

DEVELOPING THE APPROACH RUN

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Developing a consistent and fast Approach Run in the pole vault is the most important factor in reaching record heights. Truly 90% of your best vaults will come because of a correct and fast run. By correct I mean; **the proper start position, proper pole carry, proper pole drop, proper posture and above all it must be accurate and consistent.** Each phase of the vault, from the first “toeing” of the mark to flying over the bar, is a progressive action each relying on the one that precedes it. The run must be correct before it can be fast. It must be correct and fast before you can arrive at the plant in position to transfer the maximum amount of energy onto the pole. In short, the run must be **“ON”** for you to vault correctly and high.

The establishing and use of effective check marks are a must in developing a good Approach Run. The establishing and use of effective check marks is discussed on page 5.6-4 of this booklet. These runs, with proper check marks, including the “6 Stride Mark” must be repeated 100’s of times through the consistent integration of these check marks into the daily practice routine, both on the track and on the runway. These runs must have the correct; start position, proper pole carry, correct running posture, correct foot placement underneath the Center of Mass (COM) and must push the speed and acceleration limits of the vaulter. Speed and consistency is only achieved by “Correct” practice.

The Coach must train the athlete through a series of “pole runs” on the Track if the athlete is to reach maximum potential on the runway.

“Toeing the Mark”

A good Approach Run should be accelerated from the first step and should be progressively longer in step/stride length to the “6 Stride Mark”. In simple terms there should be no “holding back” at the start of the run so the vaulter will have “something left” into the plant/takeoff. Holding back or trying to “control” the acceleration will give the vaulter less speed at the “6 Stride Mark”, less speed at the plant/takeoff and in general creates inconsistency, longer strides, “UNDER” at the “6 step Mark”, poor posture, poor pole carry/drop technique and makes it very difficult to accelerate the last 4/6 steps into the takeoff.

Phewwww..... that was a mouth full... but is just the way it is.

Contrary to this, starting the Approach Run by swinging the pole, bouncing, skipping or in an all out sprint will create poor pole carry balance, poor running posture, shorter steps/strides, an “Out” “6 Stride Mark, stretched steps into the takeoff, inconsistencies and a “flat” low takeoff.

Adequate or maximum, usable speed must be created so that consistency is developed from one run to the next, meet to meet and jump to jump. Speed, posture, pole carry technique, **accuracy** and **consistency** are a must to pole vault properly and safely.

The “6 Step Mark”

After the vaulter passes the “6 Stride Mark” the vaulter should continue to the takeoff with and “even” step/stride length and with an increased **Step Frequency**. This action during the last half of the Approach Run (last 6 steps) is considered the **“Setup Phase”**. This phase is

common in all the jumping events. The increased step/stride frequency and pole drop over the last 4/6 steps should culminate with a “penultimate step” and an early, high, aggressive **Plant**.

“The Methods”

I feel, as most coaches and athletes do, that correct Pole Vault technique is learned through a progressive series of drills and exercises that eventually results in short run approaches of 3,4,5 lefts, but developing a complete vault includes creating a longer, faster Approach Run to maximize potential.

Many coaches use the “run back” method to establish the Approach Run. That method can work to a degree but many times the athlete will intuitively over stride to make the Approach Run longer or make an effort to reach a prior mark that was used that may or may not have been correct. Using the “6 Stride Mark” helps eliminate that variable. Using the “6 Stride Mark” with any Approach Run of any length, should be practiced on the track to develop rhythm and consistency. This is where the coach can start monitoring the “6 Stride Mark” to keep the vaulter consistent, with the correct pole carry, run posture and acceleration over the last 4/6 steps.

The pole vault is generally taught with a variety of methods that the coach is comfortable and confident with, and that works for them. Such as vaulting down from the front of the pit or from steps, a box, bench, platform, at “O” steps, or vaulting in the sand pit. While learning the correct technique the coach and athlete will determine a workable hand grip that allows the vaulter penetration into the pit. This grip is determined by the approach speed and level of skill the athlete is using. We use this grip and vault “trial and error” style, 2 steps (standing with the left toe at the start, the vaulter steps ... right.. left), 4 steps (right..left..right..left), gradually developing proper technique and possible a higher grip, eventually reaching 6 steps (right..left..right..left..right..left) (3 lefts).

