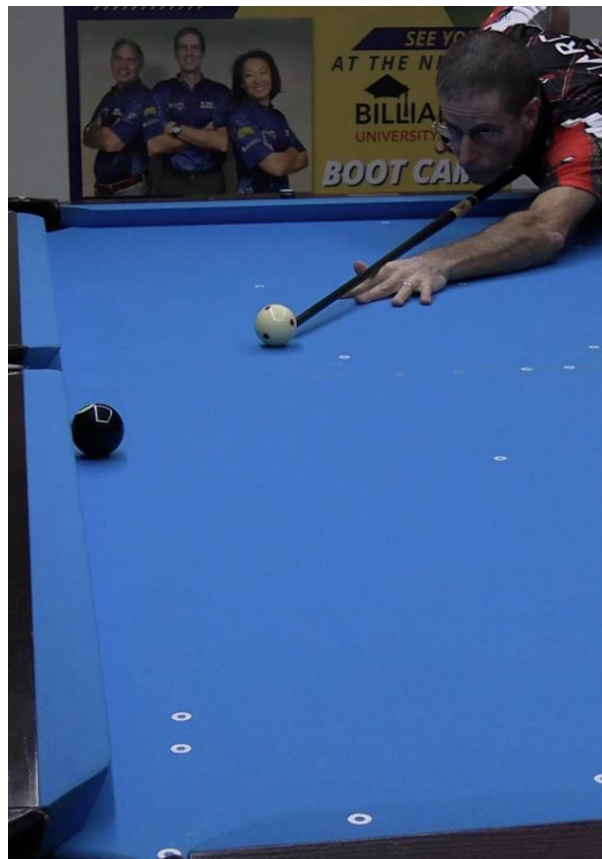

Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, technical proofs (TP), and all past articles are available online at billiards.colostate.edu. Reference numbers used in the articles help you locate the resources on the website.

There are many throw shots that can help you win games. I recently posted a YouTube video ([NV L.69](#)) that demonstrates useful examples, and I describe them below.

Throw refers to change in object ball (OB) direction caused by friction or rubbing between balls. When rubbing and throw are due to cut angle, it is called cut-induced throw or CIT. And when rubbing and throw are due to sidespin, it is called spin-induced throw or SIT. See the [throw tutorial page](#) at billiards.colostate.edu for illustrations, demonstrations, and more information dealing with these important principles.

Anytime you slow-roll a ball or use stun, where the cue ball (CB) has no top or bottom spin at the OB, throw is a concern. As demonstrated in online video [NV L.69](#), one way to correct for throw is to just overcut the ball. Another way to deal with throw is to use gearing outside spin. With the correct amount of sidespin, there is no throw whatsoever. See the video and the [gearing spin resource page](#) at billiards.colostate.edu for demonstrations and more information.

Throw is especially important with rail cut shots (see [Image 1](#)). If you hit the OB 1st or the OB and cushion at the same time, as many “old timers” suggest, the OB gets thrown into the cushion and bounces away from the rail. To pocket this shot cleanly, you need to hit the cushion slightly before the ball (or use gearing outside spin). The CB compresses the cushion a little, cutting the ball away from the cushion enough to cancel the throw effect. Again, see the video for demonstrations.



[Image 1](#) Rail cut shot

Image 2 shows an example where we need maximum SIT to pocket the 8 in the corner. A straight hit with no sidespin, barely missing the 1 and 5, would send the 8 straight up-table, well to the right of the pocket (see the white line). But using right sidespin, the 8 can be thrown in. As with all sidespin shots, I use the [System for Aiming With Sidespin \(SAWS\)](#) to get an accurate line of aim that corrects for CB deflection. See the links in the YouTube video description for more information. It might look like the aim in **Image 2** is too far the right (see the red line), where I might hit the 5; but right sidespin deflects the CB to the left, creating a square hit on the 8. As demonstrated in the video, to get the most SIT you need to use slow-speed stun with about half of maximum sidespin.

