Forestry Operations
SAFETY GUIDE

ForestPro™ Consulting Services
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MACHINE

3-Points

Mount and dismount the machine using the 3-points of contact (both feet and one hand or both hands and one foot, facing the machine). Never use the controls as handholds. Do not attempt to jump on or off the machine.

PPE

Wear necessary personal protective equipment (PPE). Tie back long hair, remove jewelry (rings, necklaces, watches, etc.). Avoid wearing loose and baggy clothing.

Stay in Seat

Always wear seatbelt when operating a machine. Never jump if the machine tips. It is likely that you will NOT be able to jump clear of the machine, in which case you could be crushed.

Capacity

Know the safe operating capacity of your machine. When unsure always refer to the operator’s manual.

Moving Parts

Keep hands, feet, arms and clothing away from moving parts, doors, windows and screens.
START-UP

People

Make sure that bystanders are at a safe distance from the machine before operating. Do not allow passengers inside or outside the cab.

Work Area

Know the work area (boundaries and potential hazard areas).

Inspection

✓ Check hydraulic hoses for leaks, loose fittings or damage
✓ Check fuel, engine oil and all fluid levels
✓ Check tires, brakes, and other mechanical parts for proper operation or failure
✓ Check fire suppression equipment

Starting

Follow the instructions in the operator’s manual to start the engine. Never attempt to start or operate the machine from the ground, only from the operator’s seat.

Operation

Check proper operation of all controls, attachments, steering, brakes, and other hydraulic functions. Do not operate a machine without a functional parking brake.
SHUT-DOWN

Parking
Park the machine on level ground at a reasonable distance (50 feet/15 meters) from other machines, and lower all attachments.

Shut-Off
Run the engine at half speed or less, for approximately 3 minutes before completely shutting the engine down.

Fuel
Always shut the machine down before fueling and completely fill fuel tank at the end of the day (or your shift) to prevent condensation from building up in the tank.

Inspection
Clean debris from around the machine, off the machine and from the cab or operator’s area. Do a post walk-around inspection.

Cool Down
Allow 30 minutes for machine to cool down before leaving the site.
Lockout / Tagout  Park all operational parts of the machine, stop the engine and lock or tag the switch before maintenance or cleaning begins.

Hazardous Energy  Relieve hydraulic pressure in the systems before maintenance or repairs are made.

Prevention  Regularly perform preventive maintenance by cleaning inside and outside the cab. Perform scheduled maintenance.

Suspended Parts  Never work under any suspended loose parts. IF IT CAN’T BE GROUNDED, BLOCK IT UP!

Inspection  Use a piece of paper or cardboard to check for hydraulic or fuel leaks. When leaks occur use a container to catch the fluids.
# FIRE PREVENTION

<table>
<thead>
<tr>
<th><strong>Fire Extinguisher</strong></th>
<th>Frequently check the fire extinguisher and always have it available.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel</strong></td>
<td>Never refuel the machine with the machine running, while smoking or near open flames or sparks.</td>
</tr>
<tr>
<td><strong>Debris</strong></td>
<td>Remove debris from the engine compartment, battery area and other heat producing area of the machines at least once a day. Parking areas should be on bare ground.</td>
</tr>
<tr>
<td><strong>Flammable</strong></td>
<td>Regularly clean the machine of oil and grease, and never store oil rags or flammable materials inside the cab.</td>
</tr>
<tr>
<td><strong>Inspection</strong></td>
<td>Inspect fluid leaks and repair leaks immediately.</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>Frequently inspect wiring and electrical connections.</td>
</tr>
</tbody>
</table>
LANDING AWARENESS

Operator

Loader operator is in control of landing.

Approach

Approach the landing at a safe speed, and if necessary wait for landing workers or bystanders to move a safe distance from the machine path.

Loader

If loader is operating, wait for the loader to clear the path and ground the boom, before entering the landing area.

Landing Worker

Keep a safe distance from operating machines and make sure the machine operators can see you at all times. Do not trim, buck, or bind the logs under the loader while the loader is operating.

