



# **EMOC**

## **European Machine Operators Certification Handbook**

**Pilot Version  
August 2022**

**European Forestry and Environmental Skills Council, Brussels**



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## Preface

This handbook contains the outcome of the project EMOC “European Forest and Environmental Machine Operator Certificate” which was co-funded by the European Union (Grant Agreement No.2019-1-DE02-KA202-006339) and was successfully finalised in August 2022.

**The content of this handbook is the intellectual output of this project:**

The **organisational structure** (the handbook, page 1-14) relates to **Intellectual Output 4**

**Annex 1**, the standards relate to **Intellectual Output 2**

**Annex 2**, Assessor Guidance relates to **Intellectual Output 3**

**Annex 3**, Score Sheets relate to **Intellectual Output 3**

**Intellectual Output 1 is covered in an unpublished project-internal working paper.** The standards are based on the results of this IO1.

The results embrace generic skills standards for forest machine operators, the complementary assessment criteria and guidance for assessors including a set of score sheets as an aid for the practical assessment procedure. These instruments are embedded in the EMOC handbook, which provides the overall regulatory framework for a transparent and credible assessment and certification procedure under the governance of the European Forestry and Environmental Skills Council.

**Extent of Validity:** This is the pilot version of the EMOC certification handbook. It will become valid and applicable after a formal endorsement by the next EFESC General Assembly which will take place in spring 2023. Until then the handbook may be used for getting familiar with the EMOC standards and for setting up the assessment capacities of EFESC accredited Assessment Centres.

**Validity of documents:** In case of variance of content between the English version and translations, the English version will be considered as the original. Translations will be subordinated to the latest original English version.

**Rights of use:** The documents are publicly available to read and download. EFESC and its affiliates reserve the rights to apply the herein defined standards and implement the assessment procedures and issue an EMOC certificate.

Brussels, August 2022

Tom Embo,

*EFESC Chairman*

Co-funded by the  
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## EMOC Handbook

### 1 Background and objectives

#### 1.1. Sectoral developments

Mobility of forest and green area workers within the European Union is gradually growing. Some countries have reliable certification systems to test the knowledge and skills of those people, but by no means have all countries such certificates.

More-over it is difficult to assess the merits of foreign certificates. The development of European standards would allow national certificates to add a European recognition to their brand, thus increasing the value for workers wanting to work in other member states across the EU. A European standard gives other countries that do not have such a certificate now, the opportunity to participate in an internationally recognised system. This would increase transparency and mobility within the European trade area and thus strengthen the forestry, arboricultural and green area management sector regarding chainsaw use.

Since June 2009 Europe a new organisation has been active, known as the 'European Forestry and Environmental Skills Council'. EFESC has been formed because of the Leonardo project: "Evaluation and Implementation of Chainsaw Operators Certification".

The EFESC is an organisation in which delegates are represented from various stakeholders throughout Europe. Organisations are presented from Training Centres, EU branch organisations, of the forest industry, trade unions, manufacturers of tools, machines and equipment for forestry work or environmental work, certification schemes.

The first product or certificate is the meanwhile well-known ECC (different levels) with more than 10.000 certificate holders throughout Europe. From this success on branch organisations asked to establish a certificate on forest machinery. It is often safer to work with forest machines but also than there is a need to standardize proven skills and knowledge to enhance job mobility, safety and a clean environment through forest operations.

A few members of the EFESC-family as some new potential partners submitted an Erasmus+-project called EMOC. This handbook brings together most results of the project to get forest machines training all over Europe inspired, standardized for the minimum level and showing a way to assess skills, experience and knowledge from the machine operator eventually leading towards an EFESC licensed EMOC certificate. More-over this standard setting during the EMOC-project could also inspire training for other machine operators acting in green environments such as parks, nature reserves, protected landscapes, Natura 2000 protected areas and so on.

## **1.2. Objectives**

The objective of this council is to:

- Develop minimal qualification standards in professions like forestry, landscaping, tree-work and or horticulture and contribute to the harmonisation and improvement of qualification in the above-mentioned professions in Europe.
- Improve safety due to standards setting
- Improve mobility due to interchange ability of the certificates

## **1.3 Organisational Framework**

The delegates of the EFESC are all members of the General Assembly and have elected chairpersons in three committees/ bodies, known as:

- Executive board
- Standards committee
- Accreditation committee

The council has a secretariat which is hosted by an ordinary member of EFESC.

## **1.4 National Agency**

To assure Quality of issuing the EFESC certificate or logo within each country, the Council will accredit and appoint National Agencies in each member country. The National Agency will approve and audit assessment Centres and/or assessors.

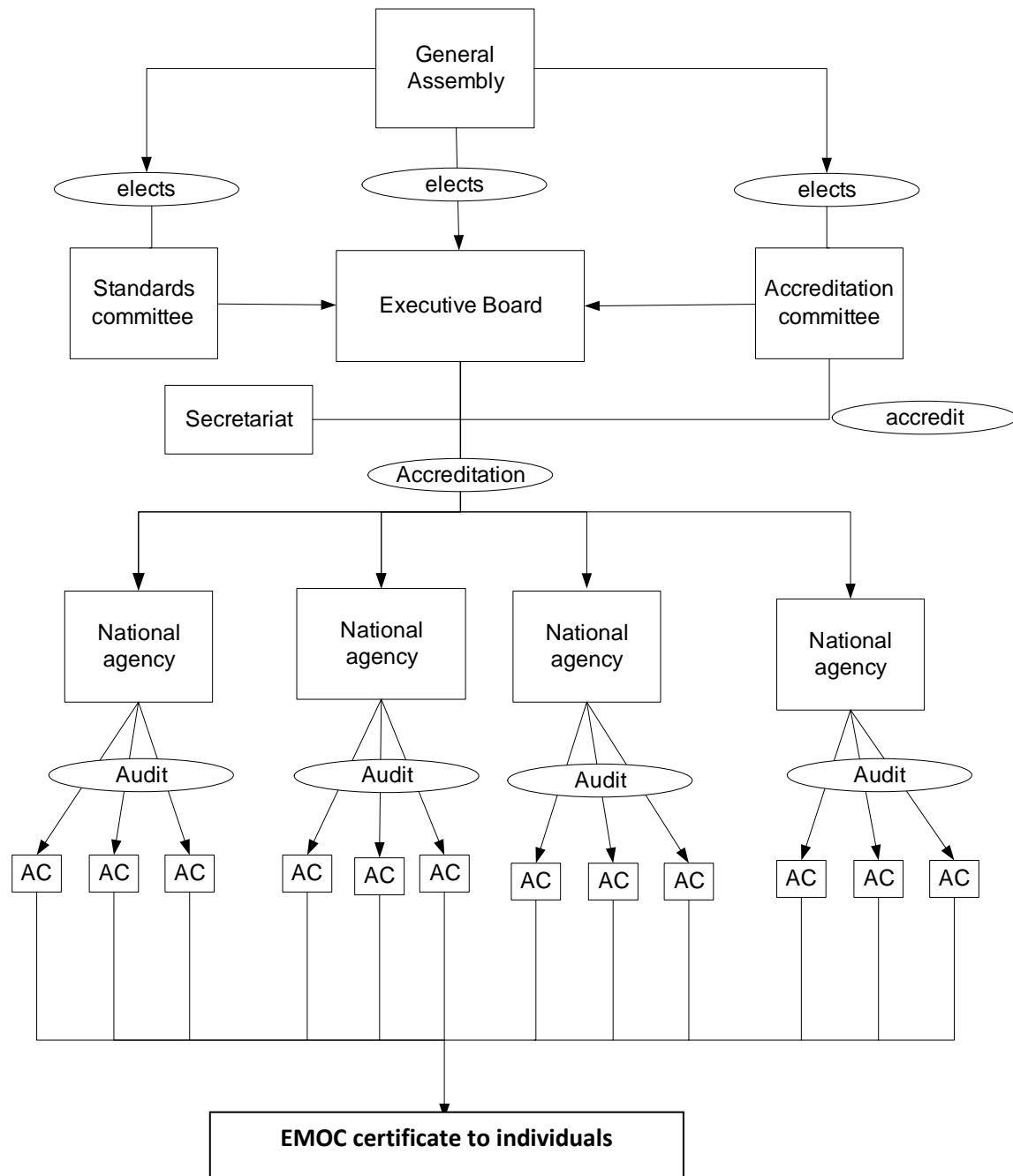
## **1.5 Training Providers and Assessors**

