

CROQUET INNOVATIONS:

An Introduction ¹

by

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with

Paddy Chapman and Ben Rothman

¹ Word version (25-02-08)

Introduction: To This introduction

Paddy Chapman, Ben Rothman, and I want to make the excitement and drama of Croquet available and compelling to more players! We try to do this by refocusing how it is taught and with Innovations – new games -- that expand the horizons of Croquet.

This body of work includes five books that span over 680 pages and 1800 figures. Additionally, there are over 60 hours of fully narrated videos that introduce 14 new games – 4 from GC, 2 from A6W and 8 from AC – as well as new “Drills” dedicated to Keith Wylie and designed to complement his wonderful and encyclopedic exploration of the Triple Peel.

All of this material is available *free of obligation and free of charge* to anyone interested in pursuing it. Here are the links: [to the books](#), and [to the videos](#).

In the remainder of this document, we provide short summaries of the books and links to specific videos that introduce the rules and strategies of new games. We suggest that you glance at the summaries and pick a game that interests you. Then watch a video (or two!) and spend time on the lawn, hopefully with friends, “giving it a go”. After that, we suggest you work through the relevant sections in a particular book that provide detailed strategic insights. This way of proceeding will aid your progress toward understanding, mastering, and enjoying these games.

We welcome comments and questions. Please address them to Howard@Sosin.net.

VARIATIONS on GOLF CROQUET



**New Challenges
In the Context of the Familiar**

Variations on Golf Croquet

(Approximately 90 pages and 170 figures)

Golf Croquet (GC) is growing in popularity and is the life-blood of many croquet clubs around the world. This is because GC is approachable and social, demanding and exciting, and just plain fun at all levels of play. *It ain't broken, so why introduce variations?* The goal is to create new strategic and shot-making challenges that complement and augment traditional ones. This book presents four new games that do just that. It also proposes a new handicap system – the Quarter System – that *does not* give the weaker player added shots nor does it change the number of hoops he plays. Instead, it achieves balance by reducing the effective size of the lawn to a quarter of the normal dimensions for the weaker player when he “spends” a Quarter.

The first “Golf Croquet Variations Tournament” was played at the NCC January 9-11, 2023. It involved 16 participants of various skill levels including three world champions as well as good club players. Ben Rothman won with Stephen Mulliner coming in second. All scores are available at CroquetScores.com. Videos from quarter-final matches and from the finals are available at [our YouTube Channel](#). The format was best of 5 games where the first 3 games (and a 4th if necessary) were drawn randomly from our new games. Traditional GC was used as needed for the 5th and deciding game.

We highlight below the four new games played between Stephen Mulliner and Stephen Morgan which Mulliner won in a deciding 5th game of traditional GC.

2-Shot: [GC VT R8 2S](#): As in GC, the 1st shot of a turn can be used for any purpose. In addition, if the 1st shot involves a roquet of any ball, then a 2nd shot is earned and can once again be used for any purpose. Game is played to 5 points. *The intrigue of 2-Shot is the 2nd shot. Once earned, it adds new dimensions to play. Chief among these is the ability to use another ball as a “pioneer” to aid in offense or to use it as a “Stepping-Stone” to aid in defense.*

Dueling Duos (DD): [GC VT R8 DD](#): The order of hoops is random – there is no offsides. Play at a hoop continues until one team scores it with both of their balls. Teams earn one point for each ball that scores and an additional point (3 in total) if both of their balls score while opponents score none. Game is played to 8 points and will involve play at no more than 5 hoops. *Balls that score continue to play in rotation but with changed priorities, going from offense to defense. Scoring twice before your opponent scores once is extremely valuable.*

3-Shot: [GC VT R8 3S](#): Each turn involves two shots and a possible 3rd is earned if there is a roquet on the 1st or 2nd shot. A roquet is required before any hoop can be made. One point is earned at each hoop. Game is to 5. *Scoring often begins with a long roquet with the 1st shot that is followed by two others: a lag to the Current-Hoop, and a hoop shot. Failure to have an initial roquet usually leads to defensive play that seeks to isolate the Danger-Ball.*

