models as well – some steps may vary slightly.



# NN6 Upper Rotator

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One unique feature of the NN6 is its upper rotator. The upper rotator incorporates a locking level. There are two positions for the lever, unlock and lock/7.5°.

In the unlock position, the upper rotator/horizontal rail can be positioned at “any” point from 0° to 90°. When in the lock position, and after the upper rotator knob is loosened, the upper rotator can be positioned and locked into any 7.5° increment. You could also use any combination of 7.5° increments such as 15°, 30°, etc. In the lock position with the knob slightly loosened, you will actually “feel” these 7.5° positions as you rotate.

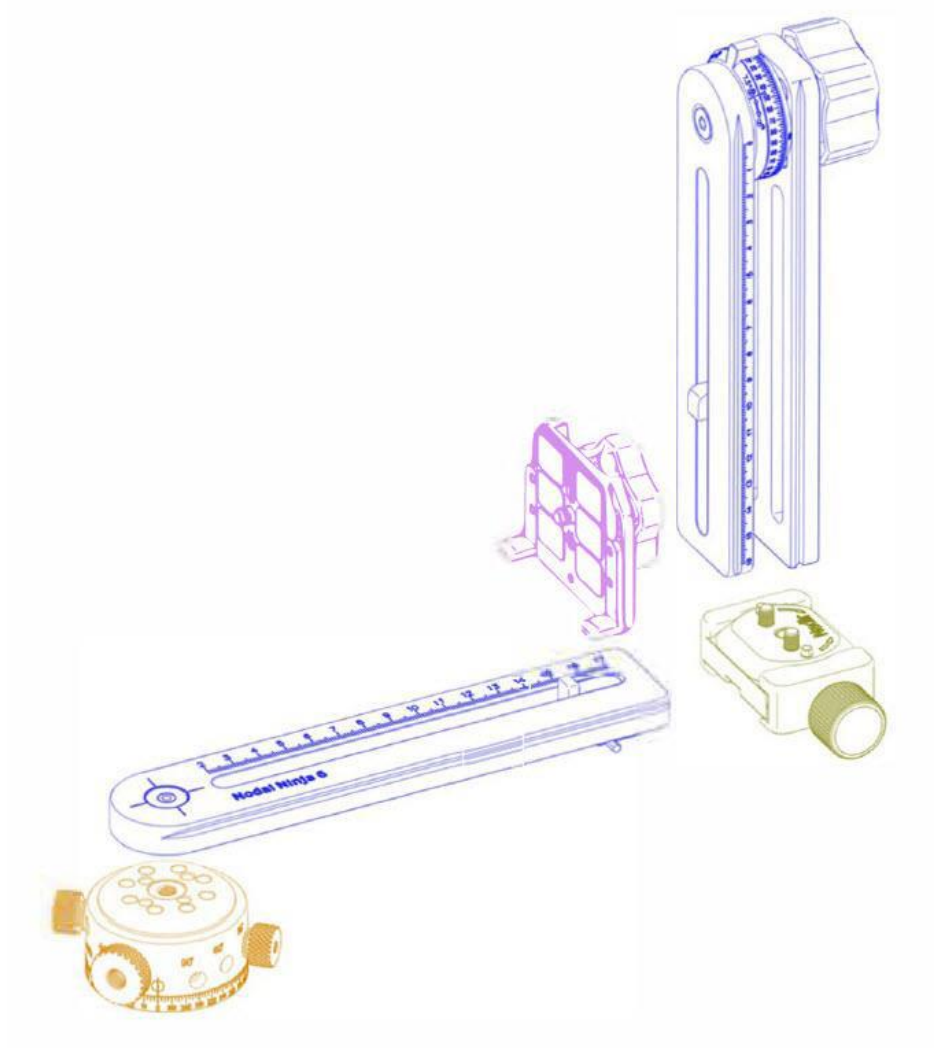
This feature is particularly useful when you are trying to achieve repeatable and consistent results.

# Exploded View of NN6 Parts

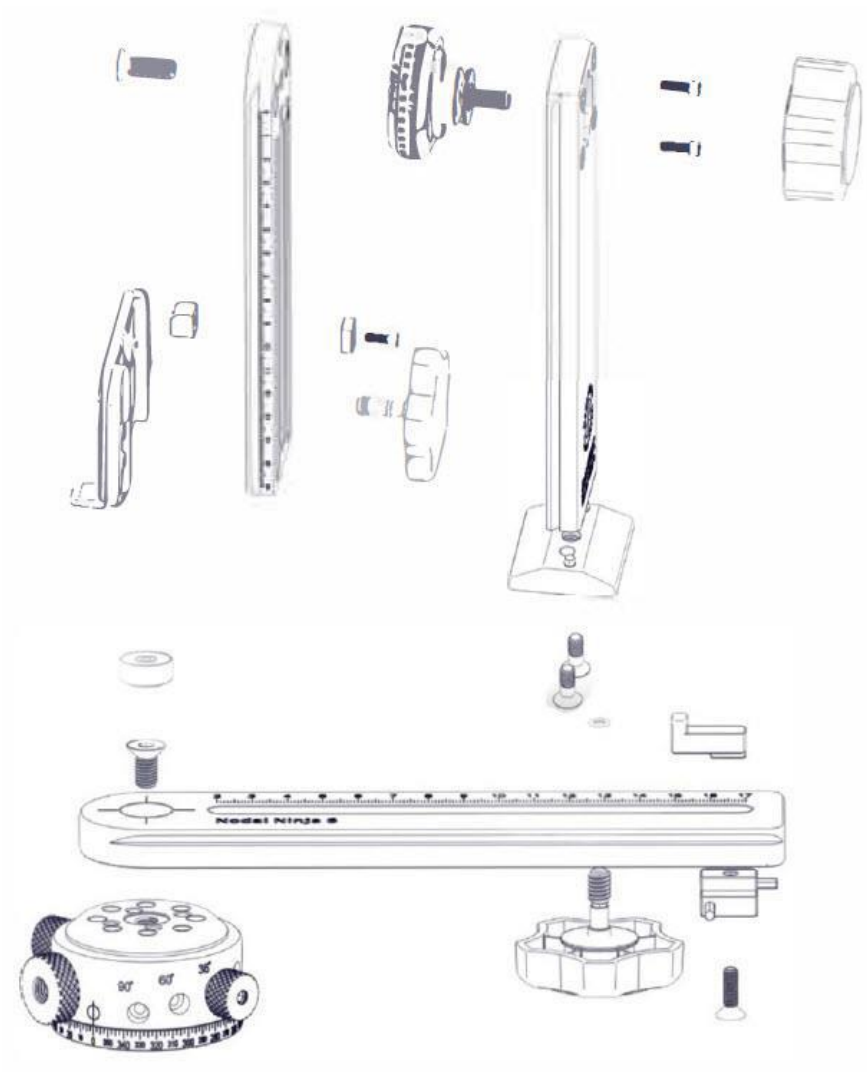
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The NN6 comes preassembled from the factory.

