



NRS Urethane Inflatables

Owner's Manual

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Welcome to the NRS family of boat owners. We take great pride in building high-performance inflatables that provide many years of enjoyment. Give us a call at 800.635.5202, or drop us a line at service@nrsweb.com if we can help in any way. We love talking about boats!

INFLATION

Rafts:

To properly inflate your NRS raft, valves need to be in the closed position. Push the valve stem in and turn it clockwise so that the stem pops up, sealing the valve. Choose a chamber to inflate first. Fill the chamber with air until it takes shape – filled out but not firm. Your goal is to get equal pressure on both sides of the baffles that separate the chambers.

Work your way around the boat, turning each valve stem clockwise to seal the valve before filling each chamber evenly. Then go around the boat again, using a hand pump to fill each chamber to full pressure. If you have a pressure gauge, check to make sure the pressure in the chambers does not exceed 2.5 pounds per square inch (psi). If you do not have a gauge, check the pressure by pressing down with your thumb. The fabric should depress slightly. If there's no "give", it's probably overinflated. Please consider obtaining a pressure gauge; maintaining optimum pressure in your boat's chambers is essential to its best performance and longevity. After the main chambers are full, inflate the thwarts to 2.5 psi. If the raft's floor is a self-bailing style, inflate the floor until you hear air escaping from the pressure relief (PR) valve, which indicates the floor is inflated to 2.5 psi. The PR valve regulates the pressure in the floor automatically.

As the outside air temperature and altitude change, the air pressure inside your raft will also change. You may need to make adjustments to the pressure in the chambers throughout the day. Transporting an inflated boat on a hot day or when gaining altitude can lead to overinflation; check the pressure regularly. Cold air and water temperatures will reduce the air pressure inside the raft. Always bring a hand pump along for adjusting air pressure as needed. Later in the day, as the air temperature outside warms up, the pressure inside the raft will increase. As this happens, you'll need to release a small amount of air from each chamber. Check the air pressure in your raft regularly throughout the day and adjust accordingly.

All NRS boats are built to withstand substantially higher pressures than we recommend. However, overinflation puts strain on the seams and shortens the life of your boat. An overinflated raft is also in danger of explosive decompression (blowing apart at the seams!). The NRS raft warranty (see page 6) does not cover damage caused by explosive decompression.



Cataracts:

Cataraft tubes have three chambers. To properly inflate the tubes, begin with the center chamber, filling it until it takes shape. Inflate the two end chambers to a maximum of 2.5 psi each. Then top-off the center chamber to 2.5 psi.

Inflating IKs:

To properly inflate an NRS IK, inflate both main tubes until they take shape. Then top them off to 2.5 psi. Because of the small tube size, slight overinflation is acceptable to increase performance. Inflate the floor until the PR valve engages, allowing air to leak out. The PR valve will shut automatically when the floor air pressure is correct. Last, inflate the thwart(s) to full shape.

MOUNTING FRAMES

Rafts:

Carefully follow the frame assembly instructions. After the frame is assembled, place it on the raft so that it rests on the top wear patch material. When the frame is positioned where you want it (generally in the center, except in the case of stern frames), use NRS Heavy Duty Straps to cinch each corner to a D-ring on the raft. Place straps on each side of the raft at opposite angles to keep the frame straight and centered.

Cataracts:

"Trial and error" is the key to mounting the tubes on your cataraft frame, since correct positioning is largely a matter of personal preference. Generally, for regular use, you want the weight and oarlock pivot located on the center or slightly forward of center. For more extreme boating conditions, some rowers prefer to have the weight further forward on the tube to avoid having a wave raise the bow so high that the boat flips over backwards. Day trips with an oarsperson and one passenger generally call for the rower to be substantially forward of center. Proper weight distribution and rower position will increase performance characteristics and prevent the boat from "nosing in" or riding bow-high.

