

How to Break Like a Pro

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FEATURE ARTICLE

Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, technical proofs (TP), and all of my past articles can be accessed and viewed online at billiards.colostate.edu. The reference numbers used in the articles help you locate the resources on the website.

The break shot is arguably the most important shot in pool. Whether you are playing 8-ball, 9-ball or 10-ball, if you can consistently pocket a ball, and control the cue ball (CB) after the break, you will be a heavy favorite to win the game, especially if you are a good player. In this article, I will break down and summarize important elements of technique necessary to break like a pro.

Recently, I filmed Shane Van Boening taking the Billiard University (BU) Playing-Ability Exams so he could enter the \$2500 BU Exam Challenge (for more info, see: billiards.colostate.edu/BU_challenge.html), and when he did the break-shot portion of Exam II, I filmed him both with a regular video camera and from the side with a slow-motion video camera. Shane is considered one of the best breakers in the world, so I decided to break down and analyze what technique elements allow him to be so successful. Online video [NH H.5](#) shows Shane's breaks and discusses some of the distinctive and important elements of his technique, and **Diagram 1** shows video stills at key points.

There are several things Shane does to help create controlled power. First of all, he aims the break shot as carefully as any other really important pool shot. The most important attribute of a good break is getting a square hit on the lead ball. As shown in **Diagram 1a**, another thing Shane does is “choke up” on the grip. Generally, during regular play, the forearm should be perpendicular to the cue at tip contact, but moving the grip forward some can help put the shoulder and elbow into stronger positions during the stroke into the ball. Notice Shane's tip position at CB address. The tip is well below center, which might make you think he will impart bottom spin or draw to the CB. However, during his stroke he drops his elbow to add power, and this results in a hit slightly above center (see **Diagram 1d**). The hit above center creates slight topspin that helps the CB slow after bouncing back from collective weight of the racked balls.

As shown in **Diagrams 1b** and **1c**, Shane lifts his body before the final forward stroke. The higher body position, in combination with the choked up grip, allows him to create more leverage with more distance from the shoulder to the grip (see the long lever arm represented by the yellow line in **Diagram 1c**). This allows him to generate more power with less effort. And with less effort, he is able to better control accuracy and consistency. Shane actually lifts his body and drops his cue during the backstroke and during the initial part of the forward stroke into the CB, but this can also be done before the stroke, with the cue already in a near-level position, as demonstrated in online video [NV D.14](#). Many people will probably have better accuracy and consistency if they raise the body and lower the cue before the final stroke.

In **Diagram 1c**, notice how relaxed Shane's grip and wrist are as he begins to accelerate forward. It is as if his arm is doing all of the work, and the grip and wrist are just “along for the ride.” Also notice in **Diagrams 1c**, **1d**, and **1e** how he has the cue as level as possible during the forward stroke into and through the ball. This limits how much the CB hops on the way to the rack. Also notice how he moves his entire arm, flexing and dropping the elbow together to generate more power while keeping the cue moving as straight as possible (see the yellow lines in **Diagrams 1b** and **1e**). Generally, with normal shots, it is best to keep the elbow relatively still during the stroke into the CB, but with the break, the elbow drop can be very helpful. For more info, see the “[elbow drop](#)” resource page in the “stroke” section of the FAQ page at billiards.colostate.edu.

Shane also has good acceleration into the CB with a complete and straight follow through. He also keeps his head and body very still during the final stroke into the CB. You can see this in **Diagram 1d** where his head and upper body are in perfect focus while the moving arm is not. To see all of Shane's brilliance in super slow motion, check out online video [NH H.5](#).



