

8 WEEK OFF-SEASON PROGRAM

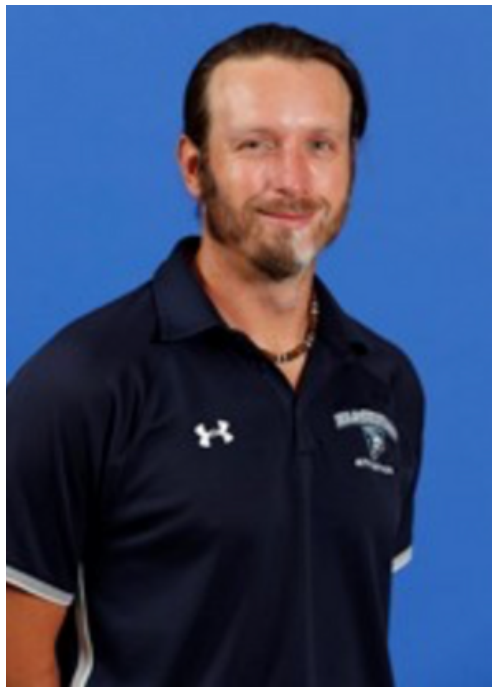
START TO FINISH PLAN FOR THE SPEED AND POWER ATHLETE

DAVID STONE

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INTRODUCTION

Now that the high school season is finished, it's important to take some time to recover from the dense competitive schedule that makes up most high school seasons. While taking time to recover from competition, finding a way to make it simple to maintain some sharpness while advancing the necessary physical fitness components to progress as a power/speed athlete in preparation for next season.

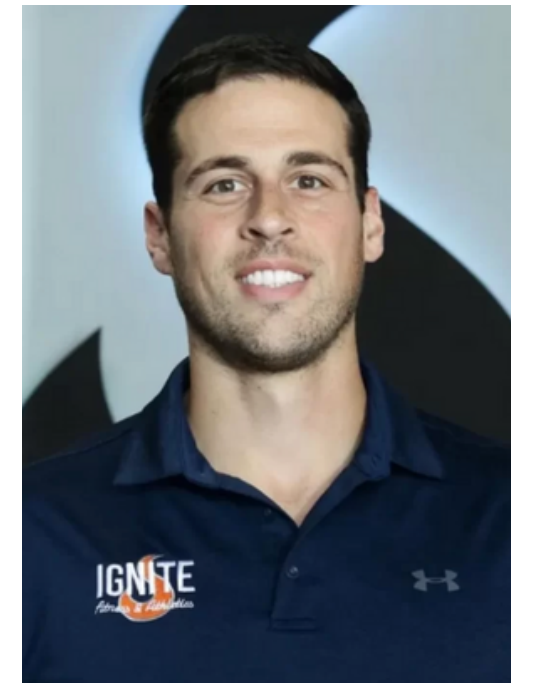


David Stone is entering his 14th year coaching Track and Field. Over this time Coach Stone has coached various events but his true passion lies into coaching the horizontal and vertical jumps.

Coach Stone currently coaches at Elmhurst University where over the past seven years has development one of the deepest and most well rounded jumps programs in division III.

Niko Karaovolos is also entering his 14th year coaching track and field as well as his 11th year in Strength and Conditioning.

He is currently the sprints and horizontal jumps coach at York High School as well as the Owner and Operator of Ignite Athletics. Coach Karavolos has guided York to the most rapid success in the sprints program in school history.



Specific Warm Ups

Warming up is crucial to the performance and health of your athletes. We believe in having multiple warm up options prepared for different types of workouts. This allows you to prep the body with specific movements and patterns which will act as a potentiation mechanism as well as a movement screen for both you and your athlete. This is why we believe in having a power-based warm up for acceleration and maximum velocity workouts, tempo days are potentiated through more metabolic preparation, and our general strength recovery day warm ups are suited for movement literacy, tissue decongestion and joint health maintenance.

Warm Up 1 – Acceleration warm up

Warming up specifically for acceleration involves two main components:

1. Prepping the nervous system for large power outputs
2. Working on horizontal-based patterns with slightly longer ground contact times.

Using the warm up to gradually increase the amount of power output helps ramp up the athlete's nervous system while at the same time gradually exposing them to larger forces in order to allow them to systematically check their body and make sure they are fully prepared to perform in the subsequent workout.

Following the acceleration focused warm up, we will include some potentiation opportunities to let the athlete to continue to ramp up to the required intensities. This is best seen through the lens of what athletes do on meet day which usually involves several strides after a warm up, some block starts or approach runs, and maybe a shortened rehearsal of the event. Baking that sequence into the warm up allows the athlete to practice event preparation and removes question marks and “freestyling” on meet day.

