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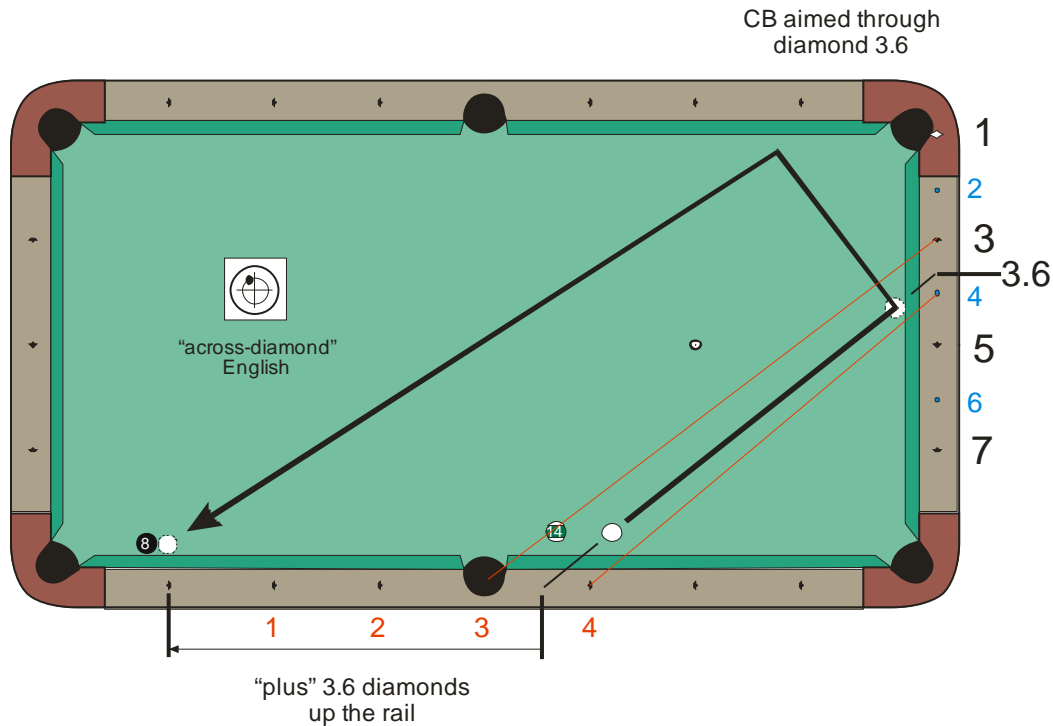
*Note: Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, and technical proofs (TP), and all of my past articles, can be accessed and viewed online at [billiards.colostate.edu](http://billiards.colostate.edu). The reference numbers used in the article help you locate the resources 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 my tenth article based on the “[The Video Encyclopedia of Pool Shots](#) (VEPS),” an instructional DVD series I recently created with past BD columnist and good friend Tom Ross. VEPS contains 750 shot types within 50 main categories and 5 major areas. Many clips in the series are also designated as “gems,” indicating shots or concepts important to know as a pool player, whether understood explicitly or in a more intuitive way. An outline of the entire VEPS series, the complete list of shot types in each major area, the gem designations, and video excerpts from each DVD can be viewed online at: [dr-dave-billiards.com/veps](http://dr-dave-billiards.com/veps). The last two months, we’ve looked at the Plus System that is used to aim two-rail kick shots off a short rail. This system is covered in detail in the fourth DVD: “[VEPS IV - Banks, Kicks, and Advanced Shots](#).” This month, we’ll look at several examples of how the Plus System can be applied in different game situations. If you don’t remember the details of the system, please review [my last two articles](#) and **NV B.84**.

Last month, we saw how speed and the amount of English affect the third-rail target. For each example in this article, I will assume that slightly less English (or slightly more speed) is being used relative to the “benchmark” value(s) (see my [August '10 article](#)) such that the cue ball (CB) targets a point across from the expected diamond instead of through the diamond (see **NV B.84** and my [May '10 article](#) for more information).

**Diagram 1** shows an example where we need to kick two rails to a target on the third rail. With this shot, the goal is to pocket the 8-ball. While a better option might be a jump shot in this situation, if the 14-ball were closer to the CB, or if there were other obstacle balls between the 14-ball and 8-ball, the two-rail kick might be our only option. To hit the ghost-ball target on the 8-ball, we need to find the appropriate diamond on the short rail (1<sup>st</sup> rail) that will give us the necessary shift up table. And since the ghost-ball target is exactly across from the diamond next to the pocket we will need a slight adjustment to our benchmark speed or English, as per the remarks in the last paragraph.

