



STARTERS

by
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**Monograph Series on Track and Field Officiating Technique
from the
Training Subcommittee
USATF National Track and Field Officials Committee**

This monograph on Starters is part of an instructional series of monographs on the mechanics and techniques of track and field officiating from the Training Subcommittee (George Kleeman, Chair) of the USATF National Track and Field Officials Committee. It was written by Eric D. Zemper, Ph.D., drawing on the previous writings and expertise of Dr. Kelly Rankin, Dr. Charles Dailey, Fred Adler, Tom McTaggart, Joseph Caruso, Bill Buttermore, and Tom Todd with additional helpful comments from Raymond Pierre, Alan Bell, Dennis Beerling, Lloyd McMillan, John Deardorff, Ian Gordon and Neil Chin Aleong. Much of the material contained herein has been utilized in training clinics for starters developed and presented for several years by Drs. Dailey, Rankin and Zemper. That clinic, in turn, was based largely on a book written by Drs. Dailey and Rankin, *Track Starter's Guide*, published in 1990 by the American Alliance for Health, Physical Education, Recreation and Dance, 1900 Association Drive, Reston, VA 22091. (Elements of that book are used as the basis for parts of this monograph with the authors' permission.) My thanks to all of the above named individuals for their help, direct or indirect, in writing this monograph.

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(NOTE: Throughout this document, where either masculine or feminine gender is used in referring to officials or to athletes, both masculine and feminine gender is implied.)

Revised: January 2002
Revised: January 2003
Revised: January 2004
Revised: January 2005
Revised: January 2006
Revised: January 2007
Revised: January 2008
Revised: January 2009
Revised: January 2010
Revised: January 2011
Revised: January 2012
Revised: January 2013
Revised: January 2014
Revised: January 2015
Revised: January 2016
Revised: January 2017
Revised: January 2018
Revised: January 2019

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Starters Monograph

Introduction

Every year in this country there are millions of track athletes participating in tens of thousands of track meets started by thousands of different starters. Every starter brings a unique background and set of experiences to this task. Despite working under a specific set of rules governing the starting of races, there often can be wide variability in the way races are started from one starter to another and from one region of the country to another, or even within a small geographic area. While variety may be the spice of life, too much variety in the way starters handle a start can be very distracting for the athlete on the starting line. The start of any race should be a time when athletes can focus on their performance and not have to worry about just how this particular starter operates. At the start of a race, all actions and activities of a good starter will be conducive to a calm atmosphere that allows the athletes to focus their full attention on their start and on their race.

This monograph is intended to present some suggestions for providing a consistent approach to handling duties at the starting line for all starters, whether they have years of experience or are just beginning as a starter. In some cases, alternatives for specific techniques and mechanics of starting are presented, with the idea that a starter will feel free to try these different techniques to see what feels most comfortable. But the overall goal is to give everyone who reads this monograph a common background and approach to the duties of a starter in the hope that it will reduce much of the confusion and distraction athletes may feel when they work with a new starter for the first time.

As a companion piece to this monograph, it is recommended that a copy of *The Starters Case Book*, compiled by Raymond Pierre, be obtained from the USATF officials training website (<http://www.usatf.org/groups/officials/files/resources/track-events/starters-casebook.pdf>) and read for further background on handling difficult situations faced by starters. In this Case Book, a panel of nine international-level starters from the USA, Canada and Great Britain in 2007 gave their responses to a variety of difficult circumstances a starter might face. (But be aware when reading this Case Book that it was written before the IAAF and USATF adopted the “no false start” rule, so a few of the responses may be obsolete. However, it remains a rich source of information about handling difficult situations at the starting line.)

Characteristics of a Good Starter

The primary goal of any competent starter must be to ensure all runners receive a fair and equitable start for each race. This is now stated as the primary duty of the start team in USATF Rule 129.2. The Golden Rule for starters (and for all track and field officials) should be: *No athlete is allowed to gain an unfair advantage, and no athlete should have to suffer an unfair disadvantage.* The atmosphere at the start of a race can be one of ease and calm or one of confusion, based on the approach and the actions of the starter at the starting line. A competent starter is able to take command and remain calm throughout the starting process. This begins with the ability to give clear, precise instructions and the ability to give the starting commands in a strong but calm voice. This in turn will help relax the competitors and make them feel confident in the starter. If the athletes feel confident that the starter will provide a clean, fair start for everyone, without any quirks or distractions, that is one less thing they have to worry about, which allows them to focus more attention on their race. A good self-evaluation check for the starter (and any other official) is that if you leave the meet unnoticed, your job

has been well-done. The attention should always be on the athletes. Officials are there only for the purpose of ensuring the meet is conducted according to the rules, not to “grandstand” or draw attention away from the competitors.

Other characteristics of a good starter that often are mentioned include being physically fit, mentally alert, having good eyesight and reactions, the ability to concentrate and maintain complete focus, an enjoyment of working with youth, and a love of the sport. Common sense and tact also are required. Because the starter is in complete control of the start of a race, and (with certain exceptions to be discussed later) the starter’s decisions cannot be appealed, he must have a complete and thorough knowledge of the rules regarding the starting of races, and an understanding of competition requirements and the needs of the athlete. Since things can happen so quickly at the starting line, the starter must be decisive, but not brusque. A good starter must have a great deal of patience, and must be able to project an air of calmness at the starting line. It is not enough to be calm yourself; you must be able to project that sense of calmness to the athletes. On occasion a good sense of humor also is necessary.

A competent starter should be relaxed and never try to overwhelm the athletes with his or her presence. A competent starter also practices preventive officiating. If a starter sees a situation developing that could result in a problem, he should do something to correct the situation immediately, before it does become a problem. As should be the case with any other official, the competent starter always gives the athlete the benefit of the doubt. And no matter what the level of competition, whether a junior high meet, the Special Olympics, or a national championship, the starter should be able to project the feeling that these athletes are important and that this is the most important race ever started. Sam Bell, former track and field coach at Indiana University, described a good starter as “one who is friendly, and creates confidence and relaxation in the athletes. He must have complete knowledge of the rules and maintain control, yet never lose compassion for the athletes.”

Pre-Meet Activities

Leaving aside prior details like confirming the date and time of the meet with the meet director or coach, the first thing a starter should do on the day of a meet is to check the equipment bag. Make sure all the equipment needed for that day and the anticipated weather conditions is available (see the section at the end of this monograph on “Starter's Equipment - What's in the bag?”). It is a good idea to arrive at the track at least an hour before the start of the first event, to allow time for an unhurried review of the track facility (especially if you have not worked at this particular track before). This includes checking for the correct location of all starting lines and the finish line, location of cables (if fully automatic timing [FAT] with a hardwired cable to the timing system is being used) and any other electronic equipment such as a sound system. This also would be a good time to preview and plan where the best positions will be to stand (or to place the starter’s stand) for the best view of each start (see the later section on Position of Starter and Recall Starters). If the track does not have a 3 meter “walk up line” for the starting lines of the distance races, it is a good idea to carry a piece of white or yellow sidewalk chalk with you in a plastic baggie to make your own 3 meter marks on the track. At this time it also is advisable to check with the meet director or referee to see if there are any last minute changes in the event schedule, or any special circumstances the starter needs to be aware of. Also, meet with the chief clerk to confirm the process for bringing athletes to the starting line and to review the instructions the athletes will be given by the clerks.

Next, the starter and recall starters should get together for a pre-meet conference. If any members of the crew have not worked together before, this is the time for the starter to briefly review the

positions of each recall starter for each type of race, and the communication signals between starter and recall starters (see later sections on these topics). The chief or head starter should let everyone know who is assigned to start each race. If there is a complete novice on the crew, this individual might need to spend a couple of meets being exclusively a recall starter, observing and getting a “feel” for how everything works. Otherwise, it is a good practice for the starter to assign the responsibility of starting a few races in each meet to each of the recall starters on the crew. This can begin with starting distance races for novice starters, gradually taking on responsibility for starting races using starting blocks once they gain more experience and confidence. The starter should act as a mentor to those on the crew who are new to starting, offering constructive advice and praising good technique and mechanics. It is helpful for the starter to give each member of the crew a 3x5 card with the event schedule printed on it, so each can make notes on assignments and have a handy reference during the meet for the event order and time schedule. If there is someone responsible for moving the starting blocks, that individual also should have a schedule card.

The starter also should meet with the finish line crew. If you have not worked with this set of finish line officials, it is a good idea to review the procedures you will use, and any whistle signals or arm signals you will use, so they know what to expect. (See the later section on communication between the start line and finish line.) When fully automatic timing (FAT) is being used, check with the camera crew to confirm how they will let you know when they are ready for the next race, and how you will alert them that you are ready to start the next race. This also is the time to perform a test of the gun sensor, whether using a cable or a radio link, to ensure the entire system is operating correctly.

Finally, if there is an announcer for the meet, check with this individual to work out the logistics of when to start announcing race participants’ names, so these announcements do not delay the start of the race. Usually this announcement should begin about two minutes before the scheduled start of the race, or right after you have given the order to remove the warm-up gear. And make sure the announcer understands that, once you have called the runners to their marks, an announcement should not begin until after the race has started (unless it is a call for quiet for the start). Communication between the starter crew, the finish line, the clerks and the announcer, and an understanding of the need to avoid delays, are vital to keeping a meet running on time.

Recall Starters

In small meets, particularly at the junior and senior high school level, a starter often may have to work without a recall starter. But if one or more recall starters are available, these individuals normally are responsible for assuming control of the athletes when they are brought to the start area by the clerks, doing last minute checks of bib numbers and uniforms, and ensuring each athlete is on the proper start line and in the proper lane or start position. In races using starting blocks, the recall starter should be prepared to assist athletes having problems setting their blocks. USATF now stipulates that in youth competitions “The setting of a competitor’s starting blocks other than by the competitor or an individual designated by the starter is prohibited.” This most likely will be a recall starter. (This Rule 302.2(e) was added for youth meets to prevent delays caused by parents and coaches cluttering up the starting line while trying to help competitors set their blocks in Youth and Junior Olympic competitions.) When all is ready, the recall starter lets the starter know that the athletes are ready to begin the race, and then assumes the assigned position to observe the start, checking for proper foot placement on the blocks, looking for any toes or fingers over the line, and watching for false starts.

A recommended alternative, particularly for larger meets, is to have a “line clerk” or “start clerk”, one of the clerk crew who is knowledgeable about starting and activities at the starting line, and who stays with the starter crew throughout the meet. This individual gives final instructions to the athletes and does all the other tasks noted above for recall starters, up to but not including observing the start. A good line clerk can contribute a great deal to the efficient, on-time operation of a meet. This official is very similar to the “starter’s assistants” or “marksmen” used in Canada and Europe, except that when the starter begins the starting commands, the starter’s assistants/marksmen also take specific positions to observe the start, also checking toes and fingers. While they do not have starter pistols to recall a race, they can signal the starter to stand the athletes up if they see a problem, and they are additional pairs of eyes the starter can consult if necessary in the case of a false start.

Instructions to Competitors

Most of the instructions regarding the race should have been provided to the athletes by the clerks in the Clerks Circle or by the line clerk, but the starter may want to give some brief instructions before the start of each race to ensure that your procedures and expectations are clear to every runner. These explanations should be given about 2-3 minutes prior to the start, and be kept brief so as not to unduly distract the runners as they prepare for their race. The length of your comments will vary with the experience level of the competitors. With youth age group competitors, junior high school, and even high school competitors early in the season, you will want to be thorough and give instructions up to and including the finals. At the collegiate level somewhat briefer instructions are appropriate for the preliminary rounds, but the runners may need only a brief reminder for the finals. For elite athletes, generally no instructions are necessary from the starter; at most a brief reminder to hold steady and wait for the gun.

An example of a more thorough set of instructions appropriate for sprint races (400 M or less) for youth, junior high school, or early season high school runners is as follows:

“There will be two verbal commands and then the gun to start the race. Please stand behind your blocks and, when I give the command “On your marks”, come forward and get settled into your blocks without any delays. When everyone is settled, I will give the “Set” command. Come up to a full, complete set position without any hesitations or slow roll-ups, and then hold steady and wait for the gun. I will not surprise you with a quick gun; I will hold you until I am satisfied everyone is still and in control. React to the gun; do not try to anticipate it to the point that you disqualify yourself. Are there any questions?”

In cases where there are multiple heats of a straightaway race, rather than giving instructions to each heat separately, it saves a lot of time to gather the runners from all the heats together and give instructions to all of them at once before the first heat.

An example of the starter's instructions for longer races (more than 400 M) is as follows:

“There will be one verbal command and then the gun at the start. We will use the “International” start or walk-up start. Please line up about 3 meters behind the starting line and, on the command “On your marks”, come forward quickly to the starting line, checking to make sure your toes are not on or over the line. When everyone is still and in control, I will fire the gun. If anyone goes down because of contact in the first 100 meters, we will fire a

recall gun and bring you back to start you again. You will receive lap times here on every lap. Are there any questions?"

[NOTE: Recalling because of a fall caused by contact with another athlete in the first 100 meters is allowed under NFSHSA rules, and in the first 50 meters under NCAA rules (this is a change in 2017 from the previous 100 meters); it is not in the USATF or IAAF rule books and should not be done in meets using those rules; see Note in USATF rule 162.16, which indicates that "an 'unfair start' must have taken place within close proximity to the start line and be clearly associated with the start. A distance beyond 10 meters shall not be considered close proximity to the start line."]

In each case you have reminded the runners of what the command cycle will be, and what your expectations are after each of the commands. And you have assured them that you will give everyone the opportunity to be focused and thoroughly prepared for the starting signal.

Because there are differences in the rules at various levels of competition regarding the use of starting blocks, there will be occasions where individual runners in the shorter races will not use starting blocks and may use a standing start. In such cases the starter should identify these athletes and give them additional instructions following the instructions to those using blocks. These competitors should be informed that after the "On your marks" command they should toe the line and stand relaxed until the "Set" command, since it will take some time for those using blocks to get settled into their blocks. Upon the set command they should assume their final starting position and hold steady until the gun is fired. Sometimes a runner in this situation will begin to move or fall forward before the gun, often because they lose their balance as a result of their feet being too close together. The starter or recall starter should call the competitors up, suggest to the runner having the problem that a wider stance might solve the problem, and start the command cycle again.

Be aware of when starting blocks and a crouched starting position are required and when they are optional. Generally, blocks are used in any races of 400 M or less. In the NCAA they may be used in any individual race of less than 800 meters (e.g., 500 M or 600 M) or in any relay lead-off leg of less than 600 M. The three command start must be used in all heats if any athlete decides to use blocks in any 500M or 600M races in NCAA meets. Under high school rules the three command start is used for races less than 800 M outdoors and less than 600 M indoors. In IAAF and USATF meets blocks and a proper crouched starting position with both feet in contact with the block pedals are required in races of 400 M or less. In high school and NCAA meets they are optional. However, beginning in 2019 the NCAA is moving toward requiring the use of blocks, adding rules giving the games committee authority to require block use and requiring starters to use the information provided by a Start Information System (SIS; i.e., false start sensor blocks) if it is available. Also beginning in 2019 the NCAA will be requiring the use of blocks, SIS and electronic starting gun at regional and national championship meets. In Masters competition blocks are optional, while in USATF Junior Olympic competitions they are optional for the four youngest age groups (8 and under, 9-10, 11-12 and 13-14), but required for the two oldest age groups (15-16 and 17-18). In all rule books it now is required that runners use a standing start for all races where starting blocks are not allowed (generally races longer than 400M); i.e., no crouch starts without blocks and no leaning over with fingers or hands touching the ground in front of or behind the start line.

For wheelchair races, the starting instructions are basically the same as for any other athletes, three commands for the sprint races and two commands for the distance races. The modification in instructions for the wheelchair racers is that they must have the axle of the front wheel of their chairs

behind the starting line. For race walks, the starting instructions are basically the same as for the distance races.

Position of Starter and Recall Starters

When the pre-race instructions are completed, the starter crew should move to their positions for the start of the race. The exact positions can vary considerably, depending on whether you are working alone or with one or more recall starters, and on the physical layout of the starting area.

There are two primary factors to keep in mind when deciding where to place the starter and any recall starters:

- The starter should, in most cases, be in a position where the entire field of runners can be seen in as narrow a field of vision as reasonably possible. This is an absolute must if the starter is working alone; in races with long staggered starts (e.g., 4x400, 4x200) it may be impossible to see all eight lanes and there will have to be at least one recall starter to cover part of the field.
- The starter ideally should be positioned so the sound of the gun travels roughly an equal distance to the runners in the inside and outside lanes. This factor normally is secondary to the visual factor, but it does become more critical in races with long staggers.

With regard to the first factor, the starter's field of vision, keep in mind that while we may have a fairly wide field of view with peripheral vision (about 160°), the area where we have good visual detail sufficient for making officiating decisions is limited to about 30° in the center of our field of vision. That 30° can be estimated by placing your hands at arm's length in front of you with fingers spread and thumbs touching. The area between the tips of your little fingers approximately defines your 30° field of central vision where you can see and identify small movements with certainty. This limitation in the field of vision must be taken into account when deciding where to place the starter and recall starters. In addition, it generally is best to have a side or oblique view of the field of runners, to most easily detect any early forward movement indicating a false start; but this may not always be possible.

With regard to the second factor, distance the sound of the gun travels, keep in mind that sound travels an average of 1,125 feet/second (343 meters/second), which potentially can mean a difference of 0.2 seconds between when runners in the inner and outer lanes hear the gun in a race with long staggers, depending on where the starter stands. Differences like this might not be too critical in situations where hand timing is being used, since the average error in hand timing is around 0.2 seconds, but when FAT is being used it can become quite critical when tenths and hundredths of a second decide places or who goes to the next round of competition. So, keeping in mind the starter's primary duty to provide a fair and equitable start for all competitors at the start line, this factor should be taken into account when deciding on placement of the starter and recall starters, particularly when FAT is being used.

Theoretically, the sound of the gun traveling an equal distance to all athletes would seem to be not so critical when a sound system is used with speakers near each runner, either alongside the track or mounted on each individual starting block, as is the case with some electronic blocks, the assumption being that all athletes will hear the sound of the starter's gun at the same time through the speakers. However, there is research reported in the IAAF research journal indicating that such sound systems may not be as useful in this regard as originally thought [see A.L. Julin and J. Dapena "Sprinters at the 1996 Olympic Games in Atlanta did not hear the starter's gun through the loudspeakers on the starting

blocks” *New Studies in Athletics* 18(1):23-27 (2003)]. This research found that athletes still reacted to the sound of the gun through the air, and not through the speakers.

Taking these factors into account, the following are *general suggestions* for placement of the starter and recall starters in different situations. (In the diagrams accompanying the following text, the lines radiating from the starter/recall positions are an approximate indication of the 30° center of field of vision noted previously.)

