Ontario

On-Site Orientation

Forwarder or Transporter Operator

Ministry of Training, Colleges and Universities

On-Site Orientation

Forwarder or Transporter Operator

Program/Programme #P750055

Development Date: November 2008
Implementation Date: April 2009

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

CONTENTS **PAGE**

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

FORWARDER/TRANSPORTER

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 forwarder or transporter components and terminology
Verify zero energy state
Conduct circle check
Observe cut boundaries
Recognize ground conditions
Observe danger zone
Plan and organize forwarding pattern
Verify tree species
Sort, position, load or unload timber
Observe machine limitations
Prepare forwarder or transporter for travel
Shut down and immobilize forwarder or transporter
❑ Refuel forwarder or transporter
Perform Minor Maintenance and Adjustments

Worker Name (Please Print): _____

Worker Signature: _____

Date of Completion: _____

Employer/Designate Name (Please print): _____

Employer/Designate Signature: _____

IDENTIFY FORWARDER OR TRANSPORTER COMPONENTS AND TERMINOLOGY

Performance Objective

Identify forwarder/transporter 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 machine 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:

- ❑ Boom, Clam, Bunk and Hydraulic cylinders
- ❑ Carriage and components (Tires and Tire Chains or Tracks)
- ❑ Cab and Operator Controls and Escape Hatch
- ❑ Turntable and Blade
- ❑ 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). 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
- ❑ Follow established lockout procedures
- ❑ 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 all attachments are lowered to the ground or in rest position, making sure machine is properly shut down prior to initiating 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 breakdown 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.

3. Grease fittings: Identify location (including remote connections), condition and purpose of grease fittings as described in the routine maintenance section of the owner's manual. Ensure they are in good condition and connected properly. Regularly clean excessive grease build-up to prevent potential of slips and falls and fire.

4. Tires, wheels, and tracks 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, grousers, 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. Gull wings: Engage safety latch for gull wings (where applicable) Check to ensure latch is properly secured to ensure operator safety.

8. Saw/shears and holding arms: Check to ensure saw/shear head is in an immobilized position as described in the operator's manual. Rotate saw to ensure that all saw teeth are in place, tight and sharp. Inspect the shears for sharpness and that bolts are properly secured in the head. Remove any debris built-up in the felling head. Check holding arms for cracks, damage and distortion.

9. Pins and Bushings: Examine holding pins and bushings to ensure that they are not damaged and are properly engaged and in place.

10. Check fluid levels**:** 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 buildup. 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.

11. Condition of clam, bunks, grapple, boom, cylinders and blade: check for cracks, condition of pins (locks), condition of cylinders, cables, grease fittings, hoses, pickets and bolts on turntable.

12. 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

13. 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

14. 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.

15. Seat belt: Examine the seat belt to ensure that it is in good working condition (wear, anchors, frayed, buckle works freely).

16. 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.
17. Windows: Examine the windows to ensure they are clean and in good condition. Broken or missing windows must be reported and repaired. Make sure the wiper blades are in working order, and that window guards/screens (if equipped) are properly installed.

18. Housekeeping and loose equipment in cab: Keep all tools outside the cab or properly secured. 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.

19. Radio communications: Check the radio to ensure that it is in good working order and equipped for channels used in your area.

20. First aid kit: Know the location, condition and required contents of the first aid kit. It should be easily accessible.

21. Spill Kit (where equipped): know the location, condition, how to use it, required contents of the spill kit. It should be easily 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
- ❑ Check fluid levels
- ❑ Check clam, blade, 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 condition of windows and guards
- ❑ Check housekeeping and loose equipment in cab
- ❑ Check radio communication
- ❑ Check First Aid kits
- ❑ Check spill kit

OBSERVE CUT BOUNDARIES

Performance Objective

Observe cut boundaries, according to pre-established prescriptions and legislative requirements in order to prevent entry into protected and non-allocated areas.

Guidelines for Performance Objective:

Operate equipment within identified boundaries: Check with your immediate supervisor in relation to boundary identification rules (i.e. colour of ribbon used to identify concerns and boundaries). Observe established rules and if unsure confirm with your immediate supervisor.

Component Checklist:

- ❑ Operate equipment within identified cut boundaries (if in question immediately contact your supervisor)

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 harvesting.

Guidelines for Performance Objective:

1. Forwarding on hills should be conducted in the direction of the slope to reduce the potential of roll over: Always travel up and down hills from a straight on approach with load. Avoid high stumps, rocks and windfalls.

2. Minimize crossing of drainage areas: Discuss ground condition concerns with your immediate supervisor or the previous shift co-worker at the beginning of each shift.

3. Seasonal concerns (winter, summer) require extra caution to be exercised due to poor visibility and hidden hazards. Be aware of 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 hidden hazards such as cliffs, mining holes, etc.

Component Checklist:

- ❑ Traveling on hills where possible should be conducted in the direction of the slope to reduce the potential of roll over.
- ❑ Minimize crossing of drainage areas to reduce rutting in wet areas
- ❑ Seasonal concerns (winter, summer) require extra caution to be exercised due to poor visibility and hidden hazards.

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:

Review local company 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 and operating equipment near other workers. Consult your operator's manual for recommended danger zone for this equipment.

Component Checklist:

- ❑ Maintain a safe operating distance between neighbouring equipment and co-workers (review manufacturer's danger zone requirements and identify site-specific hazards).

PLAN AND ORGANIZE FORWARDING PATTERN

Performance Objective

Plan and organize forwarding pattern, by observing terrain, ground conditions and machine load limitations, in order to prevent damage to non-target species, minimize ground disturbance and facilitate safe and efficient transportation to landing.

