# **Tower Operator Assessment**

	This document can be used:
A	For gathering evidence in a training environment
Assessment	As a competency check of knowledge on an existing worker; or
	As a summative assessment.
Candidate Name	
Assessor Name	
Date of Assessment	
	☐ The candidate met all outcomes of the worker assessment
Summary of Assessment	☐ The candidate has <b>NOT</b> met all outcomes of the <b>worker assessment</b>
	☐ Gap training plan developed
Date of Reassessment	
Summary of	☐ The candidate met all outcomes of the worker assessment
Reassessment	☐ The candidate has <b>NOT</b> met all outcomes of the <b>worker assessment</b>
	<ul> <li>Complete the assessment with the candidate, adding notes to justify your decisions.</li> </ul>
	<ul> <li>Ensure the first page of this document is completed (all fields).</li> </ul>
Instructions	<ul> <li>Develop a gap training plan for practical deficiencies if required.</li> </ul>
	<ul> <li>Use the same form for reassessment (if applicable), only reassessing the areas where gaps exist.</li> </ul>
	<ul> <li>Conduct the competency conversation before conducting the practical assessment.</li> </ul>

**Note:** This worker assessment covers the technical components of a specific role. For general knowledge and a complete picture of a worker's competency, BC Forest Safety recommends the optional Basic Forest Worker competency profile and assessment tools that can be found at www.bcforestsafe.org.

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# **Part 1 - Competency Conversation**

#### **General Instructions**

To conduct a competency conversation, ask the worker the questions in this first part of the assessment to determine if they understand the knowledge components of their role. It is acceptable to rephrase the question in a way that the worker understands, but the worker cannot be given hints to the correct answer. The assessment should not be used as a training opportunity; instead, any deficiencies identified in this assessment should be collected into a gap training plan and addressed with the worker later.

Important Note: Do not conduct competency conversation while operating equipment.

#### Training and Assessment Rubric

# **Assessment** Instruction

- S This means that the candidate must supply all responses listed, as the knowledge is **safety** critical or important.
- B This means the candidate must at a minimum verbalize the **bolded** responses, and additional responses are further proof of competence.
- P The candidate must give a **percentage** of responses correctly to reasonably show competence in the area.

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## 1009 - Recognize, Evaluate, and Control Hazards related to Yarding

Locator	Questions			
	General Yarding / General Mechanized Harvesting			
1.1	Name five general hazards related to yarding and the means to control them.			
	☐ Overloading of yarding	g system		
	☐ Unstable machinery			
	☐ Equipment in poor loca	ation		
	☐ Anchor failure			
	☐ Cable failure			
	☐ Runaway logs			
	☐ Unstable topography			
	☐ Phase congestion			
	☐ Communication failure	•		
	☐ Windthrow			
	Assessment Instruction: P – 5	from list		
	Assessment:	☐ Outcome met	☐ Outcome not met	
Locator	Questions			
2.1	Name five road change haza	ards and the means to contro	ol them.	
	☐ Carrying heavy loads			
	☐ Handling wire rope			
	☐ Chainsaw use			
	☐ Wire rope failure			
	☐ Strap or anchor failure			
	☐ Flying debris			
	☐ Binds or bight			
	☐ Unplanned rope or wir	e rigging movement		
	☐ Tail hold failure			
	☐ Jaggers puncturing ha	nds		
	☐ Unrecognized long log			
	Assessment Instruction: P – 5	from list		
	Assessment:	☐ Outcome met	☐ Outcome not met	

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Locator	Questions		
3.1	Name ten breaking out hazards and the means to control them.		
	☐ Terrain obstructions		
	☐ The bight		
	☐ Unexpected log/deck i	movement	
	☐ Unplanned rigging mo	vement	
	☐ Heavy undergrowth		
	☐ Wire rope and rigging		
	☐ Flying debris		
	☐ Overhead hazards (elevated ropes, rigging, turn)		
	☐ Other machines and operations		
	☐ Anchor failure		
	☐ Incorrect signals		
	☐ Runaway logs from landing		
	$\square$ Slash or butt ends rolli	ing off landing	
	☐ Hung up drag/turn		
	☐ Dislodged rocks		
	☐ Logs or debris		
	☐ Too close to moving lines		
	Assessment Instruction: P – 1	0 from list	
	Assessment:	☐ Outcome met	☐ Outcome not met

