

## **Triphasic High School Speed Manual**

### **Introduction**

This High School Training Manual has been expanded to include training methods specifically designed to enhance the development of speed capabilities in the maturing athlete to the highest extent. This does not mean elite level runners will not benefit from the program, exercises, and/or progressions laid out in this manual as the methods implemented throughout it are extremely advanced. This speed manual has been created to take every coach step-by-step through an 18 week progressive program, from warm-up to ankle rocker drills, to specific speed training and agility, and finally a lifting progression, which will all be covered in great detail and must occur in order for maximal performance to be achieved. This manual ultimately leads to dramatic increases in speed for any athlete truly implementing the progressions laid out in the pages to follow.

### **Example Daily Training Schedule**

Each training week will be laid out in succession in the upcoming section. However, it is important every coach know and understand the training scheduled followed within each workout. The workouts shown throughout this manual consist of six main components in which every drill can be placed. These six components are listed below:

1. The Warm-Up
2. Ankle Rocker
3. Slow Run/Progression Drills
4. Speed
5. Agility
6. Lifting

If a coach is required to do so, typically due to lack of available equipment, the team can be broken into groups to relieve this common issue. If possible this order should be utilized whenever possible by coaches as it elicits an optimal training response by the athlete.

## **Training Components**

### **Warm-Up - 5 - 15 Minutes**

The Warm-up is consistently implemented to ensure athletes are prepared appropriately for the training they will be asked to complete. The warm-up options presented in this manual allow for variability for athletes while priming each individual for the specific requirements of the following sections of training.

### **Ankle Rocker - 5 Minutes**

The ankle rocker program in this manual is designed to develop and improve an athlete's ability to utilize one of the main joints involved in extension. The ankle joint's importance in this process is often the missing link in maximizing performance. Only when the function of the ankles and feet occur at the highest levels can all the strength and explosive power you've created in your hip and knee joint be transferred into the ground, leading to increased running speeds and maximized performance capabilities. There is a section dedicated to why this skill is vital for speed training and running mechanics after the 18 week program is demonstrated.

### **Slow Running/Progression Drills – 5-7 Minutes**

By slowing down various drills that have been selected and are running program your athletes will be forced to read pattern there current movements and as the movement speed up right motor patterns will be in place for optimal human performance.

### **Speed - 25 - 30 Minutes**

Speed training is implemented in this manual with one goal, enhance running speed. From the use of appropriate rest times to specific drill work to improve this skill, this manual utilizes drills designed specifically for speed in the developing athlete.

### **Agility - 25 - 30 Minutes**

The agility drills selected and utilized in this manual function optimally so that the majority of movements experienced in play are covered in training. These are progressed throughout the training blocks, along with the ankle rocker and slow running drills, so that the optimization of human performance is achieved at the completion of the 18 week program.

### **Lifting - 25 - 30 Minutes**

This program in this manual is designed to increase an athlete's abilities in the weight room, which when periodized in this manner will transfer to their sporting event. This training will increase strength, power, and rate of force development. Each of these are necessary to increase the efficient and performance of athletes.

## **Weekly Progression**

Listed below is the entire 18 week speed progression. Every training component is implemented on a daily basis for maximal improvements to be realized. All repetitions, sets, rest times, and a page number for each drill is listed for every prescribed exercise, along with hyperlinks for simplicity and quick understanding. After the lift sheet is shown each exercise is described on the following page. Each exercise is only described in the first week it is implemented to continue to increase simplicity of this speed training manual.

Training Progression Week 1					
Warm Up Options					
Warm Up Options	Drill	Repetitions/Durati on	Sets	Rest Time	Page Number
GPP Warm Up (Option 1)					
	<a href="#">Aerobic Base Injury Prevention Runs</a>	As Directed		No Rest	12
Low Level Jumps (Option 2)					
	<a href="#">Jumping jacks</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Split Jacks</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Lateral line hops</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Front and back line hops</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Mountain climbers</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Burpees</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Star Jumps</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Squat and roll</a>	20 to 40 Seconds	1 Sets	No Rest	12
Other Options					
	Other Available Warm-Ups				162-168
Ankle Rocker					
Ankle Rocker	Drill	Repetitions/Durati on	Sets	Rest Time	Page Number
	<a href="#">Wipers</a>	25	1	20 - 40 Seconds	12
	<a href="#">Toes Up</a>	25	1	20 - 40 Seconds	12

