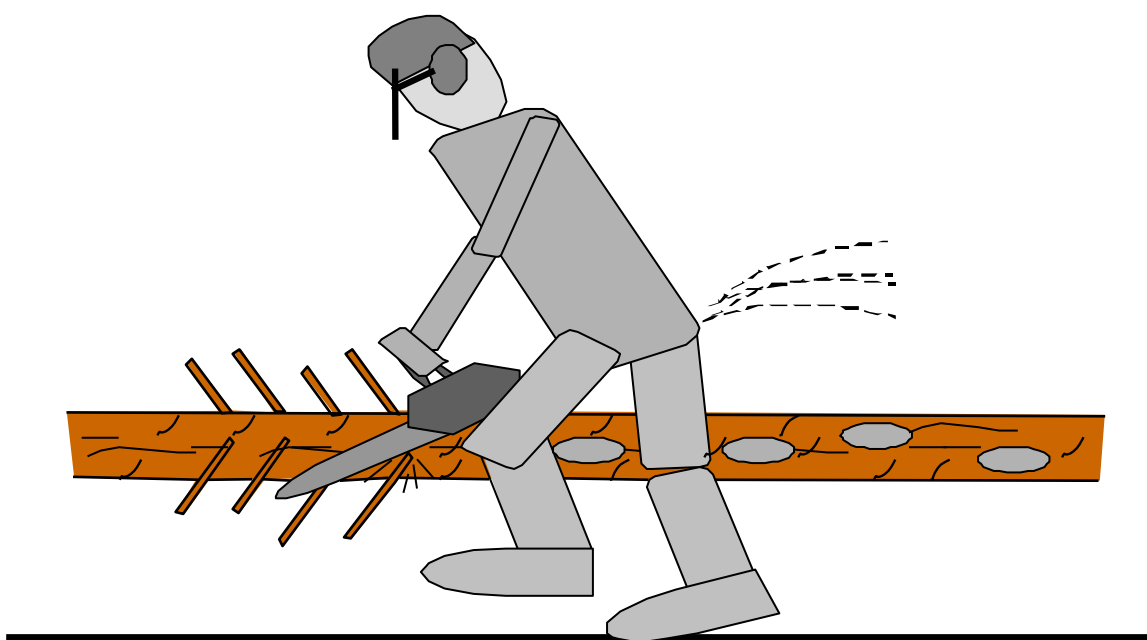


Set of Rules

WORLD LOGGING CHAMPIONSHIPS



Expenditure: English 2022

Main Sponsors of the ialc:



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I. GENERAL REQUIREMENTS

1. General information

Contestants are referred to in the male form in these rules and regulations, although it is of course understood that there may also be female contestants.

As a matter of principle, the terms of these rules and regulations, the instructions given by the judges and the valid guidelines on work safety apply to the world championships.

The world championship is designed to promote professional skill, sporting ambition, accident prevention and friendship among contestants from all countries. It is also a good opportunity to inform the public of the work that is carried out in the forest.

Participants must wear their official starting number. Any sponsor advertisement on clothes may not be contra bones mores.

The contestant must personally take out an insurance policy. The organisers accept no liability in this context.

If a participant causes an accident during the competition, a physician or the jury will decide if he may continue to take part in the competition. In the event that the competition is cancelled, only points gained prior to the cancellation are valid for any class.

2. The chainsaw

The contestants shall use the same chainsaw throughout the competition. This shall be fitted with standard equipment. Before the events the saws and bars will be inspected and labelled. Any contestant intentionally using a saw with modifications that have not been authorised will be disqualified, even if these modifications were not noticed when the saw was accepted. The contestant may use a spare saw of the same type with permission from the jury if his saw is broken during the competition. 3 bars of varied length and 4 chains may be used during the competition. The minimum length of each cutter link of the saw must be at least 3 millimetres measured at the shortest part of the top plate.

The following points are checked:

- **Chain brake**
- **Tooth length of chains**
- **Length of fixing bolts for bars**
- **Condition of the threads for fixing the bar**
- **Entire chainsaw to ensure it is standard**

All contestants must sign to confirm that their saw is of a standard type. During the world championship a number of saws are selected at random and are checked again.

II. THE COMPETITION DISCIPLINES

The championship covers the following disciplines:

- Tree felling
- Fitting another chain
- Bucking by combined cuts
- Precision bucking
- Limbing

III. SYSTEM TO EVALUATE PERFORMANCES

The participants' professional skills are shown in the championship results. If the competitor performs well (short time, precision, quality), he will be awarded points that are then added up. If the performance is poor or unsatisfactory (failure to observe the safety regulations, damaging the wood, etc) he will receive penalty points that are deducted from the total score. Penalty points can be given more than once for repeated failure to observe the safety regulations. However, the minimum number of points for each discipline is zero (no minus points are awarded).

IV. CLASSING / RANKING

The following classes are defined:

1. Professional class (Women / Men)

2. Team classification (women and/or men)

With the points achieved in all 5 disciplines by the **three pre-registered professional** participants of a country (excluding U24), a team classification will be drawn up (team world champion). The participants counting for the team classification must be registered by name with the form. Classification changes during the World Championships are not permitted. The competitor in the women's class is allowed to be entered in the team classification.

b) Individual classification (women's classification / men's classification)

Over the whole competition (5 disciplines / individual world championship).
In the disciplines (discipline world champion).

2. Juniors – class U24

1. Individual class (Women / Man)

Throughout the entire championship (5 disciplines / individual world champion U24).
In the disciplines (discipline champion U24).

3. Classing if scores are equal

a) Individual class

1. The contestant with fewer penalty points
2. The contestant with a higher felling score.

b) Discipline class

Tree felling:

1. Total points in accordance with table 3
2. Better time

Fitting another chain:

1. Fewer penalty points
2. Better time in accordance with table 9

Bucking by combined cuts:

1. Total number of points - table 12
2. Better time - table 10

Precision Bucking:

1. Total number of points - table 15
2. Better time - table 13

Limbing:

1. The contestant with fewer penalty points
2. Better time - table 16

c) Team class

1. The team with fewer penalty points
2. The team with the best individual competitor

The three contestants / teams with the highest scores will be awarded the three standard medals (gold, silver and bronze) on a band.

V. CONDITIONS OF PARTICIPATION

All nations are invited to compete in the world championship. Any participating nation must, however, be a member of the ialc or alternatively must pay a starting fee that is twice the membership fee. The membership fee (currently: EUR 2000 per year) or the entry fees (currently: 6000 EUR/worldcup) must be paid at the moment of registration.

All participants must have sufficient skills to ensure that they can carry out all disciplines without personal injury. Participants (woman or man) of the U24 may not be older than 24 years. U24 contestants may not be older than 24. The year of birth and not the date of birth determines the age in this case.

The number of participants is restricted to 5 contestants (4 professionals – Woman or Man - and one U24). The participating countries are responsible for selecting the contestants. For the selection of the team, at least one brand-neutral competition must be carried out.

The reigning world champion may defend his title in the individual class in the following world championship. If he has failed to qualify to represent his country he will be invited to participate by the ialc, in which case, however, he may only participate as a single contestant and is not included in the team class of his country. The ialc board of directors may also invite guests who participate in the competition but do not actually compete.

Judges, assistants, members of the organisational committee and members of the ialc board are exempt from participating in the competition.

Contestants will not be excluded for operating the chainsaw left handed (left-handed contestants).

VI. JUDGING AND RESULT EVALUATION

The following institutions are set up prior to each competition:

1. **The Jury** consists of 3 neutral ialc members under the leadership of the Head of the Technical Commission.
2. **Discipline judges**, neutral persons of the country in which the championship is held, headed by a member of the Technical Commission assigned by the ialc to be responsible for umpiring.
3. **International observers**, one observer per nation, headed by a member of the Technical Commission assigned by the ialc to be responsible for the measuring equipment.
4. **Scoring office** (designated by the country hosting the event) headed by a member of the Technical Commission assigned by the ialc to be responsible for the rules and evaluation programme.

Any judging problems are solved by the jury, under the leadership of the Head of the Technical Commission. The decisions made by the discipline judge may be appealed, while the decisions of the jury are final and cannot be appealed.

The performances are assessed by the discipline judges. All discipline judges are ialc trained and are aware of the fundamental issues in umpiring. Every judge is ialc authorised for his work.

The international observers monitor the judges, reporting irregularities or measurements that have been carried out incorrectly to the jury and appealing against decisions. The jury is obliged to immediately address these objections.

1. The jury

The jury is made up of three neutral persons under the leadership of the head of the Technical Commission.

The jury has the following tasks:

- ♦ Accept protests submitted on schedule
- ♦ Check the appeal deadlines
- ♦ Make a definitive decision on all appeals
- ♦ Decide on whether the championship should be carried out or cancelled (e.g. in bad weather)
- ♦ Monitor the measurements and measuring equipment
- ♦ Monitor the scoring office and control the ranking lists

If the result is disputed by the contestant both he and the head of the team have the right to submit a written protest to the jury within the time stipulated in the assessment protocol (30 minutes after the assessment has been made).

The decision of the jury is then final and cannot be appealed. The jury also decides if a discipline can be repeated.

In order to be able to submit the objection within the deadline, the contestant has to collect his result once the discipline has been completed from the scoring office.

2. The discipline judges

ialc provides suitable measuring tools to measure the results. These tools must be used.

Before a discipline is carried out, the judges are obliged to give the contestant additional information and explanations of the rules of the competition in a language the contestant can understand and to answer any questions he may have. To avoid misunderstandings, the country hosting the event organises and pays for interpreters.

Every contestant has to indicate that he is ready before the start of the discipline.

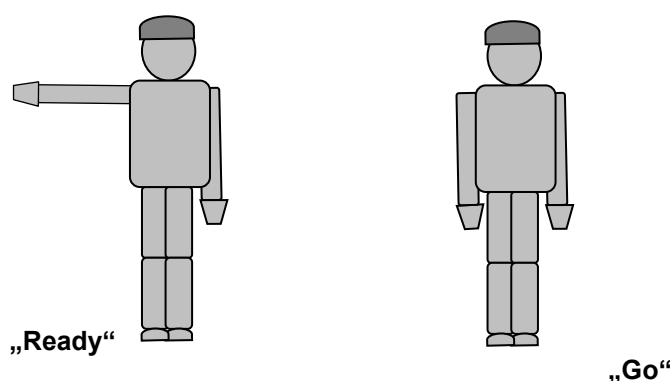
The judges are obliged to make an objective competition evaluation for each contestant. A prerequisite for making an objective assessment is knowing the rules and regulations as well as being familiar with and skilled in operating the instruments and measuring equipment.

The starting commands are the same for each discipline. The commands are:

“Ready” “Go”

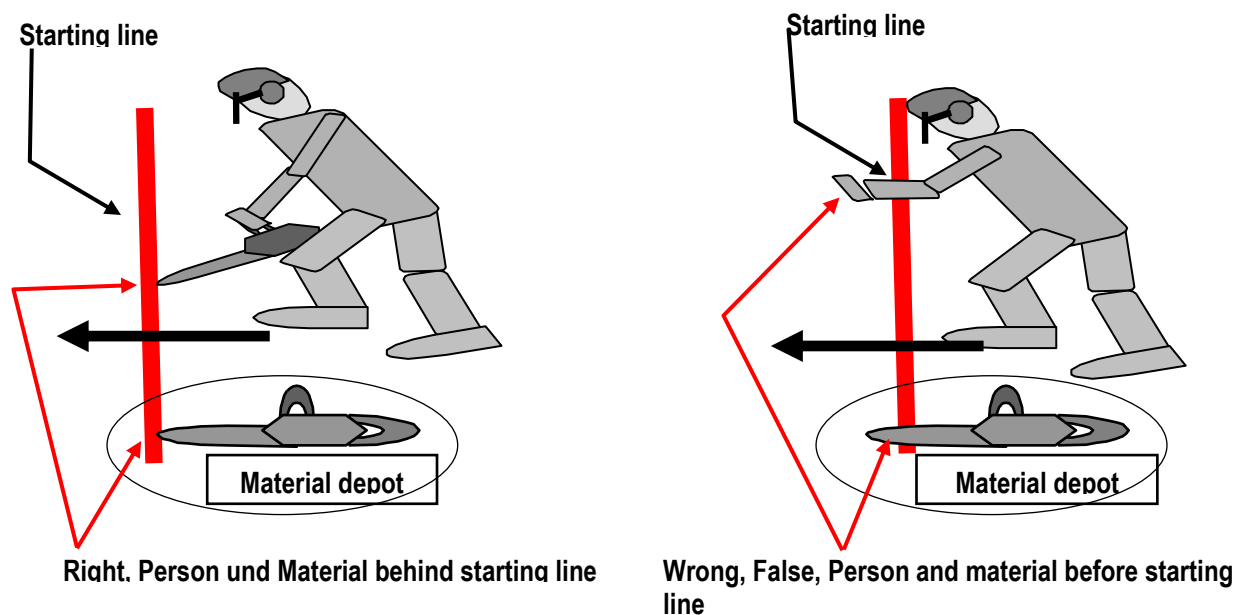
The starting command is therefore divided into two, as shown in figure 1.

Fig. 1: The starting commands



The tools and the participant must stand fully behind the starting line (figure 2) when someone starts. This rule applies for all disciplines.

Figure 2 Starting position for all disciplines



During the championship the judges have to check the reliability of the method the contestant has applied and how safely and confidently he works. Any breach of work safety is registered by the judge and recorded.

The time is to be measured with two watches, except in the case of replacing the chain, where the time is measured using a digital clock that can be seen by the audience. The mean of both measurements is recorded accurate to hundredths of a second. If the time cannot be measured accurately, the discipline has to be repeated.

Once the measurements have been made and the results have been recorded, the judges sign the record to confirm the accuracy of the results.

The records with the measuring results are to be personally and directly handed over to the jury, the jury representative or the scoring office. The contestant receives a copy of the record. The measurement results can be recorded electronically and sent directly to the accounting office. The participant will in this case not receive a copy of the recording protocol.

All measurements are taken by the discipline judges in person. The results are monitored by the international observers. The jury and the international observers are entitled to have every measurement rechecked and to check the entries; they may not, however, record any entries in the record themselves.

Once the task has been completed, the contestant and the head of the team may stand so that they can watch the measurements being taken; they may not, however, become involved in establishing the results or in taking the measurements. Both the contestant and the head of the team are, however, entitled to appeal against the results in writing within the prescribed time (30 minutes after the evaluation).

If not otherwise noted in the rules and regulations, the average result is rounded up or down.

The results of the measurements are recorded as they are displayed on the measuring equipment. The evaluation program software takes the decisive result and automatically rounds it up or down.

Assistants can be used to call the contestants, prepare the trees, transport the measuring equipment and transport the records to the scoring office.

Any problems may only be dealt with by the jury. Before the jury makes its decision the contestants, the team organiser, the international observers and the respective discipline judges can be questioned. The judges and the international observers are obliged to provide the jury with additional information.

3. The international observers

The international observers do not take any measurements. They observe the discipline judges.

They can arrange for measurements to be rechecked at random and are entitled to look at the records. They are not, however, entitled to make any changes in the records. They are obliged to immediately report any irregularities or incorrect measurements as well as measurements that do not conform to the rules and regulations to the jury.

If a result is appealed against, they have to provide the jury with information to the best of their knowledge.

If contestants from their country are being evaluated, the international observers are not involved. To ensure that there is nonetheless an international observer in place, there are two for each discipline; so if one is not involved, the other can work alone.

4. The scoring office

The scoring office reports directly to the jury and is responsible for accurately evaluating the results and drawing up the ranking lists. It is also responsible for ensuring that the contestants are informed of the evaluation results and operates the score board.

The ialc provides the country hosting the event with an evaluation program (hardware and software): This program must be used.

The ialc representative lends the scoring office the necessary support in running this program and trains anyone who is to use the program.

