



On-Site Orientation

Delimber Operator

**Ministry of Training, Colleges and
Universities**

On-Site Orientation

Delimber Operator

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This document is the property of the trainee/employee named inside and represents the official record of his/her training.

<u>CONTENTS</u>	<u>PAGE</u>
Preface.....	1
Notice/Declaration for Collection of Personal Information.....	2
Employer Notice	
Completed On-Site Orientation Checklist: Worker and Employer/Designate Verification.....	3
On-Site Orientation.	4-20

PREFACE

The Workplace Training Branch of the Ministry of Training, Colleges and Universities (MTCU) developed this equipment-specific orientation/training document, in consultation with representatives from the logging industry. It is intended to be used by employers for on-site orientation/training of their workers/trainees before registration to the on-the job training or operating the machine related to their duties.

The care and maintenance of this document is the joint responsibility of the worker/trainee and the employer. The document is an official record of a worker's/trainee's orientation/training.

Employers or designates and workers/trainees are required to attest to successful on-site machine specific orientation/training by filling their names in the appropriate lines included at the end of each skill area.

NOTICE/DECLARATION FOR COLLECTION OF PERSONAL INFORMATION

1. This information is collected under the authority of the Order-In-Council Number 701/85.
2. The information is collected for the purpose of administering this modular training program within the Province of Ontario.
3. Questions regarding collection and use of this information may be directed to:

Director
Ministry of Training, Colleges and Universities
Service Delivery Branch
33 Bloor St. E 2nd Floor
Toronto, Ontario
M7A 2S3
416 326-5605

Delimber Operator

NOTE

This guide and checklist is designed to refer employers to the most obvious and critical component in each skill area. However, since machine model and make vary greatly, the primary reference material for specific machine safety related operating requirements should be the operator’s manual supplied by the manufacturer of the particular machine in question.

Employer Information:

Company: _____

Address: _____

Telephone: _____

Completed On-Site Orientation Checklist: Worker and Employer/Designate Verification:

- Identify delimber components and terminology
- Verify zero energy state
- Conduct circle check
- Recognize ground conditions
- Observe danger zone
- Position delimber
- Observe machine limitations
- Verify tree species
- Limb/top//butt trees
- Sort and pile trees
- Travel with delimber
- Shut Down and Immobilize delimber
- Refuel delimber
- Perform Minor Maintenance and Adjustments

Worker Name (Please Print): _____

Worker Signature: _____

Date of Completion: _____

Employer/Designate Name (Please print): _____

Employer/Designate Signature: _____

IDENTIFY DELIMBER COMPONENTS AND TERMINOLOGY

Performance Objective

Identify delimeter components and terminology, visually and verbally, as described in the operator's manual, in order to ensure safe and efficient operation and maintenance. (Employer, supervisor or trainer refer to operator's manual to provide specifics regarding each component identified)

Guidelines for Performance Objective:

Having an understanding of the terminology used to describe major components is a vital part of using the manufacturer supplied owner's manual effectively and ensuring that such things as safety information, maintenance schedules, machine capacities and operating directions are understood and correctly applied. Review the major (key) components from the manufacturer-supplied owner's manual that will assist the operator in identifying the key components, knowing their location on the machine and describing their purpose. (See appropriate pages in the manufacturer supplied manual for specific terminology and diagrams).

Component Checklist:

- Stationary or Mobile Boom, Drive chain, Cables, Hose and Lift Cylinders
- Butt plate
- Limbing and grab arms
- Topping knife/ Topping saw
- Carriage and components (Tires and Tire Chains or Tracks)
- Cab, Operator Controls and Escape Hatch
- Turntable
- Engine
- Hydraulic pumps
- Differential and Drive Train
- Fire Suppression System

VERIFY ZERO ENERGY STATE

Performance Objective

Verify zero energy state, by lowering hydraulic components to the ground of rest position, turn electrical switches and engine off, according to legislative requirements and manufacturer's specifications and established lockout procedures, in order to protect self and others during inspection and maintenance.

Guidelines for Performance Objective:

The machine must be immobilized and all moving parts de-energized before an operator can begin to work close to the machine and its components. Most importantly all hydraulic implements must be lowered (or blocked), and all moving parts have come to a full stop. The master switch must be in the off position.

Component Checklist:

- Lower attachments to the rest position to manufacturer's specifications
- Put engine in idle
- Turn engine off
- Turn master switch off
- Ensure all moving parts have come to a complete stop prior to approaching

CONDUCT CIRCLE CHECK

Performance Objective

Perform visual and operational checks of attachments and moving components, according to manufacturer's specifications, in order to ensure safe and efficient operation. Ensure that all attachments are lowered to the ground or in the rest position and the machine is properly shut down prior to initiating the circle check procedure. All substandard conditions and problems must be reported to the immediate supervisor. The circle check must be conducted at the beginning of each shift.

