



The Equipment and Facilities Specifications Newsletter

An official copyrighted publication of the Equipment and Facilities Specifications Subcommittee
of the National Officials Committee in its 28th year of publication

WELCOME TO NEW SUBSCRIBERS

This Newsletter is a semi-annual educational tool for Implement Inspectors, Technical Managers, interested Throws Officials, and certification chairs. Input and suggestions are always welcome. This copy is being sent to about **900** officials around the world. We welcome our new subscribers with this issue:

Last Name	First Name	Association
Bullock	David	Alabama
Dixon	Adrian	Potomac Valley
Georges	Dimitri	Illinois
Gunter	Keith	Alabama
Heberle	JR	Pacific
Homan	Karen	Missouri Valley
Hoppe	Sue	Pacific Northwest
Johnson	Jeff	Mid-Atlantic
Kuo	Justin	New England
McClure	Anne	Pacific Northwest
Mitchell	Patty	Ohio
Theisen	Rick	Ohio

If you know someone who could benefit by getting this information, please send his or her address or e-mail address to the editor. Likewise, if you are no longer interested in being on our mailing list, also let me know. For faster delivery, and for updates in between newsletters, send me your e-mail address. If you're getting this by US mail, I don't have your current e-mail address.

CHAIRMAN'S CORNER

Normally each Olympiad the committee is reconstituted. This time around the forms were not at the meeting in Orlando and were not sent out until we met last December in Columbus. This committee can have eight members plus those from other committees. In no particular order the eight are:

Charles Day
George Leaf
Jon Turner
Dan Moy

Richard Messenger
Cindy Slayton
Gloria Louise
Tony Wayne

With a bylaw change David Katz is on the committee as an extra member due to his membership on the IAAF Technical Committee.

Representing other committees are:

Jo Burrows
Tim Edwards
Bruce Long

Denise Hutchins
Shirley Crowe

Also included are two ex-officio members – George Kleeman and Jim Skelly. Ivars Ikstrums is included as the newsletter editor. These three have a voice, but no vote.

For those that expressed an interest in being on the committee, I'm sorry but the bylaws only allow eight members.

A hearty welcome to the two new members, Cindy and Gloria.

I do have a request from all that receive the newsletter. Ivars and I need some suggestions for topics to cover. We would also welcome any submissions of articles. If you have done something that others would be interested in, write it up and send it to either myself or Ivars.

RULE CHANGES AFFECTING EQUIPMENT OR FACILITIES

This year is an L&L year for USATF, but a number of rules changes were considered, either from last year or for conformance with recent IAAF rules changes. The following **USATF** rules change proposals, as regards equipment & facilities specifications, were dispositioned during the annual meeting in Columbus, OH:

Item 28, Rule 148.1, Measurements and Weights section:
Added facility survey requirements [for IAAF conformity].
Approved

Chair: Bob Springer
10063 Arrowsmith Ave. S.
Seattle, WA 98178
e-mail: bobspringer2@comcast.net

Editor: Ivars Ikstrums
822 – 217th Place NE
Sammamish, WA 98074
e-mail: TF_ikstrums@comcast.net

Items 29-30, Rule 149, Validity of Performance:
Added facility survey requirements [for IAAF conformity].
Approved

Item 32, Rule 161, Starting Blocks:
Rewrite of section 1

[for IAAF conformity]. **Approved**

Item 45, Rule 170.3, Relay Races: The takeover zones are re defined [for IAAF conformity]. **Approved**

Item 54, Rule 181.11, Vertical jumps crossbar: Added requirement for the crossbar to be colored so that it is visible [for IAAF conformity]. **Approved**

Item 55, Rule 181.19, Vertical jumps landing area: Amended the dimensions of the landing areas [for IAAF conformity] **REJECTED**

Item 59, Rule 188.3, Shot put: The surface smoothness specification is removed from the general requirements and made into an information note to manufacturers. The requirement for the surface to be smooth still remains [for IAAF conformity]. **Approved**

Item 60, Rule 190, Throwing cages: Adds new Note 3, establishing a 53° danger sector in the hammer throw [for IAAF conformity]. **REJECTED**

Item 76, Correction/Editorial Changes:

- **Amendment to Rule 193.11:** Adds reference to new Figure 17. Adds Figure 17 which contains an illustration of most of the dimensional specifications for the Aero Javelin. **Approved**