Driver

Leave the cab and remain in full view at a safe distance from operating machines while the truck is being loaded.
<table>
<thead>
<tr>
<th>People</th>
<th>Know where the crew members are at all times and be alert for unexpected workers or bystanders.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Carry the load close to the ground for machine stability.</td>
</tr>
<tr>
<td>Movement</td>
<td>Change directions and speed smoothly when machine loaded. Quick movement may cause the top of the tree to break or cause the machine to tip over.</td>
</tr>
<tr>
<td>Slopes</td>
<td>On a steep terrain drive only up and down hill, and always keep machine in gear. Do not turn machine on a slope with a load.</td>
</tr>
<tr>
<td>Visibility</td>
<td>Reduce speed, use proper lighting, and clean windows to maintain good visibility at all times. Dust, heavy rain, fog, etc. can all reduce visibility.</td>
</tr>
</tbody>
</table>
FELLER-BUNCHER TASKS
FELLING

People
NEVER OPERATE THE SAWHEAD WITHIN 300 FEET (91.4 METERS) OF ANY PERSON! Never direct the sawhead discharge opening towards other workers or equipment.

Stand Conditions
Identify danger trees in the work area before felling. Also check wind speed and directions.

Slopes
On steep terrain, fell the trees while traveling up hill. Return to the bottom of the slope and then start another row.

Capacity
Do not exceed rated cutting, accumulating or carrying capacities of the machine.

Stumps
Cut stumps as short as possible. Running over a stump could flip the machine.
FELLER-BUNCHER TASKS
BUNCHING

Dropping
When possible drop trees in cleared areas to avoid lodging trees and damaging the residual stand.

Direction
Fell trees with the butt no more than 45° from skid trail.

Falling
Do not open the shear or accumulator arms until the trees are leaning away from the cab.

Mid-fall
Never attempt to stop a tree while it is falling.

Piles
Make uniform piles for the skidder, shovel or yarder. Do not pile trees in bunches that exceeds the machine’s capacity. If delimbing with a chainsaw, fan trees and make smaller bunches.
**FELLER-BUNCHER TASKS**

**HEAD MAINTENANCE**

**Inspection**
Inspect the sawhead and teeth at the start of every shift or as directed by the manufacturer.

**Attachments**
Always ground the attachment when performing maintenance. **If work must be performed with the attachment raised, BLOCK IT UP.** Use a safety chain or strap to reduce the risk of the attachment falling.

**Debris**
Stop disk before cleaning debris from the sawhead. Always use a tool or stick to remove debris.

**Hand Protection**
Use a tool or a stick to turn the disc. Protect hands by wearing gloves.

**Sharpen**
Sharpen and maintain the cutting mechanism for safety and efficiency.

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**CAT HF221 Feller Buncher Head**

**CAT HF201 Feller Buncher Head**
HARVESTER TASKS

DRIVING

People
Know where the crew members are at all times and be alert for unexpected workers or bystanders.

Visibility
Reduce speed, use proper lighting, and clean windows to maintain good visibility at all times. Dust, heavy rain, fog, etc. can all reduce visibility.

Weather
Do not operate harvester if wind conditions are strong enough to take control over felling direction.

Slopes
Position the machine straight up and down the hill when working on steep terrain. Avoid turning up hill on side slopes.

Attachments
Ensure that the harvesting head and boom are secured in the correct transport position before driving.
## HARVESTER TASKS
### FELLING

| People | DO NOT point the chainsaw toward any person or equipment within 300 FEET (91.4 METERS)! |
| Stand Conditions | Identify any hazard tree in the work area before start felling. |
| Direction | Do not operate the chainsaw towards the machine cab. |
| Capacity | Do not fell trees that exceed the machine’s capacity. |
| Stumps | Cut stumps as low as possible. Running over a stump can flip the machine. |

## DELIMBING, BUCKING AND PILING

| Placing | Place processed logs in a stable position with safe access for the forwarder. |
| Piles | Make even piles so logs are parallel and ends match for the forwarder. |
| Mat | Create a debris mat from limbs and tops to help distribute the weight of the machines and reduce soil impacts. |
| Sort | Sort logs by product classes or species. Place each product in its own pile. |
| Capacity | Do not process trees that exceed the machine’s capacity. |
**Harvesting Head**

**HARVESTER TASKS**

**HEAD MAINTENANCE**

**Turn Off Engine**
Do not work on the head with the engine running except when setting and testing hydraulic pressures.

**Attachment**
Always ground the attachment when performing maintenance. *If work must be performed with the attachment raised, BLOCK IT UP.* Use a safety chain or strap to reduce the risk of the attachment falling.

