

Leica Disto X4 for Throws

Safety First: DO NOT POINT THE LASER BEAM AT ANY LIVING CREATURE. THIS COULD BLIND THEM. PLEASE KEEP THE LASER BEAM/DOT OFF WHILE NOT MEASURING AS YOU MAY INADVERTENTLY POINT IT AS SOMEONE. THEY WILL NOT BE PLEASED. KEEPING IT POINTED TO THE GROUND WHILE NOT IN USE IS A GOOD PRACTICE.

WEATHER PROOF: THESE DEVICES AREN'T OVERLY GOOD AT KEEPING THE WEATHER OUT. IF LEFT OUT IN THE DIRECT SUN THEY WILL OVERHEAT AND TURN OFF. WHEN NOT TAKING A MEASUREMENT TURN THEM AWAY FROM THE SUN. THE RAIN WILL PROBABLY HAVE SOME EFFECT ON THEM, USE A LIGHT SANDWICH BAGGIE WITH THE END CUT OUT AND WRAP THE DEVICE WHEN IT'S RAINING.

The Leica Disto is a powerful measuring tool that measures throwing events with ease. The following will guide you through the set up and use of the Leica Disto.

What the various buttons do.



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Setting the Offset

The offset is to be used when using the Measuring Device from the center of the circle. The amount of offset is from the center of the circle or 8M mark in Javelin to the ring or fault line. There should be a 1/4" hole drilled in the circle or 8M mark. How to accurately drill these holes will be described further in the document.

To Set the "Offset" for Throws, do the following:

Push ON

Push "Func"

Push "Setup" button under the gears

Push the "-" button 4 times

Note: To change the offset back to 0.00, push the button under the zeros

Push "="

The +/- buttons moves the arrows to different numbers

The magnifying glass and bottom button change the values

After you have inputted the offset, SP/HAM = +1.067M
DIS = +1.250M
Jav = +8M push the button under the check mark

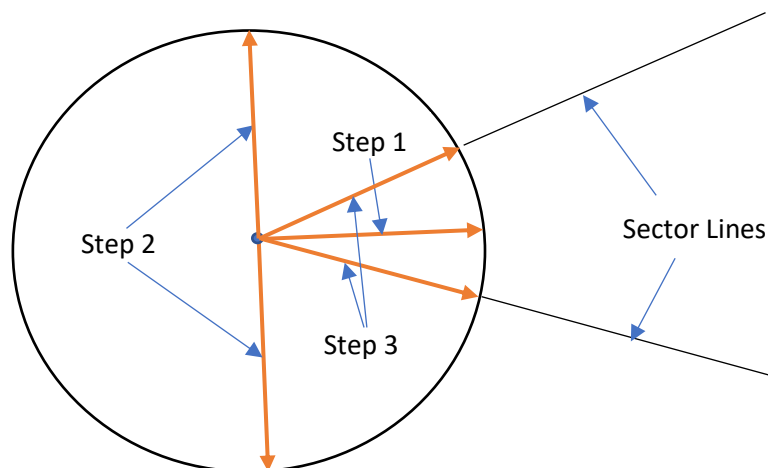
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Suggested way to determine the center of the circle and the crossing of the sector lines with a throws circle or javelin runway:

1. From the center of the sector lines on inside of the rim/line measure the radius of the circle. (Hammer/Shot Put = 1.0675M. Discus = 1.250M. Javelin = 8M) Place a small mark of the radius close to where you think the center is.
2. Now measure the radius from the sides of the circle. You may have to move the original mark slightly to get it equal distance from both sides.
3. As a double check measure the radius along the sector lines. All these marks should be fairly close together. **NOTE:** Once you are certain the mark for the radius is in exactly the right spot after testing it with the laser, you could drill a small $\frac{1}{4}$ " hole in this spot and then this would never have to be done again. (Check with the local organizing group before you do this.)

You may now lay out the sector lines using the radius mark. If there are 2 circles, (Ham/Dis) set up the second one the same way. Once you have the sector lines in place take some white line paint and every 20M along the sector line mark where they go so you won't have to lay/measure them out again when you change circles or the next day.