Sprint races - straightaway. For the short sprint and hurdle races on a straightaway, there are two usual positions for the starter. To provide a good side view of all runners, the starter may stand about 3-4 meters in front of the start line and about 10-20 meters back from the inside edge of the track, preferably on an elevated stand (the position favored by Canadian and many European starters). This allows more of a side view of all competitors to be able to readily detect any forward movement prior to the gun, yet allows enough of an angle to be reasonably able to detect slow roll-ups (Figure 1). Alternatively, the starter may stand about 10-12 meters in front of the starting line, near the edge of the track, or back a few meters from the edge of the track if there is sufficient room (the position most often used in the US). This is far enough away to provide good visual contact with every lane, but close enough that the verbal commands can be heard by all the runners without having to shout, and it provides a more equidistant position with regard to sound of the pistol to lanes 1 and 8 (Figure 2).

Whether the starter stands on the inside or the outside of the track may be personal preference, or it may be dictated by the physical facility (e.g., a fence right next to the edge of the track on one side). If automatic timing with cables rather than a radio link for the gun sensor is being used, the location of the sensor cable may dictate on which side of the track the starter will stand. If possible, it is best to stand on the opposite side of the track from the timers at the finish line, since this makes the starter more easily visible to the timers.

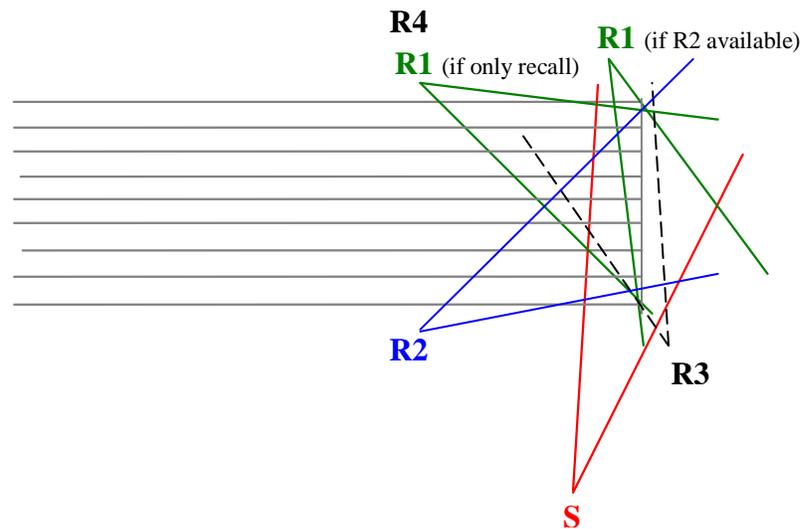


Figure 1. Straightaway races – Option 1

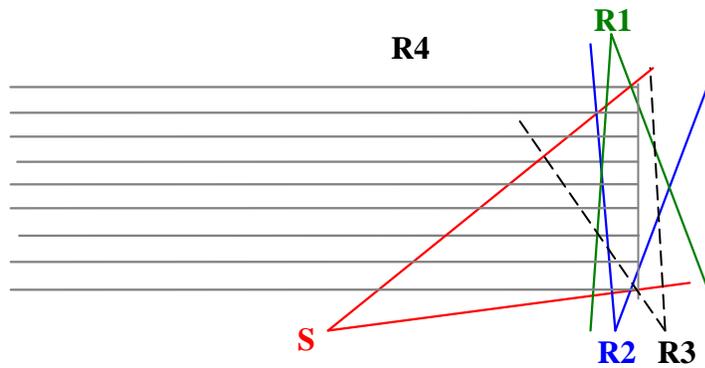


Figure 2. Straightaway races – Option 2

If there are recall starters available, they should take the following positions. If there is one recaller, this person should stand on the opposite side of the track from the starter, about 1-3 meters in front of the starting line and 3-5 meters from the edge of the track (if the physical facilities allow), if the starter is out further from the start line (Figure 2); or near the edge of the track about 8-10 meters in front of the start line if the starter is in the position more in line with the start line (Figure 1). While the recall starter should be responsible for viewing the whole starting field, it is easier to encompass more runners in your field of focus when those runners are further away as opposed to those in the closest lanes. Therefore, the recall starter who must stand next to the edge of the track near the starting line, because of a fence or the physical layout of the facility, should primarily focus on the five runners on the opposite side of the track, and keep track of the closest runners only in peripheral vision. The starter, while still covering the whole field, can focus on the five runners farthest from her side of the track, and the two will overlap on the middle two runners (assuming an eight lane track).

If a second recall starter is available and the starter is positioned closer to the starting line, this person should stand near the edge of the track on the same side as the starter, about 8-10 meters in front of the starting line (Figure 1) and the first recall starter on the opposite side of the track takes a position 1-3 meters in front of the starting line, allowing more of a side view of the runners. If the starter is further out in front of the starting line, both recall starters should stand on opposite sides of the track about 1-3 meters in front of the starting line (Figure 2), and 3-5 meters from the edge of the track (if possible). The two recall starters should “criss-cross” their field of focus, primarily viewing the five runners farthest from themselves, with the starter viewing the whole field and focused primarily on the middle of the track.

If there is a third recall starter, this person should stand 2-3 meters behind the starting line on either the same side or the opposite side from the starter, and be primarily responsible for watching for slipped blocks. This position (R3 in Figure 2) also is an option for the second recall starter (R2) when working with two recallers. If you have the luxury of a fourth recall starter, this person may be positioned either behind the starting line on the side opposite the third recall starter, also watching for slipped blocks, or 10-12 meters out in front of the starting line on the opposite side of the track from the starter. Of course, any recall starters positioned behind the starting line also are in position to note any foot or leg movement indicating a false start.

Sprint races - staggered starts (up to and including 800 M). Ideally, for races using a staggered start and with at least one recall starter available, the starter should be located on a raised platform on the infield approximately equidistant from lane 1 and lane 8, and providing the preferred side view of all competitors (Figure 3). This has been found to be the position that provides the fairest starting

conditions for all competitors with regard to sound travel and reaction times, and with regard to the starter’s view of the athletes (assuming at least one recall starter is available). To ensure a reasonably equidistant position, it should be slightly to the left of the line from the origin of the radius of the curve through the midpoint between the start lines for lanes 4 and 5 for an eight lane track, or through the start line for lane 5 on a nine lane track (as indicated by the black dashed line in Figure 3). The number of meters from the inside edge of the track for the starter’s position will vary from one facility to another, but normally you can expect a reasonably equidistant position to be (from the center of the radius) between one-quarter and one-half of the length of the radius.

The starter’s position also may be dictated by the physical facility. For instance, there may be a fence on the inside of the track blocking easy access to the infield. Or the “ideal” position may be in a throws sector, or in the middle of an active high jump or pole vault area. In such cases, the starter may need to stand near the inside edge of the track beyond the competitor in the outermost lane.

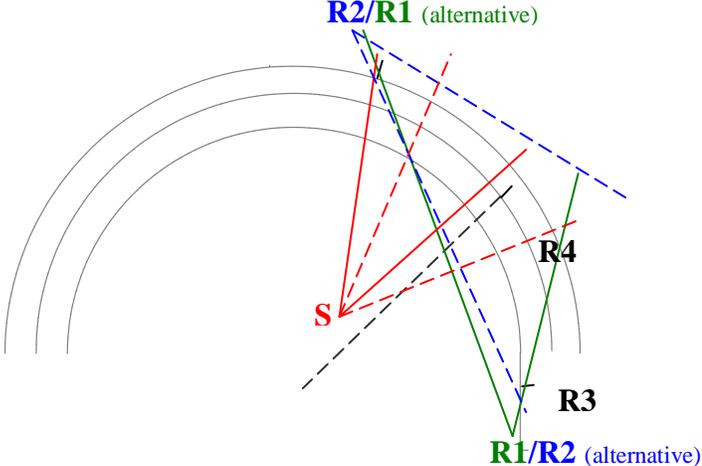


Figure 3. 200M-400M – Starter and Recall positions (Option 1)

If the starter is working alone, standing on the outside of the track beyond the start line for lane 8 is preferred, so there is a good view down the line of runners and they are all in a relatively narrow field of vision (Figure 4). In this case, the need for visual control of all competitors to prevent missing a false start must be the primary consideration, outweighing the need to have an equidistant position for the gun sound. If there is at least one recaller, the starter should be positioned on the infield. Again, this may be impacted by the location of the sensor cable if automatic timing is being used.

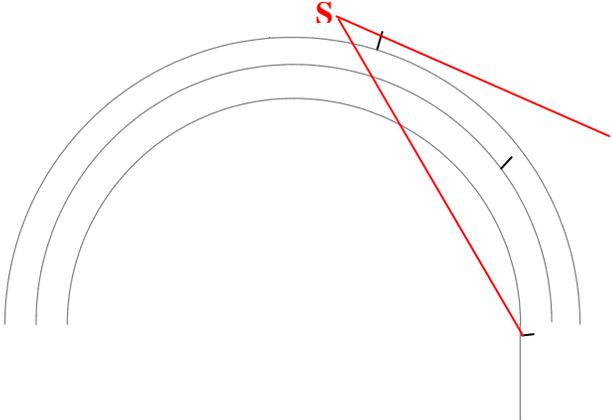


Figure 4. 200M-400M – Starter working alone

If there is a recall starter, this person could be positioned on the inside of the track slightly behind lane one, looking up the front of the line of competitors with a view of all of them, keeping them in a fairly narrow field of vision (Figure 3). Alternatively, the recall starter can be stationed on the outside of the track beyond the competitor in the outermost lane, looking back down the row of competitors, with the starter in an equidistant position on the infield. If there is a second recall starter, that individual can take the position not taken by the first recaller, on the inside or outside of the track looking up or down the line of runners. An alternative position for the second recall starter is on the outside of the track behind the level of lane 1, with a view of all competitors from behind. From this position the recall starter can also watch for slipped blocks.

If there is a third recall starter, this person should stand near the outside of the track at about the level of lane 1, watching for slipped blocks. On those occasions when a fourth recall starter is available, the third recall starter should be positioned on the outside of the track at about the level of the starting lines for lanes 2-3, and the fourth recall starter on the outside at about the level of lanes 5-6, both covering half the field and watching for slipped blocks.

An alternative developed in Canada by 1976 Olympic chief starter Joe Young is illustrated in Figure 5. Here the starter is in the equidistant position in the infield, with a preferred side view of the athletes, and is joined there by two recall starters (one if it is a 200M) who both are in the starter's field of view. The starter views the middle lanes and the recall starters observe the inner and outer lanes, also from the preferred side view. A simple signaling system used by Canadian starters is for the two recall starters (R1 and R2 in Figure 5) to use a rolled up colored sleeve held in the non-gun hand down at the side. The arm and the sleeve are brought up to a horizontal position to signal all is ready for the "Set" command; when all runners in their view are in stable set position, the hand and sleeve are snapped up at the wrist to a vertical position, or the arm is brought up to a 90° position at the elbow. Both recall starters are in the line of sight of the starter, who can readily see the recall starters' signals.

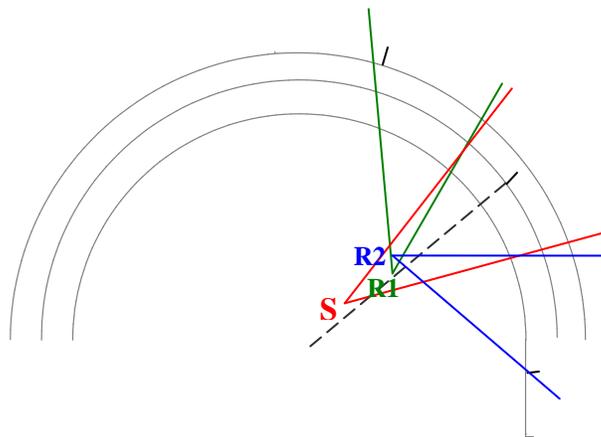


Figure 5. 200M-400M – Starter and Recall positions (Option 2)

In some major international meets you may see the starter positioned near the outside of the track entirely behind the competitors, but this is not an optimal position, since it creates problems with detecting forward movement before the gun and problems with the sound of the gun reaching lane 8 well after the inner lanes (nearly 0.2 second difference between lanes 1 and 8 in a 400 meter stagger). [For discussions of why this starter position should not be used, see A.L. Julin and J. Dapena "Sprinters at the 1996 Olympic Games in Atlanta did not hear the starter's gun through the loudspeakers on the starting blocks" in the IAAF research journal *New Studies in Athletics* 18(1):23-27 (2003); and see J.R. Young, "One, Two, Three, Go!" Ottawa: Athletics Canada (2001) pp. 70-82.]

Even with speakers on the starting blocks there is a problem with the athletes either reacting to the sound through the air rather than through the speakers, or reacting to the speaker sound and then thinking the later arriving sound through the air is a recall gun. This starter position (Figure 6) behind the start line on a staggered start is appropriately used only when a “silent gun” is being used; i.e., an electronic gun that sounds only through speakers on each set of starting blocks. The IAAF has understood this for some time and has required the use of a “silent gun” at its world championship meets for many years. But it was only recently that the manufacturer supplying the Olympic Games had a “silent gun” available, and it was used for the first time at the 2012 London Olympic Games.

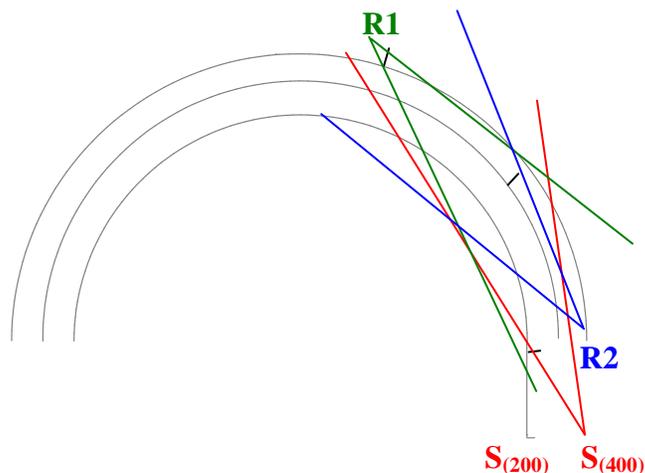


Figure 6. Staggered starts – option for use with “silent gun”

Relay Races (4x400, 4x200). The most difficult races for the starter crew to cover are the relays with long staggers, the 4x400 being the common one, and the 4x200 being seen primarily in high school competitions. This is a situation where the starter must be willing to trust the recall starter(s), because not all lanes can be seen in one view. Again, the two primary factors of visual control and equidistant sound carry have to be considered, and are particularly important in these events. The ideal position for the starter when working with two or more recall starters is again on the line defining the radius through the midpoint between the start lines for lanes 4 and 5 on an eight lane track, or through the start line for lane 5 on a nine lane track (Figure 7). In this case the most equidistant position for sound of the gun will be essentially at the center point of the turn radius (if possible, given the physical facility).

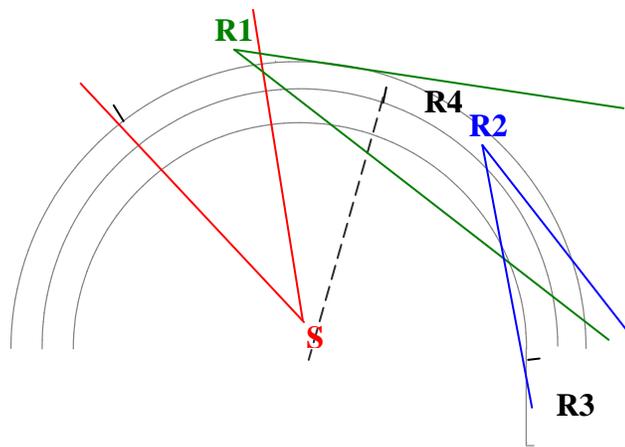


Figure 7. 4x400-4x200 – Starter and Recall positions

A minimum of two recall starters are necessary, and can be positioned near the starter as shown in Figure 5. As an alternative, the first recall starter can be positioned near the outside of the track near the start line for lane 7, looking back toward the finish line and viewing lanes 5 or 6 through 2 or 3 (Figure 7). The second recall starter should be on the outside of the track between the start lines for lanes 3 and 4 and viewing lanes 1 through 3. Often there may be a judges stand, signs, or other obstructions near the finish line blocking the view of lane 1 for the starter and the recall starter in position R1. If there are additional recall starters, they can be placed as indicated in Figure 7, primarily watching for slipped blocks from behind, but also for false starts. The starter views lanes 6 or 7 through 8 or 9. In these situations the starter is not going to be able to check all lanes after the “Set” command, and will have to depend on signals from the recall starters beyond those normally used for indicating readiness for the “On your marks” command. The simple signaling system used by Canadian starters is suggested, as described earlier. R1 would not signal until he has seen the signal from R2, and the starter keys on R1. Obviously, this “relay” of signals has to be done with no delays.

A starter working alone at a high school meet has a major problem with these events if more than three or four lanes are being used, which can be reasonably solved only by getting someone, possibly from the finish line crew, to act as a recall starter. Figure 8 illustrates the suggested positioning for this situation. The starter will be outside the track and beyond lane 8 (or 9) looking back to view lanes 8 or 9 to lanes 3 or 4. The recaller will be toward the outside of the track approximately at the level of the start line 5 (for a nine lane track) or between the start lines for lanes 4 and 5 for an eight lane track, viewing lanes 1 through 4. The signaling system will be the same. If there is not a spare starting gun available, the recaller will have to be given a whistle to signal any call up or false start. While this positioning violates the equidistant sound factor, visual control must take priority. And when this situation occurs, it is most likely in a high school meet that may not be using FAT, so sound carry from the pistol quite likely will not be as critical a factor. However, an alternative to be considered is to have the starter and the recall starter exchange positions shown in Figure 8. This positioning has the advantage of being more equitable with regard to sound carry between the inner and outer lanes, but the disadvantage is that the starter must take time to glance back to the recall starter and the outer lanes to confirm all athletes are in the “set” position before firing the gun.

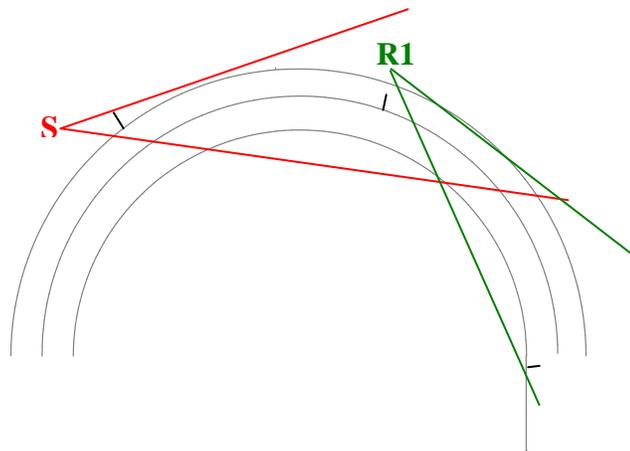


Figure 8. 4x400-4x200 – Starter working alone (with volunteer Recall)

Distance races (1500 M or longer). For distance races the starter should stand about 4-5 meters in front of the starting line, either on the inside or the outside of the track, depending on personal preference, physical facilities or location of the sensor cable. For high school and collegiate meets, after the start of the race the starter should turn and view the runners for the first 100 meters (high

school) or 50 meters (college) of the race, watching for the possibility of a recall because of a runner going down due to contact. If a recall starter is available, this person should be positioned on the outside of the track about 80 meters out (high school) or 40 meters out (college) from the starting line, watching for fallen runners in high school and collegiate races. A second recall starter in high school races can be stationed either 40 meters out from the starting line watching for fallen runners, or on the side of the track opposite the starter about 2-3 meters in front of the starting line, watching to warn runners to keep their toes off the starting line. A third recall starter can take the position not taken by the second recall starter (i.e., 40 meters out or on the line). If there is a fourth recall starter, that person is positioned on the line on the same side of the track as the starter.