a.) choked-up grip position at ball address



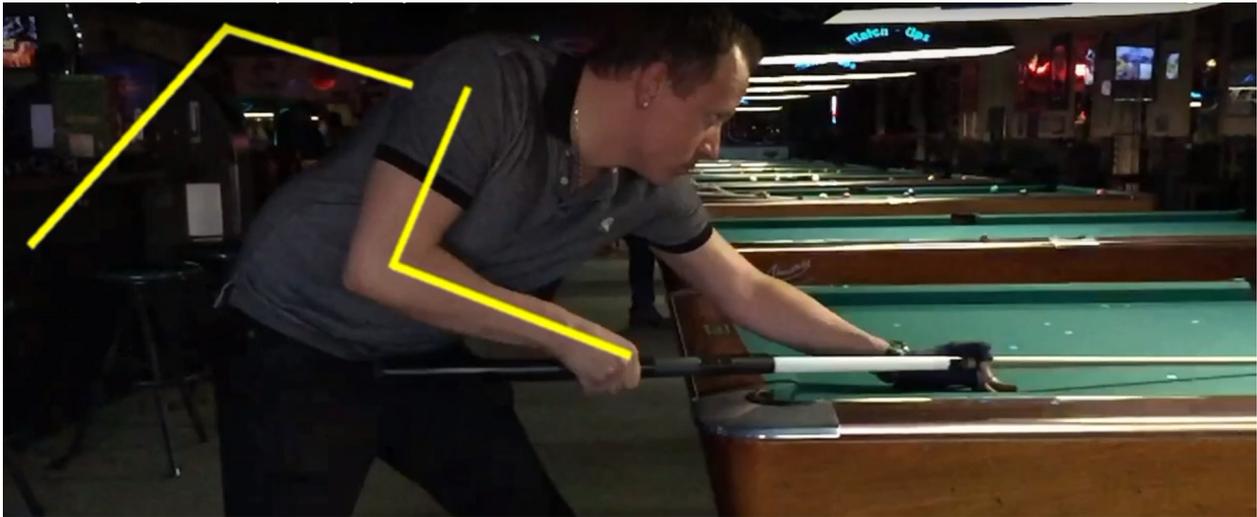
b.) end of backswing with body lift started



c.) beginning of forward swing



d.) power position at CB contact



e.) follow-through position with significant elbow drop and shoulder motion

Diagram 1 Video frames from Shane's 9-ball break

Depending on which game you play, strategy varies for where to place the CB and how you hit the break to get the best chance of pocketing a ball. Obviously, if you don't pocket a ball on the break, your break shot is not successful. The player shooting after the break will often be a heavy favorite to win the game, and you don't want that player to be your opponent.

Diagram 2 illustrates a standard 9-ball break shot from the side rail. The ball easiest to pocket is the near "wing ball" (the 8). The opposite 2nd-row ball (the 4) also has a good chance to bank cross side. And the back ball (the 2) often heads off the end rail to the corner up table. With appropriate speed and CB angle, the 1 ball can be pocketed in the opposite side pocket, but the diagram shows a better strategy, where the 1 heads up table for a shot in the bottom-left corner if you squat the CB in the center of the table after the break.

Because it is so easy to pocket one or more balls with the break shown in **Diagram 2**, tournaments sometimes place added restrictions on the CB position and/or rack to make the game more challenging and more interesting for viewers to watch. One common rule change is to require breaking from the "box," with the CB within a diamond left or right of the head spot. Another common rule change is to require the 9-ball (instead of the 1 ball) to be placed on the foot spot. This shifts the rack up table just enough to make it more difficult to pocket a wing ball reliably. Both of these changes can make it more difficult to pocket the wing ball or the 1 ball. But regardless of what a tournament director might attempt, the good breakers still always seem to find ways to pocket a ball anyway. A common approach is to use a softer "cut break" where the 1 ball is hit slightly off center to help pocket the 1 in the side or a wing ball in the corner.

