
Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, technical proofs (TP), and all past articles are available online at billiards.colostate.edu. Reference numbers used in the articles help you locate the resources on the website.

Do you know how to control the cue ball (CB) when going across the table off a ball close to the side rail? In recent online video [NV L.57](#), I covered a system that can help you plan and execute many types of shots like this, where precise CB control is important. I'll summarize all the key points here.

The basic system is illustrated in **Image 1**. With a slow-rolling $\frac{1}{2}$ -ball-hit on a ball close to the side rail, the CB heads 4 diamonds up on the rail across the table. This system applies when the center of the CB is aimed right through the edge of the object ball (OB), shooting parallel to the short rail and perpendicular to the long rail. The video shows many game-situation examples where knowledge of this system is useful.

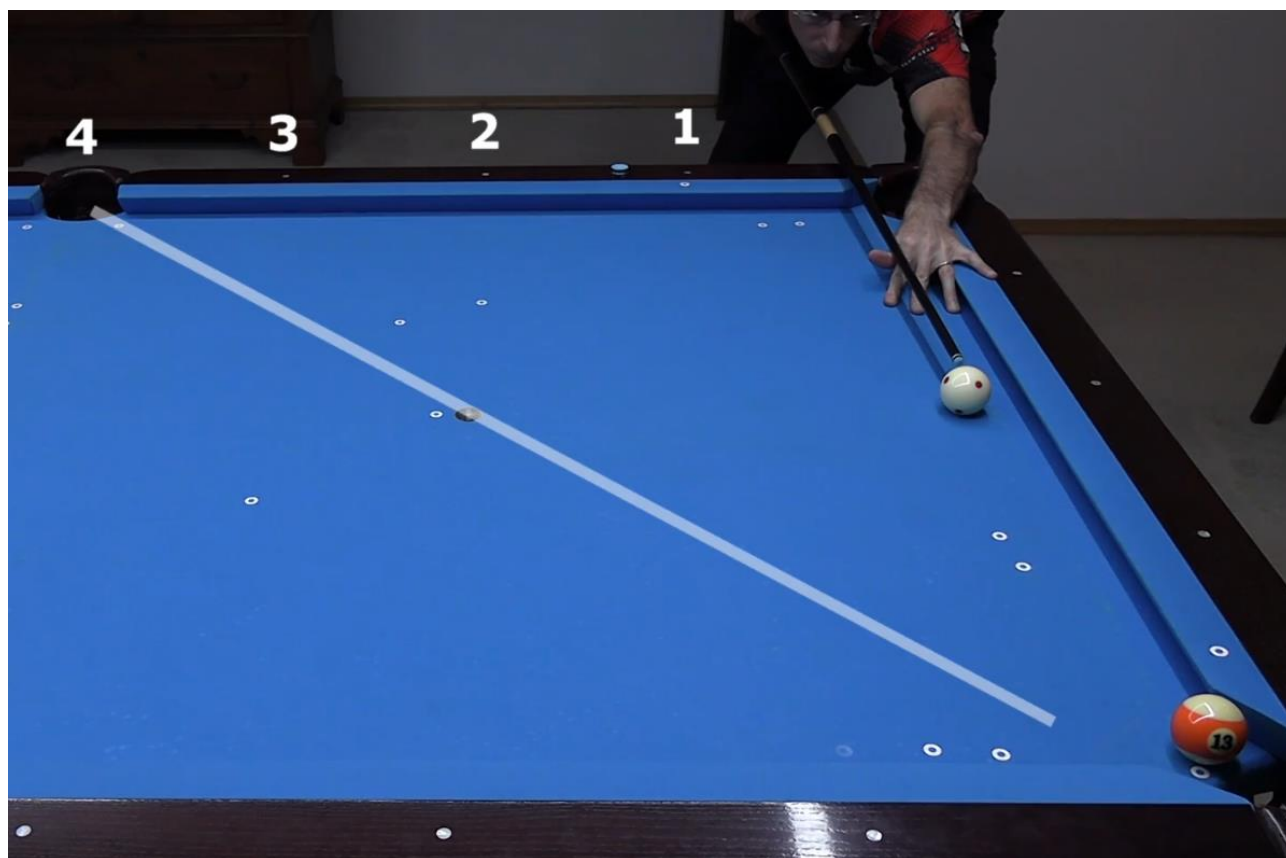


Image 1 $\frac{1}{2}$ -ball-hit 4-diamond shift

The system also works for hits on balls not hanging in the corner. Hitting a ball close to the cushion by the first diamond would still result in a 4-diamond shift across the table, going 1 diamond above the side pocket. And with the OB at