POWER-SAIL

OWNER'S MANUAL

(Also refer to our Power-Sail Video)

WARNING

READ OWNER'S MANUAL
THOROUGHLY BEFORE
USING POWER-SAIL

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TABLE OF CONTENTS

WARNING

POWER-SAILING, LIKE WATER SKIING, SCUBA DIVING AND OTHER SPORTS, MAY RESULT IN SERIOUS INJURY OR DEATH. KNOWLEDGE, TRAINING AND EXPERIENCE ARE REQUIRED TO REDUCE THESE RISKS.

DO NOT PARTICIPATE IN POWER-SAILING UNLESS YOU UNDERSTAND AND VOLUNTARILY ACCEPT THESE RISKS.

DO NOT PARTICIPATE IN POWER-SAILING UNLESS ALL CREW MEMBERS HAVE CAREFULLY READ AND UNDERSTAND THE OWNER'S MANUAL AND HAVE PARTICIPATED IN AT LEAST 3 SUCCESSFUL UNMANNED TRAINING FLIGHTS IN THE PAST 90 DAYS.

DO NOT PARTICIPATE IN POWER-SAILING UNLESS ALL FLYERS HAVE CAREFULLY READ AND UNDERSTAND THE OWNER'S MANUAL OR HAVE CAREFULLY READ "INSTRUCTIONS FOR THE FLYER" AND HAVE COMPLETED A "CONTROLLED PROGRAM OF INSTRUCTIONS AND EVALUATION" COVERING THIS MATERIAL.

NEVER EXCEED OPERATING LIMITATIONS DESCRIBED IN THE OWNERS MANUAL. REVIEW SAFETY PROCEDURES BEFORE EACH FLIGHT. INSPECT ALL POWER-SAIL COMPONENTS BEFORE EACH FLIGHT.

NOTE

SOME PHOTOS IN THIS MANUAL, POWER-SAIL VIDEO AND POWER-SAIL BROCHURE SHOW PROFESSIONAL FLYERS WITHOUT HELMETS OR PROPER FOOTWEAR. THESE PRACTICES ARE NOT RECOMMENDED FOR RECREATIONAL OR COMMERCIAL POWER-SAILING.

DISCLAIMER - NO WARRANTIES

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IF YOU DO NOT AGREE WITH AND ACCEPT THIS DISCLAIMER/WAIVER, DO NOT USE THE POWER-SAIL. RETURN IT TO POWER-SAIL CORPORATION, BEFORE IT IS USED AND WITHIN 30 DAYS FROM THE DATE OF ORIGINAL PURCHASE, FOR A FULL REFUND.

INTRODUCTION

Welcome to the World of Power-Sailing!

You've seen it in Acapulco, Nassau, Cancun and Jamaica.....now your friends can fly behind your boat.

When your new Power-Sail arrives, you get more than just the World's Finest Ascending Parachute. You get *fun* and *excitement* that your family and friends will enjoy for years.

Imagine the thrill of riding the wind at 150 to 200 feet above your favorite lake or river. And yet it's easy enough so the whole family can join in. We have Power-Sailers from age 15 to 75!

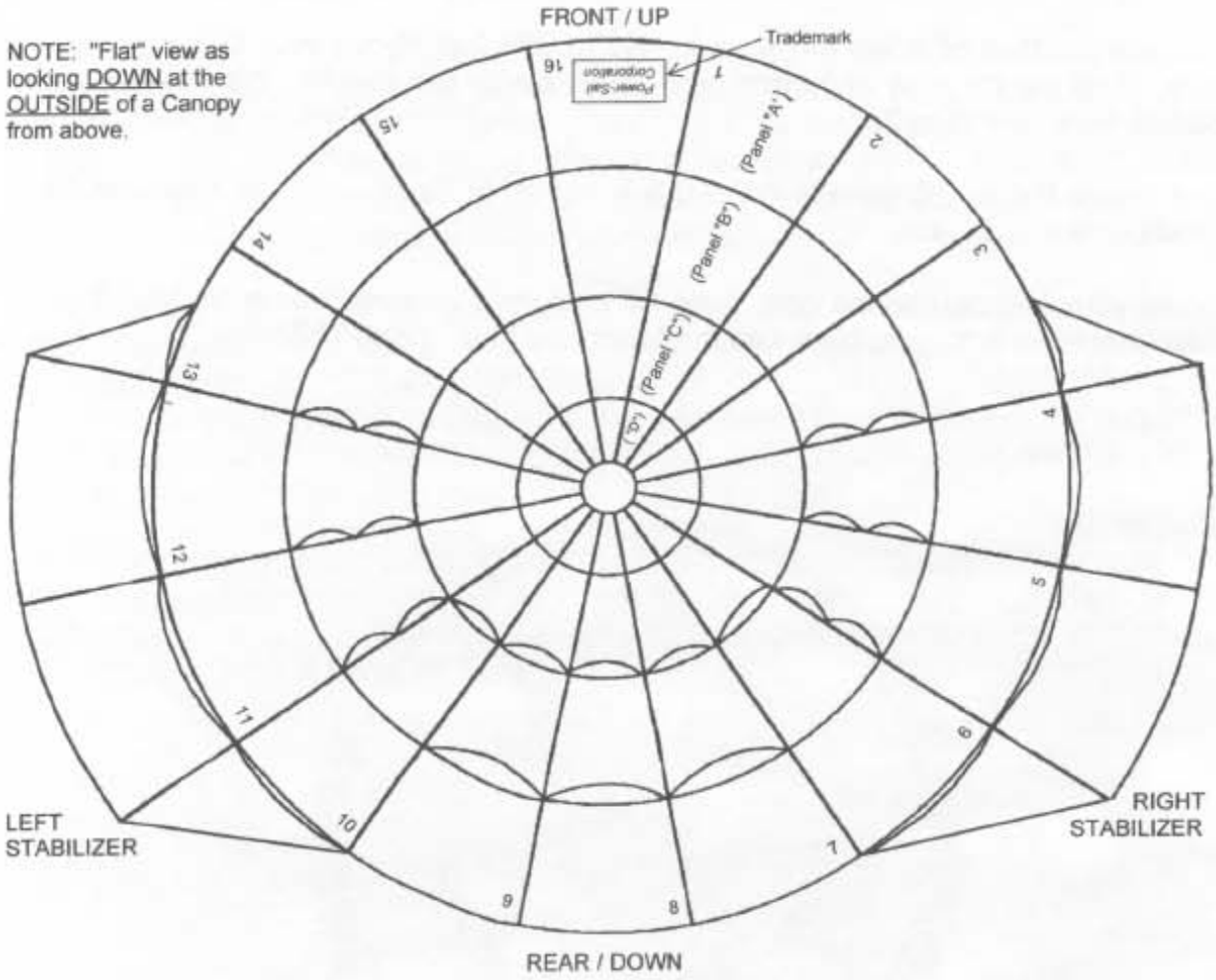
The Power-Sail is 100% made in the U.S.A. using Mil. Spec. and FAA approved materials where applicable.

When your friends see the grin, they will know you've been Power-Sailing! If you have problems or suggestions, call the factory for help. (908) 782-9344.

