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*Note: Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, and technical proofs (TP), and all of my past articles, can be accessed and viewed online at [billiards.colostate.edu](http://billiards.colostate.edu). The reference numbers used in the article help you locate the resources on the website. If you have a slow or inconvenient Internet connection, you might want to view the resources from a CD-ROM or DVD. Details can be found online at: [dr-dave-billiards.com](http://dr-dave-billiards.com).*

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This is the third article in a series on pool rules. The series features shots from a pool rules quiz I recently created with fellow BD columnist Bob Jewett. The quiz can be viewed online in **NV B.61**. Also, **NV B.62** provides answers and brief explanations for each shot, and **NV B.63** provides thorough instruction in each foul category. All calls in the quiz and this series of articles are based on the internationally-recognized **World Standardized Rules** published by the World Pool-Billiards Association (WPA). The complete set of rules can be viewed online at [www.wpa-pool.com](http://www.wpa-pool.com). Last month, we looked at shots where there is a small gap between the cue ball (CB) and object ball (OB), and also where the CB is frozen to the OB. This month, we will look at rail cut shots, where the OB is either close to or frozen to a rail.



[NV B.61](#) – Pool rules quiz for referees and players, with Bob Jewett

[NV B.62](#) – Answers to pool rules quiz for referees and players

[NV B.63](#) – Instruction for pool rules quiz

Here are the pertinent WPA rule excerpts concerning rail cut shots:

### **6.3 No Rail after Contact**

*If no ball is pocketed on a shot, the cue ball must contact an object ball, and after that contact at least one ball (cue ball or any object ball) must be driven to a rail, or the shot is a foul.*

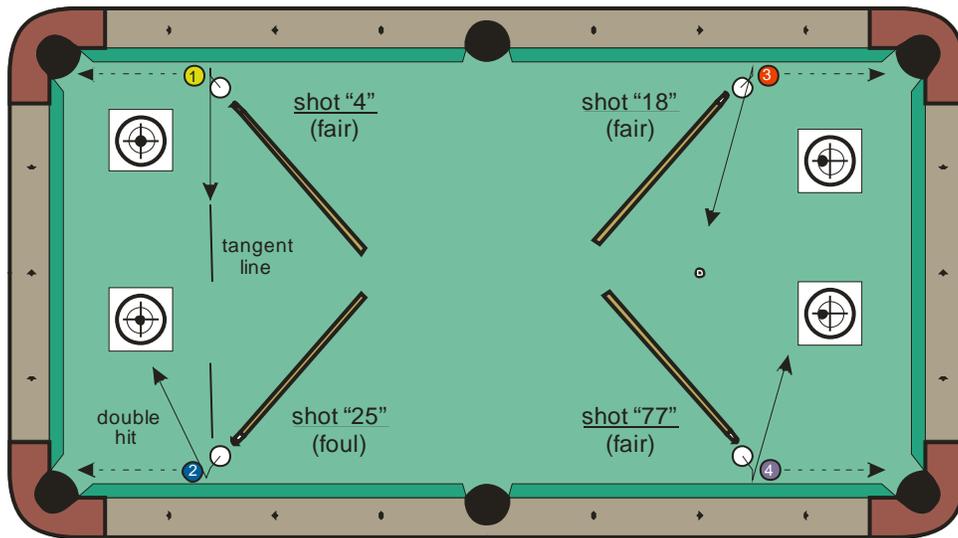
### **6.7 Double Hit**

*If the cue stick contacts the cue ball more than once on a shot, the shot is a foul. If the cue ball is close to but not touching an object ball and the cue tip is still on the cue ball when the cue ball contacts that object ball, the shot is a foul.*

### **8.4 Driven to a Rail**

*A ball is said to be driven to a rail if it is not touching that rail and then touches that rail. A ball touching at the start of a shot (said to be “frozen” to the rail) is not considered driven to that rail unless it leaves the rail and returns.*

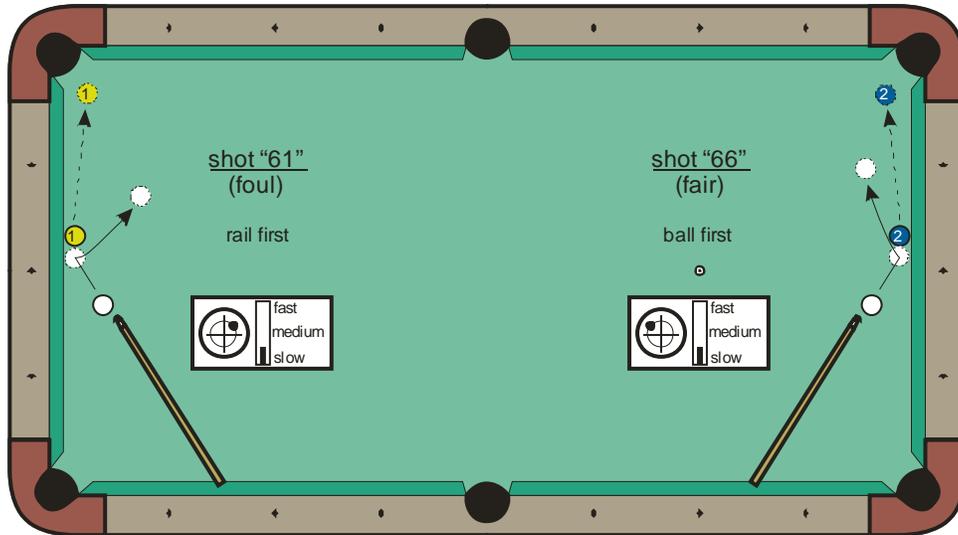
**Diagram 1** shows examples of rail cut shots with and without English and a double hit. The shot numbers in the diagram are from the quiz. As was covered in detail last month, the key to detecting a double hit is visualizing the tangent line for the shot. With a legal hit, the CB will head initially along this line. For example, in shot “4” (the 1-ball shot), the CB heads and persists along the tangent line. This is the result of a single-hit stun shot with no English. With shot “25” (the 2-ball shot), the CB heads well forward of the tangent line. Because no English is used, the CB motion can be explained only by a double hit. The cue tip hits the CB a second time during the follow-through, after the CB hits the 2-ball, causing the CB to deflect away as shown. This shot is a foul. With shots like this, where the balls are close to each other and the rail, it is nearly impossible to see or hear the double hit directly. The only way to determine whether or not the shot is a foul is to watch the motion of the CB.