This is a basic breakdown of the major components.



This is a more detailed view of the build components of the NN6.



# Configurations

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The NN6 series can be configured in many ways to include using with or without Lower Rotator RD10 (double plunger F1140) as well as with or without a Nadir Adapter (F6026). Many pre-existing customers may already own lower rotators, hence the ability to purchase without a lower rotator. A lower rotator IS NEEDED for proper operation. Other lower rotators to fit NN6 include RD16, RD16-II, RD12, RD8, RD6, and RD5. If you are not sure what rotator you have, please send an image of it to the manufacturer:

<https://www.fanotec.com/contact/20>

Each of the products listed in the manual (noted by SKU's) is provided as packages. These packages give the user everything an average user needs to begin shooting including a case, hex keys, spare washers, etc. Only a small percentage of users may need additional components such as offset adapters. We will list some of the popular optional accessories with each configuration.

## **Configurations discussed in this operating manual include:**

- NN6 w/Lower Rotator RD10 + Nadir Adapter  
SKU# F6002
- NN6 Starter Package w/Lower Rotator RD10  
SKU# F6001
- NN6 NO Lower Rotator + Nadir Adapter SKU#  
F6003
- NN6 NO Lower Rotator SKU# F6006



SKU# F6002



SKU# F6001



SKU# F6003



SKU# F6006

# NN6 + Nadir Adapter w/Lower Rotator RD10



- **SKU#** F6002
- **Load limit:** 7.7lb (3.5kg)
- **Weight:** 2lb (920g)
- **Upper rail length:** 190mm
- **Lower rail length:** 200mm
- **Level:** Amateur - Pro
- **Lenses:** 8mm - 200mm focal length (DSLR)
- **Popular Uses:** Real Estate full 360x180 Panoramas, Landscape, Wildlife, Gigapixel
- **Cameras:** Up to larger DSLR's with battery pack

The RD10 lower rotator is convenient when shooting with different lenses or variable focal lengths. Changing click stops is quick and easy and only requires moving the detent plunger knob to the desired click stop option. This model does not include a nadir adapter.

The RD10 rotator is compact and lightweight. It incorporates 10 different detent options that can be changed quickly on the fly. The range of intervals is suitable for shooting super wide fisheye lenses to longer lenses up to 200mm equivalent focal length.

10 different degree stop increments are included (with an equivalent number of stops around):

- |                   |                  |
|-------------------|------------------|
| ○ 5 (72 stops)*   | ○ 30 (12 stops)* |
| ○ 7.5 (48 stops)* | ○ 36 (10 stops)  |
| ○ 10 (36 stops)   | ○ 45 (8 stops)*  |
| ○ 15 (24 stops)   | ○ 60 (6 stops)   |
| ○ 18 (20 stops)*  | ○ 90 (4 stops)   |

\* Listed stops marked with an asterisk requires the use of both plunger knobs.

## NN6 w/Lower Rotator RD10



- **SKU#** F6001
- **Load limit:** 7.7lb (3.5kg)
- **Weight:** 2lb (920g)
- **Upper rail length:** 190mm
- **Lower rail length:** 200mm
- **Level:** Amateur - Pro
- **Lenses:** 8mm - 200mm focal length (DSLR)
- **Popular Uses:** Real Estate 360 Panoramas, Landscape, Wildlife, Gigapixel
- **Cameras:** Up to larger DSLR's with battery pack

The RD10 lower rotator is convenient when shooting with different lenses or variable focal lengths. Changing click stops is quick and easy and only requires moving the detent plunger knob to the desired click stop option. This model does not include a nadir adapter.

The RD10 rotator is compact and lightweight. It incorporates 10 different detent options that can be changed quickly on the fly. The range of intervals is suitable for shooting ultra-wide fisheye lenses to longer lenses up to 200mm equivalent focal length.

10 different degree stop increments are included (with the equivalent number of stops around) include:

- |                   |                  |
|-------------------|------------------|
| ○ 5 (72 stops)*   | ○ 30 (12 stops)* |
| ○ 7.5 (48 stops)* | ○ 36 (10 stops)  |
| ○ 10 (36 stops)   | ○ 45 (8 stops)*  |
| ○ 15 (24 stops)   | ○ 60 (6 stops)   |
| ○ 18 (20 stops)*  | ○ 90 (4 stops)   |

\* Listed stops marked with an asterisk requires the use of both plunger knobs.

## NN6 w/Lower Mini Rotator + Nadir Adapter



- **SKU#** F6003
- **Load limit:** 7.7lb (3.5kg)
- **Weight:** 2lb (920g) w/RD10 Lower Rotator
- **Upper rail length:** 190mm
- **Lower rail length:** 200mm
- **Level:** Amateur - Pro
- **Lenses:** 8mm - 200mm focal length (DSLR)
- **Popular Uses:** Real Estate 360 Panoramas, Landscape, Wildlife, Gigapixel
- **Cameras:** Up to larger DSLR's with battery pack

This configuration does NOT include a lower rotator. This is convenient if you already have a lower rotator AND would like to reduce the post-production work in removing the nadir (down shot) during the post-production of your panorama. The addition of the Nadir Adapter adds ease of workflow when shooting the nadir. See Using the Nadir Adapter.

### Fanotec rotators designed to fit the NN6:

- Mecha E1 w/DC1 Controller (automated) SKU# F9905
- RD8
- RD10
- RD12
- RD16
- RD16-II



## Popular Accessories:

- Arca-Swiss Style Stop Plate SKU# F2106
- Arca-Swiss Style Right Angle Dual Clamp SKU# F9131
- Advanced Rotator Handle SKU# F1115
- Arca-Swiss Style Quick Release Plate for Advanced Rotators SKU# F1191
- Dual Camera Multi-row Stereo Attachment SKU# F6043

## NN6 w/No Lower Rotator



- **SKU#** F6006
- **Load limit:** 7.7lb (3.5kg)
- **Weight:** 2lb (920g) w/RD10 Lower Rotator
- **Upper rail length:** 190mm
- **Lower rail length:** 200mm
- **Level:** Amateur - Pro
- **Lenses:** 8mm - 200mm focal length (DSLR)
- **Popular Uses:** Real Estate 360 Panoramas, Landscape, Wildlife, Gigapixel
- **Cameras:** Up to larger DSLR's with battery pack

This configuration does NOT include a lower rotator or the Nadir Adapter. This is convenient if you already have a lower rotator. The addition of the Nadir Adapter however does add ease of workflow when shooting the nadir. See Using the Nadir Adapter.

