

# Feller Buncher Assessment

|                                |  |
|--------------------------------|--|
| <b>Assessment</b>              | <p>This document can be used:</p> <ul style="list-style-type: none"> <li>• For gathering evidence in a training environment</li> <li>• As a competency check of knowledge on an existing worker; or</li> <li>• As a summative assessment.</li> </ul>   |
| <b>Candidate Name</b>          |  |
| <b>Assessor Name</b>           |  |
| <b>Date of Assessment</b>      |  |
| <b>Summary of Assessment</b>   | <p><input type="checkbox"/> The candidate met all outcomes of the <b>worker assessment</b></p> <p><input type="checkbox"/> The candidate has <b>NOT</b> met all outcomes of the <b>worker assessment</b></p> <p><input type="checkbox"/> Gap training plan developed</p>   |
| <b>Date of Reassessment</b>    |  |
| <b>Summary of Reassessment</b> | <p><input type="checkbox"/> The candidate met all outcomes of the <b>worker assessment</b></p> <p><input type="checkbox"/> The candidate has <b>NOT</b> met all outcomes of the <b>worker assessment</b></p>   |
| <b>Instructions</b>            | <ul style="list-style-type: none"> <li>• Complete the assessment with the candidate adding notes to justify your decisions.</li> <li>• Ensure the first page of this document is completed (all fields).</li> <li>• Develop a gap training plan for practical deficiencies if required.</li> <li>• Use the same form for reassessment (if applicable) only reassessing the areas where gaps exist.</li> <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.bcforestsafes.org](http://www.bcforestsafes.org).

# Part 1 - Competency Conversation

| General Instructions  |  |
|---|--|
| <p>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.</p> <p><b>Important Note:</b> Do not conduct competency conversation while operating equipment.</p> |  |
| Training and Assessment Rubric  |  |
| Assessment Instruction  | <p><b>S</b> - This means that the candidate must supply all responses listed, as the knowledge is <b>safety</b> critical or important.</p> <p><b>B</b> - This means the candidate must at a minimum verbalize the <b>bolded</b> responses, and additional responses are further proof of competence.</p> <p><b>P</b> - The candidate must give a <b>percentage</b> of responses correctly to reasonably show competence in the area.</p> |

## 1068 – Describe Signals Used in Forestry

| Locator   | Questions  |   |
|---|--|---|
| General Yarding / General Mechanized Harvesting |  |   |
| 1.2   | <b>What is the signal process before blasting?</b><br><br><div><input type="checkbox"/> 12 short whistle signals sounded at 1 second intervals</div> <div><input type="checkbox"/> Two minutes elapse after the last warning signal before initiating the blast</div> <div><input type="checkbox"/> After blast and inspection one prolonged whistle of at least 5 second duration must be sounded before permission granted to return announced by radio</div> <div>Assessment Instruction: S</div> |   |
|   | Assessment:  | <div><input type="checkbox"/> Outcome met</div> <div><input type="checkbox"/> Outcome not met</div> |

## 1090 – Describe Harvesting Methods

| Locator                 | Questions  |  |                                      |  |
|-------------------------|--|--|--------------------------------------|--|
| <b>General Forestry</b> |  |  |                                      |  |
| 1.1                     | <p><b>In what conditions are cable-logging systems generally used?</b></p> <p><input type="checkbox"/> Cable logging is generally conducted on steep slope, wet, or inaccessible terrain for ground based mechanized harvesting</p> <p>Assessment Instruction: S</p>   |  |                                      |  |
|                         | <table border="1" style="width: 100%;"> <tr> <td style="width: 33%;">Assessment:</td> <td style="width: 33%; text-align: center;"><input type="checkbox"/> Outcome met</td> <td style="width: 33%; text-align: center;"><input type="checkbox"/> Outcome not met</td> </tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment:             | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.2                     | <p><b>What are safety considerations related to ground based mechanized harvesting?</b></p> <p><input type="checkbox"/> Machine limitations (slope and stability, handling loads)</p> <p><input type="checkbox"/> Ground conditions</p> <p><input type="checkbox"/> Steep slopes</p> <p><input type="checkbox"/> Lock out</p> <p><input type="checkbox"/> Three-point contact</p> <p><input type="checkbox"/> Crush points</p> <p><input type="checkbox"/> Minimum safe separation or hazard zones and safe zones</p> <p><input type="checkbox"/> Overhead or buried power or gas</p> <p><input type="checkbox"/> Danger trees</p> <p>Assessment Instruction: P -7 from list</p> |  |                                      |  |
|                         | <table border="1" style="width: 100%;"> <tr> <td style="width: 33%;">Assessment:</td> <td style="width: 33%; text-align: center;"><input type="checkbox"/> Outcome met</td> <td style="width: 33%; text-align: center;"><input type="checkbox"/> Outcome not met</td> </tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment:             | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.3                     | <p><b>What are safety considerations related to cable logging systems?</b></p> <p><input type="checkbox"/> Runaway trees</p> <p><input type="checkbox"/> Bight</p> <p><input type="checkbox"/> Clearing</p> <p><input type="checkbox"/> Workers in area</p> <p><input type="checkbox"/> Minimum safe distances</p> <p><input type="checkbox"/> Danger trees</p> <p><input type="checkbox"/> Crushing</p> <p>Assessment Instruction: P – 6 from list</p>  |  |                                      |  |
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| Assessment:             | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |

|     |  |                                      |  |
|-----|--|--------------------------------------|--|
| 2.3 | <b>What is critical to do when changing a logging plan?</b>              |                                      |  |
|     | <input type="checkbox"/> Communicate to all workers what the changes are |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |

## 1081 – Describe Tools and Equipment for Heavy Machinery

| Locator                               | Questions   |                                      |  |
|---------------------------------------|---|--------------------------------------|--|
| Mechanized Harvesting / Road Building |   |                                      |  |
| 1.1                                   | What are 9 common and specialty tools used on heavy equipment?  |                                      |  |
|                                       | <div><input type="checkbox"/> Multi-testers</div> <div><input type="checkbox"/> Inspection mirrors</div> <div><input type="checkbox"/> Pick up magnets</div> <div><input type="checkbox"/> Easy outs</div> <div><input type="checkbox"/> Wrenches</div> <div><input type="checkbox"/> Taps and dies</div> <div><input type="checkbox"/> Hammers</div> <div><input type="checkbox"/> Shovels</div> <div><input type="checkbox"/> Drift and pry bars</div> <div><input type="checkbox"/> Chisel</div> <div><input type="checkbox"/> Files</div> <div><input type="checkbox"/> Jack</div> <div><input type="checkbox"/> Air tools</div> <div><input type="checkbox"/> Impact wrenches</div> <div><input type="checkbox"/> Ratchets</div> <div><input type="checkbox"/> Die grinder</div> <div><input type="checkbox"/> Greaser</div> <div><input type="checkbox"/> Hose press</div> <div>Assessment Instruction: P – 9 from list</div> |                                      |  |
|                                       | Assessment:   | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |

|             |   |  |                                      |  |
|-------------|---|--|--------------------------------------|--|
| 2.1         | <p><b>Name eight pieces of welding equipment and supplies used on heavy equipment</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxy acetylene cutting systems</li> <li><input type="checkbox"/> Air arc</li> <li><input type="checkbox"/> Chip hammers</li> <li><input type="checkbox"/> Propane gas torch 'tiger torch'</li> <li><input type="checkbox"/> Wire brush</li> <li><input type="checkbox"/> Chalk</li> <li><input type="checkbox"/> Tip cleaner</li> <li><input type="checkbox"/> Grinder</li> <li><input type="checkbox"/> Drill</li> <li><input type="checkbox"/> Cut off saw</li> <li><input type="checkbox"/> Air tools</li> <li><input type="checkbox"/> Flux chippers</li> <li><input type="checkbox"/> Grinders</li> <li><input type="checkbox"/> Vice</li> <li><input type="checkbox"/> Cutting table</li> <li><input type="checkbox"/> Plasma cutter</li> </ul> <p>Assessment Instruction: P – 8 from list</p> <table border="1" data-bbox="256 1062 1498 1136"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table> | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met  | <input type="checkbox"/> Outcome not met |                                      |  |
| 2.2         | <p><b>What are three types of welding commonly used on heavy equipment?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Stick</li> <li><input type="checkbox"/> Wire feed</li> <li><input type="checkbox"/> Brazing</li> </ul> <p>Assessment Instruction: S</p> <table border="1" data-bbox="256 1377 1498 1451"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met  | <input type="checkbox"/> Outcome not met |                                      |  |
| 2.3         | <p><b>What PPE is mandatory when using welding equipment?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Gloves</li> <li><input type="checkbox"/> Welding helmet</li> <li><input type="checkbox"/> Cutting goggles</li> <li><input type="checkbox"/> Fireproof clothing</li> <li><input type="checkbox"/> Safety glasses</li> </ul> <p>Assessment Instruction: S</p> <table border="1" data-bbox="256 1797 1498 1873"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met  | <input type="checkbox"/> Outcome not met |                                      |  |

