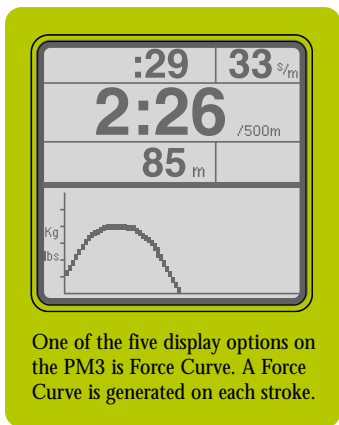


WHAT SHAPE IS YOUR FORCE CURVE?



For years, on-water coaches and rowers alike have been fascinated with the idea of a force curve. It seemed like it might hold the secret to perfect rowing, the secret to selecting and training an ideally matched boat, the secret to speed. Several devices for the measurement and plotting of force during the rowing stroke have been built over the last 20 years. These ranged from

"one-off" instrumentation in sports research facilities to PC-based programs marketed to the rowing public. Three different systems were produced for earlier Concept2 ergs, the first in the late 1980s. However, these devices were generally too complicated and expensive to become widely accepted. The PM3 project opened up the opportunity to build the force curve into the standard equipment of every erg.

But now that we have it, how should we use it? Is it only useful to coaches and top rowers? Can it help the general rowing population?

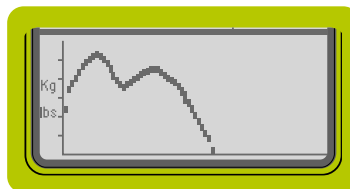
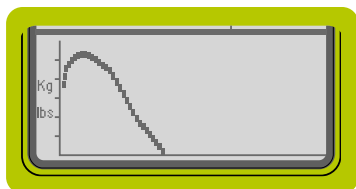
Q What is the Force Curve and why should I care about it?

A The Force Curve is an immediate graphical representation of your force application during the stroke. It shows how your total force varies as you use your legs, back and arms in sequence during the drive. A smoother-shaped curve indicates a smoother application of force. The greater the area under the curve, the better your results for that stroke will be.

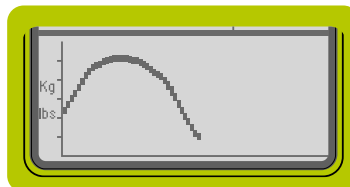
Q How do I change the shape of my Force Curve?

A You can change the shape of your Force Curve by varying the relative timing and emphasis of the legs, the back and the arms during the drive phase of the stroke. Here are some examples:

If you really try to "explode" at the catch, the peak of your curve will shift to the left, like this:



If you aren't smooth in your transition from legs to back swing to arm squeeze, you may actually show multiple peaks in your curve. This is not a good sign!



If you apply good solid effort all the way through your stroke, the curve will be flatter and broader, much like a gumdrop.

Comparing these curves (and remembering your math), you can see that it is not necessarily better to reach a higher maximum force. A broader curve with lower max may even give you a larger area under the curve.

Q What should my Force Curve look like?

A In general, you should strive for a broad arching Force Curve, without any sharp peaks or wobbles. This will show that you are achieving a smooth, continuous drive.

If you have a coach, be sure to ask what he or she thinks your curve should look like.

Q Why doesn't the Force Curve start at zero?

A It takes the PM3 a brief moment to detect that you have begun a stroke. By that time, you have already started applying your force.

Q Where can I read more about Force Curves?

A There are a number of interesting Force Curve discussions to be found on the web.

Try these:

Steve Seiler:

home.hia.no/~stephens/ppstroke.htm

Valery Kleshnev:

rowingqld.asn.au/Documents/Bio200112.pdf



ROWING WITH THE PACEBOAT

One of the great features of the PM3 is the ability to race against, or simply row along with, a companion PaceBoat. You can set a target pace to match, or row along with the results of your previous workout. You can even race against a friend's stored results. Setting up is easy and can be done in two ways:



1. When you create a New Workout you have the option of setting the speed of the PaceBoat.



Here's how:

- Press [Main Menu] > [Select Workout] > [New Workout]
- Choose the type of workout you wish to row.