DESCRIPTION AND TECHNICAL DATA

The Power-Sail is an ascending or lifting parachute that may be towed aloft in much the same manner as a kite. As speed increases, the parachute ascends. When towing slows or stops, the Power-Sail descends to earth, just like a conventional parachute. By controlling the speed of the tow vehicle, it is possible to fly the Power-Sail at any altitude permitted by the length of the tow rope. Maximum altitude is approximately 65% of the tow line length.

CANOPY DIAGRAM - ALL SIZES



POWER-SAIL TECHNICAL DATA

Sizes	24' / 28' / 32' Diameter Ascending Parachute
Fabric type	Nylon Ripstop
Fabric weight	1.9 oz./sq. yard
Fabric breaking strength	Warp 80 lbs./inch, Fill 70 lbs./inch
Fabric Porosity	0 (Urethane coated)
Suspension line strength	900 lbs.

SAFETY PROCEDURES

1. Always wear an approved* life vest (under the harness), a good fitting helmet and sneakers or other footwear (photo 5).
2. Always check the wind speed and direction before each flight. Maximum 15 mph winds. Launch must be directly into the wind. Do not fly in turbulent or gusty conditions (photo 27).
3. Never attempt flight unless the canopy, harness, tow line and optional quick release have been inspected and found to be in good working order.
4. Never leave the Power-Sail canopy, harness, tow line or optional quick release exposed to the sun for extended periods of time, except while in use. Do not hang canopy up to dry in direct sunlight; dry in a shaded area (photo 28).
5. Always make sure the chest strap of the harness is properly threaded and secure. The free end of the strap must be threaded back into the buckle so that it will function as a quick release after landing (photos 9, 10, 11 and 12).
6. Always check to be sure both harness snaps are securely attached to the V-Rings at the riser junctions (photo 7).
7. Never attempt to use the Power-Sail for tethered (stationary) flight.
8. Never attempt to use the Power-Sail for flight over land.
9. Never attempt to use the Power-Sail for jumping from an airplane.
10. Always operate the Power-Sail in strict compliance with the owners manual.
11. Never operate a motorboat or fly a Power-Sail while under the influence of alcohol or drugs.

* U.S. Coast Guard approved vest.

INSTRUCTIONS FOR THE FLYER

1. Read and comply with all product warning labels and warnings and disclaimers contained in the owners manual before flight.
2. Follow the instructions provided by the launch crew carefully.
3. Hold risers lightly on your shoulders during launch and release them as they become tight (photo 8).
4. On the "go" signal, the boat will begin to pull. Be prepared to take several long strides before take-off. Use caution to avoid tripping or stumbling during launch. Do not attempt to jump up or lift your legs prematurely (photos 22, 23 and 24).
5. After reaching flight altitude, you may steer the canopy from side to side by pulling down on the rear risers (left to go left and right to go right). Do not pull on the front risers.
6. If you wish to terminate the flight early for any reason, kick your legs to the side in a "scissoring" action.
7. Do not open the chest strap or disconnect the harness from the risers during flight.
8. After landing in the water, you may disconnect the harness from the risers or pull on the chest strap and swim free of the harness. Do not do both or the harness will sink immediately.
9. If the canopy stays inflated after landing in the water, you may collapse it by pulling down firmly on one rear riser and line group. Pull down 2 to 3 feet and hold.
10. Always wear an approved* life vest (under the harness), a good fitting helmet and sneakers or other footwear.

*U.S. Coast Guard approved vest.

LAUNCH AND FLIGHT AREA

The launch area (beach) must allow take-off directly into the wind and should be deep enough to allow 50 feet* of running room after the canopy is stretched out and inflated. A 10-15 mph wind will allow the most immediate take-offs, while low or no wind conditions may require several steps before take-off. The launch area must be clear of docks, boats, trees, power lines or other obstructions for a minimum width of 100 feet (50 feet on either side). A change in wind direction during launch may cause the canopy to travel to the left or right before it begins to ascend.

The flight area should be an open body of water with a minimum dimension (length or width) of 10 times the tow line length. In rivers or other areas where no turns are planned, a minimum dimension of 5 times the tow line length is acceptable. Larger bodies of water will permit longer, more leisurely flights. There should be no bridges, trees, power lines or other hazards which could interfere with safe flight. The standard 300' tow line may be shortened to as little as 100' for smaller lakes or rivers. If you shorten the tow line, tape the ends to prevent fraying. If the requirement for a shortened tow rope is temporary, tie it off at the desired length.

A wind direction indicator (sock or streamer) must be located in the launch area but at a safe distance from the path of the flyer and canopy. Refer to the wind direction indicator and the wind meter before each flight.

*The **24 Ft.** Power-Sail Canopy will provide adequate lift-off for flyers up to 225 lbs. Flyers over 175 lbs. may require greater running room for proper launch, especially in low or no wind conditions.

*The **28 Ft.** Power-Sail Canopy will provide adequate lift-off for flyers up to 300 lbs. Flyers over 225 lbs. may require greater running room for proper launch, especially in low or no wind conditions.

*The **32 Ft.** Power-Sail Canopy will provide adequate lift-off for flyers up to 375 lbs. Flyers over 300 lbs. may require greater running room for proper launch, especially in low or no wind conditions.

BOATS AND HANDLING

The tow boat should allow good visibility in all directions and must be capable of pulling 1000 lbs. although normal tow forces are 300-400 lbs. at speeds up to 30-35 mph.* Outboards with a minimum of 100 hp or I/O's with at least 120 hp will normally do the job with ease. Generally, the more power you have available the easier the job becomes.

Boats typically have center and / or side eye bolts that are anchored through the transom which can be used for attaching the tow line.

Take-offs must be made *directly into the wind* and will require full power for most recreational boats. Reduce power to a comfortable cruise as soon as the canopy has reached the desired altitude.

The correct power setting is the lowest one that will keep the canopy at a comfortable altitude (30 to 45 angle between the tow line and the water). Increase power when you turn down wind and reduce power when turning into the wind.

Although tow angles in the 60° range are possible, the front of the canopy may roll under excessively or oscillate from side to side. This indicates you are *over towing* the parachute, i.e. going too fast. Slow down a few mph. In low wind conditions the boat speed will normally be in the 15 to 25 mph range. As the wind speed increases, the boat speed must be decreased while towing into the wind and increased while towing down wind.

Landing should be made into the wind or in a moderate cross wind. Approach the flyer after landing with the motor in neutral.

*The tow rope pull force during rapid ascent with a 175 pound flyer with smooth wind (no gusts) was measured at 350 to 400 pounds. In no-wind conditions the average boat / tow speed in a straight line is 20-25 mph.

BOAT CREW

Two crew members are required in the boat, a driver and an observer. The driver must provide smooth take-offs and landings and is generally responsible for the flight after the launch. The driver should have several hours of experience in the boat that will be used. The observer should give status reports to the driver throughout the flight and be alert for and hazards which could endanger the flyer or boat crew. If a quick release is used on the boat, the observer will activate it in the event the flyer should stumble or fall during launch. The quick release should not be activated during the first 50 feet of altitude after take-off. The driver should observe the canopy during take-off and landing.