I prefer teaching the Approach Run of 3 to 6 lefts on the track or while practicing in the sand pit the first day a beginner learns to vault. The vaulter needs to be introduced to the rhythm and pole carry from the first day and the Approach can be used as a sprint – speed - pole carry, pole drop session on the track, as the “Whole” Run in my **“Whole-Part-Whole”** method of teaching.

“6 Stride” Introduction

Regardless of the varied teaching methods, when a vaulter reaches 6 steps (3 lefts) on the runway is the opportune time to benefit from the “6 Stride Mark” chart and process. For example if a vaulter can comfortably grip 8’ to 8’10” I will start the 6 step (3 left) approach from a standing start of 30 to 31 feet. Based on my experience and the “speed to grip ratio” that has been calculated previously from my “6 stride Chart”, I know that mark will be the proper distance that allows the athlete the best “rhythm” to work on the correct posture, correct pole drop, step frequency (“get the feet down”) and still have plenty of speed/energy to get the pole to vertical with that grip. If I move the vaulter too far out on the steps they will begin to “stretch” and have an incorrect pole carry, poor plant drop, a low, sinking takeoff and a lack of acceleration into the plant.

What is too far “OUT”? We have to keep in mind that from a 6 step Approach, one foot (12”) “OUT” equals 2 inches per step/stride into the takeoff. Two inches per step can easily put the foot strike in front of the COM and not underneath the body. Stretching the steps is more counter productive than “chopping”. Stretching on the Approach invariably creates a poor pole carry, a poor pole drop, a slowing in the run, a late low plant and poor technique in general. **If**

you keep the foot placement under the hips/body, you can produce more speed, better posture, less foot contact time, better rhythm, an earlier plant, and a better takeoff position.

As you train and learn to vault the improvements in plant technique and increased speed are contingent on a correct run which is based on **the correct distance 6 steps (3 lefts) from the takeoff.** This is where I have continued to use the “6 Stride Chart” to avoid over striding, create the proper rhythm, a more powerful, fast Approach Run and an early strong Plant.

“Longer Run”

Once you are comfortable with a 6 step (3 left) Approach there will come a time you will need and want to move to 8 steps (4 left), 10 steps (5 left), 12 steps (6 left) etc. The 6 step (3 left) mark is an ideal check point for this transition. It is accurate based on grip to speed ratio’s and encourages the vaulter to run properly, “getting the feet down”, it helps eliminate stretching and helps the vaulter with the proper “setup” to plant the pole properly. I have also found because the vaulter can “accelerate the last few steps they can take a proper “penultimate” and can takeoff “OUT” and with the correct technique.

Here is the procedure to “move the run back” from the 6 step (3 left) Approach.

Hypothetically say you are starting at 37 feet (37’) for your 6 step (3 left) Approach and you want to move your run to an 8 step (4 left) approach. Keeping the grip the same (somewhere around 11’) toe the 37 foot mark and face **away** from the box. Run back 1 left, 2 steps. This will give you the start of your 8 step (4 left) approach. When you turn and face the pit your first left will hit the “6 Stride Mark”. By doing this you are keeping the same grip and the same step pattern length from the “6 Stride Mark” to the takeoff. This gives the athlete the ability to increase the stride frequency and speed without stretching. When the rhythm and posture are better, the run becomes smoother and more effortless. The vaulter can still create the right amount of force to move the pole to vertical, but in a more positive way.

Off course as the run becomes smoother and faster the grip will go up and the “6 Stride Mark” will begin to go back/out accordingly.

