

**THERE
ARE NO
SHORTCUTS**

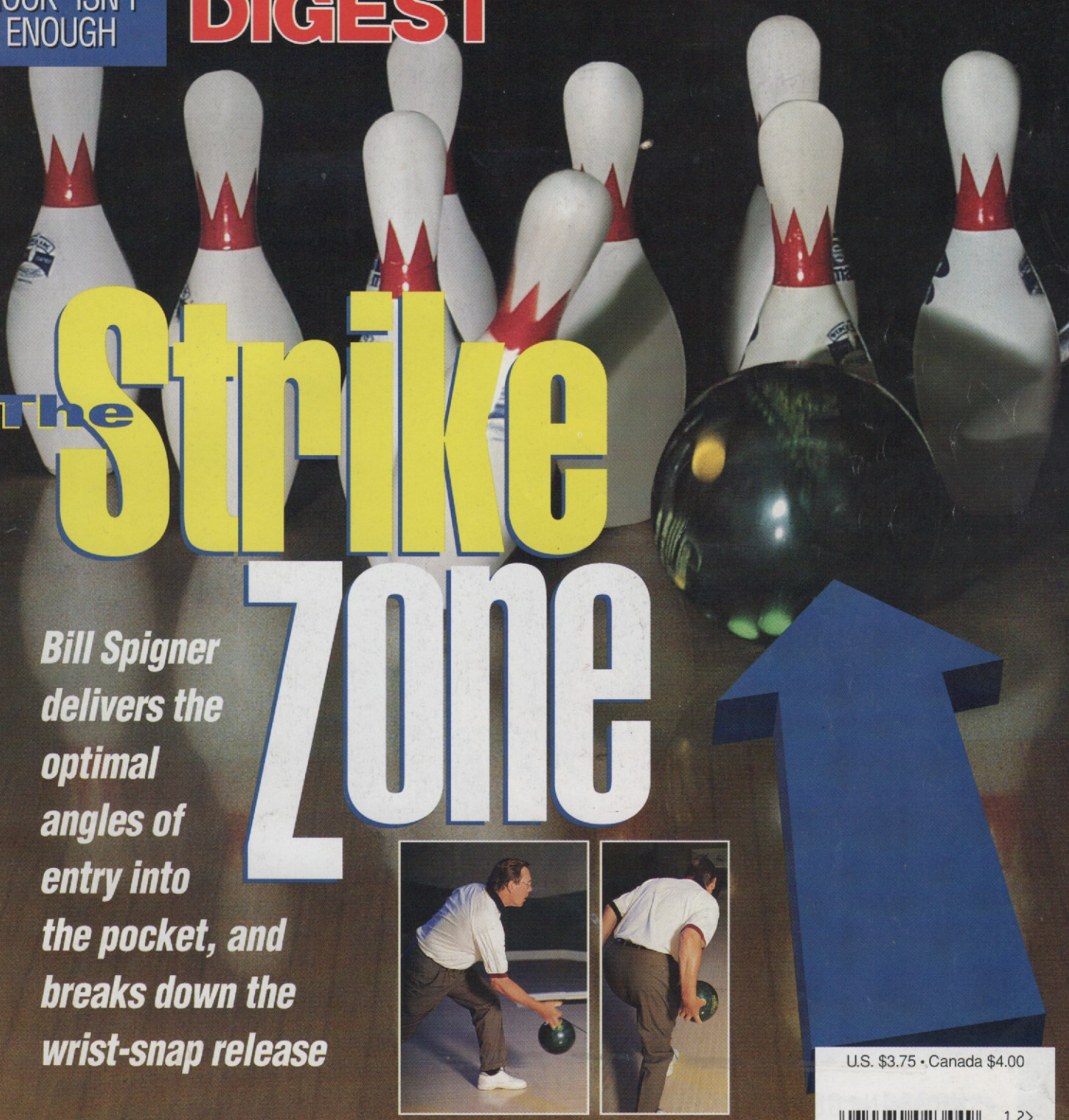
**"BUYING A
HOOK" ISN'T
ENOUGH**

Missing in action: What has happened to Pete Weber?