- Set the workout parameters using the +/- keys to change digits, and the > key to move from one field to the next. To get to the PaceBoat setting, just keep pressing >.

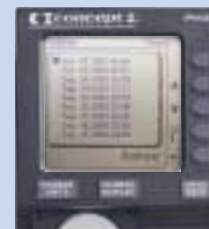


- Press the ✓ button, and you're ready to row. The PaceBoat will start moving as soon as you take your first stroke.

2. You can also use the ReRow function to set the PaceBoat. ReRow will automatically adjust the PaceBoat speed, using your stored results for each split or interval.

Here's how:

- [Main Menu] > [Select Workout] > [ReRow]
- The PM3 will help you find the workout result you wish to use to drive the PaceBoat.
- When the desired workout is located, press the [ReRow] button and you're ready to row.



Example: ReRow the 2000m piece you did last week (with a split length of 500m). The average pace you rowed for each split was 1:51, 1:49, 1:48, and 1:45. When you ReRow this 2000m piece the PaceBoat will "move" at a pace of 1:51 for the first 500m, then a pace of 1:49 from 1500 to 1000m to go, then a pace of 1:48 from 1000 to 500m to go, and finish at a pace of 1:45 for the last 500m.

The PaceBoat and ReRow can add a whole new dimension to your rowing. Give it a try and have fun. For more information on the PM3, visit www.concept2.com.

The Update is a publication of



Volume 40 Fall 2003

105 Industrial Park Drive
Morrisville, Vermont USA 05661-8532
800.245.5676 email: rowing@concept2.com

www.concept2.com

Editorial Team: Jan Gearhart
Judy Geer
Suzanne Hudson
Bill Patton

Layout & Design: Jan Gearhart



EMPLOYEE PROFILE

PJ Beck
by Suzanne Hudson

Back in November, 1993, when the Model C Indoor Rower was brand new, PJ Beck was one of several temporary employees hired to help

ease the strain of a healthy backlog of rower orders. Shortly thereafter, five months to be exact, PJ was asked to stay on fulltime as a member of C2's oar and erg production crew.

Ten years and two rower models later, PJ is still on the production floor, only now his role has grown considerably into overseeing all aspects of quality control of Concept2 products. His years of experience in building rowing machines and oars prepared him well for a job that spans a broader spectrum than one might think. This includes dealing with quality assurance issues from within Concept2, working with a multitude of vendors and sub-assemblers that supply the parts destined to be built into rowing machines and oars, processing rejected parts and being closely involved in the development of new products.

"I'm constantly challenged," says PJ, "and I've found that there's always a way to work out a problem." This characteristic tenacity was particularly helpful during the development of the Model D. PJ got involved in the project early on and remained a major player to the end, taking any "how-will-we-make-THAT-work?" issue and running with it until it was no longer a question but a solid reality.

In 2000, PJ purchased the late 19th century farmhouse and barn in which Concept2 got its start 25 years ago. He thinks it's pretty neat that he owns a bit of C2 history and still finds old Model A Rower and oar parts as he renovates the property!

PJ lives in Morrisville in the farmhouse with his wife Gail and their 10-month-old daughter Gracie.

ROWING WITH SPECIAL POPULATIONS

Community Transition Program for the Trainable Mentally Impaired



We are entering our 3rd year with this program and no one could be more surprised at the success of rowing with this group of people than I. When I started this program the rowing machine wasn't even an option I considered (shame on me). I thought, "keep it simple, low stress, and fun." I assumed the technique of rowing would be too complex to teach and, thus, not fun for them. Ha! Wrong again!