|     |   |                                      |  |
|-----|---|--------------------------------------|--|
| 3.1 | <b>What are common gas-powered tools used on heavy equipment?</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cut off saw</li> <li><input type="checkbox"/> Pressure washers</li> <li><input type="checkbox"/> Gas or electric compressors</li> <li><input type="checkbox"/> Gas or diesel generators</li> <li><input type="checkbox"/> Pumps</li> <li><input type="checkbox"/> Plate compactor</li> </ul> <p>Assessment Instruction: P – 4 from list</p> |                                      |  |
|     | Assessment:   | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |

## 1082 – Describe General Heavy Equipment Inspection and Maintenance Procedures

| Locator                               | Questions   |                                      |  |
|---------------------------------------|---|--------------------------------------|--|
| Mechanized Harvesting / Road Building |   |                                      |  |
| 1.1                                   | <b>What are the major mechanical components or systems that require maintenance and inspection?</b><br><br><input type="checkbox"/> Engine systems<br><input type="checkbox"/> Hydraulic systems<br><input type="checkbox"/> Electrical systems<br><input type="checkbox"/> Attachments<br><input type="checkbox"/> Undercarriage<br><br><b>Assessment Instruction: S</b>   |                                      |  |
|                                       | Assessment:   | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 1.2                                   | <b>What are common symptoms or indicators of failure?</b><br><br><input type="checkbox"/> Noise<br><input type="checkbox"/> Vibration<br><input type="checkbox"/> Smells<br><input type="checkbox"/> Leaks<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Lack of power<br><input type="checkbox"/> Improper function<br><input type="checkbox"/> Exhaust colour<br><input type="checkbox"/> Gauges |                                      |  |
|                                       |   |                                      |  |

|     |  |                                      |  |
|-----|--|--------------------------------------|--|
|     | <input type="checkbox"/> Warning lights<br><b>Assessment Instruction: P – 7 from list</b>  |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 2.1 | <b>What are the three main pre-start procedures?</b><br><input type="checkbox"/> External visual equipment checks<br><input type="checkbox"/> Fluid checks<br><input type="checkbox"/> Operational (in cab) checks<br><b>Assessment Instruction: S</b>   |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 2.2 | <b>What are the main considerations for shut down procedures?</b><br><input type="checkbox"/> Parking position<br><input type="checkbox"/> Attachments grounded<br><input type="checkbox"/> Cool down time<br><input type="checkbox"/> Maintenance log<br><b>Assessment Instruction: S</b>   |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 2.3 | <b>What are common maintenance procedures on heavy equipment?</b><br><input type="checkbox"/> Lock out or zero energy state<br><input type="checkbox"/> Greasing<br><input type="checkbox"/> Adding fluids and fuel<br><input type="checkbox"/> Draining fuel sumps and water separators<br><input type="checkbox"/> Tightening loose hardware<br><input type="checkbox"/> Repair leaks<br><input type="checkbox"/> Replacing O-rings<br><input type="checkbox"/> Replacing hoses<br><input type="checkbox"/> Replacing filters<br><input type="checkbox"/> Bleeding air from fuel systems<br><input type="checkbox"/> Adjust track tension<br><input type="checkbox"/> Adjust belt tension<br><input type="checkbox"/> Maintain tire pressure<br><input type="checkbox"/> Clean and maintain batteries<br><b>Assessment Instruction: P – 10 from list</b> |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |

