"Straight Rail Shots"

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

Recently, I posted two videos online (NV J.5 and NV J.6) that cover straight rail shots, where both the cue ball (CB) and object ball (OB) are frozen to a cushion on the same rail. Let's look at all of the important messages and lessons from the videos.

Diagram 1 shows the first shot situation from a game of 8-ball where you need to draw straight back to get a shot at the 8 next. As demonstrated in online video NV J.5, if you use straight draw (with no sidespin) and aim this shot straight, you are very unlikely to pocket the ball and get the required shape. When you watch the video, you might think I just didn't aim carefully enough; but I assure you that I did aim and hit the ball very straight. Do you know what is causing the miss here? As I show in the video, if the CB is off the cushion, even just a small amount, the shot is fairly easy to execute. So why didn't I make the shot with the CB frozen to the cushion?

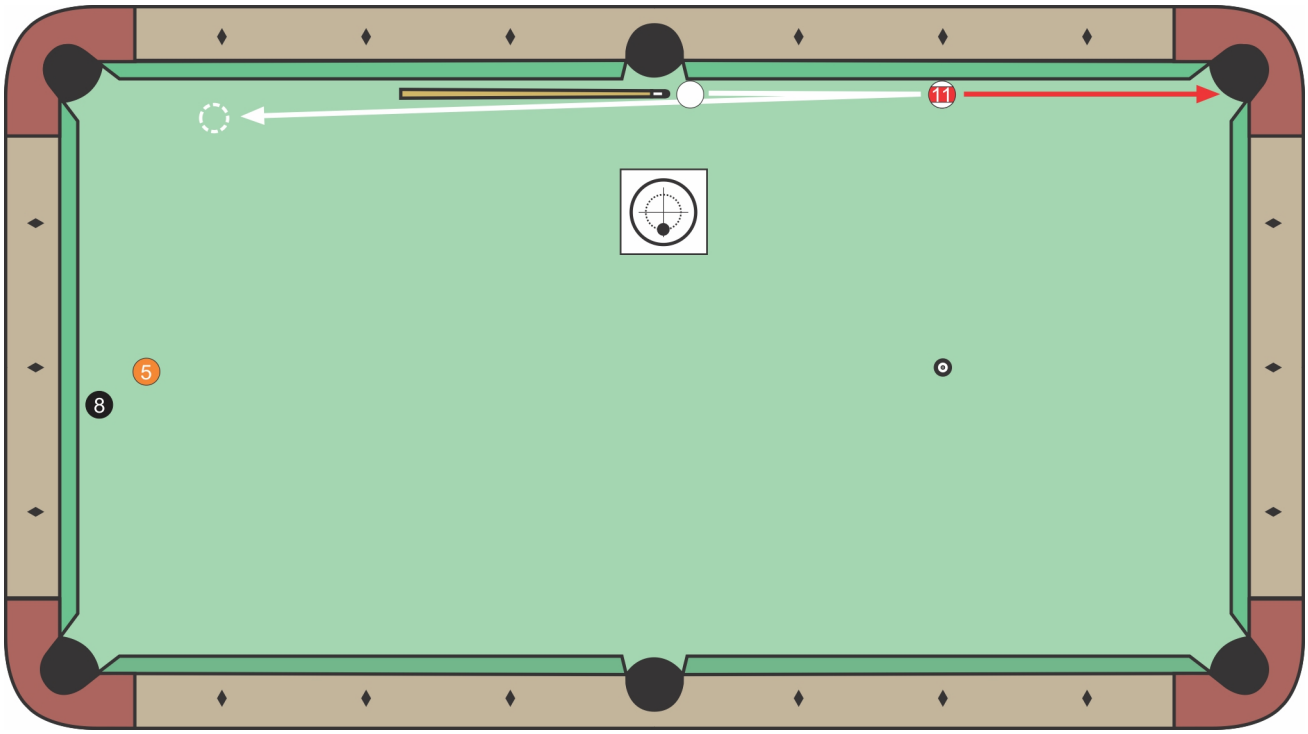

Diagram 1 Straight rail draw shot

Diagram 2 is an image from the video showing the reason why I missed the straight rail draw shot. When the CB is frozen, part of the ball (highlighted in yellow) is actually under the nose of the cushion. So if the CB hops at all (the white up arrow), the nose of the cushion will push the ball away from the rail (the white arrow to the right) when the ball bounces up. The CB actually hops a small amount with most pool shots, especially at faster speed, because if the cue extends over a rail, it always strikes the CB at a small downward angle, which causes the