

Quantum Series Hang glider Parachute Manual



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There are no tests, standards, or certifications for hang gliding parachutes manufactured in the United States.

“Limited warrenty” High Energy Sports Inc. will warrant all goods against defects in materials or workmanship for 6 months, provided that the consumer follows all inspection, maintenance, registration and use procedures. Any deviation from manufacturer's specifications concerning maintenance, repair, and alteration or modifications constitutes willful negligence and will be done at the operator's own risk and result in waiving the above limited warrenty.

The period of limited warrenty is limited to 180 days because beyond that period of time normal use by purchaser without inspection by certified rigger or manufacturer may have deleterious effects on it. Damages of buyer and/or user shall be deemed liquidated in the costs of replacement as above. Manufacturer and/or seller shall in no event be held liable for personal injuries or for other damages, whether general or consequential to any person, caused by any use of this merchandise, or by lack of use, or by misuse, and shall have no other liability in connection with this device. Manufacturer and seller hereby **DISCLAIMS** and purchaser and user hereby **WAIVES** ny such liability.

INTRODUCTION

Thank you for selecting a High Energy Sports Inc parachute system. This manual will provide you with information on the installation, operation, and maintenance of your High Energy Sports Quantum Series parachute. It must be remembered that this is an emergency reserve canopy designed to slow your rate of descent and reduce your chance of death.

When you contemplate the use of this system, you will probably be in a life threatening situation, therefore to reduce your risk of serious bodily injury or death it is critical that you follow the installation and maintenance instructions outlined in this manual.

The information contained in this manual is not intended to replace qualified instruction in the care and use of emergency hang gliding parachutes, nor is it intended to replace the packing and inspection duties of a qualified rigger.

We encourage you to attend as many parachute clinics as possible and practice simulated deployments on the ground prior to each repack. If you have any questions or concerns please do not hesitate to contact us.

OWNER'S RESPONSIBILITIES

- To read and understand this manual before installing and/or using this parachute system.
- To read all warning labels.
- To fill out and return owner's registration & installation page.
- Not to deviate from manufacturer's instructions or from standard practices in the installation maintenance of the system.
- Never allow abuse or misuse of the parachute in any manner.
- Never exceed the operational limits of your hang glider or of yourself.
- Contact High Energy Sports immediately upon emergency use of this system.

Operational Limitations

QS 330: Maximum total suspended weight= 330 lbs

QS 440 Maximum total suspended weight= 440 lbs

QS 550: Maximum total suspended weight= 550 lbs

Maximum speed=100 mph

Placing your QS parachute in your Harness

The following instructions are for conventional parachute containers using Velcro closures. Consult your harness manual for other parachute container style routing. No matter what, be sure your parachute bridle is connected to the carabiner and can easily break free from the harness routing.

1. Completely open the 3-sided Velcro closure on the parachute container located on your harness.
2. Fold the hook side of the Velcro on your parachute container away from the inside of the parachute container so it cannot snag any part of your deployment bag.
3. Place your parachute into your harness parachute container with the handle facing up. The handle will extend out of the container and lay over the Velcro with the grommets. *If*

your parachute container does not have grommets pre-installed in your harness please contact the harness manufacturer or give us a call.

4. S-fold the parachute bridle into the bottom 1/3 of your parachute container. Leave enough bridle extending out of the parachute container side (just above the bar tack) to have the covered loop reach your carabiner. Make sure there are no twists or knots in the bridle.
5. Push the parachute into the container and secure the safety lock system.
 - To secure the safety lock system line up corresponding grommets located on the Velcro flap.*
 - With the parachute deployment handle on the outside of each grommet thread the bungee loop through both grommets.*
 - Insert the curved pin located on your parachute deployment bag handle through the bungee loop peaking through the grommets on the outside of your parachute container.*
 - Repeat this process to secure the second safety lock.*
 - If you have any question as to whether your system is secured properly, try to open the Velcro closure without pulling on the parachute deployment bag handle. If the parachute container opens freely, your safety lock system is not properly installed. Next try to open the Velcro by peeling the parachute deployment bag handle away from the deployment bag. The curved pins should slide out of the bungee loop and allow the Velcro to open.*
 - If your curved pins slide out of the bungee loops before you exert pressure on the handle you may need to shorten the bungee loop. To do this simply slide the knot in the bungee towards the looped end.*
6. Secure the top and sides of the Velcro on your parachute container. The more force you apply to the Velcro the better it will close.
7. Attach the looped end of your bridle to your carabiner. Make sure that your bridle is opposite the carabiner gate. Secure the bridle to your harness as prescribed by your harness maker. Make sure you do not have excess bridle that may get caught on anything.
8. If desired attach a safety from your harness main strap directly to your parachute bridle bypassing the carabiner. This safety should be able to withstand 4000 pound load. It is your backup in the event of a carabiner failure during deployment.