From The “6 Stride Mark” to Max”

The same process is used to move to longer runs of 5, 6, 7, 8, 9 or 10 lefts. Simply take the “6 Stride Mark” (3 lefts) from the takeoff that the vaulter is using from the short Approach Run, **run back from the “6 Stride Mark”** the appropriate number of “lefts”, 2 lefts (4 steps) back from the “6 Stride Mark” is 10 steps or 5 lefts, 3 lefts (6 steps) back from the “6 Stride Mark” is 12 steps or 6 lefts, $(4 + 3 = 7)$ $(5 + 3 = 8)$ $(5 + 3 = 9)$ $(7 + 3 = 10)$. Always keep the grip where it was on the shorter run prior to moving back to the longer run and make sure the athlete hits the “6 Stride Mark” check point (within several inches of course). Encourage “getting the feet down”, the correct posture, rhythm, plant technique and an early Plant.

Note: On any new run I like to go to the track and do pole runs, using the “6 Stride Mark” and each step marked with chalk or with a cone from that mark to the takeoff. The practice pole runs gives the coach and athlete the opportunity to “smooth up” any variables and to gain confidence in the accuracy.

“Review”

So, one more time..... I have an athlete that hits a 40 foot “6 Stride Mark” from a 5 left, 10 step Approach... and grips the top of a 12’ pole. I want to move that athletes run to a 6 left, 12 step Approach to create more speed so we can start to move the grip up. Simple, I have the athlete keep the same grip, the same pole and the same “6 Stride Mark” of 40 feet. I have the athlete run 3 lefts back from that check point (40 feet) and that gives me the start of the 6 left 12 step approach. Take the athlete to the track and test it.. then move to the runway. The majority of the time they will run correctly, “get the feet down” and go up the first time. Bingo.. better run, better pasture, better pole drop, better take off.. higher grip... little longer run... “6 Stride Mark” a little further out and ready to jump higher.

Keep moving to a longer run with this same procedure. Do 100’s of pole runs on the track and keep jumping higher, with seemingly less effort and with many more enjoyable vault sessions.

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PS to “6 Stride Mark”

Note: The speed and “6 Stride Mark” on the track is generally faster and further “OUT” on the track than it is initially on the runway, Why? Generally because of the need for more control on the runway. Whereas planting into a towel on the track allows the vaulter to “SPEED” which creates longer strides.

Take this into account when moving the run from the track to the runway. This adjustment may mean you need a closer “6 Stride Mark” initially on the runway (usually by a foot). This adjustment helps the vaulter keep from “stretching” the steps and will help you avoid starting your transition with poor sprint posture, incorrect pole carry, drop and plant technique. The vaulters “mind set” should be “get the feet down” and “plant early”.

For example if the “6 Stride Mark” on the track at maximum speed and correct running posture is 50’ and you run 1.42 seconds or faster, the runway “6 Stride Mark” is generally one foot closer at 49’ with a time of 1.43 seconds and the grip to match. In other words the pole runs on the track have become “over” speed training and should be practiced at varying “6 Stride Marks” distances, some closer than average for “quick” turnover and some at longer than average to challenge the vaulter to develop a faster Approach Run. As the season and training progresses you should expect to become faster and more technically sound with the Approach Run, pole drop, Plant, resulting in a “6 Stride Mark” that is further “OUT” and with a grip and jump to match. The fastest speeds on the runway will come from longer more accurate runs of 12, 14, 16, 18 and 20 steps/strides. Beginning vaulters should use a minimum of 12 steps/strides (6 lefts) on their Approach Run.

PSS

A little side bar... the “MID” in actuality is not/has not been a true “Middle” step, it is a “6 Stride Mark”, a coaches check mark 6 steps (3 lefts, takeoff foot to takeoff foot) from the takeoff. This mark was established to help keep the Approach Run consistent and correct from **6 steps out**, with the belief and documented proof (collected data) that indicates if the run is “ON” at 6 steps from the plant the vaulter will not “stretch” or “chop” and there is a 90% + probability that there can be a successful vault.

