



Overleaf:

Cathy Hearn, USA, the only individual in the last decade to win three Gold Medals in a single World Championship. No one has ever won four. (Jim Thresher photo)

K1 and K1W

"To win in K1, you have to think 'go for it!' There's no holding back and everything has to be perfect."

Chris McCormick
5th K1 World
Championships 1979

We now come to the supreme test of hand-eye coordination in whitewater slalom, the spectacular kayak classes. In the canoe classes, there is an emphasis on superior upper body strength, but in the kayak classes the emphasis is on speed, lightning reflexes and split second timing. Compared to canoes, kayaks are easy to maneuver and balance so in a World Championships or Olympic Games there will be many K1s that are exceptionally good. In the last World Championships, for example, the following table shows the margin between the top ten boaters:

<u>K1</u>	<u>K1W</u>	<u>C1</u>	<u>C2</u>
10 secs	59 secs	65 secs	40 secs

In K1, then, one penalty is death, and on top of that you have to be fast.

While K1W is not as competitive as K1, I believe that the top women in the sport are so good that there is very little difference between their technique and that of the men. Indeed, once in a while on easy courses in practice, I have seen world class K1Ws beat world class K1s. For that reason, I have elected to treat K1 and K1W in the same chapter. The few differences between them will be noted when they come up.

I. Boats and Equipment.

A. Paddles.

As in the canoe classes, there is a tendency for kayakists to use paddles that are too long. With the hands placed on the shaft, there should be about 7 inches between the little finger and the top of the paddle blade. If the boater holds the paddle horizontally on his head, his arms should be at right angles to the shaft, or possibly bent towards each other just a bit. The following table shows the paddle length of some elite boaters.

<u>Name</u>	<u>Height (inches)</u>	<u>Paddle Length (cm)</u>
<u>K1</u>		
Richard Fox	69	206
Edi Wolffhardt	73	207
Norbert Sattler	67	206-8 *
Albert Kerr	68	208
Chris McCormick	71	206
<u>K1W</u>		
Cathy Hearn	67	203
Linda Harrison	71	207

* Sattler says paddle length depends on the course. "On a tight course with narrow gates, I use a shorter paddle. On a wide open course with wide gates, I use a longer paddle."

As Ray Calverly, Silver Medalist, puts it, "paddle length and blade area are very important." If a paddle shaft is too long, the boater will have trouble getting strong enough strokes because of the unfavorable leverage. Furthermore he will have control problems with too long a paddle. Lastly, too long a paddle prevents a high stroke rate.

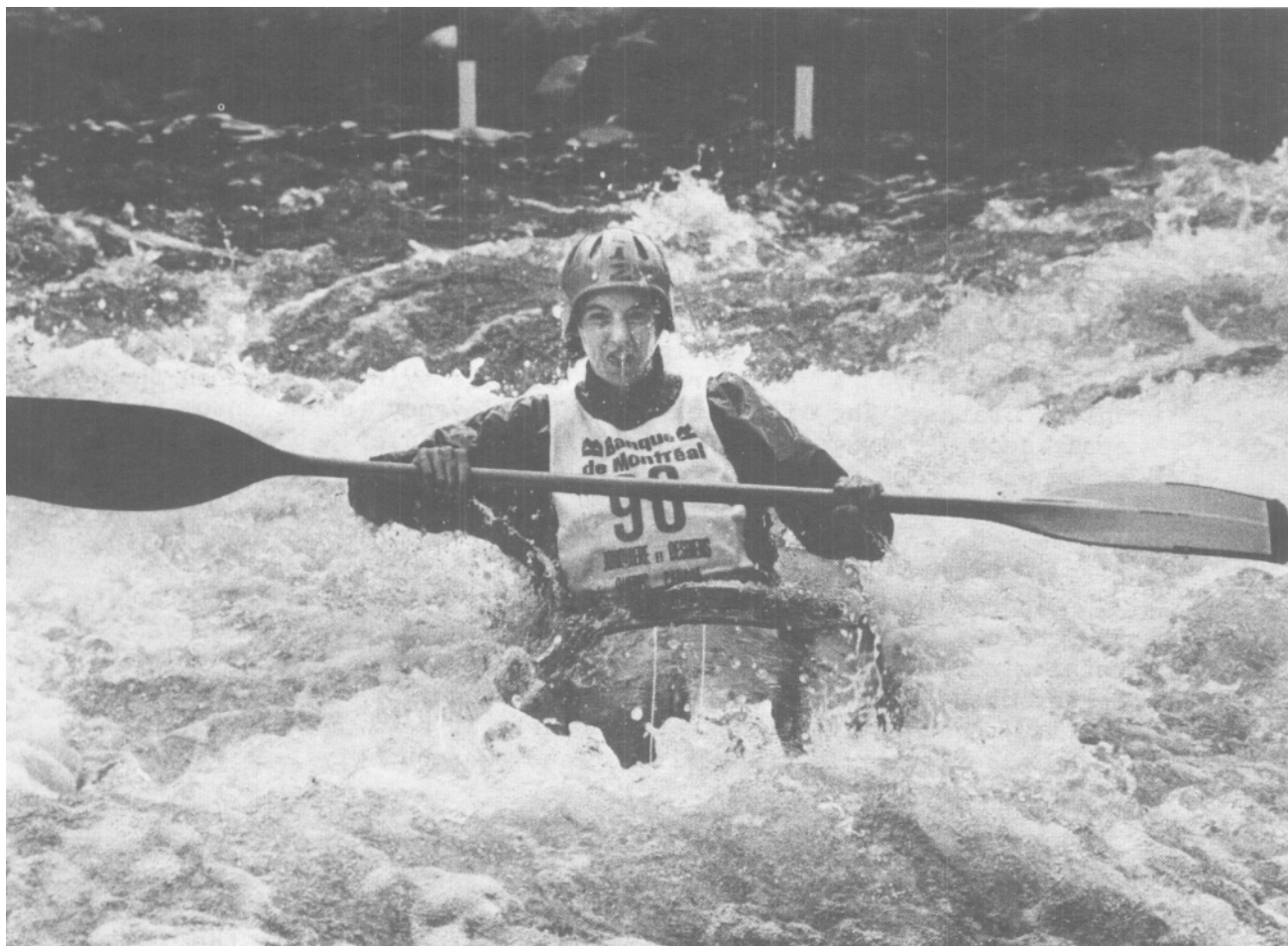
Once in a while, one will encounter a good kayakist wishing to become elite who has too short a paddle. While his acceleration is good, his reach is limited and this hurts him on upstream gates.

