



Bumfortable Kayak Seat

Designed By Steve Gurney

Your Bottom Will Breathe A Sigh Of Relief!

- Do you get a numb bum?
- Does your bum ache?
- Do your legs go numb?
- Do you get leg cramps?
- Do you get chaffing?
- Are you sick of cold, rigid and unfriendly fibreglass seats?

I've carefully designed this new seat to alleviate these symptoms.

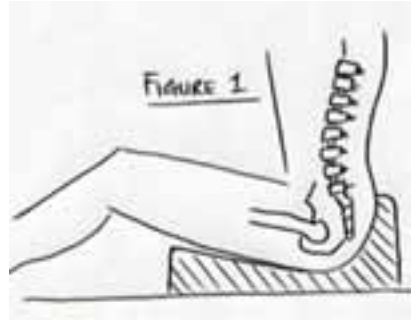
Of course everyone is different, so this Bumfortable seat may not be the solution to **all** of these symptoms for **all** people, but I'm confident this seat will dramatically improve your kayaking comfort and therefore performance.

**Enjoy the Comfortable
Bumfortable!**

Bumfortable Features

- Warm and soft closed cell plastic foam (much more friendly than harsh fibreglass).
- The warmth will aid in preventing cramps.
- The softness will reduce pressure points and allows some rotation.
- This closed cell foam is mouldable to your particular bum shape by gentle use of heat, (hairdryer or domestic fan heater), if you so desire.
- Designed to reduce pressure points by distributing the load over a large area.
- Extremely light weight, (closed cell foam won't absorb water either)
- Reduced pressure on ischial tuberosity (bum bones)
- Low centre of gravity to increase stability (choose the model to suit your dimensions)
- Extended hamstring area will keep hamstrings warm, and reduce pressure.
- Flow tunnels incorporated into the underside allow liquid to flow to your pump
- Smooth surface finish allows some degree of rotation to aid in paddling efficiency
- Back strap option through the moulded backstrap tunnel. (25 mm webbing)
- Designed to structurally support your back, rather than on the flesh where chaffing occurs.

Instructions



You will be tempted to test the comfort of the seat by sitting in it on the floor. Nice try, but you will quickly realise that the seat needs the shape and support of the kayak hull to give its luxurious comfort.

The seat is simply glued directly into the hull of the boat.

1. Remove the existing seat
2. It is important that the hull is clean and dry before gluing the seat in, otherwise the glue could fail causing the seat to move during racing or training.
3. When the hull is dry, use methylated spirits (meths) or alcohol to clean the hull and seat by wiping, using a clean cloth. (If the hull is really dirty use a scrubbing brush and soapy water to remove dirt and sand before cleaning with meths.)
4. Next figure out the position of the seat by sitting in the boat on dry land. Place the kayak on flat ground with blankets supporting the sides around the cockpit area so as not to strain the boat when you sit in it, and to maintain the natural shape of the hull.
5. Place the seat in the boat and sit in it.
6. Jiggle it around until you get the right position. (Also see the section on Boat trim)
7. Mark this position on the hull with a pen or marker.
8. If you need to pad out the sides for more support, place the wedges from the wedge kit between the hull and the seat and mark their positions. You may need to trim bits off the wedges to suit your requirements.
9. Get out and mark the centrelines so that you glue the seat in symmetrically
10. Route rudder cables; drink hoses etc between the foam seat and the hull.
11. Glue it in using contact adhesive. I recommend *Ados F2* or *Bostick Contact adhesive*. Follow the instructions of the glue manufacture

Bumfortable Sizing

Narrow:

The narrow Bumfortable suits narrow racing boats; Evolutions, UFO, Opus, Sprinter etc, this comes in a red/purple/green blotch and the words "narrow" printed on the underside.

Wide:

The wide Bumfortable suits anything other than skinny race boats; Sea Kayaks, Esprit, Eclipse, Swallow, Arrow etc. This comes in a yellow/black blotch and "wide" printed on the underside.

Bumfortable Science

To make a seat comfortable over long periods we paddle in endurance racing we need to reduce any pressure points.

$$\text{Pressure} = \frac{\text{Force}}{\text{Area}}$$

Force is paddler's weight downwards. The area is the surface area of bum/seat interface. It stands to reason that the pressure (and soreness) will be reduced if we make the area that supports the paddler's weight as large as possible. I have carefully designed the seat to do this with nice soft, warm foam, including an extended area around the hamstrings. In doing this though I have also been careful to reduce the pressure on known tender spots such as the ischial tuberosities (bum bones).

