



BOWLING BALL TESTING SOP

(Standard Operating Procedure)

Standard Operating Procedure (SOP) for Bowling Ball Testing at the USBC Open Championships

Introduction

Welcome to the Squad Room Standard Operating Procedure (SOP) for bowling ball inspection and testing. This document provides a guide to the processes and policies governing the management of equipment inspection at the USBC Open Championships. Our goal is to ensure a transparent, efficient and consistent experience for all participants. By outlining detailed steps and responsibilities, we aim to maintain high standards of accuracy, fairness and customer satisfaction. Whether you're a participant, staff member or manager, this SOP serves as a resource to help navigate every aspect of the inspection and testing process.

Purpose and Scope

Purpose: This SOP provides a comprehensive guide for bowling ball inspection process at the USBC Open Championships, focusing on transparency, efficiency and consistency.

Scope: Definition and acronyms, roles and responsibilities, tools and systems, process overview, inspection and testing, non-compliant equipment and communications.

Definitions and Acronyms

- **Slow Absorption:** Any ball with an oil absorption time greater than 90 minutes.
- **High Performance:** Advanced, often asymmetrical weight block designed to produce a more aggressive and dynamic reaction on the lane, characterized by a high differential and typically a low radius of gyration (RG).
- **Non-High Performance:** Balls with weak cores and cover stocks that are typically used for spare shooting. Note: Currently approved rubber and polyester or "plastic" balls are considered non-high-performance balls regardless of their other properties.
- **Durometer:** A tool used to measure the hardness of materials like rubber and plastic by pressing a presser foot into the material's surface.
- **Kaufman Scale:** A scale used to check weight and balance.
- **78D:** Minimum manufactured hardness for slow absorbing high performance (urethane) bowling balls allowed in USBC Championships.
- **CG:** Center of Gravity.
- **Squad Room:** Designated area within the venue where competitors gather to have their equipment checked, purchase brackets and/or photos, and receive awards.
- **Scales:** Located in the squad room and performs all inspection and testing of bowling balls to make sure they meet USBC approved specification for competition.

Roles and Responsibilities

- **Greeter:** Directs competitors to a station for an equipment check.
- **Scales Associate:** Inspect all bowling balls and report any potential non-compliant equipment to their team leader.
- **Team Leader:** Supervises the scales associates and equipment checking operations. Perform and log daily calibration of testing equipment. They are the first point of escalation on potential non-compliant equipment; conducting additional inspections and/or testing.

- **Equipment Specifications Team:** Compile and maintain all data gathered from the event. In addition, train the tournament staff on set-up, calibration, and use of the electronic durometer.
- **Tournament Management:** Oversees the entire process and makes the final decision on escalated matters regarding equipment.

Tools and Systems

- Durometer (checks for hardness)
- Automated testing stand
- Infrared thermometer
- Kaufman scale
- Data collection sheet (kept in SharePoint)
- Ball inspection forms

Process Overview

All bowling balls will be visually inspected by the tournament's scale room staff prior to each squad to ensure approval of use during competition. Additionally, every fifth competitor, tracked by individual workstation, with equipment identified as a 78D slow absorbing high performance bowling ball(s) will be directed to the testing station for a hardness and temperature check.

Step-by-Step Inspection Process

- Competitors are required to present all bowling balls they wish to use for their upcoming squad (team or minors) to a scales staff member for inspection.
- Visual Inspection** - each bowling ball will be rotated to verify:
 - The make, model and serial number are present.
 - There are no cracks or fissures.
 - There are no extra holes.
 - There is a gripping orientation mark if no thumbhole.
 - Balance - CG orientation.
 - There is no evidence of tampering.
- Testing** – 78D slow absorbing high performance bowling balls will be checked for hardness and temperature by:
 - Placing by the ball in the testing apparatus and checking in five (5) spots around the equator of the ball (compared to the pin).
 - Simultaneously checking the ball's temperature with an infrared thermometer.
 - The following data will be collected from the testing: The name of the ball, the ball's serial number, the temperature of the ball, and the durometer reading of each punch (5).
 - Any ball testing lower than 73 hardness will be tested (punched) 5 additional times.

***Note:** In addition to random testing by squad, USBC may periodically conduct large-scale testing sessions during the event.*
- All compliant bowling balls will be returned to the competitor.

Non-Compliant Equipment

- If a non-compliant bowling ball can be repaired/fixed, it may be used in competition provided the repair work is completed, and the ball goes through the inspection and testing process and deemed compliant.
- If a non-compliant bowling ball cannot be repaired/fixed or ineligible for any reason(s) (including but are not limited to missing the manufacturer logo, ball

- type, serial number, cracks or fissures, extra holes, missing grip orientation marks, out of balance -CG orientation, or evidence of tampering), the ball must be removed.
- i) Tampering with a ball (so it no longer meets USBC specifications, as stated in the USBC Equipment Specifications and Certifications Manual - USBC Rule 17a-1), is grounds for disqualification.
- c) When a ball is removed from competition for not meeting USBC Open Championships rules and USBC specifications:
- i) A non-compliant equipment form (see Appendix A) will be completed by the scale room staff lead, verified and signed by a tournament official.
 - ii) A copy of the form given to the bowler.
 - iii) The ball is placed in safekeeping until the conclusion of the squad.
 - iv) If the ball is otherwise approved for USBC competition, such as league play, with no signs of tampering, the bowler can retrieve their ball at conclusion of their squad by presenting their copy of the non-compliant ball form.
 - v) If the ball was removed for suspected tampering, USBC will maintain possession of the ball pending investigation.

Communication Plan

- 1) SOP posted in the squad room.
- 2) SOP posted on the Open Championships information page.
- 3) Electronic communication to tournament participants in the Know Before You Go email, captains club emails, and OC FB page.

Appendix A

USBC Tournaments Bowling Ball Non-Compliance Form



Please Print

Date _____

Squad _____

Name _____

USBC # _____

Ball Data:

Brand _____

Model _____

Serial Number _____

Color _____

Reason(s) for removal:

Ineligible Ball List Y / N Weight Hole Y / N Gross Weight Y / N

Cracked Ball Y / N Visible Logo Y / N Serial # Y / N

Balance Y / N Hardness Y / N

Durometer Reading: Spot 1 _____ Spot 2 _____ Spot 3 _____ Spot 4 _____ Spot 5 _____

This ball has been deemed ineligible for use at this USBC Tournament.

YES / NO

This ball is ineligible for use in any certified USBC league or tournament.

YES / NO

Official's Signature _____

Bowling Ball Returned Y / N

Bowler's Signature _____

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