NOTE: Operators must have proper out-of-the-cab PPE e.g. - safety boots laced to the top, hard hat, high visibility vest or clothing, as well as hand, hearing, and eye protection where required.

Guidelines for Performance Objective:

1. Cracks: Explain how to check and identify cracks and point out common locations where cracks may form (stress points). Explain that repairs must be done as soon as possible to prevent costly breakdowns and to prevent even further damage or the potential of injury to the operator and others.
2. Leaks: Point out the locations where leaks (hydraulic fluid, brake fluid, fuel) can occur. Explain that leaks can lead to further more serious problems, cause fires or damage the environment. Leaks can also cause slip and fall injury to operator and others due to fluid on machine. Explain the danger of checking for leaks where fluid is under high pressure (e.g. hydraulic fluid) and the proper method for checking. When checking and identifying hydraulic hose requirements, the operator must be familiar with the type of hose fittings. (Three types - GIC, OFS and pipe thread.)
3. Grease fittings: Identify the location (including remote connections), condition and purpose of grease fittings as described in the routine maintenance section of the owner's manual. Check to ensure they are in good condition and connected properly. Excessive grease build-up should be cleaned regularly to prevent the potential of slips and falls and fire.
4. Tires, wheels, tracks, and chains: Explain the requirements for correct pressure, adequate tread, no punctures or defects, rim in good condition, cap on valve stem. Follow the manufacturer's guidelines when inflating/deflating tires. Ensure that chains are properly installed and tightened. If too loose, debris can be caught in chains and thrown out with considerable force. Watch for excessive wear, missing or damaged clevis pieces or loose parts of the chain. Also check for loose or missing wheel lugs.

5. Tracks, pads and pad bolts: Ensure adequate tension and proper adjustment of the tracks. Check for loose, worn, damaged or missing pads, bolts, grouser, idlers and main pins. Examine the condition of pins and bushings including the locking device on pins and watch for signs of wear or breakage of pins and bushings.
6. Engine/manifold area: Check engine compartment and exhaust manifold/turbo for debris: Check and remove debris from engine compartment to reduce the potential for fire, pay particular attention to the exhaust manifold/turbo area. NOTE: When checking and identifying hydraulic hose requirements, the operator must be familiar with the type of hose fittings. (Three types - GIC, OFS and pipe thread)
7. Check condition of pins and bushings: Examine holding pins and bushings to ensure that they are not damaged and are properly engaged and in place.
8. Gull wings: Engage safety latch for gull wings (where applicable) Check to ensure latch is properly secured to ensure operator safety.
9. Check fluid level: Identify the location of site glass and/or dip stick/cap and filler location and examine each for proper levels. Keep these areas clean of debris, spilled fluids and grease build-up. Determine and confirm the type of fluid at each filling location. Follow the manufacturer's guidelines for proper checking procedures of pressurized systems and the hazards of hot fluids. No smoking during these procedures. When checking and identifying hydraulic hose requirements, the operator must be familiar with the type of hose fittings. (Three types - GIC, OFS and pipe thread).
10. Check butt plate: Check for cracks, bent plate, and leaking cylinder.
11. Condition of grab arms, mobile boom, rollers, cylinders, topping knives or saw: Check for cracks, condition of pins (locks), condition of cylinders (leaks), cables and chains (tension, burrs, proper lubrication), rollers (free moving), grease fittings, hoses, and bolts on turntable.
12. Check condition of boom and lift cylinders: Check for cracks, condition of pins (locks), and the condition of cylinders keeping an eye out for leaks, damaged grease fittings, hoses, and bolts on turntable.
13. Condition of guards, catwalks, handholds and steps: Examine all guards to ensure that they are properly installed and in good condition. Do not operate without guards installed. Check the condition of all handholds, steps and walkways to ensure that are not damaged and free from debris, ice snow, grease and oil

