SATURN

BOATS

CATAMARANS

KABOATS

OWNER'S MANUAL

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Welcome to the Saturn family of inflatables owners! We take great pride in building high-performance inflatables that provide many years of enjoyment. Give us a call at 800.217.3270, or drop us a line at info@saturnrafts.com, if we can help in any way. Please take the time to read through this manual to familiarize yourself with the features of your new inflatable, and the techniques for proper care and maintenance. This will assure you the years of service for which your Saturn was designed. Also, be sure to register your boat in our database; this information is included at the end of this manual.

1. General

1.1 Introduction

This manual has been compiled to help you to operate your Saturn inflatable boat with safety and pleasure in mind. It contains details about your new inflatable boat; the equipment supplied or fitted, its systems and information on its operation and maintenance. Please read it carefully and familiarize

yourself with the inflatable boat before using it. If this is your first inflatable boat, or you are changing to a type of craft you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operation experience before assuming command of the inflatable boat. Your dealer or national sailing federation of yacht club will be pleased to advise you of the local sea schools or competent instructors.

PLEASE KEEP THIS MANUAL IN A SECURE PLACE AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE INFLATABLE BOAT.

1.2 Manufacturer:

SATURN INFLATABLES

Seoul office: RM 1409/1410, 5442-1, Krantz Techno BID,

Sangdaewon-Dong, Jungwon-ku, Sungnam, Kyungki-do, Korea

Korea factory: 270-4, Hunsin-dong, Sangju-city, Kyungbuk, Korea

1.3 Type

Saturn inflatable boat is designed to meet the international standard of ISO 6185, Part I, n, ill and get the type approval from Germanischer Lloyd. So, you can be sure that our boat is safe and reliable.

2. Standard accessories and options

- Repair kit.

- Storage / Carrying bag.

- Emergency oars or rowing paddles.

- Air floor or Hard Sectional Floor (wood or aluminum)

- Wooden or aluminum seat bench(es).

- Complimentary Top-off Pump (Hand pump or foot pump)

- Optional spare valve and anchor rope.

3. Warning!

- Prevent pollutants from the water around your boat. Using the water for water sports also means taking care of a clean water sports environment.

- Be cautious not to be dangerous to anyone around the boat and not to cause unnecessary noise.

- Be cautious of high speed, because it may cause considerable waves behind the boat.

- Always be cautious of high speeds.

- During inflation. Do not use a compressed air source (i.e., automotive tire air compressor) to inflate boats. Over inflation through the use of compressed air may result in ruptured seams and/or bulkheads.

- Make sure that the motor is in neutral before starting the engine.

- Do not install the outboard motor too high as this may cause slipping it on sharp turns. However, installing motor too low might causes the water splashes into the boat.

- Be sure to check national and local boating information such as tide tables and charts as well as safety and local law regulations before using your boat.

- Never exceed the weight carrying capacity of the boat's identification plate attached to transom.

- Each person in the boat must wear a life jacket (Personal Flotation Device) approved by local law agency.

- Oars or paddles and a repair parts kit should always be carried with the boat for emergencies.

- Signaling devices, such as whistle or air horn, must be carried on a board.

- All loads placed in the boat should be uniformly distributed to provide proper boat trim when under way.

- Everyone should sit on the floor or benches, not on inflation tubes, so that to prevent falling overboard.

- Before using the boat, inflate the boat one day prior to use and check if there is any air leakage.

- Avoid the boat's exposure to the sun for extended periods of time. Use boat cover.

- To extend inflatable boat lifespan, please store it in a well ventilated, shaded area.

4. Assembly

How to operate inflatable boat air valve:

The valve has a special pushpin inside. This pushpin has two positions; up or down. When it is pressed in the down position, air will escape. If you turn the pushpin in clockwise direction, it will pop up into upper position. This will lock air inside, and will prevent it from escaping through the valve. Before inserting the air pump adaptor into the valve, please make sure that the pushpin is in the UPPER, popped up position. Once the pin is in the "popped up" position, insert the air pump adaptor into the valve, rotate to lock, and inflate the board up to working air pressure. Once you remove the air pump adaptor from valve, pushpin will seal the valve and air will no longer escape. If you would like to deflate the boat, then press down on the pushpin and turn it clockwise direction, until it stays in the pressed down position. Air will immediately escape from the tubes thru the valve.