## 1083 – Describe Heavy Equipment Mechanical Systems

| Locator                                      | Questions  |  |                                      |  |
|--|--|--|--------------------------------------|--|
| <b>Mechanized Harvesting / Road Building</b> |  |  |                                      |  |
| 1.1  | <p><b>What are two basic components of an engine and their function?</b></p> <p><input type="checkbox"/> Turbo charger – increases power on an engine</p> <p><input type="checkbox"/> Cylinder head – Allows air / fuel into / out of combustion chamber</p> <p><input type="checkbox"/> Piston – creates compression</p> <p>Assessment Instruction: P – 2 from list</p>                           |  |                                      |  |
|  | <table border="1" style="width: 100%;"> <tr> <td style="width: 40%;">Assessment:</td> <td style="width: 30%;"><input type="checkbox"/> Outcome met</td> <td style="width: 30%;"><input type="checkbox"/> Outcome not met</td> </tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment:                                  | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.2  | <p><b>Name two things a driver should check in an engine lubrication system</b></p> <p><input type="checkbox"/> Oil level</p> <p><input type="checkbox"/> Oil pressure</p> <p><input type="checkbox"/> Grade of oil required</p> <p>Assessment Instruction: P – 2 from list</p>  |  |                                      |  |
|  | <table border="1" style="width: 100%;"> <tr> <td style="width: 40%;">Assessment:</td> <td style="width: 30%;"><input type="checkbox"/> Outcome met</td> <td style="width: 30%;"><input type="checkbox"/> Outcome not met</td> </tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment:                                  | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.3  | <p><b>What are two components of a cooling system and their function?</b></p> <p><input type="checkbox"/> Radiator – allows air and water flow to cool engine</p> <p><input type="checkbox"/> Hoses – water to circulate</p> <p><input type="checkbox"/> Fan – draw air into radiator</p> <p><input type="checkbox"/> Fan belts – drive the fan</p> <p>Assessment Instruction: P – 2 from list</p> |  |                                      |  |
|  | <table border="1" style="width: 100%;"> <tr> <td style="width: 40%;">Assessment:</td> <td style="width: 30%;"><input type="checkbox"/> Outcome met</td> <td style="width: 30%;"><input type="checkbox"/> Outcome not met</td> </tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment:                                  | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.4  | <p><b>What are three components of a fuel system and their function?</b></p> <p><input type="checkbox"/> Tanks – holds fuel</p> <p><input type="checkbox"/> Lines – deliver fuel from tank to engine</p> <p><input type="checkbox"/> Filters – removes foreign debris from fuel</p> <p><input type="checkbox"/> Pump – Deliver fuel to engine</p> <p>Assessment Instruction: P – 3 from list</p>   |  |                                      |  |
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| Assessment:                                  | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |



