

National Technical Panel, ACA

Refereeing Croquet

-a video lawn-craft DVD and manual



James A Temlett
Elizabeth Fleming

First Edition

Index:

i) Preface

ii) Forward by Bob Kroeger

ii) Acknowledgements

iii) Copyright

Static Ball Positions

Chapter 1 Wiring Lifts

Chapter 2 Hoop and Roquet Strokes

Dynamic Ball Positions

Chapter 3 Hampered Strokes

3.1 Double Taps

3.2 Hoop Crush Strokes

3.3 Hampered Strokes - post hoop run

3.4 Hammer Stroke

3.5 *Bevel* Faults

3.6 Brush and Slice Strokes

3.7 Hoop Running Strokes - Pirie Poke & Hop

3.8 Jump Strokes

Appendices

- 1 Technical report on video and online streaming
- 2 Faults - Four distinct groups
- 3 **6th Edition Laws (2008)**
 - 3.1 Faults in Croquet
 - 3.2 Errors on Croquet

References

Complete (Amended January 2008) 6th Edition Laws
Printable A5 Version Laws and ORLC (Courtesy of
Dr Ian Vincent)

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Preface

While there are many refereeing texts, web sites with excellent referee assistance material and very authoritative texts, there is none to date that collects the web video submissions to assist Croquet Referees in accurate assessment of the game. Indeed many of the past U Tube collections have revealed much accumulated and perpetuated dogma over the years, which have obviously been incorrect.

Croquet referees have a difficult task set before them in every game they are called upon to officiate. An understanding of the themes of the game is obviously required whilst both knowledge and experience are invaluable, yet we are all still fallible and will inevitably, on occasion, make incorrect calls.

Traditionally the laws of the game, were written to guide players and referees alike. Indeed one of the magnificent traditions in Association Croquet has been the mandate of every player to declare a fault when it is played, immediately once realised. This makes the task of the referee less onerous, because he/she is usually invited onto the lawn when uncertainty prevails, to adjudicate when a player or his adversary deems it necessary. Most of the time strokes are routinely and expertly executed, completely clean, and do not require any sort of opinion or comment. When a rare error or fault is detected the striker, immediately declares it as

such to the opponent and ends their turn. Here the adversary may choose to play the balls as they are found or replace them where the fault occurred.

It is a fact that emerging technology is here to stay and will advance in its application, yielding cheaper high speed cameras, video cameras, and computer links in the 21st century. These wonderful images have taught us all where common faults may occur, and made both players and referees of the game much more aware when they may be at risk of committing a fault. One day it will be inevitable that high speed, “non-invasive” video capture, may also allow meaningful and consistent analysis without interrupting the flow of the game. However, no system will be perfect.

Part of this effort we realised, was to take common examples of what we are continually called upon to adjudicate. Utilising technology, both real time cameras, slow motion cameras, and high speed video, the ACA’s National Technical Panel and specifically James Temlett was asked, along with Bob Kroeger, to re-shoot some segments and to re-render existing U Tube material in HD for full screen 1080i HD computer re-production, that we believe would benefit referees of this game and sport.

There are clearly a number of other potential uses of video cameras and computer technology that may be

applied to Croquet today. The technical advances on mobile phone with Application (GoPro, Fast Camera, Coach Eye and 'Ubersense' to name but four) and very high speed video cameras combined with long lenses, portends bringing the game to be viewed live soon. (See Appendix 3). This can be streamed live to-day. However, at present much work and evaluation is required for this aspect in Association Croquet. Indeed as in many other sports utilising video assisted referee decisions, this may or may not actually be desirable, may produce controversy and itself may be mis-applied and yield the incorrect answer. Whether we will require super-slow video to make referee decisions, assuming this technology is cost effective and more freely utilised, time will determine.

This publication addresses neither of these future possibilities. This DVD and Croquet Referees Manual's purpose is primarily written and illustrated as a referee's aid. Here the aim is EDUCATIONAL and instructive, to gain a greater understanding, and learn in greater detail more about the potential strokes which may be played.

This can be readily updated (See www.croquet.org.au) to educate and illustrate clean strokes from possible faults, and most of all to stimulate intelligent discussion of the task of refereeing; to improve our skills, and unify our approach to this sometimes thankless task.

You will see the high-speed renditions of dynamic faults, such as double taps (DT), treble taps (TT), crush strokes and many other single ball and then double ball faults. Aside from

this there are static ball positions noted before a stroke is played and ball position after a stroke that imply certain mechanisms and physical inferences about the stroke.

The First Edition (2013) will contain errors, please let the panel know how clear you find it, how (un)helpful, please scrutinise for accuracy, and suggest more shots for us to re-do or discover.

Please don't hesitate to identify errors, missing or redundant URL links. We would encourage your constructive opinion and input.

We hope above all to make our task of refereeing not only more enjoyable, but more fairly and consistently applied for the betterment of The Game.

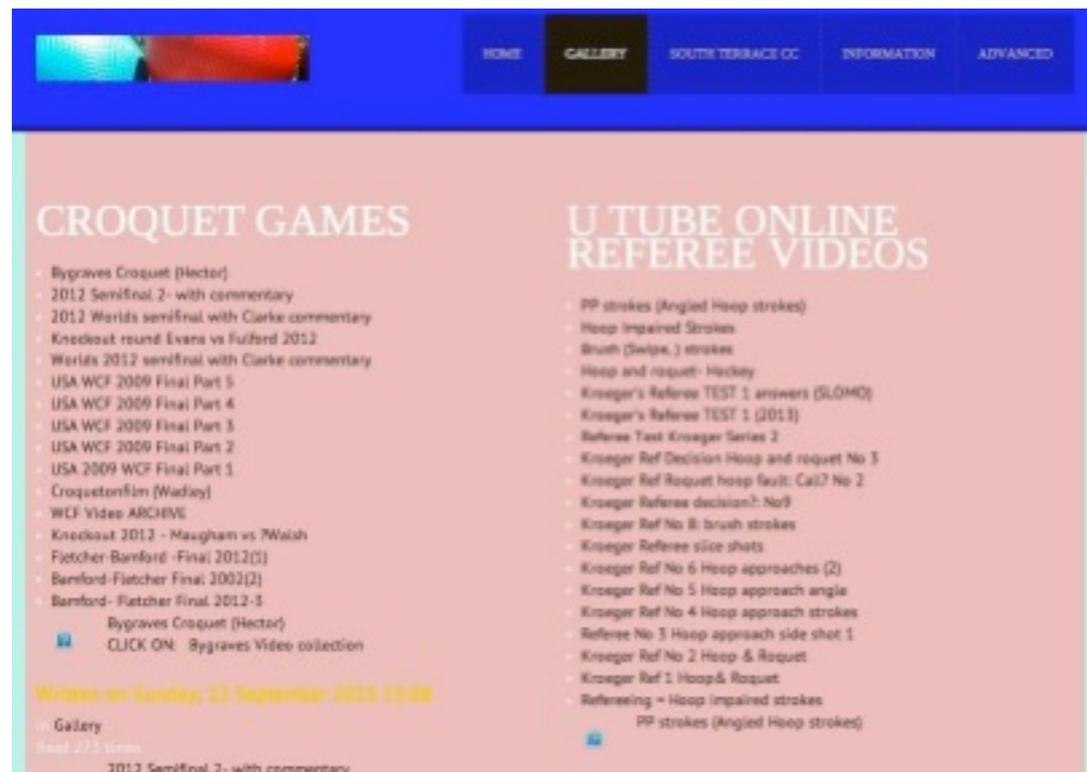
Prof James A Temlett

for the Co Editors.

This application may be accessed by iPhone, Android, iPad or Galaxy tablets, and from any PC or Mac Computer. The smaller the screen naturally the pixel size will change your TV or a large computer screen will give the best HD similar to the accompanying definition found on the Refereeing DVD. at

https://www.youtube.com/my_videos?o=U

OR



www.croquet.org.au

Forward:

When I heard Liz Fleming and James Temlett were heading up a valuable referee training manual through the Australian Croquet Association, I was delighted beyond words. While there have been very good referee training manuals created before, this one is to include references to ultra slow motion video shot analysis.

James and I have been working virtually from afar sharing ideas and exchanging HD videos, for the last year and a half, creating a large collection of both real time and slow motion video clips, designed to test referees ability to make accurate calls.

What we discovered is that many of the shots referees must rule on, happen so quickly, you can't really tell whether they were legal or illegal. This manual addresses this challenge along with many other critical aspects to become a knowledgeable referee.

I was flattered and honoured to be asked to contribute to this valuable project.

Bob Kroeger, Cape Cod, Massachusetts, USA

January 2014

Acknowledgements

Thanks to

Liz Fleming as NDR, created an Australian National Technical Panel (NTP). Anticipating the camera advances taking place, she asked me to join this panel after working with the 13th AC World Championships referee team. In fact this is the main reason, I personally was determined to ensure the truth behind many strokes commonly played, was carefully analysed by way of the advances in digital technology. This DVD and Manual contains some of the subsequent results.

Bob Kroeger is the best known USCA Referee and is respected worldwide for his contributions to the game via U Tube publications on Croquet. He has, since 1996, issued some interesting and illuminating referee series of croquet strokes, that may be filmed at high speed, to teach us what to examine for clean versus faulty strokes. In 2013 together we defined what I would like to call the “Kroeger Re-view Format” - Which, from a referees perspective does at least three things. It shows where possible, the start of the balls near a hoop, then in real time plays it and gives some time to reflect. Then replays the same segment allowing you to commit to memory, what you have adjudicated. Then the final pearl is delivered, namely the slow motion video, repeated.

HD 1080, Bob insists anything less just wont do today, showing very clearly, the image of what you have seen, and adjudicated before in real time, and all you have in reality on the lawn. The slow motion video segment is replayed three times, and referees will naturally remember and learn consistency realising automatically what to look for, that may determine a clean stroke or a faulty one. I personally find the experience enriches confidence, and the level of refereeing in general.

The reason is inherently simple. You KNOW what you think, judge on sound and the “probability of a resulting fault” but are gently reminded (in private at times), what the correct call should have been!.

Bob stimulated my interest in refereeing, and together I am proud to have had the pleasure of debating and designing video formats that I believe best illustrate the strokes actually being played.

So thank you Liz and Bob for not only your support, but for your collective vision in producing this type of Referee Training DVD and Manual. Of course, someone must take responsibility for the errors which have appeared and I do accept this. My thanks to all who have proof read the many preparatory versions.

JAT

And.....

Thank you Greg Fletcher for your input and advice.

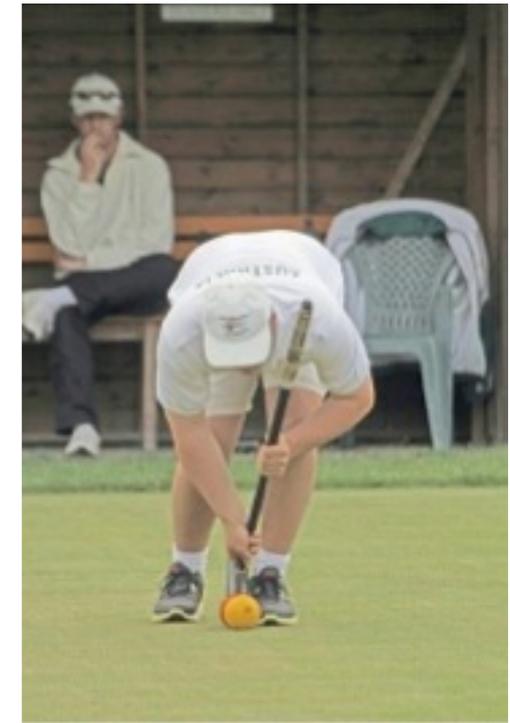
Some photographs are from the www and Nottingham www site, but special thanks for permission to use some of the submissions from the 14th World Championships, played in the UK, in 2013.

Most video clips likewise are in the public domain, in addition Bob Kroeger and I have sub-edited in HD many of the clips, for you to view at HD 1080p, full screen on your TV or computer.

Finally there is even a www site which is regularly updated specifically for referee education and comments on www.croquet.org.au for this purpose.

AC World Champions
2013 and 2012
respectively

Robert Fletcher
Australia



Reg Bamford
South Africa



Copyright

ACA's National Technical Panel (NTP) in 2013-4 comprises:

(Chair) NDR, Elizabeth Fleming (QLD), with James Temlett (SA), Jan Sage (NSW) and Brian Foley (Vic).

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INDEX OF URL;s:

HOW? Click on the relevant segment while on your computer.

Chapter 1 Wiring lifts

a) Association Croquet

https://www.youtube.com/edit?video_id=BCL-XQAwPQ4

b) USA Rules, including "dead ball positions"

http://www.youtube.com/watch?v=AYbx_TCbqGA

Chapter 3 Hampered Strokes

http://www.youtube.com/watch?v=8PT_mwTxLe8

<http://www.youtube.com/watch?v=nbqH81PAB6U>

<https://www.youtube.com/watch?v=C14OYzvEyZ8>

<http://www.youtube.com/watch?v=MdLhOcq7IH0>

3.1 Double Taps

<http://www.youtube.com/watch?v=gy0ulOPO740>

<https://www.youtube.com/watch?v=mQ4JpDEan8E>

<https://www.youtube.com/watch?v=COLMR0fMTxU>

<http://www.youtube.com/watch?v=ToH4GJv1sGQ>

<http://www.youtube.com/watch?v=itj9l1n-6M0>

3.2 Hoop Crush Strokes

<https://www.youtube.com/watch?v=luOKzVJ8s4U>

<http://www.youtube.com/watch?v=OZuU3-p2o6w>

<http://www.youtube.com/watch?v=nsOe5X3HKdQ>

INDEX OF URL's:

3.3 Hampered Strokes - Post hoop run

<http://www.youtube.com/watch?v=nsOe5X3HKdQ>

3.4 Hammer Stroke

<http://www.youtube.com/watch?v=jEc3HhhVupM> (2011)

<http://www.youtube.com/watch?v=6ZMhbNvc4Yk> (2013) <http://www.youtube.com/watch?v=6IBxqESGrpU> (2013)

3.5 Bevel Faults

<http://www.youtube.com/watch?v=MdLhOcq7IH0>

3.6 Brush and Slice Strokes

<https://www.youtube.com/watch?v=mQ4JpDEan8E> (2013)

<http://www.youtube.com/watch?v=nsOe5X3HKdQ> (2013)

3.7 Hoop Running Strokes - Pirie Poke & Hop

<http://www.youtube.com/watch?v=OZuU3-p2o6w> (2010)

<http://www.youtube.com/watch?v=ToH4GJv1sGQ> (2013 real time)

<http://www.youtube.com/watch?v=itj9l1n-6M0> (2013 with slomotion)

3.8 Jump Strokes

<https://www.youtube.com/watch?v=HLOHLVCNinc> Kroeger 2011)

<https://www.youtube.com/watch?v=sd4qWEz3alc> Lines 2006)

Static Ball Positions

Judgement of balls before a shot is played when a fault is possible, requires marking of the ball, registration of the position of the strikers ball (SB) and contact ball (CB) and any obstruction, be it another ball, hoop or the peg.

Other obstructions may be removed (flags, yard line pegs). At times allowance for lawn defects or impaired boundaries demand judgement to allow freedom of mallet swing, but with no striker advantage gained.



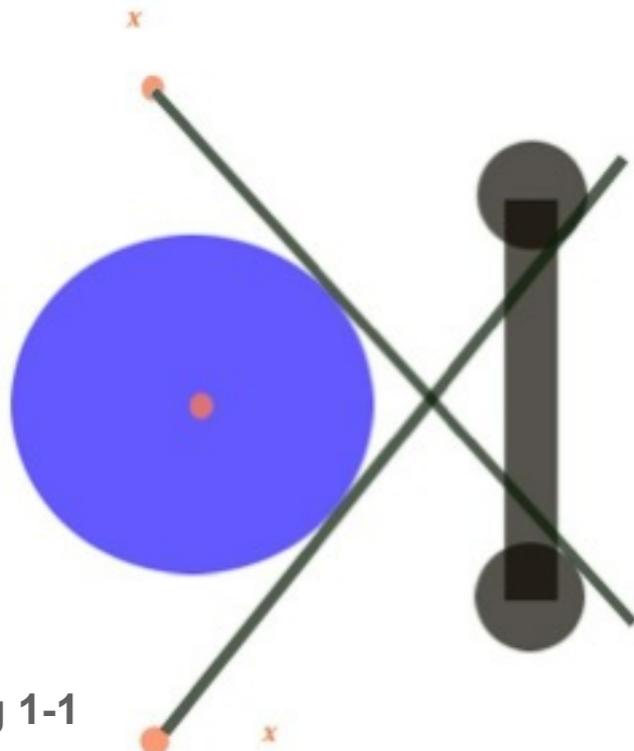
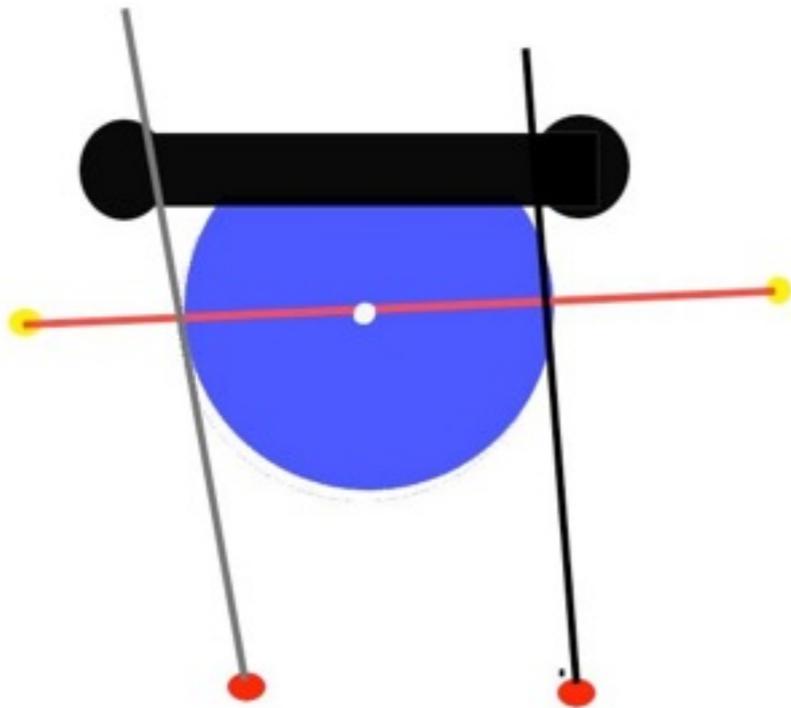


Fig 1-1
Marking Balls:

Always more accurate to mark the SIDE of the ball to a fixed point, rather than (top) from X to X the Mid ball point, or (below) the red line.



Wiring lifts

WIRING TESTS

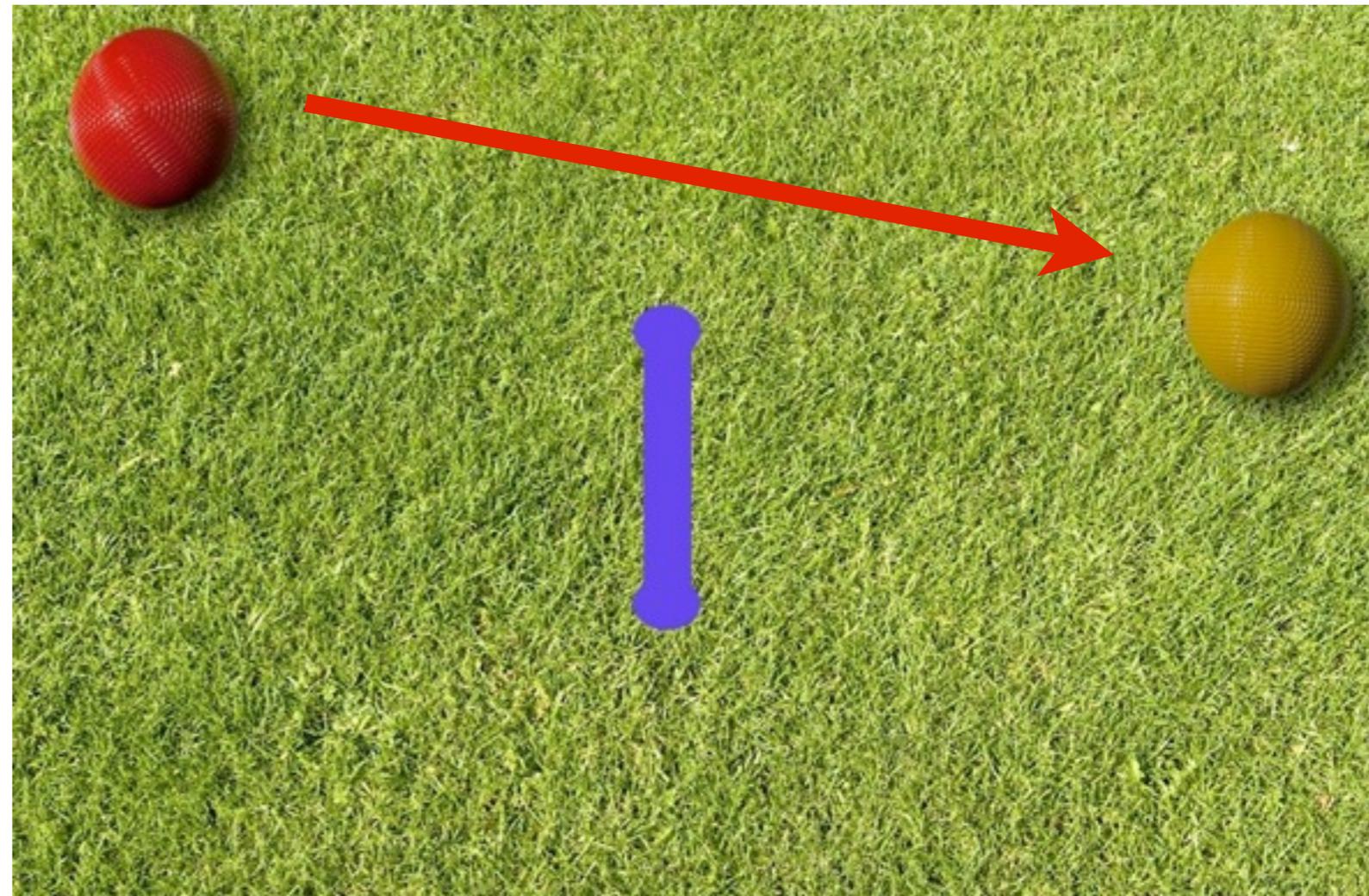
Greg Fletcher and James Temlett explain aspects on wiring of balls in various positions. Wired balls, mallet backswing, and at times the position of a ball against a hoop or peg.

