GC - Playing to Advantage

Introduction

- After a trial in 2021, WCF approved the use of the GC Advantage game – see Rule 21 in 6th Edition of GC Rules

- Advantage is designed as an alternative to Extra Strokes to allow players with different handicaps to play on equal terms

Scope of Presentation

▶ To explain the Advantage rules

▶ To explain the Advantage Starting Scores Table

▶ To consider the implications on scoring

▶ To introduce Scoring Scales

Why Advantage?

- **Traditional** use of **extra strokes:**
  - Alters the tactics employed
  - Requires management of extra stroke counters

- **Advantage** avoids the need for extra strokes by representing any handicap differences with a **changed start score** (from 0:0) according to a Table

Essence of Advantage Rules

- Stronger players may start with negative score, with weaker player starting with positive score, as per Table

- Game ends when one side reaches score of 7 (as normal)*

- Hoops played in same order but may need to go beyond Hoop 13

* Tables are also available to support 'First-to-4' and 'First-to-10' games

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ADVANTAGE Golf Croquet

Table of Starting Scores for first-to-7-points

Stronger : Weaker

2022 Revision   Roy Tillcock

*2023 Revised DGRADE scale

The TABLE

Weaker player (vertical axis) — **Stronger player** (horizontal axis)

DGRADE RANGE	HCP	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	14
2800–	-6	0:0																			
2650–2799	-5	0:1	0:0																		
2500–2649	-4	-2:1	0:1	0:0																	
2350–2499	-3	-2:2	-2:1	0:1	0:0																
2200–2349	-2	-3:2	-2:2	-2:1	0:1	0:0															
2100–2199	-1		-3:2	-1:2	-1:1	-1:0	0:0														
2000–2099	0			-2:2	-1:2	-2:0	-1:0	0:0													
1900–1999	1			-3:2	-2:2	-2:1	-2:0	-1:0	0:0												
1800–1899	2				-3:2	-1:2	-2:1	-2:0	-1:0	0:0											
1700–1799	3					-2:2	-1:2	-2:1	-2:0	-1:0	0:0										
1600–1699	4					-3:2	-2:2	-1:2	-2:1	-2:0	-1:0	0:0									
1500–1599	5					-3:2	-3:2	-2:2	-1:2	-2:1	-2:0	-1:0	0:0								
1400–1499	6						-3:2	-3:2	-2:2	-1:2	-2:1	-2:0	-1:0	0:0							
1350–1399	7							-3:2	-3:2	-2:2	-1:2	-1:1	0:1	-1:0	0:0						
1300–1349	8								-3:2	-2:2	-1:2	-2:1	-2:0	-1:0	-1:0	0:0					
1250–1299	9									-3:2	-2:2	-1:2	-1:1	0:1	-1:0	-1:0	0:0				
1200–1249	10									-3:2	-2:2	-1:2	-2:1	-2:0	0:1	-1:0	-1:0	0:0			
1150–1199	11										-3:2	-2:2	-1:2	-1:1	-2:0	0:1	-1:0	-1:0	0:0		
1100–1149	12										-3:2	-2:2	-1:2	-2:1	-1:1	-2:0	0:1	-1:0	-1:0	0:0	
1050–1099	14											-3:2	-2:2	-1:2	-2:1	-1:1	-2:0	0:1	-1:0	-1:0	0:0

HCP	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	14
DGRADE RANGE*		2799	2649	2499	2349	2199	2099	1999	1899	1799	1699	1599	1499	1399	1349	1299	1249	1199	1149	1099
	2800	2650	2500	2350	2200	2100	2000	1900	1800	1700	1600	1500	1400	1350	1300	1250	1200	1150	1100	1050

−4 : 2

Note:
There are further versions of the Table of Starting Scores for GC handicaps greater than 14

