



Golf Croquet Refereeing Manual 2015

Effective April, 2015

Golf Croquet Refereeing Manual

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Section A – General

Section A1

PREFACE

The Golf Croquet Refereeing Manual, 2015, is endorsed by the Australian Croquet Association (ACA) and is recommended for use as a guide for ACA Golf Croquet Referees. Much of the material in the Manual is also of benefit to Players.

The first *ACA Golf Croquet Referees Manual* was compiled by the then ACA NDRAC, Owen Edwards (Ivanhoe Park CC and Kew CC, both in Victoria) in 2003 and was revised by him in 2008.

The 2015 Manual complies with the 2013 edition of the WCF GC Rules adopted by ACA on the 26 November 2013, effective 1 January 2014.

Section B1 - Hoop Gauges - includes the introduction of the new acrylic Wedge Gauge.

Section B7 – the detection of “double tap” faults has been extensively rewritten to incorporate information collected from further on court tests, slow motion videos of numerous strokes played when two balls are in close proximity to each other, and other investigations

A new section on health and safety issues - Section B18 has been included.

Section C1 was edited to bring the job descriptions of GCRs and the National GCR Committees in keeping with the 2014 editions of the ACA Handbook and the Australian Tournament Regulations.

Section C3 embraces the WCF Referee Regulations which have been adopted by ACA – ACA Refereeing Regulations and the Australian Tournament Regulations in relation to GCR duties and powers.

Section D1 - Refresher Courses has been expanded to offer more assistance to those who conduct GCR refresher courses.

Otherwise the revisions have mostly resulted in attention to Sections where it was thought the material required updating, relocating, rewording and eliminating duplication

New pages reflecting ACA policy changes, the GC Rules, and changes in refereeing practices as approved by the NDRGC will be issued as required on dated replacement pages as required.

The State Directors of Refereeing remain responsible for the implementation of the ACA GC Refereeing System in their State and for ensuring that Officials have copies of this Manual.

GORDON MATTHEWS
National Director Refereeing Golf Croquet

GLOSSARY OF ABBREVIATIONS

The following abbreviations are used throughout this Manual.

AC	Association Croquet
ACA	Australian Croquet Association Inc.
AR	Active Referee
CA	Critical Angle
GC	Golf Croquet
GCR	Golf Croquet Referee
CP	Contact Point
IAR	Inactive Referee
LOC	Line of Centres
LOS	Line of Stroke
NDR	National Director of Refereeing
OB	Other Ball
OR	WCF Official Rulings
RiC	Referee in Charge
RoA	Referee on Appeal
RoC	Referee on Call
RoR	Referee on Request
Rules	<i>ACA The Rules of Golf Croquet</i> , November, 2013 Edition
SB	Striker's Ball
SDR	State Director of Refereeing
SuR	Supervising Referee
TA	Tangential Angle
TM	Tournament Manager
TP	Tangential Point
TR	Tournament Referee
TRegs	Australian Tournament Regulations
VM	Venue Manager
WCF	World Croquet Federation

OPERATIONAL PROCEDURES

This Manual is mainly for the guidance of Golf Croquet referees in carrying out their duties as officials at Golf Croquet events whether they be ACA, State, Regional or Club controlled. It also has sections offering guidance for conducting or participating in training sessions.

Officials conducting workshops and accreditation courses are encouraged to make this document available to participants.

Suggested changes to the *Golf Croquet Refereeing Manual* can be made by referees presenting written submissions to their SDR, who will forward them to the NDRGC, who will circulate the submissions together with any comments to all other SDRs. If a majority of SDRs agree, the changes will be submitted for approval, adoption and distribution by the ACA Board.

Any time the Manual is altered a new page(s) will be issued showing the page number, the date the alteration became effective, the number(s) of the superseded page(s) and a brief reason for the reissue.

Below is an example of how a notification might appear.

Date	1 April, 2015
Supersedes	Page 26 - <i>Golf Croquet Refereeing Manual</i> 2015
Issued By	NDRGC
Reason	New policy to conform with TRegs

At other times, persons who are authorised to submit pages for issue or reissue in this Manual via the NDRGC are:

NDRGC	For changes in refereeing procedure and techniques
ACA Chair	For policy issues
Chair, Tournament Committee	For interpretations of TRegs
Australian Representative on the WCF Golf Croquet Rules Committee	For rule changes, explanation of the Rules and Official Rulings

Submissions for changes to the Rules of Golf Croquet are to be made via the Australian Representative on the WCF Golf Croquet Rules Committee.

Submissions may be forwarded directly to the Australian Representative, through a State Rules Committee, a State Director of Golf Croquet or SDR.

Section B – Technical and Practical Techniques and Considerations

Section B1

HOOP SETTINGS, GAUGES AND REFEREE EQUIPMENT

1.1 Hoop Settings:

TReg 15.6.1.2 specifies for level play in GC the distance between the hoop uprights is set at $3\frac{11}{16}$ inches with zero upward tolerance and downward allowance of $\frac{1}{32}$ inch. For handicap events the regulations specify a distance between the hoops to be $3\frac{3}{4}$ inches with zero upward tolerance and downward allowance of $\frac{1}{32}$ inch. TReg 15.6.2 specifies the hoops are to be set at a height of 12 inches above the ground with zero upward allowance and a downward allowance of 1 inch. The uprights above the ground are to be of uniform diameter between $\frac{5}{8}$ inch and $\frac{3}{4}$ inch. This means that the top of the hoop carrots may not protrude above the court surface.

In all cases the measurement of the distance between the hoop uprights is to be made at half ball height from the surface of the court.

The Management Committees of non-ACA events may decide on different hoop setting specifications.

For all tournaments details of the hoop setting specifications should be published in the Conditions of Play for the event.

For social club play setting the distance between the hoop uprights at $3\frac{3}{4}$ inch $+\frac{1}{32}$ inch (i.e. between $3\frac{23}{32}$ inch and $3\frac{25}{32}$ inch) is acceptable.

For WCF events hoops are commonly set with the space between the uprights being equal to the diameter of the largest ball in use on each court plus $\frac{1}{32}$ inch. The ball with the largest diameter can be determined by using a ball gauge depicted on page 10.

ACA, for its events, requires that the distance between the hoop uprights is correct and not stipulate how this is to be achieved. Although the ACA logo or the letters ACA appear on some gauges there is no “official” ACA Hoop Setting Gauge nor does ACA recommend any particular gauge be used. The settings for ACA events is the responsibility of the Tournament Committee and for non-ACA events the Tournament Management’s responsibility. Prior to commencement of play it is essential that the TR and Authorised Referees know the specified settings.

As well the TR is responsible to ensure that the hoops are correctly positioned on all courts. The TR is to attend to, or delegate this duty prior to the commencement of play each day.

1.2 Commonly Used Gauges:

1.2.1 Wedge Gauge



The Wedge Gauge is an acrylic gauge weighing approximately 50 grams, which is much lighter than a brass gauge, and can be used when setting hoops to all of the specifications set down in the TRegs for both level play and handicap play at all levels of GC competition.

For WCF events hoop widths will be generally set at the diameter of the largest ball on the court + $\frac{1}{32}$ inch.

Using the normal diameter of a ball, which is $3\frac{5}{8}$ inches, each marking on the gauge represents a hoop width of ball diameter of $3\frac{5}{8}$ inches diameter plus the dimension of the mark. For example the + $\frac{1}{32}$ inches setting results in a hoop width of $3\frac{5}{8}$ inches + $\frac{1}{32}$ inches, the + $\frac{5}{32}$ inches setting results in a hoop width of $3\frac{5}{8}$ inches + $\frac{5}{32}$ inches and so on for the other three marks in between.

When setting hoops using a Wedge Gauge the top 3 markings indicate the following hoop widths,

$$+\frac{1}{32} \text{ inch} = 3\frac{11}{16} \text{ inches} - \frac{1}{32} \text{ inch}$$

$$+\frac{1}{16} \text{ inch} = 3\frac{11}{16} \text{ inches}$$

$$+\frac{3}{32} \text{ inch} = 3\frac{11}{16} \text{ inches} + \frac{1}{32} \text{ inch}$$

which is the range of settings for level play,

and the bottom 3 markings indicate the following hoop widths,

$$+\frac{3}{32} \text{ inch} = 3\frac{3}{4} \text{ inches} - \frac{1}{32} \text{ inch}$$

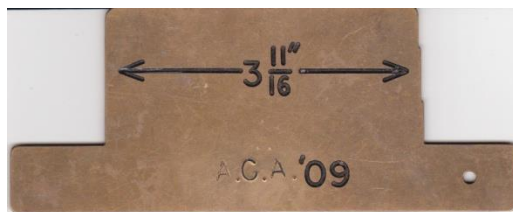
$$+\frac{1}{8} \text{ inch} = 3\frac{3}{4} \text{ inches}$$

$$+\frac{5}{32} \text{ inch} = 3\frac{3}{4} \text{ inches} + \frac{1}{32} \text{ inch}$$

which is the range of settings for handicap play.

Being acrylic a Wedge gauge is prone to wear if grit or sand particles come in contact between the surface edges of the gauge and the hoop uprights, in time possibly rendering the gauge less accurate. It is suggested the hoop uprights and the Wedge gauge edges be wiped with a soft cloth or tissue each time the gauge is used.

1.2.2 Brass Gauge ACA '09



The **ACA '09** gauge is a brass gauge with three measurements, $3\frac{11}{16}$ inches, $3\frac{23}{32}$ inches and $3\frac{21}{32}$ inches, which allows for checking that the distance between hoop uprights is within the allowable range for level play events.

The width between the 2 arrows is $3\frac{11}{16}$ inches; the width of the notch below is $3\frac{11}{16}$ inches + $\frac{1}{32}$ inch and the notch above $3\frac{11}{16}$ inches – $\frac{1}{32}$ inch

The **ACA 09** gauge can only measure three widths ($3\frac{21}{32}$ inches, $3\frac{11}{16}$ inches and $3\frac{23}{32}$ inches) it is also suitable for major level play tournaments where the width between the hoop uprights may be required to be set at between $3\frac{11}{16}$ inches and $3\frac{21}{32}$ inches (Refer TRegs). However it is unsuitable for measuring hoop widths in ACA handicap events as it can only measure the lower allowed width of $3\frac{3}{4}$ inches - $\frac{1}{32}$ inch but cannot measure $3\frac{3}{4}$ inches or $3\frac{3}{4}$ inches + $\frac{1}{32}$ inch which are the nominal and the upper allowed widths for handicap events.

Although these gauges are quite accurate and sturdy they weigh about 110 grams which does not make them ideal for a referee to carry in a pocket or waist bag.

1.2.3 Tru-gauge™



The Tru-gauge™ is a rigid plastic gauge with an arc shaped edge graduated in $\frac{1}{32}$ inch steps from $3\frac{11}{16}$ inches to $3\frac{13}{16}$ inches.

On the Tru-gauge™:

The 11 mark = $3\frac{11}{16}$ inches

The mark between 11 and 12 = $3\frac{11}{16}$ inches + $\frac{1}{32}$ inch

There is no mark indicating a $3\frac{11}{16}$ inches - $\frac{1}{32}$ inch, making the gauge unsuitable for some level play events.

The 12 mark = $3\frac{3}{4}$ inches

The mark between 12 and 13 = $3\frac{3}{4}$ inches + $\frac{1}{32}$ inch

The mark between 12 and 11 = $3\frac{3}{4}$ inches - $\frac{1}{32}$ inch

This gauge is suitable for handicap events.

The 13 mark = $3\frac{13}{16}$ inches

The Tru-gauge™ is not suitable for level GC tournaments as they are not calibrated downward to $3\frac{21}{32}$ inches (that is $3\frac{11}{16}$ inches - $\frac{1}{32}$ inch) but are suitable for handicap tournaments as they are calibrated from $3\frac{11}{16}$ inches to $3\frac{3}{4}$ inches.

Being acrylic the Tru-gauge™ is prone to wear if grit or sand particles come in contact between the surface edges of the gauge and the hoop uprights, in time possibly rendering the gauge less accurate. It is suggested the hoop uprights and the Tru-Gauge™ edges be wiped with a soft cloth or tissue each time a Tru-Gauge™ is used.

Some of these gauges are inaccurate and if being used should be calibrated against an ACA '09 Brass gauge or the newer Wedge Gauge.

The Tru-gauge™ is no longer in production and will gradually be used less frequently.

1.3 Older and Other Hoop Gauges:

1.3.1 ACA Brass "Go-No-Go"

The ACA Brass "Go-No-Go" gauge is superseded and rarely used.

1.3.2 Aluminium Gauges

Aluminium Gauges – being made of soft metal which is prone to bending and wearing of the edges these are not considered to be satisfactory.

1.3.3 Feeler Gauges



Hoops width settings may sometimes be measured at half ball height above the court surface using the ball with the largest diameter plus $\frac{1}{64}$ inch, $\frac{1}{32}$ inch or $\frac{1}{16}$ inch. Therefore the hoop setters, and official responsible for checking the hoops, needs to have access to a set of feeler gauges for all three measurements. This technique is more time consuming than other methods but it is commonly used in WCF controlled GC Tournaments.

The set of feeler gauges as pictured are made from plastic strips of $\frac{1}{16}$ inch and $\frac{1}{32}$ inch thickness, but not a strip of $\frac{1}{64}$ inch thickness.

1.3.4. Ball Gauges



The set of 3 rigid plastic ball gauges have diameters of $3\frac{19}{32}$ inches, $3\frac{5}{8}$ inches and $3\frac{21}{32}$ inches. That is $3\frac{5}{8}$ inches plus and minus $\frac{1}{32}$ inch, which is the allowed range of ball diameters for major events. The gauges can also detect if a ball is truly spherical or out of shape.

The gauge for each particular diameter must allow the ball to fit snugly into the gauge and yet still pass through the gauge. When the ball is in the gauge, the gauge is used to roll the ball around, on a firm, flat surface over several of the ball's diameters. If in the process the ball occasionally becomes jammed in the gauge this is evidence of the ball being misshapen.

When performing the test it is usual to commence with the $3\frac{5}{8}$ inches gauge and change over to one of the other two gauges if the diameter of the ball is greater or smaller than $3\frac{5}{8}$ inches.

1.4 Summary

Due to its capability of measuring a larger range of hoop settings, its light weight and the unlikelihood of causing an injury should the referee fall while carrying one, the Wedge Gauge should be the gauge to use.

Recommended reading:

Hoop Setting Guide Compiled by Elizabeth & Bruce Fleming

1.5 Referee Equipment

1.5.1 Recommended for a Referee to carry on their person:

- At least 6 ball markers;
- The latest edition of the ACA *The Rules of Golf Croquet* November, 2013 Edition;
- A copy of the latest Official Rulings on the WCF GC Rules;
- A Wedge Gauge (See Note 1 below);
- Distinctive garment ideally a high visibility vest – Day Yellow – for ease of identification. (For WCF events this will be provided)

1.5.2 Other useful items the Referee might carry:

- A piece of thin, white PVC plastic approximately 100 mm x 12 mm to help determine if balls are touching (See Note 2 below);
- A coin for tossing to determine which side plays first;
- Notebook and pen/pencil to take notes for future reference, but not to be used while actively refereeing during a game as the referee's attention to the play can be distracted;
- A container for markers. A small plastic tablet container is excellent for this purpose.

1.5.3 What the venue ought to provide for a Referee:

- A shady and sheltered area, especially for a RoR;
- Electronic timer for time limited games only if the referee is responsible for time keeping.

Referees are usually not required to be the time keeper and should only undertake this task if it is absolutely necessary and only when acting as RiC.

SuRs and RoRs (RoCs) should not act as timekeepers as they are required to be constantly moving between games and/or courts which makes time-keeping very difficult and unsatisfactory.

Note 1. It is best not to carry a metal hoop gauge during games as it could cause an injury if the referee should unfortunately fall over.

Note 2. Carefully placing the narrow strip of PVC along the ground between the two balls and then looking down on the balls from above is a very simple way to accurately determine whether or not two balls are touching; especially when there are shadows over the court or when the court is wet or damp and the balls are covered with a thin film of water.

Another method is to place a white object, such as a hat, on the ground to one side of the balls and to check for touching by viewing from the other side at half ball height from the ground. This requires a fair degree of agility which is not enjoyed by many referees.

DETERMINING IF A BALL IS ON OR OFF THE COURT

The Rules specify that a ball leaves the court when more than half of it crosses the boundary. If it has left the court it becomes an **outside agency** and subject to the provisions that apply under GC Rule 9.

When describing a Standard court GC Rule 2(a)(1) states: *“Its boundary must be clearly marked, the inner edge of the marking being the actual boundary”*.

Determining if a ball has actually left the court is usually self-evident but in certain circumstances a ball may be very close to resting on the boundary or may only have barely left the court in a critical position. In this case it becomes imperative for the referee to decide if the ball has actually left the court or not.

Example: A critical situation could occur when the players are contesting Hoop 13 and a player has deliberately struck a ball to go off the court behind Hoop 13 but it only just reaches the boundary and needs to be judged ‘in’ or ‘out’.

If it is judged to have left the court, when it is replaced on the boundary it cannot legally be hit away by the opponent because it is now an outside agency. Such is not the case if it has not left the court in which case it can be legally hit away.

When a ball is on or close to the border the **only test needed is a visual inspection**. Firstly sighting from above by standing inside and then outside the boundary line. Determining if the centre of the ball is in or out can be quite difficult, especially if the boundary is not sharply marked. However it is a decision that needs to be made impartially as the decision will declare a ball to be in play or an outside agency (as described above) and could have significant consequences on subsequent turns. As well the referee is making a *“matter of fact”* decision which cannot be appealed by the players.

Mechanical aids **are not** to be used as any contact with the ball in such a critical position could result in it moving the ball thereby interfering with the situation the referee is trying to adjudicate upon.

2.1 Boundary markings

There are numerous types of boundaries markings such as chalk lines, paint lines, dye lines, string or cord lines and metal or plastic strips.

2.1.1 Paint lines boundaries

With liquid chalk, paint or dye lines the edges of the boundary are sometimes not sharp and there can also be a problem with overlapping from successive line marking. The **inside** of the apparently newest line, hopefully most inward line, is to be used.

If the lines are ambiguous, under some circumstances, the referee ought to walk the players (or team captain) around the lines and obtain agreement as to what constitutes the boundary line for the match.

Paint lines are the safest as they cannot cause people to trip.

2.1.2 String lines boundaries

With string or cord boundaries the ball will obviously be in or out as it is impossible for a ball to sit dead centre on the inner edge of the string or cord. In order to keep string lines straight they need to be tethered to the court every 2 to 3 yards.

If a ball comes to rest against a string line the centre of the ball will be resting on the court and therefore it has not left the court as **less** than 50% protrudes beyond the

boundary line. If not taut and firmly tethered to the court surface, string lines can present a potential hazard.

2.1.3 Metal strip boundaries

These need to be tensioned very tightly to keep them flat on the ground. If any part of the metal projects above the ground it can pose a safety risk with the possibility of players and officials tripping on the raised strip. Also if the strips are not totally flat on the ground they can cause interference and damage to the mallet head.

If tightly tensioned and flat on the court surface, unless overgrown with grass, the edge of a flat metal strip presents a sharp and definite boundary line.

2.1.4 Plastic strip boundaries

These are usually a T-section of PVC plastic with a 40 mm flange set firmly and permanently into the court surface.

When first set, the plastic strips give a well-defined boundary line. However over time, due to repeated top dressing and other court maintenance, the strips tend to sink a little below the level of the court surface, resulting in the actual boundary line becoming much less well defined. However if a ball is resting on a sunken plastic strip it has obviously left the court.

2.2 Summary

Chalk or paint lines are preferred over other forms of boundary markers as they present no physical hazard, need no maintenance (other than periodic repainting) and cannot interfere with a player's stance or stroke.

BALL MARKING

Any ball that requires marking will usually be in a critical position, commonly near a hoop and often with another ball, or balls, close by.

Ideally ball marking should be performed with the minimum of delay and with as few markers as possible and in a way that will cause the **least distraction** to the striker when the stroke is played.

When the stroke is played the following methods can be used –

3.1 Method

- 3.1.1 The standard technique is to use two golf ball markers and "cross triangulate" using the hoop legs as reference points (See Illustration 1.1). If possible markers should be at least one yard from the ball.

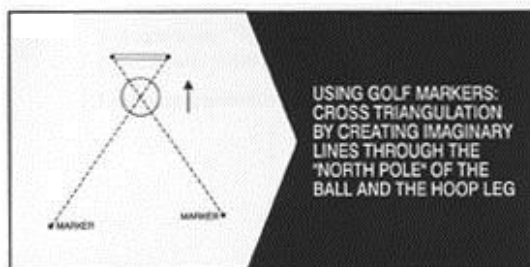


Illustration 1.1

- 3.1.2 In addition two other markers may be used to form a line bisecting the ball if greater accuracy is necessary (See Illustrations 1.2, 1.3 & 1.4).
- 3.1.3 On occasions it may be useful to further check the accuracy of the markers by placing two "check markers" behind the hoop (See Illustration 1.4). These markers may be removed once checking is complete.

