

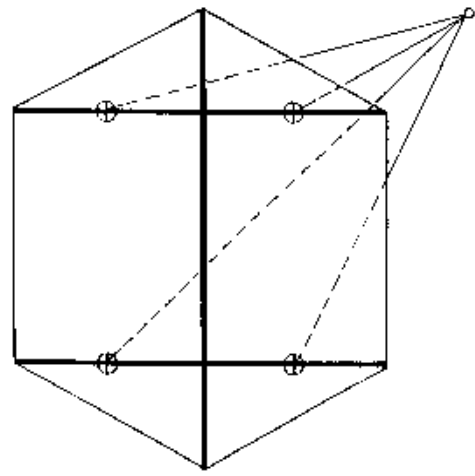
CHAPTER 8:

ROKKAKU FLYING AND FIGHTING

If you enjoy the skills and drama of fighter kite combat, you're going to love Rokkaku Battles.

What is a Rokkaku?

The Rokkaku (pronounced roke-cock-coo) is a traditional Japanese bowed kite design. A basic hexagon in shape, it features six corners, a long center spine, and two cross spars. The bridle connects at four or more points, depending on the size of the kite or the engineering skills of the kite maker.



Here is a basic Japanese language lesson. The word for six is “rok”. The word for a traditional square, rectangular, or cornered kite is “kaku”. Rokkaku, very simply then, means “six-sided kite”.

Makoto Ohashi
Tokyo, Japan

Structurally, the Rokkaku is quite simple. The large uninterrupted kite sail is also an ideal “canvas” for kite artists to applique or paint wonderful designs. However, it is the maneuverability of this kite and the theatrics of Rokkaku contests which have encouraged its great popularity in recent years.

Rokkaku flying is, in many ways, similar to the handling of other fighter kites. “Roks” don’t spin but they are clearly maneuverable. Maintain line tension and the kite will move in the direction it is pointed. Pull on the line, it will move faster. Slacken the line and the kite will become unstable enough to establish a new flying direction.

Based on these simple fighter principles, the Japanese have used the Rokkaku for centuries in small, large, and enormous scale kite battles. Individuals, teams, and even whole communities gather together to pit their kites, their flying skills and artistry, and their enthusiasm against other teams.

The object is to knock or cut other kites from the sky, but no clear winners are ever established among the traditionally costumed fliers. Supported by coaches, cheerleaders, and even marching bands, the point is to have fun. No one who has witnessed a traditional Japanese kite battle would doubt that they are entirely successful in that aim.

Not all Japanese kite contests utilize the six cornered Rokkaku. Most, in fact, fly four cornered kites made in a variety of square and rectangular shapes. But it is the Rokkaku that has captured the imagination of the West. Forms of the traditional Rokkaku Battle have spread far beyond the shores of Japan and are regularly held now in North America, Europe, and the South Pacific.

If kiting is a bastion for the Renaissance person, then Rokkaku kite team fighting represents it best because it combines art, knowledge and athletics.

You need teamwork and athletic prowess to survive a long fight. You also need the knowledge to build, fly and fight these kites. And you want the kite to be beautiful. If any one of these things gets out of balance, you don't have a really successful and satisfied team.

Rick Kinnaird Jr.
Bethesda, Maryland

Combat Fundamentals

Western style Rokkaku “battles” are usually organized for either individuals or teams. The size of the kites is specified within certain ranges, only certain types of flying line are allowed, and flying is limited to a designated area for safety.

On a given signal, all kites are launched. Then a second signal is given and the kites “engage”.

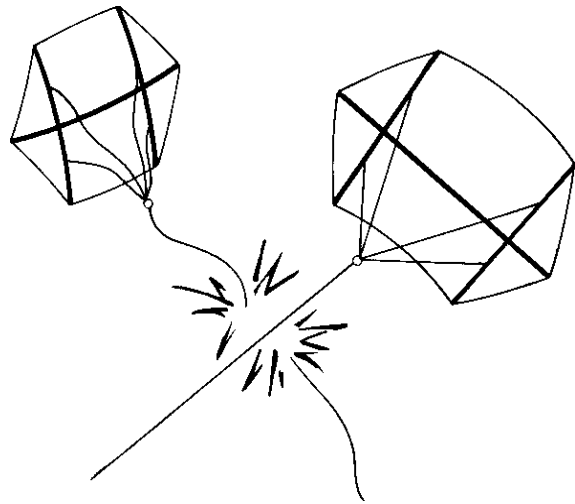
The object is to ground other kites using either your line, your kite, or the wind. Once your kite is cut or touches the ground for any reason, you are out.