The scoring office is responsible for directly transporting the records from the judges to the scoring office.

It carries out all evaluations of the records, sets up ranking lists and regularly updates the scores board displaying the top 10 contestants.

The results are constantly recorded and are to be relayed to the contestant so that they can appeal against any incorrect evaluations and / or incorrect entries within the time limit. The time limit for this appeal is also noted on the evaluation record.

The scoring office is responsible for ensuring that the evaluated records are immediately collected by the contestants, so that the latter can observe the time limit for appeals.

It also immediately reports incorrect records that cannot be evaluated to the jury.

VII. THE SAFETY REGULATIONS

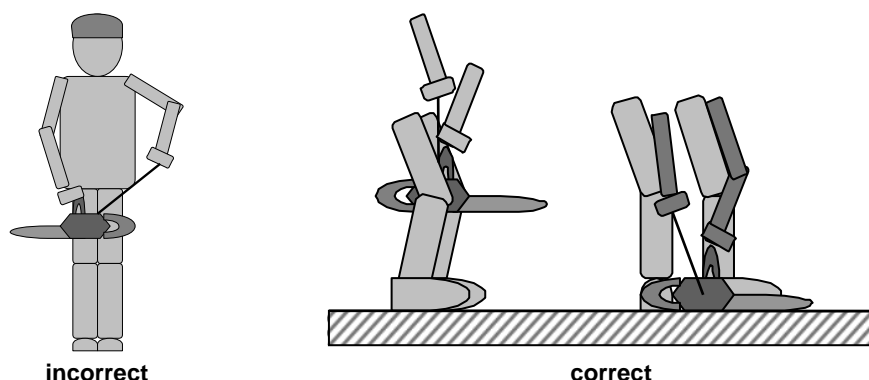
The country organising the event provides a first aid service to ensure that anyone who is injured is treated promptly and appropriately.

During the world championship the contestants and the judges have to be dressed and equipped appropriately and in accordance with the regulations. This includes in particular helmets (including ear protection and protective facial net), gloves, cut retard trousers, etc. All contestants must be equipped with a first aid set. The judges, assistants, jury, international observers and press representatives have to be dressed and equipped in accordance with the regulations when entering the competition sites. Any protective gear must also be used (e.g. assistants also have to wear ear protection).

Contestants who are not equipped in accordance with the regulations (helmet, gloves, cut retard trousers, and so on) or who are not equipped with a first aid set will be excluded from the championship.

The country organising the competition shall take all measures to guarantee work safety during the competitions, but the organiser and the ialc will not be responsible for accidents caused by the contestants themselves during their preparation for the performances or during the performance itself or by faulty tools.

Fig. 3: How to start the saw



When starting, chainsaws must be fixed either on the floor or between the knees as shown in figure 2.

Any breaches of work safety shall be subject to penalty points. Penalty points for failing to observe the safety regulations can be given more than once in the same discipline (e.g. “walking when the chainsaw is running”).

Penalty points in the respective disciplines are set in accordance with table 1 below.

Table 1: Penalty points for violation of general safety rules

No.	Violations of general safety rules	Penalty points / Event				
		1	2	3	4	5 / 6
1	Appearance on the competition site without call	50	50	50	50	50
2	Working without gloves or other hand protection, helmet, eye protection, ear protection, protective footwear, leg protection	20		20	20	20
3	Starting the saw in an incorrect way (Fig. 1)	30		30	30	30
4	Touching the saw chain while the engine is running	50		50	50	50
5	Moving from place to place when the saw chain is running	20		20	20	20
6	Saw not starting within 5 minutes	30		30	30	30
7	Using the saw one-handed when the chain is running	20		20	20	50
8	Injuries that do not require medical attention	20	20	20	20	20
9	Injuries that require medical attention	50	50	50	50	50
10	Work after the completion of the discipline	50	50	50	50	50
11	First-aid kit or safety equipment is missing	No permission to start				

VIII. PERFORMING THE DISCIPLINES

1. Tree Felling

1.1 General information:

The contestant must try to fell a tree to fall at a designated spot within 3 minutes observing the valid work safety regulations.

Representatives of the media may only enter the competition area with the authorisation of the jury and under the supervision of a safety representative. Suitable protective gear must be worn.

The competition takes place on roughly the same kind of site for all contestants. The selected trees must be roughly the same height, virtually the same thickness and of the same species. The Breast Height Diameter (BHD) can be between 28 and 38 cm (see figure 9). All trees must, however, be within a range that varies no more than 4 cm. Trees that incline more than 2 degrees, have an obviously eccentric crown or show signs of rot may not be selected for felling. All trees must have a clear fall in at least one direction. The felling direction where there is clear fall is specified, but does not necessarily have to be observed.

Tabelle 2 Declination of the tree

Treeheight 50 m, Deviation from stem = 1. 50 m	Treeheight 40 m, Deviation form stem = 1. 20 m
Treeheight 30 m, Deviation from stem =0. 90 m	Treeheight 20 m, Deviation from stem = 0. 60 m

The tree felling discipline is generally carried out in the forest and always with erect and naturally grown trees.

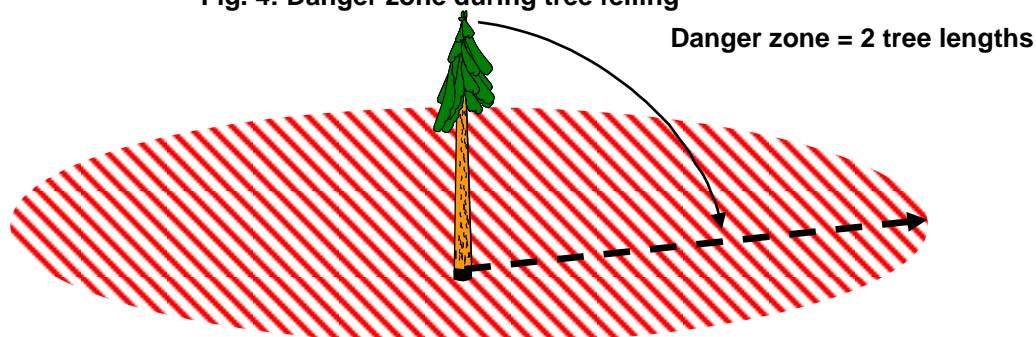
When the discipline felling is held on a site outside the forest, all the masts-trees (poles without branches) must be approximately the same thickness, of equal height and from the same species. The danger zone is in this case 1 ½ treelength. (Height min. 16m above ground, BHD. around 28 - 38 cm). The working height will be marked with color paint right above the place where the pole is fastened.

There may be no spectators in the danger zone (twice the height of the tree, 360° around the tree – see figure 4).

If the jury decides to hold the felling competition despite difficult weather conditions (wind), it is not possible to submit an appeal concerning conditions affecting the competition.

ialc shall inform the participating countries 6 months prior to the world championship of the felling site and the tree diameters.

Fig. 4: Danger zone during tree felling



Lots shall be drawn to allocate the trees to the contestants. All trees must be numbered before the lots are drawn (including the spare trees). As a rule, the contestants compete in the order in which the lot numbers are drawn. It is permitted to divide the site into separate starting fields.

The lumbering is inspected after the lots are drawn. The contestants have 30 minutes during this inspection to assess the tree they have been allocated, to accept the tree or to decline it and appeal in the event that it does not conform to the rules. The jury will then decide if the appeal is justified or not. Appeals made at a later stage shall only be accepted if the faults were not previously visible, such as butt rot, for instance (see figure 19).

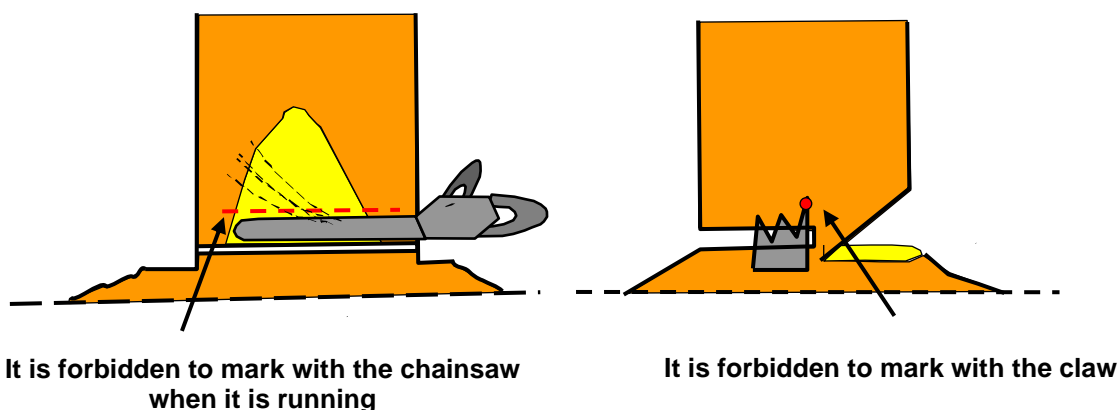
Only the following persons may enter the competition area: the judges, the interpreters, a team organiser, the international observers, the jury, ialc board members and the contestant currently performing.

In the event that a constant has been authorised by the jury to repeat the discipline following a protest (hidden faults such as butt rot, etc.) he should do so at the end of the competition. He then has to fell the spare tree with the lowest starting number. It is also possible to divide set up starting fields in this case.

The country hosting the event provides machines and staff to deal with emergencies (releasing saw bars that are caught in the kerf, dealing with hanger trees, removing felled trees, etc).

Any kind of marking equipment or other aids (tape measures, marked gloves, etc) are prohibited, as are non-standard markings and equipment on the chainsaw or on the bar. For instance, it is prohibited to mark the depth of the sink with a felt-tip on the bar, or to mark the width of the hinge, the height of the felling cut or of the top cut of the sink. It is also prohibited to mark the height of the sink with the chainsaw, or the width of the hinge with the claw (see figure 5).

Fig. 5: Prohibited markings



The following tools may be used for felling:

chainsaw, wedge, wood-splitting hammer, axe, breaking bar, plumb line, windvane (no measuring aids).

All measurements are written on the tree stump.

1.2 Preparing the felling site and trees:

The felling site shall be prepared as follows:

- If necessary, dividing the felling site into starting fields
- Selecting and numbering the trees (see figure 9)
- Establishing the provisional felling direction (clear fall)
- Selecting and numbering a number of spare trees
- Marking a line on the trunk above which no horizontal cut may be made (see figure 9)
- Felling all trees not required for the competition
- Restricting access to the competition site
- Setting up a zone for spectators
- Setting up a waiting room for contestants
- Providing an area for first aid and the scoring office
- Setting up a protected waiting room for the nations
- Setting up toilets and personal washing facilities, etc for contestants and spectators

1.3 Preparing the felling discipline

- Announcing the provisional felling direction (clear fall)
- Determining the exact felling direction by the contestant, marking and setting up posts to ascertain the definite felling direction (see figure 6)
- Removing any fallen trees within the felling area
- Indicating the starting lines (see figure 6)
- Marking the retreat zone to the left and right of the tree (see figure 6 - 8)
- Placing the chainsaw and the tools behind the starting line before the start (see figure 6)

1.4 Start and finish of the discipline

The discipline starts when the judge gives the signal to start and ends when the tree hits the ground.

1.5 Assessing the performance

- Too early start
- Time for actual felling
- Deviation of tree from felling direction
- Depth and angle of sink
- Width of the hinge
- Height difference between the felling cut and the bottom of the sink
- Damage to the tree stem
- Height of the felling cut
- Observance of the general safety regulations (see table 1)

1.6 Steps involved in the felling operation

The contestant, the interpreter and the team leader enter the felling site upon the judge's call. The contestant brings his chainsaw and auxiliary tools with him and is accompanied by an assistant / assistants.

The judge shows the tree to be felled by the contestant as well as the general direction in which it has to be felled.

Any questions the contestant may have are answered with the help of the interpreter.

Before the start the contestant has 3 minutes to check the tree and the prevailing wind conditions.

The contestant determines the exact direction in which he wants to fell the tree (any direction - 360°). The contestant places or shows where to place a sharpened stake with a length of 1.5 m at a distance of 15 m from the tree. The stake is designed so as not to affect the fall of the tree. The contestant has a maximum of 2 minutes to determine the direction in which the tree is to be felled. The assistants also place two additional 50 cm pegs at a distance of 1 m on both sides of the stake mark (see figure 6). If there is an obstacle (tree stump, etc) and another distance has to be selected, the exact distance is noted down.

In the meantime the contestant may prepare the trunk (remove undergrowth, remove earth from trunk).

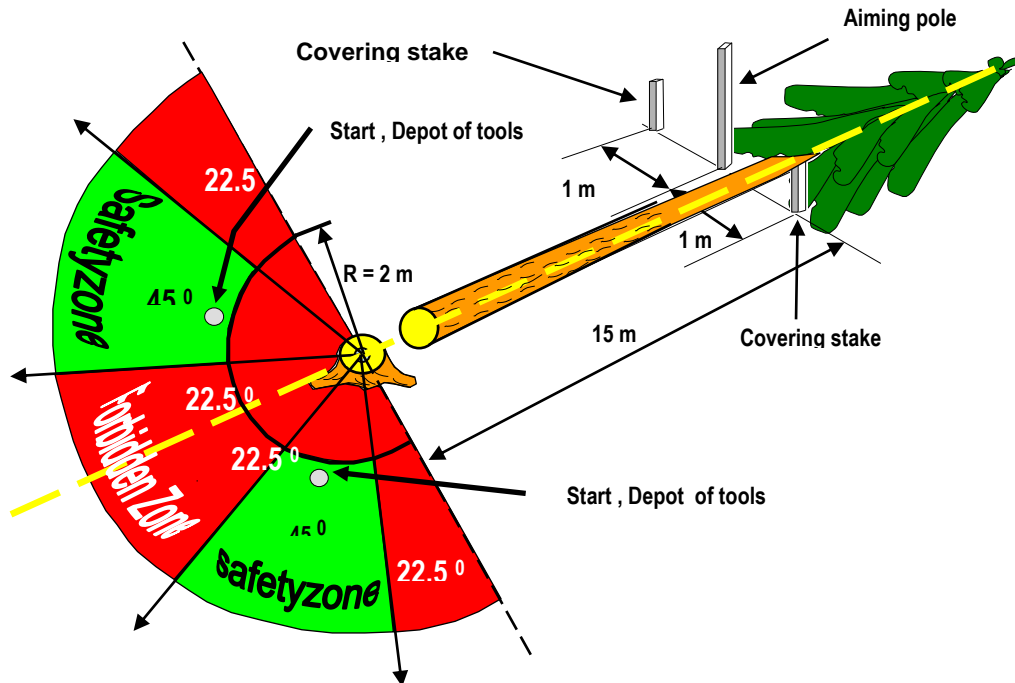
The tools are to be placed in the safety zone before the start (see figure 6). After the start the contestant can move the tools as required.

The time from the start signal to the moment the tree touches the ground is recorded with two stopwatches. If the contestant starts too early (before the judge has given the sign), 20 penalty points will be deducted.

When the judge gives the start signal the contestant starts his chainsaw and places it on the ground behind the start line (Figure 2) and indicates that he is ready. After the "start" signal the contestant takes his saw and tools and fells the tree. In order to qualify, the contestant has to fell the tree within 5 minutes.

