

Standard Operating Procedure: SOP-BALL-7

## Diameter of a Bowling Ball

<u>Rev</u>	<u>Date</u>	<u>Staff Member</u>	<u>Purpose</u>
2	11/13/19	A. Stanton	Add calibration/verification procedure
1	02/16/09	N. Mours	rewrite for clarification
Origination date: 10/29/07		Originator: T. Robben	

**Purpose:** to determine the diameter of a bowling ball.

**Materials:**

- Ball cup
- Bowling ball to be tested
- Grease pencil
- Starrett outside micrometer caliper No. 436 (range: 8''-9'')
- Turbo 2-N-1 Pro Sect

**Procedure:**

1. Place the bowling ball in the ball cup.
2. Mark a point on the left side of the bowling ball using the grease pencil.
3. Using the Pro Sect, mark a point with the grease pencil 180 degrees on the right side of the bowling ball from the point made in step 2.
4. Place the left measuring contact of the micrometer (the side without the dial) just below the point marked with the grease pencil on the bowling ball in step 2. The top of the measuring contact should be just below the mark, but not on the mark.
5. Using the dial on the right end of the caliper, begin to tighten the micrometer so the measuring contact is just above the grease pencil mark on the bowling ball made in step 3. The measuring contact should not be touching the mark at all, but just above it. These marks are used to be sure that the true diameter of the bowling ball is being measured.
6. Continue to tighten the micrometer until the right measuring contact is tight against the bowling ball, but not securely clamped. There should be only a slight amount of resistance when trying to move the measuring contact.
7. Record the diameter of the bowling ball by reading the vernier scale on the dial of the micrometer.

**If test results indicate the ball diameter is out of spec:**

1. Test that the caliper is operating correctly by checking the calibration rod inside the caliper case. If the tested values are within  $\pm 0.001$  of the expected value (8.5 in. or 215.9 mm.), the caliper is operating correctly.
2. If tested values are not within  $\pm 0.001$  of 8.5 inches, send caliper for recalibration at Trident Systems & Engineering.



### **Calibration**

The caliper is to be sent off for official calibration at Trident Systems & Engineering **annually** (July).

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