After you place your parachute into your harness:

1. Be sure the handle releases the safety pins before it pulls on the deployment bag.
2. Practice hanging in your harness and pulling your parachute out of the container.

Note: If your parachute is too small for your parachute container, the handle may not want to release properly. You can add foam to the bottom of your parachute container to help the parachute ride higher in your harness container.

3. Do the "knee test" to assure that your parachute is secure.

Knee Test:

- A. Place your knees on the back of the parachute container (inside the harness where your body would normally lie)
 - B. Hold the harness where the sides of your body would normally fit.
 - C. Pull the sides of the harness towards you while you push against the parachute with your knees in a manner that simulates your body weight.
 - D. If you hear Velcro opening sounds, reattach the Velcro and sit on your parachute container. Try to squeeze the air out of your parachute by rocking back and forth.
4. Check your bridle routing to make sure it can release when required.
 5. Make sure the bridle is attached to the carabiner on the opposite side of the gate

Before Every Flight:

Preflight your parachute:

- Check your safety pins
- Be sure your handle loop is accessible.
- Look at your bridle routing making sure “extra bridle” has not slipped out of your parachute container.
- Be sure the bridle is on the carabiner opposite the gate.
- Double check your parachute container Velcro. Be sure it is closed appropriately.
- Repeat the Knee Test

IN-FLIGHT SAFETY

You can help to reduce the time it takes to deploy your parachute by looking for your parachute handle and reaching for the handle during each flight. Under no circumstances should you ever practice full in-flight deployments. Even if everything was done perfectly, sometimes parachutes do not work. You can reduce your altitude loss for full inflation by throwing the parachute

DEPLOYMENT PROCEDURE: Memorize these steps!

If you need to deploy your parachute do not waste time...deploy fast.

1. **Look** for the deployment bag handle.
2. **Reach and grasp** the handle securely.
3. **Look for clear air.** Avoid throwing your parachute into cables or broken glider parts.
4. Peel the handle down and away from you. You should now be holding the deployment bag containing your parachute.
5. **Throw** the deployment bag towards the clear air. Throw the bag hard, as if your life depended on it, because it very well could. Your bridle should come to full extension followed by your lines and canopy.
6. **Yank** vigorously on the bridle. This will help to spread the suspension lines and open the wind channel if your canopy has not yet inflated.
7. If necessary pull your parachute back in with yanking movements and repeat steps #5 & #6.

8. If you are falling into your canopy do not pull it all the way in. Instead continue to yank on the bridle until it inflates away from the wreckage.

LANDING SUGGESTIONS

Once your parachute has opened:

- If you have a POD style harness open the doors to let your feet out. *(There may be some situations where you choose to remain in the harness.)* If you have a cocoon, get your feet out of the harness and go to a feet down position.
- If possible **climb into the control bar** and stand with your feet spread on the base tube.
- Try to **stabilize the glider**. You may be able to steer your glider with control inputs from your feet. If possible try to face the glider into the wind for landing.
- Once you are standing in your control bar, keep your head up and arms in. If possible **evaluate the condition** of your equipment, pull in any instruments that have become dislodged and secure them for impact. At this time be sure your hook knife is readily available.
- Depending on your particular situation, you should attempt to let the glider take most of the impact of landing rather than your body. If you have good control and your glider is still flying, you may consider dropping into your harness for a good flair before impact.
- If you are not able to climb into the control bar try to **get into a feet-to-earth position**. Prepare for a **PLF** (Parachute Landing Fall) by keeping your eyes focused on the horizon, bringing your legs together with knees slightly bent, and your arms in. Try to allow your legs to take the landing impact as you roll from the side of your legs to the side of your hip, to the side of your shoulder. If you are drifting while you are under canopy, prepare to roll in the same direction you are drifting.
- Immediately **upon landing, unhook** from your glider and parachute to prevent the possibility of being dragged.

