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Get a Leg Up

Many years ago, the great Ernst Wildi, then with Victor Hasselblad AB, confirmed that a photo taken by a camera mounted on a tripod is **always** sharper than the same photo taken by the same camera when hand held. Always! How right he was.

Even with today's image stabilized cameras and lenses, a living human cannot be as a stable support as a tripod. A tripod, for example, does not have blood pulsing through it in waves. To get the clearest, sharpest photos possible, a tripod is not an option but a necessity. Tripods today are not, however, the behemoths of yesteryear. Let's look at some.

Tripods suitable for handheld small cameras started out made of wood or brass and were very heavy, up to about 20 pounds. The camera platforms atop them were also very heavy and frequently designed to hold a single model camera. While some of these are still available, they are infrequently used. As recently as 10 - 15 years ago, tripod stability was measured pretty much by the pound.

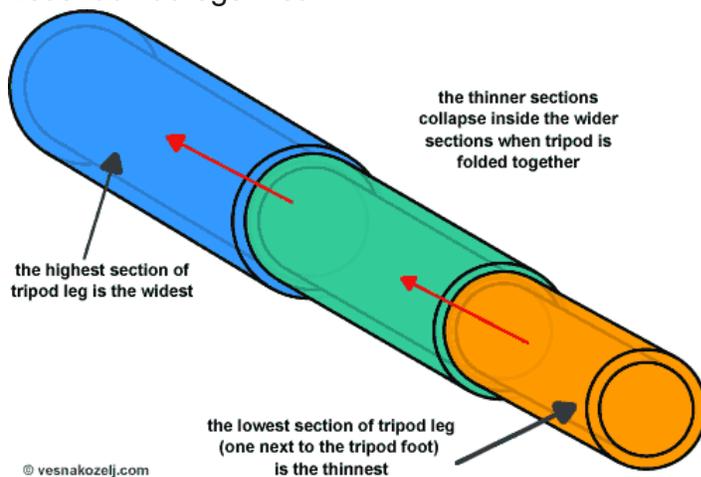
Tripods today are typically made from aluminum, plastic or a composite known as carbon fiber. Other than being used on a tabletop with a very small, lightweight camera, plastic tripods are pretty much toys. Some very good tripods use plastic parts for non weight bearing pieces such as knobs, handles, etc.

The most common material in tripod manufacture today is aluminum which has many strengths as well as some weaknesses. Aluminum is a very lightweight metal; it doesn't rust; it remains

usable over a wide temperature range; it is plentiful and it is inexpensive. On the other hand, it will stain skin and clothing unless it has been surface anodized. Its finish will pit over time and can bend and break more easily than heavier metals.

Carbon fiber is lighter, stronger, and more rigid than aluminum. It requires no maintenance and supports many times its weight. It is not, unfortunately, very inexpensive.

Most people think of a tripod as a complete tripod support. In reality, it is three legs connected at the top, with or without a column, as well as a head designed for a specific type and weight camera. Let's look at legs first.



Tripod legs are made of sections designed to telescope within one another allowing each leg to independently extend or collapse within itself. When a tripod is rated for a certain height, it is the height from the collar which connects the legs directly to the ground when each leg is fully extended. It may or may not include the height of the head.

Not all tripod legs are round, as shown above. The manufacturer may make them elliptical, rhomboid or any other shape. The diameter of the leg is very important - the greater the diameter, the more



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stable the tripod will be because there will be more surface area to absorb vibrations.

Sometimes the legs are attached to a central column, adding rigidity. Below are examples of independent legs and legs connected by struts.



model legs can be set to many more, including above the camera. The more varied the leg positions can be, the more uneven and confined the tripod's location can be. In addition, the legs can be spread to almost 90° from vertical so that the head is almost at ground level, as shown below.



Stability is also affected by how many sections comprise each leg. The tripod on the left is a 4 section leg; the other has 3 sections. The number of sections is a good news / bad news situation. The more sections - the smaller the collapsed size, the fewer sections - the sturdier the tripod. Tripods are commonly available from one to ten section legs. Obviously, a ten section leg isn't very stable.

The center column strut design is inherently the sturdiest construction but is also the least flexible. It works best with all legs equally extended on a level surface in a studio type situation. On uneven ground it is difficult to level such a tripod. The independent leg design is much more flexible. The illustration below shows that each leg can be set to a variety of angles without regard to the other legs. This leg can be set to 4 positions. Other

Where two legs sections meet, there is a "joint" which locks the legs in their current position. There are three common types of joints: twist lock, flip lock and push pin. The push pin type is the weakest, least sturdy lock type, and is only used in round legs smaller than 15mm in diameter.