the 2nd diamond, the CB would go 2 diamonds above the side. And as shown in **Image 2**, when the 4-diamond shift sends the CB into a short rail, the extra diamonds mirror back to the long rail. If the line heads one diamond past the corner, the CB will instead rebound off the short rail to go one diamond above the corner. Be aware that results will depend a little on table conditions, so it is important to practice a wide range of shots to develop a feel for what speeds work for the $\frac{1}{2}$ -ball hit. And sometimes, a hit slightly thinner than $\frac{1}{2}$ -ball might be required.

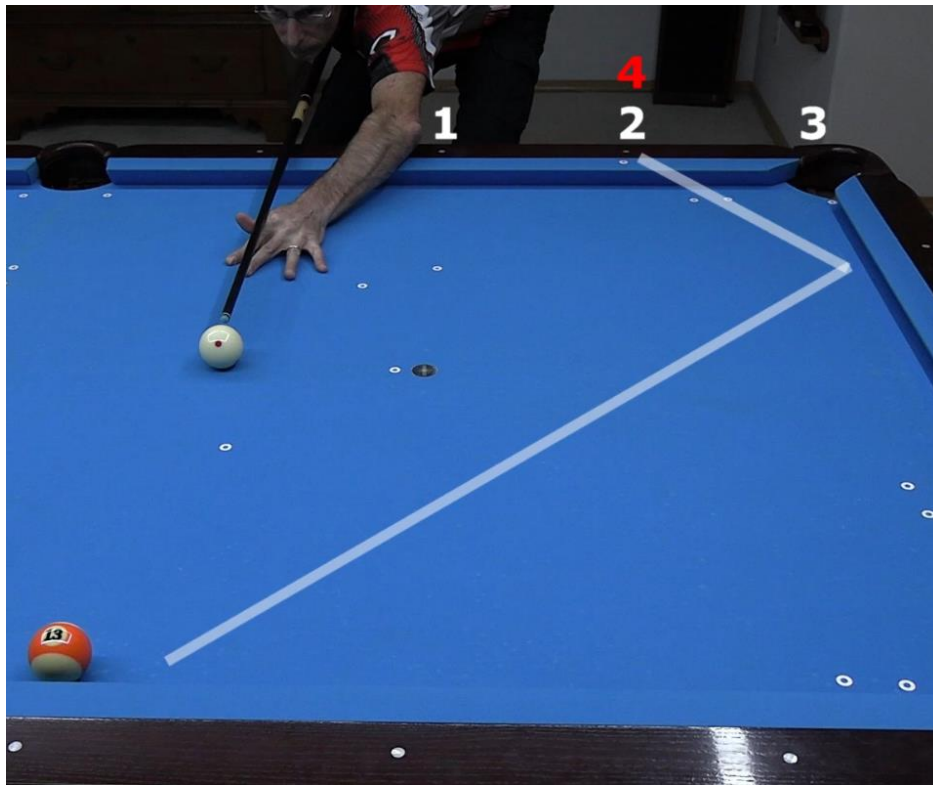


Image 2 System Shift

The system can also be adjusted for cases where the OB is off the side rail. For each diamond the OB is from the side rail, the CB shifts an additional diamond. In **Image 3**, where the OB is one diamond away from the side rail, the CB would head 1 diamond past the corner, so it goes 1 diamond above. With the OB 2 diamonds from the side rail, the CB would go 2 diamonds past the 4-diamond target, in this case 2 diamonds above the corner. As demonstrated in the video, when the OB is farther from the rail, more speed is required to hold the line. At slower speed, the CB curves forward too soon, causing the CB to come up well short of the expected target.

