On Your Mark,

Set,

.....

Block Fundamentals & Common Errors and Corrections

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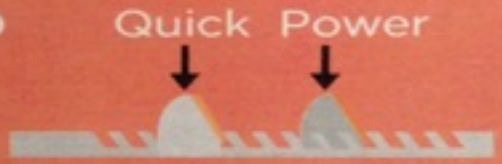
Coaching Philosophy

- ATHLETE CENTERED
- COACH DRIVEN
- SCIENCE BASED

CHEAT SHEET

SETUP



1. Establish 'quick side' (back block) and 'power side' (front block).

2. Cross arms. The hand that's tucked underneath is the 'quick side'.

3. Back Block: Roughly three foot lengths from the starting line.

4. Front Block: Roughly two foot lengths from the starting line.

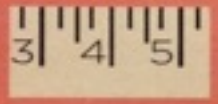
5. Front and back pedals should be at lowest setting, or, the back block should be up one setting. Front block is always at the lowest setting.

MENTAL/PHYSICAL PREP

1. Establish a consistent routine for entering the blocks. Be the second slowest to get set.

2. Two to three explosive, in-place vertical jumps. Tuck jumps are commmon.

3. Do three to five practice starts of 10 to 20 meters.



4. Use a motor set. Should be specific movements such as 'split the arms' instead of a sensory set, i.e. reacting to the sound of the gun.

ON YOUR MARK

1. Top/front spike should touch track and balls of feet should press against the pedals.

2. Thumbs directly beneath the shoulders and evenly spaced from your body's mid line. Don't use entire lane.

3. Shoulders directly above the hands. Don't lean over the starting line or athlete may stumble out of blocks.

4. Hands/fingers should form high bridge.

5. Back block knee is on the ground and four to six inches ahead of front block foot.

6. Front block knee gently touches (kisses) inside of forearm of front block arm.

7. Front block shin is parallel to the track.

8. Head is neutral, making neck and back of head a linear extension of the spine. Don't tuck chin or look down the track.

SET

1. Front block knee is approximately 90 degrees. The angle can be greater than 90 for younger/lower-level athletes but never over 90.

2. Back block knee is approximately 120 degrees.

3. Pre-tension in glutes and hamstrings applying force into the blocks. Think 'wrap the heals around the pedals'.

4. Shoulders above the hands.

5. Shins parallel.

6. Focus only on the

Block Starts

- Quick side
- Strongest leg
- Comfortable
- Confident
- Smooth
- Explosive

Block Spacing

- 2 foot lengths from starting line to the front block
- 1 foot spacing from the front block to the back block
- Front knee angle at set position 90*
- Rear knee angle at set position 120*
- Key-balance and how they feel

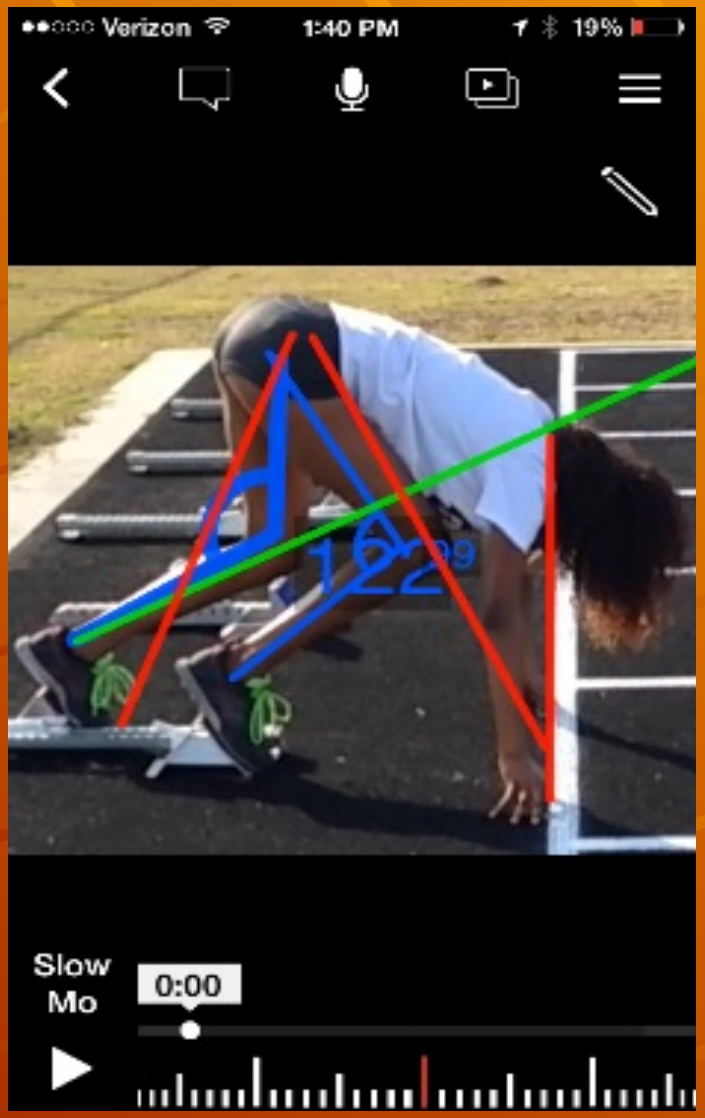
Suggested Block Positions for Different Leg Lengths