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## 1068 - Describe Signals Used in Forestry

Locator	Questions		
	General Yardi	ng / General Mechanized Har	vesting
1.1	What are the hand signals for:		
	☐ Mainline ahead		
	☐ Mainline ahead fast		
	☐ Mainline ahead slow		
	☐ Stop moving line		
	$\square$ Slack the mainline		
	☐ Ahead on haulback		
	☐ Ahead on haulback slo	ow	
	$\square$ Slack the haulback		
	☐ Tightline		
	☐ Slack strawline		
	☐ Lock brake lever		
	$\square$ Ahead on strawline		
	☐ Ahead on strawline slow		
	☐ Slack mainline all off		
	☐ Lower guyline		
	☐ Slack the drop line		
	☐ Ahead on the drop line	e	
	☐ Raise the guyline		
	Assessment Instruction: S		
	Assessment:	☐ Outcome met	☐ Outcome not met
Locator	Questions		
1.2	What is the signal process	before blasting?	
	☐ 12 short whistle signals sounded at 1 second intervals		
	$\hfill\square$ Two minutes elapse after the last warning signal before initiating the blast		
	After blast and inspection one prolonged whistle of at least 5 second duration must be sounded before permission granted to return announced by radio		
	Assessment Instruction: S		
	Assessment:	☐ Outcome met	☐ Outcome not met

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Locator	Questions		
2.1	What are the audible signals	s for yarding:	
	☐ Extreme hazard prese	ent – one solid until hazard is cl	ear
	☐ Start Work – one long		
	☐ Stop at any moment –	one short	
	☐ Mainline ahead – <i>three</i>	e short	
	☐ Slack the mainline – <i>five short</i>		
	☐ Slack the haulback – t	two short, several short	
	☐ Ahead on the haulbac	k – two short, two short	
	☐ Tightline - three short,	two short	
	☐ Tightline on inhaul – th	hree short, two short	
	☐ Cancel tight line on inh	haul – <i>three short</i>	
	☐ Ahead on strawline – a	three short, one short	
	☐ Slack the strawline – three short, one short, several short		
	☐ Pick up the guyline - two short, two short, two short, one short		one short
	☐ Slack the guyline – tw	o short, two short, two short	
	☐ Accident – seven long	1	
	☐ Check rigging – five sl	hort	
	☐ Send out strawline extension – three short, one short, one short for each extension required		
	☐ Send out strawline in h	haulback eye – three short, one	e long
	☐ Chokers required – tw	o short, one short, or one long	for each choker required
	☐ Put on / take off scab l	block – <i>one long</i>	
	☐ Calling foreman – four	r long	
	☐ Calling Hooktender –	three long	
	☐ Calling Hooktender an	nd crew – three long several sh	ort
	$\square$ Calling for water bag -	- one short one long	
	☐ Calling for block and strap – one long one short		
	Assessment Instruction: S		
	Assessment:	☐ Outcome met	☐ Outcome not met

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## 1013 - Describe Rigging Components and Basic Rigging Practices

Locator	Questions			
	General Yarding			
1.2	What are six major rigging co	omponents used in the block	setting / work area?	
	☐ Wire rope			
	☐ Blocks			
	☐ Straps			
	☐ Anchors			
	☐ Guylines			
	☐ Shackles			
	☐ Grapple			
	☐ Butt rigging			
	☐ Carriages			
_	Assessment Instruction: P – 6	from list		
	Assessment:	☐ Outcome met	☐ Outcome not met	
2.1	When conducting basic riggi considered.	ng (pulling strawline), name fo	our things that must be	
	Pulling / stringing strawline:			
	☐ Jaggers in strawline			
	☐ Strawline hanging up			
	☐ Side binds			
	☐ Stability of logs			
	$\square$ Body position (ergonom	nics)		
	☐ Ground conditions (terra	ain constraints)		
	Assessment Instruction: P -4 f	rom list		
	Assessment:	☐ Outcome met	☐ Outcome not met	