|             |  |  |                                      |  |
|-------------|--|--|--------------------------------------|--|
| 1.5         | <p><b>What are three components of air induction and exhaust systems and their function?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Pre-cleaner – Takes coarse particulates from air supply</li> <li><input type="checkbox"/> Air filter – Removes fine particulates from air supply</li> <li><input type="checkbox"/> Air to air – Delivery system of air to the turbo charged engine</li> <li><input type="checkbox"/> After treatment (DEF) – System that minimizes air pollution in exhaust</li> </ul> <p>Assessment Instruction: P – 3 from list</p> <table border="1" data-bbox="250 420 1497 483"> <tr> <td>Assessment:</td> <td><input type="checkbox"/> Outcome met</td> <td><input type="checkbox"/> Outcome not met</td> </tr> </table>  | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 2.1         | <p><b>What are three components of hydraulic systems including function?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Pumps – pump fluid</li> <li><input type="checkbox"/> Motor – propulsion on components</li> <li><input type="checkbox"/> Cylinders – move attachments or implements</li> <li><input type="checkbox"/> Hoses – delivers fluid to motors or cylinders</li> <li><input type="checkbox"/> Valves – Controls flows</li> <li><input type="checkbox"/> Tank and fluid level indicator – identify levels of fluids</li> </ul> <p>Assessment Instruction: P – 3 from list</p> <table border="1" data-bbox="250 892 1497 955"> <tr> <td>Assessment:</td> <td><input type="checkbox"/> Outcome met</td> <td><input type="checkbox"/> Outcome not met</td> </tr> </table>  | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 3.1         | <p><b>What are three components of a powertrain system including function?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Travel motor – allows machine/component to move</li> <li><input type="checkbox"/> Transmissions – transfer power form engine to drive systems</li> <li><input type="checkbox"/> Differentials – transfers power from transmission to axles</li> <li><input type="checkbox"/> Swing gear – allows machine to rotate</li> <li><input type="checkbox"/> Final drives – drives tracks</li> <li><input type="checkbox"/> Engine – primary source of power</li> <li><input type="checkbox"/> Pumps – secondary source of power</li> </ul> <p>Assessment Instruction: P – 3 from list</p> <table border="1" data-bbox="250 1421 1497 1484"> <tr> <td>Assessment:</td> <td><input type="checkbox"/> Outcome met</td> <td><input type="checkbox"/> Outcome not met</td> </tr> </table> | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 4.1         | <p><b>What are three components of track systems including function?</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Tracks – enables machine to move</li> <li><input type="checkbox"/> Idler – allows track to rotate around</li> <li><input type="checkbox"/> Sprocket – drives track to rotate around</li> <li><input type="checkbox"/> Bottom and top (carrier) rollers – reduce friction within the undercarriage system</li> <li><input type="checkbox"/> Track adjuster – keeps track tight</li> </ul> <p>Assessment Instruction: P – 3 from list</p> <table border="1" data-bbox="250 1841 1497 1904"> <tr> <td>Assessment:</td> <td><input type="checkbox"/> Outcome met</td> <td><input type="checkbox"/> Outcome not met</td> </tr> </table>  | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |

|             |  |  |                                      |  |
|-------------|--|--|--------------------------------------|--|
| 5.1         | <p><b>What are four types of braking systems?</b></p> <p><input type="checkbox"/> Air system</p> <p><input type="checkbox"/> Hydraulic system</p> <p><input type="checkbox"/> Air / hydraulic system</p> <p><input type="checkbox"/> Engine braking system (compression, exhaust)</p> <p><input type="checkbox"/> Hydrostatic system</p> <p>Assessment Instruction: P – 4 from list</p> <table border="1" data-bbox="250 472 1497 535"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>  | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 6.1         | <p><b>Name three common parts of electrical systems and their function</b></p> <p><input type="checkbox"/> Alternators – creates electrical current</p> <p><input type="checkbox"/> Starters – starts the engine</p> <p><input type="checkbox"/> Batteries – powers the starter</p> <p><input type="checkbox"/> Fuses – fail safe for system</p> <p><input type="checkbox"/> Solenoids – a electromagnetic switch</p> <p><input type="checkbox"/> Switches – turns power on and off</p> <p>Assessment Instruction: P – 3 from list</p> <table border="1" data-bbox="250 949 1497 1012"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>                              | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 6.1         | <p><b>What are the two common types of electrical systems?</b></p> <p><input type="checkbox"/> 12 V and 24 V</p> <p>Assessment Instruction: S</p> <table border="1" data-bbox="250 1159 1497 1222"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>  | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 7.1         | <p><b>Name three types of ground engaging systems and their function</b></p> <p><input type="checkbox"/> Blades – pushes material</p> <p><input type="checkbox"/> Buckets – carries material</p> <p><input type="checkbox"/> Scarifiers – digs up ground</p> <p><input type="checkbox"/> Grapples – grabs logs</p> <p><input type="checkbox"/> Rock hammer – breaks rocks</p> <p><input type="checkbox"/> Compactors – compresses material</p> <p><input type="checkbox"/> Drill hammer – drills holes in rocks</p> <p>Assessment Instruction: P – 3 from list</p> <table border="1" data-bbox="250 1684 1497 1747"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table> | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |

## 1092 – Describe and Operate Feller Buncher

| Locator     | Questions  |  |                                      |  |
|-------------|--|--|--------------------------------------|--|
| 1.1         | <p><b>Name two places an operator can find information on operational capabilities, limitations, and restrictions of feller bunchers</b></p> <p><input type="checkbox"/> Operator manuals</p> <p><input type="checkbox"/> Standard operating procedures</p> <p><b>Assessment Instruction: S</b></p>  |  |                                      |  |
|             | <table border="1"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.3         | <p><b>What should be considered when developing a harvest plan?</b></p> <p><input type="checkbox"/> Other phases</p> <p><input type="checkbox"/> Terrain and soil conditions including drainage patterns</p> <p><input type="checkbox"/> Site sensitive area and no-go zones</p> <p><input type="checkbox"/> Skid direction</p> <p><input type="checkbox"/> Bunch and tree size</p> <p><input type="checkbox"/> What trees to leave</p> <p><b>Assessment Instruction: S</b></p>  |  |                                      |  |
|             | <table border="1"> <tr> <td>Assessment:</td><td><input type="checkbox"/> Outcome met</td><td><input type="checkbox"/> Outcome not met</td></tr> </table>   | Assessment:                              | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| Assessment: | <input type="checkbox"/> Outcome met   | <input type="checkbox"/> Outcome not met |                                      |  |
| 1.4         | <p><b>What are common hazards related to operating a feller buncher?</b></p> <p><input type="checkbox"/> Slips and falls</p> <p><input type="checkbox"/> Crush points</p> <p><input type="checkbox"/> Fire from debris build up with machine</p> <p><input type="checkbox"/> High speed saw blade</p> <p><input type="checkbox"/> Roll over</p> <p><input type="checkbox"/> Wildfire from blade</p> <p><input type="checkbox"/> Flying debris from blade</p> <p><input type="checkbox"/> Saw contacting tracks or other parts of machine</p> <p><input type="checkbox"/> Other worker in work area</p> <p><input type="checkbox"/> Energized machines</p> <p><input type="checkbox"/> Communication failure</p> <p><input type="checkbox"/> Unstable soil</p> <p><input type="checkbox"/> Slippery machine surfaces</p> <p><input type="checkbox"/> Jill pokes</p> <p><input type="checkbox"/> Logs entering cabs</p> <p><b>Assessment Instruction: P – 10 from list</b></p> |  |                                      |  |

|     |  |                                      |  |
|-----|--|--------------------------------------|--|
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 2.5 | <b>What long-term affect does constantly sitting in a poor body position cause?</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Sore back</li> <li><input type="checkbox"/> Sore neck</li> <li><input type="checkbox"/> Sore shoulders</li> <li><input type="checkbox"/> Carpal tunnel syndrome</li> </ul> <p>Assessment Instruction: P – 3 from list</p>  |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 3.3 | <b>What basic repairs may an operator perform on a feller buncher?</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Replace hydraulic hoses</li> <li><input type="checkbox"/> Replace / clean fuel filters</li> <li><input type="checkbox"/> Change engine oil and filter</li> <li><input type="checkbox"/> Adjust belt tension</li> <li><input type="checkbox"/> Clean battery terminals</li> <li><input type="checkbox"/> Adjust track tension or air tire pressure</li> <li><input type="checkbox"/> Rotate or replace saw teeth</li> </ul> <p>Assessment Instruction: P – 5 from list</p> |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |
| 4.1 | <b>What types of saws can a feller buncher use?</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hot saw</li> <li><input type="checkbox"/> Intermittent saw</li> </ul> <p>Assessment Instruction: S</p>   |                                      |  |
|     | Assessment:  | <input type="checkbox"/> Outcome met | <input type="checkbox"/> Outcome not met |

# Part 2 – Practical Assessment

| General Instructions  |   |
|---|---|
| <p>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.</p> <p>Remember not to distract the operator when conducting the practical assessment.</p> |   |
| Training and Assessment Rubric  |   |
| <b>Outcome Not Met (ONM)</b>  | <p><b>Skills:</b> Can complete the task but only with direct instruction and supervision, may lack consistency in application.</p> <p><b>Knowledge:</b> Does not understand what they are doing, or are not aware of a knowledge deficiency, or need guidance and support.</p> <p><b>Attributes:</b> 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.</p> |
| <b>Outcome Met (OM)</b>   | <p><b>Skills:</b> Consistently completes the task using safe work practices multiple times in a variety of contexts.</p> <p><b>Knowledge:</b> Has a solid grasp of underpinning knowledge, consistently applies it, and can explain it.</p> <p><b>Attributes:</b> Consistently displays professional attributes including being fit for work, prepared for the day, working in and organized manner and achieving work outcomes.</p>  |