<https://www.youtube.com/watch?v=4vDTi03DM8c>

Please refer to the accompanying diagrams which dovetail with the www clip herein

(Edited 9 min clip, Adelaide 2013)

Asking ball (R) and Target ball (Y), across H1 ?



1. Confirming entitlement

If you are called to adjudicate on a possible wiring, you must first confirm that the claimant has not yet played the first stroke of his turn and that the adversary is responsible for the position of the ball for which a lift is being claimed.

If the balls are not blatantly wired by a hoop upright or peg you will need to do an ocular test using separate test ball(s). It is recommended that you use a ball against the obstructing hoop leg or peg as illustrated. If one *must* use the target ball, with a pair of balls placed against the questioning balls, remember to *carefully* mark the balls in question so that they can be accurately replaced if displaced conducting the tests. However, it is stressed that it is best NOT to contaminate the evidence.

2. Tests:

In the adjacent example you want to see if Red is wired on Yellow by the hoop (Fig.1). You first accurately mark (see Fig 6) the target ball (Y) without moving it. There is always the risk that it will be minutely moved during the test, should a ball be placed near the target ball, something we prefer to avoid if possible. The aim of the test is to place test balls (selecting a contrasting colour against the hoop to show the margin of the ball, impairing the target ball. This test ball (white here) must be placed on the hoop leg, and at right angles to the line joining Red and Yellow (red line) Fig. 2.

If uncertain, it would be preferable to call someone with good long distance eyesight, for a second opinion. Then closer inspection of the ball in question may be better determined along the accurately placed line connecting the balls (one day a powerful day visible laser beam will make all this much easier).

Viewing over Red and White, see if Yellow is in line Fig 3). You also need to get down low over the balls, (ball height) and at 20 m require excellent eyesight laying flat on the ground, or alternatively use of a mirror viewed from above. If it is a very close run thing to align the outside edge of the test ball with the corresponding edge of the striker's ball. It may be more easily judged by viewing balls from the other end. Do not be afraid of putting a contrasting colour box next to or behind the far ball to improve the ball edge - seeing the edge of a green ball at 20 yards against a green grass background makes life hard.

Another ball cannot cause a wiring - only pegs and hoops are relevant. Also if one ball (R on Y) is wired on another the converse (Y on R), does not necessarily apply.

If you are unsure the striker or claimant is given the benefit of doubt. Law 13(e)(2)

3. Testing whether a Mallet can Strike a Ball Unimpeded

This is a difficult claim where the backswing is potentially hampered. The striker should be asked to demonstrate his normal swing (with the mallet he will use for the turn), along the line of the

most hampered shot, but parallel to the line in question; and you should observe both the back of the backswing (from a point level with the hoop and at right angles to the line, with the eyes at the same height as the crown of the hoop) and the straightness of the swing in relation to the line of aim. This test depends on the dimensions of the player's mallet head. White (Fig.4) should be able to be driven in the indicated direction, with ANY part of the mallet face, toward pink. Hence it is wired because if the striker chooses to use any part of his mallet face, such as an extreme side of the SB, then the mallet swing will be impeded by the hoop before the mallet makes contact with the centre of the ball. The player is under no obligation to play the stroke using his mallet as shown, just should he want to, the hoop would prevent him from hitting the ball.

Note the player may not change mallets during this turn, or he could claim a lift on a wider or longer mallet! Should the White ball need to be driven in a direction perpendicular to the green (tangent) line then the hoop is not causing the ball to be wired. The ball can be hit using all parts of the mallet face. The fact that the mallet smashes into the hoop after the moment of impact is inconsequential to the ruling. A referee should remain in charge if the stroke is played from such a position to ensure that a beveled edge is not used.

4. Judging a Hindered Back Swing

The player should have a clear back swing and if any object (other than another ball) would impede his back swing then he may be eligible for a lift. If a player has a crooked backswing

then there are occasions when they would get a lift and a straight back swing player would not. It can be interpreted that the player should be able to use his *normal* swing.

The Laws make no account for the furniture (equipment) on the court affecting *the stance of a player*. Hence if a hoop gets in the way of their preferred stance, preventing them from playing a stroke in their chosen manner they have no recourse to the Laws.

5. Judging clean contact:

The ball must be able to strike either side of the TB [Fig.4(a)] Here the hoop leg may obstruct this if the angle is > 90 degrees toward the line joining the balls and the line through the centres of the TB and hoop leg.

6. Technical wiring (Law 13(c)(3))

Do not forget that if any part of the striker's ball is in the jaws of a hoop, the claim is valid (unless it is also in contact with another ball - 13(a) even if in reality, the striker could roquet any part of the object ball with any fair shot (Fig 7). The jaws include the whole area enclosed by the uprights (3b): the ball does not need to show through on the 'other' side.

7. Marking the Position of a Ball

It is best to use at least three markers per ball as shown in Fig 6. There are at least 6 actual choices. The three away from the line of striker's swing selected in the example below you want

Fig 2.1

to see if Red at H2 is wired on Yellow (behind H1) by either H2 or H1 hoops



Fig 2.2

The test ball (white here) must be placed on the hoop leg, and at right angles to the line joining Red and Yellow.

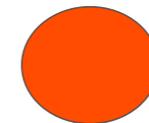
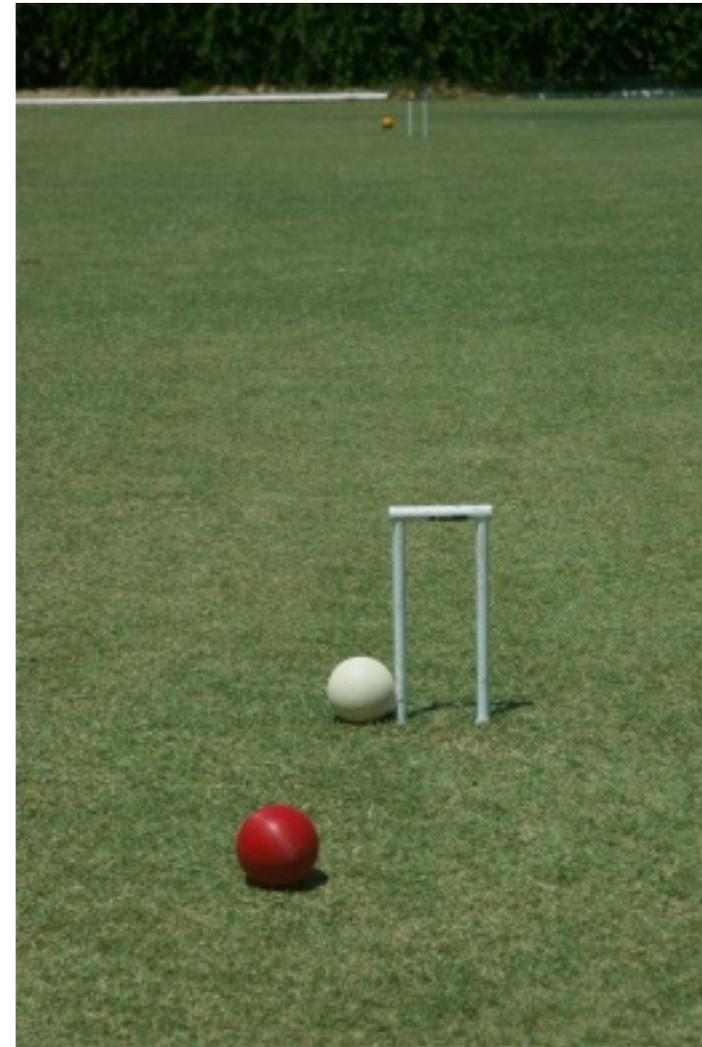
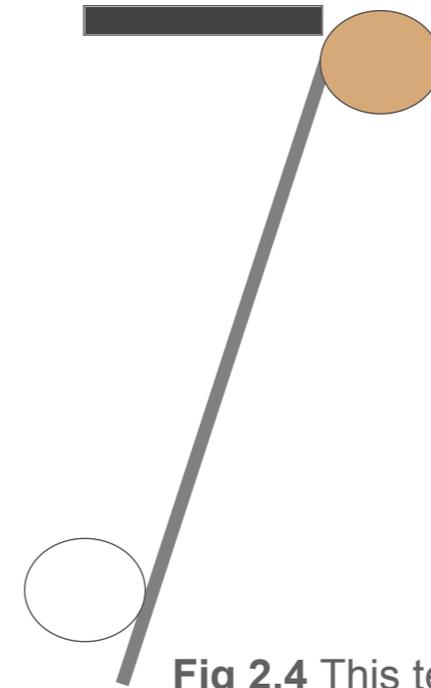
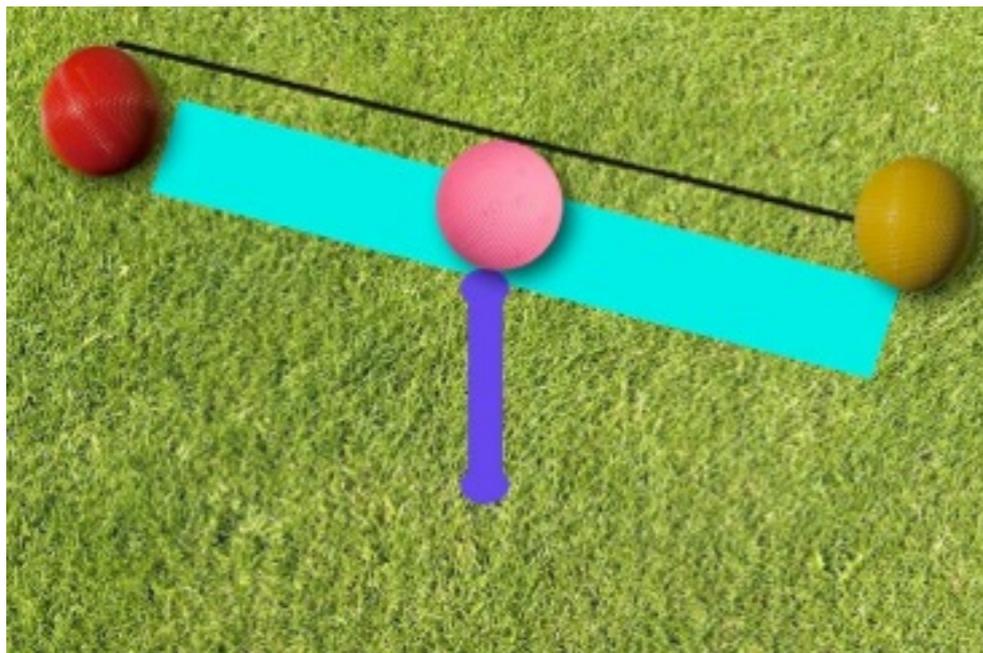
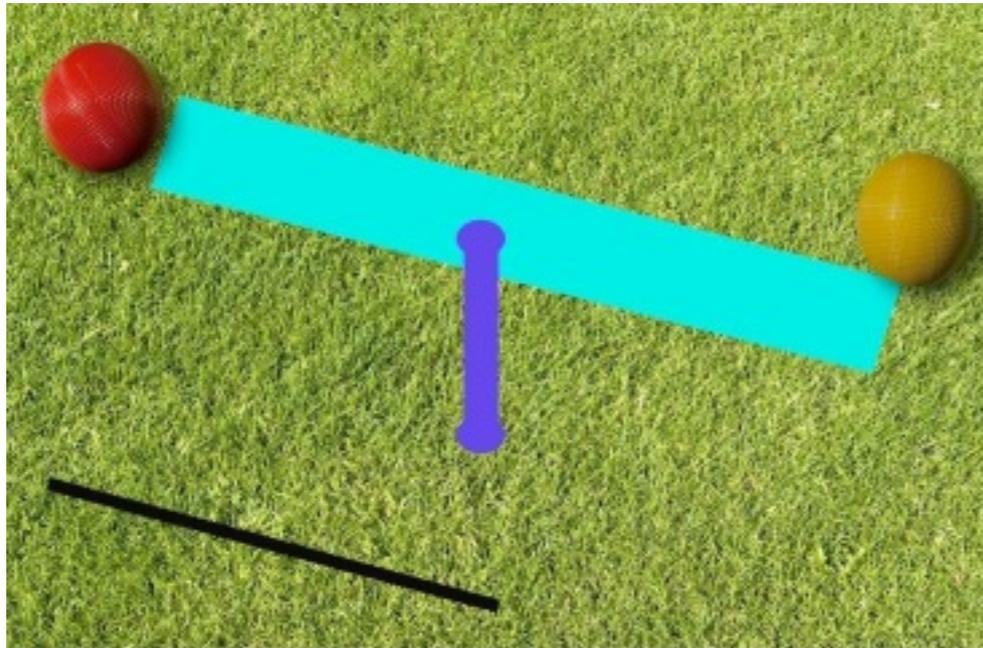


Fig 2.3). You also need to get down low over the balls, and at 20 m, require excellent eyesight laying flat on the ground, or alternatively use of a mirror viewed from above.



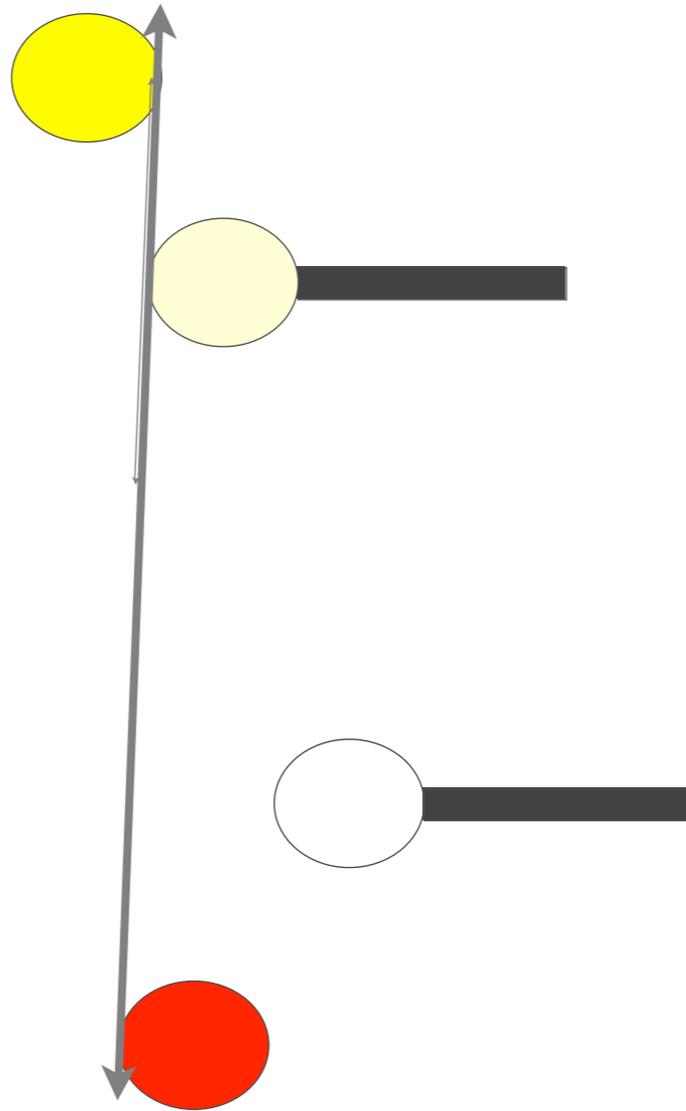
- **Fig 2.4** This test depends on the dimensions of the player's mallet head. White should be able to be driven in the indicated direction, with ANY part of the mallet face toward pink.

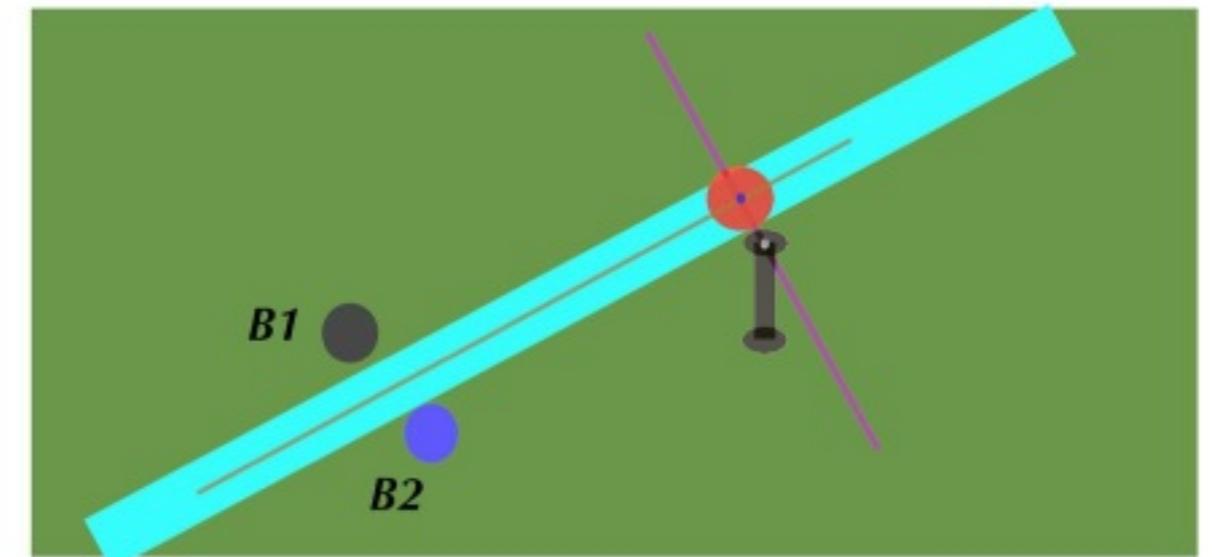
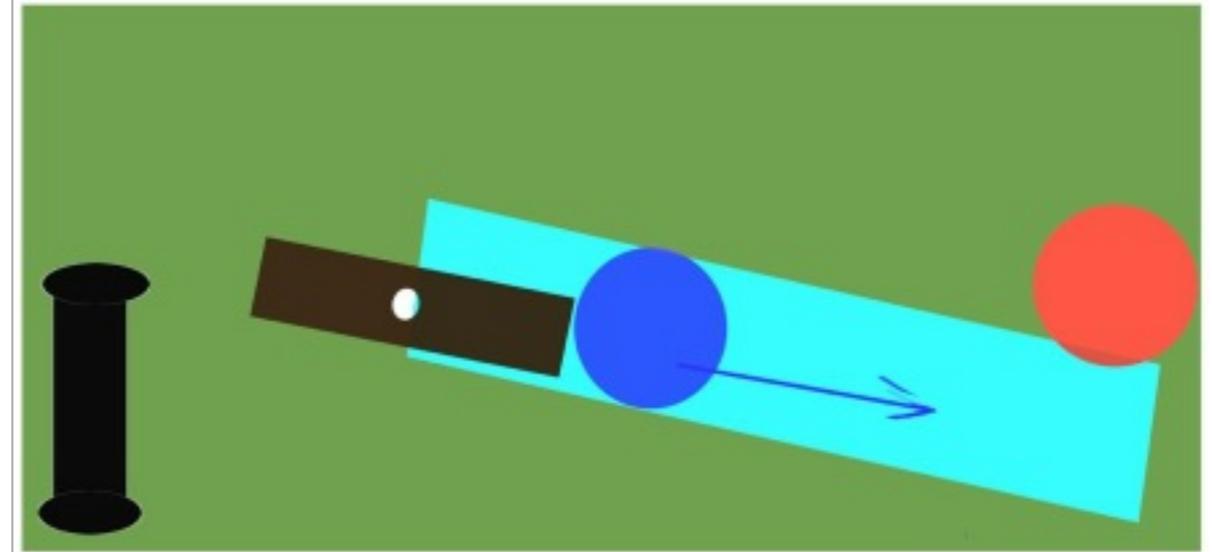
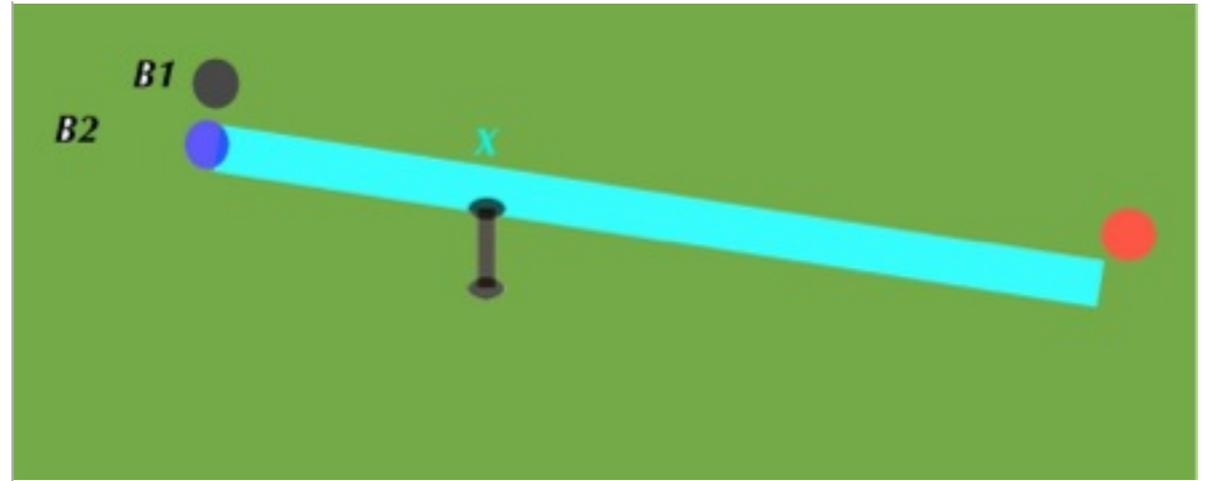
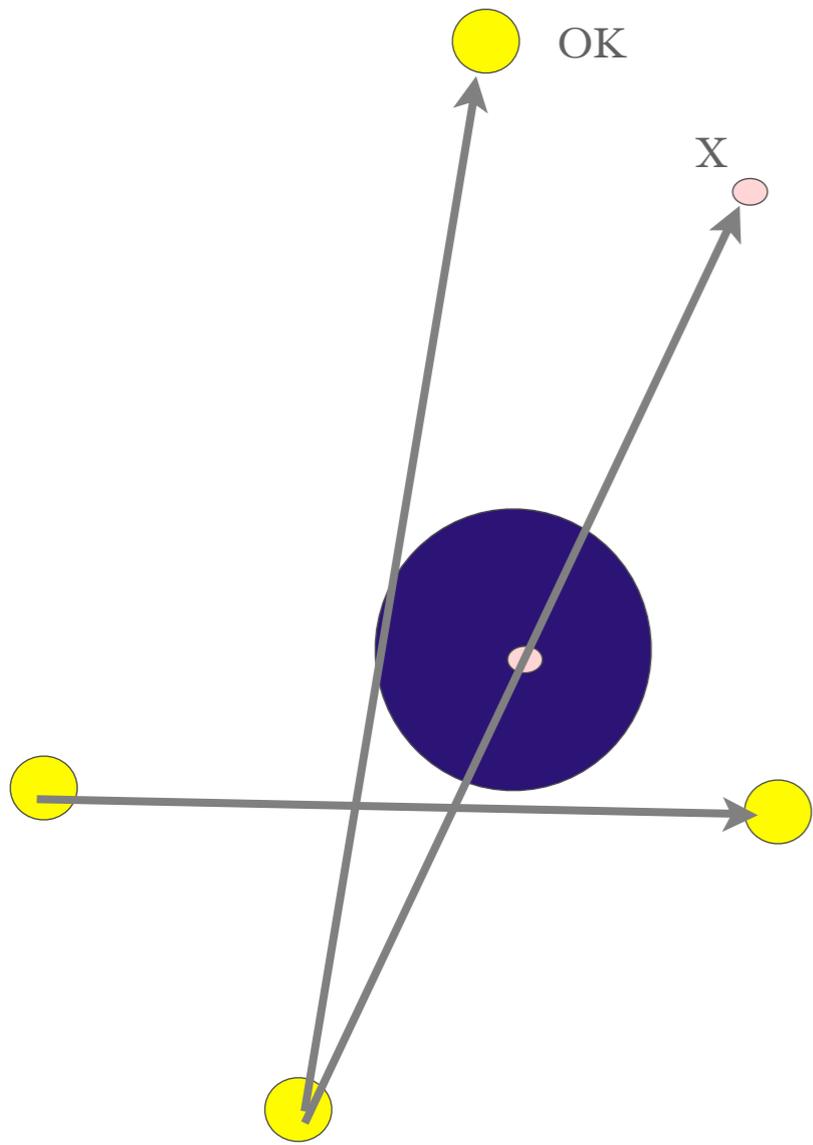