Average pressure for inflatable boats:

	Max.	Recommended:
Tubes:	3.6psi(25kpa)	2.9psi(20kpa)
Keel:	5.8psi(40kpa)	4.3psi(30kpa)
Floor:	10 psi(70kpa)	8.7psi(60kpa)

4.1 Air Deck Floor Boat

- Find flat surface where boat will be assembled.

- Remove any sharp objects from flat surface.

- Unfold and spread boat out flat.

- Verify the valve/cap gasket is in place.

- Connect the pump to the valve and inflate it.

- It is usual that inflatable boat has at least 3 chambers. Begin inflation at bow, starboard and portside.

- Inflate tubes to around 50%.

- When you want to use seat benches, place it when the tube is inflated to around 50%.

- Put in the air deck floor and inflate it to around 70%.

- Inflate tubes to 100%.

- Inflate air floor to 100%. - Inflate the keel to 100%

- Install the oars.

WARNING:

Maintain a balance of air in each chamber. By this method, the bulkheads that divide the main air chambers are maintained so that there is equal pressure and approximate inflated size on each side of the bulkhead.

Over inflation can cause structural damage to your boat. Do not allow your boat to stand in direct sunlight when out of the water, as this may cause expansion to the point of damage or bursting. (Maximum air pressure: 0.3 bar)

4.2 Wood or Aluminum Floor Boat.

- Find flat surface where boat will be assembled.

- Remove any sharp objects from flat surface

- Unfold and spread boat out flat.

- Verify the valve/cap gasket is in place.

- Connect the pump to the valve and inflate it.

- Begin inflation at starboard, portside and bow.

- Inflate tubes to around 30-40%.

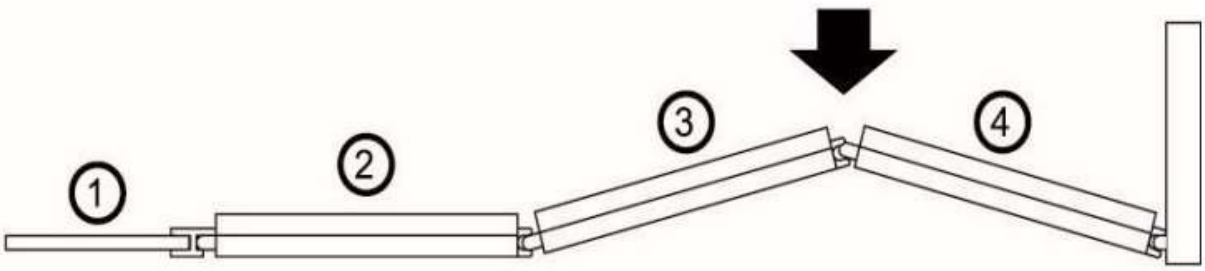
- Insert floor board No.1 in bow of boat.

- Insert floor board No.4 or last one in transom of boat.

- Insert floor board No.2 into floor board No.1.

- Insert floor board No.3 into floor boards No.2 and 4

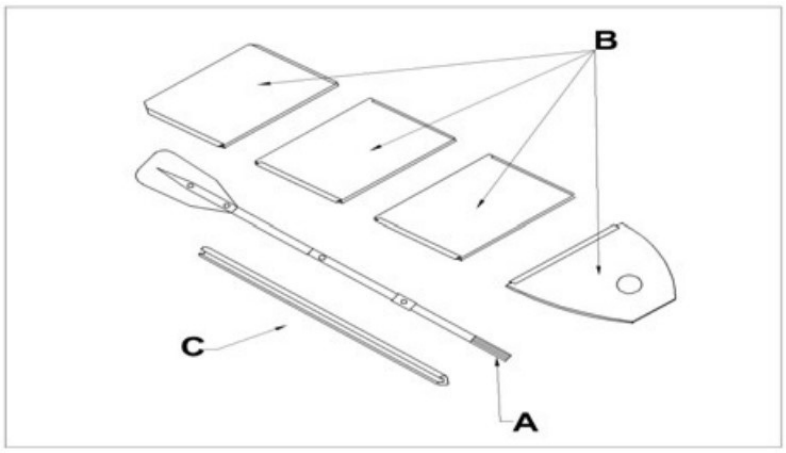
- Press down with foot on a roof-like shape until floor will become flat.