As noted previously, NFSHSA and NCAA rules for races not run in lanes allow starters to recall for fallen runners in the first 100 meters or 50 meters, so at least one recall starter should be placed down the track to watch for this in high school or college meets. Because of the NFSHSA and NCAA rule, this has tended to be a common practice in USATF meets also, even though USATF rules do not provide for a recall for a fallen runner in the first 100 meters of a distance race. In IAAF meets, recall starters are normally placed only at the starting line, and this should be the practice for USATF meets as well, as required by the Note accompanying Rule 162.16. For indoor meets, NCAA rules state that a race not run in lanes may be recalled for a fall only in the first 50 meters (although it is 100 meters for cross country races).

If desired, upon the command “On your marks,” a recall starter on the line can move quickly along the line checking for toes on the line, finishing in her final position for the start. If there are two recall starters on the line, they can begin by standing together in the middle of the track and move in opposite directions, checking for toes on the line, until they reach their final positions on the inside and outside of the track. Of course, the starter must be careful to not fire the gun until the recall starters are clear and in position. In races where two alleys are being used, the starter should stand on the inside of the track a few meters beyond the level of the start line for the outer alley. If one recall starter is available, she should cover the regular start line, with the starter covering the outer alley start line. If two recall starters are available, one recaller covers each start line.

Starter's Stance and Mannerisms

The starter must be the primary calming influence at the starting line. Body language can be critical, and therefore you should always appear to be a person who is in control and enjoying your job. Your stance should be upright and comfortable, so all your concentration can be devoted to the runners at the starting line. Distracting mannerisms, such as unusual movements or voice commands, must be avoided. There normally is enough tension at the starting line without a starter adding to it. Examples of distracting mannerisms include:

- Stern, rigid, loud vocal commands. (See next section)
- Pointing at the runners during the “On you marks” command.
- Nervous vocal noises such as constantly clearing the throat.
- One leg in front of the other, spread wide, and knees bent as if the starter is also getting into the blocks.
- Showing favoritism to certain runners by putting your arm around their shoulders, wishing them luck, etc. (This does not mean you cannot have brief friendly chats with runners during pre-race preparations; just avoid doing or saying anything that could be interpreted as showing favoritism.)
- Unusual vocal mannerisms. (See next section.)

Voice Commands

The importance of the starter's voice control cannot be emphasized too much. A calm voice is one of the most important characteristics of the successful starter. The starter's voice commands should be practiced regularly, so the volume and tone are consistent from the beginning to the final set command. Again, calmness is the key. Avoid unusual mannerisms, such as long, drawn out commands; this can be very distracting to athletes. Keep the commands in a normal conversational cadence. The "Set" command should never be forcefully or sharply spoken, nor should it be long and drawn out. It can be quite disconcerting to the runners in the blocks to have a starter give the set command in a tone starting with a low "s" and finishing with a high "t," or the opposite, a high "s" to a low "t." It should be a crisp, normal spoken command, just loud enough to be easily heard by the runner furthest from the starter. Yelling the "Set" command also will always disrupt the atmosphere at the starting line. Care must be taken to maintain a calm, consistent intonation throughout the command cycle in order for all the competitors to hear and comfortably react. You might try using a tape recorder when practicing voice commands (or during a meet) to get an accurate idea of how you sound. If there seems to be confusion or problems at the starting line, it could well be due to the vocal commands of the starter.

If the meet will be long, with a lot of races, or if it will be taking place with a large, noisy crowd, it is a good idea for the starter to have a portable speaker system if there is no speaker system as part of the timing system. This helps a great deal in saving one's voice at the end of a long day. The speaker system should be easily portable and provide a crisp, clear sound projecting over a wide area. Set the volume so it is just loud enough to be easily heard by the athlete furthest away. A hand-held electronic megaphone is one option, but a better option is speaker box with a hand-held microphone with a long cord. An even better option is the speaker box with a lapel microphone to clip to the shirt or jacket and a radio link to the speaker box. With this system you can place the speaker wherever you need to in order to most efficiently project to the athletes while leaving you free to place yourself wherever you need to be for the best visual control of the athletes and equidistant for gun sound-carry without being tied to a microphone cord. Remember to always carry spare batteries for your speaker system and radio link.

Arm Signals

Starter to finish line (and competitors). The use of arm signals by the starter during the command cycle is primarily for the benefit of the timers at the finish line, so they know when to expect the gun to start the race. However, arm signals also can be of assistance when it is difficult for the runners to hear because of crowd noise or if there is a runner with a hearing impairment among the competitors, or in cases where there is a significant distance between the starter and the runners and a sound system is not available.

Prior to the start of every race, there must be communication between the starting line and the finish line, to ensure that everyone is ready for the start of the race. Ideally, there should be radios or walkie-talkies available to one member of the starter crew, the head timer, and the photo timer if one is being used. This greatly simplifies communications between these groups of officials. In the absence of radio communications, the head timer should have a red and a white flag. The starter gives a long blast on a whistle to indicate that the starting line is ready to begin the race, and the head timer responds with a white flag if the finish line is ready, or a red flag if the finish line is not yet ready (after checking with the photo timer crew if automatic timing is being used). Even if radio communications are available, it may be a good idea for the starter to use a long blast on the whistle before going into

the command cycle, to let people in the infield and in the stands know that a race is about to start. In larger national and international meets it is becoming common to have a Finish Line Coordinator assigned to check on the readiness of the finish line crew and automatic timer, and handle the signal flags (also see the section on the USATF Chief Starter / IAAF Start Coordinator).

Before the start of every meet, the starter should meet with the finish line crew, to let them know what arm signals will be used during the command cycle. The IAAF, NCAA and high school rule books are silent on the issue of starter's arm signals. The USATF calls for the gun to be raised above the head no later than the "On your marks" command and held there until the gun is fired, and the non-gun arm to be held at the starter's side (USATF Rule 162.6). In general, the less motion, the better. If you know you are working with an experienced timing crew, you can simply raise the gun to a vertical position just prior to the "On your marks" command and keep the other arm at your side throughout the whole command cycle (as called for in USATF Rule 162.6). If you are using a sound system, you may have a microphone or loudspeaker in your other hand and won't be able to use it for signaling anyway. An alternative method common in international use, and that is useful when working with a less experienced timing crew, is to raise the gun arm to a horizontal position (or bent up 90° at the elbow) at the time of the "On your marks" command, and then raise the arm to the vertical position just before the "Set" command, keeping the non-gun arm at your side (or holding a microphone). This is an option that is now allowed by USATF Rule 162.6 Note 2: "To facilitate hand timing, the Starter may signal the Timers just prior to the 'set' command." For distance races, simply raise the gun arm to a vertical position just before giving the "On your marks" command and keep it there until the gun has been fired.

There may be occasions where a whistle signal should be used instead of voice commands to the runners, such as in a 3-turn stagger start (4x400 relay), or a 4-turn stagger start (4x200 relay), when no sound system is available. If whistle signals must be used, the athletes must be given specific instructions about the signals prior to the race. The simplest method is to use several short blasts on the whistle to signal the runners to stand behind their blocks. Then one long blast signals them to get "On your marks." When everyone is in their blocks and motionless, a short crisp blast on the whistle signals the "Set" command, and then the gun is fired. The arm signals used throughout the meet should be used in conjunction with the whistle commands. If there is a need to bring the runners up from their blocks (because of a disturbance, etc.), use several short blasts on the whistle.

For starting cross country races, the NCAA rule book has a specific procedure starters should use. The starter should have a red flag and a whistle in addition to the gun. The starter stands in the middle of the starting area at least 50 meters in front of the starting line. After giving instructions on how the race will be started, the starter gives one blast on the whistle to call the runners to the starting line. With the gun in one hand and the red flag in the other, the starter holds both arms straight out at shoulder level and holds that position until all runners are on the line and steady. Then the flag and the gun are raised slowly to the vertical position, and then the gun is fired while simultaneously pulling the flag down. This starting procedure is also noted in the high school rule book as an option for cross country races with large fields. The NCAA also recommends recall starters on each end of the starting line, plus a third recall starter behind the midpoint of the starting line to watch for fallen runners in the middle of the field of runners during the first 100 meters of the race, where it would be difficult for the recall starters on the sides to see them.

Recall starters to starter. Non-verbal communication between the recall starters and the starter is important during the command cycle. Two methods are most commonly used in which the recall starters let the starter know that they feel everyone is settled in their blocks and ready for the "Set"

command. In the first method the recall starters stand with their non-gun hand held normally at their side after the “On your marks” command. When they feel the runners are ready for the “Set” command, they turn the palm of the non-gun hand out to face the starter. An alternative is to start with the palm open or out, and then turn it in toward the body when the runners are ready. In the second method the recall starters stand with their non-gun hand held out to the side, bent 90 degrees at the elbow, upon the “On your marks” command. Care should be taken to ensure the arm is held at an angle perpendicular to the line between the recall starter and the starter, in order for the arm to be readily visible to the starter. When the recall starter feels the runners are ready for the “Set” command, the non-gun arm is slowly lowered to the side of the body.

Either method works well, and each starter crew should decide what they feel most comfortable using. The advantage of the first method is that it is less conspicuous. The advantage of the second method is that it is more readily visible to the starter in peripheral vision, so the starter does not have to be distracted by consciously looking at each recall starter for the signal. This can be particularly important in races with staggered starts. When there are two or more recall starters spread out over a wide area (for instance, with a three-turn stagger), instead of trying to spot all the recall starters, it may be helpful to the starter to key on the nearest recall starter for the “All is ready” signal. Have that recall starter “on the point” on the outside of the track with a better view observe the other recall starters and lower the arm or turn the hand only after all the others have.

Relay races. One additional area where the starter must be concerned with signals is the start of the 4x100 relay. Often it is difficult for the starter to see and know when the relay exchange zones are ready. It is recommended that before the meet the starter talk with the head umpire to arrange a simple signaling system. One umpire in each of the three exchange zones should be designated to raise a yellow flag while the athletes are getting prepared, and then raise a white flag when everyone is ready. The umpire in the second exchange zone should not raise a white flag until the white flag is seen in the third exchange zone, and likewise the umpire in the first exchange zone should not raise a white flag until a white flag is seen in the second exchange zone. The starter should key on the umpire in the first exchange zone, knowing that when that white flag goes up all zones are ready for the start of the race.

Reasons to Halt the Starting Process

At any time during the cycle of starting commands, if either the starter or the recall starter feels it is not possible to produce a fair start or they are not satisfied that the start has been fair after the gun goes off, they may terminate the starting procedure. This is accomplished by calling the runners up from their blocks with a command of “Stand up” (or “Roll back” or “Wheel back” in the case of wheelchair athletes), or recalling them with a second shot from the gun. If there has been any condition or circumstance at the starting line that could be a distraction to the athletes, it is the responsibility of the starting crew to abort the start and correct the situation, so all competitors have a fair and equitable start. If there is any doubt that everything is not right, it is better to bring the runners up and start again, rather than hope the situation “really was not that much of a problem”. The starter must always be in control and anticipate problems. If a noisy crowd is close to the starting line, ask that they help you out during the starting commands (e.g., “Please don’t snap the shutter on the camera during the “Set” command”, “Please don’t kick the fence”, “Please remain quiet”). If you are courteous to the spectators, usually they will respond in kind.

Sprint races. The following are examples of situations that could cause the starter or recall starter to bring the runners up out of their blocks or call them back after a sprint start.

- 1) *Runner's request.* At any time from the “On your marks” command until the gun goes off, a runner may halt the start of a race by raising a hand to request a delay. This can be done for any of several reasons; e.g., the blocks not being properly adjusted, dirt or dust blown in an eye, or crowd noise. But this should be for a legitimate reason. If the starter feels the athlete has halted the process for no legitimate reason, or to play “mind games” with the other competitors, the starter should request a yellow card warning to the athlete that a repetition of that act will result in a disqualification. Under IAAF and USATF rules this should be done by the Start Referee, if one is available, or the Track Referee or Meet Referee if there is no Start Referee. This yellow card warning is to the individual athlete for improper conduct and has no relation to false starts; in such cases the rest of the field should be shown a green card. (See the later section on “Working with the Referee in Improper Conduct Situations”.) It also should be noted that the athlete is not allowed to briefly raise the hand and then run out of the blocks. Technically, this can be considered a false start and could be charged as such. The athlete should raise a hand and wait for the command from the starter for everyone to come up.
- 2) *Crowd control.* If the starter feels there is enough noise from nearby spectators that it will distract the runners, or someone is playing a radio too loud, the command cycle should be halted until the situation can be corrected. Again, a courteous request to the spectators is generally all that is needed. On occasion the starter may have to delay a start to wait for the crowd to stop their rhythmic clapping for a field event competitor. In such cases, be patient; it should only take a few seconds, and it is better to delay those few seconds than to risk an unnecessary false start because of crowd noise.
- 3) *Starting block problems.* Some starting blocks used by schools can be difficult to set, especially for young, inexperienced runners. Be patient, but firm in urging quick setting of the blocks, especially if there are many preliminary races to be run. The recall starters should be prepared to step in quickly to help the younger, inexperienced runners in these cases. Keep in mind that USATF rules now stipulate that in youth competitions the setting of a competitor’s starting blocks other than by the competitor or an individual designated by the starter is prohibited. This means that in USATF Youth/JO competitions, to help avoid delays at the start line, parents and coaches are not allowed to help set blocks, and the start team will have to take on that responsibility.
- 4) *Fingers on the line or feet not on blocks.* If an athlete has settled into the blocks with his or her fingers beyond the front edge of the starting line (i.e., the fingers are on the white line), or if both feet are not in contact with the pedals of the blocks, the athletes should be brought up and the offending athlete advised to properly place the fingers behind the starting line or feet on the pedals. Usually a recall starter is in the best position to see this. If this is noticed early enough, the recall starter can quietly advise the athlete to move the fingers back or properly place the feet, but if the “Set” command is imminent it is best to bring all the athletes up and then correct the problem (preventive officiating). These are problems that sometimes can be prevented by recall starters carefully observing athletes before the race during warm-ups at the start line. If an athlete is seen settling into his marks position with the fingers on the line or feet not in contact with the pedals, the recaller can step in and remind the athlete to keep fingers behind the start line or feet on the pedals of the blocks. Be aware also that a USATF rule (162.2) states that no body parts are allowed to touch the ground in front of the starting line at any time once the athlete has settled into the blocks; i.e., the knee cannot rest on the ground in front of the starting line while waiting for the “Set” command. That USATF rule (and the corresponding NCAA rule) also contains a note stipulating that hair is not to be considered a body part for the purposes of this rule; i.e., it is permissible for long hair to touch the track in front of the start line in the “on your marks” or in the “set” positions. NCAA Rule 5-1.4 also clarifies that in the “on your marks” position for crouched or standing starts (and presumably in the “set” position for crouched starts) runners shall take a position “in such a way that no part of the body touches the track on or beyond the starting line, or outside their

assigned lane.” There is a similar requirement in the USATF rules. So they can place their fingers (or feet) on the lane line to their right (but not beyond it) and they cannot touch the lane line to their left. This restriction applies to the blocks as well, although IAAF/USATF rules now state “...with the exception that, provided there is no obstruction to any other competitor, the rear part of the frame may extend beyond the outer lane line” (USATF Rule 161.3).

- 5) *Obstructions on the track.* Once in a while someone not paying attention will wander onto the track, or a piece of waste paper may blow onto the track in front of a runner, just as the “Set” command is about to be given. A runner may notice and raise a hand, or a recall starter may see it through peripheral vision.
- 6) *Slow athlete.* Occasionally an athlete will be slow in getting the warm-up clothing off, or take too long in getting settled into the blocks. During cold or rainy weather athletes may wear several layers of warm-ups, so a special effort should be made to ensure removing them does not delay everyone. The starter can help forestall this problem by telling them to get their sweats off a little earlier than normal in such weather. Once the “On your marks” command is given, there is no specified amount of time before the “Set” command. It will vary, and the starter must be somewhat intuitive in feeling when it is the right time to give the “Set” command and when it is taking too long and the runners should be called up.

Often sprinters and hurdlers have their own special routines they go through as they get settled into the blocks, and sometimes these rituals are still being performed while everyone else is ready in the blocks. If one or two athletes are holding everyone else up, call them all up and caution the individual(s). In cases where this seems to have been a blatantly purposeful act, the starter can request the referee to issue a yellow card warning for improper conduct to the individual. If an athlete persists in delaying everyone after such a warning, the starter can request the referee to red card (disqualify) the individual. (See the later section on “Working with the Referee in Improper Conduct Situations”.)

- 7) *Meet-oriented problems.* Even if the starter has spoken with the announcer prior to the meet about not talking while the runners are in their blocks, occasionally the announcer will begin an announcement just before or just after the “Set” command. The runners should be brought up immediately, and the starting sequence begun again. Other problems include things like the finish line not being ready, the photo timer not being ready, or an athlete being in the wrong lane. Any number of situations such as these may cause a delay, and this is a time when the calm demeanor of the starter is important.
- 8) *Wrong starting line.* On older tracks that have not yet been rebuilt to 400 meters, there often exist two sets of starting lines for each race, one for metric races and one for races in yards. This sometimes can cause confusion when lining athletes up for the start of a race, particularly races with staggered starts. For this reason, the starter should always go over the track prior the meet to make sure the correct location of each start is identified and the color code of the line used for each distance is known. For races with staggered starts, the recall starter looking up or down the line of runners should be able to see if one runner happens to be placed on a wrong starting line, because that individual will be clearly “out of line” with the other runners.
- 9) *Inclement weather, outside noises.* Weather sometimes can cause a delay, if there is a sudden downpour. If there is lightning in the vicinity, it is wise to delay until the storm front has passed, especially if a longer race is about to start. (See <https://www.weather.gov/safety/lightning> for useful information on lightning safety.) Normally the meet referee, in cooperation with medical staff, will be responsible for monitoring lightning and use of lightning detectors, and making decisions on meet delays and resumption. At the high school level, however, where the starter often is also the referee for smaller meets, the starter will be responsible. (NCAA and NFSHSA policies require a 30 minute delay whenever lightning is observed in the vicinity.) Outside uncontrollable noises may sometimes occur, such as a low-flying airplane, a nearby locomotive

that decides to blow a whistle just at the “Set” command, or a clock tolling the hour. In all such cases it is best to bring the runners up and wait for the disturbance to pass.

