



STEP HURDLE LADDER™

IMPORTANT INFORMATION
PLEASE READ AND KEEP

DISCLAIMER

The following guidelines should be observed when using the Step Hurdle Ladder™.

- Always consult your physician before participating in any physical activity.
- Read all instructions carefully before using.
- Always use the Step Hurdle Ladder™ on a level surface free from obstructions.
- The Step Hurdle Ladder™ is intended for use only as described in this document. It is in no way designed to be used as a ladder or other climbing device.
- Power Systems, Inc. assumes no liability for injuries, accidents or damages that may occur with the use or misuse of the Step Hurdle Ladder™.

STEP HURDLE LADDER™

The Step Hurdle Ladder™ is a portable footwork training tool designed to improve knee lift and foot speed during running and lateral movements. The Step Hurdle Ladder™ can also be used to perform dynamic plyometric drills that focus on explosive power. The ladder is 5 yards long, 20 inches wide with 6 adjustable slats. Each slat has a PVC hurdle that flips up and locks into position. The hurdle can be set at two training heights; 8” or 12”. Plastic buckles located at each end allow multiple units to be connected.

This guide will offer several drills for use with the Step Hurdle Ladder™. The drills are listed in order of difficulty from easiest to most difficult. Its uses, however, are as broad as your imagination. For best results, use drills that are specific to your particular sport and position.

STEP HURDLE LADDER™ PREPARATION AND SLAT ADJUSTMENT

Position the ladder on a level surface free from any obstructions. Ideal training surfaces include range from outdoor tracks, practice and game fields to gymnasium floors. **AVOID** training on concrete flooring as the ground reaction forces produced during plyometric training could result in user injury. The ladder can be secured to the ground using weight plates on each end. The nylon loops at the end of the ladder can be threaded through the hole in the weight plate for added stability.

1. A unique feature of the Power Systems Step Hurdle Ladder™ is that the ladder slats can be adjusted to different lengths of separation. To adjust the slats, simply push up on the back of the slat to free the locking mechanism. Move the slat to the desired position and lock in place by pushing down on the locking mechanism with your thumb.

The ladder has preset markings that provide a standard slat separation of 18 inches. The markings are provided so the ladder can be reset to the standard format quickly without having to measure each interval. The adjustable slat feature is most beneficial when training athletes of different sizes and maturity levels. For example, a coach training a group of college age basketball players may want to utilize a greater separation between the slats than a coach training a group of junior high school athletes. The logic is making allowances for the extreme differences in height and foot size. Some coaches and trainers may also utilize the slat adjustment feature to create customized drills that are specific to a particular sport or skill.

2. The PVC hurdles are built-in with the ladder slats. The design of these hurdles allows a coach or trainer to create patterns with different degrees of difficulty that are specific to the training goals of each athlete. Two spring loaded pins allow the hurdles to be set at 8” of 12”. The 8” height is suited for developing foot speed and overall agility, while the 12” height develops knee lift and power. Because each hurdle is separate drills can be designed that utilize both heights during the drill. For example, a football coach might set the first three hurdles at 8” to work on quick steps to the line of scrimmage and have the remaining hurdles at 12” to address the high knee lift needed to avoid tripping over a defender.

DRILLS

Use the pre-set markings to space the hurdles 18” apart and set the ladder on a level surface. Set the hurdle height at 8” to begin and progress to 12” as prescribed by your training regimen.

NOTE: Spacing can be adjusted to meet the developmental needs of the athlete or specificity of drill.

RUNNING DRILLS:

1. **FORWARD RUN – 8” HURDLES:**
Run through the ladder as quickly as possible. Focus should be on getting over the hurdles quickly. Knee lift should be minimized so that the foot is passing 1-3 inches over the hurdle.
2. **FORWARD RUN – 12” HURDLES:**
Run through the hurdles as quickly as possible. Focus on driving the knee of the lead leg up to adequately clear hurdles. To decrease contact time with ground keep the toe of the lead leg pointing up as the foot passes over the hurdle.
3. **RUN OUTS:**
Perform any of the drills listed above and add a 10 to 30 yard sprint immediately to the end of the drill. This adds the element of transition from a high knee or fast foot pattern to a running stride.