Leg Length	Front Block	Between Blocks
25″	14″	10.5″
26″	14.5″	11″
27″	15″	11″
28″	15.5″	11.5″
29″	16″	12″
30″	16.5″	12.5″
31″	17″	13″
32″	17.5″	13.5″
33″	18″	14″

Block Start Considerations

- Presetting the neuromuscular system-explosive jumps, 4-5 practice starts (research supports the fact that the 5^{th}-6^{th} is the fastest)
- Use motor set rather than a sensory set to reduce reaction time-motor set means to have the athlete focus upon their first movement, not the gun
- Arms with thumbs directly under the shoulders,maximize distance of shoulders from the track
- Keep weight distributed evenly with fingers and hands forming a bridge,
- Shoulders directly over hands with the rear knee in contact with the ground
- Head in line with the neck and back to form linear extension of the spine
- Muscle tension applying force against the block-force application should come from the gluts and hamstrings-pre-tension desired

  (Think = Wrap heels around the pedals)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BULLDOGS
BULLDOGS

Block Start Considerations

- Force must come form gluts and hamstrings to extend the hips
- Foot dorsiflexion places the ankle joint in a mechanically advantageous position for the next ground contact and pre-sets muscles used in elastic force production
- Low heel recovery-backside mechanics and concentric contractions play a key roll in starts and acceleration and gradually give way to frontside mechanics and eccentric contractions-play a more important role in max velocity sprinting

Routine

On Your Mark:

Walk In Front and 2-3 Tuck Jumps

Back Into Blocks

Next To Last Into Blocks

Move Back and Forth Until Ready

Hand Up If Not Ready or Problem

Routine

- Set:

  Push Rear Heel Back

  Don’t be first to get to set position

  Hip Height

  Focus on Reaction – Motor vs Auditory

Routine

- Set: (cont.)

Reaction Drills:

1) Clap drill

2) Split Arms

Gun

- Big Push / Big Split
  - Large Arm Amplitude

  - Tyson Gay & Ja Mee Samuals


TBS
VTB
Nikon


8
7


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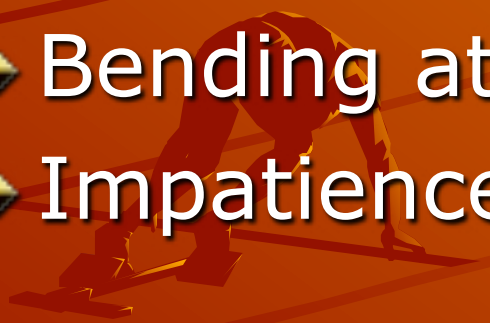
5 Common Starting Errors

Credit to Tommy Badon – Lafayette Christian Academy

- Stepping out
- Popping Up
- Lateral Deviation
- Bending at the Waist
- Impatience in Drive Mechanics



ALL DIRECTLY DUE TO IMPROPER PUSH MECHANICS AT THE START WHETHER IT'S DUE TO IMPROPER ANGLES AND POSITION IN THE SET POSITION OR A POWER COMPONENT THUS NOT ALLOWING THESE POSITIONS TO BE ACHIEVED.