However this can be time consuming and disconcerting to the players and is best avoided if possible.

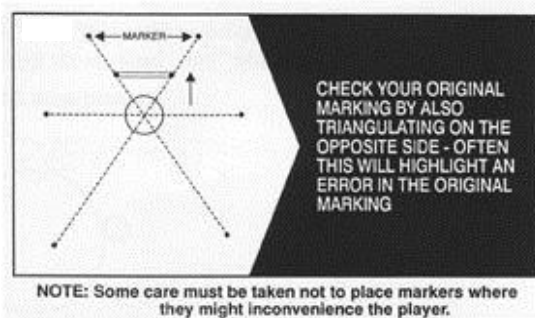


Illustration 1.2

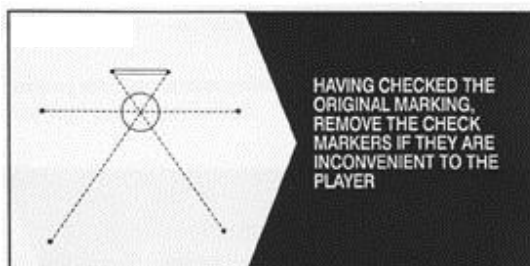


Illustration 1.3

- 3.1.4 Alternatively the markers shown below may be used instead, if the method in Illustration 1.1 causes striker distraction.

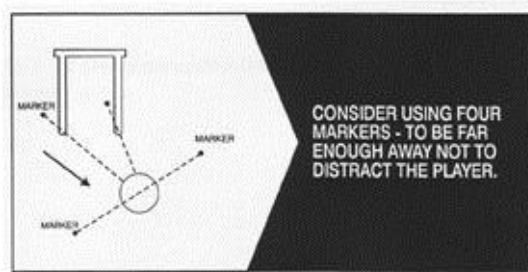


Illustration 1.4

3.2 Marking a Ball in a Non-Critical Position

If a ball from another game is not in a critical position, with the permission of the players of the other (double banked) game, it may be temporarily removed provided that its position has been marked.

This applies to both players and officials who wish to remove balls. A "critical position" not only involves a ball in or near a hoop, but may also apply to a ball in the open court. Officials should be expedient in marking non-critical balls to avoid wasting time. A single marker is usually quite sufficient.

The best way to mark a ball in "open court" is to place a marker immediately behind the centre of the ball in line with a fixed object such as the peg.

A ball should not be marked by lifting it and placing a marker where it was thought to be resting. **Never** should a ball be pushed firmly into the court surface to leave an impression where a marker is to be placed.

3.3 Marking a Target Ball

When a striker is hampered while attempting to strike the striker's ball and there are other balls nearby, all balls are to be marked because if a fault is committed the opponent may direct all balls moved in the stroke be replaced – GC Rule 13(b)(1).

On a damp court, if the striker intends to play a hard clearing stroke, serious consideration needs to be given to how the target ball is to be marked. Commonly, the technique is to mark this ball underneath the outside equator of the ball [in the Golf style] more or less directly away from the striker, but in line with a specific object such as the centre peg, so the striker cannot see and be distracted by it. This has proven to be not always satisfactory.

On a damp court, a hard stroke often causes the hit ball (target ball) to skid for a short distance across the court surface. This skidding action can be sufficient for the target ball to dislodge the marker, sometimes causing the target ball to jump and travel far less than expected.

Under these circumstances cross triangulation using two or four markers ought to be used. This may seem to be overkill, but this jumping by the target ball has caused consternation at international events.

3.4 Marking a Ball after a Fault

When the striker is playing a hampered stroke a fault may be committed in which both the striker's and target balls are moved.

The previous positions of both balls will be known because the referee has marked them. The opponent is now entitled to require the balls to remain where they stopped or be replaced in the positions they occupied before the fault was committed.

Also the opponent can request the balls be marked at the position they occupy after the fault, allowing the balls to be accurately replaced in the “remain” position, once the opponent has compared the “remain” position with that of the “replaced” position. There is nothing in the Rules preventing a player from taking this action.

The repositioning of the balls, before the player makes a decision, may be repeated more than once subject to common sense and avoiding unnecessary time delay.

The application of this option is very rare and is not to be encouraged.

TESTING IF A HOOP IS MADE OR IS ABLE TO BE MADE IN A SUBSEQUENT TURN

4.1 Visual Test

When deciding if a ball has run a hoop a **visual test is all that is necessary** and should be conducted as promptly as possible.

The visual test is to determine if all of the ball has passed the plane of the "playing side" when a hoop running attempt has been made or if all of the ball has passed the plane of the "non-playing" side of the hoop in the situation where the ball has been played "through the back door" in an attempt for it to be in a position where it can run the hoop in a subsequent turn.

When making the visual test the hoop is **not** to be touched, such as using it as a prop to assist in getting down and up from the inspecting position. Touching a hoop in this way can cause the hoop to be moved, which could significantly alter the relative positions of the ball and hoop.

In the following two photographs the black ball has been struck from the left hand side of the hoop in an attempt to run the hoop.

The visual test is to be conducted from side on of the hoop, as shown in Photograph 1, or from both sides if it is not clearly obvious the ball has broken the plane of the hoop when viewed from one side only.

It has been suggested the test best be done with the eyes at half ball height that is $1\frac{13}{16}$ inches above the ground. However this is physically very difficult, if not impossible, for some referees. The test should be conducted from as low a position as the referee can comfortably get down to and up from.



Photograph 1 Ball and hoop viewed from the side.

In Photograph 1 the black ball has clearly not cleared the plane of the "playing side" of the hoop and therefore the hoop has not been run whereas in Photograph 2, when viewed from above the ball **appears** to have run the hoop.

Because the crown of the hoop is usually wider than the uprights the visual test is **not** to be conducted from above by looking down on the top of the hoop, as shown in Photograph 2, where it appears that the black ball has run the hoop.



Photograph 2 Ball and hoop viewed from above.

In Photographs 1 and 2 the position of the ball has not been changed.

Testing using a piece of fine cord, the “string test” is not recommended as there are a number of potential factors capable of producing a false or contaminated result:

- 4.1.1 Any piece of cord has a thickness and the larger the diameter of the cord the less accurate the test will be.
- 4.1.2 The colour of the cord can also produce inaccurate results; such as a length of white cotton when testing a white or pink ball on a very sunny day or a piece of dark coloured cotton when testing a black or brown ball on a dull day.
- 4.1.3 To perform the “string test” the cord needs to be in contact with the hoop uprights and viewed vertically from above. Photograph 2 above clearly demonstrates how this would invalidate any such test as the string itself would not be seen and would need to be viewed from an angle to the vertical uprights, thereby further invalidating the test
- 4.1.4 If there happens to be a film of water, from rain or surface dew, on the ball a “string test” becomes extremely unreliable.
- 4.1.5 Any inadvertent movement of a loose hoop by a piece of cord being firmly held against the hoop would negate the test.
- 4.1.6 If a referee’s visual acuity is not sharp enough to ascertain by a visual test alone it is highly unlikely that a referee could reach a correct decision by the use of a “string test”.

Likewise the use of the side of a mallet, the edge of a hoop gauge or any other rigid, supposedly straight edge is to be avoided because:

- 4.1.7 If the ball is inadvertently touched in the process the test becomes invalid
- 4.1.8 There is no guarantee that the instrument used has a truly straight edge or perfectly flat and even surface
- 4.1.9 A loose hoop could easily be moved, resulting in a false result

The Rules do not specify what manner of test a referee is to perform to determine if a hoop has been run or entered. Likewise there is nothing in the Rules stating that a player can demand that a mechanical test be performed. The decision of how to test is at the referee’s discretion, and in the absence of a referee by mutual agreement between the players.

HOOP SETTING, RESETTING AND CHECKING

5.1 Setting

The setting of hoops is the responsibility of the TM who, in consultation with the groundsman, will use an agreed technique with or without hole-packing material (grass clippings, fine sandy soil, tree bark, sphagnum moss, etc) using appropriate clamps and gauges. See also Section B1 regarding gauges.

For ACA controlled events the distance between the hoop uprights at half ball height above the court surface is specified in the TRegs and this information should be repeated in the Conditions of Play.

In WCF GC events the hoops are commonly set according to GC Rule 3(b)(1).

5.2 Checking

Immediately before and, if necessary, during a game it is the responsibility of the TR to check the width between the hoop uprights and firmness of the hoops in the ground. The TR will often delegate this duty to referees assigned to the various courts.

The responsibility for adjusting the hoops during a match should be delegated by the TM before the commencement of a tournament.

However GCRs need to know how to set and reset hoops as well as how to check for correct settings if asked to do so during a game.

5.3 Width re-adjustment

If the referees are required to perform this task it is suggested that extensive time consuming techniques not be used. A large screwdriver (e.g. 300 mm long) or similar instrument, a rubber hammer and a hoop gauge are all that are usually necessary to perform the re-adjustment. See Figures 1, 2 and 3.

5.4 To increase the hoop width (Figure 1)

Shaving some soil from the outside of one, or both holes and moving it to the inside of the hole(s) will cause the uprights to spread a little when the hoop is reset, thereby widening the space between the uprights. The grey crescents in Figure 1 represent the soil placed on the inside of the holes. The same result can be achieved by packing a small amount of material, such as sphagnum moss against the inner sides of the holes.

5.5 To decrease the hoop width (Figure 2)

Shaving some soil from the inside of one or both holes and transferring it to the outside of the holes, as shown by the grey crescents in Figure 2, will cause the uprights to be pressed together a little and narrow the gap between them when the hoop is reset.

The same result can be achieved by packing a small amount of material, such as sphagnum moss, against the outer sides of the holes.

5.6 To firm up or tighten (Figure 3)

To make the hoop firmer in the ground, loosen a small amount of soil on the leading and trailing sides of the holes, that is, on both the “playing” and “non-playing” sides of the hoop, or place a small amount of sphagnum moss in the same positions, re-insert the hoop and hit into place

with the rubber mallet. The hoop will usually then be firmly in the ground. If this simple procedure fails the hoop will need to be totally re-set.

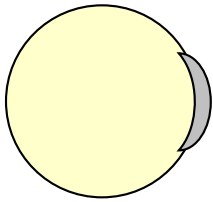


Figure 1 Position of material to increase width of hoop. The soil (or moss) is shown in relation to the hoop "carrots"

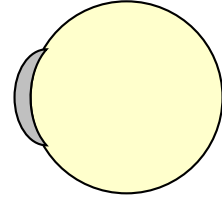
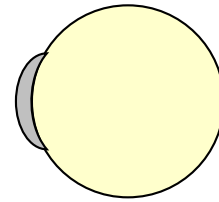


Figure 2 Position of material to decrease width of hoop. The soil (or moss) is shown in relation to the hoop "carrots"

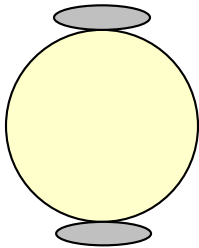
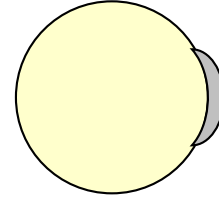
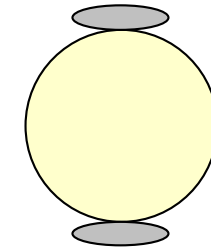


Figure 3 Position of material to tighten hoop without changing width. The soil (or moss) is shown in relation to the hoop "carrots"



These techniques also avoid the build-up of extra compressed material mass in the holes which over time causes the raising of the court around the holes, resulting small "hills" that can affect the path taken by a softly hit or slowly moving ball.

Never hit hoops in the centre of the crown as over time repeated blows to the centre of the crown can cause them to bow and the uprights to splay.

Always hit directly over each upright with alternating blows.

Recommended reading:

Hoop Setting Guide

Compiled by Elizabeth & Bruce Fleming

THE CARBON PAPER IMPACT TEST – DEMONSTRATING DOUBLE TAPS, CRUSHES, PULLS AND PUSHES

6.1 The Carbon Paper Impact Test

This is a very simple but effective test – some further details are available on the Oxford Croquet web site in the technical section at <http://www.oxfordcroquet.com/tech/impact/>. The test is performed by:

- 6.1.1 Taping a piece of carbon paper to the face of a mallet, carbon outward as depicted in Figure 6
- 6.1.2 Perform the test by striking a ball or balls with whatever type of shot is chosen.
- 6.1.3 Removing and checking the white paper will show a single crisp mark which is evidence of a clean stroke or there will be two separate marks indicating a “double tap”, two marks superimposed on each other due to a “ball crush” or smudged marks resulting from a “push” or a “pull” stroke.
- 6.1.4 Practise is necessary to gain confidence in interpreting the significance of the various carbon imprints made as a result of the stroke.
- 6.1.5 The test is an excellent way of demonstrating these faults to players and GCR trainees.

When conducting training sessions it is suggested to allow the participants to try the Carbon Paper Impact Test for themselves. They have great fun trying to “beat the system”. Always prepare at least 6 mallets with carbon paper strips attached, prior to a session starting.



Figure 4 Examples of the impressions caused by “double taps” GC Rule 13(a)(6)



Figure 5 Examples of the impressions caused by a “push” or a “pull”. GC Rule 13(a)(11)

6.2 Adapting a mallet to perform a Carbon Paper Impact Test.

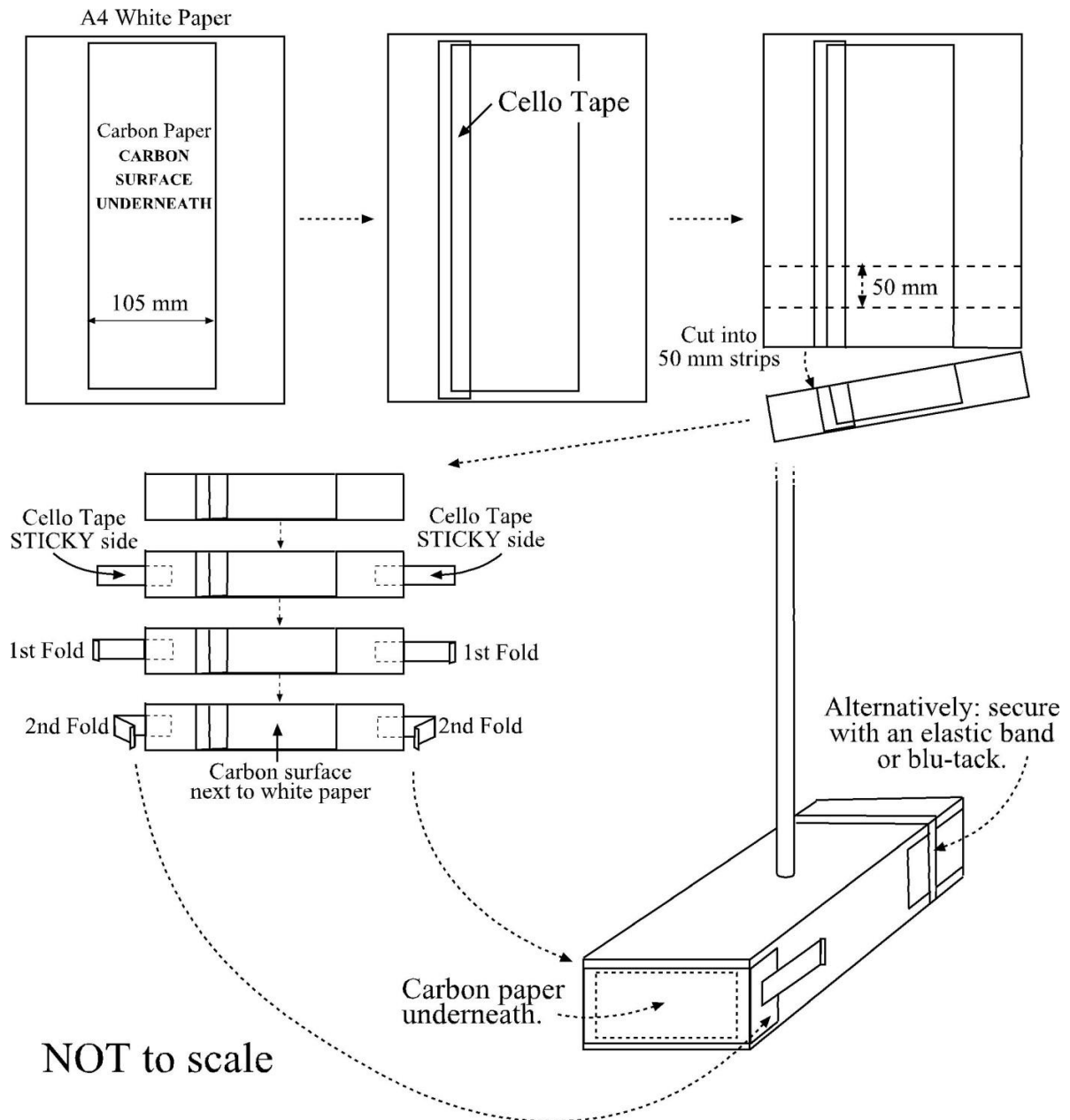


Figure 6 How to prepare a mallet for a Carbon Paper Impact Test

6.2.1 Preparing the mallet for a Carbon Paper Impact Test.

- 6.2.1.1 A sheet of A4 carbon paper cut in half vertically 100 mm x 300 mm (4 inches x 12 inches).
- 6.2.1.2 Centre the carbon paper on a sheet of A4 white paper – carbon side towards the paper.
- 6.2.1.3 Stick the tape to one side of the carbon paper, the full length, to the white paper.
- 6.2.1.4 Cut across to make combined strips approximately 50 mm (2 inches) wide.
- 6.2.1.5 Use the tape to make a pre-folded attachment at each end, to facilitate quick attachment to the mallet face – see sketch.

FAULTS WHEN BALLS ARE IN CLOSE PROXIMITY TO EACH OTHER

When 2 balls are in very close proximity, say from 1 mm to 25 mm apart, and a stroke is played along the line of centres of the balls there is a highly increased chance of the striker committing a fault by “double tapping” the striker’s ball, “crushing” the striker’s ball against a hoop upright or another ball or by having the mallet maintain contact with the striker’s ball, resulting in a “push” or “pull”. By playing the stroke at an angle to the line of centres the chance of a fault decreases as the wider the angle becomes.

A “double tap” is a fault under GC Rule 13(a)(6).

A “crush” is a colloquial term for the fault that occurs under GC Rules 13(a)(7), (8)&(9).

A “push” or a “pull” are faults occurring under GC Rule 13(a)(11).

These 3 types of striking will be looked at in this Section and Sections B8 and B9.

7.1 “Double Tap” Faults – Prevention and Detection

GC Rule 13(a) “ It is a fault if, in striking, the striker”

GC Rule 13(a)(6) “double taps” the striker’s ball by striking it more than once in the same stroke or allows the striker’s ball to retouch the mallet’

Double tap faults are most likely to occur when another ball is in close proximity, say 1 mm to 25 mm from the striker’s ball. These faults can happen at even much wider separations and also when the ball rebounds off a nearby hoop or the peg or when the nearby hoop slows down the ball allowing the mallet, on the follow through, to catch up with and make a second contact with the ball, that is “double tapping” the ball.

The following abbreviations are used throughout the rest of this Section:

CA	Critical Angle.	The angle of the line of stroke at and below which a double tap will always occur.
CP	Contact Point	The points where the striker’s ball and the other ball come into contact with each other.
CPD	Contact Point Distance	The distance between the contact points of the balls before the striker’s ball is struck
LOC	Line of Centres	Line of Centres between the 2 balls before the striker’s ball is struck
LOS	Line of Stroke	Line of the Stroke played on the striker’s ball relative to the LOC.
OB	Other Ball	Can also be called the Target ball or Hit ball). The ball which is contacted by the striker’s ball.
SB	Striker’s Ball	
TA	Tangent Angle	The angle the tangent line makes with the LOC.
TD	Tangent Distance	The distance between the tangent points of the balls before the striker’s ball is struck
TL	Tangent Line	The line connecting the tangent points
TP	Tangent Point	The points where the striker’s ball “just contacts” the other ball without causing it to move and therefore not causing the striker’s ball to be deflected

7.1.1 Factors that increase the likelihood of a “double tap” fault are:

7.1.1.1 The close proximity of another ball, a hoop or the peg to the striker’s ball.

7.1.1.2 The manner in which the stroke is executed:

- 7.1.1.2.1 A forcefully played stroke is more likely to cause a “double tap” than a softly played stroke;
- 7.1.1.2.2 A lot of follow through is more likely to cause a “double tap” than a little follow through.
- 7.1.1.3 The angle at which the LOS is played relative to the LOC of the balls.
 - 7.1.1.3.1 The smaller this angle the greater the chance of a “double tap” occurring.
- 7.1.1.4 Forward tilting of the mallet handle increases the chance of a “double tap”.