Guidelines for Performance Objective:

1. Identify unloading site: Check with your immediate supervisor to determine unloading site and any environmental or other concerns. Be aware of any potential hazards in the immediate area (i.e. chicots, hang-up, traffic or other equipment in the immediate area, power lines, etc.).

2. Identify travel route: Check with your immediate supervisor and/or cross shift operator regarding hazardous terrain that must be taken into consideration (i.e. Rough terrain, wet areas, etc).

3. Maximize load and minimize forwarding distance by observing ground conditions and machine load limitations. Refer to your operator's manual for load capacity and machine limitations.

4. Minimize rutting and ground disturbances: Adjust load size to reduce site damage or determine alternate routes. Be aware of ground disturbance guidelines for your operation; if unsure check with your immediate supervisor.

5. Maintain a safe operating distance between equipment: Be aware of other equipment working in your immediate work area. Check with your immediate supervisor and co-workers to identify appropriate danger zones for your operation.

Component Checklist:

- ❑ Identify unloading site
- ❑ Identify travel route (considering hills, swamps, etc)
- ❑ Maximize your load and minimize forwarding distance by observing ground conditions and machine load limitations
- ❑ Minimize rutting and ground disturbance
- ❑ Maintain a safe operating distance between equipment

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

SORT, POSITION, LOAD OR UNLOAD TIMBER

Performance Objective

Sort, position, load or unload timber, placing machine in a stable position, using required equipment attachments, according to manufacturer's specifications, in order to ensure safe and efficient operations.

Guidelines for Performance Objective :

1. **Select logs of similar length and species**: Discuss with your immediate supervisor the product and sorting requirements for your operation.

2. Place machine in stable position, as close to the loading or unloading point as possible, with blade or stabilizers on the ground while loading or unloading product in order to reduce the potential of roll over and ensures efficient operation.

3. Secure clam prior to travel to reduce the potential of damage to the machine, other equipment and to protect the operator.

4. Be aware of danger zone and local traffic while unloading product at unloading site. Drive at a reduced speed watching for equipment and people at the landing and approach the landing when safe to proceed for yourself and other workers. Where limited visibility and blind spots are an issue at the landing, proceed at a reduced speed and take added caution.

5. Ensure equipment is immobilized when local traffic is passing and maintain good communication. Traffic should not proceed until signaled by operator. Where possible, use radio communication to confirm that other equipment may pass. Position equipment in the direction of the primary flow of traffic to facilitate observation of oncoming traffic. Secure the boom and place machine at idle any time traffic is passing.

Component Checklist:

- ❑ Select logs of similar length and species (where applicable)
- ❑ Place machine in stable position, as close to the loading or unloading point as possible, with blade or stabilizers on the ground while loading or unloading product
- ❑ Secure clam prior to travel
- ❑ Be aware of danger zone and local traffic while unloading product at unloading site
- ❑ Ensure equipment is immobilized when local traffic is passing and maintain good communication. Traffic should not proceed until signalled by operator

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 Load Limitations: Apply the manufacturer's standards for machine capacity and limitations in determining the size of load keeping in mind ground conditions, slope and tree species.

2. Do not overload clam and bunk (limit to manufacturer's specifications): Keep even with stakes to maintain low centre of gravity to increase stability and reduce the potential of machine roll over and damage.

3. Minimize boom over extension to maximize machine power and efficiency.

4. Follow manufacturer's specifications to reduce the potential of rollover and increase machine efficiency.

Component Checklist:

- ❑ Understand the load limitation of the machine according to ground conditions and tree species (maintain full ground contact at all times)
- ❑ Do not overload clam and bunk (limit to manufacturer's specifications)
- ❑ Keep boom as close to the machine and as low to the ground as possible, while observing obstructions, during the process of cutting, limbing and placing logs
- ❑ Minimize boom over extension to maximize machine power and efficiency

PREPARE FORWARDER OR TRANSPORTER FOR TRAVEL

Performance Objective

Travel with forwarder or transporter, placing attachments in the proper travel position and adjusting appropriate speed, according to manufacturer's specifications, in order to prevent injury to self and others and equipment damage.

Guidelines for Performance Objective:

1. Place blade and clam in the travel position: The blade should be maintained in a position not to impede visibility and not to prevent airflow to radiator. Ensure clam is closed and boom immobilized.

2. Select a speed appropriate to ground conditions while maintaining control of the machine: Maintain a speed and engine RPM which 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/traffic signs posted within your work area. Keep speed appropriate to road conditions, concentration of traffic, seasonal conditions (dust, weather conditions, etc.) 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. Place machine in the shutdown position with throttle in idle position when allowing traffic to pass while on roadside. This reduces the potential of equipment damage or injury to co-workers.

Component Checklist:

- ❑ Place clam and blade in travel position
- ❑ 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
- ❑ Place machine in the shutdown position with throttle in idle position when allowing traffic to pass while on roadside

SHUT DOWN AND IMMOBILIZE FORWARDER OR TRANSPORTER

Performance Objective

Shut down forwarder or transporter, according to manufacturer's specifications, company requirements.

Guidelines for Performance Objective:

Lower boom to the ground or onto bunks**:** 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
- ❑ Safe dismount, maintaining 3-point contact

REFUEL FORWARDER OR TRANSPORTER

Performance Objective

Refuel forwarder or transporter 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 forwarder or transporter: 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 forwarder or transporter, 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 forwarder or transporter: 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 forwarder or transporter and lock out
- ❑ Safe dismount, maintaining 3-point contact
- ❑ Lubricate/maintain fluid levels
- ❑ Report deficiencies