

# Fargo Billiard Academy

## Foundations Course



## Who is this course for?

Pick yourself out in the following:

- i. I have never touched a pool cue. And I wouldn't know which end to use if I did.
- j. I have played pool a few times, but I really have no clue about what I'm supposed to do.
- k. I have played on and off, and I feel I have *some* idea about what to do.
- l. I've played a fair amount, but I've never spent time with instructional materials or an instructor.
- m. I've played a fair amount, and I've read the books and/or watched the DVDs and/or worked with an instructor.
- n. I'm a seasoned tournament player. I want to bring my game to the next level.

We used to teach two versions of this course, levels 1 and 2, with the idea that the i's and j's belong in level 1, the m's and n's belong in level 2, and the k's and l's could benefit from either. The more we taught, though, the more we realized the distinction was mostly illusory. The approach we used in level 1 was about guiding the student toward **inventing** his or her game. And the approach we used in level 2 was about the student **reinventing** his or her game. The process is the same; it is just harder for experienced players.

**As simple as possible, but no simpler.**

We firmly believe the key both to learning cue sports as well as to improving at cue sports rests soundly on the *fundamentals*, soundly on developing the ability to consistently/repeatedly execute a basic and simple stroke sequence. We have worked hard to demystify this process and to discard the fluff. Everything we do has a reason that we can articulate.

Wherever possible, we **omit needless motion.**

## Course Outline

### Session A:

Equipment/etiquette  
Bridge (front hand)  
Grip (rear hand)  
Stance  
Stroke sequence

### Session B:

Video review  
Stroke sequence  
Pre-shot routine  
Speed control

### Session C:

Stop shot  
Stun-line/90 degree rule  
Follow and draw  
Aiming techniques  
Other bridges  
Progressive Practice Drills  
Cueball Control

### Session D:

8-ball rules and strategy  
Cueball Control  
Position Play

# Fargo Billiard Academy

## Foundations

### Session A

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## The Magical Millisecond

Experienced players know that the only way to influence the balls on a pool table is through the cueball, and the only legal way to influence the cueball is by striking it with a forward motion of a pool cue.

So that's it: the window between the world of the *player* and the world of the pool table comes down to an event that takes about one thousandth of a second.

The force is small when a leather tip first makes contact with a cueball. The force grows while the tip compresses and then begins to diminish as the tip decompresses. When the ball leaves the tip, the stick is moving forward at about half its original speed, and the ball is moving somewhat faster than the stick's original speed.

Most of the cueball *action*—its speed and its spin—is achieved while the force is the highest, i.e., while the tip is near fully compressed.

This whole event takes about a millisecond, and it's over before the cueball moves more than a couple of dime thicknesses.

### ***Why is this important?***

This is important because it denies common claims. Good players don't make the tip *dance* on the cueball. They don't *accelerate through the ball*. They don't—by employing some special stroke magic—cause the tip to stay on the ball longer, or get it off more quickly....

This is important because it reinforces what the player can control:

- Where the tip hits the cueball
- The direction of the stick when the tip hits the cueball
- The speed of the stick when the tip hits the cueball

## Front Game/Back Game

The **FRONT** of the game is about knowing where the tip should hit the cueball, about knowing where the stick should be pointing, and about knowing how fast the stick should be moving. Effects of english, aiming systems, position play, game strategy are all part of the FRONT of the game. There are a lot of good resources in books and videos and online about various front game topics.

Our immediate concern, and at least half of our attention in this course, is the **BACK** of your game. The goal here is to find a simple repeatable motion that puts the tip in the desired spot and points the stick in the desired direction. **Simple** and **repeatable** are not uncoupled here. Complex motions are not easily repeatable. Our effort has been to determine the simplest repeatable stroke sequence, and then to break that into segments that are reinforced by various drills.

Whether and to what degree this ultimately helps your game depends on how you approach this new information. We don't think we have all the answers. Nor are we the final word on any topic. Ultimately you are responsible for treating our information the way we think you should treat any new information. Bite into it; chew on it; and spit out what doesn't taste good.

Where we hope we have your trust, particularly with the Back Game aspect of this course, is we hope you give it a thorough chewing.

## Etiquette

Imagine walking into a restaurant and seeing patrons at some tables eating *normally* while those at other tables eat mashed potatoes with their hands and spit into each others' water glasses.

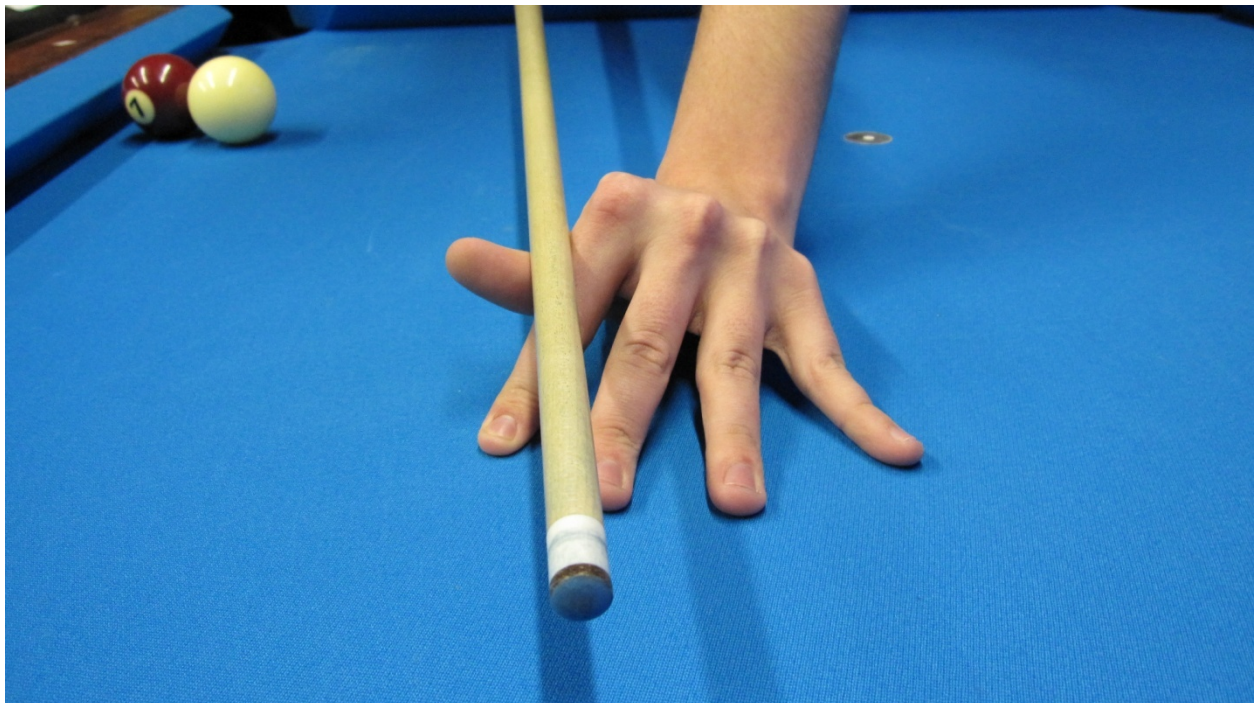
Forget missed balls, the easiest and fastest way to separate the players from the clueless in a poolroom is whether they adhere to the cardinal rule of courtesy:

