



Bat

BAT LOGIC
GO FAST

PRODUCT GUIDE

GAIN SPEED AND REDUCE
INJURY ON THE WATER AND
THE ERGOMETER WITH A SIMPLE
CLICK-IN / CLICK-OUT

WWW.BATLOGIC.NET

“AT COMMUNITY ROWING, INC. WITH ALL OF OUR BOATS ROWED 2-3 TIMES PER DAY BY DIFFERENT MEMBERS, THE SHOEPLATE PRO QUICKRELEASE HAS GIVEN EVERYONE THE OPPORTUNITY TO ROW THEIR BEST BY HAVING THE CORRECT SHOE SIZE IN ANY BOAT AT ANY TIME AND HAS HAD A POSITIVE IMPACT ON OUR OVERALL MEMBER SATISFACTION.”

MATT LEHER
DIRECTOR OF COACHING EDUCATION
COMMUNITY ROWING, INC. – USA

“THE BAT LOGIC SHOEPLATE PROS HAVE BEEN PART OF OUR SET UP TO SUCCESS. THE SHOEPLATE WAS A GREAT ADDITION TO THE ROWERS RIG, IT CERTAINLY HELPED TO HAVE IT ON BOARD.”

PAUL THOMPSON
OLYMPIC GOLD MEDAL
WINNING COACH - GREAT BRITAIN



Recent results

SUCCESS WITH BAT LOGIC



BAT LOGIC CHAMPIONS OF WORLD ROWING 2015



**CHANGING THE WORLD
OF ROWING, BAT LOGIC IS
TRUSTED BY OVER 25 NATIONS
TO SUPPLY ELITE ROWING
EQUIPMENT.**



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**ALL OF BAT LOGIC'S INNOVATIONS
ARE PROUDLY DESIGNED AND
MADE IN AUSTRALIA.**



About BAT Logic

At BAT Logic we are passionate about helping athletes achieve their best. BAT is an acronym for the Latin 'bio altus teneo', which translates into 'a superior understanding of the workings of the body'. In developing our innovative, easy-to-use rowing products, BAT Logic's team have consulted with the world's best coaches and analyzed over 2000 athletes, both in the boat and on the ergo.

This extensive research has been combined with our expert knowledge of biomechanics and anatomy to deliver a range of products designed to:



INCREASE PERFORMANCE

Enhanced leg muscle use, improved power and increased efficiency from the specific biomechanic and sports medicine based design.



REDUCE INJURY

Support through all phases of the stroke, with a focus on the feet, legs and spine. Greater gluteal control and use, better stability in the boat, improved foot support.



ENHANCE STABILITY AND CONNECTION

Improved foot support, greater engagement and enhanced heel load through the whole stroke. Providing confidence, consistency and a stronger base for the drive, as well as improved boat trim & feel.



IMPROVE EASE-OF-USE

Easy to install and simple to use. Click-in click-out technology allows shoes and ShoePlates to be moved easily and quickly between boats and the erg. Compatibility across a wide range of shoes.



DELIVER BETTER HYGIENE

Avoids the need to share shoes. Reduces the risk of spreading fungal foot infections.





ShoePlate Pro QuickRelease

Click into any seat, any boat and the erg; the base for your best performance. Enhanced foot connection, heel load, stability and muscle use for increased speed and reduced injury risk factors. And with our click-in click-out technology, you can wear your own shoes every time.



CustomPack

Personalize your setup to your exact needs. Whether it be ankle inflexibility or leg length discrepancy, the CustomPack is the key to a finely tuned row, reducing injury risk factors and increasing performance.



ErgAdaptor

Erg with more power, connection and feel. Drop splits and feel the instant benefits of the Concept2 endorsed ErgAdaptor. When used with the ShoePlate Pro QuickRelease, click your shoes out of the boat and directly onto the erg with ease.



Nike Omada

The highest quality performance rowing shoe on the market. Built to the specification and demands of the world's best rowers, used by the world's best boat makers.

ShoePlate Pro QuickRelease

ShoePlate Pro
QuickRelease



FEATURES

- ▶ Fits under the steering foot seamlessly
- ▶ 7 degree rise with toe wedge
- ▶ 4 degree rise with heel wedge
- ▶ Standard drill pattern
- ▶ Light weight, at less than 190gm (under 7 ounces)
- ▶ QuickRelease feature for rapid seat & boat changes
- ▶ Compatible with most rowing shoes

BENEFITS

- ▶ Greater foot stability
- ▶ Enhanced connection and heel load
- ▶ Improved muscle recruitment
- ▶ Increased performance
- ▶ Reduced injury risk factors
- ▶ Click in / out of any seat, boat or ergo
- ▶ Science based, race proven
- ▶ Enhanced longevity of shoes
- ▶ Enhance hygiene in the boat shed, use your own shoes

The ShoePlate Pro QuickRelease is a key performance piece used by the world's top rowers, schools and clubs. Over 210 World medals have been won using BAT Logic ShoePlate Pros including 4 Gold and 3 Silver medal winning crews at the London 2012 Olympic Games.

The ShoePlate Pro QuickRelease allows rowers to move from seat to seat-boat-erg and back again with their own plates and shoes – taking their settings with them and avoiding sharing shoes. Boats can be shared seamlessly, freeing up boatmen's time.



