Fundamentals of Field Events
The Vertical Jumps

John Lilygren
Master Official, Vertical Jumps
Pacific Association
Outline

• Overview of Vertical Jumps: High Jump & Pole Vault
  – High Jump and Pole Vault Basic Rules
  – Time Limits for initiating an attempt
  – Definitions of Foul Attempts

• Safety
  – Venue inspection and preparation

• Venue Set-Up Procedures

• Procedures for conducting a safe competition

• How to score a Vertical Jump competition
  – Tie Breaking procedures
  – Jump-Off procedures
Comparison of HJ & PV Venues
## High Jump & Pole Vault Basics

<table>
<thead>
<tr>
<th></th>
<th>High Jump</th>
<th>Pole Vault</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossbar Length</td>
<td>4.0 meters</td>
<td>4.5 meters</td>
</tr>
<tr>
<td>Number of Attempts</td>
<td>Unlimited until 3 misses in row</td>
<td>Unlimited until 3 misses in row</td>
</tr>
<tr>
<td>Opening height</td>
<td>Athlete’s choice</td>
<td>Athlete’s choice</td>
</tr>
<tr>
<td>Height progression</td>
<td>Set by Games Committee</td>
<td>Set by Games Committee</td>
</tr>
<tr>
<td>Height increments Open</td>
<td>IAAF/USATF 5 cm, NCAA 5 cm, High School 2 in</td>
<td>IAAF/USATF 15 cm, NCAA 15 cm, High School 6 in</td>
</tr>
<tr>
<td>Combined Events</td>
<td>IAAF/USATF 3 cm, NCAA 3 cm, High School 10 cm</td>
<td>IAAF/USATF 10 cm, NCAA 10 cm</td>
</tr>
<tr>
<td>Standards Open</td>
<td>IAAF/USATF, NCAA, High School</td>
<td>IAAF/USATF, NCAA, High School</td>
</tr>
<tr>
<td>Passes</td>
<td>Pass height, Pass attempt</td>
<td>Pass height, Pass attempt, Pass attempt</td>
</tr>
</tbody>
</table>
# Time Limits for Initiating an Attempt

<table>
<thead>
<tr>
<th>Time Limits (minutes)</th>
<th>High Jump</th>
<th>Pole Vault</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IAAF/USATF</td>
<td>NCAA</td>
</tr>
<tr>
<td>&gt; 3 athletes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 – 3 athletes</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td>1 athlete</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Consecutive attempts</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Warning:</td>
<td>15 sec</td>
<td>15 sec</td>
</tr>
<tr>
<td>Raise yellow flag</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is a foul if ...

- When the crossbar is displaced in an attempt to clear it;
  - Exception: If, in the judgment of the official, the wind blew the pole into the crossbar causing it to fall.

- When a competitor touches the ground or landing area beyond the plane of the crossbar or the crossbar extended without first clearing the bar.
  - It is not a foul if the athlete’s arm or pole breaks the plane without touching the ground or landing area beyond the plane.

- If a competitor fails to initiate a trial within the time limit.

- If, during or after the jump, the competitor deliberately steadies or replaces the bar.

- If the pole is touched when it is falling toward the bar or uprights such that, without the intervention, the bar would have been knocked off.

- If a competitor violates the warm-up restrictions.
It is a foul if ... (cont.)

• High School only:
  – If, after successfully clearing the bar, a competitor accidentally bumps the standards and displaces the bar while exiting the pit.
  – If the competitor uses a pole that is rated below his/her weight; the competitor will also be disqualified from the event.
  – If the competitor leaves the ground in an attempt and fails to clear the bar.
    • **EXCEPTION:** The competitor aborts the approach and in stopping plants the pole.

• **Note:** *It shall not be counted as a trial or failure if a competitor’s pole breaks during an attempt to clear the bar. The vaulter shall be awarded a new trial.*
A proper set-up helps produce ...

- A safe competition
- A legal competition
- A fair competition

Courtesy of Mike Armstrong
Arkansas Association
Setting up the Pit

Position

• Wind
• Width & Length
• Surfaces
• Traffic
• “Reference Points”
• Sight Lines

Courtesy of Mike Armstrong
Arkansas Association
Setting up the Pit

Safety Issues

• Change of surface
• Condition of surface
  • Curbing
  • Obstacles
  • Traffic
• Condition of Pad
  • Signage
  • Media

Courtesy of Mike Armstrong
Arkansas Association
Standards

Spacing

- Positioned so that there is clearance of at least 10cm between them and the landing area. (IAAF 182.10; USATF 181.10)

Courtesy of Mike Armstrong
Arkansas Association
Standards

Spacing

• The distance between the uprights shall be 4.00-4.04m. (IAAF 182.6; USATF 181.13; NCAA 2.5.2) For NFHS, at least 12 feet. (NFHS 7.4.5)

• A space of at least 1cm between the ends of the crossbar and the uprights. (IAAF 182.9; USATF 181.17; NCAA 2.5.3)

• Make sure the standards are even with each other.

Courtesy of Mike Armstrong
Arkansas Association
Standards

Verticality

• Screw all of the adjusters all of the way in.

• Using a level, make sure standards are vertical.

Courtesy of Mike Armstrong
Arkansas Association
Crossbar

Midpoint: It may not be in the middle of label

Courtesy of Mike Armstrong
Arkansas Association
Crossbar

Ends

• Align and mark end pieces (NCAA 6.5.2)

Courtesy of Mike Armstrong
Arkansas Association
Standards

Calibration

Courtesy of Mike Armstrong
Arkansas Association
Standards

Mark

• Once the standards are adjusted and properly spaced mark their position on the ground.