- 10) *Slow roll-up*. During the pre-race instructions (whether given by the starter or the clerk), the athletes should be told that upon the “Set” command they are to come up immediately to the full and final set position without any hesitation or slow roll-up. The relevant USATF rule (162.7) now says “shall” immediately rise to a final starting position, not “should” as it used to say. So it is no longer a suggestion, it is a requirement. If a slow roll-up does occur, the runners should all be called up immediately and the individual cautioned. In meets where the runners are disqualified after the second false start, some runners tend to play games with the starter and the rest of the field. Having a “free” false start, a runner will sometimes hesitate on coming up for a fraction of a second after the “Set” command, and try to “roll” into the start without ever coming to a completely still set position. In meets where the no false start rule is in effect, this usually is not as much of a problem.

Another related action to watch for is the buttocks slowly settling or drifting down after reaching the peak “set” position. While a brief “settle” is not uncommon among many sprinters and generally is not a problem, the starter and recall starters should watch for any delayed or lengthy downward movement. This could be an alternative way to attempt to “roll” into a start, and it could be distracting to competitors on either side to the point of causing them to false start. If this movement is seen, the athletes should be called up and the offending athlete verbally warned, or the referee requested to issue a yellow card warning if this has been a persistent problem. A red card should be issued by the referee if the athlete persists in this action after being warned. (See the later section on “Working with the Referee in Improper Conduct Situations”.)

The slow roll-up or the slowly responding athlete also are problems that potentially can be prevented by careful observation of the athletes by the starter and the recall starters during warm-ups at the start line before the race. If an inordinately slow rise to the set position is observed, or a long, slow settling after reaching the peak height, the recall starter can step in and advise the athlete that they must respond quickly to the starter’s commands and come quickly to the set position and then remain still until the gun is fired. This type of pro-active preventive officiating has been found to forestall many instances of these types of problems and the delays they cause at the start of a race.

- 11) *Bad shell/misfire*. If the gun malfunctions, or a shell is a dud, the runners should immediately be called up and the problem corrected, then the runners called to their marks again. Although it may be hard to admit, it has been known that a misfire was due to the starter forgetting to load (or reload) the gun. This is one of those embarrassing situations that hopefully happens only once in a career. It is highly recommended that the starter replace the spent shell after each start, ensuring the gun always has a full load of good shells.
- 12) *Flinch or buck*. During the momentary hold at the peak of the set position, a runner may “flinch” or “buck” yet not break contact with the ground with the hands or break contact with the blocks. This action will cause the runner to move slightly forward or upward and then slightly back. If the gun is fired in the middle of this flinching action, the other runners are going forward while this runner is still going back. In such a case you are faced with a dilemma. You could let the race go on, based on the viewpoint that the athlete who flinched “dug his own hole” (a somewhat questionable philosophy if you are supposed to be there to ensure everyone gets a fair start). While this athlete was moving, he certainly was not gaining any advantage because he was moving back when the gun fired, and you could interpret this as an unfair start and call the runners back with no penalty to the runner who flinched. On the other hand, there also is a valid point of view that holds that recalling and starting again allows this individual to correct their mistake while in some sense penalizing all those who had a fair start and now possibly have lost concentration because of the recall. Until recently a possible third point of view insisted that the athlete who flinched has

broken the rule requiring he be still until after the gun goes off, and should be charged with a false start. But this view no longer is valid given a recent IAAF/USATF interpretation and subsequent rule changes defining what constitutes “commencement of a start”, to be discussed in the later section on False Starts.

How to handle this situation in any given case may depend on how extreme the flinch was, and whether or not it could be considered an unquestionable full commencement of the starting motion (but see the later section on False Starts). There are valid pro and con arguments for either of these responses to a flinch or buck, and which response is chosen in a given situation will always be a subjective decision on the part of the starter.

However, if the runner who flinches draws a runner in an immediately adjacent lane into a false start, the runner who false started should not be charged and the runner who flinched may be charged with improper or unsporting conduct by the referee (see USATF Rule 162.13(c) Note.), since by his actions the athlete has “disturb[ed] other competitors in the race through sound, *movement* or otherwise” (USATF Rule 162.17(c); “movement” was specifically added in 2018).

If the flinch occurs early in the pause between the “Set” command and the gun, it may be possible for the starter to “wait it out” and let everyone stabilize before the gun is fired. If the flinch occurs late in the pause before the gun, or if more than one runner flinches, the starter (or the recall starter) should call everyone up, calm the athletes down, and start the command cycle again. This is basic preventive officiating, giving the athletes the benefit of the doubt, and it is the action all starters are encouraged to take in these situations.

Given the explosive atmosphere at the start, there occasionally will be movements of this type, and the starter crew must be prepared to handle these instantaneous situations. If a race is called back because of a flinch or a false start caused by a flinch, the starter should briefly confer with the recall starters to get input from other pairs of eyes and make sure there is reasonable consensus on exactly what happened before making the call.

- 13) *Slipped blocks*. Watching for slipped blocks is one of the key responsibilities of the recall starters. The two primary ways of immediately detecting slipped blocks are by the clattering sound they make when they slip, or by noting a runner stumbling or seeming to hesitate awkwardly when coming out of the blocks. If a recall starter is assigned to watch from behind the starting line, the backward movement of the blocks can be seen directly. Often it can be seen that a pair of blocks is positioned considerably further back compared with the others, after the runners have left their marks. This is another major clue for recall starters to look for to determine whether or not blocks have slipped. When this occurs, try to determine the cause and see if any corrective action is possible. Often block slippage is caused by worn or missing spikes on the bottom of the blocks, or worn track surfaces. Sometimes when an athlete places a toe on the track with the two front spikes just in front of the bottom of the pedal, upon starting the spikes will lift the pedal causing the block spikes to lose contact with the track surface.

When slipped blocks are detected, the race should be recalled immediately. The runner involved should then be given time to readjust the blocks and all runners given time to refocus on the start, and the command cycle started again. Blocks that have wing nuts, or other mechanisms requiring hand tightening, must be watched closely. If slipping continues, the recall starter should have someone hold the blocks during the start. Block holders should always be seated on the track surface, not standing, and should not place their feet on the backs of the pedals. Always caution block holders to stand back until the runner gets into the blocks, since some runners will kick backwards as they are getting into the blocks and could spike someone standing too close.

- 14) *Stumble*. If a competitor comes out of the blocks awkwardly and stumbles during the first or second step, the race should immediately be recalled, since this should be considered an unfair start. This might occur because the blocks slipped or because the athlete caught a spike on the track surface. At the instant it occurs you cannot be sure why it happened, but if there is any

chance it was because the blocks slipped you should immediately recall because of an unfair start, giving the benefit of the doubt to the athlete. If the stumble occurs after the second step, the race should not be recalled, since the runner will have established a stride pattern at that point and is in a more upright position.

- 15) *Practice starts.* NCAA rules forbid athletes from doing practice starts off to the side or behind the start line in conjunction with the starter's commands for the race currently on the line. This rule has now been loosened slightly to say the practice starts will not take place in the immediate area of the starting line. While this is only an NCAA rule, in general it is a good practice, if you see an athlete preparing to take a practice start in your or your recall starters' field of view, to ask the athlete to move out of your field of view so there will be no possibility of the athlete's movements distracting you or your recall starters or being mistaken for a false start movement.

Distance races. The following are examples of situations where the start should be halted or the runners recalled during the start of a distance race.

- 1) *Runners not steady.* If the runners are not steady or still after coming up to the starting line, they should be brought up and reminded to stay still on the line until the gun is fired. The start also should be halted if a runner is off balance and is falling forward, or a runner has his fingers on the ground (i.e., a standing start is just that; the runner cannot be in a three- or four-point stance). In these situations the runners should be brought up off their marks by the command "Stand up," given a quick explanation, and set back three meters for another walk up start. (See also the recent interpretation of the application of the no false start rule to distance races noted in the later section on False Starts.)
- 2) *Toes on the line.* When the runners come to the line in a walk up start, if one or more runners have a toe on or over the line, the runners should be brought up and reminded to keep their toes behind the starting line, and then set back for another walk up start. Again, this is basic preventive officiating. If one or two recall starters are assigned on the starting line, an option is to have the recall starter(s) move quickly down the line checking toes and verbally instructing any runners with their toes on the line to move them back. Of course, the starter has to wait for the recall starter(s) to clear the line and be in their assigned position before firing the gun.
- 3) *Fall during the first 50 or 100 meters.* In high school and college meets, if a runner falls because of contact with another runner anywhere during the first 50 meters (college) or the first 100 meters (high school) of a distance race, the race should be recalled, the runners given a chance to catch their breath and refocus, and then set up for another walk up start. If a runner goes down without contact with another runner, or because of stepping on the inside rail (without being pushed by another runner), the race should not be recalled. (NOTE: While this is a specific rule in the NCAA and NFSHSA rulebooks, it is not in the USATF or IAAF rulebooks. It is apparent that many USATF starters carry this high school/college rule over to USATF meets, but USATF or IAAF races should not be recalled unless a fall attributable to an unfair start took place within close proximity to the start line. See Note in USATF Rule 162.16, which stipulates that a distance beyond 10 meters shall not be considered "close proximity" to the start line.)
- 4) *Stumble.* If a runner stumbles or slips on the first step or two, the race should be recalled as an unfair start, and started again. This situation may occur on a wet track, or on an indoor board track.

In all cases, for both sprint starts and for distance starts, the best "rule of thumb" is common sense. If the starter or the recall starter feels someone is at a disadvantage, the race should be recalled or the start halted. If there is any doubt, start the race again. Just because a recall gun has been fired, this does not automatically mean someone has to be charged with a false start or disqualified.

Pulling the Trigger

Pulling the trigger to start the race is the *sine qua non* of the starter's trade. The starter should be very familiar with his or her gun, and know the feel of it and how much slack is in the trigger. It should feel comfortable in the hand, and have a fairly tight trigger. A hair trigger should be avoided in order to prevent firing a "fast gun" after the "Set" command. During the command cycle, the gun should be cocked just before the "On your marks" command is given. The finger should be closed around the trigger, taking out any slack, just before the "Set" command is given. At this point the gun may be fired, or the pressure may be let up on the trigger if the runners must be called up off their marks. If the gun has a hair trigger, this is not as easy to do, because it is harder to let up pressure on the trigger without firing. If for any reason the gun fires before you intend it to, you should recall the race. The starter should avoid jerking the trigger when firing, because the hand moves and this can be distracting to the timers. It also provides a visual cue to any runners who might happen to be watching the gun. The gun hand should be held still and solid throughout the command cycle until after the gun has fired and the runners are away.

While starters (and recall starters) need to maintain focus throughout the command cycle, it is particularly important during the "hold". This is not the time for letting the mind wander to stray thoughts about the last race, the next race, or what you are going to have for dinner tonight. The entire focus must be on the athletes on the start line and their activity during the hold.

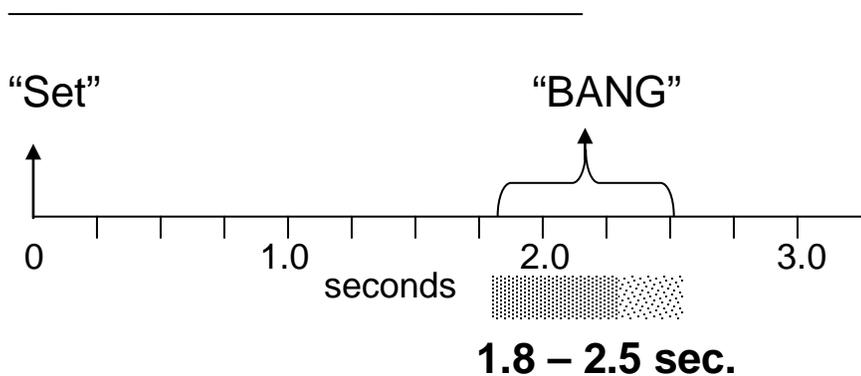
The "hold" is the length of time between the initiation of the "Set" command and the firing of the gun for races started out of blocks. ***Any hold of less than 1.5 seconds does not allow the athletes sufficient time to get into the set position.*** There are two activities that require sufficient time to properly occur between the "Set" command and the firing of the gun. First, the starter needs to ensure that all the competitors have come to a full and complete set position, and have stabilized or are still. Both the USATF and IAAF rules state that following the "Set" command the gun shall be fired *after* "the Starter has ascertained that all competitors are 'set'" (or "are steady in the 'set' position"). Further, "The Starter shall not fire the pistol...while any competitor is in motion after the command 'set', when appropriate, nor before the Starter has ascertained that each competitor is steady...". All this requires a finite amount of time to do properly, usually a minimum of 1.5 seconds to ensure that the athlete taking the most time in the field of runners is steady.

Second, consider what the athletes must do in sequence: They must hear and recognize the "Set" command, respond to it by directing the body to begin rising to the set position, sense when the body has reached the correct position, stop body movement, make any final readjustments (many sprinters have a tendency to "settle" slightly after reaching their top position, and you must wait for that settling to be completed), start applying constant pressure to the starting blocks, and then focus on listening for the gun and concentrating on the explosive reaction to the sound of the gun. While this becomes an almost automatic sequence with experience, this still takes a finite amount of time to complete for both the novice and the most experienced competitor. Even with elite athletes, the amount of time this process takes can vary considerably within any group of athletes at the starting line. ***If the gun goes off with less than 1.5 seconds of hold time, there is an extremely high probability that at least one runner has not had sufficient time to complete this process, and the starter has created a disadvantage for someone by firing a quick gun.***

The starter crew at Hayward Field in Eugene, Oregon, in the 1980s and 1990s worked together for many years doing a large number of national and international meets, and through our experience we came to a consensus that a good hold time will range from 1.8 to 2.4 or 2.5 seconds (see Figure 9). It

is adequate to give the starter the time to view the field and adequate to give the athletes the time to get settled in the set position and refocus on reacting to the gun. This is what we strongly recommend during the starter clinics we have been giving for many years. [For an additional discussion of this topic, see A. Lennart Julin, “An alternative approach to solve the false start problem”, *New Studies in Athletics* 18(1):7-10 (2003); J.W. Aspland, “Starting and Timekeeping”, London: Amateur Athletic Association (1969) pp. 12-14; and J.R. Young, “One, Two, Three, Go!” Ottawa: Athletics Canada (2001) pp. 89-91.] For the short sprints and hurdles, the hold time normally will average near the lower end of that range. For the longer sprints with a staggered start, it will average near the longer end of the range in order to give the starter a little more time to scan the runners spread out on the staggered starting positions. As noted in the last section, if you have to wait for an athlete who is slow in responding or reaching a stable set position, once you have gone beyond 2.5 seconds you should be ready to call the runners up. (It also should be noted that in some major international championship meets starters have been known to hold the runners for 3 to 3.5 seconds in order to be certain that all runners are still at the start.) A slightly longer hold is not unfair to the runners; they will adjust quite readily. Many top level athletes have specifically noted that they appreciate having enough time to get focused after the “Set” command, and have stated they would rather have enough time to get settled and reach their peak concentration than have a quick gun.

Figure 9: The “Hold”



Every race will vary with regard to how long it takes for all competitors to become still and motionless, and therefore the length of the hold time will vary with every race, but still should be within the reasonable range noted above. A starter should never get in the habit of firing the gun at the exact same length of time after the “Set” command. Athletes will pick up on this very quickly, and it is a good recipe for having runners anticipate the gun. On rare occasions all of the runners in the field will come up immediately and together, being stabilized right away. In a case like this, there is no reason to hold them if everyone is stable, and the gun can be fired at less than 1.8 seconds; but this does not happen very often. Most of the time the starter has to watch for the athlete who is slow to react to the “set” command, and not fire until this last athlete is clearly still. And also be watching for the athlete who comes up to a peak set position, pauses, and then starts to slowly settle. The starter must wait and not pull the trigger until the last of these athletes are still. Of course, in either of these situations if it is taking too long for the athlete to become still, the starter should call the field up and warn the athlete(s) causing the delay.

In races where the starter is viewing a staggered start (e.g., 200M, 400M) from the infield (i.e., when at least one recall starter is in position to provide additional coverage of the athletes), it is suggested that the starter scan the field, quickly viewing each athlete beginning with lane 1 and proceeding out to lane 8, or 8 to 1. This allows the starter to confirm that the whole field has heard and

is reacting to the “set” command (not that they are in the set position), and normally it takes about two seconds to complete this scan. If there is one recaller located inside near lane 1, as in Figure 3, the starter can focus on the outer lanes after scanning from lane 1 to lane 8. If the one recaller is on the outside beyond lane 8, the starter can focus on the inner lanes after scanning from lane 8 to lane 1. If there are two recallers, the starter can focus on the middle lanes after completing the scan in either direction.

It is a good idea for the starter to practice the voice commands regularly, at home in front of a mirror, or anywhere where others will not be disturbed. Use a stopwatch to time yourself from the beginning of the “Set” command until you “pull the trigger” by punching the button on the stopwatch. It also is a good practice to have someone time your hold intervals between the beginning of the “Set” command and the gun during meets. This is excellent immediate feedback under real conditions. (When timing the “hold” on a live race, start the stopwatch at the very beginning of the word “Set”, not after the “Set” command is completed.) At Hayward Field we did this on a regular basis among ourselves on the starter crew, particularly at the beginning of a new season, to make sure we all were in the proper range for the hold time.

Developing trust between the starter and the competitors is very important. If, at the time of the instructions, the runners are told they will not get a quick gun and will be given time to get set, then that should be the case. To tell the athletes this and then fire a quick gun will very quickly break that trust, and the result generally is confusion and frustration at the starting line.

False Starts - What to Look for and How to Handle Them

A starter who has given adequate instructions to the athletes, gained their trust, and maintained a calm atmosphere at the starting line normally will have few problems with false starts, especially where the “no false start” rule is in effect. Nevertheless, every time a race is started the starter and recall starters must be alert and fully prepared to immediately respond to a false start.

The IAAF, USATF and NCAA rule books now all state that, after assuming a full and final set position, an athlete is only allowed to *commence* his starting motion *after* the report of the gun or approved starting apparatus. (IAAF and USATF rules now more precisely state that competitors may not *commence the start* until after *receiving* the report of the pistol/starting device.) If the starting motion is commenced prior to (or less than 0.10 second after) the sound of the gun, it is considered a false start. The high school rule book does not define a false start this clearly, but the intent is the same. These rule clarifications finally settled a difference of opinion that had existed for many years. The old rule wording appeared to allow an athlete to internally commence the starting motion before the sound of the gun (i.e., try to outguess the starter and get a “flyer”) as long as there was no detectable motion before the sound of the gun; so if the athlete moved exactly with the gun it was felt to be a fair start. This was the opinion of a number of athletes, coaches and even some starters. Now, with the more precise rule wording, the intent is clear: the runner is not allowed to commence starting until after receiving the starting signal (i.e., the runner must *react* to the gun, not anticipate it).