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2.2	Which rigging components n	nust be inspected and maintai	ined?
	☐ Carriage knobs		
	☐ Behind and inside plate	•	
	☐ Block		
	☐ Wire rope		
	☐ Tailhold straps		
	☐ Shackles		
	☐ Butt rigging		
	☐ Grapple		
	☐ T bar plate		
	Assessment Instruction: S		
	Assessment:	☐ Outcome met	☐ Outcome not met
2.2	When should wire rope be ta	ken out of service?	
	☐ Excessively worn		
	☐ Wire rope is stranded		
	☐ Wire rope is excessively	y kinked	
	☐ Broken		
	☐ Crystalized line		
	Assessment Instruction: P – 3	from list	
	Assessment:	☐ Outcome met	☐ Outcome not met
2.2	When should a block be take	en out of service?	
	☐ Worn sheave		
	☐ Worn pins		
	☐ Worn goose neck		
	☐ Cracked shell		
	☐ Worn bearings		
	☐ Missing bearing seal		
	Assessment Instruction: P – 4	from list	
	Assessment:	☐ Outcome met	☐ Outcome not met

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2.2	When should a shackle or grapple component be taken out of service?		
	(shackles, butt rigging, grapp	le, quick fix knobs)	
	☐ Links are worn		
	☐ Worn shackle pins		
	☐ Sheaves are worn on gr	apple	
	☐ Gnarled or no matching	wedges	
	Assessment Instruction: P – 2 f	rom list	
	Assessment:	☐ Outcome met	☐ Outcome not met
2.4	When should a twister be use	d?	
	☐ Weak tailhold		
	☐ For pulling logs back		
	☐ When hanging on a tree		
	☐ Poor deflection		
	Assessment Instruction: P – 3 f	rom list	
	Assessment:	☐ Outcome met	☐ Outcome not met
2.4	What hazards are involved when	nen installing or removing a tv	vister?
	☐ Unsecure footing		
	☐ Struck by twister stick		
	☐ Wrapped up in line		
	☐ Loose clothing		
	Assessment Instruction: P – 2 f	rom list	
	Assessment:	☐ Outcome met	☐ Outcome not met
2.4	How do you control the hazar	ds of installing or removing a	twister?
	☐ Call to confirm		
	☐ Stay on high side and ne	ever let go of stick until firmly se	cured
	☐ Get assistance		
	Assessment Instruction: P – 1 f	rom list	
	Assessment:	☐ Outcome met	☐ Outcome not met

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## 1014 - Describe and Apply Advanced Rigging

Locator	Questions			
	General Yarding			
2.6	What is the difference betwe	en a north / south bend?		
	☐ North bend: the mainlin back to the carriage on	•	the butt rigging and is anchored	
		ne runs through the fall block on and is anchored back to the fal		
	Assessment Instruction: S			
	Assessment:	☐ Outcome met	☐ Outcome not met	

## 1017 - Describe and Operate Tower

Locator	Questions			
	Tower Operator			
1.3	Who can remove a lock out tag	?		
	$\square$ Only the person who put i	t on or through dialogue with th	e person who put it on	
	Assessment Instruction: S			
	Assessment:	☐ Outcome met	☐ Outcome not met	
1.4	What things should be done w	hen undergoing basic mainte	nance on a tower?	
	☐ Grease/gear dope accord	ing to manufacturers' recomme	ndations	
	☐ Tighten belts			
	☐ Adjust travel or line brake	S		
	☐ Check for air leaks			
	☐ Check key components			
	Assessment Instruction: P – 4 fro	m list		
	Assessment:	☐ Outcome met	☐ Outcome not met	

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### 1018 - Set Tower

Locator	Questions		
		<b>Tower Operator</b>	
2.1	What are the considerations wi	hen positioning a tower?	
	☐ Safe location		
	☐ Stable pad		
	☐ Position in landing		
	☐ Deflection		
	$\square$ Availability and position of	f guyline anchor stump	
	☐ Adequate log landing area	a	
	Assessment Instruction: S		
	Assessment:	☐ Outcome met	☐ Outcome not met