How to stop deployment problems before they begin

Repack at least once a year and practice parachute extraction before each repack!

If there is any question about whether your parachute is properly placed in the deployment bag, hook the handle on a solid object and pull on the bridle. The bridle, lines then canopy should snake out of the deployment bag in a smooth orderly sequence. **(DO NOT ATTEMPT TO REPACK YOUR OWN PARACHUTE WITHOUT APPROPRIATE GUIDANCE OR TRAINING.)**

Note: When you have your ballistically deployed parachute repacked ask the packer to disconnect the rocket and pull the lanyard to simulate the rocket pulling the parachute out of the container. It should pull out smoothly. This process should be repeated after repacking if there is any question about how the parachute is packed.

Preflight your Parachute

Follow procedures outlined above.

Inspect Bridle

Check the bridle for signs of damage that may have been caused by dirt, abrasion, or friction. Pay special attention to the carabiner loop since damage caused by friction from the harness is common. The point of bridle entry into the parachute container (about 5' from the carabiner loop) may show signs of fraying due to Velcro damage.

Inspect Safety Pins

If they are rusty, clean them or replace.

Check Line Stowage

All lines should be enclosed in the deployment bag.

Inspect Safety Pin holders

Be sure the bungee (or rubber safety pin holder) is tight enough to hold the safety pin without slipping. The bungee should be secured around the safety pin shaft only. If the bungee slips above the shaft to the safety pin attachment on the handle it will not deploy. If your bungee is too loose just slide the knot towards the loop of the bungee and thus tighten it up.

Inspect Rubber bands

Be sure your rubber bands are strong. Replace rubber bands often. Do not double stow (wrap then around the lines more than once). Use only the appropriate size rubber bands (#61).

Recommended Tools and Preparation for Packing

- Rope or cord to secure both ends of the parachute to fixed points.
- Weights to hold down folded canopy. (Telephone books work great!)
- New rubber bands.
- A clean dry area long enough to stretch out the canopy and lines.

1. **AIR CANOPY.** Practice throwing your parachute in a simulated deployment.
2. **LINE CHECK.** Check to see that radial seams (long seams with tape reinforcement) are on the outside of the canopy. Thread an independent packing assist line through all the packing tabs in an orderly sequence. Packing tabs are located at the junction of the radial seam and the lateral band. Secure the rope to a fixed object. Stretch out canopy and lines by pulling on the bridle with mild tension. Check the lines for twists by following two adjacent lines from the skirt of the canopy to the bridle. Clear any twists. Secure the bridle to a fixed object so there is mild tension on the parachute.
3. **INSPECTION.** Inspect the canopy and lines as outlined in Chapter 9 of THE PARACHUTE MANUAL by Daniel Poynter. Check for tears, burns, broken stitches, abrasion, or other malformations. Pay special attention to the bridle. Look for snags at the point where the bridle goes into the parachute container, and for wear at the carabiner loop. Replace the at the first sign of wear.