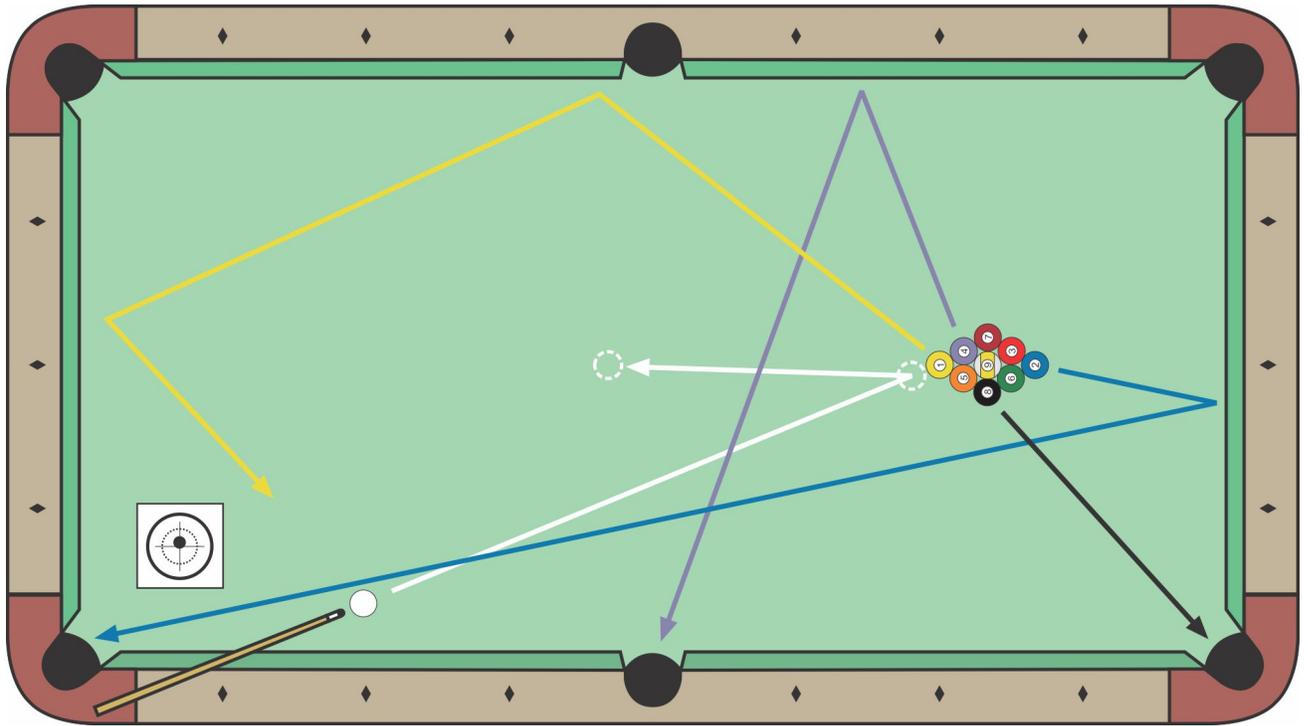


Diagram 2 9-ball-break ball direction tendencies

Diagram 3 shows a standard 10-ball break. With a square hit, the front ball generally heads up table, sometimes toward the corner pocket. The 2nd-row balls usually head toward the side pockets. One reason to position the CB slightly off center is to create slightly different angles to the side pockets giving the best chance for at least one of the 2nd-row balls to go. Also, the corner balls tend to go four rails around the table toward the corner pockets. With a good rack and a good hit, if nothing else gets in the way, these balls often have a chance to go. If you want to see an awesome example of an effective 10-ball break, see the video on the “[break technique](#)” resource page in the FAQ section at billiards.colostate.edu showing Shane Van Boening pocket 5 balls, including 4 of the balls shown in **Diagram 3**.