### 1019 - Take Down Tower

Locator	Questions		
Tower Operator			
3.1	What are the considerations wi	nen setting up and taking dov	vn a tower?
	$\square$ All guylines are clear of ob-	ostructions	
	☐ Front quarter guylines have appropriate tension		
	☐ Rear guylines are monitored		
	☐ Square guylines are monitored		
	☐ Lifting cylinder in proper position		
	☐ Hydraulic jacks stable		
	Assessment Instruction: P – 4 list		
	Assessment:	☐ Outcome met	☐ Outcome not met

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### 1020 - Move Tower

Locator	Questions				
Tower Operator					
1.1	List the considerations when walking a tower between blocks?				
	☐ Brake check				
	☐ Know the route				
	☐ Slope and grade				
	☐ Where snub/pull is require	ed			
	☐ Crossings (bridges and co	ulverts)			
	☐ Power line locations				
	☐ Corner radius				
	☐ Is a pilot required?				
	☐ Is a spotter required?				
	☐ Monitor tracks (where applicable)				
	Assessment Instruction: P – 7 from list				
	Assessment:	☐ Outcome met	☐ Outcome not met		
3.1	What should be considered wh	en loading and offloading a t	ower?		
	☐ Rigging is tied up and sec	cure			
	☐ Spotter in place and visible				
	☐ Slow and easy on throttle				
	☐ Brakes on after positioned on lowbed and chocked and chained				
	☐ Balanced position on lowbed				
	Assessment Instruction: P – 4 from list				
	Assessment:	☐ Outcome met	☐ Outcome not met		

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# Part 2 - Practical Assessment

#### **General Instructions**

To conduct the practical assessment, monitor the worker in a variety of situations to determine if they can consistently perform the skill components of their role in a safe and effective manner. Once confident that the worker can conduct the skills consistently, mark the outcome met. If the worker cannot consistently perform the skills required, add this component to the gap training plan.

Remember not to distract the operator when conducting the practical assessment.

### **Training and Assessment Rubric**

# Outcome Not Met (ONM)

**Skills:** Can complete the task but only with direct instruction and supervision, may lack consistency in application.

**Knowledge:** Does not understand what they are doing, or are not aware of a knowledge deficiency, or need guidance and support.

**Attributes:** Displays limited or no professional attributes including being fit for work, prepared for the day, working in an organized manner, achieving work outcomes, or lacks in consistency.

### Outcome Met (OM)

**Skills:** Consistently completes the task using safe work practices multiple times in a variety of contexts.

**Knowledge:** Has a solid grasp of underpinning knowledge, consistently applies it, and can explain it.

**Attributes:** Consistently displays professional attributes including being fit for work, prepared for the day, working in and organized manner and achieving work outcomes.

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A) PREPARE FOR THE DAY		ONM	N/A
Arrived on time			
Clothing for conditions			
<ul> <li>Layered clothing appropriate to the elements for working and transport conditions</li> </ul>			
Nutrition and water			
Adequate food for the day			_
<ul> <li>Sufficient hydration for work and weather conditions</li> </ul>			
Fit for work			
Candidate is physically able to do the task			
3-point contact on and off machine			
<ul> <li>Able to get up and down machine</li> </ul>			
Able to perform simple maintenance			
Able to change attachments			
Can fit through escape hatch			
Not noticeably impaired			
<ul> <li>Candidate is not obviously physically or mentally impaired (by drugs, alcohol, personal situations, fatigue)</li> </ul>			
Knows where ERP is located			
B) PERSONAL PROTECTIVE EQUIPMENT (where applicable)	ОМ	ONM	N/A
Hard hat			
<ul> <li>CSA – less than 3 years old / ANSI – less than 5 years old</li> </ul>			
<ul> <li>No dents/cracks, modifications</li> </ul>			
<ul> <li>Suspension maintained (4-point min)</li> </ul>			
Hi-Vis			
<ul> <li>Minimum 120 square inches front and back</li> </ul>			
<ul> <li>Not faded, discoloured, torn or permanently dirty</li> </ul>			
<ul> <li>Contrasts with the work environment</li> </ul>			
Leg protection			
Minimum 3600/4100 FPM rating			
<ul> <li>Kevlar not compromised or exposed</li> </ul>			
<ul> <li>Pants maintained and repaired (no loose tears to outer laver)</li> </ul>			

