Hole in the Wall Paddling Club: Course Report

Two Days with Dan Henderson, Deconstructing the Kayak Forward Stroke

Happy Paddlers at the end of a great class.

My ribs squeaked slightly and I yelped, surprised. I didn't know it was possible to get that much rotation out of my body—and still wasn't entirely convinced, actually. But I did have some help. Our coach, Dan Henderson, had one hand on my left shoulder, the other on my right shoulder blade, and was gently but firmly pressing forward on my shoulder blade (rotation) and pushing back on my left shoulder (counter rotation) to determine my potential range of motion. He grinned, and said, "well, you DID say rotation was good for you!" What could I say? Once the muscles in my mid-back relaxed into the twist, I could tell that this would probably add a couple inches to my stroke length. And that, based on everything we learned that morning, was a good thing.

It was the end of the first day of a two day Forward Stroke clinic organized by the club, and our second on the water session with Dan. There were 8 of us, 4 men, 4 women, from as nearby as Anacortes and as far away as Portland, OR. We had started out that morning on Cranberry Lake (Deception Pass State Park) with a brief warm-up and then a video session where Dan had made about 5 minutes of video of each of us—a couple minutes from each side, and a couple more from behind. As he later pointed out, this was NOT so that we could experience lots of embarrassment once we saw our stroke, but as a teaching and learning tool. After the video session, we paddled back to our classroom--the conference center at the park. It's a beautiful space, on the beach between Rosario Strait and Cranberry Lake. The view to the west was of the wind-torn Strait, with 2-4' seas frothing with white under the 15-25 knot S/SW wind. To the east was Cranberry Lake—with small wavelets dancing next to the conference center, and relatively sheltered by tall fir trees at the south end—perfect for our class.

Our first classroom lecture was really about the physics of paddling—a scientific study of how to make a kayak go through the water efficiently, how to use our body efficiently, how to make the best use of the force we were applying to our paddles so that whatever forces we were applying to our kayak moved it in the direction we wanted it to go. Dan talked enthusiastically about Planes of Power, positive and negative paddle angles, loading the paddle, force vectors, and all kinds of other, related topics.

At this point I should explain a bit about Dan. He is a self-described data geek, but that doesn't begin to tell the real story. He started canoeing in the early 1970's, and near the end of his 6 years in the Air Force started racing competitively. By the time he was in college, he was training with the US National team and spent 5 racing seasons training with some of the best coaches in the world, in Hungary. He medalled in the Pan Am games, was at one point ranked 9th nationally in his class, and just missed making the US Olympic team. He started coaching in the late 1980's, and it wasn't long before his coaching caught the eye of the US national team—more than half of the folks making it to the US team were coming out of his program in Renton, WA. He coached for the US team for a while before shifting focus back to his local shop. He still coaches serious, national level kayak racers out of his Renton boathouse, and is now finishing his work on a master's at Western Washington University on the kayak forward stroke. He's tall, with a ready smile and quick laugh, and a very unassuming manner. However, when he starts talking about kayaking and how to move a boat forward efficiently, it's very clear that not only is he deeply passionate about his topic, he also really knows his stuff. And this is the person that we were fortunate enough to spend two days working with!

After the morning's presentation, we watched footage of elite racers during lunch, then after lunch spent some time reviewing the video footage of ourselves. It was pretty darn humbling to analyze our own strokes in light of everything we had learned that morning! But, we all walked away with a couple of specific items to work on during the afternoon session. Which brings me back to rib-twisting torso rotation. It turns out that your paddle is most efficient when it's vertical, or if it has a "positive angle"—where the working blade is in front of your top hand. And the longer the paddle is in the water, the longer you're applying force that makes the boat go. Translation—you want your blade in the water, moving, in front of you or beside you, as long as possible. To get that long stroke, you have to get the paddle as far forward as you reasonably can, which means you have to rotate. And not just rotate your shoulders. With help from Dan, I was rotating up from my toes. My pelvis was shifted back on the left side, my spine was twisting—reluctantly—to the left, and my left shoulder was pulled back while my right shoulder reached towards the bow of the boat. It was a lot of rotation. My left elbow was at shoulder height and slightly in front of the shoulder, fist cocked around the paddle shaft about 18" away from my ear, with my right hand reaching forward, visualizing the knuckle on my pinky finger reaching for the bow. It felt more like I was about to shoot a bow and arrow than plant a forward stroke in the water next to my boat!

Dan working with Sarah R. on rotation in the classroom. Notice the amount of shoulder rotation/counter-rotation, how much her left hip is shifted back, and the great "bow and arrow" position she's in.(The rear elbow is in front of her shoulder to protect the joint.)

Through that afternoon and Sunday morning, Dan had us practice paddling in this "bow and arrow" position, and then worked on drills to speed up and clean up both our catch—that point where the paddle enters the water—and the exit. We worked at "waltz timing"—where the stroke was a 3 count. "1" was the catch, "2" was the power phase, and "3" was the recovery—a brief pause in the "bow and arrow" position. Everything he had us do was focused on maximizing our efficiencies, and decreasing the places where we were losing speed.

Sunday midday we had another presentation, this one focused on the physiology of how our muscles and soft tissue work, and on how to make that transfer of energy from our body to our paddle work more effectively. Sunday afternoon we did another quick video session of each of us, and finished up the day with a final review of our strokes. I have to say that this session was a lot less embarrassing! The drills he had us working on it must have worked. Everyone's stroke had improved substantially—

there was a lot more of that fabled rotation from every one of us; everyone looked a lot stronger and more powerful, and the boats were really moving well through the water.

Working with Dan.

Now I keep thinking about my next kayak trip, wherever it ends up being, and really like the idea of being able to cover more distance if I need to –or to cover the same distance in less time if I'm itching to get out of the boat! As I was walking to my car after class, I was thinking to myself "Wow. What a paradigm shift! Yeah, this is a class I'll be doing again." We've barely scratched the surface of learning this technique and the decades of knowledge and expertise that Dan offers. I think we all left feeling really pleased with what we had learned—and humbled at how much we have to both unlearn and relearn. It was truly a great class.

--Liza Gould, Hole in the Wall VP and Programs

Special thanks to Bill Walker and Rem Smith for the photos and for driving the coaching boat, to Bill Pritchard for providing the electric motor, and to Rem again for endless help and enthusiasm with setting up the classroom and providing logistical support throughout the whole process of organizing the class. And especially to Dan Henderson for spending the weekend sharing his expertise!