For a variety of reasons, wooden paddles are best. They are light and have a certain amount of flex to them. Mitchells, Kobers or Prijons are the ones most top racers use. Since they are expensive, a boater might want to experiment with cheaper ones for a while in order to determine the proper length before investing money in a top name paddle.

The size of the paddle blade itself is a matter of some discussion, and unfortunately it is hard to make a set rule about this. Some top kayakists prefer to cut the bottoms off their blades to make them smaller. "The smaller area and

reduced weight permit quicker acceleration after the boat has been stopped by a hole or wave," according to Ray Calverly. In general, however, I think it wise to begin with a "normal" paddle blade on a proper length shaft and use that for a good while before deciding whether any change is needed.

Once you have a paddle of the proper length and size, be sure to hold it properly. This sounds superfluous but many top paddlers have trouble doing it. They hold the paddle asymmetrically, letting the hands slide to one side on the shaft. This is often because one side is stronger than the other and they are compensating for the strength differential. I do not mean to say that temporarily choking up on one side is unwarranted in some situations. Just make sure that you get your hands back to their proper location afterwards.



Liz Sharman, Great Britain, second at Jonquiere and second in the Europa Cup (1980).

(Jim Thresher photo)

If you have trouble keeping your hands where they should be, try putting bands of transparent, shiny scotch tape on the shaft. Put the tape so that your forefinger is on top of it when the hand is in the proper position. The shiny tape will permit your hand to easily slide up and down the shaft if you want to choke up, but you will still be able to feel the tape and use it to guide your hand back home afterwards.

Another problem, albeit rarer, is that some boaters hold their hands too close together on the shaft. This is fatal because it will make you too slow (you have unfavorable leverage) and more likely to hit gates (because control is harder the longer the distance between the hand and the blade). Furthermore, holding the hands too close together impairs a direct pull-through with the back.

B. Helmet.

The helmet should be as light as possible and cut away sufficiently around the eyes so that peripheral vision is not impaired, especially on reverse stroking. The Ace or Wilde variety are the most popular, while some prefer the Jofa because of its firm fit.

C. Life Jacket.

Life jackets have undergone a change that any top kayaker will have to follow. The old life jacket has been discarded in favor of the "life deck" designed by the Harishok Company in Great Britain. A similar model is sold by B.I. Gear in the United States. The life deck has the buoyancy sewn into the spray deck. This gets everything off the paddler's body so that he or she can be more agile and less likely to hit gates.

D. Boat.

There are several good K1 designs on the market and preferences depend on the individual. In general, however, turning ability is more important than speed in a straight line. Speed over a slalom course is more a manifestation of turning ability than anything else, particularly in K1W. Thus, designs with excessively long keel lines (and consequently less rocker) are to be avoided.

I personally feel that the "beaver tail" should be avoided in K1. I agree with Cathy Hearn when she says, "beaver tails are good in flatwater, but they're too unpredictable in whitewater." However I must note for the record that in the 1979 World Championships, beaver tails were used by the first and fourth place finisher in K1. Obviously, they are a matter of personal preference, but I feel that they are harder to learn to handle.

Your boat will have to be severely cut down at the ends and seam line for sneaking. Everyone sneaks today so you will have to become a master of it. One thing to look for in a boat is ends which resemble knife blades lying on their sides. The "edges" facilitate sneaking by slicing into the water when torque is exerted by the waist.

Whatever boat you choose, you should be sure to install a foot brace immediately upon obtaining the boat. I have known a few top racers who have delayed doing this for months. Instead, they get used to paddling without using the legs for pumping. They compensate by paddling more from the waist up -- a bad habit because it fails to make use of the whole body. Once you get into a bad habit it takes time to break it. Furthermore, any time missed training the right way is an opportunity frittered away forever.

Weight of the boat is important. Every good racer knows that light boats are good, but beyond that, there are two beliefs which I think are wrong:

- o The first is the idea that it is all right to train in a heavy boat and then race in a light one. Some people even get a new light boat right before the World Championships. I think this is wrong because it takes time to learn how to maximize the things a light boat can do. You simply cannot do some moves in a heavy boat. It is far better to practice under race conditions, rather than expecting that the only difference between a light boat and a heavy one is that the light boat will make everything just a little easier.
- o The other problem is more subtle. It is possible to have a kayak that is too light: It flexes too much, leaks, and does not last very long. Kayaks weighing 14 pounds are too light. Kayaks weighing 18 pounds are about right, given the present state of the art.

II. Strokes.

A. Forward stroke.

As in the C1, the key to a good forward stroke in kayak is the ability to involve the whole body in the stroke. Many good kayakists succeed in using some of the important muscles but not all of them.

There are three basic elements in the forward stroke for elite kayak racers:

1. The ability to pull from the back and not the biceps. As in C1, the K1 forward stroke should be done with the lower arm locked straight. Some kayakists, particularly K1Ws, insert the blade in the water and then "break" the arm too early, thus making the arms do all the work.