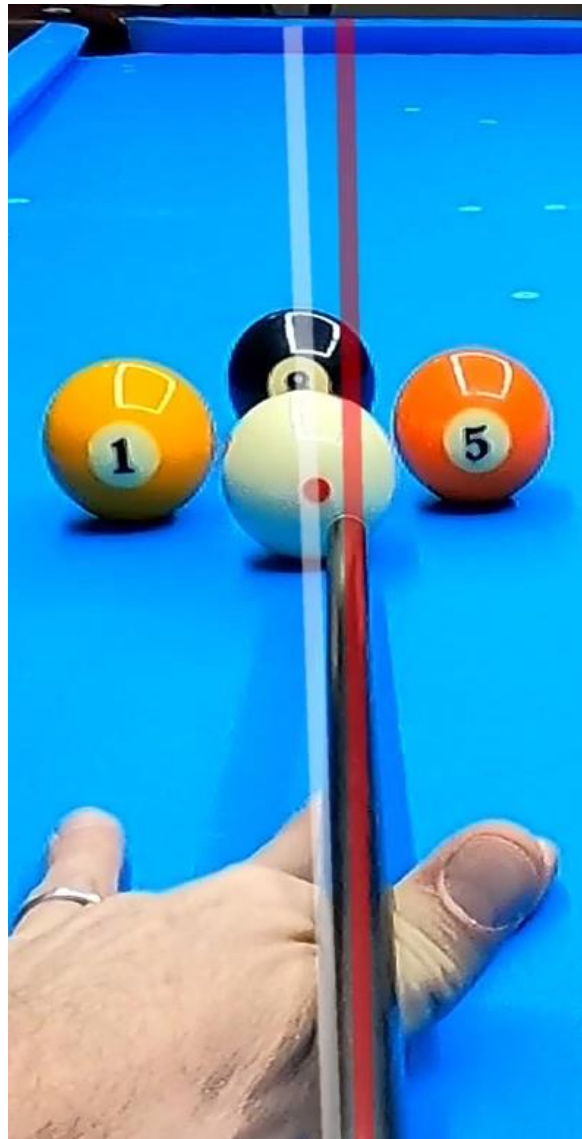


Image 2 Spin-induced throw (SIT) shot

Image 3 shows an example where we need maximum CIT. It might not look like it is possible to pocket the 8 in the corner. A near miss of the 1 provides no cut angle to the left (see the white line and the extra CB at the ghost-ball position). However, the 8 can be thrown in with CIT (see the black line). We need almost maximum throw here, so a slow speed stun shot is required.

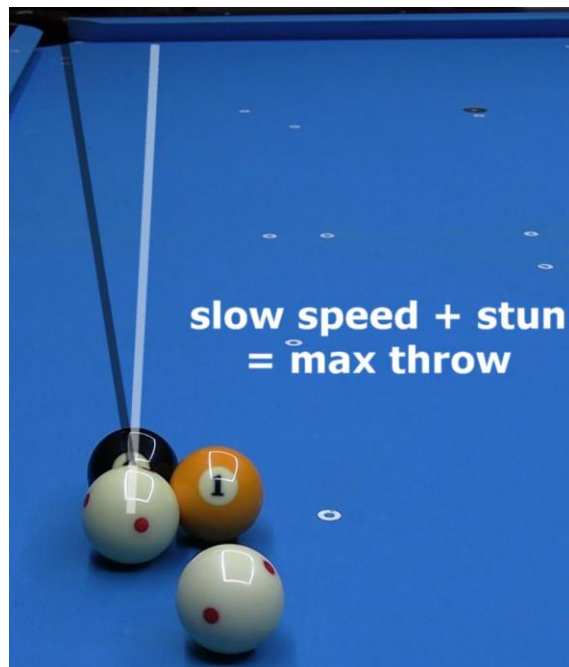


Image 3 Cut-induced throw (CIT) shot

Throw is very important with frozen and small-gap combination shots. **Image 4** shows an example. The 11 and 13 are frozen, pointing straight up-table. With a straight hit, the 13 goes very wide of the corner pocket. However, with an angled hit, cutting the 11 to the left, we can throw the 13 to the left. The video includes many more examples with the frozen balls lined up in different directions, and with the CB in different positions. Understanding a little about throw can help you pocket a great variety of frozen or small-gap combo shots.

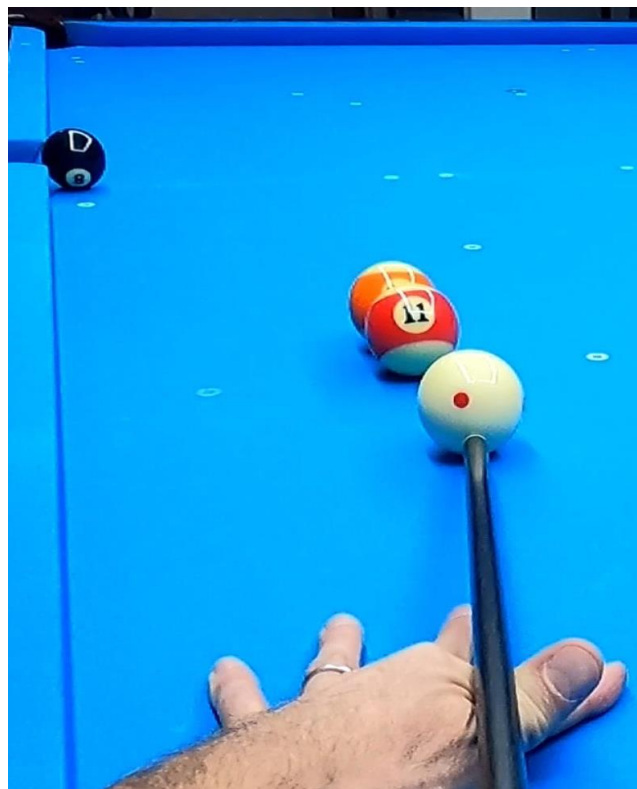


Image 4 Frozen combo throw

Throw can also be used to transfer spin to an OB to change the rebound angle on bank shots. **Image 5** shows a good example where I need to bank the 8 straight back to the upper left corner pocket, but the 1 blocks the natural bank path. With an aim away from the 1 instead, with stun, the CB can throw and transfer enough right spin to the 8 to make it rebound back to the pocket, with plenty of clearance. As demonstrated in the video, with slower speed stun and a cut close to a ½-ball hit, you can even get too much “twist” on the bank, sending the 8 into the long rail off the short rail.



Image 5 Spin-transfer bank

Check out online video [NV L.69](#) for much more information and other useful shot examples. Also check out all the links in the YouTube video description to learn more about all principles and shot types covered. Happy throwing!

Good luck with your game,
Dr. Dave



[NV L.69](#) – Pool Made Simple – THROW SHOTS You Need to Know ... with GoPro POV

PS:

- I know other authors and I tend to use lots of terminology, and I know not all readers are totally familiar with these terms. If you ever come across a word or phrase you do not fully understand, please refer to the [online glossary](#) at billiards.colostate.edu.

Dr. Dave is a PBI Master Instructor, Dean of the Billiard University, and author of the book: [The Illustrated Principles of Pool and Billiards](#) and numerous instructional DVD series, all available at: DrDaveBilliards.com.