BOWLING

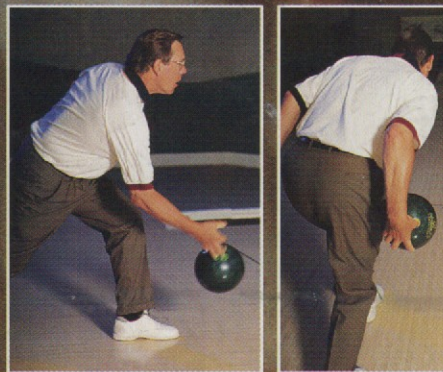
DIGEST

December 1995



The Strike Zone

*Bill Spigner
delivers the
optimal
angles of
entry into
the pocket, and
breaks down the
wrist-snap release*



Plus: John Jowdy takes you through the approach ● Jeri Edwards on the hinge start ● Danny Wiseman's comeback bid

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The Best Angle to the



Bowling Clinic

By BILL SPIGNER

■ *Now that I'm past 70, I notice that I'm losing some velocity in my approach and in the acceleration of my ball at the release point. I've read that to help these problems I should use a lighter ball. I know that in general $E = M \times V$ [energy equals mass times velocity], but does this apply to bowling? Will I get the same pin action out of a 16-pound ball thrown at 10 mph as I would from a 10-pound ball thrown at 16 mph?*

Also, how does the size of the strike zone relate to the delivery of a straight bowler, a stroker, or a cranker? What is the optimal angle of entry into the 1-3 pocket?

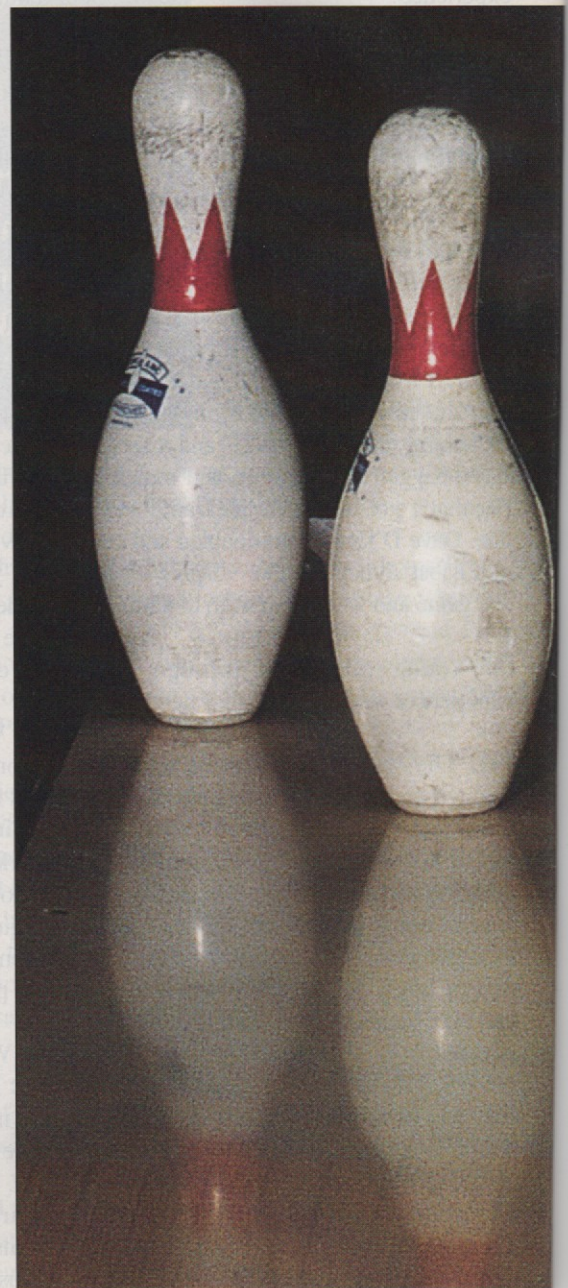
The ABC, under the direction of Dan Speranza, has conducted tests on angle of entry and ball weight at the ABC/WIBC Equipment Testing Facility in Milwaukee. The ABC used an automated ramp to test balls of different weights entering the pocket at various entry angles.

To summarize the test, we will use entry angles of two, four, and six degrees. A player who throws a slight hook enters the pocket at about four degrees; a cranker's larger hook enters at about six degrees. The ABC measured the strike pocket by offsetting the ball (hitting the headpin from different angles). At zero offset, the center of the ball would hit the center of the headpin, while at a 5½-inch offset, the ball barely would hit the headpin. The ABC found that the perfect strike position is when the center of the ball hits approximately 2½ inches off the center of the headpin.

The ABC's experiment also revealed that a 16-pound ball has a larger pocket area to strike in than a 15-pound ball, a 15-pound ball has more room than a 14-pound ball, and so on. But the differences were reduced as the ball's angle entering the pocket increased. At six degrees, the pocket for a 16-pound ball is about a quarter-inch larger (3¼ inches vs. three

inches) than it is for a lighter ball. A heavier ball was found to leave slightly fewer corner pins and splits than a lighter ball at all the angles tested.