Fig 6 Marking Critical Balls, R two markers lined up on centre leg of each hoops side, best at 90 degrees to each other, or three markets two across the balls edge. Finding the ball centre (X) is less precise than utilis-ing the edge.

Fig 5 Examine the angle red must approach white here. If MORE than 90 degrees [from a line drawn through the middle of the hoop leg and the centre of the white ball and a second line intersecting this plane from the ball in question (red here)], then it is not wired, since both sides may be hit without obstruction.

However if <90 degrees, the hoop leg prevents the right hand edge of the white ball being struck, hence wired and red may be played from either bulk line if desired.





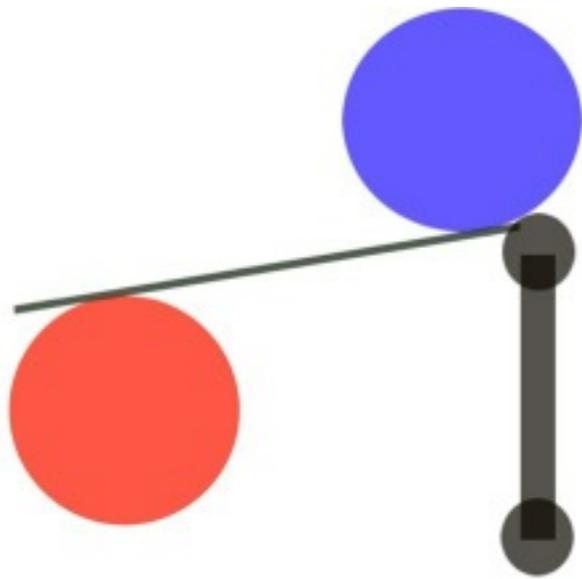


Fig 2.4a)

Is R wired from B?

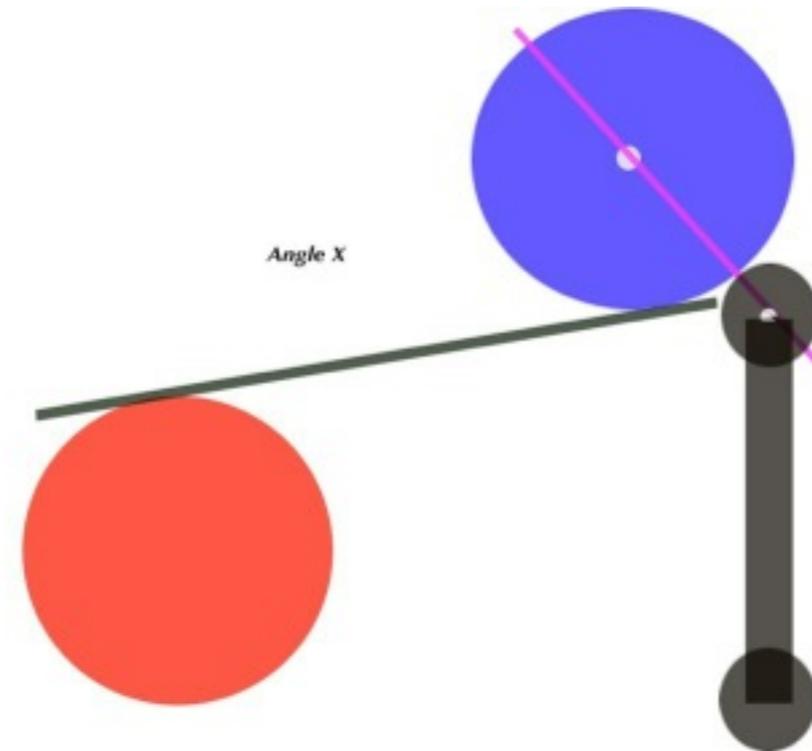


Fig 2.4-b)

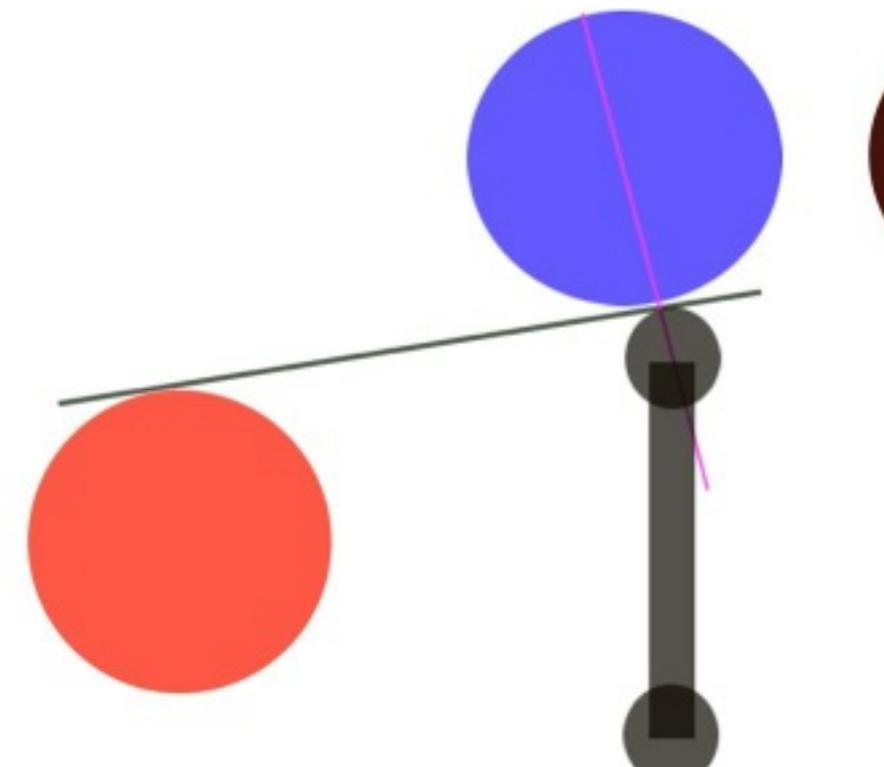
Not wired above, "angle" x is < 90)

Fig 2.4c)

Claimant is wired below, hence now entitled to a lift R to either baulk line.

Note the critical line is the perpendicular black line drawn down from the purple line connecting the hoop to mid-B ball centre marked by a dot.

A ball this found to the left of this line (ie. > 90 degrees) wiring zone, because the left side of R ball will strike the hoop leg before the right side of the B ball.



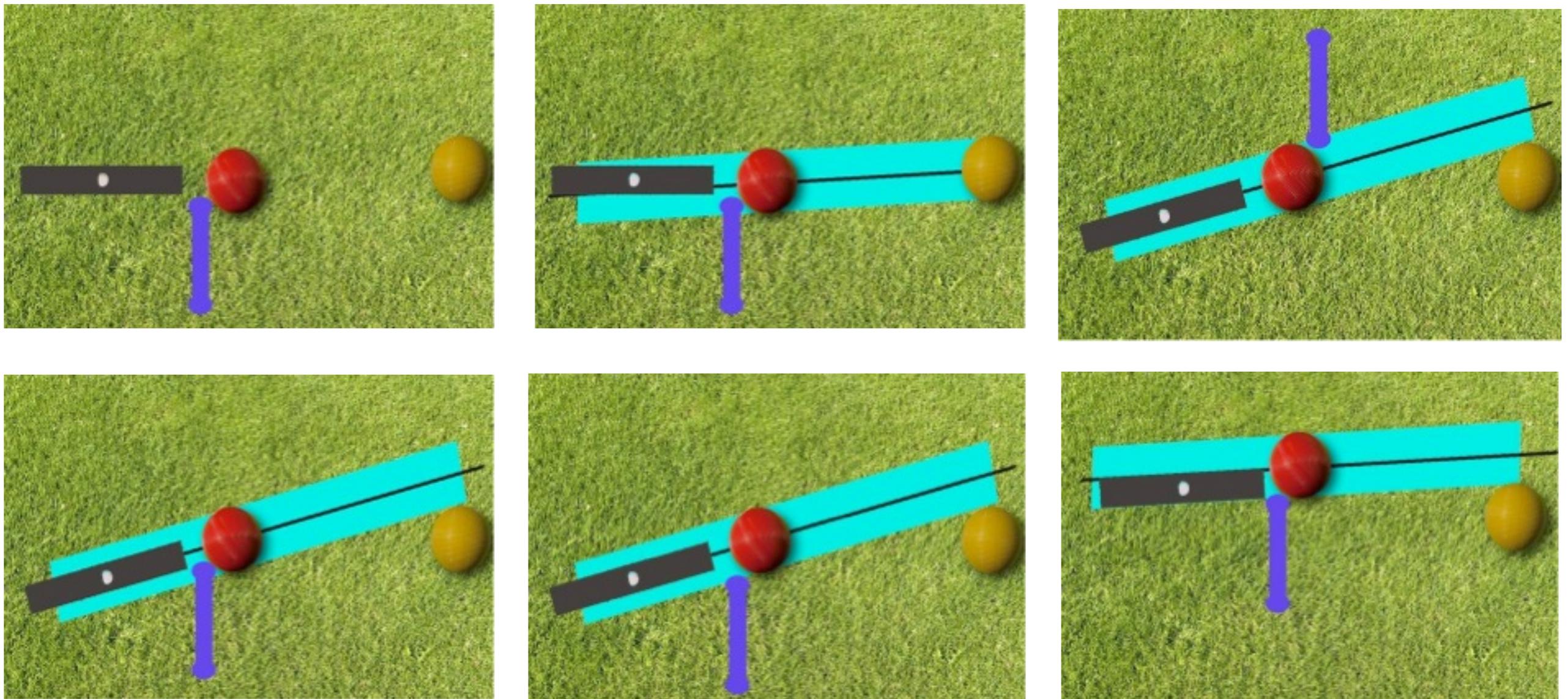


Figure 2.5

- a) Is R Wired from Y? Referees decision and why?
- b) Lines and ball path showing why R is actually wired, remember strikers may choose to play lower half of the Red ball (However this is NOT what you should be judging rather the path to Y shown in d) to f). *Correct answers:*
- c) R is also wired from Y target top right of the page, hoop blocking red ball path the Y.
- d) R Wired, if played would strike the hoop before being able to play at Y left edge
- e) R wired also cant strike lower half of R ball to top Y edge (benefit to striker?) *BUT see f)*
- f) R **NOT wired** since trying to play half ball now will cause a bevel edge (hitting R closer to hoop and below 1/2 a ball) = fault (Note the black line is through the centre of the R ball above, turquoise panel marks the path to Y edge in c) to f) panels)

Figure 8

This photograph is from a game during the 2014 Mac Robertson Croquet Shield Test Match

Blue is claiming a wired ball entitlement on the yellow (and red) balls. Balls approximately 20yards apart.

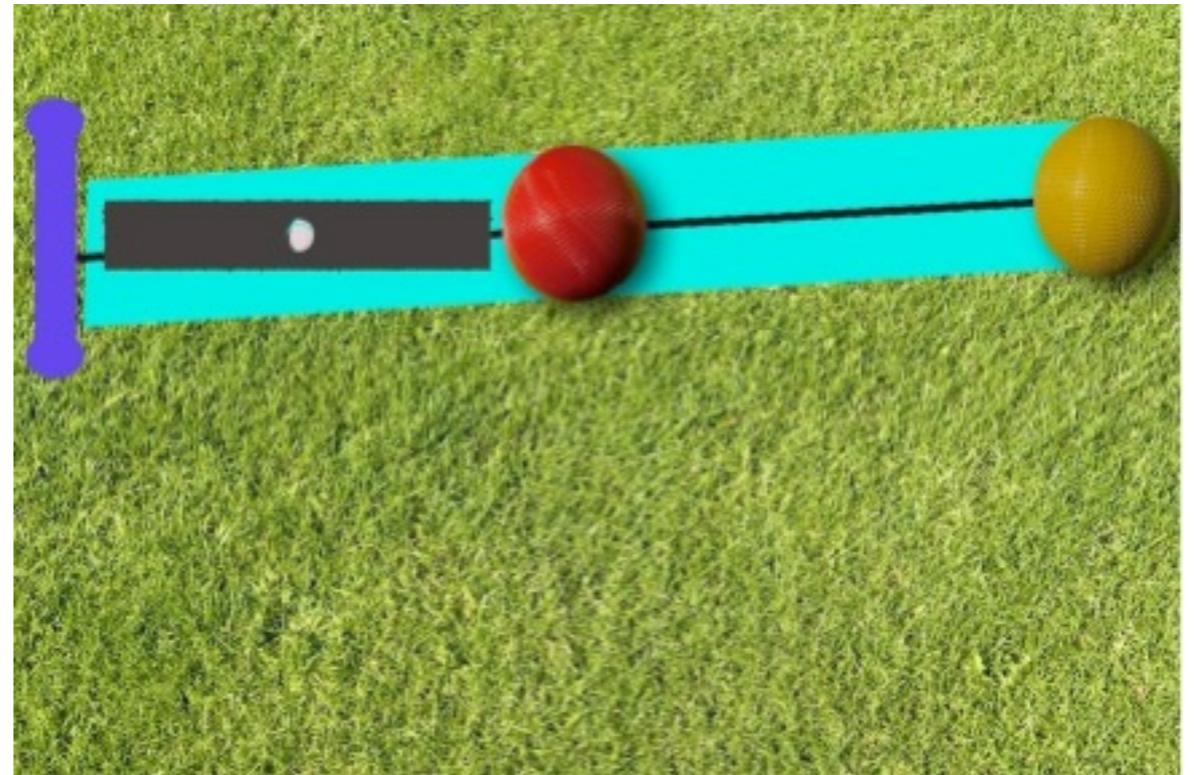
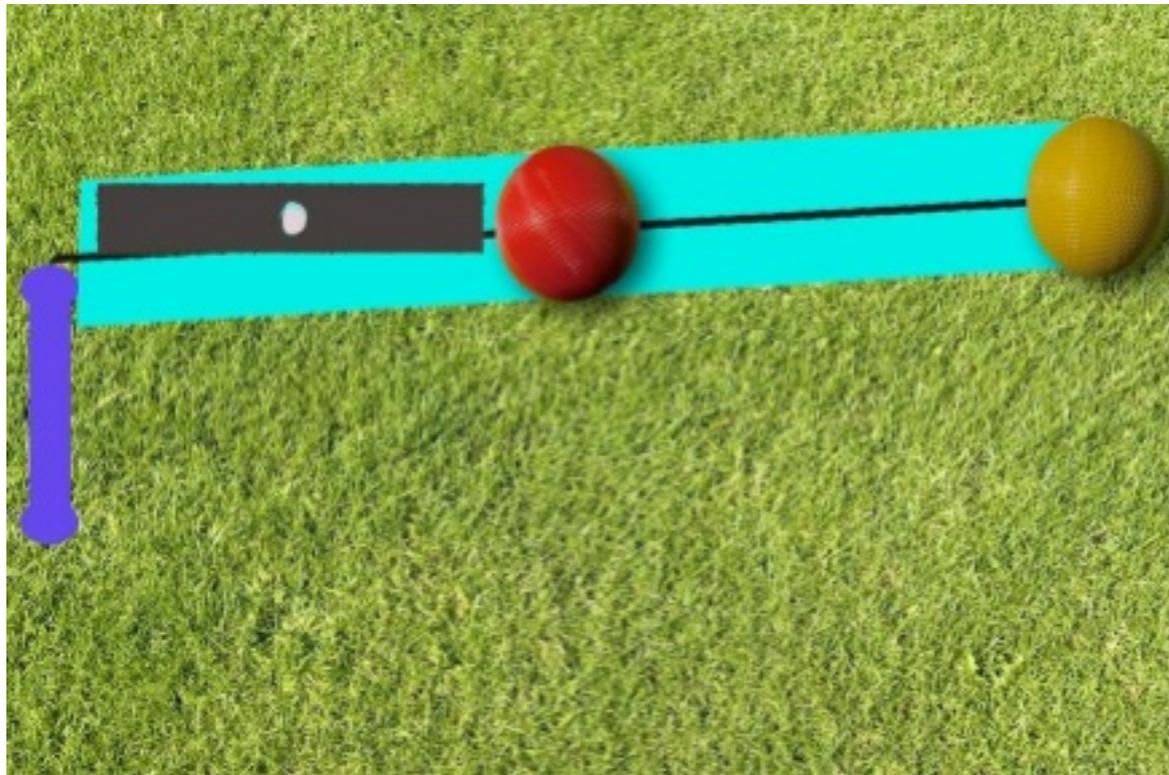
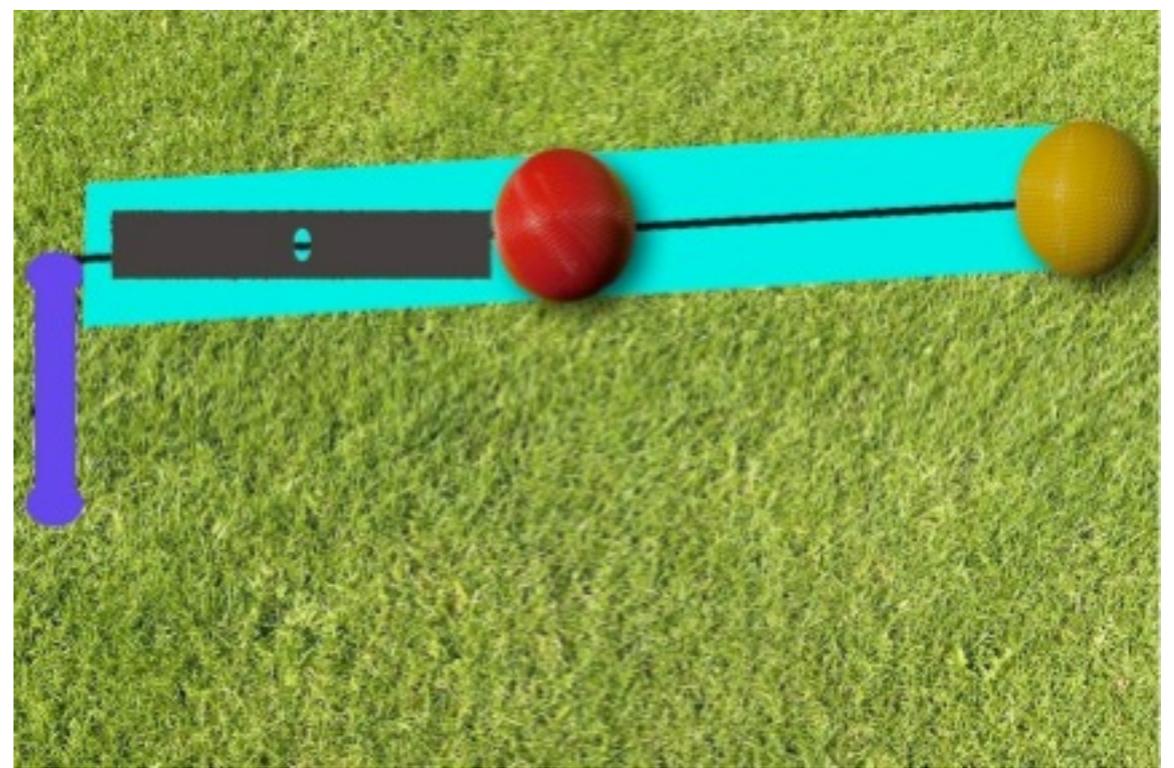
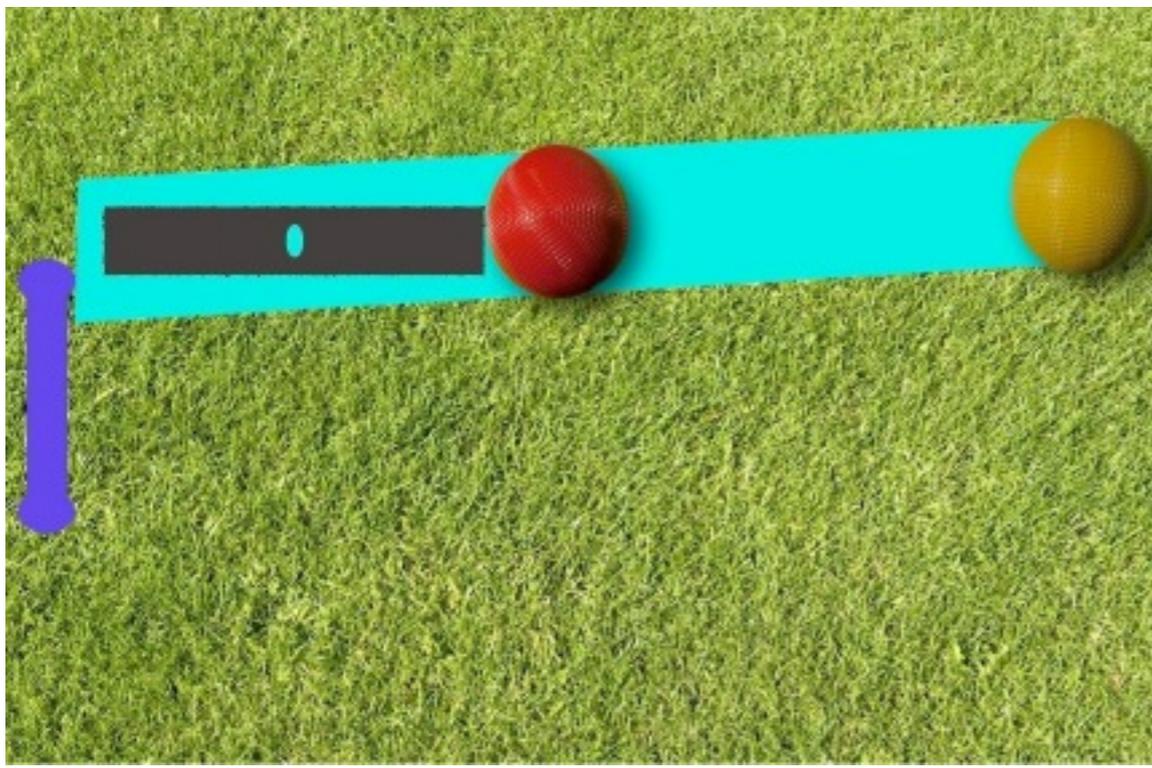
Good view at the level of the ball, and ONLY the brown ball is required here.