The Assessment Centres and assessors approved by EFESC can use an EFESC certificate and/or can use the EMOC logo their own certificate if they comply with the criteria set by the council.

## 2 Organisational Structure

The Organisational Structure is made up of different bodies. The OS describes the functions and explains what they must do and what kind of duties and responsibilities they have.

**Organisational Chart**



## **2.1 General Assembly (GA)**

### *2.1.1 Definition*

The GA is the highest body in terms of taking decisions. The GA consists of all ordinary members. All ordinary members have equal voting rights.

### *2.1.2 Membership fee and voting rights*

The representatives seating in the GA will have to pay a membership fee of 250€/yr. ?

### *2.1.3. Members of the GA...National agencies*

- a. Health and Safety organisations on European and national levels
- b. European representatives of Industry branch organisations
  - Employees representation
  - Training providers
  - Manufacturers of machinery, tools, and equipment for forestry and or environmental work
  - Certification schemes

### *2.1.4 Tasks of the GA*

The general assembly exercises the following tasks:

- To decide upon and modify the articles of legal status document of the council
- To elect the chairmen for the GA
- To elect the members of Executive Board
- To elect the members of the standard committee
- To elect the members of the accreditation committee
- To approve the budget and the accounts
- Decide on terms and condition for reimbursement of the cost the members of the Executive board, the standards and accreditation committee
- To decide organizational structures and processes
- To decide upon the EFESC Standards and which fields will be covered
- To decide about accreditation and certification procedures
- To amend the handbooks of the certificates
- To work out the preconditions and procedure for new members to join the network

## **2.2 The Executive Board (EB)**

### *2.2.1 Composition*

The EB consists of a minimum of three persons: The chairperson and two elected members.

The secretariat operates under the EB, gets its tasks from the EB and is responsible to the EB. Each NA gets its tasks through the secretariat; in case of problems, the NA can appeal to the EB.

### *2.2.2 Responsibilities of the EB*

- Prepare policy and recommendations for GA
- Executes policy and decisions of GA
- Implementation and setting of budgets
- Prepares and presents international PR activities
- To work out the rules of procedure for GA to be followed
- Prepare the organizational structures and processes
- Prepare the contract to define role, tasks, budget, etc. for the secretariat
- Issuing of accreditation for NA
- Prepare the rules for payment of expenses of the members of the executive board, the standards and accreditation committees
- For further details see the memorandum of association

## **2.3 The Standards Committees (SCs)**

### *2.3.1. Definition and composition of the SCs*

The SCs are bodies that draft and maintain the EFESC Standards in accordance with the internal rules. The SCs include each of a minimum of three persons which can invite other experts, engineers, advisors and consultants. They meet at least once a year at the same time as the GA

### *2.3.2 Election*

- Members of the SCs are elected by the GA amongst the ordinary and extraordinary members of EFESC
- The members of the SCs are elected by the GA amongst ordinary and extraordinary members for a term of three years
- The members of the SCs elect a chairperson who will be the contact person towards the EB and the other bodies of EFESC. The chairperson has the right to attend the meetings of the EB in an advisory capacity, but without voting rights

### *2.3.3 Responsibilities of the SCs*

- To prepare the standards (levels) for the respective certificates
- To fine-tune the standards (levels) after initial try-out(s)
- To organise the update the standards (levels) as a continuing improvement process
- To define criteria and processes for the exams
- To define criteria for the assessor



## **2.4 The Accreditation Committee (AcnC)**

### **2.4.1 Definition**

The AcnC defines and maintains the accreditation, certification and auditing procedures within the EFESC. The AcnC plays an advisory role to the EB on relevant matters; the members of AcnC are independent from the EB. The AcnC can invite other members of the GA or other experts for advice and consultation. The AcnC meets at least once a year, at the same time as the GA.

### **2.4.2 Election composition**

- The members of the AcnC are elected by the GA amongst ordinary and extraordinary members for a term of three years
- The members of the AcnC elect a chairperson who will be the contact person towards the EB and the other bodies of EFESC. The chairperson has the right to attend the meetings of the EB in an advisory capacity, but without voting rights.

### **2.4.3. Responsibilities of the AcnC**

- To define terms for the establishment and maintenance of the quality assurance and management system of EFESC
- To prepare, document and maintain the criteria for NA's
- To prepare, implement and the accreditation of NA's
- To define certification and auditing procedures

## **2.5 The Secretariat (S)**

### **2.5.1 Definition**

The secretariat is the hosting organisation of the ECC. The S gets its tasks from the EB and is responsible to the EB. Their role is to implement organisational, administrative and PR activities. There will only be one Secretariat for the organisation.

In the contract between EFESC and the S, terms, conditions and responsibilities are laid down.

### **2.5.2 Responsibilities of the S**

- Administrative work
- Organisation of meetings etc.
- Implements PR activities
- Website construction and maintenance
- Issuing of accreditation for national representatives
- Establishment and maintenance of database for certificates
- Coordination of random peer audits
- Look for sponsoring
- Prepare the file for obtaining a legal status + protection name and logo

## 2.6 The National Agency (NA)

### 2.6.1 Definition

An organisation that is accredited by the Executive Board and is entitled to issue certificates through Assessment Centres (or assessors) that offer assessments according to EFESC Regulations after they have been evaluated by an auditor. National Agencies work as a facilitating infrastructure between the AcnC and the Assessment Centres (or assessors).

### 2.6.2 Composition, preconditions

National organisations accredited by the AC as NA can be Forestry Training Centres, individual professional enterprises or governmental organisations. There is only one NA possible per country. If there is no NA in a country, a NA of a neighbouring country can fulfil its role.

### 2.6.3 Criteria to become a NA:

It is clear that the National Agency should play a role in accrediting Centres or assessors in EMOC. It's advisable that EFESC appoints auditors to check if an N.A. is capable in accrediting assessment centres. We could start from the EMOC core-group. If not an N.A. could make use from these EMOC-auditors to start up the process in their country.

During the audit of the N.A. following criteria should be checked intensively related to the EMOC requirements.

