

# VFS

## CAMERA

### TRICKS AND TRAPS

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**Vertical Formation Skydiving (VFS)** is a new and strongly emerging discipline, which combines the body-flight skills of freeflying and the mental skills of formation skydiving. In the past, very few skydivers have had the ability to take part in this discipline because it takes a certain level of proficiency of flight, and a complex understanding of formations. Today wind tunnels are springing up all over the globe, assisting skydivers in their quest for awesomeness.

Just as a traditional 4-way team that turns points on the horizontal axis, a VFS team has an equal amount of team members and a slot system, designed to help the team engineer their jumps. In this article we are going to take a closer look at the camera flyer. Even though there may be some similarities in the responsibilities between camera flyers on the horizontal and vertical axis, with the addition of a greater fall rate speed and added dimensions of the formations, filming VFS is probably one of the most difficult disciplines to shoot. Here we check out some tricks and traps of this fun and challenging position.





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### JOB DESCRIPTION

The videographer's job on a formation team is very important. They present a direct link between the team's performance and the judges who score the team's performance. The judges are looking for proper grip demonstration, sequence, and placement. Each completed grip formation equals one point. In order for the team to receive all the points they have accumulated on their jump, the videographer has to record all the grips to make them count. The clearer and easier the grips are to see in the video, the better it will be for the judges. The camera must be at the proper distance, angle and steadiness throughout the entire jump to accomplish this.

Consider formation camera flying like the board gamer operation where you are not allowed to touch the sides. If a grip touches the edge of the frame, or worse, leaves the view of the camera, the team will not receive a score for that point.

I would highly recommend filming some traditional 4-way before immediately jumping into VFS, just to become familiar with sight pictures, framing, and grip anticipation.

### GETTING STARTED

Before you can strap on a camera helmet and follow a VFS team, you must ensure that your flying skills are up to par. Participating on freely and VFS jumps, and spending time in a wind tunnel while receiving the proper coaching can accomplish this. You must learn to fly on your head relative to a group and remain on level. On level means that your head is on the same plane as the rest of the team (you are not floating on the group looking down, or low looking up) Filming VFS is best done on your head. The time it takes to transition to your feet may cost the team valuable points, because during the transition the video may become blurry or you may miss a grip. Exit on your head and remain there until break off. Another good reason to remain on your head is that the picture will most likely be more steady. It is easier to fly without moving or shaking your head in head down than head up.





# GEAR

## Rig

Since you are participating in a freefly jump, you will need a freefly friendly rig. Meaning a rig that has adequate riser, bridal, and pin protection from the increased freefall speeds. You also want to make sure that before every exit you double-check your pilot chute. Since the camera person is flying below the formation at great speeds, a premature deployment would not only cause severe injury to yourself, but most likely your teammates since they are in the direct path of your oncoming main parachute. You can avoid this scenario by packing yourself a slightly “hard pull” – folding the pilot chute in such a way that it takes greater force to pull out of the BOC, and more importantly, so that no fabric is sticking out of the BOC before exit that could work its way out on a higher speed jump.

## Suit

Used by traditional 4-way videographers, a camera jacket allows the camera flyer to make drastic changes to their fall rate. In VFS camera flyer must also have the ability to change their levels quickly. This can be accomplished by having additional drag on the legs (baggier suit). Also additional pockets for extra batteries, memory cards, and cleaning cloth are a must. Wing jackets are not recommended. A regular freefly suit, but more drag from the knee down should do the trick. If you are big and struggle with slower fall rates at all, add more drag to your arms as well.

## Cameras and Lenses

Even though Go Pro's are extremely effective, they do not allow for instant playback, which a team may need for back-to-back jumps, and sighting this camera can also prove to be very difficult. The lack of being able to change lenses for different framing possibilities also makes it less desirable. However, it may still prove to be a great back up camera, since it does have a wider angle of view.

Your distance from the team will vary depending on what type of lens you use. A great lens to start with would be a .5. The focal length of this lens allows you to stay far enough away from the team as not to interrupt their jump, say approximately 15 – 20 feet. Once you gain more skill and are comfortable flying closer to the group, you can advance to a .3, which requires you to be within 15 feet of the team. If you fly outside of this range, the team will be very small on screen and the grips will be impossible to see. If you fly much closer than this you are more than likely going increasingly burble the team and distract them.

## Helmet and Mounts

There are many choices when it comes to camera helmets. With cameras becoming smaller every day, this even opens the possibility of using helmets that were not originally designed to carry cameras, such as full-face helmets (which are great to have if you accidentally get kicked in the face on exit).