An important difference between standard kite fighting and Rokkaku contests is that Rokkaku fighters move around the field. They move around the field a lot. Positioning is almost everything in a battle.

There are three basic techniques for grounding an opponent’s kite. The most effective strategy may combine all three tactics.

Cutting: Glass coated line is not allowed in Rokkaku battles. But that doesn’t mean that you can’t cut an opponent’s line. Any experienced kite flier knows that flying lines can easily slice through each other given the proper circumstances. In a Rok battle, it’s your job to create those circumstances.

When two lines come in contact, the one moving the fastest will cut, melt, or burn through the other. The object is to concentrate the friction in one particular point on an opposing line. Knots or bridle tow-points make convenient “stoppers” but with practice, you can attack the line at any point.

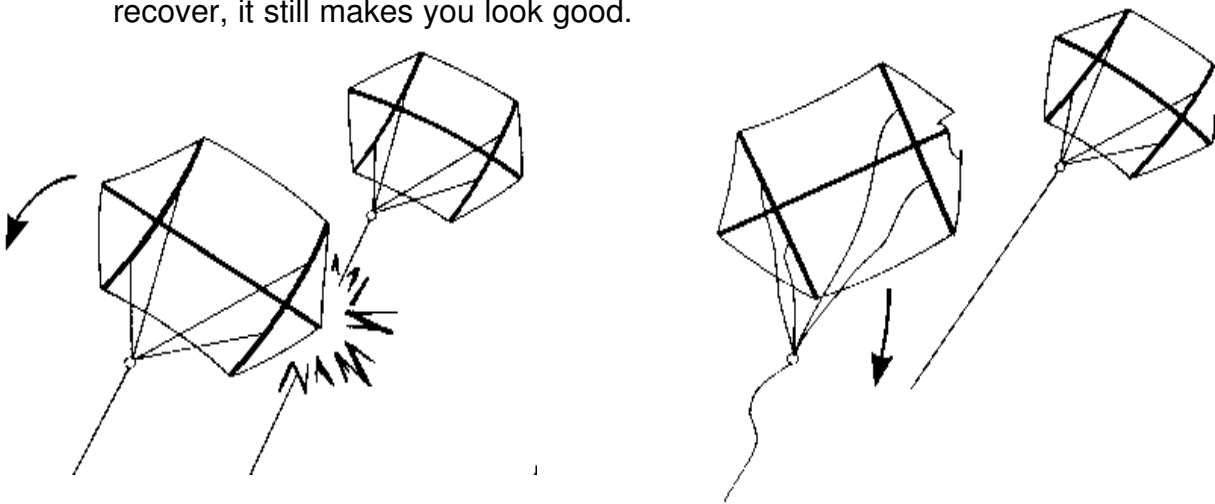


By maneuvering your kite, you can climb up from under an opponent or drop down from above. A more common tactic is to engage from the side and attempt to “slice”. Often you will see teams methodically pumping in an effort to saw through an opponent's line.

Watch out for sugar-coated line. It's not as effective as glass line although it does taste better! We have seen several occurrences of sugar line being used in Britain with one team winning rather consistently. They soon stopped when they became aware of judges going round tasting flying lines.