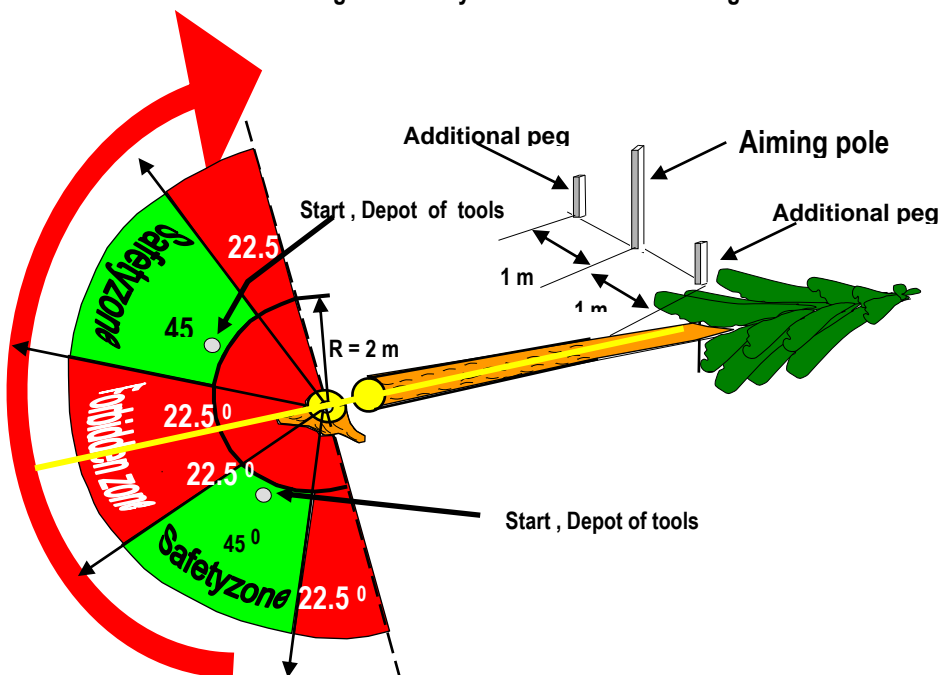
Before the tree has fallen to the ground, the contestant shall move to one of the safety zones, a sector of 45° , whose axis is at a 45° angle to the axis of the felled tree and at least 2 m away from the centre of the tree stump. Before the tree has fallen to the ground, the contestant shall move to one of the two safety zones, a sector of 45° , both sides of which border on the forbidden zone and which is at least 2 m away from the centre of the tree stump. The forbidden zone is the area that covers an angle of 45° on either side of the sector around the axis of the felled tree. Depending on the danger, the contestant can retreat to either of the safety zones (see figure 6 - 8).

Figure 6 Direction of felling



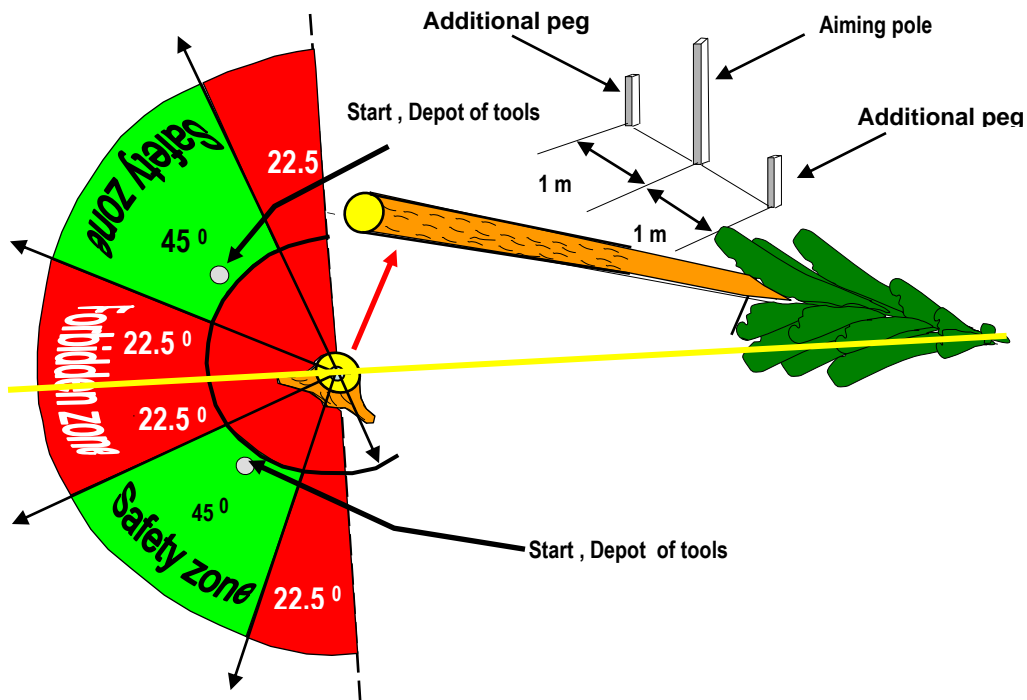
When the tree does not fall on the aiming point, then the direction of the safetyzone changes corresponding (Figure 7)

Figure 7 Safetyzone after insecure felling



When the tree jumps after hitting the ground then the the template will be put to the stem and according to figure 8 the safetyzone will be measured When

Figure 8 Safety zone when the tree jumps



The participant remains in the safety zone so that the correct place of retreat can be measured. He should wait for the judge to issue instructions.

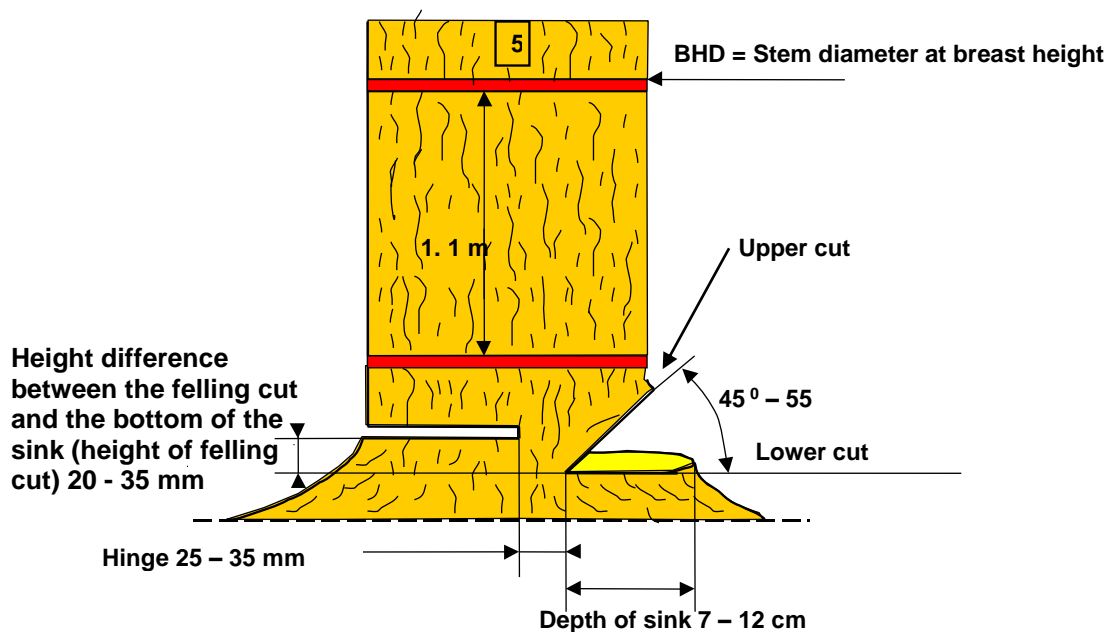
Once the task has been completed, the contestant and the head of the team may stand so that they can watch the measurements being taken; they may not, however, become involved in establishing the results or in taking the measurements. Both the contestant and the head of the team are, however, entitled to appeal against the results in writing within the prescribed time (30 minutes after the evaluation).

1.7 Measurements and evaluations

All measurements are written on the tree stump.

The following measurement and evaluations are made:

Fig. 9: Measurements and markings



Points are awarded for:

Felling time:

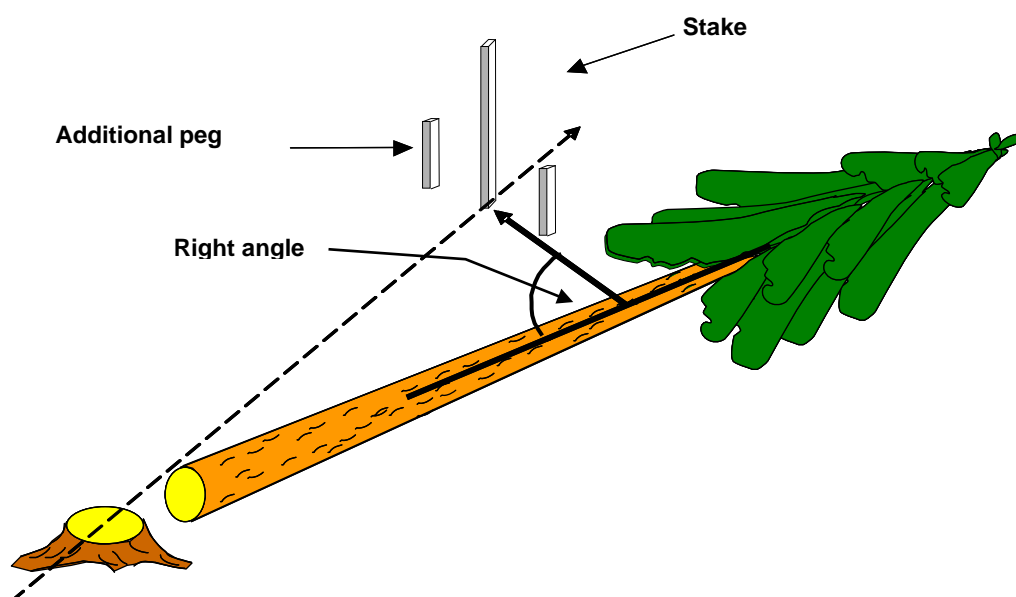
If the time is equal to or under 3 minutes, the contestant is awarded 60 points. For times between 3 and 4 minutes, 1 point is deducted for each second exceeding 3 minutes. If the performance takes more than 5 minutes, no points are awarded for the entire discipline. Two stopwatches are used to measure the time and the average of both measurements is recorded in minutes, seconds and hundredths of seconds.

Accuracy of felling:

The measurement of the accuracy is carried out horizontally from the stake mark at right angles towards the centre line of the felled tree stem (see figure 10).

The result is rounded up or down to the nearest centimetre. For every centimetre's deviation 1 point is deducted from the contestant's score. The maximum possible score is 400 points. Deviations of 400 cm and over are awarded 0 points (no minus points, as shown in table 3).

Fig. 10 Distance measurement at right angles to the felled tree



The deviation is measured from the centre of the stake mark to the centre line of the tree stem (see figure 11).

Fig. 11: Deviation from felling direction

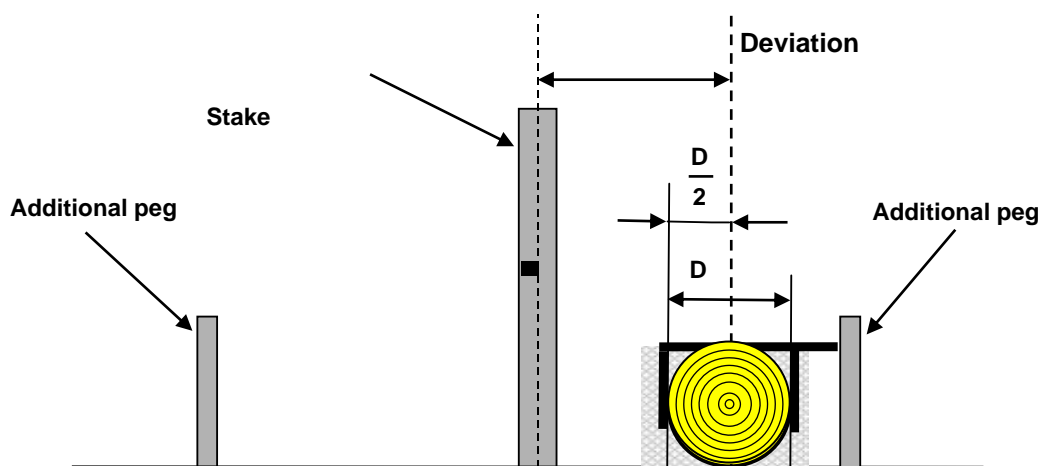


Table 3

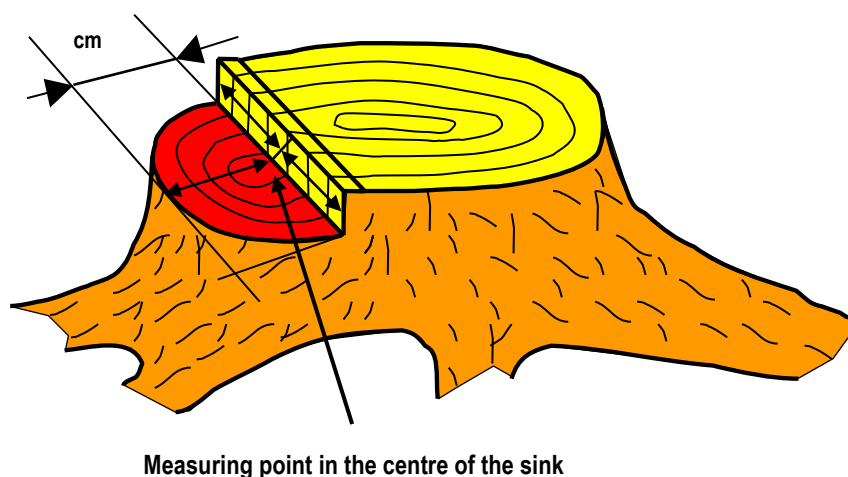
Deviation (cm)	Accuracy of felling Points	Deviation (cm)	Points
0	400	9	391
1	399	10	390
2	398	11	389
3	397	12	388
4	396	13	387
5	395	14	386
6	394	15	385
7	393	16	384
8	392	etc.	etc.

Depth of sink:

The depth of the sink is measured deducting the bark, starting from the middle of the chord of the sink at an accuracy of 1 cm (see figure 12). Measurements are commonly rounded up or down to the nearest centimetre. Points are awarded as indicated in table 4.

Table 4

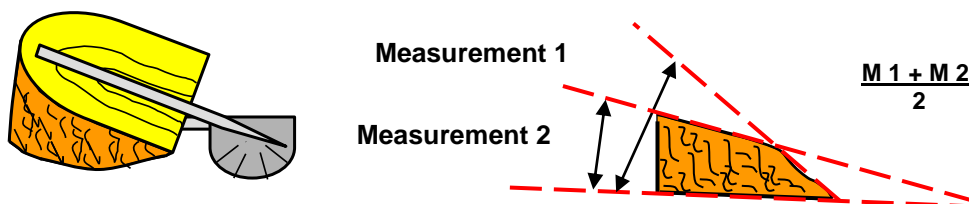
Depth of sink (cm)			Points
< 3	or	>16	0
4		15	5
5		14	10
6		13	15
7		12	20

Fig. 12: Depth of sink**Angle of sink:**

The angle of the piece of wood which has been cut off is measured in the middle using a goniometer with a measurement accuracy of 30 angular minutes (see figure 13).

Should the sink need to be trimmed, the original felling wedge that has been cut off is used to determine the angle of the sink. If the cutting surface is rounded, the mean of the angles measured is calculated (see figure 13).

Fig. 13: Measuring the sink for straight and round cuts



Measurement for straight cutting surface

The result will be rounded up or down to the nearest degree. If the angle is 45-55°, the contestant is awarded 60 points. For deviations, points are awarded as indicated in table 5.

Table 5

Sink angle (°)		Points
<= 39	61	0
40	60	10
41	59	20
42	58	30
43	57	40
44	56	50
45	to 55	60

Width of hinge:

The width of the hinge is measured at the height of the felling cut with an accuracy of 0.1 mm (see figure 12). The result is rounded up or down to the nearest mm. The measurement is taken horizontally at the broadest and the narrowest point of the hinge. Both measurements are recorded in the protocol. The contestant will be awarded points according to the readings that give the least points. The maximum possible score is 60 points for a width of 25-35 mm (see table 6).