The problem with bicep paddling is that the arms will tire in the bottom half of the course, causing the paddler to hit gates or making him too slow. He may be cranking like a windmill, but just not moving the boat.

The big muscles of the back are much stronger and therefore should be pressed into service.



Ulrike Deppe, Federal Republic of Germany, Silver Medalist, Bourg St Maurice, 1969; Europa Cup Champion 1974, 1978, and 1980. (Jim Thresher photo)

2. The ability to twist the trunk of the body so that it also exerts pulling force. The powerful twisting motion is facilitated by pumping with the legs.

3. The ability to thrust downwards with the arms. By thrusting down and following through with the trunk twist the kayakist is able to develop a very powerful stroke.

In flatwater kayaking it has been said that on the forward stroke one should not allow the upper arm to cross over an imaginary line running between the paddler's nose and the bow of the boat. Many people feel this is how it should be done in whitewater also, but I disagree. It is far more important to get the proper body follow-through on the stroke than it is to worry about the possibility (in theory, at least) of the top arm's crossing over causing the blade to pull water into the side of the boat and thus slow it down.

Mistakes in the K1 forward stroke:

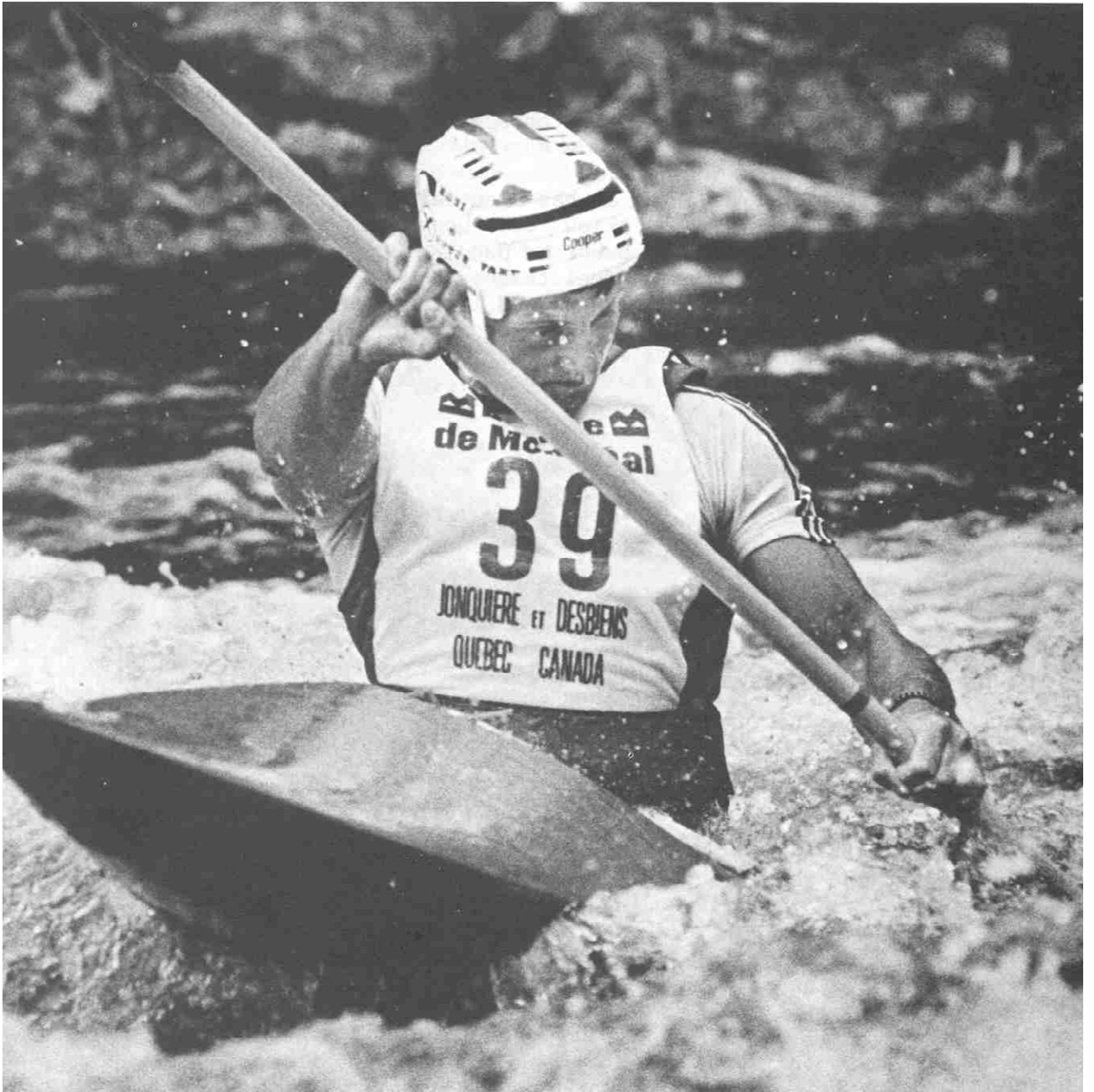
- o The kayakist "breaks" the lower arm too soon and gets weaker strokes as a result.
- o The paddler fails to involve the waist and legs in the forward stroke.
- o The paddler "misses water" with his forward stroke by not fully inserting the blade early enough. This happens when he is stroking at a high rate. It may happen only on one side or both sides.

B. Feathering.

Many kayakers think of feathering on the recovery as something that concerns only canoeists, yet in some key situations -- going through offset gates -- it can be crucial. Feathering is an overlooked move in kayak, and one which needs to be practiced more, especially in K1W. Cathy Hearn offers this little anecdote:

"When X first saw me feathering in gates about four years ago, he was very surprised. He evidently thought he was the only K1 who did it and that certainly no K1Ws did it. But I learned it from watching the C1s."