I remember when the check mark was called a “50 foot mark”, because the 17/18 foot vaulters of the time were hitting near 50 feet, 6 steps out from the plant. I personally chose 6 steps out as an athlete and coach because that is where the best “check” could be made for the Long Jump Approach, with documented evidence that showed if a Long Jumper was “ON” at 6 steps from the board they would NOT “steer”, “hitch”, “reach”, slow or stretch but would aggressively attack the board, making for potentially longer jumps. I want the same thought process for the pole vault.

Somewhere along the way a vaulter asked someone to check their “MID” instead of a 50 foot mark because the mark had migrated back enough that that “50 foot mark” didn’t make sense. So my chart has gone from being called a “50 foot chart”, to a “MID”, to a “coaches mark”, to a “6 Stride Chart” and back to a “MID”. My chart has been a “6 Stride Mark” all along, 6 steps from the takeoff. The 4 step mark was introduced in the long jump and when the women started pole vaulting some coaches adapted it, but the 4 can’t be used in the same way as the “6 Stride Mark” even for shorter runs.

The “6 Stride Mark” is a “coaches” tool, a very good and accurate one. Use it to help create a fast consistent Approach Run, one of the keys to championship vaulting.

THE APPROACH RUN.THE KEY TO SUCCESS

6 STRIDE MARK and CORRESPONDING GRIP

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BAR HEIGHT	HAND GRIP	TAKE-OFF MARK	6 STRIDE MARK	TIME	MPS	STRIDE LENGTH	PENULT STRIDE	TAKE-OFF STRIDE
6-6	8-10	5-8	30-0			4'0"		
7'0	9-2	6'0"	31-0			4'1"		
7'6	9'6"	6' 4"	32-0			4'3"		
8' 0"	9'10"	6' 8"	33'-0	----	----	4'-5"	4'-8"	4'-2"
8- 6	10-2	7-0	34-0	----	----	4-6	4-9	4-3
9-0	10-6	7-4	35-0	----	----	4-7	4-10	4-4
9-6	10-10	7-8	36-0	----	----	4-9	5-0	4-6
10-0	11-1	8-0	37-0	----	----	4-10	5-1	4-7
10-6	11-5	8-4	38-0	----	----	4-11	5-2	4-8
11-0	11-8	8-8	39-0	----	----	5-1	5-4	4-10
11-6	12-0	9-0	40-0	----	----	5-2	5-5	4-11
12-0	12-3	9-4	41-0	----	----	5-3	5-6	5-0
12-6	12-7	9-8	42-0	----	----	5-4	5-7	5-1
13-0	12-10	10-0	43-0	1.49	6.7	5-6	5-9	5-3
13-6	13-2	10-4	44-0	1.48	6.9	5-7	5-10	5-4
14-0	13-5	10-8	45-0	1.47	7.1	5-9	6-1	5-5
14-6	13-9	11-0	46-0	1.46	7.3	5-10	6-2	5-6
15-0	14-0	11-4	47-0	1.45	7.5	5-11	6-3	5-7
15-6	14-4	11-8	48-0	1.44	7.7	6-1	6-4	5-8
16-0	14-7	12-0	49-0	1.43	7.9	6-2	6-6	5-10
16--6	14-11	12-4	50-0	1.42	8.1	6-3	6-7	5-11
17-0	15-2	12-8	51-0	1.41	8.3	6-5	6-9	6-1
17-6	15-6	13-0	52-0	1.40	8.5	6-6	6-10	6-2
18-0	15-9	13-4	53-0	1.39	8.7	6-7	6-11	6-3
18-6	16-1	13-8	54-0	1.38	8.9	6-9	7-1	6-5
19-0	16-4	14-0	55-0	1.37	9.1	6-10	7-2	6-6
19-6	16-8	14-4	56-0	1.36	9.3	6-11	7-3	6-7
20-0	16-11	14-8	57-0	1.35	9.5	7-1	7-5	6-9
20-6	17-1	15-0	58-0	1.34	9.7	7-3	7-7	6-11
21-0	17-4	15-4	59-0	1.33	9.9	7-4	7-8	7-0



How to “get” a grip.