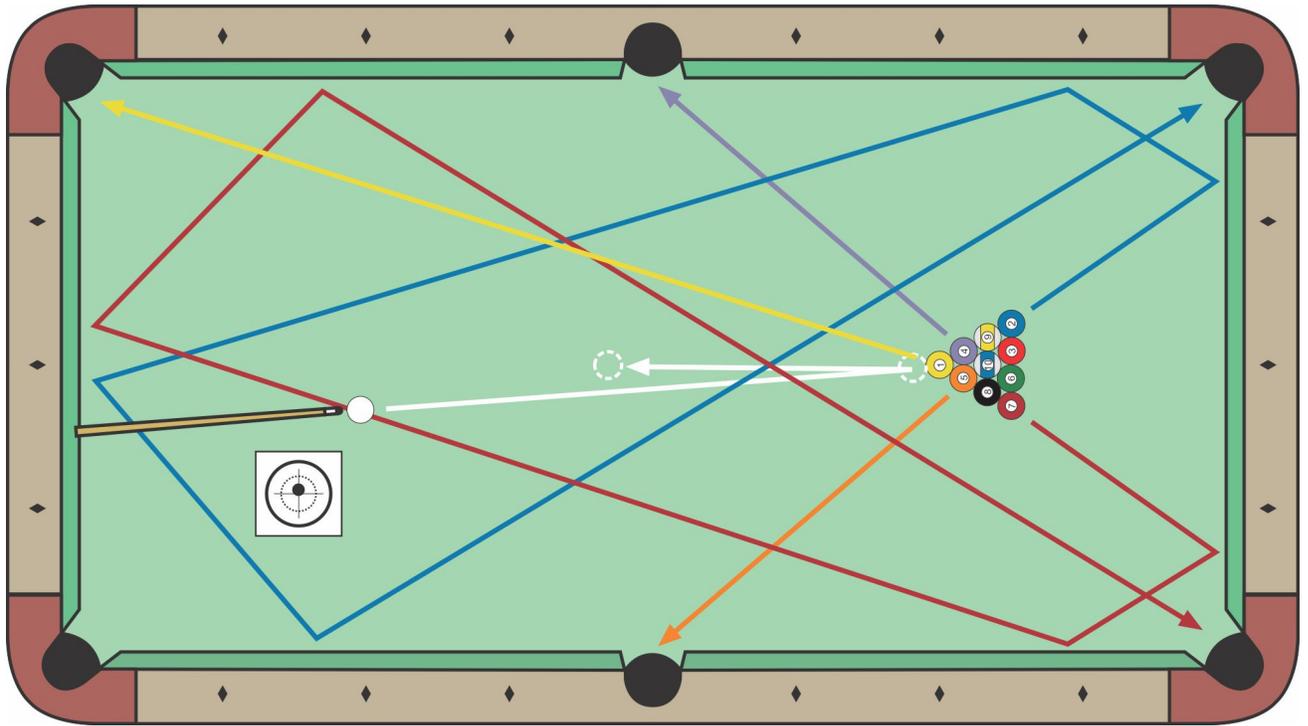


Diagram 3 10-ball-break ball direction tendencies

A common 8-ball power break is very much like the 10-ball break shown in **Diagram 3**. With a good rack and a good hit, the lead ball, 2nd-row balls, and corner balls head to the same pockets as with the 10-ball break. **Diagram 4** shows another common 8-ball break, where you break from the side rail and target the ball in the 2nd row instead of the 1 ball. With this break, softer speed can be used, resulting in good control. If you hit the 2nd ball as squarely as possible, the rack usually spreads well. Also, the 8-ball will generally move out of the rack area. If playing under rules where pocketing the 8 on the break counts as a win (e.g., in the APA league system), the 2nd-ball break is a good option since the 8-ball motion gives you the best chance to pocket the 8 on the break. For more information and advice concerning the 8-ball 2nd-ball break, see my June '16 BD article and online video [NV G.9](#), which demonstrates all of the pros and cons with numerous examples.