Side Stringers Assembly.

- Slide oars under the bottom of the boat to raise the floor boards (b) over the flat surface.

- Attach side stringers (c). Repeat the procedure on opposite side of the boat. In case of more than one joiner on each side, start with one long, one short joiner on one side and with one short and one long on the other side (asymmetric). Stringers should overlap floor board joint points only. Stringers do not have to cover all floor board sides.



- Install the seat (which is an option on certain models).

- Finish inflating the air chambers one after the other in order to maintain equal amount of air. Install valve caps.

- Inflate the keel and close valve caps.

5. Mounting motor

Selecting the optimum outboard motor is critical to the performance and long life of your boat.

- Unlock motor for tilting and mount the motor properly.

- The motor should be in the center of the transom.

- Secure the clamps and make sure it is thoroughly tightened.

- Adjust the motor angle.

- For detail information, please refer to your motor documentation or contact the supplier of your motor.

- Underinflated boat tubes and keel may cause motor to cavitate while operating inflatable boat.

- Wrong pitch of motor prop may also cause boat to cavitate. Please contact motor dealer for proper pitch for prop to work with inflatable boats. Replace prop in case of cavitation.

6. Deflation and Packing

- Before deflation, make the boat is clean and dry.

- To deflate, open valves and let the air out of each chamber.

- Take out seat and oars.

6.1 Air floor boat.

- Deflate the air floor.

- Place both side tubes toward inside of the boat and roll slowly from both ends until all air is expelled.

- To avoid sudden pressure changes on the internal bulkheads try to let the air out as evenly as possible.

- Store the boat inside the carrying bag.

6.2 Wood or aluminum floorboard boat.

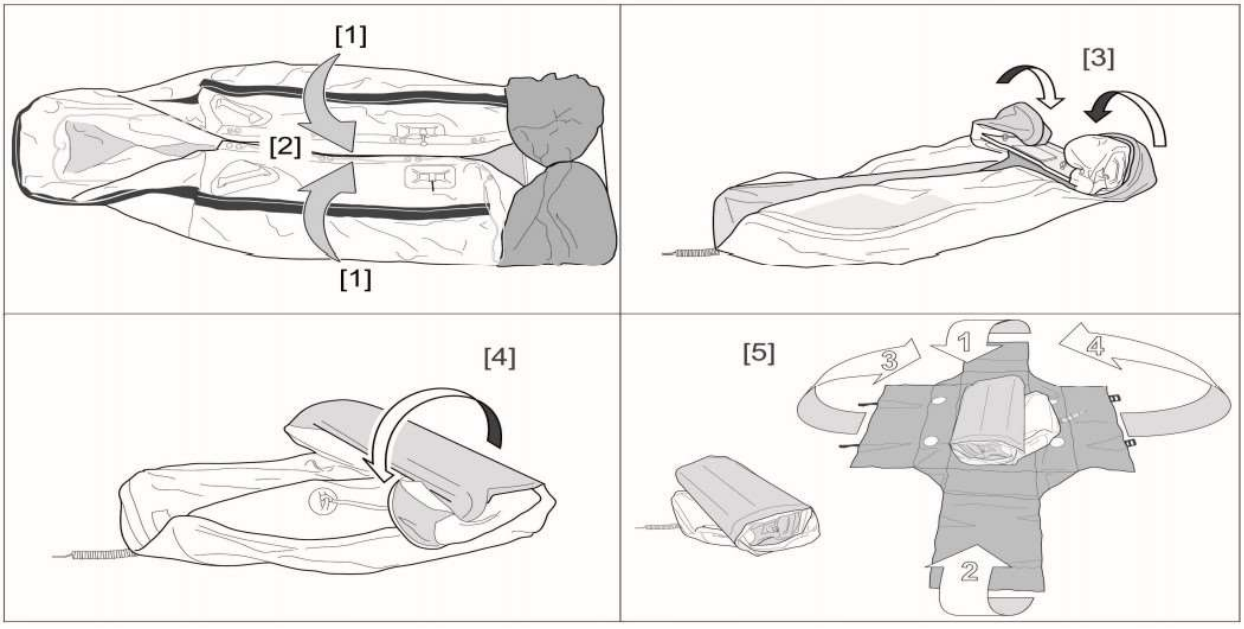
- Remove stringer.