The required documents or relevant sections of documents shall be translated and presented in English language

The criteria and the respective proof are documented in the table below:

Criteria	Proof that criteria is fulfilled
<u>The organisation:</u>	
Should be well integrated within national industry support framework. They must represent the various interest organisations.	Membership of forestry or green organisation or part of forestry administration; a c t i v e website in place
Must have a legal entity	Document of the form of company (e.g. Limited Company), other legal status document
Must have or have access to manpower in order to act as a role as facilitator / organiser	number of personnel
Must have access to qualified personnel	Qualifications of personnel <ul style="list-style-type: none"> <li>- register with personnel qualifications</li> <li>- formal certificates or recognised experience</li> <li>- description of functions and qualification requirements</li> </ul>

Must have a quality assurance system	External quality assurance certificate or documented internal Quality Assurance system
Must agree to the EFESC standards and codes of practice	Standardised letter of agreement to follow EFESC standards & handbook
Must have experience of certification in EFESC related skills or experience in accreditation systems / certification in EFESC related skills	Overall concept or similar: <ul style="list-style-type: none"> <li>- policy</li> <li>- description of activities</li> <li>- annual report/ summary</li> </ul>

#### 2.6.4 Accreditation Procedures to become a NA:

The AC will accredit the organization and after successful accreditation the EB will issue the accreditation document to the National Agency.

Note: For organisational reasons there will be only one NA per country possible, i.e. one national contact point. The NA can choose how they arrange the organisational structure within the country with e.g. regional offices.

#### 2.6.5 Responsibilities of the NA

- Appoint and manage auditors that will audit the AC's and/or assessors
- Keep database of certified candidates linked to a European database
- Keep database of Assessment Centres and assessors
- Implement a quality assurance process for Assessment Centres and assessors, to include the competence of assessors
- Manage their own financial affairs
- Promotion of the EU-standards (all PR-activities)
- Develop acceptance within the forest and environmental industry
- To co-ordinate the participants on a national level (see memorandum)
- If any major change occurs in one of the above mentioned criteria this should be reported to the AC. AC decides whether a new accreditation procedure has to be implemented.
- Decide about procedures how the certificate is issued to candidates
- Have a support system in place for Assessment Centres and assessors, in particular to help develop those newly appointed.

### 2.7 Assessment Centres:

#### 2.7.1 Definition

The Assessment Centres will be Training Providers, organisations or institutions that are registered with EFESC to offer and / or perform assessments.

#### 2.7.2. Preconditions/ criteria to become a certified Assessment Centre:

This is the list for new assessment centres not certified for ECC- assessments. If the assessment centre is already accredited by the NA for ECC we should focus on the criteria in yellow.

- has its own Quality Assurance procedure for Assessment Centre's assessors
- has its own Quality Assurance procedure for the Assessments (e.g. client evaluation scheme)
- must have the necessary resources (e.g. access to trees)
- have an administration system
- have published policies (e.g. health & safety)
- have qualified assessors to Emoc standards (or equivalent)
- the provider must use exclusively approved assessors who are up to date on the latest certification regulations
- has to work according to an assessment scheme/protocol

#### 2.7.3 Procedure:

- The Assessment Centres are audited by the National Agency once they are accredited themselves by efesc. Where a National Agency does not exist in the respective country or is not accredited for emoc another NA can perform the audit or we will organize this on efesc-level.
- After successful audit the Assessment Centre can issue respective EFESC certificates to successful participants in accordance to the NA's specification. In the case of an organisation's existing certificate being used, an additional EFESC logo can be applied
- The registered Assessment Centres will be mentioned in a national database of the NA and on the website of the European organisation.
- At least every three years the Assessment Centre will receive an external audit
- The Assessment Centre can lose its registration whenever the external audits are contradictory to EFESC criteria
- The Assessment Centre can be a single assessor and will be subject to all the conditions above

#### 2.7.4 Tasks

- The Assessment Centre arranges the assessment requested for candidates according to the minimal standards set
- Have assurance that training and assessment are separated (This is not an obligation for EMOC but advisable)

#### 2.7.5 Procedure:

- The Assessment Centres are audited by the National Agency. Where a National Agency does not exist in the respective country, another NA can perform the audit
- After successful audit the Assessment Centre can issue respective EFESC certificates to successful participants in accordance to the NA's specification. In the case of an organisation's existing certificate being used, an additional EFESC logo can be applied
- The registered Assessment Centres will be mentioned in a national database of the NA and on the website of the European organisation.
- At least every three years the Assessment Centre will receive an external audit
- The Assessment Centre can lose its registration whenever the external audits are contradictory to EFESC criteria
- The Assessment Centre can be a single assessor and will be subject to all the conditions above

## **2.8 Assessors:**

### **2.8.1 Definition:**

Assessors are INDIVIDUALS accredited to perform assessment of candidates

### **2.8.2 Assessor Approval: Criteria to become an assessor**

*The requirements after which an assessor will be registered with National Agency and EFESC are set down in 2.8.5*

### **2.8.3 Tasks**

- The assessors assess candidates according to the minimal standards set
- The assessors can authorise the issuing of an EFESC certificate (or EFESC Logo on existing certification from Assessment Centre) to those candidates who meet the EFESC standard after being assessed by the qualified assessor.

### **2.8.4 Procedure:**

- The assessors are verified by the National Agency. In case a National Agency does not exist in the respective country, another NA can perform the verification. For EMOC we can start from the project partners core-group.
- The certified assessors will be mentioned in a national database of the NA and on the website of the European organisation.
- The Assessor will receive an external verification at least every three years.
- The Assessor can lose his / her registration whenever the external verifications are contradictory to the initial criteria.

### **2.8.5 Criteria and proof to be an Assessor**

<b>Criteria</b>	<b>Proof that criteria is fulfilled</b>
Technical knowledge, practical skills and experience in the use of machines in forestry and nature conservation or green spaces	Technical knowledge and skills in the use of machines. Proof by certificates or diploma in forestry /or green sector e.g. <ul style="list-style-type: none"> <li>- National certificates or licenses</li> <li>- Holders of diploma from technical colleges</li> </ul> Other national accepted documents And Detectable experience <ul style="list-style-type: none"> <li>- Experience records from actual and previous employers related to chainsaw skills.</li> <li>- Or technical evaluation in front of an assessor</li> </ul>

Assessment and Communication skills	<p>Diploma or certificate that is recognised on national level</p> <p>Recognised experience as assessor This should relate to skills of :</p> <ul style="list-style-type: none"> <li>- judgment</li> <li>- clear communication in oral and written form</li> <li>- cooperation – social skills</li> </ul>
Knowledge of EFESC standards, assessment criteria,	<p>National certificate or license to carry out assessment or Certificate of attendance delivered by the National Agency</p>
Independency of assessment and training	<p>The Assessors declares independency by separating training and assessment if possible.</p>
First aid	<p>Diploma or certificate that is recognised on national level</p>

### 3 Appendixes

The following three documents are essential elements of the EMOC certification scheme and are subject to regular review and update by the EFESC bodies.

- Annex 1: European Standards for Forest Machine Operations [ESFMO]
- Annex 2: Assessor Guidance
- Annex 3: Score Sheets (recommended use)



# **European Standards for Forest Machine Operations [ESFMO]**

## **Annex 1 of EMOC Handbook**

**Pilot Version**

**August 2022**

**European Forestry and Environmental Skills Council,  
Brussels**



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**To include in all translations:**

This is a translation of the original English version of the EFESC handbook and its appendices.