Start by positioning the frame on one tube so that the weight is distributed slightly forward. Then, strap the outside D-rings to the side rail, cinching them until they are just tight. Next, strap the inside D-rings to the lower rail. Cinch these down tight. This will pull the tube toward the frame and tighten the outside straps. Align the other tube across from the first and repeat these steps.

Although it is always recommended to create a series of "triangles" with the frame straps so that there is offsetting tension holding the frame on the boat, it is particularly important to do so when attaching cat tubes to their frame because the frame supplies all the structure and rigidity to the boat.

VALVES

Inflate/Deflate Valves:

All current NRS rafts, cataracts and IKs feature Leaffield C7 inflate/deflate valves. To open the valve, first remove the valve cap. Then press down on the spring-loaded valve stem and turn it counterclockwise. The valve stem will now be locked down in the open position, allowing air to move freely in and out through the valve. To close the valve, push down on the valve stem and turn clockwise. The stem will pop back up, sealing the valve shut. In the closed position, you can still pump air into the chamber, but when you remove the pump, the valve will not allow air to escape. When you're done, screw the plastic valve cap back on to keep water and dirt out of the inner valve.

Important Tip: When deflating your fully inflated boat, do not fully open only one chamber. This puts excessive strain on the internal baffles and can lead to baffle rupture. Either work together with someone to release the pressure in the chambers simultaneously, or release small amounts out of each chamber until high pressure is relieved and individual valves can be fully opened safely.

Pressure Relief Valve:

NRS Revolution self-bailing rafts and IKs have a Leaffield A6 pressure relief (PR) valve in their inflatable floors. This valve prevents the floor chamber from overinflation that could damage the I-beam construction. When the floor pressure exceeds 2.5 psi, the PR valve automatically opens to allow the excess pressure to escape. When the floor pressure falls to an acceptable level, the PR valve automatically shuts. Your repair kit contains a black rubber PR valve plug. Should your PR valve ever fail to shut itself when you're on the water, you can plug the valve to keep all the air from escaping. When you get off the water, be sure to examine the valve and clean or replace it as necessary.

Important Tip: When adding air to the floor during an on-the-water trip, first depress the inflation valve plunger briefly to blow out any water that has accumulated in the valve opening.



Cleaning the C7 Inflate/Deflate Valves:

If the inner parts of your inflate/deflate valves become dirty, the seal may not shut completely against the valve body, allowing air to escape. You can clean the inner valve parts to restore the airtight seal. Your repair kit contains an aluminum valve wrench that you can use to remove the valve from the raft. Threads on the inflation and PR valves are: clockwise to tighten, counterclockwise to loosen. The outer half of the valve unscrews from the inner half. When you remove the outer half of the valve, take care not to lose the inner half inside the chamber. With the outer half in your hand, push down and turn the valve stem counterclockwise. This lifts the rubber seal off the valve base. Use something like a cotton swab to remove any dirt and grime that has built up on the rubber seal. Hand tighten the top half back into the valve base. Inflate the chamber fully, and then use the valve wrench to completely tighten the valve.

Cleaning the A6 PR Valve:

If the PR valve fails to shut itself after engaging, probably the valve seal has accumulated sand or dirt. To remove the PR valve, start with the floor inflated. Loosen the valve using the aluminum valve wrench that came in your boat's repair kit. When you remove the valve from the valve hole, be sure not to lose the threaded white plastic valve piece that's inside the floor. Push up on the spring-loaded plunger to lift the rubber seal off the valve base. Use something like a cotton swab, or running water, to clean the underside of the rubber seal. Hand-tighten the top half back into the valve base, then re-inflate the floor and use the valve wrench to fully tighten the valve. Keep the PR Valve screen on the valve opening to minimize debris entry.



Note: If the PR valve still does not hold air pressure, plug the valve using the rubber stopper included in your repair kit. Call NRS Customer Service at 800.635.5202 if you need to order a replacement PR valve.