The only drawback to this large area of contact is that it tends to reduce the paddler's ability to pivot in the seat. Observe a sprint K1 paddler's seat; it is small and highly polished. This allows them to use their legs to pivot their bum on the seat, thereby adding extra rotation to the paddle. However, they only race for a few minutes and can therefore tolerate the relatively high pressures at the seat/bum interface.

As endurance paddlers we are forced to compromise this rotation in favour of surviving the comfort battle.

Bumfortables have a soft, yet slightly slippery surface that enables some degree of rotation in the seat so paddlers can get the best of both worlds!

Boat Trim & Seat Position

(Disclaimer: The following is my opinion only and contains some generalisations about typical boat designs. Some designs may not follow the following theory)

Boat speed will be best if you have the trim adjusted correctly. In other words, adjust your position fore and aft so that the boat is level when paddling at normal race speed. To adjust your position fore or aft you will need to shift your seat and footrest accordingly. (For example shifting forward will lower the bow.)

If the bow is higher than the stern, (tail heavy) the boat speed is usually reduced as the kayak tries to “climb over its wake”. If the bow is excessively lower than the stern, (nose heavy), the water line length of the kayak is not efficient, and excessive wave making slows the boat. This also makes steering difficult in some kayaks.

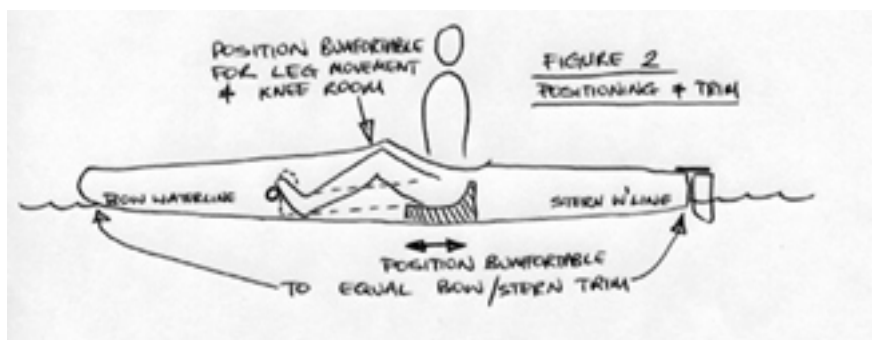
Stationary trim is different to the trim when paddling forward (kinetic trim). When you paddle the kayak, the bow of the kayak usually rises by 5 to 10 millimetres. We are only concerned with kinetic trim.

To test the trim, have an observer watch as you paddle at race speed in calm water. Ideally you want equal depth of immersion at bow and stern, or perhaps slightly deeper bow than stern (with deeper bow, the waterline shape then approximates an efficient foil shape). If your kayak has a lot of rocker (upward bend for ease of turning), you may find that both bow and stern are out of the water. Equalise this or have the nose slightly lower than the stern.

Most modern multi-sport kayaks have a raised deck above the knees. This is to give greater freedom to use legs in an efficient technique, and to prevent cramps. I worked with Sisson Kayaks in the 1980s to pioneer this feature in small cockpit multisport kayaks and we took care to position this raised deck in a position that would give the correct kinetic trim. Most paddlers will find they need to shift a little further forward than they are accustomed to make the most of this leg room and to get the kinetic trim correctly adjusted.

Leg & Foot Rest Position

Personally, I like to be able to straighten my legs (only just) and also to be able to touch them to the top deck, all the time with my toes touching the foot rest. This gives me the maximum amount of freedom to avoid cramps and also the most room to get a good leg pump/bum-rotation going. (figure 2). Mimic K1 racing paddler's leg position.



Centre of Gravity, Buoyancy & Metacentric Height!

Flag all the scientific jargon! Stability of your kayak will be affected by how low you can get in the kayak. Lower is more stable. (However sitting higher will allow you to be more efficient with your stroke by “getting over the water”).

Narrow hulls limit how low you can get because you end up wedging your hips into the taper of the hull. (Figure 3) After 1 to 2 hours this wedging can become unbearably painful.

I have designed the Bumfortable seat to get you as low as you can without sacrificing comfort.