***When your opponent is at the table, be quiet, still –preferably seated—, and no closer than six feet from the table.***

There are other rules, but we'll leave it at this one for now to emphasize it.

## **The Open Bridge**

The front hand is known as the bridge hand. An ***open*** bridge has the cue resting in a "V" formed by the thumb and the upper (knuckle) part of the pointer finger.



The easiest way for a new player to form an open bridge is to begin with the hand flat on the table with the fingers spread out. Then inch your fingers inward allowing your knuckles to rise off the table. Next raise your thumb to form the "V." This bridge is easily raised or lowered by inching the fingers in or out.

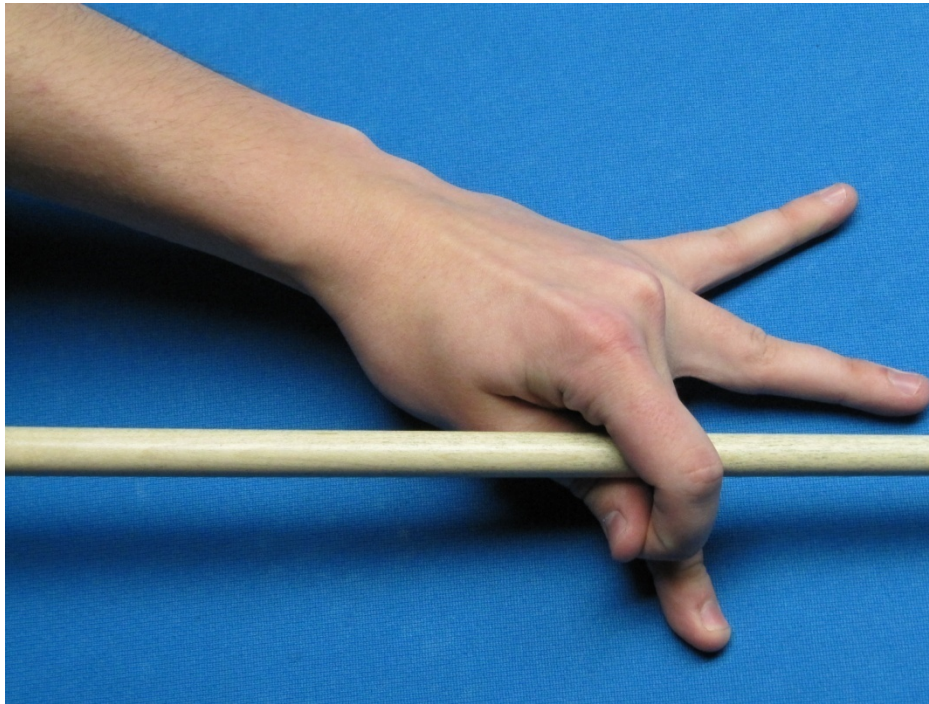
The open bridge is the preferred bridge amongst snooker players, is common amongst professional pool players, and is suitable for essentially all pool shots.



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## The Closed Bridge

The closed bridge is also common amongst pool players.



While there are many variations, good ones have some things in common: fingers touching the table bed are spread out, the base of the hand resting on the table bed, the pointer finger loops over the cue resting on the thumb, and the bottom of the cue rests partly on the middle finger.

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**POWDER:** *Many newer players find the cue fails to slide smoothly, i.e., sticks to the fingers, and the player resorts to messy solutions like baby powder. However, you will notice very few seasoned players use powder. The key here is that freshly cleaned and dried hands work like a charm. So if you have a stickiness problem, try washing the natural oils off your hands. If the problem persists, try wiping the shaft down with a damp rag/cloth and drying it immediately.*

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## Chalk

The tip sliding across the ball— a bad event called a ***miscue***—leads to erratic results. The purpose of chalk is to

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**CUE LEVEL:** *always keep your cue as level as possible*

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provide static friction between the tip and the ball to prevent a miscue. Key points:

- Chalk the tip before every shot
- Use light swiping motions paying attention to the edges of the tip.
- Look at the tip before deciding you are done.
- Set the chalk **face up** on the rail.

## The Grip

The rear hand is known as the ***grip*** hand. The word ***grip*** is unfortunate here, because it implies a tight clutch—the cause of hundreds of millions of missed shots. **Cradle** the cue like you would a newborn kitten or a stick of room-temperature butter you didn't want to deform. Focus on the thumb and next two fingers. Most top players have a straight wrist, and the easiest way to insure this is to point your thumb toward the ground. Many are surprised to learn how loosely they can cradle the cue, even while shooting hard.

## Stance

There is a lot of variation amongst pool players' stances, in part because there is a lot of variation in the shapes and sizes of our bodies. Two points don't vary though: a good stance is stable, and a good stance allows unencumbered execution of the pendulum stroke.