Slow Run/Preparation Drills					
Slow Run/Preparation Drills	Drill	Repetitions/Duration	Sets	Rest Time	Page Number
	<a href="#">Hurdle walks</a>	3	1-4	20 to 40 Seconds	12
	<a href="#">Hurdle Overhead Walk</a>	3	1-4	20 to 40 Seconds	12
	<a href="#">Crane walks</a>	2	1-4	20 to 40 Seconds	13
	<a href="#">Boom Speed Development</a>	5	1-4	20 to 40 Seconds	13
	<a href="#">Boom Boom Speed Development</a>	5	1-4	20 to 40 Seconds	13
	<a href="#">Boom Boom Boom Speed Development</a>	5	1-4	20 to 40 Seconds	13
Speed					
Speed	Drill	Repetitions/Duration	Sets	Rest Time	Page Number
	<a href="#">Flying 10</a>	3-4 Reps	1 Set	30 to 90 Seconds	14
	<a href="#">Stance Start, 1st Step</a>	3-4 Reps	1 Set	20 to 40 Seconds	14
Agility					
Agility	Drill	Repetitions/Duration	Sets	Rest Time	Page Number
	<a href="#">2 leg lateral line hop with knees bent</a>	30 Seconds	2 (1 Clock, and 1 Counter-clockwise)	20 to 40 Seconds	14
Lifting					
Lifting					6-11

## **Week 1 Exercise Progressions**

### **Warm-Up Options**

#### Triphasic Aerobic Base Injury Prevention Runs

This warm-up method can be set up simply with 4 cones in a rectangle, the longer the distance the better. Athletes will begin by jogging around the rectangle. The coach will have them change movement patterns from jogging, to shuffling, to jogging, to carioca, to backwards running. The entire drill will be completed at the original jogging pace. With these different movement patterns, athletes will experience an increased heart rate while also preparing their body in different motions. Start at a 4 minute run and work up to 10 minutes over the 8 week period of time. If space permits, use the entire football field. This warm-up is suggested to be used once or twice a week.

#### Low Level Plyometric: Calisthenics

This second warm-up option is a group calisthenics workouts which we call GPP. It is a series of exercises set at intervals that strengthen the ankle/foot complex. In lines, the athletes start with jumping jacks and will rotate to a variety of exercises. A simple version is to switch exercises every 20 seconds and start at 6 minutes of exercise. We have found that after reaching 12 minutes, the drill becomes monotonous. Progress 1 minute every week. The offensive system the school I coach at calls plays through the use of signals, so we have a signal attached to an exercise and we want to get a play off every 13 seconds. To match these needs and prepare the athletes mentally, every 13 seconds we change the exercise. The coach is always moving around so the players need to find the coach. Some basic movements we use are shown in the "Week 1" table above.

### **Ankle Rocker Drills**

#### Wipers

The athlete works on lateral and medial rotational range of motion in this drill.

#### Toe ups

In this drill the athlete stands and elevates the toes off the floor to the greatest height possible to improve dorsiflexion ability.

### **Slow Run/Preparation Drills**

#### Hurdle Walks

A set of hurdles set at a knee height will be set up in a line with about 1 yard in between each hurdle (6-10 hurdles). Athletes proceed to will walk over each hurdle with one foot contact in between each hurdle. The goal is to use hip to raise the opposite hip in the step over of the hurdle. The right foot will stay on right side of the midline and left foot will stay on left side of the midline. Each step should take about 10 seconds. Have the athlete try to bring the trail leg knee into their same side armpit. Also, have the athlete limit trunk rotation and flexion.

#### Hurdle Overhead Walks

When the skill of Hurdle Walks is mastered, an athlete can add difficulty by raising their hands over their heads and reach as high as possible. A skip can also be added to the step in between with their hands over head. A common mistake is that the hip of the leg that is on the ground will push outward, losing the athlete's lateral stability. A coach must be aware of this and correct it immediately, otherwise dysfunctions and other compensation patterns will occur. Another common mistake is when an athlete spins on their plant foot in order to rotate their hips. 6-8 reps of 6-10 hurdles is an appropriate amount for the completion of this drill.