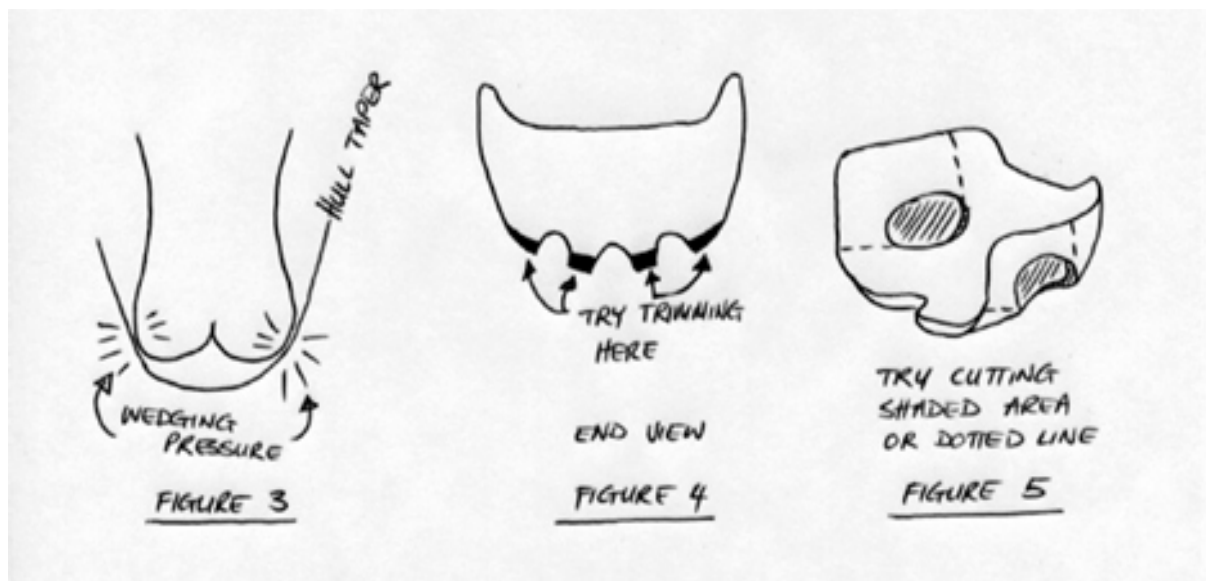
If you are still finding your kayak too tippy, there are some adjustments you can make but be aware there are limits to how low you can go. Try trimming bits off the Bumfortable as suggested below. Start with small adjustments and work in increments. It's much easier to take it off than add it back on!

Disclaimer: Any alterations are your own responsibility, not mine

Select the right model of Bumfortable

Try trimming 5 to 10 mm off the ridges underneath, and the adjacent edge, with a bread knife or hacksaw blade. (figure 4)

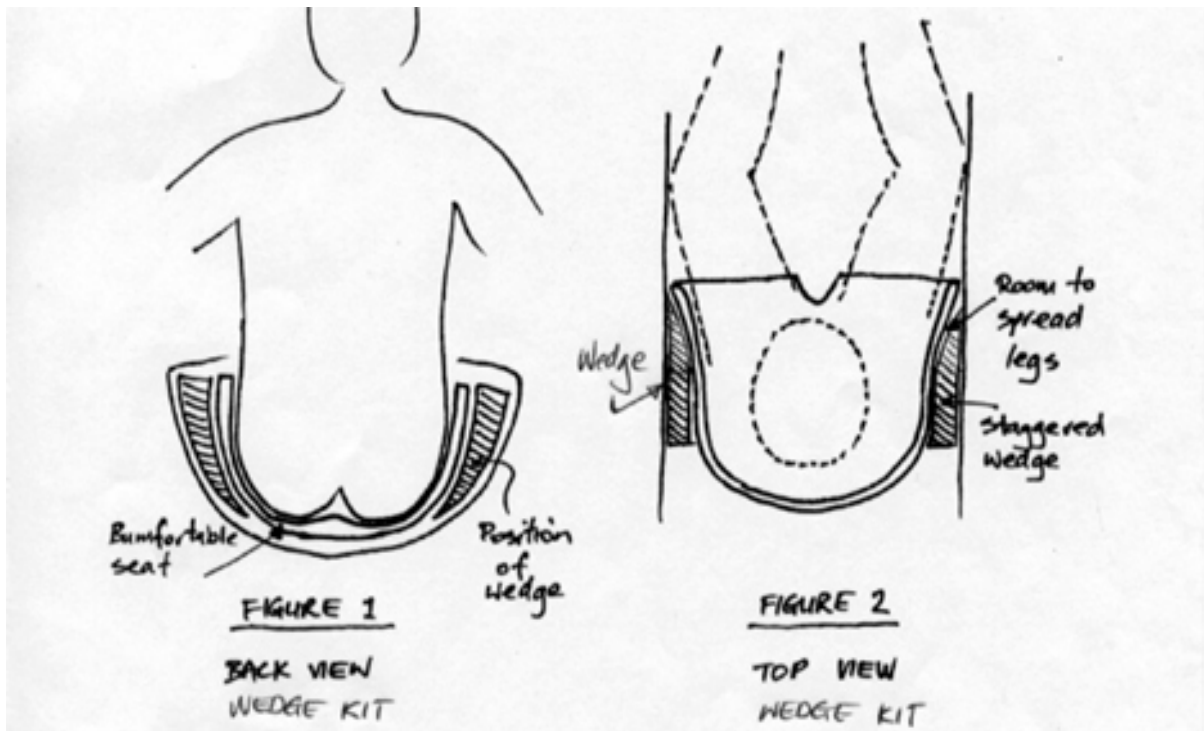
Try cutting out some of the contact area on the sides to effectively add width to the seat. (figure 5)