This translated version is subordinate to the original English version.



## **European Standards for Forest Machine Operations [ESFMO]**

**ESFMO(G): Ground-based Forest Machine Operations**

**ESFMO(A): Cable-based (Aerial) Forest Machine Operations**

### **Guidance for those undertaking the European Forest Machine Operations Certificate [EFMOC] Assessment**

To obtain a European Forest Machine Operations Certificate (EFMOC), you must pass an assessment in which your skills, knowledge and understanding, both theoretical and practical, are tested.

With this certificate you can prove your competence to work according to the minimum European Standards for Forest Machine Operations in Ground-based or Cable-based (Aerial) work

If National Standards or assessment procedures are more stringent so at least the minimum European Standards Forest Machine Operations are covered, an EFMOC label can be added to the current certificate by an EFESC-registered Assessment Centre.

During the assessment, the minimum tasks and criteria set down in the European Standards for Forest Machine Operations must be checked objectively by an EFESC - Registered Assessor.

Training and Assessment must be separated: the Assessor must not have been the candidate's instructor.

### **The Assessment for Ground-based and Cable-based (Aerial) European Forest Machine Operation Certificate (EFMOC) must be carried out within the following parameters:**

1. The Candidate must be notified of the place and time of assessment.
2. The assessment is a formal process and will be carried out using the **European Standards for Forest Machine Operations** (ESFMO)
3. All relevant assessment criteria will be assessed against the criterion as specified in the ESFMO
4. Assessment will be carried out by direct observation and by oral questioning and discussion with the Candidate.
5. The performance of the Candidate will be recorded on the EFESC EFMOC Scoresheet, including written feedback to the Candidate.
6. On completion of the assessment, if all the relevant Assessment Criteria have been met, the Scoresheet will be processed by the Assessment Centre and a European Forest Machine Operation Certificate (EFMOC) issued to the Candidate
7. A Quality Assurance visit by an EFESC Verifier may coincide with some assessments.

### **The Forest Machine parameters:**

1. A forest machine to suit the category that has been registered for the Assessment must be available (forwarder, processor, harvester, skidder, cable-crane, hi-lead winch, ground preparation machine etc.)
2. All forest machines used in the assessments must comply with relevant legislation and safety requirements, including Health and Safety guidelines and current Machinery Directives.
3. If any specific certification of the machine required by legislation e.g., for lifting equipment must be available with the machine.
4. Forest machine must be suitably equipped for all activities to be carried out during the Assessment
5. **The volume of timber to be harvested, processed, forwarded, skidded, prepared etc., or the number of**



**passes of a machine to be made in an area of work, will be specific to each machine task and are presented in separate appendices.**

#### **Risk Management parameters:**

1. A First Aid kit meeting current regulations, of the appropriate size for the number of persons on site, must be available.
2. Fire-fighting equipment must be immediately available, either a hand-operated fire extinguisher or fire-fighting equipment integral on machine
3. Provision must be made to avoid the risk of environmental pollution and adequate control measures must be implemented. (a suitable spills response kit to be available on the machine)
4. The Forest Machine must be operated in such a way that the Candidate, Assessor and other persons or equipment are not endangered.
5. A breach of Health and Safety that puts any person at risk during the assessment process will result in the assessment being terminated and the Candidate not meeting the required Standard.
6. It is strongly recommended that Candidates hold at least a recent, recognised 'Emergency First Aid' Training Certificate.
7. Appropriate Personal Protective Equipment (PPE) must be worn at all times.
8. When the Forest Machine is parked and left unattended, Candidate must carry out the safe stop procedure: The parking brake (or equivalent) must be applied, any attachment equipment must be left in a safe and stable condition and key removed.
9. Candidates must comply with current legislation when working at height on the forest machine

#### **The Candidate must:**

1. Have read the European Standards for Forest Machine Operations (ESFMO) documentation and understand the content prior to undertaking the Assessment.
2. Only attempt the EFMO Assessment if familiar with the machine to be used on the day.
3. Have available maintenance tools, Operator's Manual / Manufacturer's Instruction Book, machine checklists etc., specific to forest machine to be used. (These may be referred to for information as part of the Assessment).
4. Know and understand relevant health and safety legislation and industry good practice relevant to forest machine operation
5. Carry out routine checks and maintenance on forest machine to be used on Assessment
6. Carry out fueling / describe fueling methods including fuel storage and transport as applicable to work site
7. Erect warning signs, barrier, warning tape, etc. as appropriate to site, or point out these if already present
8. Drive forest machine onto and off the site in a safe and controlled manner
9. Request deployment of banks-person(s) where appropriate
10. Walk site and carry out Site Specific Risk Assessment (SSRA) and record for agreement and signature
11. Obtain sufficient information (location, access routes etc.) for Emergency Plan to ensure Emergency Services can gain access
12. Ensure that an adequate Pollution control kit is available on site
13. Comply with the pollution mitigation plan (silt, fuel/oil spill etc.) for the work site
14. Drive and operate the forest machine on varied terrain including moderate slopes (if sloping ground not available a practical description of driving techniques is sufficient)

15. Stop working immediately if approached by a 3<sup>rd</sup> party or directed to do so by the Assessor.
16. Carry out Forest machine Operations (Accumulate products / fell trees / process timber / prepare ground etc.) to a given specification, sufficient to satisfy assessor that work can be repeated on a routine basis
17. Drive off site and / or stop machine and park in a safe condition on completion of tasks and carry out machine check-over.
18. Arrange for any machine defects or site problems are reported to appropriate person(s) or authority

#### **Certification:**

Machine Category (Cable-based or Ground-based) and Operation type (i.e., forwarder, processor, harvester, skidder, cable-crane, hi-lead winch, ground preparation machine etc.) used by the Candidate during Assessment will be endorsed on the European Forest Machine Operations Certificate (EFMOC) issued to the candidate

**The way **Critical Faults** or a combination of **Relevant Faults** (minor faults) are evaluated during the Assessment:**

**Critical faults** or a combination of **Relevant Faults** (minor faults) against the good practice of the European Standards for Forest Machine Operations **will** lead to **not** passing the assessment.

The assessor has the right and duty to stop the assessment if direct safety is compromised.

**CRITICAL (C): If one of the following criteria is not fulfilled, the candidate CANNOT PASS that Unit:**

A Critical Fault is recorded if any of the Elements in the ESFMO units that are marked in Red in the Standards are not fulfilled by the candidate.

A Critical Fault is also recorded if anything else is carried out by the candidate that endangers persons, the machine, the environment or property.