However, these results don't mean that everyone should use a 16-pound ball. Every-



Need help with your game? Bill Spigner welcomes questions from readers. Mail your questions to: Bowling Clinic, Bowling Digest, 990 Grove Street, Evanston, IL 60201.

Pocket

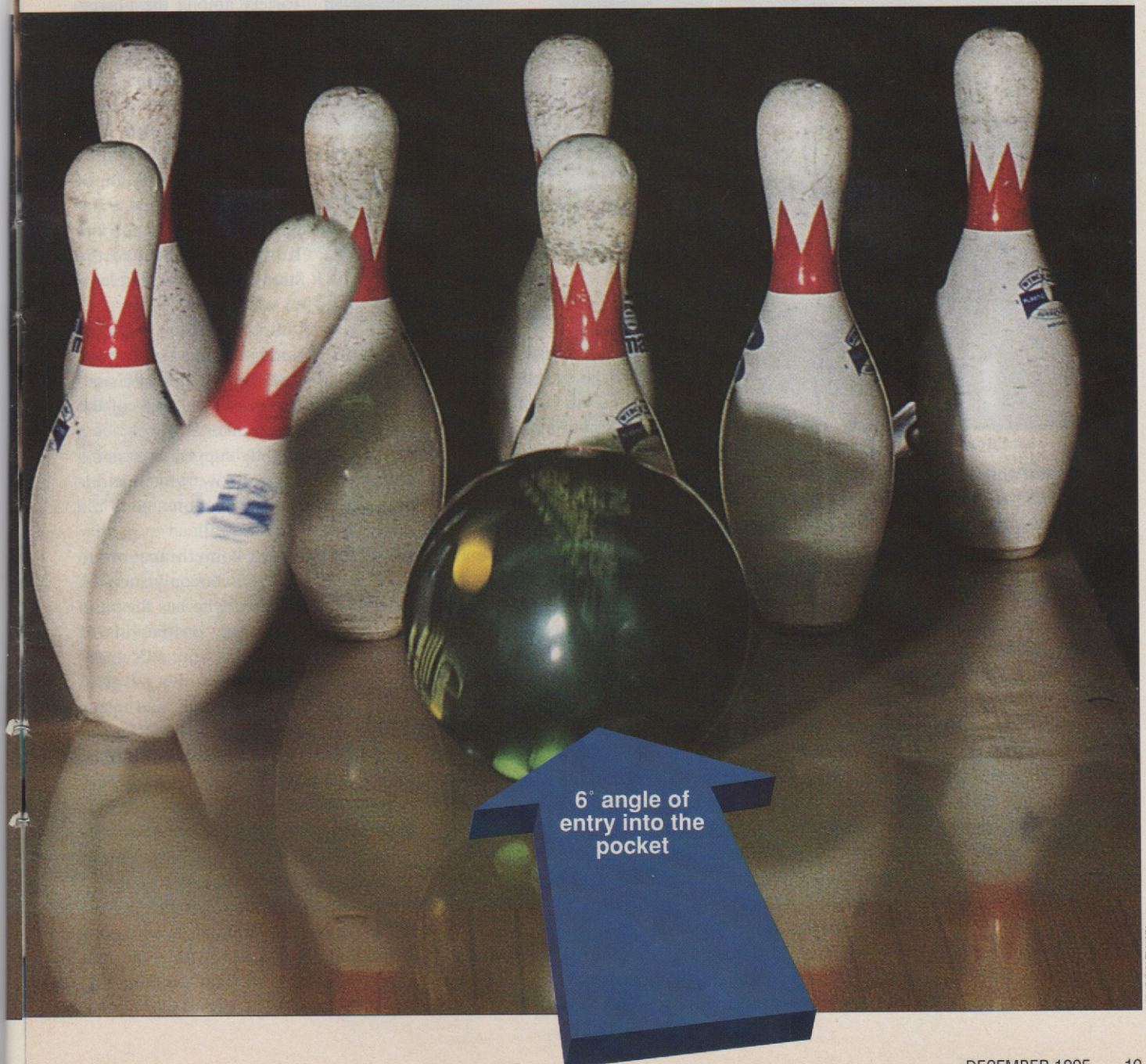
thing else being equal, you'll carry better with the heavier ball, but if you can do more with a lighter ball—such as increasing your angle of entry, getting better ball rotation, and maintaining your stamina—you'll play better.