## Fanotec rotators designed to fit the NN6:

- Mecha E1 w/DC1 Controller (automated) SKU# F9905
- RD8
- RD10
- RD12
- RD16
- RD16-II

## Popular Accessories:

- Arca-Swiss Style Stop Plate SKU# F2106
- Arca-Swiss Style Right Angle Dual Clamp SKU# F9131
- Advanced Rotator Handle SKU# F1115
- Arca-Swiss Style Quick Release Plate for Advanced Rotators SKU# F1191
- Dual Camera Multi-row Stereo Attachment SKU# F6043

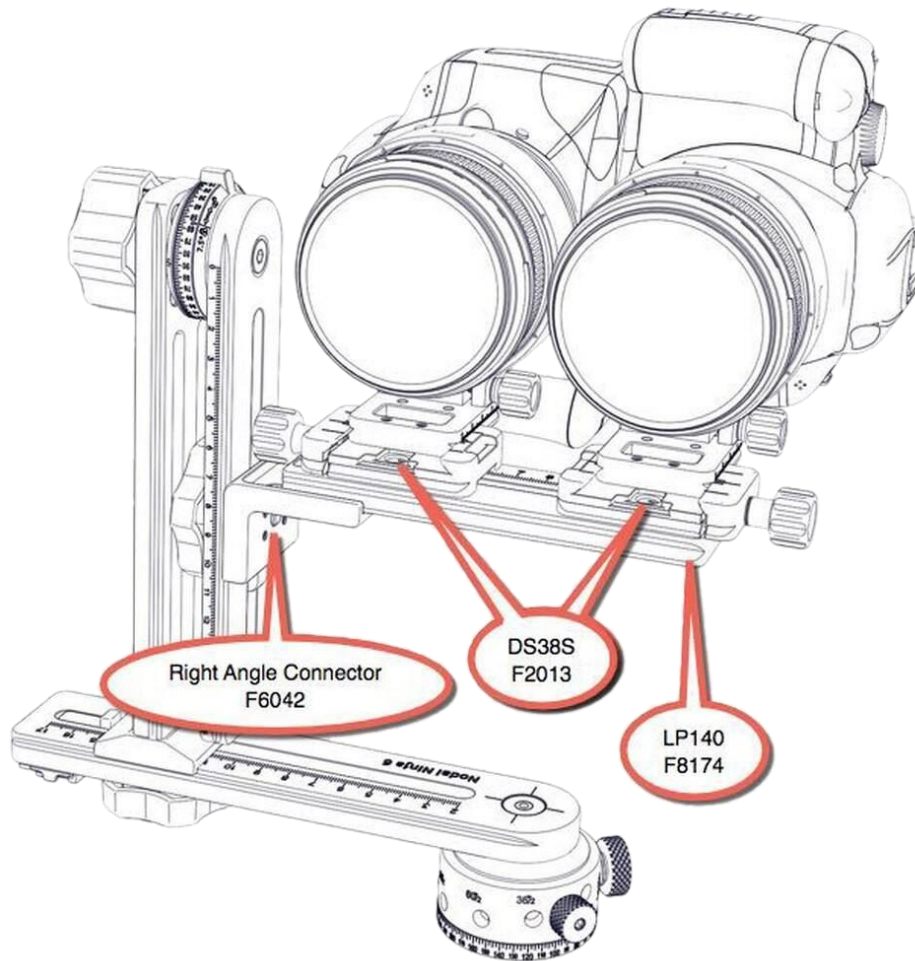
## Additional Configurations

Added components for shooting Stereoscopic or 3D Panoramas.

### **Dual Camera Multi-row Attachment SKU# F6043**

A lightweight setup dedicated for multi-row stereo panoramic photography consists of our new LP140 (140 mm lens plate), 2 QRC-38DS (clamp with strap mount and dovetail for clamping), and one right angle connector for lens plate and NN3 MK3 or NN6.

Paired with 2 QRC-38DS to form a compact dual-lens ring mount stereo bracket to mimic an Interpupillary distance (IPD) of 65-100 mm (2.55"-3.94"), perfect for most small lenses and cameras for both indoor and outdoor.



## Features:

- Load Rating: 3 kg (6.6 lbs).
- Screw-knob Mini Clamp, 38 mm jaws.
- Low profile and lightweight.
- Adjustable inter-lens distance of 65-100 mm (2.55"-3.94").
- Multi-functional Arca-Swiss compatible parts.
- Compatible with NN3 "MK3" and NN6 series heads.
- If using with NN3 MK3 be careful not to exceed the weight limit of 3.5lb (1.5kg)

Automation or hands-free operation.

## **Dual Axis MECHA E2 C1 with NN6 and Nadir Adapter SKU# F9908**

An automated solution for full-size DSLR's and lenses.

We use parts from NN6, together with 2 MECHA E2 Rotators and 2 C1 Controllers, which are wirelessly linked together. Use as a single-axis horizontal rotator single row shooting for turntable object VR. Or use as a dual-axis rotator for both horizontal and vertical movements. This setup supports a camera/lens up to 3.0 kg (6.6 lb) and NPP up to 145mm from the pivot point, making it ideal for mirrorless, and full-size DSLR cameras. Shoot 360° panoramas or even high-resolution gigapixel images.

Weight without spare and case: 2.4kg (5.3 lb).

There are also several configurations using NN6 w/MECHA however it is not the purpose of this manual to go into detail on the use of MECHA. For more information on Mecha configurations please visit our forum –

<https://forum.nodalninja.com>.



# Other Models

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Buying a panoramic tripod head can be like trying to match a pair of shoes. With 3 basic series (NN3, NN6, and M series) to include automation and aerial poles, we can pretty much satisfy most needs. We would encourage you to reach out to a local authorized dealer to explain your needs so they can fit you into a proper head that best suits your requirements. You are also encouraged to ask any questions you have in our forum – <https://forum.nodalninja.com>. ALL products come with a 100% satisfaction guarantee. If you are not pleased with the product for any reason, simply return for a full refund (excludes S&H, VAT, and/or custom's fees).

This manual details the NN6 series heads. Here is a quick breakdown of other models and what applications they might be best suited for:

- **NN3 Series:**
  - Level: Amateur - Semi-Pro.
  - Lenses: 8mm - 50mm focal length
  - Features: Compact, Inexpensive, Durable
  - Popular Uses: Real Estate, Travel, Hobbyist, Amateur
  - Cameras: Compact, Micro Four Thirds, smaller DSLR's
- **R Series Heads:**
  - Level: Amateur - Pro - Google
  - Lenses: Fisheye 4.5mm - 17mm
  - Features: Smallest Pano-head, fits to lens not the camera
  - Popular Uses: Google Street Views, Real Estate, Poles
  - Cameras: Any - fit based on the lens
- **M Series Heads:**
  - Level: Semi-Pro - Pro
  - Lenses: M1 Series 8mm- 200+mm / M2 Series 8-400+mm
  - Features: Arca-Swiss Modular Design, Upgrade paths
  - Popular Uses: Landscape, High-Resolution HDR

- Cameras: DSLR's, Medium Format

And for aerial photography we have a lineup of lightweight and super strong Carbon Fiber Poles to include:

- Travel Pole extends to 9ft (3m)
- Pole Series 2 extends to 19ft (6m)
- Pole Series 3 extends to 30ft (9m)

# Specifications

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## **NN6 + Nadir Adapter w/Lower Rotator RD10 (SKU# F6002)**

- Weight Load: 7.7lb (3.5kg)
- Included: Upper assembly with Nadir Adapter, lower assembly with rotator, misc. bits (hex key spare parts).