ball to hop … like a mini jump shot. The video shows close-ups in slow motion so you can clearly see how the ball hops and gets pushed away by the cushion with both draw and follow shots. With follow shots, the CB hops even more, since the above-center hit deflects or squirts the CB downward slightly. Note that results might vary on different tables due to differences in cushion nose height.

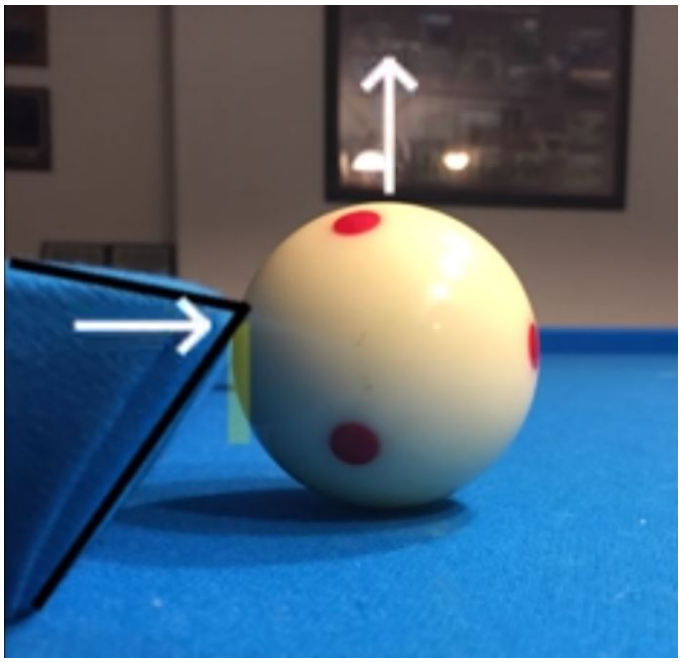

Diagram 2 CB sitting under the cushion nose

Diagram 3 shows an example follow shot that appears trivial to execute. You just need to roll the CB straight to have it follow up for a shot at the 8 next. Wouldn't you expect to easily get out from here? Well, it is not as easy as you might think because, again, the cushion pushes the CB away from the rail making it very easy to miss this shot.

Now, it is possible to make this shot if you keep the cue as level as possible and use as little speed as possible to limit how much the CB hops and gets pushed away from the cushion. In online video **NV J.5**, I barely pocketed the 11 and barely got a look at the 8, so this type of shot is not easy. A better approach is to use a shorter cue, like a jump cue, that you can get more level since it doesn't need to clear over the rail for a shot like this. With a level-cue center-ball hit, the CB would not bounce at all. With an above-center hit for follow, it is best to angle the cue upward slightly so the downward deflection (or squirt) of the CB cancels the upward angle of the cue, resulting in no hop. I demonstrate how to do this in the video using a finger-tip grip, which is a little awkward but necessary.