Note the wire was not given, but the second “test ball” (viz pink placed touching TB in question). Pink may contaminate the evidence, this is not best practice!

This was in fact “demanded” by the players in spite of the better judgement of the referee who cautioned this action could move the yellow ball! Such a ‘demand’ is not uncommon but is performed at the desecration of the referee.

The decision remained, NO wiring entitlement the eye along (from the referee’s angle), left side B ball to left side brown ball on the hoop, GAP seen between that line and Y ball, (conformed some of pink here seen.)





Hoop and Roquet Strokes

The rules applying to hoop and roquet is a frequent referee call. It is hence mandatory that a good referee knows the nuances of these sometimes complex calls.

There are a few simple rules. However a few ball positions, when the ball(s) are actually IN the hoop require thoughtful analysis.



<https://www.youtube.com/watch?v=DdeUqdwUKgw>

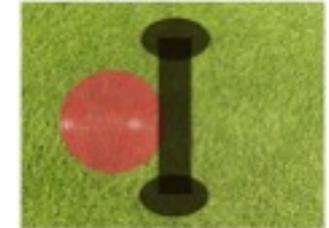
SB	TB	Sound	Slowmotion	Ref Call	Comment1	Comment 2
1 Red	Yellow	DT, hard	Clear DT	Fault	Can replace marked balls,	adversary decision
2 Yellow	Red	Clean	No D		Missed roquet. Turn ends	Leave balls as ended
3 Red	Yellow	Sounds clean (?)	DT (?)	Benefit striker	Play on	
4 Yellow	Red	DT, easy	Clear DT	Fault	Can replace balls	adversary decision
5 Red		Clean	Clean		Play On	

We must know when a ball, or peeled ball has actually RUN the hoop!

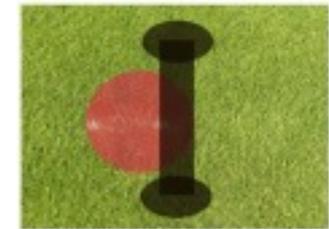
1. When has a ball completely run the hoop?



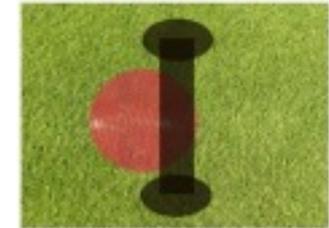
2. Ball has entered the hoop "jaws".



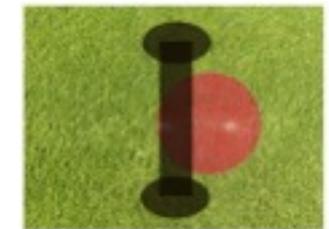
3. Ball has NOT started to run the hoop.



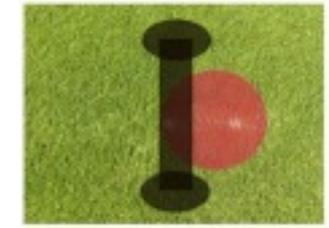
4. Ball Started running hoop



5. Ball NOT yet completed the hoop run.



6. Ball has completed running the hoop.



7. Ball exited the jaws

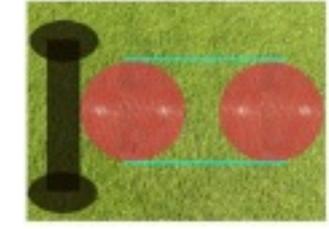




Fig a) and b): R peeled successfully, Hoop to be made by Red Play on and take croquet from Y or any ball now roquet.

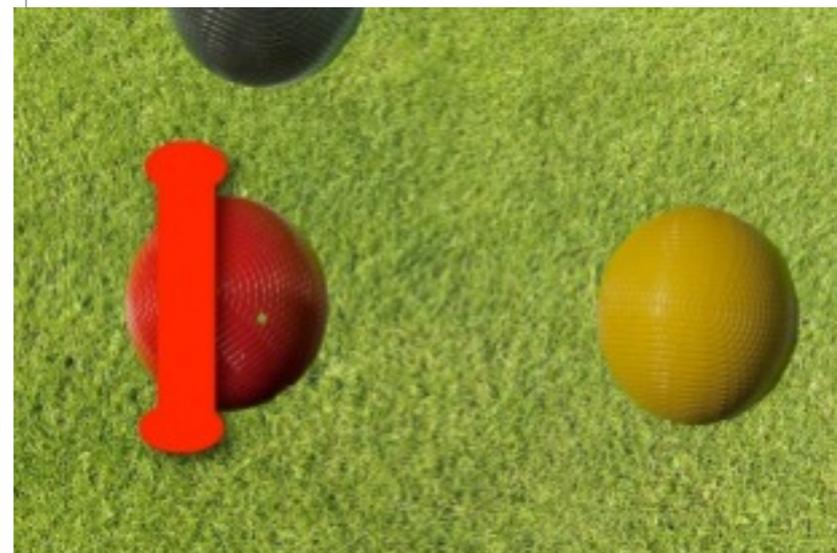
This is easy and never controversial, Static position of the balls known all **balls START off having already run the hoop**...even the one not clear of the non-playing end which will usually be jumped (see d) and take the yellow ball through (see also Fig e, hoop enlarged for clarity) be-low, where the balls are too close to jump, practically <20mm or twi fingers apart)

a)

Completion of R peel, Y to continue. If now strikes R in transit, must take roquet off partner balls, striker playing Y (SB)



b)



This is a **STATIC** ball position before the ball is played.

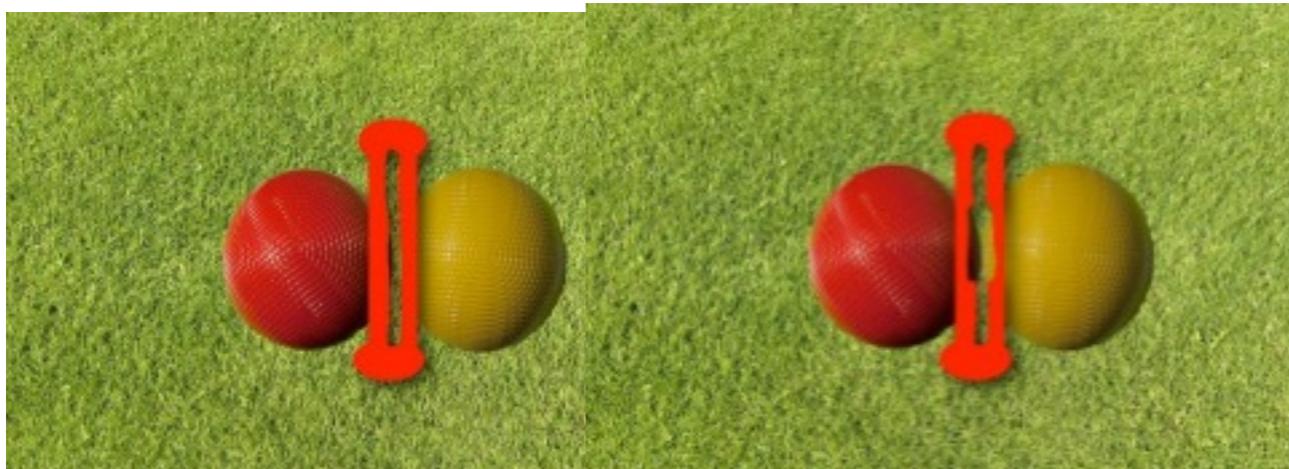
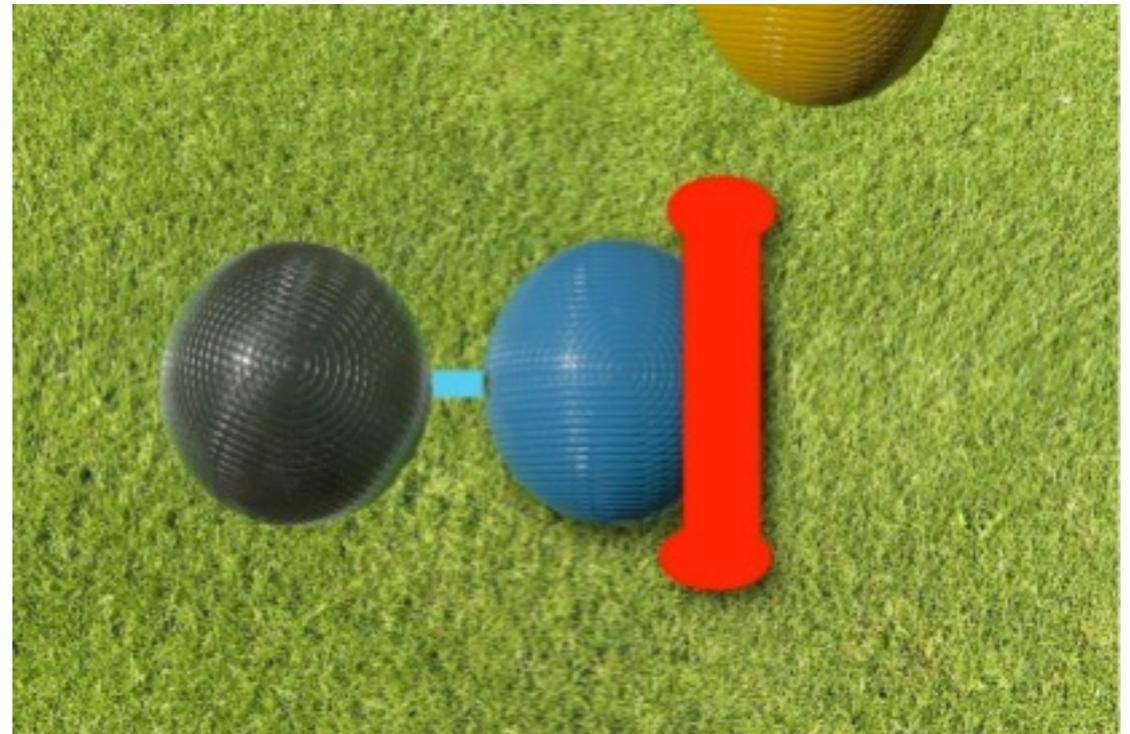
MARK both balls, and ask the player what he/she intends to do?

The end position is critical, since the yellow ball has been sent into the hoop! If the ball (OB, yellow here) is not clear of the non playing side of the hoop, we need to know how it got there, if dead or still live?

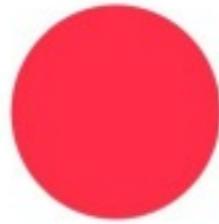
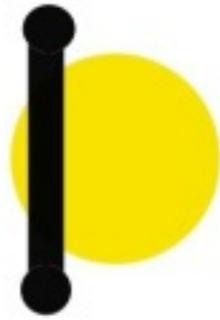
Fig a) shows starting position following roquet on yellow
Figs b) and c) two possible end positions. What do you rule re HOOP made and Roquet or peel?



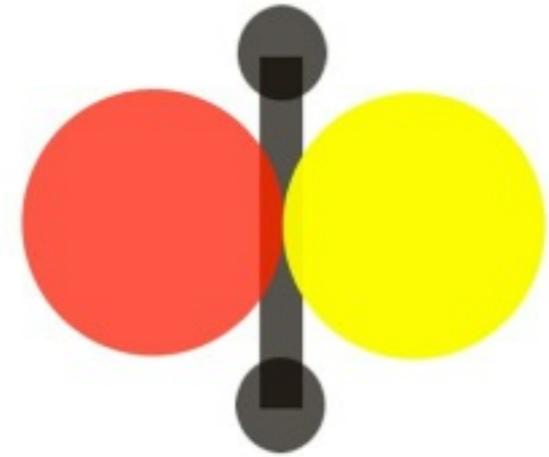
f)



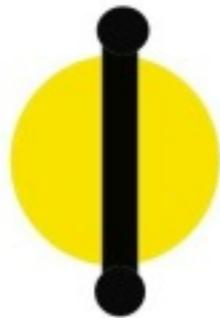
g)



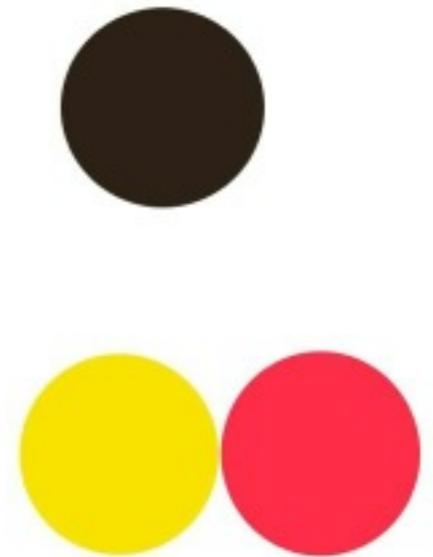
i)



h)



j)



If Fig j) is the final resting place, where the hoop can be run with Y, and the ball land short of R. Play on, and ball can also be roqueted, if R is touched, must take croquet immediately.
In a hoop run: balls that start together and end together are hoop and roqueted.

Explanation of H&R Rules: (a to j)

a) and b) Successful rush peel on R and hoop Hoop (Y) to be made c), any ball to now be roqueted, hoop made, play on.

d) B ball half-jumps U so Hoop and roquet made, play on any ball to be roqueted.

e) Here the balls come to rest IN THE JAWS, and NOT touching. Any attempt to play straight will produce a DT fault. If the balls come to rest actually touching each other in the hoop croquet stroke may ensue, but striker would be very unwise to try to move any of the balls. or straighten them.

f) This stroke, <20mm balls apart will DT many times, in rover special laws allow the "presumed DT by half jump" stroke as in Fig (d). ANOTHER HOOP WATCH FOR DT.

g) to i) In cases g) and h), Y (SB) has unsuccessfully come to end within the jaws, where the peel (R) has been made. Y must continue, however the hoop has yet to be completed - ie: entitled to a continuation stroke, continuation to now run the hoop, BUT R is now a *dead ball* until the hoop is run by Y..

f you begin like shown by rushing U to here implying U has completed running the hoop, and B must now be placed in the jaws to continue by taking croquet. The hoop CANNOT be made with blue. Croquet from U must now occur, an attempt may be made for blue taking off from back to re-enter through rover to run this hoop.

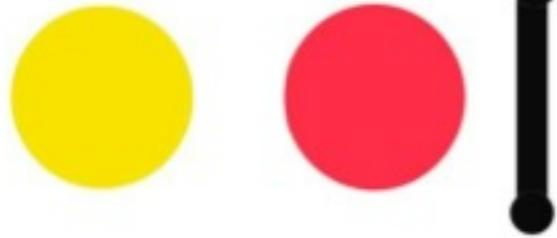
If as shown in i) R now hits Y, a roquet has been made for Y since it has passed the non playing hoop edge,, and croquet is being made in the jaws. Here the hoop has not been run by R which must first roquet a ball, then re-enter the hoop to proceed..

Note in e and f) blue may attempt to jump over U not making contact, then entitling any ball to be roqueted. (However a dangerous shot would be anticipated, if blue jumped from within the hoop, especially where U is <20 mm (or 1/3 a ball diameter) from B)

Hoop and Roquet Test

Starting Position

1



2



End Position -2,3,4 & 5 from (position in Fig-1) Ruling?

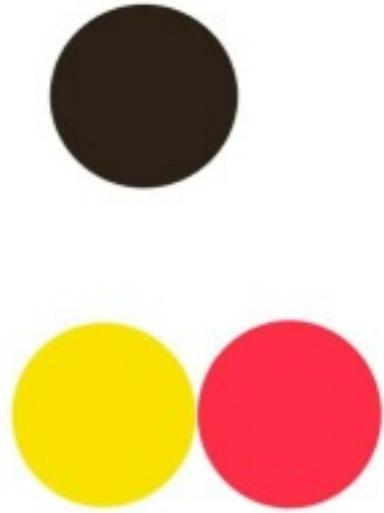
3



4

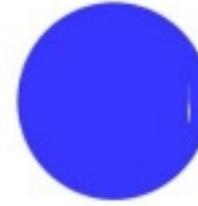


5



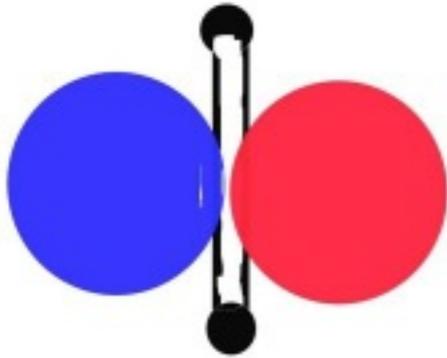
Starting Position -7

7



Ending Position - after 1/2 jump stroke Ruling?

6



8



Starting Position - Blue wants to roquet and peel red? Ruling?

Dynamic Ball Positions

Here the balls are in *motion*, having begun static, but a decision is called regarding the stroke being played.

They may be divided into:

- a. Hampered strokes
 - i. Hammer strokes
 - ii. Pushed mallet strokes
- b. Brush strokes (Bray or slice strokes)
- c. Jump shots
- d. Double tapped strokes
- e. Hoop crush strokes
- f. Pirie poke spin strokes



Hampered Strokes

Hampered strokes are those which require special care because of the proximity of a hoop, peg or other ball. Typical examples are where a ball is very close to a hoop, close to a hoop it is about to run, or in amongst a collection of other balls. Note that it is solely in a hampered stroke that it is a fault to unintentionally use a beveled edge [28a6]. It is always a fault to deliberately play with the edge of a mallets face (bevel).



Tight Angle Hoop Shots:

- 1) http://www.youtube.com/watch?v=QMM_0X2lwjY
- 2)
- 2) http://www.youtube.com/watch?v=_zd0maCGBIQ
- 3)
- 3) <http://www.youtube.com/watch?v=itj9l1n-6M0>
- 4)
- 4) http://www.youtube.com/watch?v=von2qUSjH_A
- 5)
- 5) <http://www.youtube.com/watch?v=rBVSaX2wyHw>
- 6)
- 6) <http://www.youtube.com/watch?v=C14OYzvEyZ8>
- 7)
- 7) <http://www.youtube.com/watch?v=-ONlwlvhz60>
- 8)
- 8) <http://www.youtube.com/watch?v=5GYrLd7knkU>

Double Taps

Multiple contacts - it is a fault to allow the mallet to contact the striker's ball more than once.