AC-GC: [GC VT R8 AC](#): Hoops are played in normal order. A team can play either ball each turn, but to score at the Current-Hoop it must have played *both balls* during the *Period of that hoop*. There is no offsides and therefore balls can be sent to anywhere on the lawn at any time. The team losing at a hoop *always* plays first to the next one. Game is to at least 5 points. *Winning requires scoring one more time when Oppos goes first than Oppos score when you go first.* **AC-GC.** *This can require cunning and “gambling” – play to two or more hoops simultaneously – to succeed.*

Handicapping with the Quarter System: We propose a new handicap system that can apply to all GC-based games:

Each player receives an allowance of “Quarters” calibrated to his skill level. “Spending” a Quarter at a hoop – just before play to it begins – does two things: (i) It permits the player to shorten his opening shot to the new hoop by starting from where his ball ended after the last hoop, or anywhere along the next ½ way line, and (ii) It allows the player to shorten comeback shots and clearances *each time* once occurs during the play of the hoop by returning the affected ball to the *quarter* of the lawn assigned to the hoop in play – moving it from where it was sent *by any action* to the point on the edge of the relevant quarter of the lawn it last touched.

**Half-Way and
Middle-Hoop Markers**



Figure 1

**Quarters for
Corner Hoops**

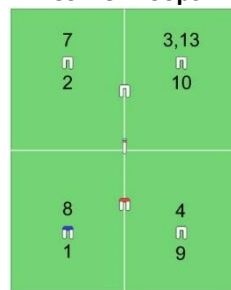


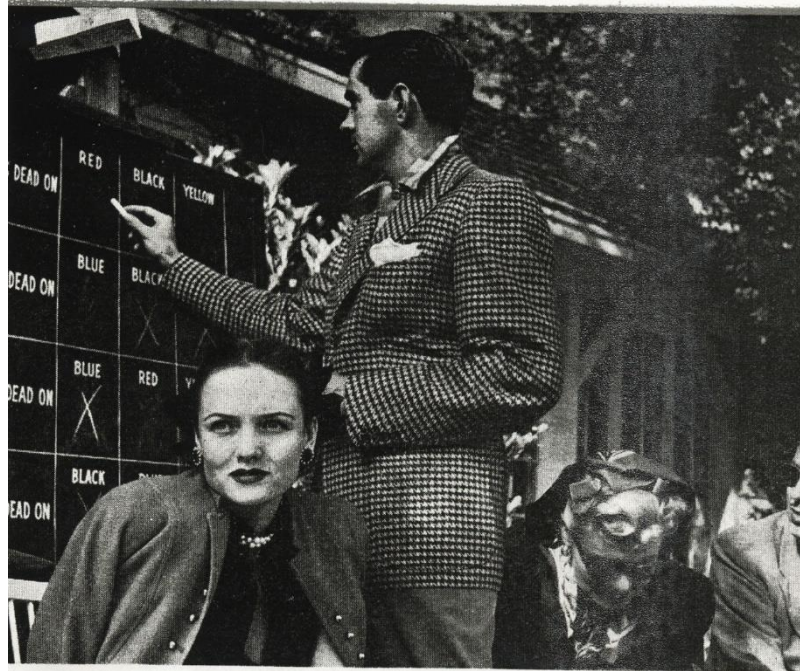
Figure 2

**Quarters for
Middle Hoops**



Figure 3

c.10 → A6W → CA7²



² The cover image is from Life Magazine, July 22, 1946. It shows a man managing a deadness board with chalk during the *hard-fought* east/west tournament. We want to thank Bob Kroeger for sharing it with us.

c.10→A6W→CA7

(Approximately 140 pages and 350 Figures).

This book traces the history of break play from 1910 when most of the Croquet world played the same game – what we call c.10, for “c”irca 19”10”. This was Association Croquet before the Either Ball Rule. It is a wonderful game from which to learn basic break play. When it gets too easy, we recommend our innovation – Advanced c.10 – which includes a wicket limit and a peeling requirement. We then move to the primary focus of the book, American 6-Wicket (A6W). We characterize A6W as c.10 with Carry-over Deadness. Finally, we turn to another innovation, a game we invented and named Contact After 7 (CA7) that adds structured peeling to A6W.