14. Fire extinguisher and fire suppression system: The operator must know how to access this equipment and how to use it. It should be checked daily to ensure a proper charge, maintenance tag updated, the pin is in place and the device is properly secured in the cab. A water pack full of water and in working condition is required for fire season. For machines equipped with fire suppression system, know the location(s) of activation plungers and ensure that they are in good condition, check outlets for good repair.
15. Escape hatch: The operator must know the location of the escape hatch and check to ensure that the hatch opens and the hatch itself, the latches, hinges, handles, and pins are in good condition.
16. Seat belt: Examine the seat belt to ensure that it is in good working condition (wear, anchors, frayed, buckle works freely).
17. Lights: Turn on all lights to check that they are in good working order. Make sure the guards are in place, the lenses are cleaned and wiring harnesses are intact.
18. Check back-up alarm (where applicable): Check to ensure it is in good working order.
19. Windows/doors: Examine the windows to ensure they are clean and in good condition. Broken or missing windows must be reported and repaired. Make sure the wipers and wiper blades are in working order, and that window guards/screens (if equipped) are properly installed. Check the door to ensure that it operates correctly.
20. Housekeeping and loose equipment in cab: Keep all tools outside the cab or properly secured in the cab. No loose items in the cab. Keep floor clean and air conditioning/heater filters clear of materials. Aerosol containers should be secured and away from heat sources.
21. Radio communications: Check the radio to ensure that it is in good working order and equipped for channels used in your area.
22. First aid kit: Know the location, condition and required contents of the first aid kit. It should be easily accessible.
23. Spill kit (where applicable) - know the location, condition and how to use, as well as the required contents. It should be readily accessible.

Component Checklist:

- Check for cracks and leaks
- Identify grease fittings
- Check Tire/Track components condition
- Check engine compartment and manifold for debris

- ❑ Check condition of pins and bushings
- ❑ Engage safety latch for gull wings (where applicable)
- ❑ Check fluid levels (check chain lubrication)
- ❑ Check butt plate
- ❑ Check grab arms topping knives or saw
- ❑ Check condition of boom and lift cylinders
- ❑ Check condition of guards, handholds and steps
- ❑ Check condition of fire extinguisher and fire suppression system
- ❑ Check condition of escape hatch
- ❑ Check condition of seat belt
- ❑ Check lights
- ❑ Check back-up alarm (where applicable)
- ❑ Check condition of windows and guards
- ❑ Housekeeping and loose equipment in cab
- ❑ Check radio communication
- ❑ Check First Aid kits
- ❑ Check spill kit

RECOGNIZE GROUND CONDITIONS

Performance Objective

Evaluate/recognize ground conditions by observing changes in terrain and weather conditions, in order to prevent equipment and environmental damage that affect efficient delimiting.

Guidelines for Performance Objective:

1. Seasonal concerns (winter/summer) require extra caution due to poor visibility and hidden hazards. Be aware of these hidden hazards due to seasonal conditions (i.e. ditches along roadways frozen and covered with snow, culverts hidden by snow resulting in damage, hidden areas of concerns such as recently planted areas, hidden rock outcrops/cliffs, etc.) In summer conditions heavy underbrush results in poor visibility and hides hazards such as cliffs, mining holes, etc. Summer conditions pose a hazard of fire being ignited due to machine tracks on rocks or saw. Operators must be on the lookout for an ignition of the underbrush.
2. Confirm condition of roadway: Check to confirm the condition of the roadway to ensure machine stability and efficient production.
3. Avoid delimiting on hills where possible: Increase machine efficiency, optimize stability and reduce potential of rollover by carrying out delimiting activities on level ground and by following manufacturer's specifications.

Component Checklist:

- Seasonal concerns (winter/summer) require extra caution due to poor visibility and hidden hazards.
- Confirm condition of roadway
- Avoid delimiting on hills where possible

OBSERVE DANGER ZONE

Performance Objective

Observe danger zone by keeping a safe distance between self, others and equipment, recognizing potential hazards from falling trees, flying debris from felling head, limited visibility and blind spots, according to manufacturer's specifications, legislative requirements and established procedures, in order to protect self and others and damage to equipment.

Guidelines for Performance Objective:

1. Maintain a safe operating distance between neighboring equipment and co-workers (review manufacturer's danger zone requirements and identify site specific hazards). Discuss with your immediate supervisor company policies and procedures in relation to danger zone as it applies to other equipment or workers operating near by (i.e. appropriate signs or communication with other equipment and operators).
2. Be aware of the blind spots on the machine and proceed with added caution: The workers must be aware of the following blind spots: boom side of the machine and directly behind the operator. Check blind spots regularly to ensure that no equipment or workers have entered these areas and proceed with added caution taking these concerns into consideration.
3. It is good practice to swing machine to the right when checking blind spots: Prevent possible equipment damage during the swing of equipment operators by swinging to the right to check blind spots. This procedure will prevent the potential of damage to delimeter or other equipment.
4. Place boom parallel to the road and on ground in idle position (disengage pilot control) when traffic is passing: Operator must provide signal that it is safe for equipment to pass. Following danger zone rules prevents possible damage to equipment, other machinery and injury to operator or co-workers.

