



INTERNATIONAL ORIENTEERING FEDERATION

SPRINT WOC

3rd Format

Description

Qualification Race & Elimination Rounds

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2017-09-12	Daniel Leibundgut	1 st draft: to present at IOF FOC-Meeting
2017-09-21	Daniel Leibundgut	Revised Version, with comments by FOC
2017-09-27	Daniel Leibundgut	Minor changes: <ul style="list-style-type: none"> • Section FORMAT & COURSE LENGTH: shall replaced by can • Section TIME KEEPING: add some specifications regarding the timing with 1.0 second precision • New Section IOF SPRINT WORLD RANKING CALCULATION added
2017-10-19	Daniel Leibundgut	Major Revision based on the IOF Council decisions during their meeting of October 13./14. 2017.

DRAFT

DEFINITION

The 3rd Sprint Format consists of:

- Qualification race in the morning and
- Elimination rounds (sprint heats) with a total of three rounds later in the morning (first elimination round) and semifinal and final in the later afternoon.

After the qualification race the qualified athletes compete in the Elimination rounds (Quarterfinals, Semifinals and Final). The estimated winning time for each elimination course is 6 - 8 minutes. For each round, a new course shall be used. For each class the same course may be used.

Quarterfinals (QF) with 6 competitors in 6 heats, maximum 36 competitors. Top 3 advance to the Semifinal and Top 2 advance from Semifinals to the Final:

Overview of the event	Qualified for next Round	Number of Competitors	Nr of Heats	Start interval	Duration	Start interval	Duration	Time of Day
Final	-	6	1	10'	10'	10'	10'	Afternoon (TV)
Semifinal (SF)	Top 2	18	3	10'	30'	10'	30'	
Quarterfinal (QF)	Top 3	36	6	10'	60'	5'	35'	Late morning/Afternoon

If more than 36 athletes are entered a qualification race shall be conducted in the morning of the event day.

FORMAT & COURSE LENGTH

The Format is built on a technically demanding concept, of the sprint distance. The combination of navigational skill, concentration and running ability of the competitors shall be challenged in this mass start and first to finish competition. Course planning should consider the need for spectators to be able to follow closely the progress of the head to head competition. For the elimination rounds, the courses may incorporate a forking/splitting system. The following three forking models shall be tested and evaluated:

- No forking
- «Course Choice Model» where each competitor picks one of several (3) options
- Butterfly / Phi loop type of forking

The terrain is predominantly very runnable park or urban (streets/buildings) area. Spectators are allowed along the course. Changes in the terrain are allowed by conservative use of fences, etc.

The start and the finish can be at different locations e.g. it's not required to have the start and the finish at the same location.

If it's possible to create technically demanding course variations for all elimination rounds, they shall end at the same finish (one arena for QF, SF and F).

If the arena for the finals is inside a technically complex terrain, an arena passage is possible. Semifinals and Final shall finish in the arena. The Start of the elimination rounds can be outside of the arena due to organizational reasons (quarantine, warm up etc.).

In General each course consists of the following parts:

Course section	Description	Estimated Duration [Minutes]	TV
1	Start point		
2	Splitting/Forking may include some common controls after the start	2 - 4	GPS
3	Overview common controls	1	Live
	Route choice	1 - 2	GPS
4	To the finish	1	Live

QUALIFICATION RACE

The competitors shall be allocated to three different heats, each with an estimated winning time of 8 - 10 minutes. The start interval is 1 or 1.5 minute according to IOF rule 12.20. Running times shall be rounded down to whole seconds. For each class and each heat a different course shall be used. The courses shall have the similar length.

ENTRIES – SUBSTITUTION

In the 3rd Sprint Format, every Federation may enter up to 3 women and 3 men and, in addition, the current World Champions for the distance may be entered by their Federation(s) provided they are members of the Federation's team.

Substitution is only possible prior to 2 hours before the first start of the qualification race. The new competitor has to qualify for the elimination rounds via the qualification race. The new competitor shall start at the end of the published start list.

