

Setting up the Bright Star Millennium Glider

(last update Jan 2001)

1. Lay the glider on level ground, tail to the wind, and unzip the bag.
(The zipper should be on top, cage on the bottom (removable elevons underneath; Some pilots pack with the zipper on the bottom but this requires rolling the glider over on the ground and rocks may dent the leading edge.)

If the ground is not level and there is not much wind place it so the nose is downhill. This will keep the wings from swinging back closed until secured.

2. Pick up the nose and swing cage forward allowing it to unfold. Set glider down on the cage and install cables to both rear cage corners with pip pins provided on bungee.
3. Unclip the strap over the elevons and remove the triangular foam blocks. Carefully and slowly open the wings allowing the ribs to unfold fully. Install the tip struts in each wing tip by sliding the spring loaded sleeve rearward in the strut and plugging it into the pivoting tube on the trailing edge.
4. Insure the zipper above the cage on the sail undersurface is open. Reach in and connect the keel tube against the center pivot on the trailing edge tubes and pull out the keel section until it clicks and locks into place. This helps push the leading edges forward making the nose catch easier to engage.
5. Go to the front of the wing and remove the safety ring from the nose catch bolt. Install the catch tabs over the bolt. (Bolt is spring loaded, push it up.) The first tab (closest to the wing) must be engaged first and the second tab **MUST BE ROTATED 180 DEGREES** relative to the first tab. There is a cam action between the tabs and it will work against you if the second tab is not 180 deg to the first.

If the first tab does not catch on the bolt try lifting the rear of the cage to allow the wings to swing forward more.

When both tabs are over the bolt install the wing nut and safety ring.

6. Wheels: Remove the wheel and mounting struts from the padded bag at the rear of the cage. Plug the struts into the wheel hub and then plug the other ends of the struts into the sleeve on the bottom, rear of the cage. Secure with the lower pip pins on the bungee. Pick up the wing at the nose and install the front strut with the pip pin at the top. Install the optional front wheel to the skid now if you have one. With the glider now on wheels it will rock easily making installation of rudders and elevons easier.
7. If you have removable elevons slide them into place and pin them now. It helps to push the wing tip to the ground and slide them from inboard towards the wing tips while keeping them and their hinged guides, vertical. Removeable type or not: now connect the control cables with bolt, wingnut and ring.

8. Remove the safety ring and pin on the rudder channel at the tip. Attach the winglet by plugging it into the vertical tube on the tip strut while aligning the rudder into the channel. After the push button clicks into place in the mounting tube insert the pin and safety ring through the rudder and channel. This is sometimes easier if you swing the rudder outward while wiggling the pin through the holes. Repeat on other wingtip.

9. Install the half-round headrest tube on the top rear of the cage. Pin in place. Install the parachute onto the tube if not already there. Connect the chute bridle to the right or left hang loop.

10. Attach Hall airspeed indicator to the front strut. Install other instruments and radio now. Stow cover bag in your car or fold it very flat and bungee to the headrest. Stow other light items such as the foam cage blocks up inside sail above the zippered center area.

11. PREFLIGHT: Examine all visible control surfaces, hinges, pulleys and internal rib connections. Check all pip pins on the cage and safety rings at the nose and each tip. Close all sail zippers. Remove rocket parachute system safety pin from handle. Move the control stick with both wing tips off the ground. Be sure that the rudders activate independently when stick is moved in their direction and be sure they do NOT activate when the stick is moved in pitch only. (This can happen if the cables are binding in their pulley guides in the wing.) Be sure the elevons operate fully and smoothly.

12. Install fairings at each tip and at the nose plate.

Preparing for Flight

1. Get into the harness by stepping through the leg loops, clip the chest buckle and then tighten the leg loops.
2. Sit down in the cage and let your body wiggle through the seat to sit on the ground. Put on and fasten the shoulder straps and then hook in the left and right carabiners. Get into a kneeling position and lift the rear of the cage with your back. Have someone help by lifting the front strut and extend your knees to lift the glider.