- **Amendment to Rule 195.5:** (1) Adds definitive wording that a hammer handle is not allowed in the weight throw event, (2) Adds a reference to Figure 15 which was accidentally deleted in a previous revision, and (3) Revises some of the Figure 15 wording to make Figure 15 match the text of Rule 195.5. **Approved**

~~~~~

The following rules changes have been adopted by the National High School Federation for inclusion in the 2018 rule book:

**Rule 6-5-11:** Changes the length specification of the pole vault cross bar from an exact value to a range of 14 ft 8 in to 14 ft 10 in. This mirrors how the HJ cross bar length is treated by the Rules.

**Rule 6-7-2:** Corrects the diameter specification of the indoor boys shot to match USATF Youth rules.

The following situations have been added or amended in the 2018 Case book: 4.6.4, 6.5.2 and 6.5.13.

## **EQUIPMENT CORNER**

If you have any information on equipment that you have purchased or built to help with your weight and measures or technical managers' activities, please pass along the information. One of our goals is to disseminate this type of information.

### **Aero javelin update**

We've recently heard of some Aero javs being submitted for inspection that were bowed; that is, not straight. The importer of the Aero jav was consulted regarding this condition for the cause and a remedy. The following is taken from his response:



It is quite common for javelin throwers to place a javelin over their shoulders for stretching exercises. This works fine for metal javs, but can bend and set the Aero jav. The good news is the Aero is flexible and can be bent back straight by flexing it in the opposite direction. In fact, the Aero can be bent about 70° without damaging it, as shown in the picture. However, a 20° bend will probably do the job. If it does not straighten out on the first attempt, try it again.

Knowing that, it would be appropriate for Inspectors to ask the owners to straighten any bent Aero javs or do it themselves. In either case, the javs should be straight when they are sent to the competition venue. Also, the owners should be advised against using the Aero jav as a stretching tool. A short video is also provided on the subject:

<http://www.pocketvideos.com/javelin/aerojav/straightenin-g-the-finnflier/>

## **THE TRAINING CENTER**

This is a regular feature of this newsletter, where we discuss the method of measuring an implement, venue or a track facility. Your comments or areas of interest are welcome. It is through this kind of dialogue that we learn from each other and improve our skills. Send the editor your stories and questions.

### **Thermal imaging of the indoor weight throw**

The last newsletter featured an article about using thermal imagers for marking the indoor weight throw. Benny Nasser has provided the following information:

*I have used an infrared imager/camera for a number of years at the USAFA indoor meets, an earlier version*

*FLIR I-7 I think. The surface is artificial turf so marking shot and weight throws accurately can be challenging when a throw lands a distance away from where one is initially stationed to mark. My experience has been that the infrared camera allows accurate location of the implements landing point (shot or weight). Of further interest, the use of the camera is useful in three different areas insuring accurate marking. Although we always strive to accurately read the tape at the ring occasionally an error may be made and could result in an error of as much as a meter one way or the other. The advantage of the I R camera is that the image lasts for a minute or so on the surface and the mark can be relocated and the measurement confirmed or corrected. Secondly, in the weight, the mark made by the handle, connector and ball can be clearly seen eliminating errors in marking locations other than the impact point of the ball. Similarly, it also allows for good calls on close possible sector fouls as the impact image can be seen in either the shot or weight and determine if a sector foul has occurred. It also avoids calling a sector foul on the handle of the weight and not the ball.*

And in regard to marking complaints by coaches, Benny says, "I agree, we have zero complaints on marking."

#### Relay exchange zones

This is a brief summary of the IAAF and USATF exchange zone rules change for this year (reference: USATF Rules 170.3 & 170.12).

1. For legs that are 200 m or less: There are no more acceleration zones. The revised exchange zone (also called the takeover zone) is 30 m long and includes the former acceleration zone. All actions, including acceleration and handoff, must take place within the 30 m takeover zone.
2. For legs that are more than 200 m: The rule is unchanged – the exchange zone is 20 m long without an acceleration zone.

#### Inspecting the outdoor shot

This is an abbreviated description which is taken from the Implement Inspector's Handbook.

Shot inspection can be grouped into the following areas:

- Surface smoothness
- Shape
- Weight
- Diameter
- Other considerations

**A. Surface Smoothness.** The following are excerpts from the rule books:

- IAAF: "surface finish shall be smooth"

- USATF: "finish shall be smooth"
- NCAA: "surface must be smooth without indentations so that an advantage is not gained by grip"
- NFHS: "The shot shall not have indentations other than a weight marking which must be manufactured in such a manner that no advantage is gained by grip"

IAAF and USATF now define smoothness as a roughness number of N7 or less as a reference for manufacturers only; implement inspectors are to use the "smooth" criteria only. NCAA and NFHS use the "advantage is not gained by grip" criteria. This means that any indentation, roughness, groove, ridge, flat spot or out-of-roundness that can aid in gripping the shot (that is, the size of a dime, or larger), is not legal. Conversely, surface blemishes, which cannot be gripped for additional advantage can be passed for most meets.

Run your fingers over the shot. Any features, mentioned above, which provide an additional grip beyond that of a smooth surface, are not legal, and those shots should be disqualified.

Spun shots, including those made of stainless steel and brass, usually have their weights stamped on them. Although the stamping creates an indentation, it is considered acceptable, and should not be disqualified. The two shots shown below are examples of this.