The shape and function have come from years of research and development focusing on performance gain and injury reduction. The end product is lightweight and designed with performance biomechanics to enable all rowers – regardless of skill level – to achieve a benefit over a standard flat board. With a 7 degree wedge at the toe and a 4 degree wedge at the heel, the ShoePlate Pro provides maximum connection and stability and helps rowers tap into their most powerful leg muscles.

The ShoePlate Pro can be used with almost all rowing shoes that share the common drill pattern, including most adidas, H2Row, New Wave, JL Sport, Dibi and Boat Builder shoes. To suit all rowers and boats, the ShoePlate Pro QuickRelease comes in two sizes – small (US size 6-9 shoes) and large (US size 10-16 shoes).

Note The ShoePlate Pro QuickRelease is not designed for walking. Walking on ShoePlates may cause injury. FISA approved heel ties must be used.

Users of BAT Logic ShoePlates



Our clients include:

OLYMPIC NATIONS

Great Britain, United States of America, Canada, Australia, New Zealand, Italy, Denmark, Netherlands, Czech Republic, Slovenia, Switzerland, France, Sweden, Norway etc. At present over 28 Olympic Nations use BAT Logic Products & the number keeps growing.



COLLEGES/UNIVERSITIES

Ohio State, University of Virginia, Harvard University, Yale University, Stanford University, Brown University, University of San Diego, Michigan University, Michigan State University, Cambridge University, Oxford University. BAT Logic products have been used in 4x consecutive NCAA title wins and numerous Oxford-Cambridge Boat Race wins and other National Titles.



SCHOOLS

Eton College, Sir William Borlase School, Marin Rowing Association, Scotch College, Shore School, St Margaret's Anglican Girl's School, Loreto College, Nudgee College, St Joseph's Prep School PA. BAT Logic products have been used in the last 5x National School Boy Wins in Australia, 4x National School Girl's and numerous Henley and Head Of The River National / State titles.



CLUBS

Vesper Rowing Club, California Rowing Club, Community Rowing Inc., Melbourne University Boat Club, Mercantile Boat Club, Sydney University Boat Club, Mosman Boat Club.

“The combination of the BAT Logic consultancy and the use of the ShoePlate Pro in the boat was a pivotal part in the setup of our National Schools and Henley winning crews. Every athlete that uses the footplate is able to get into a stronger position.”

Robin Dowell
Great Britain Junior Head Coach,
Junior World Champs Gold Medal 2015 JM4x
Prev. Head Coach Sir William Borlase School

“At Rowing Canada we align ourselves with companies who continually innovate, like BAT Logic, to bring us the best equipment for performance impacts, which are so important at this level.”

John Keogh
Rowing Canada Head Women's Coach,
Olympic Silver 2012 W8+

ShoePlate Pro QuickRelease vs flat foot board



Why do I need to row with the ShoePlate Pro QuickRelease?

ATTRIBUTE	SHOEPLATE PRO QUICKRELEASE	STANDARD FLAT BOARD
QUICK RELEASE FEATURE	<ul style="list-style-type: none"> › Use your own shoes, in your own size every time. › Easily swap between boats, seats and onto the ergometer. 	<ul style="list-style-type: none"> › Slow and tricky adjustment of shoes and settings – you are stuck with one size fits all, size 9 feet in a size 15 shoe doesn't work!
HYGIENE	<ul style="list-style-type: none"> › Only your feet will ever be in your shoes – no sharing of foot bacteria with other sweaty athletes while changing your shoes from boat to boat and seat to seat with a click. 	<ul style="list-style-type: none"> › Shared shoes with every other rower's bacteria and to change shoes takes a long time and is a pain! 25% of the population carry Athlete's Foot Bacteria.
CUSTOMIZATION	<ul style="list-style-type: none"> › Can integrate seamlessly with the CustomPack for a fully custom fitting for leg length discrepancies, comfort and improved performance. Allows you to carry these settings with you every time you row. 	<ul style="list-style-type: none"> › One size fits all, no integrated system of customizing available
FOOT CONTACT	<ul style="list-style-type: none"> › Higher % foot contact throughout stroke due to heel and toe wedge. › Helps with feel, stability and reduced injury risk. 	<ul style="list-style-type: none"> › No shape to conform to foot through stroke. › On-off feeling at different points.
HEEL CONTACT	<ul style="list-style-type: none"> › 4 degree heel wedge to help earlier, more stable and stronger heel load. › Heel connection occurs earlier and allows better muscle use and power. 	<ul style="list-style-type: none"> › No specific heel support. › Doesn't promote heel loading Heel contact comes in approx. 3/4 through leg drive in most cases.
FOOT STABILITY	<ul style="list-style-type: none"> › Shaped for foot stability and reduced stabilizer muscle use – leads to decreased fatigue. › Improved contact and loading gives improved stability, boat balance and confidence. 	<ul style="list-style-type: none"> › Often feels unstable. › Promotes toe based contact only. › No specific foot support.
BODY POSITION	<ul style="list-style-type: none"> › Body is more solid due to better gluteal contraction and foot stability / connection. 	<ul style="list-style-type: none"> › Body has to contract and compensate for lack of stability and toe based connection through stroke.
POWER	<ul style="list-style-type: none"> › Conducive to higher power outputs due to heel wedge and stability. › Less taxing on the body as stabilizing muscles are needed less and injury risk factors are lower than a flat board if used correctly. 	<ul style="list-style-type: none"> › Good power can be produced but is done so more through the toes and with less stability.
INJURY RISK	<ul style="list-style-type: none"> › Reduces injury risk factors by biomechanical and anatomically considered design. › Increased stability and connection make for a safer base to produce power from – just like a good cycling cleat. 	<ul style="list-style-type: none"> › Many injuries and injury risks recorded in rowing. › Not designed biomechanically / anatomically like the ShoePlate Pro.
COMFORT	<ul style="list-style-type: none"> › Highly functional and designed specifically for comfort and performance. 	<ul style="list-style-type: none"> › No specific fitment / comfort design. Just functional.

