



**Purpose:** To determine the total runout of a bowling ball.

**Materials:**

- Bowling ball to be tested
- Clean towel
- Federal dial indicator with spring sensor
- Isopropyl Alcohol
- Roundness test stand

**Procedure:**

1. Clean the surface of the bowling ball using a clean towel and Isopropyl Alcohol. Be sure the surface of the bowling ball is dry before continuing.
2. Place the bowling ball in the ball holder on the base of the roundness test stand.
3. Slide the bowling ball in the ball holder back in the test stand until it stops and the ball is under the sensor on the dial indicator.
4. Adjust the bowling ball so the pin is directly under the sensor on dial indicator and the CG marking on the bowling ball is facing you.
5. Align the "0" marking and needle on the dial indicator.
6. Slowly rotate the bowling ball towards you for one complete revolution while watching the displacement of the needle on the dial indicator. Note the upper and lower limits of displacement of the needle on the dial indicator.
7. Record the difference in the maximum and minimum values in the needle displacement on the dial indicator. This is the total runout in inches for that circumference of the bowling ball.
8. Slide the bowling ball in the holder forward (towards you). Rotate the bowling ball one quarter turn to the right so the pin is now on the right-hand side of the bowling ball.
9. Slide the bowling ball in the holder back in the test stand until it stops and the ball is under the sensor on the dial indicator.
10. Repeat step 5-7.



11. Examine the total runout for both circumferences of the bowling ball tested. The larger of the two values is recorded as how much the bowling ball is out-of-round in inches.

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