# Two Rail Systems

Now that we've covered 147 ways to kick a ball using one rail, the next logical extension is kicking using two rails. Our options are somewhat limited in this area - oddly enough there aren't that many systems out there for two rail routes. The two main systems I've come across over the years are the Parallel system (which I covered last time but will mention again for anyone who missed it) and the famous Plus Two system. I've seen several variations on the Plus Two system, and the other systems I've seen only work for very limited cue ball positions or are overly sensitive to speed or spin. Technically there is also a geometric method to calculate the first rail aim point, similar to the Equal Triangles system discussed last article, but the numbers can become so cumbersome to work with it's not really worth discussing in detail. If anyone knows of any other good two rail systems, please let me know I'd love to see them!

Parallel System
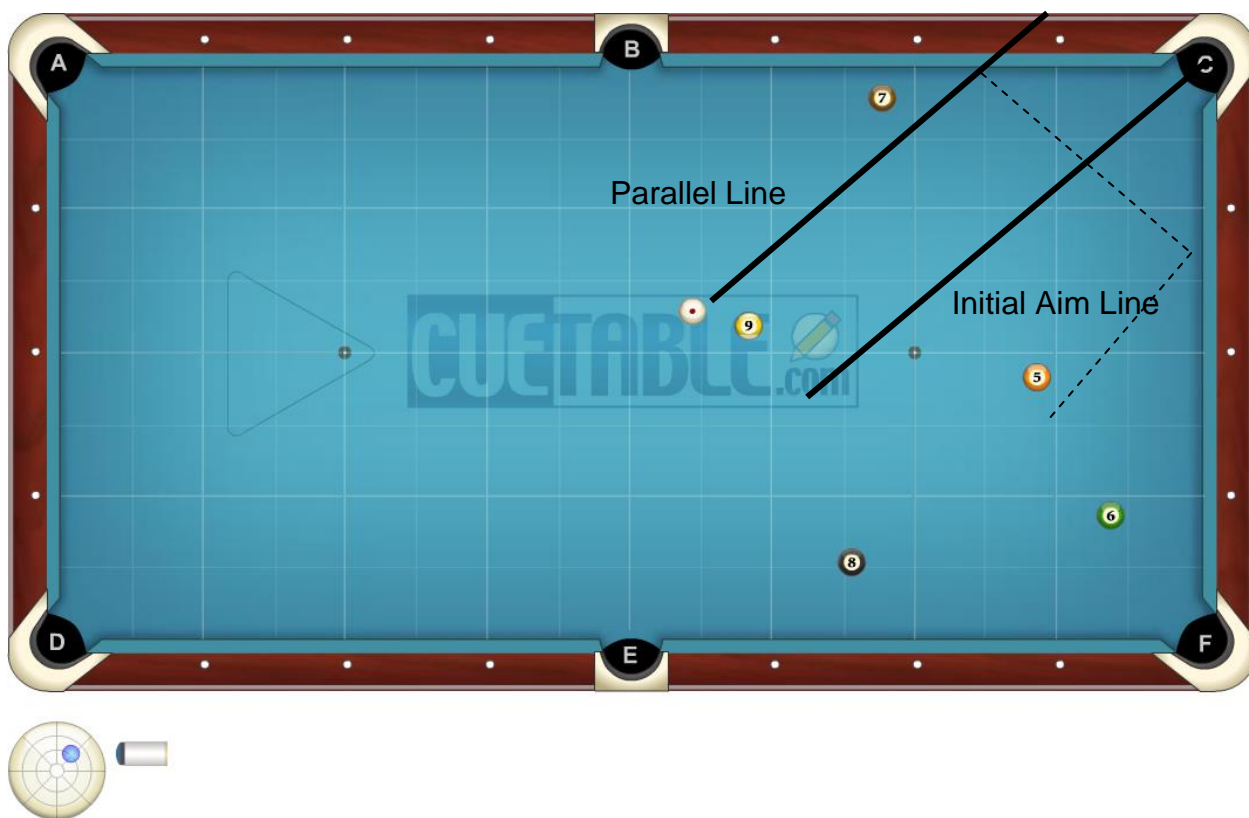
This 2 rail parallel system is very useful and comes up a lot. In this situation, you are hooked on the 5 and can't easily kick one rail in either direction because of blocker balls. To start, establish an initial line from the midpoint between the two balls to the corner between the 2 rails that you plan on contacting for the kick. Once you have that line established, move your cue stick parallel to the line until the cue stick is over the cue ball and aim at the point indicated. Use running english (½ - 1 tip of follow and ½ - 1 tip of english) depending on your stroke. You basically just want to start the cue ball spinning in the same direction it will anyway after contacting the cushions.

