

NAIAD INFLATABLES (NZ) LTD

Inner Tube Removal and Fitting – Current System

The buoyancy tubes add significantly to the stability of the craft. It is the owners' responsibility to ensure that the various components that make up the buoyancy tubes are correctly installed and maintained. If in any doubt, contact Naiad Inflatables Ltd for further guidance.

1.0 Inner tube Removal;

- 1.1 Deflate the inner tubes by removing the valve cap and depressing the valve spindle. One quarter turn counter-clockwise will lock the valve into the open position. The inner tubes must be fully deflated.

The valves may be located approx. 300mm from the bow and / or approx. 500mm from the transom depending on the type and size of craft. Larger craft (especially those with a cabin) will probably have the valves positioned amidships (approx. 300mm apart).

- 1.2 The inner tubes can be accessed by removing the stainless steel rods that secure the top of the outer covers into the track system. The stainless steel rods will either be retrieved from the bow or stern (larger craft have separate stern rods and bow rods). Only withdraw the rod that is positioned next to the inner tube to be removed.
- 1.3 For rods inserted at the bow, pull down the velcroed tag and unfasten the zip and / or untie and unthread the cord. Rods inserted from the stern should be clearly visible.
- 1.4 Insert a screwdriver through the eye of the nut (welded to the end of the rod) and pull until the rod is fully removed. It may be helpful to rotate the rod to overcome the friction.
- 1.6 The outer cover can now be peeled from the top track to expose the inner tube.
- 1.7 Loosen the valve nut so that it can be removed by hand. Firmly hold the valve body (inside the inner tube) with one hand and reach inside the boat to remove the valve nut. Extract the valve body through the alloy and thread the nut back on, ensuring that the large washer is still in place.
- 1.8 Store the inner tubes in an area that is clean and free of any objects or fluid that could compromise the integrity of the fabric.

2.0 Preparing the Inner Tubes

2.1 NOTES FOR CRAFT WITH MORE THAN ONE INNER TUBE PER SIDE;

The inner tubes must be folded correctly where they meet along one side of the craft. The end of the tubes should be folded back in on themselves so that they butt-up and do not overlap. An overlap will not allow the inners to inflate fully leaving an impression and potentially placing the seams / fabric under undue stress. Pull apart either side of the tube so that the tapered edge may be pushed in so that approx. 150mm of the flat edge has been folded inside. The tapered edge must not be visible (see Fig. 1).

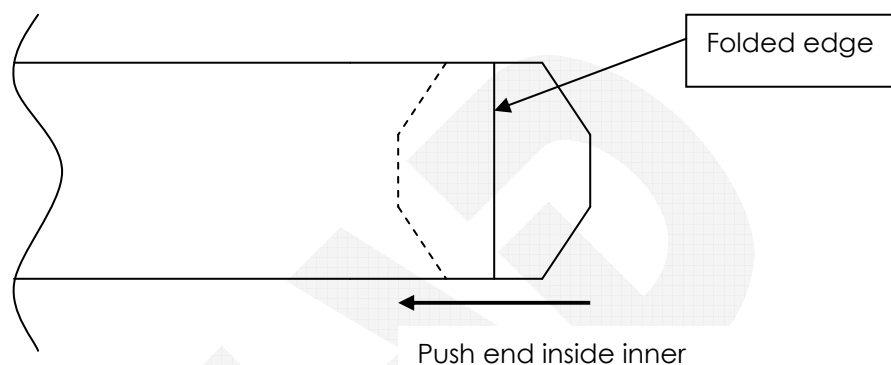


Fig. 1

2.2 Notes for ALL craft

Tips: It may help to slightly inflate the tube before attempting to make the fold.

An even application of talc to the inner tube (using a soft brush) will help when fitting and inflating the tube.

Check that the valve nut can be easily loosened by hand to avoid problems when fitting the inner tube.

3.0 Inner Tube Fitting

3.1 Lay the inner tube over the alloy inwale, making sure that the seamed side is against the alloy and the valve is lined up with the valve hole.

3.2 Hold the back of the valve through the inner tube (and whilst securing the valve washer), remove the valve nut. Ensure that the large plastic washer is seated correctly over the shoulder of the valve to prevent air loss. Push the valve stem through the valve hole and replace the valve nut.

Do not let go of the valve until the nut is in place or the valve may fall inside the inner tube and the washer may fall inside the outer cover. If the valve does fall inside, the inner tube will need to be removed to reposition the valve.