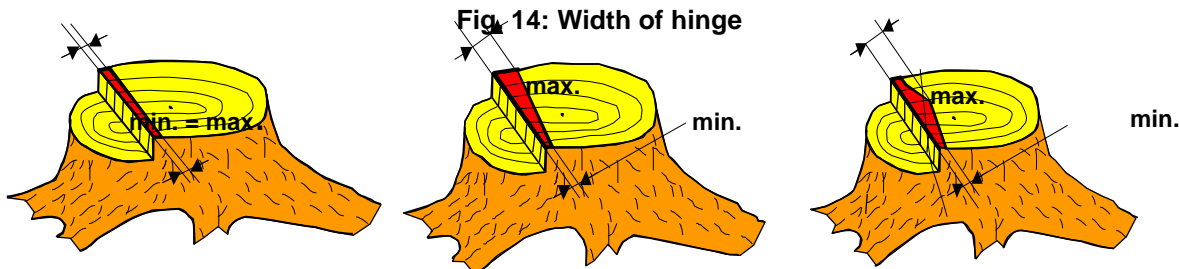


Fig. 14: Width of hinge

Table 6

Width of hinge (mm)			Points
<= 10	oder	=> 50	0
11		49	4
12		48	8
13		47	12
14		46	16
15		45	20
16		44	24
17		43	28
18		42	32
19		41	36
20		40	40
21		39	44
22		38	48
23		37	52
24		36	56
25-35			60

Height difference between the felling cut and the bottom of the sink:

The difference in height between the felling cut and the horizontal lower cut of the sink is measured with an accuracy of 0.1 mm (see figures 15 / 16). The result is rounded up or down to the nearest mm. The measurement is taken vertically at the highest and lowest point of the felling cut. Both measurements are recorded in the protocol. In the event of undercutting the base of the sink, the lowest value is zero (see figure 15). The contestant will be awarded points according to the readings that give the least points. The maximum score is 60 points, which is given for height differences between 20 and 35 mm, as indicated in table 7.

Fig. 15: Height difference (minimum = 0 mm)

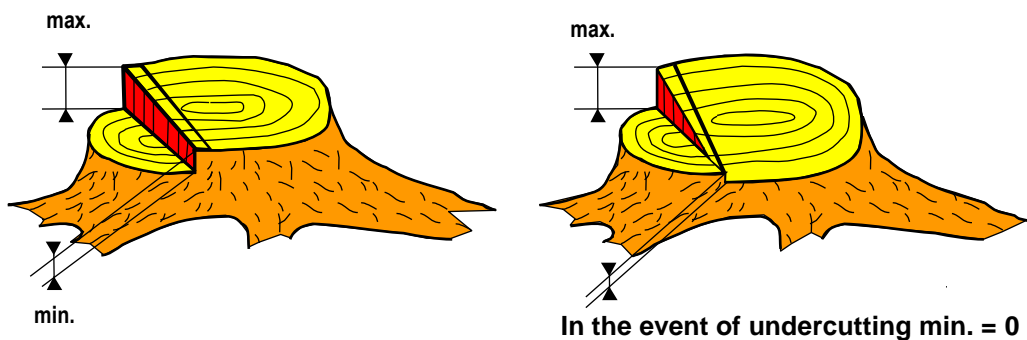
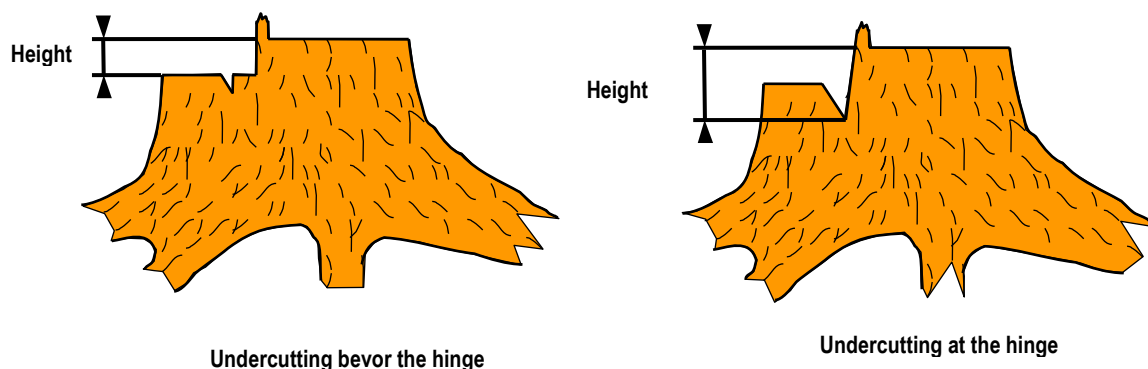


Table 7

Height difference (mm)		Points
< = 8 or > = 47		0
9	46	5
10	45	10
11	44	15
12	43	20
13	42	25
14	41	30
15	40	35
16	39	40
17	38	45
18	37	50
19	36	55
20 - 35		60

When cutting out the felling wedge, the kerf is cut lower than the base of the sink, the height of the felling cut is measured as shown in figure 16.

Fig. 16: Height measurement for undercutting the base of the sink



Penalty points are given in the following cases:

Splitting in the tree butt:

Any splits in the tree butt are judged by eye (see figure 17). The bark is to be removed from the trunk before measuring. The greatest length of butt splitting caused by a faulty felling method is measured with an accuracy of 1 cm.

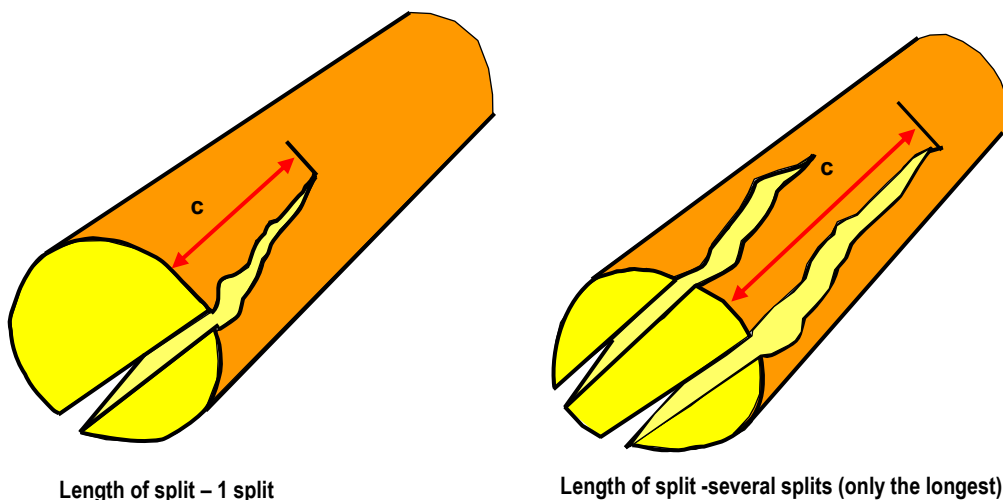
If there is more than one slit, only the longest is evaluated (see figure 17).

Penalty points are deducted according to table 8

Table 8

Length (cm)	Penalty points	Length (cm)	Penalty points
≤ 5	0	14-15	14
6-7	10	16-17	15
8-9	11	18-19	16
10-11	12	20-21	17
12-13	13	etc.	etc.

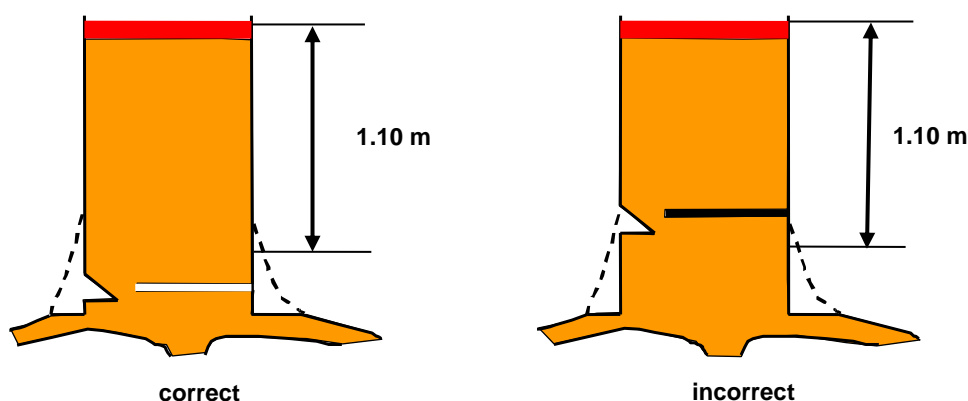
Fig. 17: Length of splits where there is one or more splits



Stump too high:

The distance between the top mark (see figure 18) and the upper edge of the felling cut may not exceed 1.1 m. This distance is measured to the nearest cm. Fractions of a centimetre are rounded up or down. The penalty for too high a stump is 100 points.

Fig. 18: Height of stump < 1.10 m



Incorrect retreat from the tree:

A penalty of 20 points is given for the following: incorrectly retreating from the tree or retreating too late, i.e. not retreating to one of the two safety zones (see figure 6 - 8), or failing to retreat before the tree has hit the ground.

Using unauthorised markings:

It is prohibited to use any form of aid for measuring and marking. A penalty of 50 points is deducted.

Violations of work safety regulations:

Any violation is recorded and penalty points are assigned as listed in table 1.

Too early start:

20 penalty points are given if a contestant starts too early.

Emergency situation:

If the contestant causes an emergency situation during felling (saw bar getting pinched in the kerf or hanger trees, etc) and the contestant is not able to settle the situation within 5 minutes, the judge shall interrupt the performance with the "Stop" command and the contestant is disqualified from the tree felling discipline.

If the jury decides that the contestant caused the emergency, he receives no points for the entire discipline. If conditions during the performances are not equal for all contestants (changes in the direction and force of the wind, butt rot, etc.), the judges may give the contestant permission to fell another tree, by approval of the jury.

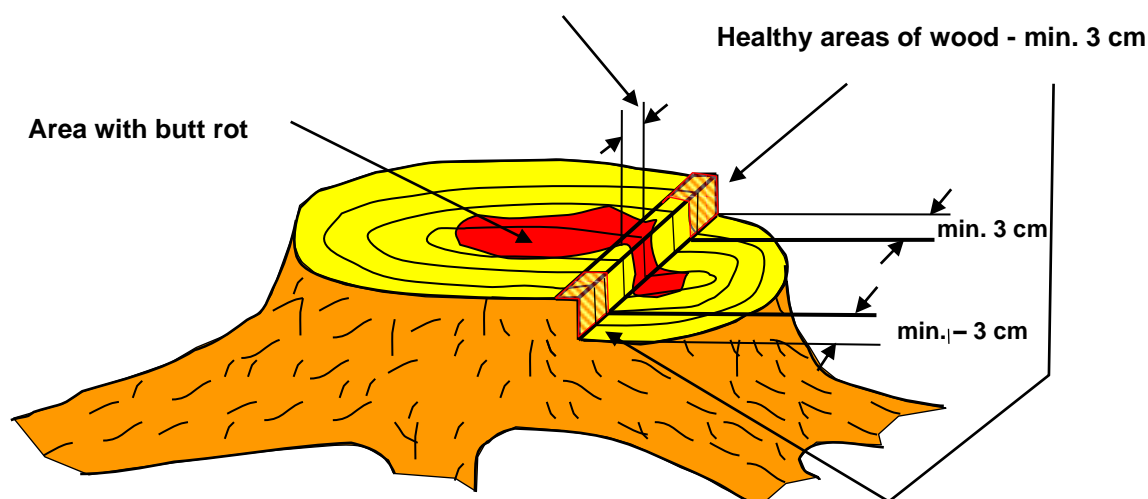
Complaints about butt rot only can be made if this clearly affects the technique of cutting or felling unfavourably.

In terms of butt rot, according to the regulations a tree should have the following properties (see figure 19):

- The outer 3 cm of the hinge must be healthy
- Any areas of rot within the hinge must not cover more than 1/3 of the hinge (see figure 19).

Fig. 19: Tree conforming to regulations in terms of area affected by butt rot

Area of butt rot < 1/3 of the width of the hinge



2. Fitting another chain

2.1 General information:

For this discipline the contestant shall dismantle and assemble the cutting apparatus of the chainsaw . The next 2 disciplines (Bucking by combined cuts and Precision bucking) have to be carried out without making any changes to the saw.

If the work has been carried out so poorly that the contestant cannot perform the next 2 disciplines (e.g. if the chain is fitted incorrectly), he may check the saw and replace the chain. This is assigned 50 penalty points.

If in the next 2 disciplines (Bucking by combined cuts or Precision bucking) the chain gets stuck, slips off the bar or if a fixing nut falls off, the contestant is retrospectively awarded zero points for the "Fitting another chain" discipline.

The table for fitting another chain is 1.5 m long, 70 cm wide and 80 cm high. The table is set at 90° to the starting line and may not be moved (see figure 20).

Before the start only the inspected saw, a replacement chain, the contestant's personal tools and the stop button may be placed on the table.

The starting line is 1 m from the table (see figure 20).

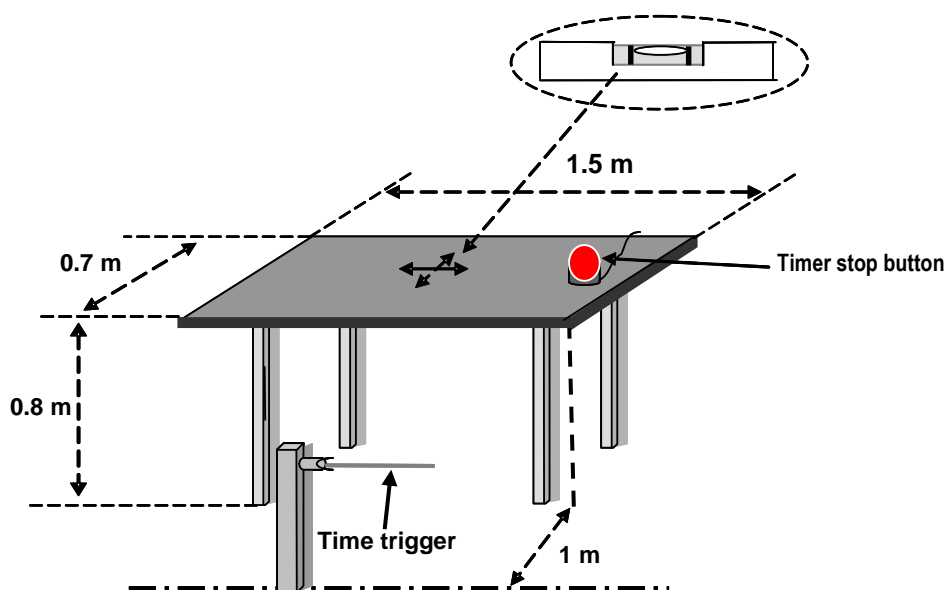
The contestant stands with both feet behind the starting line (figure.2) and sets the time running himself by crossing the starting line.

The contestant may perform the discipline without the use of gloves, a safety shirt, a helmet or face and ear protection. Cut retard trousers, safety footwear and a first aid kit must, however, be worn.

2.2 Preparations for the competition site

- Restricting access to the competition site
- Setting up the table
- Marking the starting line
- Setting up the time trigger
- Setting up the manual stop button for the timer

Fig. 20: Table for the discipline "Fitting another chain"



2.3 Preparations for the discipline "Fitting another chain"

- The saw is inspected to ensure it is standard. In particular no parts may be removed, screws holding the bars in place may not be shortened, the threads must be standard.
- The judge sets the chain so that there is no gap between the links and the bar.
- The nuts are then tightened with a dynamometric wrench at a torque of 2 kg (20 Nm)
- The bar is labelled so that it can be checked after the performance to ensure it has been turned correctly.
- The individual tools are on the table.
- The saw is assigned to the corresponding group.
- The contestant's hands are checked for injuries. Any existing injuries are marked.
- The shortest tooth length is checked on both chains (at least 3 mm).