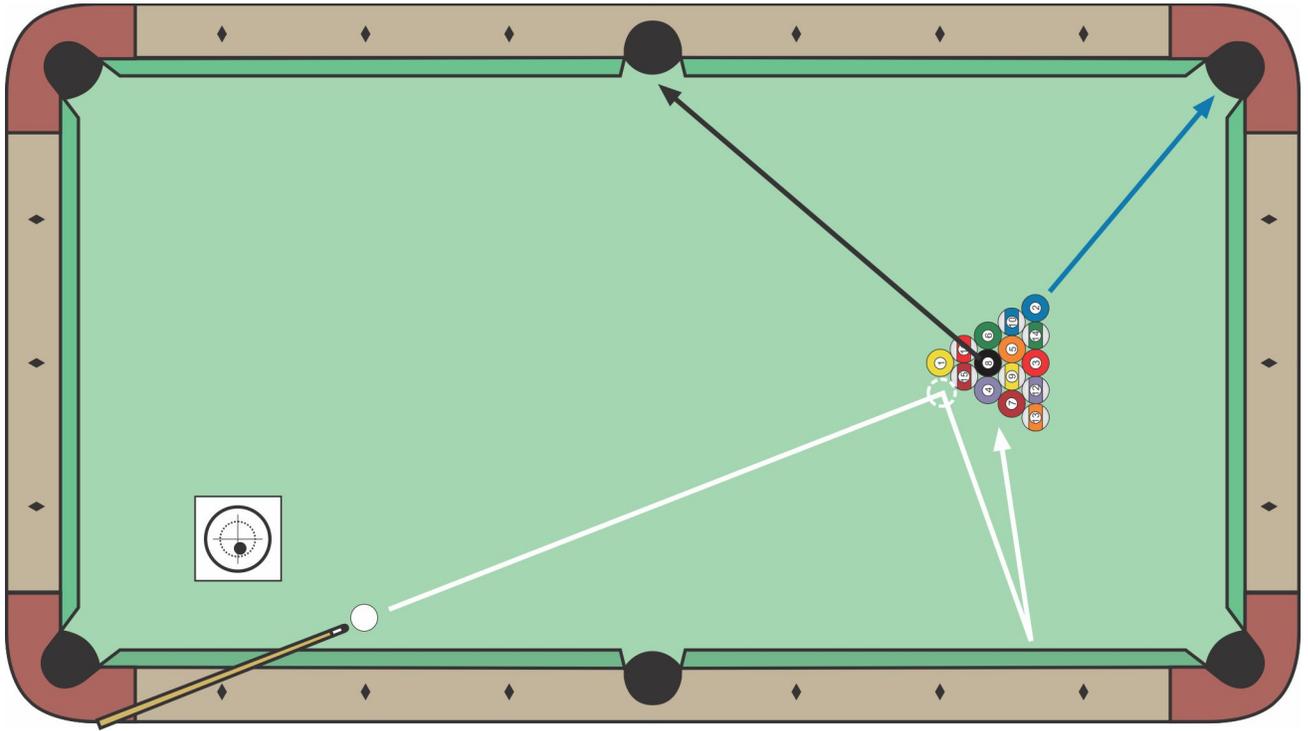


Diagram 4 8-ball 2nd-ball-break ball direction tendencies

It is important to point out that even with a consistent and accurate break shot, the balls won't always head in the directions indicated by the diagrams above. Things will vary some based on exactly how the racked balls sit, and this will vary with ball and cloth conditions. A racking template can help a great deal in reducing some of the variability from one break to the next, but they aren't always allowed. Ball directions and motion are also affected by the condition of the balls, cloth, and cushions. Varying the speed and exact angle of the break will also change things some.

Let's close with a summary of all of the important technique elements that are required to help you break like the pros:

1.) Use Only as Much Power as You Can Control

An accurate (square) hit on the lead ball is the most important factor for a good break. Therefore, only use as much power as you can control. If you deliver more speed to the CB, but the CB hits the lead ball at an angle, not only do you risk jumping the CB off the table, the CB will not deliver its full energy to the rack of balls.

2.) Don't Use Sidespin

Adding sidespin, intentionally or not, is a bad thing on a power break shot. With sidespin comes squirt (CB deflection), making it much more difficult to be accurate and consistent with your aim. Also, any energy put into spinning the CB takes away from energy associated with the CB moving forward; so sidespin will reduce the energy going into the rack of balls. Sidespin can also make the CB fly around the table more if your hit isn't square, and this can increase the risk of scratching.

3.) Relax

Break technique is more about finesse and timing rather than brute force. An important element of this is keeping the grip and wrist as relaxed as possible. A "death grip" will not add any power to the break. In fact, it will do just the opposite by constraining and limiting full and smooth acceleration. It is okay to tighten the grip as you approach the ball – this can help some people create a little more power – but make sure the grip is relaxed to begin with.