The difficulty in feathering comes not in holding the blade stationary in the water and letting it slide through, but actually thrusting the lower arm forward while keeping the blade completely under control. Controlling the blade is harder than



Austria's Peter Fauster, World Champion, demonstrates a powerful forward stroke. Note the length of the stroke and the torso twist. (Jim Thresher photo)



Chris McCormick, USA, fifth at Jonquiere, 1979.
McCormick's style contrasts with Fauster's.
McCormick has a shorter stroke and higher stroke
rate, which is useful in accelerating the boat.
(Jim Thresher photo)

controlling a canoe paddle because the kayak blade is curved. Consistent practice is the only remedy.

Mistakes in feathering:

- o The paddler gets out of position during an offset combination because he cannot feather the blade efficiently.
- o The paddler feathers the blade but does not control it properly and thus ticks a pole.

C. Reverse strokes.

As in the other classes, I do not feel that most kayakists practice paddling in reverse enough. Consequently, their muscles are not as developed for it as they should be. Specific areas to work on include the following:

1. Too much reverse sweep in the backpaddle. Make sure that your backpaddle stroke does not become too much of a reverse sweep, (particularly when you get tired) so that the boat goes from side to side excessively as it moves through the water, rather than in a relatively straight line. To do it correctly, the kayakist must use his top arm more; he must raise it above his head on each stroke. This results in less of a sweeping action because the blade travels along a path that is more parallel to the keel line of the boat, as is shown below.



To do this, however, requires strong shoulder muscles. Wind sprints in reverse will build them up better than anything else.



Joceline Roupioz, France, fourth at Jonquiere, 1979, stretches for a reverse gate. (Jim Thresher photo)

2. Look where you are going sooner. Often I have seen a good kayaker rocketing down a course and hitting a reverse gate because he wasn't quite sure of where he was and cut the gate too close. It's difficult to look around while backpaddling full tilt, there is no question about it, but by slowing down momentarily it is possible.

3. Be able to lean around and take pull strokes while facing the stern. See page 68 where I describe how CIs do this as the pull phase of the compound reverse stroke. Sometimes, it is appropriate to stop backpaddling and turn around so you can see where you are going while still keeping the boat moving in reverse. Going through a reverse gate might be such a situation. Perhaps you do not have as much speed through the gate as you would like and you don't dare backpaddle for fear of hitting the gates. Perhaps you are not sure exactly where you are and want to look around but keep paddling while you do so. Doing upstream gates in reverse is a good way to practice this

stroke: you have to use it when entering the eddy.

4. A K1 paddler should be able to perform a reverse J progression like a C1 on either side and be capable of traversing a zig-zag reverse course all on one blade using the compound reverse stroke (see page 68-69).

D. Reverse Sweep.

There are three common mistakes in executing the reverse sweep properly, even among good racers.

1. The stroke is not started close enough to the stern. Leaning back at the beginning is the remedy.
2. The paddler tries to do the reverse sweep with his arms alone and it is weak and slow. Instead, he should employ a strong torso twist and more fore and aft body lean.
3. Some boaters, particularly K1Ws, do not commit their whole body weight to the move, perhaps fearing balance problems.

Mistakes in K1 reverse paddling:

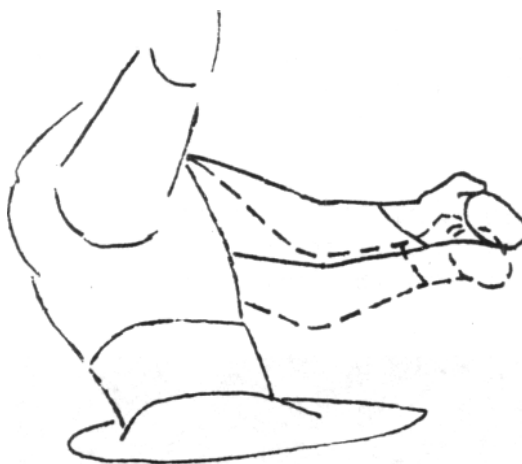
- o The boater, in backpaddling, pushes the boat to one side rather than in a straight line and takes a penalty.
- o The boater doesn't rely on the reverse stroke when he should because he isn't strong in reverse.
- o The boater doesn't look where he is going soon enough and hits a pole.
- o The boater isn't able to reach around and take pull strokes the way a C1 can, and thus misses opportunities to speed up while being very precise in placing the boat exactly where it should be.
- o The boater has a weak reverse sweep because he does it with the arms alone and with no body leans or torso twist.

E. Duffek or draw turn.

This is one of the staples of kayaking, one of the flashiest and most exciting moves, so all racers must become very adept at it. Below are the four components of a good Duffek stroke:

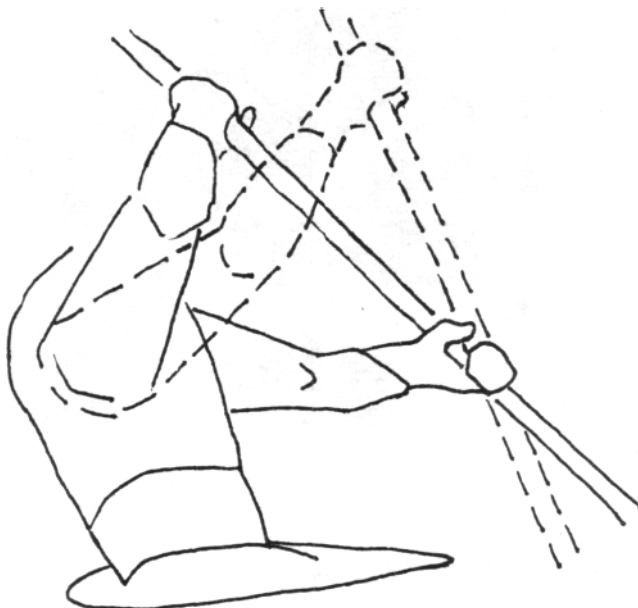
1. Lock the lower arm out straight.

