

## The String Machine Game-Changer Series

Installment 3 of 3

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# String Machines and Sport Bowling

### Executive Summary:

The use of string machines is stretching beyond recreational bowling applications and into the competitive side of the sport, as seen by certifications from many highly respected governing bodies. Yet, despite qualitative and quantitative research showing the many benefits of string machines, some skepticism lingers. Nevertheless, a groundswell of string bowling acceptance bodes well for the future of the sport in general.

### In this installment we will:

- Discuss the progression of global string machine certification for sport bowling
- Reveal quantitative and qualitative studies on the practical differences between string and free-fall pinspotters
- Expound on what the future might hold for universal string machine adoption, and its impact on bowling in general

# Beyond Recreational Bowling

Since their invention in the early 1960s, string pinspotting machines have been primarily used in niche entertainment bowling applications such as five-pin, nine-pin, duckpin and mini-bowling games. In recent years, however, their use in tenpin has grown significantly as existing and new investors realize their operational advantages.

While the use of string machines for tenpin has been mainly confined to entertainment bowling, we are now seeing their growing acceptance for sport bowling. Why? The reason is simple:

Centers that offer sport bowling struggle with the same pinspotting operational costs and issues as recreational centers, while advancements in string machine technology have made them better than ever for sport bowling.

## String Pinspotter Benefits:

- Reduced maintenance
- Lower operating costs
- Decreased energy consumption
- Less stress for owners and staff
- A better bowling experience for players



Canadian Tenpin Federation



British Tenpin Bowling Association



Tenpin Bowling Australia



Fédération Française de Bowling et de Sports de Quilles



Austrian Bowling and Skittles Association

## Early Approval of String Machines for Sport Bowling

Bowling has always been immensely popular, both as a recreational activity and a sport. Today 114 countries have a bowling federation responsible for establishing and enforcing the rules of play.

Canada was the first country to allow string machines for sport bowling. After completing a year-long pilot program, the Canadian Tenpin Federation (CTF) approved string machines for sport bowling in June of 2017. "It was not a question of if string machines should be allowed for sport bowling, but when?" Dave Kist, president of the Canadian Tenpin Federation was quoted as saying<sup>1</sup>.

**In June of 2017, Canada was the first country in the world to allow string machines for sport bowling.**

A year later, in 2018, the British Tenpin Bowling Association (BTBA) approved string machines for competitive use. "In the UK, bowling centers are struggling to remain open with their current overheads," said BTBA chairperson Lisa John. "If switching to string machines allows them to keep their doors open, we have to embrace it<sup>1</sup>."

Soon after the BTBA decision, Tenpin Bowling Australia (TBA) announced approval of string machines for sport

bowling. "It was fairly clear a number of years ago that string machines were going to be the way of the future. They are safer, more economical to run, and require significantly less maintenance. In Australia there are increasing challenges in finding mechanics that can maintain free-fall machines." Cara Honeychurch, TBA's former CEO<sup>1</sup>.

### Pivotal IBF Certification

Hearing of the positive experiences the CTF, BTBA and TBA had with string machine adoption, the International Bowling Federation (IBF)—the governing body for 114 federations and the sport of bowling—went a step further:

In November of 2020, they approved string machines for sport leagues and tournament play, including all IBF-sanctioned events. The IBF also extended support to all its member federations to do the same in their respective countries.



**"Now, operators and investors who choose string machines as a way to make their businesses more efficient, profitable and sustainable can continue to offer sport bowling." – Andrew Oram, IBF CEO**

<sup>1</sup> "Bowling on a String", International Bowling Industry, January 2021

Andrew Oram, IBF's CEO said, "Our approval of string machines for sport bowling ensures bowling operators and investors have real choices in new technology. Now, operators and investors who choose string machines as a way to make their businesses more efficient, profitable and sustainable can continue to offer sport bowling."

