

OUT OUT

by Niklas Daniel/AXIS Flight School

OF SIGHT, OF FRAME: USING A RING SIGHT

photos and illustrations by Niklas Daniel

Skydivers who use cameras typically mount their equipment to their helmets in order to keep their hands clear to maneuver in freefall and operate their parachute systems. Looking through the camera's viewfinder to aim and center the shot is not an option, so jumpers need to implement alternatives. Enter the ring sight.

The popularity of the ring sight—a great tool in a photographer's arsenal—appears to be fading due to the proliferation of small action cameras over the past decade. With their small size, light weight and user-friendly settings, most jumpers bring action cameras along for the ride as opposed to dedicating time to becoming skilled camera flyers. This means that the overall quality of photography is declining, because small action cameras are limited in their photo-taking capabilities when compared to DSLR (digital single-lens reflex) or the new mirrorless cameras.

Most action cameras have a wide viewing angle, so jumpers do not have to be as accurate when they aim. This works great at close distances, so most jumpers simply mark their visors or goggles with a piece of tape to approximate the center of the camera's aim. This is the shotgun method: Aim in the general direction, and as long as you are close enough, you are bound to hit something.



Wide-lens shot (shotgun method)

APPLICATIONS

When shooting at longer distances or with greater magnification, the shotgun method is not as reliable. Longer focal lengths result in narrower viewing angles, so you will need a much more precise way of aiming to get the shot. The ring sight—a piece of optical equipment that mounts to a camera flyer's helmet—helps align a jumper's line of sight with the camera's viewing angle. It is generally the last piece of equipment a photographer adds to a helmet, and it adds a layer of complexity to every jump. However, a proper sight is also more reliable than a dot on a pair of goggles. This is because the goggles are unlikely to rest over the jumper's eyes in the exact same position every time.



Mounted ringsight

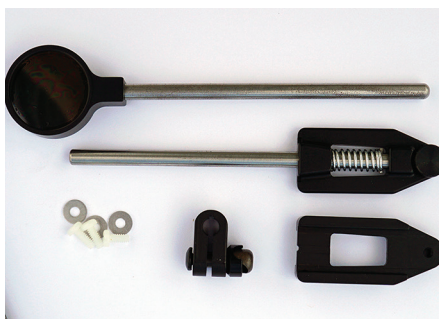
Sights come in many different styles, such as concentric ring and crosshair. One is not inherently better than another; it just depends on your preference. A ring sight does not offer magnification like a rifle's scope, but it will provide a more precise location for where your camera is aiming (the camera's point of impact). Being far away from a subject and shooting it with a long lens gives the photo a totally different feel from a photo shot with a wide-angle lens. The effects can be dramatic: You can make the ground look really close to your subject, or you can highlight a particular piece of equipment or action. So the use of a long lens can contribute to artistic expression, but it also has utility when being farther away is preferable, such as when you want to avoid distracting a team during competition, get more detailed shots when filming a big-way or simply increase your safety margin by being farther away from the action.



View through a concentric-circle sight

COMPLEXITY

Professionals and very current amateurs (for example, jumpers who work filming students or competitors who fly with teams) may want to use ring sights to improve their photography, but they are not for everyone. The sight adds an element of risk: They provide significant snag points for lines and risers and also negatively affect jumpers' fields of view. To reduce the risks, jumpers should consider using plastic screws during the assembly process (so the ring sight is more likely to break free of the helmet during an entanglement) and using an articulated sight that allows the user to remove it from view when desired. Jumpers should also consider mounting the ring sight over the eye (usually the left eye) that is farthest away from the deployment hand.



Ring-sight components

CALIBRATION AND USE

To calibrate or zero in your camera helmet, start by putting your helmet on as you would before a jump, fully tightened. Make sure to mount the ring sight on its pole sturdily enough so that it does not fall off

but malleably enough to make adjustments. Pick a target—it needs to be at the distance you wish to shoot in the air—and have a friend look through your camera's viewfinder. As you center the ring sight on the target, your friend should keep your head still and ensure that the target remains in the middle of the frame. For finer accuracy, you can zoom your camera in on your practice target, but the actual distance at which you have fixed your ring sight will be your working distance (your dead-on point of aim). Continue to tighten the screw of the ring sight slowly until it's tight. With the ring sight now in position, take some test photos of your surroundings at the focal length you desire. Check the results and repeat the process above if necessary. While reviewing your footage in playback mode, use the zoom feature to see how close to center your aim is.



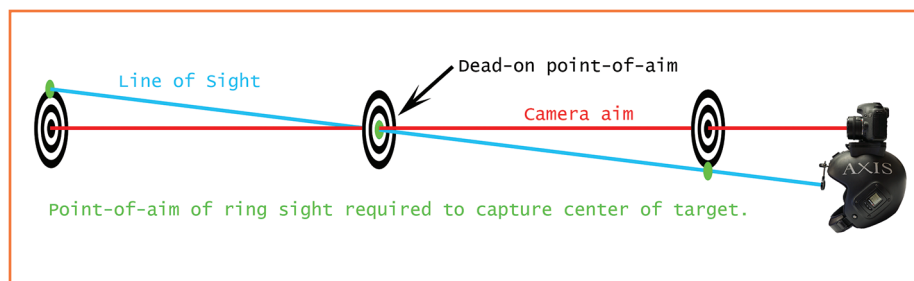
Playback zoom

PRO TIP

One aspect of zeroing in your helmet is to factor in the distance from which you will be shooting your subject. No matter how close your camera lens is to your eye, if you are at a distance other than your zeroed distance, the angle between the camera's aim and your line of sight will deviate. For top-mounted setups, this error will generally be up and down, whereas for side-mounted setups, it will be side to side. To compensate, you can use a technique called gap shooting. This is when you intentionally aim away from dead center to compensate for the misalignment of the sight and camera. The gap you create will vary in size and location relative to the target based on your distance from it.