Take-off will normally be at full power with a smooth reduction to cruise power as the canopy reaches altitude.

It will be necessary to increase the boat speed as you turn down wind and decrease it again as you turn into the wind.

The observer will assist the flyer in climbing into the boat after landing and will pull in the canopy and tow lines.

LAUNCH CREW

The launch crew is made up of a Launch Director and two canopy handlers. The Launch Director should be the most experienced crew member and is responsible for final checks of the equipment and signaling to the boat. The canopy handlers must release the canopy <u>as soon</u> as it inflates and starts to go up (photos 22, 23 and 24).

NOTE: Yellow tabs on lines 3 and 4 and 13 and 14 mark proper hand holds for canopy handlers. Left hand at line 3 and right hand at line 4 (below stabilizer). Right hand at line 14 and left hand at line 13 (below stabilizer). Canopy handlers must use caution to avoid stepping on or entanglement with canopy. (photo 21)

TRAINING FLIGHTS

Inexperienced crew members ***must*** participate in at least 3 unmanned training flights before their first manned launch.

A full size spare tire with rim (or) 30 gallon plastic garbage barrel ½ full of water, makes a suitable "dummy" load. Do not use the regular Power-Sail harness, use suitable rope ant tie the load to both V-Rings at the junction of the risers where the regular harness would be attached. Do this in such a way that the load will be evenly distributed on both V-Rings, without shifting from side to side during flight (the canopy will not fly straight). Attach the tow line to the yoke in the normal manner. Refer to Power-Sail video. NEVER ATTACH the load directly to the tow line or yoke.

Go through the entire launch, flight, landing and recovery sequence successfully at least three (3) times.

If any crew member has problems, continue with unmanned flight until everyone is satisfied. Due to the lighter weight, the Power-Sail may lift off quicker during training flights. Keep a record of crew members that have been trained.

SAFETY EQUIPMENT

In addition to the Power-Sail canopy, harness, tow line and optional quick release you will need:

1. Coast Guard approved life vest.
2. Helmet (high visibility yellow).*
3. Footwear (old sneakers are fine).
4. Wind meter.*
5. Wind direction indicator.*

*These items are available from Power-Sail Corporation.

CANOPY DESCRIPTION & INSPECTION

The Power-Sail canopy consists of 16 gores and suspension lines and two RED center lines which retract the apex. Air vents in the rear of the canopy create aerodynamic lift and left and right stabilizer panels provide directional stability in tow.

The front of the canopy is identified by locating the Power-Sail trademark, note it must ALWAYS be facing outwards. At this point, panels and/or lines #1 and #16 are found which attached to left and right front (upper) risers and likewise the rear of the canopy is attached to the rear (lower) risers.

The front risers are connected to the tow line by means of a permanently attached yoke. In flight, the Power-Sail harness is attached by stainless steel snaps to the V-rings located at the junction of the front and rear risers (photo 7).

Inspect the canopy, lines, risers and yoke for deterioration, damage inversion or entanglement before each flight. Correct any deficiencies before use.

PREPARING THE CANOPY

Place the canopy on the ground with the trademark centered and facing upward. Un-chain the suspension lines and extend the lines on the ground in the direction of flight (into the wind). Spread the canopy outward from each side of the trademark, laying it flat on the ground with the stabilizer panels outermost (photo 1).

Standing near the trademark, grasp line 1 with the right hand, line 16 with the left hand (marked with red or orange flags), and walk toward the risers; working any twists or tangles toward the risers and removing them there. The lines are in proper order only when lines 1 and 16 can be traced from trademark to the inside of the front (upper) risers (also marked with red or orange flags) without interference and with no twists in the risers. Remember, lines 1 and 16 have red or orange tabs at both ends for easy identification (photos 2, 3 and 4).

If the canopy and lines are tangled, have another crew member hold the risers and turn them as required, while you trace lines 1 and 16 down from the trademark.

If the trademark and the gore numbers are on the inside of the canopy, the canopy is inverted. The canopy must be turned right side out before proceeding with the line check.

Do Not proceed beyond this point until the canopy, lines and risers are straight. When the canopy and lines are straight, use caution to insure that the risers do not become twisted before they are hooked to the harness.