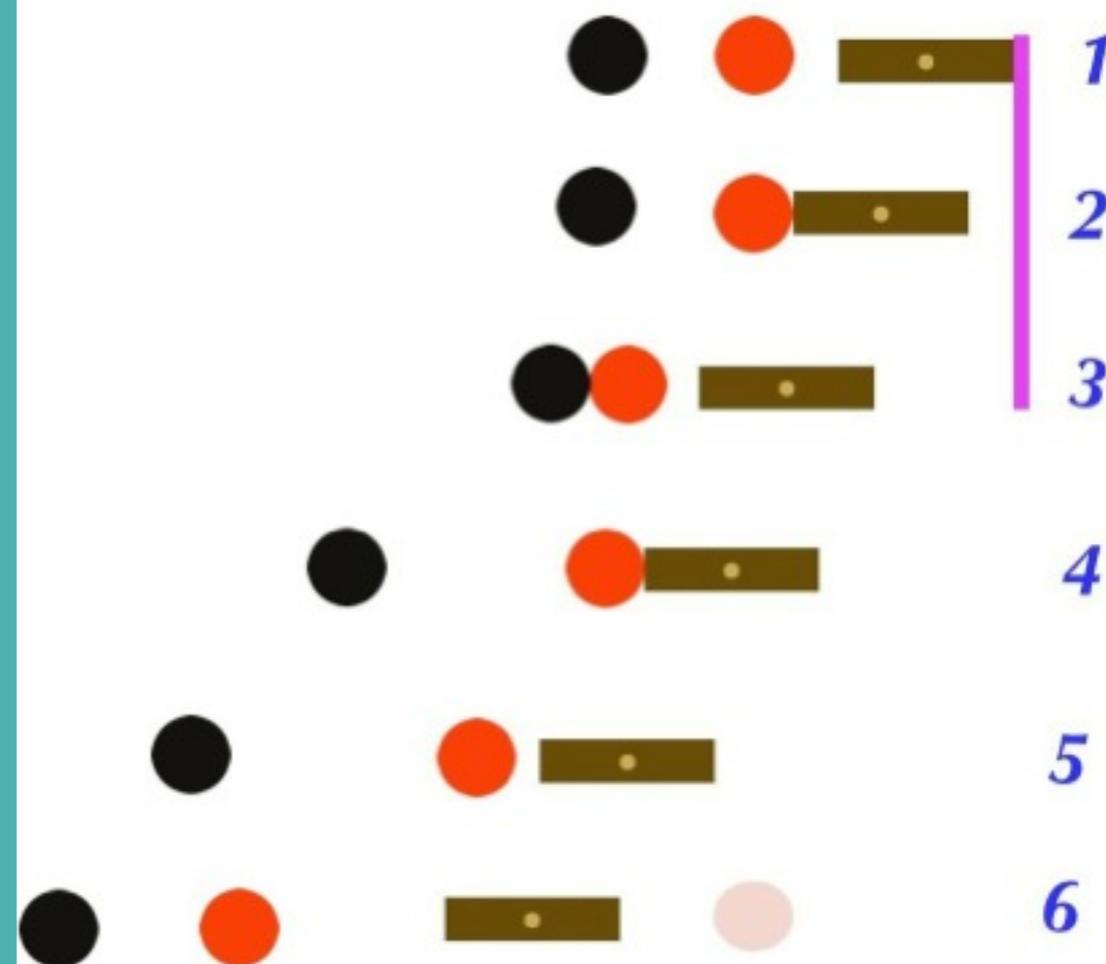
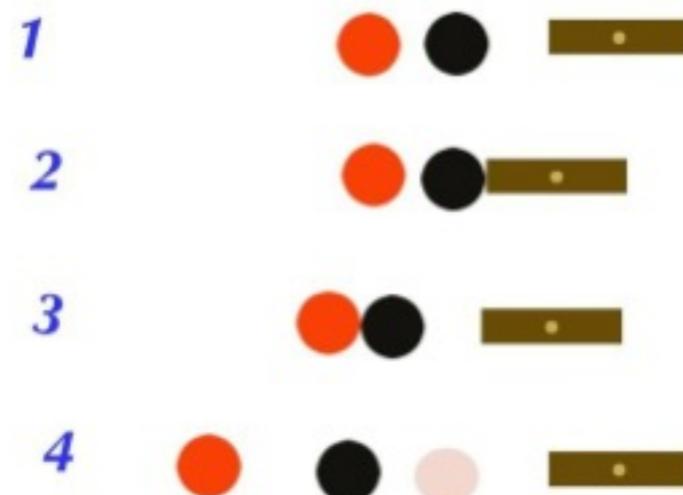
Left Panel:

Normal stroke, balls move once struck.

Right Panel:

DT Fault, in fig 2 and again in fig 4 - the mallet is in contact with the ball

Law 28a8.



https://www.youtube.com/watch?v=8PT_mwTxLe8

- t= 32 sec, one shot = Clean since no double tap, second sound the mallet striking the wire of the Hoop!
- t= 1:18. Indoor carpet shots, 2 shots 1 double, even treble tap, second bevel edge shot all hampered strokes
- real and then proved slow motion.

Double Taps (DT) (Law 28(a)(8))

Before the era of high speed cameras, if you sandwich a piece of carbon paper and plain paper on the end-face of a mallet and play a croquet stroke, (especially a roll), there is the evidence of multiple contacts recorded by the carbon on the plain paper.

DT's are easily heard, video recorded and decided according to the heard fault produced by two distinct sounds made by the mallet and SB striking an obstacle (ground, another ball, hoop or peg) and rebounding back into the continuing forward direction of the mallet.

Prolonged contact and sometimes an indistinct sound. You may not see a double tap, unless high speed pictures are reproduced but you may infer one especially in scatter shots where the balls are separated by a fraction of an inch - by definition it must occur. Continued trundling of balls in a croquet stroke, plainly indicated by hearing a buzz or knocking in a roll shot, breaks Law 28(a)(7)(A) but it must be VISIBLE in a croquet shot, currently to the naked eye, so will often not be picked up.

Commonly players and officials are lenient, when a roll shot is played; the mallet hooks away in the direction of the striker's ball - perhaps to give it some follow through. This, however, smacks of a push and is not only unnecessary, but rarely is an advantage to the player. Note that a push can only be committed once the balls part contact, Law 28(a)(7).

Ref.Reg.2(c) Ruling on a Past Incident that is in Dispute
A referee may not act upon a fault which he/she, or a reliable witness, did not witness (as defined in R2). If someone is accused of committing a double tap and you are called in after the event, you must resolve the dispute. Another option is to remain on the lawn, as a referee in charge or ask that the referee of the tournament appoint a referee in charge. Once in that position the referee will be able to witness all subsequent strokes.



Robert Fletcher (Australia)
WCF 14th Association Croquet World
Championship Final

Three Aggressive Hoop Shots

Real Time Only:

<http://www.youtube.com/watch?v=ToH4GJv1sGQ>

<http://www.youtube.com/watch?v=itj9I1n-6M0>

URL& Date: BK, Ballymd August 2013 -1U-6M0	Ball Colour: SB	CB	U Tube Time	Real t Call	Slomo Call	Fault type & Consequence	INDEX Manual	Comment
1	Yw	-	0:00	Fault, DT	DT	DT		Ball on hoop leg, mallet angled
2	Bw	-	0:39	Fault, DT	DT	DT		Ball on leg, mallet into l leg sound and Dt first
3	Rw	-	1:20	? Clean	Clean	Clean		Ball clear, then mallet to TR leg hoop
TIME Clip			2:02					

<http://www.youtube.com/watch?v=itj9I1n-6M0>

Real Time and Slow Motion

URL& Date: BK	U Tube Time	SB Ball Colour	CB Ball Colour	Real t Call	Slomo Call	Fault type & Consequence	INDEX Manual	Comment
1	0:00	-Bw	Yw	DT	DT	Fault, DT EOT, oppo replaceballs?		All examples STATIC of SB<4mm to CB
2	0:45	Yw	-Bw	DT	DT	Fault, DT EOT, oppo replaceballs?		
3	1:05	-Bw	Yw	DT	DT	Fault, DT EOT, oppo replaceballs?		
4	1:28	Yw	-Bw	DT	DT			
5	1:55	-Bw	Yw	DT	γ			

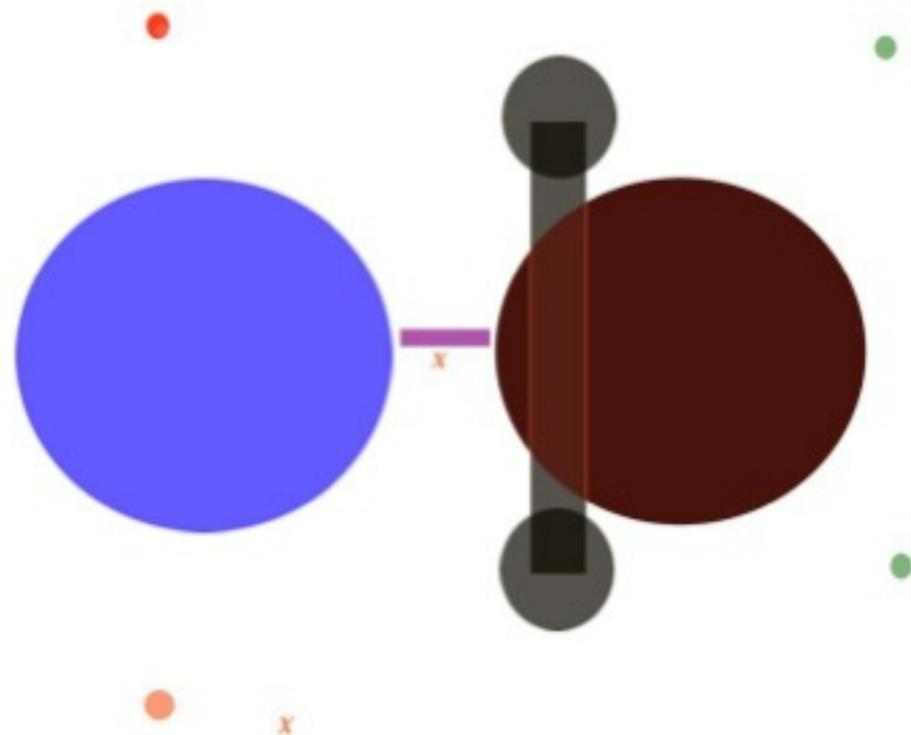
Balls at close distance

<http://www.youtube.com/watch?v=mQ4JpDEan8E>

ALL the above 5 examples (from clip....DEan8E); do not require slow motion cameras. Whatever they sound, look the SB is 2-6mm apart from the SB, and will ALWAYS be a DT.

<http://www.youtube.com/watch?v=KagK0dXyBQ0>

SB	End m	CB	End m	Y = SB-CB separationGap Estimate
<i>Start 0</i> <i>mm CB-SB</i> <i>ratio END</i>		Start	End m	
1:6	1	All +92	6	92.....1 ball
01:6.3	1.2	All +92	7.5	92
1:6.11	0.9	All +92	5.5	92
1:25	0.4	All +46	10	46.....½ ball, 3f
1:30.2	0.3	All +46	9.6	46
1:30	0.2	All +46	6	46
1:17.5	0.2	All +46	3.5	46
1:50	0.05	+20	2.5	20.....¼ ball, 2f
1:29	.75	+20	2.0	20...DT
150	0.05	+20	2.5	20...DT
1:11	0.18	+20	2.0	20...DT
1:2	1	+10	2	10...Bad DT...1finger
1:120	.05	+10	1	10...DT
1:1.5	0.8	+10	1.2	10...DT
1:1.2	1	+10	2.2	10...Bad DT



Hoop Crush Strokes

Potentially this occurs anytime the mallet, ball and hoop leg are in simultaneous contact.

<https://www.youtube.com/watch?v=wfMov2V>

Ball placed on Right hoop wire, ball stroke being played toward the arrows in the diagram.

Orange may be possible depending on mallet width, green safe but the RED zone will usually crush the ball.

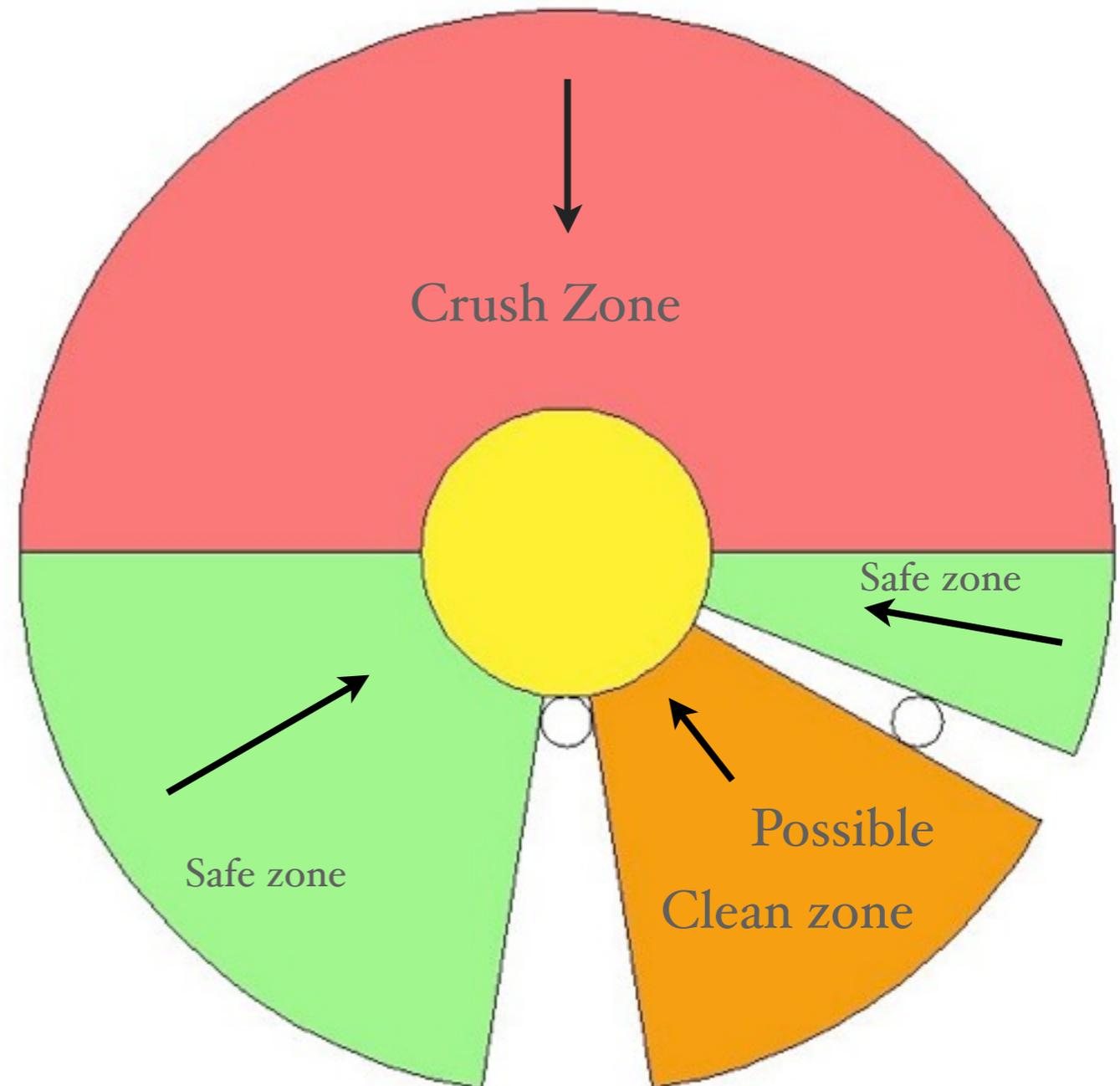


Fig. (courtesy Dr Ian Plummer)

Hoop Crush Shots

The definition of a possible “crush” is when the mallet, ball & wire (“three in contact”) are all simultaneously in contact at any given moment. Worded differently the referee must confirm that the mallet does not push the ball against a wire. This is judged by:

1. The direction of the swing and orientation of the mallet head.
2. The amount of follow-through.
3. The noise made during the stroke and
4. The angle of emergence and the distance travelled by the ball.

In addition the referee must watch for any other standard faults being committed. The popular ones are resting arms on legs, balls bouncing back onto the mallet or feet or air-shots.

The best observation position may be viewed from behind the player along the line of the stroke, taking care not to cast a shadow over the playing area. It is the referee’s duty to take up the most favourable position in order to adjudicate the fairness and effect of any questionable stroke. Both the line of the swing can then be seen, and the noise of the impact(s) heard. It is however difficult to judge the amount of follow-through or the angle of the mallet head. The direction of the mallet face, swing and amount of follow-through can be seen from that position, and the way the ball emerges from the hoop.

For a ball 24mm away from a hoop the event you are witnessing will take place in less than 20 thousandths of a second. You will be able to *hear* the stroke at that speed but not always see it. For a steeply angled hoop it is unlikely that a ball will travel any distance through the hoop. Given that a ball may ricochet between the jaws before emerging from a hoop, it can come out at any angle.

The Crush and Double Tap in or close to a hoop The term “crush” is a another term or colloquial way of describing Law 28(a)(9)&(10).

The following is a quote from ORLC 28.12 ----- Law 28(a)(9)

‘strikes the striker’s ball so as to cause it to touch a hoop upright or, unless the striker’s ball is pegged out in the stroke, the peg when in contact with the mallet’

This is the classic *crush stroke* and while periodically difficult to commit referees must be aware of these possible faults.

Croquet strokes may be forced and played over a very short time. In any event, the longest distance that mallet and ball will travel in contact with each other is about 1 cm (10 mm – less than half an inch), but this does NOT mean that any ball within 1 cm (10 mm) from an upright is therefore a candidate for a crush. The distance that matters is that between the impact points on (a) the ball’s circumference and (b) the up-right’s circumference. In practice, unless the striker is so incompetent as to drive the Striker Ball almost straight at the up-right (in which case he will double tap anyway), this means that the nearest point of the ball must be within to 2 mm of the upright before there is any real chance of a crush”.

Quote: ORLC 28.13 Law 28(a)(10)

"strikes the striker's ball when it lies in contact with a hoop up-right or, unless the striker's ball is pegged out in the stroke, the peg otherwise than in a direction away there from.

This is the easiest way to commit a crush but should only occur if the striker is ignorant of basic physics or tries to play close to the forbidden line and the referee believes he transgressed it".

This has also been simplified by an ACA Statement:

Unless a ball is actually:

- touching a hoop leg, and not playing away from the hoop or
- within 2 mm of the hoop leg then a 'crush' cannot occur

Rather, a double-tap will probably occur.

If multiple noises occur as a result of the stroke it probably will not be a crush but possibly will be a double-tap. The issue is difficult when players deliberately angle a clean shot but the mallet crashes into the near hoop leg. This sounds awful, can be tricky hearing brass faced mallet faces, but may be a clean stroke, if the ball has left the mallet and traverses the hoop successfully, a double-tap being avoided by the mallet being deliberately stopped by the hoop.

URL & Date: 8-9-13 JAT & SH,	Ball Colour: SB	CB	U Tube Time	Real t Call	Slomo Call	Fault type & Consequence	INDEX Manual	Comment
1	G	-	0:00	? Clean	Clean	Play On		Ball stuck clean
2	U	-	1:47	??Clean	Clean	Play On		Then mallet sound
3	R	-	3:08	Clean	Clean	Play On		Note NOT DT's
TIME Clip			4:20					

••

<http://www.youtube.com/watch?v=OZuU3-p2o6w>

Referee 3

- <http://www.youtube.com/watch?v=BfDHOObFR538>

- t= 50 sec, clean yellow ball

Nice example of a crisp clear sound of ball near L wire, and slow motion confirming no DT, so clean stroke play on.

- **Referee 4**

- <http://www.youtube.com/watch?v=65ScBTBhhao>

- t= 44 sec, blue ball ? bevel edge or DT fault

Sounds suspect, not sure from angle mallet if crush and DT but slow motion confirms BOTH faults here. Fault, hope balls were marked, since adversary now may elect to play where balls land (usually) or replace the balls at beginning of fault stroke. Remember here the striker (in fault) is responsible for this position of the balls, the adversary simply choosing a balls replacement, then and playing a different ball or in another direction providing not touched B here, remains not available for a wiring entitlement next turn

- **Referee 6**

- <http://www.youtube.com/watch?v=NIMmV4zSwYk>

- t=27 sec a clear double tap (DT) fault Rw ball

Fig 1 Crush Faults:

Crush of a ball, simultaneously hitting in the direction of the arrow, will contact the mallet (1) the (2)R ball and the (3) hoop at one time.

Fig 3.2-1

This is a “crush” fault. This is more clearly seen in the left panel where the black mallet lines up directly at the L Hoop leg (see blue box zone)

Fig 3.2-2

On the right, a Sweep (Bray) Stroke may result in a similar thing, as the sweep goes from top 1 to bottom 3 direction. Sometimes a player will try direction 3 upwards to 1, when a crush will be likely. A bevel edge fault may also occur.

