Pole Vault Zeroing Standards and Pit Setup

1. Pit placement. Move the entire pit so there’s 10-15 cm between the back of the box and the back pad. Make sure the standards can travel from 0 to 80 without obstruction by the side pads; if not, remove any zero marking from the bases and move them so there’s 80 cm range of movement.

2. Match standards’ zero marks to the zero line. Align the zero point on the standards to the white zero line that extends through the front edge of the back of the box.
   - If there’s no zero line (after removing the front pads):
     - Locate and mark the center point of the box on the inside top edge. (Point A, Figure 1, Step 1.)
     - Hold the zero end of a tape measure at the center point, extend the tape & swing an arc 3 meters to the left and right of the box; make a mark on the ground. (Points B & C, Figure 1, Step 1.)
     - From the center point (A) measure 4 meters down the runway & place a tack (Point D, Figure 1).
     - Hold the zero end of the tape on the tack, extend the tape measure to 5 meters and swing two arcs that intersect with the 3 meter arcs drawn previously.
     - Draw a line from the intersecting arcs on the left & right sides of the box. This is the zero line which should pass through the top edge of the back of the box. Place a mark or tape on the ground to indicate the zero line, and align the zero point on the bases to the zero line/mark.
   - If there’s no zero mark on the base, move the standards to nearly the front of the base (ensuring there is a range of 80 cm movement with the side pads in), make a zero point mark on the bases, and align the zero point on the bases to the zero line/mark.

3. Check that the bases are properly spaced. Measure the distance between the inside edge of each base to the center point of the back of the box on the zero line – they should be equidistant; adjust the bases as necessary. Set the standards to zero. Put a bar up and check (eyeball it) that the bar overlaps the pegs by 5 to 11 cm at each end (since the pegs must be 4.30 to 4.37 meters apart, and the bar is 4.48 to 4.52 meters long). Now move the standards to 80 and again check the overlap; adjust the bases as necessary.

4. Check that bases are parallel to the runway. Place a thumbtack in the middle of the runway at the longer white line, and another also in the middle, but 80 cm closer to the box.
   - With the standards at zero, measure the distance from the 1st tack to the metal bracket that sets the height of the bar on the left standard. (See Figures 2 & 3 below.) Now move the standard to 80 and measure the distance from this second point to the same point on the upright.
   - If the 2nd measurement is less the 1st, pull the back of the standard base away from the pit. If the distance is greater, push the back of the standard base toward the pit. Do not move the front of the base. Repeat this for the right standard. It doesn’t matter what point on the runway you use or what point on the standard you measure to, as long as you’re consistent in measuring to the same point on both standards.

5. Check the vertical plane. Place a level vertically on the outer edge of a standard and shim the base as necessary to make it vertical. Then place the level on the front or back of the standard and again shim as necessary to make it vertical. Repeat for the other standard. (If the standards are tilted inward or outward, the bar will not properly overlap the pegs as it’s raised; if they’re tilted forward or backward, the bar will not match the desired standards settings at ground level.)

6. Check zero. With the standards at zero, put a bar up at a height of 8 to 10 feet and check zero with a plumb bob suspended over the front center of the bar (side closest to the runway). The plumb bob should be directly above the front edge of the back of the box. Move the standard bases forward or back as needed. Then raise the bar and check the plumb again at 15 or 16 feet.

7. Check the horizontal plane. Place a bar on the lowest peg at the lowest possible height and place a level on the middle of the bar if you can reach it. If you can’t reach it, stretch a string tautly between the standards at the same point on both scales and use a hanging level in the middle of the string. If the bar or string isn’t level, adjust the height on one standard until it is level and note the adjustment. Place a piece of tape on that standard and note that it must be set at plus or minus the adjusted amount for all competition heights.

8. Check accuracy of the scales on the standards. Measurement must be made from a point on the same level as the takeoff. Set the measuring device at a height, measure it with a steel tape, and set both standards to the same height. Set the standards at zero, put up a bar and measure its height. If it doesn’t match the device, adjust both standard heights until the bar is at the measuring device height. Note the difference for the flight coordinator and pit crew -- both standards must be set at plus or minus the adjusted amount in order to get the right (measuring device) height.
Establishing the Zero Line

**Figure 1**

**Step 1**
Mark center of box (A), measure 3 meters from that point draw two arcs (B & C)

**Figure 1**

**Step 2**
Measure 4 meters from point A & place a tack at point D

**Figure 1**

**Step 3**
Draw two arcs from point D that cross the arcs at points B and C. Draw a line through the intersecting arcs at B and C. This is the Zero Line.
Figure 2
Top View

Figure 3
Side View

Tape pulled to spot in middle of runway