You will find in practice that the angle opens up a bit off the second rail when shooting into the long rail first, causing you to miss a lot of kicks on the wide side, especially if the object ball is a couple feet from the second rail. I showed this opening up effect above on the diagram with the dashed line. The amount of this effect, if any, depends on your equipment, the english you put on the cue ball (since everyone strokes the ball a little differently), etc. To compensate for this, you should move the contact point more toward the pocket than what the system suggests. You don't need much of an adjustment, maybe 1 inch for an object ball that's closer to the rail and 2 – 3 inches for a ball that's several feet from the rail (since the return angle off the second rail needs to be shortened a bit more). If shooting into the first rail at a shallow angle, instead of adjusting your aim point just use less english on the cue ball, maybe even center ball, since the cushion will impart a fair amount of english after contact with the first and second cushions and end up following the correct line. Play with these adjustments on your equipment and see what works. When shooting the other direction, into the end rail first, no adjustment should be necessary on most equipment. Again, this is where practice and consistency comes into play – when you figure out what works, try to use that same speed and adjustment on similar two rail kicks.
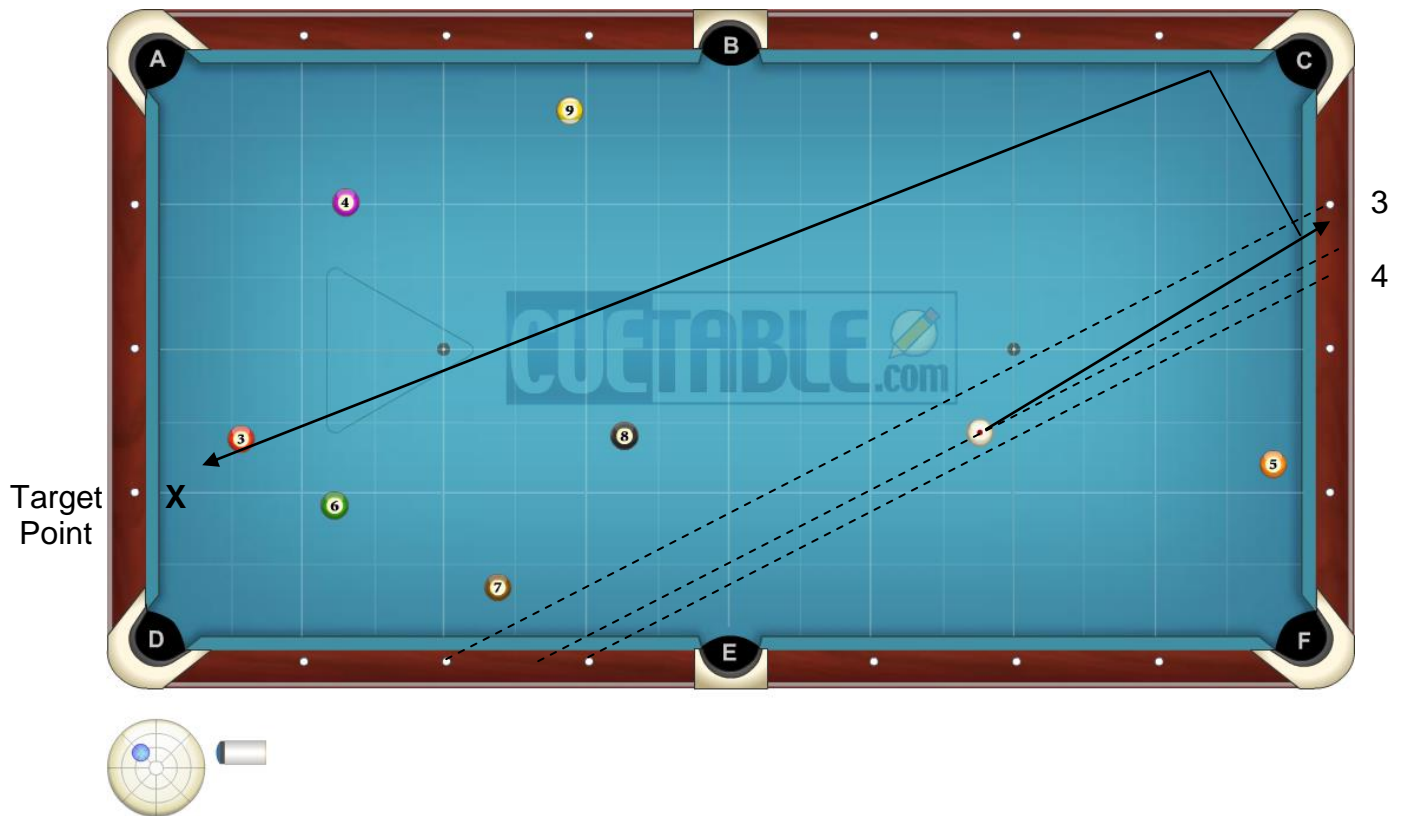
Plus Two