- First remove No.2 and No.3 wood floorboard. Then take out No.1 and No.4 wood floorboard.

- Place both side tubes toward inside of the boat and roll slowly from both ends until all air is expelled.

- To avoid sudden pressure changes on the internal bulkheads try to let the air out as evenly as possible.

- Store the boat inside the carrying bag.



7. Warning when riding inflatable boat

- In case more than two persons will get on the boat, it is important to decide the sitting position of each person in good consideration of the special features of the boat. When the boat is headed up prior to "plain sailing", it is effective to keep boats bow down, by the weight of the persons sitting toward the bow side. However, an excessive weight there might cause a dangerous head-down position when boat gets "plain sailing". Nevertheless, the extreme sitting of two people on stern in the head up position will cause another risk of overturn, when wind is blowing toward you. Whenever you are turning your boat, reduction in speed is required. Whenever the boat is turning it will tilt considerably inside towards the turning center. Therefore, turning to leeward or when waves are high, might cause the boat flooded with water or its overturn.

- Be very careful about "shallows" or "unknown reefs". Always check local navigational maps where the boat will be operated.

- Refrain from smoking when you are on the boat or refueling.

- Never go in or around any swimming areas on your boat, as there will be a serious danger for swimmers getting injured by your intrusions.

8. Warning for towing

- If the inflatable boat is towed by another boat, the inflatable MUST BE EMPTY.

- The towing line should be secured to the "D" rings on each side of the boat. The towed boat must be observed continuously.

- Do not tow boat using front D-ring with handle. Use side D-rings glued outside of tubes.

9. Storage

If possible, let your boat dry thoroughly before deflating it. If applicable, remove the drop-stitch floor insert to dry that area. We do NOT recommend using a vacuum or deflator to suck all the air out of the chambers. The ideal storage position is unfolded in a cool, dry location, with a small amount of air left in the chambers. If space is limited, store the raft loosely rolled, not tightly as this may damage the seams, with the valves open, in a protective bag or cover. Keep the boat/raft off dirt or concrete floors. Rodents have been known to burrow into stored boats/rafts, so take precautions to prevent this.

10. Transport

If you are transporting your boat inflated, remember to slightly deflate the chambers. Temperature and altitude changes affect the air pressure in the boat, especially in direct sunlight. Whether transporting

your boat inflated or deflated, make sure to inspect the load for any areas that could rub, abrade or puncture the boat's fabric. Sand or other debris left in the boat could cause wear on the fabric during transport. Putting your deflated boat in a boat bag for transport will help prevent wear and damage from other gear.

11. Maintenance and Cleaning

Proper care and maintenance will improve your boat's appearance and longevity. Clean and inspect the boat after each use. We recommend coating your boat with Poly Guard or 303 Aerospace Protectant every few months during the season (though 1 application at the beginning of the season is usually sufficient) and before long-term storage to protect against UV damage and degradation. You should take care to keep moisture from getting inside the air chambers. Water can enter the chambers during in-the-field repairs or if the valves are left open during wet weather. If you find that moisture and mildew have accumulated in your boat's air chambers, the chambers must be aired out. Remove the valve of the affected chamber. Pour out any liquid water, then run the hose of an electric air pump or vacuum exhaust through the valve hole. Allow dry air to circulate into the chamber and out the valve hole until all the moisture is gone.

