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 880 officials around the world. We welcome our new subscribers with this issue:

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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

There were some changes to the high school rules that will affect both technical managers and implement inspectors. I would like to address some of those as well as one that needs to be changed, but still persists.

Beginning with the 2014-2015 school year, the pole vault box collar will have to meet the current ASTM standard. At this point, the only one available is from Gill. That one is at http://www.gillathletics.com/store/product/safetymax-vault-box-collar. I would expect that there will be other suppliers for collars. Gill is charging $600 for that collar. The NCAA will require use of this collar starting 12/1/2013. USATF has been silent on this box collar. For a video from Gill showing the collar and some vaults using it see http://youtu.be/CLbkgrA5rSU. Despite what some may feel, the pole doesn’t normally contact the box collar. Hopefully this will prevent some injuries from vaulters falling into the box.

Still relating to the pole vault, the duties of the implement inspector were revised to eliminate checking poles and vaulters. The reasoning was that the implement inspector’s expertise relates to throwing implements and not vaulting poles. The duty now falls on the head field judge or the field referee. I know that in Washington, the state meet implement inspector did not weigh the athletes. The two areas were about as geographically far apart as possible. The throws are outside the stadium and across a parking lot. The vault is at the far end of the stadium. I seriously doubt that very many implement inspectors do this check. This one makes real sense.

One rule wasn’t changed, and probably should be, at least in my opinion. Several years ago the NFHS Rules Committee put back in a requirement that the athlete must be under control when they leave the circle or runway after a throw. The committee added in a requirement that the official state “Mark” before the athlete could leave. The implement must land first as in all other books. The addition of the officials verbalizing before the athlete can leave puts the official in a situation where they rule on the throw before it is legal. Also, it is possible for a protest to be filed if the official makes a mistake and does not speak before the athlete leaves. That protest would have to be upheld because of another change in Rule 3-1-2 which states the no meet official can set aside a rule. Thus, an error by an official could lead to an athlete being charged with a foul throw. I have submitted a rules change proposal through my state high school association to change the Mark rule for the last few years. Needless to say, it hasn’t passed.
Anyone receiving this newsletter is welcome to help put it out by submitting articles. These articles need to relate to the subject of the committee. Any problems that come up may be sent to us as well. Keep us informed as to what is happening out there.

E&FSS ANNUAL MEETING

The subcommittee annual meeting will be held on Thursday, Dec. 5th in Indianapolis, IN. The minutes from the 2012 EFSS annual meeting are located at: http://home.comcast.net/~ikstrums/2012_EFSS_meeting_minutes.pdf

RULE CHANGES AFFECTING EQUIPMENT OR FACILITIES

The 2014 NFHS high school rules changes have been announced. The following equipment & facilities summary of changes is based on the NFHS press release and the 2014 rules book:

3-1-2: No meet official, including the meet referee and jury of appeals, shall set aside any rule.

3-19-3, 7-5-5: Removes the requirement that the implement inspector shall inspect vaulting poles. The responsibility now rests with the field referee or head field judge. [Note: Inspectors still have responsibility for checking starting blocks]

5-1-3, 5-2-6: The rules now call out painted inner markings of a track as the first choice in track construction, followed by a raised curb as a second choice. This reflects the more common track design that is used today.

6-4-2, 6-5-2, 6-6-2: The implement specifications have been rearranged to list the metric measurements first, followed by the equivalent English measurements.

6-6-1 NOTE: Revises the rule for the rubber tip javelin. The dimensions of the rubber tip attachment button have been eliminated.

7-5-24: Requires a pole vault box collar for the start of the 2014-15 track season. Padding shall meet the ASTM Specification Standards.


The following USATF rules change proposals, as regards equipment & facilities specifications, have been made for consideration at the annual meeting in Indianapolis. “IAAF conformity” is noted where the rules change is the result of a 2014 IAAF rules change.

Item 6: Amends Rule 264.4 to allow the setting of American outdoor field event records on wooden circles and runways. [Item 69 from 2012]

Item 17: Revises Rule 137.3 for placement of electronic measuring instruments. Technical requirements shall be considered from the equipment manufacturer and implement calibration specifications. [IAAF conformity]

Item 61: Revises Rule 180.17 to require a javelin runway to be a minimum of 33.5 m long at Championships. Also advises that the minimum length should be 36.5 m, where feasible. [IAAF conformity]

Item 73: Rewrites Rules 187.3 and 187.4 for IAAF conformity, but also allows the use of gloves in the weight throw.

Item 74: Amends Rule 191.7 by eliminating the length specification of the hammer handle. [IAAF conformity] Note: The 110 mm dimension remains for NCAA rules.

Item 75: Clarifies Rule 191.9 by noting the hammer weight includes the totality of the hammer head, wire and handle. [IAAF conformity]

Item 76: Amends Rule 193.1.c by specifying that the head of the javelin (not the tip or point) must first contact the ground for a fair throw. [IAAF conformity]

Item 77: Amends Rule 193.7, Note 1 by clarifying how to interpret the cross section and diameter rules for the javelin. [IAAF conformity]

Item 78: Adds the 40 degree maximum tip angle specification to the rule for IAAF conformity.