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Flip lock legs are the fastest to lock into position and can be of varying quality. Avoid tripods



where the locks are secured by rivets, which are not repairable or adjustable. (A good tripod company will stock replacement parts for their leg locks regardless of the mechanism.) Twist lock legs



are the most secure type, but is also the slowest to loosen or tighten. This type of lock will break before it will loosen, and is easily repairable by replacing a nylon sleeve between legs. There is no appreciable weight difference between these preferred locking mechanisms.

The legs supply the support for the column and head, which match the tripod to the type of camera equipment being used.

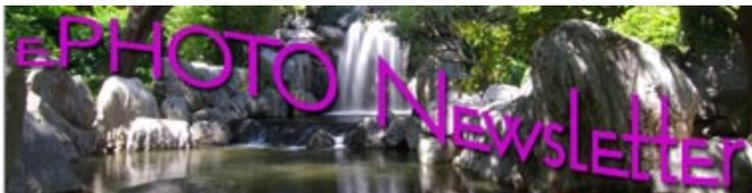
Heads Up

The head is the part of the tripod which attaches to the camera. Heads can be quickly and easily changed by the user on better tripods, while they are permanently attached to basic models. There are two types of heads designed for still cameras, the ball head and the pan head (a 3 way head)



These heads have movements along 3 axes:

- side to side
- up or down
- horizontal vs. vertical orientation



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Video heads have only 2 axes because there is no such thing as a vertical television. Because video is

Monopods are available 3 ways - (1) packaged as a separate unit, (2) embedded within or replacing a tripod's center column, or (3) part of a support system.



shot over a period of time, a video head needs more vibration dampening than still camera heads, especially during panning. These heads typically are liquid filled to absorb even the smallest unwanted movement

While any camera can be mounted on any head, avoid using a still camera head with a camcorder or a still camera on a video head.

Some heads, such as those pictured in the issue, offer quick release plates. These attach to, and remain on the cameras' tripod socket(s) and easily snap on or off the head. Some are pressure fitting, some are magnetic. Both work equally well.

The Three Legged Person

A tripod without 2 of its legs is called a monopod (or unipod). Stand it up and it falls right over. Hold on to it and combine it with your own 2 legs and you get a pseudo tripod - A monopod is not a substitute for a tripod, but is a big step in that direction. It is smaller, lighter and can also be used as a walking stick. Most monopods are either aluminum or carbon fiber, and better units come without a head - allowing the use of the user's tripod head.



An outstanding example of the third type is made by Trek-Tech, who has built an entire support system around a magnetic monopod system which can stand alone under many situations (<http://www.trek-tech.com/>).

This writer takes a tripod everywhere he goes. It is very small (10 can fit in a shirt pocket) and light (about 1 ounce) and is a great companion for a compact digital camera. Not only is it a necessity for the longer exposures of low light or night picture taking, but it allows its user to hold the camera steadily while wearing gloves! Its gooseneck legs are very flexible, so it can be used almost anywhere.





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An Exercise in Futility

One last word about tripods ...

... the reason to use a tripod is to get sharper pictures. Sharper pictures happen when there is no camera movement during the exposure. Touching the camera creates camera movement. **Do not**, therefore, touch the camera! Use a remote release of some kind. The least expensive types are a cable (either electronic or mechanical) or an infrared remote (like a TV remote, but much smaller). Many are available for under \$10.



If you already own a tripod and release but don't use it, don't you want better photos? If you don't own either or both, why not?

Snap Shots

April is a great month for flower photography, but beware the showers and breezes. One of the best times to shoot flowers outdoors is right after a rain-fall. The moisture on the plant will help saturate the colors, and a raindrop on a petal is always a good thing. The breezes will dry the blossom and have it move in the photo, so take the following steps to get great color and sharp details.

- Set your camera to a low numbered ISO (the lower the better)
- Get as close to the flower or flower bed as possible
- Use your flash - especially iwth compact cameras
- Bend your knees and get the camera down to the level of the flowers.
- Hold your breath when taking the photo.



See you next month!

MadisonPhotoPlus

40 Main St., Madison, NJ 07940

v. 973-966-2900; f. 973-377-1458

www.madisonphoto.com

*Eric, Jerry, Joy, Marie, Mario, Rob,
Sybil & Vincent*



the Photo Summit

383 Springfield Ave., Summit, NJ 07901

v. 908-273-7427; f. 908-277-0218

www.photosummit.com

Bret, John P., John T., Josh & Lynne.