This takes the stress off the elbow and prevents "elbowitis." It also puts the paddler in a stronger position for executing the turn. Finally, it helps in keeping the paddle blade far enough forward in the water. (see 2 below):



2. Extend the blade far enough toward the bow.

The key to accomplishing this is the use of the top arm. Lock the lower arm out straight as in 1 above and then pull back with the top arm. This will push the blade forwards, as is shown in the drawing below.



_____ = correct

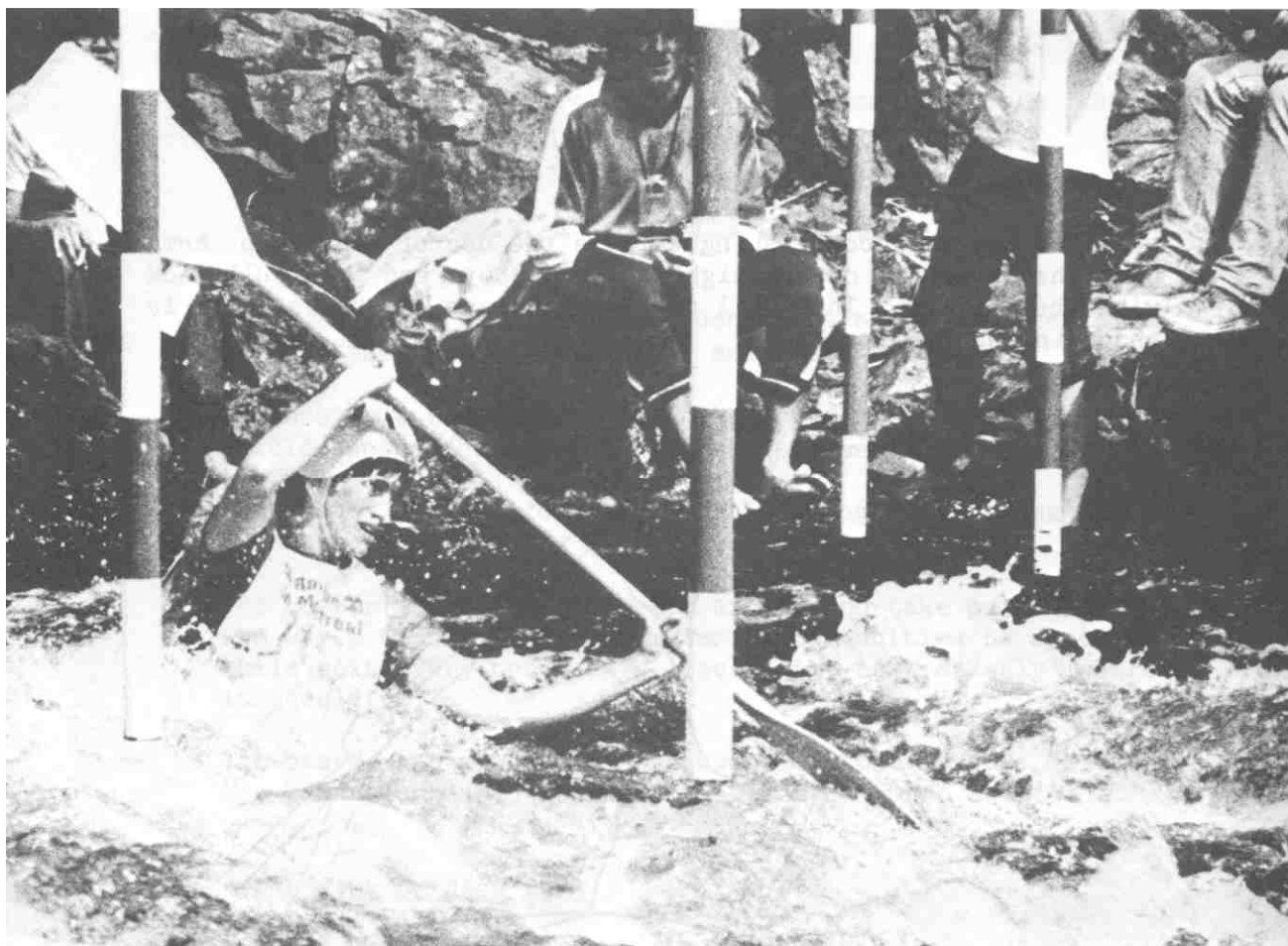
----- = incorrect

3. Lean back.

In both of the above drawings, the correct backwards lean is depicted. Leaning back does two things. First it puts the body in a stronger position to absorb the stress of catching the water (which will throw you backwards anyway -- better not to resist it). Secondly, it keeps the bow up which helps the turn. Some paddlers, realizing that they should keep the paddle forward, try to do it by leaning the whole body forward which is wrong. Unless, of course, they are trying to sneak the gate.

4. Start with a sweep.

Start the turn with a combination forward stroke/sweep before going onto the Duffek on the other side. This permits the Duffek to accelerate the turn rather than having to initiate it.

