

Micr-O Training Guide

Version 1, 2005-09-30

1 Introduction

1.1 Background

At its meeting held August 2005 in Aichi, Japan, the IOF Council decided to accept the Danish World Orienteering Championships organiser's request for inclusion of the micro orienteering (Micr-O) element in the middle distance final of the 2006 WOC.

The reason for the organisers to make this request was their ambition to secure and maximise the TV coverage of the Championships in line with the aims of the Leibnitz Convention. The Danish television company DR and the Norwegian television company TV2 Norge offered to produce comprehensive coverage of the WOC 2006, provided that the Micr-O element is introduced into one of the finals.

The Micr-O concept and the rationale behind the proposal were presented to the representatives of the member Federations attending the recent Presidents' Conference in Aichi, Japan. Although concerns regarding continuity and fairness issues were raised, the general feeling was that, for the long-term benefit of the sport, it would be acceptable to introduce the Micr-O element in one of the races of the 2006 Championships.

The Council decided to grant the requested rule deviation. This was in line with the recommendation of the IOF Foot Orienteering Commission (FOC), the commonly agreed need to get increased TV coverage of orienteering and the fact that, on certain conditions, such an opportunity exists for the 2006 WOC. The decision is, however, conditional, the preconditions being that

1. The WOC organiser and the broadcasting companies involved sign a contract on extensive TV coverage of the World Championships by the end of September 2005;
2. The FOC, in co-operation with the IOF Senior Event Advisor, the WOC organiser and the IOF Rules Commission, establishes formal rules for the Micr-O element. The rules must be published before the end of 2005, and that,
3. For fairness reasons, the FOC, in co-operation with the organiser, ensures that the athletes are provided with appropriate possibilities to practise Micr-O prior to the WOC. These plans shall be published before the end of the year 2005.

Organisers of orienteering events in the period leading up to the 2006 WOC will have the opportunity to try out this format.

1.2 About this document

This Micr-O Training Guide is seen as part of the fulfilment of Council's precondition no. 3.

A prerequisite for understanding the contents of this document is that the reader knows the concept of Micr-O and has a basic understanding of the Micr-O rules that were applied at the Nordic Championships (NOC) in May 2005. Information about these issues can be found via the Internet pages of the Norwegian Orienteering Federation (NOF):

- Micr-O rules (English): http://orientering.no/arrangement/micro-o_english.asp
- Micr-O info page (English): http://www.orientering.no/arrangement/micro-o_information.asp
 - Description of ideas behind Micr-O, some definitions and guidelines (big, 1MB): http://orientering.no/arrangement/Description_micr-O_eng.doc
 - Links to map examples on that info-page

We want to emphasise that the rules for the Micr-O element in the Middle Distance at WOC 2006 are not established yet. As can be seen from Council's precondition no. 2, the rules for WOC 2006 must be published before the end of 2005. Until then, the rules published by NOF and used for NOC are a good guide.

The descriptions of specialised training forms are based on a set-up for a Middle Distance course with Micr-O element as shown in Figure 1.