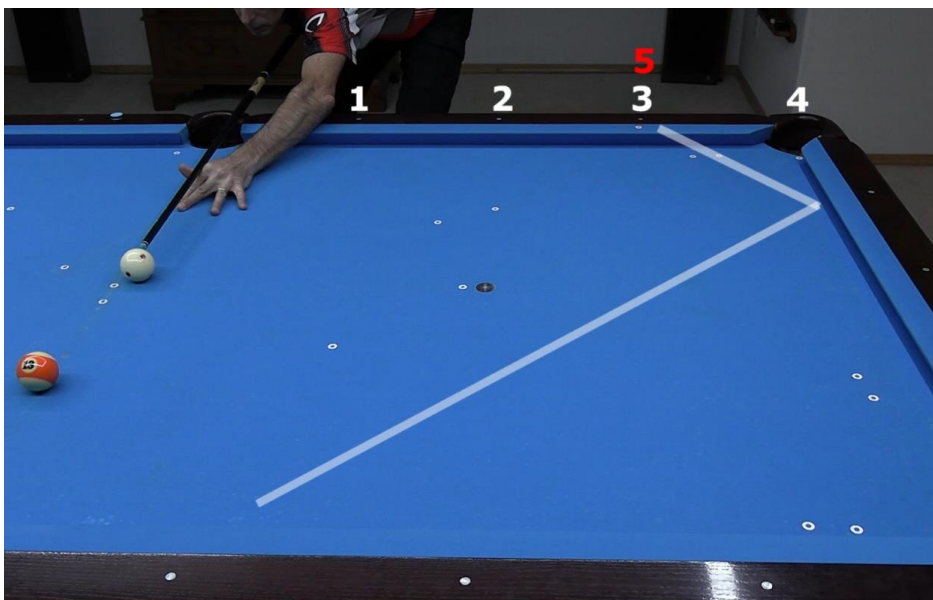
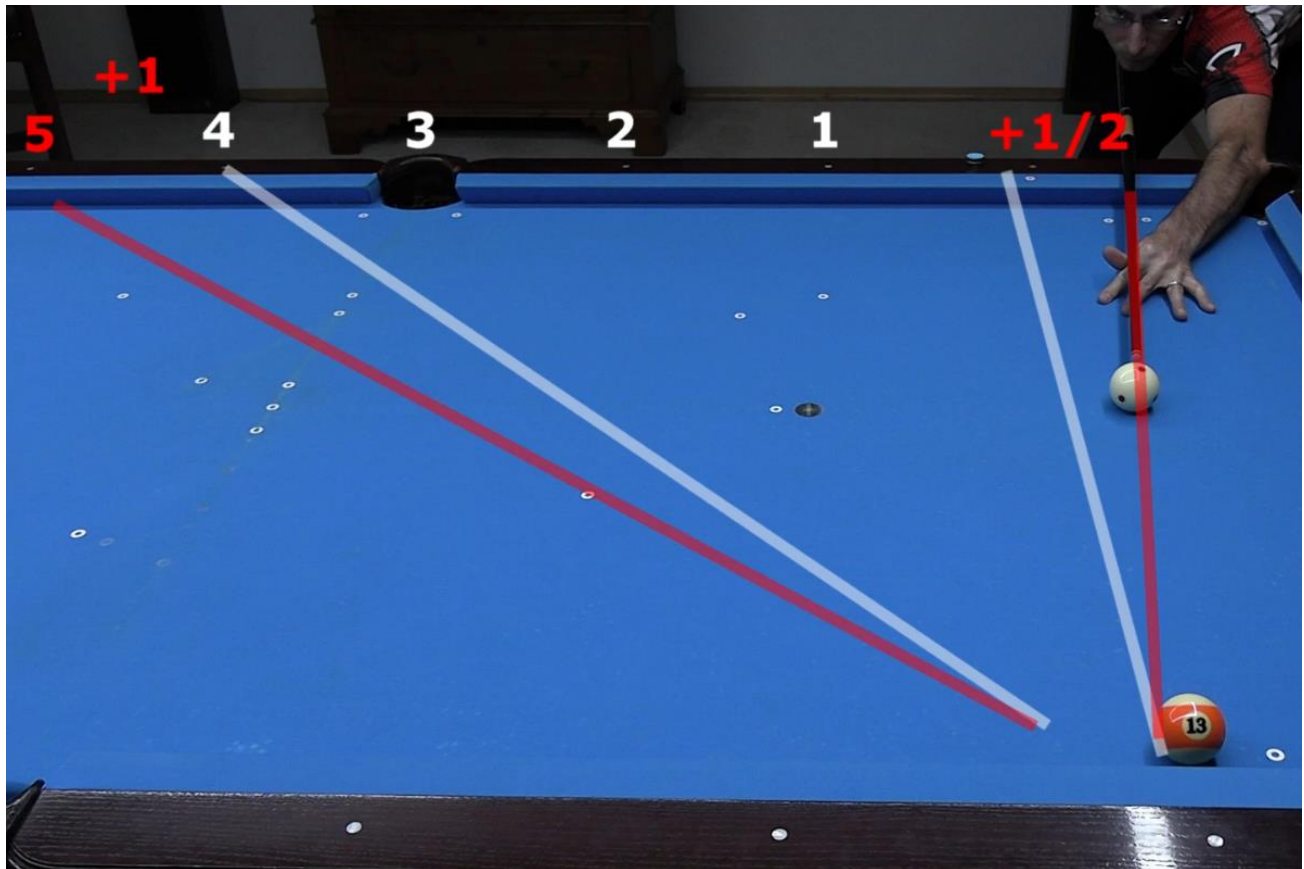