A runner who begins movement out of the starting blocks before the sound of the gun normally will move the back foot and leg first, along with the opposite hand and arm. Unless there are enough recall starters to assign at least one to watching for slipped blocks, the starter and recall starters will have to key on the arm and hand movement, since it will be more difficult for them to see movement from the legs. Upon seeing any movement out of the blocks on the part of a runner before (or with) the

sound of the gun, the starter or the recall starters should give the “Stand up” command if the gun has not yet fired, or fire a recall shot if the starter’s gun has fired. Be aware, too, of situations like “flinches” or “bucks,” or other extraneous factors (see the previous section on reasons to halt the starting process, and the new IAAF/USATF interpretation of what constitutes “commencing a start” noted below). The starter or recall starters stationed more to the side of the runners are in a better position to see hand movement and rolling starts, although it is a little more difficult to see the runner who is slow coming to the set position. On the other hand, the starter or recall starter in a position further in front of the line is in a better position to see the runner who is slow coming to the set position, but it is a little more difficult to see the runner moving forward at the gun. With the combination of proper starter and recall starter positions, there usually is little opportunity for an athlete to succeed in making an unfair start.

It should be pointed out here that the recall starter should never have the gun cocked at the start of a race, and should hold the trigger finger outside of the trigger housing. If the trigger finger is on the trigger, there is a natural tendency for the recall starter to squeeze the trigger at the sound of the starter’s gun, or even before the starter’s gun fires, resulting in an unnecessary recall. This can be highly embarrassing and, like forgetting to load the gun, is hopefully something that happens only once in a career. With a little practice, one can quickly become accustomed to getting the finger on the trigger and firing the recall shot within the first 2-3 strides of the race.

Upon calling the runners up or firing a recall gun, the starter should confer briefly with the recall starters to get their observations on what happened and who, if anyone, should be charged. Even when it is very obvious who or what caused the recall, there should at least be brief visual communication among the starter and recall starters to ensure agreement. If a recall starter has seen or heard something that the starter apparently has missed, this should be noted immediately, since it could have an impact on the starter’s decision. And the final decision is always the starter’s alone.

In April 2012 the IAAF issued new guidelines for starters regarding what constitutes a false start (the most recent 2015 edition of “IAAF Starting Guidelines” can be found at: <http://www.iaaf.org/about-iaaf/documents/technical#manuals-guidelines>). The relevant text, most of which also is included now in Note (i) in Rule 162.6 of the IAAF Rule Book, reads:

“...not all movements in the “set” position are to be regarded as “commencing the start” and thereby potentially leading to a false start. Motion by an athlete that does not include or result in the athlete’s foot / feet leaving contact with the foot plate / plates of the starting block, or the athlete’s hand / hands losing contact with the ground, shall not be considered the commencement of the start. Such instances should be dealt with either by standing the field up or they may constitute a violation of Rule 162.5(b) or (c) [USATF Rule 162.17(b) or (c)] invoking the disciplinary provisions.”

This interpretation is now incorporated in the USATF rule book (Rule 162.13) in the 2017 major revision of Rule 162 discussed below.

This wording essentially describes a “buck” or “flinch”, and this is not to be called a false start unless one or both hands leave the ground and/or one or both feet leave the pedals of the blocks. As noted earlier, a flinch or buck is one of the most difficult situations facing a starter, and often has been subject to varying calls by starters. The IAAF (and USATF) has now attempted to provide some objective guidance in how to handle these situations, to promote more consistency in the way they are called. It is not a perfect solution, but providing some guidelines and encouraging consistency in

interpreting these situations is a positive move. *The key here is going to be the starter being more prepared and more consistent in bringing the athletes up in these situations.*

This interpretation is in effect now for IAAF and USATF competitions; but for the sake of consistency, starters for collegiate and high school competitions also are encouraged to adopt this interpretation. It is quite probable it will “filter down” to those rule books soon anyway. This process has already begun, with the 2019 NCAA rule book containing a Note in Rule 5-2-1 defining a start using the exact wording contained in USATF Rule 162.12 (see the second sentence of 162.12 on page 27 below).

A further comment regarding the recent IAAF interpretation of “commencement” of a start: The wording appears to have led on occasion to a misinterpretation. There have been a number of instances where an athlete has begun his forward movement with his body into the starting motion just before or right with the firing of the gun, but because neither hands nor feet had lost contact until after the gun fired it was not called a false start based on the wording of the new interpretation. This is an erroneous interpretation that appears to focus on only one of two possibilities described in the Note: “Any motion that does not include...the athlete’s foot / feet losing contact with the footplate(s) of the starting blocks, or the athlete’s hand / hands losing contact with the ground, shall not be considered to be the commencement of his start.” Despite his movement, the athlete did not lose contact before the gun. However, this ignores the second possibility encompassed in the phrase “or result in” contained in the Note. The sentence also says: “Any motion that does not...result in the athlete’s foot / feet losing contact with the footplate(s) of the starting blocks, or the athlete’s hand / hands losing contact with the ground, shall not be considered to be the commencement of his start.” And in this case the athlete’s movement, before or with the gun, did result in a continuous motion that did result in his losing contact with the ground and the footplates when he started. This Note is specifically intended to be applied to bucks/flinches, where there is movement that at some point stops at or before the instant the gun is fired. In the type of situation we are considering here there was no stop in his motion; once it started it continued into a start. And in this case the Note does not apply. He should be called for a false start. If it is not interpreted this way, we get right back to the situation we were in until a few years ago when athletes, coaches, and some starters interpreted the false start rule to mean that if you were moving right with the gun you were OK (even though to be moving at the gun you had to be internally initiating your start before the gun sounded; i.e., getting a “flyer”). The IAAF Technical Committee said no, that should be a false start; so they changed the wording of the rule to say that the athlete cannot initiate a start until after receiving the sound of the gun or starting device. So for a starter this means that there has to be a slight, detectable bit of time (0.1 second or more) between the gun and any visible movement on the part of the athletes.

Something that always needs to be clarified in this kind of situation is whether or not the athlete's movement was continuous into his start, or if there was movement and then pull back to (very brief) stillness without the hands or feet losing contact (i.e., the "buck" or "flinch"). With a buck or flinch, where there is a perceptible pause after the initial movement (and which can be seen on the SIS waveform if electronic blocks are being used) and the hands/feet don't leave contact before the gun, then call them up, or recall, and possibly give a warning to the flincher, depending on how bad it was or whether they drew someone into a false start. That was the primary situation this new interpretation was meant to cover, in order to hopefully start providing some consistency in how bucks/flinches are handled, as noted earlier. But there is also that phrase "...or result in..." in the wording. This appears to have been included by the Technical Committee to cover those situations where the movement is not a flinch/buck, and there is no perceptible pause before the final start motion is initiated. If the movement

just before the gun is a continuous movement into the start (i.e., a movement that "results in" the full starting motion), then it should be called a false start.

Because of these continuing misinterpretations regarding commencement of a start, in late 2016 the USATF Rules Committee approved a major revision of Rule 162 to reorganize and clarify the sections dealing with false starts. There were no substantive changes to the false start rule, but there were substantial changes to move previous Notes into Rules where they should be, and to make the intended interpretations of the false start rule easier to understand and apply. The relevant changes are as follows:

Rule 162.12: "A competitor, after assuming a full and final set position, shall not commence his/her start until first receiving the report of the pistol/starting device. In races where starting blocks are used, commencement of the start is defined as movement resulting in one or both hands losing contact with the ground or one or both feet losing contact with the foot plates of the starting blocks."

(This incorporates the definition of the commencement of a start into a rule where it should be, not as a Note where it was previously. As noted earlier, the second sentence now appears in the NCAA rule book, as the NCAA begins the process of moving toward conformance with IAAF/USATF start rules.)

Rule 162.13: "If, after the Starter has ascertained that all competitors are "set":

(a) one or more athletes violate Rule 162.12 by leaving his/her mark before receiving the report of the pistol/starting device, this shall be deemed a false start and the race immediately recalled.

(b) in races where starting blocks are used, there is initial movement prior to receiving the report of the pistol/starting device by one or more athletes that is not stopped and continues into a commencement of the start, this shall be deemed a false start and the race immediately recalled, even though one or both hands have not yet lost contact with the ground or one or both feet have not yet lost contact with the foot plates of the starting blocks at the time of the report of the pistol/starting device.

(c) in races where starting blocks are used, there is initial movement by one or more athletes that is stopped before receiving the report of the pistol/starting device, such movement shall not be considered commencement of the start if it has not resulted in one or both hands losing contact with the ground or one or both feet losing contact with the foot plates of the starting blocks, but should be regarded as an unsteady start resulting in cancelling the start with a "stand up" command by the Starter, or a recall if the pistol/starting device has fired. Such instances may, if applicable, be subject to a disciplinary warning or disqualification (see Rule 162.17).

NOTE 1: *Motion by an athlete that is stopped before the gun but causes a second athlete in an immediately adjacent lane to commit a false start should not result in a charge to that second athlete, but the first athlete causing that false start may be given a conduct warning per Rule 162.17(c).*

(d) in races starting from a standing position, one or more athletes moves or steps over the start line prior to the report of the pistol/starting device, such movement can be considered accidental and not a full commencement of a start because runners in a standing position are more prone to overbalance. Such a situation should be regarded as an unsteady start, and the athletes given a "stand up" command by the Starter, or a recall if the pistol/starting device has fired. If an athlete is pushed or jostled over the line before the start, that athlete should not be penalized, and any athlete causing such interference may be subject to a disciplinary warning or disqualification; see Rule 162.17(c) and (d)."

(New Rule 162.13 lays out the four primary reasons a Starter must abort or recall a start and the actions to be taken in each case, the first two being false start issues and the second two being unsteady start issues. Rule 162.13(a) is the ordinary false start situation, whether in races using starting blocks or stand-up starts. Rule 162.13(b) covers the “flyer” in races using starting blocks, and is designed to clarify a common misinterpretation (noted previously) of the IAAF language that formerly was in a Note. Rule 162.13(c) covers the “buck” or “flinch” situation in races using starting blocks. Rule 162.13(d) covers unsteady starts in the stand-up start situation.)

While this reorganization and clarification of the false start rule currently appears only in the USATF rule book, starters at all levels of competition are strongly urged to become familiar with and use the interpretations presented here in order to promote consistency in application of the false start rule across all levels of our sport.

In an attempt to address this issue of misinterpretation of the Note (i) in IAAF Rule 162.7, in late 2017 the IAAF added a sentence to the Note stating “However, if the Starter determines that prior to receiving the report of the gun an athlete initiated movement that was not stopped and continued into the commencement of his start, it shall be a false start.” This added language may help somewhat, but the complete revision and clarification adopted by the USATF Rules Committee beginning in 2017 is felt to be a much better solution to the problem.

If an athlete is to be charged with a false start, it is the starter’s responsibility to notify that athlete, although the rules now allow the starter to assign this task to another (e.g., a recall starter or an umpire with a red card or flag). However, the starter is still responsible for directing this task. Keep in mind there are many situations where there has been movement, but the runner does not have to be charged (e.g., extraneous noises, an adjacent runner flinching or bucking). Again, a competitor does not necessarily need to be charged with a false start every time there is a recall. IAAF and USATF rules require the runners be notified of a false start and a disqualification by showing diagonally-halved red and black card. A diagonally-halved red and black card is used to distinguish between false start situations and conduct situations, where the referee uses an all red card (the NCAA still uses an all red card for false start situations). In cases where no one is being charged, a green card is shown to all competitors. In Combined Events, where there is not a disqualification on the first false start, a diagonally-halved yellow and black card is shown in IAAF and USATF meets, and a solid yellow card is used in NCAA meets.

After a recall for a false start, a good starter will avoid the tendency to fire a faster gun on the second start. This is a common failing, and the starter should consciously and scrupulously adhere to the normal pattern of hold times. For any starter, the fastest starts (i.e., the shortest hold times) tend to be the first start of the day and any start after a false start. There should be a conscious effort to avoid a quick gun in both situations.

After the high school federation and the NCAA had successfully used the “no false start” rule in the US for 35 years, the IAAF (and the USATF) decided to use this rule as well, and since 2010 the “no false start” rule has been the common false start rule across all levels of competition. However, the old “two to the individual” rule is still used in Masters competition and for the youngest four age groups (8 and under, 9-10, 11-12 and 13-14) in USATF Youth and Junior Olympics competitions (i.e., an individual will not be disqualified until that individual has committed a second false start). The “no false start” rule will apply to the two oldest age groups in Youth and Junior Olympics (15-16, 17-18). USATF and the NCAA have retained the “two to the individual” rule for Combined Events, while the IAAF has retained the “one to the field” rule for Combined Events (i.e., the first false start is charged

to the whole field, and upon a second false start the individual who committed it is disqualified, whether that individual committed the first one or not). So as a starter you still need to be aware of what type of competition you are working and which of the three false start rules applies to a given race (Table 1). And be aware that in a given meet there could be more than one rule applied (e.g., “two to the individual” rule for combined event or younger JO athletes in one race, and “no false start” rule for open athletes in the next race).

Table 1: False Start Rules

Level of Competition	Rule Book	False Start Rule used
Youth / Junior Olympics (youngest 4 age groups)	USATF	“Two to the individual” rule
Youth / JO (15-16, 17-18)	USATF	No false start rule
High school / junior high / middle school	NFSHSA	No false start rule
Collegiate (NCAA, NAIA, NJCAA)	NCAA	No false start rule
Open / elite	USATF	No false start rule
Open / elite	IAAF	No false start rule
Masters	USATF / WMA	“Two to the individual” rule
Combined Events	USATF / NCAA	“Two to the individual” rule
Combined Events	IAAF	“One to the field” rule

Another new IAAF interpretation of what does or does not constitute a false start concerns stand up starts for longer races that do not use starting blocks. The new guidelines state that starters and referees “should avoid being overzealous in the application of the ‘zero start rule’” in these races. In general, when an athlete steps over the line before the gun it normally is because of losing balance or being jostled, and not because of intent to get an advantage, and therefore the athlete should not be penalized with disqualification. The athletes should be called up (or recalled) and reset to begin the command cycle again, with your decision being that the start was “unsteady”. This explicitly codifies an informal interpretation of the no false start rule held by many more experienced starters that it should be applied rigorously only to races using starting blocks. But if an athlete breaks out hard from the line before the gun is fired, then the runners should be called up (or recalled) and that athlete should be charged with a false start. And if you observe an athlete step over the line before the gun because of being deliberately pushed, the athlete doing the pushing can be subject to unsporting conduct warning, or disqualification if it was flagrant. This new interpretation for distance events is now part of the 2017 major rewrite of USATF rule 162 noted earlier [USATF Rule 162.13(d)].

IAAF and USATF Rules Regarding Starter's Authority

In the summer of 2001 the IAAF adopted a rule change that eliminated the phrase “and shall be the sole Judge of any fact connected with the start of the race” from the description of the starter’s duties and authority, thereby allowing the track referee to overrule a starter’s decision. This apparently was done in an attempt to allow recourse in situations where there was a clear false start that was not recalled by the starter or the recall starters. The USATF Rules Committee felt that this was an unwise solution to the problem, which would open up to protest every race and every decision by the starter to recall or not to recall a race. It also could potentially result in inordinate meet delays while the protest is being considered by the referee and then the jury of appeal. Therefore, the USATF did not adopt this IAAF rule change, but instead formulated a new rule implemented in 2002 that stated:

“In races where a false start control apparatus is used, a protest may be based on the failure of the starter to recall a false start. The protest may be made only by, or on behalf of, an athlete who has completed the race. If the protest is upheld, the Referee shall disqualify the athlete who committed the false start.”

This was a very tightly defined, very limited change in the starter’s authority. It applied *only* in races where electronic sensor blocks (now called Start Information Systems) are being used (at the moment this still is essentially major national championships and major international meets), the protest can only be made concerning a failure to call a false start (*not* when a false start *is* called), and the protest can only be made by or on behalf of a runner who completed the race. The referee will have the readout from the Start Information System to guide the decision, and the only recourse is to disqualify the competitor(s) who false started (the race cannot be rerun). This got at the problem the IAAF was trying to fix, but did not greatly diminish the authority of the starter nor set up the possibility of major delays of the meet. Similar wording was adopted by the IAAF beginning with the 2006 season. (Note that while all this transpired, the NCAA and high school rules continued to give final authority to the starter for all decisions regarding the start, and still do today.)

Somewhat ironically, the above quoted language was removed from the USATF rule book in 2006, and for a few years there were fairly regular modifications and tweaks of the rules in this area. The situation covered by the wording of this deleted rule was subsumed under the authority of a Start Referee (USATF rule 125.3), which currently reads:

“The Start Referee has the authority to make a final decision on any facts related to the start of a race where there is disagreement with a decision of the Starter. This authority is not granted in cases when the start involves the ‘commencement of a start’ coupled with an illegal reaction time indicated by a start information system, unless, for any reason, the Referee determines that the information provided by the apparatus is obviously inaccurate or not fully considered in the determination of the rule violation.”

The start referee directly observes all starts and makes immediate final decisions with regard to any protests or disagreements regarding a start; i.e., these decisions regarding the start cannot be appealed to the jury of appeal, in order to minimize any delays in the competition. In the immediate future it is likely that the start referee will be used primarily in major competitions, although it will be an option at the local level if there are a sufficient number of officials available.

In a continuing effort to bring the USATF rule book into conformance with the IAAF rule book, the language quoted at the beginning of this section that was deleted from the USATF rule book in 2006 was reinstated in 2008 in a somewhat expanded version that gives the referee a little more flexibility. This rule (USATF Rule 146.5) currently reads:

“A protest may be based on the failure of the Starter to recall a false start, or under Rule 162.17 to abort a start. The protest may be made only by, or on behalf of, an athlete who has completed the race. If the protest is upheld, any athlete who committed the false start or whose conduct should have led to the start being aborted, and who was subject to warning or disqualification according to Rule 162.12 or Rule 162.17, shall be warned or disqualified. Whether or not there is any warning or disqualification, the Referee shall have the authority to declare the event or part of the event void and that it or part of it shall be held again if in his or her opinion justice demands it.”

Included with this rule is a note stating that the right of protest and appeal under this rule applies whether or not a Start Information System is used.

There also is a USATF rule (146.4) that states:

“In races where a start information system is used, if an immediate oral protest is made regarding a decision by the Starter to charge a false start, the Referee may, if in any doubt, allow an athlete to compete under protest in order to protect the rights of all concerned and provide the time required to determine if the information provided by the apparatus is obviously inaccurate and other evidence is inconclusive with regard to the commencement of the start.”

This parallels the situation in the field events where an athlete can have an attempt measured after a foul was called, in order to protect the athlete’s rights until a final determination can be made by the referee. In 2016 USATF added wording to rule 146.4 that requires a red and white diagonally-halved card be raised in front of an athlete who is being allowed to run under protest. This red and white card is used instead of a red and black card to make it clear to the athletes, spectators and announcers that the athlete has been charged with a false start and is only being allowed to run because of an unresolved protest. There also is a Note added to USATF Rule 146.4, which clarifies that if an athlete running under such a protest then clearly commits a second false start, the referee may declare the initial protest invalid and disqualify the athlete for the second false start. Again, since these recent rule modifications only apply to races where a Start Information System (false start sensor blocks) is used, this will change little that you do as a starter at the local level where this equipment normally is not used. On occasion an athlete may attempt to make an oral protest of a false start call in a race where no Start Information System is being used. In this case the starter should simultaneously deny the protest and quickly educate the athlete on the rule that such a protest of a false start call is allowed in USATF meets only when a Start Information System is in use. (But be aware that IAAF rules do allow a protest of a called false start even if a Start Information System is not being used.)