This book has six chapters and an Appendix:

1.. Making Break-Play Accessible: We want readers to deal with the challenges (*and delights!*) of break-play from the beginning.

Toward this end, we separate the fundamental skills by having you focus on *Strategy* first and *Shot-Making* second. This is accomplished using a new *bisque-like* system where *FIXs* allow you to repair *reasonable* mistakes (rather than replay a mistake or restart a turn) and *SIMs* allow you to *SIM*ulate a traditional two-ball croquet shot with two single ball shots.

2.. Running Breaks: We review traditional teachings on 2, 3, and 4-Ball breaks and then describe lesser known approaches – Pivot-Swaps, Load-and-Holds, and proceeding Ball-to-Ball.

3.. c.10: is a game that is ideally suited to teaching break play. We explain the game and then describe two tools that capitalize on Rotation – a key element of c.10 and A6W: *Getting Spent for Partner* and *Croquet-Outs*. We conclude this chapter by exploring a way to keep c.10 challenging for advancing players by including two concepts: (i) a Wicket-Limit (WL); and (ii) a Peeling Requirement reinforced by a penalty of one hoop if Striker fails to Peel Partner at least once during a turn that makes at least one hoop.

4.. A6W: On the Lawns in the USA: We take you to a typical club in the USA where we observe two types of players: Paraphrasing Bob Kroeger: There are *those who run breaks, and those who don't!*

For Non-Break-Runners: We describe the game they play, the so-called *Palm Beach 2-Step (PB-2S)*, and propose rule changes that promote/facilitate more aggressive/interactive play. These are: (i) adding extra cleanings at h(4) and h(10), and (ii) having Carry Over

Deadness (COD) *only carry-over* to the last ball Striker becomes dead on before his turn ends. These suggestions make A6W easier and are enthusiastically received. However, in the end, we want to caution that they are *band-aids* and do not address the underlying cause of the PB-2S – a failure to run breaks. We suggest that non-break runners shift their attention, *for a while*, back to c.10, and then return to A6W, now with greater ability to run breaks, *facilitated by FIXs and SIMs!*

For Those Who Run Breaks: We imagine how play would have changed if, instead of the Either Ball Rule, in 1920 the Croquet World adopted COD. We conclude that the over-arching need is a *change in attitude* – from asking – *can I do it?* – where the answer will usually be yes, to asking – *should I do it?* – where the answer is considerably more nuanced. This change in thinking is driven by three considerations that differentiate A6W from c.10 (or from AC): (i) The interaction of COD and Rotation, (ii) Constricted areas of Play, and (iii) Time Limited games. We provide information on these topics by reviewing *Theories* associated with A6W as proposed by Bob Kroeger and Teddy Prentis and as expanded by Ben Rothman. We also analyze selected situations we have seen on the lawn, as well as *Puzzlers* (from Larry Stettner), that help distinguish A6W from c.10.

5.. Intermediate and Advanced Tactics: Games at these levels often involve six elements: (1) Opening, (2) Attacking, (3) Getting the 4th Ball, (4) Peeling Partner, (5) Setting a Leave, and (6) Finishing. In this chapter we explain how these work, providing examples that help players and spectators alike better understand the potential of A6W. We also present specialized drills to help *you* get there.

6.. CA7: The Next Step: [Video of Essick/Morgan vs Abdelwahab/Huneycutt](#).