12. Saturn Material Repair

Repair adhesives and cleaners are toxic. When repairing your raft, always work in a well-ventilated area and use a good organic fumes respirator if possible. Always use proper chemical protection for your skin and eyes. You will need: PVC patch material, medium-grit wet/dry sand paper, contact adhesive suitable for PVC material (we recommend Clifton Urethane Adhesive, available through Saturn or your local dealer) and solvent cleaner (methyl ethyl ketone, or MEK, available through Saturn or your local dealer). Measure and cut a patch to cover the area that requires repair. The patch should be bigger than the repair area, extending an extra 2" or so past the edge of the tear or abrasion. Round the corners of the patch. Lay the patch over the area to be repaired and trace the outline onto the boat material. Using the sandpaper to buff the area inside the traced outline and the backside of the patch isn't totally necessary but can help remove any contaminants. Only scratch off the shiny finish of the raft material; do not sand down to the point where the internal fabric threads are exposed. Use MEK to clean the surfaces to remove any grease or oils and to prep the surfaces for best glue adhesion. You can use sandpaper and MEK to remove any old glue in the repair area. If possible, do the repair out of direct sunlight and avoid doing repairs when the humidity is over 70%. High humidity can interfere with the glue bond. Apply a thin, even coat of adhesive to both the back of the patch and the repair area on the boat. Wait 3 to 5 minutes, then, using strokes perpendicular to your previous ones, apply a second thin, even coat of adhesive. Wait 3 to 5 five minutes to allow solvent vapors to evaporate, before bonding the patch to the boat. Carefully align the patch and roll it onto the boat. Remember, this is a contact adhesive, so once the two surfaces touch you'll have difficulty realigning the patch. At this point, carefully heating the area with a heat gun or hair dryer can help better activate the glue and improve bonding. Apply pressure to the entire glued surface using a roller. Roll over the patch in multiple directions, working from the inside to the outside of the patch. This step is very important because it forces air bubbles out and helps the

two pieces of material bond. Use a lint-free towel and MEK to wipe up excess glue. Allow the repair to cure for as long as possible. In an emergency, you could inflate the boat after only an hour or so, but this will put stress on the patch, possibly requiring the repair to be re-done later. If you must inflate the raft quickly after the repair, try to limit the air pressure in the patched chamber. Ideally, you should allow the glue to cure for 8-12 hours and full cure can take up to 24 hours, depending on conditions. Many difficult repairs are best performed by a professional repair center in your area. For any warranty issues or for more information about repair centers in your area, please call or e-mail Saturn. Our phone number is 800.217.3270 and our email address is info@saturnrafts.com.

! WARNING: NEVER USE PETROL OR PAINT SOLVENT FOR CLEANING!

13. Troubleshooting

13.1 Leaks

If you are losing air pressure, and it isn't colder temperatures, check the boat over for leaks, starting with the valves. The best tool to find leaks is soapy water in a spray bottle. A leaking valve is rare, but if you do find a leak we can send you a replacement valve. We recommend mixing soap and water in a spray bottle. Spray around the valve. If you see bubbles forming, check your valve seating and base and be sure the valve insert is screwed tight. If you continue to have problems it's probably time to order new valves. Replacement of the whole valve can be done with a simple tool that comes with the replacement valve.

