



CANOE TECHNICAL TEMPLATE

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Introduction

This Canoe 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:

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

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.

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.

Exit Phase: Although reference is made to this part of the stroke, it must be emphasized that it is part of a continuous smooth application of force that is propelling the boat forward and not a break or pause in the stroke dynamics.

Breathing pattern: Inhaling during the recovery/relaxing phase – “firming” in the core / diaphragm area at end of the set up – breath hold during the catch and initial part of pull phase – exhaling in second part of pull phase and through the exit

PHASE OF THE STROKE	KEY TECHNICAL ELEMENTS	DRILLS TO WORK ON PHASE
SET-UP	<ul style="list-style-type: none"> ✓ 'A' frame position – with top arm and paddle - strong top arm – straight - elbow high ✓ Top hand just outside the gunwale – top wrist straight (neutral position) – paddle is 90 degrees without slight angle into boat or away from side of the boat ✓ Hip rotated forward on paddling side (near hip) – kneeling leg is moving forward to assist with rotation / reach and angles – as the hip rotation is occurring, there is complimentary actions taking place in other areas as well – whatever is moving forward on the paddling side, counter rotation is happening on the other side to balance the action; for example, pulling shoulder is forward, top shoulder is back, near hip is forward, far hip is back. ✓ Trunk rotated – think (MF) top shoulder back – head up - looking ahead - space around head, shoulder, armpit, ear versus touching ✓ Bottom shoulder forward - bottom arm fully extended – Note: “stretched vs forced stretched” / “relaxed vs. over stretched” ✓ Note angles: <ul style="list-style-type: none"> 1. straight line from top arm down through top shoulder to hip 2. near hip up through bottom armpit – wide open – Note: individual variances ✓ Bottom wrist is in neutral or straight position ✓ Bottom hand: <ul style="list-style-type: none"> 1. fingers are hooked on paddle shaft – relaxed versus tight grip 2. palm is open – area between thumb and index finger is soft against paddle ✓ Athlete begins to “anticipate” driving down for the “catch” by “firming” – slight pause – top shoulder “think” rotate it back just before driving down for the catch ✓ Tip of the blade is 3 – 5 cm above the water surface ✓ Boat is level 	<p>“Photo Op drill”: Athlete holds the set up position for 3 count while (MF) on any of the elements occur, then takes 3 strokes and repeats.</p> <p>“Hips Forward Drill”</p>
CATCH	<ul style="list-style-type: none"> ✓ Drive downwards with top and bottom arms while maintaining angle in set up – ideal angle at catch is 60 degrees. Remember: Hip at the moment of catch is fully rotated forward and low on paddling side ✓ Quick switch of balance from the boat (support leg) out onto the paddle to eliminate excess up and down motions (boat bouncing) – weight of athlete is supported on the 	<p>“Foot Drill” – Athlete at the catch lifts front foot while maintaining weight / balance on paddle.</p> <p>“Catch drill”- Athlete sets up then initiates a catch and repeats</p>

	<p>paddle</p> <ul style="list-style-type: none"> ✓ Explode the paddle into the water, submerge it right away and right where it entered ✓ Use momentum and dynamic muscle power ✓ Avoid driving any deeper than full blade to avoid a “stall/break” in the dynamic smooth continuous application of force throughout the paddling motion. ✓ Avoid any premature counter rotation of the near hip or pulling action of bottom shoulder before blade is completely buried.....Key – no splash at entry (<i>turtle effect</i>) want to avoid water turbulence in order to find platform / connection to water. ✓ The potential for power generation at the catch is great in canoe - avoid an “all catch” stroke that is followed by a break in the smooth continuous application of force. 	<p>10x ...look for smooth, powerful entry with no loss in angles or rotation.</p> <p>“Hips forward drill” “3 more inches drill” Similar to the “Photo OP drill”, but right before the catch, try to reach up the boat a little more with the bottom shoulder.</p>
<p>DRAW</p>	<ul style="list-style-type: none"> ✓ Initiate pulling motion or draw motion with paddling side hip moving back away from bottom hand Remember: Leave bottom hand out at catch and increase distance between it and near hip by rotating hip back (counter rotate) ✓ Key – Athlete is “searching/feeling” for platform or connection with the water in order to lock the blade in the water versus allowing it to slip through the catch area ✓ Start the stroke with big muscles (hip / lower back) - arms are fixed, top arm pressing down and bottom arm forming strong link to back/hip – tension / pressure is increased on paddle surface proportionately to effort you make – visible in “bent shaft” of paddle – MF is on moving the boat forward versus pulling the blade through the water – MF is on bringing yourself up to the catch point ✓ Place firm support on the paddle at the very beginning of this phase – MF - maintain the initial power of the catch – press down on the paddle all through the stroke – press yourself up on the paddle as soon as the paddle gets buried. Remember: “Posthole” - at the catch the blade is to be driven into a posthole.....then lock the blade on the near side of the hole, the athlete by pressing down through the shaft moves or <u>draws</u> the boat up to the paddle. The paddle stays in the place of entry and the boat moves up to it. ✓ Use all available power to increase propulsion throughout draw/pull phase ✓ Hip moves faster than the paddle and reaches the end point or exit zone sooner than the paddle – arms and paddle maintain power and connection to water throughout this phase. 	<p>“Top arm pressure, push down the river drill” “Dock paddling” A great way to work on the sequences in the initial portion of the draw</p>