3.3 Fully tighten the valve nut using a spanner or grips. It should not be possible to unscrew the nut by hand.

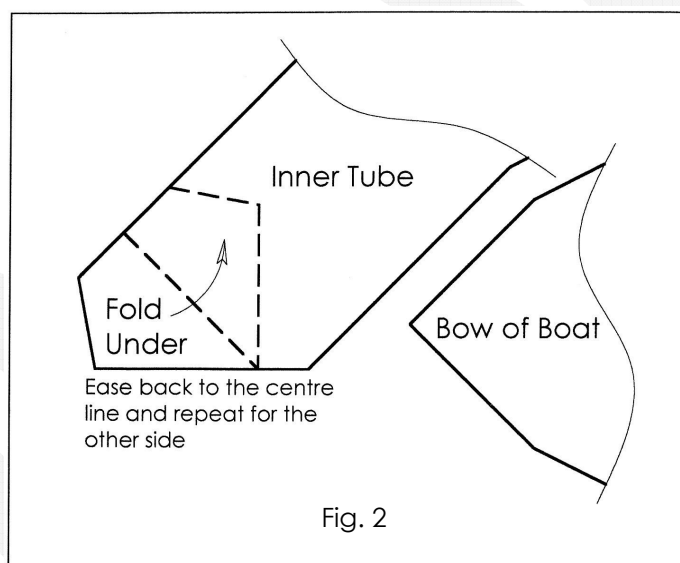
3.4 Position the inner tube(s), as follows;

Aft – the rear of the inner tube should be placed into the pocket on the cone, with the seamed side of the tube resting against the inside surface of the pocket in the outer cover. It can appear that this is twisted, but the inner tube will lay flat once the outer cover is reinstalled into the top track. Ensure there are no twists in the tube.

Fore – POINTED BOW

Working at the bow, fold the inner tubes to form a join. See Figure 2. Craft with a pointed bow have inner tubes with a long tapered edge. For the starboard tube, hold the top piece of the inner tube (at the taper) in your left hand, and hold the small tapered edge in your right hand. Whilst pulling gently with your left hand, fold the “nose” of the inner tube back underneath so that your right hand passes under your left arm.

The fold should form a mitre type join between the inners which follows the ridge at the joining of the inwales at the bow. Do not let them overlap as a mis-shape will be caused at the bow, potentially placing the seams / fabric under undue stress. Reverse the procedure for the port tube.



Fore – SQUARE BOW

Square bow inner tubes are symmetrical and are folded differently at the bow. The fold is the same as for multiple tube craft (see instructions under 2.0 *Preparing the Inner Tubes* above). The inner tubes must butt up against each other and not overlap. An overlap will not allow the inners to inflate fully which will leave an impression and may damage the tube(s).

Tip: It may be easier to position the inner tubes at the bow with the outer cover reinstalled.

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4.0 Re-Installing the Outer Cover

- 4.1 Lift the top of the outer cover and push the empty cavity into the track. If only a partial section of the cover has been removed, start from the installed end.
- 4.2 The rod can either be inserted once the outer cover is fully installed, or inserted gradually as the outer cover is fed back into the track. The rod must not extend from the track at the bow. If it has been necessary to insert the rod from the bow, ensure that it is pushed in until the nut on the end of the rod is hard up against the track.

Tips: Inserting the rod may be easier if the outer cover is pulled back slightly so that some of the cavity extends from the track.

Applying silicone spray or talc to the rod will help reduce friction as the rod is inserted.

The rod may be hard to push when it reaches the curved section of the track. It may help to insert a screwdriver through the nut on the end of the rod to gain easier purchase. Rotating the rod will also help to overcome the friction.

- 4.3 With the inners correctly positioned at the bow, refasten the zip and / or lace and secure the velcroed bow tag.

5.0 Inflation

- 5.1 Ensure that the valves are in the closed position (i.e. spindle out).
- 5.2 Working in sequence, half-inflate each inner tube, and then three-quarters inflate each tube. Finally, fill each tube to approximately 2.5 to 3 PSI and replace the valve caps. Check that the tubes are evenly inflated with no indentations or hollows.

As a guide, 1.5 PSI will feel firm but soft whereas 2.5 PSI will feel hard and over 3 PSI will start to feel drum hard. When at an acceptable pressure, the buoyancy tubes will provide good support whilst standing on them and yet still be soft enough to absorb shock and reduce the amplitude of the ride.