All versions of the Table are available from WCF website:

https://worldcroquet.org/advantagegc/

To see how to use the Table
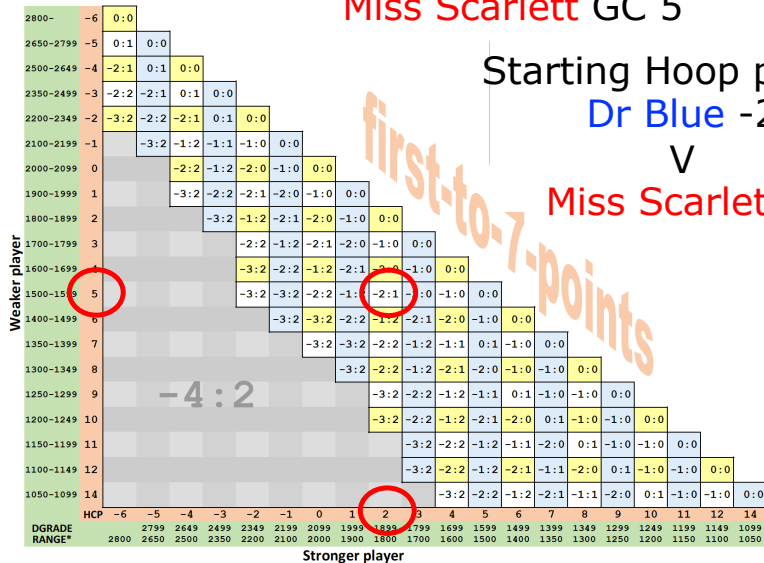explore the following slides …..

Dr Blue GC 2
V
Miss Scarlett GC 5

Starting Hoop points:
Dr Blue -2
V
Miss Scarlett 1

Summary

- **Dr Blue** (starting with -2) will have to run **9** hoops to win
- **Miss Scarlett** (starting with 1) will have to run **6** hoops to win

Another Example

- Rev Black GC 7

V

- Col Mustard GC -1

Rev Black GC 7

V

Col Mustard GC -1

Starting hoop points:
Rev Black 2
V
Col Mustard -4!

Q. How were the starting scores calculated?

A. These scores have been derived from (many millions of) computer simulated games with two specific criteria:

- ▶ To offer both players a 50% chance of winning
- ▶ To keep the length of game to a "normal" timespan

Q. What is the mathematical basis for the Table of Starting Scores?

- ▶ The Points Exchanged table on the Handicap Card served as the start point
- ▶ Each starting score is derived from the corresponding number in this table
- ▶ NB. Any changes made to the Starting Score given will invalidate the result
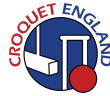
Scope of Presentation

▶ To explain the Advantage rules

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Games may extend beyond Hoop 13 – see this example

Starting hoop points:
Rev Black 2
V
Col Mustard -4

Score:
Rev Black 6
Col Mustard 6

No of actual hoops run:
Rev Black 4
Col Mustard 10

No of hoops run:
4 + 10 = 14

So deciding hoop = Hoop 15!

Hoop Numbers
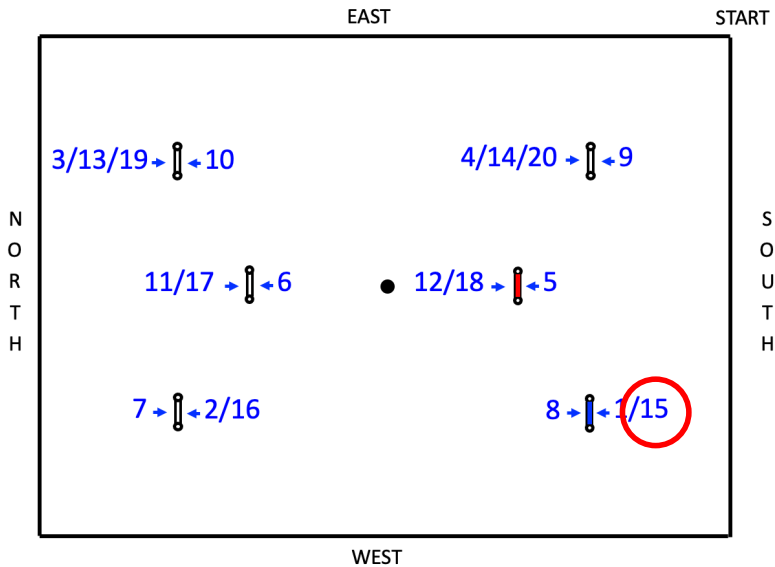
Scoring

▶ Before start of game confirm the arrangements for keeping the score. (N.B. This may be mandated by the organising body)

