

## **JOJO Traction Kites – Basic Manual for RM series**

### **Introduction**

Congratulations on your purchase of a JOJO Performance Traction Kite. The advanced design of this foil will provide you with many years of enjoyment. Several years of development and testing has created a fast, agile, yet controllable kite. Since its introduction, the JOJO traction kite has moved to the head of the pack and are flown by many of the top kite buggy pilots worldwide.

### **Safety**

The JOJO Traction kite generates extreme pull when powered up. Fortunately, the design of this wing provides for the ability to adjust the amount of power desired and can be shut down safely. This kite is designed with the intermediate and advanced pilot in mind.

A helmet, elbow and knee pads, boots, long pants, eye protection and gloves are recommended safety equipment. Knowledge and experience are the most important safety equipment you can obtain. Never fly above your experience or let someone talk you into an uncomfortable situation. You can gain experience and still be safe. The time that you spend in the buggy seat flying the JOJO wing will reward you with the experience and confidence to push yourself to the next level.

### **Unpacking**

Your new JOJO Traction Kite will come in a backpack bag. This bag has a zippered opening. Take care when opening the bag each time that the zipper does not catch the sail material. We recommend that the first time you unpack the kite to lay it out (preferably in a wind free area or weight the trailing edge) and stretch out all bridle lines. Pull this connection out and up and undo the larkhead. Separate the bridles and lay them out in opposite directions. Once all four bridles have been separated inspect all bridle lines for damage. Also, inspect the tabs that hold the bridles in place.

Now look at how the bridle is constructed. You will notice that the secondary (connected to the tabs) bridle lines are gathered together and attached to the primary (connected to the leader) bridle lines. If junction is loose, pull these junctions tight by hand. Although flying the kite the first time will achieve the same goal, tightening this junction by hand will ensure that the bridle lines will seat properly.

Also, check for any twist in the primary bridles as they connect to the leader. Each primary bridle should go directly to the upper cascade knot without any twists through other primaries. If necessary, the lines can be quickly taken a part and reassembled – there are no knots, just looped factory sewed ends.

It is a good idea that you learn how the bridle is assembled and what it should look like. A quick inspection each time you unpack your kite can save your bridle lines from damage.

### **Control Handles**

Although the JOJO kites do not usually come with handles, there are several on the market. This provides for the pilot to select handles for best fit. The following handle guidelines are suggested for best performance of the kite:

For the smaller kites the handles should be approximately 13" long. For larger kites ( from 6.0 to 10.0 m2) handles should be approximately 16" long. Using 5mm climbing accessory rope tie a link line of 16" - 22" (depending on kite and your preference) through the handles with enough left over for a 10" - 12" leader for each handle. Using 3mm accessory rope, tie through the bottom holes to create a brake leader.

This should provide you with a handle set with one continuous line through the handles with power lines attached to each end. All of the power, when the link is in the harness, will go through the 5mm rope not the handles. These handles can be manufactured out of 1" PVC pipe and foam rubber grips from exercise equipment. This system has been working very well and provides for a very clean, light weight package.

### **Flying line**

Recommended weight for power lines is 300 lb test. Brake lines can vary from 100 - 150 lb test. and is determined by how aggressively you fly.

### **Controlling the JOJO RS**

Since this kite is intended for the Intermediate and Advanced pilot, basic buggy skills will not be discussed. Basic skills required to fly the JOJO kite are the focus. Since you have most likely flown Traction Kites before you will have already obtained many of the skills in flying a foil. You will have also developed specific habits and habits a hard to break. This manual will attempt to instruct you in the skills necessary for flying the JOJO kites.

### **Launching**

Launching a JOJO is slightly different than many of the foils on the market. It is recommended that the following technique will be used:

1. Once the flying lines have been sorted out and are not twisted, place each handle in there respective hands.
2. Pull back on the power lines and give some slack to the brake lines. In light winds, this should be a steady pull and not a jerk. It may be necessary to step back to inflate the wing. This should be a smooth and steady motion. In stronger winds, you will only need to pull back until the trailing edge is just touching the ground.
3. While maintaining some tension on the brake lines the wing will begin to rise from the ground. At this point you will notice that by adjusting the tension on the brake lines the foil will rise and fall while not generating much pull. This is more evident in stronger winds.
4. Slowly release tension on the brakes to fly the kite to the top of the window. You may notice that the kite reaches a stall point at approximately 45 degrees, resist the temptation to release the brakes completely at this point. Slowly release tension and the kite will climb to the top of the window. Due to the design of the JOJO it may appear to want to fly out of the top of the window overhead. Reapply a small amount of brakes and back it up. Once it has stabilized overhead the brakes can be released completely and the foil should hang above your head. In light wind conditions it may be necessary to oscillate the wing in a figure eight pattern above your head.