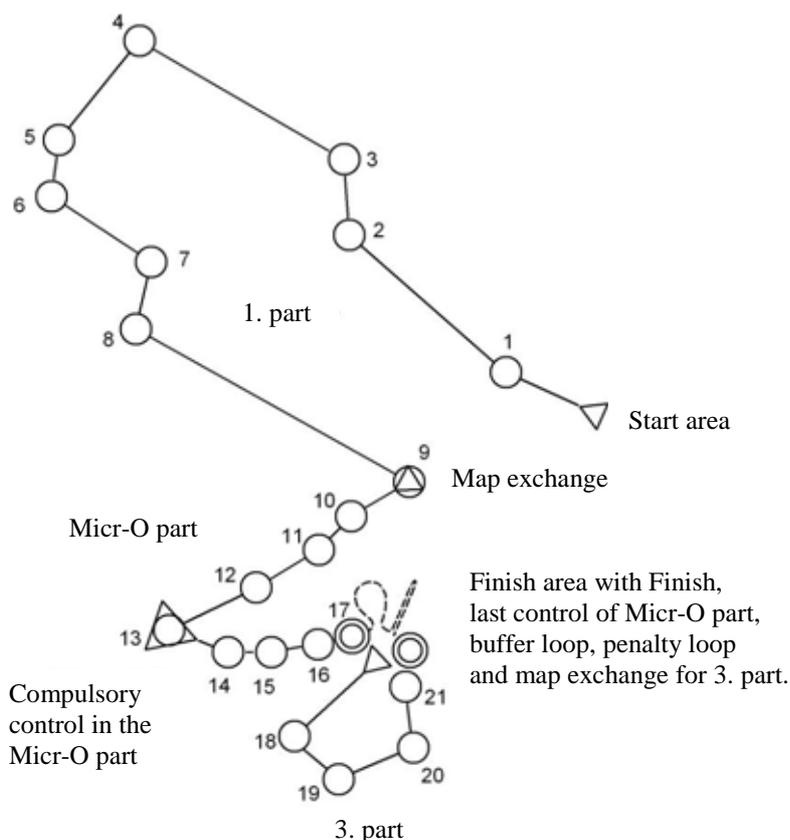


Figure 1: Sketch showing the principles of a Middle Distance course with Micr-O element

1.3 Terms and abbreviations

This is a list of terms and abbreviations used throughout this document.

Buffer loop	The runner may run a buffer loop after the end of the Micr-O part, to give organisers/helpers time to check the number of penalty loops that the runner will have to run. (If the number of penalty loops can be checked immediately, a buffer loop is not necessary.)
Compulsory control	(Compulsory control in the Micr-O part) Useful, but not necessary, in a Micr-O. This is a “normal” control with code number and no dummy controls. The control must be punched, just as any other control on the 1 st and 3 rd part of the course. The reasons for this control are to ensure that a runner who opts not to punch the Micr-O controls cannot take a short cut from the Micr-O start to the Micr-O finish, that a clear change of direction can be achieved during the Micr-O course and that terrain areas that are not suitable for Micr-O controls can be by-passed. There may be one or several compulsory controls in the Micr-O part of a course. Figure 1 shows one.
Control pool	(Micr-O control pool) All control flags at a Micr-O control site, both the dummy controls and the correct control.
Control site	(Micr-O control site) The area in which all the controls of one Micr-O control pool are located.
Control type	(Micr-O control type) Micr-O controls can be placed according to different principles, to test different skills of the runners. They may be of different type.
Dummy control	(Micr-O dummy control) The false controls at a Micr-O control site.
Micr-O control	One control in the Micr-O part of the course, marked with a circle and a number on the runner’s map.
Penalty loop	The loop a runner must run one for each mispunched or missing Micr-O control.

1.4 Map example

As an explanatory map example, we suggest

http://www.orientering.no/arrangement/NM2005_H21.jpg (700 kB)

and

http://www.orientering.no/arrangement/NM2005_D21.jpg (700 kB)

Both maps are included at the end of this document. They can be viewed in better quality through the above links.

1.5 Information about electronic punching systems and Micr-O

There are two IOF-approved electronic punching systems: *Emit* and *SPORTident*.

- Information about the Emit system: www.emit.no. Download of SW to calculate Micr-O penalty loops according to the rules used at NOC: www.emit.biz/web/support/down.htm
- Information about the SPORTident system: www.sportident.de

1.6 Authors

The following persons were involved in the development of this guide:

The “developers” of the Micr-O element, as it was used in the Nordic Championships in May 2005, wrote the basis for this guide:

- Jan Vidar Nielsen, Kongsberg, Norway
- Morten Dalby, Halden, Norway
- Ulf Rogstad, Halden, Norway

Frauke Schmitt Gran, IOF Foot-O Commission

David May, IOF Foot-O Commission

Erlend Slokvik, IOF Foot-O Commission

Håvard Tveite, IOF Map Commission

Emit, Bjarte Dyngjeland

SPORTident, Diethard Kundisch

2 Micr-O element integrated into an O course

Some elements are especially decisive for successful completion of the Micr-O element by a runner. To master Micr-O, these elements must be practised during training.