## **NN6 w/Lower Rotator RD10 (SKU# F6001)**

- Weight Load: 7.7lb (3.5kg)
- Included: Upper assembly, lower assembly with rotator, misc. bits (hex key, spare parts).

## **NN6 w/No Lower Rotator + Nadir Adapter (SKU# F6003)**

- Weight Load: 7.7lb (3.5kg)
- Included: Upper assembly with Nadir Adapter, lower assembly NO rotator, misc. bits (hex key, spare parts).

## **NN6 w/No Lower Rotator (SKU# F6006)**

- Weight Load: 7.7lb (3.5kg)
- Included: Upper assembly, lower assembly with NO rotator, misc. bits (hex key, spare parts).

# Accessories

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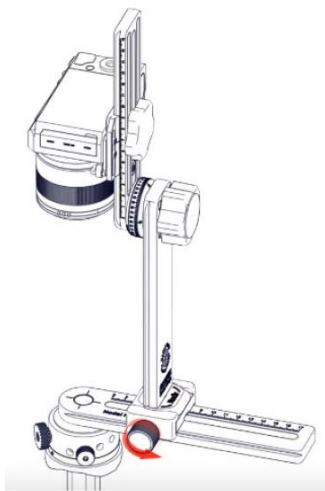
There is a growing line of accessories to explore for the NN6. Many of these accessories are cross-compatible with the NN3 “MK3” series. While we cannot go into depth on all accessories we will show you some of the more popular accessories and how they are used. Here is a sample list of most of the accessories – those shown in bold are discussed in further detail in this manual.

- NN3 MK3 / NN6 Upper Rail Stop SKU# F6037
- NN3 MK3 / NN6 Camera Mounting Plate SKU# F6038
- NN3 MK3/ NN6 Upright Foot w/Knob SKU# F6025
- **NN3 MK3/ NN6 QR Nadir Adapter SKU# F6026**
- NN3 MK3 / NN6 Camera Mounting Plate w/Knob SKU# F6027
- NN3 MK3 / NN6 Right Angle Connector for Lens Plate BETA SKU# F6042B
- NN3 MK3 / NN6 Dual Camera Multi-row Stereo Attachment SKU# F6043
- NN3 MK3 / NN6 Lower Rail Stop SKU# F6044
- NN3 MK3 / NN6 Camera Plate Fittings SKU# F6045
- NN3 MK3 / NN6 Lower Rail Stop and Hex Key Holder SKU# F6046
- **NN3 MK3 / NN6 U5 T-Adapter with offset SKU# F3315**
- NN3 MK3 / NN6 Upright Foot SKU# F6032
- NN3 MK3 / NN6 Upper rotator Tension Knob SKU# F6035
- NN3 MK3 / NN6 Camera Mounting Knob SKU# F6039
- **NN3 MK3 / NN6 Camera Mounting Knob (Small) SKU# F6040**
- Vertical Rail Knob for NN3 MK3, NN4, NN5, and NN6 SKU# F6033
- NN3 MK3 / NN6 Hex Key Holder SKU# F6031
- NN3 MK3 / NN6 Misc. Baggie of parts w/ Small Camera Mounting Knob SKU# F6041

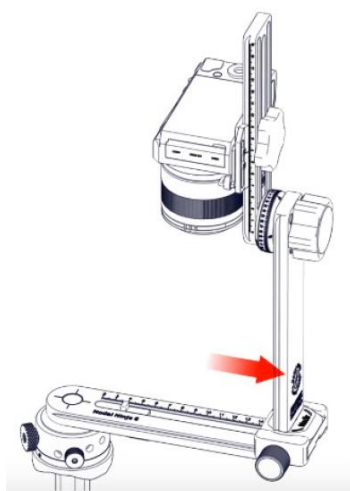
# Using the Nadir Adapter

SKU# F6026

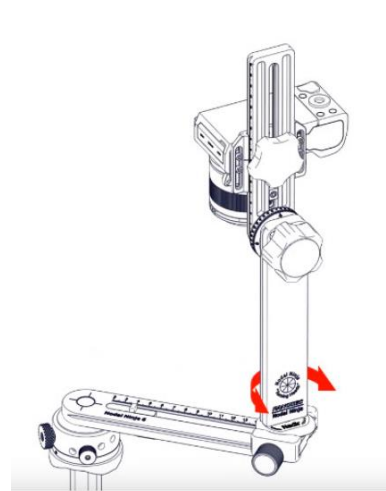
The NA provides for a quick and easy way to shoot the Nadir (down shot) without having to remove the camera from the Nodal Ninja. This is very handy especially if bracketing your shots or needing longer exposures.



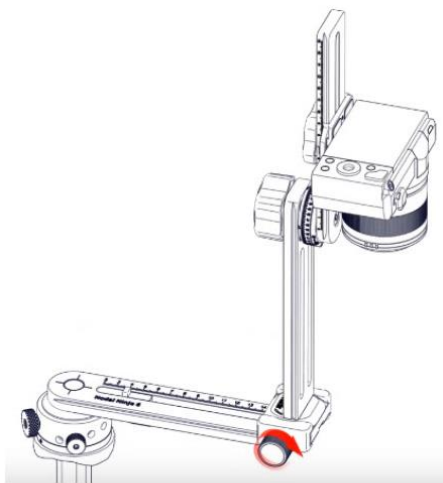
1



2



3



4

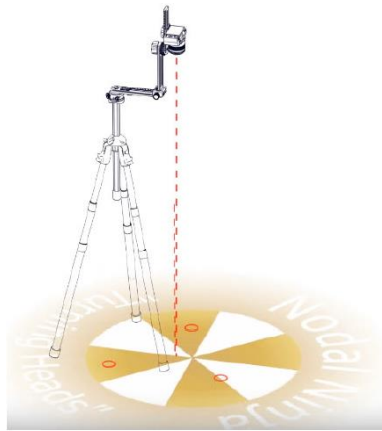
1. Loosen NA Lock Knob.
2. Slide NA to the end of the lower rail.
3. Rotate upper assembly 180° either left or right.
4. Tighten NA Lock Knob.
5. Note the ground position of the lower rotator as if you dropped a plumb line directly from the center of the lower rotator to the ground. Mark with a coin or something small.
6. Move tripod/camera/lens so the coin is in the center of the camera viewfinder.



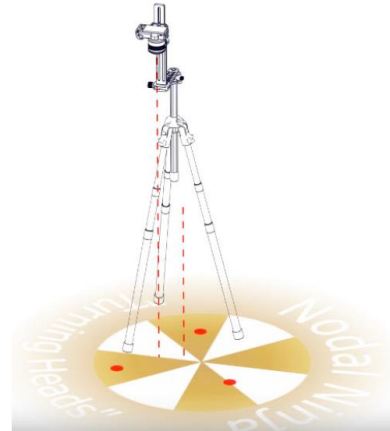
- Optional - rotate tripod/camera/lens 90° around the center point and offset slightly. Taking this added shot is handy where this actual footprint may be desired, such as with tiled or mosaic flooring.