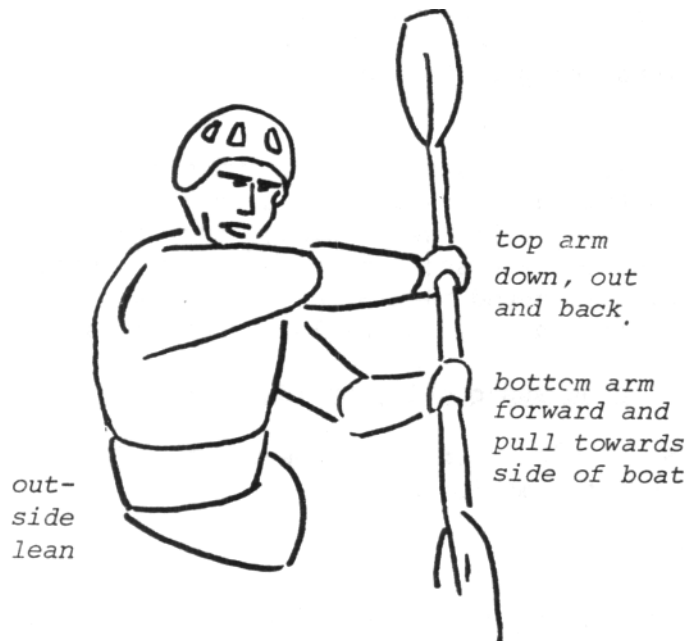


Linda Harrison, USA, Bronze Medalist at both Spittal, 1977, and Jonquiere, 1979, in a bamboo forest of slalom poles. (Jon Nelson photo)

Mistakes in the Duffek stroke:

- o Failure to be aggressive enough and consequently losing time on upstream gates.
- o Inability to feather the Duffek through the water in order to convert it quickly into a forward stroke or a sweep.
- o Failure to lean back and keep the bow up during the turn.
- o Failure to start the turn with a forward stroke/sweep before using the Duffek stroke.
- o Failure to use stomach muscles and feet to transfer the power.

There is an ending to the Duffek stroke which is sometimes used to tighten a turn even more. Essentially, the boater pulls way down and out on the upper arm so that it winds up below his face. If done quickly, pulling back pushes the blade in the water closer to the bow and pushing out yanks the bow around a little more. This move is used particularly by K1Ws when their initial Duffek stroke has not been strong enough and they need to add to it.





Dieter Foerstl, Federal Republic of Germany, Silver Medalist at Spittal in 1977. (Dan Demaree photo)

III. Running gates.

As mentioned previously, a slalom course is really a track on which the boater must go as quickly as he can without falling off. In K1 this is even more true. Falling off the track, just once, will probably cost you a major race. For this reason, your boat positioning must be perfect, and you must run everything direct. If you have to slow down a bit to do this, it's all right, particularly in the upper part of the course until you get warmed up after the wait at the start. Remember, one penalty and you're probably out of the running for a medal.

In K1W the emphasis is on running the course clean. There has seldom been a clean K1W run in the World Championships, so it stands to reason that if you are clean you have an excellent chance to win.

But in either class, if your boat positioning is good and you hit all the upstreams high, you will be quite fast even if you do not feel you are paddling as hard as you could be.

A. Upstream gates.

Review pages 29-44. A kayak must be able to do an ideal upstream gate in three strokes:

- o A sweep stroke on the downstream side to initiate the turn into the gate,
- o a strong Duffek into the gate, and
- o a wide, arcing upstream sweep stroke to turn out of the gate and downstream.

If you cannot do this as a matter of course, you must practice until you can, for without it, you will never win a major race. As Chris McCormick says, "It's impossible to overemphasize the importance of doing good upstreams in a race."

1. Careful in -- Fast Out.

As in other classes it pays not to rush the entry into the ideal upstream too much but rather be sure of being exactly in the right position for doing the gate quickly. This is particularly true in kayak, where there is a tendency to want to paddle fast over the whole course. Sometimes not being careful will cause a kayaker to hit the upstream gate a little bit low, thus costing him some time. Other times, eagerness will cause him to turn into the gate too soon and he will be poorly set up for a speedy exit.

Once the boat turns into the gate, however, he should get out of it as fast as he can, using a long sweep stroke on the upstream side. This will seem slow, and there will be a tendency to want to take shorter, sweep, draw, sweep strokes in the belief they will speed things up. But they won't. The fastest, most efficient way is one long sweep stroke.

2. Boat positioning approaching an ideal upstream gate.

See pages 29-35 in the beginning of the technique section. It is the same for kayaks.

3. "The pocket".

The pocket theory is even more appropriate for kayaks than it is for CIs. The tendency in kayak to wrap around the inside pole (green one in the diagrams in this book) is even stronger than it is in C1, but it must be avoided. In C1, the boater has extra leverage and might be able to get away with a "wrap" on his on-side because he can exert a powerful draw stroke.



Richard Fox, Great Britain, Bronze Medalist in 1979,
World Champion in Team. "Foxy's fast!"

(Jim Thresher photo)

However, by putting the K1 in the pocket, the proper exit angle can be achieved, and the ability in K1 to do a strong upstream sweep will make for a speedier exit than is possible in C1.

4. Strokes for K1-K1W Upstream -- Ideal Entry.

This section should be read in conjunction with Fig. 7-1 below. The boater paddles across the current, and when at point A, he times his arrival so that his last full stroke is a long, strong sweep on the downstream side to initiate his eddy turn. He must be careful not to do this sweep too soon and thus put the boat in the eddy too close to the inside pole (green one

here) and away from the pocket. He must be sure to drive into the eddy far enough to reach the pocket. Then, he goes onto the Duffek stroke (point B below), making sure to hold onto it long enough to get the bow of the boat pointed out at the current (point C) and his body high in the gate. At all costs he must not stop the Duffek too soon, thinking that he should now begin to paddle forward so as to get up and out of the gate. If he does these extra forward strokes and paddles through the gate, he will lose two seconds. I find among advanced boaters who are learning this technique for the first time, an initial feeling of awkwardness in holding onto the Duffek stroke so long. I guess this is because it changes the tempo of their stroke rate. Yet they must learn to slow it down for this move.

