

FLEXIFOIL INTERNATIONAL

presents

STRANGER



LEVEL 1



A
USER'S
GUIDE

What the...!

The Level 7 represents a complete departure from standard Rogallo type sport kites and it has many new features which you need to know about before you go out and fly.

Please digest this manual whilst watching the video, sitting next to a fully assembled Level 7. Then go out and fly armed with a pencil and a ruler. Enjoy!

Assembly:

The level 7 comes partly assembled. Please check the following parts:

- Sail with pre-tensioned spine and fitted stand-offs with adjustable lines
- Top spreader (short carbon tube)
- Two bottom spreaders (longer carbon tubes)
- Two spare elastic bands for the wing tips
- Level 7 Video (requires **no** assembly!)

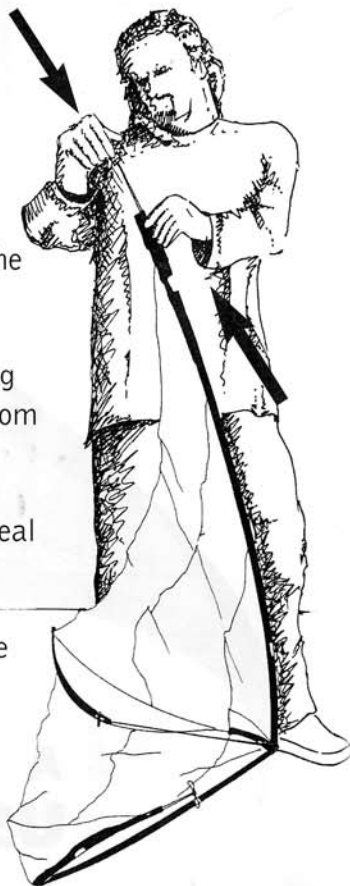
To complete the assembly, please follow these steps in this order:

1- Unfold the kite and lie it flat on the floor with the bridles on top.

Feel for the ferrule joint half way down, inside the dacron leading edge sleeve. Push the bottom leading edge spar into the ferrule, ignoring the unseen bottom spreader connector.

Place nose against the inside of your foot, slide the dacron up and push the wingtip down. This will reveal the bottom leading edge connector.

Whilst keeping the wing tip and the dacron together, loop both ends of the elastic band over the plastic button connector, taking care not to have any lines twisted.

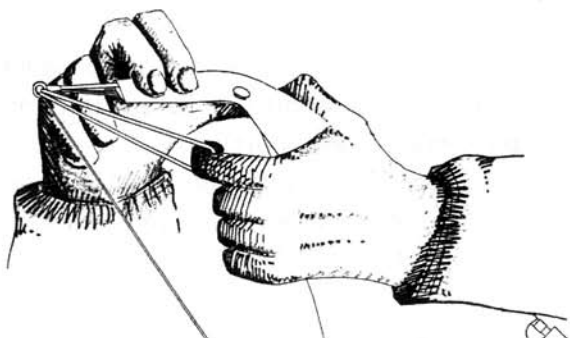


You will find it easier if you push the button out with your thumb.

2- Fit the short top spreader into the upper connectors **IN FRONT** of the adjusting line.

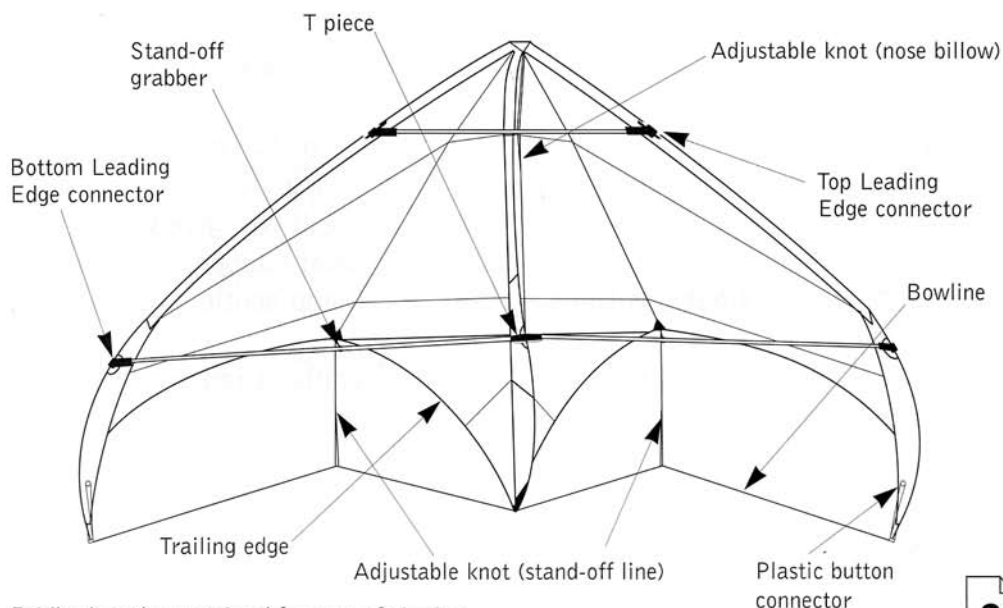
3- Fit the long bottom spreaders into the T-piece and ensure that the bridle lines exit from the tail side of the T-piece. Make sure