After the qualification race no replacement is possible for the elimination rounds. In case of elimination rounds only, substitution is possible before the elimination heat start draw is made.

STARTING ORDER AND START PROCEDURE

QUALIFICATION RACE

The starting order shall be drawn in three starting groups (early, middle, late) according to IOF rule 12.5. Competitors from the same Federation may not start consecutively. If they are drawn to start consecutively, the next competitor drawn shall be inserted between them. If this happens at the end of the draw or at the end of a starting group, the competitor before them shall be inserted between them IOF rule 12.7. The start draw for the qualification races shall be made so that each of the following requirements is satisfied (IOF rule 12.8):

- as many competitors as there are parallel heats shall start at each start time, with the possible exception of the last start time
- as far as possible, the heats shall be equally strong
- competitors from the same Federation shall not start at consecutive times if they are in the same heat
- the allocation of competitors to the different heats shall be drawn so that the competitors of a Federation are distributed as equally as is mathematically possible among the heats.

→ Same start list procedure tool as for individual sprint shall be used.

In case of equal qualification times, the competitors who will be advancing to the elimination rounds will be ranked in the qualification race according to their IOF Sprint World Ranking points. If a tie remains, then the positions are determined by a draw. The tie in qualification results will not change maximum number of qualified competi-

tors (36 or 18 = for the case your event consists of a qualification race and two elimination rounds, semi finals and final only).

ELIMINATION ROUNDS

Heat Start procedure must be used. The starting positions (which start box within each heat) is chosen by the athletes, according to the following order:

- Quarterfinals: rankings from the IOF Sprint World Ranking is used
- Semifinals: rankings from the Quarterfinals and the IOF Sprint World Ranking is used
- Finals: rankings from the Semifinals and the IOF Sprint World Ranking is used

The assignment of competitors to the Quarterfinals heats shall be based either:

- A) Strictly determined from the ranking in the qualification race
- B) The qualified competitors will be responsible for choosing their first round heat.

Positions in subsequent heats are also assigned based on rankings in the previous round of heats. The table below illustrates the principle of allocating the competitors to their heats when the heats are not timed.

HEAT ALLOCATION BASED ON IOF SPRINT WORLD RANKING LIST (A)

Quarterfinals (36)

Each heat shall be equally strong, based on a ranking list of the entered competitors (IOF Sprint World Ranking is used) → equal rank sums in each heat.

QF1	QF2	QF3	QF4	QF5	QF6
1	2	3	4	5	6
12	11	10	9	8	7
13	14	15	16	17	18
24	23	22	21	20	19
25	26	27	28	29	30
36	35	34	33	32	31

HEAT PICK BY COMPETITORS (B)

The qualified competitors will be responsible for choosing their first round heat. The order is defined strictly by the IOF Sprint World Ranking position of the entered and qualified competitors. Ties shall be decided by drawing lots e.g. if two competitors tie for 6th a coin shall be tossed to determine who has placing 6 and who has placing 7 for the purposes of the heat selection.

	Number of Competitors	The competitors will chose according to the following order:
QF (6 Heats)	36	13 th → 1 st and 14 th → 36 th
SF (3 Heats)	18	7 th → 1 st and 8 th → 18 th

The bib distribution will be organized in the finish area and all competitors must be present. Except, in case of a force majeure (certified by the Chief of medical and rescue service of the OC). If a competitor is not present at time of the bib distribution, the competitor will lose their right to choose their heat and will receive the last available spot. If several competitors are not present at time of the bib distribution, the competi-

tors will receive the available spots in the order of their IOF Sprint World Ranking position and in the order of the heats (E.g. quarterfinal 1 will be completed first, the quarterfinal 2, 3, 4, 5 and 6)