A runner who masters the Micr-O element can be characterised by:

1. She/he is a good map-reader, who always knows where she/he is, without needing feedback, e.g. from a code number on a control.
2. She/he has good O-techniques, which are carried out as routines throughout the course.
3. She/he keeps full concentration, without being distracted by irrelevant information.
4. She/he optimises the combination between speed and O-technical challenges.

2.1 Micr-O training maps

Today's orienteering maps are usually drawn with computer programs. It is possible to choose both the section of the map and the scale of the map when printing it. Data equipment necessary for printout and duplicating orienteering maps (colour printers and copy machines) is available in most IOF member Federations' home countries.

The ISOM standard is adopted as the map specification for the Micr-O, with some small adaptations due to the larger scale (for an example, see the Micr-O rules for NOC 2005). The map scale shall be 1:5000 and the equidistance shall be 2.5 m. The symbol sizes from the 1:10000 scale are kept. The purpose of the large scale is to increase readability for the runner, and to provide a map that is both more accurate and less generalised than a 1:10000/1:15000 map. The Micr-O map is re-surveyed for Micr-O, considering especially the accuracy of the map regarding neighbour relationships, distances and directions, differences between mapped and unmapped features and possible placing of Micr-O controls.

Håvard Tveite, member of the IOF Map Commission, says the following about Micr-O maps:
The ISOM has, in addition to physical minimum sizes, also graphical minimum sizes. The NOC rules for Micr-O suggest that the graphical minimum sizes (for lines and areas) of the ISOM are also applied for the Micr-O map. This means that it will be possible to map, for instance, shorter rock faces and smaller marshes for the Micr-O. I think this is the most natural solution. Shorter linear features may be mapped to scale. Smaller area features may be mapped to scale. This means that more features may be mapped on the Micr-O map. In areas where there is so much detail that not everything can be mapped according to ISOM, more features (that exceed the minimum physical dimensions of ISOM) can be included on the Micr-O map without compromising legibility due to the larger scale and the not proportionally enlarged symbol sizes.

The following map types are appropriate for Micr-O training purposes:

1. A part of a normal 1:10000 orienteering map, enlarged to scale 1:5000 or 1:4000.
2. A sprint orienteering map according to ISSOM (i.e. scale 1:5000 or 1:4000).
3. A special Micr-O map, as described above.

2.2 Micr-O course setting

Study http://orienteering.no/arrangement/Description_micr-O_eng.doc, especially Appendix 1. This document gives a good introduction to the thoughts around Micr-O course setting.

Morten Dalby says the following about Micr-O course setting:

The biggest trap for a Micr-O course setter is using too many dummy controls. Usually, 3-4 dummy controls in addition to the correct control are enough for one Micr-O control site. However, the

number of dummy controls should vary from control site to control site. The type of Micr-O controls should vary, too, such that the runners are forced to use different orienteering techniques and orienteering tactics. The Micr-O part shall be fair and be adjusted to the quality of the Micr-O map, such that the influence of chance/randomness is minimised or eliminated.

3 Training Methods

Training methods for Micr-O can be divided into basic training and specialised training.

3.1 Basic training

Map-reading is the basis for all orienteering and all orienteering distances. Training sessions several times a week in technically difficult O-terrain with only a map as the tool are going to improve the ability to master a Micr-O course.

Trying to update an enlarged 1:10000 map for Micr-O purposes is very good training for runners who wish to improve their understanding of map and terrain.

3.2 Specialised training

This is about training sessions or organised training that emphasise the special elements of Micr-O, and how to accomplish that.

The following sections are about specialised training for Micr-O.