5



6

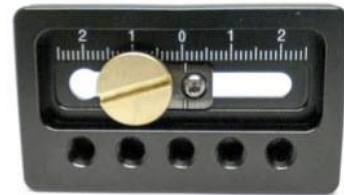


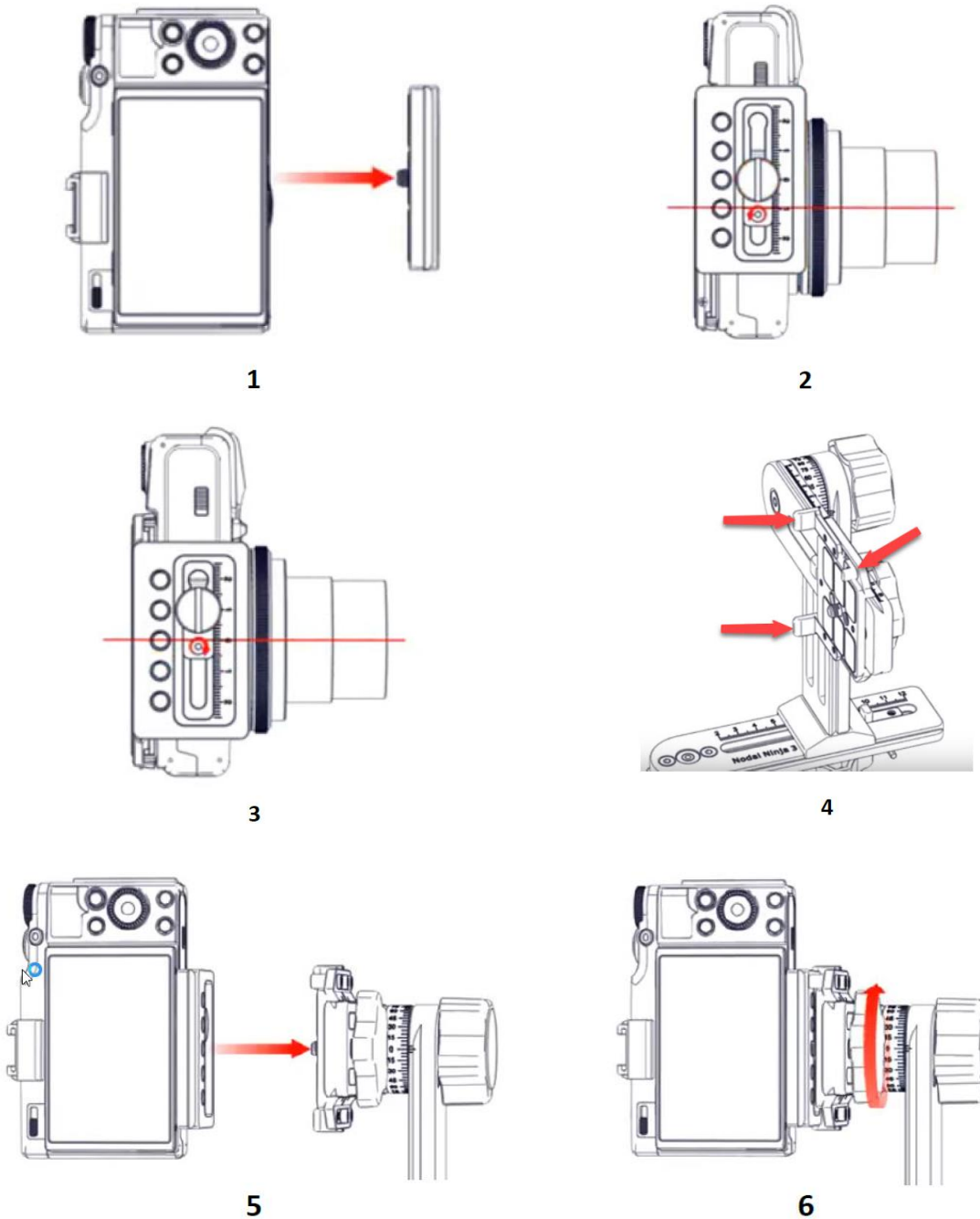
7

## U5 30mm Tripod Offset Bracket

**SKU#** F3315

Unlike the older style T-Adapters which were designed for older Nodal Ninja's this CNC machined universal adapter was designed exclusively for the NN3 and NN6 series heads. It provides up to a 30mm offset for use on cameras that do not have a camera mounting screw directly in line with the center axis of the lens.





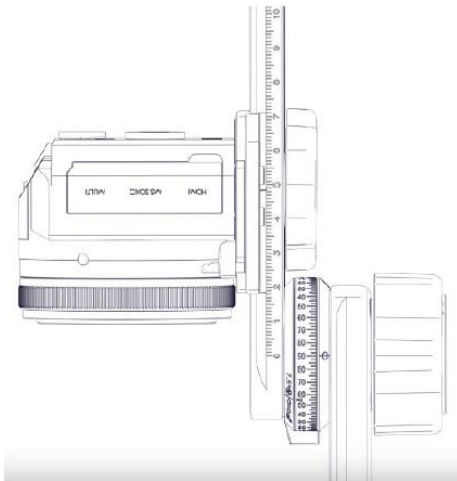
1. Mount bracket to the base of the camera.
2. Loosen bracket set screw.
3. Slide bracket so the camera mount is positioned with the center axis of the lens.
4. Adjust tabs on Camera Mounting Plate as needed.

5. Mount bracket to Camera Plate.
6. Tighten Camera Mounting Knob securely.

## Small Camera Mounting Knob

**SKU# F6040**

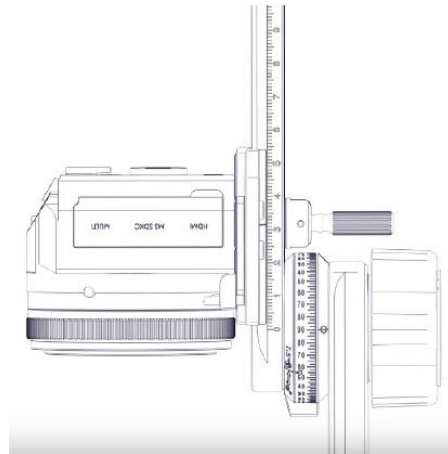
The Small Camera Mounting Knob (SCMK) is included with the purchase of a complete package. The SCMK is useful for extra adjustment room on the upper rail as when using smaller cameras with pancake style lenses. Using the SCMK will extend the minimum NPP setting to 32mm, allowing use for a greater variety of lenses.



**1**

Although the standard camera mounting knob is easy to grip and glove friendly, its size limits the minimum NPP setting to 48mm.

