

CRANE OPERATOR COMPETENCIES

Mobile Hydraulic – Unlimited Tonnage

K: Indicates that it is a theory competency (knowledge of the crane operator)
 W: Indicates that it is a workplace competency (an activity an operator performs)

1. Safety (CS)

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|-----|---|--------------------------|
| 1.1 | Demonstrate knowledge of safe working practices for crane operators (K) | <input type="checkbox"/> |
| 1.2 | Demonstrate knowledge of Workplace Hazardous Materials Information System (WHMIS) (K) | <input type="checkbox"/> |
| 1.3 | Manage first aid in emergency situations (K) | <input type="checkbox"/> |
| 1.4 | Demonstrate knowledge of power line hazards and high voltage equipment (K) | <input type="checkbox"/> |
| 1.5 | Comply with WorkSafe BC and OH&S regulations (W) | <input type="checkbox"/> |
| 1.6 | Respond to fire emergencies (W) | <input type="checkbox"/> |

2. Communications (CCOM)

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|-----|--|--------------------------|
| 2.1 | Demonstrate knowledge of personnel involved in crane operations (K) | <input type="checkbox"/> |
| 2.2 | Demonstrate knowledge of hand signals (K) | <input type="checkbox"/> |
| 2.3 | Demonstrate knowledge of radio communications (K) | <input type="checkbox"/> |
| 2.4 | Demonstrate knowledge of workplace communications (K) | <input type="checkbox"/> |
| 2.5 | Use hand signals in the workplace (W) | <input type="checkbox"/> |
| 2.6 | Use radio communications in the workplace (W) | <input type="checkbox"/> |
| 2.7 | Communicate information clearly and check for understanding in the workplace (W) | <input type="checkbox"/> |

3. Cranes (CC)

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|-----|--|--------------------------|
| 3.1 | Demonstrate knowledge of types of cranes and classifications (K) | <input type="checkbox"/> |
| 3.2 | Demonstrate knowledge of crane components and attachments (K) | <input type="checkbox"/> |
| 3.3 | Demonstrate knowledge of terminology related to craning and craning concepts (K) | <input type="checkbox"/> |
| 3.4 | Demonstrate knowledge of engines and ancillary systems (K) | <input type="checkbox"/> |
| 3.5 | Demonstrate knowledge of power transfer for cranes (K) | <input type="checkbox"/> |
| 3.6 | Demonstrate knowledge of hoisting terminology, functions and systems (K) | <input type="checkbox"/> |
| 3.7 | Demonstrate knowledge of regulatory requirements pertaining to cranes (K) | <input type="checkbox"/> |

4. Rigging (CR)

- 4.1 Demonstrate knowledge of lifting theory and forces (K)
- 4.2 Demonstrate knowledge of rigging hardware, materials, tools and manuals (K)
- 4.3 Demonstrate knowledge of types and function of wire rope and chains (K)
- 4.4 Demonstrate knowledge of installation, inspection and storage of wire rope (K)
- 4.5 Demonstrate knowledge of rigging techniques (K)
- 4.6 Use rigging hardware and tools in the workplace (W)

5. Load Charts (CLC)

- 5.1 Demonstrate knowledge of determining weight loads using fundamental math functions and calculations (K)
- 5.2 Demonstrate knowledge of loading and lifting (K)
- 5.3 Interpret load charts and load study drawings to configure crane for workplace operation (W)

6. Transportation & Delivery (ATD)

- 6.1 Demonstrate knowledge of BC Ministry of Transportation - Commercial Transport rules and regulations as they pertain to transportation of cranes (K)
- 6.2 Demonstrate knowledge to prepare and to transport a mobile crane (K)
- 6.3 Demonstrate knowledge of to assemble and disassemble a crane at a worksite (K)
- 6.4 Prepare and transport a mobile crane to a worksite following all highway and traffic rules and regulations (W)
- 6.5 Assemble and disassemble a crane at a worksite (W)

7. Site Planning & Crane Positioning (ASPCP)

- 7.1 Demonstrate knowledge of accurate site assessment tools (K)
- 7.2 Demonstrate knowledge to locate and safely position crane (K)
- 7.3 Conduct an accurate site assessment and safely position a crane in the workplace (W)

8. Crane Operations (CO)

- 8.1 Demonstrate knowledge of pre-operational requirements in crane operations (K)
- 8.2 Demonstrate knowledge of crane operations (K)
- 8.3 Demonstrate knowledge to leave a crane unattended (K)
- 8.4 Demonstrate crane set-up per manufacturer’s instructions (including Task 4) (W)
- 8.5 Use a mobile crane to safely pick and carry loads in a workplace (W)
- 8.6 Leave a crane unattended (W)

9. Maintenance & Service (CMS)

- 9.1 Demonstrate knowledge of inspecting engines, monitoring devices and hydraulic systems (K)
- 9.2 Demonstrate knowledge of servicing and maintenance procedures on mobile cranes (K)
- 9.3 Complete maintenance checklists (engine on / engine off) and maintain engines to manufacturer’s specifications (W)
- 9.4 Perform routine inspections and maintenance of hydraulic systems (W)
- 9.5 Inspect monitoring devices and control mechanisms (W)
- 9.6 Perform service on engine cooling systems on mobile cranes (W)
- 9.7 Maintain an equipment logbook to retain a permanent written record of maintenance and repairs (W)

10. Hydraulic Boom Crane (no tonnage restriction)

- 10.1 Demonstrate knowledge of hydraulic boom crane structure and assembly (K)
- 10.2 Demonstrate knowledge of hydraulic boom crane load charts and load calculations (K)
- 10.3 Demonstrate knowledge of lift plans and rigging for hydraulic boom cranes (K)
- 10.4 Operate a hydraulic boom crane safely according to manufacturer’s specifications and regulations (W)