Warm Up 2 – MaxV warm up

Warming up for maximum velocity work is similar to warming up for acceleration, with the change that distances should be extended to allow for more upright and vertical-based sprinting.

The athlete needs to be provided more time to develop rhythm and assess their body in order to be prepared for highest possible power outputs.

Aside from ground contacts in jumping events, maximum velocity sprinting will provide the largest ground forces a track athlete will experience. Proper preparation and screening will ensure that the athlete is ready and can train long term.

Warm Up 3 – Tempo Prep

Preparing to run tempo workouts, both intensive and extensive variations, is somewhat different from acceleration and maximum velocity preparation.

In extensive and intensive tempo the athlete experiences lower force outputs, but much higher demands metabolically.

This is reflected in the elongated distances of accelerations and warm up drills. Our goal in creating more metabolic demand in the warm up is to allow the athlete to stabilize their energy systems prior to engaging in the workout.

Stabilized energy production will prevent the risk of crashing and be more similar to a meet day preparation routine.

TRAINING THEMES

ACCELERATION V. MAXIMUM VELOCITY (MaxV)

Acceleration and maximum velocity are very closely linked, the ability to reach maximum velocity does not exist without the ability to accelerate - meaning you can train acceleration without reaching maximum velocity, but cannot train maximum velocity without some form of acceleration. There are marked differences between the two and can help guide the direction of training. Acceleration involves longer ground contact times, more power output and less force attenuation which allows for higher volumes of acceleration training relative to maximum velocity (tl;dr - maxV beats you up more and takes more out of the central nervous system than acceleration).

When training acceleration intent is the most important factor, you must express extreme aggression when training acceleration. When training maximum velocity it's important to focus on the technical execution.

Acceleration Starting Positions

Starting from multiple different starting positions over the course of a season allows gradual development of the necessary muscle coordination while preserving the intensity needed to perform accelerations successfully.

- High 2-Point - Standing tall, feet split/arms split
- Low 2-Point - Feet/arms split, bent somewhat at the waist
- Low 2-Point Arms Hang - Bent at the waist, arms hanging straight down (similar to in a block). Allows the practice of splitting the arms at a start
- 3-Point/Crouch - Feet split, one hand on the ground (hand opposite the front foot)
- 4-point - a full block start set up without the block
- Drop-in acceleration - skipping into a start to simulate the transition phase of acceleration

TRAINING THEMES

Intensive vs Extensive Tempo Training

There can be many different arguments made for and against the use of both intensive and extensive tempo training. Tempo training in the context of this off-season programming has a couple purposes: race modeling, rhythm/coordination, metabolic support for training. Rhythm/Coordination - developing/maintaining the ability to execute proper technical shapes and frequencies under a fatigued state Race Modeling - working on developing the shape and rhythm of a sprint race while also becoming mentally prepared for the physical/mental demands of a race Metabolic support - developing/maintaining the metabolic attributes that are required to execute repetitive training bouts and recover between bouts of exertion. Intensive training is focused on the required intensities of training. Extensive will be sub-maximal intensity repeated bouts of training focused on metabolic development and recovery between bouts.

Recovery Weeks

Recovery weeks are included as a means to consolidate training adaptations. However, the entire week is not a "rest" week. The recovery weeks include decreased volume and increased intensities. These are intended as weeks that allow the athlete to most express their fitness and test/re-test their physical attributes.

Time Trials

Time trials are the athlete's opportunity to tap into competition level intensities. They should be performed with competition prep in mind. Make it feel as much like a track meet as possible.

Auxiliary Topics

Potentiation

Allowing the athlete time between warming up and performing the workout to provide some time for potentiation. Potentiation is an activity that primes the nervous system to perform at the necessary intensities. Each athlete has their own set of needs to address, but providing some time between a warm and a maximum velocity workout to include extra strides, accelerations, or movements that allow the athlete to be explosive can help them reach closer to their potential during work sets. These activities can be as simple as vertical jumps, skips, bounds, med ball throws or sprints. They can also be as complex as adding weightlifting components to the time between warming up and working out. It's a good practice to start with menu items that are simple and can be completed in most environments before attempting to add complexity.

Weightlifting

Ideally, weight lifting sessions will occur after running sessions. If this is the case, there really is not much of a need to warm up. Performing a multi-jump set between the track and the weight room will help create the transition from fluid sprinting into the systemic stiffness that is desirable in the weight room. If the lifting session occurs separate from the track session, an additional warm up would be ideal in order to prepare the body for the demands in the weight room.