Alternative method: Tip the wing up on one tip and the front skid and enter the cage from underneath while coming up under the shoulder straps. When straps are in place hook the bungee across the chest to keep the straps

together. Lower the wings a bit and HOOK IN to the side hang straps with the carabiners at the hips.

3. Lift the glider (someone lifting on the front skid at the same time will be helpful) and position the shoulder straps so the glider balances on them at a small positive angle of attack. You are now ready to control the glider in the wind with the stick. Keep your hand on the stick (neutral pitch, roll if needed) during the run. Hold the glider so that the horizon is about 8 inches below the nose from your view point. Wait for a good, smooth wind and run hard.

Glider Breakdown

(Try to find a flat area for breakdown.)

1. Remove instruments and radio.
2. Remove curved headrest tube and parachute pack. Remove the 4 styrofoam cage blocks from the wing interior and Velcro them to the cage rails. Be sure to move the front ones fully forward so the strut does not hit them when it folds forward.
3. Disconnect the elevon cables and remove the elevons (if removeable type). Wrap them in an old blanket or towel to prevent scratching.
4. Remove the tip-rudders and fairings. Store in rudder bags or wrap them.
5. Store fairings inside cage. Un-pin the front skid support tube and remove front wheel if present. Lower front of cage to the ground gently while folding strut rearward into cage. Remove rear wheel and struts. Store in yellow wheel bag.
6. Unzip sail above rear of cage and depress push button on keel to release trailing edge tension. Position trailing edge center section above the keel.
7. Go to tips and retract spring plunger in tip struts and fold struts inward but ONLY about 45 degrees. MAKE SURE THAT THE SMALL CABLE ON THE END OF THE STRUT IS NOT TWISTED, LOOPED OR TANGLED AROUND ANY PARTS. That would prevent the wing from folding properly.
8. Look into wing where zipper is open at the rear keel area. Locate the thinner of 2 wires going through the folding ribs to the keel tube and pull on each side until all ribs "pop" inward and start to fold. Now carefully and SLOWLY begin folding the wings inward, alternating wings. (Be careful that they don't swing forward rapidly by themselves. This is why it's best to break down with the nose slightly lower on a downhill slope.) This will be tricky with a new sail, but you must continuously push the trailing edge against the back of the D-tube, ESPECIALLY in the area of the first folding rib, or else it will jam. If you feel ANY resistance, stop and open the wings and begin again.

Eventually all the ribs will be folded flat against the D-tubes as close as possible. Be sure the elevons are in the straight up position (if they are not removed.)

9. For non-removable elevons: Install the triangular foam blocks and the strap over the elevons, around wing just behind or in front of the elevon control arms.
For removeable elevons: make sure the elevon guides are both facing up.
10. Pull the stick back and tuck it under the loop formed by the shoulder harness or just leave it tilted outward so that it does not contact the D-tube when the cage is folded.
11. Lay out the cover bag next to wing with zipper wide open. Be sure the wide area of the bag is next to the cage. Lift the glider onto the bag, one end at a time
12. Un-pin the support cables at rear of cage and carefully fold cage rearward so that the 4 styrofoam blocks rest against the bottom surface of the D-tubes. Watch that the forward cage struts do not crush the styrofoam. Look to be sure the stick is not upright or else it will press on the bottom of the D-tube causing a dent. Move the stick to the outside of the wing.
13. Zip up bag partially. Slide the (padded) removeable elevons beneath the wing so that they fit partially into the folded cage. On models with non-removable elevons the winglets should be padded and may be placed inside the bag on top of the wing in the area between the cage and elevons. Otherwise store the winglets in the car. Tip fairings may be stored inside the cage. Zip up bag; snap internal bag buckle to hold cage against the wing.

CAUTIONS

1. Never leave the zippers near the back portion of the wing (cage area) when transporting it on a vehicle. The bag tends to flap in this area and the zippers will wear a hole through the sail ! Move the zippers forward where the bag is tighter and will not flap.

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