CA7 adds new dimensions and richness to A6W built around the possibility, but not the requirement, for *Structured-Peels*. CA7 gives Oppos a cleaning if Striker makes h(7), and, *in addition*, it gives the *next* Oppo to play an optional lift-to-contact. However, this lift is not granted if a ball scoring h(7) is Peeled rather than making it. Thus, *Peeling, or not*, at h(7) takes on *tremendous* significance. If a Peel is not or cannot be done(!), then Striker (call it k) must decide how far to progress in his break. k can go to the peg but will often choose to stop short, perhaps before making h(12), h(11), or even h(10), forcing Oppo to Peel k to the peg in order to peg k out to create a 2-on-1 end game. But this also means that k's Partner (u), *if he gets in (!)* and does not himself choose to stop before h(7), will need to complete Peels on k in order to finish in that turn. Hanging over his head is the knowledge that failure to complete his task will let Oppo take over with a lift-to-contact...*CA7 games are not over until they are truly over.*

APPENDIX – THE SCIENCE OF CROQUET and a PATENT FOR CROQUET TRAINING AIDS: The Appendix seeks practical solutions to issues we encounter on the lawn. We understand that NOTT all Croquet aficionados will agree with our suggestions, but we hope our efforts encourage further discussions. Finally, we include a link to a patent (with issued claims) for Croquet Training Aids. The inventors will license this patent at no charge to anyone who is interested in pursuing it in a meaningful way.

(12) **United States Patent**
Sosin et al.

(10) **Patent No.:** US 10,471,321 B2
(45) **Date of Patent:** Nov. 12, 2019

(54) **AIDS FOR CROQUET: PRACTICE TRAINING AIDS AND "ON-MALLET" PLAYING AIDS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 272 days.

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USPC 473/150, 257, 260, 261, 265, 410, 420
See application file for complete search history.

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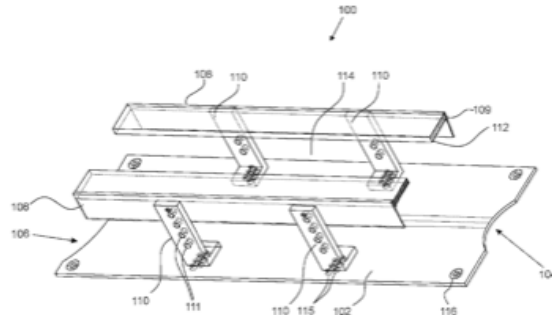
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(57) **ABSTRACT**

The technology provides practice aids for developing croquet skills and on-mallet playing aids for improving croquet play. The practice aids are used while practicing croquet and offer benefits such as immediate feedback and practice shot repeatability. The practice aids may include a swing trainer, a single ball shot trainer, a croquet shot maker, a cannon shot maker, a mallet alignment tool, a take-off trainer, a hoop maker, and a wiring trainer. The on-mallet playing aids are used while practicing and during croquet games since the rules of croquet allow a player to mark a mallet. The on-mallet playing aids offer benefits such as improved in-game shot setup and improved shot precision. The on-mallet playing aids may include a single ball shot playing facilitator, a take-off playing facilitator, and a croquet-shot playing facilitator. The practice aids and the on-mallet playing aids may offer different ways of achieving a same result.

6 Claims, 13 Drawing Sheets



There are 8 main training aids described in the patent.

1. Swing Trainer
2. Single Ball Shot Trainer
3. Mallet Alignment Tool
4. Croquet Shot Maker
5. Cannon Shot Maker
6. Take-Off Trainer
7. Hoop Maker
8. Wiring Trainer

[Click here for full patent.](#)

NEW ROLES FOR PEELING IN CROQUET



**A curse on this game!
How can you stick at a game
when the rules keep changing?³**

³ This statue is on display at the NCC in Palm Beach, Florida. It shows Alice playing Croquet – hitting a hedgehog with a flamingo. The quotation is from Jeanette Winterson, Written on the Body and is thanks to Campbell Morrison who referred it to us from Private Eye, a satirical magazine in Britain.

New Roles for Peeling in Croquet

(Approximately 250 pages and 500 figures).

Section I, Notes on Peeling, approaches peeling from a different perspective. It explores Process – the how and why of Peeling. This is done in a general context that can be applied to the specific goal of learning to Triple Peel, but it can also be the basis for understanding and enjoying other aspects of Peeling, some of which are brought to light in the new games presented in this book.

Section II is entitled **Facilitating the Triple**. It presents new drills to help you get there:

“Wily” Peeling Drills: [Video of Abdelwahab vs Xavier](#).

