



# LONG JUMP

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## THE FOUR PHASES OF THE LONG JUMP: APPROACH, TAKEOFF, FLIGHT, & LANDING

### APPROACH:

- High school jumpers will use a 14-20 stride approach based on their *maximum controllable speed*.
- It's often beneficial for the athlete to have a routine leading into their approach (e.g. rocker steps, walk-in, etc.). As long as this doesn't affect their consistency, it is a good way for them to focus and block out distractions.
- At the beginning of the approach, the athlete should **DRIVE** forward, much like in a sprint—slight body lean, head down, high knee & arm drive, quick, powerful feet pushing back.
- Athlete should gradually erect posture to a tall upright sprinting position. Steps should be quick and springy accelerating to top speed.
- Prior to takeoff, athlete should be tall, with eyes up (NOT looking at the board), thinking “UP” in preparation for a vertical movement.



Figure 4.1 Body posture during the first six strides of the long jump.

### TAKEOFF:

- Penultimate step should be a slightly longer, flat-footed step
- Plant step should be short and quick hitting flat-footed, slightly ahead of the body.
- Swing leg drives up, heel to butt, knee lifting to a 90 degree angle
- Active arm drive, in correlation with knee drive, helps generate lift and block forward rotation

### FLIGHT:

- Arms should gradually drop and circulate back, upward, and over (will vary depending on the athlete's preferred flight style)
- Athlete should maintain a BIG chest and slightly upward head-tilt
- Drive knee should also drop downward to elongate the body, further combating forward rotation

## FLIGHT STYLES:

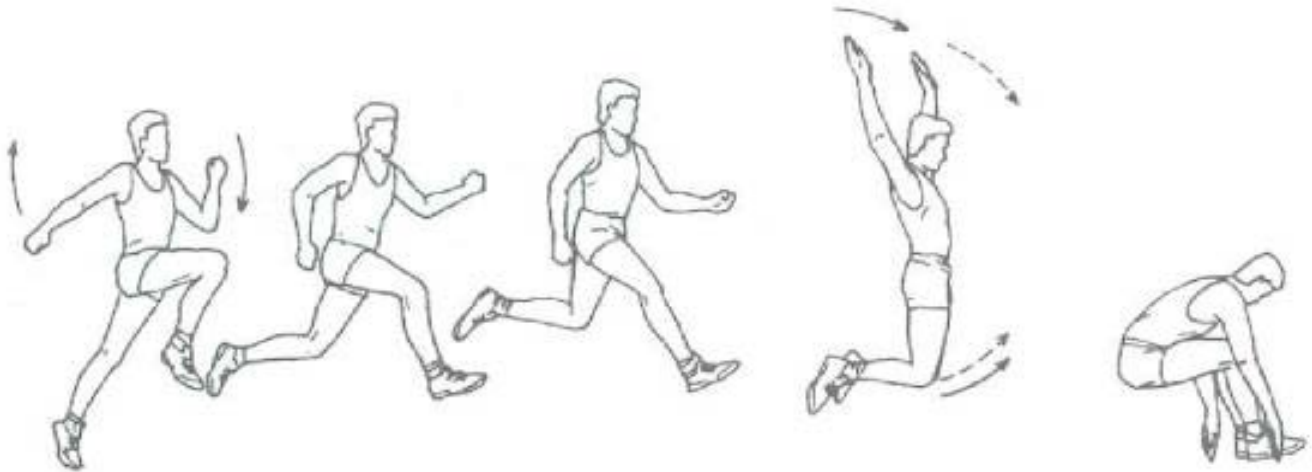


Figure 4.9 The hang style.

**HANG:** After the takeoff, the jumper allows the free leg to drop until it is directly under the hips (see above). This long, narrow silhouette of the body causes the least possible rotation as both the arm and leg (hand and foot) are a maximum distance away from the hips (the theoretical center of mass). Long levers rotate more slowly than short levers. The free leg, which has dropped directly under the hips, will eventually be joined by the takeoff leg. We call this position 180°. At this point, the knees of both legs are directly under the hips. This is the most stable in-flight position because very little rotation can occur

