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Pole Vaulting Simplified!



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Background

- HS Jumper / Sprinter; College HJ / Dec
- 36 years of coaching EVERY event and EVERYTHING
 - MS, HS, Juniors, Seniors, Girls, Boys
- Joe Vigil – year(s) of experience
- Had to learn all events and refine knowledge and TEACHING skills
- Generalist to Specialist



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Whether you have this...



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... or This



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... or This



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RUN PLANT SWING



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No Matter the Level...



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Vaulting is Vaulting!

- Basic Principles
- MOVE THE POLE TO VERTICAL
- SPRINT POSTURE & CADENCE
- PV is a jumping event, so JUMP!
- Learn to Plant and Takeoff before bending the pole!



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RUN – PLANT - SWING

- SIMPLIFY!!!
- David Johnston (6 Stride Check Marks)
- Matching Pole, Grip, Approach Length to running velocity!
- Progression based on individual's velocity and technical development



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Key Elements

- Posture & Pole Carry
- Sprint Mechanics
- Takeoff Posture - Tall, long axis, hips & trunk forward
- Beginning of Flight - keep long axis!
- Swing Hips to the top of the pole!



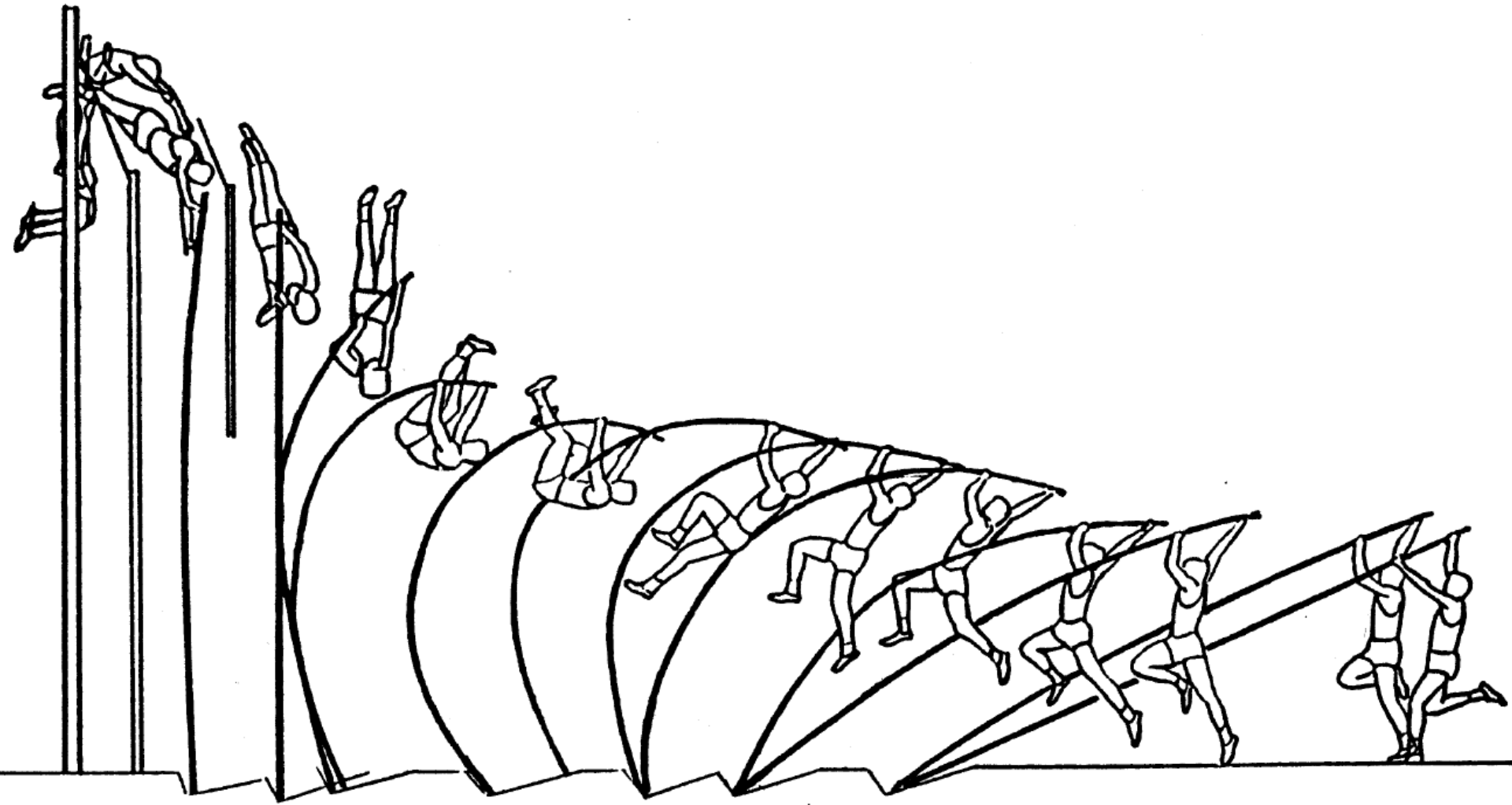
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Holistic Movement