the bridles are free from the lower spreaders and push the other ends firmly into the bottom leading edge connectors.



4- Clip the stand-off grabbers onto the bottom spreaders making sure that no lines are tangled and that the stand-offs are at right angles to the spreaders.

5- The bowline and trailing edge line are joined. If sail is gathered feed more bowline into the trailing edge from the wing tip until sail is undistorted, keeping trailing edge tight.



Bridles have been omitted for ease of viewing.

IMPORTANT:

Before first flight, remove the top spreader and measure the nose billow depth and the stand-off line length (section 1 and 2). Adjust according to starter settings (see chart).

We recommend that now you have finished the assembly of your Level 7, you watch the video as it will give you helpful tips. Have the kite and user's guide handy for quick reference.

First Impressions:

The first thing you notice about the Level 7 is a lot more over-steer than you are probably used to. However do not despair, most people tend initially to over-correct this kite in much the same way they do in a skidding car. Less is more.

A gentle touch will keep it in the air. Then, to bang it on a straight line, sharply pull both lines. After a while you will anticipate its movements. To tune the over-steer, refer to section 1 on nose billow and also to section 3 on bridles.

Your first flights should be on 75ft. (22 Mtr) line in about 6 to 10 mph wind (10-16 kph).

Do not have your first flight in a very light wind; the kite should feel fairly solid in the air at first.

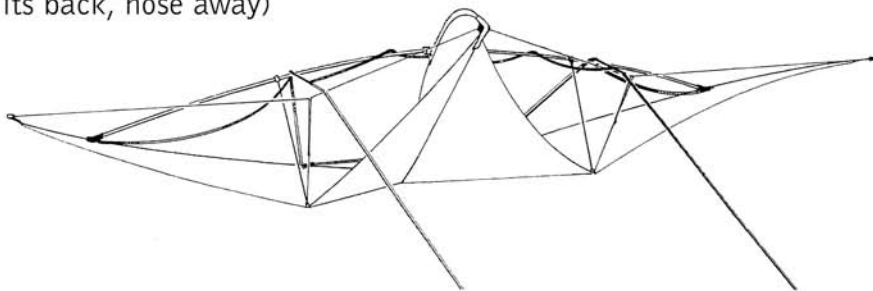
You will feel a huge difference between flying forwards (drive) and stalled positions (unstable flight initiated by pulls, turns and spins).

Remember not to panic. When the Level 7 is stalled, it will give you time to react. Just snatch one of the two lines. Watch what happens and try to control it during its **float positions** by using small and gentle hand movements (see video).

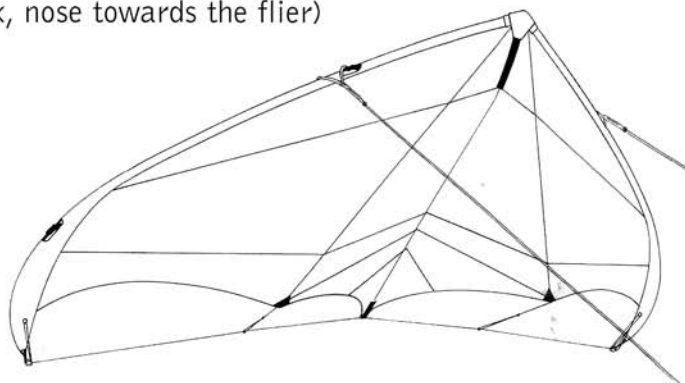
Remember that this kite will not recover automatically, it requires a command to tell it to do so (no command, no change!).