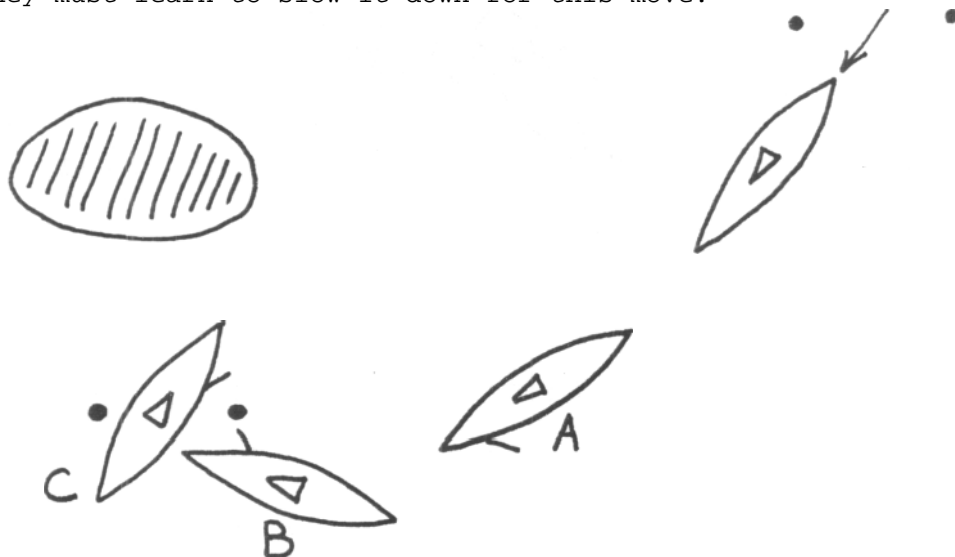


Fig. 7-1. Strokes for K1-K1W Upstream -- Ideal entry. Two strokes are all it takes for the entry into an upstream gate in kayak.

5. Strokes for K1-K1W Upstream -- Ideal Exit.

Read this in conjunction with Fig. 7-2 below. After the kayak has turned towards the current (point C), and as soon as the boater's body is between the poles, he should lean upstream and take one long arcing sweep stroke, leaning back while doing so. It will take from point D to point E to complete the sweep stroke. Again, this will seem too long to some racers. They

will want to cut the sweep stroke off and go on to a draw stroke, but they should not yield to this temptation. Wait until point F to go on to the draw.

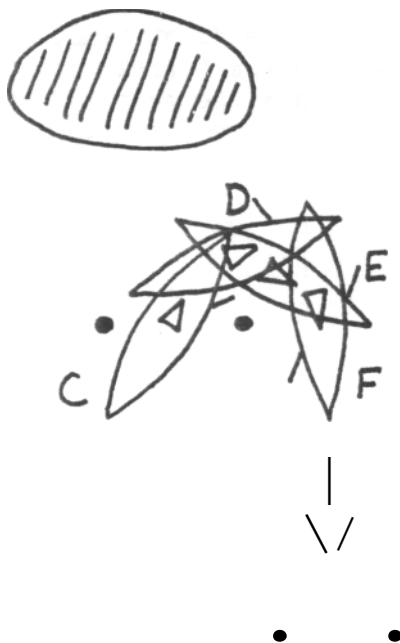
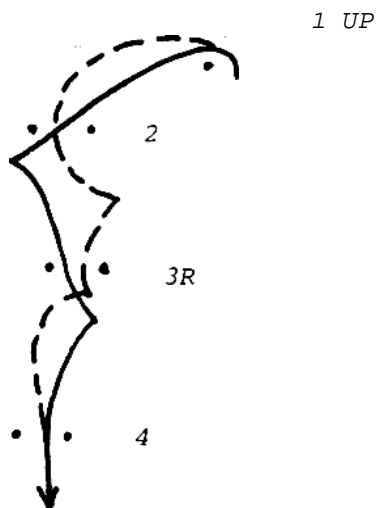


Fig. 7-2. Strokes for K1-K1W Upstream -- Ideal Exit. The upstream sweep stroke must be held longer than one might think.

From time to time, there will be upstream gates which are impossible to do in only three strokes, and the paddler will actually have to paddle up through the gate, taking several strokes. However, through repeated practice and increased strength, a boater can perfect the three-stroke technique so that even on a tough upstream he might still be able to get away with three strokes while his adversaries will have to take five or six.

B. Reverse gates.

The kayak paddler must always run direct, never spinning the boat more degrees than he absolutely has to. Yet many times I have seen top racers fail to observe this rule. Consider the following sequence:



The solid line represents the most direct path but all too often boaters will absent-mindedly take the broken line path. In a major K1 race this mistake will cost a place or two, maybe more. In K1W it is not as disastrous, but it is still an error to avoid.

Performing the reverse gate correctly in this sequence involves sneaking the red poles at gates 2 and 3 and possibly the green pole at 4. Care must be taken not to sneak the gate too much -- i.e. plunging the stern too far down into the water -- for this will slow the boat down. I have often seen a K1 come a bit too close to a reverse gate and, panicking, really throw his body backwards to be sure of sneaking the gate. The stern buries in the water and stops the boat's downstream momentum. It is better to turn a little bit earlier and not have to sneak so much, so that the boat "blows through" the gate, keeping downstream momentum as it skims across the surface of the water rather than plunging down into it.



Cathy Hearn shows how to look around for a reverse gate.
(Jim Thresher photo)

If an abrupt turn is desired, however, say because the sequence is very tight and the boater actually wants to halt his downstream momentum somewhat, then he can really lean back and do a "pirouette turn" (see page 55). This can be dangerous, however, because the bow may swing around like a baseball bat and whack the gate for a home run! The boater has to be careful not to overdo it. It is probably better just to take the whole combination a bit slower to assure faultless execution.