Photo No. 1

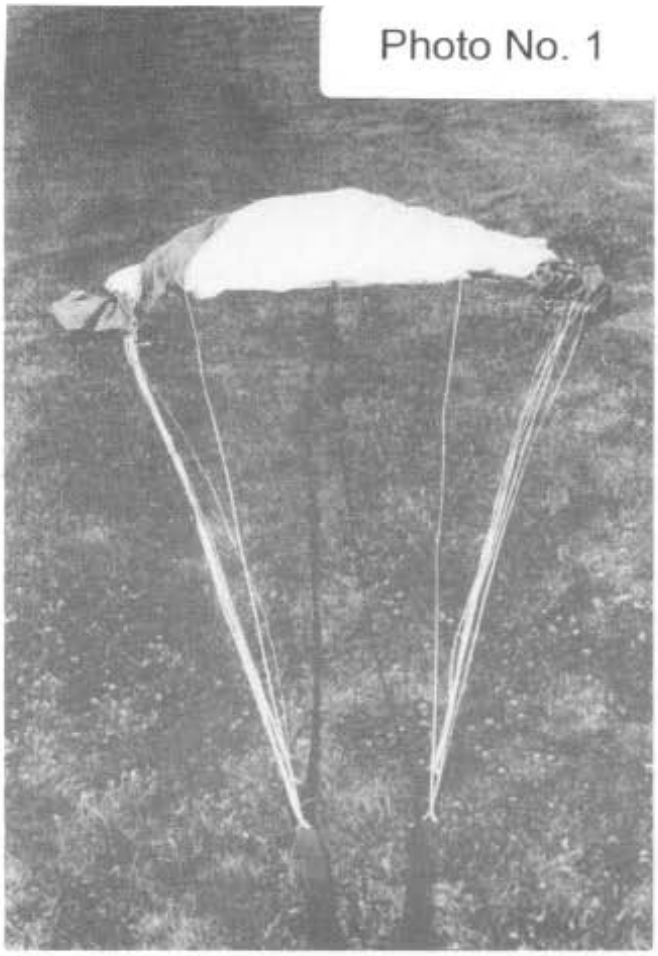


Photo No. 2

Photo No. 3

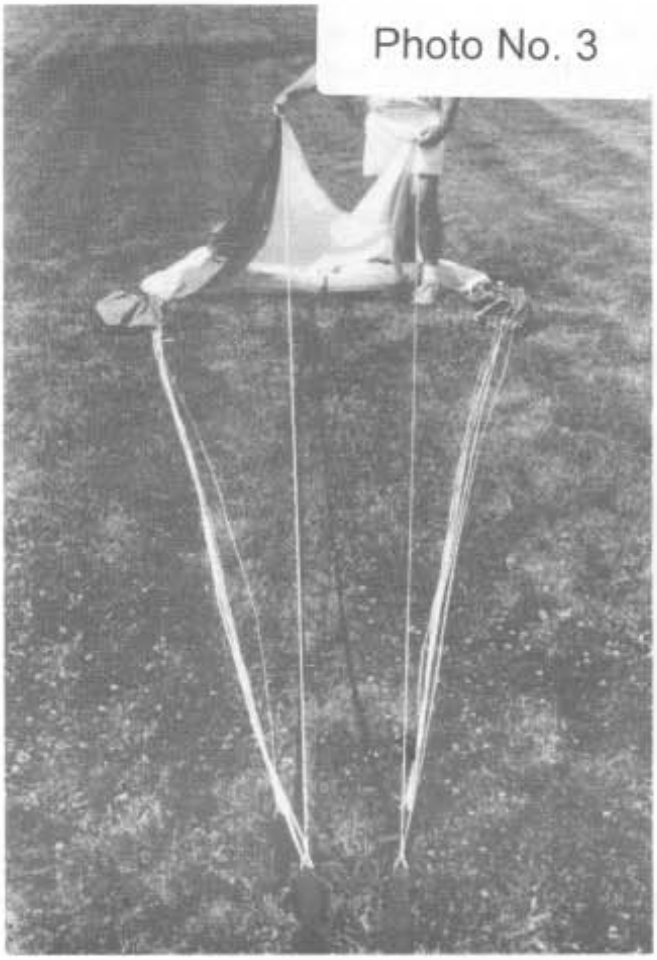


Photo No. 4

HARNESS DESCRIPTION, INSPECTION AND ATTACHMENT

The Power-Sail harness is a sling type harness with sewn in leg loops and adjustable chest strap. It will fit most flyers from 5'0" to 6'6".

The harness is attached to the risers by stainless steel snaps at the upper end of the lift webs. When the harness is straight, the warning label will be on the outside of the back strap and there will be no twists or tangles in the webbing (photo 7).

CAUTION: Inspect the harness carefully for deterioration, damage or failure. Give special attention to the snaps that attach the harness to the risers. Insure that the springs are functioning properly and that the guards close with a firm snap (photos 25 and 26).

READ THE WARNING LABEL BEFORE DONNING HARNESS.

After donning and securing your life vest, hold the harness by the lift webs and step into the leg loops. Pull the saddle up under the buttocks with the leg loops around your upper thighs. Pull the back and chest straps up and secure the chest strap buckle.

The free end of the chest strap is passed out through the friction buckle (behind the movable bar), over the movable bar and down through the opening between the bar and the frame of the buckle. Pull free end of the strap until the chest strap is snug. If the buckle does not hold firmly, it is not threaded properly. Now, insert the end of the strap back through the buckle a few inches so it may be used as a quick release after landing.

To release the harness in the water, simply pull on the end of the strap and swim free of the harness. Do not open chest strap during flight.

Note: A novice flyer will need help putting on and securing the harness (photos 5, 6, 9, 10, 11 and 12).

Photo No. 5

Photo No. 6

Photo No. 7

Photo No. 8

Photo No. 9

Photo No. 10

Photo No. 11

Photo No. 12

TOW LINE DESCRIPTION, INSPECTION AND ATTACHMENT

The tow line is made of high visibility yellow polypropylene (it floats) and has a tensile strength when new of 3780 lbs. with approximately 1/2" diameter. The standard tow line is 300' long but may be shortened (cut or tied off at desired length) to as little as 100' for small lakes and rivers. The minimum dimension of the flight area for comfortable turns should be 10 times the tow line length. Longer tow lines may be used on large lakes or offshore.

Inspect the tow line carefully for deterioration, damage, knots or failure before each flight. Never use a tow line that shows signs of deterioration or that is knotted. In normal recreational use (not commercial), tow lines should be replaced after 3 seasons of use, regardless of condition. If the tow line is found to be serviceable, attach one end to the yoke and the other end to the boat with bowline knots (photos 13, 14, 15 and 16).

If a quick release will be used with novice flyers, it should be placed between the boat and the tow line. With experienced flyers, the quick release may be placed between the yoke and the tow line (photos 17, 18, 19 and 20).

The tow line should be straight from the boat to the canopy and with no slack before the "go" signal is given. If the boat had drifted prior to launch, pull on the line to remove the bow.

The tow line should be attached to a strong eyebolt on the transom. On inboard ski boats it is acceptable to attach the line to ski mast, make sure the mast is able to withstand pull forces up to at least 1000 lbs. (while angled upwards to 60°).

If the canopy is tangled during recovery, it may be necessary to untie the tow line from the yoke to straighten the canopy.

If the tow line becomes worn where it is attached to the boat or yoke, cut off the worn area, tape the end to prevent fraying and retie.

Warning: Knots may reduce the tow line strength by 50%.

Photo No. 13

TOWLINE: Procedure to tie a bowline knot

Photo No. 14

Photo No. 15

Photo No. 16

QUICK RELEASE DESCRIPTION, INSPECTION & ATTACHMENT

The Power-Sail quick release is a metal-to-metal, in line release. The release will hold securely but will release quickly with a firm pull on the lanyard.

For novice flyers, install the quick release at the boat so the lanyard may be pulled by the observer. For experienced flyers, the quick release may be installed between the yoke and the tow line. The lanyard must always face toward the person who will activate it. Tie the lanyard to the boat or the V-Ring on the riser (where the harness is attached) so that it is within easy reach. Take care that the lanyard *has adequate slack* to avoid self activation.

Use good judgment to avoid releasing a flyer where they could drift freely and descend to land near obstacles (boats, docks, etc.) on the water or over land.

As noted in the "Landing And Recovery" section, activating the quick release by the flyer with tension on the tow rope is <u>not</u> recommended. Although the release hardware is protected with padding, the recoil could result in injury.

If the novice flyer falls <u>before</u> take-off, release immediately. Avoid activating the quick release during the first 50 feet of altitude <u>after</u> take-off.

NOTE: Currently we are providing an improved "3-ring design" quick release (shown below, front and back views). It does not include the padded pillow-shaped cover as the old release. If you have any questions, please call us at the factory: (908) 782-9344 or (800) 426-3316.