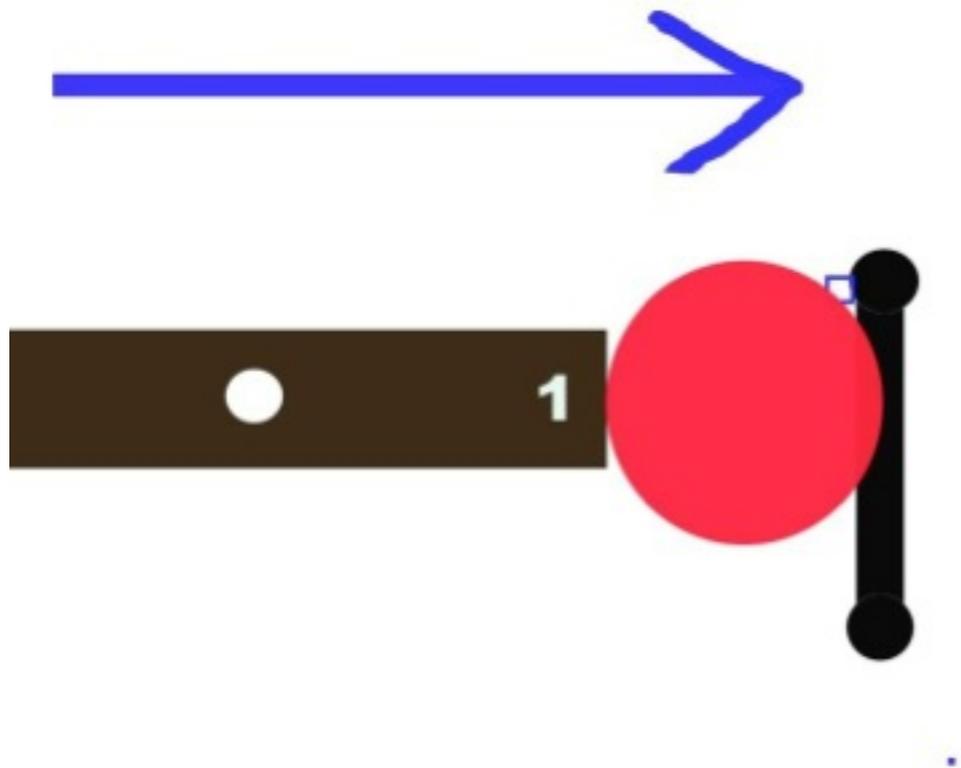


Fig 3.2-1

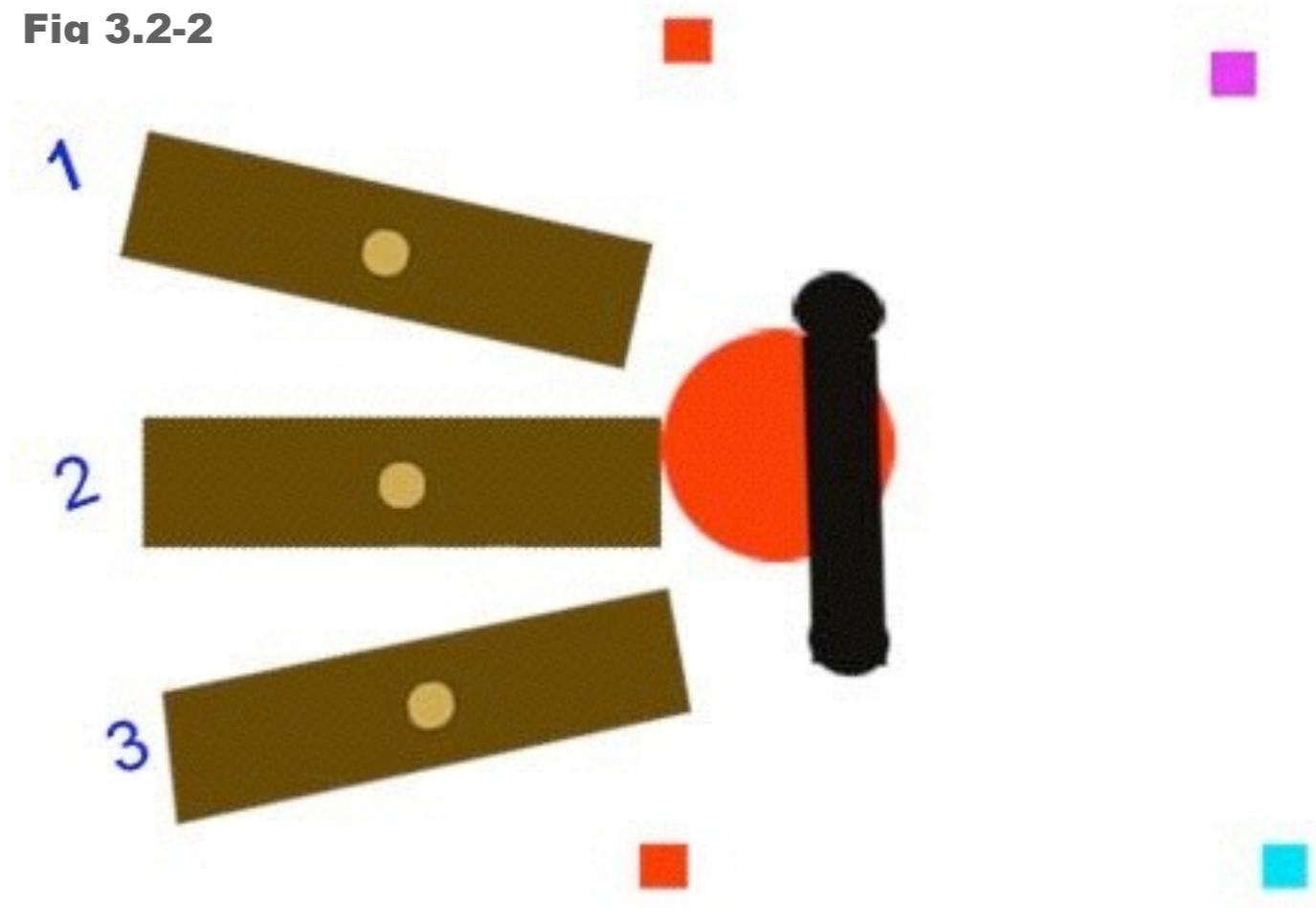


Fig 3.2-2

Hampered Strokes post hoop run

<https://www.youtube.com/watch?v=KSsw7Lb3A53c>

- **Hampered strokes are those which require special care because of the proximity of a hoop, peg or other ball. Typical examples are where a ball is very close to a hoop once run, or in amongst a collection of other balls.**
- **Note that it is solely in a hampered stroke that it is a fault to unintentionally use a beveled edge [28(a)(6)]. It is always a fault to deliberately play with the edge of a mallet's end-face.**



Explanation of Hampered shots

<http://www.youtube.com/watch?v=DdeUqdwUKgw>

- 4:04 min, 5* teaching segment
- Must mark all balls first
- Slow-motion and real time first

Shot 1 Double ball tap on red ball. Hampered shot.

Shot 2 Clean shot on yellow, however missed red.

Shot 3 Double tap on red ball, mallet catches up and subtly strikes twice.

Shot 4 Clear yellow ball double tap easily audible, fault.

Replace balls or leave where they land at the opponent's option.

Shot 5 Clean shot, mallet stops and strikes down wards. Note others slide along the ground into the ball.

The main reason for calling a referee to watch a hampered stroke is that it is easy to commit a fault Law [28] and it also allows the player to concentrate on the stroke. It is the duty of a referee to adopt a position which will allow him to observe the stroke to the best of his ability. There are occasions however when faults are committed which the referee is unaware of and it is up to the player to declare a fault if he believes he has committed one. It is not a case of "well I got away with it" nor must the referee accept the striker's opinion that a fault occurred.

Hockey in Adelaide 2013

<https://www.youtube.com/watch?v=luOKzVJ8s4U>

Kroegers angled Ballymeade angled strokes, 2013

<https://www.youtube.com/watch?v=C14OYzvEyZ8>

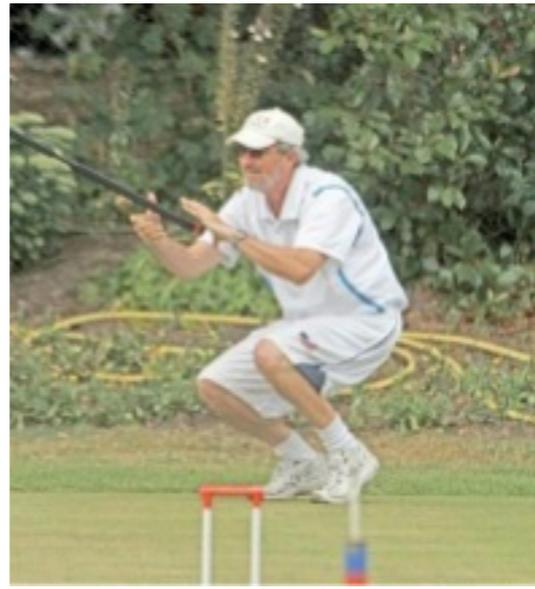
Close angled strokes re DT scatter strokes

<https://www.youtube.com/watch?v=mQ4JpDEan8E> and

<https://www.youtube.com/watch?v=COLMR0fMTxU>

http://www.youtube.com/watch?v=W_uWEJtNjLo

<http://www.youtube.com/watch?v=AKqe2MhNx68>



Hammer Stroke

Jump and hammer shots are played when hitting the ball with the mallet face angled towards the ground.

For a jump shot the player stands behind the ball, for hammer shot the player stands in front of the ball, facing it to drive it between his legs.

Hammer strokes - hoop impaired



Jump and Hammer Shots

Upon hitting the ball with the mallet face angled towards the ground at least six faults may occur, sometimes more than one simultaneously:

- a. a 'crush' into the ground - extended contact between the mallet and the ball [28a7], the ball not being struck distinctly [28a4].
- b. a double tap, where the ball leaves the mallet face and immediately springs back onto it again [28a7], or strikes another ball stopping the SB thereby allowing the mallet to strike it again (DT) [28a8]
- c. resting arms on legs [28a3],
- d. damaging the surface of the court with the mallet [28a15],
- e. the ball bouncing back onto the player's feet or mallet [28a13].
- f. hitting the ball with the *beveled* edge. [28a6].

Any hammer shot where the face of the mallet is greater than 45° to the vertical is likely to be a crush and or DT. This however is not always the case if the mallet is retracted immediately after contact.

Jumps tend to be played with a shallower angle hitting through the ball, but should there be a ball nearby, a DT as the ball stalls needs to be avoided. The normal effect is to observe the mallet descend on the ball and hear an unclear scrape or DT rumble sound before the ball leaves the spot.

Shots where the ball jumps, with the mallet not left to pause rather suddenly lifted away are generally clean.

Damage to the surface of the court does not mean a mere bruising of the surface of the court, but a tearing of the root structure of the grass, exposing the earth, and likely to interfere with a ball played across this point in future. If it results in damage where the soil can be seen between torn roots, this is significant damage. (Damage caused by the ball is not a fault.)

Kroeger series: see

- <http://www.youtube.com/watch?v=jEc3HhhVupM>
- Hammer shots t= 4min

Five Hammer Shots

Real Time Only:

<http://www.youtube.com/watch?v=6ZMhbNvc4>

Real Time and Slow Motion:

<http://www.youtube.com/watch?v=6lBxqESGrpU>

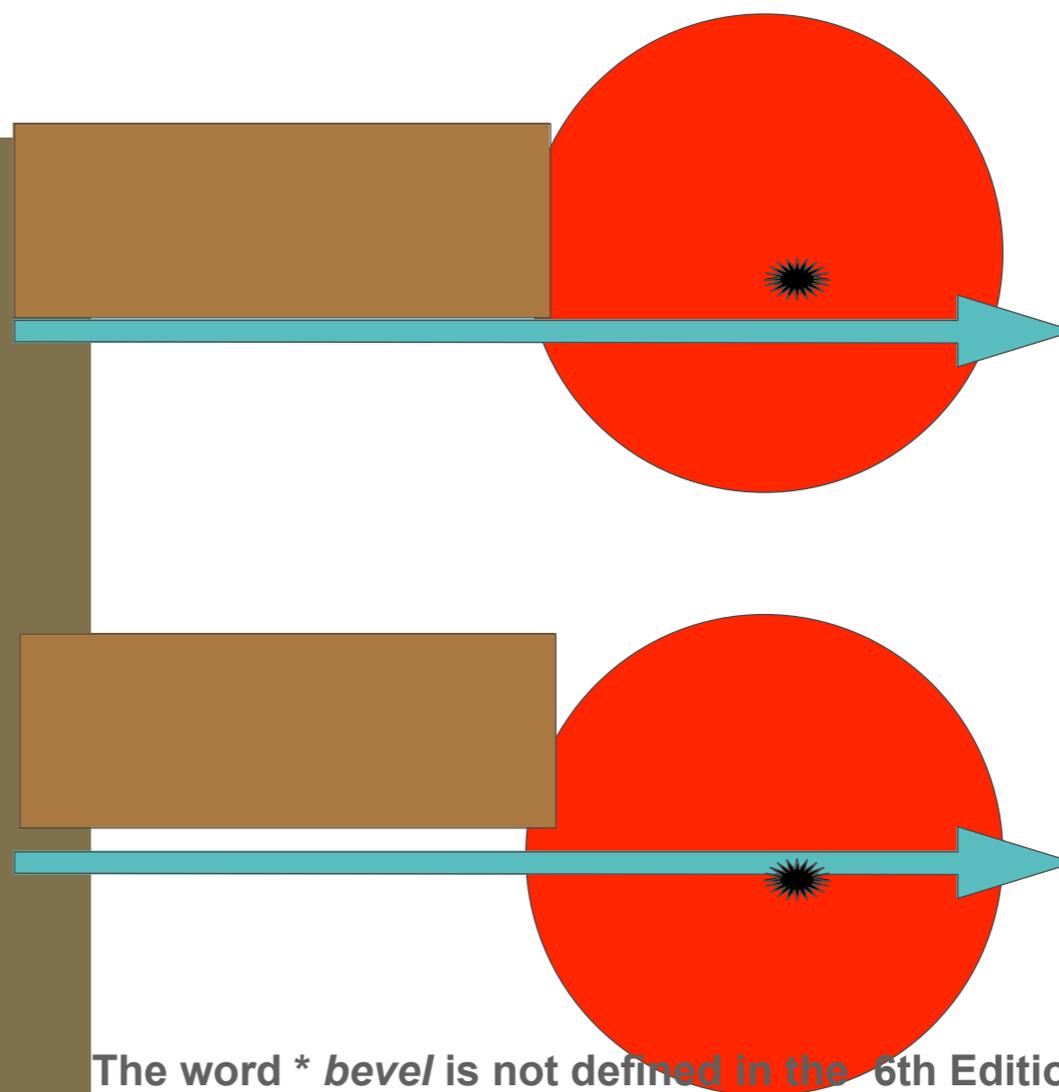
Bevel Faults

Video replay of a shot should look for the line drawn through the lower mallet edge, and then the dead centre of the ball (a star here). If the line goes BELOW the centre shown here the shot is clean, If as below, off centre a "bevel" fault.

<http://www.youtube.com/watch?v=jIhoff9g3F4>

The referee again needs to watch closely the alignment of the mallet at the time it contacts the ball. Should the ball be struck with anything BUT the MALLET face, a fault is declared.

The top diagram shows a shot in which the ball is contacted cleanly on the mallet face, although it may come into contact with the *bevelled* edge* as it slides or rolls off the edge of the mallet face after making the first contact.



The word * *bevel* is not defined in the 6th Edition (2003) Laws, rather the reference to striking clean with only the mallet face in made, by inference the edge, or bevel (hence italicised here), nevertheless is a fault.

Bevel Faults - what to observe

The evidence that the contact was with the face rather than the edge is provided by the fact that the projected side of the mallet head will “overlap” the centre of the ball (small black star).

In the bottom diagram the projected sides of the mallet will not overlap the centre of the ball, so the shot will be a bevelled edge fault. The direction in which the ball travels is a much less reliable guide.

The referee needs to watch for and imagine only the turquoise arrow to facilitate the explanation.

If the difference is as small as illustrated here, it will be almost impossible for the referee to judge whether or not, at the instant of contact, the ball centre was overlapped by the imagined extension of the mallet head. In videos of the type slow motion photography is usually possible to judge within a millimetre or two.

Slice (brush) strokes and hammer strokes are also prone to this bevel striking the ball first and referee's should become familiar judging them confidently. (see Chapter 3.6, brush (slice) strokes and Chapter 3.3 hammer strokes).

<http://www.youtube.com/watch?v=jlhoff9g3F4> Shot 1 crush - very close to bevel/maybe bevel

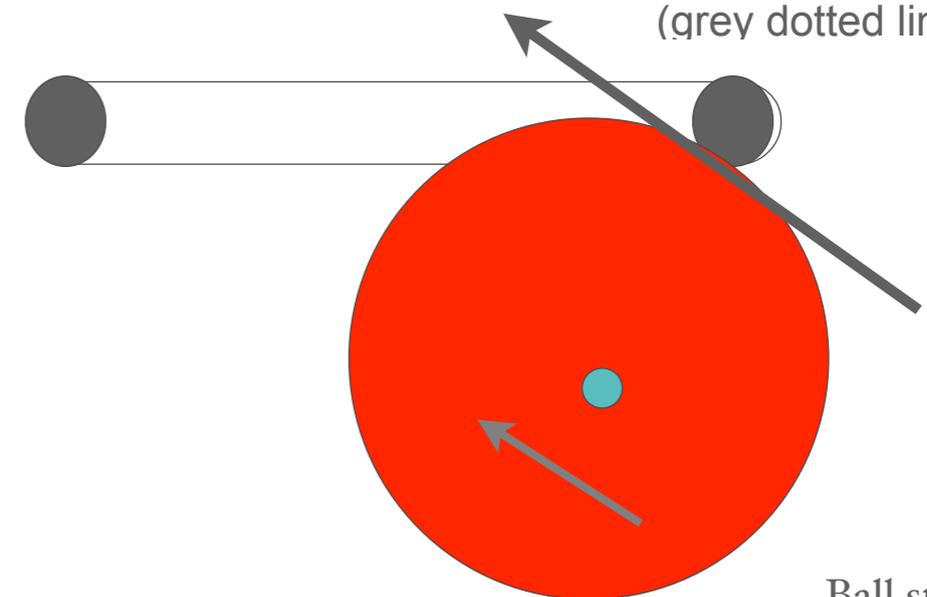
Shot 2 DT, far wire crush then bevel (Initial impact NOT bevel)

Shot 3 is very very close to a bevel - some refs would have called this stroke clean

Shot 4 Bevel fault, ball did not run hoop

Fig 2,5-1

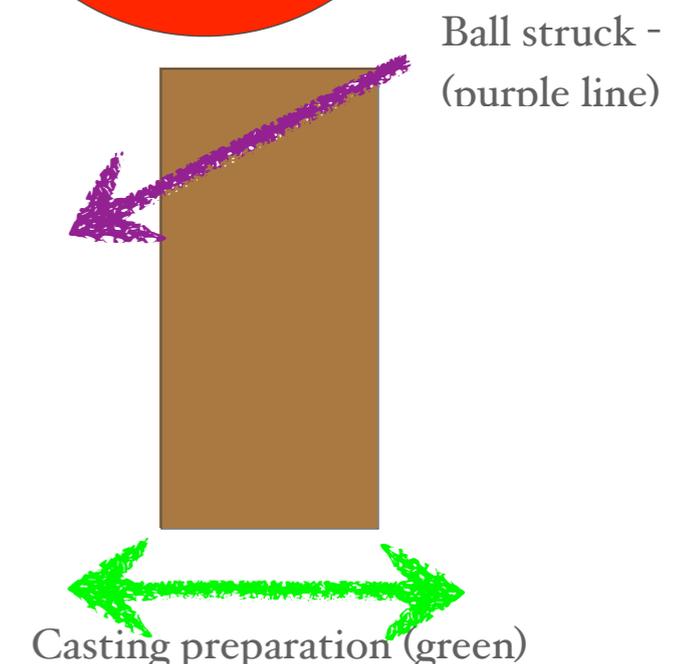
Mallet swung from Right to Left across the ball, to move away from hoop leg, but also to run the hoop, watching for a bevel face tap and Intended ball projection (grey dotted line)



Possible faults:

(Intention may be to play either direction)

- 1 Bevel
- 2 Crush
- 3 Ball may not get through the hoop



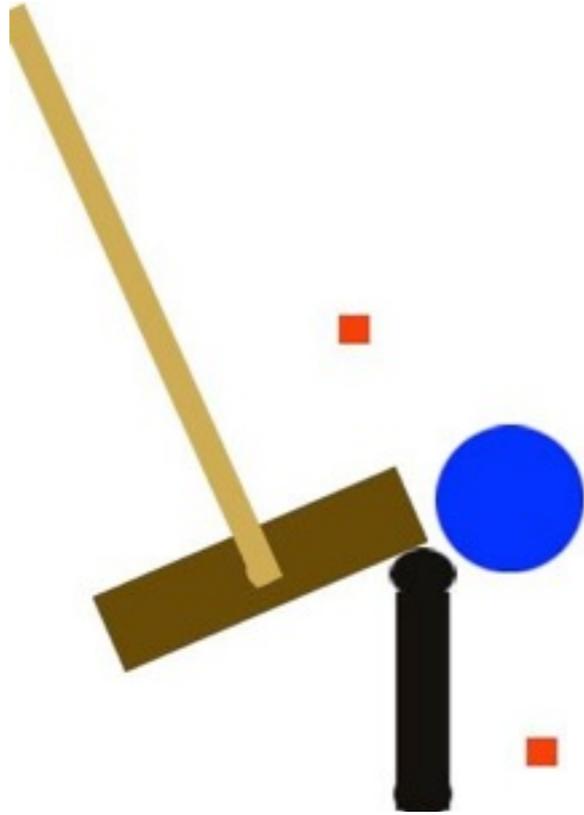
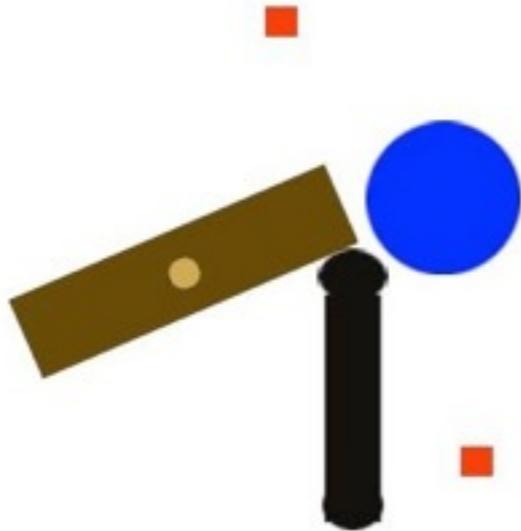


Fig 3.5-2
Side mallet, and below

Fig 3.5-3
Upright mallet stroke near the hoop leg.