Most of us can argue that a correct pole plant/take-off makes a vault safe and a vaulter more successful. The force or meters per second a vaulter creates on the **Approach Run** dictates the proper hand grip. Because the force has a corresponding stride length and stride frequency we can derive the proper “mid” point for that force enabling us to determine the proper grip for that force. The above chart has the appropriate grip for the

MPS/horizontal force that is generated on each vault from 8’ to 21’. Use this to keep you vaulters consistent on the runway.

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0 to 40yd data
 Acceleration Step Pattern
 For World Class 40 Yards.. 4.25 sec

	0-----0-----	10.00sec-----	10.50sec-----	11.00sec-----	11.50sec-----	12.00sec---
		100%	95%	89.47%	85%	80%
...STEP		4.25	4.50	4.75	5.00	5.25
0-----						
1.	3'9 3/4"	3' 9 3/4"	3'7"	3'5"	3'2 3/4"	3'0"
2.	4'2 1/2"	8' 0"	7'7 1/2"	7'2 1/2"	6'9 3/4"	6'4 3/4"
3.	4'9 1/2"	12' 9 1/2"	12'1 1/2"	11'6"	10'10 1/2"	10'2 1/2"
5-Left Approach Run →	4.	5'2 1/2"	18' 0"	17'1"	16'2 1/2"	15'3 3/4"
	5.	5'7"	23' 7"	22'5"	21'2 3/4"	20' 1/2"
6-Left Approach Run →	6.	5'11"	29' 6"	28' 1/4"	26'6 1/2"	25' 3/4"
	7.	6'2 1/2"	35' 8 1/2"	33'11"	32'1 1/2"	30'4"
7-Left Approach Run →	8.	6'5 1/2"	42' 2"	40'1"	37'11"	35'10"
	9.	6'8"	48' 10"	46'4 1/2"	43'11 1/4"	41'6"
8-Left Approach Run →	10.	6'10"	55' 8"	52'10 1/2"	50'1"	47'4"
	11.	6'11 1/2"	62' 7 1/2"	59'6"	56'4 1/2"	53'2 3/4"
	12.	7'0 1/2"	69' 8"	65'10"	62'8 1/2"	59'2 3/4"
	13.	7'1 1/4"	76' 9 1/4"	72'11 1/4"	69' 1"	65'3"
	14.	7'2"	83'11 1/4"	79'8 3/4"	75'6 1/2"	71'4"
	15.	7'2 3/4"	91'2"	86'7 1/4"	82' 3/4"	77'6"
	16.	7'3 1/2"	98'5 1/2"	93'6 1/2"	88'7 1/2"	83'8 1/4"
	17.	7'4"	105'9 1/2"	100'5 3/4"	95'2 1/4"	89'10 3/4"
	18.	7'4 1/2"	113'2"	107'6"	103'3 3/4"	96'2 1/4"
	19.	7'5" 40yds	120'7"	114'6 1/2"	108'6 1/4"	102'5 3/4"
	20.	7'5 1/2"	128'0 1/2"	121'7 1/2"	115'2 1/2"	108'9 3/4"
	21.	7'6"	135'6"	128'8 3/4"	121'11 3/4"	115'2"
	22.	7'6"	143'1"	135'11"	128'9 1/4"	121'7 1/2"

Red represents left foot contacts

Pole Vault

The highlighted lines represent the Approach Run steps from the start to the "6 Stride Mark". Line 6 is six steps or 3-Lefts to the "6 Stride Mark" (This would represent a 6-Left approach run), line 8 is eight steps or 4-Lefts to the "6 Stride Mark" (This would represent a 7-Left approach run), etc...

For example if you are using a 6 left, 12 steps approach of 65 feet and a mid of 40 feet, that means your first 6 steps are 25 feet which matches the chart under 85% or 5.0... that would be your step lengths and rhythm to the "6 Stride Mark".

The above steps are the actual progressive lengths used in sprint acceleration by all athletes, including from the starting blocks, for hurdles, beginning the horizontal jumps, baseball/softball and the football 40yd dash. They should be measured from the athlete's front foot at the start.