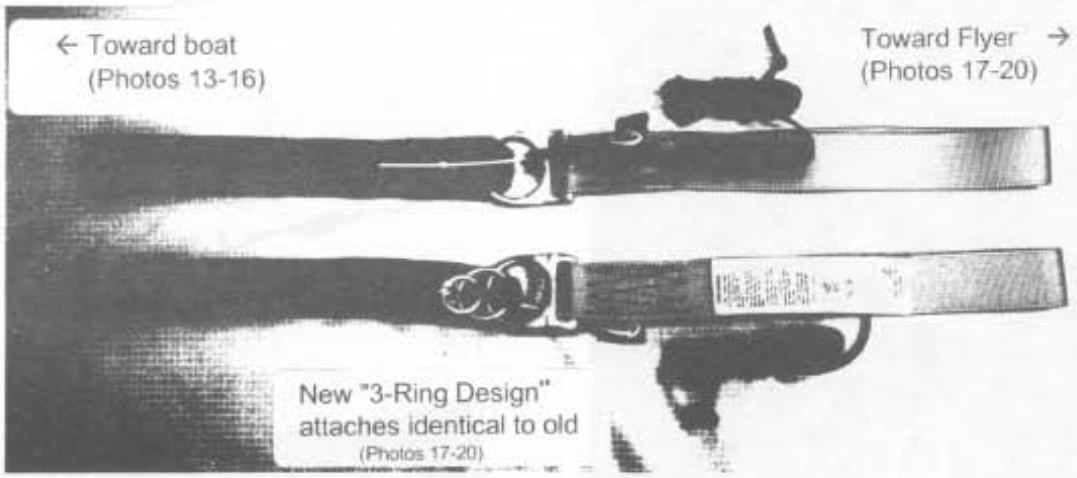
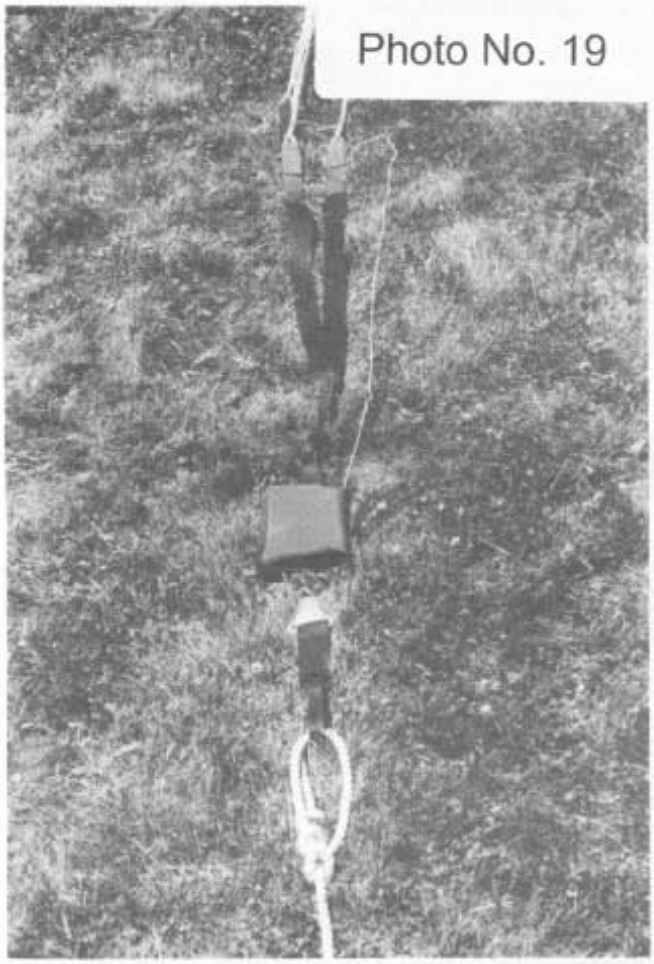


Photo No. 17

Photo No. 18

Photo No. 19



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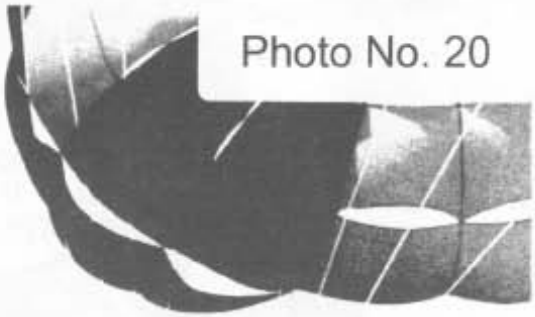


PREPARING FOR LAUNCH

While wearing the harness, step between the left and right risers and face direction of flight (back to canopy). With the right risers on the right shoulder and the left risers on the left shoulder, a crew member should now attach the harness snaps to the V-Rings at the junction of the risers. Use caution to avoid twisting the harness straps or the risers.

Now do a final line check to insure that lines 1 and 16 run directly from the trademark gore to the inside of the front (top) risers (photos 5, 6, 7, 8 and 3).

The risers should be held lightly in place on the shoulders during launch and set free as they become tight during lift off.

The Power-Sail is now ready for flight.

TAKE-OFF

After a final check of the harness, risers, lines and tow line, the Launch Director should signal the driver to take up the slack in the line. The launch crew should now hold the sides of the canopy aloft by grasping lines 3 and 4 and 13 and 14 (see note below) at the canopy skirt and stabilizer panels in a manner that will promote inflation.

NOTE: Yellow tabs on lines 3 and 4 and 13 and 14 mark proper hand holds for canopy handlers. Left hand at line 3 and right hand at line 4 (below stabilizer). Right hand at 14 and left hand at 13 (below stabilizer). Canopy handlers must use caution to avoid stepping on or entanglement with canopy (photo 21).

When everyone is ready, the Launch Director, who is standing to the side and at the shore will drop his hand* from overhead and shout "go" so that it may be heard from the boat. In calm winds, the launch crew may move forward a few steps with the canopy. The launch crew should release the canopy as soon as possible when it inflates and starts to go up. **Holding on to the canopy too long will create more problems (rolling) than letting go too soon.** Usually only <u>one</u> or <u>two</u> steps will be taken before release (photos 21, 22, 23 and 24).

If the flyer should trip or fall before takeoff, activate the quick release or stop the boat immediately.

A smooth, easy take-off and climb, without excessive speed, is safest and most pleasant. The boat driver will find that a good launch is much like pulling up a water skier - full power to get the canopy up and then a smooth reduction in power to a comfortable speed. The correct speed is the lowest speed that will maintain 30° to 45° angle between the tow line and the water. If there is a gentle breeze, the flyer will lift off immediately. If there is no breeze, the flyer should be prepared to take several long strides as the boat accelerates. The flyer should <u>not</u> try to aid the take-off by jumping or pulling up his feet, this may foul the launch. It is much better to keep running for a few more seconds--even after takeoff. Let the canopy do the lifting.

* A flag will improve the signal and is recommended, especially with long tow lines.