Component Checklist:

- Maintain a safe operating distance between neighbouring equipment and co-workers (review manufacturer's danger zone requirements and identify site specific hazards)
- Be aware of the blind spots on the machine and proceed with added caution
- It is a good practice to swing machine to the right when checking blind spot
- Place boom parallel to the road and on the ground in the idle position when traffic is passing.

POSITION DELIMBER

Performance Objective

Position delimeter, according to product requirements, safety standards and ground conditions, in order to ensure safe and efficient operation.

Guidelines for Performance Objective:

1. Place machine in stable position, as close to the loading or unloading point as possible in order to reduce potential of rollover and ensures efficient operation.
2. Confirm condition of roadway: Check to confirm the condition of the roadway to ensure machine stability and efficient production.
3. Seasonal concerns (winter/summer) require extra caution due to poor visibility and hidden hazards. Be aware of these hidden hazards due to seasonal conditions (i.e. ditches along roadways frozen and covered with snow, hidden areas of concerns such as recently planted areas, hidden rock outcrops/cliffs, etc.). Summer conditions pose a hazard of fire being ignited due to debris build-up on machine. Operators must be on the lookout for any ignition and maintain the machine in good order during these high hazard periods.
4. Be aware of standing timber and hazardous trees in the swing area: Check to ensure trees in clam will clear any standing timber at the skid way when swinging to complete the task of delimiting. If hazards exist contact your immediate supervisor for assistance.

Component Checklist:

- Position machine in the best possible level and stable position
- Be aware of road conditions which may be unstable
- Seasonal conditions create additional hazards (icy condition pose a hazard of sliding)
- Be aware of standing timber and hazardous trees in boom swing area

OBSERVE MACHINE LIMITATIONS

Performance Objective

Observe machine limitations according to manufacturer's specifications by identifying equipment load chart, recognizing conditions that affect machine capabilities such as steep terrain, boom over extension in order to protect self and others and prevent equipment damage.

Guidelines for Performance Objective:

1. Understand the load limitations of the machine according to tree species utilizing the tunnel for oversized wood in order to maintain full ground contact at all times: Be aware of load limitations of the machine as noted in the operator manual. Various tree species require special consideration and knowledge of weight (i.e. oversized poplar), excessive branching, oversized butts and branches. If tunnel is not properly used for oversized wood the potential of poor utilization and machine instability increases.
2. Minimize boom over extension to maximize machine power and efficiency: Move the machine to an appropriate location rather than over extending the boom when picking up wood. This will allow for maximum power and efficiency of the machine.
3. Limit boom usage to intended purpose: Avoid using the boom for alternative jobs (i.e. moving rocks, moving stumps, pushing over standing timber etc.) which may cause damage to the machine.

Component Checklist:

- Understand the load limitation of the machine according to ground conditions and tree species utilizing the tunnel for oversized wood in order to maintain full ground contact at all times
- Minimize boom over extension to maximize machine power and efficiency
- Limit boom usage to the intended purpose

VERIFY TREE SPECIES

Performance Objective

Verify tree species, using tree characteristics, in order to meet product requirements.

Guidelines for Performance Objective:

1. Review local tree species: Consult with your immediate supervisor regarding species of wood dealt with in your immediate work area.
2. Review product and company requirements: Discuss with your immediate supervisor the product and sorting requirements for your operation.

Component Checklist:

- Review local tree species
- Review product and company requirements

LIMB/TOP AND/OR BUTT TREES

Performance Objective

Limb, top and/or butt trees, by feeding the trees into the head, removing limbs and topping/butting to desired diameter according to legislative and product requirements, in order to ensure safe and efficient operations.

Guidelines for Performance Objective:

1. Maintain sharp topping and limbing knives and/or saw (topping or butt). Periodical checks of knives for appropriate sharpness and alignment are required several times throughout the shift. Dull knives may result in improper cuts, damage to knives or cylinder and equipment damage.
2. Repeat limbing for denser limbs: Added effort is required to ensure a high quality product in trees with excessive limbs.
3. Maintain proper adjustment of boom and winch cable: Check to ensure proper tension on a regular basis according to manufacturers specifications. Improper tension can result in equipment damage.
4. Review product/legislative topping requirements: Check with your immediate supervisor for product topping requirements within your operation.

Component Checklist:

- Maintain sharp topping and limbing knives and/or saw (topping or butt)
- Repeat limbing for denser limbs
- Maintain proper adjustment of boom and winch cable
- Review product/legislative topping requirements

SORT AND FILE TREES

Performance Objective

Sort and file trees, according to species, diameter and internal piling standards, to ensure safe and efficient operations.