2.4 Start and finish of the discipline

The discipline starts when the time is started (triggered by the contestant) and ends when the contestant stops the time with the hand. The chainsaw key can be in the hand, but not on the chainsaw.

2.5 Assessing the performance

The chainsaws are divided into two groups:

- Group 1: Two safety screws and chain tightened with screwdriver
Group 2: Only one safety screw or chain tightened without screwdriver (no bolt).

Points are awarded for:

- Time taken (see table 9)
- Penalty points for violations of work safety regulations (see table 1)
- Penalty points for carrying out the task incorrectly

2.6 Steps involved in fitting another chain

The contestant places the chainsaw on the table and then stands behind the starting line, which is 1 m away from the table.

When the "start" command is given, he has to do the following:

- Move to the table (timer is triggered)
- Release the screw nuts
- Remove the sawdust deflector (if necessary)
- Remove the chain from the bar and the sprocket
- Remove the bar and turn 180° on the longitudinal axis (or 360° for bars that must not be turned or that cannot be mounted at 180°)
- Place a new chain onto the bar
- Mount the sawdust deflector (if necessary)
- Adjust the chain tension (if necessary)
- Stop the timer

Once the discipline has ended the contestant waits for instructions from the judge.

Once the task has been completed, the contestant and the head of the team may stand so that they can watch the measurements being taken; they may not, however, become involved in establishing the results or in taking the measurements. Both the contestant and the head of the team are, however, entitled to appeal against the results in writing within the prescribed time (30 minutes after the evaluation).

2.7 Measurements - evaluations

The following points are awarded for:

Time:

The time is measured on a fully visible digital display in minutes, seconds and hundredths of seconds.

Points are awarded as indicated in **table 9**. Measuring accuracy = 0.1 seconds.

Table 9

Group 1 / Time	Group 2 / Time	Points
etc. + 2 Points / 0,5 sec.	etc. + 2 Points / 0,4 sec.	
8,1 – 8,5	4,6 - 4,9	140
8,6 – 9,0	5,0 - 5,3	138
9,1 – 9,5	5,4 - 5,7	136
9,6 – 10,0	5,8 - 6,1	134
10,1 – 10,5	6,2 - 6,5	132
10,6 – 11,0	6,6 - 6,9	130
11,1 – 11,5	7,0 - 7,3	128
11,6 – 12,0	7,4 - 7,7	126
12,1 – 12,5	7,8 - 8,1	124
12,6 – 13,0	8,2 - 8,5	122
13,1 – 13,5	8,6 - 8,9	120
13,6 – 14,0	9,0 - 9,3	118
14,1 – 14,5	9,4 - 9,7	116
14,6 – 15,0	9,8 - 10,1	114
15,1 – 15,5	10,2 - 10,5	112
15,6 – 16,0	10,6 - 10,9	110
16,1 – 16,5	11,0 - 11,3	108
16,6 – 17,0	11,4 - 11,7	106
17,1 – 17,5	11,8 - 12,1	104
17,6 – 18,0	12,2 - 12,5	102
18,1 – 18,5	12,6 - 12,9	100
18,6 – 19,0	13,0 - 13,3	99
19,1 – 19,5	13,4 - 13,7	98
19,6 – 20,0	13,8 - 14,1	97
20,1 – 20,5	14,2 - 14,5	96
20,6 – 21,0	14,6 - 14,9	95
21,1 – 21,5	15,0 - 15,3	94
21,6 – 22,0	15,4 - 15,7	93
22,1 – 22,5	15,8 - 16,1	92
22,6 – 23,0	16,2 - 16,5	91
23,1 – 23,5	16,6 - 16,9	90
23,6 – 24,0	17,0 - 17,3	89
24,1 – 24,5	17,4 - 17,7	88
24,6 – 25,0	17,8 - 18,1	87
25,1 – 25,5	18,1 - 18,5	86
25,6 – 26,0	18,6 - 18,9	85
26,1 – 26,5	19,0 - 19,3	84
26,6 – 27,0	19,4 - 19,7	83
27,1 – 27,5	19,8 - 20,1	82
27,6 – 28,0	20,2 - 20,5	81
etc. -1 Point / 0,5 sec.	etc. -1 Point / 0,4 sec.	

Penalty points are given in the following cases:

Dropping the chain or the fixing nuts

Dropping the old chain and/or a fixing nut is penalised with 20 penalty points. The contestant may, however, pick up any items he has dropped and complete the task.

Bar not turned

The bar must be turned at least once in the longitudinal axis. If the contestant fails to do so, he receives 50 penalty points.

Failure to carry out task correctly

If there is a gap between the chain and the bar, 50 penalty points are given.

The judge may not touch the chain when checking the chain tension.

If the time is not stopped according to regulations there are 50 penalty points

Injury involving bleeding

Any recognised injury that is bleeding is assigned 20 penalty points.

Safety regulations

Violations of work safety regulations: depends on the violation (see table 1).

Manipulating the saw once the discipline has ended

At the contestant's request or as ordered by the judge, incorrectly fitted chains can be / have to be refitted. The saw is checked to ensure that the chain is correctly fixed in place and that all screws are fitted and tightened (cannot be released without tools). 50 penalty points are given if a contestant has to refit the chain.

Incomplete fitting of cutting apparatus:

If the contestant fails to fit all parts, he receives a score of zero for the entire discipline.

Poorly fitted cutting apparatus:

If in one of the next disciplines ("Bucking by combined cuts", "Precision bucking") the chain or a nut of the chain cover falls off, the "Fitting another chain" discipline is awarded a score of zero.

The contestant also receives zero points for the time for that competition. He may, however, refit the chain and complete the tasks in the disciplines "Bucking by combined cuts" and "Precision bucking".

3. Bucking by Combined Cuts

3.1 General information:

The contestant has to cut a disc of wood no thinner than 3 cm and no thicker than 8 cm from two tree stems. This must be done by cutting the first half from the bottom to within the red band, and then cutting the rest from the top. This applies to both stems.

On each stem the cut must be at right angles to the longitudinal axis of the stem and should join at the same level.

When cutting upwards, the upper line of the red band must not be crossed. The contestant must also, however, ensure that he at least cuts into the red area.

The downwards cut must start within the green zone.

When cutting downwards, the bottom line of the red band must not be crossed.

3.2 Preparing the competition site:

Two saw horses positioned in parallel are set up. A turned stem with a diameter of 35 cm is attached to each of them (see figure 21).

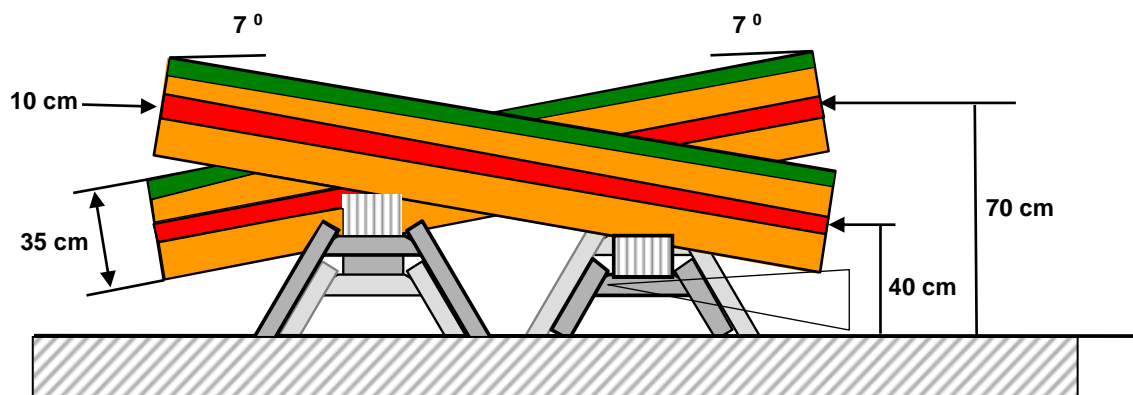
The boles lie at an angle of 7 degrees to the horizontal plane in such a way that the angles are the same in opposite directions.

The axis of the stem is 70 cm above the ground at the end pointing up, and 40 cm above the ground at the end pointing down.

On both sides of the boles, 10 cm red bands have been painted in the direction of the longitudinal axis (see figure 21). The cut from below and above must be guided into these bands, but it must not go outside them.

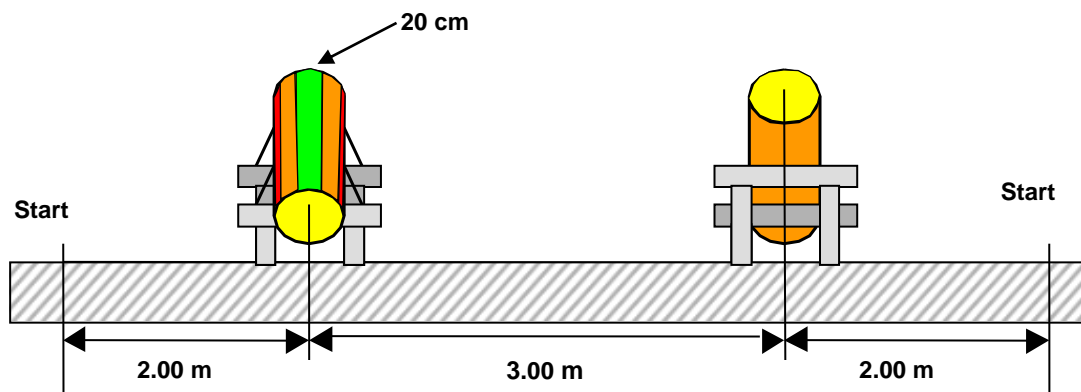
At the top of the bole two 10 cm wide bands (total 20cm) are painted in green on the left and right of the vertical symmetry axis.

Fig. 21: Setting up boles (angle) and diameter



A starting line is marked on the left and the right, 2 m from the centre of the boles. The contestants may select whether to start on the left or the right (see figure 22).

Fig. 22: Setting up the horses for the combined cut



3.3 Preparing the discipline

Before the competition, the following must be carried out:

- The height of the stem is set
- The end of the trunk is cut off at a right angle
- The contestant's starting number must be written on the stem before cutting.

After each competitor has finished this discipline, the right-angle will be restored by two assistants

3.4 Start and finish of the discipline

The discipline starts when the judge gives the signal to start and ends when the second disc hits the ground.

3.5 Assessing the performance

Fully completing the task

The task is considered as completed when both discs lie on the ground. If one or both discs do not fall to the ground, the competitor will not receive any points for the stem.

Faulty chain or cutting apparatus

If the chain is jammed, slips off the bar or if the chain cover nut is lost, the contestant receives no points for the time in the "Bucking by combined cuts" discipline. The contestant may, however, refit the chain and complete the task. The contestant is then retrospectively awarded zero points for the "Fitting another chain" discipline. All other measurements carried out once the saw is operational again and the discipline has ended are evaluated as usual.

Chainsaw power:

Points are awarded on the basis of the cubic capacity of the engine. These are divided into the following groups:

Group 1: 46 - 55 cm³

Group 2: over 56 cm³

The following points are awarded:

- Time points in accordance with the table 10
- Vertical cut (see table 11)
- Distance between cutting levels (see table 12)
- Penalty points for violations of work safety regulations (see table 1)
- Penalty points for tasks carried out incorrectly

3.6 Steps involved in the Bucking by combined cuts

The contestant starts the chain saw and places it behind the starting line, 2 m away from the bole (the chain saw has to be completely behind the starting line; the competitor is free to choose which side to start on - see figure 2 and figure 22).

When the "start" command is given by the judge, the contestant has to do the following:

- Take the chainsaw and go to the first bole
- Cut upwards within the red area, without going over the red band
- Remove the chainsaw from the kerf and continue to saw downwards (starting in the green zone) until the disc falls to the ground. The red band must not, however, be crossed
- Stop the chainsaw
- Go to the second stem and repeat this cut

Once the competition has ended, the contestant immediately hands over his chainsaw to the judge, as the chain tension may not be adjusted for the next round. The contestant waits for the judges' instructions.

Once the task has been completed, the contestant and the head of the team may stand so that they can watch the measurements being taken; they may not, however, become involved in establishing the results or in taking the measurements. Both the contestant and the head of the team are, however, entitled to appeal against the results in writing within the prescribed time (30 minutes after the evaluation).

3.7 Measurements and evaluations

All measurement are written on the cut off disc along with the starting number. The following points are awarded:

Time:

The time is measured with two stopwatches and the mean of both results is recorded in minutes, seconds and hundredths of seconds (see table 10).

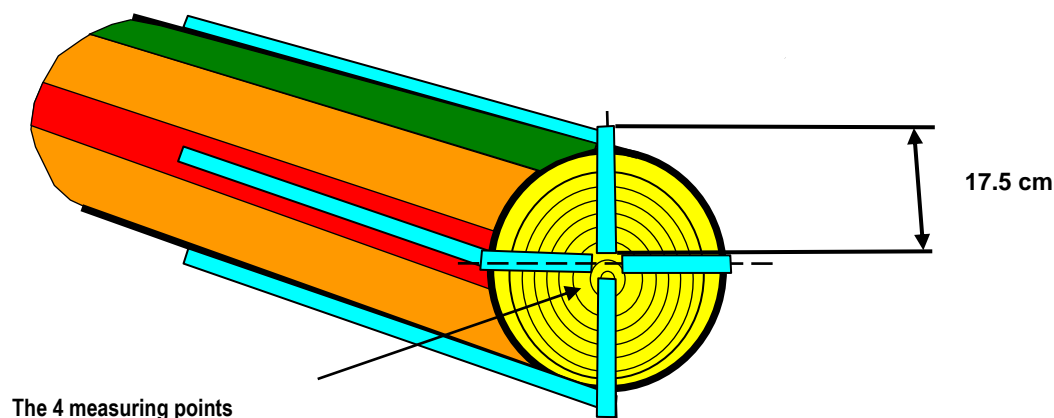
Table 10

Group 1	Group 2	Points
etc. Points/Time	etc. Points/Time	
+1 point/1 sec	+1 point/1 sec	
25	22	55
26	23	54
27	24	53
28	25	52
29	26	51
30	27	50
31	28	49
32	29	48
33	30	47
34	31	46
35	32	45
etc. -1 point/1 sec	etc. -1 point/1 sec	

Angle of cut: (4 measurements)

The angle is measured vertically and horizontally on the stem with a measuring accuracy of 0.5 degrees (see figure 23). All 4 values are recorded. The maximum award is 30 points per log. Decisive is the maximum deviation to 90° 00' (Fig. 23) (Table 11).

Fig. 23: Angle measurements and length of gauge



If the cuts are misaligned, both angle measurements are taken exactly in the centre of the red zone. The judge assesses visually where to measure (see figure 24).