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Face screen free of holes  Moves freely between down and raised position  Safety glasses used when appropriate  Hand protection  Not damaged and free of holes  Appropriate to weather conditions  Sized correctly for hands  Hearing protection  Minimum 24 NRR  Maintained and in working condition  Footwear  Good condition including sole tread pattern  Must be laced  Has fire extinguisher in cab  Dust mask  NIOSH N95 compliant  PPE inspected and maintained  PPE used consistently as required  C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  D) ERGONOMICS  D) ERGONOMICS  Lifts correctly (where applicable)  Best practice for body position while operating	Face/Eye protection		П	П
Safety glasses used when appropriate  Hand protection  Not damaged and free of holes Appropriate to weather conditions Sized correctly for hands  Hearing protection Minimum 24 NRR Maintained and in working condition  Footwear Good condition including sole tread pattern Must be laced  Has fire extinguisher in cab Dust mask NIOSH N95 compliant  PPE inspected and maintained PPE used consistently as required  C) COMMUNICATION Attend pre-work meetings Ensures hazards are understood  Communicates hazards throughout workday  D) ERGONOMICS  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	Face screen free of holes			
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Not damaged and free of holes Appropriate to weather conditions Sized correctly for hands  Hearing protection Minimum 24 NRR Maintained and in working condition  Footwar Good condition including sole tread pattern Must be laced  Has fire extinguisher in cab Dust mask NIOSH N95 compliant  PPE inspected and maintained PPE used consistently as required  C) COMMUNICATION Attend pre-work meetings Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  D) ERGONOMICS  D) ERGONOMICS  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	Safety glasses used when appropriate			
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Hearing protection  Minimum 24 NRR  Maintained and in working condition  Footwear  Good condition including sole tread pattern  Must be laced  Has fire extinguisher in cab  Dust mask  NIOSH N95 compliant  PPE inspected and maintained  PPE used consistently as required  C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Diese signals communicates work plans  Professional communication throughout workday  Diese Signals communication throughout workday	Appropriate to weather conditions			
Minimum 24 NRR  Maintained and in working condition  Footwear  Good condition including sole tread pattern  Must be laced  Has fire extinguisher in cab  Dust mask  NIOSH N95 compliant  PPE inspected and maintained  PPE used consistently as required  C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  D) Ersonomication throughout workday  D) ERGONOMICS  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	Sized correctly for hands			
Maintained and in working condition  Footwear     Good condition including sole tread pattern     Must be laced  Has fire extinguisher in cab  Dust mask     NIOSH N95 compliant  PPE inspected and maintained  PPE used consistently as required  C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  D) ERGONOMICS  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)				
Footwear  Good condition including sole tread pattern  Must be laced  Has fire extinguisher in cab  Dust mask  NIOSH N95 compliant  PPE inspected and maintained  PPE used consistently as required  C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  D) ERGONOMICS  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	Minimum 24 NRR			
Good condition including sole tread pattern     Must be laced  Has fire extinguisher in cab  Dust mask     NIOSH N95 compliant  PPE inspected and maintained  PPE used consistently as required  C) COMMUNICATION  OM ONM N/A  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Consistently communicates work plans  Professional communication throughout workday  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)				
Has fire extinguisher in cab  □ □ □ □  Dust mask  • NIOSH N95 compliant  PPE inspected and maintained  □ □ □ □  PPE used consistently as required  □ □ □ □  C) COMMUNICATION  Attend pre-work meetings  □ □ □ □  Ensures hazards are understood  □ □ □ □  Communicates hazards throughout workday  □ □ □ □  Consistently communicates work plans  □ □ □ □  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)				
Dust mask       □       □       □         PPE inspected and maintained       □       □       □         PPE used consistently as required       □       □       □         C) COMMUNICATION       OM       ONM       N/A         Attend pre-work meetings       □       □       □         Ensures hazards are understood       □       □       □         Communicates hazards throughout workday       □       □       □         Uses signals as required       □       □       □         Consistently communicates work plans       □       □       □         Professional communication throughout workday       □       □       □         D) ERGONOMICS       OM       ONM       N/A         Lifts correctly (where applicable)       □       □	Must be laced			
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PPE inspected and maintained	Dust mask			
PPE used consistently as required	NIOSH N95 compliant			
C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Consistently communicates work plans  Professional communication throughout workday  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	PPE inspected and maintained			
Attend pre-work meetings	TT E mapecied and maintained			
Attend pre-work meetings				
Ensures hazards are understood				
Communicates hazards throughout workday	PPE used consistently as required	ОМ	ONM	N/A
Uses signals as required	PPE used consistently as required  C) COMMUNICATION	ОМ	ONM	N/A
Consistently communicates work plans  Professional communication throughout workday  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	PPE used consistently as required  C) COMMUNICATION  Attend pre-work meetings	ОМ ПППППППППППППППППППППППППППППППППППП	ONM	N/A
Professional communication throughout workday  D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood			N/A
D) ERGONOMICS  OM ONM N/A  Lifts correctly (where applicable)	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday			N/A
Lifts correctly (where applicable)	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required			N/A
Lifts correctly (where applicable)	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Consistently communicates work plans			N/A
	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Consistently communicates work plans			N/A
Best practice for body position while operating	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Consistently communicates work plans  Professional communication throughout workday			
	C) COMMUNICATION  Attend pre-work meetings  Ensures hazards are understood  Communicates hazards throughout workday  Uses signals as required  Consistently communicates work plans  Professional communication throughout workday  D) ERGONOMICS			