### **Static Flying**

It is a good idea to fly the JOJO statically to get a feel for the controls. The unique design of the JOJO allows for excellent control while flying statically. Try backing the kite down into the window by applying a small amount of brake. Keep it horizontal by adjusting tension on the individual brake lines. Before the kite reaches the ground slowly release the pressure on the brakes until it stops. (NOTE: Do not release brakes completely) Attempt to "hover" the kite above the ground and take note of the reduction of power. Very

few kites on the market are able to perform this maneuver. Now rotate the kite 90 degrees either direction and hover again. Practice this and you should get the feel of the unique control of this design. To demonstrate the ability of the kite to recover from this stalled position. Rotate the kite so that it is perpendicular with the ground while hovering. For example: If the kite is positioned such that the vents are facing left, the right side of the kite is furthest from the ground. Now release both brakes and pull sharply on the right handle and release. The kite will immediately inflate and power up. Be careful not to get overpowered when this happens. This maneuver can also be used while bugging and will allow you to re-inflate if the kite lufts. The JOJO is still quite controllable when deflated and can be used to your advantage in many situations.

### **Dynamic Flying (Bugging )**

Now that you have the feel for the controls, it is time to buggy with your new kite. Since this is an advanced design with excellent upwind performance and speed, the kite may want to out run the buggy until you have achieved minimum kite speed. To keep the kite in the power window while gaining speed move the kite up and down through the power zone to gain speed. Once you are up to speed you will notice that the kite maintains it's position with the buggy.

To generate more power from the wing keep the kite moving up and down. With the kite perpendicular to ground turn the wing upward at approximately 20 degrees and fly to approximately 60 degrees angle from the ground then turn the kite back through the perpendicular position and 20 degrees down to 20 degrees above the ground. This creates an oscillating motion that will generate more power from the wing when required. Keep this movement tight and fast and you will feel the power increase.

### **Releasing Tension and Power**

You may avoid being overpowered by firmly applying both brakes. By combining the amount of brakes and their duration, you can regulate the power generated by the wing. If you feel over powered try this technique to reduce pull and steer slightly towards the kite. This technique can safely avoid letting go of the wing entirely. Keep in mind, that there are times when it is best to "Just **Let Go!**"

### **Turning**

1. As with two line stunt kites the JOJO wing can be controlled using only the power lines. The result is a slow sweeping turn that generates considerable power as the wing travels through the power window.
2. Using only the brake lines for turning will result in a tighter turn than with the above technique. The disadvantage is that you run the risk of collapsing half of the kite and reducing power considerably.
3. Utilizing a combination of arm movements and brake application results in the most efficient turn with the most control. Varying brake pressure with arm movement will allow you to better control the position of the wing in the sky.

Using a combination of the above techniques can provide considerable power when necessary. Such as a large sweeping turn with a tight turn at the bottom to reposition the kite.

## **Regulated Turn**

This is a two step maneuver used to control power without bringing the kite overhead. (This technique was tested and proven to be very effective in racing situations. Sometimes it takes a while to override the reflexive reactions of experienced pilots.)

1. While maintaining the wing in the center of the power window, firmly apply both brakes to release the aerodynamic energy of the kite.
2. Turn the wing using arm movement while maintaining application of both brakes. Once the turn is completed, release the brakes and the wing will immediately regain speed and power.

## **Landing**

You may have already discovered how to land your wing while static flying. The technique is simple. With the kite overhead apply pressure to both brakes, the wing will deflate and begin to drop back. Continue to hold pressure on the brakes as the wing descends. Do not overbrake! The wing will slowly descend and land on the ground. Even steady pressure is the key and you will not fight to land the kite even in strong winds.

**All pilots fly utilizing different techniques. It is up to you and what you feel comfortable with when it comes down to getting the greatest performance from the wing. Remember this is a learning process and all pilots learn each time they fly. Never be afraid to try new techniques, but remember skill and knowledge are the best safety equipment that you can take with you to the flying field.**

**This manual will be updated and refined as time goes on. It is the intention of this author that illustrations be used to enhance "difficult to grasp" concepts.**

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**Please understand that risk of injury from activities involved in traction kiting is significant, including potential for serious personal injury, even death as well as property loss. By purchasing this kite you freely agree to assume and accept any and all known and unknown risks of injury while using this product. If you are unwilling to be bound by these terms, please return this product before use for a full refund. The manufacturer and distributors cannot be held liable for any damages resulted from use of this product.**

**Always seek proper instructions and obey the safety rules . Avoid flying kites close to airports, power lines and traffic areas. Traction kites are not paragliders and cannot be used for as any form of aircraft.**