3.2.1 Simple specialised training

The following are suggestions for simple training sessions that the runner him/herself, or small groups of runners, can organise easily.

1. The change of map scales during a race with Micr-O is demanding. The runner has to adjust from a map with scale 1:10000 to a map in 1:5000 or 1:4000 when entering the Micr-O part. She/he must adjust again, from 1:4/5000 to 1:10000 when leaving the Micr-O part.

This can be trained during normal orienteering sessions, changing between maps of different scales, i.e. from 1:10000 to 1:4/5000 and back.

2. One result from various Micr-O test races showed that runners are not used to read the complete control description. Many concentrate on the code number, maybe also the main control feature. However, there are no code numbers in Micr-O, so information about the size of the control object and the placing of the control marker at the object are especially important.

Runners can train to read the whole control description during any orienteering session. It is possible to use the whole spectrum of information on the control description sheet even in simple trainings.

3. Map reading skills can be trained by running a (Micr-O) course drawn on the map, but not marked in the terrain. The runner may either remember where she/he decided that the control should be, or the runner can mark the control site with a small piece of paper or a plastic ribbon attached to a clothes-peg or alike. Checking if one chose the correct control feature and/or control placing will be done by re-running the course.

Variations of this training form, when several runners are training together, could be a mass-start with gaffling. This will also train the runners' ability to concentrate, and to use the relevant information. At some or all of the control sites, runners may have different control placings: western or eastern cliff, top or foot of the cliff, re-entrant or depression, and alike. Each runner has

his/her own colour or number or similar, such that the small papers or ribbons can be identified afterwards.

3.2.2 Organised training / simple competitions with Micr-O

One to three people can put on an organised Micr-O training session or a simple Micr-O competition, optionally with control of number of penalty loops.

For all following examples, either hand out all maps in one open plastic bag at the start (the runner must turn over the map when starting with the Micr-O part), or put up self-service map boxes at the map exchange points.

1. With control markers, but without punching

For the Micr-O section, the organiser marks both the correct and the dummy controls with control markers. No control codes or punching devices are needed, but the organiser should prepare a control description.

The runner touches the control marker of her/his choice when running the Micr-O section. Afterwards, the runner re-runs the Micr-O, checking whether she/he chose the correct marker in the first place.

Running penalty loops is not an option in this form of training. But if the runners take their times, e.g. with their wrist-watches, runners could add 20-30 seconds of penalty for each wrongly-chosen Micr-O control.

2. With pin punches

For the Micr-O section, use pin punches at all control markers and make up a master control card showing the correct punches. The organiser/coach can compare the runner's punches with the master card while the runner runs the "buffer loop".

If no organiser/coach can be in place, the master card may be copied, each runner picks up the card when entering the buffer loop and checks for him/herself while running the buffer loop.

Then, the runners run the appropriate number of penalty loops, before they continue with the rest of the course.

Buffer/penalty loop running could be dropped in such training and replaced by adding 20-30 seconds of penalty for each wrongly punched Micr-O control.

3. With electronic punching, penalty time instead of penalty loops:

The principles of organisation are the same as for orienteering training without Micr-O, and with electronic punching. The set-up is independent of the used punching system (i.e. Emit or SPORTident).

This form is suitable for competitions with Micr-O where there is no TV interest and little or no spectator interest

The control codes of the Micr-O control pools can be hidden (e.g. tape over the numbers) or may be visible. If the control numbers are hidden, one can use easily identifiable numbers as correct

solution (e.g. 101-102-103-104-105 is correct) and clearly different numbers as dummy controls (e.g. 31, 32, 33,...).

The runner runs the whole course (1st part, Micr-O and 3rd part). Upon finishing, the punching for the 1st and 3rd part is checked as usually, whereas the punching for the Micr-O is checked manually by printing from the punching card the control codes of the punched Micr-O controls. (A printout station (SI) / a Mini-time recorder (Emit) with thermal printer may be used.)