| A) PREPARE FOR THE DAY   | OM                       | ONM                      | N/A                      |
|--|--------------------------|--------------------------|--------------------------|
| <b>Arrived on time</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Clothing for conditions</b> <ul style="list-style-type: none"> <li>Layered clothing appropriate to the elements for working and transport conditions</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Nutrition and water</b> <ul style="list-style-type: none"> <li>Adequate food for the day</li> <li>Sufficient hydration for work and weather conditions</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Fit for work</b> <ul style="list-style-type: none"> <li>Candidate is physically able to do the task</li> <li>3-point contact on and off machine</li> <li>Able to get up and down machine</li> <li>Able to perform simple maintenance</li> <li>Able to change attachments</li> <li>Can fit through escape hatch</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Not noticeably impaired</b> <ul style="list-style-type: none"> <li>Candidate is not obviously physically or mentally impaired (by drugs, alcohol, personal situations, fatigue)</li> </ul>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Knows where ERP is located</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| B) PERSONAL PROTECTIVE EQUIPMENT (where applicable)  | OM                       | ONM                      | N/A                      |
|--|--------------------------|--------------------------|--------------------------|
| <b>Hard hat</b> <ul style="list-style-type: none"> <li>CSA – less than 3 years old / ANSI – less than 5 years old</li> <li>No dents/cracks, modifications</li> <li>Suspension maintained (4-point min)</li> </ul>      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Hi-Vis</b> <ul style="list-style-type: none"> <li>Minimum 120 square inches front and back</li> <li>Not faded, discoloured, torn or permanently dirty</li> <li>Contrasts with the work environment</li> </ul>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Leg protection</b> <ul style="list-style-type: none"> <li>Minimum 3600/4100 FPM rating</li> <li>Kevlar not compromised or exposed</li> <li>Pants maintained and repaired (no loose tears to outer layer)</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| <b>Face/Eye protection</b> <ul style="list-style-type: none"> <li>• Face screen free of holes</li> <li>• Moves freely between down and raised position</li> <li>• Safety glasses used when appropriate</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Hand protection</b> <ul style="list-style-type: none"> <li>• Not damaged and free of holes</li> <li>• Appropriate to weather conditions</li> <li>• Sized correctly for hands</li> </ul>                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Hearing protection</b> <ul style="list-style-type: none"> <li>• Minimum 24 NRR</li> <li>• Maintained and in working condition</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Footwear</b> <ul style="list-style-type: none"> <li>• Good condition including sole tread pattern</li> <li>• Must be laced</li> </ul>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Has fire extinguisher in cab</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Dust mask</b> <ul style="list-style-type: none"> <li>• NIOSH N95 compliant</li> </ul>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>PPE inspected and maintained</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>PPE used consistently as required</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| C) PRE-WORK ACTIVITIES  | OM                       | ONM                      | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| <b>Equipment manuals available</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Pre-start equipment checks</b> <ul style="list-style-type: none"> <li>• Walk around and check for leaks</li> <li>• Check for loose components</li> <li>• Check for cracks, loose, missing bolts</li> <li>• Check for damage to machine</li> <li>• Obstructions</li> <li>• Fluid levels</li> <li>• Water / Coolant</li> <li>• Hydraulic</li> <li>• Engine</li> <li>• Night switch</li> <li>• Check track pads (where applicable)</li> <li>• Tire pressure (where applicable)</li> <li>• Check for tire damage (where applicable)</li> <li>• Wheels and wheel nuts (where applicable)</li> <li>• Close air reservoir (where applicable)</li> <li>• Safety equipment check</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Start-up procedures</b> <ul style="list-style-type: none"> <li>• Maintain 3-point contact on and off machine</li> <li>• Find key</li> <li>• Check gauges</li> <li>• Warning systems</li> <li>• Start and warm up hydraulics</li> <li>• Check transmission</li> <li>• Warning lights</li> <li>• Wipers</li> <li>• Seatbelt</li> <li>• Lock out</li> <li>• Parking brake</li> <li>• All controls and major systems</li> <li>• Escape hatch</li> <li>• Housekeeping</li> <li>• Radio operational</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