**RELEVANT (R): if, after one warning, more than the maximum number of relevant errors are made, then the candidate CANNOT PASS that Unit:**

The maximum number of **Minor Errors** that allowed after one warning, per Unit is **THREE**

The maximum number of times **Minor Errors** can be repeated, after one warning, in each element is **THREE**

**What the Forest Machine Operator must be able to do:**

Unit ESFMO 01	SAFETY AND RISK ASSESSMENT – Forest machine operator must be able to carry out Risk Assessment and establish safe working conditions	General – all operations	+ Ground – based	+ Cable-based (Aerial)	Relevant Faults (3 allowed/Unit)	Critical Faults (none allowed)
01:01	Carry out the work under health and safety conditions, complying with the occupational risk prevention plan, respecting the regulations for the environment and safety at work	✓				
01:02	Outline the emergency planning procedures relevant to access into or evacuation from the working area	✓				
01:03	Describe, evaluate and adopt appropriate emergency procedures e.g. contacting emergency services, utility companies, environmental authorities etc.	✓				
01:04	Demonstrate ability to apply quickly basic sanitary techniques and first aid in event of accident.	✓				
01:05	Ensure good communication within the team and working environment (e.g. radio, hand signals, mobile signal)	✓				
01:06	Carry out a risk assessment including safety distance from machine, tensioned cables and deal with harmful machine parts and substances (batteries, oils, fuels, cooling fluids, xenon bulbs, etc.)	✓				
01:07	Identify danger zones and safety hazards associated with the working area and the proposed work and the operation being carried out and behave accordingly.	✓				
01:08	Identify and deal with site constraints (e.g. electric cables, pipelines, roads, quarries, terrain characteristics)	✓				
01:09	Demonstrate ability to carry out a risk assessment for fire risks from forest machines during and after use.	✓				
01:10	Demonstrate ability to identify risks for aviation and communicate to the competent authority			✓		
01:11	Carry out a risk assessment for suspended loads			✓		

Unit ESFMO 02	MAINTENANCE – Forest Machine Operator must be able to carry out routine checks and maintenance of forest machine:	General – all operations	Ground –based	+ Cable based (Aerial)	Relevant Faults (3 allowed)	Critical Faults (none allowed)
02:01	State the safety requirements and carry out routine checks required for the machine.	✓				
02:02	Carry out maintenance on forest machines and equipment (daily, weekly & monthly checks) to keep them in perfect condition, following the technical specifications, according to the manufacturer's manual	✓				

02:03	Demonstrate a basic knowledge about replacement criteria of different mechanical parts	✓				
02:04	Record maintenance operations	✓				
02:05	Demonstrate ability to identify faults or at least indicate where the fault lies to avoid further damage and to provide information for the service team	✓				
02:06	Demonstrate ability to fix minor faults (e.g. replace hydraulic hoses)	✓				
02:07	Give a basic overview of hydraulic systems and elements	✓				
02:08	Give a basic overview of electric and electronic systems and elements	✓				
02:09	Give a basic overview of steel cables and related equipment	✓				
02:010	Specify and maintain a tool kit appropriate to the machine	✓				
02:11	Have an adequate oil absorption kit available and understand its use	✓				
02:12	Check the condition of all the rigging components used in the operation			✓		

Unit ESFMO 03	<b>PLANNING AND FOLLOW-UP: Forest machine operator must be able to plan their own forest machine operations, considering the site, machine and personnel within the contract constraints and specifications:</b>	General – all operations	+ Ground – based	+ Cable-based (Aerial)	Relevant Faults (3 allowed)	Critical Faults (none allowed)
03:01	Plan and coordinate operations in relation to the operator's responsibility in the team	✓				
03:02	Carry out site survey and plan work accordingly (e.g., skid trail planning, key habitats, archaeological features)	✓				
03:03	Plan the landing site and related intermediate storage and logistics	✓				
03:04	Decide on the communication mode to use on site (radio, hand signals, ...)	✓				
03:05	Give an overview of road categories	✓				
03:06	Describe, evaluate and select possible harvesting systems, methods and techniques	✓				
03:07	Structure and control different working processes	✓				
03:08	Understand and comply with contracts for work	✓				
03:09	Planning a cableway on map, calculation of skyline sag (deflection) and supports, considering safety factors			✓		

ESFMO 04	<b>OPERATIONAL SKILLS - Forest machine operator must be able to establish safe system of work and operate machine in a safe and effective manner:</b>	General – all operations	+ Ground – based	+ Cable-based (Aerial)	Relevant Faults (3 allowed)	Critical Faults (none allowed)
04:01	Demonstrate ability to cordon off danger zones	✓				
04:02	Give an overview of the environmental impacts of forest machinery use	✓				
04:03	Check if operating conditions of the site are suitable for forestry work with a certain machine before it is put into service.	✓				
04:04	Check operating conditions of the forest machine for forestry work before it is put into service (including all steel cable elements).	✓				
04:05	Load and unload machines on / off transporter and secure them properly	✓				
04:06	Prepare and operate forest machine considering the company's occupational risk prevention plan and the manual of good environmental practices.	✓				

04:07	Operate forest machines in accordance with the work to be carried out, by controlling their operation, and by operating them accurately and at the appropriate pace	✓				
04:08	Work and communicate in teams (radio, hand signals, etc.)	✓				
04:09	Demonstrate specific knowledge, understanding and skills of choking timber	✓				
04:10	Build and / or handle proper loads on machine to optimize productivity	✓				
04:11	Ensure the timber payload on the machine (e.g. trailer, forwarder, cable carriages, harvester boom, etc.) is within the stated capacity of the machine	✓				
04:12	Deal with environmentally harmful substances (fuels, oils, etc.)	✓				
04:13	Work with an on-board computer where fitted (operational data collection and management)	✓				
04:14	Demonstrate knowledge about the use and structure of cables	✓				
04:15	Demonstrate ability to select appropriate rigging materials and cables for different tasks	✓				
04:16	Demonstrate knowledge, understanding and skills about how to anchor cables properly	✓				
04:17	Demonstrate ability to connect, repair and extend cables and ropes with the same or different materials and techniques	✓				
04:18	Demonstrate knowledge, understanding and skills about different types of anchors (also technical anchors)	✓				
04:19	Demonstrate knowledge, understanding and skills to select support/anchor trees and assess their stability	✓				
04:20	Carry out simple splicing	✓				
04:21	Prepare and operate forest machine traction equipment in line with manufacturers recommendations		✓			
04:22	Drive the forest machine with the required dexterity and safety while avoiding damage to soil, any regeneration and the remaining stand.		✓			
04:23	Apply techniques for driving forest machines in different terrain, for example steep slopes, uneven terrain/obstacles and wet areas		✓			
04:24	Drive with consideration for water pollution and conservation issues and the ground bearing capacity		✓			
04:25	Undertake or describe on site correct techniques for retrieving machines that are bogged down		✓			
04:26	Explain the purpose of rigging materials and components			✓		
04:27	Demonstrate knowledge, understanding and skills to set up cable yarders and systems			✓		
04:28	Demonstrate ability to operate a cable system			✓		
04:29	Demonstrate knowledge & understanding of the working principles of different cable carriage types			✓		
04:30	Demonstrate knowledge & understanding about statics and dynamics of cables			✓		
04:31	Demonstrate knowledge & understanding of the procedures for climbing a tree to e.g. preparing a spar tree			✓		
04:32	Carry out a stability assessment of the support trees, spars and yarder towers			✓		