**Inspection**
Inspect the cutting attachment daily. Check for cracked chain, bar and parts. Replace defective parts as necessary.

**Alignment**
Check the alignment of all parts of the cutting equipment.

**Lube**
Check for chain lubrication.
## GRAPPLE SKIDDER TASKS

### DRIVING

<table>
<thead>
<tr>
<th>People</th>
<th>Know where the crew members are at all times and be alert for unexpected workers or bystanders.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade &amp; Grapple</td>
<td>Keep blade and grapple high in order to clear obstacles such as stumps, ditches or boulders.</td>
</tr>
<tr>
<td>Speed</td>
<td>Use the same gear to go up and down hill. Match travel speed to ground conditions.</td>
</tr>
<tr>
<td>Trails</td>
<td>Maintain regularly used skid trails by removing obstacles (snags, spring poles, logs, etc). When possible use a debris mat to reduce soil impact.</td>
</tr>
<tr>
<td>Slopes</td>
<td><strong>On steep terrain skid up or down hill to avoid rollover.</strong> Never skid across the slope. If the machine begins to sideslip on a slope, lighten the load and turn down hill.</td>
</tr>
</tbody>
</table>
**People**
Shift the transmission to neutral and use the accelerator to speed response when using grapple functions.

**Stand Conditions**
*Never overload the machine.* Always consider the effect of terrain and ground conditions on the machine’s capacity.

**Slopes**
Position all logs in the bunch so they will clear the butt plate when raised. Ensure the grapple is completely clamped around the logs.

**Capacity**
*Use caution when pulling logs at an angle.* Grappling logs is easier when they are in a straight line with the machine.

**Stumps**
On level terrain, carry the load as high and close to the skidder as possible. When traveling down hill, carry the load lower to assist in braking.

**Wheel Skidder - CAT 525C**

**Wheel Skidder - CAT 545C**
GRAPPLE SKIDDER TASKS

WINCHING

Obstructions
Look for obstructions (stumps, trees, blind leads, etc.) that could hang logs up. Avoid positions where there are obstacles between the logs and the fairlead.

Position
Position machine in line with the load. Avoid winching at large angles as the machine may tip over.

Chokers
Set chokers on the butt end of the log, when possible. Never set the chokers in the middle of the log. Winch load against the fairlead before traveling.

Free Spooling
Free spool winch if the loads slides off the trail. Winch the load again from a safe position.

Travel Empty
Winch chokers or bells tight to the fairlead to avoid catching empty chokers on a stump.
### GRAPPLE SKIDDER TASKS

#### GATE DELIMBING

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direction</strong></td>
<td>Use a guide tree to keep the trees in line while backing through the gate.</td>
</tr>
<tr>
<td><strong>Grapple Height</strong></td>
<td>Position the grapple low enough to prevent trees from binding in the gate, but high enough to maintain ground clearance.</td>
</tr>
<tr>
<td><strong>Log Butts</strong></td>
<td>Look behind while backing up and be alert to the possibility of log butts entering the rear of the skidder cab, damaging the tires or the machine.</td>
</tr>
<tr>
<td><strong>Debris</strong></td>
<td>Use the skidder blade or grapple to remove debris from the front of the gate.</td>
</tr>
<tr>
<td><strong>Large Trees</strong></td>
<td>To avoid skidder and gate damage, never try to back large trees through the gate.</td>
</tr>
</tbody>
</table>
### GRAPPLE SKIDDER TASKS

#### LANDING

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approach</strong></td>
<td>Approach the landing at a safe speed, and if necessary wait for the landing workers or bystanders to move a safe distance from the machine path. Loader operator is in control of the landing.</td>
</tr>
<tr>
<td><strong>Loader</strong></td>
<td>If loader is operating, wait for the loader to clear the skidding path before entering the landing area.</td>
</tr>
<tr>
<td><strong>Unloading</strong></td>
<td>Ensure that workers are at a safe distance before releasing the logs. Avoid unloading where logs may roll.</td>
</tr>
<tr>
<td><strong>Blade</strong></td>
<td>Keep the transmission in 1st gear when using the blade.</td>
</tr>
<tr>
<td><strong>Debris</strong></td>
<td>Use the blade to clear for debris from the landing. Do not attempt to clean the landing with the grapple or winch line loaded.</td>
</tr>
</tbody>
</table>
**CABLE SKIDDER TASKS**

**OPERATING**

**People**
Know where the crew members are at all times and be alert for unexpected workers or bystanders.

**Cable**
Do not allow loose cable or chokers to drag on the ground with the skidder moving.

**Trails**
Maintain regularly used skid trails by removing obstacles (snags, spring poles, logs). Do not skid logs across furrows and ridges or ditches.