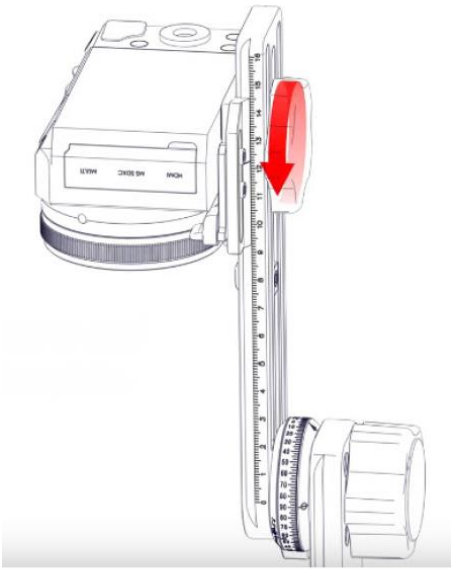
While it is non-issue for most lenses, it is too short for some pancake type lenses.



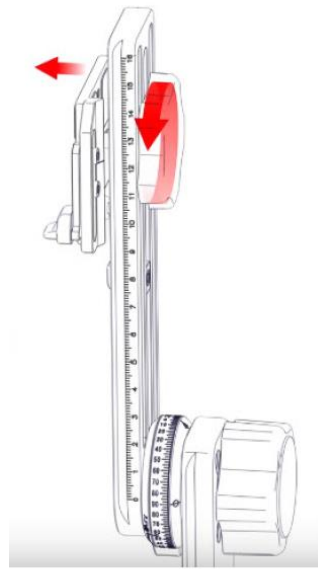
**2**

Using the small camera mounting knob will extend the minimum NPP setting to 32mm. This will work for a lot more lenses.

For camera and lens combo that needs a smaller NPP setting, an adapter plate or a dual clamp quick release system is needed.

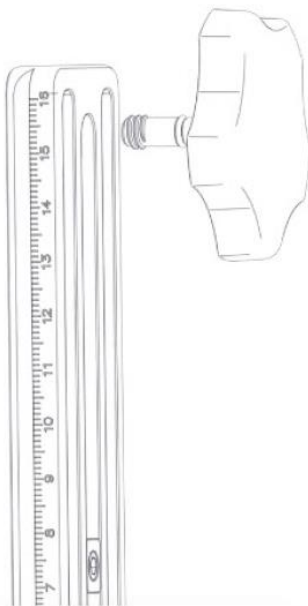


**3**



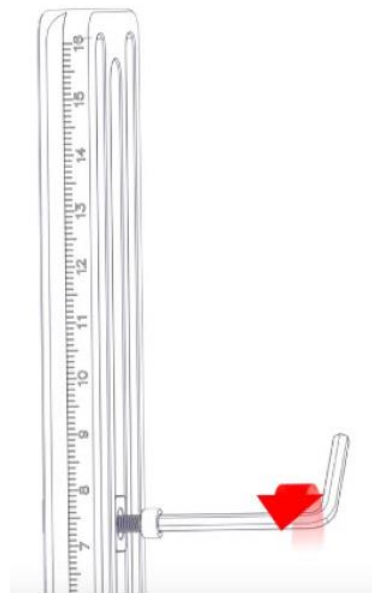
**4**

Remove the camera and camera mounting plate.



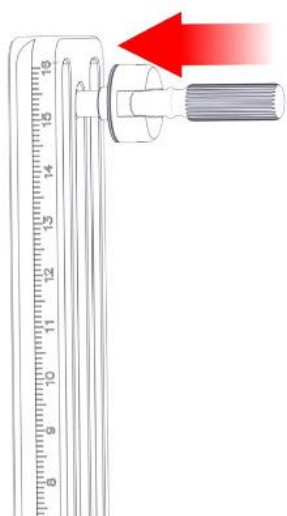
**5**

Remove the standard camera mounting knob from the end of rail.



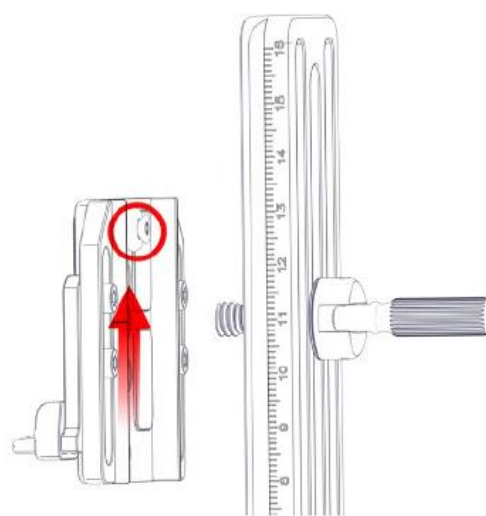
**6**

Remove the stop plate.



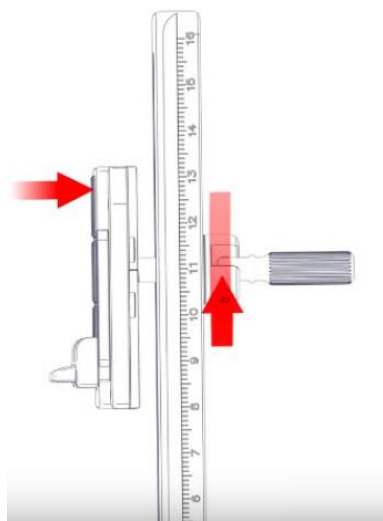
**7**

Install the small camera mounting knob from the end of rail.

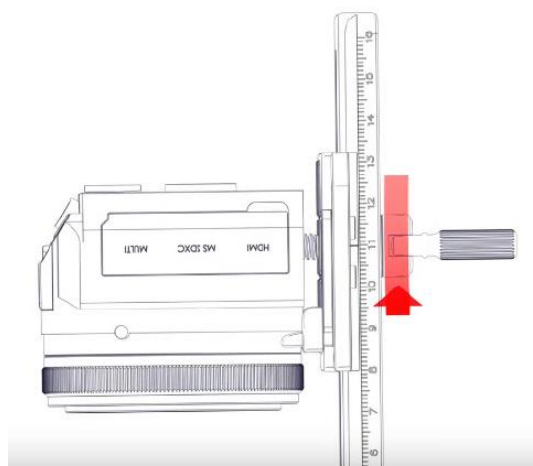


**8**

Change the drag screw to the top, if needed.