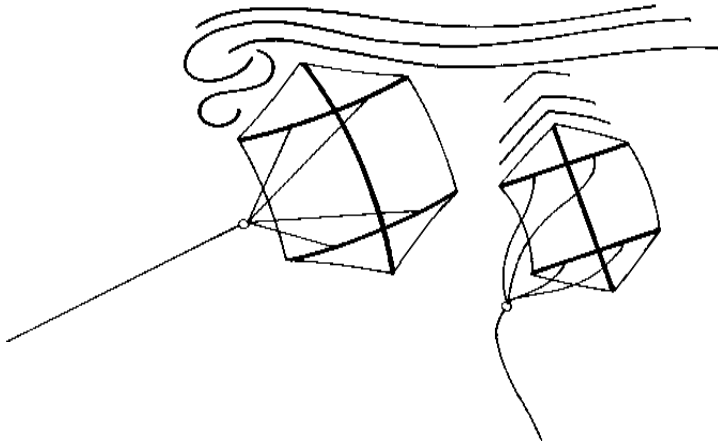
Martin Lester
Bristol, United Kingdom

Tippling: Another effective battle technique involves actually contacting an opposing kite with your flying line. By catching one of the kite's six corners and then quickly moving position, you are often able to tip or up-end an opponent. If they are close to the ground, in poor field position, or just not particularly good at recovering, this may put them out of the fight. But even if they do recover, it still makes you look good.



When you tip a kite, be sure and follow it down so you can hit it again while its owners are recovering. This is the easiest way to ground someone. Tipping an opponent several times to ground them makes you look really good.

Wind Blocking: A more sophisticated technique involves using the wind -- or lack of it -- to ground an opponent.



Battles are not always fought under ideal circumstances. If the wind is light, simply staying airborne may be enough to win as everyone else backs up to the field boundaries in an effort generate lift. They will run out of space and come down. If you're smart, you won't.

In light wind contest, you can also use your kite sail to block the wind of an opponent.

Battles are usually fought through a series of heats and the last kites in the air from each heat earns points. In some contests, awards are also given for team spirit, costumes, or the beauty of the kite itself.

The core rules of the Rokkaku Challenge as currently practiced in the United Kingdom and generally observed elsewhere include:

- * *Minimum kite height of 2 meters for teams*
- * *Standard kite height of 1 meter for individuals*
- * *No Kevlar[™], glass, coated or wire line*
- * *Minimum team size of 2 people*
- * *3 rounds per festival*
- * *15 minute time limit per round*
- * *Kites are required to engage*
- * *10 minutes of repair and recuperation between rounds*
- * *The last 5 kites down receive points as follows:*
 - last kite up 6 points*
 - 2nd last kite up 4 points*
 - 3rd last kite up 3 points*
 - 4th last kite up 2 points*
 - 5th last kite up 1 points*

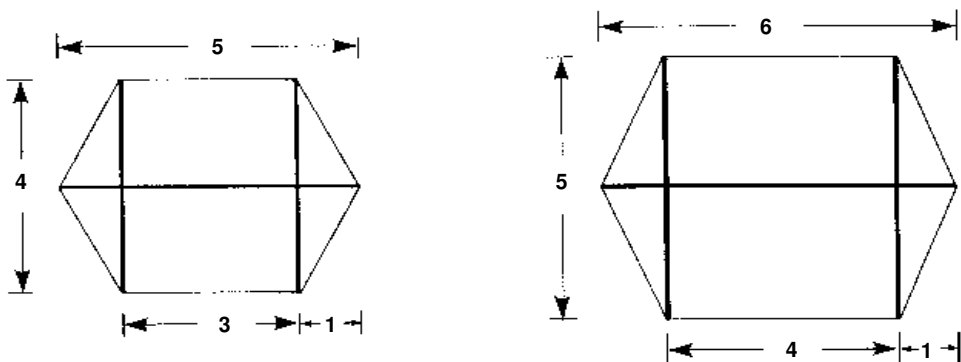
Teams with kites still in the air when time has expired share remaining points. The team's best scores from any two festivals in a region are totaled to determine an overall trophy winner.

Martin Lester
Bristol, United Kingdom

Construction

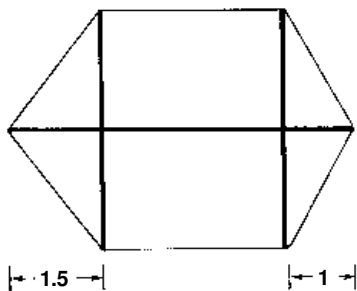
The Rokkaku is a fairly simple kite to make and a remarkably steady flier. You might actually want to put a few together in different sizes and weights of material for different wind and flying situations.