Unit ESFMO 05	COUNTRY SPECIFIC STANDARDS: Forest machine operator must be able to follow operational criteria (site, machine and personnel) in accordance with local and National conventions and Regulations	General – all operations	+ Ground – based	+ Cable-based (Aerial)	Relevant Faults (3 allowed)	Critical Faults (none allowed)
05:01	Stack and grade different assortments	✓				
05:02	Give an overview of job-related national and international working safety regulations and standards	✓				
05:03	Give an overview of national and international regulations for bucking and log measurements	✓				
05:04	Give an overview about how to properly transport, store and recycle materials according to local and national laws and regulations	✓				
05:05	Identify tree species, shrub species and important indicator plants (e.g. indicating ground moisture, drought, ...)	✓				
05:06	Identify and deal with forest protection issues	✓				
05:07	Respect rules for driving on public roads with implements or machines coupled	✓				
05:08	Respect the protection of cultural heritage	✓				
05:09	Give an overview of different silvicultural treatments (e.g. tree marking)	✓				
05:10	Relate the job to national and international environmental regulations and standards	✓				
05:11	Describe the types of records that may be required for management and legislative requirements	✓				
05:12	Use correct signs to cordon off danger zones according to national standards/regulations	✓				
05:13	Basic knowledge about forest certification systems (e.g. FSC, PEFC)	✓				



# **Assessor Guidance**

## **Annex 2 of the EMOC Handbook**

**Pilot Version**

**August 2022**

**European Forestry and Environmental Skills Council,  
Brussels**



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European Standards for Forest Machine Operations: 2022	
For: ESFMO(G): Ground-based Forest Machine Operations	
<b><u>Assessor Guidance:</u></b>	<b>Guidance on what the candidate is expected to do, operating specific machines on a forest or woodland site, as follows:</b>
<b>FORWARDING:</b>	<b>Performance:</b> For small-scale, agri-based or large purpose-built forwarder i.e. machine base (drive unit) and bunk for timber
<b>Operation</b>	A sufficient volume of timber to be extracted (loaded and unloaded) to demonstrate the required skills
Manoeuvre forwarder to timber	Drive machine empty on varied terrain (within safe parameters for machine) Safe driving technique - Speed, choice of route, avoiding obstacles, crop trees, steep slopes etc.
Position forwarder to timber	Position of loader relative to timber Stabilisers / frame lock in place as applicable to machine
Grab timber	Booms extended ensuring machine stability retained Capacity of loader not exceeded - volume & weight Grab encloses timber
Load produce onto forwarder	Load Sawlogs (i.e. single bunk bay loaded) and shortwood (i.e. more than one bunk bay loaded) (N.B: If only one product is available on site for loading and unloading, then a full description of the techniques required for loading and unloading the other product must be made by the candidate). Operate loader booms smoothly Lifting techniques keeping timber close to ground before lifting over pins Bunk bay(s) loaded within capacity, timber stable & not above headboard. Load structure and weight distribution is compatible with machine
Travel with forwarder loaded	Drive machine and loaded on varied terrain (within safe parameters for machine) Obstacles avoided; wet areas 'thatched' if required



	Machine(s), surrounding trees, environment or infrastructure etc. not damaged
Unload forwarder, timber onto stack	Unload, stacking onto ground, onto <b>bearers</b> or onto trailer, or similar operation
	Segregate and stack more than one grade of timber
	Stack built progressively, final height within safe parameters
	Stack face aligned vertically
	Ends of stack at a stable angle

<b>SKIDDING WINCH or GRAPPLE</b>	<b>Performance</b> , for small-scale, agri-based or large purpose built
<b>Operation</b>	A sufficient volume of timber to be extracted to demonstrate the required skills: Single and multiple loads, timber butt first and tip first, within capacity of machine and environment
Manoeuvre skidder to timber	Drive machine empty on varied terrain (within safe parameters for machine)
	Safe driving technique - Speed, choice of route, avoiding obstacles, crop trees, steep slopes etc.
Position skidder to timber	Position of skidder relative to timber, machine stable (butt plate or anchor placed as applicable to machine)
Attach produce onto skidder	Choker or grab pole-length timber, short wood or whole trees using correct techniques
	Extract timber butt first and <b>tip first</b>
	Capacity of grab or winch not exceeded - diameter & weight
	Offset pulling and double rigging demonstrated and safeguards discussed
Uplift / winch in timber to skidder	Operate controls for steady uplift / winching
	Timber in stable position off ground at grapple or butt plate
Travel with skidder loaded	Drive machine and loaded on varied terrain (within safe parameters for machine)
	Trees, property and obstacles avoided as applicable to site
Manoeuvre loaded skidder at landing	Skidder manoeuvred at landing area, timber positioned for subsequent storage, processing or handling
Unload timber from skidder	Unload at landing onto bearers or according to site requirements using safe technique
	Segregate timber as applicable to site
	Align timber using butt plate or blade, etc. within safe parameters

	Machine(s), surrounding trees, environment or infrastructure etc. not damaged
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<b>MECHANISED FELLING:</b>	<b>Performance, for tracked or wheeled harvester, feller-buncher, grapple-saw, tree-shear etc.</b>
<b>Operation</b>	<b>Enough trees to be felled to demonstrate the required skills, in an agreed direction, size suitable for cutting head</b>
Manoeuvre the machine on site	Boom position, machine stability and driving techniques all suitable for machine and terrain
Positioning to trees to be felled	Position of machine allows for reach of boom, alignment of felling head and visibility by operator
Trees gripped	Stem gripped firmly at correct position on stem in line with site constraints for stump height
	Felling head cutting bar aligned to minimise risk of chain-shot towards operator (where applicable to machine)
Trees severed	Felling head operated to avoid splits, spikes and shattered timber, using multiple cuts if required
Trees felled	Tree felled in intended direction
	Tree manoeuvred and lowered steadily
	Machine(s), surrounding trees, environment or infrastructure etc. not damaged

<b>MECHANISED DELIMBING:</b>	<b>Performance, for tracked or wheeled delimbing processor, purpose built or tractor-mounted</b>
<b>Operation</b>	<b>Enough trees to be processed to demonstrate the required skills, specifications relevant to site management requirement</b>
Drive the machine on site	Drive the machine on site in a safe and effective way
Positioning to trees to be felled	Manoeuvre the machine to felled trees in a safe and effective way and make secure
Trees gripped & lifted	Secure grip and loading smoothly without damage to machine or surrounding trees etc.
Trees delimbed to specification	De-limb trees, cleanly, with brash not deposited in timber zone
Trees crosscut to specification	Crosscut trees according to length, diameter and quality specifications given, saw not pointing towards cab
	Timber deposited free of brash, graded, segregated & positioned for subsequent uplift, processing or handling
	Machine(s), surrounding trees, environment or infrastructure etc. not damaged

<b>TIMBER HANDLING / LOADING:</b>	<b>Performance</b> , for small-scale, agri-based or large purpose built, wheeled or tracked timber loader with timber handling device fitted, loading onto trailer, lorry, stack, or into woodchipper, processor etc.
<b>Operation</b>	A sufficient volume of timber to be extracted to be loaded to demonstrate the required skills, at least two product types, long and short material
Manoeuvre loader to timber	Drive machine empty (within safe parameters for machine), boom 'parked' in safe position. Safe driving technique - Speed, choice of route, avoiding obstacles, crop trees, slopes etc.
Position loader to timber	Position of loader relative to timber Stabilisers in place as applicable to machine
Uplift timber	Load long <u>and</u> short logs <b>OR</b> whole tree & tree sections without damage to machine(s), surrounding trees, environment or infrastructure etc. Boom(s) extended ensuring machine stability retained Operate loader boom(s) with smooth lifting technique Timber secured firmly with handling device Capacity of loader and handling device not exceeded - volume & weight
Travel with timber in loader	Load position appropriate to machine, speed and manoeuvring within safe parameters for machine
Unload produce	Unload forwarder onto stack, plus onto trailer, lorry, or into woodchipper, processor etc. as appropriate Operate loader boom(s) with smooth lifting technique avoiding damage to grab, hydraulic pipes etc. Stacks to be in stable position and condition, timber graded and stack height in line with local safety criteria