### A Ripple Effect Felt Around the World

Since the IBF's announcement, bowling federations worldwide are following their lead:

- The United States Bowling Congress (USBC) announced it is researching string machines with plans to publish a complete report in 2022 or earlier

- Federations in France (the Fédération Française de Bowling et de Sports de Quilles) and Austria (the Austrian Bowling and Skittles Association) approved string machines for sport bowling
- String machine approval is a hot topic in many other bowling federations around the world

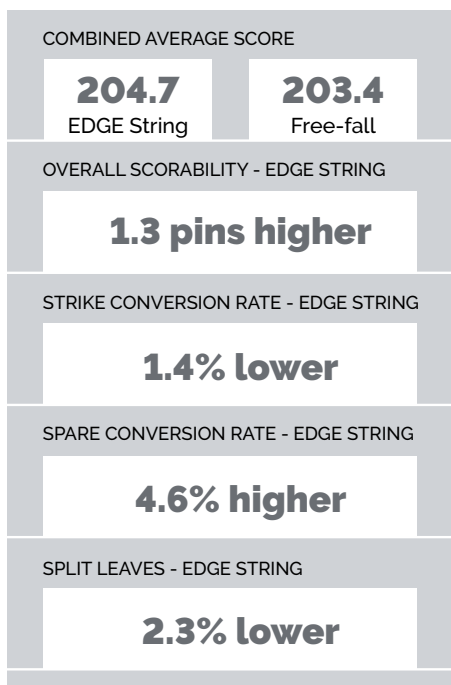
Given the IBF decision, it seems string machines may become mainstream over the coming years. As with previous bowling innovations—such as synthetic lanes and reactive balls, the benefits of string machine technology are too significant not to be accepted for the sport.

## Research Studies: String Machine Play Versus Free-fall

Despite growing acceptance of string machines for sport bowling, many in the industry may be skeptical. To address this, in July of 2020 QubicaAMF conducted a research study on the scoring and pinfall behavior of its EDGE String pinspotter compared to free-fall machines.

We recruited a total of 65 PBA, league, and avid bowlers to participate to the study, with a combined average of 222 and 20-years competitive experience. Each participant bowled an equal number of games on free-fall machines and EDGE String pinspotters, respectively.

After over 600 games, our study showed that, while some differences in pinfall and pin action exist between the two systems, overall scoring performance on EDGE String was very close to that of free-fall machines.



### QubicaAMF Research Study: Findings

The **combined average score** on EDGE String was 204.7 versus 203.4 for free-fall

**Overall score-ability** between EDGE String and free-fall was very close: just 1.3 pins higher

The **strike conversion rate** on EDGE String was 1.4% lower than free-fall

The **spare conversion rate** on EDGE String was 4.6% higher than free-fall

There were 2.3% fewer **split leave situations** on EDGE String

The **split conversion rate** on EDGE String was 8% higher than on free-fall

## Participant Feedback:

Here are some of the most common observations from bowlers in the study:

- **Solid-pocket hits** on EDGE String yield strikes much as they do on free-fall machines, light and half-pocket hits less so
- **Spare and splits** appear a bit easier to pick up on EDGE String
- EDGE String **pins are consistently on-spot**; there are no “bad racks”
- With EDGE String there is **no deadwood** to slow the pace of play



[Read the full QubicaAMF research study on scoring and pinfall behavior of EDGE String compared to free-fall.](#)

As part of the study, pinfall on EDGE String was recorded under different pin-leave situations.



[Watch the EDGE String Pin Action Video](#)

Another study on free-fall play and scoring compared to string was conducted in the fall of 2018 by the Middlesex County Association of the British Tenpin Bowling Association (BTBA). It was conducted at Airport Bowl in London, England. Airport Bowl, one of the busiest sport league bowling centers in England, replaced their free-fall machines with string machines in 2018. The study consisted of 108 league bowlers with a combined average on free-fall of just under 166. After bowling a total of 432 games on string, the combined averages were a fraction over 169 – about 3 pins difference with free-fall.

