

WHEN TO USE A STEADICAM, GIMBAL OR HANDHELD RIG

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When you want to move the camera, an operator basically has four choices: Put it on a shoulder, carry it like a briefcase, put it on a Steadicam, or put it on a 3-axis gimbal. Let's leave briefcase-style out because its limitations are pretty much self-evident. Also, I'm not considering operating it like a photography camera (even though with internal stabilization this is not a non-viable option).

To a newcomer, all three systems pretty much seem to do the same thing, so when do you pick which? That's what this guide is going to help you answer.

I have 15 years of filmmaking experience in all genres - feature films and short films, corporate video, commercials and documentaries. Trust me when I say: The wrong rig won't get you the shot. A different rig is a *different shot*.

Range of motion

Do all three rigs give you the same range of motion?
Not really. Let's see:

	Steadicam	3-axis Gimbal	Shoulder-mount
Vertical	1	1	1
Rotate Sideways	2	2	2
Rotate Forwards or Backwards	2	2	2
Walking forward	2	1	1
Walking Backward	2	0	0
Spin 360°	2	2	2
Low mode	2	1	1

What I've done is basically score from 0 to 2:

- 0 means it's dangerous – though with another person still doable
- 1 means it's doable, but not desirable
- 2 means it's perfect

What you'll notice is that the Steadicam actually scores the best overall, and has some features that are really important:

1. You can walk backwards with it (actually you walk forwards but you can do a “backwards” shot)
2. You can take it low to the ground
3. You get the most stable motion walking forwards

This last bit is the most used. With a shoulder rig, obviously, your walk and motion reflects in the shot. You can't even hold the camera steady for long. With the gimbal the major disadvantage (at least for now) is the vertical walking motion is translated to the gimbal and is very obvious in the footage. There's no gimbal that can eliminate it (as of 2017).

Also, note that none of the systems are good at moving the camera vertically. That's what jibs and dollies are for.

What all three systems allow you to do is follow the action, so the audience feels they are part of the drama unfolding in front of them.

However, the table is not the last word. It would be wrong to assume the shoulder-mounted rig is the worst solution or whatever, because there are other important factors to consider as well.



Advantages of the Shoulder Rig

- It is the safest for your body and back over the long term, but *only if* the rig is perfectly balanced.
- You can have one eye on the viewfinder to focus on the shot.
- You can move accessories around the rig without needing to rebalance all the time (within reason!).

- You have one hand free to focus, change the iris or zoom.
- Maintenance is easy. Once it's setup you can pack it as-is and shoot on the go.
- With a top handle you can immediately move to briefcase mode.
- With a tripod plate you can easily move it on to a tripod.
- The parts of the rig are not expensive to replace. If something fails you can still keep shooting most times.
- There's no learning curve. Put it on your shoulder and start shooting!



Advantages and disadvantages of the 3-axis gimbal

Advantages

- Except for the vertical bump while walking, it can eliminate pretty much any movement.
- Over time, technology is bound to improve, and performance will improve as well. However, no matter how well it improves, it won't have the real-time performance of the Steadicam or shoulder rig.
- It's easy to operate. Once the gimbals are balanced and setup, even absolute newcomers can get steady shots.
- You can fix the gimbal to booms, jibs and cranes, and even drones.
- You can move a gimbal from platform to platform to achieve complex shots not possible otherwise.

Disadvantages

- If the electronics fail, the 3-axis gimbal is totally useless.

- The vertical bump while walking is one major reason it's not completely replaced the Steadicam.
- Designs are changing all the time, so a few years from now you'll need to buy a completely new system and parts might not be interchangeable.
- Setup and balancing is often a pain. You need an app to setup some gimbals, and it's just too complex for newcomers.
- You can't overload the gimbal at all.
- You can't have odd-shaped cameras and accessories without having major balancing issues.
- You need batteries!
- You can't operate it for longer periods and it's really bad for your back.



Advantages and disadvantages of the Steadicam

Advantages

- It has the most stable movement possible, once it's balanced correctly.
- It is fully manual, no batteries necessary.
- Parts are easy to get since systems are mature. It's been around for a long time and has proven its worth over countless productions.

- Some parts can be fixed yourself in the field, and you can still make something work (within reason).

Disadvantages

- It's hard to learn. It takes a few days just to get going, and weeks and months of practice to become proficient.
- It's not cheap!

The killer features

Look for the killer features of each system and you'll know when to pick which:

System	Killer feature
Steadicam	Most stable, totally manual and has proven its worth.
3-axis Gimbal	Easy to learn and operate and you can attach it to jibs, cranes and boom arms, etc. You can achieve complex shots not possible otherwise.
Shoulder-rig	You can use the viewfinder and a free hand to focus, change the aperture or zoom. It's fast and easy to take it low to the ground or put it on a tripod.

Once you know which killer feature you need, you can pick the right system for the job. Then, you just live with the disadvantages and find workarounds. That's why all three systems are used even today. They do things the others can't.

But whatever you do, don't assume they are interchangeable. There are some small overlaps, but overall it's almost always a different shot.

That's it! I hope this guide has helped you understand the differences between a Steadicam, gimbal and shoulder rig. If you found this useful, please consider supporting Wolfcrow by purchasing through these links (we get a commission and it won't cost you extra):

- Steadicam ([Amazon](#), [B&H](#))
- 3-axis Gimbal ([Amazon](#), [B&H](#))
- Shoulder Rigs ([Amazon](#), [B&H](#))

If you still need help, please feel free to send me an email and I'll be happy to help if I can.

Now go film something!