Photo No. 21

Photo No. 22

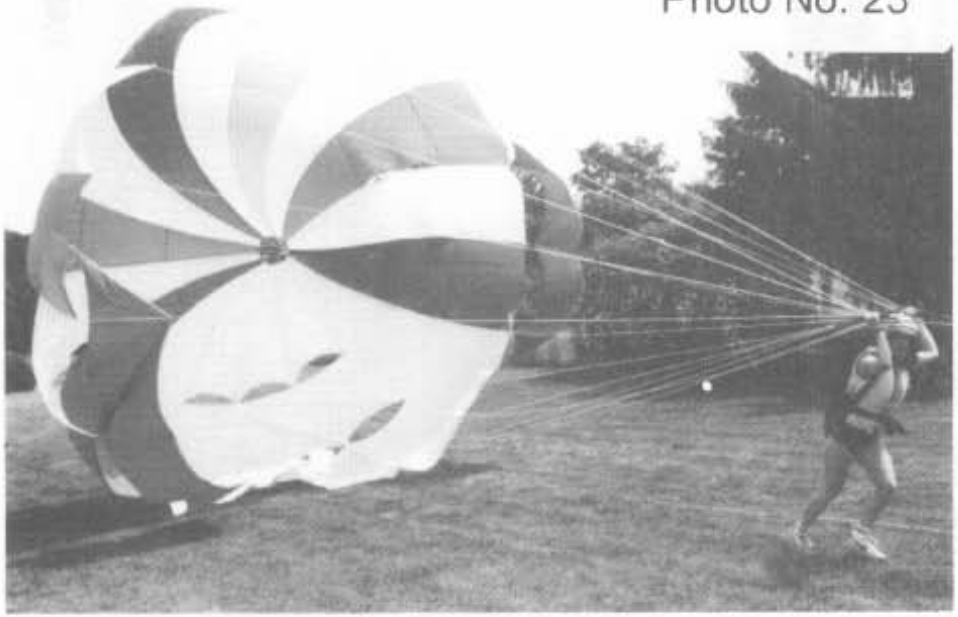


Photo No. 23

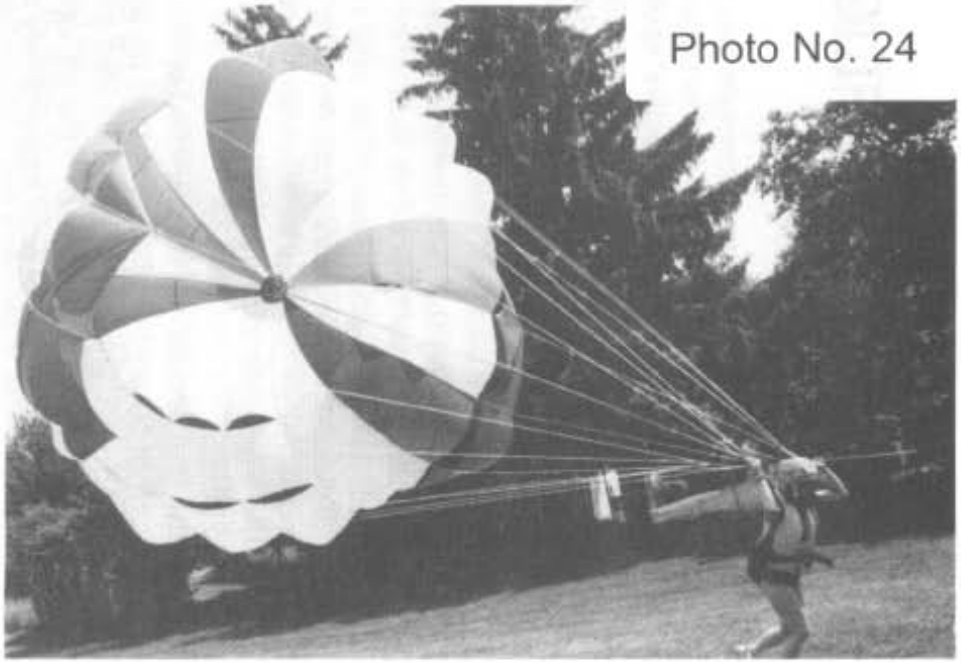


Photo No. 24

FLIGHT

During flight, the driver and observer are responsible for giving the flyer a smooth ride. The height of the Power-Sail is controlled by the effective speed of the boat in relation to the existing wind. Effective speed is the measured speed of the boat plus (when driving upwind) or minus (when driving downwind) the wind speed. For example, when the wind speed is 5 mph a down-wind boat speed of 20 mph will be the same as on up-wind boat speed of 10 mph. they both result in an effective speed of 15 mph.

If the boat is going too fast, the front panels of the Power-Sail may buckle and flap and the canopy may bounce around. Too much speed puts unnecessary stress on the boat, tow line and Power-Sail and results in an unpleasant ride. Use only enough speed to maintain a comfortable altitude. The novice flyer should be instructed to move his legs in a pronounced "scissoring" action if he wishes to terminate the flight prematurely.

The tow line should not be released while under power except in an emergency. A minimum of 50 feet of altitude should be attained before disconnecting from or stopping the boat. This altitude is required to dampen the oscillation that results from suddenly terminating the tow. If the canopy rotates for any reason more than 45° to the right or left, slow the boat immediately and prepare to land.

The boat speed should be adjusted as required to maintain the proper canopy altitude.

If the boat does not have adequate speed to maintain altitude on the down wind leg, close the throttle and stop the boat before the flyer reaches the water.

LANDING AND RECOVERY

Landing may be accomplished in one of two ways:

1. Slow the boat gradually until the flyer is just above the water, then close the throttle completely allowing him or her to settle in.

2. Slow the boat quickly and close the throttle while the canopy is high. The flyer will make a normal parachute type descent and landing. With experienced flyers, a quick release fitted between the yoke and tow line will allow the flyer to release from the tow line after the power has been cut, allowing a completely "free descent." Activating the quick release by the flyer with heavy tension on the tow rope is <u>not</u> recommended. Although the new "3-Ring Design" release hardware is very light weight, the recoil could result in injury. Landings should always be made in deep water and while facing into the wind. Be sure the flyer is far enough from shore that they will not land in shallow water or on dry land. The flyer should never disconnect himself from the harness or canopy prior to landing.

When the flyer is in the water, he should disconnect the harness from the risers or pull on the free end of the chest strap and swim free of the harness. Do not do both or the harness will sink. The canopy cloth traps pockets of air and stays afloat for a considerable period of time, but if left unattended it will eventually sink.

When the flyer is in the water, the driver should make a quick 180° turn to pick up the flyer and the canopy. Use caution and make a short turn to avoid pulling the flyer through the water. Approach the flyer with the motor in neutral and help him into the boat. Use care to avoid tangling or damaging the canopy while pulling it into the boat. Pull in the tow line as soon as possible to avoid damage by other boats.

STORAGE AND MAINTENANCE

After use, straighten the suspension lines into a bundle by drawing the canopy together. "Daisy Chain" the line bundle to prevent line tangles and lock the last loop of the chain with the risers.

Wetting the canopy and harness in fresh water will not affect the operational characteristics and may be dried out and put away. Salt water operations will require a thorough rinsing of all components in fresh water to prevent corrosive action on the hardware and to eliminate salt deposits on the fabric.

Thoroughly air dry all parts after operation and before storing. Canopy colors may bleed if stored wet. Air the Power-Sail in a shaded area if possible rather then in direct sunlight. Prolonged exposure to direct sunlight will deteriorate nylon rapidly (photo 28 shows one method of drying in a shaded area).

Small tears in the canopy (3" or less), not affecting seams or lines, may be repaired using sail repair tape* on both sides. The tape should extend at least 2" beyond the ends of the tear. Power-Sails requiring major repairs should be returned to the factory.

* Apply tape to both sides of *dry* fabric.