LATERAL DRILLS:

1. **LATERAL RUN:**
To perform this drill, position the individual so that they are sideways to the ladder. Move sideways through the ladder maintaining a strong knee drive and limiting contact time with ground to a minimum. Keep the hips low and the head up during this drill to maintain a more sport specific position. Repeat drill in the opposite direction.
2. **CARIOCA:**
NOTE: This drill is designed for advanced users. The drill requires the individual to perform a standard carioca run through the hurdles. The hurdle height improves knee lift which in turn develops increased rotation at the hip. Start with 8” hurdles and progress to 12” hurdles as warranted.

PLYOMETRIC DRILLS:

The Step Hurdle Ladder™ can also be incorporated into plyometric training regimens to improve force development, and neuromuscular efficiency. Greater force production translates into a higher vertical jump while improved neuromuscular function decreases the time to contraction and can result in more motor units firing simultaneously.

Listed below are several drills that can be added to a plyometric training program.

1. **FORWARD JUMPS:**
Set hurdles at 8” or 12” or a combination of the two heights. Perform using two feet. Quickly jump through the ladder, jumping only high enough to clear the

hurdles. Keep the toes pointing up while in the air, as this will help decrease the time spent on the ground between the hurdles.

Advance to using one foot when individual is proficient performing the drill with two feet.

2. LATERAL JUMPS:

Set the hurdles at 8” or 12” or a combination of the two heights. Start facing sideways. Using two feet, propel your self over the hurdles. Minimize contact time between hurdles, by immediately attempting to jump over the next hurdle upon landing. Complete going left and right.

Advance to using one foot when individual is proficient performing the drill with two feet.

3. QUICK SKIP WITH HIGH KNEE DRIVE:

Adjust the hurdles so all are set at 12”. Skip through the ladder driving the knee up so that the foot is level with the opposite knee. The skipping action is the same that kids perform on the playground. Again focus on a strong knee lift and toe up position while performing this drill.

4. QUICK SKIPS FOR SPEED:

Adjust the hurdles so all are set at 8”. Skip through the ladder using only enough knee drive to clear the next hurdle on the ladder. Emphasize the speed of the drill.

5. 180 DEGREE JUMPS:

This drill requires more skill and concentration and should only be attempted by the advanced user. Hurdles may be set at 8” or 12” or any combination of heights. Start facing sideways to the Step Hurdle Ladder™. As you jump through the ladder rotate your body so that when you land you are facing the opposite direction you were at take off. Always rotate in the direction you are going.

Advanced users who have mastered this drill can add even more difficulty by incorporating a full 360 degree rotation during each jump.

COMBINATION DRILLS:

Combine multiple Step Hurdle Ladder™ units to form a variety of patterns. This allows for an unlimited number of drills that can be performed using a combination of the drills listed in this booklet. A few examples are listed below. Design your own drills making them as sport specific as possible.

1. Run straight forward through every section making a quick cut between sections.
2. Run straight forward followed by a lateral run.
3. Run forward followed by a cariocca run.
4. Run forward followed by lateral hops.
5. Front jumps followed by a lateral run.

ADDITIONAL TRAINING AIDS:

ADD WEIGHT BELT / WEIGHTED VEST FOR ADDED RESISTANCE - A weighted belt or weighted vest can be worn for added resistance when performing any of these drills. Do not add more resistance until you have mastered the drills using only your body weight.

Power Systems, Inc. offers an excellent selection of weighted vests, belts and other weighted body wear. Contact a Customer Service Representative at **1-800-321-6975** or visit **www.power-systems.com** for pricing and availability.

TRAINING RECOMMENDATIONS

Use the Step Hurdle Ladder™ before strength training if both are to be done on the same day. Perform agility and foot quickness drills before doing resistance running or plyometrics. This will allow the athlete to effectively perform these drills before any muscle fatigue occurs.

- Perform 2-3 Step Hurdle Ladder™ workouts per week. Allow 48-72 hours between workouts.
- Select 4-6 drills for each workout.
- Perform 3-5 sets of each drill. Keep the total number of sets per workout under 20.
- Allow sufficient recovery between each set so that maximum effort can be given to the drill. This is of particular importance when performing plyometric drills to provide the ATP-PC energy system time to recover.
- Consult your coach or other qualified individual to assist you in designing your training program.

For more information regarding the Step Hurdle Ladder™
or other training products, contact:

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