THE ASSIGNMENT OF COMPETITORS TO THE SEMIFINALS & FINAL

Semifinals (18)			Final (6)
SF1	SF2	SF3	A-Final
QF1#1	QF1#2	QF6#1	SF1#1
QF1#3	QF2#3	QF6#3	SF1#2
QF2#1	QF3#1	QF5#1	SF2#1
QF2#2	QF4#1	QF5#2	SF2#2
QF3#2	QF5#3	QF4#2	SF3#1
QF3#3	QF6#2	QF4#3	SF3#2

TIMING IN THE DAY

Qualification race starts in the morning at 9:00 and at 10:00 for the second class. Depending of the location of the Quarterfinals, they can be scheduled either:

- Directly after the Qualification race, if the Qualification Race arena is used, or
- In the afternoon, ahead of semifinals and final, if one arena is used for all the elimination rounds.
- The break between Quarterfinals and Semifinals shall be at least 30 minutes if the same arena is used for all three elimination rounds. Are the Quarterfinals in a different location than Semifinals and the Final, the break shall be 2 hours.

Quarterfinals are with a start interval of 5 or possibly/potentially 10 Minutes between each heat.

Start time Quarterfinal	QF-1	QF-2	QF-3	QF-4	QF-5	QF-6
Women	14:30	14:35	14:40	14:45	14:50	14:55
Men	15:05	15:10	15:15	15:20	15:25	15:30

The elimination rounds are scheduled in the late afternoon with TV live broadcasting.

Start time	Semifinal 1	Semifinal 2	Semifinal 3	Final
Women	16:00	16:12	16:24	17:12
Men	16:36	16:48	17:00	17:30

Flower ceremonies 17:48

ARENA REQUIREMENTS

Quarantine (visually and acoustically) is required for all rounds.

Qualification Race	Quarterfinals	Semifinals	Final
Basic	Small OK	Same as final	
Spectators not expected in any large number	Spectators not expected in any large number	Space for spectators	Space for spectators

TIME KEEPING

The competitors start together (mass start); the first across the finish line is the winner. A finish line judge shall rule on the final placing's based on the order that the competitors' chests cross the finish line. The finish referee is responsible for keeping a list of the order in which the competitors cross the finish line. They give this list to the chief of timekeeping and data processing.

For the elimination rounds, a finish line camera is required as a backup system.

COMPLAINT, PROTEST AND JURY

In elimination heats the unanimous decision of minimum two referees (including EA) equates to a Jury decision.

Due to the timeline pressure of running successive heats it is not possible to allow protests according to the IOF rules.

For the Qualification race:

Any complaint shall be made to the organizer as soon as possible. The organizer adjudicates a complaint. The complainant shall be informed about the decision immediately.

Any protest shall be made in writing to a member of the referee team no later than 5 minutes after the organizer has announced the decision about the complaint.

For the elimination rounds:

Any complaint shall be made to the organizer as soon as possible, not later than 5 minutes after the corresponding heat results are published. The organizer adjudicates a complaint. The complainant shall be informed about the decision immediately.

Any protest shall be made to a member of the referee team no later than 2 minutes after the organizer has announced the decision about the complaint.

FINAL RESULT LIST

The unofficial result list will be posted on the official notice board as soon as possible after the competition, with the time of its publication noted.

The official result list must contain the final order of the competitors, their IOF codes, starting number, the number of competitors, names of the competitors who started but did not finish, any written sanctions to competitors, the technical details of the course; length, climb, number of controls, number of competitors (entered, ranked, DNS and DNF), number of participating nations and the composition of the referee team. Examples will be available on the IOF Website FootO pages.

In countries where the Latin alphabet is not used, information and results should also be given in Latin characters.

The competition secretary and the Senior Event Adviser sign the official result list and certify that it is correct.

