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## Tripod Basics



A "good" tripod is a fundamental part of any photographer's kit, and is well worth its weight in gold - especially since tripods are getting lighter all the time. A quality tripod can provide you with the sharpest possible pictures from your expensive camera and lenses, and allow you get those shots you've only dreamed of - giving you time to think more carefully about composition. In fact it will probably improve your hit rate more than any other piece of equipment you use.

The old axiom "you get what you pay for" could not be truer than when it comes to tripods. You can definitely find cheaper products but mark my words, you will be sorry. A tripod from Manfrotto will last - in fact you may even will it to your children: I got my first Manfrotto tripod over 20 years ago and it's still going strong.

### Topics Covered:

- Why do I need a tripod?
- Introduction to the world of tripods
- Construction Materials
- Mounting the head to the tripod
- Basic movements

### Why do I Need a Tripod?

Telephoto lenses tend to be difficult to steady. Their long focal length magnifies any vibration caused by the camera shutter and mirror, wind, or by the photographer him/herself. Their slower maximum aperture also causes a frequent need for slower shutter speeds which exacerbates the problem even more. A good rule of thumb for deciding whether hand holding a telephoto lens will cause you problems is that a shutter speed of at least 1/ the focal length is required for a sharp picture. For example, if you are using a 500 mm. lens the minimum shutter speed you would normally need to use without a tripod would be 1/500 second. When using a shutter speed slower than this simple rule of thumb suggests, a tripod is in order. A good tripod will help steady your camera and ensure sharp pictures.

With a tripod you can get your camera in to places you couldn't go without it. Many of Manfrotto's tripods made by Manfrotto have the ability to let you place the camera anywhere from just inches off the ground to way above eye level. When you're in the studio, the tripod frees you from the camera, and allows you to concentrate on the lighting of your subjects knowing that the camera is both secure and in the right place.

When it comes to digital photography a tripod is a must, especially when using the lower end cameras which tend to show more noticeable signs of shutter lag. In general, many digital cameras need slower shutter speeds and are susceptible to blur, so the tripod in the studio and out in the field will give you much better results due to the shutter lag inherent in some digital cameras and the sharpness of all your images will improve if you apply the use of a tripod any time you can.

Figure 1

Figure 2



### Introduction to the World of Tripods

With so many great tripods made by Manfrotto to choose from, it's a buyer's paradise. Manfrotto are known for their superior quality at an affordable price and for offering a very broad range of styles, technical solutions, sizes and materials. If you use your equipment a lot you'll appreciate the extra edge of endurance and quality Manfrotto offers, and whether you're a hobbyist, a professional, a seasoned traveler or an extreme adventure-seeker, you'll find a model that suits you.

Manfrotto's price range is wide too, so you should have no problem finding a tripod that has the features you need and is within your budget. A low-end substitute

probably won't last, will probably be spindly and shaky and a top professional tripod like a Gitzo may be more than you need. Expect to pay about \$150 to \$250 for a good, medium-range tripod that will perform well for years.

As we mentioned, the tripod is an essential tool for any photographer. With the broad selection offered by Manfrotto there is a tripod for you weather.

### Choosing the right tripod

Almost the first thing you'll need to consider when choosing your tripod is the size and weight of your camera equipment: your new tripod must be capable of supporting it. Look at the tripod's stated load capacity to check this, and if you can, test your camera + lens combination on the tripod you think you need before purchasing to ensure it feels right. Although the lightness of a tripod itself is not related to how much weight it can carry (since this has more to do with the construction methods and materials used), some photographers – especially those who are studio bound prefer heavier tripods because their weight makes them inherently more solidly stuck to the ground. But if you travel or enjoy shooting nature photography, lightness and transportability may be critical factors in your choice. New technologies and construction materials have allowed Manfrotto to offer very sturdy tripods that are incredibly sturdy, yet light and very easily transported.

Typical construction materials include Carbon Fiber, Magnesium and Aluminum. The lightest tripods are made entirely of carbon fiber with magnesium castings, but surprisingly, the main advantage of carbon fiber in tripod manufacture is not its reduced weight, but its increased rigidity and strength along the leg's vertical axis. Of course, the fact that the overall weight of the tripod is reduced by 30% without sacrificing any strength is a huge plus. Aluminum is the most common material used in tripod construction, offering great support at a typically lower price. Manfrotto also make tripods that fall somewhere between the two, offering both weight-saving features using more common materials at a mid price range. At the other extreme of the Manfrotto range are the Pro Tripods made of larger diameter aluminum tubing and heavy-duty castings, typically used in the studio for medium and large format equipment like 4X5 and 8X10 view cameras that can weigh in excess of 20 pounds.

Figure 3 shows five examples of tripods, these are only a few of the many choices offered by Manfrotto.