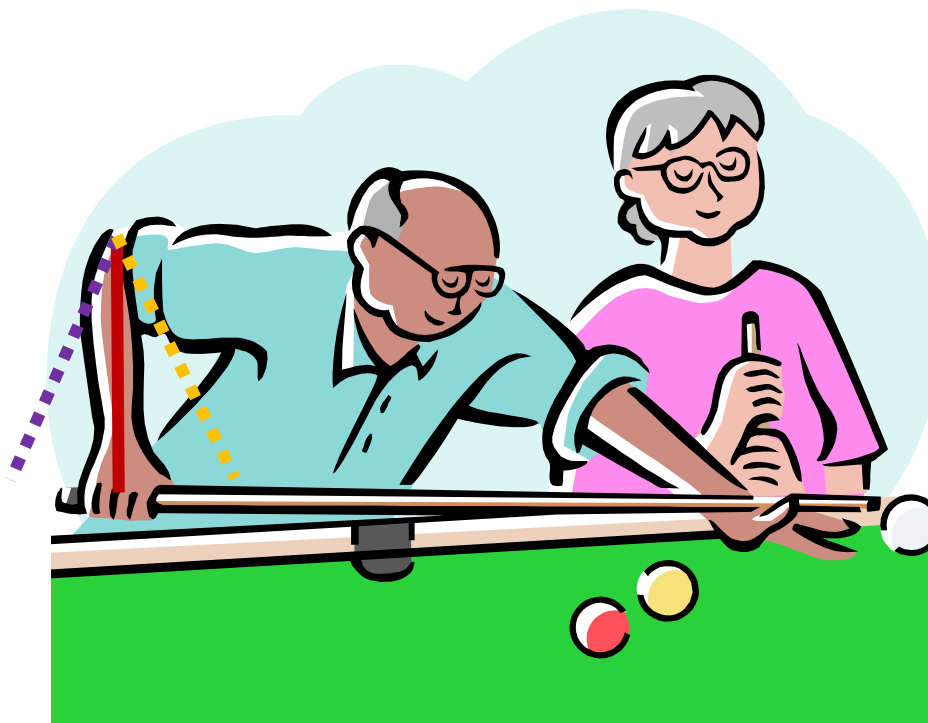
Beyond this, here are a few points.

It's good if the hips bend not far from the height of the rails of the table. Therefore shorter players will have their feet closer together, and taller players will have their feet farther apart. The rear foot is often directly under the back of the cue. For shorter players this may be the toe of the rear foot; for taller players it may be the heel.

The placement of the front foot determines the alignment of the body. A front foot out 45 degrees from the cue is common. A front foot out greater than 45 degrees turns the body more square to (facing) the table. This is common in snooker and makes some sense for taller pool players. A front foot angled at less than 45 degrees creates more distance from the rear to the front hands and so makes sense for shorter players.

## Pendulum Stroke

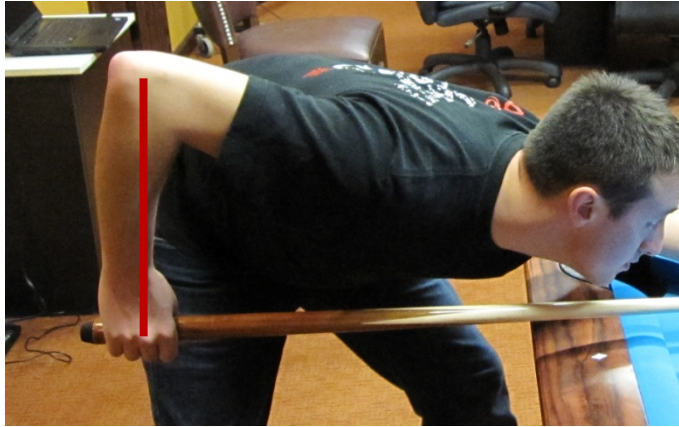
The player's entire body stays completely still in a pool stroke with one exception: the rear forearm undergoes a simple pendulum motion bending about the elbow.



### SPF (SET, PAUSE, FINISH)

Many pool instructors refer to the simple pendulum stroke (see picture on previous page) as an “SPF” stroke, where the letters refer to **SET** (solid red line in the figure) , **PAUSE** (dashed purple line), and **FINISH** (dashed yellow line) positions. The drills you do in the Foundations courses are designed to help burn the SPF sequence into your muscle memory. These drills pay particular attention to the *SET* and *FINISH* positions.

*Hold every SET position for at least five seconds during the Foundations Courses*



**SET POS**



**FINISH POSITION**

*A photo of a player paused in the SET position and an action photo of a player striking the cueball on the forward stroke would look identical.*

## THE SET POSITION

As in many sports, the set position is key. It is from here that the fuse is lit for the final stroke. The player's body is held completely still in the set position for at least three seconds. During the Foundations courses, students should hold every set position for at least five seconds. Here are some characteristics of the set position:

- Forearm is vertical.
- Tip is close to the cueball.
- Eyes switch focus from cueball to target location, with at least two seconds on target location.

From the set position, the player draws the cue back slowly to the PAUSE position. It is not necessary to actually pause at the PAUSE position. Some top players do; others don't. What is necessary is the cue be drawn back slowly (not jerked back) and the transition from backward to forward motion be slow and

smooth. The cue is accelerated forward from the PAUSE position. When the forearm becomes vertical again, the tip will be at the ball. At the tip-ball impact on the forward stroke, the player is passing again through the SET position.

## THE FINISH POSITION

### *-going home-*

Instructors in many sports, including pool, stress the importance of *follow through*. We disagree. *Follow through* focuses on what happens to the front of the cue, i.e., the tip. When a player decides in advance where he or she would like the tip of the cue to finish, there is no guarantee a pendulum stroke can comply. So a player attempting to get the tip to a particular location likely will call upon the shoulder joint. Pivoting about the shoulder joint drops the elbow and raises the tip.

We prefer instead to focus on **FINISHING THE STROKE**. The stroke is finished when the grip hand reaches its natural finish position—the natural end of the pendulum stroke. Depending upon the player’s body type and stance, this could be where the forearm hits the bicep, or it could be where the grip hand hits the side of the chest. So instead of focusing on follow through, we focus on finishing the stroke, on the grip hand **going home**.

A consequence of finishing the stroke is the tip of the cue will reach a particular finish location—for many people this is four or five inches beyond the cueball with the tip touching the cloth. So have no fear, others will think you are dutifully following through.

Unless doing so would disrupt the balls in play, **freeze** for at least two seconds

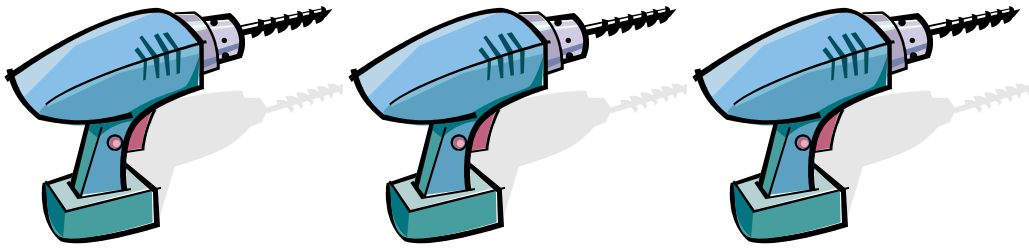
*Hold every FINISH position for at least four seconds during the Foundations Course*

*A player must find his or her own natural FINISH POSITION, This is HOME*

in the finish position. Note that you've gone home.