On the second visit to the fitness center, John (one of our Down Syndrome participants) looked at the machine and asked if he could try it and the rest is history! Next thing I knew they were all gathering around us and wanting to try, so off to the Indoor Boathouse we went. I put those that had no contra-indications to the rowing machines on their own machine and did a quick demo and they were off. Some rowed slowly, some too fast; so I put music on to help keep them in sync. I gave them a target distance and stroke rating to keep their focus. OK, I also provided entertainment by dancing to the music or doing comedy coaching. Everyone has to have fun, and humor is a great teaching tool.

They do so well on the erg (1000 – 4000m /workout) that they all participate in my meter madness for the N.A.R.C. every April. As I tell everyone, "Every meter matters. No excuses!" A fun rowing experience can be created despite restrictions on the machine that vary according to their individual health and condition. I would encourage other facilities with Indoor Boathouses to explore the opportunities with this population. It is truly a fun and rewarding experience and I hope someday to see this as a Special Olympics event. If enough of us in the fitness industry offer the opportunity for them to learn and improve on the erg anything is possible. Shouldn't everyone have the option to realize the power of the erg?

Terry Smythe, Fitness Director
Keweenaw Memorial Fitness Ctr
Houghton, MI



SLIDING IN SYNC OR SOLO

By John Peinert

Do you want to make your training on the Indoor Rower more like rowing on the water? If you haven't seen them in action, the Slides consist of carriages with wheels that roll in two parallel tracks. The feet of the Indoor Rower fit into slots in the carriages which enable the Rower to roll back and forth under you while rowing. This makes the Indoor Rower feel more like rowing on the water, where the rowing shell actually moves back and forth under the athlete.

So what can the Slides do for you? The catch becomes lighter and quicker, making higher stroke ratings easier to achieve. You will probably also find yourself rowing more smoothly because the Slides are less forgiving of bad technique. If your technique is jerky or rough, especially at the catch or finish, you will find the Slides bouncing off the stops at the ends of the tracks. Smooth technique is rewarded with a quieter row where the machine oscillates in the middle, controlled by the light pressure of the attached bungee cords.

Many coaches think that the best feature of the Slides is that they can be linked. With a third slide, the front leg of one Rower and the rear leg of the next Rower are put on the same Slide. All the Rowers move together. Each additional Rower requires one more Slide. When linked, the Rowers are just like a team boat; each athlete can feel the movements of the other athletes. An athlete who is "out of sync" with the rest of the crew will be fighting the movement of all the linked Rowers, just as they would in the eight-man shell. For teams that spend a lot of time on the Indoor Rower training indoors in the winter, Slides are an excellent way to keep the crew in sync.

But what if you don't row on the water? Besides the different feel, Slides introduce the element of teamwork to your workouts. Many people find it easier to stay motivated when they train with a partner or a group. The Slides provide the ultimate partner or team experience—rowers moving together with grace and fluidity as they do on the water. It may take a few sessions to get used to the Slides but you just might become hooked on this type of team workout.



HOW CONNECTED CAN YOU GET? CONCEPT2 SLIDE CHALLENGE

How many Indoor Rowers can you link with Slides? How creative can you get?

We invite you to enter our Slide Challenge Photo Contest. Send us a photo showing your entry into any of the three following categories:

- 1) Greatest Number of Indoor Rowers Linked with Slides
- 2) Most Creative Multiple Slide Layout
- 3) Most Unique Multiple Slide Venue

Winning entries in each category will receive a new set of Slides and each rower from the winning entry will receive an individual C2 prize, too. The winning pictures will be posted on the website and included in the Spring Update.

We must receive your photo in high-resolution digital format by March 1, 2004. Email your entries with your name, address, phone number, email address and brief description of your photo to judyg@concept2.com. Have fun!



Greg Hammond, Jon Williams, Terry Laskey, Shawn Larose, Lisa Washburn, Peter Dreissigacker, Judy Geer, Dick Dreissigacker rowing an "8" in front of Concept2.