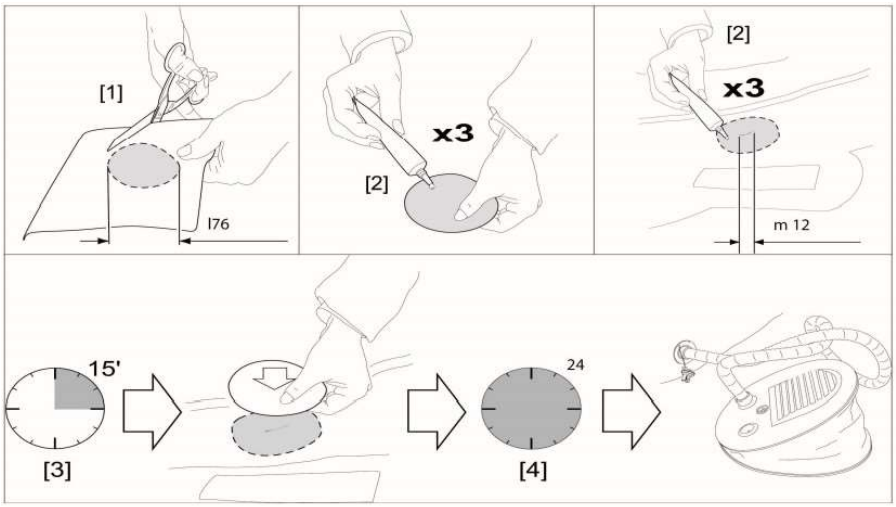
13.2 Finding punctures

If the boat is losing air, and all the valves are good you probably have a small puncture. Small punctures can be repaired easily and permanently. Spray around inside and outside of the hull until air bubbles mark the position of the leak. If you have no luck finding a slow leak with air bubbles, inflate the boat to maximum air pressure and try to listen to find the leak. If you can narrow the area down, return with a spray bottle to identify the source of the leak. Punctures less than 1/8"in size can be repaired simply without a patch. Deflate your boat, then clean and dry area to be repaired. Apply a small drop of glue to cover the puncture, and let dry 12 hours. If you need to get on the water sooner, let dry 30 minutes and then inflate the boat, inflating the compartment with the repair only 3/4 full. This repair might not be permanent so add a drop again at a late date to make it permanent.

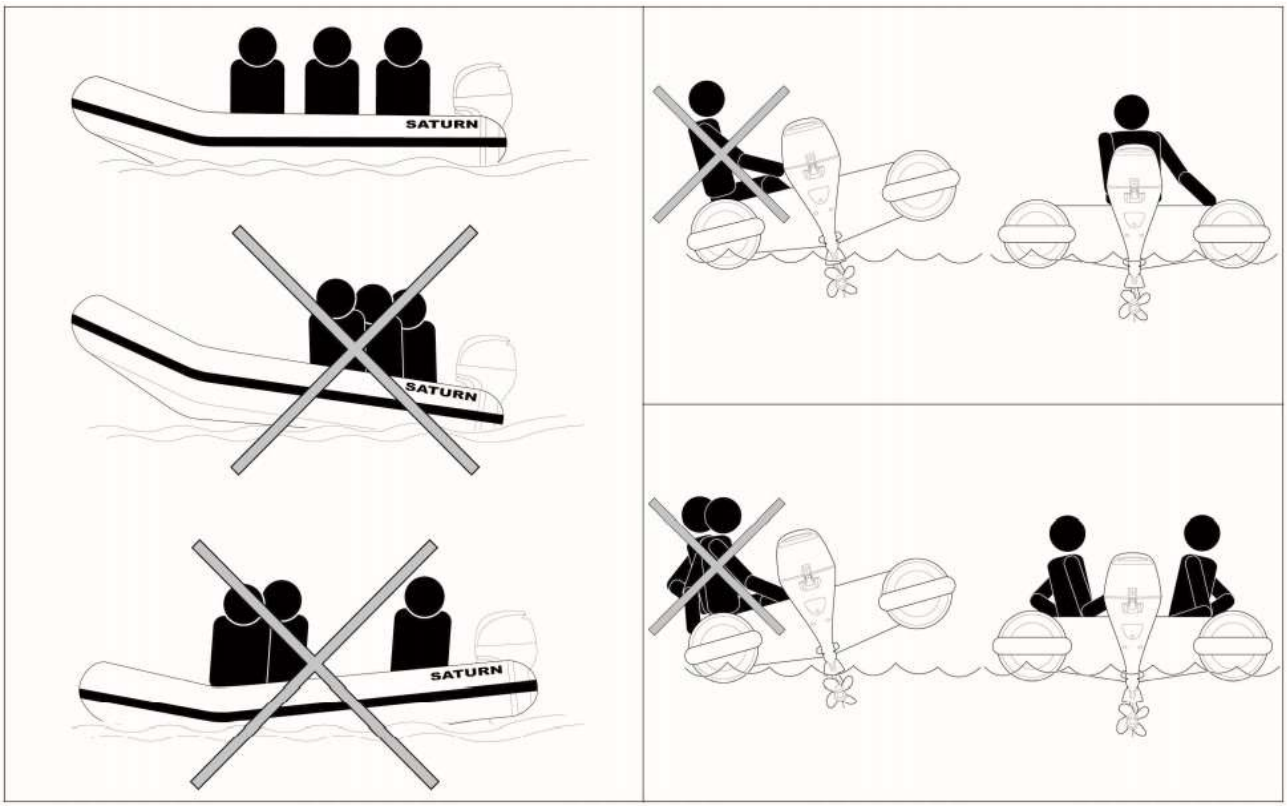
13.3 Rips or Tears

Your inflatable boat comes with a repair kit as standard equipment. If you no longer have your repair kit, you can order a new one from your dealer. Cut a piece of repair material large enough to overlap the damaged area by approximately 1/2", and round off the edges. Apply our glue to the under side of patch and around the area to be repaired. Use as little glue as possible. Too much glue will interfere with a