Courtesy of Mike Armstrong
Arkansas Association
Standards

Mark

- Put down a center point to aid in measuring and in identifying the plane of the crossbar.
Pole Vault Venue Set Up

- Cover hard surfaces such as concrete, metal, wood or asphalt with a minimum of 2 inches of dense foam or other suitable material
- Remove movable objects such as hurdles
NCAA & high school competitions: verify there is a box collar
Inspect the Box & Landing Area

• Check the area around the box
  – Remove debris & water from the box
  – Verify adequate clearance for poles to the pads
• Verify that the pits are properly connected and the top cover is in place
• Observe the condition of the pit
• Verify the pegs are the proper length
  – 55 mm for USATF & NCAA
  – 76 mm for High School
• Install extenders if necessary
Mark 0 to 80 cm scale on bases
Align standards with 0 line
Observe the surroundings & anticipate problems you may encounter:

- Discus
- High Jump
Anticipate Potential Problems from adjacent events
Conducting a Competition

• Read the rules the night before (from correct book)
• Arrive early to allow time for venue set-up and warm-ups
  – High Jump: At least 45 minutes before event start
  – Pole Vault: At least 1 hour before event start
• Pick up 2 copies of entry sheets
• Make sure you have necessary equipment & helpers
• Make sure the venue is safe
• Have fun!
**Scoring**

X = Miss/Fail   O = Cleared   P = Pass

NCAA and High School: Record a “P” for each attempt that is passed.

- Be sure to ask athlete if they are passing, the attempt or the height.

USATF - a pass is a pass of the height.

Places are determined by 1) fewest attempts at a height; 2) fewest total misses throughout the competition.

- If the tie still remains for first place, the tying athletes must jump off.

<table>
<thead>
<tr>
<th>Bib #</th>
<th>Name</th>
<th>Metric</th>
<th>3.30</th>
<th>3.45</th>
<th>3.60</th>
<th>3.70</th>
<th>3.80</th>
<th>3.90</th>
<th>BEST MARK</th>
<th>Jumps Tied Ht</th>
<th>Total Misses</th>
<th>PLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adams</td>
<td>P P P X O - P P P O - - X X X - - -</td>
<td>3.70</td>
<td>1/1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Bradley</td>
<td>O - - X O - X O - X X X - - - - - - -</td>
<td>3.60</td>
<td>2/2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Crane</td>
<td>P P P P P P P P P P X X O X O - X X X</td>
<td>3.80</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Douglas</td>
<td>X X X - - - - - - - - - - - - - - - - - -</td>
<td>N/H</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Edwards</td>
<td>P P P P P O - - X O - X X X - - - - - - -</td>
<td>3.70</td>
<td>2/1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Graham</td>
<td>O - - O - - O - - O - - X X X - - - - - - -</td>
<td>3.70</td>
<td>1/0</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Howe</td>
<td>X O - X X O X O - X X X - - - - - - - - - - -</td>
<td>3.60</td>
<td>2/4</td>
<td>6 Tie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Irons</td>
<td>X X O X O - X O - X X X - - - - - - - - - - -</td>
<td>3.60</td>
<td>2/4</td>
<td>6 Tie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Jackson</td>
<td>O - - X O - X X O X X X - - - - - - - - - - -</td>
<td>3.60</td>
<td>3/3</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Jump Off Procedures

<table>
<thead>
<tr>
<th></th>
<th>High Jump</th>
<th>Pole Vault</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IAAF/USATF</td>
<td>NCAA</td>
<td>High School</td>
</tr>
<tr>
<td><strong>Starting Height</strong></td>
<td>Next ht. in progression above tie</td>
<td>Next ht. in progression above tie</td>
<td>Lowest final failing ht.</td>
</tr>
<tr>
<td><strong>Increment</strong></td>
<td>2 cm</td>
<td>2 cm</td>
<td>1 inch</td>
</tr>
<tr>
<td></td>
<td>5 cm</td>
<td>5 cm</td>
<td>3 inches</td>
</tr>
</tbody>
</table>

### High School High Jump Example

<table>
<thead>
<tr>
<th>Athlete</th>
<th>Height and Performance</th>
<th>Total Fails</th>
<th>Jump Off</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5’10” 6’ 6’ 6’ 6’ 6’ 8”</td>
<td>2</td>
<td>6’ 8” 6’ 7” 6’ 8”</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>1.75 1.80 1.83 1.86 1.88 1.90</td>
<td>2</td>
<td>1.88 1.86 1.88</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>1.75 1.80 1.83 1.86 1.88 1.90</td>
<td>3</td>
<td>1.88 1.86 1.88</td>
<td>3</td>
</tr>
</tbody>
</table>

### NCAA, USATF and IAAF High Jump Example

<table>
<thead>
<tr>
<th>Athlete</th>
<th>Height and Performance</th>
<th>Total Fails</th>
<th>Jump Off</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5’10” 6’ 6’ 6’ 6’ 6’ 8”</td>
<td>2</td>
<td>6’ 8” 6’ 7” 6’ 8”</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>1.75 1.80 1.83 1.86 1.88 1.90</td>
<td>2</td>
<td>1.88 1.86 1.88</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>1.75 1.80 1.83 1.86 1.88 1.90</td>
<td>3</td>
<td>1.88 1.86 1.88</td>
<td>3</td>
</tr>
</tbody>
</table>
Best Practices

www.usatf.org/groups/officials/resources/best-practices/