*TRICK QUESTION*

*Where are the two key pauses in the SPF—set, pause, finish—sequence?*



## THE ONE-HANDED DRILL

*Purpose:*

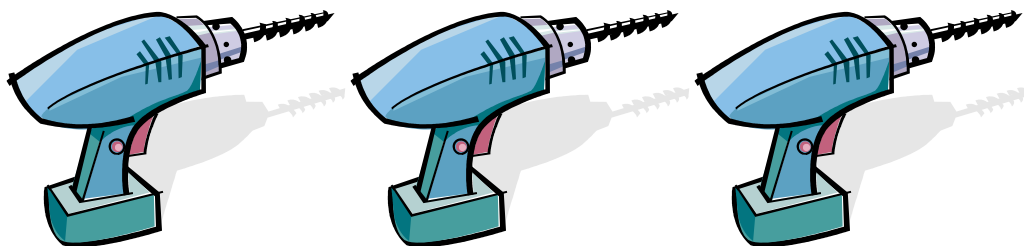
*reinforce cradle grip and finish position*

Place a donut (paper hole reinforcer) about six inches from a rail near a pocket. Place your bridge hand on the rail close to but not touching the cue to simulate a bridge. Beginning in the set position with the cue resting on the rail, execute a pendulum stroke pocketing the ball in an opposite corner pocket. Be sure to draw the cue back slowly to the pause position.

- Does your body remain still?
- Does your elbow stay in place?
- Does your grip hand go home?
- Does the tip go where you expect?
- Does the ball go into the center of the pocket?

Repeat at least ten times and until you can answer **yes** confidently to the above questions.

***Caution: a grip that is too tight will wreck havoc on this drill.  
Remember to cradle the cue lightly.***



## MAMA DRILL

*Purpose:*

*Ingrain SPF Stroke Sequence*

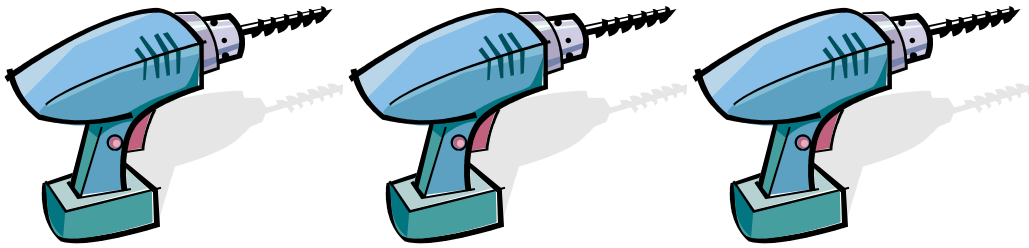
Place a ball along the headstring to shoot into a far corner pocket. Begin in the set position, placing the cue tip close to the ball and on the vertical center just above the middle of the ball. When you're confident in the tip position and while still looking at the ball, say aloud, **TIP IT**. Shift your eyes to a point in the center of the back of the pocket, saying **LOCK**. After at least three seconds with your eyes on the target, begin to draw the cue back slowly, saying **SLOW BACK**. After a slow, smooth transition, say **SHOOT**. When your stroke is finished, say **HOME**.

- Are your eyes still on the target?
- Is your grip hand home?
- Is your elbow in place?
- Is your tip where you expect?

Repeat ten times.

**TIP IT – LOCK – SLOW BACK – SHOOT - HOME**





## **BLIND MAMA DRILL**

*Purpose:  
Ingrain Set Position  
Own your own home*

This drill is similar to the MAMA DRILL. The procedure is the same through

**TIP IT**

**LOCK**

From here, close your eyes and finish the drill.

**SLOW BACK**

**SHOOT**

**HOME**

Note the sound of the ball going in the pocket. With your eyes still closed, note the feel of your HOME position. Repeat ten times.

**Fargo Billiard Academy**  
**Foundations**

**Session B**

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## SHOT ROUTINES

The SPF stroke sequence needs to become part of your muscle memory. It needs to feel automatic. Further, there needs to be a clear moment in the process beyond which you will not retreat, beyond which the fuse is lit and the remaining steps are underway. Think about this in the context of the MAMA DRILL. When should that point be?

When you say TIP IT, the tip is at the vertical center of the cueball where you want it. You then look up for the final gaze at the target. With any luck, your stick is pointing nicely at your target point at the back of the pocket and you can say LOCK. But what if it's not? What if the aim is not quite right?

If it's very close to being right, you can adjust it, then look back at the cueball and say TIP IT again. Or if it's a little further away you can stand back up and start over again approaching the table.

So what then is the point-of-no-return?

It is when you say **LOCK**. From LOCK, everything remaining is underway. What this means is there is no more information to gather after LOCK—no aiming information, no checks on how you feel, no outside information at all. The BLIND MAMA DRILL reinforces this. Everything from here can happen with the eyes closed. It is critical that you train yourself to gather no more external information after LOCK. Many a shot has been missed by a player trying to STEER the cue on the final swing. Many a shot has been missed by a player seeing something out of the corner of her eye during the final stroke.

And here is the problem. If you sometimes let yourself steer a shot in on the final stroke, then consider the unintended consequences. For one, you will become a lazy aimer. It's good enough to get the aim *about right* because the back of your mind knows you always have available that business-stroke adjustment. For another, opening the door to external information makes you more vulnerable to

the server walking by, or the shot happening on the next table, or your less-than-honorable opponent shifting in his seat.

So LOCK is a **PointOfNoReturn**, a **PONR**. It's actually the second point of no return in the shot sequence, so we call it **PONR2**.

## THE PRESHOT ROUTINE

So far we've started every drill in the SET position. In the real world though, there are things that need to happen before this.

- You need to decide what shot to try—which ball and pocket
- You need to chalk the tip
- You need to decide how hard you are going to hit the ball
- You need to decide where you are going to hit the cueball (high, low, to one side or the other)
- You need to approach the table and get down in your stance
- You may need to walk around the table to get the view from the other side
- You may need to scratch your nose

How you get through these tasks and get to the set position is the purview of the PRESHOT ROUTINE.

Your preshot routine is exactly that: **your** preshot routine. What is important is that you have one and that it contains the essential elements.