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**Move the Pole to
Vertical, Swing
Hips to the top of
the Pole!**



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Bend or No Bend!

- Pole Cord Moves to Vertical
- Overbending the pole slows rotation / pole speed
- Bending the pole is NOT the goal of vaulting!
- Left hand stabilizes / pole bends from right hand / whole system pressure **DOWN THE POLE SHAFT!**

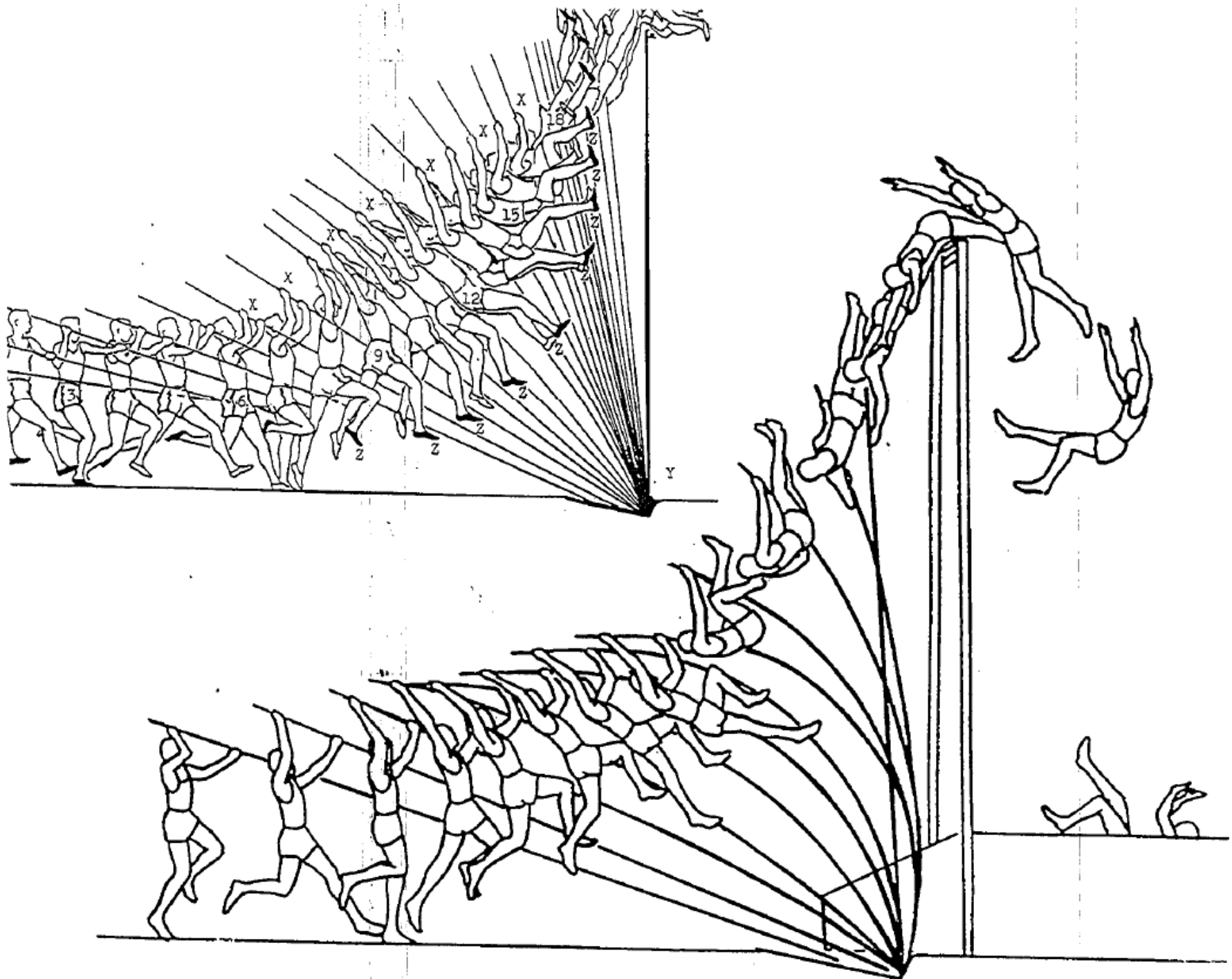


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Pole Vault Quiz

- What is the world record for the pole vault with an unbending pole?
- How many of you have had a vaulter jump over 15'9"???



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Basic Physics

- Horizontal Velocity is the most important factor, but the athlete must be able to execute the plant & takeoff
 - Velocity and Takeoff produce Pole Speed; the better it is, the higher the grip, the stiffer the pole



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The Approach

- 90% of success in all jumps is 100% Approach!
- Even more essential in Vault due to nature of plant and pole
- Velocity at TAKEOFF is vital, not velocity at beginning or mid approach
- Consistency of approach is vital - rehearsed, push, slow to fast, rhythm



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Pole Vault Approach

- Pole Run – keep tip up and let G drop the pole
- Pole Counts – every takeoff foot
 - 4 lefts = 8 steps: no need for 16 steps to clear 8 feet!
- Natural Pole Runs on the track
 - Learn to run, plant, and takeoff with no box/pit
 - 10 to 20 reps for every 1 on the runway/box!



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Steps to Grip Height Ratio

- Limit steps and max out grip height in grass or sand or pit – ex. 4 steps and Standing Grip Ht
- Add 2 steps and move up grip height – ex. 6 steps and up two handgrips (width of hand!)