Working with the Referee in Improper Conduct Situations

As noted earlier, there may be those relatively rare occasions where the starter must deal with situations that can be considered unsporting conduct or improper conduct (for example, purposeful attempts by an athlete to distract others or disrupt the start by inordinately slow reactions to commands, or slow roll-ups, or raising a hand to abort a start for no legitimate reason). In the past, the only apparent option the starter had was to charge the athlete with a false start, which worked well when the applicable false start rule was the old “two to the individual” rule. Even under the US high school and collegiate “no false start” rule this could be done, although in this case the false start charge and the resulting immediate disqualification should only be used in the most egregious cases. Normally the starter initially should give a verbal warning that any repetition of the improper conduct will result in a false start charge and a disqualification. This is in accord with the referee’s practice in other areas and events of giving a yellow card warning first, followed by a red card disqualification for any further infraction (although the referee does have the option of immediately issuing a red card in particularly blatant cases).

The IAAF and the USATF have now added language in the rules that allows the referee to issue a yellow or red card in these situations at the start line. False start charges from the starter and improper conduct charges from the referee are completely separate and distinct from each other, and one has no

impact on the other. The reason for giving this authority to the referee rather than the starter is because it is only the referee who normally has the authority everywhere else in the meet to issue yellow card warnings and red card disqualifications for improper conduct. In meets where there is a Start Referee, this individual will be immediately available to handle the situation at the request of the starter. If there is no Start Referee, then it would be the Track Referee, who should be close by and available. In smaller meets where there is no separate Track Referee, it will have to be the Meet Referee, who may or may not be immediately available.

In practical terms at the local level this will mean that the starter should talk to the Meet Referee before the meet starts to ensure both understand and agree on how these situations will be handled if they occur. If there is any doubt that the Meet Referee will always be immediately available, in the interest of preventing delays it may be expedient for the Meet Referee to give the starter authority to issue yellow card improper conduct warnings at the start line. If this does occur, the referee (all referees if there are more than one) should be informed as soon as possible that the starter has issued a yellow card improper conduct warning and to whom it was given. It really is not appropriate to also give the starter authority to issue red card disqualifications for improper conduct; that authority should only reside with the referee. Although only IAAF and USATF rules specifically note this procedure for handling misconduct situations at the start line, in high school and collegiate meets it is recommended that this approach be utilized when the starter and referee are separate individuals. In those cases, typically at the local high school level, where the starter is also acting as referee, this will not be an issue; the starter/referee will have the authority to issue yellow and red cards, or warnings and disqualifications, as outlined above in improper conduct situations.

If the referee (or the starter) does issue a yellow card warning for improper conduct, the rest of the field should be shown a green card to indicate that no false start is being charged. It also should be noted that if an athlete is cited a second time for unsporting or improper conduct, even if in different rounds of an event or in different events, the athlete shall be disqualified from that event and any subsequent events. The relevant rule citations for this topic are: USATF 145.3, 162.17; IAAF 145.2, 162.5.

Start Information System (Electronic Sensor Starting Blocks)

After several years of experimentation and development, the electronic sensor starting blocks to detect false starts are becoming more accepted and are becoming commonly used in major international meets and in U.S. open and collegiate championship meets. These systems in the past have been called False Start Control Apparatus or False Start Detection Systems. The IAAF preferred terminology now is Start Information System (SIS), to emphasize that the apparatus is intended to provide information to the starter. If you ever have occasion to start a meet that utilizes this equipment, it is recommended that the headphones that signal the false start be given to a recall starter, and the starter only use headphones that have the microphone for the speakers alongside the track or on each set of starting blocks. During the starter's command cycle there are a number of beeps that sound in the headphones, signaling various stages in the arming process for the sensor system, including a set of beeps after the "set" command. Many starters found it very disconcerting and confusing to have all these sounds going off in their ears while trying to focus on the start of the race. Following discussions between starters and the equipment manufacturers, the systems are now set up so that it is possible for the starter to wear a headset only with the microphone, and a recall starter can be given the headset that is used for signaling a false start. The rules now allow a recall starter to wear the headset that carries the false start signal, and it is highly recommended that you request that this be the way the system is set

up at the starting line. However, this is an individual decision; some starters prefer to wear the headset that gives the signals. It also is permissible for both the starter and a recaller to wear those headsets.

If there are at least three recall starters available, an option is to have the recall starter wearing the headset face completely away from the start and only be responsible for firing a recall gun if the false start signal is heard. This ensures that a recall signal is not inadvertently missed by a starter or recall starter who is primarily focused on the action at the starting line. Obviously, this should be done only when there are a sufficient number of additional recall starters to adequately cover the start. IAAF and USATF rules now require that a recall signal through the speakers be an automated function of the Start Information System, if that option is available on the system being used. In other words, the athletes would hear the system's recall signal at the same time the starter and/or recall starter hears it in the headphones.

Before continuing with a description of the output from electronic sensor blocks, it would be appropriate to provide a brief primer on how they work. There are three primary manufacturers of these systems that are most frequently used in track and field (in alphabetical order): FinishLynx (USA), Omega or Swiss Timing (Switzerland), and Seiko (Japan). The Omega and Seiko systems utilize custom built starting blocks with pressure sensors in the foot pedals, with slightly different approaches to measuring forces and analyzing the signals produced. The FinishLynx system instead uses an accelerometer to sense motion along the axis of the starting blocks, in a housing that can be attached to most any type of starting block. The accelerometer is attached to the central spine of the starting block assembly. There are no wires or connections to the foot pedals to sense pressure on the pedals in this system, as in the other two systems. When the athlete begins the explosive starting motion out of the blocks, the pressure put on the pedals will cause the whole block assembly to move backward slightly. This slight motion is what is sensed by the accelerometer in the FinishLynx system, whereas it is the pressure on the foot pedals that is sensed in the Omega and Seiko systems. When the rate of backward movement passes a certain threshold set in the computer software monitoring the accelerometer (or the amount of force or the rate of force increase on the pedals in the other systems), this is the indication to the system that the athlete has begun the starting motion. (If this indication occurs before, or within 0.100 second after, the gun is fired, the system gives the false start signal.) The trick is in setting the right threshold for movement rate or pressure, so that it indicates a true starting motion and not the small movements and foot adjustments that may take place while waiting for the gun to go off.

The other measurement the computer monitoring software tracks is the time from the sound of the gun until the threshold is passed. By rule, this lower limit is set at 0.100 second; any movement rate beyond the threshold that occurs before the 0.100 second time limit is presumed to be caused by an initiation of the starting motion before the gun went off. This limit was based on physiological data that indicated the normal human reaction time to sound is in the range of 0.14-0.16 second. Giving a "safety factor" of 0.04 second, it is assumed that it is physiologically impossible for a human to react faster to the sound of the gun than 0.10 second, and therefore any "reaction time" or "starting time" faster than that must be the result of the athlete anticipating the gun or trying to get an unfair advantage at the start. [Interestingly, there is research published in an IAAF research journal indicating this assumption may not be valid, so this issue may be revisited by the IAAF Technical Committee; see PV Komi, M Ishikawa and J Salmi. "IAAF Sprint Start Research Project: Is the 100 ms limit still valid?" *New Studies in Athletics* 24(1):37-47 (2009).]

If you have occasion to work at a meet using sensor blocks, there are additional things you need to be aware of with regard to their use. When the equipment indicates a false start has occurred, you

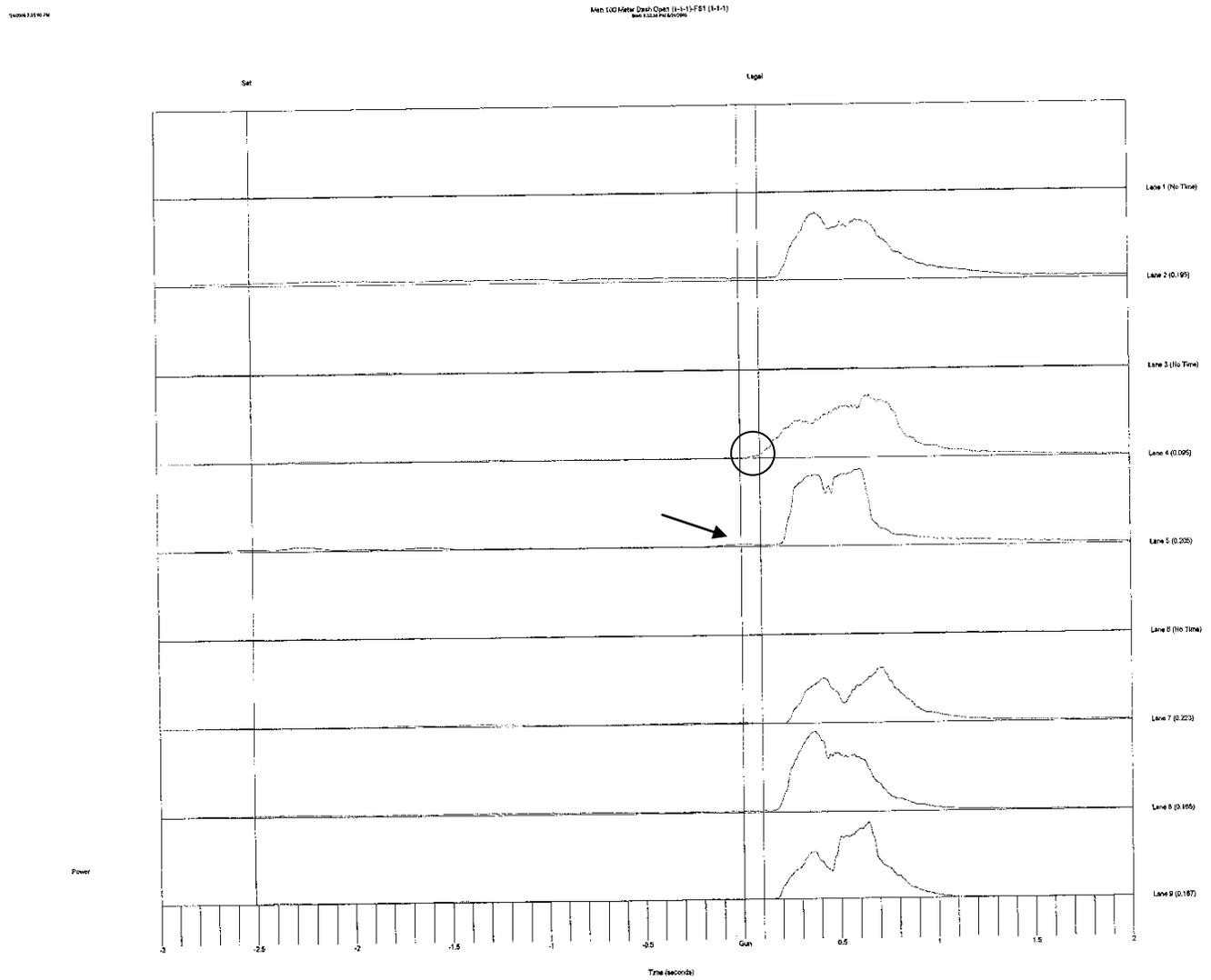
should always check with your recall starters first, to come to agreement on what everyone saw, *before* checking the results from the equipment. In most cases there should be agreement between what you saw and what the equipment indicates. If there is disagreement, it is likely one of two possible situations. First, the sensors have picked up a starting motion that was just inside the 0.10 second limit and therefore difficult to pick up visually; or second, there could have been an error on the part of the equipment. This latter possibility is admittedly rare, but it is not unheard of. Until the 2006 season, IAAF rules assumed that the sensor equipment never made errors, and therefore there was no recourse if the equipment indicated a false start. The starter or the referee had no choice; the athlete(s) had to be charged. Fortunately, this lack of recourse now has been corrected beginning with the 2006 season, and the referee can over-ride the results of the sensor equipment if it is apparent that there has been a malfunction.

As a starter, you should be aware that there is more information available to you from the sensor equipment than just the printout of “reaction times” in each lane that are immediately presented to you. You also should be aware that the technical staff handling the equipment generally are instructed not to provide information unless asked for it. Sometimes this additional information can be critical, especially in situations where there is a discrepancy between what you and your crew saw and what the machine appears to be telling you. As an example, such a situation arose in the preliminary rounds of the men’s 100M at the 2005 USATF outdoor meet. After an initial false start (when the old “one to the field” rule was in effect), the next start was again recalled when the equipment indicated a false start. The starter crew all agreed they saw movement just prior to the gun in lane 5 only. The sensor equipment printout of reaction times indicated that the false start occurred in lane 4. The printout indicated lane 4’s time was 0.095 second, and lane 5 was 0.205 second. At that point, appearing to have no other options, the starter disqualified lane 4.

Later, the waveforms were reviewed, and they showed a different story. These waveforms are reproduced here in Figures 10-12 (courtesy of FinishLynx). Figure 10 on the next page shows the summary waveforms for all lanes; lane 1 is at the top, lane 9 at the bottom. This also shows movement just prior to the 0.100 second limit after the gun in lane 4 (circle). (In this diagram the left-most of the two closely spaced vertical lines indicates the instant when the gun went off, and the right vertical line indicates the 0.10 second reaction time limit; each hashmark along the bottom axis represents 0.1 second.) But notice there also is a shallow rise in the line prior to the gun for lane 5 (arrow), although apparently it did not rise to the level that it triggered the sensors.

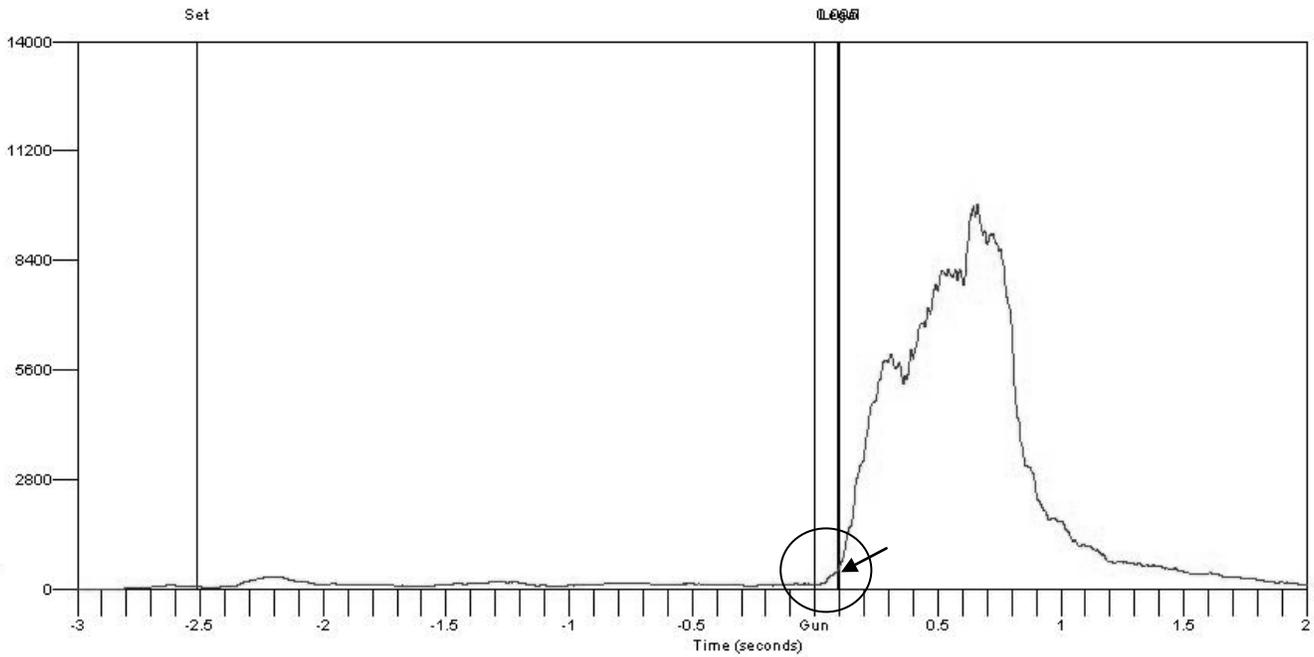
This summary waveform still does not exhaust all the information available to you, however. It is possible to look at blowups of the waveforms for each individual lane as well. Figure 11 on page 36 shows the expanded waveform for lane 4. Again, it shows movement after the gun but before the 0.10 second limit (circle). Here again the left vertical line represents the instant the gun went off, but in this diagram the right vertical line represents when the movement passed a set threshold (arrow), in this case at 0.095 seconds. (Actually, there are two lines here, one at 0.095 second marking when acceleration passed the threshold, and one at 0.10 second marking the time threshold, but they are so close together it is difficult to separate them.) Figure 12 on page 36 shows the expanded waveform for lane 5. Now it is possible to see that there was movement recorded beginning 0.15 seconds before the gun (circle), but it fell off slightly and did not reach the threshold until 0.205 seconds after the gun (arrow). (In this diagram the left vertical line again represents the gun, the middle line represents the 0.10 reaction time limit, and the right line represents when the movement passed the threshold.) It is evident that the movement in this lane prior to the gun nearly reached the threshold, but did not quite trigger the system.