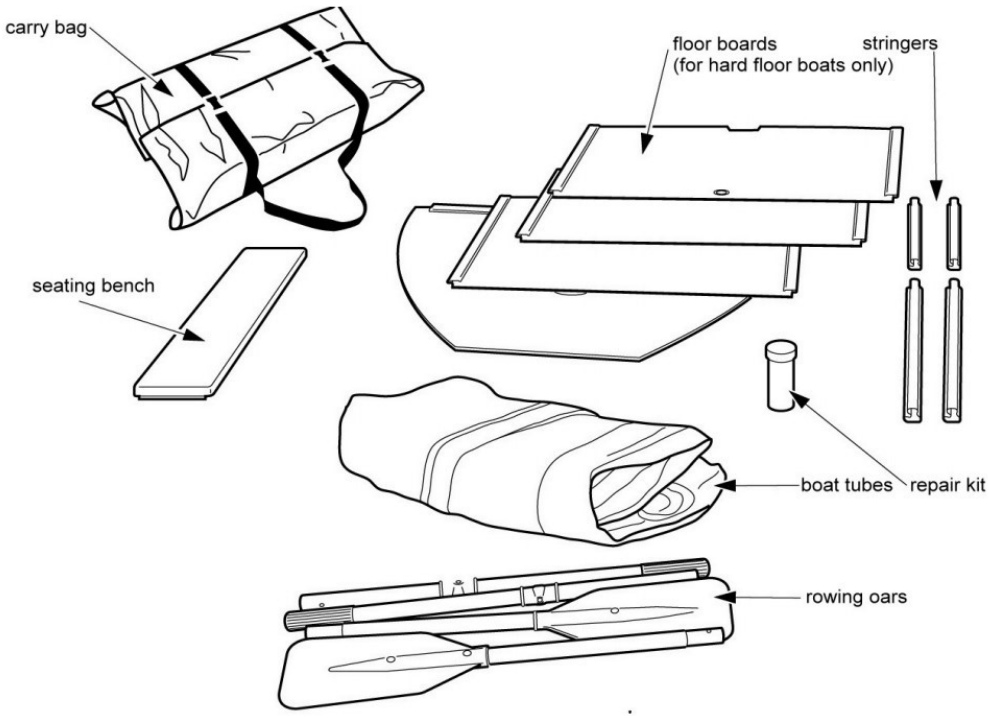
proper repair. Allow adhesive to become tacky for 5 minutes, and then place patch on the damaged area. Use a weight to apply 3-5 lbs. of pressure for 12 hours. After patch has dried, apply glue around the edges for a complete seal (dry 4 hours).



Boat loading suggestions:



Packing / Parts List



LIMITED WARRANTY

Saturn inflatables are guaranteed to the original owner of the boat/raft to be free from defects in workmanship and materials for three years from the date of purchase under normal recreational use. If, after inspection, we find the boat failed due to a covered defect, it will be repaired or replaced at our option without charge. No product lasts forever and we do not guarantee against wear, tear, improper care, abuse, or neglect. Any structural change automatically voids this limited warranty. Except expressly set forth herein, Saturn disclaims all warranties, express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. EXCLUSIONS FROM LIMITED WARRANTY: Deterioration of a boat/raft increases dramatically when water is allowed to stand in the tubes. Since this condition can be remedied only by the owner's care, any problems attributed to water left in the tubes are excluded from this limited warranty. As noted in this manual, explosive decompression tears are also excluded from this limited warranty. Rafts shipped outside the USA may incur additional restrictions. EXCEPT TO THE EXTENT PROHIBITED BY LAW, IN NO EVENT SHALL SATURN OR ITS SUBSIDARIES BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. Additional Warranty Information available at www.saturnrafts.com/warranty-policy.

WARRANTY REGISTRATION

REGISTER YOUR PRODUCT: www.saturnrafts.com/warranty-registration-form