Guidelines for Performance Objective:

1. Review product requirements for appropriate sort: Check with your immediate supervisor for product sorting requirements.
2. Be aware of danger zone: Ensure equipment is demobilized when others are in danger zone
3. Ensure equipment is immobilized: Follow established procedures for your operation. Place boom on the ground in idle position. Traffic should not proceed until signalled by operator.

Component Checklist:

- Review product requirements for appropriate sort
- Be aware of danger zone and local traffic
- Ensure equipment is immobilized when local traffic is passing and maintain good communication

TRAVEL WITH DELIMBER**Performance Objective**

Travel with delimeter, by placing attachments in the proper travel position and selecting appropriate speed, according to manufacturers' specifications, in order to protect self and others and prevent damage to equipment.

Guidelines for Performance Objective:

1. Place boom in proper position for travelling: Check to ensure boom is brought back to its balance point and at a position level to the ground.
2. Select a speed appropriate to ground conditions while maintaining control of machine. Maintain a speed and engine RPM that allows the operator to maintain full control of the machine at all times taking into consideration ground conditions, weather, etc.
3. Maintain control, travel at a safe speed and keep right while travelling on roadways or on route to landing to ensure public safety: Be aware of local traffic and observe warning signs posted within your work area. Keep speed appropriate to road conditions, weather, concentration of traffic and seasonal conditions (dust) and be aware of soft shoulders.
4. Maintain communication with other equipment operators. Check to ensure your radio is in good working order and proper channel is used. Monitor the local channel for traffic. Check with your immediate supervisor for communication protocol within your work area.
5. Traveling on hills should be conducted in the direction of the slope to reduce the potential of rollover. Travel straight up and down hills, avoiding high stumps, rocks and windfalls. Discuss ground condition concerns with your immediate supervisor or the previous shift co-worker at the beginning of each shift.

Component Checklist:

- Place booms in proper position for travelling
- Select a speed appropriate to ground conditions while maintaining control of machine
- Maintain control, travel at a safe speed and keep right while travelling on roadway or on route to and from work site while maintaining radio communication to ensure public safety
- Maintain communication with other equipment operators and give right of way to pedestrian traffic
- Travelling on hills/Ground condition concerns

SHUT DOWN AND IMMOBILIZE DELIMBER

Performance Objective

Shut down delimeter, according to manufacturer's specifications and requirements.

Guidelines for Performance Objective:

Lower boom to the ground: Park machine on level bare mineral soil and lower boom while positioning cab to facilitate safe and effective dismount. Shut off master switch when completing shutdown procedure. Maintain 3-point contact during dismount.

Component Checklist:

- Lower boom to the ground or onto deck
- Safe dismount, maintaining 3-point contact

REFUEL DELIMBER

Performance Objective

Refuel delimber in a well ventilated area; shutting off engine; maintaining the area free of smoking; and preventing spills or damage to the environment; according to legislative requirements, manufacturer's specifications and recommendations.

Guidelines for Performance Objective:

1. Use caution when approaching fuel tank to prevent damage to the fuel tank.
2. Shutdown delimber: Follow previously noted shutdown procedures.
3. Fuelling procedures: Follow local fuelling procedures, no smoking, never leave the nozzle unattended, and properly store the hose after use.
4. Always use 3-point contact.

Component Checklist:

- Use caution when approaching fuel tank
- Shut down procedures
- Fuelling procedures
- Safe dismount, maintaining 3-point contact

PERFORM MINOR MAINTENANCE AND ADJUSTMENTS

Performance Objective

Perform minor maintenance and adjustment on the delimeter, after immobilizing (locking out) machine, lubricating equipment and attachment, maintaining fluid levels, ensuring replacement of belts and hoses, and checking and completing maintenance and/or deficiencies report, according to legislative requirements, manufacturer's specifications and recommendations,

Guidelines for Performance Objective:

1. Shut down delimeter: Immobilize machine, lower attachments to the ground, shut down engine, and follow lock out procedures.
2. Dismount using 3-point contact.
3. Lubricate/maintain fluid levels: following manufacturers' specifications for greasing. It is a good opportunity to check for cracks, leaks, wear in pins and bushings.
4. Report deficiencies: Complete report according to local procedures, perform repairs that you are qualified to do and/or report to the supervisor or mechanic or service person.

Component Checklist:

- Shut down delimeter and lock out
- Safe dismount, maintaining 3-point contact
- Lubricate/maintain fluid levels
- Report deficiencies