### [Crane walks](#)

This drill is a very slow, exaggerated stride at an extremely slow speed. As the athlete takes a step, they will emphasize the swing leg heel coming to the back of the thigh and as they flex the hip forward on the swing leg, they need to keep balance on their plant leg. As the knee begins to raise, again, the athlete must keep the heel tucked tightly to the back of the leg for as long as possible. The athlete will then begin to push up onto their toes on the plant leg while maintaining the tightly tucked position of the swing leg. At this point they will try to control the landing of the swing leg as long as possible. Once the athlete is on the ground with the new plant leg, repeat the process. Ideally, each step should take 15-20 seconds with a goal of doing 5-10 steps on each leg. Common mistakes include the loss of lateral stability or the opening of the hips, as listed in hurdle walks, and not pulling swing leg heel as tight as possible into the back of the swing leg.

### [Booms](#)

#### [Boom Speed Development](#)

In this drill the athlete will stand on one leg with the other leg held high in the air with a bent knee. Their swing knee should be at navel height. On command, the athlete will switch legs explosively. There should be little movement in the athletes' body. For example, there should be no small jump before the switch takes place and hands should be placed on their hips, so their upper body doesn't drive their lower body. The reps should stay low, with ample rest in between sets. This should be a psoas glute exercise. Not a hip flexor exercise. Start with sets of 2 on each leg and gradually build to 8-10 per leg. If their hip flexors start to grab, rest. Common mistakes include jumping to make the legs switch rather than pushing from a stand still. Also, knees passing each other too low to the ground.

#### [Boom Boom Speed Development](#)

This is a secondary progression to the Booms above, but now the athlete will finish on the same leg that was started on. Standing on one leg, the athlete will switch legs quickly with the original hanging leg hitting the ground forcefully and immediately bringing it back up to the starting position. Again, keep reps low and explosive. Keep reps to 5-6 and work on higher sets, up to 5 so the athlete doesn't recruit hip quads instead of psoas to do drill. Common mistakes include jumping to make the legs switch rather than pushing from a stand still. Also, knees passing each other too low to the ground.

#### [Boom Boom Boom Speed Development](#)

This is the final progression of the Boom Speed Development series. Athletes will now complete 3 “Booms” in sequence while maintaining appropriate posture.

## **Speed**

### [Flying 10's](#)

Build up to top end speed and then hold for a total of 10 meters. Choose whichever approach you desire, but be sure to give the athlete ample space to build up (10 meters at least). Allow the athlete to slowly decelerate to prevent any possible unnecessary hamstring stress.

### [The Stance](#)

The stance, which is shown in the hyperlink above, is a crucial aspect for speed training. Too many athletes believe that they need to crouch the line. The problem is that they do not possess the strength to push their body forward out of such a bunched position. Are you stronger in a deep squat or a quarter squats? This results in the athlete either having a rounded spine when they accelerate, stepping rather than exploding out of stance and a foot placement that is too far in front of the center of mass. By correcting these issues the acceleration phase can be improved dramatically.

Ideally, the toe of the front leg will be underneath the edge of the glute (usually 2 foot lengths behind the starting line). The back foot should be 1 shoe length behind the front foot. When the athlete is in that foot position, they will kneel down on the knee of the back leg. In this position, they will fold from the hip forward, almost a chop at the hip to fall forward and allow the hands to come out to catch the body from falling. The reason we do this is that too many athletes have an arched back when they leave the blocks. We call it a turtle back. When they are hunched, they are unable to achieve any extension out of the blocks and have to step out instead of explode. When they get up to the set position with their opposite hand on the ground from their front leg and head in a neutral position and their shins as low to the ground as possible, they will push from their back foot and then front foot. It is a quick succession of movements but I have found it helps train the movement if they think there are two separate movements. As they push forward, their torso will raise to a 45 degree angle to clear the torso so the knee can come up and try to drive knee up and push back down. The trail leg will drag low (toe stays low to the ground) to the ground.