- Counting Lefts (or Rights) – we count DOWN to takeoff so takeoff always 1.
 - 14 steps = 7 lefts, plant on 2, jump on 1...
- We use 4 left Mid Mark / 3 Left mark if 6 lefts or fewer!



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Efficient Pole Carry & Plant

- Rest pole on the frame; do not CARRY IT
- Walkthroughs - *demo*
- Pole Drops - *demo*
- How do you get the tip to drop???
- Raise the hands – palms up! *demo*
- Hands NEVER lower! Active Hands improve plant efficiency and pole speed - *demo*
- Hands beat the takeoff foot! *demo*



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The Approach



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Jumping the Pole to Vertical!

- Simplest Cue for Takeoff / Jumping is...
 - DRIVE THE LEAD THIGH! It pushes the takeoff foot through the ground!
- Jump BEHIND the Pole!
 - Forces need to be THROUGH the pole
 - Put your Nose and Belly Button right through the pole!!!
- Whirlbird Syndrome – why does the athlete rotate around the pole?



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Run – Plant – Swing

- Race the pole to vertical; swing the hips to vertical
- Follow through of a good takeoff...
- **Takeoff Foot through the top of the pole**
- To Row, or not to Row?
- Top Hand Pressure down the shaft of the pole!
– Smearing the Pizza!
- Keep the hips behind the pole – as soon as the hips pass the pole, pole speed stalls!



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Technical Movement & Correction

- Be wary of Snapshots!
- Trace back events...
 - Landing determined by flight
 - Flight determined by takeoff
 - Takeoff determined by preparation & position (POLE PLANT)
 - Pole Plant efficiency determined by approach, etc
 - So, look at landing spot and position in both jumps
 - Examples...



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Pole Adjustments

KEEP STANDARDS BACK 28-32” – Do not adjust for poor technique!