Image 3 Distance Shift

The system can also be applied when the approach angle is not straight into the first rail. For every $\frac{1}{2}$ diamond the approach angle is shifted, the CB shifts by approximately 1 diamond across the table. In **Image 4**, the $\frac{1}{2}$ diamond shift sends the CB about a diamond longer. A $\frac{1}{2}$ diamond angle shift in the other direction would send the CB a diamond short into the side. As shown in the video, a shot like this is very sensitive to speed. Just a little more speed sends the CB well long of the expected target.



[Image 4](#) Angle Shift

Sidespin can be used to change the system CB direction. Imagining an analog clockface on the CB, each hour of tip position from a high hit at 12 o'clock changes the shift across the table by about a diamond. With the tip at about 11 o'clock, the sidespin sends the CB about 1 diamond short; although, the reverse spin kills the speed, limiting what can be done with type of shot. As shown in **Image 5**, with the tip at about 1 o'clock, the CB goes about 1 diamond longer than the side. With the tip at about 2 o'clock, the CB goes about 2 diamonds longer than the side. With the tip at about 3 o'clock, the CB goes about 3 diamonds longer. And with the tip at about 4 o'clock, with slow enough speed for drag to make the CB roll before reaching the OB, the CB goes about 4 diamonds longer than the side to the top-left corner. All of these shots are demonstrated in the video.