Bumfortable Wedge Kit

You'll need:

- A wedge kit to suit your boat width and hip width. Order from www.pxtkayaks.com shop page.
 - A Gurney Gears Bumfortable seat
 - Marker pen
 - A sharp knife or hacksaw blade or serrated bread knife to trim the wedges if necessary
 - Contact adhesive such as Ados F2
1. Place your kayak on a level surface such as a soft lawn, wedging the sides around the cockpit area with blankets or similar to maintain the hull shape.
 2. Place the Bumfortable seat into your kayak and sit in it.
 3. Put the wedges down the sides between the seat and the hull. (figure 1)
 4. Adjust their position until it feels comfortable.
 5. I suggest staggering their position backwards to allow room for your legs to spread (figure2)
 6. Mark the positions of the wedges and the seat with the marker pen.
 7. It is a good idea to glue them in "lightly" at first and test them on a good long paddle.
 8. You may need to do some fine tuning before gluing them in properly.
 9. Ensure the surfaces to be glued are thoroughly clean and dry before gluing, otherwise the seat may dislodge during use. I suggest using methylated spirits to finish the cleaning before gluing.

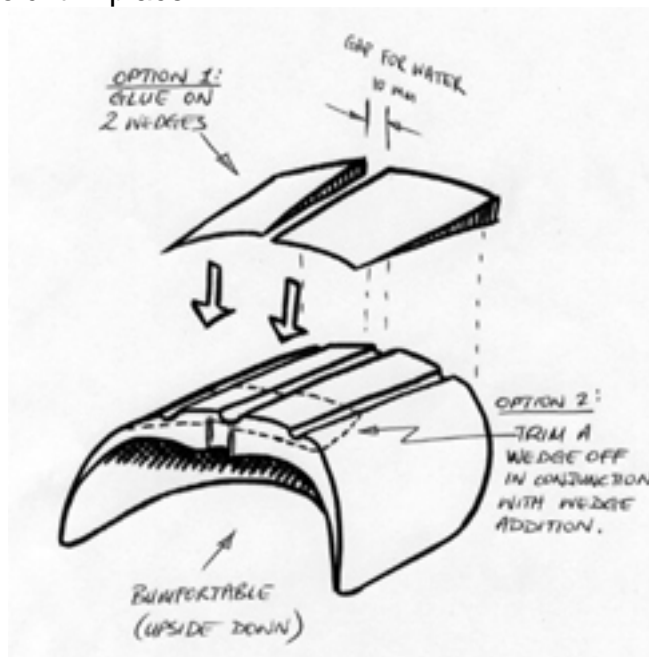


Bumfortable Tilt Kit (Forward Tilt Modification)

One or two Bumfortable users have found they need to tilt the Bumfortable forward for comfort. These tilt wedge kits are available from www.pxtkayaks.com as a special order (Email phil@pxtkayaks.com) You can use a bread-knife to trim a wedge off the front. Remember to continue the water drainage grooves.

Instructions:

- Position the wedges to the rear of the Bumfortable
- Glue with contact adhesive (eg Ados F2)
- Before gluing into the kayak test it with a training paddle using "Blutack" to temporarily hold it in place.

