

# Assembly and Use Guide for the KAPtery Picavet

3D Printing Guide at [KAPtery.com/guides](http://KAPtery.com/guides)

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The KAPtery Picavet is available in three versions: a mostly ready-to-fly Picavet (described here), the build-it-yourself Picavet Kit, and the Picavet Hardware without the 3D printed cross.



The Picavet is the most popular camera suspension system with kite aerial photographers. The Picavet system has two attachment points at the kite line about five feet apart which reduce rotation of the rig and swinging along the axis of the kite line. The Picavet lines pass freely through four eyes on the Picavet cross, and the three inch shaft between the cross and the rig acts as

a moment arm to allow the mass of the camera to keep the rig level. The Picavet does not work as well on a balloon line when there is little wind and the line is close to vertical.

This Picavet cross has a long (21 cm) and short (10 cm) dimension. With the long dimension perpendicular to the kite line, the rig is more stable. The top of the cross has a star of slots for locking the shaft. This allows you to point the camera rig in any of 16 different directions. The kit includes two stainless steel KAP'n Hooks to attach the Picavet lines to the kite line, and 30 feet of 50 lb. braided Dacron line.



## Step 1. Attach eye bolts

The Picavet line passes through four eye bolts on the top of the cross. The four eyebolts should thread easily into the holes at the ends of the Picavet arms. If an eyebolt is loose, insert a thread or strip of plastic in the hole first. Just screw the bolts in until the bolt ends are flush with the far side of the Picavet arms (the unwieldy Picavet line cannot catch on the end of the bolts if they are not emerging from the holes). The eyes of all the bolts should be parallel with the long axis of the Picavet cross, as shown.

## Step 2. Insert shaft and thread the Picavet line

1. Insert the shaft into the center hole in the Picavet cross from the top. The locking rod should fit into any of 16 positions.
2. Refer to the diagram on the next page to lace the 30 foot line through the four eye bolts, the two KAP'n Hooks, and the small nylon ring. Tie a good knot to connect the ends of the line.

To store the line:

1. Join the two KAP'n Hooks with a rubber band
2. Stretch the line and wrap it around the Picavet cross (a figure 8 works well).
3. Secure the KAP'n Hooks to the cross with a second rubber band.

To avoid tangles be vigilant about never letting the KAP'n hooks or the Picavet cross mingle with the lines. Store the line as above as soon as the flight has ended.

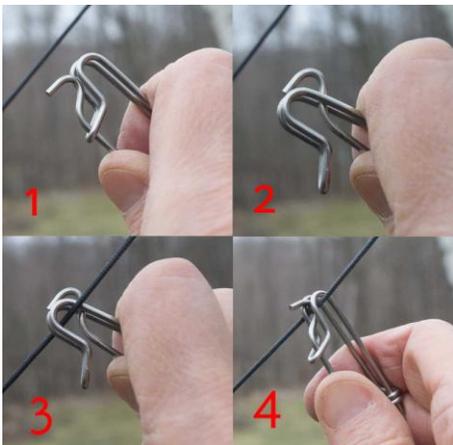
## Step 3. Attach Picavet cross to a camera rig

The lower end of the Picavet shaft has two holes for cotter pins. Both pins are important to secure the rig.



1. Insert the shaft into the bracket on top of the camera rig frame and insert a cotter pin through the lowermost hole until the pin locks.
2. Slide the shaft in the bracket until the second hole lines up with the hole drilled through the bracket and insert the other cotter pin so it locks.
3. Both cotter pins are important. One prevents rotation of the rig and the other prevents catastrophe if the other pin fails.

## Step 4. Attaching the KAP'n Hooks to the flying line and launching



1. Attach the clips about five or six feet apart on the flying line. Adjust the clips with pliers for a better grip on thin line.
2. Ensure that the Picavet lines can run freely through the KAP'n Hook and the eyebolts on the cross.
3. Rotate the Picavet shaft to point the camera in the desired direction.
4. Check camera operation.
5. Let her fly.

**Caution:** The standard Picavet cross is 3D printed from poly lactic acid (PLA) which will deform if it gets too hot. Don't leave the rig in a closed car in direct sunlight on a hot day.

# Lacing diagram for a Picavet suspension

After Brooks Leffler. Adapted from a design by Pierre L. Picavet, France – 1912

A and B are mounted 5 - 6 ft apart.

Be sure the line runs freely through points 1 to 4.

The line can also run freely through A and B, or the line ends can be tied to A or B.

The long axis of the Picavet cross (3 to 4) is perpendicular to the kite line.

The camera hangs below the Picavet cross.

The cross is connected to the flying line by a continuous 30 foot length of braided Dacron® line.

KAP'n Hooks or other attachments are clipped on the flying line at A & B.

Screw eyes (or pulleys) are at 1 - 4.

The long axis of the cross is from eye 3 to eye 4.

The suspension line is passed through A, then laced as follows:

A – 1 – ring – B – 2 – ring – A – 3 – B – 4 and back to A where the two ends are tied together or tied to A.