	<ul style="list-style-type: none"> ✓ Hip changes the direction of its motion with paddle still in the water by moving forward into the paddle in the second half of the stroke – at point when paddle angle becomes less than 90/90 ✓ Legs are connected to the boat and are <i>following the hip</i> movement, resulting in increased support on the blade – complimenting the hip / torso / shoulder movements – versus pumping <p>Note: Avoid excess forward and backward motion – make it smooth, coordinated and increase twist – think of one stroke as fluid connection between all its elements – constant propulsion</p> <ul style="list-style-type: none"> ✓ Prolong or maintain the vertical paddle position (90 / 90) as long as possible in the draw/pull phase. – stay away from the paddle, until hip squeezes into it in second half of this phase ‘Grow over the paddle’” 	
EXIT	<ul style="list-style-type: none"> ✓ The exit phase is still part of propelling the boat forward ✓ In the last part of draw/pull phase, the paddle angle has dropped off from the 90/90 position and the athlete tries to accelerate the paddle through the exit and out of water – finish it off! ✓ In this zone of the pull phase the hip has started to reverse directions and is now moving forward into the paddle while it is still in the water - squeeze hip to the paddle with an accompanying break of the top wrist in over the gunwale. ✓ The hip and legs keep working as the athlete tries to drive the near hip into the paddle ✓ Keep pressure on the blade by pulling up with bottom arm and pressing down and in with top arm and hand – if required, a slight turn of the grip by the top hand and wrist while still maintaining a neutral wrist position will make any necessary correction to maintain straight path of boat in water/lane ✓ Keep wrists in strong neutral position until paddle breaks from water ✓ Athlete is sitting up tall at this point with slight lean into the stroke and is trying to move forward into the next stroke ✓ Everything has got to keep moving forward – no pause during exit phase ✓ Sequence of movements - hip and legs move first, followed by shoulder, elbow and wrist. 	<p>“Exit – Pause Drill” Similar to the catch “pause drill”, the exit pause drill focuses on the forward body positioning at the exit. After a maximal force stroke, have the athlete pause with the blade out of the water for a 2-3 count. Body should be positioned forward / not rotated.</p>
RECOVERY	<ul style="list-style-type: none"> ✓ Paddle is now in the air – broken from connection to the water – powerful release from the water, yet no wild throw of water by the blade – MF – blade has escaped from grasp of the water 	<p>“Exit pause drill”</p>

	<ul style="list-style-type: none">✓ Near hip leads the exit followed by the shoulder, elbow and wrist – during recovery the rotation/twisting towards the set up occurs as a continuation from the exit.✓ Top arm moves in, across mid line of boat and back up towards set up position – top arm stays relaxed yet straight....some individual differences will be noted <p>Note: dynamic effort in the water and a relaxed recovery sets a rhythmical smooth motion.</p> <ul style="list-style-type: none">✓ Feel glide / run of the boat✓ Release tension in arms, legs, back and hands during rotation/twisting back to set up✓ Try to avoid big movement of centre of gravity in order to keep forces moving in desired direction – avoid lateral movements, that have corresponding effect on the boat✓ Keep boat level	
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