How to Correct

Repetition of proper motor tasks and the sequencing of start mechanics from simple to complex

Knowing the positions that should be attained prior to the start, during the starting sequence, and in the first few strides goes along way in solving the problem

Common Errors and Corrections

Stepping Out:

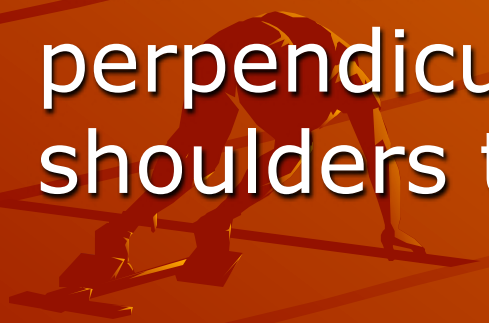
Cause: Improper Push Mechanics and Incomplete Push

Cure: Focus on full push of rear leg and complete extension of front leg

Support Leg must be behind hips

Common Errors and Corrections

Popping Up:



Cause: Directly Proportional to stepping out. Foot lands in front of hips and perpendicular to track thus causing shoulders to rise up

Cure: Focus on same solution as Stepping out

Common Errors and Corrections

Lateral Deviation:

Cause: Athlete doesn't fully push off back block and attempts to "make up" for this incomplete push by staying on front block too long and pushing at an angle instead of straight back

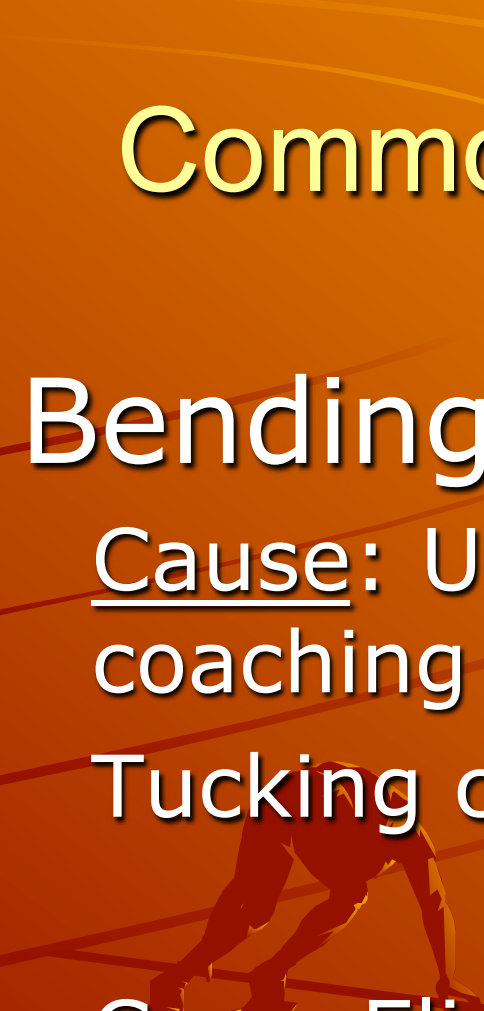
Cure: 2 Footed pushes and complete hip extension will assist in correcting issue

Common Errors and Corrections

Bending at Waist:

Cause: Usually results from improper coaching cue, "Stay Low".

Tucking chin



Cure: Eliminate cue and focusing on positive postural positioning, cueing correct pushing applications, and keep focus on "Pushing Down to Stand Up."

Common Errors and Corrections

Impatience in Drive Mechanics:

Cause: Impatience

Cure: Constantly cueing "Push, Push, Push". Focus on bigger and longer amplitudes of movement during first few steps

Teaching Progressions

- 2 Point Starts
- Rolling (Falling) Starts
- Crouch Starts
- 3 Point Starts
- 4 Point Starts
- Blocks

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