Float positions

Turtle (on its back, nose away)



Fade (on its back, nose towards the flier)



To recover from these positions give slack and allow the nose to rock back. Then wait for rotation back to normal flight

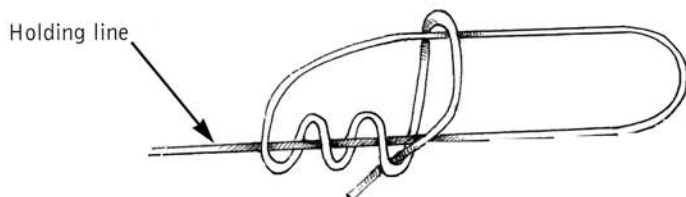
Unlike the Stranger and the Psycho, the Level 7 will hang in these positions and respond to small, gentle hand movements. When in a 'turtle' controls are normal and when in a 'fade' controls are reversed. Left for right and right for left. These are, however 'loose connections', so take it easy.

When flying in a stable fade position, a pull on both lines will make it glide towards you. Try this as high as you can at first as it can be a bit freaky. This is where the adjustability comes in.

Adjustability

To adjust the sliding knots, first find the end which passes through the knot in a straight line (see diagram) and hold. Then PUSH the knot in the desired direction to shorten or lengthen the setting.

If you need to re-tie the sliding knot, please refer to this diagram.



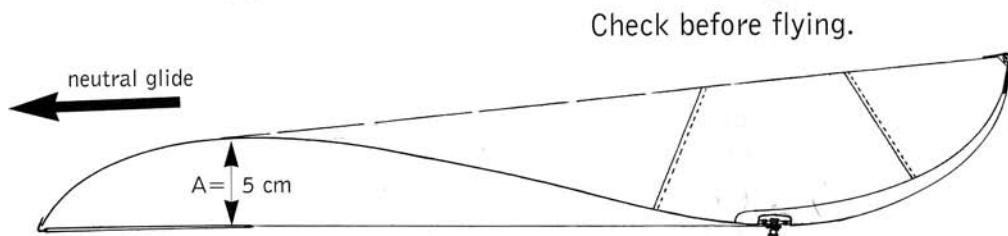
Section 1. Nose billow

For ease we will refer to the depth of the nose measurement as A.

Always take measurements and write them down.

Because of the radical flight and the huge adjustability of this kite we advise you to start with the starter setting and familiarise yourself with its characteristics before making any SMALL adjustments.

Starter setting (nose billow).



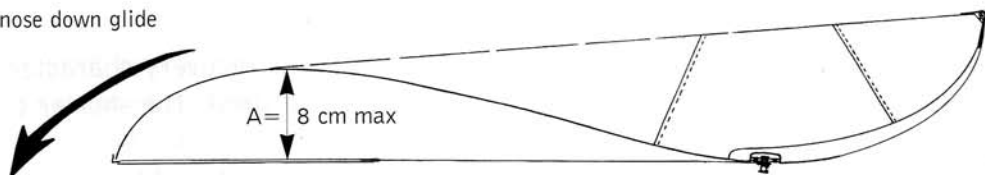
Measure nose depth without the top spreader.

Always put the top spreader back in front of the tension line.

In a light wind it is best to set the nose billow to its starter setting complemented by a small angle of attack adjustment (towards nose) and long Stand off lines. (See section 2). This will also remove some of the over-steer.

At less than 5 cm depth sail distortion will occur (not a good idea). Maximum setting is 8 cm. Greater nose billow will cause the kite to loop towards the flier when tension on the lines is released (See video).

nose down glide



It will also loop towards the flier when it reaches the edge of its window. If this response is too severe reduce the nose billow and check that the stand-off lines are at their longest setting. ($B=35\text{cm}$ - section 2)

The kite will fly towards you when pulled in a fade or inverted (belly down nose towards the flier) so this adjustment changes the glide ratio of both moves.

Set the glide with A and B lengths (see Section 2). If it noses down reduce A and lengthen B. Don't go mad, small adjustments are best. This move may catch you unawares at first so do it high on at least 75ft (22mtr) lines. This will give you time to watch and understand. We recommend large B measurements with large A depths. This removes most of the 'wash-in' on the tips.