Hygiene & boat house benefits



HYGIENE AND SIZING IN THE BOAT HOUSE

Did you know that up to 25% of people suffer from the fungal infection that causes Athlete's Foot? That equates to 2 seats in your 8 with gross foot fungus! Did you know that every time you take a stroke in a shoe that is too big or too small for you, your ability to apply force is reduced, your muscles are fatiguing faster and you may even increase your risk of injury?

Facts:

- › Up to 25% of the population have fungal foot infections - are you ok with yourself or your kids sharing shoes that may contain foot fungus and infection causing bacteria?
- › Foot health is linked to general well being - the feet are a common site for infection transmission.
- › Moist, warm shoes that don't see the light of day are an ideal environment for germs and fungus to flourish.
- › Incorrect shoe size is a risk factor for loss of performance and even possible injury risk.
- › Shoes that can be removed and dried after each session are more hygienic and last much longer.

Everyday as rowers we are used to sharing shoes and equipment but this is now no longer needed, nor is it good enough. This doesn't happen in other sports! Wear your own shoes and keep your own specific settings with the ShoePlate Pro QuickRelease and let's get rowing into the 21st Century.

USE IN THE BOAT HOUSE

SCHOOLS

Jonathan Voller is the coach of 160 athletes in his senior girl's school based program at St Margaret's Anglican Girls School.

Each time he wanted to seat race or change athletes from VIII to IVs for training each rower previously had to just use whichever shoes were in the seat, regardless of whether the shoe size suited them or not. If they had custom settings for leg length issues or injury these could not be carried with them or the boatman had to spend hours installing the equipment needed for each row. This was a compromise, and it reduced on-water time and boat use. Then Jonathan got the BAT Logic ShoePlate Pro QuickRelease.

Since getting the BAT Logic Solution:

- › It now only takes seconds to move every set of shoes and plates in an entire VIII vs over an hour with the normal foot stretchers and shoes.
- › He can simply click girls from boat to boat, seat to erg and even boat to ergo.
- › There are the hygiene benefits of the girls using their own shoes.
- › Jonathan benefitted from the volume discounts available for larger orders.
- › For the cost of one single skull, Jonathan fitted his entire boat shed and made each shell more useable for all athletes.
- › Now if an athlete wants to buy their own shoes they can with no effect to the boathouse and we can reuse all the existing shoes in most brands if we want.

CLUBS

Matt Lehrer is one of the coaches at Community Rowing, the largest boat club in the world.

"At CRI with all of our boats rowed 2-3 times per day by different members, the ShoePlate Pro QuickRelease has given everyone the opportunity to row at their best by having the correct shoe size in any boat at any time and it has had a positive impact on our overall member satisfaction."

Since getting the BAT Logic Solution:

- › Improved equipment for all members
- › Enhanced usability of boats
- › Improved hygiene and performance
- › Happier members!



COMPATIBILITY WITH DIFFERENT ROWING SHOES

The ShoePlate Pro QuickRelease is designed to be used with all existing rowing shoes that share the common drill pattern and alignment.



BOAT COMPATIBILITY

All of our equipment is designed to fit in any boat and will do so in almost all boats as standard. If your boat has a different screw pattern on the foot stretcher, this can easily be rectified.

For a full boat fitment guide and more information see www.batlogic.net/compatibility/

SHOE	WILL IT FIT?
NIKE OMADA	Yes – designed to fit the ShoePlate Pro QuickRelease. The best match for ultimate performance.
ADIDAS	All models except the white model of 2009-2011 will fit. The black model will sit lower down the ShoePlate Pro QuickRelease but will function well.
NEW WAVE	2015 model – Yes Pre 2015 – Yes, up to size 13
WINTECH	2015 model – Yes Pre 2015 – Yes, but alignment may vary
H2ROW	Yes, but only in small sizes up to size 10
JL SPORT	Yes
DIBI	Yes
POCOCK	Yes
VESPOLI	Yes

ShoePlate Pro QuickRelease design



TOE WEDGE

The 7 degree toe wedge on the ShoePlate Pro QuickRelease helps athletes spread their metatarsals and phalanges (middle foot to toes).

The foot is a similar structure to the hand, in that it has many joints and muscles that all act individually unless the hand/foot is under load and stable e.g. spreading your fingers out. When all the joints and muscles in the foot are working individually, this creates a poor force transferrer or poor lever on the footboard when attempting to apply power. By adding some tension in the foot, a stiffer, more stable and more power effective platform is created.