4.) Use a Longer Bridge Length

One easy thing you can do to add more power is to lengthen your bridge. A longer bridge provides more distance to smoothly accelerate the cue to create more cue speed. Regardless of bridge length, make sure your bridge hand is planted firmly before and during the stroke into the ball to maintain accuracy and consistency.

5.) Keep the Cue as Level as Possible at Impact

If you strike the CB with the cue elevated more than necessary to clear the rail, the CB will hop higher on the way to the rack, increasing the chances for the CB to hit the lead ball while airborne. This isn't much of a problem with a perfectly square hit, where the CB will simply hop straight up in the air; but with a hit slightly off center, the CB can easily jump off the table.

6.) Accelerate Through the Ball

Be sure to accelerate smoothly and completely into the CB and into the follow through. This helps create more cue speed and breaking power.

7.) Follow Through Completely and Straight

Make sure your follow through is straight and complete. This helps ensure tip contact-point accuracy and fosters complete acceleration into the ball in an unconstrained way.

8.) Squat the Rock

Control the CB and "park" it in the center of the table. To do this, the CB must have slight top spin when it reaches the head ball. The weight of the rack of balls makes the CB bounce back naturally, and slight topspin is necessary to slow the CB to a stop close to the center of the table.

9.) Choose a Break Cue Wisely

A hard tip creates more CB speed for a given stroke effort. If a phenolic tip is allowed in the rules under which rules you play, use that ... it results in the best hit efficiency. If not, use the hardest tip allowed. Also choose a break cue with a natural pivot length well matched to your preferred break bridge length (for more information, see the "[natural pivot length](#)" resource page in the "cue" FAQ section at billiards.colostate.edu). If this is the case, squirt (CB deflection) resulting from unintentional stroke swoop left or right will be exactly cancelled by the change in cue direction resulting from the bridge pivot, and the CB will still head straight, even with the stroke error (assuming your aim is good to begin with)!

10.) Diagnose and Adjust

Be observant of how the balls react when you break so you can make adjustments if balls are not falling. Fiddle with CB position and speed to see what works best on a given table. Also pay attention to what your opponent is doing if they are more successful. There's nothing wrong with copying something that works. Also, if playing on an unfamiliar table, check the cloth wear patterns to find the CB position and line used by most breakers on that table. Usually the burn marks and streaks from the head string to the foot spot that are most prominent will indicate the most successful breaking route.

If you want more technique and strategy advice dealing with the break, see online video [NV D.14](#) and the "[break technique](#)" resource page in the FAQ section at billiards.colostate.edu. The page includes numerous video demonstrations from top breakers. I hope the information and advice in this article will help you break more like a pro. Good luck "squatting your rock," and remember ... use only as much power as you can control.

Good luck with your game,
Dr. Dave



[NH H.5](#) – Shane Van Boening Break Technique Analysis by Dr. Dave
[NV D.14](#) – Pool Break Technique Advice - from Vol-III of the Billiard University instructional DVD series
[NV G.9](#) – 2nd-Ball 8-ball Break, from Disc IV of VEEB

PS:

- I am happy to announce that my entire collection of instructional DVDs (23 total to date) is now available for streaming via YouTube. For more info, see: dr-dave-billiards.com/stream.html.
- I know other authors and I tend to use lots of terminology, and I know not all readers are totally familiar with these terms. If you ever come across a word or phrase you don't fully understand, please refer to the [online glossary](http://billiards.colostate.edu) at billiards.colostate.edu.

Dr. Dave is author of “[The Illustrated Principles of Pool and Billiards](#)” book and DVD, and co-author of the Video Encyclopedias of “[Pool Shots \(VEPS\)](#),” “[Pool Practice \(VEPP\)](#),” and “[Eight Ball \(VEEB\)](#),” and the “[How to Aim Pool Shots \(HAPS\)](#)” and “[Billiard University \(BU\)](#)” instructional DVD series, all available at: dr-dave-billiards.com.