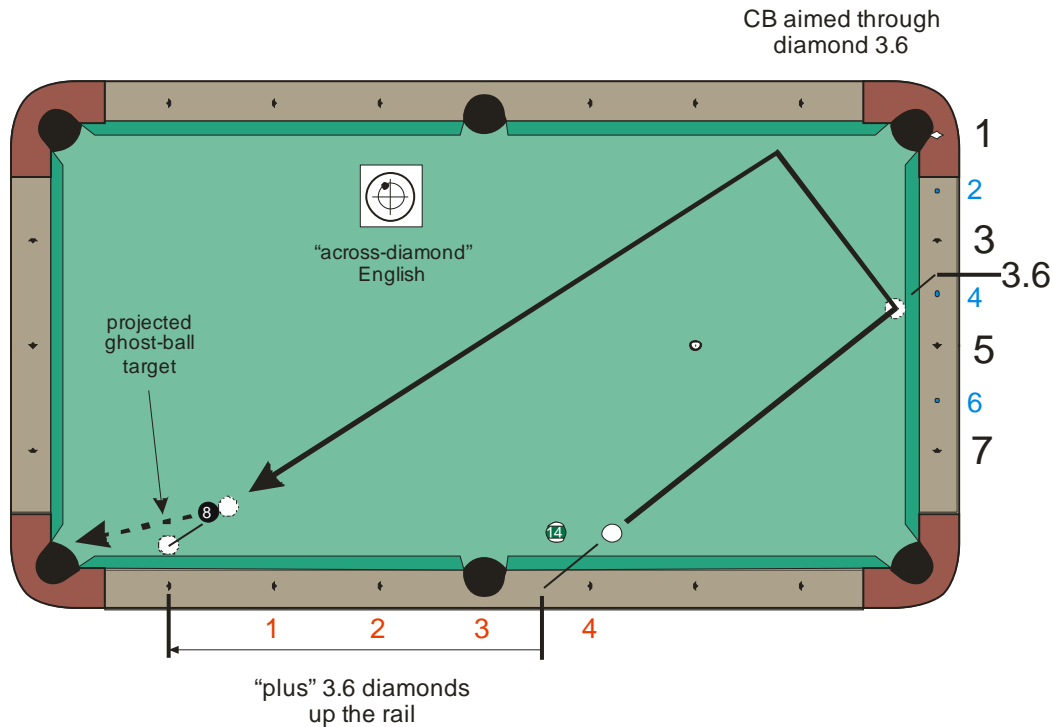


**Diagram 1 Targeting a ball on the rail**

As demonstrated in **NV B.84** (shot #510 on [VEPS Disc IV](#)), the easiest way to find the correct 1<sup>st</sup>-rail diamond is to start by counting diamond distances along the long rail, from the desired ghost-ball target, until you get close to a required through-diamond path close to the CB. As indicated by the red lines in Diagram, if shooting from the third diamond down-table (at the side pocket), we would need to aim through diamond "3" on the short rail to get the necessary 3-diamond shift up table. Similarly, the line through the 4<sup>th</sup> diamond down-table and diamond "4" on the short rail would also provide the necessary shift. Neither of these lines, however, passes through the CB, but they are both close. Since the line through diamond "4" is slightly closer, we will adjust our aim relative to that line. We start with the cue placed over this line. Then, given that a one-diamond distance along the short rail (e.g., between the diamonds labeled "3" and "5") corresponds to a 2-diamond-distance shift along the long rail, we shift the butt of the cue twice as much as the tip (along the rails) until the cue is aligned with the CB. This, by the way, is very similar to the method described and demonstrated for the rolling-CB 1-rail kick system described in my [June '10 article](#). In our present example, the line through diamond "3.6" on the short rail passes through the CB and therefore provides the necessary 3.6-diamond shift up-table to our desired ghost-ball target. To be able to pocket a shot like this, you must first practice on a given table to develop a feel for the speed and English combinations appropriate for the system (see [last month's article](#) for more information).