**Slopes**
Match travel speed to ground conditions. Avoid skidding across steep terrain and slopes, which could cause the machine to tip over.

**Hang Ups**
If a tree hangs up while skidding, stop the skidder, release the choker and then proceed. Hang ups can cause damage to the cable, choker and also pose a threat to bystanders.
CABLE SKIDDER TASKS
HOOKING / UNHOOKING

Capacity
Know the working load of the cable and machine. **NEVER hook up a load that exceeds the cable or machine’s capacity.**

Position
Before hooking up logs, position the skidder in a stable spot. Lower blade and set parking brake. If extra stability is needed you can use convenient stumps or trees to chock the wheels.

Bight
**NEVER straddle the choker or cable.** Hook and unhook logs standing on the up hill side. Always avoid standing between the logs, and the skidder.

Slopes
On steep terrain, remain in the cab while a co-worker sets the chokers.

Chokers
Release winch line, allow plenty of slack before releasing chokers. If necessary tighten and re-release winch line to release remaining chokers.
CABLE SKIDDER TASKS

WINCHING

Refer to Grapple Skidder winching task - page 20.

CABLE MAINTENANCE / INSPECTION

| Inspection | Inspect cables and chokers daily for signs of deterioration such as broken wires, strands or kinks. Repair or replace damaged parts as necessary. |
| Hand Protection | Protect hands by wearing gloves when handling cable, this can prevent injuries from broken strands or wires. |
| Ends | Cut a foot or two from the loose end of the cable occasionally. This is the part of the cable that usually wears out first. |
| Replace | Replace cable when it is damaged by an excessive number of broken strands or kinks that have destroyed the original diameter, or if the cable is too short. |
| Storage | Store cables in a clean, dry location protected from the elements. If cables are held in extended storage, re-lubricate periodically. |
FORWARDER TASKS
DRIVING

People
Know where the crew members are at all times and be alert for unexpected workers or bystanders.

Trails
Avoid driving over stumps and across felled trees or logs. Operating on a debris mat may reduce travel speed, especially when loaded.

Speed
Use the same gear to go up and down hill. Match travel speed to ground conditions.

Slopes
On steep terrain, drive up or down the hill to avoid rollover.

Side Slopes
Where side slopes are unavoidable, extend the boom to the up hill side to increase stability. Avoid turning up hill on side slopes.
FORWARDER TASKS

BOOM OPERATION

People
NEVER lift, move or swing a load over personnel, over the cab of other machines or vehicles in the area.

Power Lines
Avoid contact with power lines. Do not move any part of the machine or load closer than 100 FEET (30.5 METERS) TO POWER LINES, AND TWO TREE LENGTHS FROM GUY WIRES.

Grapple
Close the grapple completely around the log. Avoid pinching a log with the grapple.

Drag
Drag logs close to the machine before lifting.

Movement
Use more than one control at a time for smoother movement.
## FORWARDER TASKS

### LOADING

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Position the forwarder straight up or down hill and use convenient stumps or trees to chock the wheels.</td>
</tr>
<tr>
<td>Brake</td>
<td>Always set the parking brake when the machine is stopped.</td>
</tr>
<tr>
<td>Stability</td>
<td>Operate carefully when the boom is loaded. Elevated loads reduce machine stability on side slopes or unstable ground conditions.</td>
</tr>
<tr>
<td>Sorting</td>
<td>Build single product loads.</td>
</tr>
<tr>
<td>Load</td>
<td>Size the load to accommodate ground conditions.</td>
</tr>
</tbody>
</table>