Cast iron shots are another matter, where the weight, and sometimes the name of the manufacturer, are integral to the mold. Some judgment is required here. If the molded feature is small and shallow, no bigger than one finger tip, then accept it. If the molded feature is bigger than a dime, then disqualify it. There are no objective criteria in this matter; the important thing is to be consistent in evaluating these moldings.

#### B. Shape

NFHS rules require the shot to be a sphere. The other rule books specify "spherical in shape." In either case, a shot that is oblong or has flat spots is not legal. None of the rule books provide guidance on how spherical a shot must be. This is left to the inspector. In short, if a shape feature on the shot can provide an unfair advantage, impound the shot. This includes flat spots that can be used as finger grips, and fill plugs that are not flush with the surface.

Most outdoor shot fill plugs are difficult to remove, unless they've been recently loosened. A mark across the plug to indicate its location when it was checked is usually adequate. However, loose fill plugs on metal shots must be tightened or disqualified.

**C. Weight.** The basic weights are 2 kg, 6 lb, 3 kg, 4 kg, 5 kg, 12 lb, 6 kg and 7.260 kg. These cover the full slate of Youth, HS, Juniors, Collegiate, Open and Masters competition.

Of note is a Special Olympics rule change for 2012, where the 4 lb shot was replaced by the 2 kg shot.

The above numbers are the minimum weights which must be met for implement certification. There is no maximum weight for any category of shot, **provided that** none of the other rules are violated. Therefore, it is acceptable, in principle, for a HS boy to bring a 16 lb shot into the competition area for warmups (more on this later, however).

Ensure the shot is clean of any foreign substances and weigh it. For scales with flat weighing surfaces, use a large washer, curtain ring or similar doughnut-shaped object to keep the shot from rolling around. Tare the scale before placing the shot on it.

In areas where junior high or middle school boys throw the 8 lb shot, be alert for 8 lb shots masquerading as high school girls 4 kg shots – this is a common problem. Additionally, 8 lb shots are occasionally found in college and Masters competition, as well. In the hands of a competent thrower, an 8 lb shot will yield a distance of 1 to 2 feet farther than with a 4 kg shot, thus underscoring the need to be vigilant for these intruders.

Also be aware that the Masters W75+ and Youth 8 & Under shot is 2 kg, not 4 lb.

**D. Diameter.** Shot diameters are mostly a function of their weight, although the athlete's gender and the Masters category add some additional rules.

All outdoor shots, except for the 6 lb shot, have maximum and minimum diameters specified by the various rule books. In general, the diameters change in relation to the weight of the shot. However, USATF Masters and WMA have created an exception wherein the shots all have a maximum diameter of 130 mm for men and 110 mm for women. The latter point means that 3 kg and 4 kg shots have differing maximum diameters for Masters men and women.

Shot diameter is commonly checked with ring gauges. Place the minimum diameter gauge on top of the maximum diameter gauge; then lower the two gauges on the shot. The first gauge should drop past the shot; the second gauge should hang up on the shot. If either measurement is marginal, measure it on three more planes. If the shot passes on 3 of the 4 planes, pass it; otherwise disqualify it. This measurement is easy to perform when the shot is on the scale.

### E. Other considerations

(1) **The "overweight" shot.** What does an Inspector do if an athlete brings a shot that is heavier than is specified for his/her age group? A common example is a high school boy wanting to use a 16 lb shot for warm-ups. And some women prefer to warm up with 5 kg shots. Since there is no maximum weight limit for a shot, this is not a disqualifying consideration. However, the other criteria

(diameter, smoothness, shape) still apply.

Frequently, a heavier shot will exceed the maximum diameter spec of the regulation shot and must be impounded on that count. For example, the outdoor 12 lb shot's max allowable diameter is 117.5 mm. But most cast 16 lb shots are larger than 117.5 mm in diameter, which would disqualify them from ever being sent into the field.

Only the smaller (and expensive) spun stainless and brass shots can be had in the 110-115 mm range. These are rarely found in HS inventories, but if one is encountered, and it passes all the rules, it must be allowed into the field. In such a case, the Inspector would do well to specially mark this shot, and also brief the event judge about its existence.

While the above examples use outdoor shot dimensions, the same situation can arise with indoor implements.

(3) **Internal movement.** Internal movement within a shot, whether detected by sound or feel, is legal and *can not* be used as a reason to disqualify a shot. This is particularly true for indoor shots which contain lead pellets.

(4) **Mass eccentricity.** The shot has no specification for center of gravity. Therefore, a non-uniform filling, which may cause the shot to roll irregularly on a table, is legal.

If the shot meets all of the requirements, mark it and put it with the other approved implements for that event. Sharpies and paint pens are common marking tools. Paint pen markings are usually more durable, while Sharpie markings dry faster.

### A note from George Kleeman

I am going to start using color dots or squares to denote flights at bigger meets so that you don't have to get all the simultaneous implements done before the first flight. I often am by myself and have three events all starting a 8 am, three or more flights. This allow you to get each first flight done and out for warmups before you have to tackle the rest.

## DOCUMENT LINKS

The **Implement Inspector's Handbook** is available at: <http://www.usatf.org/Resources-for---/groups-officials-/Officiating-Resources/Implement-Inspection.aspx>

The 2018 edition is in approval routing at this time and will be posted shortly.

**EFSS newsletters** are located at:

<http://pacificnorthwest.usatf.org/Officials/Resources.aspx>