**Diagram 1 Rail cut shots with and without English and a double hit**

With shot “18” (the 3-ball shot), left (outside or reverse) English is used to make the CB deflect off the cushion up table; and in shot “77” (the 4-ball shot), left (inside or running) English is used to redirect the CB down table. In both of these shots, the CB initially deflects off the OB in the tangent-line direction. The English then “takes” when the CB hits the rail. Without knowing what type of English is applied, shot “77” might look like a double hit because the CB motion is almost indistinguishable from that in shot “25,” but this shot is not a foul. A single hit, and the inside English, results in the expected CB motion, so shot “77” is fair. See part 3 of **NV B.63** for more explanation and many more examples of both legal and illegal hits.

**Diagram 2** shows two examples where the OB is frozen to the rail before the shot. WPA rules 6.3 and 8.4 must be understood and applied carefully with these types of shots. Something (the CB or OB) must hit a rail (or the OB must be pocketed) after OB contact for the shot to be fair. With frozen rail cut shots, it is very important to know whether or not the CB hits the rail first (before hitting the OB). In shot “61” (the 1-ball shot), the rail-first hit is easy to see in slow-motion video playback. Unfortunately, instant replay is not available to help officiate pool matches. Instead, we must judge the hit by how the CB moves. With a rail-first hit, the CB would head initially in the tangent line direction, regardless of the spin on the CB. In shot “61,” because of the slow speed, the CB heads forward of the tangent line almost immediately due to follow. In this case, it can be difficult to judge the rail-first hit (because similar motion would result from ball-first contact with running English), but this shot is a foul. Shot 66 (the 2-ball shot) shows how a ball-first hit reacts. The running English “takes” after ball contact; and with the follow action, the CB heads closer to the rail than it does with a rail-first hit. Shot 66 is not a foul because the CB hits the rail after OB contact.



**Diagram 2** Frozen rail cut shot hitting rail or ball first

You can view demonstrations and explanations of all of the shots in Diagrams 1 and 2 (and many other related shots) in parts 3 and 4 of **NV B.63**. The video includes the appropriate ruling (fair or foul) and the reason behind each ruling. With rail cut shots, you have tremendous control over the path of the CB. A wide range of examples can be viewed in **HSV A.128-A.141**. My [High-Speed Video Magic DVD](#) also has a feature on this topic.

- [HSV A.128](#) – Rail cut-shot hitting the ball first, with fast speed, slight draw, outside English
- [HSV A.129](#) – Rail cut-shot hitting the ball first early with OE
- [HSV A.130](#) – Rail cut-shot hitting the ball first, with more-than-gearing outside English
- [HSV A.131](#) – Rail cut-shot hitting the ball first, with less-than-gearing outside English
- [HSV A.132](#) – Rail cut-shot hitting the rail first, with natural (running) English
- [HSV A.133](#) – Rail cut-shot hitting the rail first a little early, faster, with natural (running) English
- [HSV A.134](#) – Rail cut-shot hitting the rail first, hitting the ball while compressing, with stun and no English
- [HSV A.135](#) – Rail cut-shot hitting the rail first, hitting the ball during rebound, fast, with slight natural (running) English
- [HSV A.136](#) – Rail cut-shot hitting the rail first, hitting the ball at maximum compression, very fast, with slight natural (running) English
- [HSV A.137](#) – Rail cut-shot hitting the rail first, hitting the ball while compressing, fast, with draw and natural (running) English
- [HSV A.138](#) – Rail cut-shot hitting the rail first, hitting the ball at maximum compression, with lots of natural (running) English
- [HSV A.139](#) – Rail cut-shot hitting the rail first, hitting the ball while compressing, with natural (running) English
- [HSV A.140](#) – Rail cut-shot hitting the rail first (barely), hitting the ball during initial compression, with lots of natural (running) English
- [HSV A.141](#) – Rail cut-shot hitting the rail first (barely), hitting the ball during initial compression, slower, with stun and lots of natural (running) English



Well, I hope you are enjoying and benefiting from my series of articles dealing with pool rules. Please encourage all of your pool-playing friends, teammates, and league members to take the quiz and view the instructional videos online. If people had a better understanding of all of the rules and how they are applied, maybe there would be fewer “differences of opinion” and “heated debates” during league night. Next month, we will look at several examples of how you determine whether or not an OB is hit first when an obstacle-ball is near.

Good luck with your game,  
Dr. Dave

PS:

- If you want to refer to any of my previous articles and resources, you can access them online at [billiards.colostate.edu](http://billiards.colostate.edu).
- I know other authors and I tend to use lots of terminology (e.g., squirt, throw, stun, impact line, etc.), 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](#) on my website.

*Dr. Dave is author of the book, DVD, and CD-ROM: “[The Illustrated Principles of Pool and Billiards](#),” and the DVD: “[High-speed Video Magic](#).”*