3 diamonds away
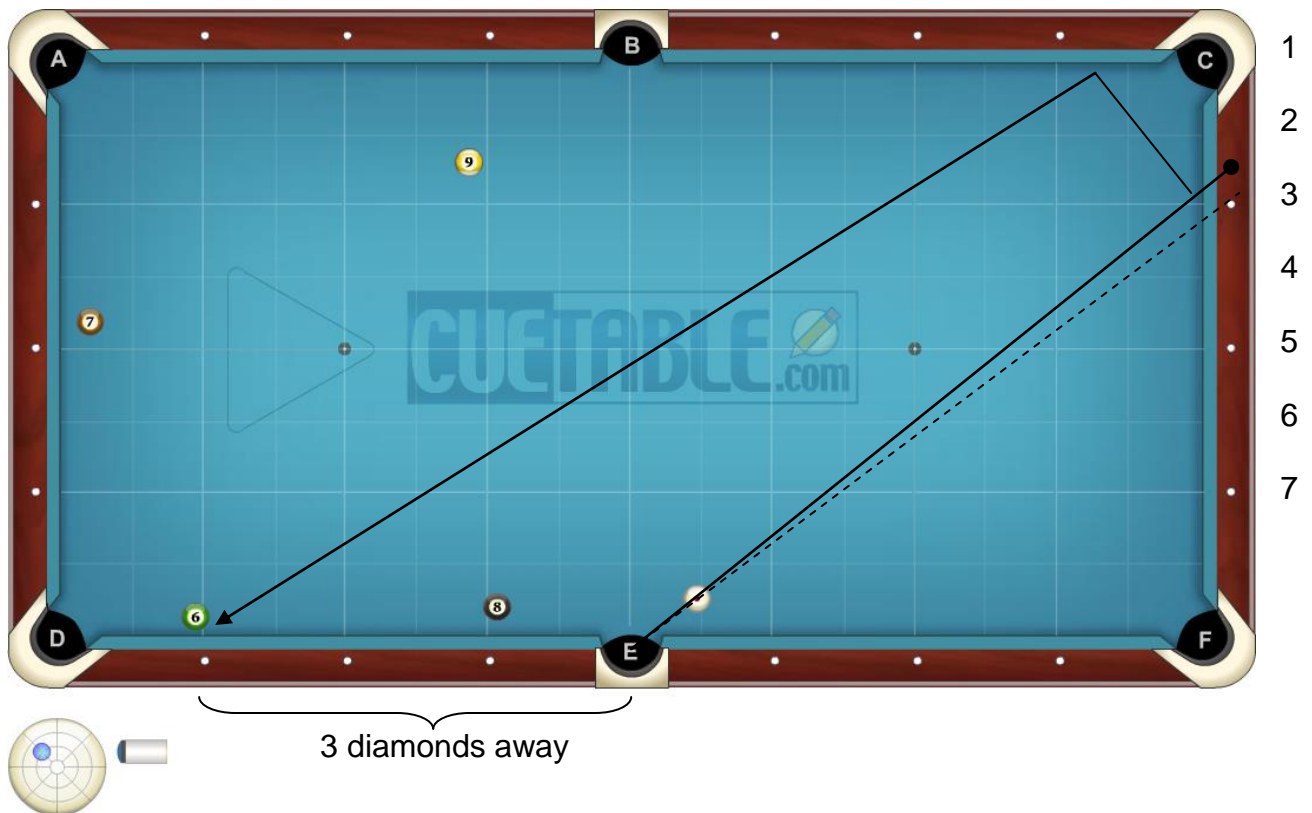
This system is pretty popular and works pretty well with some minor adjustments, and the calculations are actually pretty simple. In the diagram above, the remaining object balls make other 1 or 2 rail kicks difficult, so using the Plus Two system seems to be the best choice. The end rail is numbered starting with 1 in the corner and increasing in half diamonds as shown. You simply count the number of diamonds between the cue ball and the object ball or target point you wish to hit and aim at that same number on the end rail. In this case, the cue ball is 3 diamonds away from the 6 ball, so we should aim into diamond 3 on the end rail (as shown by the dashed line above) with medium speed and running english (1 tip follow, 1 tip left in this case). Remember to aim through the diamonds, not at the spot opposite the diamond on the nose of the cushion.