Size: Rokkakus are usually built to specific proportions. The two most common are the ratios of 3-4-5 and 4-5-6, where the first number is the distance between the two horizontal cross spars, the second is the width of the spars, and the third is length of the center spine or overall height of the kite. (Illustration)



By using these ratios, you can easily design a kite of any size. For example, if your base number is ten inches, and you use the 4-5-6 ratio, the kite will be 50 inches wide and 60 inches tall with 40 inches between the two horizontal spars.

Of the two shapes, the 3-4-5 is generally more popular because the squarer shape is well suited for most artwork.

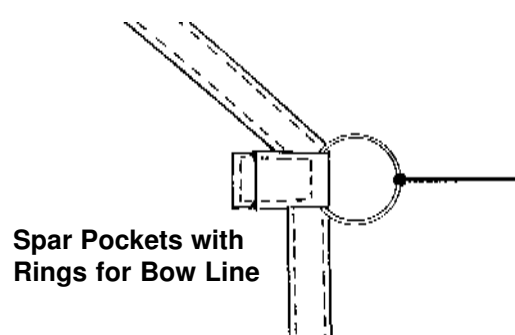
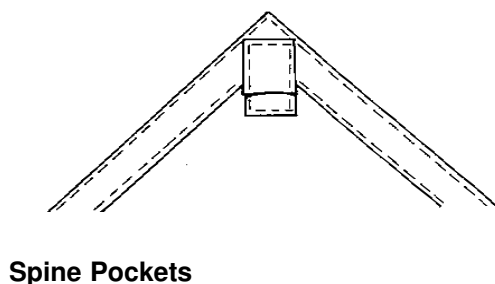


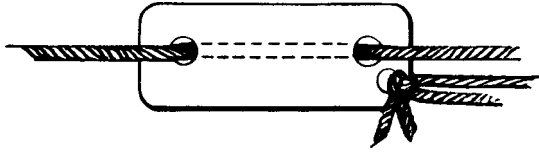
Both designs rely on top and bottom portions which are one unit long. Another option is to lengthen the bottom portion to one-and-a-half units for slightly increased stability. Of course, stability in a battle may not be what you want.

Remember to finish off your sail by hemming all the edges.

Sticks: Bamboo is the traditional material used for spars and the spine, but most kites are now being constructed of hollow fiberglass or carbon and graphite rods. As your kites get larger, remember to position joints or connectors in the rods so that the kite remains balanced.

Rods are attached to the kite corners with fabric “pockets” and should be reinforced at additional points in larger models. The spars will also be held in place by the bridle line connections. Pockets at the spar or horizontal corners are constructed with rings or loops to allow the attachment of two bow lines.





**"Slider" maintains
bow in Bridle**

For the kite to handle properly, the spars should be bowed about one-half of one unit. Commercially or home made "sliders" and "tensioners" allow you to adjust the kites's bowing. Experiment with different degrees of arch in the upper and lower spars for a variety of flying conditions. Generally, you should find that a deeper bow in the lower spar will provide more stability.

Bridles: The easiest bridle for a average size Rokkaku is made from four lines. They are passed through the sail and attached to the cross spars on either side of the spine. For larger kites, you can add two more lines along the spine for a six-point bridle.

Bridle length may vary but six times the length of the kite is recommended. This may prove a bit long for a crowded battle environment so experiment. Combine changes in the angle of attack with adjustments in bowing for a finely tuned kite that will handle exactly the way you want.

Battle Strategy

Earlier, we talked about combat fundamentals like cutting, tipping, and blocking the wind of your opponents. That's the easy part. The hard part is being in the right position to apply those tactics.

Maneuvering: Rokkaku's, especially the bigger ones, do not maneuver or respond as quickly as the smaller fighter kites.

Instead of spinning the kite, you need to pump the line, pulling and releasing, in order to make the kite rock or sway back and forth. The amount of line you give and retrieve will determine how much reaction you get. Then, like with smaller fighters, as soon as the Rokkaku is pointing in the direction you want, pull in on the line and the kite will move. Slackening the line will cause the kite to stop and reorient itself.