These drills bring familiarity and experience to many of the Peeling situations presented in Keith Wylie’s book *Expert Croquet Tactics*.

Peel or Bust: [Video of Abdelwahab vs Xavier](#).

This drill focuses your practice time, alone or with friends, by making every turn a Peeling turn, with new twists, rewarding players with extra points for finishing early and punishing them if they drag out a turn that ultimately fails.

Sections III and IV introduce seven new Games that address two major concerns players express with AC: (i) Turns take too long, and (ii) There is not enough player interaction.

Only-Once: [Video of Essick vs Morgan](#).

What can you accomplish during a game that allows you to roquet each non-Striker Ball only once a turn, usually involving 8 shots or less? A lot (!) – Including this game’s own version of the Triple Peel. Game is to 8 points and proceeds in standard hoop order – a la GC. Striker can make a hoop or Peel any ball at it. Peeling satisfies part of a peeling requirement and prevents Oppo from starting a turn with a lift to the opportunity spot.

Pick-the-Peel: [Video of Abdelwahab vs Xavier](#).

u/k picks the Peeling Hoops for r/y and vice versa, by setting the Peeling Clip. All hoops are used only once, none are reused. Teams alternate turns – 12 in total. A separate single clip traces the path of the Striker Hoop. Teams have 21 shots to make two hoops and the Peel. They gain the most points (four) for proceeding PHH, then (two) for HPH, and finally (one) for HHP. No points are earned or charged if a normal turn fails. But Failure allows Oppo to double point accumulation (8, 4, 2) during his next turn but doubling and failing costs three points.

Collect-the-Clips: [Video of Jeff Soo](#).

4 hoops are chosen randomly but how they will be used is left to the discretion of the Striker. Hoops can be made or peeled with the clip being “collected” in either case and not used again. A successful turn must involve two or more Peels and will therefore involve no more than 21 shots. The challenge is to decide which hoops to use to make hoops and which will be used as Peeling Hoops. No points are earned upon failure and extra points are earned for Peels – now at any hoop – and Peg-outs once the clips are collected.

Peel and Reverse: [Video of Essick vs Morgan](#).

Each team has a single team-clip. It starts at h(1) and progresses to the peg, net of regress-Peels (Leeps). Each turn starts with a lift-to-position and runs no more than 4 hoops – 35 shots. A team is assigned an initial Peeling-Hoop and then another when that one is completed. The winner needs to advance his Team-Clip to the peg while accumulating 3 Peels. However, Oppo can reverse your Peels and regress your clip. The winner is the first team to peg-out with both balls having accumulated three peels net of reversals.

Peel Croquet: [Video of Burch vs Chapman](#).

This is AC with the added requirement to Peel or Leep at least once every two hoops, or your turn ends. Each turn begins with a lift-to-baulk that can be enhanced: (i) To contact if the previous team made a hoop but had no Peels/Leeps, and (ii) To position if no hoops nor Peels/Leeps were made. Game is to 26.

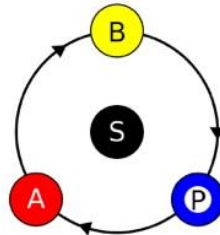
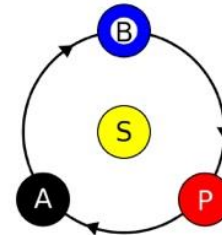
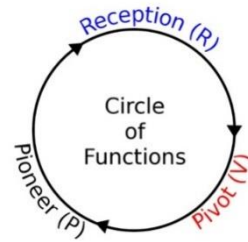
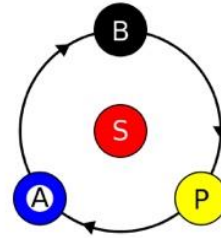
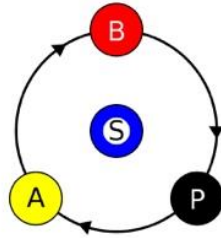
AC-3BO: [Video of Essick vs Morgan](#).

u and r enter the game, then k has a choice: If k enters then y must stay out (for now), if k stays out then y must enter. k’s choice depends in part on u/k’s appetite for a Double-Peel conducted with just 3 balls vs a Quadruple-Peel conducted with all 4 balls. Deciding when the *ball-kept-out* comes in is a critical component of this game.

