

Be Part Of An Experiment

The first in a series of articles on the technical details of pool.

by Bob Jewett

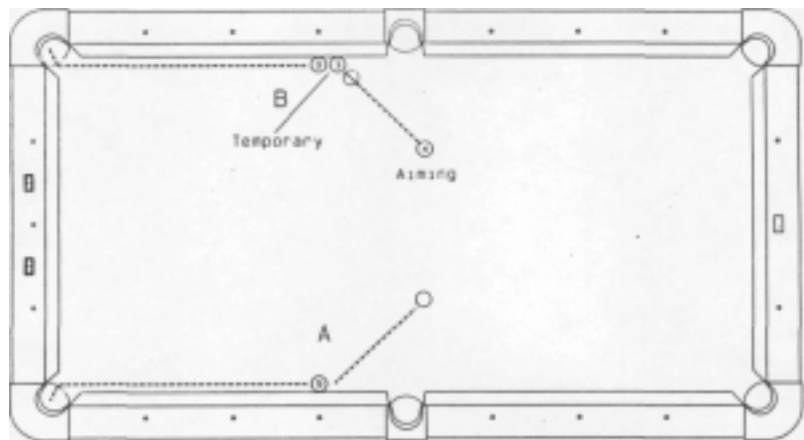
IF YOU WANT to know the best way to shoot a frozen ball down the rail, and ask an expert, you could be in trouble. Each "expert" will have his own slightly different best way to shoot the 9 ball into the corner pocket (shot A). About half of them will tell you to hit the ball and the rail at the same time, while the other half will say hit the rail first. There are people in each camp with impressive credentials. Which camp should you believe?

Don't believe either one. For now, let's ignore the expert advice and figure the problem out on our own. And we're not going to fall into the trap of believing the obvious or simple physics, since that's how at least one group of experts has gone wrong.

Instead, we're going to do an experiment. By we, I mean everybody reading this who is willing to spend an hour at the table to help get to the bottom of the controversy. I'm not going to do the experiment for you; get your cue, a set of balls, a notebook and a table and get to work. What I will do is organize and report here the results you send me. As an incentive, the five readers who send in the most complete results will receive a free one-year subscription to *Billiards Digest*.

In outline, the experiment is to try shooting the shot at several different distances up the rail and noting which one works best. Do not use draw, follow or English; hit the cue ball right in the center.

That sounds pretty simple, but here are some details, all intended to make sure the results are accurate and consistent: Make sure the table is level and all the balls are the same size. Place the nine on the rail as shown in shot B, even with the third diamond from target pocket. Place an object ball temporarily exactly where the cue ball is supposed to land on the rail for this particular shot. (This is like Ray Martin's phantom cue ball.) Put the cue ball about V^* inch from the temporary ball, and an aiming ball about two feet farther back, all at a 45 degree angle to the rail. Once the temporary, cue and aiming balls are perfectly in line, remove the temporary ball. Get in



position to shoot the shot, and make sure that you are not using any English and your warm up strokes stay directly over the aiming ball. Choose a slow, medium or hard stroke, and shoot the shot. Try five or six different distances up the rail for each speed, and take ten shots for each speed/distance combination. Write down the total made and missed for each case.

The speed of the stroke can be judged by how far the cue ball travels. Once across the table is slow, twice is medium and three times is hard.

The aiming ball is there to make sure the cue ball hits where the temporary ball was. It's hard to remember where the ball was once you have removed it. Few players have a perfectly straight stroke, and watching your warm ups go over the ball gives you a guide for alignment. More importantly, many players will try to subconsciously correct the aiming line. It goes against the grain to simply shoot along an artificially set line when all your experience tells you that just a little more to the left or right will pocket the ball. Have a friend watch to make sure your cue stays in line.

As for which exact distance to use, start with five, from 0 to 0.4 inches from the object ball. A convenient way to measure the gap is with a deck of playing cards. The deck of 52 cards is close to half an inch thick, so each card is about 0.01 inches. A stack of ten is a tenth of an inch. If you find

that the results are very different for two adjacent distances, try splitting the difference for another set of ten shots. If you find that a distance of zero (that is, hitting the ball and rail at the same time) pockets the ball often, they also try a negative distance by putting the phantom ball touching the object ball and maybe 0.1 inches off the rail.

A typical results sheet might start:

Slow Speed	Distance (In Cards)	Make	Miss
	-10	2	8
	0	6	4
	10	5	5
	20	0	10
	30	0	10

Send your results to Bob Jewett, in care of this magazine. If you give your distance in cards, tell me how thick the whole deck is. Foreigners can send results in millimeters. Also include general information, like thickness and wear of the cloth, how tight the pocket is, and so forth. If you have suggestions on how to improve this experiment, send those too.

In the next issue, I'll go over the results and discuss what others have written about this shot.

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