As the toes are spread and some muscle tension is put on the foot, it too becomes a more efficient lever. This gives a more solid position at the catch and improves force transfer. It also reduces fatigue by increasing the stability of the foot, requiring less need for muscle contractions to adjust for its positions in the stroke.

The toe wedge is also important for connection and feel. It allows the foot to maintain connection with the footboard and stay stable at each point of the stroke, especially the front and back end. This eliminates the 'on', 'off' and 'on' again feel that many flat boards give through the rowing stroke cycle. By doing so it gives more feel, confidence and less chance of a poor finish position/poor timing, while allowing a strong and connected leg drive from the catch.



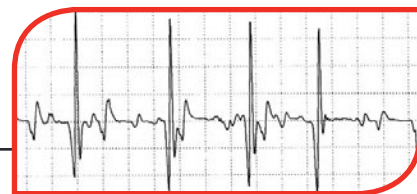
HEEL WEDGE

The feature of the ShoePlate Pro QuickRelease that gives most of the power advantage is the 4 degree heel wedge.

The heel wedge allows rowers to contact and load the heel earlier for more stability and better connection. Its key role, however, is to allow production of greater power.

On current flat footboards most people are very high up on their toes at the catch and are only getting heel connection 3/4 of the way or even later into their leg drive. If the average leg drive portion at race pace takes approximately 0.55 seconds then this means rowers are only connecting the heel for just over 0.13 seconds in the strongest part of the drive phase.

Heel contact and loading is vital as this is the only time rowers are able to use their hamstring as a hip extensor (to drag the leg down). It also produces a far higher percentage of gluteal, quadricep and hamstring muscle firing. The point at which the heel makes contact and applies its maximum force is also, in most cases, roughly where maximum force occurs in the stroke. Therefore, if the heel can be loaded for longer and earlier, the result is a more powerful stroke and a stroke that creates more power earlier in the drive.



EMG data (recording of muscle activity) shows an increased % of gluteal and hamstring firing and a more effective pattern with heel connection and load.

Experience the effect of the [Toe Wedge](#)

If you lightly open your hand and wiggle one finger while there is no tension in the hand you can feel how it is very mobile and each joint moves in its own way. Now spread the fingers on your hand out like a star and you will feel and see how much stronger and stiffer the hand and fingers become – this makes it a better lever for transferring force. This is a similar effect that the toe wedge on the ShoePlate Pro QuickRelease gives the foot – it engages more of the arch for an improved lever.

Experience the effect of the [Heel Wedge](#)

Get into a squat position and roll forward until only your toes are planted on the ground. Now push upwards from the squat – you will feel that majority of the tension in your calf and quads and you will feel slightly unstable. Now resume the squat position and roll back onto your heels. Drive up from the squat by loading your heels – feel how much more of the load is transferred to your hamstrings and glutes and spread through your quads? You are feeling the powerful effect of the heel engagement that the ShoePlate Pro QuickRelease provides.

ShoePlate Pro QuickRelease FAQ's



Will the toe wedge make an athlete row short or stop them getting to my full catch position?

No, the toe wedge will give feet more control and touch coming into the catch and create better stability when pushing off the catch. The centre of the foot is at the same angle as the footboard – so there is no difference. As with a normal footboard, if a rower finds it tight at the catch, they should either slightly reduce the foot stretcher angle or slightly lower the feet.

How heavy is the ShoePlate Pro QuickRelease?

It weighs under 190gm (under 7 ounces).

Will the earlier connection and increased gluteal, hamstring and quad load mean a rower fatigues faster?

No, in fact the opposite. The glutes, hamstrings and quads are all meant to be used as power producing muscles. They are designed to contract then switch off and repeat this powerfully, unlike the stabilizing muscles in the front and side of the shin that are designed to produce low power but contract over long periods of time.

The ShoePlate Pro QuickRelease will reduce the use of stabilizing muscles to produce power and draw more on the major power producers via better stability, connection and the improved heel loading.

Why are the angles 7 degrees and 4 degrees?

The shape and angles of the ShoePlate Pro QuickRelease have been specifically designed after years of research in biomechanics, anatomy and on-water testing. They have proven their worth with 4 gold medals in London and numerous over 210+ other medals – and this is in addition to the extensive research BAT Logic has conducted with federations and universities.

What should an athlete feel using the product?

Although the feeling is different for each athlete, the ShoePlate Pro Quick Release can allow an athlete to feel better connection, strong heel engagement and increased stability.

They may also experience possible hamstring and gluteal tightness and/or gym-type pain for the first 2-3 rows. This is a positive feeling as it means these muscles are working harder = more power & speed!

Is there an adaptation time?

Adaption is different for every athlete. We have tested over 2000 athletes at all levels using the ShoePlate Pro and the longer they use it, the better the effects with muscle adaption – as seen with research on medal winning Olympic crews. Most athletes will have an instant change but to start changing muscular adaption and build gluteal firing will vary enormously.

HOW SHOULD THE BAT LOGIC EQUIPPED FOOT STRETCHER BE RIGGED?

BASE SETTINGS	
ANGLE	Most foot stretchers are factory set at a standard 42 degrees*. (*the angle is taken off the boat's foot stretcher, not the ShoePlate Pro QuickRelease)
HEIGHT	Factory standard settings can be adjusted to comfort and body type as needed.
STRETCHER POSITION	The stretcher position should be rigged to achieve the same handle position at the finish or work through. The ShoePlate Pro QuickRelease is 8mm thick at the attachment point, so to achieve an athlete's normal position you'll need to account for the extra thickness and move the stretcher 2 notches towards the stern.