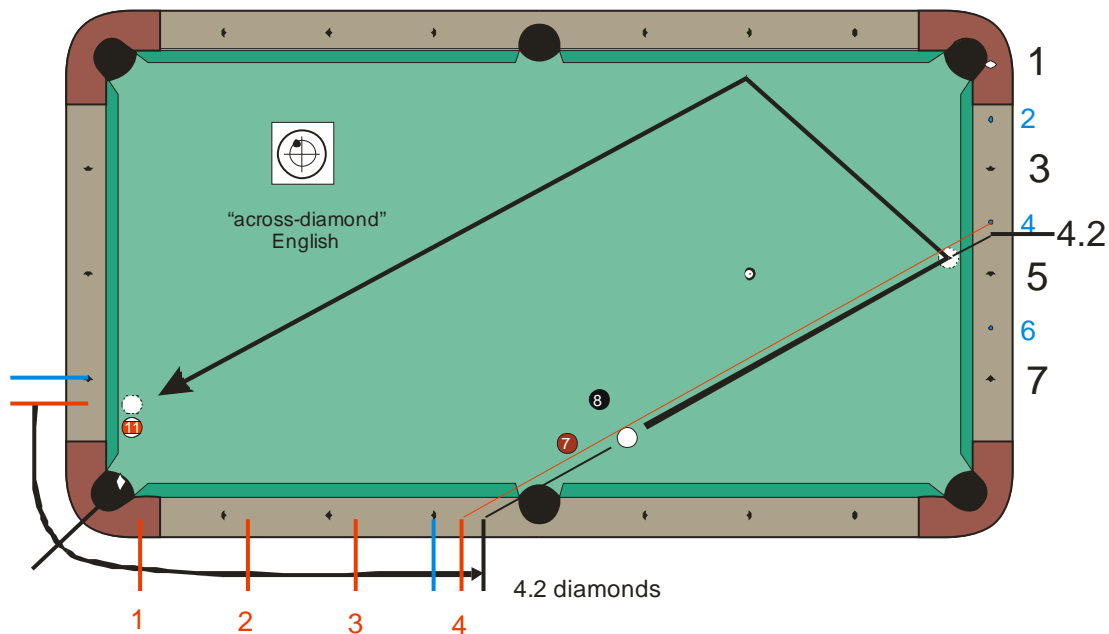
**Diagram 2** shows a more frequently encountered situation where the target ball (8-ball) is off the rail. Again, we begin by visualizing the required ghost-ball target next to the 8-ball. Then, because our target is not located right on the long rail as before, we must estimate the direction the CB will come off the 2<sup>nd</sup> rail (the opposite long rail) toward the target. This is necessary so we can project this line through the ghost-ball target onto the long rail (the 3<sup>rd</sup> rail). (As you practice, you will need to pay attention to the angles the CB comes off the 2<sup>nd</sup> rail to develop a better feel for approximating this angle.) With our projected target on the 3<sup>rd</sup> rail, the procedure for

establishing the short rail diamond is the same as in the previous example. This is shot #511 on [VEPS Disc IV](#).



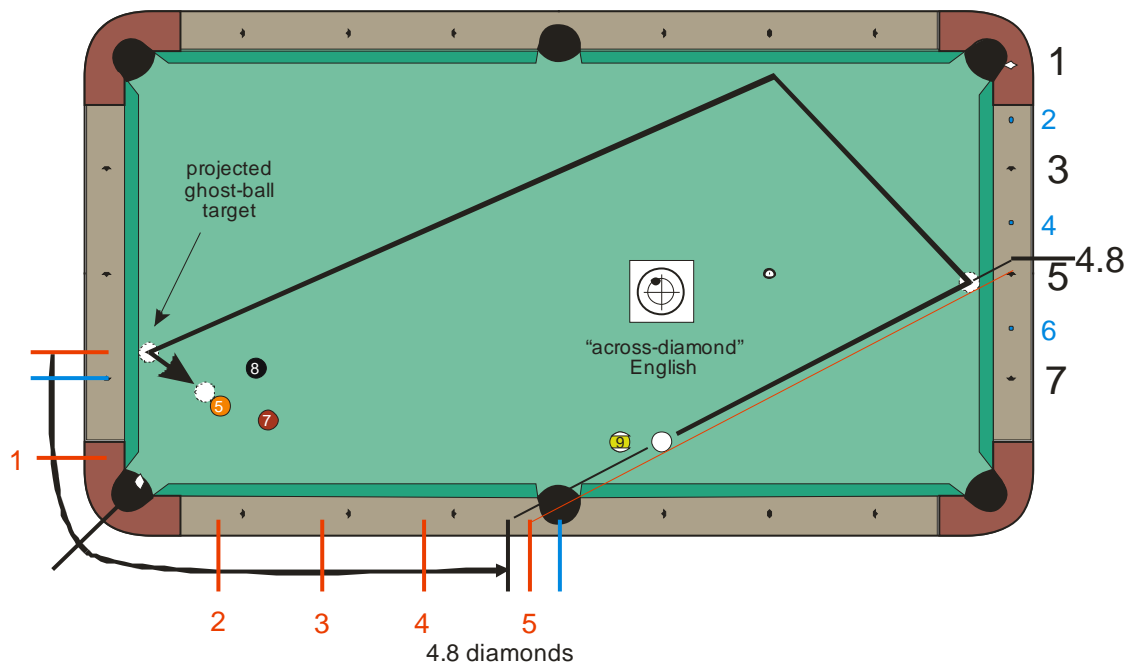
**Diagram 2** Targeting a ball off the rail