Competitors who do not qualify for the elimination rounds are ranked according to their qualification rank in their heat. In sprint competition with 3 rounds and 6 competitors in each heat, (36 competitors) the result list will be made as follows:

:

:

42 nd - 40 st rank	the 14 th place finisher from each qualification heat
39 th - 37 th rank	the 13 th place finisher from each qualification heat
31 st - 36 th rank,	the 6 th place finisher from each heat in the Quarterfinal will be assigned based on their respective ranking in the qualification round
25 th - 30 th rank,	the 5 th place finisher from each heat in the Quarterfinal will be assigned based on their respective ranking in the qualification round
19 th - 24 th rank,	the 4 th place finisher from each heat in the Quarterfinal will be assigned based on their respective ranking in the qualification round
16 th - 18 th rank,	the 6 th place finisher from each heat in the Semifinal will be assigned based on their respective ranking in the previous rounds
13 th - 15 th rank,	the 5 th place finisher from each heat in the Semifinal will be assigned based on their respective ranking in the previous rounds
10 th - 12 th rank,	the 4 th place finisher from each heat in the Semifinal will be assigned based on their respective ranking in the previous rounds
7 th - 9 th rank,	the 3 rd place finisher from each heat in the Semifinal will be assigned based on their respective ranking in the previous rounds
1 st - 6 th rank,	based on the order of finish in the final

With a different number of competitors (e.g. 18) in the elimination rounds the same principles apply.

In case of a tie («dead heat») the competitors are ranked on the same place in the final results.

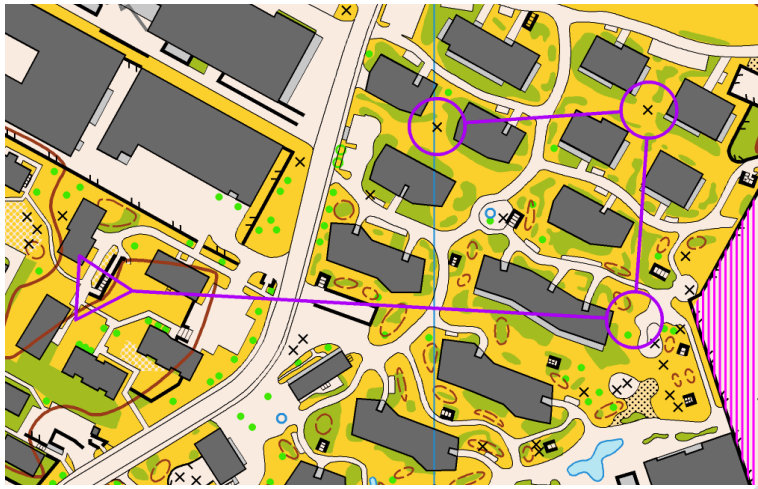


If the competitor does not start or run the entire course in each heat, the competitor will be ranked in the last position of these rounds, Quarterfinal or Semifinal.

HEAT START PROCEDURE FOR THE «COURSE CHOICE MODEL»

The start area is prepared with a start line, a start box and a pre start line, all these parts are a few meters apart.

Start Procedure	Competitor	Remarks
Pre Start	Start lanes assigned to the competitors	
Start Box	Entering the start box and course selection must be done within 20 seconds. Three options to choose from: the appropriate marked map A, B or C (course is hidden) is moved to the start table.	The pick is secret to the competitors of same heat. Spectators and TV are able to see the picks. See START LAYOUT and EXAMPLE OF A COURSE SELECTION below.
Start line	The starter will give the command «take your start positions» and the competitors advance to the start line. When all competitors are at the start line, the starter will give the command «Set» and all the competitors must remain motionless until the starter gives the start signal.	A rope, which is spanned along the start line, shall be used to prevent false start. In the moment of the start signal the rope falls down to the ground (or moves up). Electronic and/or mechanical start gates can be used if approved by the IOF. Use of start gates is not mandatory.