The Double Tap

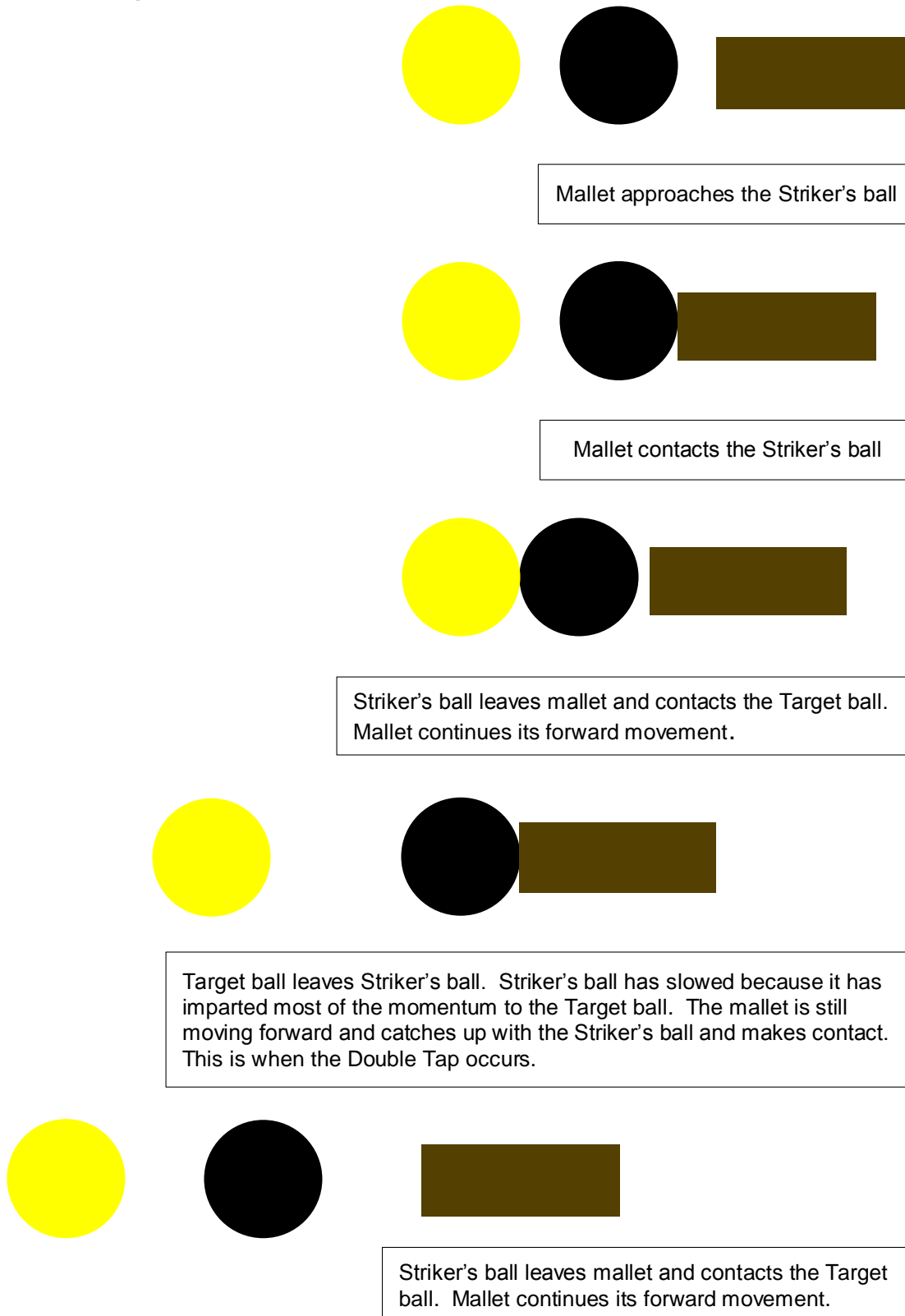


Diagram 1 How a 'double tap' occurs

Diagram 1 illustrates how a “double tap” occurs when the SB is struck along the LOC of 2 adjacent balls. Even if the LOS is at an angle to the LOC so that the SB is “*played away from*” the OB a “double tap” can still occur if the angle is not great enough.

When faulted for “double tapping” players commonly complain by saying, “But I hit away from the other ball”. A referee can inform the player that the resting angle between the SB and the OB and the distances both balls travelled in relation to each other is evidence of a “double tap”.

Diagrams 2 and 3 illustrate the Tangent Distance (TD), the Tangent Line (TL) the Tangent Points (TP1 & TP2), the Contact Points (CP1 & CP2) and the Contact Distance (CPD) when the striker’s ball is struck at an angle equal to or less than the TA.

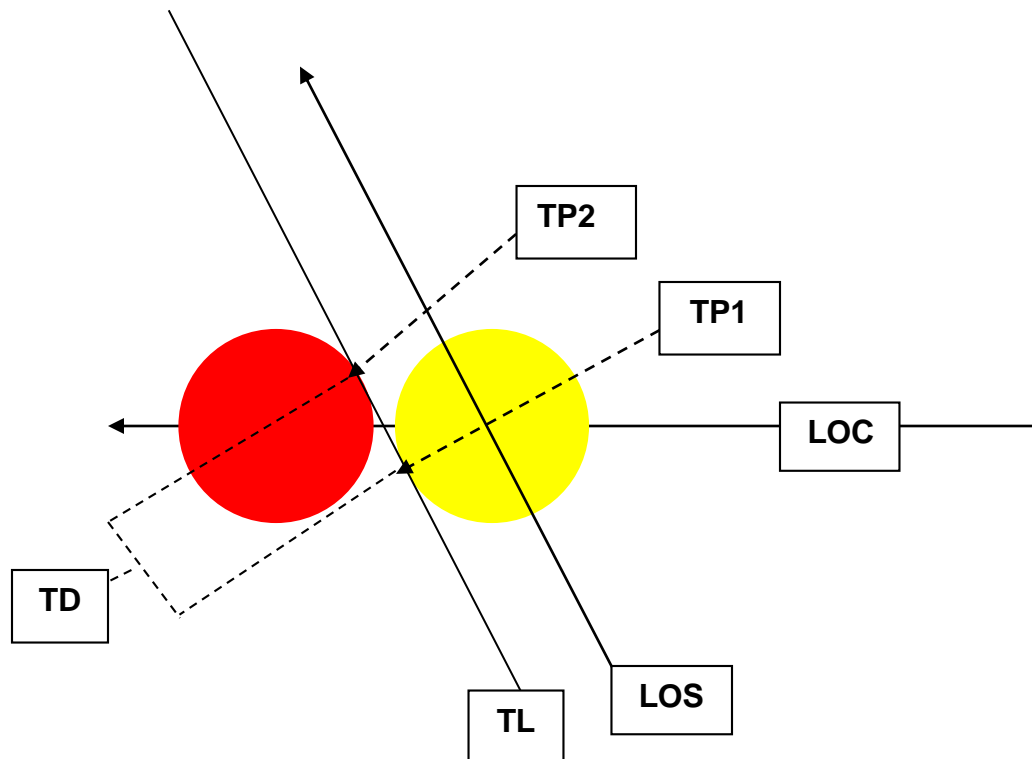


Diagram 2 Tangent Line and Tangent Points
(Drawing not to scale)

Note: In Diagrams 2 and 3 the Red ball is the OB and the Yellow ball is the SB.

If the angle the LOS makes with the LOC is greater than the TA there cannot be any contact between the SB and the OB.

If the angle the LOS makes with the LOC is equal to the TA then SB will make contact with the OB without causing the OB to move and the SB will not be deflected.

If the LOS makes an angle with the LOC that is less than the TA then the OB will be moved and the SB will be deflected.

The angle between the SB and the OB when they come to rest is very important when deciding whether a “double tap” has occurred or if the shot was not a fault. This is discussed later on in this Section.

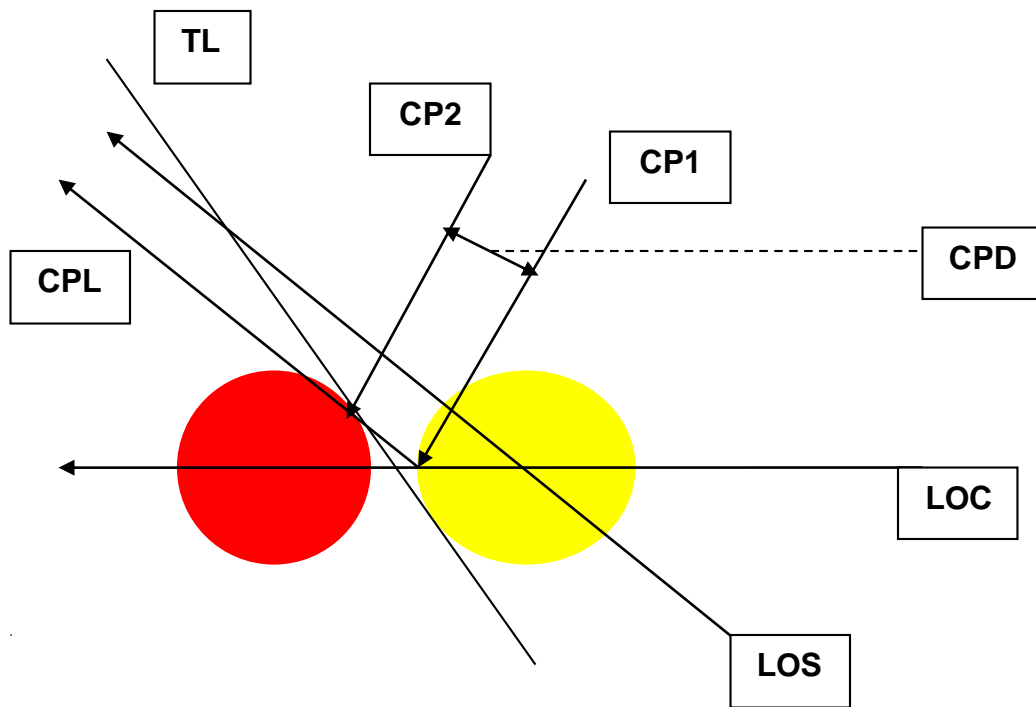
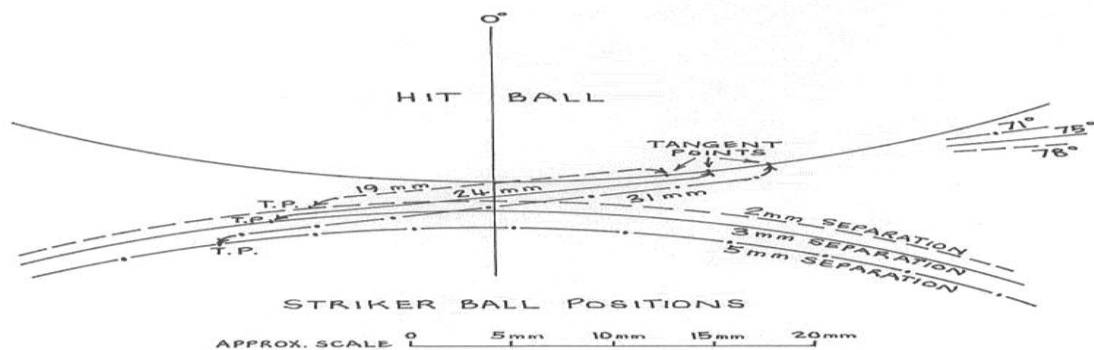


Diagram 3 Contact Points and Contact Point Line when Striker's Ball is struck is at an angle less than the angle of the Tangential Line
(Drawing not to scale)

Drawing 1 was provided by David Harrison, (Kew CC Victoria) and demonstrates the TPs, TAs and TDs for 2 balls that are 2 mm, 3 mm and 5 mm apart.



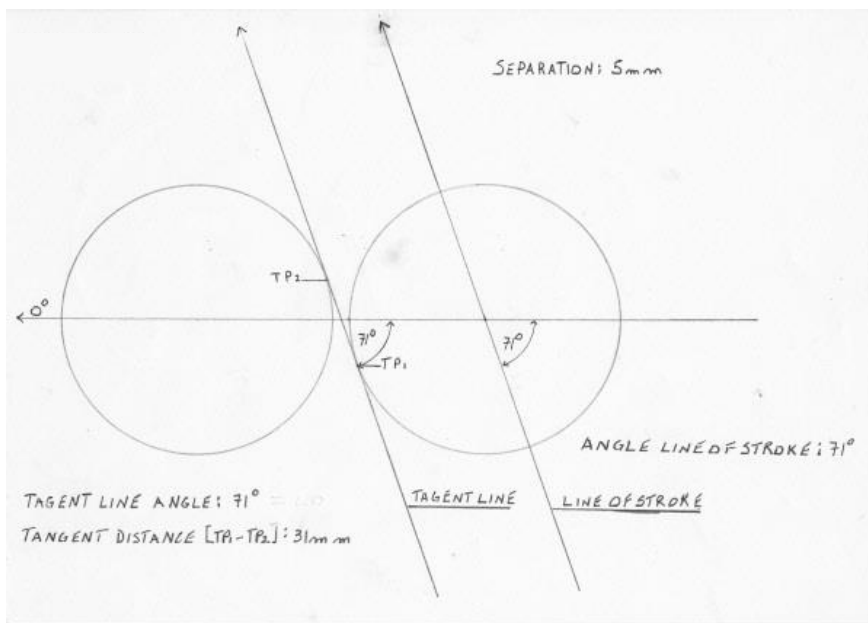
Drawing 1 Tangential points, angles and distances

Separation	Tangent Angle	Tangent Distance
2mm	78°	19mm
3mm	75°	24mm
5mm	71°	31mm

Table 1 Measurements in the drawing by David Harrison

Drawings 2 and 3 are to scale and display two balls at a 5 mm separation and are examples of a large series of drawings made by the author representing two balls 1 mm, 2 mm, 3 mm, 4 mm, 5 mm, 12 mm and 25 mm apart with the angle of the LOS to the LOC varying from 15° to 85°.

The drawings also demonstrate the CPs, TA, TL, TPs, LOC and LOS



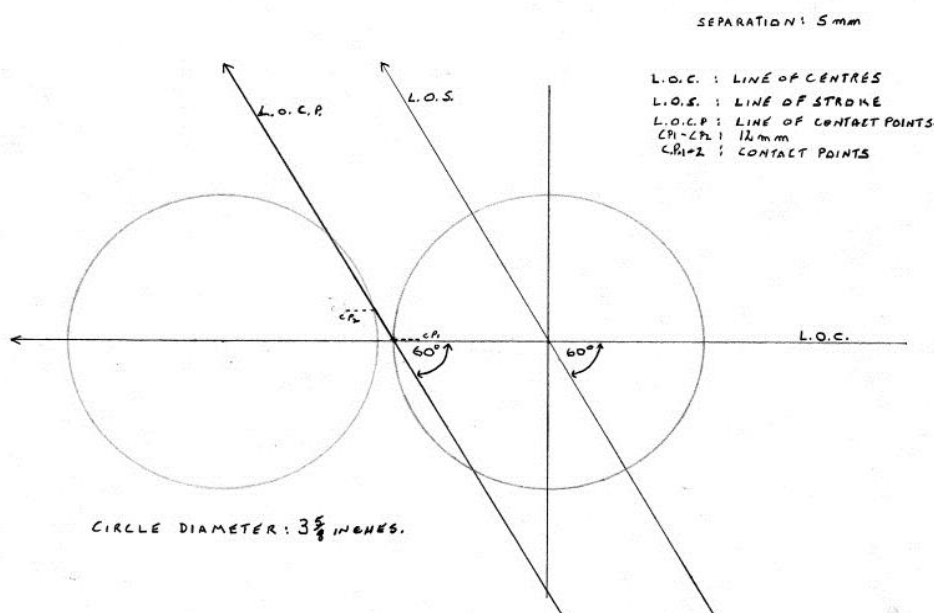
Drawing 2 Showing Tangential Line and Tangential Angle.
 [Erratum: Tangent should read Tangent]

In Drawing 2 the LOS, and therefore, the path of the SB is parallel to the TL. Therefore the SB will just “brush” the OB as it passes undeflected and the OB will not be moved.

In Drawing 3 the LOS is at a lesser angle to the LOC as it is in Drawing 2 thereby causing the CP (CP₁) of the SB to contact the OB at CP₂, resulting in the OB being moved and the SB deflected at an angle to the OB.

This contact will cause the SB to slow down and if the momentum lost is great enough the mallet head, on its follow through, to catch up with and make a second contact (“double tap”) on the SB.

NOTE: Even the most expertly executed “stun shot” must possess some element of follow through, otherwise if the mallet ceases moving the very “instant” it comes in contact with the ball it would have no momentum and the ball would not be moved.



Drawing 3 Contact Points when the angle of the Line of Swing is smaller than the Tangential Angle

7.2 Detecting a “double tap” fault

Adjudicating on “double taps” is no doubt the most frequent duty a GC referee is called upon to do. In the past “double taps” have been the bane of GC referees lives as there has been very little material available to train referees how to determine if a “double tap” has occurred, especially when the balls are very close together.

More recently slow motion video material has been able to improve the situation.

There are indicators available **before and as the stroke is played** that suggest a “double tap” is likely to occur. This information can be very useful to the striker in order to prevent a “double tap” occurring. It is also very useful for training purposes. However referees **are not** to use these indicators when making a decision, doing so would mean the referee is **predetermining** the outcome of a stroke; something a referee must **never** do.

The information referees should use when determining if a “double tap” has occurred is what they observe **after the stroke has been played** which is described later in this Section.

7.2.1 Indicators before and as the stroke is played

Factors that increase the likelihood of a “double tap” occurring.

- 7.2.1.1 The close proximity of another ball.
- 7.2.1.2 The angle of the LOS relative to the LOC.
- 7.2.1.3 Forward tilting of the mallet handle.
- 7.2.1.4 The amount of follow through with which the stroke is played.

As already mentioned this information is mainly for the player and is **not** to be used by referees when adjudicating on the validity of a stroke. If a referee does use the knowledge about what is possibly going to happen then the referee is prejudging the situation and this goes against all good refereeing principles.

When the SB is struck at an angle to the LOC the amount of momentum it loses when it contacts the OB is less than when it is struck through the LOC. As the angle the LOS makes with the LOC increases the amount of momentum lost by the SB decreases to such a degree where the amount of momentum lost by the SB is not enough to allow the mallet catching up with the ball and cause a “double tap”.

The angle at which this occurs can be called the Critical Angle (CA). When the angle of the LOS is equal to or less than this CA a “double tap” fault will always occur. Conversely if the angle of the LOS on the SB is greater than the CA a “double tap” will not eventuate.

7.2.2 Guidelines for players and coaches to determine if a “double tap” fault is likely to occur when the stroke is played.

The following guidelines in Tables 3 and 4 are offered to **help to the striker** avoid committing a “double tap” when two balls are close to each other and to make the referees aware of when a “double tap” is likely to occur. These guidelines are also useful for teaching purposes.

However referees **are not** to make their decisions simply on the angle of the LOS and definitely **must not** prejudge the outcome of the stroke before the stroke is played, no matter how acute the angle of the proposed LOS appears to be.

Bob Kroeger of Florida has presented excellent real time and slow motion videos of what happens when a stroke is played when balls are in very close proximity to each other or when a ball is very close to a hoop.

Access these videos by visiting *Bob Kroeger - Web Site* or - *YouTube*.
<http://www.youtube.com/watch?v=8PkTPucblUQ>

Tables 2 and 3 are summaries of the results of more than 360 Carbon Paper Impact Tests performed on 2 balls that were 2 mm, 3 mm, 5 mm, 12 mm and 25 mm apart showing the CA at which “double taps” occurred. The results of the Carbon Paper Impact Tests performed separation have been confirmed by video material produced by Bob Kroeger (Refer Section GC B8 where “crushes” are discussed).

Stroke played with follow through			
Separation	TA	CA for forceful stroke	CA for soft stroke
2mm	78°	40°	45°
3mm	75°	40°	40°
5mm	71°	40°	40°
12mm	57°	30°	30°
25mm	51°	20°	20°

Table 2 Critical Angles as determined by Carbon Paper Impact Testing for strokes played with follow through.

Stroke played as a “stun shot”			
Separation	TA	CA for forceful stroke	CA for soft stroke
2mm	78°	35°	75°
3mm	75°	30°	70°
5mm	71°	30°	55°
12mm	57°	20°	10°
25mm	51°	10°	5°

Table 3 Critical Angles as determined by Carbon Paper Impact Testing for strokes played as “stun shots”, that is with minimal follow through.

	Thickness
Australian 20 cent piece/coin	about 2mm
Australian 50 cent piece/coin	about 3mm
Tru-gauge™	about 6mm
Wedge Gauge	about 6mm
½ inch	about 12mm
1 inch	about 25mm

Table 4 Approximate Thicknesses

7.3 Two simple ways to help demonstrate the CA at which a “double tap” will occur.

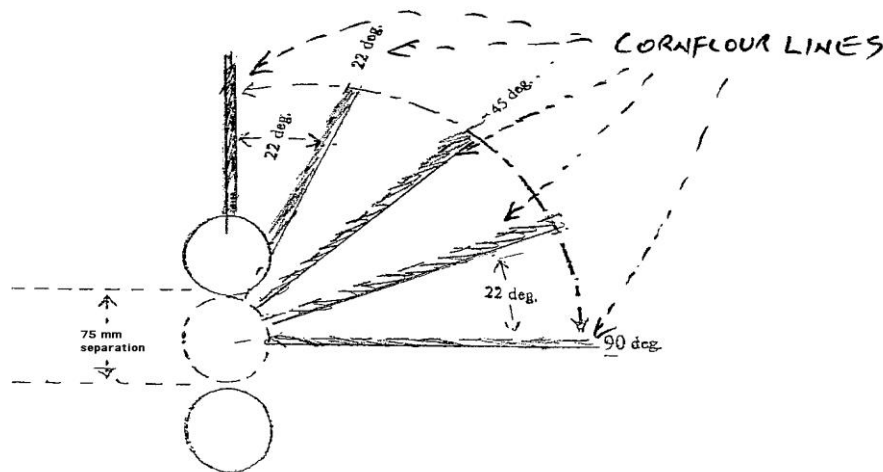
These are the “cornflour line test” and the “string line test”.

