David Alciatore, PhD ("Dr. Dave")   **ILLUSTRATED PRINCIPLES**
**"VEPS GEMS - Part VI: One-Rail Kicks"**

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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**. 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**.*

This is the sixth 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**. Last month we looked at some basic terminology and systems from the fourth DVD: "VEPS IV - Banks, Kicks, and Advanced Shots." This month we'll take a closer look at a one-rail kick shots.

If you recall from last month's article (if you don't, you can refer back to it on my website), I presented the through-diamond system for aiming rolling-cue ball (CB) kick shots. We saw an example where the CB happened to be on a double-distance reference track exactly through one of the diamonds, and the object ball (OB) was a positioned close to a corner pocket (i.e., a "hanger"). Well, things don't always work out that well in real life, so let's look at how to handle several different less-than-ideal situations.

Diagram 1 (VEPS Shot # 488) illustrates an example where the CB is in an arbitrary position. When kicking to a hanger in the corner pocket, an easy way to aim the kick is to first use the cue to visualize the double-distance reference track closest to the CB. Here, the 3-to-1.5 track is fairly close to the CB, so we start with our cue over this line. Next, we shift the butt of the cue twice as much as the tip until the cue passes directly over the CB. This will give us the required double-distance aiming line, in this case from 3.4 to 1.7. An easy way to shift the cue to the CB is to move the tip 1 inch at a time while moving the butt two inches, repeating until you reach the CB (see **NV B.82** for demonstrations). After the shift, it isn't a bad idea to check the diamond distances to make sure the two-to-one ratio was maintained. If the numbers aren't quite right, you can always make a small adjustment and check again. With a rolling CB and no English, we should pocket the 8-ball, provided we don't use too much speed. It is very important to hit the CB on its vertical centerline. If you are left or right of the centerline by even a small amount, you will likely miss the OB target. Unintentional running English will tend to send the CB long, while reverse English will cause it to come up short.
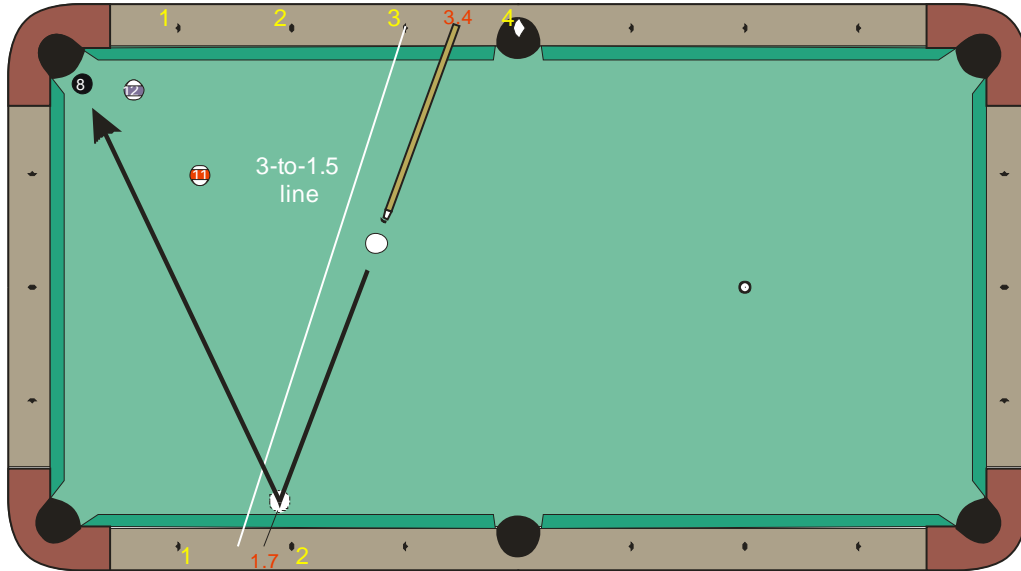
Diagram 1 **CB in an arbitrary position**