Deployment Bag PACKING INSTRUCTIONS

1. Stretch out the canopy, lines and bridle. Secure packing assist line to a fixed object. Secure the bridle end using mild tension.
2. Flake the canopy in the usual manner. (Grasp one line at the skirt of the canopy. With your other hand, lift the center of the gore at the skirt until the next line can be easily placed on top of the first line. Repeat this process until the entire canopy is pleated.) Go to the packing tabs and fold each gore neatly by pulling the center of the gore to the outside making sure the material is not inverted into the air channel.
3. Sight down the "air channel" to insure all gores are properly flaked.
4. Lay the canopy with half the gore to each side of the lines. Count the folded gores on each side of the lines. Count the gores on each side of the packing tabs. Make sure you have an equal number of folds on each side.
5. On one side fold the skirt up 45 degrees adjacent to the radial seams leaving 4 inches for the air channel.
6. Long fold that side of the canopy in thirds.
7. Flip the parachute with the folded half on the table and the unfolded half on top.
8. Repeat steps 5 and 6 on the top gores. Long fold the canopy into thirds again and hold in place with weights. At this point you may want to squeeze air from the folded canopy.
9. Long fold the parachute in half to form a neat "tube".
10. Remove the rope from the packing tabs and place the packing tab end of the canopy into one corner of the large pocket in the deployment bag. Please note: *Your parachute will not work with the packing tab rope in place. Always remove rope immediately after folding the canopy.*
11. Close the short deployment bag flap. Thread the appropriate rubber band loops through the grommets on the short flap and lock by looping the lines through each of the rubber bands. The stow form a 1" to 1.5" loop.
12. Starting at the top corner of the line pocket, "S" fold the remainder of the line into the line pocket.
13. Cover the first 2 locking stows with the long flap and thread the outside rubber bands through the appropriate grommets.



12. Lock the deployment bag closed by looping the bridle appropriately through each rubber band

Storage Recommendations

- Always remember that this system is a potential life saving device and should be treated accordingly.
- Protect it from exposure to direct sunlight. Ultraviolet exposure can rapidly degrade your canopy fabric.
- Exposure to salt water, acids, gasoline and extreme heat can cause damage. If any of these things happen, clean the canopy in the prescribed manner according to Poynter's PARACHUTE MANUAL.
- After cleaning and drying inspect the canopy again.
- Always store your harness and parachute in a cool dry place. Do not leave your harness or parachute in the trunk of the car.
- Qualified personnel should repack your High Energy Sports parachute every year. In addition you should have your parachute inspected and repacked any time you suspect damage.

Closing Comments

Your emergency parachute can be your last chance to get out of a bad situation so be sure to treat it with care. When you hear about pilots throwing their parachutes, learn as much as possible about the situation, the conditions and the options available to that pilot. Put yourself in that persons position and try to figure out what you would do.

In an emergency real time might be only a few seconds but when the adrenaline hits in your brain, you may feel like you have lots of time to decide what to do and how to do it.

Practice deployments in a simulator before each repack, visualizing deploying your parachute in your mind's eye, and reaching for your handle with each hand every time you fly will reduce the amount of time it takes for you to get your parachute deployed.

If you do use your parachute in a real life emergency and call with an accident report, we will provide you with a free deployment bag! Your parachute is only part of your safety system. Be sure to learn all you can about your harness, hang strap, carabiner, and deployment system.
Most of all....fly safely!



REGISTRATION INFORMATION

(Return within 14 days of date of purchase)

- 1. OWNERS NAME _____
- 2. ADDRESS _____
- 3. CITY, STATE, ZIP _____
- 4. COUNTRY _____
- 5. TELEPHONE (home) _____
- 6. (work) _____
- 7. CANOPY MODEL _____
- 8. DATE OF PURCHASE _____
- 9. SERIAL NUMBER _____

- 10. DEALERS NAME _____
- 11. DEALERS ADDRESS _____
- 12. CITY, STATE, ZIP _____

I have received, read, and understand all aspects of this product and the technical information provided. By using the system or allowing its use by others, I agree to assume all risk and liability associated with its use. I also agree to hold harmless High Energy Sports and any officers, agents and assigns thereof from any liabilities for injuries or damages arising from such use.

The parachute was installed and packed by a qualified and competent rigger or technician. Any deviation from the manufacturers instructions concerning the installation, maintenance, and use of the system, or any modifications or alterations, shall constitute willful negligence by myself and shall be done at my own risk.

Date _____

Owner's Signature _____

Return to:
High Energy Sports Inc.
Parachute Registration
1081 Shepard Street Unit A
Anaheim, CA 92806