We recommend you **walk around the table** as much as necessary analyzing the table and deciding your plan. Keep the cue vertical while you do this. Don't be afraid to take laps around the table to get different perspectives. During the foundations courses, always walk over to view the line from the object ball to the pocket.

**Chalk your tip.** This can be done before, during, or after the analysis. But pick one and keep it consistent.

Be honest with yourself. You must develop an instinct about your actual chances of making any shot, because this is part of the planning.

When you are confident in your plan, step back from the table and then **approach the table along the line of the shot.**

**Fall into your stance**, placing first your rear foot on the shot line.

The next step is called **Fiddle.** Fiddle is a combination of aiming and warm-up strokes. During your warm-up strokes, the tip should go from very close to the cueball all the way back to your bridge hand. The moving cue gives you information about whether your stroke is straight and properly aligned. Your gaze should switch slowly and deliberately back and forth a couple of times from the tip at the cueball to the target location, i.e., to the vicinity of the object ball. While we will pay more attention to aiming in session C, recognize now this gaze switch is an important part of aiming.

When all feels right, stop with your tip at the cueball. You are now at the **SET** position. You will recognize this as where you say “tip it” in the Mama Drill. Every part of your body is completely still in the set position. From here, paused in the set position, switch your gaze to the target location. You are now ready for PONR2. If all is good with the world, then

**LOCK,**  
**SLOW BACK,**  
**SHOOT,**  
**and HOME .**

There will be times when the path of a ball requires you get the cue out of the way, and we will discuss those in session D. For most of your shots, though, freeze in the HOME position for several seconds. Your tip likely is on the cloth, your elbow is in place, and your grip hand is at its familiar home position.

## Sample Shot Routine

1. Walk around the table (i.e., plan)

2. Chalk

**--PONR1--**

3. Approach the table

4. Fall into your stance

5. Fiddle

6. Set

**--PONR2--**

7. Lock

8. Slow Back

9. Shoot

10. Home

*PRESHOT  
ROUTINE*

*STROKE*

If, during steps 3-6 of the preshot routine, the shot doesn't feel right, then just go back to PONR1 and begin approaching the table again.

Once PONR2 is reached, there is no more information to get from the outside world. The fuse is lit.

## SPEED CONTROL

Three things--and only three things--determine what the balls do on a given shot on a given pool table. They are (1) **Alignment**, (2) **Spin**, and (3) **Speed**. We have chosen not to make an acronym to remember these, but if doing that would help you, feel free...

### (1) Alignment

-direction the cue is pointing when it strikes the cueball

### (2) Spin

- where the tip hits the cueball relative to the cueball center

### (3) Speed

-how fast the cue is moving when it strikes the cueball

Here we discuss **speed**.

*Most amateur players hit the cueball too hard*

Every shot has a minimum speed: the speed necessary for the object ball to just barely reach the pocket. This is referred to as **pocket speed**.

There are valid reasons to hit most shots harder than pocket speed.

1. Strokes are generally less accurate at the extremes—as slow as possible and as fast as possible. This means there is a speed or a range of speeds in between these for which a player's stroke is most accurate.
2. Any imperfections in the conditions such as a small piece of chalk on the table or an unlevel table will be less forgiving at the slowest speeds.
3. Pocket speed sends the cueball after the shot to a specific location. By a player taking away speed as a variable, he or she takes away a whole dimension of cueball control.

A shot hit at the same cue speed on different tables will produce different results because the **table speed** may be different. Table speed—a sort of rolling friction or resistance to rolling—is a property of the cloth and is affected by humidity.

*There is a second property of the cloth that is independent of the table speed, and that is slickness. Slickness is a measure of the sliding friction on the cloth. New cloth is generally slick/slippery*

## Quantifying Speed

Rather than the elusive *soft*, *medium*, and *hard* to identify and communicate the speed of a stroke, we adopt a measure that explicitly takes into account the variations in table speed.

With the cueball starting at the headstring, and striking the cueball like in the over-the-spots drill, the following speeds are defined by how far the cueball travels.

**1-speed** – cueball bounced off the foot rail and just reaches the head rail (also known as a **lag**)

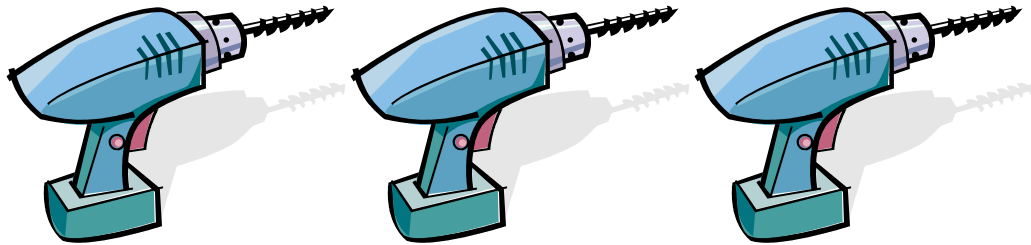
**2-speed** – cueball bounces off the foot rail, the head rail, and reaches the headstring

**3-speed** – cueball bounces off the foot rail, the head rail, and reaches the center of the table

**4-speed** – cueball bounces off the foot rail, the head rail, and just reaches the foot string.

**5-speed** – cueball bounces off the foot rail, the head rail, and goes back to the foot rail.





## The OVER-the-SPOTS Drill

*Purpose:  
Learn to strike the vertical  
center of the cueball*

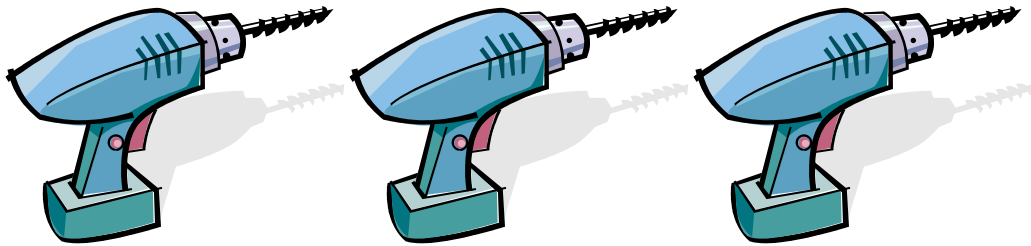
**Place a striped ball on the headspot with the stripe vertical.**

**Using centerball, strike the ball over the footspot to the far rail and back over the spots. Ideally, the stripe will not even wobble, but the goal is to keep the ball rolling on just the stripe.**

**Shoot this shot at least 10 times.**

**Does the ball come straight back?**

At your finish position is your tip on the cloth on the center line?