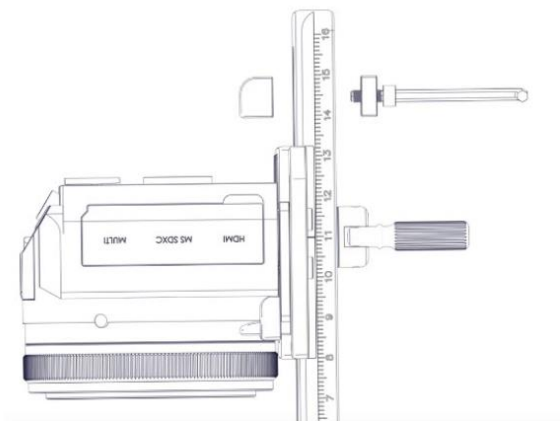


**9**



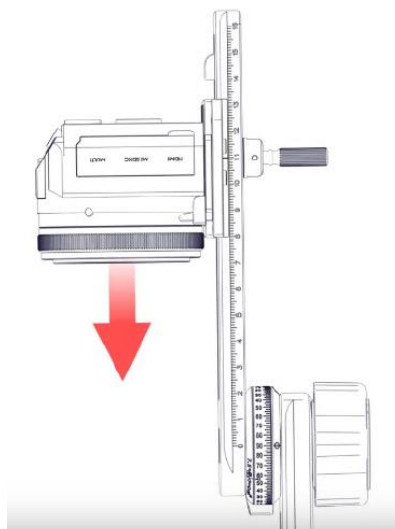
**10**

Reinstall the camera mounting plate and camera. Tighten the knob.



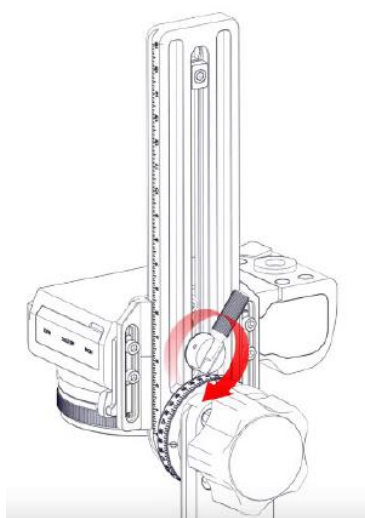
**11**

Reinstall the stop plate from the end of rail.



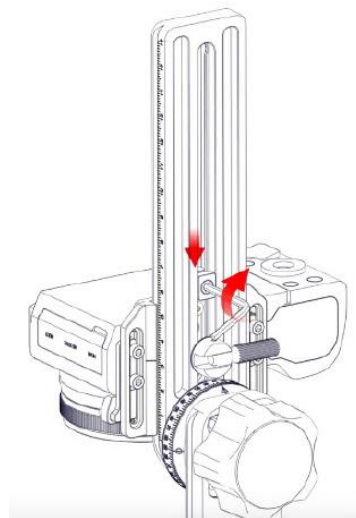
**12**

While holding the camera, loosen the knob half to one turn. Slide the camera to the NPP position.



**13**

Tighten the knob fully.  
Bend the handle of the knob to gain more leverage.



**14**

Loosen the screw slightly. Slide the stop plate against the camera mounting plate and tighten the screw.

# Finding the No-Parallax Point of a Lens

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Wiki definition of Entrance Pupil:



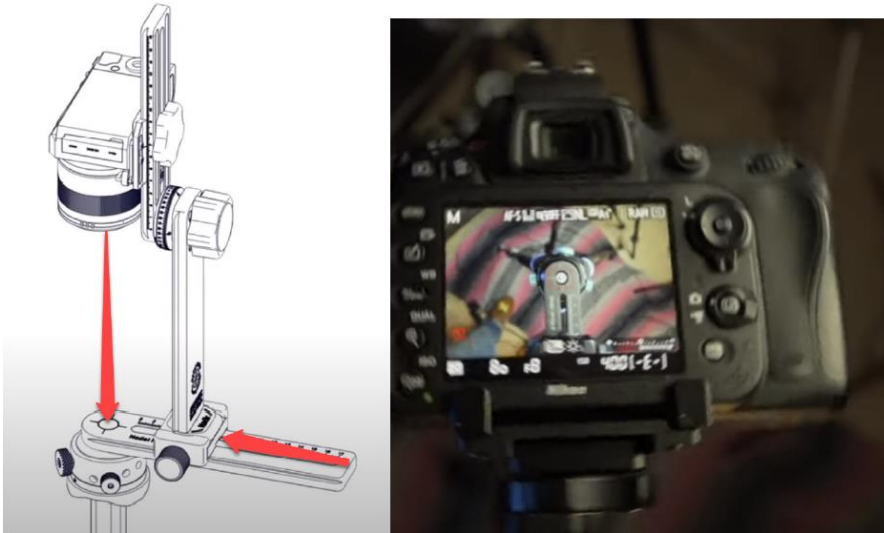
*"The geometric location of the entrance pupil is the vertex of the camera's angle of view and consequently its center of perspective, perspective point, viewpoint, projection center, or no-parallax point. This point is important in panoramic photography because the camera must be rotated around it to avoid parallax errors in the final, stitched panorama. Panoramic photographers often incorrectly refer to the entrance pupil as a nodal point, which is a different concept".*

Once you establish the lens and focal length you will be using, there are two positions to set up on your Nodal Ninja. The first is on the lower rail and the second on the upper rail.

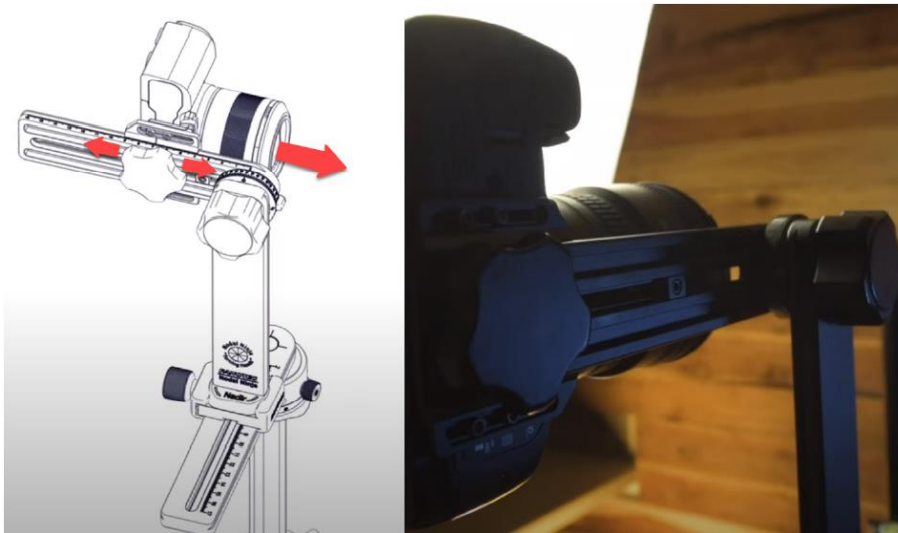
## Lower rail setting:

1. Position the camera/lens on the upper rail so that it is pointing downwards to the ground.
2. Loosen the vertical rail mounting knob (or Nadir Adapter knob) enough to slide the upper assembly so the lower rotator is positioned in the center of the viewfinder.
3. Tighten and set with lower rail stop.

**Note:** Once the lower rail setting is set, this will never change with the camera body regardless of the lens or focal lengths used.



