Camera Basics

When creating the shots for your film it is important that the images are steady, whether they are moving images or static images. An unsteady image can be disturbing to the viewer and detract from the overall story. There is a wide variety of equipment available to assure that you will have steady shots. The general, umbrella term for this equipment is camera mounts. Camera mounts can include tripods, high hats, dollies, cranes, Steadicam and many others.

The most commonly used camera mounts will be a tripod along with a head attached to the tripod. A tripod is a three-legged camera support. There are generally two types of tripods most often used in the motion picture industry. A standard tripod is one that extends from about 3-feet to 7-feet in height. The baby tripod is one that extends from about 2-feet to 4-feet in height. For most of your shots, these will be all that you will need. The illustration below shows the Standard Tripod and Baby Tripod.

There are a number of slang terms often used to refer to tripods so you should become familiar with them as well. Two of the most common slang terms used in referring to the tripod are legs and sticks.

The head allows you to make smooth camera moves when following action in the scene. The head allows you to perform pans and tilts.

A pan is described as any horizontal movement of the head. For example if you filming an actor walking from left to right, you would pan the head from left to right in order to keep the actor within the frame.

A tilt is described as any vertical movement of the head. For example as an actor gets up from a chair and walks toward the camera, you would tilt up in order to keep him within the frame.
The most common head is the **fluid head**, which is the type of head that you will be using during your first two years. The fluid head uses a type of hydraulic fluid that is forced from chamber to chamber in the head. The fluid helps to create the tension or firmness of the pan and tilt controls.

A more advanced and professional type of head is called a **gear head** and is used on many of the productions. The pan and tilt of this head are controlled by wheels that are attached to gears in the head. It allows for very fine movements of the pan and tilt which is often not attainable with a fluid head. Below are illustrations of a fluid head and a gear head.

![FLUID HEAD](image1.png) ![GEAR HEAD](image2.png)

**Attaching the camera**

As stated above, the head is attached to the tripod and allows you to pan and tile the camera. The camera is mounted to the head through use of a **quick release plate** (sometimes referred to as camera base plate). The quick release plate is the detachable part of the head onto which the actual camera or camera mounting plate is attached. The plate is then attached to the head. At the name implies it allows for quick removal and attachment of the camera during shooting.

It is very important, when attaching the camera to the head to be absolutely certain that the camera is properly attached and secure before walking away from it. If you don’t take the extra time to double check you may end up with your camera on the floor in many pieces.

**Leveling the Head**

It is equally important to be sure that the camera is level on the tripod head. An unlevel camera will result in shots that don’t look right when viewed. Of course if you want the shot to be a little off level that is your artistic choice, but for most filming you will want a level camera. Most tripod heads contain some type of bubble level centered inside a circle. When the bubble is exactly in the center, the head is level.

Leveling the head should be the first thing you do once you have determined your camera position for each setup. Once the camera is moved to a new position, the level must be checked. Be sure that the camera is mounted straight on the quick release plate. If the camera is not straight, leveling the head will not help the camera look level with the horizon.
Camera Safety Checklist

- Never leave the camera unattended without being completely sure that the tripod head tilt mechanism is locked. Failure to lock the tilt mechanism could result in the camera moving on the head and tipping over due to the weight of the camera.

- You should also be sure that all of the tripod legs are securely locked and that the head is secure on the tripod.

- When leaving the camera unattended, always line the lens up with one of the tripod legs. If the camera begins to tip over (from failure to lock the tilt), the tripod leg should support the weight of the camera and prevent it from tipping over.

KEY TERMS FROM VOICE & VISION

Static Shot  Handheld Camera
Fixed Frame  Tripod
Camera Move  Head
Pivot Camera Moves  Fluid Head
Static Camera Moves  Friction Head
Stationary Camera Moves  Pan and Tilt Locks
Pan  Pan and Tilt Dampers
Tilt  Pan Handle
Zooming In  Head Mount
Zooming Out  Camera Mounting Plate
Tracking Shot  Standard Legs
Dolly Shot  Baby Legs
Booming  Spreader
Crane Shot  High Hat
          Dolly
          Steadicam