



KAYAK TECHNICAL TEMPLATE

Scott Oldershaw
National Team Coach

Introduction

This Kayak Technical Template is for coaches involved with athletes preparing for competition at the Canada Games, National Championships, Junior Worlds or Under 23 National Team programs.

The following terms / concepts appear in this document and require explanation.

Brain Concept: athlete is actually thinking of the action, or trying to do the action. It is more of a mental focus (MF) than perhaps an obvious action in the smooth dynamics of the stroke.

Technical Change: Teaching technical change - “If the athlete is comfortable, s/he is not working the technical change”

Bottom hand: This is the “pulling” hand or hand of the blade in the water OR about to go in the water, including before the stroke.

Top hand: This is the hand in the air.

Note: Top hand and bottom hand remain the same throughout the stroke.

Start and Stop Point: There is a break between strokes, although it might be subtle at high rates. The paddling motion is a continuous smooth rhythmical powerful stroke, yet there is a slight break/pause at the end of each stroke.

Exit Phase: There is no reference to the exit phase or end of the stroke, as it is part of the “pull” phase. When the paddle leaves the water there is a continuous motion towards the set up – at this point there is a slight break or end. The break between strokes is part of the setup.

Mental Focus (MF): athlete is mentally focusing on a particular technical point versus having an actual bench mark...could be either an internal or external cue.

Movements and Energy: Always directed at moving the boat forward.

Eyes: Are focused ahead – at least six feet in front of the boat.

Rotation: Hip rotation occurs in the “cup” of the seat versus pushing back with the legs. The rotation is in the “hips” as opposed to one hip back while the other moves forward. Avoid climbing and rotating on the top of the back of the seat....although one hip is up and has less relative pressure / weight on it.

Part of the Boat: Full foot board and straps are part of the connection to the boat. The pressure is applied by the heel versus the toe of the foot....use a full foot board.

Individual Differences: There are no absolutes when it comes to hand / height positions, the coach has to allow the athlete’s technique to allow individual body differences, yet the principles of biomechanics will still apply.

PHASE OF THE STROKE	KEY TECHNICAL ELEMENTS	DRILLS TO WORK ON PHASE
SET-UP / RECOVERY	<p>The set up phase is the break/pause between strokes – the end of a stroke occurs when both hands are at the same level</p> <p>The end of one stroke is the prep for the next – beginning of the next.</p> <ul style="list-style-type: none"> ✓ Bottom (front) hand position – approximately eye level. ✓ Top (back) hand position – approximately eye level – Key - not lower - individual differences. ✓ Top Arm- elbow angle never less than 90° ✓ Athlete is relaxed as much as possible in shoulders and arms – relax / drop shoulders. ✓ Rotation from the end of the pull phase is to be maintained versus over rotating for the next stroke – no extra rotation is required or needed for the next stroke ✓ Hip is still fully rotated, leg is relaxed 	<p>“Pause Drill”</p> <p>“ Check the time on your watch”</p> <p>“3 strokes... 2 Swings drill”</p>
CATCH	<p>Both hands are directing / placing paddle into the water – Key - involve the top hand.</p> <ul style="list-style-type: none"> ✓ Blade is in the water, before any rotation is initiated - (MF) – before rotation is to occur, blade must be completely buried in the water ✓ If rotation occurs before placement of blade in the water, catch ends up being short ✓ There is a flow / smooth sequence of movements ✓ Angle of blade is about 60 degrees, as viewed from the side and front ✓ Avoid reaching with the bottom shoulder ✓ Maintain body position-no bending forward or sideways 	<p>“Sequencing drill” – 10 strokes – sink blade in the water with no other movements – “Just Dropping” the athlete is sitting up and feels that the stroke is too short, yet coach says “that’s it, you’ve got it” (aka Catch-Entry Drill)</p>
PROPULSION	<p>(MF) Once the blade is in the water, the distance between the bottom hand and hip is to stretch / increase, no movement backwards by hand.</p> <p>Key – “Bungee Cord Concept” - bungee from hip to bottom hand – as rotation occurs on the seat with hips, bottom hand stays where it is, the bungee stretches – since a bungee can only be stretched, there can be no movement backwards with hand or pulling movement – as hips rotate, it stretches bungee and the distance between the hip and bottom hand decreases as the boat moves forward – move the boat past your catch – hip starts the rotation.</p> <ul style="list-style-type: none"> ✓ HIP to HAND position stays the same initially, leave bottom hand out at the catch - as you rotate the hips in &/or on the seat, the connection from hip to the boat is through the leg to the foot board - STRONG CONNECTION 	<p>“Hand drill” – easy to feel – open your hand</p> <p>“Elbow drill” use in paddle pool or on board at dock – elbows at sides touching rib cage – glued in place.</p> <p>hands on paddle in comfortable position – only able to paddle by using rotation (MF) arms are tied to sides, cannot move arms to</p>