Both methods are similar and give an indication of the angle the intended LOS will make with the LOC as well as allowing the final resting angle between the two balls to be estimated.

These procedures can help familiarise trainee referees and players with the technique of making judgments by observation and not by sound, which is very unreliable. The decision on a “double tap” is mainly based on the **angle** of the final positions of the SB and the OB supported by **distance** the SB travels relative to the OB.

7.3.1 The “cornflour line test”

- 7.3.1.1 To set up for the “cornflour line test” use two yardsticks, a very large salt shaker (or similar) containing cornflour;
- 7.3.1.2 Mark out 5 lines from 0° to 90° using the cornflour as shown in Drawing 4 (cornflour will wash off and won't be visible after the next watering);
- 7.3.1.3 Place the two yardsticks on the lawn, (inside or outside the court) parallel and one inch apart;
- 7.3.1.4 Sprinkle cornflour between the sticks;
- 7.3.1.5 Repeat at 90°, in order to create a right angle;
- 7.3.1.6 Repeat at 45°, to divide this right-angle into two segments;
- 7.3.1.7 Repeat between each so that the right angle is divided into four approximately 22° segments;
- 7.3.1.8 Position two balls at the end of the triangle one to three inches apart.
- 7.3.1.9 Conduct the Carbon Paper Impact Test.



Drawing 4 The “cornflour line test”

Drawing 4 illustrates how the “cornflour line test” is set up. The balls are set 75 mm apart but a variety of separations should be used during training and demonstration sessions.

7.3.2 The “string line test”

Setting up for the “string line test” takes about 10 minutes. The equipment needed consists of -

- 7.3.2.1 2 x 1 metre pieces of strong cord or string and a third piece of cord about 1.5 metres long, all 3 pieces have one end attached to a fine post such as a 2 inch (50 mm) split pin. Other split pins are attached to the free ends of the cords;
- 7.3.2.2 Another piece of cord with permanent marks measured at 220 mm, 380 mm, 520 mm, 680 mm, 707 mm, 734 mm, 894 mm, 1,034 mm, 1,194 mm and 1,414 mm from one end. This cord is also anchored with a split pins at each end;
- 7.3.2.3 9 ball markers are needed;
- 7.3.2.4 The 2 x 1 metre lengths of cord are tethered firmly to the ground to form a 90° angle;
- 7.3.2.5 The unmarked end of the length of cord with the markings is tethered to the end of one of the cords forming the 90° angle and the 1,414 mm mark is tethered at the end of the other arm of the 90° angle;
- 7.3.2.6 The ball markers are placed on each of the markings on the string. Once the markers are in place this string can be removed;

These markers now indicate the angles from 0° to 90° across the long side of the triangle:

220mm	= 10°
380mm	= 20°
520mm	= 30°
680mm	= 40°
707mm	= 45°
734mm	= 50°
894mm	= 60°
1,034mm	= 70°
1,194mm	= 80°
1,414mm	= 90°

- 7.3.2.7 The third piece of cord attached to the anchor with the cords forming the 90° angle can now be placed in a straight line over any of the ball markers to show the player the intended angle of the LOS to the LOC.

Upon completion of the exercise it is advisable that the strings be carefully wound onto a small piece of wood about 120 mm x 60 mm x 8 mm to prevent tangling of the strings and for ease of setting up for future tests.

7.3.3 How to use the “string line test”

- 7.3.3.1 The SB is placed on the point of the right angle;
- 7.3.3.2 The OB is placed on the 0° line at varying distances from the SB;
- 7.3.3.3 For demonstration purposes a collection of “feeler gauges” are used to set the balls. These gauges range from 2mm to 25mm thick and are easily made from PVC plastic or wood;
- 7.3.3.4 A Carbon Paper Test Strip is taped to the face of the mallet;
- 7.3.3.5 The SB is now struck at whatever angle to the LOC the player chooses;
- 7.3.3.6 After the stroke the resting angle between the SB and the OB is estimated, as is the distance the SB travelled relative to the OB. Finally the Carbon Paper Impact Test Strip is examined to see if the stroke was clean or a fault.

In Photograph 3 the string line on the far left is at 0° along the LOC of the Yellow and Red balls. The string on the far right is set at 90° to the centre of the Yellow ball, which is placed on the point of the 90° angle. The Red ball is placed at varying distances from the Yellow ball, along the string line.

The string with the marks indicating the angles from 0° to 90° as listed above is placed between the ends of the 0° and 90° string lines.

Now the 1.5 metre string can be anchored over the markings as a guide to the proposed angle of the LOS.

In Photograph 3 the mallet has Carbon Paper Impact Test strips attached and is aligned to play the stroke at 20° to the LOC.

With patience and practice it soon becomes relatively easy to determine the approximate CA for any distance of separation and establish a very good idea of the angle the LOS needs to be in relation to the LOC so that the stroke will not result in a “double tap” fault.



Photograph 3 The "string line test" set up

Both the "cornflour line test" and the "string line test" are excellent practise and training exercises.

7.4 Indicators after the stroke has been played

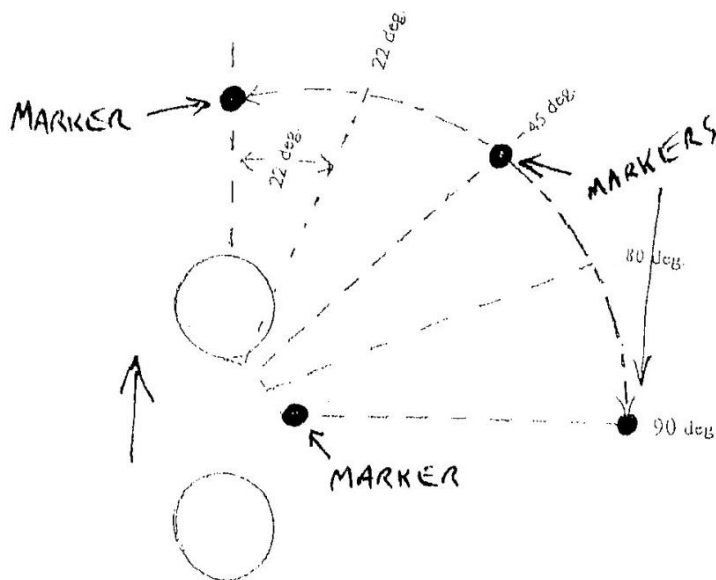
When the balls are in very close proximity, 1 mm to 25 mm, the events following the striking of the SB happen very quickly (hundredths of a second) and over very short distances such that human auditory acuity is unable to detect multiple sounds and human visual acuity is unable to see a "double tap" take place.

Also ambient sounds such as noise from road traffic, overhead aircraft, animals and strongly gusting wind frequently contaminate the sound arising from the mallet striking the SB, the SB contacting the OB and the mallet subsequently possibly contacting the SB a second time.

If the game is at a critical point and a "double tap" could change the outcome, the onus on the referee to make a correct decision increases.

Therefore other criteria or techniques are needed to decide if a "double tap" has or has not been committed.

During a game one technique is to use ball markers placed as shown in Diagram 5 to indicate the angle at which the SB takes off from the OB which would help a referee in decision making about a "double tap". Four markers are an acceptable number to use.



Drawing 5 Placement of markers to indicate a possible "double tap".

In the past referees have made judgements using information based upon untested assumptions about the angle of departure of the SB and the distances travelled by both the SB and the OB.

By referring to the information gathered from action videos the calculations provided by David Harrison and the results of the Carbon Paper Impact Tests, the best current guidelines for a referee to use when judging whether a “double tap” has occurred are the angle between the SB and the OB when they come to rest after the stroke and the distances the two balls travelled relative to each other.

Other factors described such as the amount of follow through applied to the stroke and the amount of forward tilting of the mallet handle may increase the possibility of a “double tap” occurring.

When the SB and OB are very close to each other, for a stroke played through the LOC of the balls not to be a “double tap” the SB must travel no more than one tenth to one eighth of the distance travelled by the OB.

Tables 5 and 6 show the results from over 360 “string line tests” combined with Carbon Paper Impact Tests, conducted by Gordon Matthews, when the SB and the OB are initially close to each other. The Tables offer guidelines indicating a clean shot. The results of the Carbon Paper Impact Tests in Table 5 were confirmed by slow motion video.

Guidelines for a Clean Stroke played with <u>minimal</u> follow through when 2 Balls are in Close Proximity		
Initial Separation of Balls	Final Resting Angle between SB and OB.	Distances Travelled SB : OB
1mm	80°+	20+ :1
2mm	80°+	1 :1.2+
3mm	70°+	1 :1.25+
5mm	70°+	1 :1.3+
12mm	70°+	1 : 1.75+
25mm	70°+	1 : 2+

Table 5 Indicators of when a clean stroke has been played with minimal follow through

It is recommended referees should be conservative when they are adjudicating on “double taps” whenever balls are very close to each other.

From the large number of “Carbon Paper Impact Test” results Table 6 offers safe guidelines to referees.

In these guidelines the most important feature is the resting angle between the SB and the OB.

Guidelines for a Clean Stroke played with <u>full</u> follow through when 2 Balls are in Close proximity		
Initial Separation Of Balls	Final Resting Angle Between SB and OB	Distances Travelled SB :OB
2mm	70°+	1 : 1+
3mm	70°+	1 : 1+
5mm	70°+	1 : 1+
12mm	65°+	1 : 1+
25mm	60°+	1 : 1+

Table 6 Indicators of when a clean stroke has been played with full follow through

7.5 Summary

- 7.5.1 “Double taps” are the most common faults GCRs are required to adjudicate on;
- 7.5.2. Recent evidence, especially very slow motion video evidence, suggests that in the past referees have probably been too severe when calling faults on players for committing “double taps”.
- 7.5.3 The evidence obtained from the combination of the final resting angle between the balls and the relative distances they travelled will indicate, with a high degree of certainty, whether or not a “double tap” fault **has occurred** and referees should use this information when making a judgement on a “double tap” fault.
- 7.5.4 The final resting angle between the SB and the OB is the best indicator of whether a “double tap” has or has not occurred.
- 7.5.5 Observations by a referee of any of the factors that **may** increase the likelihood of a “double tap” occurring **should not be used** when making a decision on “double taps”.
- 7.5.6 Practise by referees is needed to improve accuracy and to maintain consistency in detecting “double taps”.

CRUSHES

The term “crush” is a colloquial term used to describe GC Rules 13(a)(7) and 13(a)(8).

The terms “hoop crush”, “ball crush” and “peg crush” are now commonly used.

A “hoop crush” occurs when the SB touches a hoop while still in contact with the striker’s mallet. A “ball crush” occurs when the SB touches another ball while still in contact with the striker’s mallet. A “peg crush” occurs when the SB touches the peg while still in contact with the striker’s mallet. A “peg crush” is a very rare occurrence in GC.

The classic “hoop crush” stroke GC Rule 13(a)(7) is more difficult to commit than many referees realise, whereas the “ball crush” GC Rule 13(a)(8) is very easy to commit, unless the angle of the LOS is very wide.

In 1994 Professor Stan Hall, demonstrated that a ball remains in contact with a mallet end-face for a very short distance and period of time, irrespective of the way the stroke is played.

Below is a condensed chart of Professor Hall’s findings derived from the Oxford Croquet web site, produced by Owen Edwards in 2007 and further modified by Gordon Matthews in 2014. Table 7 relates mostly to “ball crushes”. However the distances the SB remains in contact with the mallet are relative to all forms of “crushes”.

The distance the OB travelled in metres	Average contact time between balls in thousands of a second	Initial velocity of mallet metres/second	Distance SB travels, in mms while still in contact with mallet
24 (hard shot)	0.89	7.3	3.7
12	0.94	5.2	3.0
2.7	1.03	2.2	1.6
0.6 (soft shot)	1.32	1.15	1.19

Table 7 Times and distances a ball and a mallet remain in contact in a single ball stroke using Dawson Mark II balls.

It was also noted by Professor Hall: *“If the shaft of the mallet was greatly inclined to the vertical (as in a hammer stroke) the contact time was substantially more because the ground prevented the ball from springing away from the mallet”.*

The important feature of Table 7 is the distance the mallet and the SB remain in contact.

If the separation between two balls, or a ball and a hoop, or a ball and the peg is greater than the distances listed in the last column of Table 7 for the type of shot played then a “crush” cannot occur. However a “double tap” certainly can.

With “hoop crushes” the distance that matters is the distance between the impact points on (a) the ball’s circumference and (b) the circumference of the hoop leg.

The nearest point of the ball must be within 3 mm to 4 mm of the upright before there is any real chance of a “hoop crush” occurring.

In practice this means that unless the SB is struck directly at the upright and not at an angle to it, a “hoop crush” will not occur. However if the angle of the stroke is not wide enough a “double tap” might occur with or without a “hoop crush”, in which case a striking fault has still been committed.

8.1 Summary

8.1.1 The contact time for a **soft** shot is longer, while the actual contact **distance** is shorter.

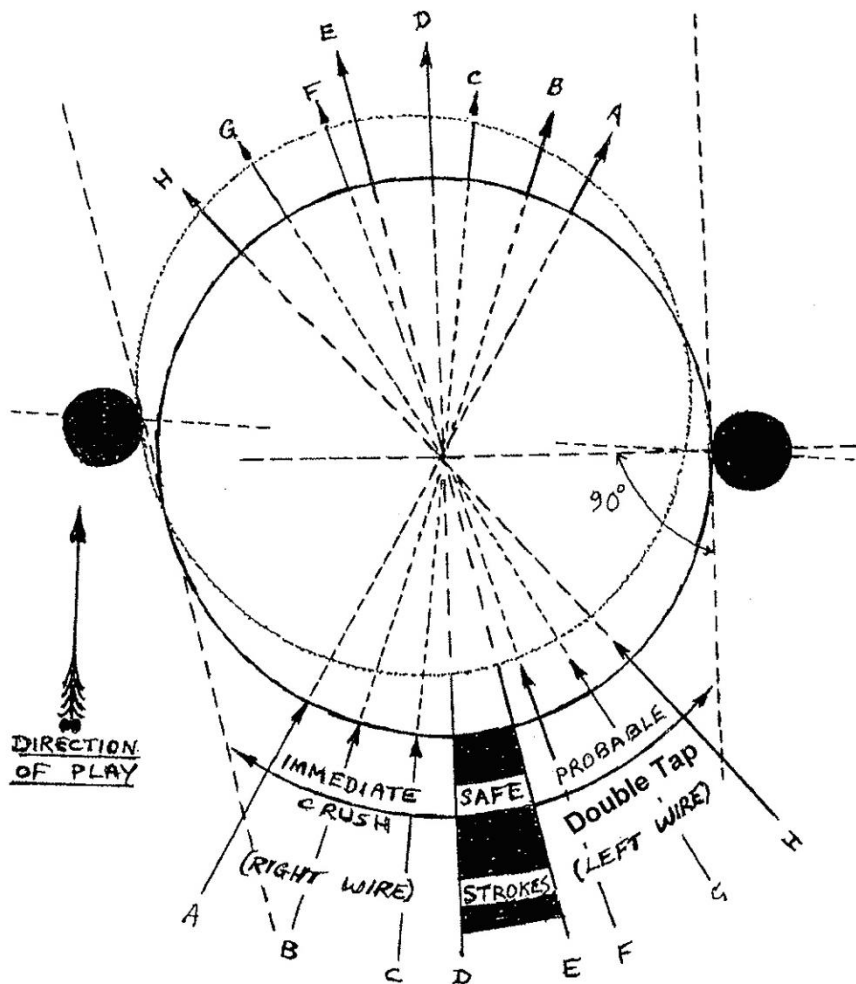
8.1.2 The contact time for a **hard** shot is shorter, while the actual contact distance is **longer**.

8.2 Suggested additional reading and viewing

8.2.1 “When a mallet strikes a Ball” by Prof Stan Hall, ACA Gazette 1994 (Vol.44 No1 Page 12) which is a quick summary of the full article at <http://www.oxfordcroquet.com/tech/hall/index.asp>

8.2.2 Video material produced by Bob Kroeger at <http://www.youtube.com/watch?v=8PkTPucb1UQ>

8.3 Possible faults when a ball is in contact with a hoop upright



Drawing 6 The range of safe angles for a stroke to be played when a ball is in contact with a hoop upright. (Courtesy VCA)

Drawing 6 shows possible “crush” and “double tap” situations. The ball is touching the right leg of the hoop with the larger portion of it on the playing side, so that any movement of the ball through the hoop except **away** from the leg would be a “hoop crush”.

If the LOS is between A and D an immediate “crush” on the right upright occurs.

If the LOS is between E and H and the stroke is played with follow through a “double tap” will probably occur as a result of the ball being impeded by the left upright and allowing the mallet time to catch up with the SB to make a second and perhaps a third contact, with the SB continuing on along the LOS resulting in the mallet driving it to the left of the hoop.

If a “double tap” did not happen the ball would have deflected off the left upright and moved off to the right hand side of the hoop, finishing at a distance commensurate with the force of the stroke.

In the drawing if the ball was hit firmly along a line between A and D or between E and H and only managed to “wobble” a little distance through the hoop then it is highly likely a mixture of a “double tap” and a “hoop crush” has occurred.

If the ball has been “crushed” against the near upright it will come to rest on the same side as the far upright. If it made clean and crisp contact with the left upright and was deflected to the right and travelled as far as it ought for the strength of the stroke then a “clean” stroke can be safely called.

It is best not to rely on multiple sounds. A better way to decide if a “crush” or a “double tap” fault has been committed is to look where the SB has finished in relation to the far upright.

8.3.1 The side of the far upright where the SB comes to rest.

- 8.3.1.1 If the far upright is on the left side, to be a “clean” stroke the SB must come to rest beyond the hoop on the right side of the far upright;
- 8.3.1.2 If the right upright is the far upright then the SB must come to rest on the left side of the far upright.

8.3.2 The distance from the hoop, where the SB comes to rest relative to the force of the stroke played.

- 8.3.2.1 To be a “clean” stroke the SB must come to rest through the hoop at a distance commensurate with the force of the stroke;
- 8.3.2.1 A stroke which is played forcibly resulting in the SB more or less just “wobbling” through the hoop and not travelling as far as would be expected from the strength of the stroke is an indication that the SB has been “crushed” and “double tapped” through the hoop.

In Drawing 6 the only way to prevent both a “double tap” and a “crush” is for the LOS to be played in the narrow band between D and E.

It is recommended that GCRs get experience and confidence adjudicating on these strokes by watching them being played, such as spending time with one or more of their club members who are practicing making fault-free strokes.

It is also a reason why a GCR ought to be called when GC Rules 13(a)(5), (6), (7), (8), (9), (10) or (11) may be broken because the striker needs to exercise **special care** in playing a shot due to the proximity of another ball, a hoop or the peg, especially if a forceful stroke is to be played in order to run a hoop and/or to get position on the next hoop when playing “up and down” the court from hoops 1 to 2, 3 to 4, 5 to 6, 7 to 8, 9 to 10 and 11 to 12.

When the SB is very close to a hoop and a hoop running stroke is attempted the stroke can result in a combination of a “crush” and one or more “double taps” and fault has probably been committed. Making a decision by listening for multiple sounds is not reliable – see Section B7.4.

Put simply, unless a ball is actually touching a hoop upright or is within 3 mm to 4 mm of the hoop upright then a “hoop crush” cannot occur without being accompanied by a “double tap”. However a “double tap” may occur on its own.

PUSHES AND PULLS

A "Push" or a "Pull" is a fault under GC Rule 13(a)(11) *"maintains contact with the striker's ball by pushing or pulling the ball with the mallet."*

Drawing 4 demonstrates how a "push" or a "pull" is committed around a hoop when **special care is required** by the striker because of the close proximity of a hoop or another ball, or when a ball that has run a hoop finishes in a position close to the hoop such that the striker cannot play a "normal" stroke, especially if the aim is to get the striker's ball to a favourable position on the next hoop.

When a "push" occurs the striker's stance is usually behind the SB on the "playing side" of the hoop and with a "pull" the striker's stance is usually in front of the SB on the "non-playing side" of the hoop, with the striker playing the ball backwards through the striker's legs. The mechanics of both faults are the same.