As you start to steepen your angle on the team, you will notice that your head position can become somewhat awkward. Rather than putting excess stress on your neck you can tilt your camera down slightly to compensate. If you are using a side-mounted camera this can be achieved by simply rotating your bracket down a couple of degrees. If however you are top mounting your cameras, you will want to create a custom made “wedge”. As of right now, there are no wedges for sale. These can be home made out of metal, fiberglass, or even wood. Be careful here. It is easy to go overboard with the angle of the wedge. Even though you may experience some degree of neck strain flying a lot of jumps with your chin to your chest, you don't want your wedge too tall. If the wedge is so steep that your head is straight and the camera is pointing at your feet, you will not be able to look at the formation comfortably.

## Eye Wear

As you become more proficient and start to fly below the formation, you will probably find that no matter where you go, the sun will be shining in your eyes. Make sure to bring eyewear that not only protects you from the wind, but also from the harmful rays of the sun. Invest in a good pair of sunglasses, and if you are flying a full-face helmet perhaps consider getting a tinted visor.

In addition you will also need a ring sight. A concentric ring sight has the advantage of emitting a glow when looking directly into the sun or when experiencing glare. This glow will allow you to continue to keep the team centered in frame.







## STEP ONE

### Relative Positioning

Many have tried to immediately emulate VFS camera flyers that have been practicing their craft for thousands of jumps. Being able to fly underneath a formation is a skill that will come with time. If a videographer is not able to fly relative to or on level with a group, going underneath can be disastrous. Even though you are on level, it is still possible to view many points and still receive a scoring round. Your first goal should be to fly "still". There should be no excessive movement such as carving, level changes, or driving back and forth. By doing this, you will be able to de-brief your video footage later and make adjustments to your framing on later jumps. Learning these skill sets may take an entire season to learn.

A word of caution: If you are not able to perform the above, do not attempt to proceed to step two.



## STEP TWO

### Getting Steep and other Tricks

In order to start flying below the formation, inch your way down one jump at a time, becoming steep and keeping a consistent full framed shot. Given the awkward head position it is easy to cork or even drive into the formation on accident. Take your time! Next you will want to become aware of the formations individual grips. If a single grip leaves the frame, the team does not get awarded said point. For the most part you will find that staying behind the point flyer of the formation will prove to be most beneficial. The point flyer remains on their head for the majority of the time and therefore it is easier to look inside the formation over the point flyers head (well its actually under but feels like over). Certain formations have different vantage points and you will discover these with your team while you engineer the jumps. By participating in every dirt dive, walk through, and mock up exit with your team you will notice patterns emerge and learn to anticipate where the next formation is going to build. Also, by doing a little VFS yourself, you can educate yourself on how some of the formations fly. By visualizing the formation, being able to film the jump from the best vantage point becomes natural. The more understanding a videographer has of the formations, the easier it is to step up your anticipation to where it is you need to be.

### EXITS

In most cases a front float exit will prove to be the best way to capture all the grips in frame as the team exits. Be aware that by exiting from the front float position you will already be slightly low on the formation as you leave the plane. Guard your altitude (fall slow) as you travel through

the hill and stay on level. However, since VFS is a fairly new discipline, don't be afraid to play with other exits, such as jumping from the camera step, from within the plane, or even being part of the formation for the first point. There are no set rules for the camera flyers exit, as long as all the grips are visible.

### BREAK-OFF

In order to avoid a collision with the camera flyer, the inside flyers of the group should do a 180 degree turn to check the airspace behind them before tracking off on their backs, then barrel rolling or flipping to their bellies before they pull. Simply peeling out on your belly could cause a collision if the camera flyer happened to be more on level at that moment. As the camera flyer, you can speed up your fall rate a bit and increase your distance below the team just prior to breakoff to ensure that your teammates have space to leave. Once they have done so, take the center position by transitioning to your back or sit and then your belly. Another fun option is a planned track-off with one of the inside flyers as a "tracking buddy" then staging pull times.

VFS is a young and popular discipline that is still going through some growing pains. One being that there is a need to create more formations for a larger dive pool. As teams experiment with new ways to engineer their dives, the camera flyer plays an important role in documenting their progress as well as offering judgeable video in competition. Even though the videographer does not take grips, their job is equally important and should never be taken for granted.

## ABOUT THE AUTHORS

Niklas Daniel ([www.AxisFlightSchool.com](http://www.AxisFlightSchool.com)) and Sara Curtis ([www.AZArsenal.com](http://www.AZArsenal.com)) are professional skydivers with a background in coaching and competing at the world level. They are teammates on Arizona Drive as inside flyers and can be found at Skydive Arizona year round.