Figure 3

### Don't Forget The Head.

The head you get for your tripod is just as important as the legs, unless you buy a kit the head is generally not included with your tripod, so you can pick the type and model that suits you best, and interchange heads for different needs if you wish. There are quite a few different models to choose from, each has their strong and weak points. There are basically two styles of heads used in still photography, the 3-way head and the Ball Head (plus a subcategory of ball heads first introduced by Manfrotto called "Grip Action" heads, where control is more ergonomic, like that of a joystick). Nature photographers and users of spotting scopes or long telephoto lenses may also opt for video heads for the extra counterbalance and adjustable friction controls they offer. The key points to remember when selecting a head are how smoothly it moves, how much weight it can safely support and whether it has a quick release plate. Make sure you purchase a head that is matched to the size and weight of the heaviest gear you plan on mounting on it. Manfrotto heads are almost all equipped with a quick release camera mounting device that make changing or replacing the camera a snap and secure the camera very well to the tripod.

### Extending and Locking the Tripod Legs

When you have arrived at you location or on the set and are ready to set up your tripod I feel it best to extend the legs before you spread them into position. By doing it in this way you will get the legs into roughly the same length much easier than trying to eyeball the leg length. To extend the legs un-lock the first section of the tripod and extend the leg to the desired position and secure the lock into the closed position (figures 4, 5, and 6).



Figure 6

Figure 4



Figure 5

Then press the locking tab back into the closed position (figure 6). Repeat these steps for the remaining legs.

Would be good to point out that "proper" way of opening tripods is top down, so that the thinnest leg section is the last to be used



Fine tuning the camera height can be done with the center column, once you have established the desired height Loosen the locking knob on the center column and lift the camera into position (figures 7 and 8).



Figure 7



Figure 8

With the camera in the position you want re-tighten the locking knob to secure the column into position (figure 9).

Bear in mind that the center column is the part of the tripod most subject to torsion and vibration - many professional photographers choose never to use it at all. Manfrotto's three-faceted tubing on many models helps cut twisting to a minimum but you should still use the center column as fine-tuning once the legs have already got you to the height you want.

Exceptions to this rule are when you use the column to swing the camera under the tripod for macro work or when using mirror-image large or medium format cameras, or when using the horizontal center column to get the camera out off-center away from the tripod legs, AS DESCRIBED BELOW



Figure 9

Many of the tripod models from Manfrotto have the ability position the center column in either a side position or in an inverted position. To perform this action you must remove the center column from the tripod and reposition it through the top yoke of the tripod. Each of the tripods series has a specific way to accomplish this action.



Figure 10

Here we see the center column in the side position, we could use this position to lower the camera closer to the floor or to get an over head camera position when we need to look straight down onto a subject (figure 10).

Here we see the center column in the inverted position, allowing us to get the camera right on the deck for that ultra low camera angle (figure 11).

Figure 11



**Mounting the head to the Tripod**

The basic procedure to attach a head to a tripod is the same for most of the products from Manfrotto. The head is mounted on the top of the center column of the tripod. New tripods are shipped with a rubber protection cap on the mounting screw. To install the head first remove the cap, then place the head over the center column lining up the screw with the threaded hole on the head (figures 12 and 13).



Figure 12



Figure 13

Be careful not to cross thread the stud, once you have it started spin the head until it is secure on the center column, just hand tight do not over tighten the head. To secure the head and the tripod together use a slot screwdriver to tighten the three set screws on the bottom of the mounting plate on the center column (figures 14 and 15).

Figure 14

Figure 15



**Basic Movements**

Each head requires different actions to change or adjust the position of the camera. Some all you need do is grip it to move the camera, then release it and it

locks into the new position (Grip Action Heads). Some require only one knob to release and secure the camera (Ball Heads). And some require adjusting each movement independently from each other (Three-Way Heads).

Figures 15 and 16 are examples of Grip Action Heads from Manfrotto.



Figure 16



Figure 17

Figures 18 and 19 are examples of Ball Heads from Manfrotto.

Figure 18



Figure 19



Figures 20 and 21 are examples of three-way heads from Manfrotto.



Figure 20



Figure 21

The 3-Way Head Adjustments

On the base of each of the 3-way heads you will find both a single knob and a level bubble. To level the head you must make micro adjustments to the tripod legs until the head is level. To rotate the head in a horizontal plane, parallel to the floor or the ground loosen the knob on the base of the head and spin the head into the desired position (figure 22 and 23).

Figure 22



Figure 23



Here we see a comparison of positions at the four points of the compass (figure 24).



Figure 24

To rotate the camera in a vertical plane loosen the large side knob move the head into the desired position and tighten the knob to secure the camera in the new position (figures 25, 26, and 27).



Figure 25



Figure 26

Figure 27





To tip the camera down toward the ground or up toward the sky loosen the back large knob move the head into position then tighten the knob to secure the head in the new spot (figure 28, 29, and 30).



Figure 28



Figure 29



Figure 30

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