Peels-Only: [Video of Essick vs Morgan](#).

Each team has a single clip that needs to be advanced from h(1) to the Peg; but a clip can be advanced only by Peels. Any non-striker ball can be Peeled at the team’s Current-Hoop making Striker once again live on all balls, thereby creating the ability to run breaks of any length – even 12. Each turn begins with a new type of lift – a *lift-to-boundary* – which allows Striker to be placed anywhere within 1 yard of any boundary.

COLOR ORDER ASSOCIATION CROQUET



Color Order Association Croquet – COAC
(Approximately 170 pages and 600 figures)

and

COAC: An Expedited Path to Competitive Play
(Approximately 34 pages and 160 figures)

Players have been working for a long time to make the traditional Association Rules game more challenging, especially when conditions are easy. Significant evolutions have involved giving Oppos lift options depending on how far Striker progresses: 4-Back (introduced in 1929), 1-Back (1946), and in recent years a third lift at h(4). These changes seek to increase interactivity, affect the leaves that are set and encourage elaborate peeling turns, but they do not make the building of a break or the turn itself inherently more difficult. To that end, many tournament managers work to have the toughest, tightest hoops and shortest, driest grass – this is commendable, but is at the mercy of the elements and soil conditions and requires many hours of (often voluntary) effort. And still, top players tend to succeed in building breaks, regularly complete triple-peels with ease, and sometimes score sextuple-peels. COAC makes the game more challenging and interactive by different means. It uses lifts but now in the context of two new rules:

- (i) **Balls must be roqueted in Color-Order (CO):** Striker can start a turn, and then each new hoop, by roqueting any ball. That ball determines the order Striker must follow until the next hoop is made. Thus, if u is Striker, u can roquet any ball (r, k, or y) to start but then the order of the balls he can play depends on the ball he roqueted first: (if r: then k, y), (if k: then y, r) or (if y: then r, k). A key impact of the CO Rule is that there is a single ball that can act as an Escape-Ball for each Peelee rather than the two that exist in T-AC.
- (ii) **Play at 4-Back:** The forward ball of each team must progress through 4-back by being peeled either by Partner or Oppo. The back ball can then make 4-Back on its own but making 4-Back always grants a lift-to-contact.

In COAC players need to plan with renewed focus, now always aware of CO. You will become acutely aware of the relationship of CO – what is required, to Functional-Order (FO) – what is desired, and how to get/keep these two concepts in sync. This is done using “Procedures” which reorient balls from their roles (Reception, Pivot, and Pioneer) at the Current-Hoop to different roles, or the same roles, at the next hoop as needed to proceed and accomplish defined tasks – Peeling and setting leaves.

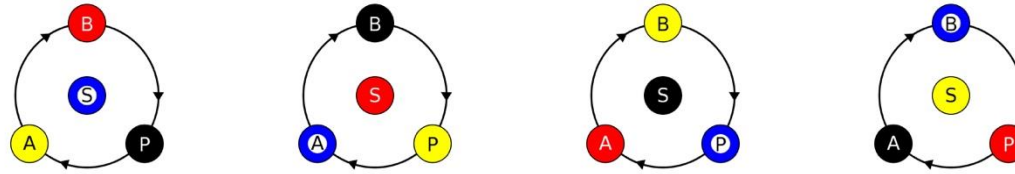
Throughout a turn we ask: Does the CO I currently have allow me to accomplish what I want to do later in my break? If not, then how can I fix it and when should I make the correction? We show you how to answer these questions in real time while out on the lawn running a break using a simple tool – our “Arithmetic of CO”.