BAT SYSTEM

Our innovative Batten Attachment Thwart (BAT) system allows you to easily install or remove the thwarts in your raft. Simply align the slot on the end of the thwart between the attachment slots on the raft chambers and slide the batten through all three slots, locking the thwart in place. Thwarts will be easier to install and remove when both raft and thwart are deflated.

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 you coat your boat with 303 Protectant (available through NRS or your local dealer) every few months during the season 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.

URETHANE MATERIAL REPAIR

Raft repair adhesives and cleaners are toxic. When repairing your boat, always work in a well-ventilated area and use a good respirator, if possible. Always use proper chemical protection for your skin and eyes.

You will need our urethane patch material, medium-grit wet/dry sand paper and contact adhesive suitable for urethane material (we recommend Clifton Urethane Adhesive, available through NRS or your local dealer) and solvent cleaner (methyl ethyl ketone, or MEK, available through NRS 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 off the corners of the patch. Lay the patch over the area to be repaired, and trace the outline onto the boat material. Use the sandpaper to buff the area inside the traced outline and the backside of the patch. 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 rid the surfaces of any grease or oils and to prep the surfaces for best glue adhesion.

If possible, do the repair out of direct sunlight and avoid doing repairs when the humidity is over 70%. 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 before bonding the patch to the boat to allow solvent vapors to evaporate.

Carefully align the patch and press both surfaces together. 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 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 raft repair center. Please call or email NRS Customer Service for more information about repair centers in your area. Our phone number is 800.635.5202 and our email address is service@nrsweb.com. You can also see a list of authorized NRS repair facilities on our website at www.nrsweb.com.

TRANSPORT

If you are transporting an inflated boat, 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. Remember that 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.

STORAGE

If possible, let your boat dry thoroughly before deflating it. Do not use a vacuum or deflator to suck all the air out of the chambers unless absolutely necessary. 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 boat loosely rolled, with the valves open, in a protective bag or cover. Keep the boat off dirt or concrete floors. Rodents have been known to burrow into stored boats, so take precautions to prevent this.

CAUTION

Safety Warning

Paddlesports can be dangerous and physically demanding. Participating in paddlesports may cause serious injury or death. Follow these safety standards when using this product:

- Get paddlesports instruction and First Aid training. Carry First Aid and rescue equipment.
- Always wear a Coast Guard Approved Personal Flotation Device. Dress for cold water and weather as appropriate to guard against hypothermia.
- Check your equipment prior to each use for signs of wear or failure. Do not impair entry or exit.
- Never paddle alone. Scout unfamiliar waters. Portage where appropriate. Do not exceed your paddling ability.
- Do not paddle in high water or flood conditions.
- Read owner's information booklet prior to using this product.

The user of this product acknowledges both an understanding and an assumption of the risk involved in paddlesports.

LIMITED WARRANTY

NRS Revolution inflatables are guaranteed to the original owner of the boat to be free from defects in workmanship and materials for five years from the date of purchase under normal recreational use. If, after inspection, we find that 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, NRS 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 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 NRS BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

ACTIVATE WARRANTY BY RETURNING THIS CARD

Your responses will be used only by NRS to improve our products and services. All information will be confidential and for NRS use only.

Name_____

Address_____

City_____ State_____ Zip_____

Phone_____ Date of Purchase_____

Email_____

Boat Serial # (see metal plate on boat) WSI_____

Model_____ Color_____

Name of Dealer_____

Dealer Address_____

1) How will your new NRS raft be used most?

Whitewater___ Fishing___ Other_____

2) How many days a year do you boat? (check one)

1 - 10___ 10 - 20___ 20 - 30___ 30+___

3) What water sports do you participate in? Check all that apply.

__WW kayak __inflatable kayak __canoe __water ski
__raft __cataraft __sit-on-top kayak __body board
__scuba dive __sea kayak __kayak fish __rec kayak

4) Where do you purchase paddlesports equipment? _____

5) We would like to hear your thoughts.

Place
Stamp
Here



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