	<ul style="list-style-type: none"> ✓ Leg works with the hip – NOTE: the leg cannot be the sole driving force – the athlete is trying to <i>rotate with the hip and torso</i>. ✓ Torso rotation <i>follows</i> hip rotation – sequence of rotation is brain, hip, torso, shoulders. ✓ Key – all movements must be a forward motion or neutral – (MF) “moving forward” ✓ All movements must direct the boat forward NOTE – for every unnecessary movement – forward boat movement is lost or affected. ✓ Pressure with the top hand throughout that phase – the whole time the paddle is in the water – press down through the shaft with continuous pressure with top hand. ✓ Avoid the bottom(front) hand crossing the body to create an angle of less than 90 degrees- at the shoulder joint <p>Note: allowance for top hand to drop lower towards the end of this phase – arm movements are to allow for hip to move efficiently – the path of movement of the top hand is <i>straight</i> versus for it to loop.</p> <ul style="list-style-type: none"> ✓ Top shoulder rotates forward, towards the next catch. ✓ Use proper sequence of joint movements – maintain force/pressure <p>(MF) Hip movements are still the power for moving the boat.</p> <p>Key – “Bilateral Rotation Force”- both sides of body are used to generate power through rotation for each stroke</p> <p>HAND GRIPS – “<i>bottom hand</i>” fingers hooked – palm open – no pressure in area between knuckles of thumb and knuckle of index / first finger. “<i>top hand</i>” fingers are relaxed – especially outside two & tip of thumb off the paddle.</p>	<p>paddle, therefore only rotation is possible</p> <p>“Bump drill” – hit elbow to the body versus allowing it to drag past the hip or out to the side</p> <p>“Sit Row drill” – mentally picture doing a “sit one arm row”, arm relaxed, rotation only.</p>
EXIT	<p>NOTE: “the end of the pull phase is when the paddle clears the water”</p> <p>The force is constant or accelerating at the end of the pull phase.</p> <ul style="list-style-type: none"> ✓ Important to “<i>finish it off</i>” – every stroke! ✓ Blade exits at the hip – hand never passes the hip – hand exits – natural / relaxed / flow <p style="text-align: center;">NOTE - just get blade out of the water</p> <ul style="list-style-type: none"> ✓ - further back the hip = further back the hand ✓ Hip / torso rotation is what we are after versus shoulder rotation. Avoid independent shoulder rotation – NOTE – momentum may take the shoulders farther than the hips. ✓ Always have the paddle in front of the chest and always have the hands in front of the hips. 	<p>“Top Hand drill” – 1 stroke @ 100% power – begin in the water - press down very hard – maximum tension between two points of contact with paddle (top/bottom hand) is constant – lose either one and the result will be that the pressure on the paddle in the water is lost – the connection to the water is lost! Feel how much force the top hand</p>

	<p>NOTE – once past the acceleration point / not moving boat forward.</p> <p>✓ “top(front) hand” stays where it is – continues to apply pressure until paddle clears the water</p> <p>AVOID – Forward punch</p>	<p>exerts.</p>
--	---	----------------