We recommend that athletes initially keep within the above range, unless uncomfortable. However, after testing hundreds of athletes we have found a number of different angle/height combinations work very well long-term.



FEATURES

- ▶ Fully portable
- ▶ Factory quality fit
- ▶ Fully Concept2 endorsed
- ▶ Easy to use, simple to fit
- ▶ Legal for most indoor racing events
- ▶ Allows in-boat foot stretcher setups on the erg

THE BAT LOGIC ERGADAPTOR IS A FULLY PORTABLE, STRAP ON/OFF ERGOMETER PLATE THAT EASILY ATTACHES TO ANY MODEL D/E OR DYNAMIC ERGO TO PROVIDE ACCESS TO ALL OF THE BENEFITS OF THE BAT LOGIC IN-BOAT EQUIPMENT.

BENEFITS

- ▶ More efficient performance and reduced injury risk with improved foot hold, support and connection
- ▶ Greater ability to apply power
- ▶ Improved comfort and support - no slipping straps or loose connection
- ▶ Greater use of large leg driving muscles
- ▶ Adjustable for height and fully customizable with the CustomPack shims
- ▶ Enhanced and earlier heel loading
- ▶ Attachable and removable seamlessly in seconds
- ▶ Allows more specific training
- ▶ Enhanced and hastened long-term effects for in-boat ShoePlate Pro QuickRelease users
- ▶ Improved ergo performance and muscle load patterns for non-rowers e.g. Cross Fit athletes also

**SHOEPLATE PRO
& ERGADAPTOR**

**9 INDOOR
WORLD
RECORDS**



FEATURES

- ▶ Specific hydrophobic (water resistant) material, drainage and venting made for rowing performance and comfort
- ▶ Designed for rowing with power, function, comfort and your anatomy as a focus
- ▶ Lowered heel cup to decrease pressure on the achilles tendon at the finish
- ▶ A sole that is stiff and supportive but flexes where the foot needs to move
- ▶ Reactive load zones to improve power transfer
- ▶ Lowered cleat position to increase the percentage of foot contact with the foot stretcher through all phases of the stroke and to help with stability
- ▶ Double wrap-around tongue to conform to the shape of the foot, add comfort and reduce foot slop
- ▶ Inner memory foam at heel to shape to your foot
- ▶ Strapping that is specifically designed to pull the foot onto the cleat position and support the foot's structure
- ▶ Metal fitting all stainless
- ▶ Fully shaped sole to interact with the ShoePlate Pro QuickRelease perfectly

BENEFITS

- ▶ More efficient performance and reduced injury risk with improved foot hold, support and connection
- ▶ Greater ability to apply power with load zones and increased movement efficiency
- ▶ Cements the foot into the shoe to give a stable platform
- ▶ Improved comfort
- ▶ Longevity – looks great now and in years to come
- ▶ Avoids risks associated with sharing screwed in shoes

THE NIKE OMADA IS THE HIGHEST QUALITY PERFORMANCE ROWING SHOE ON THE MARKET AND HAS BEEN DESIGNED TO CREATE THE PERFECT FIT WITH THE SHOEPLATE PRO QUICKRELEASE.

Reducing rowing injury risk factors

The sport of rowing is fantastic for general body fitness and strength, with a huge number of muscles and joints being used for each and every stroke. With this however, comes a large risk of injury.

Common injury sites are:

- › Spine – especially lower back
- › Pelvic and SI Joints
- › Ribs
- › Forearms
- › Shoulders

The most prevalent injuries by far are spinal joint sprains and spinal muscle strains. The prevalence of spinal pain in rowers has been reported as high as 85% at the elite level. The seriousness of these injuries varies but the more severe injuries like disc herniation (commonly spoken of as a ‘slipped’ or ‘torn’ disc) and degeneration can end careers and have long lasting effects on an athlete’s daily life. Rib injuries are also fairly common

with the incidence listed as between 10-12% of all rowers. Each injury will have numerous individual factors but the causative factors usually centre around overuse/overload on an unstable joint or a muscle that is not in a position to work well. Factors that can influence this are: leg length discrepancies, poor functional control of the pelvis and spine, strength asymmetries, or poor foot stability, poor shoulder stability.

In terms of spinal injuries it has been shown that ‘asymmetries during the rowing stroke, particularly at the hips, can contribute to sub-optimal kinematics of the lumbar-pelvic region’ (Buckeridge et al. 2012). It is also clear from studies on general spinal injuries, including those related to rowing, that gluteal control of the pelvis and lumbar spine has a large preventative role.

THE SINGLE BIGGEST FACTOR THAT AFFECTS AN ATHLETE’S OR CREW’S PERFORMANCE IS INJURY. THANKFULLY, THE SHOEPLATE PRO QUICKRELEASE AND CUSTOMPACK EQUIPMENT HAVE A DIRECT POSITIVE EFFECT ON MANY OF THESE INJURY FACTORS.