### UNLOADING

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Position the forwarder straight up or down hill and use convenient stumps or trees to chock the wheels.</td>
</tr>
<tr>
<td>Driver</td>
<td>Leave the cab and remain a safe distance and in full view of the forwarder operator while the truck is being loaded.</td>
</tr>
<tr>
<td>Stability</td>
<td>Operate carefully when the boom is loaded. Elevated loads reduce machine stability on side slopes or unstable ground conditions.</td>
</tr>
<tr>
<td>Piles</td>
<td>Make even piles so logs are parallel and ends match. Piles should be in a level and clear area to prevent logs from rolling or collapsing.</td>
</tr>
<tr>
<td>Capacity</td>
<td>Do not overload trucks. Keep the loads uniform and conform to regulations for height, weight, and length of loads.</td>
</tr>
</tbody>
</table>
FOREST MACHINE TASKS

DRIVING

People

Know where the crew members are at all times and be alert for unexpected workers or bystanders.

Attachment

Do not use the machine attachment for a work platform or for transporting personnel.

Visibility

Reduce speed, use proper lighting, and clean windows to maintain good visibility at all times. Dust, heavy rain, fog, etc. can all reduce visibility.

Speed

Use the same gear to go up and down hill. Match travel speed to ground conditions.

Slopes

When working on steep terrain, position the track wheels parallel to the slope. Keep the end of the boom close to the ground and to the machine.
**FOREST MACHINE TASKS**

**SHOVELING**

**People**

Make sure the area is clear of all personnel before operating.

**Slopes**

Position tracks up and down the slope. When moving logs down hill, swing only as far as necessary to dump the load.

**Pre-operating**

Level the machine as much as possible.

**Stability**

Operate carefully when the boom is loaded. Elevated loads reduce machine stability on side slopes or unstable ground conditions.

**Piles**

Make even piles so logs are parallel and ends match. Piles should be in a level and clear area to prevent logs from rolling.
KNUCKLEBOOM LOADER TASKS
PRE-START

Location
Remove all standing trees that may be obstacles during loading or delimming. Place the loader and the slasher on firm, level ground. Be especially alert working near high banks, fill slopes, etc.

Stability
Operate the loader only after all stabilizer legs are properly grounded.

Operator
The loader operator MUST be in control of all traffic and people in the loading area.

Falling
Avoid operating where there is a possibility of the grappled load striking other vehicles or structures.

Power Lines
Avoid boom contact with power lines. **Do not move any part of the machine or load closer than 100 FEET (30.5 METERS) TO POWER LINES AND TWO TREE LENGTHS FROM GUY WIRES.**
**People**

NEVER lift, move or swing a load over personnel, the cab of other machines, or vehicles in the area.

**Grapple**

Close the grapple completely around the log. Avoid pinching a log with the grapple.

**Movement**

Use more than one control at a time to give smooth movement.

**Piles**

Make even piles so logs are parallel and ends match. Piles should be in a level and clear area to prevent logs from rolling.

**Debris**

Clean debris from the loading area. Debris may interfere with grappling.
Lockout / Tagout  Place the boom in the cradle or on the ground, stop the engine, relieve hydraulic pressure, and lock or tag the switch before maintenance.

Inspection  Routinely inspect the slasher saws, and repair or replace any damaged parts as necessary.

Hand Protection  Use a tool or stick to turn the chain. Protect hands by wearing gloves.

Alignment  Check the alignment on all parts of the cutting equipment.

Lube  Check for chain lubrication.
<table>
<thead>
<tr>
<th>Task</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Operate carefully when the boom is loaded. Elevated loads reduce machine stability on unstable conditions.</td>
</tr>
<tr>
<td>Deck Hand</td>
<td>Do not allow deck hands or truck drivers to work near the loader while loader is in operation.</td>
</tr>
<tr>
<td>Driver</td>
<td>Leave the cab and remain a safe distance and in full view of the loader operator while truck is being loaded.</td>
</tr>
<tr>
<td>Capacity</td>
<td>Do not overload trucks. Keep the loads uniform and conform to regulations for height, weight, and length of loads.</td>
</tr>
<tr>
<td>Boom</td>
<td>Place the boom in the cradle or on the ground and stop the engine before exiting the machine.</td>
</tr>
</tbody>
</table>
### WHEEL LOADER TASKS