▶ Scoring with negative numbers needs to be recognised (e.g. -2, -1, 0, 1, 2 etc.)

▶ Important to be clear about the score after each hoop

[GC 6th Ed, Rule 7.8] Both sides are responsible for keeping the score. After each point is scored, the side for whom the point has been scored (or a referee, if present) should announce the score or, if in use, attach a scoring clip to the hoop or ensure that a scoreboard is updated.

Best convention is to announce stronger player's score first

The Advised Method of Scoring

▶ Prior to commencing the game, represent the starting score by placing the corresponding number of positive start scoring clips on Advantage Post at Start, and on the centre peg extension for negative start scoring clips

▶ Additional scoring clips are added to the hoops in the usual way as they are run

▶ NB. More scoring clips required than normal!

An
Advantage
Post
by the start

Used for
Positive
Scoring Clips
for weaker
side

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- **Negative** clips go on Centre Peg for stronger side
- Illustration shows a starting score of -2

The score can be confirmed at any stage in the game:

1. Count clips on hoops in the usual way (do not forget to put them on!)

2. For a player with a positive start:

Add number of clips on Advantage Post

3. For a player with a negative start: Subtract number of clips on Centre Peg

Checking the Score Algorithm

▶ Total of current scores =
▶ in Level / Handicap play:
  ▶ Last hoop run
▶ in Advantage play:
  ▶ Last hoop run
  ▶ +/-
  ▶ **the total of starting scores**

Checking the Score –
Method 1 - Using the Last Hoop Run

(Last hoop run +/- **the total of starting scores**)

▶ Two examples after Hoop 5 has been run:

▶ Example 1

   ▶ Starting score -2 : 0   minus 2 plus 0 = minus 2

   ▶ Last Hoop Run   5

   ▶ Total of current scores   minus 2 plus 5 = plus 3

▶ Example 2

   ▶ Starting score -1 : 2   minus 1 plus 2 = plus 1

   ▶ Last Hoop Run   5

   ▶ Total of current scores   plus 1 plus 5 = plus 6

Checking the Score –
Method 2 - Using an Adjusted Hoop Number

- Reconcile the current score in usual way by using the adjusted hoop number
- Know the total of starting scores at the beginning of a game
- Example 1
    - Starting score: minus 2 : 0
    - Total starting score: minus 2
    - Adjusted hoop number = last hoop run minus 2
- Example 2
    - Starting score: minus 1 : plus 2
    - Total starting score: plus 1
    - Adjusted hoop number = last hoop run plus 1
- Example 3
    - Starting at -1 : 1, or -2 : 2, or 0 : 0
    - No adjustment required

Doubles

- A doubles game can be played by calculating the mean handicap for each team (half the sum of the two handicaps) with halves rounded up

- (Players without handicaps can first use the Table to convert their DGrade to handicap)

- The starting score for each team can then be obtained from the Table using the mean handicaps

Example Doubles Start Score Calculation

▶ Handicaps:
- ▶ Dr Blue   GC 2
- ▶ Miss Scarlett   GC 5
- ▶ Rev Black   GC 7
- ▶ Col Mustard   GC -1

▶ Sides' Mean Handicaps:
- ▶ Dr Blue & Rev Black (2+7)/2 = 4.5
  rounded = **5**
- ▶ Miss Scarlett & Col Mustard (5+(-1))/2 = **2**