Common injuries in rowing



INJURY RISK FACTORS	BAT LOGIC EQUIPMENT	EFFECTS
LOWER LIMB INSTABILITY	<ul style="list-style-type: none"> › ShoePlate Pro QuickRelease › CustomPack › Nike Omada › ErgAdaptor 	<p>Improve foot connection and stability by promoting a higher percentage of foot contact during all parts of the stroke. Allow more stable heel connection.</p> <p>See ShoePlate Pro QuickRelease & CustomPack pages for more detail</p>
PELVIC AND LUMBAR INSTABILITY	<ul style="list-style-type: none"> › ShoePlate Pro QuickRelease › CustomPack › ErgAdaptor 	<p>Promotes heel loading that leads to earlier, more efficient and more complete gluteal and hamstring firing. These muscles support the lower spine.</p> <p>See ShoePlate Pro QuickRelease & CustomPack pages for more detail</p>
POOR SHOULDER STABILITY	<ul style="list-style-type: none"> › ShoePlate Pro QuickRelease › CustomPack 	<p>A more stable lower limb will help the athlete set their shoulder position! A greater use of the glutes will help strengthen the position of the middle spine, which the shoulders are attached to.</p> <p>See ShoePlate Pro QuickRelease & CustomPack pages for more detail</p>
POOR MUSCLE POSITIONING WHILE APPLYING POWER	<ul style="list-style-type: none"> › ShoePlate Pro QuickRelease › CustomPack › ErgAdaptor 	<p>Greater heel use and stability allows muscles to work from a more powerful and stable base – just like a good squat position vs. a poor one.</p> <p>See ShoePlate Pro QuickRelease & CustomPack pages for more detail</p>
LEG LENGTH DISCREPANCY/ASYMMETRY	<ul style="list-style-type: none"> › CustomPack › ErgAdaptor 	<p>Even out leg length discrepancies and allow a symmetrical base to push off in the stroke.</p> <p>See CustomPack page for more detail</p>

LEG LENGTH DISCREPANCY

Nearly all rowers will have a leg length discrepancy of some sort (>95% of the general population have this) and many rowers are affected badly by this discrepancy. This difference can vary from almost indiscernible to >20mm within the normal population, but what is the same for 100% of sufferers is that the differences will cause some sort of mechanical effect in the rowing stroke.

Effects of a Leg Length Discrepancy

Leg length issues can have an effect on boat balance and can lead to a number of common injuries including spinal, pelvic, rib and muscle overuse dysfunctions as well as steering. Some of these are amongst the most common and debilitating in rowing. When an athlete rows with uneven leg lengths they are pushing off an uneven base – just like if you were to squat with one leg on a step and one leg on the ground. This causes increased stress on the lower back and pelvis, as both will not be set on an even level. As a result, muscles will have to contract to compensate for this position, while joints are forced to move from a compromised posture. This leads to a reduction in the force that can be applied and uneven forces will be transferred through the body.

Correcting Leg Length Discrepancies

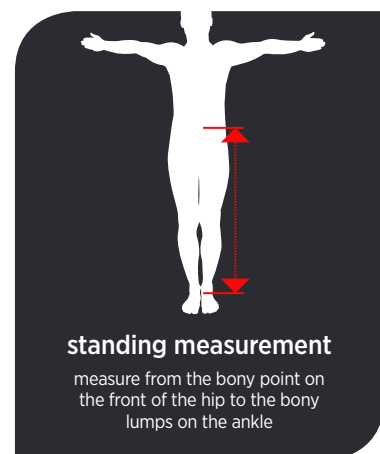
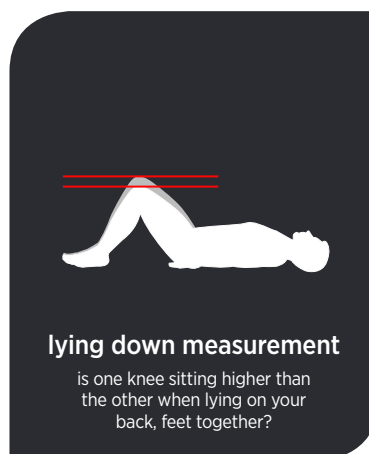
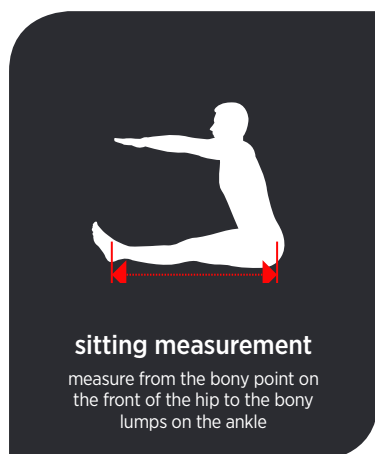
With the BAT Logic CustomPack, leg length differences can be remedied with an appropriate shim under the appropriate foot to even this discrepancy. Assessed and treated properly, this will ensure the hips are symmetrical from the catch to the finish – providing a stable and strong platform against which the upper torso can brace without putting undue stress on the lower back, ribs, knees and ankles.