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Walks safely in the bush (where applicable)			
E) PRE AND POST INSPECTION AND MAINTENANCE OF TOWER	ОМ	ONM	N/A
Equipment manuals available			
Pre-operational inspections			
Pre-operational inspections			
Wire rope			
Operators cab			
• Carriers			
• Fluids			
Belts			
Guylines			
Conducts post operational inspection			
Locks out equipment (as required)			
Checks signals are operating			
	•		
F) OPERATE TOWER	ОМ	ONM	N/A
Maintains 3-point contact on and off machine			
Operate in accordance with manufacturer's specifications			
Change roads when required			
Operate tower smoothly			
Spool lines including change and upend lines			
Run guylines			
Work safely with other equipment and workers			
Monitor performance of equipment while operating			

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Yard / pile logs		
<ul> <li>Plan and prepare for log landing</li> </ul>		
Stable piling		
Spot the butt rigging		
Logs piled in lay		
Crew in clear		
<ul> <li>Working draws and ridges</li> </ul>		
Machine at safe angles		

G) SET UP AND TAKE DOWN TOWER	ОМ	ONM	N/A
Equipment locked out			
Maintain Tower			
<ul> <li>Inspection of sheaves (mainline, haul back, skyline)</li> </ul>		_	
Grease tower			
Safety lines and guyline blocks			
Plan Landing			
Stable pad			
Correct rigging math			
• Access			
Position in landing			
No diamond lead			
Correct Position			
No side binds			
Running clear			
Raise/Lower Tower			
First stage hydraulic ram			
First stage heel blocks (telescoping tower)			
Communicate with crew			
Spotter			
Hand signals			
Voice signals			
Radio or whistle signals			

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H) MOVE TOWER		ONM	N/A
Plan route			
Width of road			
Radius of turns			
Traffic			
<ul> <li>Powerlines</li> </ul>			
Railway overpasses			
Overhead obstructions			
Stream crossings			
Equipment for job			
Risk assessment			
Load and unload machine			
Spotter identified			
Give and receive signals			
Secure equipment			
<ul> <li>Rigging and boom equipment placement on lowbed</li> </ul>			
Check brake functions			
Lock out equipment			
Communicate with crew			

### This is the last page of the assessment.

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Feedback is welcome and may be sent to training@bcforestsafe.org.







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