Mean handicaps:
Dr Blue & Rev Black   5
Miss Scarlett & Col Mustard 2

Use Table to
reveal Starting Scores

Starting Score:
Miss Scarlett & Col Mustard -2
V
Dr Blue & Rev Black 1

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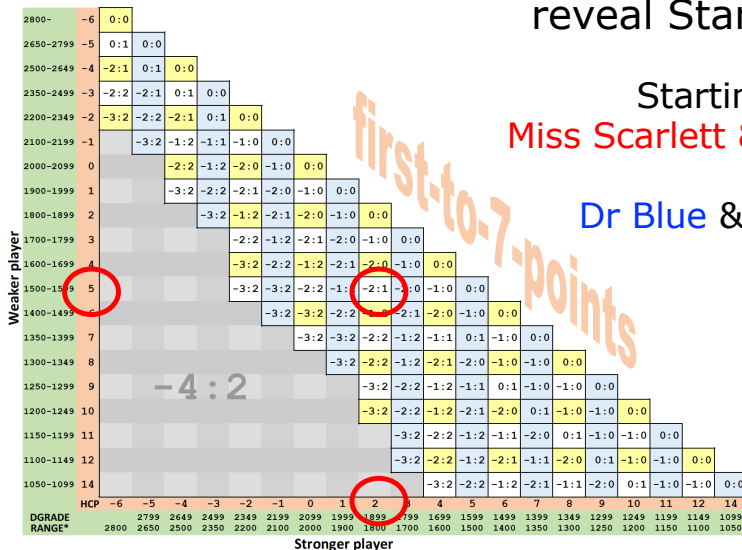
For Average Handicaps Greater Than 12

▶ As handicaps go up in twos above 12, averaging may give an invalid result. (e.g 12 & 14 gives an average of 13 a non-existing handicap)

▶ In such cases, either add one to odd integers (e.g. 13 becomes 14) or round non-integers (up or down) to the nearest even integer (e.g. 12.5 becomes 12).

[TRs 21.5]

Handicap Cards

▶ All official Club, Federation and Croquet England games go on your handicap card (worth 10 points)

▶ Use 'A' instead of 'H' in the Type of Game column

Scope of Presentation

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▶ To explain the Advantage Starting Scores Table

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Time Limits

- Time limited games are not covered by GC Rule 21
- Unlike in Level and Handicap play, using the current score to decide the winner of an unfinished game is inherently unfair
- For Advantage games, the fair and recommended method is to compare the ratio of hoops actually run to the total number needed to win at the start
- This ratio can be expressed as a percentage
- The player with the higher ratio/percentage is then declared the winner

Scoring Scales

▶ To assist players, tournament managers and referees to determine, using hoop ratios, the winner in a game when it has not reached the 7 points required, Scoring Scales have been produced

▶ These are explained in the following slides

Essential Definitions

Example:
Starting Score -2 : 0
Stronger player has run 7 Hoops
Weaker Player has run 5 hoops

- Hoops run/won – the number of hoops a side has successfully run. When starting with a minus score this will need to be more than 7 to win the game
- Points - At any time the number of hoops run combined with the starting score is the number of POINTS achieved by a side
- Score - After each hoop run the number of points accrued by each side is their current SCORE
  In a First-to-7-points game the winner is the first to achieve a SCORE of 7 points
  In the example above the score is 5 : 5 (5 points all)
- Scoring scale – A points scale marked in intervals of 1 point showing progress from the starting score for each side
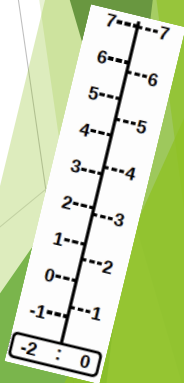
What are Scoring Scales for?

- In any first-to-7 points Advantage game, the side who achieves the score of 7 points wins

- However, given that starting scores may not be 0 : 0, sides may have to run more, or less, than 7 hoops to win

- Thus the side who is winning during a game is not always the side with the highest score!