#### DRIVING

<table>
<thead>
<tr>
<th>People</th>
<th>Know where the crew members are at all times and be alert for unexpected workers or bystanders.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Movement</td>
<td>Do not start, stop or turn quickly when transporting a load.</td>
</tr>
<tr>
<td>Turning</td>
<td>Reduce speed before turning or swinging a load.</td>
</tr>
<tr>
<td>Direction</td>
<td>Do not change directions quickly when carrying a load.</td>
</tr>
<tr>
<td>Slopes</td>
<td>On slopes drive up or down the hill, avoid sharp turns, and keep the machine in gear when going down the hill.</td>
</tr>
</tbody>
</table>

#### OPERATING

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Never overload the machine. Always consider the effect of terrain and ground conditions on the machine’s capacity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load</td>
<td>Carry the load as low as possible for better visibility and stability when moving.</td>
</tr>
<tr>
<td>Speed</td>
<td>Increase the power gradually when moving with a heavy load.</td>
</tr>
<tr>
<td>Attachment</td>
<td>Do not use the attachment as a work platform or for transporting personnel. Use caution when trimming or bucking suspended loads.</td>
</tr>
<tr>
<td>Debris</td>
<td>Use attachment to clear debris from the loading or unloading area in order to assure safe working environment.</td>
</tr>
<tr>
<td>People</td>
<td>NEVER lift, move or swing a load over personnel, the cab of other machines, or vehicles in the area.</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Balance</td>
<td>Balance loads in the grapple or forks so the weight is evenly distributed and stable.</td>
</tr>
<tr>
<td>Driver</td>
<td>Leave the cab and remain a safe distance and in full view of the loader operator while the truck is being loaded or unloaded.</td>
</tr>
<tr>
<td>Load &amp; Unload</td>
<td>Load and unload from the side. Ensure there is enough room to turn between the truck and other obstacles.</td>
</tr>
<tr>
<td>Capacity</td>
<td>Do not overload trucks. Keep the loads uniform and conform to regulations for height, weight, and length of loads.</td>
</tr>
</tbody>
</table>
**People**

Make sure the area is clear of all personnel before operating.

**Pre-operating**

Level the machine, shift the transmission control to neutral, engage parking brake and lower stabilizers (if equipped).

**Direction**

Do not operate the chainsaw towards the machine cab.

**Capacity**

Do not process trees that exceed the machine’s capacity.

**Slopes**

Process the trees with the machine facing up hill when operating on a slope.
FOREST MACHINE TASKS

DELIMBING

People

Make sure the area is clear of all personnel before operating.

Pre-operating

Level the machine as much as possible, shift the transmission control to neutral, engage parking brake and lower stabilizers (if equipped).

Swing

Limit machine swing to 20-30 degrees for higher productivity.

Sorting

Sort logs by product class or species by placing them in separate piles.

Slopes

Delimb the trees with the machine facing up hill when operating on a slope.
GENERAL MILLYARD PROCEDURES

People
BE ALERT for traffic and pedestrians outside the traffic pattern, especially near the boundaries of the log yard.

Traffic
Establish and use a DEFINED traffic pattern for all vehicles entering and exiting the millyard.

Communication
Establish and use a DEFINED communication method between the millyard’s equipment operators and truck drivers.

Unbinding
Before unbinding, secure the load via mechanical means (unbinding racks or loaders), in order to prevent logs from falling off the truck.

Driver
Remain outside the cab and in full view of the loader operator while the truck is being loaded or unloaded.
# KNUCKLEBOOM LOADER TASKS
## PRE-START

<table>
<thead>
<tr>
<th>People</th>
<th>Know where the crew members are at all times and be alert for unexpected workers, operators or bystanders.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Operate the loader only after all stabilizer legs are properly grounded.</td>
</tr>
<tr>
<td>Operator</td>
<td>The loader operator MUST be in control of all traffic and people in the loading area.</td>
</tr>
<tr>
<td>Location</td>
<td>Locate the loader on firm, level ground.</td>
</tr>
<tr>
<td>Falling Objects</td>
<td>Avoid operating where there is a possibility of the grappled load striking other obstacles.</td>
</tr>
</tbody>
</table>