| D) COMMUNICATION                              | OM                       | ONM                      | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| Attend pre-work meetings                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ensures hazards are understood                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Communicates hazards throughout workday       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Uses signals as required                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Consistently communicates work plans          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Professional communication throughout workday | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| E) ERGONOMICS                                   | OM                       | ONM                      | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| Lifts correctly (where applicable)              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Best practice for body position while operating | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Walks safely in the bush (where applicable)     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| F) COMPLETE TASKS   | OM                       | ONM                      | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| <b>Shut down procedures</b> <ul style="list-style-type: none"> <li>• Safe parking location</li> <li>• Brake on (where applicable)</li> <li>• Lower boom / blade / attachments</li> <li>• Position for ease of access and egress</li> <li>• Level position for fluid checks</li> <li>• Cool down before shut-down</li> <li>• Walk around and general check</li> <li>• Secure / lock machine</li> <li>• 3-point contact on and off</li> <li>• Turn off night switch</li> <li>• Close air reservoir access (where applicable)</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| <b>Daily maintenance tasks</b> <ul style="list-style-type: none"> <li>• Lubrication systems</li> <li>• Air intake systems</li> <li>• Air system reservoir</li> <li>• Fuel tank sump</li> <li>• Drain air system / water separator</li> <li>• Drain fuel filters / water separator</li> <li>• Inspect and clean components</li> <li>• Housekeeping</li> <li>• Track tension (where applicable)</li> <li>• Tire pressure (where applicable)</li> <li>• Greasing</li> <li>• Fueling</li> <li>• Check for leaks</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Basic repairs</b> <ul style="list-style-type: none"> <li>• Hydraulic hoses / fittings / O-rings</li> <li>• Fuel / air filter</li> <li>• Engine oil change</li> <li>• Belt tension</li> <li>• Battery terminals</li> <li>• Change saw teeth</li> <li>• Change lights</li> <li>• Repair wiring</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| <b>G) OPERATE FELLER BUNCHER</b>                                   | <b>OM</b>                | <b>ONM</b>               | <b>N/A</b>               |
|--|--------------------------|--------------------------|--------------------------|
| <b>Maintains 3-point contact on and off machine</b>                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Ability to use multiple functions while operating equipment</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Monitors equipment performance while operating</b>              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| <b>Operator functions on feller buncher</b> <ul style="list-style-type: none"> <li>• Raise and lower boom</li> <li>• Retract and extend stick and tilt head up and down and side to side</li> <li>• Coordinate boom and stick movement</li> <li>• Walk machine backward and forward</li> <li>• Turn left and right</li> <li>• Rotate the house left and right and up and down</li> <li>• Coordination of the cut</li> <li>• Control and placement of the trees in bunches of appropriate size</li> <li>• Collect multiple stems in felling head</li> <li>• Maintain control when cutting oversized trees</li> <li>• Smooth operation</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Falling plan</b> <ul style="list-style-type: none"> <li>• Develop falling plan: <ul style="list-style-type: none"> <li>○ Including how to deal with oversize timber with multiple cuts</li> <li>○ Defined split lines between mechanical and hand fall</li> <li>○ Hazards identified including brushing along boundaries</li> </ul> </li> <li>• Implementation of plan</li> <li>• Adjusting as needed</li> <li>• Knows effects on other phases</li> <li>• Terrain and soil condition considered, including drainage patterns</li> <li>• Identifies site sensitive areas and no-go zones</li> <li>• Considered skid direction, bunch and size of trees</li> <li>• Leaves trees as required</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Use and maintain feller buncher attachments</b> <ul style="list-style-type: none"> <li>• Hot saw – bearings – change saw teeth</li> <li>• Intermittent saw – slides – change saw teeth</li> <li>• Winch assist system</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| <b>Hazard awareness</b> <ul style="list-style-type: none"> <li>• Slips trips falls</li> <li>• Fire from debris build up with machine</li> <li>• High speed saw blade</li> <li>• Roll over</li> <li>• Wildfire from blade</li> <li>• Crush injuries</li> <li>• Flying debris from rotating saw head</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Harvest map</b> <ul style="list-style-type: none"> <li>• Read to plan days activities</li> </ul>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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

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Feedback is welcome and may be sent to [training@bcforestsafe.org](mailto:training@bcforestsafe.org).



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**BC Forest Safety**