Fig. 24: Angle measurement if cuts are misaligned

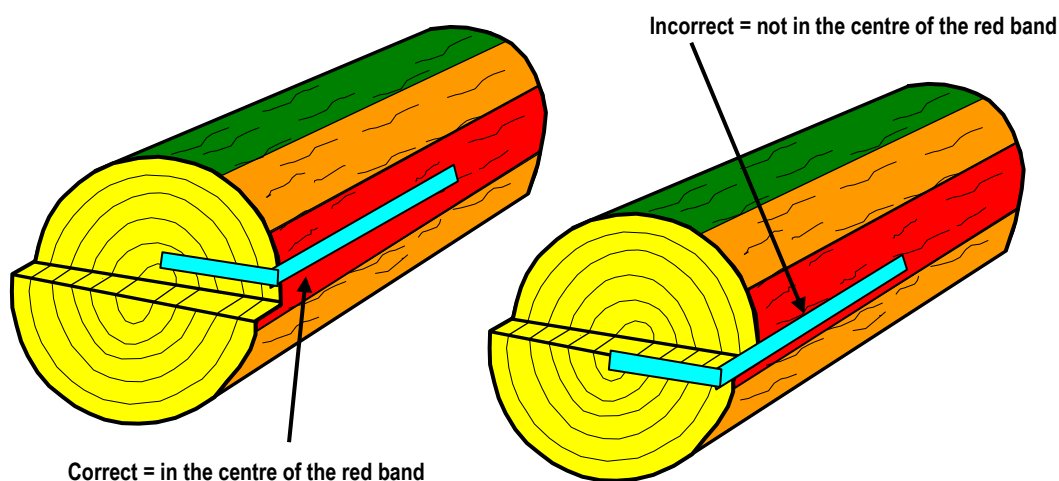
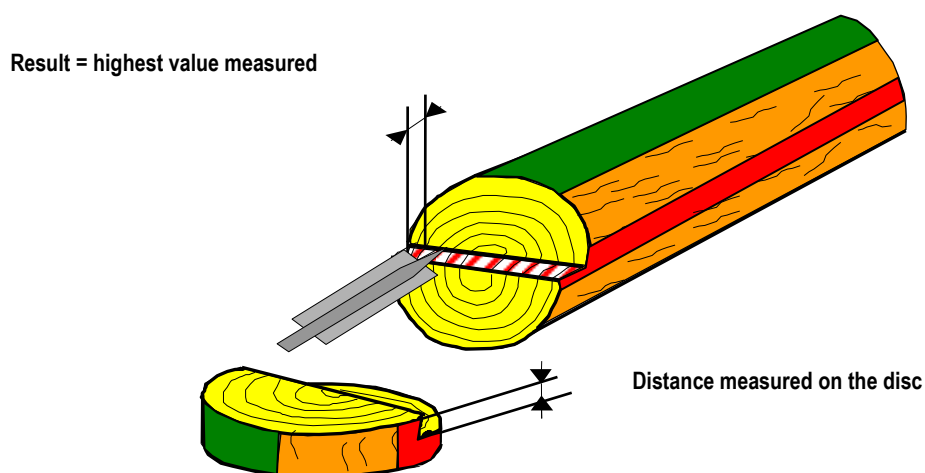


Table 11

Angle of cut o	Angle of cut o	Deviation o	Points
> = 84.24	>= 95.75	6	0
84.25 – 84.74	95.25 – 95.74	5.5	3
84.75 - 85.24	94.75 – 95.24	5	6
85.25 – 85.74	94.25 – 94.74	4.5	9
85.75 – 86.24	93.75 – 94.24	4	12
86.25 – 86.74	93.25 – 93.74	3.5	15
86.75 - 87.24	92.75 – 93.24	3	18
87.25 – 87.74	92.25 – 92.74	2.5	21
87.75 – 88.24	91.75 – 92.24	2	24
88.25 – 88.74	91.25 – 91.74	1.5	27
88.75 – 91.24		1	30

Distance between the plane of two cuts (height of the threshold):

The height of the threshold is measured on the bole end and the disc (see figure 25). The highest and thus valid measurement is entered in mm. Points are awarded according to table 12; the maximum score is 45 points per log.

Fig. 25: The misalignment is measured on the stem and the disc**Table 12: Points for misaligned cuts**

Height of threshold (mm)	Points	Height of threshold (mm)	Points
> = 15	0	8	21
14	3	7	24
13	6	6	27
12	9	5	30
11	12	4	33
10	15	3	36
9	18	2	40
		< = 1	45

Penalty points are given in the following cases:

Too early start:

Too early start gives 20 penalty points.

Violations of work safety regulations:

Depends on the violation (see table 1).

Cutting above or below the red line:

It is not permitted to cut above or below the red line (see figures 26 - 28). If the cuts are not aligned in the marked area, there will be a penalty of 50 points per log.

The judge makes a visual assessment as to whether the cut is above or below the red line. This must be visible on the stem and / or the disc. The error is marked on the disc.

Fig. 26: Overcutting the red zone from bottom-up

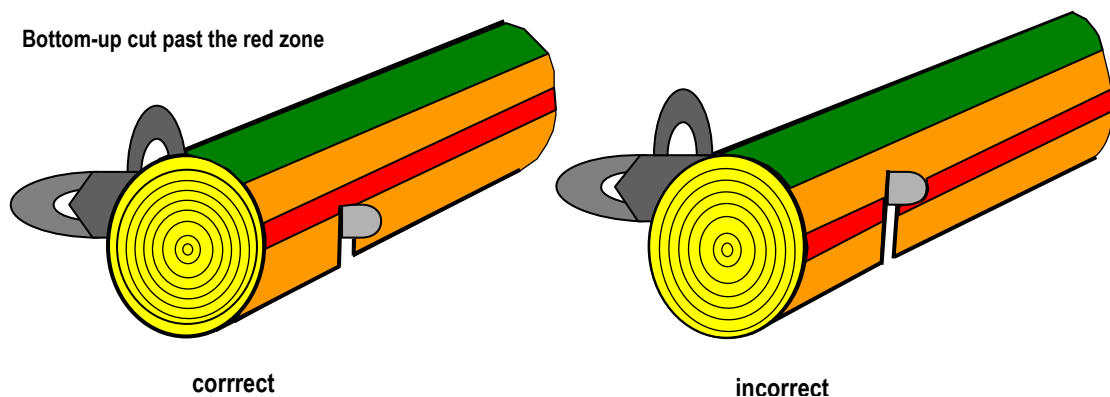
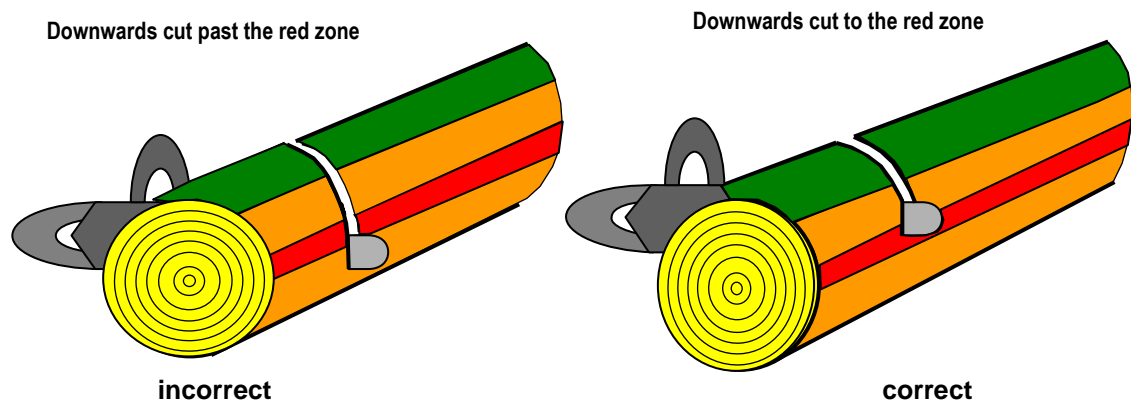
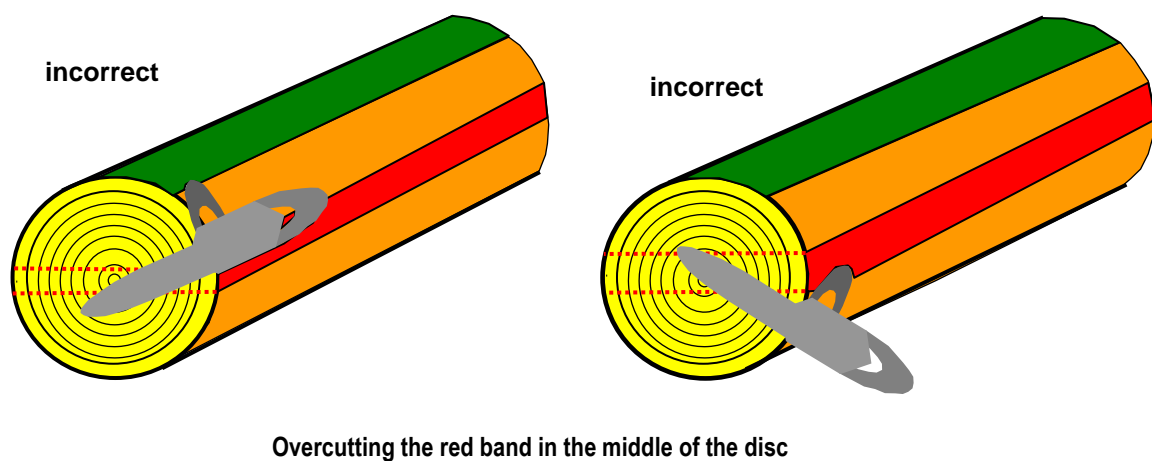


Fig. 27: Overcutting the red zone from above



It is not permitted to cross the red line within the stem. Penalty points are given for visible errors (see figure 28). This is visually checked during the cutting. If an error is detected once the disc has been cut off, this is recorded accordingly.

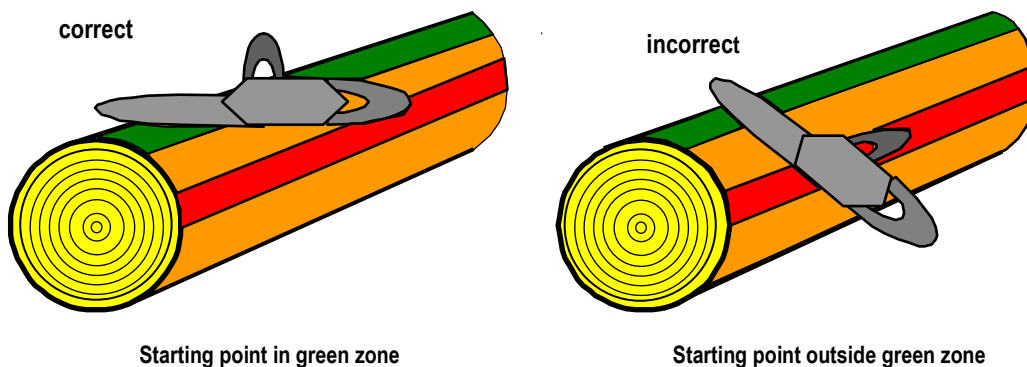
Fig. 28: Overcutting / undercutting the red band in the middle of the disc



Starting the downwards cut outside the green zone

50 Penalty points are given for each stem for starting the downwards cut outside the green marking. The starting point is judged by eye (see figure 29).

Fig. 29: Starting point for downwards cut in green zone



Chain or cutting apparatus incorrectly fitted

If the chain is jammed, slips off the bar or if the chain cover nut is lost, the contestant may refit the chain and complete the task. This, however, means that he is awarded zero points for the "Fitting another chain" discipline and receives no points for the time in the "Bucking by combined cuts" discipline.

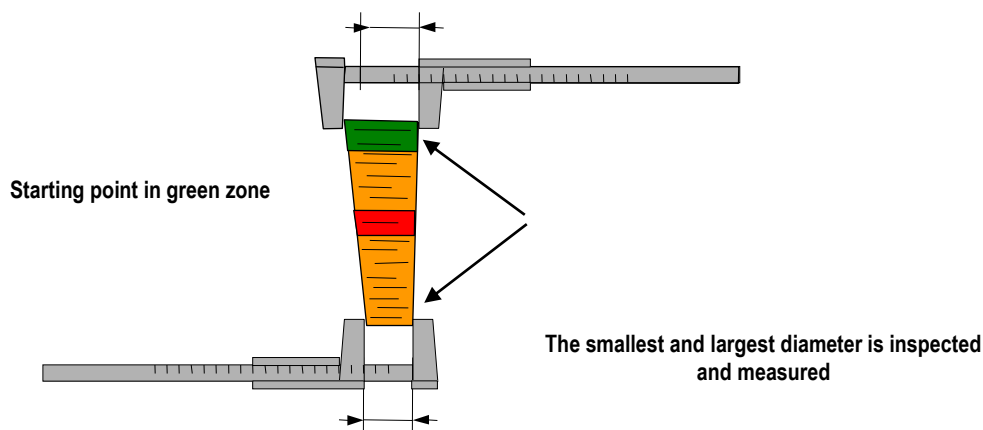
Damage to the stem caused by gashes

If there are gashes next to the actual cut that are deeper than 10 mm at the start of the cut, 20 penalty points are given. These gashes are inspected and measured on both the stem and the disc. These errors are only penalised once per stem.

Thickness of the disc

If the thickness of the disc is less than 30 mm or more than 80 mm there will be a penalty of 50 points (see figure 30, measuring accuracy 1 mm)

Fig. 30: Measuring the thickness of the disc



4. Precision bucking

4.1 General information:

The contestant must cut off a disc from two stems as completely as possible without damaging the board beneath the stem.

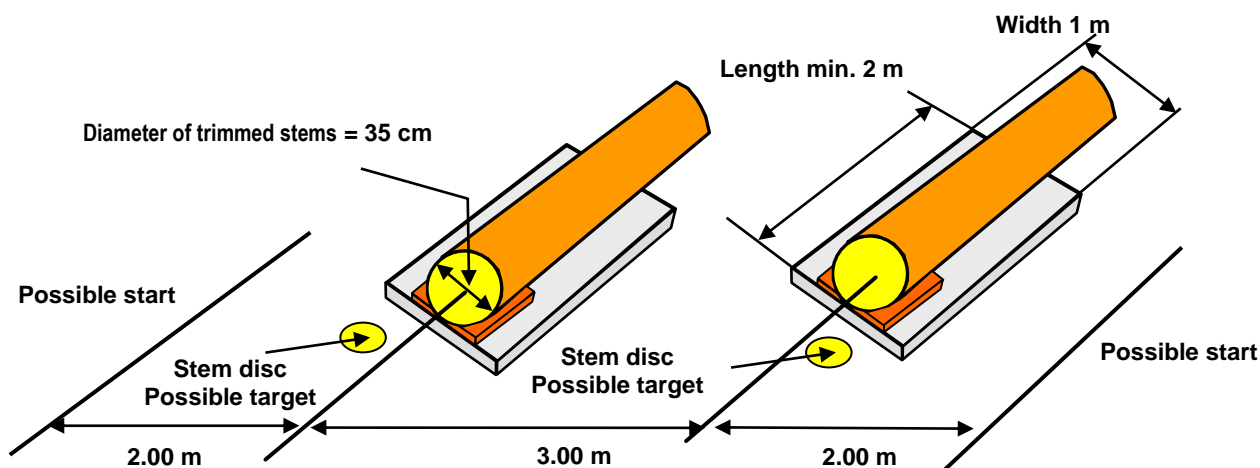
The disc must be between 3 cm and 8 cm thick. The disc must be cut at right angles to the longitudinal axis of the stem (see figure 30).

4.2 Preparing the competition site

Two trimmed stems (diameter without bark = 35 cm) are placed horizontally and parallel to each other on two boards sunk level with the ground (width 1 m, length min. 3 m) and secured in place (distance between stems = 3 m). The stems must lay directly on the boards (see figures 31 + 32).

A starting line is marked on the left and the right, 2 m from the centre of the stems. The contestants may select whether to start on the left or the right.