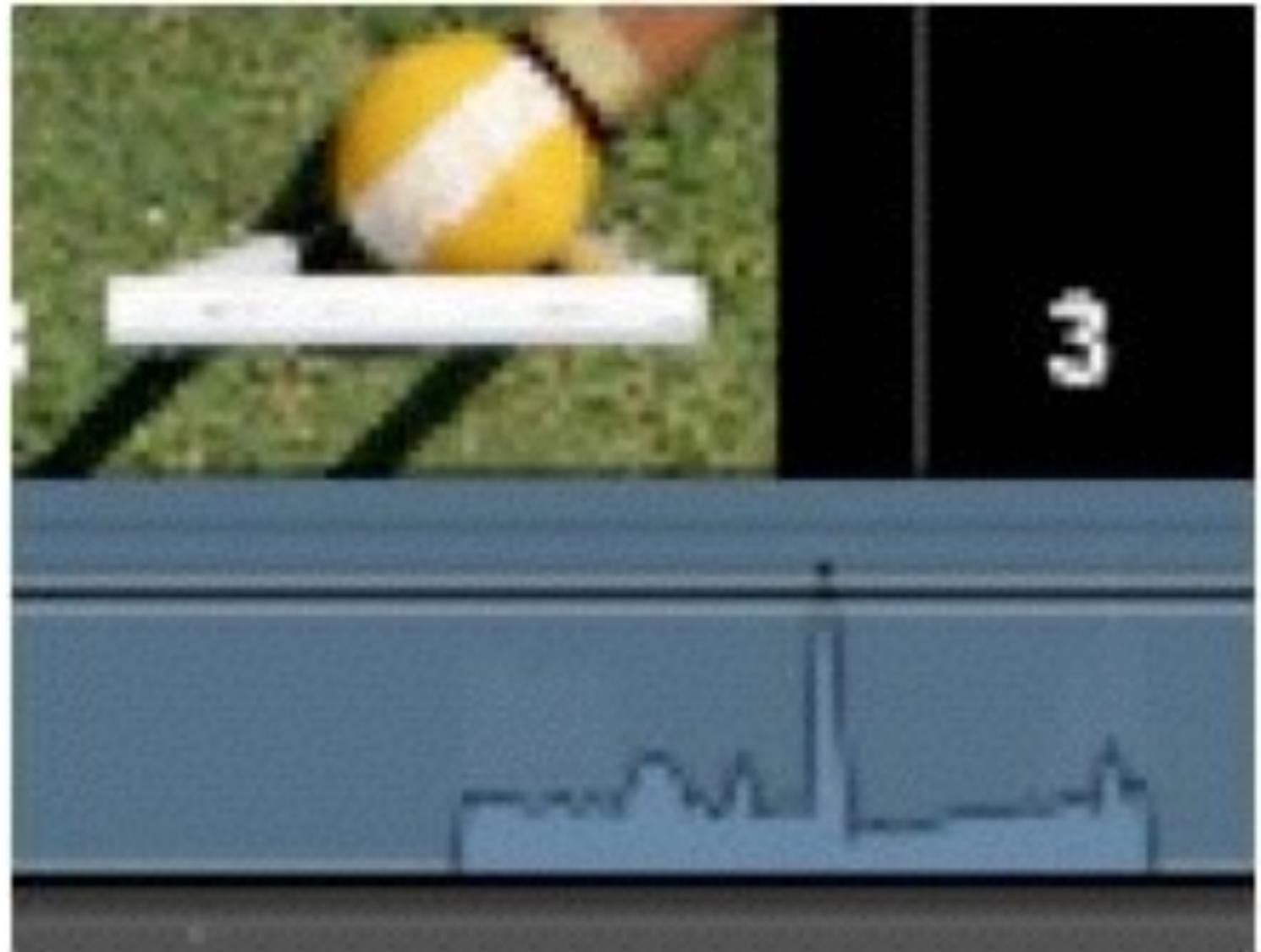


Brush and Slice Strokes

<https://www.youtube.com/watch?v=YkD7U2tRIDw>

Running the hoop from close up the ball displaced to the side may be attempted with a brush or side swipe shot. The mallet direction is from left to right or vice versa, the aim being to cleanly strike the mallet FACE (not bevel) across the ball projecting it forward and off the wire to run through the hoop and not crushing (another potential fault) against the near wire. This in the UK is also called a Bray stroke.

See examples: <http://www.youtube.com/watch?v=nsOe5X3HKdQ>



The important thing for the referee to watch is that at the instant a mallet contacts the ball, the side of the mallet head which is nearest to the hoop-leg the ball is touching must be aligned in a direction outside the 'V' between the ball and the hoop-leg. (i.e. side their common tangent which is shown by a purple line). Markers may be placed along this line, the referee watches where the mallet is lined up to sweep the ball.

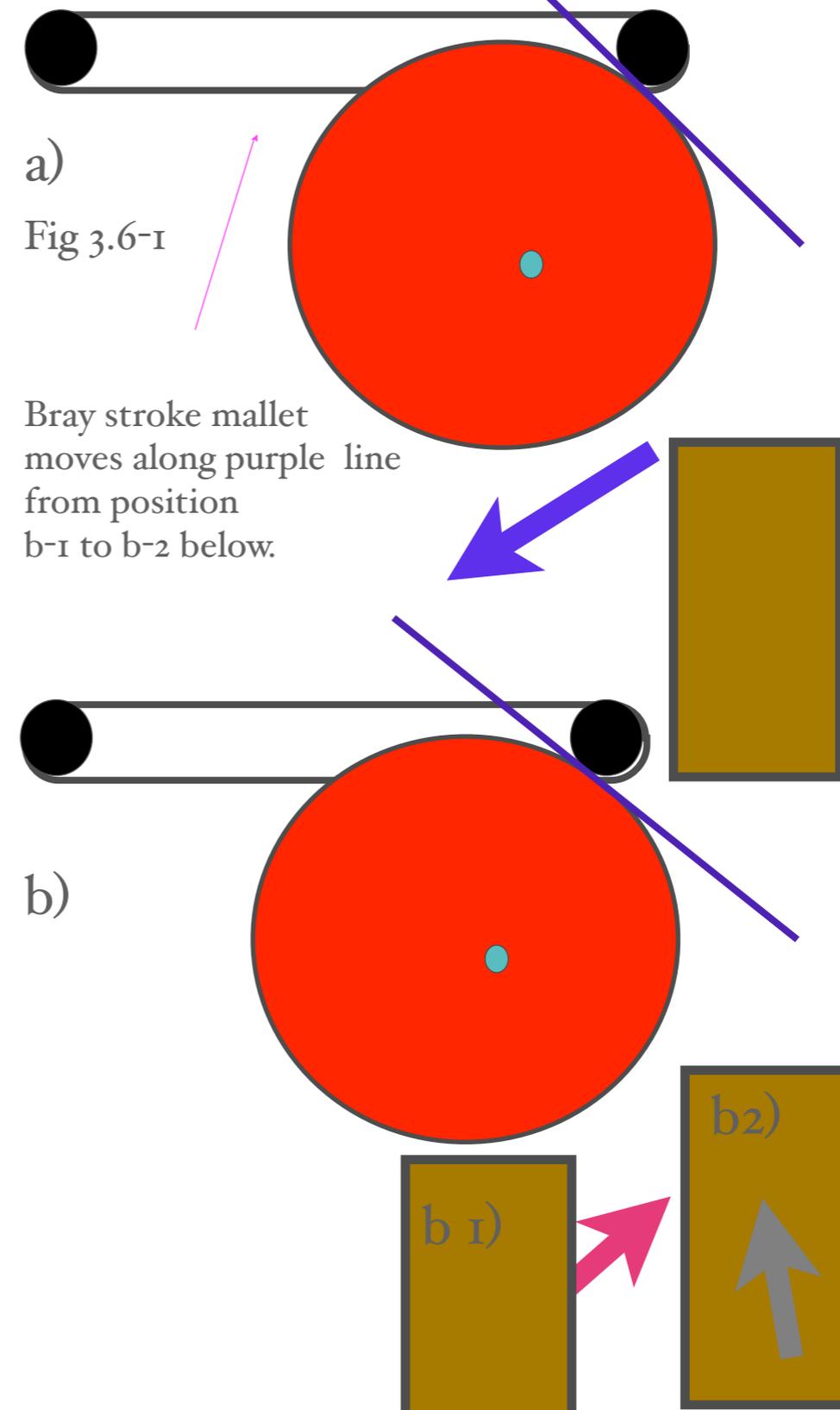
a) The mallet is aligned in a direction which is slightly inside the 'V', whereby the purple line makes an acute angle, the **stroke will be a fault because the ball is being hit into the hoop-leg** instead of away from the hoop leg, as the Laws require.

Furthermore in this case the sweep stroke with the mallet swung in the direction of the grey arrows will cause the ball to rotate clockwise as indicated. This rotation will tend to make the ball, when it hits the far hoop-leg, **pull back out** of the hoop instead of going through.

If the ball is in a critical position touching the hoop-leg and 50-60° around from a central position in the hoop so that the purple 'V' line above the hoop on the diagram makes an angle of 50-60° with the top of the hoop, the spin will make it very difficult to get the ball to go through the hoop.

It is very difficult to maintain the alignment of the mallet head during the swing in such a stroke. It can be lined up so that the mallet head is pointing outside the purple line red arrow, b1) toward b2), but as it is swung the striker tends to want to swing around a slight curve so that when it contacts the ball the mallet head is pointing inside the purple common tangent line as illustrated.

This seems to result from an unconscious desire to keep the mallet head pointing at the centre of the hoop, but the angle struck seems to make this difficult not to crush (b-1) against the wire!



The second diagram Figure b), but now b2) toward b1); illustrates a reverse brush stroke (see grey arrows) in which the ball will be caused to rotate anti-clockwise and “kick” through the hoop instead of bouncing out. This allows the mallet to be aligned outside the green line as shown, and there will be a tendency as it is swung to want to turn the mallet head slightly anti-clockwise, again in order to keep it pointing toward the centre of the hoop. In this case it means there is much less likelihood of the shot being a crush against the hoop leg, because the ball is being hit outside the green line.

Note that if the ball is not touching the hoop leg, or is placed so that more of it is within the jaws of the hoop, some of the above statements may no longer apply, and either sort of brush stroke, as well as a normal stroke, may enable the hoop to be legally made.

Referees may incorrectly assume the ball is being hit into the hoop-leg when this “reverse “ action is used, but feel naturally it is less commonly a crush in (a) the top diagram, because they go by the direction of the swing instead of the mallet alignment.

In summary mark the ball, the purple line (in your mind or physically mark that line as well), and ask the player how he/she intend to play the stroke.

Kroeger September 2013 U Tube series

<http://www.youtube.com/watch?v=nsOe5X3HKdQ>

SB	Real time sight	Slow motion	Ref Call	Comment 1	
1 Yellow (white band) and 4	Bevel	Bevel	Both are Faults	End of turn adversary's choice balls	
2 Blue (white band)	Clean	Probably Ok	Ball not through the hoop	End of turn	
3 Red (white band)	Clean	Clean	Play on	No fault seen or heard.	
4 Yellow	Scrape, bevel and scrape sounds	Scrape prolonged poor contact	Fault	Can replace balls	adversary decision
5 Yellow	Clean	Clean		Play On	

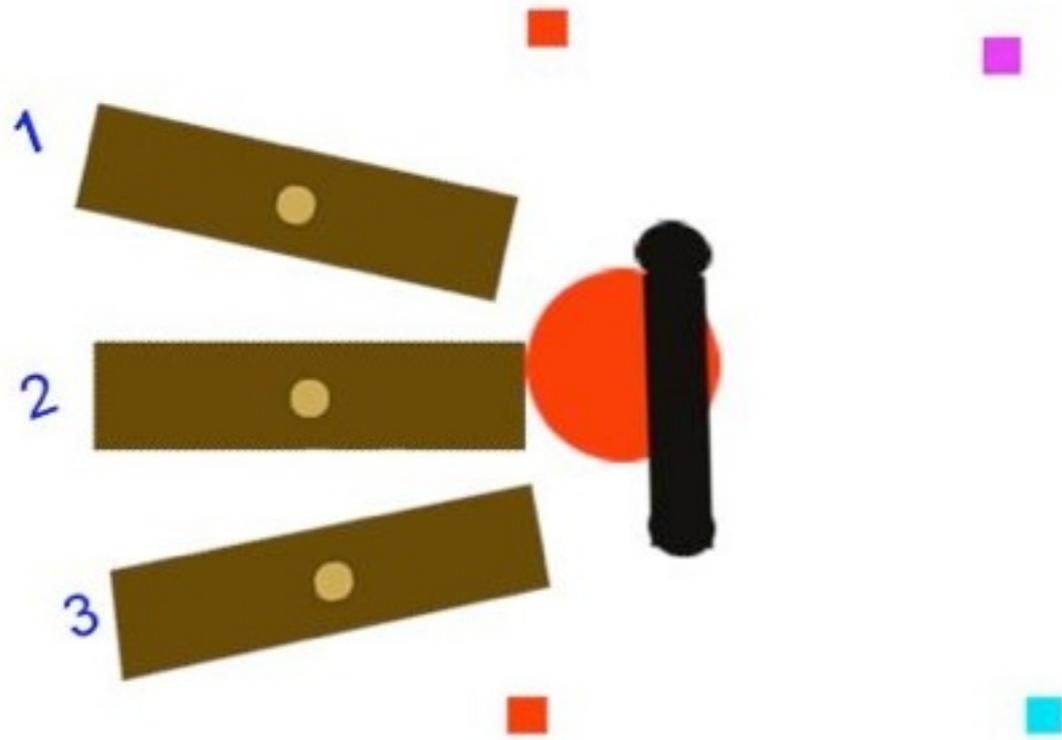


Fig 3.6-3

If the ball is struck as in 2, a crush would occur against the L Hoop leg.

Hence the mallet in the sweep stroke (Bray) tries to propel the ball away from the wire, through the hoop, by moving the mallet sideways through positions 1-2-to 3 illustrated above.

The possibility of a bevel fault is now revealed where the edge of the mallet face strikes the ball below the centre of the ball, before propelling it forward. Both the crush and bevel edge would be faults, the markers are in place to revert to the original ball position should the adversary request it.

2) http://www.youtube.com/watch?v=Fs_W5AWbhZM

Table comment on clip

also <http://www.youtube.com/watch?v=nsOe5X3HKdQ>

<http://www.youtube.com/watch?v=DC7k4zbmJGQ>

Hoop Running Strokes Pirie Poke & Hop

<https://www.youtube.com/watch?v=elHbdzKcmmE>

Hoop Running Strokes - Pirie Poke & Hop

These strokes attempt to run a hoop with the SB, when in very close proximity to dead ball (DB) which is blocking the intended hoop. The closer the balls are to each other the faster the mallet has to be withdrawn to avoid a double tap (DT) which is a fault.

A referee would mark both balls and judge the distance between them prior to the stroke.

Careful analysis would then determine, assuming the SB runs through the hoop, whether this is a clean attempt. It has been repeatedly shown that when the gap is <20mm, the chances of a DT are very high. Both the mallet sound induced and the static position of proximity suggests the chances of a fault. However, the final stroke is to be evaluated real time.

Referees must keep in mind Law 48(d)(4) Questionable Strokes - A fault under Law 28 is to be declared if a person watching the stroke under Law 48(d)(2), or the striker, believes it more likely than not that the law was infringed. (This is called a Policy Law in the ACA Referee Manual) See ORLC 48.7 which further adds in its final sentence: "Thus a striker can no longer get away with playing a stroke in such a manner that the referee is unable to determine for certain what went on; he can and should be faulted if the referee thought it likely that it was unlawful. Contrary to popular belief the striker is not given benefit of any doubt!

URL <https://www.youtube.com/watch?v=LbkF76XGMtc>

Stephen Mulliner (2013) shows three of these attempts at various distances, in slow motion

The Pirie Poke (PP) is an attempt to move a ball forwards through the hoop, when near or on the hoop leg. Back spin is generated by the mallet striking downwards and backwards, to spin the ball forwards. There are multiple possible faults that occur with this stroke. Also see;

<http://www.youtube.com/watch?v=MdLhOcq7IH0> (2013, Kroeger)

<http://www.youtube.com/watch?v=BTXZeQgmz68> (2013, Temlett)



B...

R.....

Y.....

Legend to the Pirie Poke shown and recorded here:

Three balls struck with the sound wave in blue strip (below the photographs) and the ball position before running the hoop above, (black, then red, finally yellow) showing the mallet face “scraping along the ball” with both a prolonged mallet-ball contact time, or a push forward along the back of the ball. This is where many DT also occur. The wire makes a much higher pitched sound not shown in these audio-grams.

Examples of two of 5 potential faults with this hoop approach stroke on the near wire (Pirie Poke):

1 If a crush on the near wire takes place the slow motion camera shows the hoop moving before the ball indents the grass (not shown here).

2 DT: Note the top sequence where a gap occurs, grass indents, and ball even changes shape. Then a gap opens (seen here as the background shoe or the white board behind striker) and closes again with the DT this time on the mallet bevel - top row blue ball.

3 Now if the mallet slides along the ball there is prolonged contact - second row - second rows.

4 If the ball hits the far wire, and the mallet bevel is still in contact a second crush zone exists (not shown here, but third row very close)

5 Finally the mallet frequently crashes into the grass, damaging the lawn - bottom row.



Mallet bevel 45 degrees, head slope 45 degrees, DT and Crust and lawn damage ALL shown

(c) JAT/JR played stroke, STCC.

Kroeger series PP's September 2013

<http://www.youtube.com/watch?v=MdLhOc97IH0>

SB	Sound	Slowmotion	Ref Call	Comment
1 Yellow	Clean	Clean		Play on striker.
2 Yellow	Clean	Clean		striker play on
3 Yellow	Bevel	Bevel strike Y ball	Fault	End of turn, adversary chooses ball placement
4 Yellow	Scrape, bevel and scrape sounds	Scrape prolonged poor contact	Fault	Can replace balls
5 Yellow	Clean	Clean		Play On

SB	Sound	Slow motion	Ref Call	Comment1	Comment 2
6 Yellow	Clean	Clean	Play on	Play on striker.	Hammes shot
7 Yellow	Clean	Clean		striker play on	Jump Stroke
8 Yellow	Clean	Clean	Play on		Side Hoop stroke
9 Yellow	DT sound	Seemed clean	Play on ref may have penalised	Can replace balls	Adversary decision
10 Yellow - Black	Clean	Clean		Play On	Two balls payed croquet troke

Example of the sound of a double tap. The picture shows the initial impact mallet on orange ball. Second sound is the ball away from the mallet on slo-motion replay (see gap in left picture, ball indented in the grass), and DT peak (middle picture, on the mallet face edge or *bevel* here), before the third peak where the ball having left the mallet. now strikes the hoop upright. with a clearly different sound. (not a crush below).. There was also some “lawn damage”.



Tracks 1 and 2 clean strokes from the series tabulated above



Starting positions of red ball stroke 1 and blue ball stroke 2 from Kroeger's "Ballymeade" (August 2013) series shown here.



Movie 12.1 Blue, Red and Yellow Clean shots? Mallet deliberately held at 30degrees to avoid DT.



(c) Bob Kroeger shot August 2013, Ballymead CC, USA with permission.

1) Three Hoop Shots (PP) Real Time
Only:

<http://www.youtube.com/watch?v=jadFBPJi-Gg>

Real Time and Slow Motion:

http://www.youtube.com/watch?v=QMM_0X2lwjY

2) Two Hoop Shots (Full Roll Technique)
Real Time Only:

<http://www.youtube.com/watch?v=QR3xrsLCWWI>

Real Time and Slow Motion:

http://www.youtube.com/watch?v=_zd0maCGBIQ

Jump Strokes

The jump stroke, whereby a ball is deliberately propelled into the ground, with the intent of making it spring up and spin through the hoop, has long been a desired croquet stroke in AC and indeed GC.

Is it legal, does it infringe the laws of the AC game?



Bob Kroeger series

<https://www.youtube.com/watch?v=HLOHLVCNinc>

and more courtesy CA and Ian Lines

<https://www.youtube.com/watch?v=sd4qWEz3alc>

Appendices

Appendix 1

The DVD Online Reference

Appendix 2

2.1 Laws of Faults

2.2 Laws of errors

Appendix 3

Easy method of remembering
various faults

Appendix 4

Cameras (slow motion, video and
streaming) techniques for as-
sistance to referees in Croquet





13th World Championships, Adelaide, Australia



Appendix 3

1 Wiring entitlements

<http://www.youtube.com/watch?v=4vDTi03DM8c>

2 Marking balls

<http://www.youtube.com/watch?v=n-Q2IOoHWtQ>

3 Faults

3.1 Hop Strokes

<http://www.youtube.com/watch?v=FZwli0SUbco>

3.2 Crush Strokes

<http://www.youtube.com/watch?v=wfMov2V0UTY>

3.3 Post=hoop hampered strokes

<https://www.youtube.com/watch?v=KSw7Lb3A53c>

3.4 Hammer strokes

<http://www.youtube.com/watch?v=Vlyrm4jVP6M>

3.5 Bevel edge strokes

<http://www.youtube.com/watch?v=f81-Q0NNyy8>

3.6 Brush (sweep, slice) strokes

<http://www.youtube.com/watch?v=YkD7U2tRIDw>

3.7 Pirie Poke strokes

<https://www.youtube.com/watch?v=eIHbdzKcmmE>

All these u Tube links are in HD (but reduced pixels) playable on your large TV screen



CAMERAS

List of some of the Cameras available , and used in these productions from 2013-4:

Suggestions as to filming best Croquet Strokes and recording ball sounds, real time and in slow motion:

List of Cameras and URL's to suppliers Video Cameras

Multiple small hand held cameras are available. Sony, Panasonic, Cannon, Samsung, etc all offer \$200-500 bargains. These days you want a 64GB SD or Xd, Ultra fast (more expensive) to download MUCH easier from Camera to Computer to publish on U Tube or Social Media Pages

Professional Video: Sony Model **HXR-NX5E** SX(HD) Video card: 34 0r 64GB (30 0r 60 mins HD video time URL: <http://www.videocraft.com.au/sony-nxcam-camera-with-18-200mm-servo-zoom-lens>

Slomotion Cameras *The Casio is light years ahead of anything available in 2014.*

Casio EX-F1 Model Exilim F1 Video Card HDD - SD or XD **Cost: US\$ 1000**

URL: <http://www.exilim.eu/euro/exilimhighspeed/exf1/>

Nikon: Model J1 **US\$ 400**

URL: <http://www.imaging-resource.com/PRODS/NIKONJ1/NIKONJ1A2.HTM>

Samsung US\$ 200 URL

http://www.samsung.com/us/support/supportOwnersHowToGuidePopup.do?howto_guide_seq=8917&prd_ia_cd=N0000112&map_seq=72690 Remember to always purchase a large viewfinder, shoot under shade over the viewfinder to see image, and choose speed that fits a full screen not a small letterbox. This alone is what separates these cameras from other cheaper versions.