If you don't have time to maneuver the kite by "pumping and rocking", move your team across the field. As long as you keep tension on the line, the kite will follow you.

To move vertically, all you have to do is release line to lower the kite, or pull in to make it rise. It works the same way if you move your team downwind or upwind.

Smaller kites always have the advantage of speed and maneuverability, so very few people fly anything larger than two meters. In fact, a Rokkaku the size of a fighter kite has proven to be quite unbeatable.

**Martin Lester
Bristol, United Kingdom**

Watch out for the "Blood Lust Run". The minute that two kites come in contact, somebody invariably grabs the head of the line and takes off across the field for reasons that I don't completely understand. Avoid that temptation.

*Use your knowledge and your skills and remember to have fun. **Always Claim Victory!** Never let the facts get in the way.*

***Rick Kinnaird Jr.
Bethesda, Maryland***

Field Position: As we said before, positioning is everything in a battle. That includes positioning to take full advantage of strong or light winds, positioning to attack or retreat, and positioning to avoid major tangles.

Before you launch at the beginning of the battle, give some thought to the wind conditions.

If winds are light, you may want to stay as far downwind as possible so you have room to back-up and gain altitude. You may also want to use a long line to get as much height during the launch as possible and be able to reel-in later to maintain altitude.

If winds are heavy, you may want to position yourself upwind so you have room to move forward and drop into the fight. You may also want to use a shorter line so you can reel-out to make contact.

During the battle, it is helpful to maintain some field space around your team and your kite. Room in the sky gives your kite space to maneuver. Room on the ground gives you space to maneuver. Both can become very important.

Try to avoid multi-kite engagements that increase your risk of getting tangled or boxed in. Your chances of cutting or fighting your way out of that kind of a mess are rare. What's more likely is that someone will wrap a line around your bridles and you will all go down together.

Don't hang back in a corner waiting for someone else to clear the skies, either. You don't win battles or the respect of your opponents by running away. Look for opportunities and then attack! Besides, most contests will eventually disqualify contestants that continue to avoid direct combat.

Finally, don't let an opponent's line contact your kite. Maintain the initiative. The best position to be in is to be on the attack, not on the defensive.

Don't be intimidated by bigger kites. They don't move as quickly, are easily upended, and recover slowly when tipped. In lighter winds, they are hard to keep in the air. In heavier breezes, pulling them around wears out a team more quickly. And heavy lines hardly ever cut through thinner ones.

So go for the big kites first! Think of them as large, slow moving targets.

Rokkaku Tuning: A number of factors can be adjusted to affect your flying and maneuverability. The stiffness of your spars and spine, the proportions of the kite, the length of the bridle, position of the tow-point, and the amount of bow in either or both of your spars will help or hamper maneuverability in different winds.

Experiment!

The two quickest and easiest adjustments you can make in the field are to change the amount of bow in the kite, or to shift the tow-point.

Safety, Safety, Safety!

A good Rokkaku battle involves a large number of people running around in an enclosed area. Everyone is watching the kites and not where they are going. Kites are being cut and falling. Line is all over the ground waiting to ensnare and trip the teams.

No wonder these fights are so much fun to watch! Everyone likes to see a really good accident...

Of course, no one likes to be in an accident so do everything you can to avoid them. Battles are great fun - but only if they are done carefully and everyone follows basic safety rules.

Here are a few good rules to remember.

1. Gloves are essential for all participants. These are big kites being flown on line intended to cut. Imagine what they can do to your hands.
2. The object is to make the kites fight - not the people. All intentional physical contact should be strictly prohibited including pushing, tripping, or purposely running line around people. Any "dirty tricks" should result in disqualification.
3. Cutting implements other than flying line should not be allowed. And flying line should not include Kevlar™, wire, or glass-coated line.
4. Don't get so caught up in the frenzy of combat that you forget to keep an eye open for falling kites, loose line, field boundaries or other obstacles.

A safety and rules meeting before the battle begins will help everyone enjoy a safer and more intense contest.

As much fun as Rokkaku battles are to watch, they are even more fun to participate in. So we'll warn you this one time: You only need to try it once to become addicted for life.