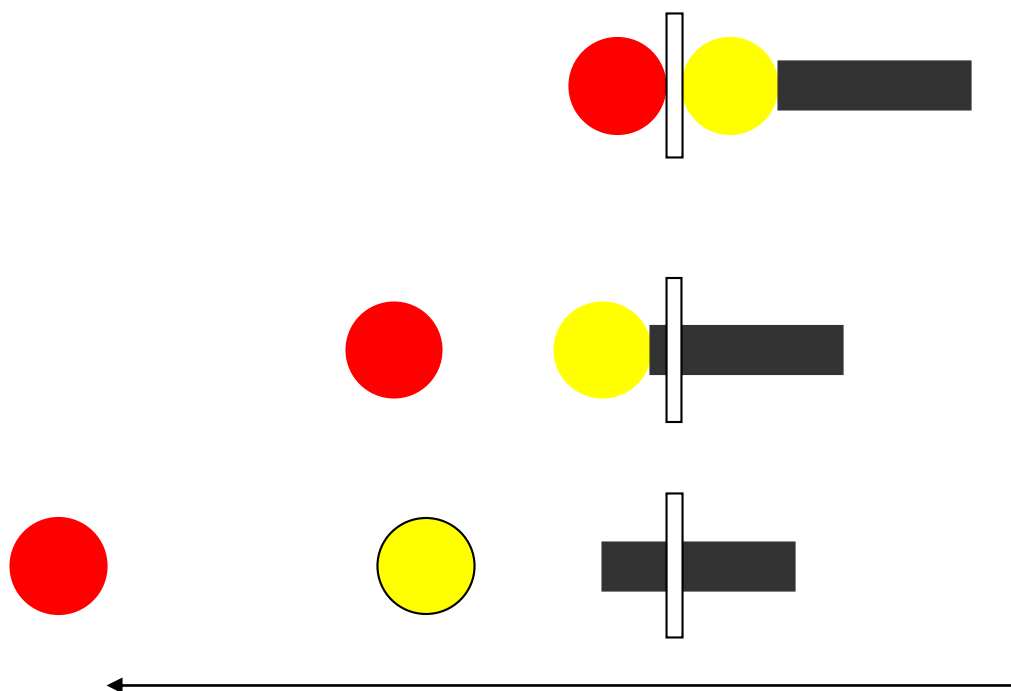


Diagram 4 A "Push" Stroke Played Through the Hoop

In Diagram 4 the Red and Yellow balls are initially stationary and about 12 mm apart. Red is almost clear of the hoop, Yellow is attempting to run the hoop.

Yellow is struck by the mallet and proceeds partly through the hoop where it hits Red which in turn moves forward. Yellow now loses most of its forward momentum and as the forward momentum of the mallet continues on, with the follow through, it maintains contact with the Yellow for a short time and distance resulting in a "push" or a "pull".

Yellow slowly staggers through the hoop and eventually loses contact with the mallet and then travels further that it would have, had a "push" or "pull" not occurred.

BEVEL EDGE FAULT – HAMPERED STROKE

The term “bevel edge” fault and “hampered stroke” are commonly used terms, neither of which appears in the rules. The terms describe the fault in the GC Rule 13(a)(5) which reads: “*strikes the striker’s ball with any part of the mallet other than an end-face, either (i) deliberately; or (ii) accidentally in a stroke **which requires special care** because of the proximity of a hoop or the peg or another ball;*”

GC Rule 13(a)(5) does not apply to a stroke played in the open court unless special care is required because the proximity of another ball. In this situation the striker has simply played a poorly executed stroke resulting in no penalty.

The important wording is, “...*requires special care*...” and it does not matter whether the resulting stroke was deliberate or accidental. Either way it is a fault.

If the ball departs the mallet at an angle to the line of the striker’s swing the referee can be certain that the ball has not been struck with the end face of the mallet but rather the “bevel edge”.

When watching for a possible “bevel edge” fault the referee should first ask the striker how they intend to play the stroke (e.g. a hard or soft stroke, through the hoop or across the face of the hoop) and then take up a suitable and safe position to watch the stroke.

Figures 7 & 9 demonstrate top or bottom “bevel edge” faults when the striker decided to play the stroke through the hoop.

Figure 8 demonstrates a side “bevel edge” fault.

Figure 10 shows another top “bevel edge” fault where the striker is attempting to play a hampered hammer stroke.

In all four instances the referee should mark the ball (using a ball marking technique described in Section B3), and stand in the most appropriate position, “*where you **can** see, not where you **cannot** see*”. In Figures 7, 9 & 10 watch from the side, about 12 inches to 18 inches from ground level and as close as is reasonably safe. In Figure 8 watch from directly behind the striker, again in a close but safe position. In all scenarios the referee should take as much care as possible not to distract the striker.

In Figures 7, 9 & 10 the chance of a “push” or a “pull” fault is also increased.

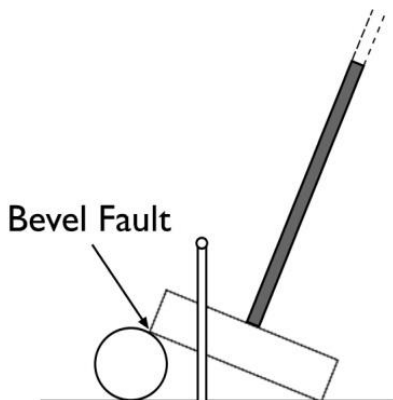


Figure 7

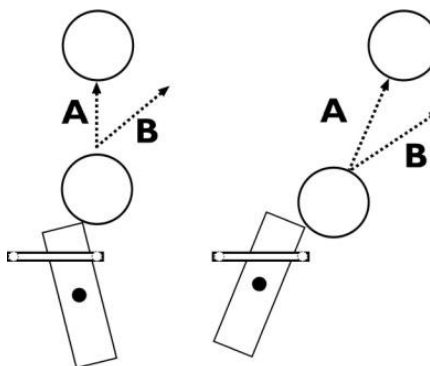


Figure 8

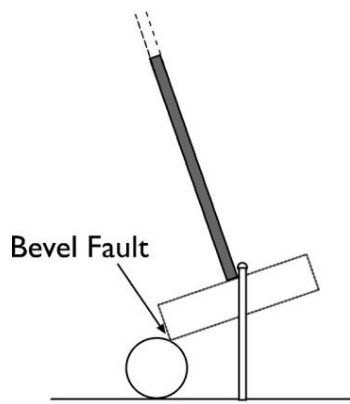


Figure 9

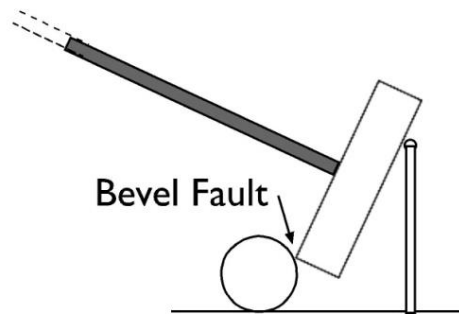


Figure 10

If the striker decides to play the stroke as in Figure 8 the referee, by standing directly behind the striker, can readily detect a “bevel edge” fault. If the ball departs along line “B” and not line “A” (the LOS) the referee can be sure the “bevel edge” has contacted the ball. The validity of the stroke in this situation cannot be accurately judged if the stroke is watched from a side-on position. The referee only needs to rely on the direction (A compared to B) of the SB departure as the indicator of a “bevel edge” fault.

In Figures 7, 9 & 10 the referee should consider calling a second referee as a combination of one or more faults may occur. The prime referee should ask the second referee to watch for a specific fault and the prime referee will watch for the other. The second referee is to offer confidential advice to the prime referee before any decision is announced by the **prime referee**.

Referees need never be intimidated or fear scorn by calling a second referee to assist, as this is becoming a practice at international events where calling a fault in these high level games can be of much significance.

OFFSIDE BALLS

GC Rule 10 formerly known as “The Halfway Rule” is commonly misunderstood by players and referees.

GC Rule 10(b) *“At the end of a turn in which a hoop point was scored, any ball, **all** of which is resting **beyond** the halfway line for the next hoop in order is an ‘**offside ball**’ - unless it reached its position as a result of”:*

11.1 ***“the stroke just played”*** [Rule 10(b)(1)]

- 11.1.1 The Blue ball runs Hoop 1 and comes to rest beyond the halfway line between Hoops 1 & 2. The Blue ball is **not** offside. It is where it is because of the stroke just played;
- 11.1.2 The Red ball peels the Yellow ball through Hoop 6 and comes to rest past the halfway line between Hoops 6 & 7. The Red ball is **not** offside. It is there because of the stroke just played;
- 11.1.3 The Blue ball is in the jaws of Hoop 7 and resting against an upright. The owner of the Black ball tries to peel the Blue ball but misses and hits a hoop upright without contacting the Blue ball. The impact on the upright knocks the Blue ball through the hoop. The Black ball comes to rest beyond the halfway line between Hoops 7 & 8. The Black ball is **not** offside. It is there because of the stroke just played.

11.2 ***“a stroke, wrong ball play or fault played or committed by an opponent”*** [Rule 10(b)(2)]

- 11.2.1 The Blue ball hits the Red ball away from Hoop 9 which in turn knocks the Yellow ball past the halfway line between Hoop 9 & 10. The Red ball is played back towards Hoop 9 which is run by the Black ball in its next turn. The Yellow ball is **not** offside. It got there as a result of a stroke played by an opponent (The owner of the Blue ball);
- 11.2.2 The owner of the Black ball played a wrong ball (Red), away from Hoop 9. The Red ball comes to rest beyond the halfway line between Hoops 9 & 10. The wrong ball play was called and the owner of the Red ball decided to leave it where it came to rest. The Yellow ball was then played and ran Hoop 9. The Red ball is **not** offside. It got to its position as a result of a wrong ball play by an opponent;
- 11.2.3 The Red ball was just across the halfway line between Hoops 11 & 12 and would have become an offside ball but it was hit further past the halfway line by the Blue ball that had just ran Hoop 11. The Red ball is **not** offside. It got to its position as a result of a stroke played by an opponent as well as being contacting an opponent's ball and as a result of the stroke just played.

11.3 ***“contact with an opponent's ball”*** [Rule 10(b)(3)]

- 11.3.1 The Red ball came to rest beyond the half way line between Hoops 3 & 4 after having made contact with the Blue ball. The Black ball was then played and ran Hoop 4. The Red ball is **not** offside. It is there as a result of contact with an opponent's ball;
- 11.3.2 The Black ball is played onto the Red ball which in turn contacts the Blue ball and knocks it past the halfway line between Hoops 2 & 3, the Yellow ball then runs Hoop 2. The Blue ball is **not** offside. It is there because of contact with an opponent's ball.

11.4 “being directed to a penalty spot” [Rule 10(b)(4)]

11.4.1 The Blue ball is directly in front of Hoop 1. The owner of the Yellow ball misses a clearing shot on the Blue ball and comes to rest beyond the halfway line between Hoops 1 and 2. The Blue ball then runs Hoop 1. As the Yellow ball **is** offside it is directed to Penalty Spot E. The owner of the Red ball then plays a very long shot from near Hoop 1 and runs Hoop 2. The owner of the Blue ball now says the Yellow ball is offside because it is past the halfway line between Hoops 2 & 3 and wants to direct the Yellow ball to Penalty Spot D. The Yellow ball is **not** offside because it is in its position as a result of being directed to a penalty spot and is to be next played from Penalty Spot E.

The above are a few examples of a ball being past the halfway line but **not** being offside. There are many more ways by which the four exceptions can occur which referees need to be aware of.

GC Rules 10(c)(1) and 10(c)(2) also need to be well understood by GCRs.

Under GC Rule 10(c)(1), **before** the next stroke is played, the opponent is entitled to direct the owner of an offside ball to next play that ball from where it lies or from one of the penalty spots, D or E.

Under GC Rule 10(c)(2) if the **side** owning an offside ball plays **either** of that side's balls before the opponent has given a direction under 10(c)(1) the opponent may stop play and then direct the stroke be replayed after GC Rule 10(c)(1) is applied. Before the stroke is replayed any balls moved in the first stroke are to be replaced.

OR 10.1 Offers another way describing what is written in GC Rule 10(c)(2)

OR 10.1 *If a player with an offside ball plays before a direction under Rule 10(c)(1) is given, that player is not entitled to subsequently rule on an opponent's offside ball. (See 1st and 3rd sentences of 10(c)(2).)*

The side owning the offside ball may suffer a further penalty as it now loses its right to give a direction to any offside ball from the other side.

If the opposing side to the owner of an offside ball plays before giving a direction under GC Rule 10(c)(1) it loses the right to then give a direction to an offside ball.

GC Rule 10(c)(2) can be explained by the following example:

When the Blue ball scores Hoop 3 the Red ball is onside but the Yellow and Black balls are offside. The Red ball is then played by its owner before any direction has been given on either the Yellow or the Black ball.

The side owning the Blue and Black balls may now stop play and require the Red ball to be replaced and replayed after it exercises its option of dealing with the offside Yellow ball (i.e. by directing it to a penalty spot or leaving it where it is).

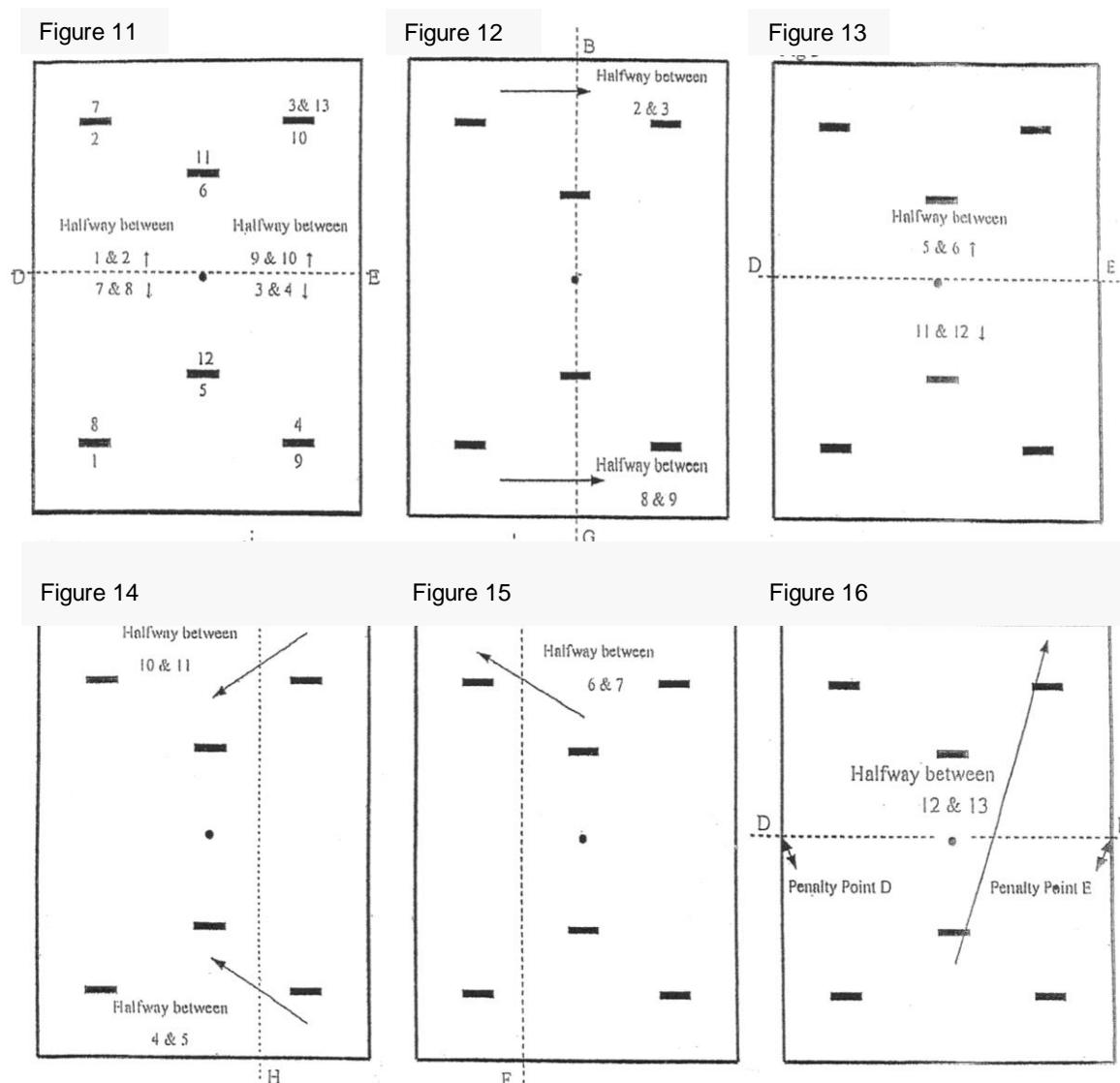
Also the side owning the Red and Yellow balls has lost the right to give a direction on the offside Black ball.

If the Black ball had been played following the playing of the Red ball and before a direction was given to the owner of the Red ball then the playing of the Red ball is condoned and the side owning the Blue and Black balls cannot give a direction to the Yellow ball.

Once a direction is given to place an offside ball on a penalty spot such placement may be delayed for the sake of convenience. However the ball remains an outside agency under GC Rule 9(d) and if hit by another ball GC Rule 9(f) applies [see also Commentary 9(f)]. Therefore it ought to be moved if there is any chance that it could be so hit.

The halfway lines

A full description of the positions of the halfway lines is given in GC Rule 10(a) its accompanying Table and Diagram.



Figures 11-16 Depicting positions of the halfway lines for a 13 point game.

Additionally in a 19 point game:

The “DE” line is the halfway line between Hoops 13 & 14, 15 & 16, 17 & 18 and 18 & 19.

The “BG” line is the halfway line between Hoops 14 & 15.

The “AF” line is the halfway line between Hoops 16 & 17.

And in a 7 point game:

The “DE” line is the halfway line between Hoops 6 & 1(the final hoop in a 7 point game).

11.5 Practical Points for GC Referees regarding the Offside Balls Rule.

11.5.1 The referee is not allowed to declare whether or not a ball is offside unless asked by one of the player(s) for a decision. However if a player declares a ball to be offside when it is not or onside when it is not the referee can now intervene and inform the players of the correct status of the ball. Here the referee is not initiating any action; the action was initiated by a player;

- 11.5.2 When asked to give a decision on all potentially offside situations the referee should ascertain how all balls got to their positions before the hoop was run and who was the last player to play;
- 11.5.3 Referees need to remember that the positions of the lines AF, BG, CH and DE as described in GC Rule 10(a) are the **definitive** Halfway Lines. The halfway marker pegs should be in their **correct** positions at all times during a match. These marker pegs are to be coloured white and tall enough to be easily visible from one boundary to the other. The halfway marker pegs are to be used as **guides only** and if they are inadvertently placed in an incorrect position this incorrect positioning **does not** indicate the positions of the ends of the halfway lines;
- 11.5.4 There are only two penalty spots. They are located on the eastern and western where the D-E line crosses those boundaries;
- 11.5.5 The D-E line is to be perpendicular to the east and west boundaries and pass through the centre of the centre peg.

REPLACEMENT OF A BALL AFTER INTERFERENCE

The most common reason for replacing a ball after interference is when a stationary ball is contacted by a ball from a double banked game on the same court.

GC Rules 9(g), (h) & (i) describe how this situation is rectified

GC Rule 9(j) *“A player may lift a ball, with or without permission in order, to prevent it being struck by an outside agency.”*

This rule means that it is no longer a non-striking fault for a player to lift a ball that is in danger of being contacted by a ball from another game. The referee should only act if the player is observed to have placed the ball in an obviously different position than it was originally.

GC Rule 9(g) *“If an outside agency, other than a scoring clip... is in place before a stroke is played, and the outside agency is hit by a moving ball, then Rule 9(f) does not apply. The **opponent** has the choice of leaving the moving ball where it stopped or of placing it where the **opponent** felt it would have stopped if there had been no interference. In particular **no replay** is permitted”.*

This rule removes the referee's responsibility in deciding where to place the moving ball. The stationary ball, of course, is to be replaced as near as possible to its position before it was contacted and a referee should act only if the opponent claims the moving ball would have come to rest in a decidedly incorrect position.

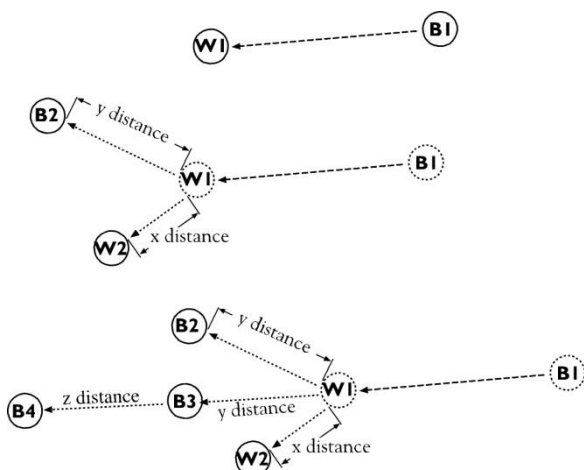
If the opponent is not sure where to place the moving ball after the collision, the two schemes described in Drawing 7 and Diagram 5 could be of help. However referees and players must remember that the final decision of where the ball is placed belongs to the opponent.