In practice, hitting the calculated number doesn't quite send the cue ball on the right path; it actually tends to go a bit longer than intended. There are several variations of this system that try to account for this by coming up with their own numbering systems or other calculated adjustments. To make things simple, I just make an adjustment of about ¼ diamond, or about 2 – 3 inches, and that seems to put the cue ball on the proper line for most angles on most tables. As shown above, I would aim at the diagrammed point (basically into diamond 2 ½ instead of 3) to give myself the best chance for an accurate hit.

Another adjustment I've commonly seen is to use varying amounts of english to compensate for different cue ball approaches into the first rail. There are calculations to perform in some of the systems I've come across, but essentially you would use normal running english for normal approach angles and increase or decrease the english as necessary to compensate for shallower approaches to the first rail or when aiming at points near the corner (aim points 1 or 2) or very far away from the corner (6 or 7). You can play with this concept, but I find the simple ¼ diamond adjustment works pretty well for most angles and is easy to remember.

Target Point

You can also use this system to hit targets on the end rail. As seen above, other kicks are difficult in this position so we want to use the Plus Two system. The cue ball is in the middle of the table, so your first job is to find a line that is on or close to a line that you can use with the system. This type of approximation is typical with all systems, since the cue ball isn't usually nice enough to end up on a perfect line or near a rail. In this case, first we might look at a line starting 3 diamonds away from the target point (one diamond to the corner and two diamonds more up the long rail) and then aiming through diamond 3 on the end rail. Since that doesn't intersect with the cue ball, we look at the next line which starts 4 diamonds away and is aimed through diamond 4 on the top rail. The cue ball is actually between these two lines, but a little closer to line 4.

I would pick line 4 in this case, and just parallel my aim point over a bit since it's so close, then make the ¼ diamond adjustment I talked about earlier and that would be my aim point, hitting the cue ball with normal running english and medium speed. Another option you have when your cue ball is in between lines like this is to use the spot on the wall system we covered in the last article. This concept is very powerful and can be used in a wide variety of systems. In this case, you could find a line that's pretty close (line 4 above), make your ¼ diamond adjustment, then extend that line to a spot 9' – 10' away and aim at that point from your cue ball position to make the hit.

One other important thing to note here - as you can see the 3 ball is barely on the target line, and this is where a little judgment and feel come in on your part. Try using a little less english or adjust your aim slightly to make sure you contact the 3 ball and don't sneak by it. As a guideline, I would use a bit less english anyway when aiming at the first diamond from the corner on the bottom end rail. And if my aim point were in the middle of the bottom rail, you could use even less english or do what I've found to be pretty accurate – just don't make the ¼ diamond adjustment. That seems to put the cue ball on the slightly longer path we talked about earlier and works great when trying to hit a target toward the middle of the end rail. One more caution – when trying to hit targets on the end rail, be

sure your two rail path doesn't put you into or near the side pocket. If it does, you will have to adjust with speed or spin to make the hit and avoid scratching.

I wanted to show a real world example where everything doesn't line up quite right and take you through the steps necessary to find the correct line. We'll cover this much more thoroughly over the next few months when discussing your cue ball aim line with the standard three rail system. With a little practice you should be able to find the correct line and determine what if any adjustments are needed in seconds. The more you experiment with different speeds and amounts of english, the better feel you will have for seeing the correct line and making any necessary adjustments.