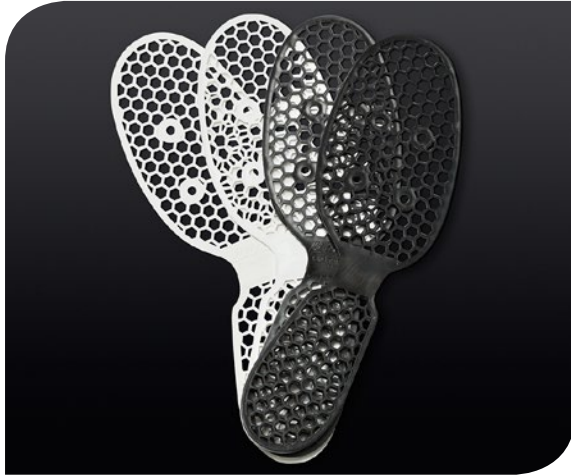
Structural vs Functional Leg Length Discrepancy

There is a difference between structural leg length discrepancies (an actual longer bone) and functional discrepancies (one leg appears longer while doing activities due to tight muscles, joint dysfunction etc.). Even on an MRI scan or X-ray, functional discrepancies would be hard to pick up accurately. To fully understand these differences an athlete must be analysed while doing the activity of rowing or at least in a similar, seated position. The most accurate functional leg measure method is using an Instrumented Foot Stretcher to measure the force of each leg while rowing. If your club, school, college or team is interested in a gold standard analysis from a BAT Logic consultant, including these measures and testing on our instrumented foot stretcher, please contact team@batlogic.net.

Structural Leg Length Measurement

Measure from the bony point on the front of the hip (ASIS – anterior superior iliac spine) to the bony lumps on the inside / outside of the ankle (medial and lateral malleolus) as shown. Take an inside and outside measurement in standing and sitting to give a higher accuracy.





Over 95% of the population has a leg length discrepancy and many rowers are affected badly by this discrepancy. Leg length issues are linked to a number of common injuries including spinal, pelvic, rib and muscle overuse dysfunctions as well as steering and boat balance issues.

FEATURES

- ▶ 1 x 1.0 mm white leg length shim (CustomShim 1.0)
- ▶ 1 x 2.0 mm white leg length shim (CustomShim 2.0)
- ▶ 2 x 5.0 mm black heel shims (CustomHeel)
- ▶ Fits with all standard shoes

BENEFITS

- ▶ Choice of leg length and heel shims
- ▶ Adjust for leg length discrepancies
- ▶ Aid Inflexible ankles
- ▶ Increase heel load
- ▶ Improve timing and symmetry between legs
- ▶ Personalize and improve comfort

USED PROPERLY THE CUSTOMPACK WILL GIVE ROWERS PERFORMANCE GAINS AND CAN REDUCE THEIR RISK OF INJURY.

HOW?

Adjust for leg length discrepancies.

Cater for inflexible ankles.

Increase heel loading.

Improve timing and leg symmetry.

RESULTING IN

PERFORMANCE GAIN & REDUCED INJURY RISK FACTORS

What are the white shims for?

The white leg length CustomShims come in 2 sizes: 1.0mm and 2.0mm. The shims are placed under a rower's shorter leg to even out functional leg length in the boat – just like an orthotic or heel wedge does when walking or standing.

Why are the white shims not like an orthotic?

The white shims are one single width through their entirety, whereas orthotics will – depending on their function – have thicker and thinner parts for controlling foot movement.

The reason for this difference is that the white shims are simply used for evening out leg length and need this consistent shape, whereas the control of the foot arch and contact with the footboard is done by the ShoePlate Pro QuickRelease – almost like a rowing orthotic.

The ShoePlate Pro QuickRelease and shims have different curvature and shaping to everyday orthotics because in rowing the foot moves differently to the way it does when walking or running.

How do you establish the correct number of shims needed?

A trainer or health care professional can measure leg length in an number of positions (seated, supine and standing and this is shown on pg 16), as well as on the erg at the catch and finish from the base footplate and observe pelvis symmetry.

An athlete can increase the accuracy by videotaping themselves side on at the left and right side of the body while erging/rowing to see if one leg sits higher than the other, then adjust with the shim and see what difference this has made. Generally the longer leg will sit up higher. A successful use of shims will make you feel more connected and even.

The two white leg length shim sizes are adequate for most leg length issues. You would never place a 10mm shim under a 10mm shorter leg – this is too extreme for the body to adjust to. The settings are always as least invasive as possible e.g. 8mm longer right leg, 2.0mm shim may suffice to give an adequate effect. The following table is an average case estimation based on BAT Logic's work with over 2000 athletes.

SHIM CHOICE GUIDE

MEASURED LEG LENGTH DISCREPANCY	1 - 4mm	CUSTOMSHIM INDICATED	1mm	Shim choice will be dependant on cause and effect of the discrepancy. Guides are only relative and based on our consulting experience fitting these. If in doubt seek professional assessment.
	4 - 8mm		2mm	
	8 - 15mm		1 + 2 = 3mm stack	
	15mm +		multiple shim pack	

What are the black CustomHeel wedges for?

The black CustomHeel wedges are for athletes with poor ankle flexibility or for those who want to engage even greater heel loading earlier in the drive phase. Black CustomHeel wedges are good for athletes with a history of back injury because increase gluteal control on the pelvis and lower back. This control occurs when the heels are loaded i.e. more heel load equals better gluteal firing which means a more stable pelvis and lower back.