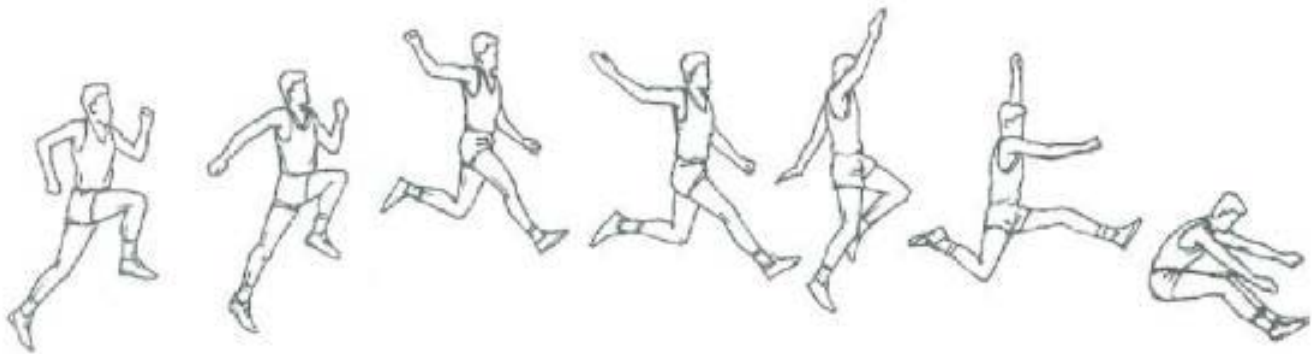


Figure 4.11 The hitch-kick style.

**HITCH-KICK:** The majority of athletes who employ this style of jump should use a single-step arm and leg cycle (see above). The purpose of this cycling motion is to counteract and reduce forward rotation during the jump. This style is designed to set up secondary rotations of both the arms and legs that mechanically counteract the rotations established at takeoff.

## LANDING:

- Prior to landing, the jumper's arms should be overtop of the head
- The legs should be drawn up toward the chest, as the arms are driven downward
- As the arms pass the legs, the legs should extend forward, heels out in front
- Hitting the sand heels first, the athlete should pull, reeling the butt beyond the initial landing spot
- Athletes may either pull to the side or straight ahead, scooping their feet through the sand ("Skoosh")

# DRILLS

## ACCELERATION DRILLS:

### • Wall Series:

1. Start your athlete with their hands against a wall or fence with their torso leaning from the ankle at 45 degrees with one knee up. Adjust them as needed. Have them “feel” the straight line from their head through their shoulders, hips, knees and finally feet. Repeat the drill without aligning the athlete
2. From position A, have the athlete take 3 or 5 steps in place (walking, marching and finally running) watch that their feet land in the same position they start in. Repeat watching and cueing the straight line from head to toe.
3. Have the athlete repeat the drill keeping lined up but gradually getting more upright with each foot contact, so they end up standing. (An exercise band around the thighs can be added for resistance). [Wall Series](#)

### • Partner Series:

1. Have the athlete assume the same leaning start, supported at the shoulders by a partner’s hands; the partner will be facing the athlete.
2. Do a five step start by first marching, progressing to a full effort push.
3. Repeat the full effort start, but at five steps the partner will step out of the way allowing the athlete to continue to accelerate.
4. After assuming the correct lean against the partner, the athlete is released to accelerate on his or her own. [Partner Series](#)

• **Resistance:** Proper body lean, powerful drive steps, and quick acceleration can also be developed through the use of resistance implements (e.g. sleds, harness systems, bungees, chutes, etc.). A variety of dynamic lunge movements can be implement with resistance bands as well. [Resistance Training](#)

• **Wickets:** a speed drill we use frequently because of it’s effectiveness and versatility is the “Wicket Drill”, which begins with 6 progressively longer acceleration strides (similar to the *DRIVE* phase of the approach). These require that force be applied to the ground in order to produce momentum and velocity. After completing the 6 acceleration strides, the athlete will run “through” a series of 6-inch mini hurdles (“wickets”) placed at ever increasing intervals. In order to do this drill, the athlete must apply force. The wickets provide a peripheral reminder and give feedback to the coach and athlete. The coach can progress the athlete by simply changing the number of hurdles or increase the spacing. [Wicket Drill](#)

• **Sprint Drills:** any type of sprint training done with power sprinters (100, 200 runners) could benefit a jumper by improving runway speeds. Simple build-ups (jumper simulates the entire runway way progression from drive phase to final acceleration either on the turf or runway) are also beneficial in establishing runway rhythm.