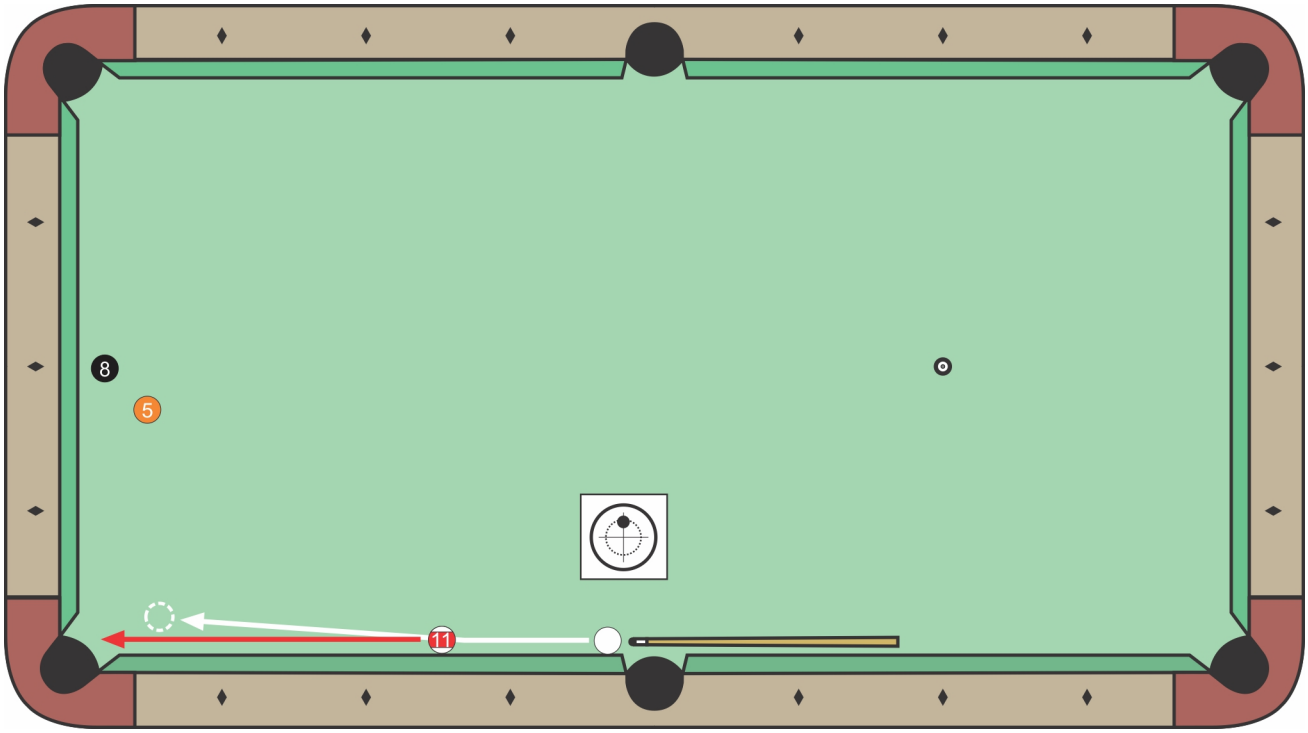

Diagram 3 Straight rail follow shot

Diagram 4 illustrates another way to deal with straight rail shots. Here, there is an added concern since you are shooting past a side pocket. This example is from Disc V of the "Video Encyclopedia of Nine-ball and Ten-ball (VENT)," which teaches all of the skills, knowledge and strategy you need to excel at 9-ball and 10-ball. As I demonstrate in online video **NV J.5**, I am able to pocket the 9 with a soft straight shot with a near-level cue on my table. However, as I demonstrate, trying the same shot from the opposite side of my table does not work because the right pocket point sticks out a hair more than the left point, so the pocket spits the CB away from the rail. The way to avoid this (or the cushion spit-out effect described above) is to hit the CB slightly away from the cushion and swerve it back past the side pocket. In the diagram, bottom-left english with slight cue elevation and medium-soft speed gets the job done. With a shot like this, it is better to hit the OB with the CB a hair off the cushion slightly so the spin-induced throw to the right will cancel the cut toward the cushion, sending the OB straight down the rail. Note that you need to aim differently depending on your shaft's CB deflection, your cue elevation, and cloth conditions, so be sure to practice shots like this.

As demonstrated in online video **NV J.6**, a technique similar to the one just described can also be used to execute the draw shot in **Diagram 1**. With the cue as level as possible and with a small amount of inside spin, the draw shot can be pocketed. With a near-level cue, the upward CB deflection cancels some of the cue elevation. Also, the inside spin allows the CB to swerve back a little and throw the OB to help straighten it. This shot isn't easy; but with a little practice, you can add another weapon to your pool arsenal.