20-30 seconds of penalty are added to the runners' time for each wrongly punched Micr-O control.

4. With electronic punching and penalty loops, solution based on standard equipment:

The principles of organisation are the same as for orienteering training without Micr-O, and with electronic punching, but the read-out of the punching card after the Micr-O and before the penalty loops introduces an extra element. The set-up depends on the used punching system (i.e. Emit or SPORTident).

Emit:

Necessary equipment:

- “Conventional” Mini-time recorder (i.e. MTR3 with SW version 1.08 and earlier, MTR2) with Thermo printer. - The “conventional” Mini-time recorder will stop the clock in the e-card 15 seconds after reading the e-card.
- One e-card per runner
- One start unit (one for start of 1st part of the course, one for start of 3rd part of the course)
- Control units (one for each control on the 1st part of the course, one for Micr-O start, one for Micr-O compulsory control, one for Micr-O end, several (2-7) for each of the Micr-O control pools, one directly after reading out the e-card with the Mini-time recorder, one for start of 3rd part of the course, one for each control on 3rd part of the course)
- One 250 reading unit and one PC with Emit SW (e.g. eTiming), or a second Mini-time recorder

The control codes of the Micr-O control pools can be hidden (e.g. tape over the numbers) or may be visible. If the control numbers are hidden, one can use easily identifiable numbers as correct solution (e.g. 101-102-103-104-105 is correct) and clearly different numbers as dummy controls (e.g. 31, 32, 33,...).

Let the runner run the 1st part of the course and the Micr-O. An official/helper stops the runner and helps to read out his/her e-card with the Mini-time recorder. Right after (i.e. less than 15 seconds after), the runner punches a control unit. The helper checks the Micr-O control codes on the printout while the runner runs the buffer loop. The runner gets informed about the number of penalty loops when leaving the buffer loop. (If one hides the control numbers as described above, the helper should be able to identify the number of penalty loops quite fast.)

After running the penalty loops, the runner picks up the map for the 3rd round.

Punching control and timing is done as for a “normal” race, by using the PC with Emit SW, or it is done “manually” by checking the printout from the second Mini-time recorder.

SPORTident:

Necessary equipment:

- Printout station with Thermo printer
- One SI-card per runner
- One clear station, one start/check station
- Control stations (one for each control on the 1st part of the course, one for Micr-O start, one for Micr-O compulsory control, one for Micr-O end, several (2-7) for each of the Micr-O control pools, one for start of 3rd part of the course, one for each control on 3rd part of the course)
- One finish station and one PC with SI SW (e.g. OE2003, ORware, Oorg), or a second printout station with thermo printer

The control codes of the Micr-O control pools can be hidden (e.g. tape over the numbers) or may be visible. If the control numbers are hidden, one can use easily identifiable numbers as correct solution (e.g. 101-102-103-104-105 is correct) and clearly different numbers as dummy controls (e.g. 31, 32, 33,...).

Let the runner run the 1st part of the course and the Micr-O. An official/helper stops the runner and helps to read out his/her e-card with the printout station. The helper checks the Micr-O control codes on the printout while the runner runs the buffer loop. The runner gets informed about the number of penalty rounds when leaving the buffer round. (If one hides the control numbers as described above, the helper should be able to identify the number of penalty loops quite fast.)

After running the penalty loops, the runner picks up the map for the 3rd round.

Punching control and timing is done as for a “normal” race, by using the PC with SI SW, or it is done “manually” by checking the printout from the second thermo printer.

5. With electronic punching, solution based on special Micr-O equipment:

The principles of organisation are the same as for orienteering training without Micr-O, and with electronic punching, but the read-out of the punching card after the Micr-O and before the penalty loops introduces an extra element. The set-up depends on the used punching system (i.e. Emit or SPORTident).

This form is suitable for competitions with Micr-O where there is no TV interest and little or no spectator interest

SPORTident:

Just as described in point 4.