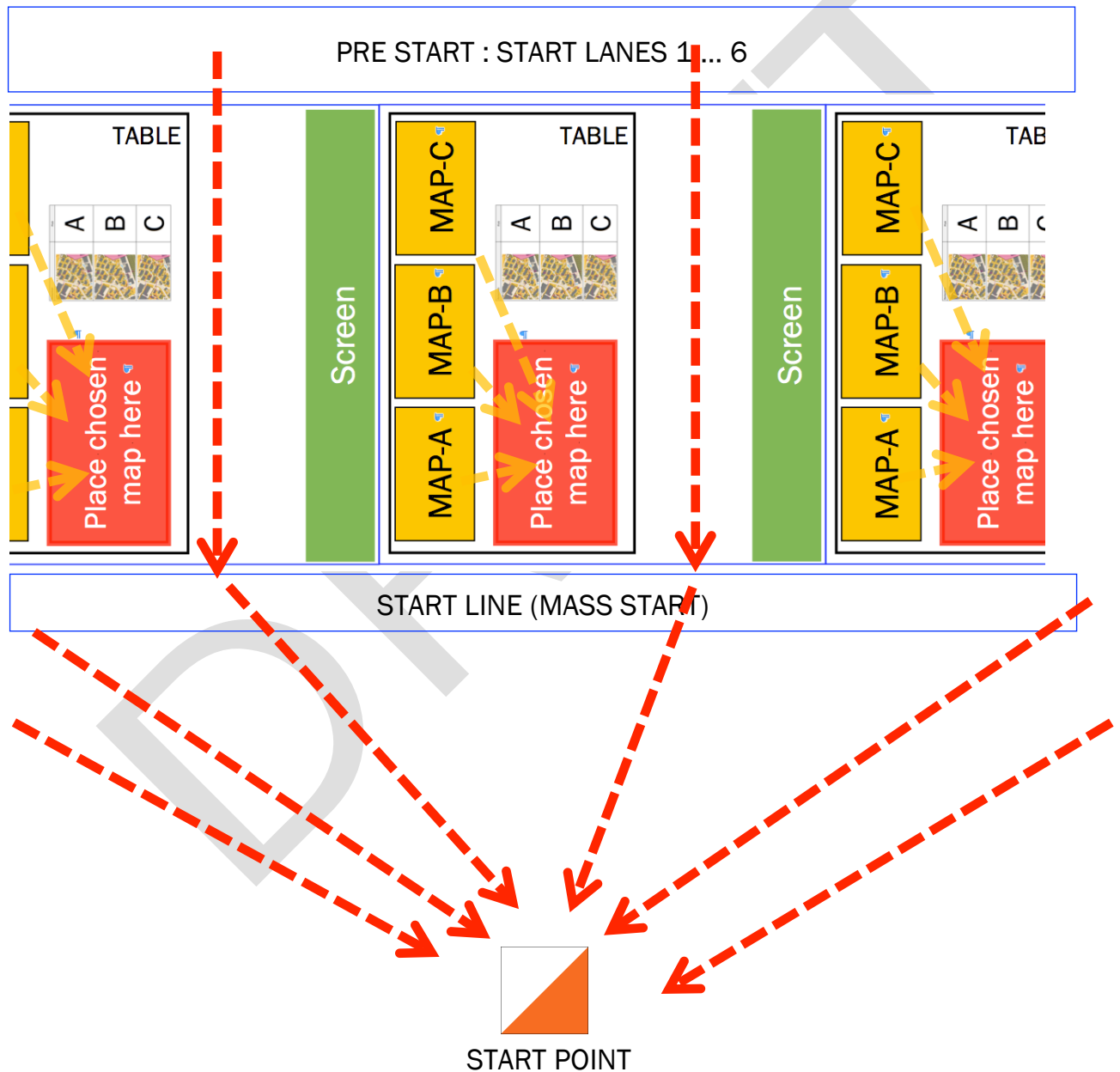
EXAMPLE OF A COURSE SELECTION

Selection	Pick
	<p>A</p>
	<p>B</p>
	<p>C</p>

According to the above course selection example. It's not obvious for the competitor where exactly in the course the splitting is integrated. In the map excerpt for the course selection only start triangle, controls and connecting lines are shown (no control numbers). Course before and after the splitting/forking is not visible.