An increased angle of entry into the pocket provides a greater chance of striking. The best angle of entry is about six degrees; beyond six degrees it becomes very difficult to control the ball. If you have control problems with a high angle of entry, you are better off with less angle. The key to striking is that the ball needs to be able to get the 5-pin out on a light hit and the 7- or 10-pin on good pocket hits. Going to a lighter ball can help your scoring if you can increase your speed and the angle at which your ball enters the pins. According to the ABC test, a 15-pound ball entering the pocket at six degrees

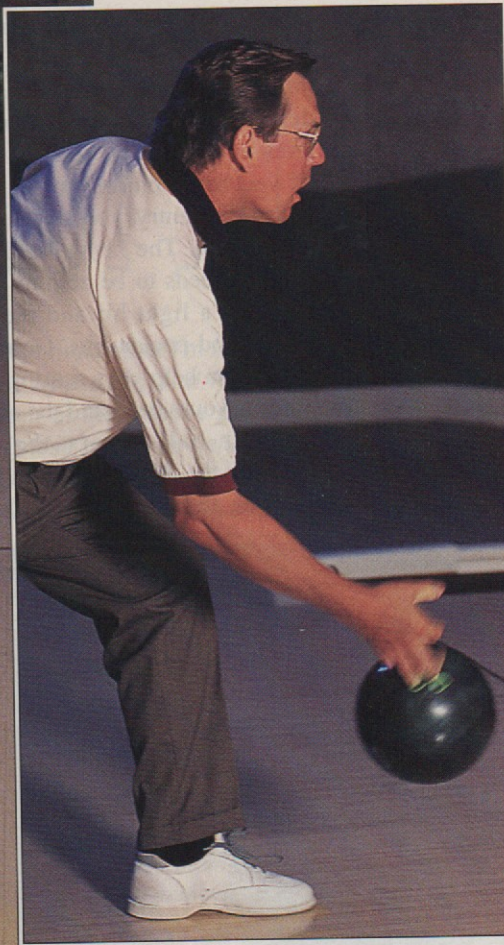
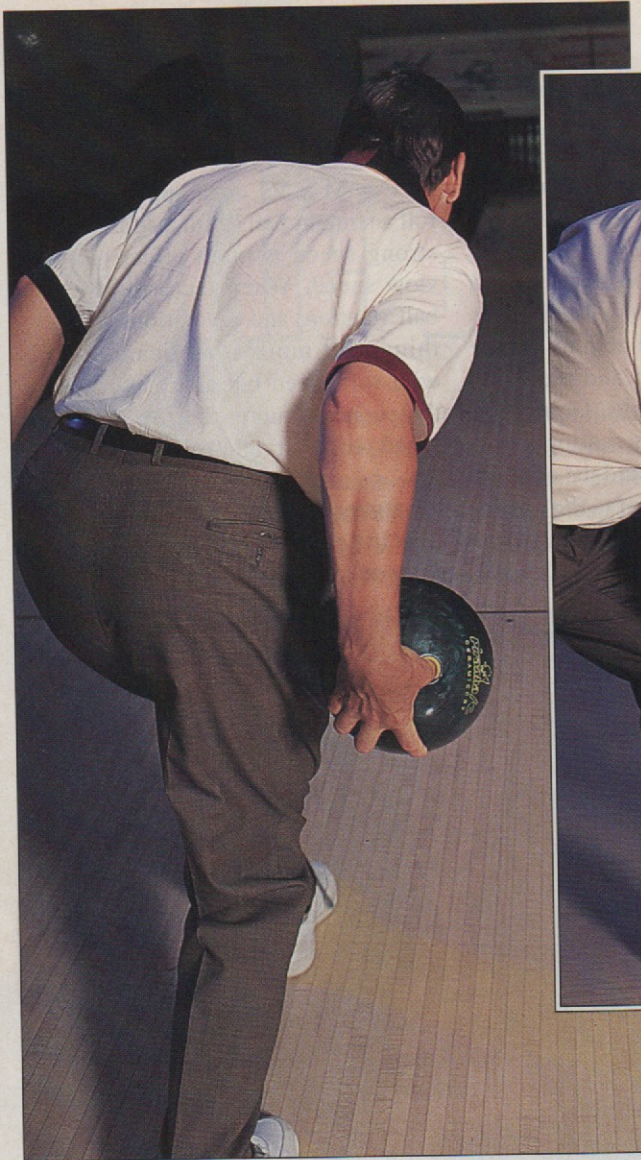
has a 33% better chance of striking than a 16-pound ball entering the pocket at four degrees.

" $E = M \times V$ " does apply when you roll a straight ball. With a straight ball, a strong speed is more effective than a slow speed. When factoring in hook, ball rotation, and revolutions, however, things get more complicated. A ball with soft speed but a strong angle into the pocket is more effective than a soft speed with a straight ball.

Whatever the weight of the ball you use, the optimal angle of entry into the pocket is six degrees.