Emit:

Necessary equipment:

- “New” Mini-time recorder (i.e. MTR4 or MTR3 with SW version 1.09 or later) with Thermo printer. - The MTR4/upgraded MTR3 can be put into a mode where an e-card is read, but the clock is not stopped.
- One e-card per runner
- One start unit

- One 250 reading unit
- Control units (one for each control on the 1st part of the course, one for Micr-O start, one for Micr-O compulsory control, one for Micr-O end, several (2-7) for each of the Micr-O control pools, one for start of 3rd part of the course, one for each control on 3rd part of the course)
- 2 PC's: one for penalty loop control with Emit Micr-O SW and one at the finish with Emit SW.

The control codes of the Micr-O control pools must be hidden (e.g. tape over the numbers). The codes for the dummy controls must be inside a range of control numbers (e.g. 31-98). The codes for the correct controls can be any available code outside this range.

Let the runner run the 1st part of the course and the Micr-O. At the end of the Micr-O, the runner reads out his/her e-card with the “new” Mini-time recorder, which is connected to the PC for penalty loop control. The PC screen shows the number of penalty loops to run. (The buffer round could be dropped.)

After running the penalty loops, the runner picks up the map for the 3rd round.

Punching control and timing is done as for a “normal” race, by using the PC with Emit SW.

4 Map example

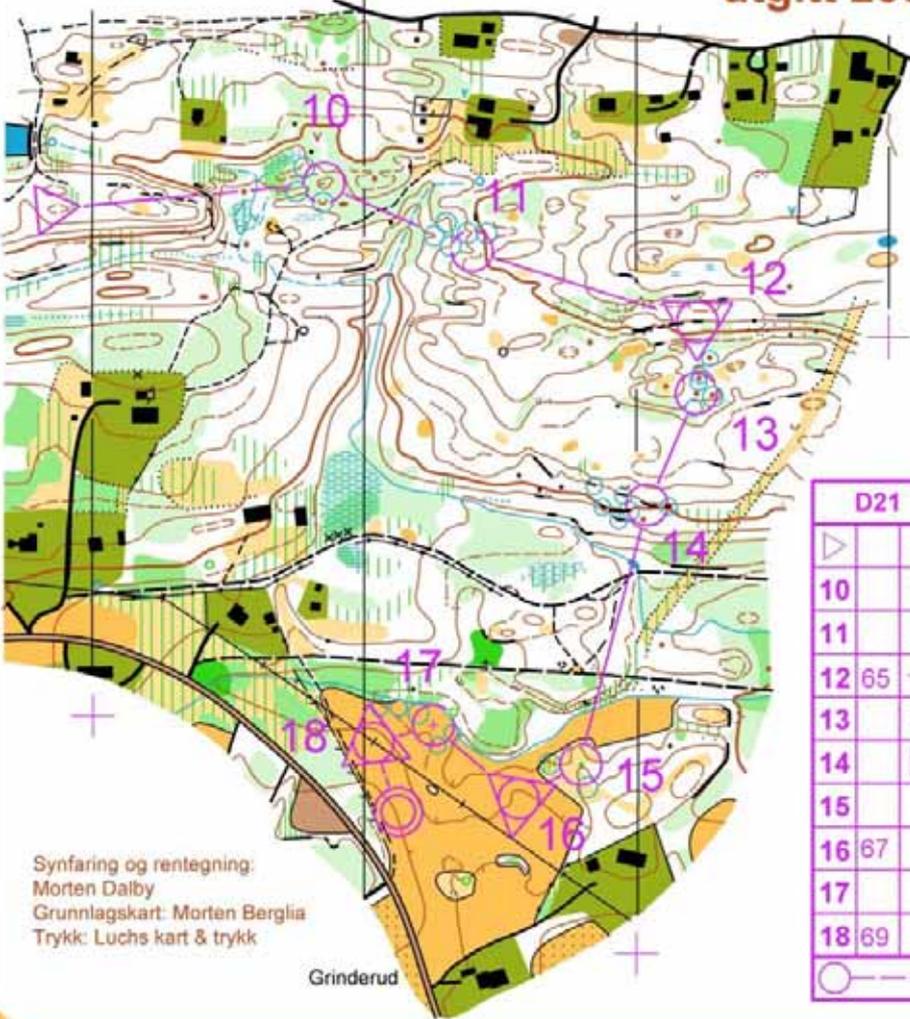
Micr-O-kart

Grinderudjordet




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utgitt 2005





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Synfaring og rentegning:
Morten Dalby
Grunnlagskart: Morten Berglia
Trykk: Luchs kart & trykk