- Poor penetration, large pole bend - lower grip
- Poor penetration, small pole bend - use softer pole
- Excessive penetration, large pole bend - use stiffer pole
- Excessive penetration, small pole bend - raise grip
- Landing left or right of center - lower grip & fix plant action



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Earl Bell Principle

- Good Penetration & good Pole Bend, athlete lands in the middle of pit (coaches' box), and clears the bar
- *What is the adjustment???*

• **Raise the bar!**



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David Johnston's Mid Marks

START.....	CK	1	2	3	4	5	TO	BOX
Right handed vaulter	L	R	L	R	L	R	L	BOX

Grip to "MID"

A correct pole plant/take-off creates a safer and more successful vault. The force, measured in meters per second, a vaulter creates on the Approach Run dictates the proper hand grip. Because the force has a corresponding “stride length and stride frequency” we can derive the proper “Six Stride Check Point” needed for that hand grip. The above chart has the appropriate grip for the Meter Per Second (horizontal force) that is generated on each vault from 6’6” (2.00M) to 21’(6.36M). Use this guide to help your vaulters become more consistent and faster on the runway.



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POLE VAULT

SIX STRIDE MARK and CORRESPONDING GRIP

David F. "DJ" Johnston e-mail dj.oneapproachrun@gmail.com

BAR HEIGHT	BAR METRIC	HAND GRIP	GRIP METER	TAKE-OFF MARK	SIX CHECK MARK	CHECK METRIC	MPS	STEP-LENGTHS FROM-CHECK
	+15cm		+09cm			+31cm		+05
6-6	2.00	8-10	2.75	5'8"	1.73	30-0	9.10	4'0' 1.22
7'0	2.15	9-2	2.84	6-0	1.83	31-0	9.41	4-1 1.25
7'6	2.30	9'6"	2.93	6-4	1.93	32-0	9.72	4-3 1.30
8' 0"	2.45	9'10"	3.02	6-8	2.03	33'-0	10.03	4-5 1.35
8- 6	2.60	10-2	3.11	7-0	2.135	34-0	10.34	
9-0	2.75	10-6	3.20	7-4	2.24	35-0	10.65	4-7 1.40
9-6	2.90	10-10	3.29	7-8	2.34	36-0	10.96	4-9 1.45
10-0	3.05	11-1	3.38	8-0	2.44	37-0	11.27	
10-6	3.20	11-5	3.47	8-4	2.54	38-0	11.58	4-11 1.50
11-0	3.35	11-8	3.56	8-8	2.64	39-0	11.89	5-1 1.55
11-6	3.50	12-0	3.65	9-0	2.74	40-0	12.20	
12-0	3.65	12-3	3.74	9-4	2.84	41-0	12.51	5-3 1.60
12-6	3.80	12-7	3.83	9-8	2.95	42-0	12.82	<u>MPS</u>
13-0	3.95	12-10	3.92	10-0	3.05	43-0	13.13	6.9 5-6 1.65
13-6	4.10	13-2	4.01	10-4	3.15	44-0	13.44	7.1 5-7 1.70
14-0	4.25	13-5	4.10	10-8	3.25	45-0	13.75	7.3 5-9 1.75
14-6	4.40	13-9	4.19	11-0	3.35	46-0	14.06	7.5
15-0	4.55	14-0	4.28	11-4	3.45	47-0	14.37	7.7 5-11 1.80
15-6	4.70	14-4	4.37	11-8	3.56	48-0	14.68	7.9 6-1 1.85
16-0	4.85	14-7	4.46	12-0	3.66	49-0	14.99	8.1

Basic Takeoff Drills

- Sand Drills
 - 2 Step Close Grip (reason for close grip!)
 - 4 Step Close Grip
 - 4-6 Step Full Plant
- Grass Popovers – 3 to 4 lefts (Standing Grip Ht)
- High Bar 2 Step Takeoffs
- Track – Skipping Takeoffs; Penultimate Takeoffs; 1-2-3s; Continuous Popovers



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Sand Drills



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Basics First!



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Slide Box



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Slide Box



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Beginners



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Basic 4 Left (8 step) Takeoff



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APPROACH, APPROACH, APPROACH!



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No Style Points!



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Acquisition



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Refinement



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Stabilization



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Stabilization



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