We provide samples of tournament play at [our YouTube Channel](#) and have documented the game in three ways:

- (i) COAC: The One Page Summary appears as the next page of this document. It provides the essentials required to start playing COAC.
- (ii) Colot Order Association Croquet is available for free at [our Google Drive](#). It presents the complete rules of this game and analyzes their strategic implications for Openings, Peeling Turns, Leaves, Peg-out end games, 4-Turn Finishes, etc. This is a comprehensive and “deep dive” into COAC.
- (iii) COAC: An Expedited Path to Competitive Play is also available for free at [our Google Drive](#). This book is a summary of the original: It is for players who want an expedited path to competitive play – to TP’s and Leaves. It is culled from the original book, *literally* leaving chapter and figure numbers intact to afford immediate reference between the documents.

COAC was played at the NCC in Palm Beach in March 2023 during CIT III. One instructional video COAC DEMO, and 5 game videos (COAC #1, COAC #2, COAC #3, COAC #4 and COAC FINAL) are available at [to the videos](#).

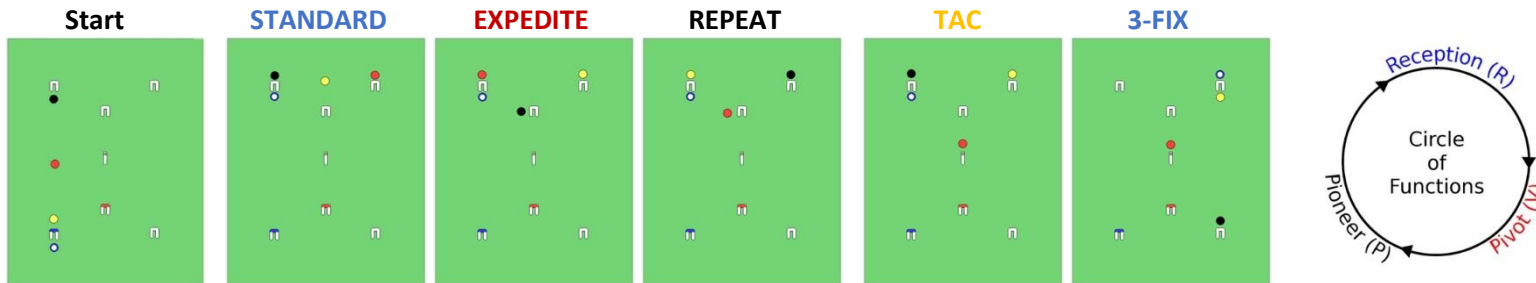
COAC: THE ONE PAGE SUMMARY



(S=Striker, A=AFTER, B=BEFORE, P=Partner, RB=Reference Ball)

AC Rules plus these additions:

1. Striker must use the balls in CO as set by the 1st roquet to start a turn, and then reset by the 1st roquet after making each hoop.
2. Striker may not score h(10) for himself unless: (i) Striker's team has peeled a ball (Partner or Oppo) to score h(10), or (ii) Oppos have peeled one of the Striker-Team balls to score h(10). Striker making h(10) on his own always grants a lift-to-contact.



Major Procedures

(R=Reception, V=Pivot, P=Pioneer)

Name	R	Steps	V	Steps	P	Steps	L&H
STANDARD	V	1	P	1	R	1	No
EXPEDITE	P	2	R	2	V	2	Yes
REPEAT	R	0	V	0	P	0	Yes
TAC	P	2	V	0	R	1	No
3-FIX	P	2	V	0	R	1	No
3-L&H	R	0	V	0	P	0	Yes
2-BALL	R	0	V	0	P	0	No

The Arithmetic of Color Order

Striker is making h(i) where Partner has Function R, V, or P. In k hoops Striker will be making h(i+k) where partner needs to be – specify: R, V, or P. Will the **STANDARD** Procedure get him there or is an **EXPEDITE** or **REPEAT** needed? Calculate what Function Partner will have in k hoops if only **STANDARD** is used – look mod(3:k) Functions forward. Is that what is desired? If yes, then use only **STANDARD**. If no, then starting from the calculated Function, move one or two steps forward until the desired Function is reached. If one step, then an **EXPEDITE** Procedure is needed; if two steps, then a **REPEAT** Procedure is needed, or the equivalent.