## Upper rail setting:

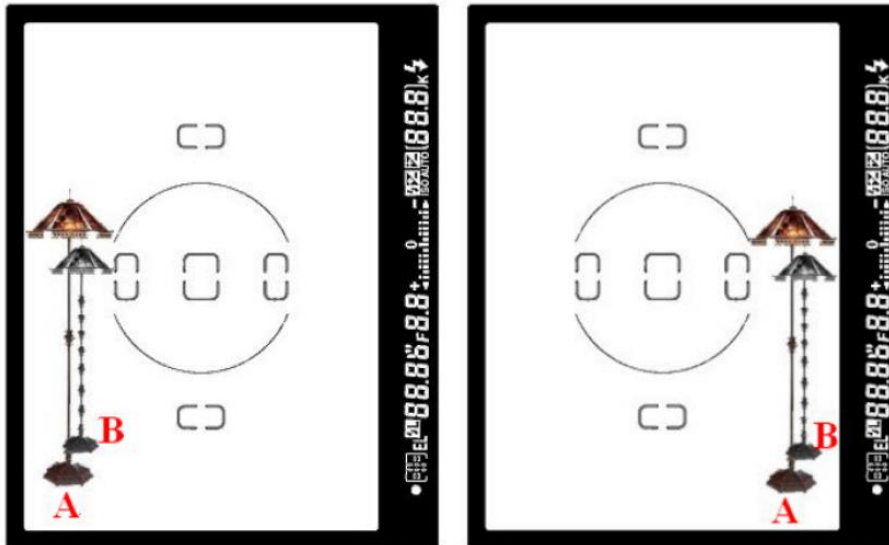


1. Loosen upper rotator knob and position camera/lens so that it points horizontally or parallel to the ground, then tighten.
2. Holding the camera, loosen the Camera Mounting Knob enough to allow the camera/lens to slide back and forth on the upper rail.
3. Place two objects with vertical reference lines in front of the camera lens – one about 3 ft (1m) and the other placed further back about 6ft (3m). Anything can be used for vertical referencing such as a door jam with a



window frame in the background, fence posts, etc. In this example, we will illustrate using 2 lamps. Lamp A (foreground) with a gold shade and lamp B (background) with a silver shade. They are slightly offset from each other to better illustrate, but can also be positioned one directly behind the other.

4. While looking in the viewfinder of the camera, rotate the camera horizontally so both lamps are placed to the left side of the frame as shown.
5. Then move the camera to the right so lamps are now on the right side of the frame. Watch the movement of both lamps as you rotate left, and again to the right. You will see an apparent movement of lamp B in the background to lamp A in the foreground. This is called parallax and the camera will need to be moved on the upper rail until this movement is no longer apparent.
6. Our objective is to move the camera/lens back and forth slightly on the upper rail until there is no movement of lamp B to lamp A. Once you find this sweet spot, tighten the Camera Mounting Knob and lock position using the upper rail stop. If using a different lens or shooting at different focal lengths, this process will need to be repeated on the upper rail. The lower rail setting will never change so long as you use the same camera body. Once learned, this is quick and easy to implement in the field.



# Abbreviations

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In this manual, you will see abbreviations being used as well as some popular commonly used nomenclature being shortened. Below is a list of some of the most commonly used abbreviations.

<b>_*</b>	Variable SKU options
<b>C1</b>	MECHA First Generation Controller
<b>D</b>	Number of Detent Options (followed by a number (e.g. 8, 10, 12))
<b>DSLR</b>	Digital Single Lens Reflex
<b>E1</b>	MECHA First Generation Automated Rotator
<b>E2</b>	MECHA Second Generation Automated Rotator
<b>GB</b>	Gigabyte
<b>III</b>	Third Generation
<b>kg/s</b>	Metric Kilogram/s
<b>lb/s</b>	Imperial Pound/s
<b>LR</b>	Lower Rotator
<b>M4/3</b>	Micro-Four-Thirds
<b>MFT</b>	Micro-Four-Thirds
<b>MK3</b>	Third Generation

<b>mm</b>	Millimeter
<b>NA</b>	Nadir Adapter
<b>NN</b>	Nodal Ninja
<b>NPP</b>	No-Parallax Point
<b>RD</b>	Advanced Rotator (ball bearings) with number of detents
<b>RD10</b>	Advanced Rotator (ball bearings) with 10 selectable detent options
<b>RM</b>	Rotator Mini
<b>SKU</b>	Internal Identification Number denoting specific packages and/or parts
<b>T-Adapter</b>	T Shaped Adapter
<b>V2</b>	Second Generation
<b>w/</b>	with

# Warranty

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As of Sept 1st, 2019 the NN6 carries a lifetime warranty.

- Warranty service includes parts and labor.
- A lifetime warranty is a warranty against “defects in materials and workmanship” which has no time limit in which the original purchaser may make a claim.
- As some consumable parts may wear through time or break from misuse WE DO NOT WARRANTY THAT A PRODUCT WILL PERFORM FOR THE LIFETIME OF THE BUYER.
- Warranties are non-transferable and require proof of purchase or original invoice issued to the original customer from an authorized dealer.
- Fanotec reserves the right to refuse warranty service if this information is not complete or has been removed or changed after the original purchase of the product by the consumer from the originating authorized dealer.
- Fanotec may repair or replace Fanotec products with new or reconditioned parts or products of equivalent to new performance and reliability. Fanotec may also replace products with equivalent models where the original has been discontinued or is no longer available.
- In the unlikely event, an item is recalled due to safety factors Fanotec will bear full responsibility to the consumer to replace it.
- Warranty service is available through any authorized Fanotec service center.
- Costs of secure transportation of the product to and from the Fanotec service center is the responsibility of the customer.
- Fanotec is not responsible for VAT, Customs fees, or other fees associated with transportation.

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For a full updated list of terms of warranty please visit

<https://www.fanotec.com/>

It is important to note that SKU numbers, configurations, and models may change as products evolve. Please source current configurations with your local authorized dealer.

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# Resources

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[https://wiki.panotools.org/Entrance\\_Pupil\\_Database](https://wiki.panotools.org/Entrance_Pupil_Database)

<https://forum.nodalninja.com>

<https://www.facebook.com/NodalNinja>

<https://www.youtube.com/user/NodalNinja>

Finding the NPP of a lens without a pano head:

- Google YouTube “[Nodal Ninja finding the No Parallax Point of a lens](#)”
- Finding NPP without a pano head  
[http://michel.thoby.free.fr/Banknotes\\_intro.html](http://michel.thoby.free.fr/Banknotes_intro.html)

<https://docsbay.net/how-to-take-a-perfect-nadir-image-for-spherical-panoramas-without-taking-the-camera-from-the-panohead>

<https://forum.nodalninja.com/forum/product-solutions/authorized-nodal-ninja-dealers>

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# What is New

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- **Version 1.3.1 – 2022.07.20:**
  - PDF with bookmarks.
- **Version 1.3 – 2022.07.15:**
  - Changes to the formatting of the manual.