START LAYOUT

Six start boxes are in a row. In the following layout example, only a part is shown.



TIME KEEPING

For all competitions listed in the IOF Calendar, electronic timekeeping must be used. Electronic timing will always be supplemented by hand-timing as a backup system and the results crosschecked between the two systems.

If the electronic timing temporarily fails hand times will be used, by correcting the average time difference, which develops between the electronic timing and the hand timing. If the electronic timing fails frequently or completely during the competition, the hand times will be used for all the competitors. When hand times are used to calculate results, the actual start times must be used.

When using hand timing, the time is taken when the competitor's chest crosses the finish line.

Electronic Timing:

The following electronic timing technologies can be used to identify the official finish times:

- Electronic timing system based on double photo cells (logically and connected). The measuring point of the lower light or photo barrier must be at a height of 90 cm above the ground (120 cm for the upper).
- Photo finish system. The measuring point will be the competitor's chest crosses the finish line.

Transponder Timekeeping:

Transponders (active and passive systems) can be used as a supporting system to the official timing system to determine race times and ranking sequences at intermediate timing points, pre-timing points, and finish (un-official result).

The official result must be confirmed by using electronic timing systems:

In the case of competitors falling as they cross the finish line, the competitors will be assigned their finish time as described above if all the parts of their bodies are moved across the finish line without any out-side assistance.

For the calculation of results all start and finish times will be recorded to at least 1/100 (0.01) precision. The calculated net time for each competitor is determined by subtracting the recorded start time from the recorded finish time. The final result for each competitor will be determined to 1/10 (0.1) precision by truncating the calculated net time. For example, 38:24.38 becomes 38:24.3. The same applies, if the final results are determined to full seconds to the competitors → 1/10 or 0.1 precision shall be used.

The finish referee is responsible for keeping a list of the order in which the competitors cross the finish line. He gives this list to the chief of timekeeping and data processing.

IOF SPRINT WORLD RANKING CALCULATION

The final results of the event are based on ranks and not on running times therefore an alternative calculation method is required. According to today's WOC maximum of 1500 points each place behind receives 8 points less:

1. 1500
2. 1492
3. 1484
4. 1476
- :
- :
25. 1300
- :

For ordinary World Ranking Events, a system will be inaugurated for the 2019 season.

NEXT STEPS / ToDo

- Define (optimize) time period to make the course selection for the «Course choice model». May be 30 seconds instead of 20 seconds. The complexity of the selection problem shall match the time period.

- Find a name for the 3rd Sprint format:
 - "Match Sprint" (corresponding to match play in golf).
 - "Knock out sprint"
 - "Sprint Challenge"
 - "Sprint tournament"
 - "Eliminator"
 -

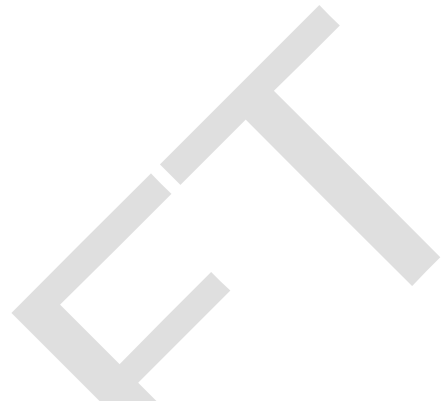
- Timing in Qualification Race: Using 1/10 accuracy instead of full seconds: The 3 competitors of the heats start sequentially within one minute, mm:00 - mm:20 - mm:40 using one start gate and at the finish line standard photo cells are used. Based on the published result list of WOC2017 Sprint Qualification, several competitors would be ranked within the same seconds after 27 % of their run times.

- Definition of Test and evaluation plan for the forking/splitting until the World Cup Round in CZE autumn 2018 by IOF FootO Commission

- An updated report to be ready for the IOF General Assembly by 30th September 2018

- Final report to be produced by 30th November 2018

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