**Diagram 3** illustrates another variation where we are now targeting a ball past the corner pocket. As with our previous examples, we want to kick two rails to pocket the object ball (in this case, the 11-ball) in the corner. Again, we begin with the desired ghost-ball position on the rail, which defines the starting point for the diamond distance count. Here, the start point isn't directly aligned with a diamond, so we first need to note and maintain the offset past the diamond (the distance between the blue and red lines in the diagram) when counting forward. With the Plus System, the corner-pocket diamond is treated as centered in the pocket (see my [May '10 article](#) for more information), and going around the corner pocket counts as a one-diamond shift. Per the long thin red line in the diagram, counting to four diamond segments and aiming through diamond "4" on the short rail gets us fairly close to the CB. From this line, we can make the one-to-two cue-pivot adjustment to get our cue directly over the CB. In this particular example, moving the butt of the cue about a fifth of a diamond along the long rail gets us to the required line of aim: 4.2 diamonds from our starting point on the long rail through diamond "4.2" on the short rail. Again, with an appropriate combination of speed and English, we will pocket the 11-ball. This is shot #512 on [VEPS Disc IV](#).



**Diagram 3 Targeting a ball past the corner pocket**

**Diagram 4**, our final example, shows how we can use the Plus System when faced with a three-rail kick. Here, we are playing 9-ball and trying to get a hit on the well-hidden 5-ball. The first step is to visualize a line about 45° off the 3<sup>rd</sup> rail to the target ball. This is the approximate angle at which the CB will rebound off the 3<sup>rd</sup> rail for a wide range of shots. This line gives us the projected ghost-ball position on the 3<sup>rd</sup> rail and our target for the Plus System. As before, we then count diamond distances from this point until the shot line gets close to the CB. As with our last example, the starting point for the count isn't directly across from a diamond, so we need to maintain the offset (the distance between the red and blue lines) during the count. Counting to five diamond segments and aiming through diamond "5" on the short rail brings us close to the CB (see the long thin red line). From this line, we can make the one-to-two cue-pivot adjustment to get over the CB. We find that the required line of aim is from the 4.8-diamond-distance point on the long rail through diamond "4.8" on the short rail. Again, with an appropriate combination of speed and English, we will get a solid hit on the 5-ball. This is shot #513 on [VEPS Disc IV](#).



**Diagram 4 Plus System for three-rail kick**

Remember, it is essential to practice on a particular table to develop a feel for how much speed and English to use and to know how to make adjustments (see [my last two articles](#) for more information).

Example gems and other shots from the fourth VEPS DVD, including the ones discussed above, can be viewed on the [VEPS website](#) or at [billiards.colostate.edu](http://billiards.colostate.edu) under **NV B.81** through **NV B.86**.



normal video

- [NV B.81](#) – Bank and kick shot terminology and basics, from VEPS IV
- [NV B.82](#) – Rolling-cue-ball through-diamond kick-shot aiming system, from VEPS IV
- [NV B.83](#) – Shallow-angle contact-point-mirror-image kick-shot aiming system, from VEPS IV
- [NV B.84](#) – Plus System for aiming two-rail kick shots, from VEPS IV
- [NV B.85](#) – Corner-Five System for aiming three-rail kick shots, from VEPS IV
- [NV B.86](#) – Cut-induced throw (CIT) and spin-induced throw (SIT), from VEPS IV

Well, I hope you enjoy and benefit from my series of articles featuring shots and gems from the "[Video Encyclopedia of Pool Shots \(VEPS\)](#)." Next month, we'll begin looking in detail at the Corner 5 system used to aim two, three, and four-rail kick shots off a long rail.

Good luck with your game,  
Dr. Dave

**PS:**

- I know other authors and I tend to use lots of terminology (e.g., squirt, throw, stun, ball-hit fraction, 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.

- I want to thank Jim Valasina. He graciously proof-reads my articles every month to help find errors and make suggestions. My article quality is better as a result of his efforts. Thanks again Jim!

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