<u>Plus Two Variation</u>

0

.5

1

1.5

2

2.5

3

3.5
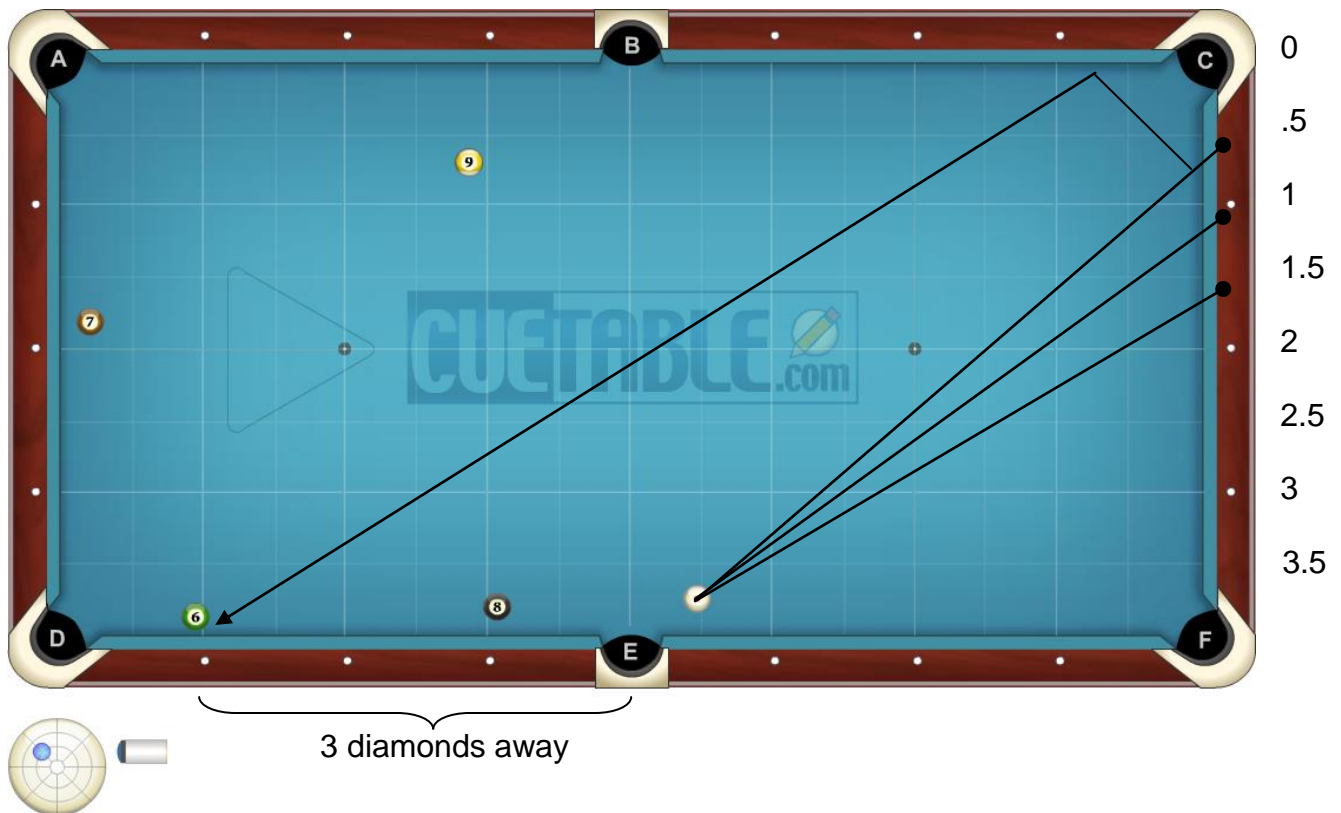
3 diamonds away

This is a variation of the Plus 2 system that I only recently came across. It seems to work pretty well, especially in the normal range of distances between 2 and 6 diamonds away.

Using the same diagram as above, I want to kick at a ball 3 diamonds away. I can use 3 formulas and different amounts of english to reach my target, all at lag speed. D = distance to target

- For slight running english (11:30 in this case):   **(D – 2) / 2   = 3 – 2 / 2 = 1/2**
- For normal running english (10:30 here):   **(D – 1) / 2   = 3 – 1 / 2 = 1**
- For maximum english (9:00 here):   **(D / 2)   = 3 / 2   = 1 ½**

As you can see, this variation accounts for using different amounts of english and allows you to hit the ball using 3 different aim points, potentially useful if there are balls in the traditional path.

As with the traditional system, if using more of a medium speed you will probably have to adjust slightly (in this case, toward the upper left corner pocket) to compensate, again based on your equipment. Play with the formulas above and if nothing else you will see how different amounts of english affect the shot and can be reliably used to get around interfering balls.

Next month I will begin to cover the system that most people think of when talking about diamond systems, the Corner Five or standard three rail diamond system. It's been covered in numerous books and articles already, but sometimes the information is sketchy or even incorrect, and there is usually not enough detail given to teach someone how to find the correct line, how to adjust from different parts of the table, or how to adjust from table to table. I've spent a lot of time learning variations and working with this on both billiard and pool tables, so I hope discussing this in detail will enhance your understanding and streamline your learning process. Until then…