**The Speed-**

**Control Drill**



Set up and shoot a striped ball like in the over-the-spots drill.

Make 10 attempts at a "3 speed."

After each attempt, place a penny on the side rail at the location where the ball stopped. Place the penny "heads up" if the ball stopped within one diamond of the target location, and "tails up" if the ball stopped more than one diamond from the target.

Make 5 attempts at a "2 speed"

Repeat with the pennies

Make 5 attempts at a "5 speed"

Repeat with the pennies

Record your score.

## Fargo Billiard Academy

### Foundations

## Session C

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It's that familiar scenario.

A new player excitedly approaches the table to sink the in-the-jaws-of-the-pocket 8-ball, only to find the cueball follow the 8-ball right into the pocket.

The reason the cueball goes forward after hitting the 8-ball is the ***natural state of affairs*** for the cueball is to be ***rolling*** when it hits the object ball. A rolling cueball that strikes an object ball head on will stop initially, spinning in place. It will then roll forward from the spin. No matter how the cueball is struck—high or middle or low—friction with the cloth will attempt to get the cueball to the ***natural state of affairs***, i.e., rolling, as soon as it can.

## **MOST IMPORTANT SHOT IN POOL: THE STOP SHOT**

To get the cueball to stop and stay stopped requires the cueball have **no spin** when it strikes the object ball. This means it must be **sliding** on the cloth rather than **rolling** on the cloth when it strikes the object ball. This is called the **stun** condition.

*In the Stun condition drill, you will use a striped ball as a cueball. By cueing low, you will see the backspin, and you will see the ball achieve natural roll. Just before achieving natural roll, the ball will appear to turn over. This is where the stun condition is achieved, where the ball is neither spinning backward nor forward.*

## FOLLOW AND DRAW

For straight shots, if the cueball has forward spin (i.e, is rolling) when it strikes the object ball, the cueball will move forward after striking the object ball.

If the cueball has no spin when it strikes the object ball (stun condition), then the cueball will stop after striking the object ball.

And if the cueball has back spin when it strikes the object ball, it will come back toward the shooter. This is known as **drawing** the cueball.

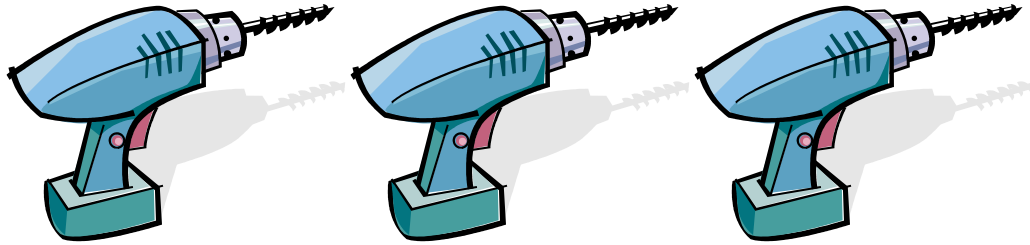
A player who can control where the cueball *turns over* can achieve draw by insuring the cueball has not turned over by the time it reaches the object ball. The farther past the object ball the cueball *would have* turned over, the more the cueball will come back toward the shooter, i.e., the more draw.

### **Draw**

You will hear much advice on how to get good draw. Ignore most of it. Good draw is about controlling where the cueball would have turned over, and that is achieved by a good SPF stroke striking the cueball low and with enough speed.

### **Follow**

Hitting the cueball as high as possible without miscueing about achieves natural roll right away. If you hit high but not maximum high, natural roll generally will be achieved pretty quickly unless you are hitting at a high speed.



## The Stun Condition Drill

### *Purpose*

*Develop ownership over the  
stun condition*

### Part 1

Set up a striped ball like in the over-the-spots drill but this time with the stripe turned the other way.

Using a low bridge, strike the ball below center with a level cue at a “3-speed.” Watch where the ball *turns over (passes through the stun condition)*. Keeping the speed the same, cue higher or lower until the ball turns over consistently at *the center string*.

Starting over with just the striped ball, cue low at about 5-speed such that the ball turns over past the foot string. Can you get it to hit the foot rail without turning over?

### Part 2

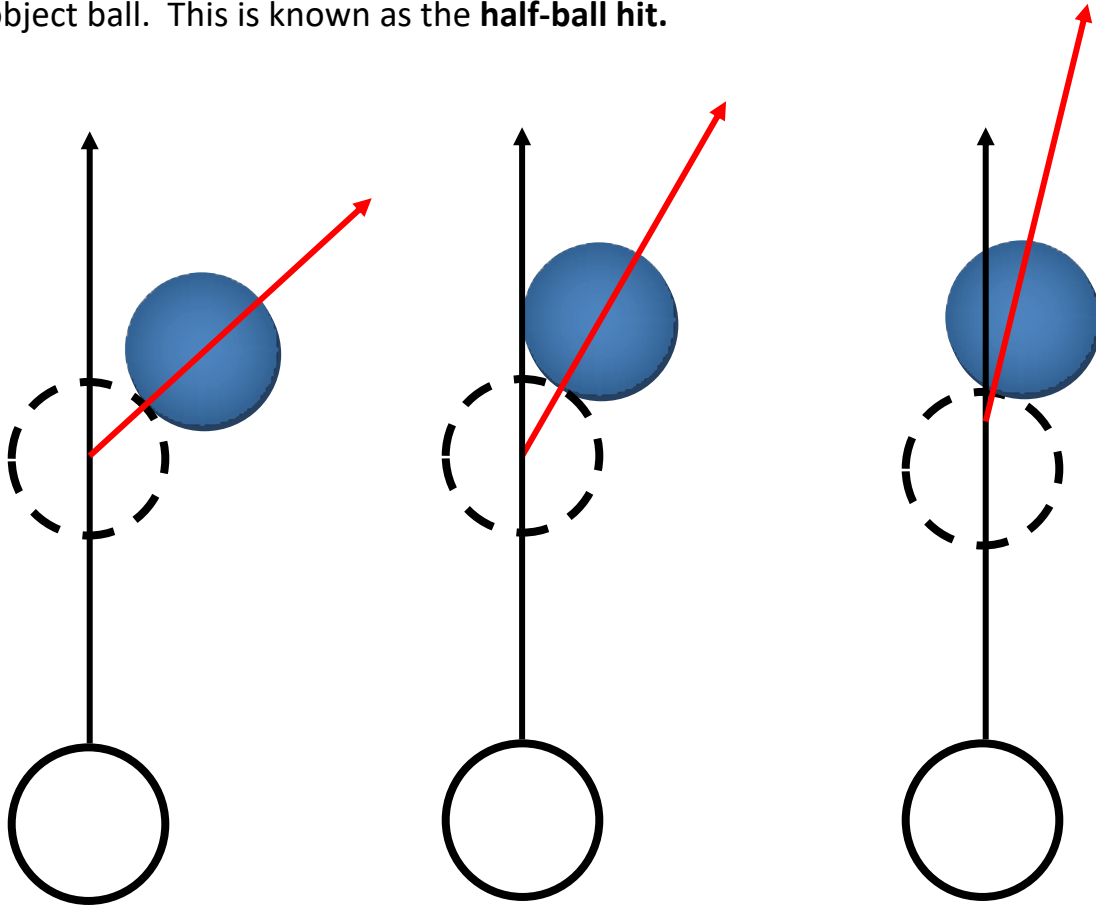
Place an object ball at the center of the table. With cueball in hand, hit a stop shot that sends the object ball off the end rail and back to the near rail. Success is the cueball stopping within one ball diameter and the object ball being within two diamonds of the near rail.