<b>CABLE CRANE / SKYLINE:</b>	<b>Performance</b> , for small-scale, agri-based or large purpose built, wheeled or tracked Cable Crane (yarder or skyline).
<b>Operation</b>	A sufficient volume of timber to be extracted to demonstrate the required skills, including at least two product types, long and short material, chokered, raised and extracted to a landing area.
Position machine	Position machine in safe position at landing area Choice of cable route considered, avoiding severe obstacles, crop trees, etc. & availability of tail spar or anchor.
Erect, rig and anchor tower, head spar tree or offset spar tree	Rig (tether / secure) appropriately with adequate and compatible equipment. Establish adequate and effective ground anchors
Choose, rig and anchor tail spar	Rig (tether / secure) appropriately with adequate and compatible equipment.

	Establish adequate and effective ground anchors
Choose, rig and anchor intermediate spar (including artificial spar) as required	Rig (tether / secure) appropriately with adequate and compatible equipment.
	Establish adequate and effective ground anchors
Set out skyline	Use safe manual handling, straw-line (where required) and access.
	Correct tensioning to allow line 'sag' appropriate to cable, distance and loads to be applied.
Attach carriage	Set up carriage securely on skyline
Set out haul-back cable	Deploy appropriate route, pulleys/snatch-blocks, anchors (and rigging where appropriate).
Set out haul-in cable	Rig with pulleys etc. appropriate to haul-in system used.
Carry out pre-and post- start checks	Check cable crane including all controls, carriage and winching components for function as per manufacturers recommendations.
	Establish communication system between choker-person and cable crane operator (and banks-person where appropriate) and test the system (e.g. radios, hand signals etc.) for effectiveness
Load and extract produce	Establish communication with choker person and send out ('haul back') carriage
	Set chokers onto long and short logs or whole tree / tree sections
	Establish communication, haul into carriage and extract timber (haul in') without damage to machine(s), surrounding trees, environment or infrastructure etc. to landing area.
	Release chokers and make safe (particular care with manually released chokers)



# **Score Sheets (recommended use)**

## **Annex 3 of the EMOC Handbook**

**Pilot Version**

**August 2022**

**European Forestry and Environmental Skills Council,  
Brussels**



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## Scoresheet for European Forest Machine Operations Certificate [EFMOC]

Feedback comments made to candidate as appropriate & Result G R ✓

**ESFMO(G): Ground-based Forest Machine Operations**  
**ESFMO(C-A): Cable-based (Aerial) Forest Machine Operations**  
**ESFMO(C-G): Cable-based (Ground) Forest Machine Operations**

Practical Test: Recommended time allowed 2hr–6hr depending on operation(s) being carried out

Pre-requisite: None

This scoresheet will be completed by the Assessor in line with the European Standards for Forest Machine Operations [ESFMO].

All candidates will be provided with the European Standards for Forest Machine Operations [ESFMO] prior to undertaking the Assessment for the European Forest Machine Operations Certificate [EFMOC].

<b>Candidate Name:</b>	
<b>Machine Category:</b>	<input type="checkbox"/> ESFMO (G) Ground Based <input type="checkbox"/> ESFMO (C-A) Cable-based Aerial <input type="checkbox"/> ESFMO (C-G) Cable-based Ground
<b>Operation Type:</b>	

### 00. PERSONAL PROTECTIVE EQUIPMENT

Candidate to wear appropriate PPE, sign RA & show ID - The assessment cannot proceed if any of the PPE critical items are not worn

1. Candidate is wearing appropriate PPE when outside any machinery: <ul style="list-style-type: none"> <li>• Safety Boots</li> <li>• Safety Helmet</li> <li>• High Visibility Clothing</li> </ul>	<b>C</b>	
2. Candidate has available and wears during maintenance session: <ul style="list-style-type: none"> <li>• Gloves</li> <li>• Eye Protection</li> </ul>		
3. First Aid kit(s) exist: <ul style="list-style-type: none"> <li>• Personal First Aid Kit (large wound dressing minimum)</li> <li>• First Aid Kit in/with machine</li> <li>• Trauma kit in lead vehicle or at site "base"</li> </ul>		
4. All equipment has ROPS/FOPS/OPS as appropriate	<b>C</b>	<span style="background-color: green; color: white; padding: 2px;">G</span> <span style="background-color: red; color: white; padding: 2px;">R</span>

*NB - ROPS = Roll Over Protective Structure / FOPS= Falling Object Protective Structure / OPS= Operator Protective Structure*

### 01. SAFETY AND RISK ASSESSMENT

Forest machine operator must be able to carry out Risk Assessment and establish safe working conditions

<b>01:01</b>	Carry out all work: <ul style="list-style-type: none"> <li>• Under health and safety conditions</li> <li>• Complying with the occupational risk prevention plan</li> <li>• Respecting the regulations for the environment</li> <li>• Respecting the regulations for safety at work</li> </ul>	<b>C</b>	
<b>01:02</b>	Describe, evaluate and adopt Emergency Planning procedures:		
<b>01:03</b>	<ul style="list-style-type: none"> <li>• Access into or evacuation from the working area</li> <li>• Contacting emergency services, utility companies, environmental authorities etc.</li> </ul>		
<b>01:04</b>	<ul style="list-style-type: none"> <li>• First aid in the event of accident</li> </ul>		
<b>01:05</b>	Carry out a Risk Assessment, must include: <ul style="list-style-type: none"> <li>• safety distance from machine</li> <li>• harmful machine parts</li> <li>• harmful substances (batteries, oils, fuels, cooling fluids, xenon bulbs, etc.)</li> <li>• tensioned cables</li> </ul>	<b>C</b>	
<b>01:06</b>	<ul style="list-style-type: none"> <li>• Fire Risks from Forest Machines during and after use.</li> </ul>		
<b>01:07</b>	<ul style="list-style-type: none"> <li>• <b>[CABLE - AERIAL ONLY] suspended loads</b></li> </ul>	<b>c</b>	
<b>01:08</b>	Identify & behave accordingly: <ul style="list-style-type: none"> <li>• Danger zones</li> <li>• Safety hazards associated with the working area, proposed work, operation carried out</li> </ul>		
<b>01:09</b>	<ul style="list-style-type: none"> <li>• Site constraints (e.g. electric cables, pipelines, roads, quarries, terrain characteristics)</li> </ul>		