- This matters during timed games which may not always run their full course

Determining the Winner in a Timed Advantage Game

▶ In a Timed Advantage game, when time is called, the winner is the side with the higher percentage of hoops won

▶ The percentage calculation:

$$\frac{\text{Number of actual hoops won}}{\text{Number of hoops required to win}}$$

Example

Number of actual hoops won

Number of hoops required to win

> Teams A : B
>
> Example Starting Scores: -2 : 0
>
> Score when time called: 2 : 3

Team A's percentage: 4 / 9 = 44.4%

Team B's percentage: 3 / 7 = 42.9%
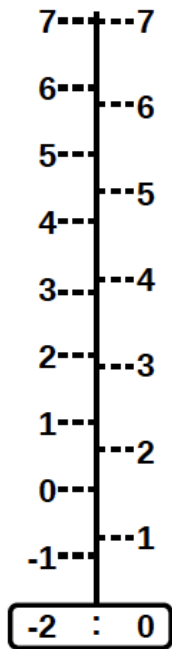
Scoring Scales

To provide a handy 'ready reckoner', a set of scoring scales has been designed. One scale for each possible pair of starting scores from the Starting Scores Table

Example is for -2 : 0 starting scores
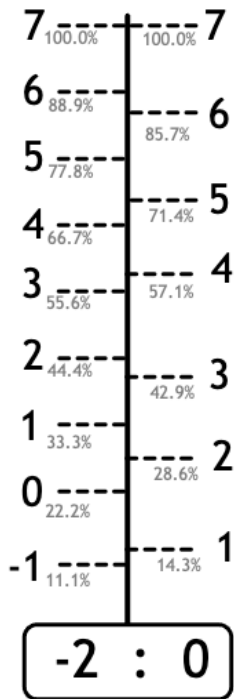
To demonstrate why the scale bars are spread as they are, the relevant percentages have been shown here

While the percentages will differ for each set of Scoring Scales, the principle is the same
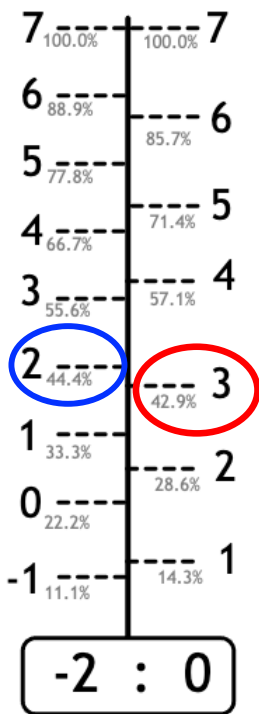
Example

Dr Blue's score,
(announced first
as the stronger player),
is **2 points**

Miss Scarlett's score,
(announced second
as the weaker player),
is **3 points**

Although Miss Scarlett's score
is more than Dr Blue's,
if time is called,
Dr Blue wins given
relative position on the scale
(nearest to top wins)

Use of
Scoring Scales

- The Scoring Scales have been designed for use at the end of timed games to establish who has won

- They also meet the requirement of 6th Ed GC Rules, 14.2, re reference to printed information during a game

- Players may, therefore, find them, in printed A6 format, a useful aid to keeping the score in any Advantage game

- N.B. Use of the scales during a game does not obviate the requirement to announce the score and place appropriate scoring clips on hoops [6th Ed GC Rules, 7.8]

Summary

- Advantage rules avoid the need for Extra Strokes
- Use table to establish starting score
- Keep the score clearly
- Maintain handicap card using 'A'

Useful links

▶ CqE website:

  https://www.croquet.org.uk/?p=games/golf/advantage

▶ Advantage starting score tables and information on the WCF website:

  https://worldcroquet.org/advantagegc

▶ Starting Score Calculator:

  https://chc.eu.pythonanywhere.com
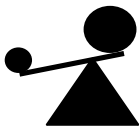
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The End

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