How far back can you move the cueball and still succeed?

# AIMING TECHNIQUES

## Fractional Ball Aiming

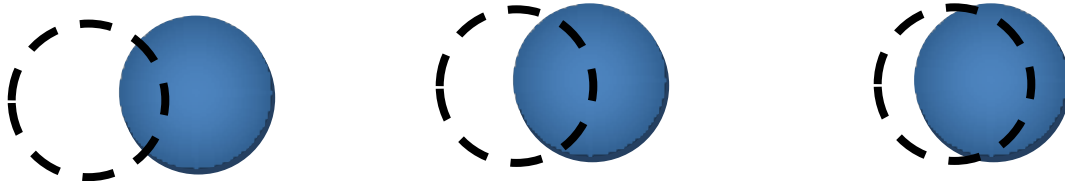
Note the aim line for the middle shot below points straight for the edge of the object ball. This is known as the **half-ball hit**.



quarter-ball hit

half-ball hit

three-quarter-ball hit



We say the quarter-ball aim on the left is a **thinner cut** than the half-ball aim, and the three-quarter aim on the right is a **thicker (fuller) cut** than the half-ball aim.

The views on the bottom are the perspectives along the line of the stick. It's easy to see from this perspective where the naming comes from: the names describe the **overlap** between the balls at contact. The quarter-ball aim (or hit) has, for example, a quarter of each ball blocked by the other ball.

### Using Fractional Ball Aiming

Despite the claims of many charlatans with magical aiming elixirs, experienced players generally don't use any particular **aiming system**. They generally know from experience how to translate an angle on the pool table to how the shot should **look** from the shooting position.

There are, nonetheless, some good practices that will facilitate the development of your aiming.

One is to develop an awareness of the ball overlap on each shot. The three ball overlaps—quarter ball, half ball, and three-quarter ball—are guideposts. You should always be aware of which side of each of these guideposts a particular shot is on.

Is the shot straight?

If no, is it half-ball or thicker or thinner than half-ball

If thinner than half-ball,

then is it quarter ball or thicker or thinner than quarter ball

If thicker than half-ball,

then is it three-quarter ball or thicker or thinner than three-quarter ball

Going through this mental process will teach you to recognize the **sameness** of shots on the pool table. That is, a quarter-ball hit in the middle of the table into the side pocket is the same aim as a quarter-ball hit into the corner pocket from near the long rail. The sooner you train yourself to recognize the sameness, the faster and better your aiming will develop.



## Progressive Practice Drills

The next three pages show levels 3, 4, and 5 of the Progressive Practice Drills. These drills were developed by Bob Jewett of the San Francisco Billiard Academy.

Each level has a stop shot, draw shot, follow shot, and cut shot drill.

The concept of a progressive practice drill is there are several degrees of difficulty for the same shot. Call them 1,2,3,4,5,6, where 1 is the easiest version of the shot and 6 is the hardest version.

Start with 3.

If you succeed at 3, go to 4 for the next shot

Or if you fail at 3, go to 2 for the next shot.

In general when you do these drills, start with all 15 balls out on the table. For the first five balls, move a full increment, e.g., from 4 to 5. For the last 10 balls, move in half increments, e.g., from 4 to 4.5.

The position you would be at for a 16<sup>th</sup> ball is your **score** for this part of the drill.

When you score at 4 or above for all shots (stop, draw, follow, and cut), you may move to level 2.

## **Stun Line – 90-Degree Rule**

As we discussed in Session C, the stop shot is a straight shot for which the cueball achieves the stun condition when it contacts the object ball. At this point the cueball has neither forward nor reverse spin: it is sliding into the object ball.

The stun condition on an angled shot causes the cueball to carom off in a direction that is perpendicular to (90 degrees from) the direction of the object ball. This is a **stun shot**, and that cueball direction is the **stun line**. Unlike any other angled shot, the cueball on a stun shot takes exactly the same path whether it is hit with a 2 speed or with a 5 speed. The harder hit cueball just goes farther.

## **Cueball Control – The A-Path**

The path the cueball takes after striking an object ball and before contacting a cushion is known as the cueball's **A path**. Sidespin on the cueball has no effect on the A path. For a stun shot, once again, the cueball's A path is the line perpendicular to (90 degrees from) the object ball's path, also known as the stun line.

### **Effect of top spin**

If the cueball has forward spin when it strikes the object ball, it still starts by going along the stun line. In fact, for an angled shot, the cueball always starts out on the stun line. The top spin will then cause the cueball to curve forward of the stun line. For a shot hit at 1-speed, the cueball will go only a very short distance along the stun line before curving forward. For a shot hit at 3-speed, it will **hold** the stun line longer before bending forward. And for a shot hit at 5-speed, it may essentially hold the stun line all the way to the cushion.

All shots hold the stun line longer on newer cloth because newer cloth is more slippery.

### **Effect of bottom spin**

The situation is the same for bottom spin as for top spin. The cueball starts along the stun line, and then bends backwards of the stun line.

# Fargo Billiard Academy

## Foundations

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## 8-Ball Strategy

8-ball is a rich game with complex strategy. We'll just touch here on some of the kinds of things 8-ball players think about.