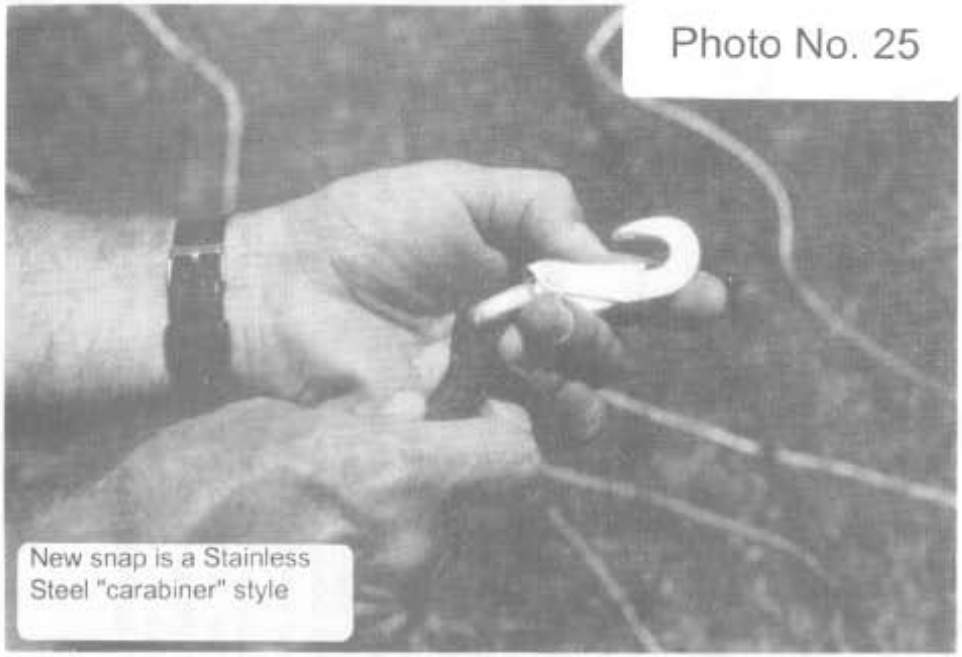


Photo No. 25

New snap is a Stainless Steel "carabiner" style

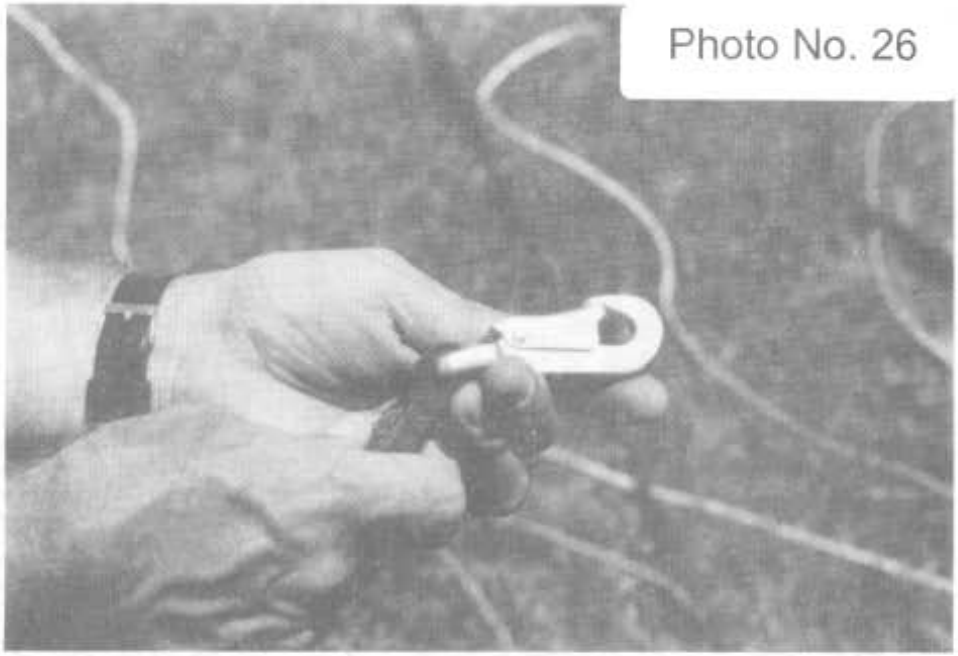


Photo No. 26

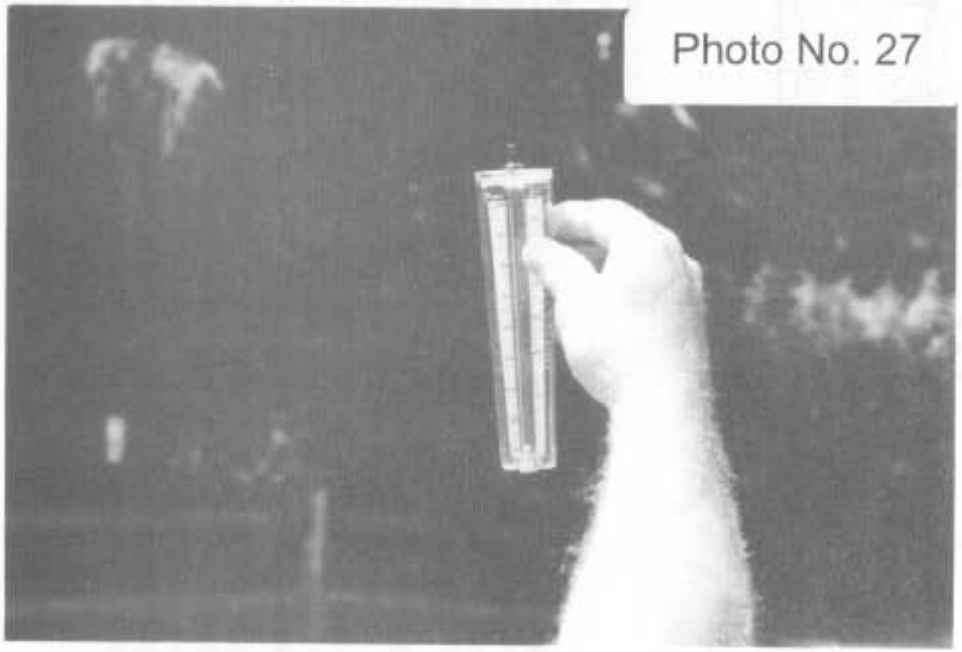
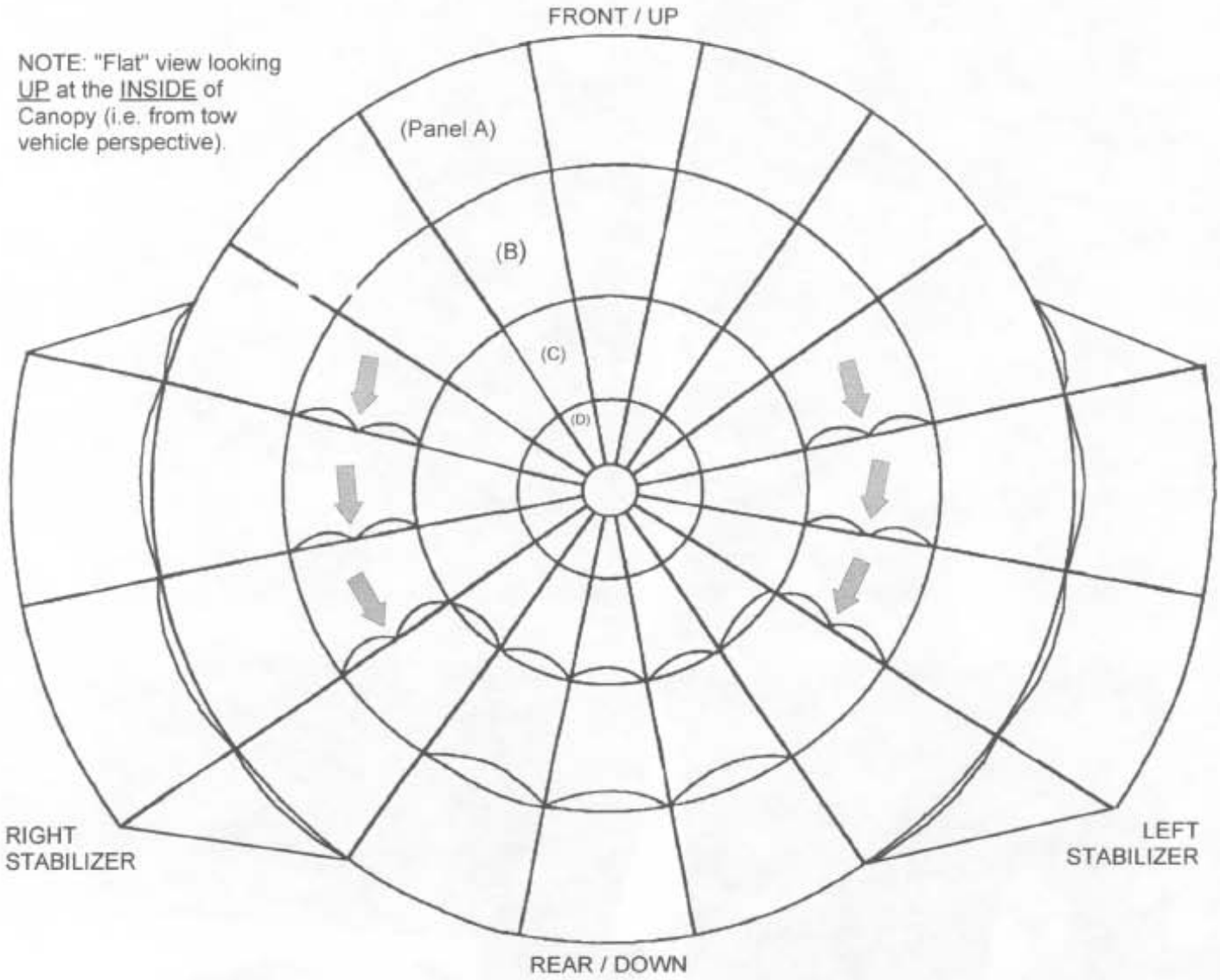