12.1 $Z = Y + 2.5X$

Rudi Miller (Kew CC, Victoria) has devised a system how to calculate where the moving ball is to be placed. Drawing 7 explains how his method is applied.

The moving ball is placed according to the formula $Z = Y + 2.5X$ and is shown in the diagram below:

X = the distance the stationary ball was moved.
 Y = the distance the moving ball travelled after contacting the stationary ball.
 Z = the distance from the original position of the stationary ball to where the moving ball is to be placed.



Drawing 7 Pictorial Description $Z = Y + 2.5X$

In Drawing 7 the moving ball (B1) travelled 3 paces to (B2) after contacting the stationary ball (W1), this is the Y distance and the stationary ball (W1) was moved 2 paces to (W2), the X distance.

$$\begin{aligned}\text{Now } Z &= Y + 2.5X \\ &= 3 + 2.5 \times 2 \text{ paces} \\ &= 3 + 5 \text{ paces} \\ &= 8 \text{ paces}\end{aligned}$$

Therefore the moving ball is to be placed along its original line of travel, 8 paces from the original position of the stationary ball.

12.2 SHHh

Jim Clement (Sarsfield CC, Victoria) has devised another system for the replacement of the balls which he named the SHHh system, and could be easier for some referees and players to remember.

In this scheme the “X” and “Y” distances in Rudi Miller’s formula are replaced by the “S”, “H” and “h” distances to form the mnemonic of SHHh.

Diagram 5 illustrates the SHHh system.

The procedure is:

- 12.2.1 Mark, as near as possible, the original positions of the Striker’s Ball (S_o) and the Hit Ball (H_o) from the other game;
- 12.2.2 Extend, and mark, the line from S_o to H_o , along which the striker’s ball will be placed in its measured final position (S_f);
- 12.2.3 Measure S and H by pacing the distances – these are the distances from the marked H_o to where the balls came to rest (S_R and H_R in the diagram);
- 12.2.4 Calculate the distance that the striker’s ball would have travelled beyond H_o if contact had not been made – this is $S + 2.5 \times H$;
- 12.2.5 Replace the hit ball (at H_o);
- 12.2.6 Place the striker’s ball at S_f by pacing out the distance $S + 2.5 \times H = S + 2H + H/2$.

The balls are now placed as close as possible to where they would have been if interference had not occurred. The logic in the mnemonic “SHHh” is about the distances - **S**triker’s ball, **H**it ball, **H**it ball, **h**alf hit ball.

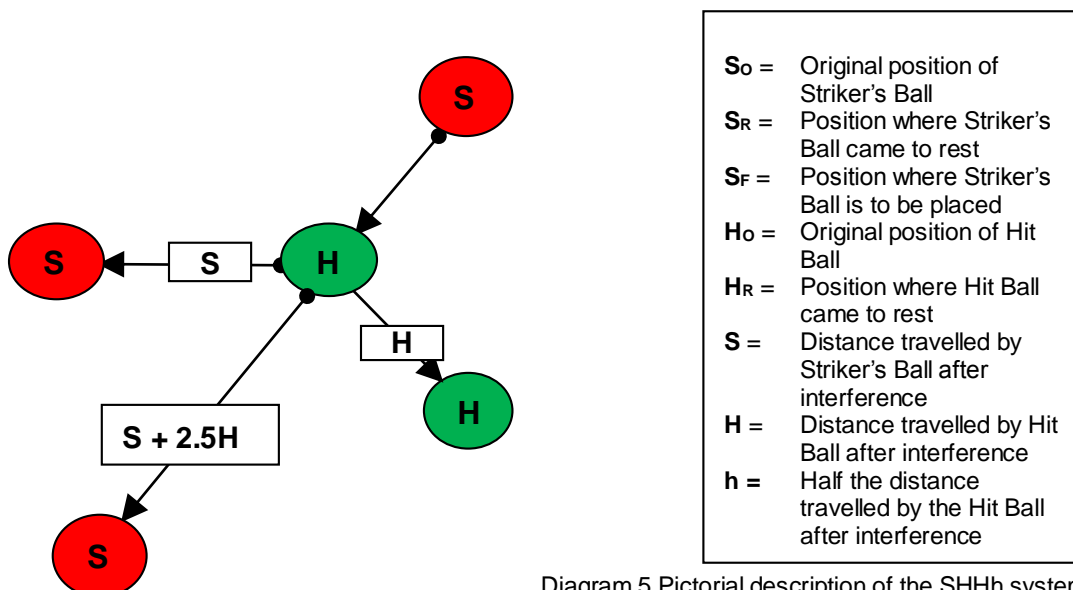


Diagram 5 Pictorial description of the SHHh system

In both methods measuring the distances by paces is accurate enough and all that is necessary. There is no need for the players to call for a tape measure.

Note It is the opponent and not the referee who decides where the moving ball is to be placed; GC Rule 9(g) "... *The opponent has the choice of leaving the moving ball where it stopped or of placing it where the opponent felt it would have stopped if there had been no interference*".

The only time a referee should intervene is if the opponent **claims** the ball would have come to rest in a highly improbable final position, in which case the referee would be quite in order to apply GC Rules 14(a) and 14(a)(15), especially if the incorrect positioning of the ball would have disadvantaged the ball's owner.

HANDICAPS AND EXTRA TURNS

In handicap events the players need to clearly understand the number of extra turns available in each game of the match and who receives or gives those extra turns.

Because a player's GC handicap changes **immediately** a trigger point is reached, which can happen during a match, it is important that players attend to their score cards immediately after every game as playing with an incorrect handicap can lead to disqualification.

The allocation of extra turns should be attended to by the TM, or an appointed person.

The rules allow for GC handicap changes to occur in doubles games [See GC Rule 16(c) and Table].

OR 1.1 explains what is to be done if extra turns have been taken when both sides have competed for one or more hoops out of order.

OR 1.1 *When applying Rule 1(f) in a handicap game any extra turns used during play for, and which includes, the running of hoops out of order, shall be restored...*

13.1 Singles Handicap Matches

In singles handicap matches the number of extra turns the lower handicapped player gives to the higher handicapped player is the difference between their handicaps and adjusted for 7, 13 or 19 point games according to the Table in GC Rule 16.

Example Player "A" handicap is 7 and player "B" handicap is 3
 The difference in handicaps = 4
 Now refer to the table accompanying Rule 16(b)
 Player "A" receives 4 extra turns in a 13 point game
 Player "A" receives 6 extra turns in a 19 point game
 Player "A" receives 2 extra turns in a 7 point game

13.2 Doubles Handicap Matches

In doubles handicap games the extra turns are given to **individual players and not to the side** and can only be used by the player receiving the extra turns.

The lower handicap on each side is subtracted from the higher handicap on the other side and the difference is halved. The Table accompanying GC Rule 16 shows the number of extra turns available to the higher handicapped player in each side.

When the two players in one side have the same handicap they are to decide in advance who will be considered to be the lower handicapped player.

Example	Side A.	Player 1	Handicap 4
		Player 2	Handicap 5
	Side B	Player 3	Handicap 2
		Player 4	Handicap 10

Half the difference in handicaps between Players 1 & 4 = 3 and therefore
 Player 4 receives 3 extra turns in a 13 point game
 Player 4 receives 5 extra turns in a 19 point game
 Player 4 received 2 extra turns in a 7 point game

Half the difference in handicaps between Players 3 & 2 = 1.5 and therefore
 Player 2 receives 2 extra turns in a 13 point game

Player 2 receives 2 extra turns in a 19 point game
Player 2 receives 1 extra turn in a 7 point game

Depending upon their handicaps in doubles games it is possible for:

One player on either side to receive extra turns.
Both players on one side to receive extra turns.
Only one player in the game to receive extra turns.
No player on either side to receive extra turns

Handicap changes can come about as the result of both singles and doubles games. At the end of any game where a player's index passes through a "trigger point" the player's handicap changes and the change becomes effective immediately at the end of the game, not at the end of the match. Therefore in best-of-3 or best-of-5 game matches it is possible for a player's handicap to change and therefore the number of extra turns that player gives or receives in later games during the match will also change. Because of this it is important that handicap record cards are completed by the players after each game and not at the end of a best-of-3 or best-of-5 game matches as playing with an incorrect handicap can lead to disqualification.

Sometimes the referee needs to be involved (before the game starts) because the players are confused or ill-informed regarding who receives extra turns. The following technique often helps the referee to sort out the allocation of the extra turns:

- 13.2.1 Have the low handicapped player from each side stand facing the high handicapped player from each side.
- 13.2.2 Now calculate the extra turns to be given between each pairing by verbally going through the calculation in the manner described in the example above. This way there should be no misunderstanding.

13.3 Extra turn clips

Some suitable visible means of displaying the number of extra turns a player has in a handicap event should be used to indicate to the players, the referee and spectators the state of the game.

Coloured clothes pegs or clips are commonly used to indicate the extra turns. These may be attached to the centre peg extension or at some suitable courtside position. The technique of removing the extra turn clips from the peg extension is a simple way of keeping spectators informed of the state of the game.

Another way is to have the players carry clips or tokens which are handed to the opponent as each extra turn is taken.

Sometimes coloured wooden pegs or small coloured flags are placed in the ground by the boundary, off the court. As each extra turn is taken a peg or flag is removed.

If coloured clips attached to the peg extension are used to indicate the number of extra turns available, care must be taken that they are of distinctive colours so as not to become confused with the clips that are commonly used to show which side has won each hoop.

What ever system is used for checking on the number of extra turns available the referee should ensure the players fully understand the system in use, before the match begins.

COURT DAMAGE

During a game any damage to the court that is caused by a player could be a fault under GC Rule 12 or GC Rule 13 as outlined below.

GC Rule 12(b) *“A non-striking fault is also committed if a player causes damage to the court that, before it is repaired, is capable of affecting a subsequent stroke played over the damaged area, except when the striker is playing a stroke.”*

14.1 Examples of court damage being a non-striking fault under this rule include:

- 14.1.1 Damage caused by the mallet during an “air swing.”
- 14.1.2 Damage to the court by the striker’s mallet **before** it makes contact with the striker’s ball.
- 14.1.3 Any accidental or careless use or abuse of a mallet.
- 14.1.4 Any careless use of a player’s feet, e.g. excessive scuffing of the court surface.

GC Rule 13(a)(15) *“plays any stroke in which the mallet causes damage to the court that, before it is repaired, is capable of affecting a subsequent turn played over the damaged area.”*

14.2 To be a striking fault under this rule the damage must:

- 14.2.1 Occur **after** the striker’s ball has been struck and before the striker leaves the stance under control [Refer to Commentary on GC Rule 13(a)].
- 14.2.2 Be caused by the striker’s mallet.

Note: To be a fault the damage must be caused by a player or the striker’s mallet. Damage caused by a ball, for example an indentation made when a ball is driven forcefully into a soft court during a jump shot, is not a fault.

Naturally any damage to the lawn outside the court boundary is not a fault.

Court damage faults under GC Rule 13(a)(15) commonly occur during jump shots and hammer shots.

Before damage may be repaired it is to be assessed by the referee, if one is available, and if the stroke involved did break the surface of the court to the extent that the damage is capable of affecting a subsequent stroke/turn played over the damaged area a fault has been committed and the referee should call a fault on the offending player.

When the damage appears marginal the best way to test if the damage is capable of affecting a subsequent stroke the referee is to roll a ball slowly across the damaged area several times and in several different directions and watch for any deviation of the ball’s passage over the damaged area.

If the previous striker is observed to be repairing the court by pressing a foot or the mallet onto the court in the vicinity of a dubious stroke, in what appears to be an effort to disguise or repair damage, this could suggest a fault has been committed and it might be in order for the referee to fault the stroke. However the referee should be sure that the damage was caused by the mallet and the player was not repairing some previous damage caused by another player, was not stepping on an insect, or flattening a worm cast or such other object, particularly if the referee observed the behaviour from a distance and not nearby.

If there is doubt over the player’s actions, the referee should warn the player the behaviour is unacceptable under GC Rule 14(a)(13) and is not to be repeated before the referee’s or the opponent’s attention is drawn to the need to examine the court surface.

TIME LIMITED GOLF CROQUET GAMES

GC Rule 1(c) states “...*Each game finishes as soon as one side (the winner) has scored a majority of points to be played...*”

This means as soon as one side has won 4, 7 or 10 points in games of 7, 13 or 19 points respectively.

The rule also provides for alternative methods of finishing, including “...*using a time limit.*”

15.1 Time limited games

Time limits are usually set at 45 or 60 minutes for singles games and 75 or 90 minutes for doubles games.

When the time limit is reached the side with the most points is declared the winner of the game, unless the scores are level whereupon it is customary for the game to continue until either side has won the next hoop in order. Other ways of finishing a tied game as described in GC Rule 1(c) are rarely used.

15.1.1 Time keeping

Electronic timers with alarms are now almost universally used. Sometimes the players will act as timekeepers and use their personal wrist watch, stopwatch or a provided timer.

In order to avoid conflicts the appointment of an independent timekeeper is desirable but commonly not possible. Referees should not be called upon to also act as timekeeper, especially if the referee is acting as SuR or RoR.

Often the players will start the game themselves by activating the timer as the first ball is struck into the court.

If a referee is acting as a RiC it is desirable to write down the time the game started and record the order of the first four balls played, and at some point enquire who is actually the timekeeper.

If the players have expected the referee to assume this duty then the referee may take that responsibility, but should do so only if there is no other option.

15.1.2 Stopping the timer during a game

Conditions under which players may stop their timer during a game should be written into the Conditions of Play and fully explained to the players before the commencement of play. Unfortunately this rarely happens and referees should insist that the TM clearly explains to the players under what conditions their timer may be stopped and when it is to be restarted.

The timer should **not** be stopped while a problem is being sorted out, either when a referee is present or in self refereed games. Sorting out a problem is part of the game.

Stopping of a timer is usually allowed while the players are waiting for a RoR to arrive. However it should be restarted as soon as the referee is present on the court and attending to the problem.

15.1.3 Stopping the timer in a time limited, double banked game

The Rules recommend that games which are doubled banked should not normally be time limited:

Commentary on GC Rule 1(h) “...time limits would not normally be used where two games are played simultaneously on the same court.”

However in Australia it is quite common for doubled banked games, both singles and doubles, to be time limited.

When a slow double banked game is preventing a faster game progressing, sometimes the players from the faster game become agitated and constantly stop their timer. The provision to allow or not allow this is usually in the Conditions of Play or is announced before the event commences.

If the referee is not the time keeper, the referee ought to confer with the TR who is to consult the TM as to how to resolve this situation.

With time limited, double banked games problems often arise, including

- 15.1.3.1 The wrong timer is stopped;
- 15.1.3.2 The wrong timer is restarted;
- 15.1.3.3 A timer is not restarted;
- 15.1.3.4 The players of the first game to finish inadvertently remove the timer belonging to the other game.

Timers should be clearly identified to prevent these problems occurring. Players and officials need to be vigilant with their time-keeping.

Players in time-limited, double-banked games will often assert their right to “actively play” for the full time allowed for the game by frequently stopping the timer themselves. This should only be done for a genuine reason such as when one game is holding up the other or when one game is waiting to play on to the hoop the other game is contesting.

15.1.4 Positioning the timer

Timers should be situated where the players have ready access to them and where the alarm can clearly be heard.

As most electronic timers have LCD screens care needs to be given to where they are placed during matches. They will malfunction if the screen is left exposed to direct sunlight.

It is also a good practice to keep the timers in double banked games well away from each other to prevent the wrong timer for either game being incorrectly stopped.

Before the start of a tournament it the responsibility of the TM to ensure that the timers are functioning correctly and that there is a supply of charged batteries.

15.1.5 Ending a time limited game

This decision is the responsibility of the TM or the Tournament Committee and the Conditions of Play should clearly state how games are to finish if the scores are tied when time is called. The most common way to get a result in a game that is tied when time is called is for the game to continue until the next hoop in order is scored.

Other ways of ending a tied game, when time is called are described in Commentary on GC Rule 1(c).

If all balls are stationary when time is called then the game is over unless the scores are tied in which case the management may allow, or require, play to continue in order to produce a winner. If balls are still moving when time is called then the game ends when the balls stop moving, and any hoop run, in order, is scored.

15.1.6 Ending a game when a timer has been stopped but not restarted during a game

Occasionally in double banked games, once a game restarts after the timer has been stopped the players, or timekeepers, forget to restart the timer.

This can lead to much confusion and angst when the players think the game is close to ending and ask the referee to check the time remaining only to discover it has not been restarted. The best solution is to let the players decide on a mutually acceptable amount of time to continue playing. If they cannot agree and if the referee cannot “broker” upon an agreed time the referee might then instruct that play will continue for a short period, say 2 or 3 minutes. If this is not acceptable to the players the matter should be referred to the TM.

Also on a doubled banked court the players of the first game to finish sometimes in error stop the clock of the second game on the court. Here again the referee may be called on to sort out the problem.

15.1.7 The procedure as time draws to a close

Towards the end of a game the referee (whether acting as a timekeeper or not) should not obviously look at the timer and certainly not pick it up as this could be an indication to the players that the time limit is approaching. This action is almost the same as giving advice.

It is preferable for a referee to keep in earshot of the timer towards the end of the game, especially if there happens to be any significant ambient noise and the players are far away from the timer.

The referee (when acting as timekeeper) is not to state the time remaining unless asked.

Unfortunately some players display very poor sportsmanship towards the end of time limited games when they might have a narrow lead and continually ask how much more time and even worse waste time by repeatedly walking over to the timer before they play their stroke. A referee should not allow such behaviour and it would be in order in such cases to give the player a warning under GC Rule 14 (a)(8). Although, because of the short amount of time remaining in the game, this warning might not have much effect on the game in question. The rules do allow for that warning to carry over into subsequent games in the match.

The matter of thoughtless or deliberate time wasting is looked at in more detail in Section B17.

15.1.8 Contested hoops out of order

If in a time limited game it is recognised that both sides have contested one or more hoops out of order time is not restored.

OR 1.1 *When applying Rule 1(f) in a handicap game any extra turns used during play for, and which includes, the running of hoops out of order, shall be restored. Time, in a time limited game will not be restored in such circumstances.*

ON COURT DECISION MAKING

16.1 Balance of Probabilities

No decision should be made other than on the balance of probabilities, which in itself can be relatively subjective and a referee needs to carefully look at and think about the evidence before making a decision on anything other than a clearly “open and shut” situation.

A fault is to be called if the referee is convinced it is more likely than not that a fault has been committed. However the referee needs to be in an appropriate position on the court that allows a reasonable view of the circumstances surrounding the possible fault.

In the interests of keeping games flowing and the avoidance of placing unnecessary stresses on the players decisions on matter of fact issues should be made without undue delay but at the same time **hasty** decision making is to be **avoided**.

Once the referee has made a decision it should be audibly and clearly announced. The referee should never simply nod or shake their head and walk away.

GC Rule 15(a) and the WCF Refereeing Regulations describe the powers, duties and responsibilities of referees and how referees are to act. These Regulations need to be read by all GC referees to maintain a good understanding of their duties and responsibilities.

16.2 Contamination of Evidence

Examples

16.2.1 If a referee is called to judge whether a ball is in or out of court where a string line is in use and a player is found to be standing on the string line, causing it not to be straight, then a decision should be given in favour of the opponent.

16.2.2 If a player appears to be repairing damage to the court caused by that player or player's mallet following a stroke a fault should be called if the referee is convinced the court has been damaged according to the rules.

The referee needs to be in a position on the court where a reasonable view is available of what happened before the player was observed to appear to be repairing the court. If the referee was standing on the southern boundary and the action described was happening close to Hoop 2 or 7 or Hoop 3 or 10 making a judgment and declaring a fault on the balance of probabilities would be at the best very difficult.

However if the referee or the opponent was unable to examine the extent of the damage before it was repaired the player should be warned under GC Rule 14(a)(13) “Attempts to repair lawn damage that may indicate a fault before it is ruled on by a referee or opponent.”

BASIC COURTESY AND ETIQUETTE FOR GOLF CROQUET REFEREES AND PLAYERS

During games and matches referees and players are expected to display appropriate courtesy to each other.

The following guidelines and suggestions strive to express how referees and players should conduct themselves and interact during games of GC. Suggestions are also included that may help referees manage players and control situations when differences of opinion between the players appear to be coming heated and when a player behaves in an unreasonable or thoughtless manner.

GC Rule 14 (Etiquette) deals with specific issues related to player etiquette and gives a number examples of inappropriate behaviours. Referees and players need to remember that inappropriate behaviour is **not limited to** those listed in GC Rule 14 and therefore a referee may issue a warning for other behaviours deemed unacceptable.

Fortunately breaches of Etiquette or indeed discourteous behaviour of any nature is uncommon and referees are rarely required to apply GC Rule 14

The following aims at producing guidelines about the way referees and players should conduct themselves, and how referees should manage players who are unwittingly or deliberately discourteous and breach GC Rule 14.

It is important for GCRs to remember that games and matches of GC are for the benefit and enjoyment of the players and therefore they should stay in the background as much as possible and refrain from taking a draconian approach when applying GC Rule 14.