Suggested Kroeger Referee Video Presentation (see pp Vii)

Presenting a series of three real time strokes INITIALLY allows a referees perspective and does at least three things. It shows where possible, the start of the balls near a hoop, then in real time plays this and gives some time to reflect. Replays the same segment allowing you to commit to memory, what you have adjudicated.

Then the final pearl is delivered, namely the slow motion video, repeated, and where possible I have dubbed and written in my impressions, which after all are only an opinion.

However, the video lab allows me to replay these segments in HD at 2000(to up to 20 000) fps, nearly 100x as fast as you are observing them in these slow motion pictures, and which while very accurate, would take far too long to be practically used everyday..

Regional Codes and Video formats:

The USA TV recorders play NTSC, the UK, South Africa and Australia play PAL (B) in fact. This is fine many recorders will play BOTH. A computer will also play both codes. However in case some have older video play-back facilities the accompanying DVD has been rendered in PAL or NTSC friendly format for best HD enjoyment. All segments are in 16:9 scale, however, we have been careful to employ “video safe” boundaries especially in their indexing to allow access to all chapters/ **Codecs**

Where possible H264 or Apple ProRes (422 linear, PCM timecode and MPG-3 Stereo Audio) Q Time rendering has been employes at 1920 x 1080 HD i 16:9 scale, and most segments are 1.7 to 2.5 GB, giving some 3-4 min of HD run time.

The DVD is auto-run, and will play a brief introduction and then after seconds revert to the main INDEX, to allow Chapter choice. If your video does not run, simply press MENU after inserting it, and the index will appear immediately. If still unsuccessful contact me at james2temlett@gmail.com

Technical Tricaster Recording, Commentaries and internet broadcasting
see Prof J Temlett, WCF Technical Report after the Adelaide World Championships, simply click on

Suggestions on how to video Croquet:

Volumes have been written on this subject and we claim no expertise. However, some points should be of use to any potential video cameramen(women).

- 1 Tripods are infinitely better than hand held video, even this with stabilisation technology.
- 2 The best height to video a game is 10-12 feet above the play, but >5 feet suffices.
- 3 Audio picks up ALL idle chat, and sometimes embarrassing comments made. Directional mic's, such as the Rode one mentioned reduce this, but must be placed well away from the public, at ground level neat the end of the lawn
- 4 SHOOT 15 min segments, which are MUCH easier to edit, and place on U Tube. Many of us have found 60 min of video can take 48hours to upload! Just 3-5 min HD video takes 6 hours, depending on your computer processor speed! And then after all the first 5-6 turns are exciting, the leave and then the final turn (SXP, tp, tpo etc) until pegout.

Hence editing relevant 15 min segments makes this MUCH easier. All you have to do is REMEMBER to switch back on the camera! Ask me, I've done it, you will too, and don't even talk of not backing up important games BEFORE you post on U Tube. Bitter experience again Im afraid.

5 It is great to have a live commentary. However FCPX and other software allows dubbing, added comments later and even if you fancy it, addition of music .

6 Finally you do NOT need to be a good cameraman, the best stuff was shot by amateurs, who had a little knowledge of the game, and were able to follow a relevant stroke and then ball. Zooming leaves this behind and is over-rated! Remember one can also digitally zoom after a game, but you cant UN-ZOOM and then try to include stuff the camera did not record, or the ball missed?

7 There are very expensive systems, like Tricaster by New Tech that allow online streaming. However this is not as important as actual recording of the games preferably with cameras at opposite ends of the lawn, static so as not to disturb players. This is also why I recommend tripods, rather than chasing the action. If you do use a bean bag or sit still and film from where you are seated.

Please video the games... this surely has to be one way of making Croquet more easily explained to encourage others to join.

Mac Robertson Shield (2014)

England's Stephen Mulliner, doing battle with an unexpected golden retriever, whom quite naturally for this breed of dog, retrieved his yellow ball during play.

This is just another example of why we really need cameras and camera(wo)men>



The famous Mac Robertson Shield,
The ultimate croquet contest

See; <http://sportsground.co.nz/macrob2014/102597/1>

APPENDIX 3.1

Law 28. FAULTS

- a. **DEFINITIONS** Subject to Law [28\(d\)](#), a fault is committed if, during the striking period, striker:
- touches the head of the mallet with his hand, or slides the mallet along his foot or leg to guide it;
 - rests the shaft of the mallet or a hand or arm on the ground or an outside agency;
 - rests the shaft of the mallet or a hand or arm directly connected with the stroke against any part of his legs or feet;
 - moves the striker's ball other than by striking it with the mallet audibly and distinctly;
 - causes or attempts to cause the mallet to strike the striker's ball by kicking, hitting, dropping or throwing the mallet;
 - strikes the striker's ball with any part of the mallet other than an end face of the head, either:
 - A. deliberately; or
 - B. accidentally in a stroke which requires special care because of the proximity of a hoop or the peg or another ball;
 - C. in a croquet stroke, or continuation stroke when the striker's ball is touching another ball, allows the mallet to contact the striker's ball visibly more than once; or
 - D. in any other stroke, allows the mallet to contact the striker's ball more than once; or
 - E. in any stroke, allows the mallet to remain in contact with the striker's ball for an observable period;
 - allows the mallet to be in contact with the striker's ball after the striker's ball has hit another ball;
 - strikes the striker's ball so as to cause it to touch a hoop upright or, unless the striker's ball is pegged out in the stroke, the peg when in contact with the mallet;
 - strikes the striker's ball when it lies in contact with a hoop upright or, unless the striker's ball is pegged out in the stroke, the peg otherwise than in a direction away therefrom;
 - moves or shakes a ball at rest by hitting a hoop or the peg with the mallet or with any part of his body or clothes;
 - touches any ball, other than the striker's ball, with the mallet;
 - touches any ball with any part of his body or clothes;
 - in a croquet stroke, plays away from or fails to move or shake the croqueted ball;
 - A. his swing is restricted by a hoop, or the peg, or a ball not in contact with the striker's ball; or
 - B. he is attempting to make the striker's ball jump; or
 - C. the striker's ball is part of a group.
- b. **REMEDIES**
1. If the striker commits a fault and the error is discovered before two further strokes of the striker's turn, any points scored in either the first or second stroke in error are cancelled and the turn ends.
 2. The striker must ask the adversary whether he wishes the fault to be rectified. If the adversary elects rectification, the balls are replaced in accordance with Law [22\(d\)](#). Otherwise the balls remain or are replaced in the positions they occupied after the first stroke in error (but see Law [37\(h\)](#) for handicap play).
- c. **SPECIFIED TERMS**
1. Clothes include everything being worn or carried by the striker at the start of the stroke, other than his mallet, and are treated as part of the striker's body.
- d. **EXEMPTIONS**
- Contact between the mallet and the striker's ball is not a fault under Laws [28\(a\)\(7\)](#) or [\(8\)](#) if it occurs after the striker's ball:
 - A. makes a roquet; or
 - B. scores the peg point; or
 - C. hits a ball pegged out in the stroke.However, exemption (A) does not apply if the striker's ball has hit another object after making the roquet.
 - A fault is not committed under Laws [28\(a\)\(1-3\)](#) if the touching, resting or sliding occurs after the striker has completed the swing in which he played the stroke.

a. REMEDIES

1. If the striker commits a fault and the error is discovered before two further strokes of the striker's turn, any points scored in either the first or second stroke in error are cancelled and the turn ends.
2. The striker must ask the adversary whether he wishes the fault to be rectified. If the adversary elects rectification, the balls are replaced in accordance with Law [22\(d\)](#). Otherwise the balls remain or are replaced in the positions they occupied after the first stroke in error (but see Law [37\(h\)](#) for handicap play).

b. SPECIFIED TERMS

1. Clothes include everything being worn or carried by the striker at the start of the stroke, other than his mallet, and are treated as part of the striker's body.

c. EXEMPTIONS

- Contact between the mallet and the striker's ball is not a fault under Laws [28\(a\)\(7\)](#) or [\(8\)](#) if it occurs after the striker's ball:
 - A. makes a roquet; or
 - B. scores the peg point; or
 - C. hits a ball pegged out in the stroke.
However, exemption (A) does not apply if the striker's ball has hit another object after making the roquet.
- A fault is not committed under Laws [28\(a\)\(1-3\)](#) if the touching, resting or sliding occurs after the striker has completed the swing in which he played the stroke.

(This is a colour coded quick mental way of remembering the type of striking faults listed as in the Laws in Appendix 1) Striking faults. A striking fault occurs when, during the striking period, when the striker

Mallet faults:

28.f.1 touches the head of the mallet with his hand or slides the mallet along his foot or leg to guide it; or

28.f.2 rests the shaft of the mallet or a hand or arm on the ground or an outside agency; or

28.f.3 rests the shaft of the mallet or a hand or arm directly connected with the stroke against any part of his legs or feet; or

28.f.4 moves the ball struck other than by striking it with the mallet audibly and distinctly; or

28.f.5 causes or attempts to cause the mallet to strike the ball by kicking, hitting, dropping or throwing the mallet; or 28.f.6 strikes the ball with any part of the mallet other than an end face of the head, either deliberately or accidentally in a stroke which requires special care because of the proximity of a hoop or the peg or an-other ball; or 28.f.13 touches any other ball, other than the ball struck, with the mallet; or

Stroke faults:

28.f.7 in a stroke when the striker's ball is in contact with another ball [as in a croquet stroke (later de-fined)], allows the mallet to contact the striker's ball visibly more than once; or

28.f.8 in a stroke other than that of 6.f.7 allows the mallet to contact the striker's ball more than once; or

28.f.9 maintains contact between the mallet and striker's ball for an observable period; or

28.f.10 strikes the ball more than once in the same stroke or allows it to retouch the mallet except in the following circumstances, :after the ball struck has collided with a live ball or with the peg when, in the latter case, the striker's ball was for the peg; or

Hoop faults; 28.f.11 strikes the ball when it lies in contact with a hoop upright in a direction that is not away from the hoop; or

Ball faults:

28.f.12 moves or shakes a ball at rest by hitting a hoop or the peg with the mallet or with any part of his body or clothes; or

Law 22: GENERAL PRINCIPLES

a. DEFINITIONS

1. Errors are mistakes in play which are dealt with under Laws 25 to 28 (but see Law 39(a) for restoration of bisques in handicap play).
2. Strokes in error include the stroke in which an error is committed and any subsequent stroke played before the earlier of the discovery of the error or the limit of claims.
3. An error is said to be discovered when the striker announces it or the adversary forestalls play in respect of it. References to discovery before a stroke mean before the stroke is played.

b. DELIBERATE ERRORS A player must not deliberately commit an error.

c. **STRIKER MUST DECLARE** The striker must immediately declare any error he commits or suspects he may have committed and cease play until the matter is resolved.

d. RECTIFICATION

1. An error is rectified by canceling all points scored for any ball in any stroke in error and replacing the balls in their lawful positions at the start of the first stroke in error. If a ball could have occupied more than one lawful position at that time, it may be replaced in any such position as the striker chooses. However, if a ball is placed following rectification of a fault, it must be replaced in the position it occupied before the stroke was played.

2. If the striker's turn continues after rectification, each ball is then live if and only if it was live at the start of the first stroke in error.

e. **LIMIT OF CLAIMS** The limit of claims is the end of the period within which an error must be discovered if it is to be rectified. If the end of a turn prevents a limit of claims being reached, the limit becomes the first stroke of the next turn. The ultimate limit of claims is the end of the game. Strokes in error are counted when determining whether the limit of claims of any other error has passed.

f. AFTER LIMIT OF CLAIMS

1. Subject to Laws 22(f)(2) and 40(d) (doubles play), if an error is verified, the balls are not replaced and all points in order scored for any ball in any stroke in error are counted.

2. No peg point may be scored by the striker for any ball when playing a wrong ball. Any peg point apparently so scored must be cancelled if discovered at any time before the end of the game and Law 30 applies.

g. **ERRORS AND INTERFERENCES** If an interference under Laws 30 to 35 is discovered within the limit of claims of an earlier error, the error is dealt with first

PART 2 continued

ORDINARY SINGLES PLAY

Law 24

COMPOUND ERRORS

a. GENERAL

Subject to Law [24\(b\)](#), if the striker commits:

1. more than one error in the same stroke, it is deemed that only the first of the applicable laws in Laws [25](#) to [28](#) applies; or
2. one or more errors before the limit of claims of an earlier error, only the law applicable to the earlier error applies

b. ERROR DISCOVERED AFTER THE LIMIT OF CLAIMS

An error which is discovered after its limit of claims shall not be considered a component of a compound error.

Law 25. PLAYING WHEN NOT ENTITLED

a. GENERAL If a player plays one or more strokes when not entitled to do so and the error is discovered before the limit of claims:

1. any points scored in the first such stroke and any subsequent strokes played by the offending side are cancelled;
2. any balls moved by those strokes are replaced, unless they have subsequently been moved by strokes which the non-offending side was entitled to play;
3. the side entitled to play then plays.

b. LIMIT OF CLAIMS The limit of claims is the first stroke of the next turn to be started by the non-offending side.

Law 26. PLAYING A WRONG BALL

a. GENERAL

1. Subject to Law [26\(c\)](#), if the striker plays a wrong ball and the error is discovered before the first stroke of the next turn (but see Law [37\(c\)\(3\)](#) for handicap play) to be started by playing a correct ball, the error is rectified and the turn ends.
2. If the error is rectified and was committed in the first stroke of one of the first four turns of the game, the correct ball is placed on any unoccupied point on either baulk-line as the striker chooses. **That ball becomes a ball in play and the turn ends.**
3. **A ball wrongly played into the game becomes a ball in play only if the error is not rectified.**

b. PLAYER UNABLE TO PLAY CORRECT BALL The game is restarted if the player of the fourth turn of the game discovers, either before or after he plays a stroke, that both his balls have been played into the game in the first two turns of the game.

c. EXCHANGE OF COLOURS If it is discovered after the first stroke of the fifth turn of the game that both players have played a wrong ball in the first stroke of every earlier turn of the game, the choice of balls under Law [8\(a\)](#) is reversed and play is deemed to have proceeded from the start of the game accordingly.

a. GENERAL

1. Between strokes, any misplaced balls must be placed in a lawful position, at the striker's choice if more than one is available. Subject to Law [23\(b\)](#), if the adversary observes that the striker is about to play a stroke when any ball is misplaced, he must forestall play.
2. If a stroke is played with a ball misplaced, the first of the relevant Laws [27\(d\)](#) to [27\(i\)](#) applies.
3. A misplaced ball remains so until it is placed in a lawful position or moved by a stroke.

b. MINOR MISPLACEMENT

c.

d. For the purposes of these Laws:

1. a ball is deemed to be in contact with another ball when a stroke is played even if it is physically not in contact at that time if, in preparation for the stroke, the striker attempted finally to place, adjust or leave the balls in contact; and
2. a ball is deemed not to be in contact with another ball when a stroke is played even if it is physically in contact at that time if, in preparation for the stroke, the striker attempted finally to place, adjust or leave the balls out of contact.

e. PURPORTING TO TAKE CROQUET

1. Subject to Law [27\(c\)\(2\)](#), the striker purports to take croquet if:
 - A. he plays a stroke after finally placing or adjusting one or more balls so that the striker's ball is in contact with a ball from which it may not lawfully take croquet; or
 - B. being required to take croquet, he plays a stroke after leaving the striker's ball in contact with a ball from which it may not lawfully take croquet.
2. Temporarily removing and replacing a ball under Law [3\(c\)\(2\)](#) or replacing a ball after interference under Laws [33](#) or [34](#) does not of itself constitute placing or adjusting it.
3. Purporting to take croquet from a live ball has the same consequences as taking croquet from that ball, except that Law [27\(e\)](#) applies.

f. PURPORTING TO TAKE CROQUET FROM DEAD BALL

If the striker purports to take croquet from a dead ball and the error is discovered before the first stroke of the adversary's next turn, the error is rectified and the turn ends.

g. PURPORTING TO TAKE CROQUET FROM LIVE BALL If the striker purports to take croquet from a live ball and the error is discovered before two further strokes of that turn, the error is rectified. The striker remains entitled to play unless his turn ended under Law [4\(d\)](#) during a stroke in error. **h. FAILING TO TAKE CROQUET WHEN REQUIRED TO DO SO** If the striker, being required to take croquet, plays a stroke in which he neither takes croquet nor purports to do so and the error is discovered before two further strokes of that turn, the error is rectified. The striker remains entitled to play unless his turn ended under Law [4\(d\)](#) during a stroke in error. **i.**

FAILING TO PLAY A BALL FROM BAULK

1. If the striker, being required to play a ball from a baulk-line in accordance with Laws [8\(b\)](#) (start of game) or [13](#) (wiring lift) (or Law [36](#) (optional lift in advanced play)), plays a stroke from a position materially other than a point on a baulk-line and the error is discovered before the third stroke of the striker's turn, the error is rectified. The striker restarts his turn with the same ball unless it ended under Law [4\(d\)](#) during a stroke in error. **j.**

LIFTING A BALL WHEN NOT ENTITLED TO DO SO

1. If the striker, having lifted either of his balls at the start of a turn when not entitled to do so, plays a stroke with it misplaced and the error is discovered before the third stroke of the striker's turn, the error is rectified. The striker restarts his turn with either ball of his side unless it ended under Law [4\(d\)](#) during a stroke in error.

k. OTHER CASES

In all other cases, the stroke is lawful unless other errors or interferences have occurred.

Appendices

1. Cameras to purchase
2. Laws of Faults
3. Aid to remembering faults
4. The Refereeing Video DVD Online

Related Glossary Terms

Drag related terms here

Index

Find Term

Ball marking

Markers and accurate alignment

Related Glossary Terms

Drag related terms here

Index

Find Term

Bevel edge strokes

Anything OTHER than the mallet face is the edge or *bevel edge* of the mallet, and would constitute a fault

Related Glossary Terms

Drag related terms here

Index

Find Term

Brush strokes

Bray or brush strokes attempt to sweep the ball forward through a hoop, mallet being driven sideways.

Related Glossary Terms

Index

Find Term

Crush strokes

Simultaneously contact between mallet, ball and a hoop or peg.

Related Glossary Terms

Index

Find Term

Double taps

Ball leaving mallet, is forced back onto the mallet face from the ground or when contacting another ball or obstruction (peg or hoop)

Related Glossary Terms

Drag related terms here

Index

Find Term

Dynamic strokes

Stroke from when the mallet swings toward the ball (SB) until the balls come to rest

Related Glossary Terms

Drag related terms here

Index

Find Term

Errors

Errors declared are to replace balls back to the point of error, striker to do this and turn ends. Faults have adversary choice (see faults) but NOT in an error of the game.

Related Glossary Terms

Drag related terms here

Index

Find Term

Faults

Appendix 1 (and 2), show the potential faults in the playing of a stroke. This allows the adversary or opponent(s) to choose the ball where the fault occurred replaced by a referee (who should have MARKED all balls affected), or to leave the balls where they stop after the fault which ends the strikers turn.

Related Glossary Terms

Drag related terms here

Index

Find Term

Glossary TERMS

Index of terms used in this manual, and a brief explanation to infer meaning of the terms used.

Related Glossary Terms

Drag related terms here

Index

Find Term

Hammer strokes

The hitting downward on a ball propelling the ball into the ground. Jumps BEFORE a hoop are legal, in the post hoop impaired position may DT and fault.

Related Glossary Terms

Drag related terms here

Index

Find Term

Hoop and Roquet decisions

A ball (SB) is to be played against another ball (CB), which may be dead or alive and has consequences. There are “special” considerations in running rover hoops. Peeling and roquet may or may not have been made in the execution of these strokes around the rover hoop.

Related Glossary Terms

Drag related terms here

Index

Find Term

Hoop impaired strokes

Ball comes to rest near the hoop, another ball or peg in such a way that a fault may be committed in the dynamic phase of a stroke

Related Glossary Terms

Drag related terms here

Index

Find Term

Jump strokes

Legal hoop approach stroke to propel a ball through a hoop above the ground plane.

Related Glossary Terms

Drag related terms here

Index

Find Term

Pass roles

The contact of a mallet sloped to strike a ball (SB) against another ball (CB) in the execution of a croquet stroke. Prolonged contact or pushing balls may occur and could be declared a fault by a player or referee. Generally this is condoned in Croquet (although frowned upon by some), and does NOT constitute a DT, even if the balls accidentally part as the balls are being struck.

Related Glossary Terms

Drag related terms here

Index

Find Term

Pirie Pokes

The attempt to run a hoop against or very near a hoop leg, striking the SB backwards or sideways to propel it forward through the hoop and at the same time try to prevent a DT, other than mallet face (bevel edge) or crush fault.

Related Glossary Terms

Drag related terms here

Index

Find Term

Pushed mallet

When there is prolonged time where the mallet face contacts a ball, “shepherding” or pushing the ball forward towards an objective.

Related Glossary Terms

Drag related terms here

Index

Find Term

Static strokes

The position of the balls (SB and CB) before a stroke is played. Hoop and roquet calls about rover for example require careful marking and repositioning if a fault.

Related Glossary Terms

Drag related terms here

Index

Find Term

Swipes strokes

See Bray strokes.

Related Glossary Terms

Drag related terms here

Index

Find Term

Video technical report

Professor James Temlett supplied a technical report to the WCF in 2012 where the possibility of video streaming LIVE and on HD format tape is possible if fast enough band width from ISP is available.

Related Glossary Terms

Drag related terms here

Index

Find Term

Wiring lifts

The assessment of whether a ball in question can be struck to hit BOTH sides of another ball possibly obstructed by a hoop, peg but NOT by another ball in the game.

Related Glossary Terms

Drag related terms here

Index

Find Term