

Why all this talk about angle? The stubborn 10 pin

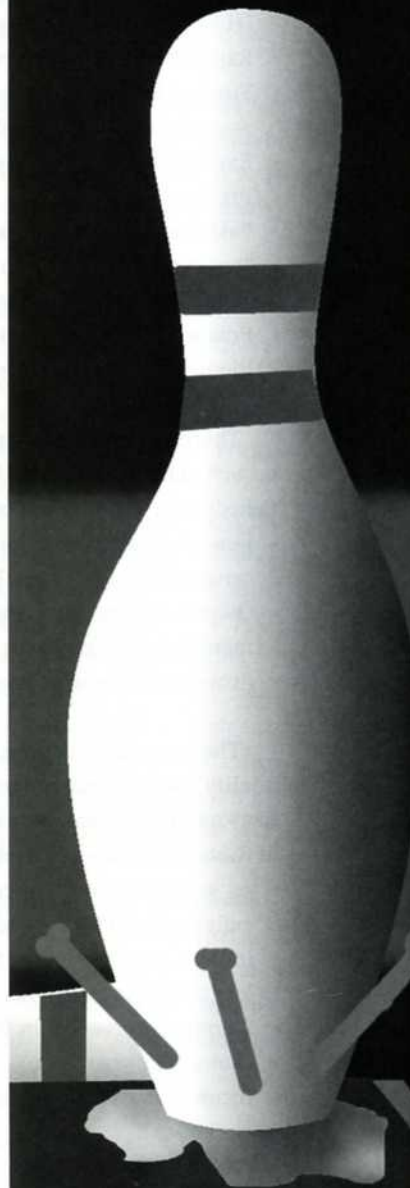
During a normal league night, make an account of how many 10 pins are left standing on apparently solid pocket hits. If it is happening over and over to one particular bowler or on one particular pair of lanes, what have the bowlers done to correct this predicament? Over the past several months, I have heard many seniors making comments about not carrying the 10 pin. What could possibly make that pin remain when all the others go flying by?

In the next few paragraphs, I would like to address only one possible solution to improving 10-pin carry, and that is to change the angle of entry of the ball into the pocket using only different hand and wrist positions. Is there an ideal angle? According to the rules of Physics, I guess there is. Some say 6 degrees is perfect. Others say 4-1/2 to 6 degrees is the answer. Combining entry angle with "proper" ball speed could also be considered as a possible answer. Unless you can have some special sense to see things in slow motion, I don't feel there is a way to see the actual angle of the ball entering the pocket without video support.

During the 2006-2007 Denny's PBA Tour, when Walter Ray Williams was bowling against Pete Weber in a very historical game and Walter Ray had rolled the first 10 strikes, it looked certain that he would roll a 300 game. The shot in the 11th frame appeared to be perfect but the 4 pin stayed up. Even the announcer said "What a perfect hit"! If it was perfect, why did that pin stay up? In the instant replay, in slow motion, you could see the ball lose speed just a little early and move high on the headpin...so the 4 pin stayed up. But even to the trained eye of the bowling analyst, at normal speed, the ball appeared to be perfect. When the current best bowler in the world has that happen to him and he keeps his cool, don't you get upset when a 10 pin remains after what is seemingly a "perfect" shot.

Recent articles on changing angles

There was a great article by Rolf Gauger in the September, 2007 issue of BTM entitled *Cause and effect*, in which he asks the bowler to do some detective work to determine why 10 pins (7 for lefties) remain after seemingly good shots. He hit the nail on the head when he noted that the 3 pin (2 for lefties) is the key pin to carrying the corner.



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One of the causes he mentioned was either not enough or too much entry angle.

In the coaching section of Bowl.com on 8/27/2007, there was a news story entitled "Is the 3 pin carrying the 10 pin? A study in the light pocket strike" by Paul Rid-enour, a USBC research engineer. This study used 5 different videos to show the effect the 3 pin has on 10-pin carry. Each of the above references dealt with angle of entry. Then in the November, 2007 BTM, John Jowdy wrote about using different angles of approach from deep outside to deep, deep inside to change that angle of entry.

Here comes another article about the same thing! Why?

My goal is to provide you with different ways to change the angle of entry with your hand so you have more options at your disposal.

So, what is your normal angle of entry into the pocket on each first shot? Do you know? If you know just by watching your ball hit the pocket, you have the greatest vision I have ever heard of in sports. You really can't tell from watching the ball go down the lane. Our eyes are not calibrated to give us that information. If you have an opportunity to visit a training center or bowling center that has CATS, Bowlers' Map, DigiTrax or Dartfish (that can determine your angle of entry plus other aspects of ball movement), it can prove very helpful.

So what if you do know your angle of entry? Do you know how to change it if you start leaving corner pins? Sure you might say; just move the feet left or right and there is your angle change. Well, that is one way to make an angle change, but did it help to kick out the corner pin every time? Hopefully, yes and then you're done adjusting angles. Right?

Not so fast, my bowling angle adjusting buddy. What if it didn't work? Why not? What now? When you moved right or left, did you change how you held the ball in the stance and throughout the swing? Did you change the release? Did you increase loft if you needed to? Now you are probably saying to yourself, "Boy, am I getting lost!" Well, after you read this article, get out a pad and pencil, go practice and start writing down what each of the options below does for your game. If you can, set up a video camera so you can take a close look with a zoom and in slow motion to see how the ball is rolling and what it is doing at the pocket. To see better what the ball is doing, place a piece of white tape from your axis point to the middle of your grip. That way, you can even count the revolutions

when using the camera. As Rolf Gauger says, "Watch the 3 pin (2 pin for lefties)".

During your next practice session, start where you normally do and try each of these adjustments to see what each one does for angle of entry and pin carry. What kind of ball reaction does each one give you? You may even expand past your "A" and/or "B" game into another level just using these adjustments. I recommend maintaining the same ball speed during each one of these to see what affect each has on your normal game. These options are presented in no particular order of effectiveness so one is not more important than the other. You may become more adept at one over the other, but please give each one a try.

Finger pressure

At the point of release, exert more pressure with the middle finger. Don't squeeze the ball excessively during the swing. Any excessive squeezing of the ball during the swing can negatively affect a free armswing, timing and the release. Apply only a slight pressure and only at the point of release. This "should" produce slightly more forward role and change the break slightly into the pocket. Write down what it did for your ball reaction and pin carry. Then try using more pressure on the ring finger at release. Since it is the finger that is furthest around the ball from your thumb, it "should" produce a different roll

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