Figure 10: Summary wave forms for all lanes



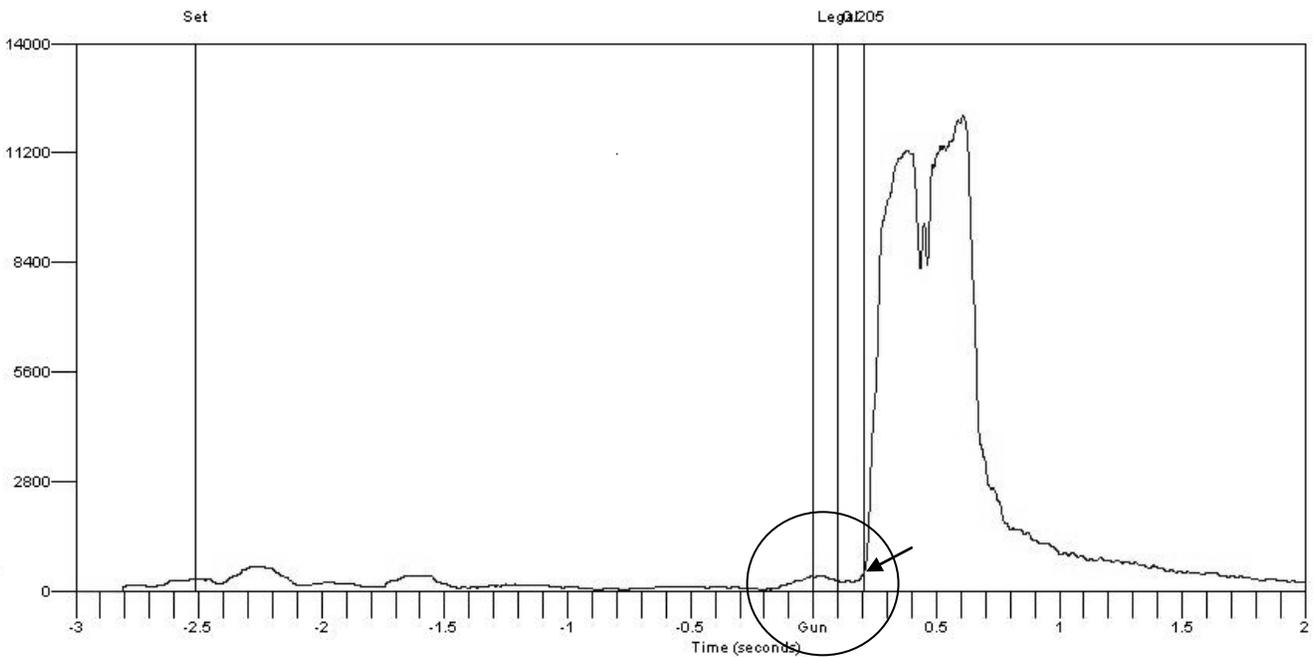
[Courtesy of FinishLynx]

Figure 11: Expanded waveform for lane 4



[Courtesy of FinishLynx]

Figure 12: Expanded waveform for lane 5



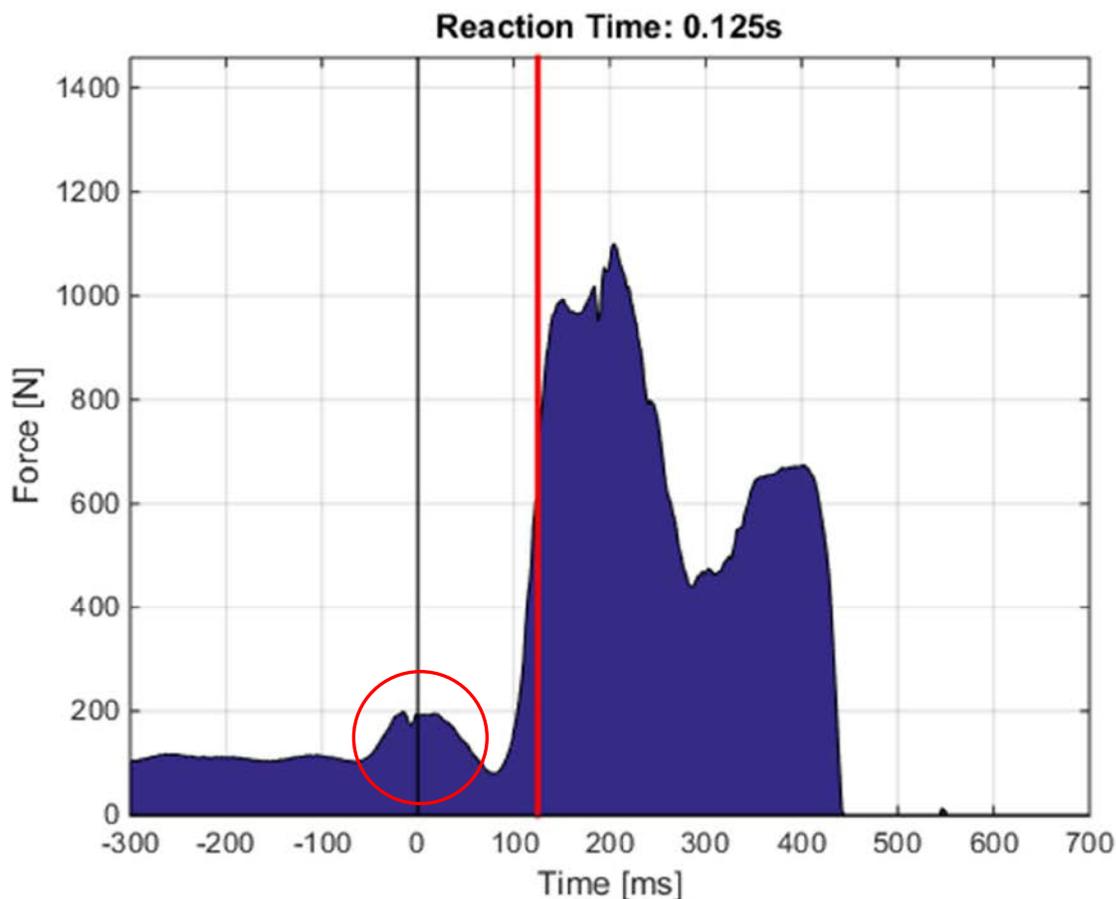
[Courtesy of FinishLynx]

Now with this additional information, it is possible to see that what the starters saw (movement in lane 5 before the gun) actually did occur, and this “buck” or “flinch” was of sufficient magnitude that it likely drew lane 4 next to him into a false start. (Note that the movement in lane 4 does not begin until about 0.19 second after the movement in lane 5, which is a typical reaction time to a visual stimulus. Note also that lane 5 was shutting down his start movement just as the gun went off, and could not recover and react until over 0.20 second after the gun, again typical of what happens with a “buck” or “flinch” just before the gun.)

All of this is not apparent from the first level of information available, the printed reaction times for each lane, nor from the second level of information available, the summary waveforms for all lanes. The third level of information is necessary, the blowups of the waveforms for each individual lane. The lessons here are to always ask for as much information as possible in these situations, and to realize that it will not necessarily be provided unless you ask for it.

Figure 13 shows an additional example of what a “flinch” or “buck” looks like, this time from the Swiss Timing system. Here it is evident that there was some movement prior to the gun, as shown by the “bump” in the curve that is circled, but it was not sufficient to trigger the system.

Figure 13: Example of waveform of a “flinch” or “buck”

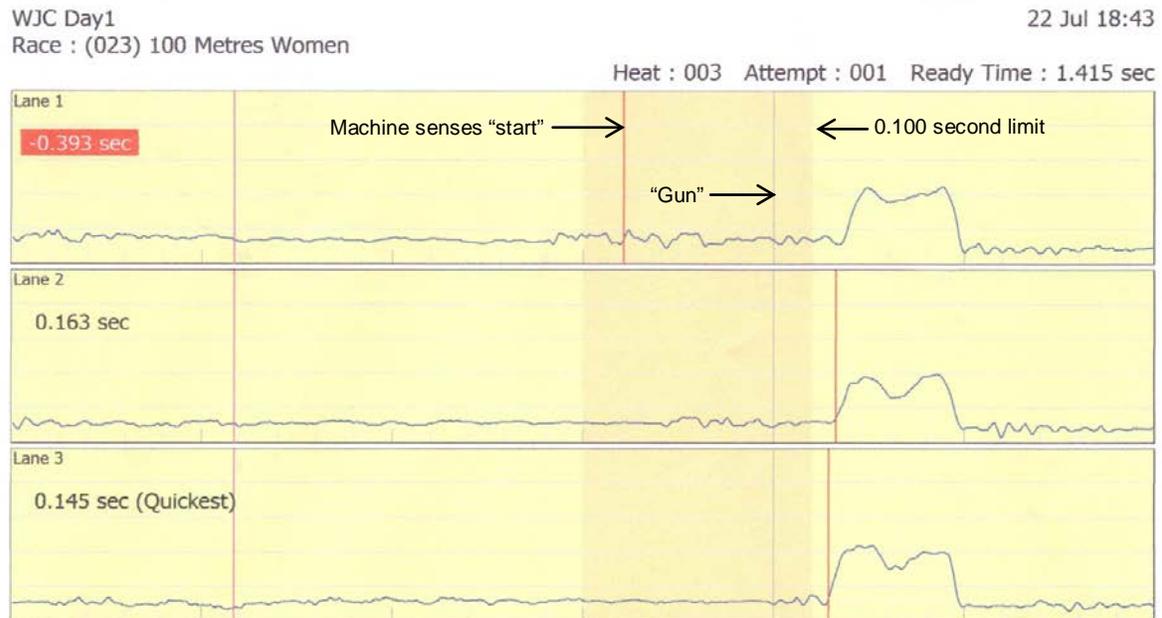


[Courtesy of Swiss Timing]

Another example, illustrating a situation that was not what it initially seemed, is shown in Figure 14. The SIS readout indicates that lane 1 false started 0.393 seconds before the gun was fired and it sounded the signal to recall the race. It is immediately apparent that the athlete did not begin her actual start until approximately 0.2 seconds after the gun, when the curve rises steeply to the initial peak. It appears there was some foot movement at the end of the athlete’s rise to the set position that put just enough pressure on the block pedals to trigger the system. In this instance, review of the official meet video from cameras located behind and from the side of the starting line showed no visible movement on the part of the athlete until after the gun and at the same time as the rest of the field. If this truly had been a false start, the steep curve to the initial peak would have been within the lightly shaded area, between the line indicating the firing of the gun and the edge of the shaded area to the right that

indicates the 0.100 second limit, or it would have been in the shaded area immediately to the left of the line indicating the gun being fired.

Figure 14: A false start indication that is false



[Courtesy of Seiko]

If you ever have occasion to use an SIS, these are the kinds of things you need to look for and be aware of. The equipment is there for the starter to be able to “examine all available numerical and graphical information generated by the Start Information System in order to confirm which athlete(s), if any, is/are responsible for the apparatus emitting a signal.” The key word is “confirm”. In other words, it is a tool to verify what the starter and recall starters observed visually. As now stated in USATF Rule 162.14 (IAAF Rule 162.6 Note), “The evidence from this equipment shall be used as a resource by the relevant officials to make a decision.” In most cases there will be no discrepancy; but, when there is, all the information available should be utilized to come to a final decision. And starters and recall starters should never get in the habit of relaxing their vigilance just because the Start Information System is being used; the human eye is still the primary tool.

USATF Chief Starter / IAAF Start Coordinator

The IAAF has created a position called Start Coordinator, in addition to the Starter and Recall Starters, and the USATF followed suit with a similar position called the Chief Starter. The responsibilities of this individual include 1) allocating duty assignments to the Starters and Recall Starters (e.g., assigning who will start each race); 2) supervise the duties performed by all members of the starter crew; 3) inform the Starter when all is ready for each race to start; 4) act as the intermediary between the starter crew and the technical staff operating the timing equipment and Start Information System; and 5) keep all papers produced during the start (i.e., printouts from the Start Information System) until turned in to the Competition Secretary. The IAAF also stipulates that this individual will oversee the proper administration of the false start rule, including proper notification of the athletes by red/black or yellow/black cards, or flags, or a green card if no one is being charged.

These are all duties that previously were done by the “Head Starter” or senior member of the starter crew, and the intent of the IAAF is that this will continue to be the case, but with a new title. However, the rule does allow for two approaches in the way it is applied; the Start Coordinator can be a purely administrative position for a senior starter who does not start races, or the Start Coordinator can continue to start races during the meet. Either option is acceptable. This newly defined position likely will not result in any change in practices at the local level for USATF meets (i.e., the “Head Starter” / “Chief Starter” / “Start Coordinator” will continue to assume these responsibilities while also starting races), and it does not apply to the high school or collegiate level.

Zero Test

If you ever work as a starter at a national championship, or any meet where there is the potential for a world or American record to be set (including world and American Youth records, Junior records, Masters records or Paralympic records), you need to be aware of the need for a “zero test” or “zero gun test”. This is a test to confirm that the overall delay between the report from the starting pistol (or the initial sound of the tone of an electronic gun) and the start of the timing system is equal to or less than 0.001 second. This test must be done each day of the competition, usually 30-60 minutes before the first scheduled running event of the day. It is performed by the chief starter (or a designated starter) and members of the technical staff of the photo-timing system, and observed by the start referee and/or the track referee. If a record is set, the results of the zero test must be submitted with the record application.

The zero test is performed by placing the starter pistol on the finish line in one of the middle lanes so the flash of the gun (or the strobe light on an electronic gun) will coincide with the true finish line (the edge of the finish line closest to the approaching runners; see Figure 15). It is a good idea to place a piece of plastic or cardboard on the track surface under the pistol so the flash does not leave a powder burn on the track. The gun sensors are placed on the ground approximately the same distance from the pistol as they normally are during actual starts, but no further than 30 cm from the pistol. When the camera crew indicates the cameras are ready, the gun is fired. The initiation of the flash is read with the hairline cursor on the resulting image, just as a torso crossing the finish line is read, and the resulting time reading on each camera should be equal to or less than 0.001 second. See Figures 15 and 16 for examples of the resulting camera picture when using a live gun, and Figure 17 for an example using an electronic gun. If the reading is not within this limit, the timing crew will have to make adjustments and the test repeated. A printout of the resulting picture should be viewed by the chief starter and/or the start referee/track referee. The electronic record of the zero test result should be retained by the timing crew, and a printout of the picture should be submitted to the competition secretary, who will need to include it as part of the paperwork filed for any world or American record application that might result from performances during the competition.

Figure 15: Set-up of Zero Gun Test and example result

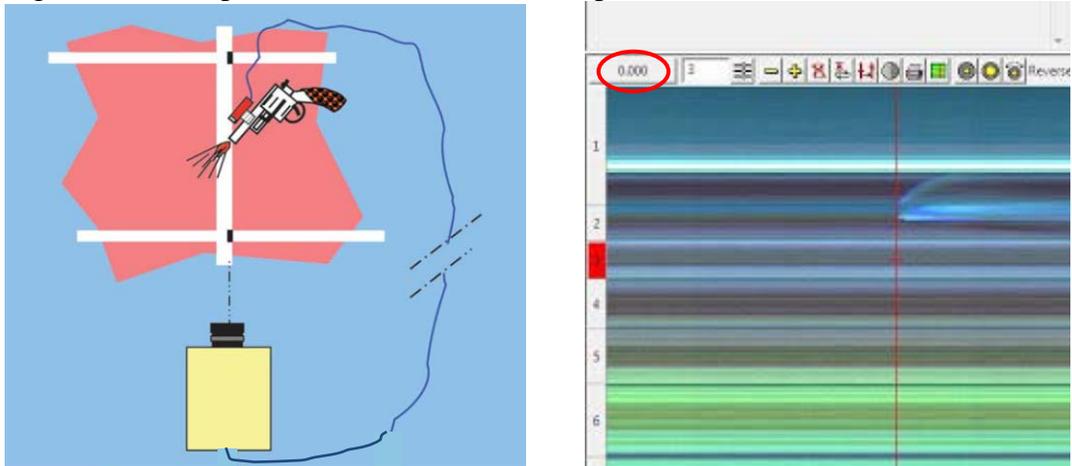


Figure 16: Example of Zero Gun Test result with a live gun

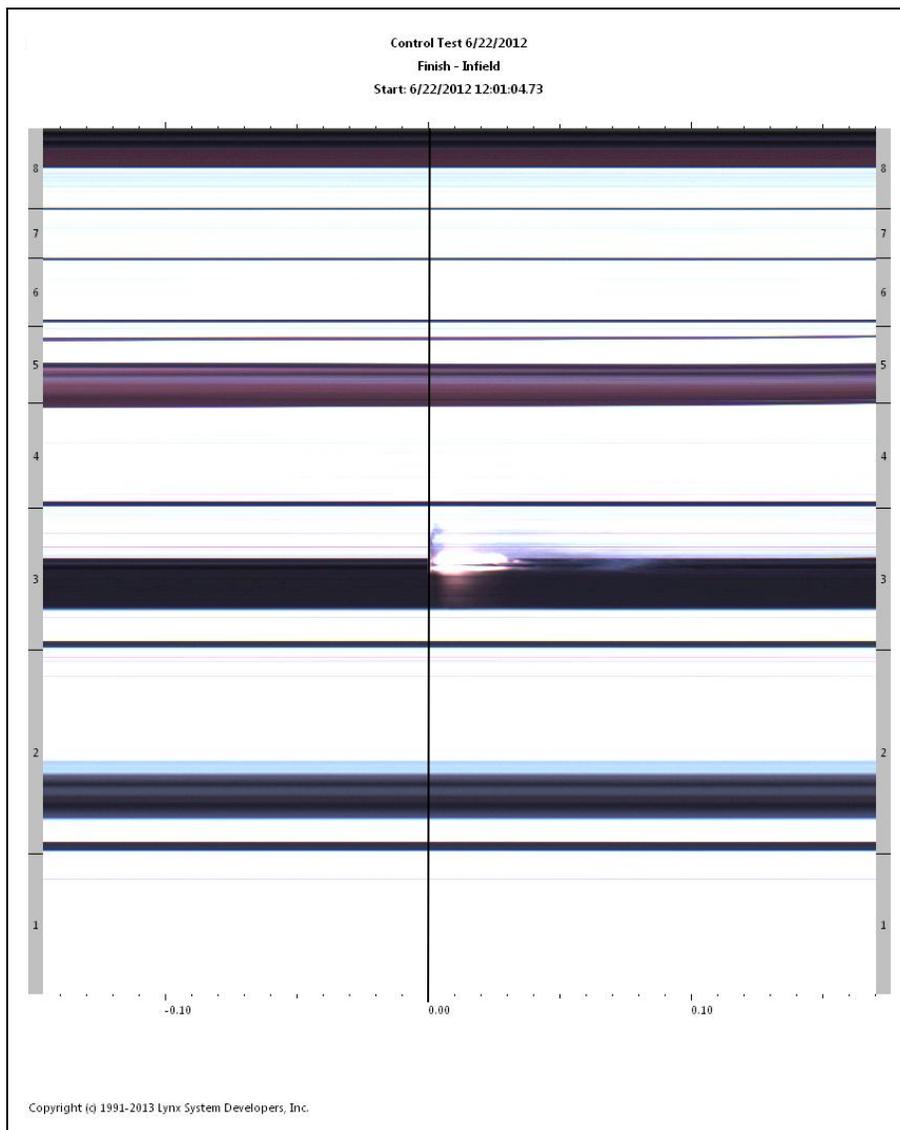
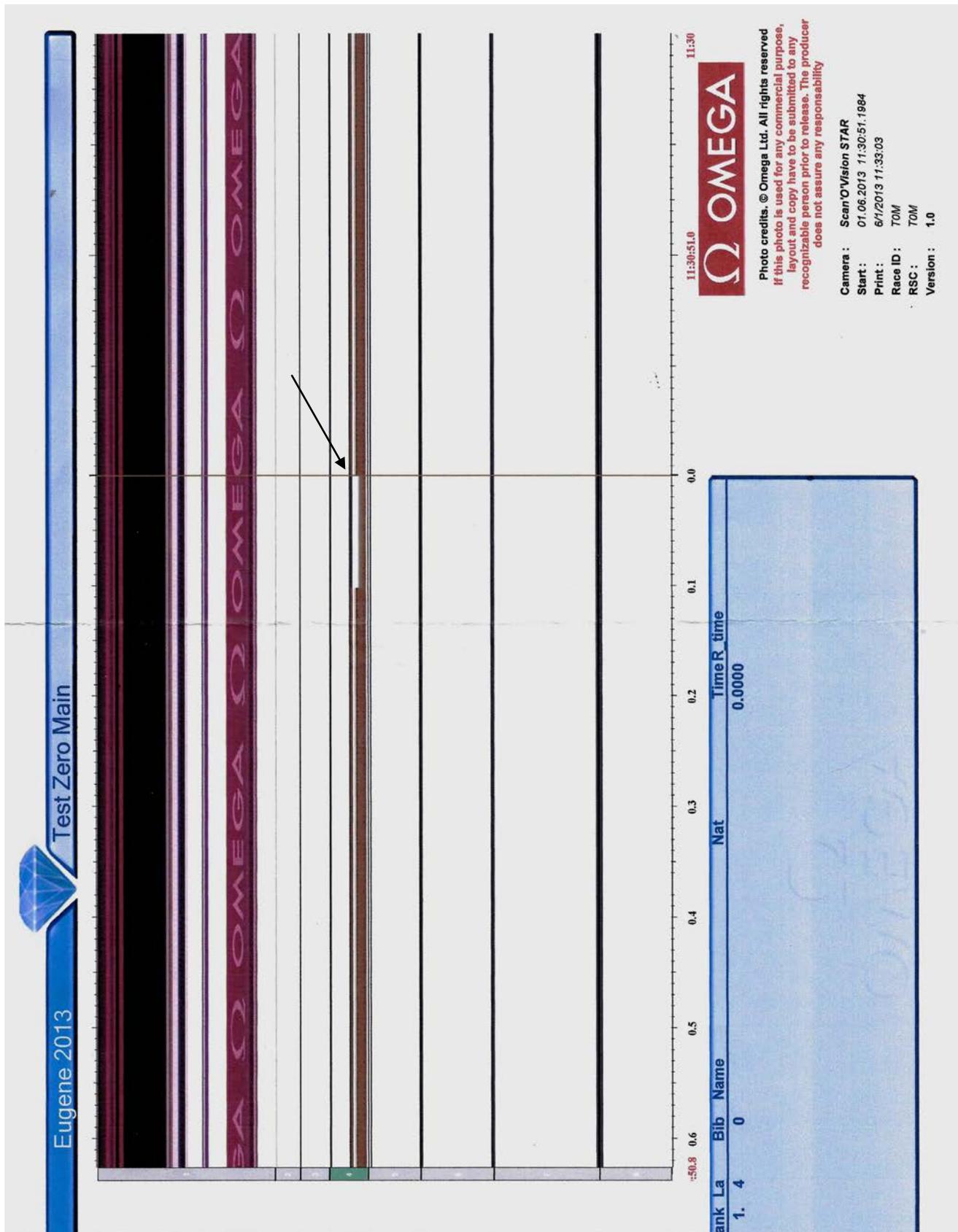