Usually by acting with polite firmness a GCR can show players what is expected of them and quietly “defuse” any unpleasantness.

Courtesy is mostly a matter of common sense and thoughtfulness which the other players and the referee should be showing to the striker.

Apart from ensuring that the striker is not distracted there are other aspects of courtesy and etiquette which referees and players should keep in mind at all times. These matters are discussed below.

All players and the referee are to ensure that matches continue according to the rules and regulations and be played “in the spirit of the game”.

17.1 Avoid distracting a striker

Once a striker has commenced preparing to play a stroke and until the stroke is completed the referee and other players should remain stationary and silent.

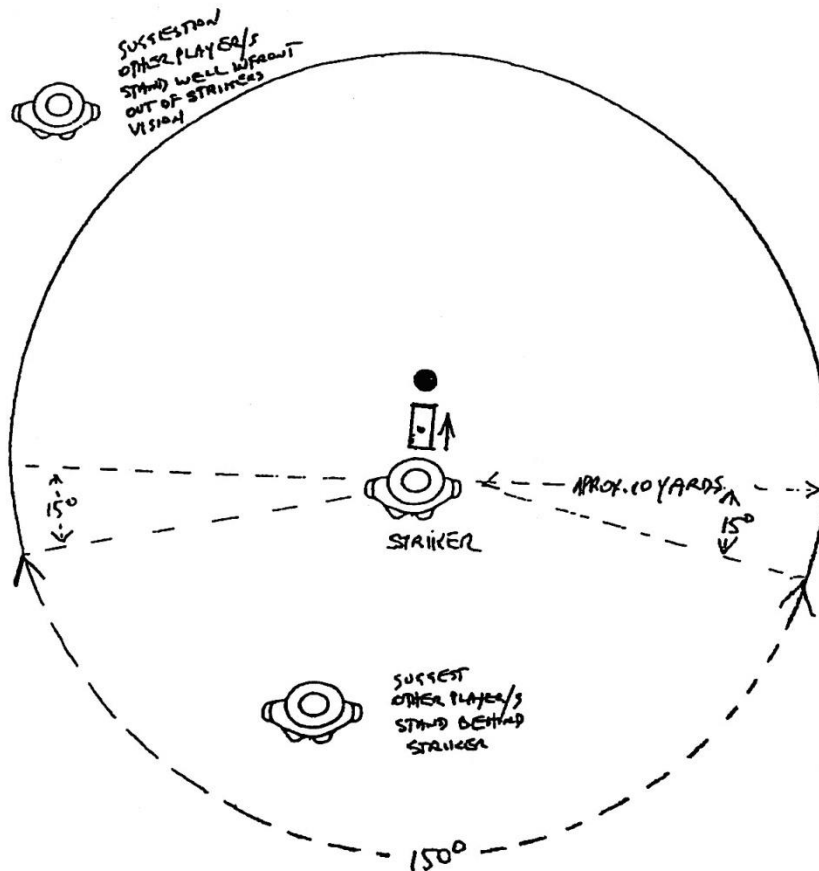
17.1.1 Where to stand and not to stand

The referee, as much as possible, and the other players are not to stand directly in the striker’s line of direct vision nor in the range of peripheral vision. It is preferable for all to stand behind the striker as depicted in the Drawing 8. Sometimes a referee or a player will find themselves unavoidably in front of the striker in which case they should try to be no closer than about 10 metres and even then should stand to one side or the other of the striker’s direct line of vision and above all remain stationary. Players should not allow their mallets to swing about.

Occasions arise when a referee needs to be close to a striker to watch a stroke which requires special care in its execution because of the proximity of another ball or balls, a

hoop or the peg, in order to avoid a fault being committed. The referee may be asked by the striker or by an opponent to watch the stroke, in some cases a RiC will make the decision himself that the attempted stroke needs to be carefully watched. In these situations where the referee positions himself will be dictated by the nature of the stroke to be attempted. Here it is wise for the referee to follow Owen Edward's time-tested dictum of *"Stand where you can see. Not where you cannot see"*.

However referees need to consider personal safety and ensure they are standing where they are not likely to be struck by the striker's mallet on the backswing, the forward swing or when the striker is withdrawing the mallet at the completion of the stroke.



Drawing 8 Ideal Positions of Where to Stand

If a striker asks the referee to stand elsewhere and the referee decides that an adequate view of the stroke is not possible from any other position in order to give a fair and accurate decision on the stroke, the referee should inform the striker accordingly. However when a referee is standing very close to a striker, and possibly in the striker's field of vision, it is mandatory for the referee to remain perfectly stationary throughout the duration of the stroke.

If asked to move or when otherwise walking from place to place on the court it is discourteous to walk across the striker's intended line of play. This is especially so on courts where the surface is soft, usually as the result of rain, as foot print impressions can interfere with the direction a ball travels.

17.1.2 Silence

Once a striker is preparing to play a stroke and until the stroke has been completed the referee and all other players in the match are to remain silent, unless:

- 17.1.2.1 Asked a question by the striker;
- 17.1.2.2 Responding to a request made by the striker;
- 17.1.2.3 Advising the striker that a wrong ball is about to be played, in accordance with GC Rule 11;
- 17.1.2.4 The opponent wishes to forestall play in order that a referee can be summoned to watch the stroke;
- 17.1.2.5 The striker's partner wishes to offer advice.

17.2 Time Wasting

In the past this point of etiquette has been very subjective and open to abuse by a small minority of, possibly thoughtless, players and the previous wording of GC Rule 14(a)(8) *"Fails to play with reasonable dispatch"* has meant different things to different people.

GC Rule 14(a)(8) now reads *"...The striker is to play within 1 minute of the last turn ending..."* and the Commentary on GC Rule 14(a)(8)(ii) reads *"This rule does not give players permission to wait for 1 minute before playing. Rather it is intended to prevent excessive deliberation before playing."*

Time wasting can be avoided by:

- 17.2.1 Players walking promptly to their balls once a turn has ended;
- 17.2.2 Promptly having balls that have left the court being placed back on the court. Especially if that ball is next to be played;
- 17.2.3 In doubles games refraining from engaging in unnecessarily long discussions prior to a stroke being played;
- 17.2.4 In singles games the striker should not engage in long pensive periods musing over what to do in relation the stroke about to be played.

Again a polite word from the referee is usually all that is needed to keep a game moving at an acceptable pace.

17.3 Advice

GC Rule 8 clearly states what advice players can give each other as well as what advice they are not entitled to give.

OR 8.1 *Players are not permitted to refer to printed, hand written or other prepared material during a match, except for the purpose of clarifying the rules to apply to a circumstance that has arisen.*

The rule also describes what a player may do after acting on wrong advice given by an opponent. As well the rule states that although advice should not be given from off the court a player is entitled to act on such advice.

GC Rule 15 and ACA Referee Regulation 2 states the limits of advice which a referee may give to a player.

In summary these limits are:

- 17.3.1 If asked, to give information about the state of the game;
- 17.3.2 If asked, to state the rule on any matter;
- 17.3.3 If asked, explain the reasons for a given ruling;
- 17.3.4 Advise a striker who is about to play a wrong ball, according to GC Rules 11(b)(1) & 11(c)(1);
- 17.3.5 Otherwise a referee may not give any information or advice to a player;

17.3.6 Not to give advice that will assist the player in any way, which includes not initiating any action under GC Rule 10 (Offside Balls);

17.3.7 Not to refer to printed, hand written or other prepared material during a match.

17.4 Double banked games

In double banked games patience and tolerance are often required by the players of both games. All referees and players need to pay particular courtesy to one another. Generally, the first game to commence on a court is given the courtesy of right of way. There may be occasions when the referee will need to take control and 'mark-down' a slow double banked game that is preventing a faster game progressing such as after giving a 20 minute start to the first game the second game constantly is required to stop, having caught up with the first game because the players are playing very defensively by clearing each other rather than attempting to score hoops. "Marking down" by the referee is also needed when double banked games are playing for hoops that are in the same line such as one game has contested Hoop 3 and wishes to go for Hoop 4 while the other game has contested Hoop 9 and wishes to go for Hoop 10.

During double banked games players should carry markers and observe the practice specified in GC Rule 1(h) "...*The position of balls from the other game may be marked with **permission** from the participants of that game...*"

GC Rule 9(j) allows a player to lift without penalty, a ball from his game that is in danger from being contacted by a ball from another game "*A player may lift a ball, with or without permission, in order to prevent it being struck by an outside agency.*"

This means that such an action is no longer a non-striking fault.

17.5 Calling the score in refereed games

Although not specified in the ACA Refereeing Regulations it is a time honoured practice for the referee, or in the absence of a referee the striker, to announce the score after each hoop is scored. This is customarily done by first calling the colour of the ball that scored the hoop followed by the score, starting with the score of the side that won the hoop point. For example "Red hoop. Red and Yellow lead 4 – 1" or "Blue hoop. Blue and Black trail 1 – 4". Calling the score after each hoop is won is a courtesy to both sides and offers the opportunity to correct any wrongly called score.

17.6 Court damage fault

Sometimes when playing a stroke (jump shots, hammer shots, cricket/golf across the body shots) the court surface is damaged. If this happens it is not an acceptable form of behaviour for the striker to then stand on the divot and repair it.

The referee or an opponent needs to examine any damage caused by a player to the court surface in order to be able to decide if the damage is severe enough to be declared a fault.

If a player stands on a suspected divot in a stealthy attempt to disguise the damage, it is a **possible** admission of a fault having been committed and could result in a fault being called under GC Rule 12(12)(b) or GC Rule 13(a)(15).

As well such action such may incur a warning under GC Rule 14(a)(13).

If the referee was in a suitable position to observe the damage and the player's action and was certain the player was in fact repairing damage caused by the player or the mallet then there should be no hesitation in awarding a fault, but only if there is no doubt that the damage was caused by the mallet or directly by the player.

However before declaring a fault or giving any warning the referee needs to ensure the player was not performing something as innocent as treading on an insect, flattening out some worm castings, repairing damage caused by a previous player or any other innocent action.

17.7 Calling a Referee (In the absence of a Supervising Referee)

When calling for a referee, for any reason, the time honoured manner of summoning is for the player to signal by raising the mallet above the head. If the striker (or the opponent) stops play and calls a referee, they are expected to wait until the referee has arrived. If they do not stop, ask them not to do so again and advise them that they have breached GC Rule 14(a)(9). In this case the striker is guilty of discourtesy towards the opponent and the referee.

By the player having stopped play and calling a referee all play is to cease until the referee restarts the game after determining the reason for the stoppage, had the opportunity to mark any ball as necessary and taken up a position where the stroke can be adequately watched.

In extreme cases of a truculent player repeatedly playing a ball during the period when play has been stopped the referee should not hesitate in awarding a penalty under GC Rule 14(a)(9).

17.8 Attempted 'Condoning'

If the striker calls a referee to watch a shot such as a close run hoop and the opponent calls (with the best of intentions) *"Play on, don't bother calling the referee - I trust you."* a difficult situation can arise. The referee may well be on the way but unsure what to do. The striker is to ignore the non-striker as play has been stopped by the striker's signal for a referee. The striker is to wait until the referee has arrived and performed the duty for which they have been called. This discourtesy of the non-striker toward the referee is unfortunate as they have no authority to make such a decision. This is a thoughtless and discourteous attempt by the opponent to override the striker's request to stop play no matter how well intended. The referee is to inform the non-striker of the appropriate etiquette as well as potentially leading the striker into breaching GC Rule 14(a)(9).

17.9 Shaking Hands

While it is common practice in Australia to shake hands with the players of the other side before and after a match, don't be alarmed if an overseas visitor fails to do this before a game as it is not necessarily the practice in some overseas countries. Shaking hands between games of a best-of-3 or 5 games match should not be done as a handshake signifies the end of a match not end of a game.

Shaking the hand of a referee at the end of a match is appropriate and a gesture appreciated by most referees, especially if the referee has had to make some difficult decisions, made a bad decision or has needed to intervene when players were showing ill will toward each other.

17.10 Self Refereeing by Players

The presence of a referee does not relieve a player from the responsibility of announcing any fault that they commit.

GC Rule 15(a) *"The players in all matches are responsible for the fair and correct application of these Rules..."*

GC Rule 13(b)(1) *"If the fault is noticed before the opponent has played..."*. On most occasions in a self-refereed game the striker is the only person who will be able to notice striking faults. Therefore it is expected that the striker will announce if and when a striking fault has been committed.

GC Rule 15(a) “...*The presence or absence of a referee does not change the obligation on a player to follow fair and correct play...*”

More information regarding players refereeing their own game can be obtained from the ACA Refereeing Regulation 7.

OR 15.1 *If a situation does not appear to be adequately covered in the rules , or their interpretation appears to be uncertain, the issue shall be decided by the referee, or in the absence of the a referee, by the players in a manner which best meets the justice of the case.*

OR 15.2 *Where a stroke that may produce a fault is to be played the striker should first request a referee or the opponent to watch the stroke. If the striker does not make the request, the opponent may forestall play and ask for the stroke to be watched.*

17.11 Summary: The spirit, the intent, the expectation

The rules are written to facilitate play and prevent time wasting.

The game of Golf Croquet is intended to be a game that involves prompt interactive play incorporating a participating referee.

It is intended, where possible, that the game is to be played with a RiC who is an active, but not obtrusive, participant', calling the score and keeping spectators informed by signalling when appropriate.

Etiquette is important. The rules require the non-striker to be discrete and to be silent, stationary and unnoticeable to the striker and, as far as possible, this also applies to the referee.

The expectation is that play will be continuous with minimal time lapse between strokes. Time wasting discussions between strokes is to be discouraged and penalised when appropriate under GC Rule 14(a)(8).

If games are always played according to the rules and “*in the spirit of the game*” it follows that common courtesy will be displayed by all involved and breaches of GC Rule 14 will not occur.

Players’ attention is drawn to *GC Rules Regulation 6 ‘Player’s Responsibilities’* “*A player is responsible at all times to act within the letter and spirit of the Rules and Regulations. Failure to do so may render the player liable to disqualification...*”

HEALTH AND SAFETY

The welfare of the players is paramount at all times.

Referees need to be aware of Health and Safety matters that can be of concern to themselves and the players during GC matches.

18.1 Extreme Weather Conditions

Due to the wide variation in the seasonal weather conditions across Australia, the extreme weather policy of each State is applicable.

Any alteration to the event program, including postponement or abandonment of play, because of extreme weather is the responsibility of the TM, often in consultation with the TR.

Most concerns about weather extremes revolve around hot and dry, hot and humid or stormy conditions.

Many of our players and referees are more susceptible to the potential problems related to hot weather conditions, including dehydration and heat exhaustion. Therefore when playing in hot weather players and referees should be reminded of the need to wear cool, loose clothing, a broad brimmed hat, application of protective sunscreens and maintain a steady intake of cool fluids.

Referees ought to be alert to the possibility of the onset of heat exhaustion among players, particularly the elderly, and if concerned take the player(s) aside and suggest they take a break, seek a cool and shady place to rest and start drinking cool fluids. If the referee considers the situation to be more serious, or has the potential to become so, play should be stopped and the TM notified. Many players are reluctant or too embarrassed to accept early advice, but this should not deter the referee from acting responsibly.

In cold weather adequate warm clothing is called for, together with adequate protective wet weather clothing and wind protection.

The TM should stop all play if there is lightning present or impending.

If play is abandoned due to extreme weather, referees may be required to “mark-down” any games they are controlling.

18.2 General on Court Safety

On court safety generally applies to avoiding accidents that can be caused by hoops, balls, boundary markers, ball barriers and other courtside objects.

18.2.1 Equipment

18.2.1.1 Balls as hazards:

- 18.2.1.1.1. Players and referees should refrain walking backwards before firstly looking to see what is behind them. Tripping over a ball can result in a serious injury;
- 18.2.1.1.2 Balls travelling at high speed can cause serious damage if they make contact with a foot, leg or any other part of the anatomy. Therefore referees and players need to be especially aware of all balls from both games of doubled up matches;
- 18.2.1.1.4 Balls that are deflected from a hoop upright or another ball;

- 18.2.1.1.5 Balls from a game on an adjacent court, especially when ball barriers are not placed between the boundaries of the adjacent courts.
- 18.2.1.2 Hoops as hazards:
Hoops are usually set very firmly into the court and can trip up the unobservant referee or player. This is most likely to happen when walking backwards onto a hoop.

Always look before you walk backwards on the court.
- 18.2.1.3 Mallets as hazards:
 - 18.2.1.3.1 A referee can sustain a quite painful and even serious injury by being struck by a mallet. This is most likely to happen if the referee stands too closely, directly behind the striker, when watching for a possible fault, such as a “bevel edge” fault.
 - 18.2.1.2.2 If the position taken up is too close to the striker there is the danger of the referee being hit by the mallet on its backswing, particularly when the striker is a hard hitter and using a long backswing.

Remember to stand in an appropriate but safe position.
- 18.2.1.4 Boundary markers as hazards:
Loose string and cord boundaries can easily cause a person to trip, poorly tensioned metal strip boundary present the same risk.
- 18.2.1.5 Courtside hazards:
Halfway marker pegs, ball barriers, corner flags, ball boxes, chairs, tables, buckets containing hoop setting gear etc can all cause a person to trip or fall.
- 18.2.1.6 Hoop gauges as hazards:
Heavy metallic hoop gauges are best not carried on court by referees. They can cause serious injury if the referee is unfortunate enough to fall or trip.

Section C – Administration

Section C1

DIRECTORS OF REFEREEING

1.1 National Directors of Refereeing

ACA appoints annually a National Director of Refereeing Golf Croquet (NDRGC) and a National Director of Refereeing Association Croquet (NDRAC). Their duties responsibilities are listed in the ACA Handbook Clause 28.5.

1.2 National Golf Croquet Referees' Committee

The National Golf Croquet Referees' Committee consists of the NDRGC and six State Directors or Co-ordinators of Golf Croquet. The duties and responsibilities of this committee are listed in the ACA Handbook Clause 27.8.

1.3 State Directors of Golf Croquet Refereeing (SDRGC)

Each State Association is responsible for appointing a State Director or Co-ordinator of Golf Croquet Refereeing.

The appointment of State GCR Committees is a matter for each State Association.

It is expected that each SDRGC, or Co-ordinator will from time to time liaise with the NDRGC on all or any matter concerning GC refereeing in Australia.

Such matters include, but are not restricted to, GC Rules, recruitment of GCRs, GCR Training and the National GCR Training Program, improvement in GC refereeing standards, items arising from the National GCR Committee meetings, suggestions for inclusion/deletion of issues relating to this Manual.

GOLF CROQUET REFEREES APPOINTMENT AND DUTIES AT ACA TOURNAMENTS

It is important that Golf Croquet Referees understand their responsibilities when officiating at ACA controlled tournaments.

The definitions of the various types of referees, their responsibilities, duties and powers are explained in GC Rule 15 and the ACA Refereeing Regulations.

2.1 ACA Tournament Regulations

The following sections that are mandatory reading –

- 2.1.1 TReg 4 Officials, Clauses 1, 2 and 3
- 2.1.2 TReg 8 The Tournament Referee, Deputy Tournament Referee and Referees
- 2.1.3 TRegs Appendix B Form 2 – Officials Expenses, Estimate

ROLE OF THE TOURNAMENT REFEREE (TR)

While a great deal has been written about the rules and refereeing in general, little has been written about the specific role of the TR.

The role of a TR is different to that of an authorised, appointed referee.

The first difference being at a major event is the TR needs to spend a lot of time watching the work of the appointed referees. Also, there is the opportunity for extended discussions about rules and about refereeing techniques with other referees, officials and players, all of which can be most valuable.

As the approach to refereeing is a little different in New Zealand, and a great deal different in the United Kingdom, we need to come to grips with what constitutes "World's Best Practice" which ought to be by adopting the best practices from each Country and on this matter there is still a lot of work to be done.

At all levels, communication is the most important element.

The TR should address the players before the start of an event.

An example of a TR's Opening Address appears in Section C4.

Addressing the players has proven to be of significant benefit in advising players what is expected of them relative to referees, other players and themselves. Such a communication politely presents information and invites questions which, when answered, prevent misunderstandings occurring and leads to a more pleasant and smoothly run tournament.

The TR's Address has caused some players to express surprise about some of their rights, privileges and obligations as there is still a surprisingly high number of players, even at the top level, whose knowledge of the rules is such that they sometimes forego a right or a privilege by not knowing differently.

A common misunderstanding is how players may apply the Rules when acting as their own referees, in accordance with GC Rule 15(a), when no Supervising Referee is available. (Refer Section B17.10).

A lesser known function of a TR is to "protect" (as it were) other referees from the machinations of petulant players. Although rare, clashes of personalities do sometimes unfortunately occur when the TR needs to be called, for example when a player (or players) disagrees aggressively or offensively with the referee's ruling or about an application of a rule.

Another situation is when the TR might need to step in to protect a timid or inexperienced player when one of the worst examples of poor behaviour occurs with a player, who is qualified referee, saying to an opponent or the RiC: *"You are wrong! I am a referee and I know"*. The TR should gently remind the player who has transgressed in this way, that he is not bringing any glory on himself, the game or on referees in general by this type of behaviour. The player ought also be reminded that in the current match he is a player and **not an authorised referee** and should act accordingly.