The through-diamond kick system doesn't work quite as well as the approach angle gets larger. As shown in NV B.82, when kicking at a ball in the corner, the system is fairly reliable up to about 6 diamonds down-table, but not very accurate beyond this. **Diagram 2** (VEPS Shot # 489) shows a typical result at these larger angles, in this case from 9 to 4.5. (Note: In NV B.81, we demonstrate how you can use your cue to help visualize diamond positions beyond the table.) With a kick at this large of an angle, the CB goes long of the target because the CB topspin creates more post-rebound curve than it does at smaller angles. If you practice these shots, you can learn how much you need to adjust at larger angles. It also helps to be good with arithmetic. As demonstrated in NV B.82 (VEPS Shot # 490), shooting from close to 9 on my table requires about a 1/3-diamond adjustment. Therefore, if we shoot from about 8.8 (two-times 4.4) and aim at 4.7 (about 1/3 more than 4.4), will should get a good hit on the 8-ball for the win.
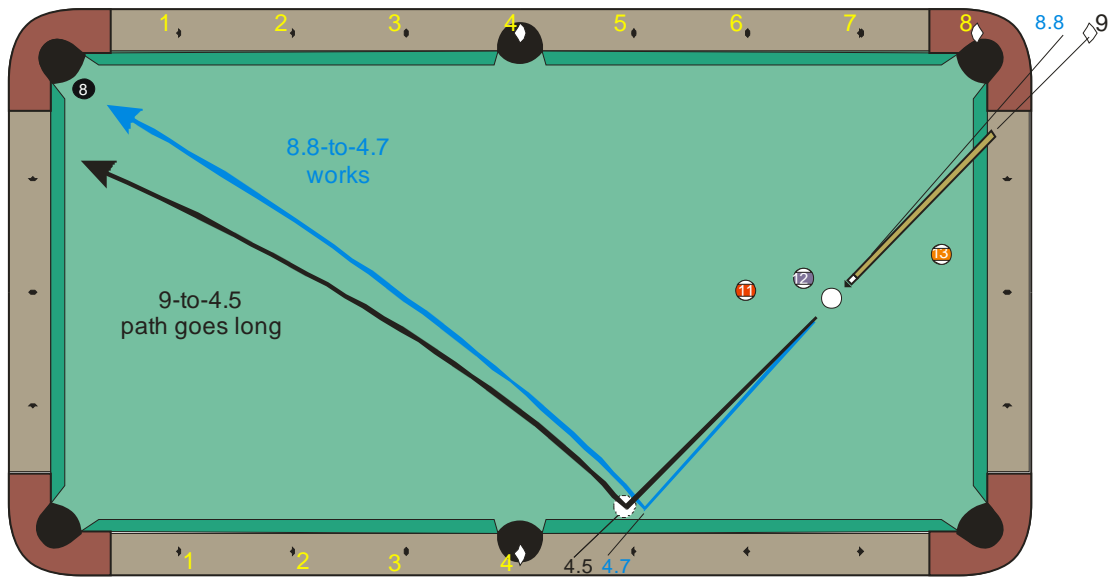
Diagram 2 CB goes longer at larger angles

The examples above dealt with kicking to a "hanger" in a corner pocket. This made it easy to count diamonds numbers since the zero reference is at the corner. However, the system can be used for any target along a rail. **Diagram 3** (VEPS Shot # 495) illustrates an example where the OB is close to the long rail but up-table a bit. The first step to aiming this type of kick is to estimate the desired through-diamond point on the target rail. Here, it is about 1.4 diamonds from the corner. We now simply use this as our new zero reference for the diamond count. The next step is to count diamond-length segments from that point until you get close to a 2-to-1 reference track through the CB. In this case, the CB is between the 3-to-1.5 and 4-to-2 lines. Adjusting to the center of the CB with a 2-to-1 shift from either reference brings us to the 3.5-to-1.75 track, which should, if we're careful with our speed and tip placement, give us a square hit on the 8-ball. The aiming procedure for this particular shot is demonstrated in **NV B.82** (VEPS Shot # 495).
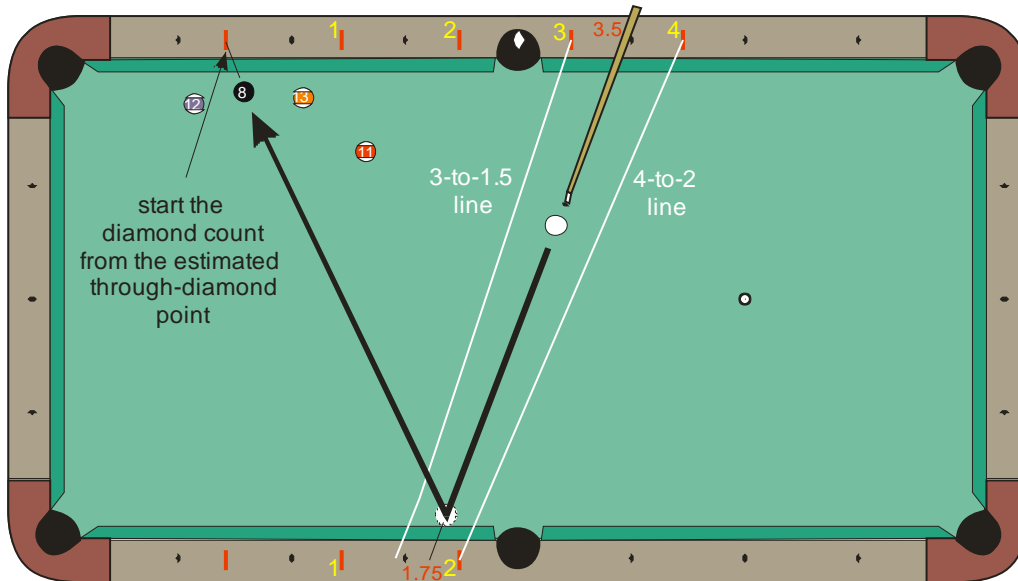
Diagram 3 OB away from the corner

The rolling-ball, through-diamond system can also be applied to kick shots off the short rails, as demonstrated in **NV B.82**. The system equally applies to bank shots as long as the OB is rolling into the cushion. With banks, we need to make sure the speed is not too fast so the OB will reach full roll before contacting the cushion. With slow-to-medium speed, this isn't much of a problem unless the OB is sitting very close to the cushion. Disc IV of VEPS includes some examples of rolling-OB banks.

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*** under **NV B.81** through **NV B.86**.

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 highlighting shots and gems from the "*Video Encyclopedia of Pool Shots (VEPS)*." Next month, we'll look at more gems from the fourth DVD dealing with banks, kicks, and advanced shots.

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."