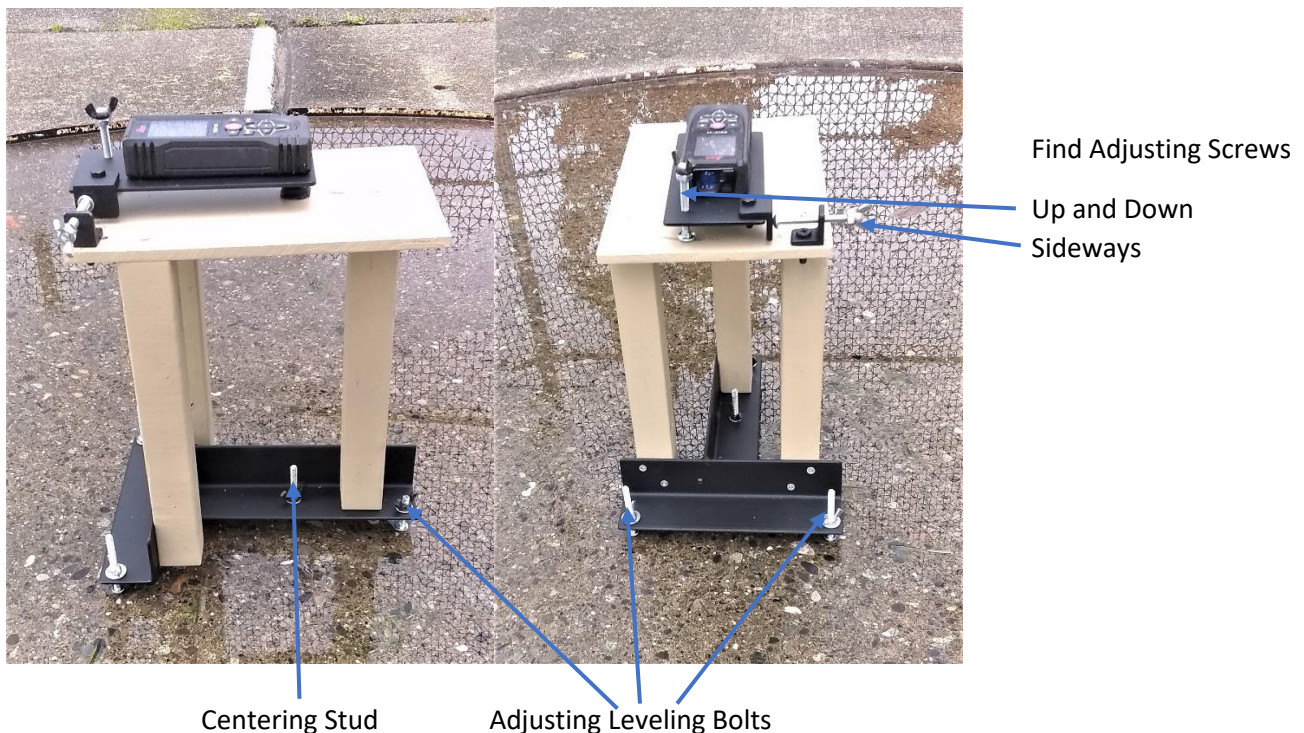
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Setting up and Taking Measurements with the Laser Measuring Device for Throws

Make sure you have the laser device set to the right offset for the event you are doing.

Shot Put/Hammer = +1.067M Discus = +1.250M Javelin = +8M

1. Take the laser measure device and place it in the circle with the ¼" centering stud in the base of the unit into the ¼" hole in the circle/runway.
2. Level the device using the bubble level with the 3 adjusting leveling bolts.
3. Place the reflector marking pole in the sector area, doesn't matter the distance.
4. Turn the laser device so it is pointed in the general direction of the marking pole.
5. Turn the laser device on and look at the screen. You should see a red cross. Using the fine adjusting screws, move the laser device up/down/across so the red cross is in the center of the white board of the marking pole.
6. Push the Red "ON/DIST" button. A new screen will come up giving you the distance from the inside of rim/line to the marking pole.
7. Take a tape measure and check the measurement. If the laser and the tape do not agree then there could be a couple reasons.
 - a. If the measurement is out by quite a bit, then you likely don't have the right offset in the device.
 - b. If it's off by a CM then the hole in the circle/runway is off a bit so adjust the offset in the device by the amount it's off.
8. Once you've reset the device take another measurement.



Note: The design/look of this may change over time but it will still work basically the same

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Setting the Measuring Pole Correctly

- Find the spot where the implement landed and place the sharp end on the spot.
- Look through the site and center the laser device in the center of the site. Note: You can adjust the height of the site.
- Push the pole into the ground while keeping the leveling bubble in the middle of the circle.
- Now stand still and keep the bubble in the circle. (As well as you can.)

Taking a Measurement

- a. Take the laser measure and place it in the circle with the $\frac{1}{4}$ " centering stud in the base of the unit into the $\frac{1}{4}$ " hole in the circle/runway.
- b. Turn the laser device so it is pointed in the general direction of the marking pole.
- c. Turn the laser device on and look at the screen. You should see a red cross. Using the fine adjusting screws, move the laser device so the red cross is in the center of the white board of the marking pole.
- d. If the attempt is out a way you may have to zoom in. Push the magnifying glass button 1 or 2 times depending on how far out the attempt is.
- e. Push the Red "ON/DIST" button. A new screen will come up giving you the distance to the 3rd decimal place.
- f. Call out the measurement