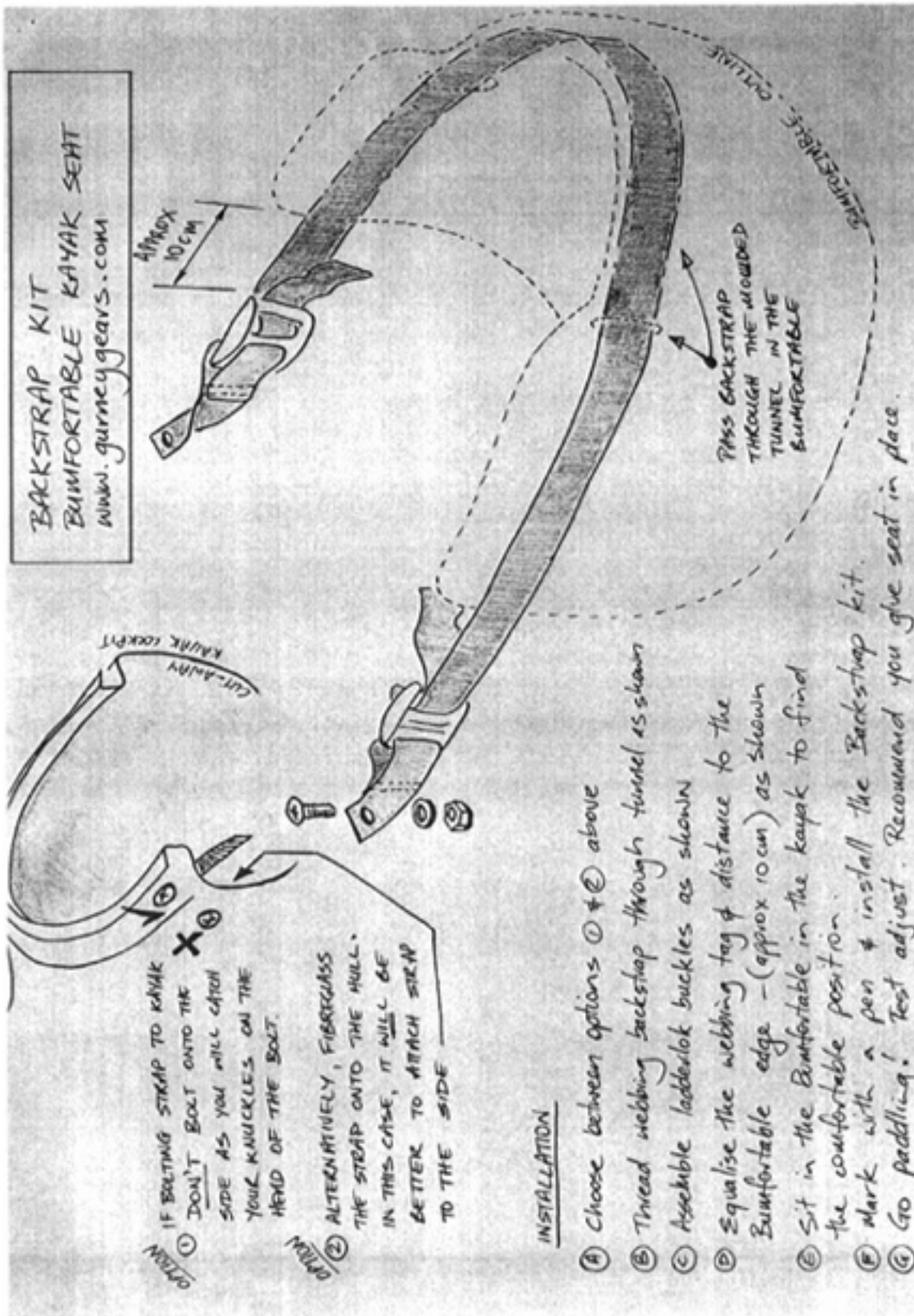


Optional Back Strap Kit

The Bumfortable seat is designed to provide support to the bony structure of the paddler's body, thereby giving good postural support from the seat base,(see figure 1).

Supporting the body from any higher will cause chaffing and muscular discomfort. The majority of paddlers using a Bumfortable seat will find additional back support unnecessary. However there is provision for a 25mm webbing strap to pass through a moulded tunnel around the top /back of the seat. Attach this to the hull in front of the seat via some loops of cord fibreglassed to the hull, or by bolting with a small machine screw and nut under the coaming. A backstrap kit is available as an optional extra, it contains the webbing, buckles and stainless steel machine screws.

Back Strap Instructions



www.gurneygears.com

64 03 384 3223