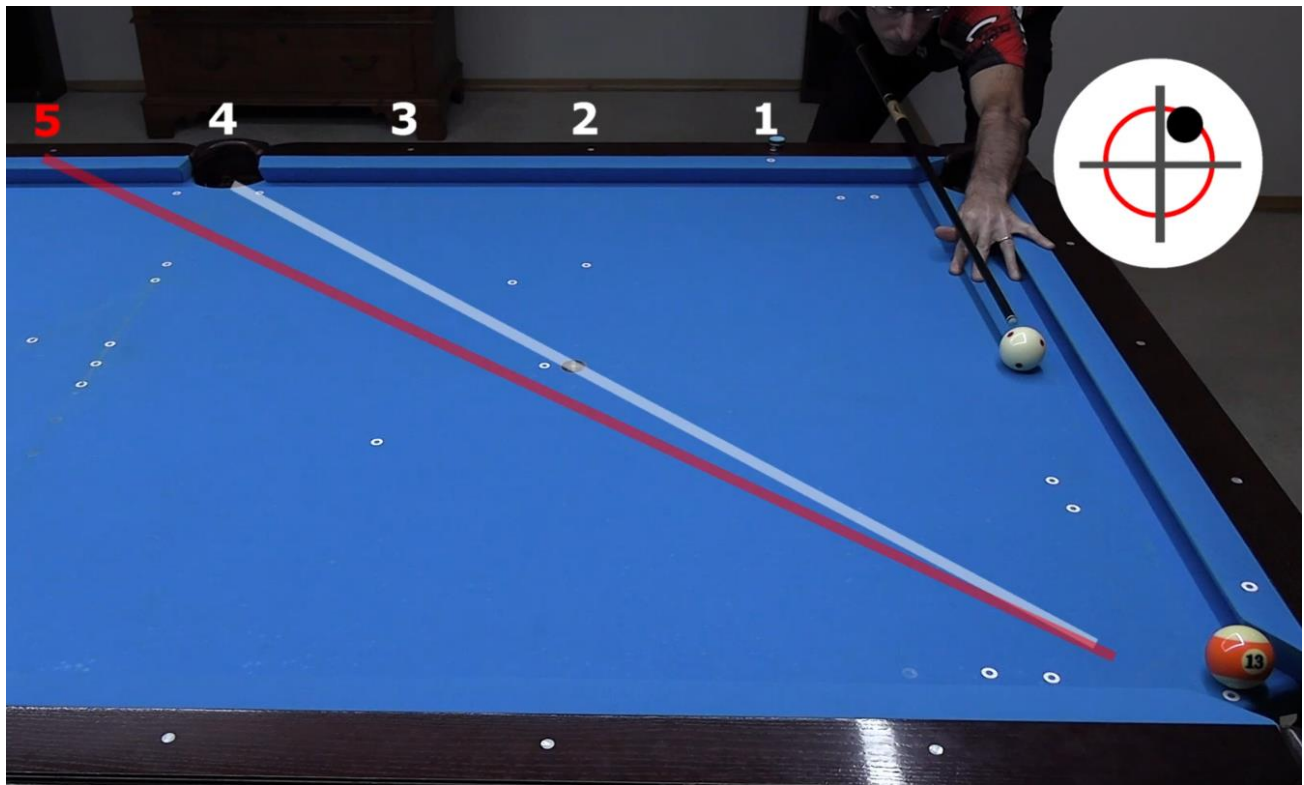


Image 5 Sidespin Effects

Ball-hit-fraction can also be changed to alter the CB path. Remember, a $\frac{1}{2}$ -ball hit shifts 4 diamonds across the table. A $\frac{1}{4}$ -ball hit instead shifts 3 diamonds across the table. An $\frac{1}{8}$ -ball hit shifts $2\frac{1}{2}$ diamonds. And an even-thinner hit (at about $\frac{1}{12}$) shifts 2 diamonds. Hits fuller than $\frac{1}{2}$ -ball are less predictable, and the CB loses significant speed, making these types of shot less useful for CB control across the table.

All the effects mentioned above can be used in combination based on shot layout and requirements. See online video [NV L.57](#) for some interesting game-situation examples showing how to do this. I hope the system and adjustments help you better control the CB and win more when going across the table.

Good luck with your game,
Dr. Dave



[NV L.57](#) – Cross-Table CUE BALL CONTROL System

PS:

- 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 do not fully understand, please refer to the [online glossary](#) at billiards.colostate.edu.

Dr. Dave is a PBI Master Instructor, Dean of the Billiard University, and author of the book: [The Illustrated Principles of Pool and Billiards](#) and numerous instructional DVD series, all available at: DrDaveBilliards.com.