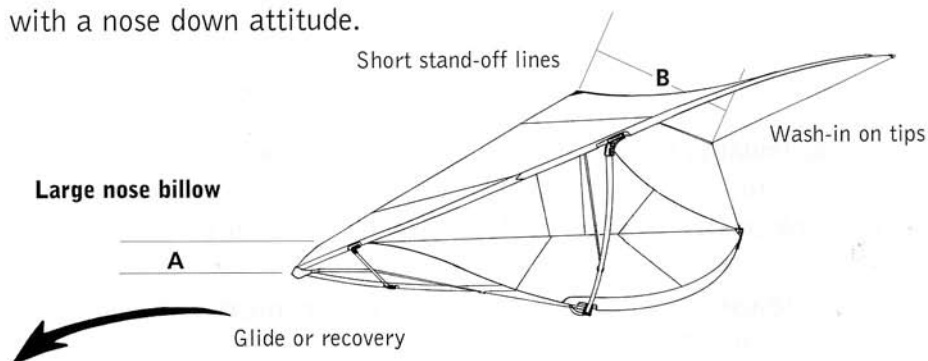
Section 2. Stand-Off lines

You will notice the two adjustable lines running from the stand-offs to the bow-line. We will refer to this length as B.

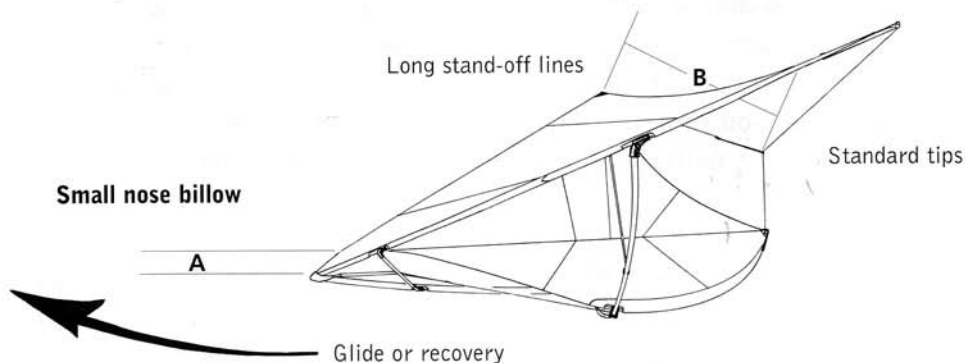
Starter setting is 35 cm.

Adjust B to give 'wash-in' to the tips. This changes the recovery characteristics of the reflex (the high bit where the stand-off pushes). The shorter the distance, the greater the wash-in (giving less recovery).

With large A and small B measurements, the kite can be tuned to glide with a nose down attitude.



With small A and large B measurements, the Level 7 tends to glide with a nose up attitude and will recover more easily.



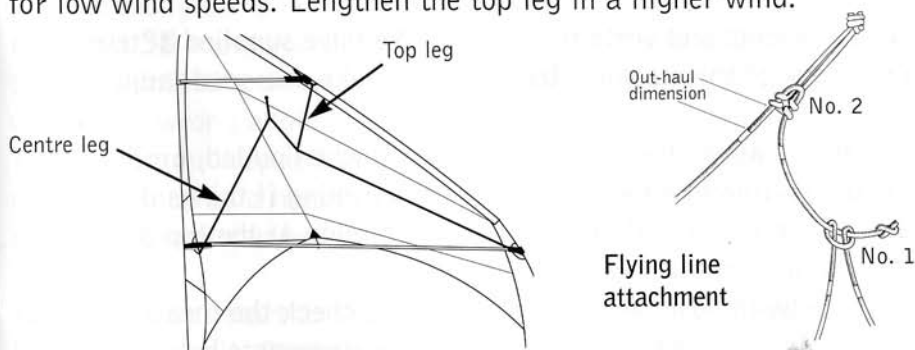
Only change to a large A and a short B after a long time flying with the starter settings.

Section 3. Bridle adjustments

The Level 7 has two adjustments for each side of the bridle. Make sure both sides are the same.

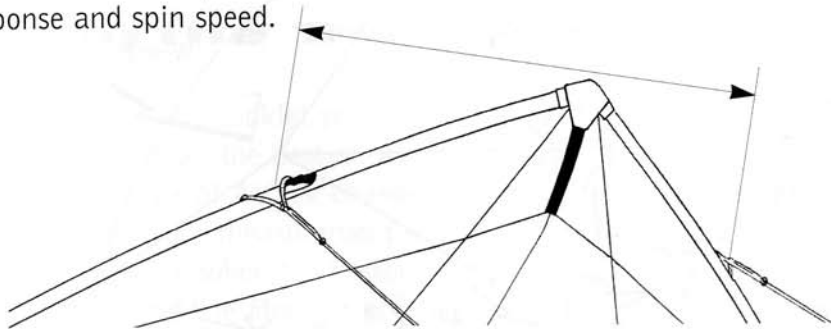
Each adjustment has two silver marks, which should always be visible (not under knot). No 1 adjusts the angle of attack.