C. Offset Gates.

Review pages 49-50 regarding boat positioning in offset gates. There I made the argument for starting the turn above the offset gates rather than right in them. I think the principle is even more valuable for kayaks, particularly K1Ws, because kayakists, sitting lower in their boats than C1s, do not have as good leverage for executing draw turns. Another problem in kayak is that the paddle is long and a bit unwieldy in offset

gates. It is safer simply to turn above the gates and power through them.

There are some instances in K1 where the higher the stroke rate, the faster the boat will go. A wide open course is an example. But on offsets, positioning of the strokes is the most important element, based on tests I have run, and it appears that the fastest time goes to the kayak with the lowest stroke rate, particularly the harder the offset. The key variable is the timing of the Duffek stroke used to turn the boat. The Duffek stroke should be done before the boat enters the gate and held in the water in a feathering position while the paddler passes the pole. Sometimes, when a kayaker is racing through the offset sequence, he will miss the placement of this stroke so that it will start after he passes the pole. In this event, the boat is likely to be a little bit out of position for the next gate, and while he does not hit the gate, the boater is slow. Once problems like this develop on offsets, they magnify in importance for the rest of the course so that if you botch the first of three offsets, you are likely to have horrendous problems by the time you do the last one. Offset gates are deceptive: they require great concentration in order to insert the Duffek stroke at exactly the right moment.



Fig. 7-3. Offset gates in K1-K1W.

D. The S-turn gate.

The S-turn gate is a real sleeper because it is difficult to practice. If you simply stick one in the middle of a flatwater course, it is not very realistic because you do not have an eddy which really changes (speeds up) the move. What you need is a moving water course with a boulder right in the middle of it, and most people don't have this. Since it is hard to practice, many top racers tend to regard the S-turn merely as a variation of the upstream gate, and to a certain extent it is. But the entry position is a bit different, you don't go way into the pocket, you don't hold the Duffek stroke as long, and so on. In determining how to negotiate an S-turn gate, the boater would do well to bear in mind all the variables listed for upstream gates on pages 29-33. The following describes the S-turn under ideal conditions and the boater will have to make modifications if he encounters something else.

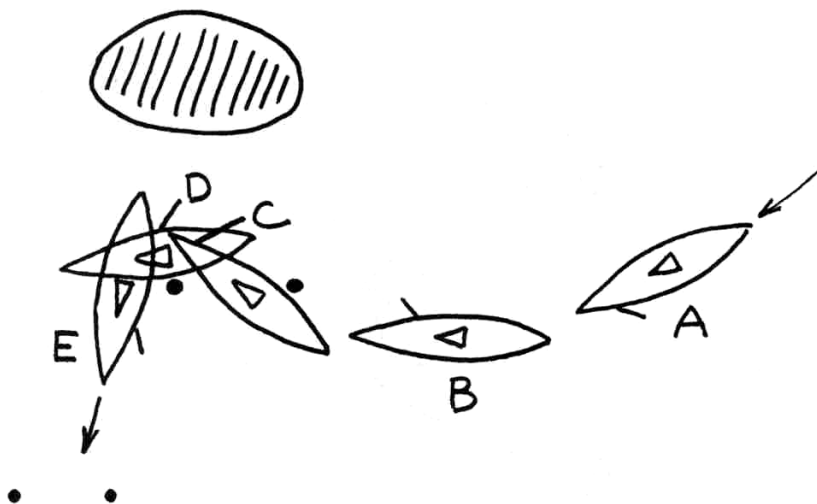


Fig. 7-4. The S-turn gate in K1-K1W. Do not treat it just like another upstream gate. You'll be too slow if you do.

There are three ways to do a good S-turn, the first two being the most common. On all of them, the kayaker must take care to hit the eddy high. He must set up as though he were approaching an ideal upstream gate, and at point A, he does a little sweep to initiate the turn into the gate. However, he does not go for the pocket and instead thinks more about "wrapping" around the inside pole (green pole here). At point B, he goes onto the Duffek stroke, but does not pull on it nearly as much as he would if he were doing an ideal upstream gate. From here on there are three variant approaches:



Austria's Norbert Sattler, World Champion, 1973, and Olympic Silver Medalist, 1972. Sattler is probably the most successful paddler over a long period of time.

(Jim Thresher photo)

1. If the upstream gate is very narrow.

At point C, the paddler is still on the Duffek, but not really pulling on it at all, so the boat does not turn all the way upstream. He stays on the upstream Duffek stroke simply because it is too dangerous to switch over to a downstream-side Duffek while in the gate: his chances of hitting the gate are too great. He makes sure to keep the blade in the water very far forward, for at point D, he leans upstream and converts the Duffek stroke into an upstream sweep, in just the same way he would exit an ideal upstream gate. At point E -- safely out of the gate -- he switches to a downstream-side Duffek to tighten the turn.

2. If the gate is fairly wide.

Instead of staying on the Duffek and feathering it forward in the water from points B to C, as soon as the boater has gotten a good turn into the gate, he takes a powerful sweep on the downstream side of the boat, at point C. Then, he takes his upstream sweep at point D. This way he takes a stroke where other people using the above method are simply gliding.

3. Big water and very strong current.

Instead of doing a big upstream sweep at point D, the kayakist can bring the blade in the water (on the upstream side) back towards the stern and do a stern draw. This is used when the current grabbing the boat on the exit is so strong that the boater does not have to do very much. The stern draw -- a weaker move -- is all that is necessary to turn the boat downstream.

The secret in doing the S-turn is to avoid treating it just like another upstream gate, i.e. letting the boat turn too much upstream and stop dead in the eddy for a moment. If done properly, the kayakist can whisk in and out of the S-turn almost as though it were a forward gate. As Cathy Hearn says, "S-turns are one of the hottest, fastest moves in slalom."



Albert Kerr, Great Britain, World Champion in 1977 and
1979 (Team). (Jim Thresher photo)