STEVE WOLTMANN



STEVE WOLTMANN ©

A wrist snap requires a cupped wrist or bent elbow—or both. As the wrist snaps back, the fingers impart speed and revs.

■ *I attended the Bud Light Open in Sayville, N.Y., during the 1995 winter tour. I noticed many of the bowlers had a wrist snap and a very fast, tight roll on their ball. Some other bowlers I've seen, such as Pete Weber and John Mazza, created the same type of roll on their ball without the wrist snap. How are both done?*

When a bowler employs a wrist snap in his release, his wrist bends back as his thumb begins to come out of the ball. This release normally is used by players who get their fingers under the ball either by cupping their wrist or bending their elbow—or a combination of both.

If you have the fingers under the ball when the thumb comes out, the wrist needs to bend back to keep you from releasing the ball too much on the upswing. Releasing the ball on the

upswing can cause an erratic ball reaction on the lane; the ball skids too much on the oily parts of the lane and hooks too early on the dry parts. Professional tour players strive to have a very quick, smooth release of the ball. With today's oiling patterns, lane surfaces, and reactive resin balls, a quick, smooth release is vital to creating a consistent ball reaction.

To help you better visualize a wrist-snap release, look at the hand from behind when it reaches the bottom of the swing, just before the release. You will see the tips of the fingers at the bottom of the ball. As the thumb exits the ball, the wrist starts to bend back, and the fingers lift up the back of the ball and come out when they get to the top of it. As this is happening, there also is a slight turn applied to the ball. As the wrist snaps back, it speeds up the fingers

in lifting the ball, which produces a lot of revolutions. This wrist-snap release gives a strong forward roll to the ball, with enough axis tilt and side roll to provide you with a very effective strike ball.

Two-time amateur bowler of the year and three-time Team USA member Vince Biondo is a good example of a player who uses the wrist-snap-type release. On the PBA tour, there is a great deal of variety among the players in the amount of wrist snap they use. Norm Duke and Mark Williams vary their release quite a bit—mostly to change how much they hook the ball—by using a combination of wrist snap, turn, and a stable wrist. Bob Vespi and Kelly Coffman have the strongest wrist-snap releases on tour.

Pete Weber rolls as strong a strike ball as anyone, but he doesn't snap his wrist like many of the big crankers. Weber has a slightly cupped wrist and a

strong bend in his elbow, which, as his ball enters the release zone, gets his fingers well under the ball.

But Weber does something unique with his release: He is the only successful pro I have studied who has the palm of his hand completely on the side of his ball when his fingers are still under the ball. With his hand in this position, he straightens out his elbow and opens his fingers, with the tips of his fingers facing down the lane along the line he wants the ball to travel. With this method, Weber is able to get a tremendous amount of side roll and revolutions, and with the side role he is able to project his ball down the lane.

Players who have their fingers far under the ball and release it without a lot of wrist snap need to turn the ball more to get it off the hand without hitting up on it. This produces a great deal

of side roll. Players who place their fingers far under the ball and use a lot of wrist snap have a more forward roll on their ball. Both types of releases can produce a lot of hook, but the players with the side roll get a later hook, and the players with the wrist snap get an earlier break.

■ *I have two main problems: (1) I tend to pull my shot, and (2) I have trouble getting my thumb out of the ball, even though my pro shop operator is convinced that the thumb hole has been drilled large enough. Help!*

Many times the position of your upper body and/or the position of your hand will determine how cleanly you get out of the ball. If your upper body bends too far forward during your last step, it can cause you to squeeze the ball. This happens because your downswing becomes too steep, which causes you to grab the ball at the bottom of the swing to be able to release the ball out onto the lane. If you have to grab or squeeze your ball to get it out onto the lane, you probably will pull your shot.

Another reason the ball might be pulled is that your shoulder is closing too much on the downswing. When the shoulder closes, the direction of your swing changes, which can cause you to pull the ball. It also can put your hand out of position and turn it too early. In addition, a forward lean of the upper body can put the hand on top of the ball. With your hand turned early and on top of the ball, you'll need a very loose thumb fit to get out of the ball.

Take a good look at the position of your upper body and your hand position when your ball is entering the release zone. If your body and hand are positioned correctly, you can use a tight-fitting thumb hole and still get out of the ball cleanly. If your body is out of position, you'll need a loose fit to release your ball. The best way to find this out is to get a video lesson from your local pro. ●

BILL SPIGNER has won three national and seven regional PBA titles. He is co-owner of Hawthorn Lanes in Vernon Hills, Ill., and is a former Pro Bowling Camps head teaching professional.



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