For light winds loosen the 'larks head' knot and shorten the top bridle leg. This complements a small A measurement, and a long B, which is better for low wind speeds. Lengthen the top leg in a higher wind.



No 2 adjusts the 'out haul' of the flying line toggles for fade stability. (NOTE: This also indirectly changes the spin rate in normal flight and the angle of attack).

Adjustment No2 changes the distance between the flying lines in a fade. The wider the lines, the more solid the fade but it slows down the turn response and spin speed.



When in a fade position, the lines should wrap over the leading edge below the top spreader.

Andy Preston says: "I like to set the lines as close to the top spreader as possible while still being able to fade. This gives me a shorter centre leg for good spins. Never go above the top spreader.

I hope these instructions have given you a good insight into the way this kite can be trimmed to perform different moves. It will take a while to get used to the Level 7, but it is worth it! Don't give up!"

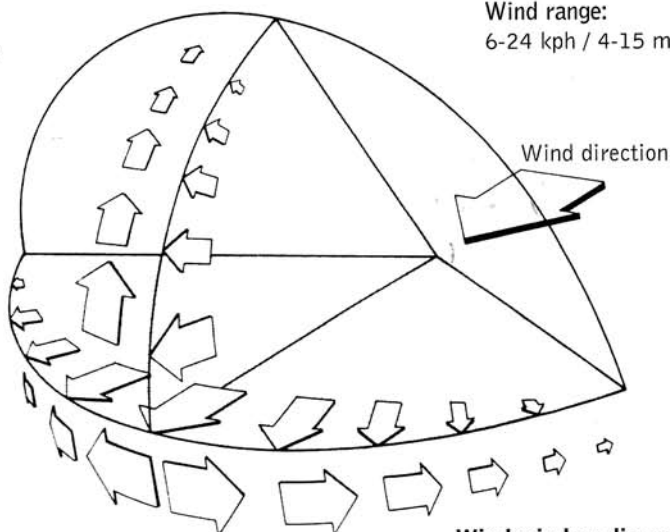
Always remember

- 1-** Take measurements and write them down. We have supplied a 'trim chart' on the back of this booklet. **Use it.** Only make one small adjustment at a time.
- 2-** Different angles at the top of the window will, when pulled, produce different glide paths. Don't be too quick to start retriming if things do not go right at first. Experiment with different pull re-timing at the top of the window. (See wind window diagram).
- 3-** After storage (with nose billow line still tight), check the measurements. Lines under tension do stretch. Always check measurements before flying. They may have altered during storage.

Larger arrows indicate
greater pull

Line length:
25-40 m / 75-100 ft
Line Strength:
25-70 kg / 80-150 lb

Wind range:
6-24 kph / 4-15 mph



Wind window diagram

Flying tips:

When you see the Level 7 in a completely flat belly down position with the nose away from you (anywhere, even on the ground!), sharply jab one line. If the kite is on the ground it will take off but if it is in the air, it will spin like crazy.

To dead launch It is easier if you leave some slack in the lines before you snatch them. This allows you to give a shorter and harder jab. If you drag the kite along the ground it will not work (see video).

During a 3D move you have no control until it glides back to the end of the lines or it hits the ground. If the latter happens it is because the kite was at the wrong angle when you pulled or the sail needs slight adjustment. To steer, try to keep left and right hand movements smooth and to a minimum. As soon as a harsh move is made the Level 7 will react and become unstable, which can be exploited.

If the wing tips start to shake whilst flying, the wind speed has passed the kite's upper limit. Stop flying and get out a Psycho.

Remember that the Level 7 will not flatten out like the original Stranger. Throwing your arms forward has little effect. To get the Level 7 to go flat, a sharp tug on one line whilst giving the other slack should do the trick (check the 540's on the video).

Using the Trim chart

On the back of this booklet you will find a chart.

The first row shows the best dimensions to start with.

Fill in your Angle of Attack changes as the distance between the two silver marks. Follow your measurement with a T if the top mark is closer to the knot and with a B when the bottom mark is closer to the knot. Measure the out-haul from the inner most mark to the knot, making sure the knot stays between marks.