Figure 17: Example of Zero Gun Test result with an electronic gun



[Courtesy of Swiss Timing]

Honest Effort

On rare occasions an athlete may intentionally false start in order to be disqualified (usually because the athlete has been entered in the race and must show up, but the athlete or the coach has decided to try to “save” the athlete for a later event). The starter eventually may be asked by the meet referee to make a determination whether the athlete made an honest effort or intentionally jumped. At times this may be a subjective judgment on the part of the starter or the recall starter; at other times it may be quite obvious. Generally, the starter will not pursue the referee to report such incidents, but must be prepared to report what was observed, if asked. For a few years NCAA rules eliminated the “honest effort” rule, and thus eliminated the impossible task of assessing “intent” for the starter and referee. The rule was replaced by a more objectively observable “failure to participate” rule. However, in 2011 a new addition to the NCAA rule regarding conduct and competing in “an honest and sporting fashion” states that “This includes competing to the best of their ability for a given circumstance (i.e., honest effort)”, and Note 3 in NCAA Rule 5-2 now stipulates that “An intentional false start is considered misconduct.” If observed in NCAA competition, an intentional false start now presumably should be reported to the referee for appropriate action.

Rotating Starters

If more than one head starter is used during a meet with preliminary and final rounds, it is generally advisable to assign the same starter to the same event throughout the preliminary and final rounds. Because of differences in voice and rhythm between starters, this is fairest to the athletes. In addition, the starter will be able to observe and learn the idiosyncrasies of the various athletes in the event, so the starter in later rounds will know what to expect and compensate for any such idiosyncrasies.

Starters’ Uniform

As with other officials, the uniform worn by the starters is determined by meet management. You wear whatever uniform meet management stipulates. In the absence of any requirements from meet management, it is strongly recommended that starters wear a red jacket/blazer or polo shirt. This has been the standard starters’ uniform at the national level for several decades (it is what meet management at major meets often request), and it is recommended for use at all levels of competition. A brightly colored sleeve on the gun arm also is recommended (only for the starter actually starting the race). For indoor meets, a red jacket or blazer should be used with a white dress shirt and dark tie. For outdoor meets, the red blazer, white shirt and dark tie should be used, or a red polo shirt (particularly in warmer weather). The slacks (or skirt/coulottes for women) can be either black or khaki. However, black slacks are recommended, as they provide a crisper, more professional look with the red blazer or shirt. Black socks and shoes also should be worn with the black slacks.

Aside from being a tradition for many years in this country, this distinctive uniform for the starters is worn for several reasons: 1) so the starter is easy to spot by the hand timers at the finish line (despite all the wonderful electronics, there should always be human back-up timers; in 2009 IAAF and USATF rules stipulated that the number of timers at the finish line can be reduced to no less than four only when two independent FAT systems are being used); 2) to make the starter easier to spot as a service to the many spectators and coaches who time races themselves; and most importantly 3) to make it easier for the members of the starter crew to spot each other during the starting sequence. If the starters do not have a uniform distinctive from all the other officials and personnel in the area, it

can be difficult for a head starter to quickly spot the rest of the crew among all the bodies around the track at a large meet when looking for the hand signals that pass among the starter crew during the starting commands. Because of the need to avoid unnecessary delays during the starting sequence, this visual activity needs to be instantaneous, and the distinctive red starters' uniform makes this visual processing much easier. For these reasons the red blazer or shirt is the standard for starters, to provide them with a uniform that is easily and quickly spotted, yet is professional and not garish in appearance. It also fulfills the requirements of the USATF rule specifying that starters must be clearly identifiable among all other personnel at the starting line.

Ear Protection

It is highly recommended that the starter protect the ears from the sound of the gun blast while using a live gun. Race after race, meet after meet, year after year, firing the starting gun will take its toll on the auditory nerves of the ear, eventually creating hearing loss, starting in the high frequency range. Good earplugs are highly recommended, rather than cotton or inexpensive earplugs. They should be used in both ears, not just the ear closest to the gun. A good earplug should be comfortable in the ear and allow hearing normal conversation. They should not block out all sound, since it is important that the starter be able to hear noises that may distract the athletes during the start. Some starters use the earmuff or headphone type of ear protection often seen on target ranges. This is a reasonable alternative, as long as the individual does not have to wear radio headphones for communication purposes during the meet. When wearing radio headphones, earplugs still should be worn, since radio headphones are not designed to give sufficient noise protection to the ears.

Another means of long-term protection of hearing for the starter is to use an open barrel pistol. Much of the noise will be directed straight upward with an open barrel pistol, rather than to the side (and toward the starter's ears) as with a closed barrel starter pistol. Tests have shown that the decibel level at the head with an open barrel pistol is significantly lower than with a closed barrel pistol. However, with an open barrel pistol, you will have to go through the process of getting a weapons permit from the appropriate local law enforcement office. A potential problem is taking the open barrel pistol onto the campus of a high school with a "zero tolerance" policy on weapons. If the school administrators have not had the good sense to foresee the need for common sense exceptions like starter pistols for track meets, or feel they cannot take the responsibility to allow a reasonable exception to an inflexible policy, you will need to have a closed barrel pistol handy. This situation has become pervasive enough that in 2009 the high school federation adopted a rule that only closed barrel starter pistols can be used at high school meets.

An alternative is one of the new electronic starting pistols recently coming on the market. The manufacturers have not yet been able to reproduce the sharp, intense sound and impact of the blast from a black powder cartridge, and there have been reports of athletes not reacting as well to the electronic guns, while others have reported no problems adapting. In some cases an electronic "beep" is used, similar to the swimming start signal, instead of an imitation pistol shot. However, some have questioned whether this has as much impact outdoors as it does indoors in a swimming pool. But improvements are being made to the electronic tones, and the prices of these electronic starting pistols have been dropping, so it is entirely possible that in the not too distant future the traditional starter pistol with black powder shells will be a thing of the past, and we will all be using electronic pistols. (Having a "silent gun" with an electronic start signal going to speakers in each starting block, rather than through the air from a regular pistol, is seen as fairer for the athletes, particularly in staggered starts. See: A.L. Julin and J. Dapena "Sprinters at the 1996 Olympic Games in Atlanta did not hear

the starter's gun through the loudspeakers on the starting blocks” in the IAAF research journal *New Studies in Athletics* 18(1):23-27 (2003), and J. Dapena “Technology Problems in the Olympic Track Start: When the Winner Does Not Necessarily Win” at <http://www.cidida.org/files/documents/ponencias/Jes%C3%BAs%20Dapena.pdf>.)

Moving Equipment

Often the starter is not only in charge of starting races, but must be responsible for moving the starting blocks from one starting line to another, helping move and set up hurdles, and helping the clerk. This is particularly true in high school dual meets and junior high meets. It is recommended that the starter try to avoid being given the responsibility of also being the meet referee, although this is a common practice in many states at high school dual meets and junior high meets. The starter usually has enough to do without delaying the meet to go make decisions on other events. Still, these are all part of the job. However, at higher levels of competition and as the meets get larger, these extra jobs should and will be assumed by other individuals.

Care of the Starter Pistol

A good starter pistol should last a lifetime if properly cared for. It should be thoroughly cleaned as soon as possible after each use, using the materials and instructions found in a good commercially available gun cleaning kit. This eliminates the build-up of gunpowder, carbon and other materials that can lead to gumming up or freezing the mechanisms of the pistol. It is especially important to clean the gun after a meet where it has rained. Rust is another primary enemy that can ruin a pistol. The proper and consistent use of a good gun oil and cleaning kit will help prolong the life of a starter pistol and help maintain its reliability. (This is another concern/task that will disappear as electronic starting pistols come into more common use, along with the necessity and expense of buying blank shells.)

Safety

Safety precautions are not something starters are usually as concerned about, compared with other officials such as those doing the throwing events. However, the starter must still be aware of things like looking to make sure a runner is not headed on a collision course when stepping onto the track. Better yet, develop the habit of crossing the track behind the starting blocks when sprinters and hurdlers are warming up. When helping to set hurdles on the track, always check in both directions before moving anywhere after setting a hurdle. There always is the risk of a hurdler taking a practice run in the lane next to you. If you must be on the track for any reason, try to stand on a lane line to reduce the risk of a full on impact by an athlete taking a practice start. If the location of a starting line requires the starter to be near an area where errant throwing implements could land, try to ensure there is a marshal or someone else in the area to act as an extra pair of eyes and warn the starter crew if necessary.

Another safety concern to keep in mind is sun protection. While baseball caps have been the common outdoor headgear for starters, it would be wise to consider the use of a wide brimmed hat to help protect the face, neck and ears from the many hours of direct sun that starters often are subjected to during outdoor meets. Along with liberal use of a high SPF sun block on all parts of the head, neck, arms and hands, this will help protect you from the long-term consequences of sun exposure.

A couple of other good habits to adopt, particularly if you use an open barrel pistol, deal with protecting your pistol from being “lifted” from your possession. Wear your pistol in a holster with the handle forward. This makes it more difficult for someone to take it out of the holster from behind you. When you are temporarily leaving the track area and going into areas with spectators, etc., leave your pistol with someone else on the starter team. This procedure is probably more important in larger meets occurring in a stadium with larger crowds.

Traveling with Your Starter Pistol

When traveling to and from meets, it goes without saying that your starter pistol, even if it’s a closed barrel pistol, should be kept (unloaded!) in a case and locked in your car trunk (not in the glove box or the console). If your vehicle does not have a trunk, you will need to carry your pistol in a hard case that is locked. It can lead to some touchy situations if you happen to be stopped by the police with a pistol lying on your car seat or in a holster on your belt. If you have an open barrel pistol, make sure you have your carry permit with you if you live in a state that requires them. Laws on carrying firearms vary from state to state, and many states’ laws are more restrictive than federal laws. Check with your local sheriff’s office for the exact requirements in your area.

If you have occasion to travel by air with your starter pistol, it must be unloaded and in a locked, hard case in your checked baggage; you cannot have it in carry-on baggage. When you check in for your flight, you must declare orally (or in writing) that you are carrying the pistol, even if it is a closed barrel pistol, and ask the ticket agent for a gun tag to fill out and put with your gun case in your suitcase. If you forget to declare the pistol in your bag and it is seen without the expected tag when the bag is X-rayed, you could find yourself being unceremoniously escorted from the plane by Air Marshals. Even though it is legal to carry black powder blanks with your pistol in your checked baggage (but not bulk black powder or percussion caps), it is probably best to travel without your blank shells. In some jurisdictions blank shells are, or may be, considered to be ammunition, the rationale being that the wadding in a blank shell can inflict harm. If you do take blanks with you, you must carry them in a suitable container meant for carrying small amounts of ammunition (e.g., the manufacturer’s packaging). Some airlines will allow you to carry them in the same bag as your gun case, others do not. It probably creates fewer problems to carry them in a separate checked bag if possible.

To help “educate” any airline personnel who may be unfamiliar with the situation regarding starter pistols, it is a good idea to carry with you a copy of the federal regulations regarding transporting a gun on an airline flight and/or a copy of the specific airline's regulations. A very useful summary of these federal regulations and related information can be found at the TSA website <http://www.tsa.gov/traveler-information/firearms-and-ammunition>. You also can get information on any specific requirements of your air carrier by contacting the airline or going to its website prior to your flight, if you have not flown previously with that airline.

Whenever traveling to another state, by air or driving, it would be a wise precaution to carry your USATF officials ID card with you, along with copies of any selection letters or e-mails noting your status as a starter. Copies of these documents also should be placed with your gun case in your checked baggage when you are flying. If you do run into any problems, remember to remain calm, and ask to speak to a supervisor. Maintaining a calm professional demeanor will help avoid further delays.

In Conclusion

Being a starter or a recall starter is a major responsibility in a track meet, and you can have a positive or a negative impact on the satisfaction and enjoyment an athlete will have in participating in the sport, depending on how well you do your job. This monograph has attempted to present information on the major aspects of the mechanics and techniques of being a good starter. Practice the skills discussed here, observe other starters, take the time to practice voice commands and use a stopwatch to time your holds, stand in front of a mirror to observe your body language and arm signals. These will help with your mechanics. However, it still boils down to knowing the rules and using common sense in applying them. Again, all your actions and decisions should be focused on the good of all the athletes, the basic principle being to ensure that no athlete gains an unfair advantage over the other competitors, and no athlete has to compete under an unfair disadvantage.

The remaining sections of this monograph include a list of equipment that a starter should have for a meet, and checklists of responsibilities for the starter and the recall starter.

STARTERS EQUIPMENT – “What's in the bag?”

The following is a list of suggested equipment for starters (carried in an athletic bag):

- .32 caliber pistol (a .22 caliber pistol may be used for indoor meets) (High school and NCAA rules now allow a .22 caliber pistol to be used in outdoor meets if FAT is being used.)
- Sufficient black powder bland shells to start the entire meet (plus recalls); generally try to ensure meet management will supply all shells, but keep enough in your bag just in case.
- Gun cleaning kit. Care should always be taken to clean the gun immediately following a meet.
- Metal whistle on a lanyard (keep a spare handy)
- A set of appropriate red, yellow, and green cards (diagonally-halved red/black and yellow/black for USATF meets)
- Complete set of raingear, plus goulashes
- Bottle of sun block
- Sunglasses
- Earplugs (and a spare set) or “earmuff” ear protection device
- Red blazer or red sweater
- Bright fluorescent arm sleeve
- Comfortable shoes
- Hat (generally white, preferably wide brimmed)
- Small plastic bags (handy to help keep gun dry on wet days)
- Extra baton
- Current rule books (NFSHSA, NCAA, USATF, IAAF)
- Pencil and paper or 3x5 cards
- Safety pins
- Extra black powder shells
- Hand towel
- Piece of sidewalk chalk in a baggie (to mark a 3 meter walk-up line on tracks that do not have these marked for distance races)
- Extra track spikes and spike wrench
- Tape
- Small knife and/or scissors
- Watch and/or stopwatch
- Hand-held loudspeaker or speaker system, with spare batteries
- Clean handkerchief and clean saline solution for contact lenses

CHECKLIST FOR STARTERS

The following are checklists for head starters and recall starters covering their major responsibilities:

Head Starter

- ___ Arrive an hour before the meet is to start.
- ___ Look over the facility - study the color codes for the starting lines; 1-turn, 2-turn and 3-turn staggers; break points, etc.
- ___ Anticipate problems - improper markings, no batons, lap counters, starting blocks, etc.
- ___ Obtain time schedule from Meet Director or Clerk of Course.
- ___ Synchronize watch with Meet Director and/or Head Timer.
- ___ Discuss hand and arm signals to be used with finish line personnel and announcer.
- ___ Check for obstructions between starter's positions and timers.
- ___ From the 200 M start, is the background too light so that the timers cannot see the smoke? (May need to adjust the starter's position.)
- ___ Check blocks and hurdles. Are they correct? Does the starter crew have to move them, or are there helpers?
- ___ If a sound system is to be used for staggered starts, check to make sure all speakers are working and it can be heard easily from each lane.
- ___ Establish starter and recall starter positions for straight and staggered races.
- ___ Determine how the "all is ready" signal will be received from each exchange zone before the start of the 4x100 relay.
- ___ If a photo timer is being used, check out the system with the operator (i.e., check that the sensor is operating correctly at each starting line).
- ___ Discuss duties and responsibilities with the recall starter(s).
- ___ Pick up shells from host coach. Always check to make sure the shells are black powder, not smokeless.
- ___ Do not discard used shells in the track area. Keep them on your person until you can properly dispose of them.
- ___ If using headphones to communicate with the finish line and photo timer, check to make sure they are operating correctly.

Recall Starter

- ___ Arrive early with the head starter before the meet.
- ___ Look over the facility and study the color codes for the starting lines, etc.
- ___ Discuss with the head starter the conduct and signals to be used during the meet.
- ___ Obtain the time schedule for the meet.
- ___ Identify the positions the head starter wishes the recall starters to use.
- ___ Assist at the starting line with starting blocks, answering questions, checking equipment such as batons, numbers, etc.
- ___ During the start of a race, never have finger on the trigger and never have the gun cocked.
- ___ For sprint races, when runners are in their blocks, quickly check hands and see if there are any problems. If you spot a problem, quickly notify the starter to call the runners up.
- ___ For distance races, if you are on the line, quickly check to see that toes are behind the line. Call the runners up and reset them if there is a problem.
- ___ Be especially alert for such things as outside noises that could cause a break at the “set” command, or for blocks slipping or a stumble on the first stride.
- ___ On a staggered start, whether in the front or the back, use an appropriate signal to the starter when “all is ready,” or notify him if there is a problem.
- ___ If a photo timer is being used, help moving the cables.
- ___ Have either a .22 or a .32 caliber pistol available for recalling.
- ___ Establish whether or not the recall starter is responsible for firing a gun or ringing a bell to signal the “gun lap” on distance races.