Grinderud

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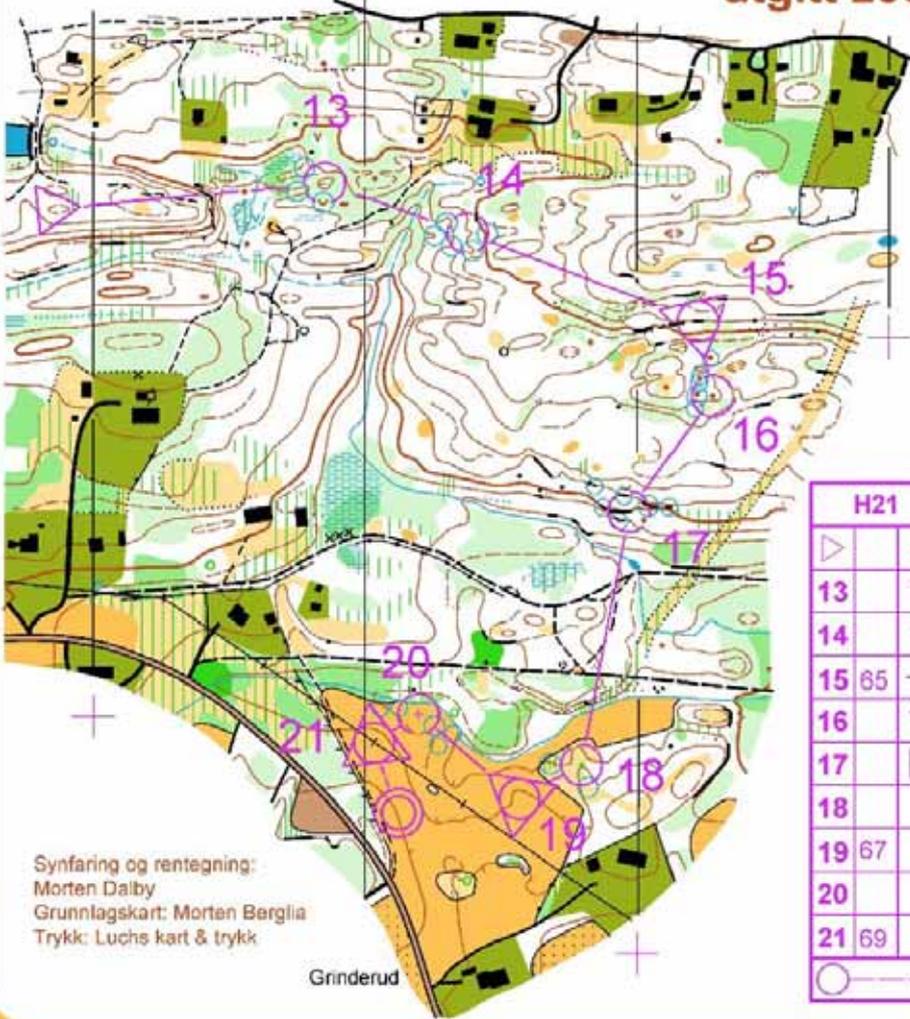
Micr-O-kart

Grinderudjordet




målestokk 1:4000
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utgitt 2005





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Synfaring og rentegning:
Morten Dalby
Grunnlagkart: Morten Berglia
Trykk: Luchs kart & trykk

Grinderud

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