An athlete should use this wedge if they:

- › are still struggling to get heel contact early enough, or at all, even with the ShoePlate Pro QuickRelease (this may be due to rowing style or in most cases very inflexible ankles)
- › feel that they would like a further heel wedge on top of the 4 degree heel wedge on the ShoePlate to build even more heel use or support the heel more (may help in back injuries, achilles strains or other calf and ankle injuries)
- › would like to row on a very steep foot stretcher setting but still maintain early heel contact
- › want to raise the height of the heel only, rather than the entire foot.

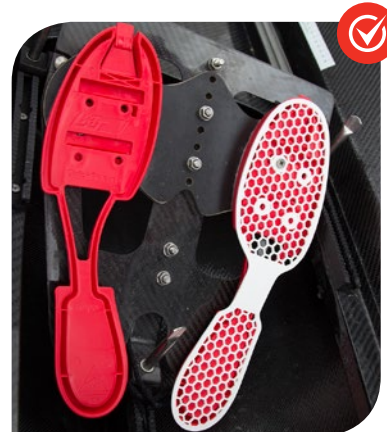
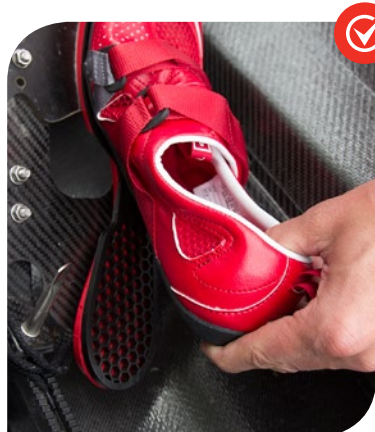
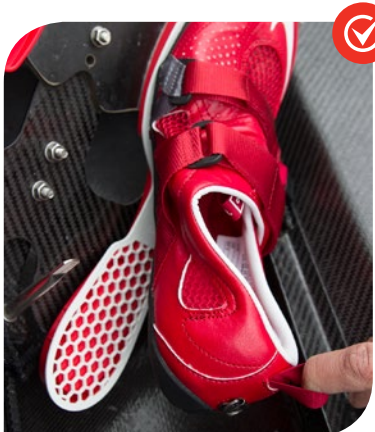
How does an athlete determine which black CustomHeel shim is needed?

The black CustomHeel wedge is a standard 5mm heel wedge. It comes in two sizes - small (US size 6-9) and large (US size 10-16).

How does the black CustomHeel Wedge and white leg length CustomShim attach onto the foot stretcher?

The shims go between the Shoe and ShoePlate Pro QuickRelease. These products were designed to fit together perfectly.

You will need to remove your shoe and screw the appropriate shims between the ShoePlate Pro QuickRelease and the shoe, this allows you to click your settings into any boat, seat or ergo.



BAT LOGIC ATHLETE CONSULTING SERVICES

Our experts in sports science and sports medicine can tailor a consulting package specific to your needs, utilizing our world only Instrumented Foot Stretcher. Give your club the best individualized foot stretcher set up and help every athlete unlock their potential. We have analyzed over 2000 athletes of all levels, in-boat and on the ergo and have consulted with countless teams from Olympic level to schools and colleges.

Our consulting includes:

- > Analyzing movement patterns from all segments of the body.
- > Measuring foot force for symmetry, efficiency, timing and peak force as well as other metrics in-boat and on the ergo.
- > Analysis of injury risk factors.

The consulting packages can be carried out for:

- > Crew set ups; get your boat set up for maximal gains from the BAT Logic equipment and ensure each athlete has the custom foot settings they need to reduce injury and perform at their best. Make sure the boat is working as one.
- > Movement pattern analysis; identify weak movements that are increasing injury risk and reducing performance potential in your athletes.
- > Problem athletes; seek to minimize injuries and performance loss.

- | | |
|--------------|-----------|
| ▶ Crew | ▶ School |
| ▶ Federation | ▶ Club |
| ▶ College | ▶ Masters |

Analysis can be conducted on the water or on the ergometer or both. As an athlete, your body is your weapon and we want you fully armed to be your best. If you are injured less, you can row more.

IF YOU ARE FASTER & MORE CONSISTENT, YOU WIN MORE. IT'S SIMPLE.

Some of our clients include:

Elite

Australia, Great Britain, France, Canada, United States of America, China, Italy. Over 15 teams have used BAT Logic consulting services from Senior A to Junior levels.

College

Cambridge University, Oxford University, Yale University, Harvard University, University of Virginia, Stanford University, Columbia University, Michigan University

School

Eton, St Joseph's Prep, Scotch College, Sir William Borlase School, Shore School

Club

Community Rowing Inc., Melbourne University Boat Club, Vesper Boat Club, Imperial University Boat Club



“I’VE BEEN IN THE SPORT OF ROWING A LONG TIME, AND IN THAT TIME I’VE SEEN A LOT OF “INNOVATIONS” COME AND GO. HAVING STARTED USING BAT LOGIC A FEW SEASONS AGO, I CAN SEE THIS IS AN INNOVATION THAT IS HERE TO STAY! YOUR FOOTPLATE IN A ROWING BOAT IS THE GATEWAY FOR THE TRANSFERRAL OF POWER. CREATING AN ERGONOMIC AND STABLE FOOTPLATE ENABLES US, THE ATHLETES, TO BE CONFIDENT THAT ALL OF OUR HARD WORK IS BEING TRANSLATED INTO BOAT SPEED.”

**JESS EDDIE
WORLD CUP MEDALIST
GB W8+**

Bat





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