## TAKEOFF/FLIGHT DRILLS:

• **Power Skips:** a continuous skip with exaggerated arm and knee drive, emphasis placed on getting maximum height. [Power Skips](#)

• **Continuous Takeoffs:** athlete jogs down the track and counts “1-2-3-pop” simulating the penultimate step and executing a takeoff-like knee drive/arm drive, landing on their drive leg, regrouping in three jog steps, and repeating the drill without stopping, and continuing down the track 50-100 meters in this pattern. As athletes get their timing down, the number of steps in between takeoffs can be reduced. [Continuous Takeoffs](#)

• **4 Cone Penultimate Drill:** athletes progress through a series of four cones starting out with a march (simulated run steps), and upon reaching the second cone, simulating a longer, flat-footed step toward the fourth cone, and finishing with a takeoff plant and pop-up on the fourth cone. Emphasize the slight lower of the hips, longer stride, and flat foot strike on the penultimate. Also emphasize the angled hip position (but tall stance) at takeoff and aggressive foot strike and knee drive on the plant. [4 Cone Penultimate Drill](#)

- **Two Box Drill (Penultimate Step drill):** *For advanced jumpers*—This is the pop-up drill with a twist. In addition to the 6” box, a 4” flat, square box is placed on the runway approximately where the third-to-last step would hit. The athlete completes a short approach pop-up jump, hitting each box with their takeoff foot (penultimate step landing in between the two boxes). The slightly elevated position prior to the penultimate step as a result of the additional box over exaggerates the elongation, slight hip drop, and flat-footed strike of the penultimate step.
- **Arm Choreography:** seated in a chair, athletes simply practice their arm movements down the runway, at takeoff, and in flight, all in sequence, and repeat as needed.
- **Pop-ups:** using a 3-7 step run up to a 6” (typically angled) box, the athlete plants on the box driving the knee up. Focus should also be placed on eyes looking upward, chest pointing out and up, and achieving maximum height. Adding a target (e.g. ball fashioned to old standards, towel on a stick, etc. can help add incentive to “get up”. As a result of increased height, athletes will have increased hang time to practice flight technique.
- **Mat Pop-ups:** Similar to a regular Pit Pop-up, except into a high jump or pole vault mat. Athletes attempt to get enough lift to execute a flight technique, ultimately landing on the mat, legs extended out in front. A raised hurdle can be placed between the mat and pop-up board and the distance between increased for stronger, more advanced jumpers to up the intensity of this drill.

[Mat Pop-ups](#)

## LANDING DRILLS:

- **Extension Drill:** athletes sit on the edge of a chair in the pit with their legs straight out in front of them, heels in the sand, and toes pointing up. Arms are extended vertically above the head, straight up above the shoulders. When ready, the athlete lifts extended legs out of the sand in the style of an “extension” during the descent of the jump. To avoid backward rotation, the athlete quickly brings the extended arms forward and through the legs in a scooping motion to create immediate forward rotation of the upper body, ultimately driving the legs down into the sand, heels first, putting the jumper in position to land. [Extension Drill](#)
- **Skoosh Drill:** athletes sit on the edge of a chair in the pit with their legs straight out in front of them, heels in the sand, and toes pointing up. Supporting themselves with their arms on the chair, athletes use a count of “1...2...3” in which they sit through their calves. After the third, using arm drive and heel pull, the athlete leaves the chair, in an effort to pull their butt, through their heels and beyond their initial heel placement in the sand. Heels should push through the sand, scooping up, tossing sand into the air. [Skoosh Drill](#)
- **Extension-Skoosh Drill:** *For advanced jumpers*—this is simply a seamless combination of the two drills. The athlete completes the extension drill and immediately goes into a skoosh drill, eliminating the “1...2...3” phase and immediately thrusting out of the chair and getting their butt into the sand.
- **Standing & Short Approach Long Jumps:** Athletes complete a standing long jump into the pit, focusing on leg extension, hitting the sand heels first, the athlete should pull, reeling the butt beyond the initial landing spot. To over emphasize drawing the knees up and extending the legs, have jumpers grip a towel or short bungee (I’ve even used a pair of sweats in a pinch), one end in each hand, and jump through it (similar to a jump rope but much shorter) from the end of the runway into the pit. Because the implement is shorter in length, it forces the jumper to exaggerate those landing actions (knees up into leg extension) to get up, over, and through. Progress to a short approach jump as the athlete becomes more confident with the landing. [Standing](#), [Standing w/ Implement \(coaches holding\)](#), and [Short Approach](#) (*Marquise Goodwin...no relation*).