Photo No. 27

Photo No. 28

ADJUSTABLE SIDE VENTS

(Flight Adjustment - all sizes)



A unique design feature is built into the canopy to modify the flight characteristics. The six side vents (see arrows above) have tabs sewn midway across the billowed vent opening. Six cords (approx. 18") are provided with the canopy to allow tying the vent tab together or "closed," ranging to an effective "open" adjustment of 6" to 7". Beyond 7" we recommend removing the cord completely.

The three left and three right side vents can by set or adjusted to an infinite number of air flow positions. The full open position of all six vents allows for faster flying speeds. Closing all six vents provides the greatest amount of lift. The "most stable flight" vent setting is achieved with all six vents open. Some folks testify that the best compromise is with both left and right rearmost vents closed and the center and front vents on both sides fully open. The Factory setting is all six vents closed; your specific requirements will determine changes.

During use, it is possible that the canopy will develop a slight turn or "tilt" in either direction. This can easily be corrected with minor vent cord adjustments. For example, if the canopy turns to its right (the right side is flying lower and slower than the left) simply adjust as follows: open the right vent 1" - 2" so it flies faster OR close a vent on the left side 1" - 2" to make it fly slower. It is possible a 3" - 4" offset will be required in certain cases. Also consider adjusting both sides to achieve the desired flight balance. Feel free to call us for any questions.

Frequently asked questions and answers about Power-Sailing:

Q. I have a 16' fiberglass ski boat with a 115 hp. outboard motor. Will my boat pull a Power-Sail?

A. With the motor at the proper height and a good ski prop, your boat should do just fine. Almost any boat capable of pulling multiple skiers at 30 mph plus will pull the Power-Sail. Some Power-Sail owners report success with as little as 75 hp. but we recommend at least 100 hp. for outboards and 120 hp. or more for I/O's. Of course, a lot depends on the weight of the boat, the height of the motor, the pitch of the prop and who's driving. Generally, the more power you have, the easier the job becomes.

Q. My friend is not a strong athlete. Can they participate in Power-Sailing?

A. Power-Sailing brings a thrilling new dimension to water sports that does not depend on athletic prowess. Almost anyone in good health, who can follow simple instruction and run a few steps can participate in Power-Sailing. We have Power-Sailers from age 15 to 75!

Q. I have never been Power-Sailing. How do I learn the things I need to know to do it safely?

A. If you have a qualified boat driver and good judgment, everything else you need to know is covered in the Power-Sail owner's manual. Included are safety tips, launch and flight area, boats and handling, launch crew, training flights, safety equipment, Power-Sail description and inspection, preparing for launch, take off, flight, altitude control, steering, landing, recovery, storage and maintenance.

Q. Are there risks involved with Power-Sailing?

A. All active sports involve some risk. Snow skiers run into trees and fall from chair lifts. Water Skiers get hit by skis and run into docks. Hunters shoot each other or themselves and get mauled by bears. Fishermen get caught by hooks and fall from their boats and drown. The fact is, these things don't happen very often and serious injuries don't happen very often in Power-Sailing. With good judgment and careful attention to the owner's manual, your Power-Sail will provide years of safe, trouble-free fun.

Q. I would like to buy a Power-Sail now but cash is a little tight. Do you have any suggestions?

A. We accept Visa, Mastercard and American Express as well as prepaid and C.O.D. orders. Since the Power-Sail is a long term investment, it makes sense to put it on your Visa or Mastercard and pay it off at your convenience. Another thought is to check with your employer about advertising. A Power-Sail with a business name across the back becomes a fully deductible advertising expense! Better yet, the operating expenses are deductible too.

Q. I have seen another brand of ascending parachute which costs a little less than the Power-Sail. What do I get for the extra cost?

A. A wise man once said, "Someone can always make a product a little cheaper and sell it for a little less." We don't try to make the cheapest ascending parachutes. We try to make the best! The Power-Sail is 100% made in the U.S.A. using Mil. Spec. and FAA approved materials where applicable. With more than 20 years in designing, manufacturing and marketing parachutes, we are confident that we have the World's Finest Ascending Parachute.

Q. I want to set up a commercial Power-Sail operation. Can you tell me what I need to know?

A. We recommend that you use the Power-Sail for recreational purposes for at least one season before setting up a commercial operation. Think about it. Would you try to start water ski school with no water ski experience? After a season of flying with your family and friends, you will have answers to most of your questions regarding commercial Power-Sailing. There is no substitute for experience!

Q. Where do I take my Power-Sail if I need service repairs?

A. Minor repairs may be made by the owner using sail repair tape. Any Power-Sail requiring major repairs should be returned to the factory. Many Power-Sail owners return their complete assembly to the factory at the end of the season for a complete inspection and routine maintenance. Think twice about service if you are considering an ascending parachute manufactured outside the U.S.A.