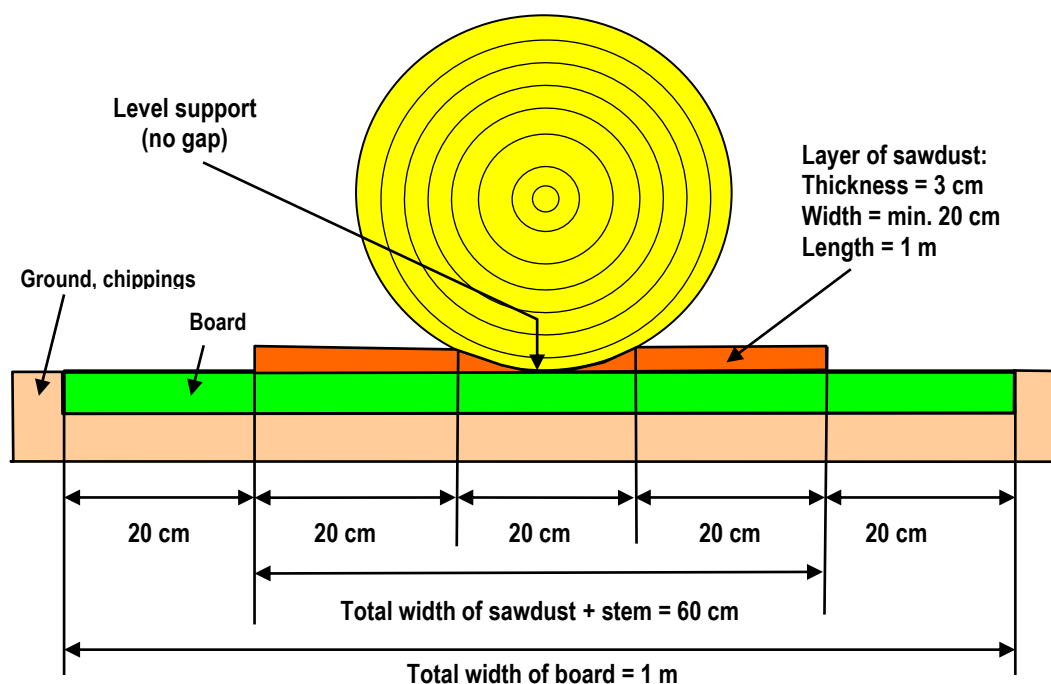
Fig. 31: Precision bucking - Setting up equipment



A wooden disc is placed at the end of each stem, on which the contestant can bring the chain to a halt before walking to the next stem (see figure 31).

The side of the stems should be covered with a wet layer of sawdust, 3 cm thick, 20 cm wide and 1 m long (see figures 32 + 33).

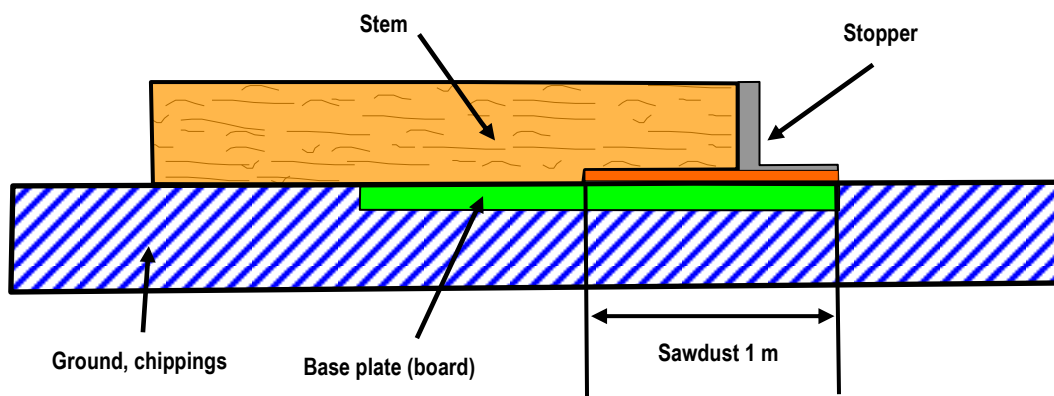
Fig. 32: Laying the stem, positioning base board and dimensions of the layer of sawdust



The boards are sunk level into the ground. They can also be laid on the ground and then embedded in chippings.

A stopper is placed at the end of the stem (10 kg) so that the contestants cannot break off the disc by turning the bar before the disc is fully sawn off (see figure 33).

Fig. 33: Base board and stopper



If the cut at the ends of the stem deviates more than 2° from the right angle to the longitudinal axis, the contestant can demand that the cut should be corrected.

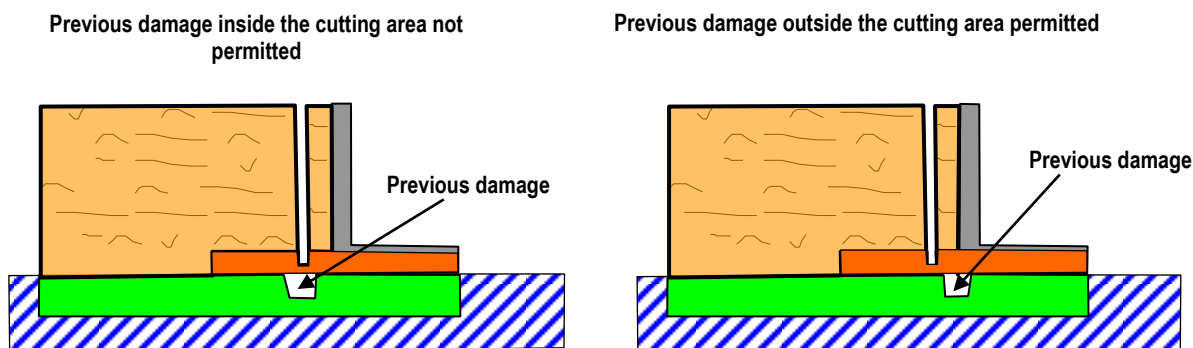
4.3 Preparing the discipline

Before the competition, the following must be carried out:

- The layer of saw dust is laid in the exact dimensions
- The participant can have a disc cut from the stem if the cut on the stem by more than 2° above or below 90°
- There must be no gap between the stem and the board
- The stopper is put in place
- Any previous damage to the board is marked in colour

No cuts may be made where there is previous damage to the board, i.e. the stem may not be pushed so far forwards that the next contestant can cut into the same area of damage on the board (see figure 34).

Fig. 34: Starting point for new cut when there is previous damage to the board



4.4 Start and finish of the discipline

The discipline starts when the judge gives the signal to start and ends when the contestant stops the chain on the prescribed disc or places the saw on the disc.

4.5 Assessing the performance

All measurements are written on the severed discs. The following aspects are assessed:

Incorrectly fitted chain or cutting apparatus:

If the chain is jammed, slips off the bar or if the chain cover nut is lost, the contestant may refit the chain and complete the task. This, however, means that he is awarded zero points for the "Fitting another chain" discipline and receives no points for the time in the "Precision bucking" discipline. All other measurements carried out once the saw is operational again and the discipline has ended are evaluated as usual.

Chainsaw power:

Points for time are awarded on the basis of the cubic capacity of the engine. These are divided into the following groups:

Group 1: 46 - 55 cm³

Group 2: over 56 cm³

Deliberate removal of sawdust:

If the contestant deliberately removes the sawdust with his hand, foot or chainsaw (e.g. accelerating, blowing away or pushing away), he is awarded no points for the entire discipline.

If the contestant qualifies in the competition, points are awarded as follows:

- The time required (see table 13)
- Vertical cut (see table 14)
- Precision in cutting
- Penalty points for carrying out the task incorrectly
- Penalty points for crossing over a stem or the stopper
- Penalty points for violations of work safety regulations (see table 1)

4.6 Steps involved in the precision bucking

The contestant starts the chainsaw and places it behind the starting line marked at 2 m from the stem (the contestant is free to select on which side to start fig 2 and fig.31).

When the "start" command is given, he has to do the following:

- Go to the first stem
- Cut off a disc while avoiding damage to the base board with the chainsaw
- Stop the chain (on the disc provided or with the chain brake)
- Go to the second stem (the contestant may not walk over the stem or the stopper; the chain must have come to a halt, and the engine must not be running)
- Cut off a disc from the second stem
- Stop the chain on the wooden disc provided or place the chainsaw on the disc

Once the discipline has ended the contestant waits for instructions from the judge.

Once the task has been completed, the contestant and the head of the team may stand so that they can watch the measurements being taken; they may not, however, become involved in establishing the results or in taking the measurements. Both the contestant and the head of the team are, however, entitled to appeal against the results in writing within the prescribed time (30 minutes after the evaluation).

4.7 Measurements - evaluations

The following evaluations are carried out:

Time:

Two stopwatches are used to measure the time; the average of both measurements is recorded in minutes, seconds and hundredths of seconds. Points are awarded as indicated in table 13.

Table 13

Group 1 / seconds	Group 2 / seconds	Points
etc. +1 point/sec.	etc. +1 point/sec.	
25	22	55
26	23	54
27	24	53
28	25	52
29	26	51
30	27	50
31	28	49
32	29	48
33	30	47
34	31	46
35	32	45
etc. -1 point/sec	etc. -1 point/sec	

Angle of cut: (3 measurements)

The 3 measurements are taken horizontally and vertically (see figure 35). All 3 results are recorded (accuracy 0.5°). There is a maximum score of 20 points per stem. . Decisive is the maximum deviation to 90° 00' (Fig. 35) (Table 14).

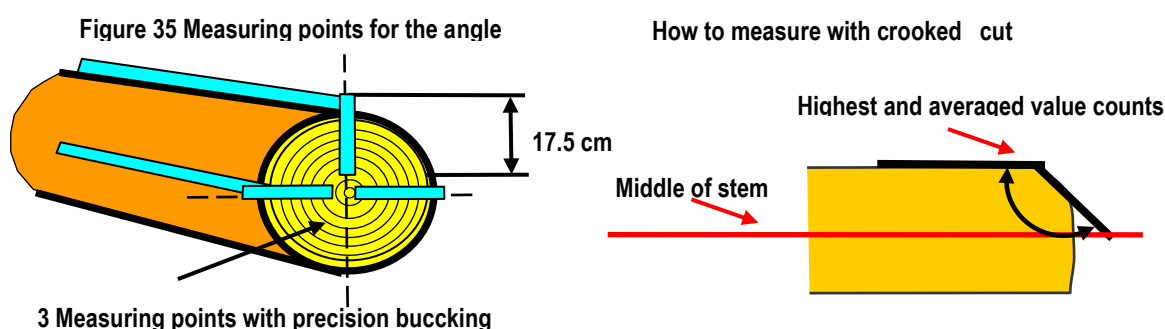


Table 14

Angle of cut o	Angle of cut o	Deviation o	Points
< = 85.74	> = 94.25	4.5	0
85.75 – 86.24	93.75 – 94.24	4	2
86.25 – 86.74	93.25 – 93.74	3.5	5
86.75 – 87.24	92.75 – 93.24	3	8
87.25 – 87.74	92.25 – 92.74	2.5	11
87.75 – 88.24	91.75 – 92.24	2	14
88.25 – 88.74	91.25 – 91.74	1.5	17
88.75 – 91.24		1	20

Precision of the cut:

If the contestant has cut off the disc completely without damaging the board beneath with the chain, 80 points are awarded per stem.

If the chain has damaged the board, however, he receives no points for the accuracy of the cut.

The part of the stem diameter that is not severed is always measured at right angles to the board at its highest point (see figure 36).

The threshold measured at an accuracy of 0.1 mm is rounded up or down to the nearest mm (see table 15).

Table 15: Points for the accuracy of bucking

Thickness of the remaining section (mm)	Points	Thickness of the remaining section (mm)	Points
0	80	20	40
1	78	21	38
2	76	22	36
3	74	23	34
4	72	24	32
5	70	25	30
6	68	26	28
7	66	27	26
8	64	28	24
9	62	29	22
10	60	30	20
11	58	31	18
12	56	32	16
13	54	33	14
14	52	34	12
15	50	35	10
16	48	36	8
17	46	37	6
18	44	38	4
19	42	39	2
		≥ 40	0

Penalty points are given in the following cases:

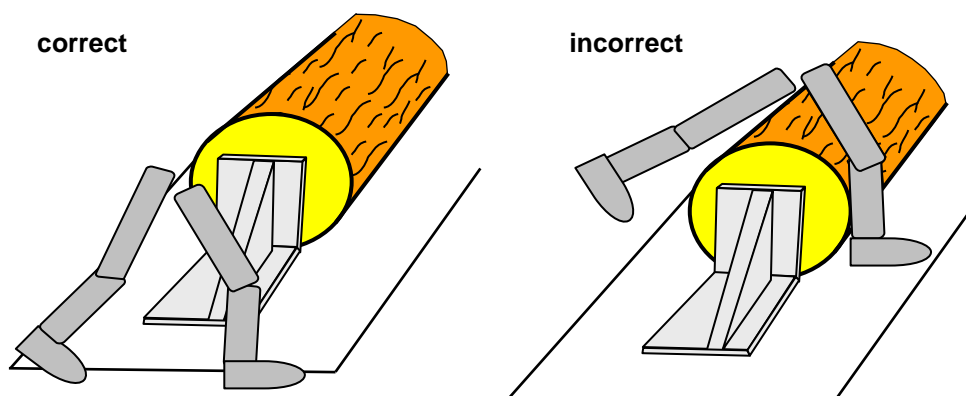
Too early start:

20 penalty points are given if a contestant starts too early.

Stepping over the stem or stopper

Stepping over the stem or stopper when moving from one stem to another is given a penalty of 50 points per error (see figure 37).

Fig. 37: Crossing the stem and / or the stopper



Thickness of disc:

If the thickness of the disc is less than 30 mm or more than 80 mm there is a penalty of 50 points per disc (see figure 30).

Violations of work safety regulations:

Depends on the violation (see table 1).

Removal of sawdust from the plank:

If the contestant deliberately removes the sawdust with his hand, foot or chainsaw he is awarded zero points for the entire discipline.

Faulty chain or cutting apparatus:

If the chain is jammed, slips off the bar or if the chain cover nut is lost, the contestant may refit the chain and complete the task. This, however, means that he is awarded zero points for the "Fitting another chain" discipline and receives no points for the time in the "Precision bucking" discipline.

5. Limbing

5.1 General information:

All contestants are required to limb the same type of wood. A cylindrically trimmed stem is prepared for each contestant for the "limbing" discipline. Several spare stems are prepared as a back-up. The contestant tries to evenly cut off the branches as quickly as possible.

The starting sequence is the reverse order of the first four disciplines. The stems must be numbered before the first discipline (felling) is started.

5.2 Preparing the competition site:

The competition site shall be prepared as follows:

- Preparing the course
- Securing the competition site
- Preparing the stems
- Numbering the stems
- Informing the nations of the drilling pattern and the type of wood

5.3 Preparing the "limbing" discipline

The artificial stems must be numbered **before** the first discipline (felling) is started.

The stems are prepared as follows:

30 artificial round branches are inserted into a cylindrically trimmed stem. This is prepared for all contestants in the same branch pattern and the same branch diameter. (30mm)

- The stems are 6 m long and have a diameter of 14 cm.
- The cylindrically trimmed stems must be of the same type of wood.
- Within the limbing sector, 30 branches with a total diameter of 900 mm are placed on either side of the stem midline at approximately 120° (see figure 38a).
- All branches are the same type of wood, have the same diameter (30mm?) and have the same drill pattern.
- Between the branch wreaths is a distance of 43.75 cm.
- The contesting countries are informed of the drilling pattern and the type of wood 6 months before the competition.
- The starting line and the finishing line shall be clearly indicated on the stem.
- The starting line must be 0.5 m before the first selected branch and the finishing line must be 0.5 m behind the last selected branch.
- The stems should be secured so they do not roll away and fixed on a base at a height of 60 cm.
- The length from the starting line to the finish line is 4.50 m.
- 1.0 m before the starting line and 0.50 m behind the finish line remains free of branches.