## LOADING / UNLOADING

<table>
<thead>
<tr>
<th>Driver</th>
<th>Leave the cab and remain at a safe distance from operating machines. Stay where the loader operator can see you while the truck is being unloaded.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yard Workers</td>
<td>Do not allow ground workers or truck drivers to work or stand near unbound loads while you are actively loading or unloading.</td>
</tr>
<tr>
<td>Stability</td>
<td>Operate carefully when the boom is loaded. Elevated loads reduce machine stability.</td>
</tr>
<tr>
<td>Capacity</td>
<td>Do not overload trucks. Keep the loads uniform and conform to regulations for height, weight, and length of loads.</td>
</tr>
<tr>
<td>Boom</td>
<td>Place the boom in the cradle or on the ground and stop the engine before exiting the machine.</td>
</tr>
</tbody>
</table>
KNUCKLEBOOM LOADER TASKS

OPERATING

Refer to Knuckleboom Loader operating task - page 32

WHEEL LOADER TASKS

OPERATING

Refer to Wheel Loader operating task - page 35

DRIVING

People

Know where the crew members are at all times and be alert for unexpected workers, operators or bystanders.

Traffic

Use a DEFINED traffic pattern to enter and to exit the millyard, and to operate inside the mill yard.

Communications

Establish and use a DEFINED communication method between the millyard’s equipment operators and truck drivers.

Turning

Reduce speed before turning or swinging load.

Movement

Do not start, stop, turn or change direction quickly when carrying a load.

LOADING / UNLOADING

Refer to Wheel Loader loading/unloading task - page 36
<table>
<thead>
<tr>
<th>Glossary Item</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attatchments</td>
<td>Machine tool parts such as blade, grapple, forks, etc.</td>
</tr>
<tr>
<td>Bind the logs</td>
<td>To secure logs on a truck or trailer with chains or straps.</td>
</tr>
<tr>
<td>Block up</td>
<td>Placing wood blocks or other similar materials under a part or attachments to prevent it from falling to ground level.</td>
</tr>
<tr>
<td>Buck</td>
<td>To cut a tree or log into merchantable lengths.</td>
</tr>
<tr>
<td>Choker</td>
<td>A length of cable or chain used to attach logs to a winch line.</td>
</tr>
<tr>
<td>Cradle</td>
<td>Part of a forwarder, harvester, knuckleboom loader used to rest or retain the log grapple.</td>
</tr>
<tr>
<td>Danger tree</td>
<td>Dead tree, tree with unsound wood that could let the tree fall broken tops, limbs.</td>
</tr>
<tr>
<td>Debris</td>
<td>Oily rags, paper, can, bottles, leaves, limb, etc.</td>
</tr>
<tr>
<td>Debris mat</td>
<td>Roadway/skid trail covered with limbs and tree tops used to reduce soil compaction and rutting.</td>
</tr>
<tr>
<td>Deck land</td>
<td>Logging employee that works on the log landing.</td>
</tr>
<tr>
<td>Delimbing gate</td>
<td>Heavy grid type gate that tree tops are forced through to break limbs off tree trunk.</td>
</tr>
<tr>
<td>Delimbing</td>
<td>Removing limbs from tree trunk.</td>
</tr>
<tr>
<td>Disc</td>
<td>That part of a saw head which severs the tree.</td>
</tr>
<tr>
<td>Falling</td>
<td>Severing a tree from its roots at or near ground level.</td>
</tr>
<tr>
<td>Fan (fan top)</td>
<td>Grouping the lower ends of several trees close together while leaving the tops spread apart.</td>
</tr>
<tr>
<td>Feller bouncer</td>
<td>Machine either on wheels or track that has an attachment for felling or felling and processing trees.</td>
</tr>
<tr>
<td>Forwarding</td>
<td>Hauling logs from the harvest area to a landing.</td>
</tr>
<tr>
<td>Ground</td>
<td>Placing an attachment on the ground to reduce hazards.</td>
</tr>
<tr>
<td>Guy wire</td>
<td>Wire anchored in the grown and attached to utility poles to stabilize the poles.</td>
</tr>
<tr>
<td>Harvest</td>
<td>Felling, skidding, loading and hauling of tree from an area.</td>
</tr>
<tr>
<td>Harvester</td>
<td>Machine on wheels or track that is used to fell and process trees.</td>
</tr>
<tr>
<td>Harvesting head</td>
<td>Boom attachment that feels and processes trees via hydraulic and electric power.</td>
</tr>
<tr>
<td>Hazard tree</td>
<td>See Danger Tree.</td>
</tr>
<tr>
<td>Inspect</td>
<td>Closely examine for cracks breaks or mechanical failure.</td>
</tr>
<tr>
<td>Landing</td>
<td>Site or point where trees/logs are gathered to prepare for loading on to trucks.</td>
</tr>
<tr>
<td>Lodged tree</td>
<td>Tree that fell into a second tree when it was several from the stump and didn’t fall to the ground.</td>
</tr>
<tr>
<td>Loose ends</td>
<td>Free end of winch line used for winching and skidding logs.</td>
</tr>
<tr>
<td>Piles</td>
<td>Group of trees or logs ready for extraction.</td>
</tr>
<tr>
<td>Pinching</td>
<td>Using loader grapple to move logs without gripping the entire diameter of the log.</td>
</tr>
<tr>
<td>Power lines</td>
<td>Electric Utility lines.</td>
</tr>
<tr>
<td>Processing</td>
<td>Felling measuring and bucking trees into logs.</td>
</tr>
<tr>
<td>Release hydraulic pressure</td>
<td>Allows attachments or hydraulic cylinders to ground themselves after the machine has been shut down.</td>
</tr>
<tr>
<td>Safe distance</td>
<td>A distance that removes all potential for injury as a result of being stuck by, run over by a machine or its load or working attachment.</td>
</tr>
<tr>
<td>Sawhead</td>
<td>Machine attachment used to fell trees.</td>
</tr>
<tr>
<td>Shovel</td>
<td>Track loader with a boom and a log grapple.</td>
</tr>
<tr>
<td>Shovelenger</td>
<td>Track excavator modified to load and handle logs and trees.</td>
</tr>
<tr>
<td>Shoveling</td>
<td>Moving logs with a track loader.</td>
</tr>
<tr>
<td>Skid trail</td>
<td>Road or route used to move trees toward a landing.</td>
</tr>
<tr>
<td>Snag</td>
<td>Standing dead tree.</td>
</tr>
<tr>
<td>Spring pole</td>
<td>Small tree bent over under pressure.</td>
</tr>
<tr>
<td>Stump</td>
<td>Lower portion of a tree remaining after a tree is felled.</td>
</tr>
<tr>
<td>Trim</td>
<td>To remove unusable or excess material from a log.</td>
</tr>
<tr>
<td>Unbinding</td>
<td>Removing chains or straps from loaded vehicle.</td>
</tr>
</tbody>
</table>
Training Checklist