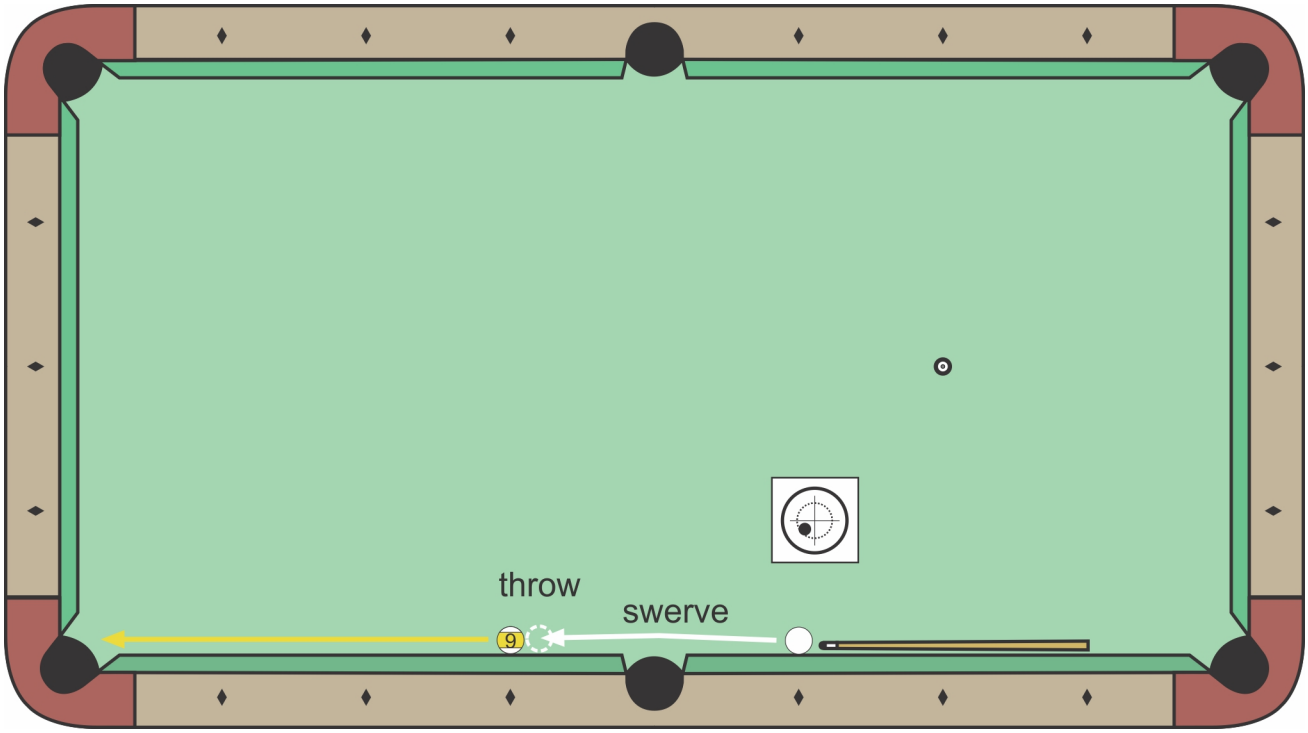

Diagram 4 @@@

I hope you now have an improved understanding of straight rail shot effects and techniques. As always, check out the online videos when you get a chance. Like most things, it is better to see things rather than just read about them. Better yet, try the shots out yourself at a table. Only with practice can you develop the confidence necessary to execute these sorts of shots when they come up in important games.

Good luck with your game,
Dr. Dave

normal video

NV J.5 – Straight Rail Shot Effects, and Shooting Past a Side Pocket
NV J.6 – Straight Frozen Cushion Shots and Techniques ... Follow Up

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 PBIA Advanced 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**.*