Fig. 38: Distance branch wreaths

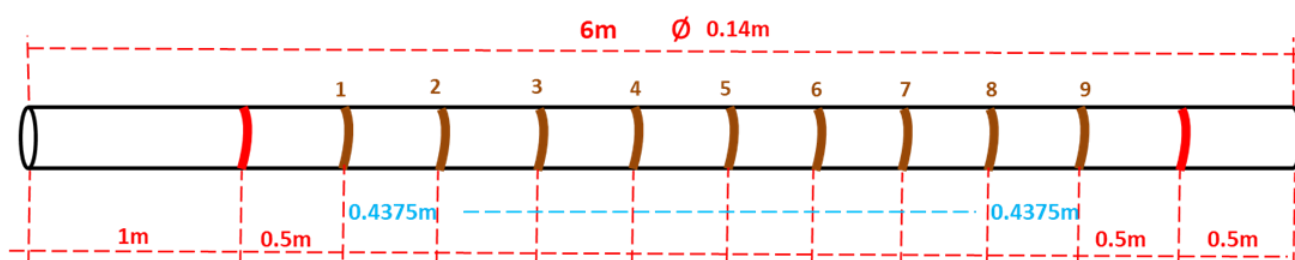
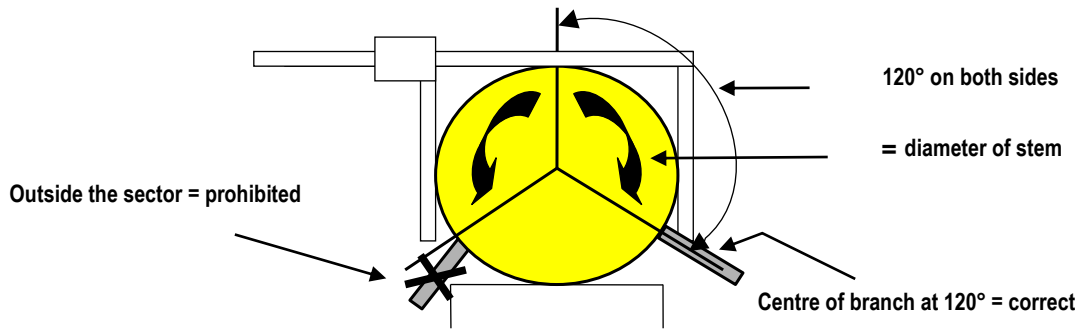


Fig. 38a: The area to be limbed left and right 120° (corresponds to the stem diameter)



5.4 Start and finish of the discipline

The discipline starts when the judge gives the signal to start and ends when the tip of the bar crosses the finishing line.

The contestant can, however, end the discipline beforehand by shouting “Stop” (e.g. if the chain slips off the bar at the penultimate branch).

5.5 Assessing the performance

- 200 basic points for the performance
- Time taken (see table 16)
- Penalty points for carrying out the task incorrectly
- Penalty points for violations of work safety regulations (see table 1)
- Starting too early - 20 penalty points

5.6 Steps involved in limbing

The contestant must try to limb the stem as quickly as possible, without damaging it or leaving any stumps. He must observe the safety regulations in carrying out this task.

The start is at the starting line and the limbing is then carried out in the defined direction. The branches that are cut off are left where they fall.

The contestant enters the starting area at the judge's request, starts the chainsaw and lays it down behind the starting mark on the stem (all parts of the saw must be behind the starting line).

The judge gives the signal to start. The time is measured from the time the judge gives the signal to start and ends when the tip of the bar crosses the finishing line. The contestant then stops the saw and waits for the judge to give further instructions.

If the chain slips off the bar, the contestant can end the discipline by calling “Stop”. He does, however, also have the option of refitting the chain and completing the discipline.

Once the task has been completed, the contestant and the head of the team may stand so that they can watch the measurements being taken; they may not, however, become involved in establishing the results or in taking the measurements. Both the contestant and the head of the team are, however, entitled to appeal against the results in writing within the prescribed time (30 minutes after the evaluation).

5.7 Measurements and evaluations

Points are awarded for:

Performance:

The participant is awarded **200** points for the limbing **performance**.

Time:

The standard time for limbing is 30 seconds, corresponding to a score of 200 points (measuring accuracy = 0.01 seconds). If limbing is completed in less than 30 seconds, 2 points are awarded for every 0.5 seconds under this target. If limbing is completed in over 30 seconds, 2 penalty points are given for every 0.5 seconds over this target (see table 16).

Table 16

Time for limbing (sec)	Points	Time for limbing (sec)	Points
etc. +2 points/0.5 sec		26,0 – 26,4	216
19,5 – 19,9	242	26,5 – 26,9	214
20,0 – 20,4	240	27,0 – 27,4	212
20,5 – 20,9	238	27,5 – 27,9	210
21,0 – 21,4	236	28,0 – 28,4	208
21,5 – 21,9	234	28,5 – 28,9	206
22,0 – 22,4	232	29,0 – 29,4	204
22,5 – 22,9	230	29,5 – 29,9	202
23,0 – 23,4	228	30,0 – 30,4	200
23,5 – 23,9	226	30,5 – 30,9	198
24,0 – 24,4	224	31,0 – 31,4	196
24,5 – 24,9	222	31,5 – 31,9	194
25,0 – 25,4	220	32,0 – 32,4	192
25,5 – 25,9	218	etc. -2 points/0.5 sec	

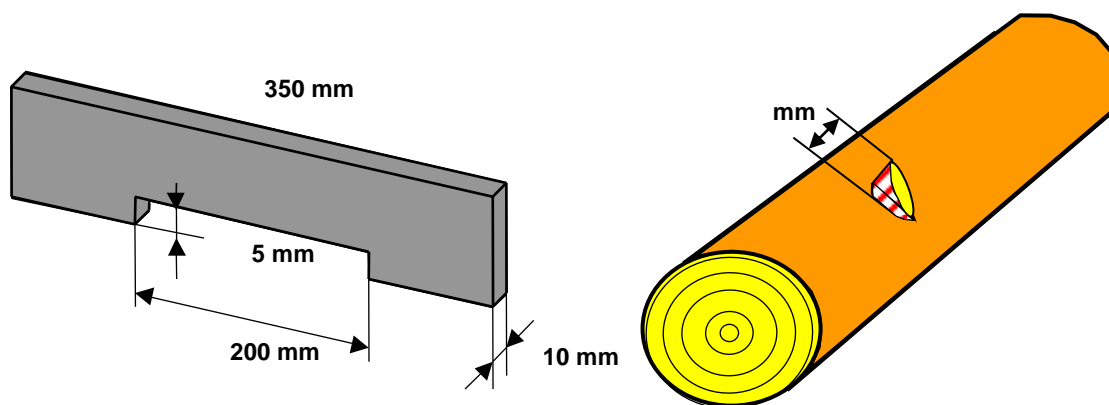
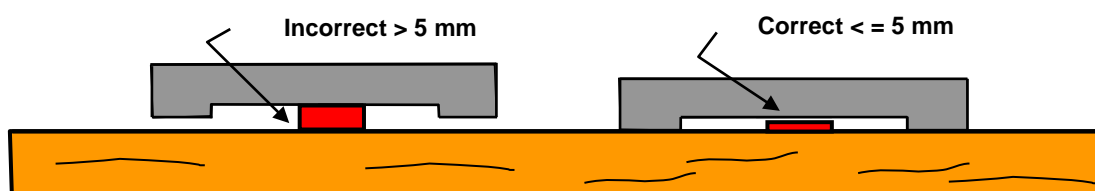
Penalty points are given in the following cases:

Too early start:

20 penalty points are given if a contestant starts too early.

Branch stumps:

The highest point of the branch stumps is taken as the result for stumps, without taking into account the centre of the branch. Penalty points are given for branch stumps higher than 5 mm. **Penalty is 20 points** per branch stub (see figures 39 + 40).

Fig. 39: Dimensions of the measuring device and measuring point**Fig. 40: Branch stumps higher than 5 mm are evaluated**

Damage to the stem:

Any damage to the stem (deeper than 5 mm) is measured and recorded. There are **20 penalty points** for each point of damage to the stem. Measurements are taken at right angles to the centre of the stem and across the entire cutting surface (see figures 41 + 42).

Fig. 41: Measuring the cuts that are too deep, at 90° to the centre of the stem

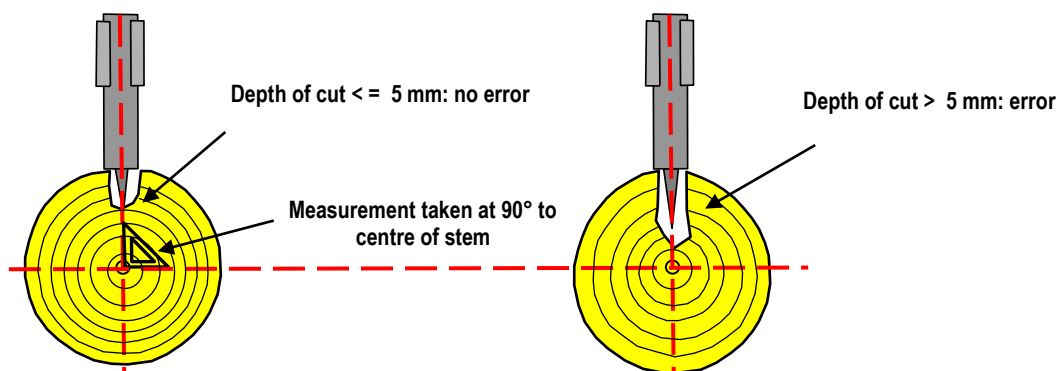
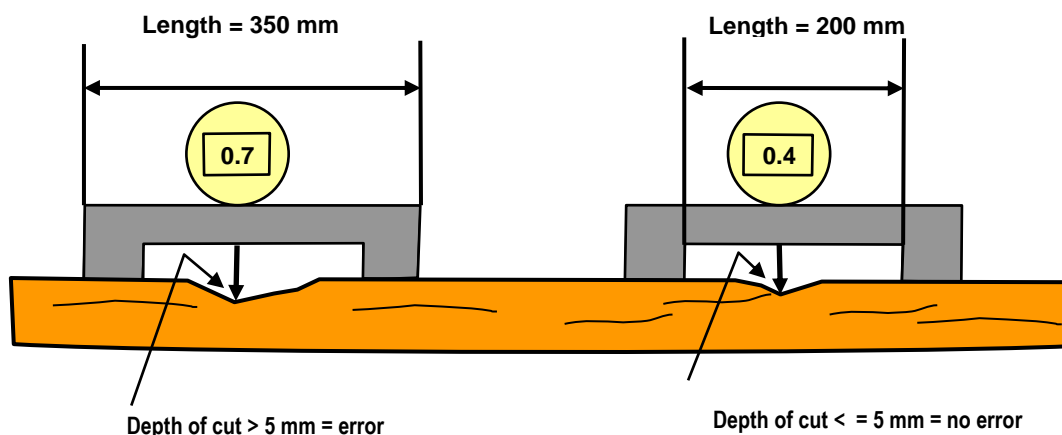


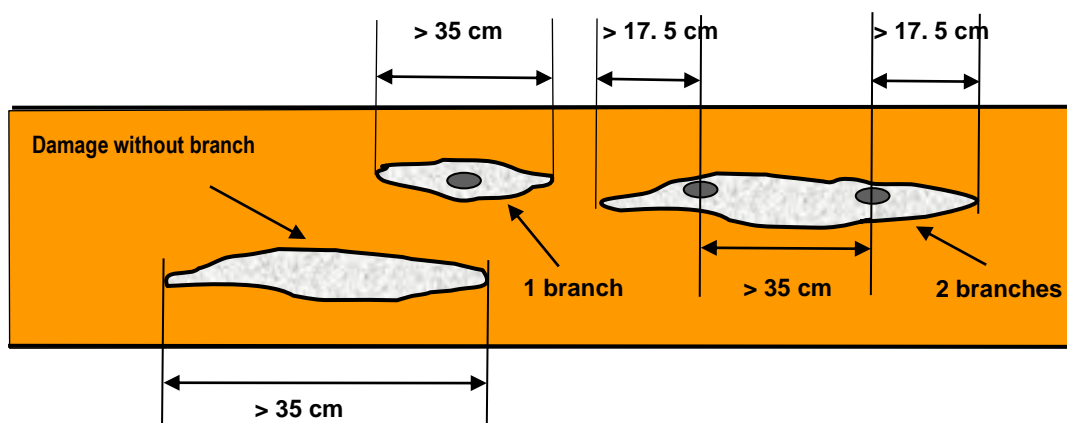
Fig. 42: Damage to stem resulting from branches cut too deep and length of measuring equipment



Damage to wood:

Longitudinal cuts on the stem of 35 cm or more are classified as damage to the stem, regardless of the depth. There is a **penalty of 40 points** for each point of damage (see figure 43).

Fig. 43: Damage caused during limbing



Penalty points are given in the following cases:

Branches that are not removed:

The number of branches that are not removed or only partially removed is counted and recorded. **30 points** are deducted for each branch that is not sawn off.

Clearing away branches when the chain is running:

Penalty points are given for moving branches when the chain is running. The number of errors is recorded. There are **20 penalty points** for each error.

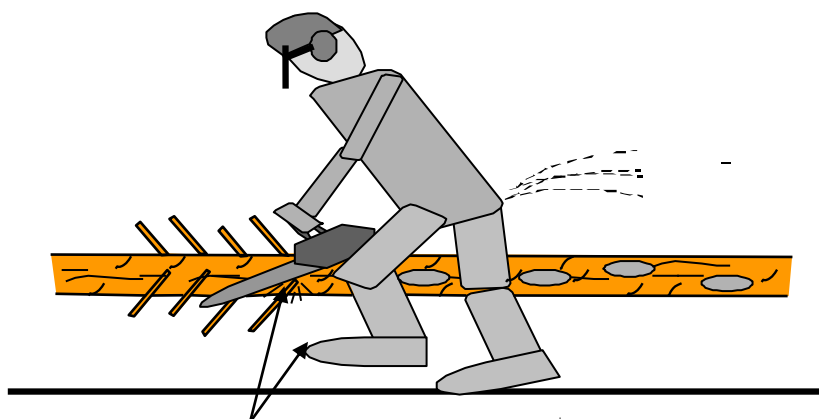
Safety regulations

Violations of work safety regulations: The penalty depends on the violation (see table 1).

Incorrect movement

20 penalty points are given if the contestant walks when the bar is on the same side of the stem as he is. The errors are counted and recorded. It is defined as an error if the contestant raises his whole foot when the bar is on the same side as he is (see figure 44).

Fig. 44: Incorrect movement during limbing (walking)



Raising whole foot when bar is on same side as contestant = error

These rules and regulations apply as of 1. 1. 2019, replacing all other rules and regulations issued prior to that time.

Lostorf, 16.11.2018

For the ialc:

President of ialc:

Sandra Schwender

A handwritten signature in blue ink, appearing to read 'Sandra Schwender'.

Head of Unit Regulations and Evaluation

Daniel Kleger

A handwritten signature in blue ink, appearing to read 'Daniel Kleger'.

IX List of countries who have organized the World Championship

Championship no.	Year	Nation(s)
I	1970	Hungary & Yugoslavia
II	1971	Yugoslavia
III	1972	Hungary
IV	1973	Romania
V	1974	Norway
VI	1975	Russia
VII	1976	Bulgaria
VIII	1977	Finland
IX	1978	Czechoslovakia
X	1980	Norway
XI	1981	Poland
XII	1982	Hungary
XIII	1983	Finland
XIV	1984	Sweden
XV	1986	Czechoslovakia
XVI	1987	Norway
XVII	1988	Denmark
XVIII	1991	Russia
XIX	1993	Switzerland
XX	1994	Romania
XXI	1995	Finland
XXII	1996	Germany
XXIII	1998	Austria
XXIV	2000	Norway
XXV	2002	Scotland
XXVI	2004	Italy
XXVII	2006	Estonia
XXVIII	2008	Germany
XXIX	2010	Croatia
XXX	2012	Belarus
XXXI	2014	Switzerland
XXXII	2016	Poland
XXXIII	2018	Norway