Acceleration Warm Up - Horizontal			MaxV Warm Up - Vertical			Extensive Warm Up - Metabolic		
Torso Activation Spinal / Hip movement Slow and intentional torso movement	Saggital	10-20 reps total	Torso Activation Spinal / Hip movement Slow and intentional torso movement	Saggital	10-20 reps total	Torso Activation Spinal / Hip movement Slow and intentional torso movement	Saggital	10-20 reps total
	Transverse	10-20 reps total		Transverse	10-20 reps total		Transverse	10-20 reps total
	Frontal	10-20 reps total		Frontal	10-20 reps total		Frontal	10-20 reps total
	Saggital	10-20 reps total		Saggital	10-20 reps total		Saggital	10-20 reps total
	Transverse	10-20 reps total		Transverse	10-20 reps total		Transverse	10-20 reps total
	Frontal	10-20 reps total		Frontal	10-20 reps total		Frontal	10-20 reps total
Dynamic Mobility Movement based warm up Move from low to high intensity	Forward	20-30m	Dynamic Mobility Movement based warm up Move from low to high intensity	Forward	10-20m	Dynamic Mobility Movement based warm up Move from low to high intensity	Forward	20-30m
	Sideways	30m		Sideways	20m		Sideways	40m
	Backward	20-30m		Backward	10-20m		Backward	30-40m
	Forward	30m		Forward	20m		Forward	40m
	Sideways	20-30m		Sideways	10-20m		Sideways	30-40m
	Backward	30m		Backward	20m		Backward	40m
Potentiation/Preparation Highest intensity warm up not quite workout intensity yet	Multi Throws	2-3*5-8 reps	Potentiation/Preparation Highest intensity warm up not quite workout intensity yet	Multi Throws	2-3*5-8 reps	Potentiation/Preparation Highest intensity warm up not quite workout intensity yet	Multi Throws	3-5*8-10 reps
	Bounds/Skips	20-30m		Bounds/Skips	10-20m		Bounds/Skips	30-40m
		30m			20m			40m
Exercise Library								
Torso Activation Choose from the lists provided to plug into the above template	Frontal	Saggital	Transverse	<-- Choose from the exercises listed here for your warm up--> Use the template below to plan your warmups. Then it's easy to send to your team!	Multi Throws	MaxV	Acceleration	
	Leg Swings R/L	Cat/Cow Leg Swings F/B RDL	Iron Cross			Underhand Up	Underhand Forward	
	Cossack Squat	Inchworms Bird	Scorpion			Underhand BackKick	Wheeling Chest Throw	
	Fire Hydrants	Dogs Donkey	Thread the needle			Overhead DownKick	Wheeling Overhead Throw	
	Jumping Jacks	Kicks Squats	Upright/Bent Torso Rotations				Standing Chest Throw to Sprint	
	Lateral Lunge	Push ups	Lunge w/ Twist					
Side Plank	Plank with Donkey Kick	Windshield Wipers						
Dynamic Mobility Choose from the lists provided to plug into the template below	Sideways	Forward	Backward		Bounds/Jumps	MaxV	Acceleration	
	Lateral Shuffle	Skips for Height	Backward Run			Vertical Jump	Alternating Leg Bounds for Distance	
	Side Shuffle Lunge	Skips for Distance	Back Over the Gate			Depth Jump	Broad Jump	
	Side Low Shuffle	A Skip	Backward Skip			Pogo Jumps	Triple Broad Jump	
	Quick Leg R/L	B Skip	Backward Lunge and Rotate					
	Carioca	Straight Leg Runs	Backward Reaching Walk					

The purpose of the warm up:

Remember the goal of the warm up is to increase body temperature, improve the ability of tissues to slide, and to act as a daily movement screen for both the coach and the athlete. The coach needs to be watching for aberrant movement patterns and the athlete should be tuning into their body and making sure they feel primed for the upcoming workout. The warm up is also a safe environment to increase some training volume, ground contacts, and to improve coordination in specific patterns and movements.