01:10	• Environmental impacts of forest machinery use			
01:11	• <b>Communication within the team and working environment (e.g radio, hand signals, mobile signal)</b>	C		
01:12	• [CABLE - AERIAL ONLY] Risks for aviation			G R
<b>02. MAINTENANCE</b>				
Forest Machine Operator must be able to carry out routine checks and maintenance of forest machine				
02:01	State the safety requirements, carry out and record:			
02:02	• Routine checks on forest machinery and associated equipment			
02:03	• Maintenance on forest machines and associated equipment (daily, weekly & monthly checks)	C		
02:04	Demonstrate:			
	• Ability to identify or indicate where a fault lies & how to provide information to the service team			
02:05	• Ability to fix minor faults (e.g. replace hydraulic hoses)			
02:06	Give a basic overview of:			
	• hydraulic systems and elements			
02:07	• electric and electronic systems and elements			
02:08	• [CABLE – AERIAL] steel cables and related equipment			
02:08	• [CABLE - GROUND] steel cables and related equipment			
02:09	Have available and understand the uses for:			
	• a tool kit appropriate to the machine			
02:10	• an oil absorption kit (site and country dependent)			G R
02:11	[CABLE - AERIAL ONLY] Check the condition of:	C		
	• The rigging components used in the operation			
<b>03. PLANNING AND FOLLOW-UP</b>				
Forest machine operator must be able to plan their own forest machine operations, considering the site, machine and personnel within the contract constraints and specifications				
03:02	Carry out:			
	• site survey and plan work accordingly (e.g. skid trail planning, key habitats, archaeological features)			
03:01	Plan, coordinate and agree:			
	• <b>operations in relation to the operator's responsibility in the team</b>	C		
03:03	• The landing site and related intermediate storage and logistics			
03:04	• <b>The communication mode to use on site (radio, hand signals, ...)</b>	C		
03:05	• <b>[CABLE - AERIAL ONLY] a cableway on map, calculation of skyline sag (deflection) and supports, considering safety factors</b>	C		
03:06	Describe, evaluate and select:			
	• possible harvesting systems, methods and techniques			
03:07	• different working processes			
03:08	Explain, understand and comply with:			
	• contracts for work			
03:09	• differing road categories			G R
<b>04. OPERATIONAL SKILLS</b>				
Forest machine operator must be able to establish safe system of work and operate machine in a safe and effective manner				
	Demonstrate:			
04:01	• ability to cordon off danger zones	C		
04:02	• ability to check operating conditions on site are suitable for machine (incl steel cable elements)	C		
04:03	Prepare and operate forest machine:			
04:04	• Load and unload machines on / off transporter and secure properly			
04:05	• <b>considering the company's occupational risk prevention plan</b>	C		

04:06	<ul style="list-style-type: none"> <li>considering good environmental practices</li> <li>in accordance with the work to be carried out, by controlling their operation, and by operating them accurately and at the appropriate pace</li> </ul>	C	
04:07	<ul style="list-style-type: none"> <li>communicate in teams (radio, hand signals, etc.)</li> </ul>	C	
04:08	<ul style="list-style-type: none"> <li>Work with an on-board computer where fitted (operational data collection and management)</li> </ul>		
04:09	<ul style="list-style-type: none"> <li>Build and / or handle proper loads on machine to optimize productivity</li> </ul>		
04:10	<ul style="list-style-type: none"> <li>Ensure the timber payload on the machine (e.g. trailer, forwarder, cable carriages, harvester boom, etc.) is within the stated capacity of the machine</li> </ul>	C	
04:11	<ul style="list-style-type: none"> <li>Deal with environmentally harmful substances (fuels, oils, etc.)</li> </ul>		
04:12	Demonstrate knowledge, understanding and skills regarding:		
04:13	<ul style="list-style-type: none"> <li>The use and structure of cables</li> </ul>		
04:14	<ul style="list-style-type: none"> <li>specific knowledge, understanding and skills of chokering timber</li> </ul>		
04:15	<ul style="list-style-type: none"> <li>Selecting appropriate rigging materials and cables for different tasks</li> </ul>		
04:16	<ul style="list-style-type: none"> <li>Different types of anchors (also technical anchors)</li> </ul>		
04:17	<ul style="list-style-type: none"> <li>Selecting appropriate support/anchor trees, assessing their stability/suitability</li> </ul>		
04:18	<ul style="list-style-type: none"> <li>How to anchor cables properly</li> </ul>	C	
04:19	<ul style="list-style-type: none"> <li>Ability to connect, repair and extend cables and ropes with the same or different materials and techniques</li> </ul>		
04:20	<ul style="list-style-type: none"> <li>Simple splicing techniques</li> </ul>		
04:21	[CABLE - GROUND ONLY] Drive the forest machine:		
04:22	<ul style="list-style-type: none"> <li>in line with manufacturers recommendations</li> <li>with the required dexterity and safety</li> <li>avoiding damage to soil, regeneration and the remaining stand</li> </ul>		
04:23	<ul style="list-style-type: none"> <li>on different terrain, e.g. steep slopes, uneven terrain/obstacles, wet areas</li> <li>with consideration for water pollution and conservation issues and the ground bearing capacity</li> </ul>	C	
04:24	[CABLE - GROUND ONLY] Undertake or describe:		
04:25	<ul style="list-style-type: none"> <li>correct techniques for retrieving machines that are bogged down</li> </ul>		
04:26	[CABLE - AERIAL ONLY] Demonstrate knowledge, understanding and skills regarding:		
04:27	<ul style="list-style-type: none"> <li>The purpose of rigging materials and components</li> </ul>		
04:28	<ul style="list-style-type: none"> <li>Setting up and operating cable yarders and systems</li> </ul>		
04:29	<ul style="list-style-type: none"> <li>The working principles of different cable carriage types</li> </ul>		
04:30	<ul style="list-style-type: none"> <li>The statics and dynamics of cables</li> </ul>	C	
04:31	<ul style="list-style-type: none"> <li>The procedures for climbing a tree to e.g. preparing a spar tree</li> <li>Carrying out a stability assessment of the support trees, spars and yarder towers</li> </ul>	C	
<b>05. COUNTRY SPECIFIC STANDARDS</b> Forest machine operator must be able to follow operational criteria (site, machine and personnel) in accordance with local and National conventions and Regulations			
05:01	Stack and grade different assortments	C	
05:02	Give an overview of job-related national and international working safety regulations and standards		
05:03	Give an overview of national and international regulations for bucking and log measurements		
05:04	Give an overview about how to properly transport, store and recycle materials according to local and national laws and regulations		



05:05	Identify tree species, shrub species and important indicator plants (e.g. indicating ground moisture, drought, ...)		
05:06	Identify and deal with forest protection issues		
05:07	Respect rules for driving on public roads with implements or machines coupled	C	
05:08	Respect the protection of cultural heritage		
05:09	Give an overview of different silvicultural treatments (e.g. tree marking)		
05:10	Relate the job to national and international environmental regulations and standards		
05:11	Describe the types of records that may be required for management and legislative requirements		
05:12	Use correct signs to cordon off danger zones according to national standards/regulations		
05:13	Basic knowledge about forest certification systems (e.g. FSC, PEFC)		



CONCLUSIONS		
ASSESSMENT DATE:		
ASSESSMENT LOCATION:		
ASSESSMENT DURATION (min):		
CANDIDATE ID CHECKED BY ASSESSOR:		
<b>OVERALL RESULT:</b>	<u><b>Not Yet Competent</b></u> (Critical faults or cumulative minor faults not corrected) <div style="text-align: center;">R</div>	<u><b>Competent</b></u> (Any minor faults corrected during assessment) <div style="text-align: center;">G</div>
Candidate comment on feedback and result:		
<b>CANDIDATE</b> (PRINT NAME & SIGN):		
<b>ASSESSOR</b> (PRINT NAME, ID NUMBER & SIGN):		