

Kite Aerial Photography Kit Instructions

Set up Area

Safety first: Give everyone gloves to wear. The kite line will cut you.

Look around for potential obstacles to kite flying. Make sure the area is large enough to fly the kite and avoid power lines, trees, or other tall objects.

Use the 100' tape measure to place orange cones 25' apart across 100'.
(The cones will make a natural scale for your photos regardless of the height of the kite.)

Flying the Kite

Select the kite size based on wind speed. Each kit has 3 kite sizes. Remember, the more wind the smaller the kite.

As wind speed increases you will have to put a larger tail on the kite. If there is very little wind the kite may fly without a tail, high winds will require a larger kite tail. Experience is the only thing that will help with this process. If the kite is turning sideways and bouncing in the wind a larger tail will help stabilize it.

Generally:

- Largest Kite 3-8 mph
- Medium Kite 7-12mph
- Small kite over 10 mph

Inside the kit are three different sized spools of kite string. The small spool on the hoop goes with the smallest kite, medium size for the medium kite and the large spool for the large kit. Each spool has a different test weight for the line and it is important you do not overstress you line by using a kite that is too big for the test weight.

- Small Spool 90lb test weight on hoop winder
- Med. Spool 150lb test weight on a small winder with 2 handles
- Large Spool 200lb test weight on the large winder with adjustable handles

After assembling your kite, tail and line fly the kite up to about 100'. The kite line has orange marks every 50'. It may be best to fly two of the kites and determine which of the kites appears steady and is not at risk of crashing.

The KAP Rig and Camera

The KAP rig is the device used to hang the camera from the kite line.

Using the Camera bottom screw attached the camera to the rig. Make sure the lens side of the camera is pointing the same direction as the white arrow on the bottom of the rig.

Adjust the rig to the picture orientation you want to take. If you want landscape style set the camera on a 45 degree angle. If you want pictures that are directly overhead/straight down, use the wing nuts on the sides of the rig to adjust the camera orientation.

Turn the camera on. On the back of the camera there is a circle of buttons. Push the button with the lightening bolt until "Flash On" appears on the screen. Now, push the OK button in the center of the circle.

You have turned this on so you will know if the camera is taking pictures once it is flying. The flashing light will indicate if the camera is working.

The top button on the circle of button sets the camera to automatically take pictures. Push the top button to give you a line of options across the top of the screen. Push the button on the right until the last option is highlighted. It is the option just past the "3s". Now, push the OK button in the center of the circle.

Next, you will find a small yellow device, hanging from the camera rig, with Velcro attached to one side of it. This is referred to as the peanut. Use the Velcro to attach the peanut to the front of the camera. The peanut should be oriented so the clear point is pointing toward the top of the camera.

Turn on the camera rig. There is a small switch on the battery box attached to the frame of the rig. About 30 seconds after you turn this on, the camera should flash, take a picture and turn 30 degrees. If it doesn't take a picture and turn; check the camera batteries, the camera settings and the peanut location.

If you want to take pictures without the camera turning, look for the wires coming out of the servo on top of the rig. These wires lead to the peanut. Unhook these wires from the peanut and the rig will stop turning. However, if you unhook the wrong wires the camera will not take pictures. Check the rig status by waiting 30 seconds and watch for the camera to take picture without turning.

Hanging the Camera

Use the line clips to attach the rig to the string. Make sure the camera rig is self-leveling and the line is not tangled up. This will help insure level pictures.

To help keep the rig steady place the line clips about 3-4 feet apart. Pull on the clip to make sure they will not slide on the line and they are securely attached to the kite line.

Watch the rig and make sure the camera is taking pictures and the rig is turning. Check your camera orientation. Will the camera take picture the desired direction?

Once you are satisfied with the rig and positive it is secure to the line, let out more kite string and allow the camera rig to fly away taking pictures.

Taking Aerial Pictures

The camera rig should be automatically taking photos for you, this will allow you to focus on flying the kite.

Look at the things you want to take aerial photos of and walk the kite around to take the desired pictures. The camera will take 200 pictures before the battery dies. Take your time and line up what you need.

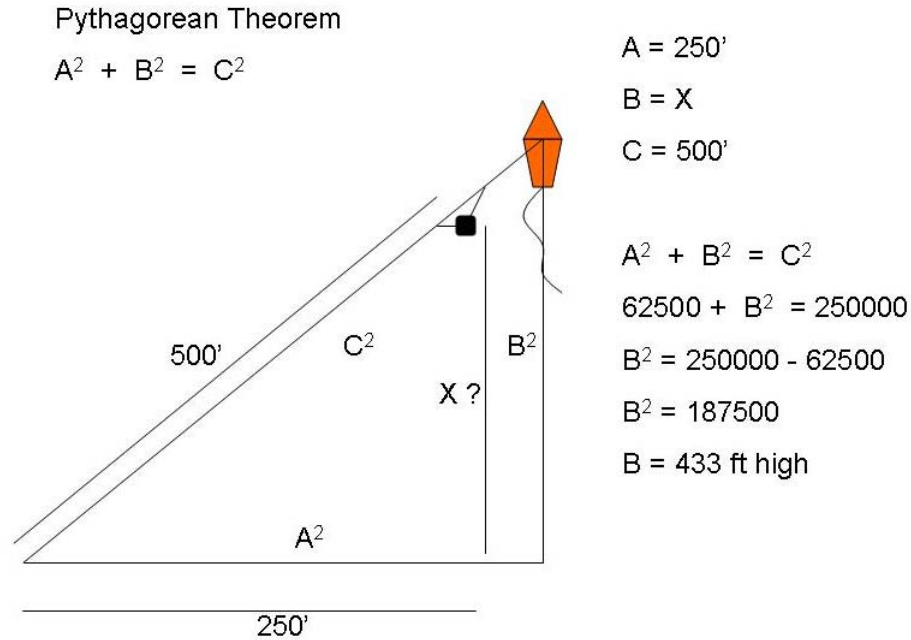
Bringing the Kite Down

Find the large pink carabineer in the kite kit, clip it on the line and walk the kite down to the ground. Once the kite is down, unhook the camera rig from the string. Walking the kite all the way down will make it easier to unhook the rig and wind the kite line.

Don't wind the line while the kite is in the air. This will put undue stress on the kite line and cause it to lose its test weight.

Remember the line is marked with every 50 feet with orange paint. Count the orange marks as you wind the string up to determine the length of line between the winder and the camera.

Determining Kite Height



Use Pythagorean Theorem to calculate the Camera height. To do this calculation you will need to know the length of the kite line from the ground to the camera and you will need to measure the distance from the person holding the kite line to a point directly under the camera. Then use $A^2 + B^2 = C^2$ to calculate the camera height.

Viewing the KAP Photos

Remove the camera from the rig and then remove the San Disc card from the camera. Place the San Disc card into the san disc card reader; insert the reader in the USB of your computer. The computer should open the card and you can view your aerial photography.