Item 79: Amends Rule 195.9 by adding the specification table for the throwing weights.

Item 94: Amends Rule 264.1 by requiring that implements used in world record-setting performances be recertified after the event, in addition to certification right after the record throw. [IAAF conformity]

NCAA rule clarification: The NCAA now requires the new pole vault box collar as of December 1, 2013. Please read the memorandum at the following link: http://content.ncaa.org/vo/?FileID=abadd083-e99a-4b25-8644-2a685c5c8b1c&m=00540f34-1fcf-4a1e-bd21-4638deaca18f&MailID=27422622
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.

Find the Zero!

This is a subject that concerns Referees, Event Judges, Event Assistants and Technical Managers. And, for good “measure,” all Implement Inspectors should be cognizant of this, as well. The issue concerns the zero point of tape measures. Anyone using a measuring tape in the field must know the point from which the tape’s markings originate (otherwise known as the Zero Point).

While the above statement seems logical, this is a matter that occasionally goes wrong, resulting in erroneous performance measurements during competition.

There is no industry standard as to where a measuring tape’s zero point should be. Frequently the zero point is not overtly indicated by the manufacturers. The only way to ensure accurate, consistent measurements is to check the location of the zero point of every tape that you ever use before the event starts. Head judges should verify (not assume) that their field assistants know the tape’s zero point.

The picture below features several measuring tapes that are, or could be, regularly used at track meets. The dotted line runs down the zero points of each tape.

Tapes 1, 2 & 4 have leaders. Their zero points are marked fairly clearly.

Tape 3 is made for construction and sports use. It has a claw that opens 90°, which defines the zero point. If the claw is folded, as above, then the zero point is usually at the end of the metal end piece.

Tape 5 has its zero point at the inside of the plastic ring, while the sixth tape’s zero point is on the outside of the plastic ring. The last tape’s zero point splits the difference on the end of the plastic ring.
The best & fastest way to determine a tape’s zero point is to fold over the tape and lay the two sections next to each other. Line up the centimeter or inch markings. Then count back to zero along the reference leg. This should be done by every official that handles the tape prior to the competition. In the picture below, the ten inch mark on the lower tape identifies the zero point on the leader.

English vs. Engineering tapes

Most non-metric tapes are marked in feet and inches (otherwise known as English or Imperial units). However, some tapes are marked in Engineering units, which consist of feet, tenths of feet and hundredths of feet (there are some applications where decimal feet are preferred over feet and inches). Unfortunately, the decimal parts on an Engineering tape can be mistaken for inches. For example, an Engineering tape that measures 52.50 (fifty two and a half) feet could be accidentally read as 52 feet and 5 inches.

Since the NFHS rules book calls for measurements in feet and inches, an Engineering tape should never be used. However, it happens from time to time that an Engineering tape measure sneaks into a track meet. For this reason, officials should be vigilant that their high school tape measures do, indeed, measure in feet and inches. A simple check will provide the answer.

In the above picture, the upper tape is marked in Engineering units because the markings are intended to show, from the left, 1.4, 1.5, 1.6, 1.7, 1.8 and 1.9 feet before reaching the 2 foot mark. The lower tape is marked in feet and inches because the inch markings count to 12 before resetting at the 2 foot mark.

Note that the upper tape’s 1.5 foot mark lines up with the lower tape’s 1’ 6” mark.

Measuring canes

When it comes to measuring the throws or horizontal jumps in the field, a time-honored method of securing the end of the measuring tape is to affix it to a measuring cane. Here are some thoughts about what works and what does not work.

In the following picture, the tape’s loop is slid down the shaft of the cane. This is the simplest arrangement, but it can create a couple of problems. The canes usually have a large washer, as seen in the picture, which keeps the tape from sliding off the end. This washer can easily obscure the view of the implement’s imprint. Also, since the tape’s zero point nearly coincides with the shaft of the cane, the implement’s imprint can be disturbed by the cane. Clearly, this is not desirable.

In the next picture, the tape’s loop is mounted on the cane as before, but this tape has a leader. That is, the tape’s zero point is about 6 inches away from the loop. This makes the zero easy to see and the implement’s imprint is not disturbed.

In the final picture (next page), a trigger snap hook is attached to the cane. Then, regardless of what type of tape is used, the zero point will be offset from the cane and easy to see. And the edge of the implement’s imprint is not disturbed.
Be vigilant for illegal additions of weight to the implement. Specifically, several washers or quarters can be taped together and inserted into the harness to make minimum weight. But as the head shifts during the throws, the illegal addition can fly out from the implement, making it underweight. A better way of adding weight is shown in Newsletter 20-1.

2. **Length**. The USATF and NCAA rules books are quite specific about how the length is to be measured. For USATF Open and NCAA competition, the maximum allowable length is 40.64 cm, while US Masters and WMA allow 41.00 cm. There is no minimum length specification.

The length is measured from the inside surface of the middle of the handle to the bottom of the ball or harness, whichever extends farther. Flat spots in the head may not be used to advantage in the length measurement since flat spots are not allowed by rule.