For a top-mounted setup, if you fly closer to your target, you will have to aim your ring-sight's center below the target and vice versa when you are farther away. You'll learn these distances and angle changes over time with lots of practice until they become almost automatic.

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The example images show how the ring sight's aim needs to change with distance. The top-mounted camera helmet is calibrated for a distance of 20 feet using a 50mm lens. Making the appropriate adjustments to the sight (creating a gap between the crosshairs and bull's eye) centers the camera's shot.

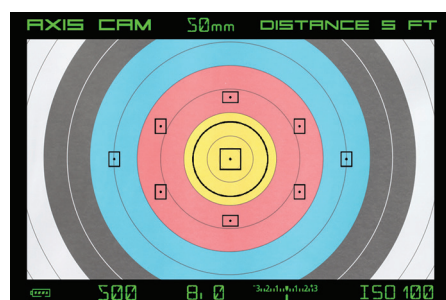
To make the adjustment, the camera flyer uses triangulation (balancing angles and distance). In the examples, the dead-on point of aim is 20 feet. But as the camera moves away from the calibrated distance, a gap occurs between line of sight and line of aim. At five feet, the camera flyer aims the ring sight about six inches below the bull's eye to keep the camera locked on the center of the target, but at 30 feet the flyer aims roughly six inches above the bull's eye.

It is not the gear, but the person behind the lens that makes a shot happen. No matter how great the shooting capabilities and features of a camera, if the shot is not properly framed, the jumper may as well just leave the camera on the ground. Improving your individual flying skills in freefall and under canopy will enhance your shooting effectiveness. No matter what discipline you choose to record, to become the best camera flyer you can be you must be able to replicate and maintain the exact distance to your target that your cameras are zeroed in for. To judge distance more accurately, take note of how much space the target occupies inside the ring sight, become familiar with the distance by replicating that same sight picture in the air and compensate with the gap-shooting method if necessary.

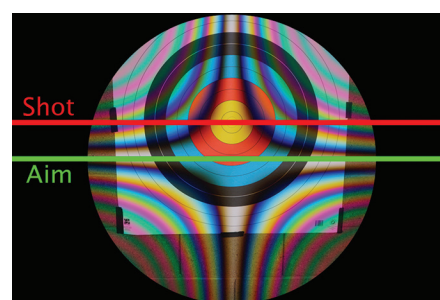


ABOUT THE AUTHOR

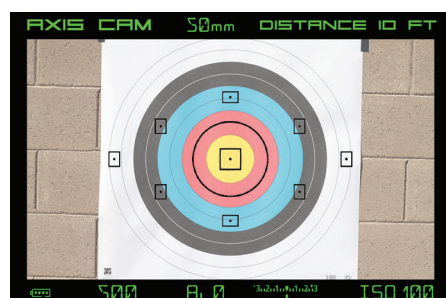
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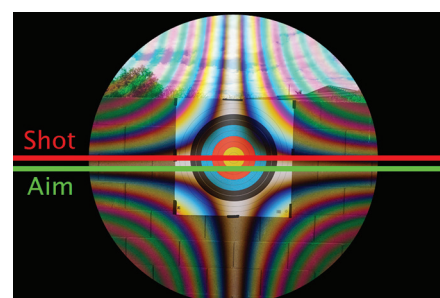
Five feet



Five-foot aim



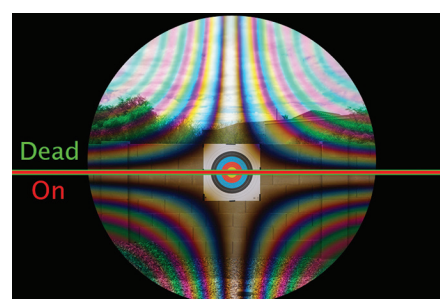
10 feet



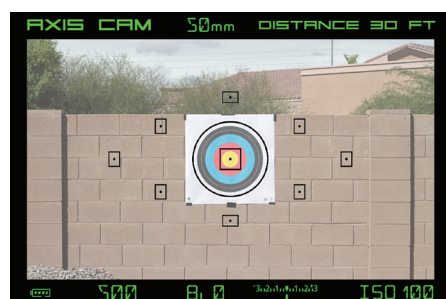
10-foot aim



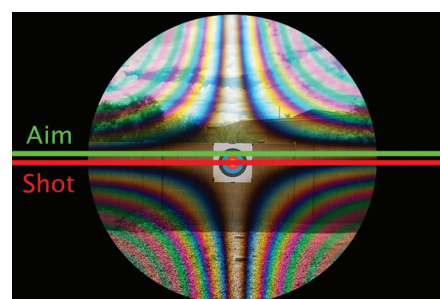
20 feet



20-foot aim (dead on)



30 feet



30-foot aim