The TR cannot overrule a referee's decision on a matter of fact as players are not allowed to appeal against a referee's decision on a matter of fact [ACA Refereeing Regulations 2.1.1) and R6(a)].

However, the TR can overrule a referee's ruling if a rule has been applied incorrectly [ACA Refereeing Regulations 6.1.1].

The TR may confidentially suggest to a referee that an alternative method be used to show that "justice is seen to be done". In this situation the TR's function is to fully support and protect the referee from the intimidation of overbearing players.

A subtle function at some later point is to drop a diplomatic hint to an unruly player, particularly, if they happen to be a referee themselves, that unbecoming conduct as a player is unacceptable. Such an action must be conducted with great diplomacy as a referee's, including the TR's, term of responsibility expires when the match ends [GC Rule 1(c)].

Another responsibility of the TR is to appoint a Deputy TR [ACA Refereeing Regulation 5.2] and Authorised Referees for the tournament [ACA Refereeing Regulation 5.3].

Below is a model "Referee List" of Authorised Referees for a tournament. Such a list should be posted in a prominent position for all to see throughout the tournament.

The TR is to allocate Authorised Referees to games and matches [ACA Refereeing Regulation 5.4].

When the last game of a match is finished the referee is no longer appointed and no longer has any authority over the players.

If unacceptable behaviour continues, the application of GC Rule 14 is appropriate.

The TR can also report the behaviour to the TM who may decide to take further appropriate action.

3.1 Authorised Referee List

Authorised Referee List	
Event Name	
Date	
Location	
The following are authorised referees for this event and when active maybe appointed as Referees in Charge or as Supervising Referees.	
When in active they are also authorised to act as Referee on Request.	
Spectators who are accredited Golf Croquet Referees but not named on this list have no authority to intervene during the Tournament.	
Insert names of authorised Referees	
<hr/> Name of TR	<hr/> Signature of TR

TOURNAMENT REFEREE'S OPENING ADDRESS – AN EXAMPLE.

Note: The TR may edit this speech appropriately, depending upon the nature of event and the 'Conditions of Play' for the event.

Good morning. We are assembled here today to enjoy *Event Name*.

1. I am *{insert name}* your TR, my Deputy TR is. *(insert name)* and the names of the Authorised Referees are posted on the notice board(s).

This Tournament is being played under *The Rules of Golf Croquet and Regulations*, the ACA TRegs and the Conditions of Play as published.

Please note spectators are **NOT** appointed as Authorised Referees.

2. Players need to remember that they have an obligation of tradition, proper conduct, good manners and protocol. The most significant example of this is stopping play. No player should hesitate to stop play if it is considered that a shot ought to be watched and no striker ought to take offence; it is part of the game, so don't hesitate to call a referee when appropriate.
3. Another example is marking and lifting a ball of another game, if your court is double banked. It is required under GC Rule 1(h) that you ask permission of the players of the other game **before lifting** the ball as it may be in a critical position even if it is in an open part of the court.
4. *(For top level events)* Remember you are the "Role Models" for players of lesser ability. Your influence on the other less experienced players is immense as they follow your example.
5. Spectators are perhaps the most unappreciated group. For example, they are often left wondering why a referee has not been called to watch what appears to be a hampered stroke. Spectators are favourably impressed by graceful and dignified conduct.
6. Remember too, the elegant, graceful and unmistakable method of calling a referee is to raise the mallet above your head. Strange gesticulations can too easily be mistaken for brushing off a fly, permission to leave the court or some other action.
7. *(If the games are time-limited)* In the absence of a specifically appointed timekeeper the referee may be able to discharge this duty, but only if sufficient referee numbers are available. Otherwise please listen for your timer to ring. *(Add any other information you wish regarding attending to the timer during the match).*
8. The referees are those wearing high visibility vests. Please see the notice board for the Authorised Referee List and in what mode they are officiating.
9. Any questions?
10. I wish you all a good, successful and enjoyable Tournament.

Section D – Training

Section D1

REFRESHER COURSES – PRESENTATION AND PARTICIPATION

The attendance at, or the conducting of a GCR Refresher Course during each 2 year period is a requirement for ACA registered GCRs who wish to reaccredit in accordance with the ACA *Accreditation and Reaccreditation Programs for Referee and Umpires*.

It is important for all GCRs to keep themselves up to date regarding rules changes, any official rulings on the rules and refereeing techniques. Therefore it is recommended that all GCRs attend refresher courses from time to time

Successful Refresher Courses do not just happen. Success depends upon the preparation and effort put in place by both the presenter and the participants.

1.1 To be successful a Refresher Course ought

- 1.1.1 Be conducted in a suitably pleasant environment with adequate club house and on court facilities and equipment.
- 1.1.2 Not be held at any venue on days when there is a club activity, any organised play or maintenance in progress as all of these can cause distraction and interference.
- 1.1.3 Be well planned, informative and enjoyable and conducted in a relaxed manner. The planning and content will be largely governed by the time available; for example the content of a full day course will naturally be different to a half day course.

1.2 The Presenter

- 1.2.1 Should prepare and distribute a notice advising of the proposed agenda which could include items such as:
 - 1.2.1.1 Rules and Rulings Review;
 - 1.2.1.2 Practical Refereeing Techniques;
 - 1.2.1.3 Practical Training Techniques;
 - 1.2.1.4 Question and Answer Time.
- 1.2.2 Needs to ensure there will be adequate facilities available at the venue eg:
 - 1.2.2.1 Whiteboard and pens;
 - 1.2.2.2 Power outlets, if required for visual presentations;
 - 1.2.2.3 Tables and chairs;
 - 1.2.2.4 On court equipment.
- 1.2.3 Ought to arrive at the venue sufficiently early to set up the training material, both on and off the court.
- 1.2.4 Needs a well-planned but flexible timetable to include:
 - 1.2.4.1 Introduction and outline of the course;
 - 1.2.4.2 Rules session(s), including Q & A time;
 - 1.2.4.3 Break times, including lunch break and comfort break. Each session should not be longer than 60 minutes, followed by a 10 minute break to help prevent the participants from becoming getting tired and less receptive;
 - 1.2.4.4 On court refereeing and training techniques, including demonstrations and involvement of participants;
 - 1.2.4.5 Specific Q & A session;
 - 1.2.4.6 End of day review, with feedback questionnaire. Hopefully completed by all present during the course.
- 1.2.5 Should have own teaching and demonstration aids.
- 1.2.6 Should avoid “over loading” the course’s agenda:
 - 1.2.6.1 Keep to topical issues;
 - 1.2.6.2 Avoid unnecessary involved detail;
 - 1.2.6.3 Cater to the participants’ requests;

- 1.2.6.4 Introduce any recent innovations, rulings and techniques.
- 1.2.7 Rules sessions:
 - 1.2.7.1 Do not conduct a didactic lecture;
 - 1.2.7.2 Do not simply work through the wording of the rules. Remember the course is for GCRs, who should have a reasonable understanding on the wording of the rules;
 - 1.2.7.3 In many instances it is better to concentrate on real life situations dealing with the application of the rules rather than the actual wording of the rules themselves;
 - 1.2.7.4 Ensure the participants are aware of and understand any Official Rulings on the Rules.
- 1.2.8 On court session
 - 1.2.8.1 Helpers and “stooges” to act out faults and situations are very helpful;
 - 1.2.8.2 Using material from Part 2 of the ACA GCR Assessment can be helpful;
 - 1.2.8.3 Carbon Paper Impact Tests are always appreciated by the participants, especially when they try for themselves and get a fault pattern while attempting to “beat the system”;
 - 1.2.8.4 “Cornflour” or “String line” set ups (Section GCB 7) are both good training and practise tools for demonstrating when “double tap” faults occur, if balls are close to each other;
 - 1.2.8.5 Demonstrate all 15 Striking Faults;
 - 1.2.8.6 Demonstrate and discuss examples of offside balls;
 - 1.2.8.7 Practical demonstrations are an excellent means of teaching and there are many, many situations that can be set up to demonstrate the application of the rules, such as:
 - 1.2.8.4.1 A ball is to be stationary before it is struck by a mallet;
 - 1.2.8.4.2 A ball that is an outside agency and is contacted by a ball from its own game;
 - 1.2.8.4.3 A ball that is contacted by a moving ball from a double banked game;
 - 1.2.8.4.4 Offside ball examples;
 - 1.2.8.4.5 Striking fault examples;
 - 1.2.8.4.6 Non-striking fault examples;
 - 1.2.8.4.7 A ball that has been played from off the court.
- 1.2.9 Have available a brief questionnaire for the candidates to complete. This is an invaluable source of feedback information to help improve the presenter’s performance at future presentations. Copies of which are to be sent to both the SDR and NDRGC.

1.3 The Participants

Participants should arrive at the course prepared and have -

- 1.3.1 Specific questions and requests ready to be asked;
- 1.3.2 A list of past experiences involving players and referees they would like addressed.

Unless the participants become involved, the course as a whole is not likely to be very fruitful nor enjoyable for those in attendance. They should be encouraged to join in discussions.

Likewise they should be encouraged to actively participate in the on-court practical session. By sitting quietly and listening to the presenter drone on and on very little is likely to be gained.

It helps the sessions progress more successfully if the participants are advised not be shy or frightened about interrupting the presenter at any time and ask for further information on a particular issue or for the presenter to repeat a particular point or to explain a situation in another way. Asking what might seem like an annoying question can often be very helpful to the group as well to the individual.

When conducting training sessions it can be helpful to begin by telling the group -

- 1.3.3 If there is a question they wish to be answered, but feel too timid or embarrassed to ask, be assured there will be someone else in the group hoping that very question will be asked. So just open up and ask it;
- 1.3.4 There are no “foolish” questions, only lost opportunities. It is only a fool who labels a question as being “foolish”;
- 1.3.5 Join in during discussion sessions on rules etc;
- 1.3.6 Actively participate in on court demonstrations. Do not be shy;
- 1.3.7 Complete the end of course questionnaire. It is only with feedback that presenters learn of the strengths and weaknesses of their performances. With feedback improvement can be made, without it things can remain unsatisfactorily *in status quo*.

Sometimes when the group is not asking many questions, not being very interactive and generally appearing to be too frightened or shy to contribute to the session it helps to make some sort of outrageous statement or propose a ridiculous example of a rule application. The usual response is for all to look a bit stunned, followed by a barrage of questions or contradictions of what has just been said. From there the session continues in a more lively way with far better input from the participants.

Remember! The best way to stimulate is to irritate.

PREPARING QUESTIONS AND ANSWERS BY CORRESPONDENCE

It frequently happens when asked to solve a problem either by mail, email or phone and having worked some way through the question it arises that there is not enough information provided to formulate an appropriate reply.

The following suggestions can be used as a checklist to ensure adequate information is supplied by the person making the enquiry

2.1 Preparing the question

The following is suggested for those preparing a complex question or describing situations about which an opinion is sought. This list of suggestions is by no means exhaustive.

- 2.1.1 Before phoning – make notes to be able to refer to during the conversation.
- 2.1.2 Before writing prepare a preliminary outline of the problem and then use that outline to present a clear description of the problem.
- 2.1.3 Specify what type of a game the issue relates to e.g.
 - 2.1.3.1 Is it level or handicap?
 - 2.1.3.2 What level of competition it is?
 - 2.1.3.3 What is the level of ability of the players concerned?
 - 2.1.3.4 Is the game time limited or not.
 - 2.1.3.5 What type of event – Australian Championships or club event etc.?
- 2.1.4 Was there a referee involved and if so in what capacity was the referee operating; TR, SuR, RiC or RoR etc?
- 2.1.5 Was a time keeper involved?
- 2.1.6 Was the timer stopped and if so who did it, for how long and was it restarted?
- 2.1.7 What happened next?
- 2.1.8 Explain the sequence of events, specify who said what (write notes). Also specify any change of mode that the referee assumed or was asked to assume.
- 2.1.9 When a ruling was made by the referee was the relevant rule or regulation used disclosed and explained by the referee?
- 2.1.10 Where was the TR available at that time?
- 2.1.11 Was the TR called? If so at what point.
- 2.1.12 If the TR was not called what happened next?
- 2.1.13 Was the TM or VM involved and if so why and what transpired?
- 2.1.14 What then finally happened?
- 2.1.15 Did the person who is reporting this incident write notes and how soon after the event were these notes written?

2.2 Preparing the answer

The following is offered to help those who are requested to supply an answer or to give an opinion on particular situations.

- 2.2.1 With the availability of hindsight and plenty of time to sit, read and think over questions presented by mail, email, or phone it is possible to prepare for the enquirer a more detailed and accurate opinion.
- 2.2.2 If not enough information has been offered the respondent should request further information as described above.
- 2.2.3 Any question asked should be answered to the best of your ability and no question should be looked upon as trivial or too simple to warrant a full explanation. What might seem patently clear to one person can be quite confusing to another, especially to an inexperienced player or referee.
- 2.2.4 Always quote the Rule, Commentary, Official Ruling or Regulation that pertains to the questions and your answers.

- 2.2.5 It can sometimes help make your reply more easily understood if you can quote examples of real life situations that you know about, that are similar to those on which your opinion is sought.

GOLF CROQUET REFEREE TRAINING

A National GCR Training Program is being developed by the GC Technical Panel but until this is completed each State should continue with their own training programs and courses.

No matter the form a State's training course takes the requirements for candidates to qualify as an ACA accredited GCR remain the same.

3.1 Requirements needed to attain ACA GCR status

- 3.1.1 Step 1 - Successful completion of the ASC "*Introductory Level Officiating General Principles Course*".
- 3.1.2 Successful completion of Steps 2, 3 and 4 of the ACA GCR Accreditation.

3.2 Golf Croquet Referee Accreditation

Candidates attempting to achieve ACA GCR Accreditation will need access to the following material -

If a candidate desires to attempt the ACA GCR Assessment the candidate ought to have access to the following reference material:

- 3.2.1 *ACA The Rules of Golf Croquet* November, 2013
- 3.2.2 *Official Rulings on the WCF GC Rules*
- 3.2.3 *ACA Tournament Regulations*
- 3.2.4 *ACA Refereeing Regulations*
- 3.2.5 *ACA Golf Croquet Refereeing Manual*
- 3.2.6 Regulations 1-7 as listed in *The Rules of Golf Croquet* November, 2013
- 3.2.7 *Glossary of GC Terminology* (Prepared by Gordon Matthews and Owen Edwards)

The references mentioned above are available for download from the ACA website www.croquet-australia.com.au and *ACA The Rules of Golf Croquet* can be purchased from the State's Equipment Officer.

3.3 Attendance Training Course

Attendance at a well-structured GC referee training course is necessary for the candidate to acquire:

- 3.3.1 A good understanding of the GC Rules and Official Rulings on the WCF GC Rules.
- 3.3.2 Competency in the 12 Practical Techniques of GC refereeing listed in Part 2 of the GCR Assessment, especially:
 - 3.3.2.1 Ball marking
 - 3.3.2.2 Detection of striking faults
 - 3.3.2.3 Non-striking fault situations
 - 3.3.2.4 Where to stand when watching a stroke where special care is needed to be taken by the striker to avoid committing a fault
 - 3.3.2.5 Hoop checking and resetting
 - 3.3.2.6 Deciding if a hoop has been run
 - 3.3.2.7 Deciding if a ball is still on the court or has left the court
 - 3.3.2.8 General set up of the court
 - 3.3.2.9 Replacing balls displaced by a ball from a double banked game
 - 3.3.2.10 Assessing the degree of court damage made by a mallet or player
 - 3.3.2.11 Assessing whether the degree of court damage is enough to be a fault
 - 3.3.2.12 How to instruct a player seeking relief from court damage or from fixed immovable outside agencies and uneven stance.
- 3.3.3 Awareness of health and safety issues
- 3.3.4 An understanding of Regulations (as listed in *The Rules of Golf Croquet*), especially:

- 3.3.4.1 Regulation 5 (TR);
- 3.3.4.2. Regulation 6 (Players' Responsibilities);
- 3.3.4.3 Regulation 7 (Appeals Committee).
- 3.3.5 An understanding of the ACA Tournament Regulations, in particular the Standard and Specific GC Conditions of Play and the section devoted to GC referees.
- 3.3.6 An understanding of the ACA Refereeing Regulations

Section E – Ethics and Etiquette

Section E1

ETHICS FOR GOLF CROQUET REFEREES

- 1.1 Respect the rights, dignity, worth, health and safety of players, officials and spectators. Refrain from any discriminatory practices on the basis of age, gender, ethnic origin, religion or ability.
- 1.2 Be professional in your appearance and manner. Accept responsibility for all actions taken. Display high standards in language, manners, punctuality, preparation and presentation.
- 1.3 Show control, respect, dignity and professionalism to players, coaches, managers, administrators, the media, parents and spectators and encourage other referees to demonstrate the same respect toward anyone involved in the games of croquet.
- 1.4 At all times be courteous, respectful and open to discussion and interaction.
- 1.5 Make a commitment to provide quality service to refereeing within your state and the ACA, by seeking continual improvement of your refereeing knowledge and skill through study, performance appraisal and regular updating of competencies.
- 1.6 Maintain and improve your refereeing accreditation by reaccrediting as laid down in the ACA *Accreditation and Reaccreditation Programs for Referees and Umpires*. Continue to improve your level of competence. This is best done by officiating at ACA and State Association controlled events.
- 1.7 Always operate within the rules, regulations, spirit and intent of the game of Golf Croquet. Abide by and respect the regulations governing Golf Croquet, sport generally and the organisations and individuals administering those regulations.
- 1.8 Refrain from any form of personal abuse or criticism, verbal, physical or psychological towards players.
- 1.9 Refrain from any form of sexual harassment, explicit, implicit, verbal and non-verbal.
- 1.10 Place the safety and welfare of the participants above all else. Ensure that equipment and facilities meet rule and regulation requirements and safety standards. Remember that the laws of the land override the rules and regulations of Golf Croquet.
- 1.11 At all times be impartial.
- 1.12 Value the individual in sport.
- 1.13 Avoid any situation which may lead to a conflict of interest.
- 1.14 Show concern and caution towards unwell and injured athletes.
- 1.15 Encourage inclusiveness and access to all areas of refereeing.
- 1.16 Be a positive role model for croquet and refereeing.
- 1.17 Abide by the ACA's Anti-Doping Policy.

ON COURT ETIQUETTE FOR GOLF CROQUET REFEREES

As well as the suggestions offered in Section B17 on how GCRs ought manage players and conduct themselves on court during matches, the GCR's function is to see that *"a fair and equal contest is conducted within the framework of the rules and regulations"*.

GCRs should also remember: *"that it is not enough to adhere to the letter of the law, one must embrace it in spirit"*

- 2.1 Be impartial and appear to be impartial. If you realise that you made a wrong decision do not make an "even up" decision later on. It is better after the game to take the players aside, admit your mistake and apologise as necessary.
- 2.2 At all times be courteous and respectful to players and in return expect to be treated with respect.
- 2.3 Remember you are a qualified referee and need to observe the principles of refereeing at all times, including when you are a player. Be a positive role model in behaviour and appearance.
- 2.4 Never give tactical advice to a player during a game. If offering advice after the game, if possible, do so in the presence of the opponent.
- 2.5 If a player appeals against a referee's decision on a matter of fact quietly and diplomatically inform the player that matter of fact decisions cannot be appealed. If the player is being difficult on this point summon the TR who should reinforce your stance.
- 2.6 If a player appeals a referee's application of a rule this should be accepted graciously and the appeal referred to the TR.
- 2.7 When going onto the court to watch a shot, avoid walking across the striker's line of aim, as your footprints could affect subsequent shots, especially on a rain affected court or a court with a soft surface.
- 2.8 Avoid casting your shadow across the striker's ball and the intended line of the shot to be played.
- 2.9 Do not voluntarily hold lengthy conversations with spectators, but be available to answer any reasonable questions about rules and regulations both on and off the court.
- 2.10 Be open to discussion and interaction at appropriate times
- 2.11 Do not conduct loud conversations or move in a way that might distract the striker.
- 2.12 When summoned do not run onto the court but move promptly and with dignity.
- 2.13 Avoid using marking techniques that are likely to distract the striker.
- 2.14 Use plastic markers only. Do not use coins as they can damage mower blades if left on the court.
- 2.15 Always stand where you can watch the action clearly, with consistency and safety.
- 2.16 Make players aware of any safety concerns you have about the court. Place the safety and welfare of the participants above all else.
- 2.17 When adjudicating a stroke, never speak or move.

2.18 At all times give clear, audible verbal decisions.

2.19 Accept fair criticism with good nature.

2.20 Remember it is the players' game and for their enjoyment. So be as unobtrusive as possible and do not try to become part of the play nor take over their game.

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This work is progressive and it is expected even more evidence will eventuate from Bob's work which hopefully will make the task easier for referees to even more confidently declare that a "double tap" fault has occurred.

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Jim Clement (Sarsfield CC, Victoria) modified the $Z = Y + 2.5 X$ formula with his presentation of the SHHh formula.