As mentioned, the USBC is in the process of conducting research on string machines and have promised a complete report in 2022. However, in January 2021 they released some preliminary findings. These findings represent the combined performance of multiple manufacturer's string machines tested in a lab environment using a ball-thruster. USBC reported average strike percentages down a combined 6.9% across all ball entry angles tested, with the largest decrease occurring on light-pocket hits. A lower strike conversion rate driven by light pocket hits is consistent with the findings of the QubicaAMF study. For more information and the preliminary USBC report visit [www.bowl.com](http://www.bowl.com).



# Proprietor and Sport League Bowler Experiences

We are seeing more proprietors with competitive sport bowling and leagues making the switch to string machines.

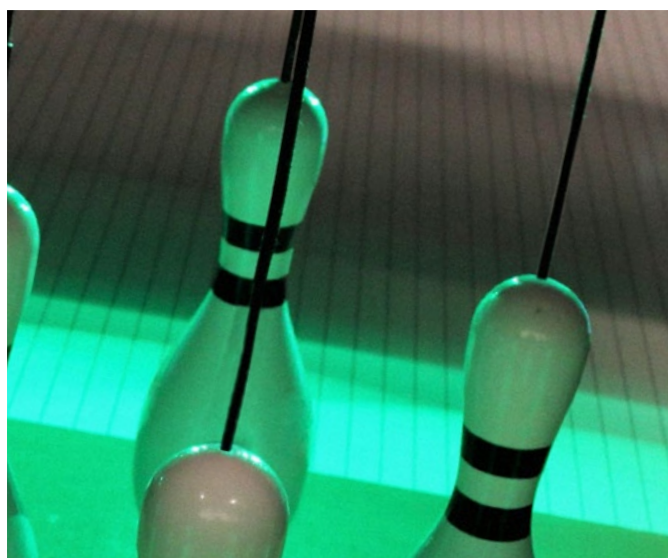
## Mark Bowen, Proprietor Dover Bowl, NH

Consider Dover Bowl, a 22-lane center in Dover, New Hampshire. Owner Mark Bowen made the decision to replace his free-fall pinspotters with strings after years of struggling to keep his machines running reliably. League bowling was suffering.

"We don't have breakdowns anymore," Bowen says. "People are not at the front desk complaining. My staff is much happier. My leagues are much happier, and they finish earlier now. Plus, my life is much less stressful." Mark expects the changeover will grow his league business because the bowling experience is so much better.

## Doug and Becky Bowersox, Proprietors Lewistown Lanes, PA

This 12-lane center constantly fought to keep their old free-fall machines running reliably. Three months after switching to string pinspotters, Becky Bowersox, reported the majority of their league bowlers were very happy with the string machines. "We had some bowlers that were concerned and skeptical. But after bowling on the string machines most have realized it is not so different. They are so happy with the reliability."



**"I was a little leery at first, but...I have been impressed [with string machines] so far."**

**Raymond "Skip" Bryner Jr.**  
USBC Association Mgr.  
for Central Pennsylvania

## Raymond "Skip" Bryner Jr. USBC Association Manager and 221-Average League Bowler

This USBC Association Manager for Central Pennsylvania bowls in USBC leagues at several centers, including Lewistown Lanes. Of the string machines he remarks, "I was a little leery at first, but I said I would be open minded about them and I have been impressed so far."

Raymond believes everyone should try string pinspotters before rendering an opinion; and he also thinks the USBC should sanction them.

## Lew Varner, League Bowler

Lew rolled a 300 game shortly after the string machines were installed at Lewistown Lanes. "My average so far on the string machines is very close to what I bowl on free-fall," he insists. "Just about two pins lower." He simply doesn't see much difference between the two systems, saying, "Just like with free-fall it boils down to how well you throw the ball."

## Richard Finkenbiner, 156-Average League Bowler

Richard states that most of the league bowlers at Lewistown Lanes are thrilled with the string machines. As for himself: "My scores have gone up a little...maybe two or three pins. Occasionally you get a break with the string, but it is not as different as people may think."