TIPS: Sometimes a "hollow" may be created at the bow (or at any point where inners meet) during inflation. Often, this is caused by uneven inflation resulting in one inner tube starting to creep. Removing some air from the tube will allow it to recede and the other tube should then fill the void.

A twist in the inner tube will usually appear as a vertical indent and can be felt running from track to track. With the tubes deflated it may be possible to reposition the inner although it will normally be necessary to remove the inner and re-install it.

If the rear cone feels hollow, deflate the tubes and pull the inner tube back as far as possible.

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6.0 Air Pressure Loss - Troubleshooting

NB - If the tubes deflate after installing the inner tube, the most likely cause is that the valve has not been installed correctly.

Possible cause	Resolution
Valve nut is loose.	Tighten nut and reinflate. It may be necessary to remove the nut and check that the valve is seated correctly. See 3.5 above.
Valve is not seated correctly.	Inspect valve. If necessary, reseal the valve. See 3.5 above.
Spindle not correctly turned to closed position.	Remove valve cap, press spindle and rotate clockwise until firm.
Grit / sand trapped in cup diaphragm.	Inflate fully and release air on short bursts by pressing the spindle down several times.
Valve is damaged / worn.	Replace or repair valve.
Inner tube has a puncture.	Remove inner tube and inspect / repair.
Ambient temperature has dropped causing air pressure to fall.	None. Pressure will return to normal with temperature rise. Inflate only if boat required immediately and reduce pressure accordingly.

WARNING! *The craft must not be used in an under-inflated state as this will reduce the effectiveness of the buoyancy tubes and may cause damage to the fabric. On cold days the pressure may drop and more air may be required.*

WARNING! *Over-inflation will only strain the seams and will not assist performance at all. An increase in atmospheric pressure and direct sunlight will increase the air pressure in the tubes. Care must be taken by letting some air out in hot situations to avoid the pressure reaching the drum hard stage.*

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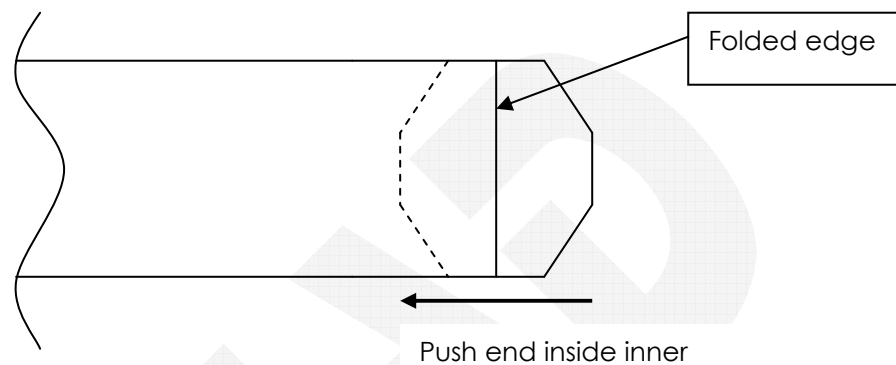


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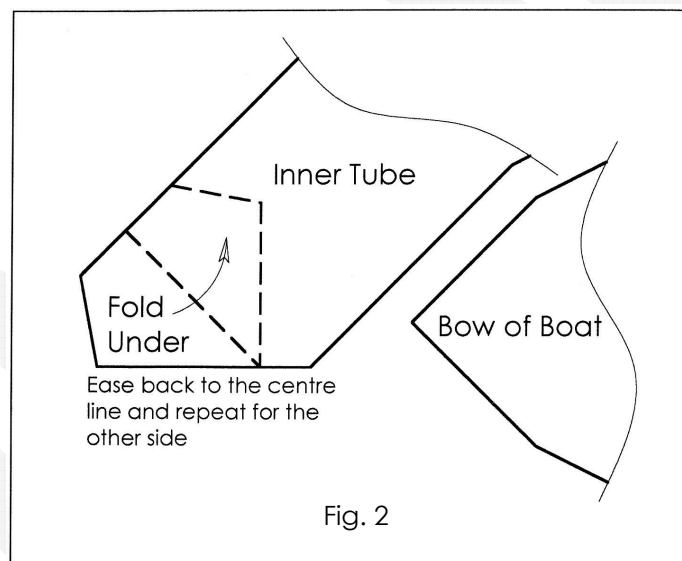
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