	Accel Day Day 1	Extensive Tempo Day 2 -	Gen Strength Day 3	MaxV Day 4 Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps	Intensive Tempo Day 5	General Strength Day 6	Rest Day Day 7
Week 1	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 3*10,20,30m [3 min b/t reps; 8 min b/t sets] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep Timed Runs 3-4*25sec [3-5 min recovery] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	2-3*40m @ 100% [8+ min rest] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 3-4*120m [10 min rest] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Off
Week 2	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 3*10, 10, 20, 30m [3 min b/t reps; 8 min b/t sets] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep Timed Runs 3-4*25sec [3-5 min recovery] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 2-3*40m @ 100% [8+ min rest] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 3-4*120m [10 min rest] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Off
Week 3	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 3*10, 20, 20, 30m [3 min b/t reps; 8 min b/t sets] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 3-4*25sec [3-5 min recovery] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 3-4*40m @ 100% [8+ min rest] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 1*150m [15 min rest] 2*120m [10 min rest] 1*110m Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Off
Week 4 Recovery Week	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 6*30m Drop in Accels [3-5 min b/t reps] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 2*20 sec [1:30 recovery] 2*15 sec [1:30 recovery] Active Cool Down/Recovery	Warm Up 3 Recovery Circuit	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 2*60m @ 100% [8+ min rest] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep Time Trial: 2*150m [15+ min rest] Active Cool Down/Recovery	Warm Up 3 Recovery Circuit	Off
Week 5	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 3*10, 20, 30, 30m [3 min b/t reps; 8 min b/t sets] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 4-5*25sec [3-5 min recovery] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 2-3*50m @ 100% [8+ min rest] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 2*150m [15 min] 2*120m [12 min] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Off
Week 6	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 4*10, 20, 30m [3 min b/t reps; 8 min b/t sets] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 4-5*25 sec [3-5 min recovery] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3 10-15 reps each	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 2*50m [8+ min] 1*60m Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 2*150m [15 min] 2*120m [12 min] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Off
Week 7	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 4*10, 20, 30m [3 min b/t reps; 8 min b/t sets] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 4-5*25 sec [3-5 min recovery] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 2-3*60m @ 100% [8+ min rest] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 2*150, 120, 110 [15 min/12 min/15 min] Active Cool Down/Recovery	Warm Up 3 General Strength Circuit*2-3	Off
Week 8 Recovery Week	Warm Up 1 - Acceleration Prep Multi Throws - Pick 1 accel throw*15-30 reps 6*30m Drop in Accels [3-5 min b/t reps] Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep 3*30 sec [4 min recovery] Active Cool Down/Recovery	Warm Up 3 Recovery Circuit	Warm Up 2 - MaxV Prep Multi Throws - Pick 1 MaxV*15-30 reps 1*60m [8+ min] 1*70m Multi Jumps 1*10 yards each	Warm Up 3 - Tempo Prep Time Trial: 2*150m [15 min] Active Cool Down/Recovery	Warm Up 3 Recovery Circuit	Off

Multi Throws

Acceleration Focus

Underhand Forward

Kneeling Chest Throw

Kneeling Overhead Throw

Standing Chest Throw to Sprint

MaxV Focus

Underhand Up

Underhand Back

Overhead Down

Multi Jumps

Double Leg Foward

Double Leg Back

Single Leg Forward

Single Leg Back

Single Leg Medial

Single Leg Lateral

Left/Right/Left/Right

Left/Left/Right/Right

Maximum Intensity
Medium Intensity
High Intent/Medium Intensity
Active Recovery
Complete Rest

Strength/Recovery Circuits

Strength circuits are intended to be non-specific training that helps promote movement literacy, joint and tissue health, and addresses movement patterns that are not often seen in sprinting and jumping but can help mitigate aberrant patterns that may arise under suboptimal conditions. The ability of an athlete to achieve full range of motion may not be the deciding factor in a sprint race, but it is a great indication of the athlete's overall health and ability to perform long-term.

We have included in our strength training document an alternative to a general strength day on the track with a general strength day in the weight room.

General Strength Circuit 1

Push Ups 10-20 reps

Squats 10-20 reps

V Ups 10-20 reps

Back Hypers 10-20 reps

Push Up with Clap 10-20 reps

Cossack Squat 10-20 each

Squat Jumps 5-15 reps

General Strength Circuit 2

Stationary Lunges (L-R) 10-20 total

Lunge Jumps (L-R) 6-12 total

Incline Push Ups 10-20 reps

Lateral Squats 10-20 each

Decline Push Ups 10-20 reps

Supine Heel Slides 5-10 reps

4-Way Dead Bugs 10-20 reps

Quad Nordics 5-8 reps

Glute Bridges 10-20 reps

Recovery Circuit

Hurdle walkovers 2 feet between

Hurdle walkovers 1 step between

Hurdle walkovers lateral (L-R)

Over Unders Hip Airplane 3 each side

Foot Clock 3 each side

L-Overs 5 each side

Inchworms 5-10 reps

Dynamic Blackburn 10 reps

Bear Crawls 10-30 yds