To drill this for the first 4 weeks, we use a large rubber band supported around the waist of the athlete with their partner holding on to the band. The banded athlete will learn how to drive through their first three steps with support of the band. As the athlete gets more comfortable with the position, a lighter band can be used.

## **Agility**

The agility work in the first 8 weeks will be working over a line. We are trying to develop foot stiffness in multiple planes. In a perfect scenario, we try to count the number of contacts in a 30 sec period. This gives players a sense of urgency. Too many times while doing foot contact work, players go at about 80% and never push themselves to improve.

### [Line hop progression](#)

#### [2 leg lateral line hop with knees bent](#)



Have athlete find a line to jump over. Have athletes fold body until it is a Z. Watching from the side, the players shins should be parallel with their spine. Also, make sure the athlete does not slump forward.

The hyperlines shown below can be used to vary the starting position used in training agility.

[start variation 1 for agility Drills](#)

[Start Variation 2 for agility Drills](#)

[Start Variation 3 for agility Drills](#)

Training Progression Week 2					
Warm Up Options					
Warm Up Options	Drill	Repetitions/Durati on	Sets	Rest Time	Page Number
GPP Warm Up (Option 1)					
	<a href="#">Aerobic Base Injury Prevention Runs</a>	as directed		No Rest	12
Low Level Jumps (Option 2)					
	<a href="#">Jumping jacks</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Split Jacks</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Lateral line hops</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Front and back line hops</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Mountain climbers</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Burpees</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Star Jumps</a>	20 to 40 Seconds	1 Sets	No Rest	12
	<a href="#">Squat and roll</a>	20 to 40 Seconds	1 Sets	No Rest	12
Other Options					
	Other Available Warm-Ups				162-168
Ankle Rocker					
Ankle Rocker	Drill	Repetitions/Durati on	Sets	Rest Time	Page Number
	<a href="#">Wipers</a>	25	1	20 - 40 Seconds	12
	<a href="#">Toes Up</a>	25	1	20 - 40 Seconds	12

Slow Run/Preparation Drills					
Slow Run/Preparation Drills	Drill	Repetitions/Duration	Sets	Rest Time	Page Number
	<a href="#">Hurdle walks</a>	3	1-4	20 to 40 Seconds	12
	<a href="#">Hurdle Overhead Walk</a>	3	1-4	20 to 40 Seconds	12
	<a href="#">Crane walks</a>	2	1-4	20 to 40 Seconds	13
	<a href="#">Boom Speed Development</a>	5	1-4	20 to 40 Seconds	13
	<a href="#">Boom Boom Speed Development</a>	5	1-4	20 to 40 Seconds	13
	<a href="#">Boom Boom Boom Speed Development</a>	5	1-4	20 to 40 Seconds	13
Speed					
Speed	Drill	Repetitions/Duration	Sets	Rest Time	Page Number
	<a href="#">Flying 10</a>	3-4 Reps	1 Set	30 to 90 Seconds	14
	<a href="#">Stance Start, 2 Steps</a>	3-4 Reps	1 Set	20 to 40 Seconds	Page
Agility					
Agility	Drill	Repetitions/Duration	Sets	Rest Time	Page Number
	<a href="#">2 leg quad jump with knees bent</a>	30 Seconds	2 (1 Clock, and 1 Counter-clockwise)	20 to 40 Seconds	24
Lifting					
Lifting					18-23

## **Week 2 Exercise Progressions**

### **Warm-Up Options**

No Changes, Refer to Week 1

### **Ankle Rocker Drills**

No Changes, Refer to Week 1

### **Slow Run/Preparation Drills**

No Changes, Refer to Week 1

### **Speed**

#### [Stance Start, 2 Steps](#)

The same stance is used as in week 1 above. Now the athlete focuses on their first two steps.

### **Agility**

#### [2 leg quad jump with knees bent](#)

This drill is similar to the 2 leg lateral line hop drill used in week 1. However, now the athlete will move in a rectangular pattern, hitting all 4 spaces of the quadrant. Complete 2 drills in the counterclockwise and 2 counter-clockwise while allowing the appropriate rest time. Continue to focus on fast feet and attempt to count the number of touches when possible.