8-ball is most interesting as a game when both players are capable of pocketing several balls in a row when there are no serious obstacles.

The first principle is the game becomes much easier for your opponent if your balls are missing from the table. So keeping your balls on the table, particularly your easy balls that might be blocking a pocket for other balls, is something you want to do until you're confident in going for the win.

### Clusters/problem balls

Looking over a table, it is common to see most balls of a suit having more than one option, or at least one good option, for a pocket to be made in. It is also common, though, to have a ball or two and perhaps the 8-ball that is in a poor or impossible position to be pocketed. When this happens, a player plans—while pocketing a free ball—for the cueball to go off into the clustered balls to break a problem free.

Experienced players are very careful about exactly how the cueball will carom into a cluster and at what speed. This is because moving balls can create new problems. If an experienced player must have some uncertainty when a cueball goes into a cluster, he or she generally looks to have an *insurance ball*, an easy to pocket ball that can be chosen next if the cueball gets in trouble.

An easy-to-pocket ball that a player can use to break up a cluster or solve a problem is called a **key ball**.

## Out ball

Another important consideration before attempting to *run out* (also called *going for the out*) is what is the ball that will be pocketed just before the 8-ball. Often a ball can be identified that can be made from many spots on the table for which pocketing it will leave the cueball in good position for the 8-ball. This is the *out ball*. Plan to leave this for last.

## Patterns

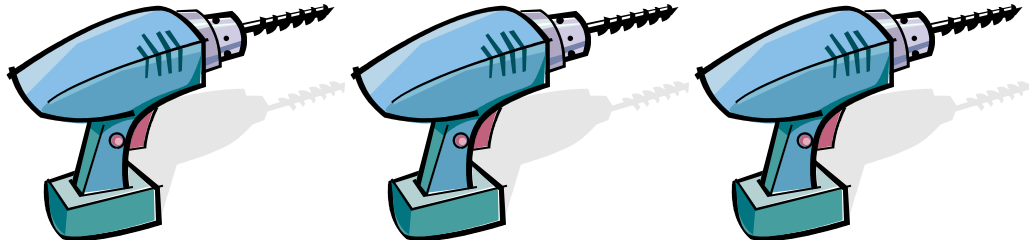
The 8-ball goes in last, and the out-ball goes in next-to-last. The order in which you pocket the remaining balls has a huge effect on how difficult the run out is. It takes a lot of practice and experience to learn to recognize good patterns. But there are a few key principles to keep in mind.

(1) **Moving the cueball less** is good. Often a series of stop shots does the trick. Outside of that, play for an angle on your shots, because that gives you more options for the cueball.

(2) **Solve problems early**. If you fail to solve a problem in an early attempt, there might be another opportunity or two. Whereas if you leave the problem for late in the game, you'll be stuck if your solution doesn't work.

(3) **Difficult shots early** in your runout are much preferred to difficult shots late in your runout. If you begin with a bank shot, for instance, then if you miss it you still have several balls on the table, This makes life more difficult for your opponent. If you plan a bankshot late in the runout, on the other hand, then missing it makes you vulnerable.

(4) Look for **two-way shots**, particularly on your more difficult shots. A two-way shot is a shot that if you succeed puts you in a good offensive position and if you fail puts you in a good defensive position.



## Fractional Ball Drill

### *Purpose*

*Demonstrate A-Path effects  
using quarter, half, and  
three quarter ball hits*

Place the cueball in the exact center of the table with an object ball frozen to it lined up for a side pocket. Carefully place a donut under the object ball.

On one side of the opposite long rail, freeze three balls to the rail—at a half diamond, a full diamond, and two diamonds from the side pocket. Place three donuts on the rail on the lines from the cueball through each of the three object balls.

These lines are three-quarter, half, and quarter-ball hits respectively.

While lining up the cut to the side pocket, the cue on a half-ball hit will be directly over the “half-ball” diamond.

- How far does the cueball travel when the shots are hit at pocket speed?
- Use stun on each cut to send the cueball back and forth along the center line

## **Sidespin: B-Path Effects**

The B-path of the cueball is its path off the first cushion. Without sidespin, the angle in is approximately equal to the angle out. Sidespin alters this angle. A key point is the amount sidespin alters the angle depends on the angle going into the cushion.

At a glancing (shallow) angle, sidespin has very little effect on the rebound angle. The effect of sidespin on the rebound angle is largest when the ball goes at right angle into the rail.

The effect on the rebound angle depends not on how much spin is on the cueball but on the spin-to-speed ratio. There is a maximum spin-to-speed ratio a player can achieve by hitting with maximum right or left.

There are two key ways this can be increased. Both rely on removing some of the cueball's speed without removing its spin.

- In a draw/drag shot, the speed is removed by friction with the cloth
- A cueball striking an object ball also removes some of its speed

## **Sidespin: C-Path Effects**

The path of the cueball off the second rail is known as the C-path. A key point is that any ball that goes shallow into the first rail goes more perpendicular into the second rail. Thus, when sidespin has a small effect off the first rail (on the B-path) it has a large effect off the second rail (the C-path).

Another C-path effect is the influence of sidespin picked up off the first rail.

## **Position Play – Center of the Table**

We include in this course just a few key points about position play. The first is the importance of the center of the table. Here is a geometrically obvious but often overlooked fact

***A ball traveling from a cushion through the center of the table cannot go directly into a pocket***

This is one reason why position patterns through the center of the table are so important. In addition the center of the table is frequently a safe place for the cueball to be. Here is another not-well-known fact:

***A ball going 45 degrees into the footrail will after two cushions pass close to the center of the table***

## **Position Play – Line of the Shot**

Perhaps the most important single principle of position play is to choose a path for the cueball that sends it along rather than across the line of the next shot.



**Fargo Billiard Academy**  
**Foundations**  
**Student Feedback Form**

(please circle: 1 –strongly no – ---5 strongly yes)

**Instructors**

Did the instructors appear knowledgeable?

1      2      3      4      5

Did the instructors communicate clearly?

1      2      3      4      5

Did the instructors foster a comfortable environment for learning?

1      2      3      4      5

**Curriculum**

Was the course curriculum thorough and appropriate?

1      2      3      4      5

Was the pace of the course reasonable?

1      2      3      4      5

**Course Materials**

Were the course materials helpful and easy to understand?

1      2      3      4      5

Comments: (continue on back if you like) \_\_\_\_\_

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