The length measurement is important because a soft weight’s harness will stretch over time. Some designs stretch more than others. Additionally, before placing a weight on a measurement gauge, the whole harness should be shaken to ensure the straps settle into their longest configuration.

If a weight is slightly too long it can be shortened by one of two methods. The preferred method is by addition of a spacer or bushing on the swivel pin, as described in Newsletter 21-2. In other cases, the straps can be twisted at their attachment points to the swivel; this is discussed in Newsletter 20-1.

3. **Handle**. Handles are to be made of steel rod, but there are no diameter specs for the rod. They must be of rigid form, and exhibit no elasticity, malformation, or cracked welds. USATF and NCAA rules specifically do not allow hammer handles, but WMA rules do (because the handle can be a significant part of the lightest implement’s weight).

The NCAA allows handles with no permanent connection points only with all-metal heads. The soft weight must have handles with permanent connection points.

USATF allows handles with and without permanent connection points, but imposes different dimension specs on both types.

Handles must be of a triangular form with straight sides. The minimum inside measurement is 100 mm. NCAA limits the maximum inside measurement to 190 mm.

Under USATF rules, handles for the soft weights can have no sides greater than 160 mm inside length. If they do not have permanent connection points, all sides must be of equal length. Rule 195.5.b addresses handles for the all-metal weights, but these are not commonly used indoors.
4. **Head.** The heads must be spherical. The soft heads may deform slightly upon impact, but must return to the shape of the sphere immediately afterwards. Therefore, no permanent flat spots are allowable. Although it was used in the past, rubber is no longer an acceptable material for the shell.

All-metal heads, if used, must be solid with no moving internal parts.

Soft heads prove to be a problem in this area. Most manufacturers do not fill the heads completely to protect the shell during landing. The rules allow a small void, but state that any void must be minimized so that movement of the fill material is minimized. It is a partly subjective call on the part of the Inspector as to what constitutes a minimal internal void (a 1 inch deep void is acceptable, but can’t be directly measured).

Some manufacturers use a blend of two fill materials to achieve the correct weight and fill the head nearly full. However, these materials can be of different densities and will stratify if allowed to move inside the head. This can cause the head’s center of gravity to exceed the allowable 9 mm from the center.

Center of gravity of the soft head is typically not measured because it would require the disassembly of every weight, and there is no commercially-available device for doing so at this time.

The head should be inspected for all underweight implements to determine if the shell has cracked and is leaking fill material. This usually occurs at the fill plug. If this is the case, such as is shown in Newsletter 20-1, impound the implement; do not try to add additional weight.

Sometimes small hairline cracks will be seen around the fill plug. How do deal with these is a judgment call. At a minimum, inform the athlete or coach of this condition. These cracks are not repairable and will grow over time. If these cracks are small and do not appear to be an immediate problem, place athletic or duct tape over the area for good measure.

NCAA rules specify minimum head diameters only; there is no limit on the maximum diameters. USATF and WMA continue to specify both minimum and maximum diameter limits.

5. **Harness.** The harness of a soft weight must be made of no less than four straps that do not stretch or show evidence of elasticity during a throw. Netting is not allowed. Normal wear of the straps, such as abrasion, is ok. But torn straps are not acceptable.

As regards the connection of the handle to the harness of the soft weight, the wording is slightly different between the NCAA and USATF rule books.

Inspectors should always check the fasteners of the swivel. These fasteners are frequently chrome or nickel plated, making them quite smooth with a tendency to work loose during throws. As a minimum, the fasteners should be tightened where required. A small amount of plumber’s compound may be used to ensure they remain snug.

A protective sleeve is allowed to be placed over the swivel. If this is the case, ensure the sleeve is not split open so that it could come off during competition. In the case of a finely-tuned throwing weight, the removal of the sleeve will make it underweight.

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**HISTORY**

"Track and Field Officials: I am in the process of trying to write a history of Implement Inspection in the United States. I have some write-ups from a few areas of the country but if any of you have any information, references or knowledge of how implements were inspected and certified in your area, I would appreciate a brief note giving name of early individuals involve, contact information, dates, meets where implement inspection was first done. What kind of scales were used? I am particularly interested in history before 1980. This is part of my writing a history of throwing implements and how the rules have changed over the last 120 years since the resurgence of track and field following the Civil War. You can send information to George Kleeman at George_kleeman@comcast.net. If there are any foreign officials who see this note, I am also interested in information about how your area did implement inspections."

**DOCUMENT LINKS**

The Implement Inspector’s Handbook is available at the bottom of this link: [http://www.usatf.org/groups/officials/resources/field-events/](http://www.usatf.org/groups/officials/resources/field-events/)

The Implement Specifications Best Practice has been updated for the revised Youth group designations and is available at: [http://www.usatf.org/groups/officials/resources/best-practices/](http://www.usatf.org/groups/officials/resources/best-practices/)

Past EFSS newsletters are located at: [http://www.usatf.org/groups/officials/newsletters/](http://www.usatf.org/groups/officials/newsletters/)