EMPLOYEE NAME ____________________________

INSTRUCTOR NAME ____________________________

GENERAL PROCEDURES

☐ MACHINE
☐ START-UP
☐ SHUT-DOWN
☐ MAINTENANCE
☐ FIRE PREVENTION
☐ LANDING AWARENESS

DATE OF REVIEW ____________________________

HARVESTING

☐ FELLER BUNCHER TASKS
   Feller Buncher Driving
   Felling
   Bunching
   Head Maintenance

☐ HARVESTER TASKS
   Harvester Driving
   Felling
   Delimbing, Bucking and Piling
   Head Maintenance

DATE OF REVIEW ____________________________

EXTRACTING

☐ GRAPPLE SKIDDER TASKS
   Skidder Driving
   Loading
   Winching
   Gate Delimbing
   Landing

☐ CABLE SKIDDER TASKS
   Operating
   Hooking/Unhooking
   Winching
   Cable Maintenance/Inspection

DATE OF REVIEW ____________________________
FORWARDER TASKS
- Driving
- Boom Operation
- Loading
- Unloading

FOREST MACHINE TASKS
- Driving
- Shoveling

PROCESSING/LOADING

KNUCKLEBOOM LOADER TASKS
- Pre-Start
- Operating
- Slashing/Delimbing
- Loading

WHEEL LOADER TASKS
- Driving
- Operating
- Loading/Unloading

FOREST MACHINE TASKS
- Driving
- Processing

GENERAL MILLYARD PROCEDURES

KNUCKLEBOOM LOADER TASKS
- Pre-Start
- Loading/Unloading
- Operation

WHEEL LOADER TASKS
- Operating
- Driving
- Loading/Unloading