

# **BOOM TRUCK OPERATOR**

## **OTHER RELATED OCCUPATIONAL TITLES**

In developing this analysis, the Industry Working Group (IWG) consulted National Occupational Analyses prepared by Human Resources Skills Development Canada from the following:

Agriculture Equipment Technician National Occupational Analysis	2007
Automotive Service Technician National Occupational Analysis	2005
Motorcycle Mechanic National Occupational Analysis	2006
Recreation Vehicle Service Technician National Occupational Analysis	2006
Transport Trailer Technician National Occupational Analysis	2008

## TABLE OF CONTENTS

	Page
OTHER RELATED OCCUPATIONAL TITLES	ii
<b>Guide to Analysis</b>	
DEVELOPMENT OF ANALYSIS	vi
STRUCTURE OF ANALYSIS	vi
VALIDATION METHOD	vii
SCOPE OF THE OCCUPATION	viii
OCCUPATIONAL OBSERVATIONS	x
<b>Analysis</b>	
<b>BLOCK A BOOM TRUCK LIFT-PREPARATIONS AND INSPECTIONS</b>	1
Task 1 Participates in off-site consultation re: technical specifications resources and other job requirements.	1
Task 2 Participates in on-site consultation re: technical specifications, resources and other job requirements.	2
Task 3 Selects boom truck equipment and attachments.	3
<b>BLOCK B BOOM TRUCK SET-UP AND OPERATIONS</b>	4
Task 4 Performs engine diagnostics.	4
Task 5 Set up and operates stiff-boom (SB) boom truck.	5
Task 6 Set up and operate knuckle-boom (KB) boom truck.	7
<b>BLOCK C BOOM TRUCK SPECIALTIES</b>	10
Task 7 Diagnoses clutches and primary drive systems.	10
Task 8 Performs boom truck hoisting of specialty machinery and equipment (e.g. HVAC equipment, aircraft, automated teller machines (ATMs) transformers, etc..).	11
Task 9 Performs boom truck hoist of structural members and other building components.	13
Task 10 Operates digger-derrick boom trucks.	14

	Task 11	Performs multi-crane lifts using boom trucks.	17
<b>BLOCK D</b>	<b>BOOM TRUCK TRANSPORT AND HAULING</b>		19
	Task 12	Diagnoses chassis and steering systems.	19
	Task 13	Repairs chassis and steering systems.	20
	Task 14	Drives boom truck.	21
	Task 15	Completes documentation re: boom truck transport/hauling.	22
<b>BLOCK E</b>	<b>BOOM TRUCK MAINTENANCE</b>		24
	Task 16	Diagnoses braking systems.	24
	Task 17	Monitors and troubleshoots boom truck equipment during operations.	24
<b>BLOCK F</b>	<b>RIGGING FOR BOOM TRUCK OPERATIONS</b>		26
	Task 18	Inspects slings/rigging equipment for boom truck hoisting operations.	26
<b>Appendices</b>			
Appendix "A"	Pie Chart.		29
Appendix "B"	DACUM Chart – Task Profile Chart.		30

## **GUIDE TO ANALYSIS**

## **DEVELOPMENT OF ANALYSIS**

A draft analysis is developed by a knowledgeable consultant who, with the assistance of a committee of experts in the field, identifies all the tasks performed in the occupation.

## **STRUCTURE OF ANALYSIS**

To facilitate the understanding of the nature of the occupation, the work performed is divided into the following divisions:

- A. BLOCK** - is the largest division within the analysis and reflects a distinct operation relevant to the occupation.
- B. TASK** - is the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform to complete a specific assignment within a "BLOCK."
- C. SUB-TASK** - is the smallest division into which it is practical to subdivide any work activity and, combined with others, fully describes all duties constituting a "TASK."

### **Supporting Knowledge and Abilities**

The element of skill and knowledge that an individual must acquire to adequately perform the task is identified under this heading.

### **Trends**

Any shifts or changes in technology or the working environment which affect the block are identified under this heading.

## VALIDATION METHOD

Several Boom Truck Operators validated the sub-tasks and applied percentage ratings to blocks and tasks. This method for the validation assisted in the completion of the time weighting section of the position description.

### DEFINITIONS

- YES:** You perform this sub-task.
- NO:** You do **not** perform this sub-task.
- BLOCK %:** the percentage of time you spend on a monthly basis performing this component.
- TASK %:** the percentage of time you spend on a monthly basis performing this task.

### PIE CHART (APPENDIX "A")

The graph depicts the percentages the Committee assigned to blocks in the analysis during validation.

### DACUM CHART (APPENDIX "B")

The listing of all the blocks, tasks and sub-tasks as established by the Industry Working Group and validated by several Boom Truck Operators.

## SCOPE OF THE OCCUPATION

The Provincial Occupational Analysis (POA) identifies major tasks that define the scope of the Trade of Boom Truck Operator as practiced on Manitoba construction projects and at other jobsites. It is based on direct consultation with working operators and other industry representatives convened by the Manitoba Apprenticeship Branch during October-May 2005. The POA supplements the National Occupation Analysis (NOA) for the Trade of Mobile Crane Operator by providing greater detail regarding the task-content of Boom Truck Operators' work, and the adaptation of accepted trade practices to provincial conditions and requirements. The POA represents an extensive description of the work undertaken by Manitoba Boom Truck Operators as a community of practice. It should not be assumed that any one Boom Truck Operator will necessarily perform all of the tasks which the Analysis identifies here. Rather, the POA offers a snapshot of the trade's aggregate task-content as identified by working operators themselves.

The POA serves as a foundation document in specifying 'made in Manitoba' standards for the apprenticeship training and journey-level certification of Boom Truck Operators. It is an essential resource in framing regulations, policies and administrative measures of material concern to these provincially-based criteria for assessing the eligibility of out-of-province Boom Truck Operators to practice the trade in Manitoba. The POA also helps specify the content of certification examination for those who pursue boom-truck operation either as their original specialty within the hoisting trades or as an adjunct to their primary qualifications as interprovincial-certified Mobile Crane Operators. There is significant overlap among the skill sets, technology and special hazards associated with the craning specialties in general, and Manitoba boom-truck operations are no exception. For this reason, POA end users are strongly urged to refer to Mobile Crane Operator NOA for this information about the broader contexts of the specialty.

The detailed content of the POA describes the Boom Truck Operator as a trade's person who applies special occupational knowledge, skills and abilities to perform craning/hoisting tasks in the following major categories:

- Block A: *Planning and setting up inspections* related to boom-truck equipment (10%)
- Block B: *Set-up and general operation* of boom-truck equipment (40%)
- Block C: *Boom-truck specialties*, including personnel hoisting, low clearance and multi-crane lifts, construction project materials (e.g. timber frame and structural-steel members and mechanical/utility system components) (10%)
- Block D: *Boom-truck transport and hauling* (15%)
- Block E: *Boom-truck maintenance* (5%)
- Block F: *Boom-truck rigging* (20%)

Boom Truck Operators themselves consider that what most distinguishes their specialty from other varieties of hoisting practice is as follows:

- The operator typically has care and control of the crane superstructure mounted on a conventional or specially-reinforced truck chassis
- The operator can load materials directly on and off the deck of this chassis
- The operator transports loads on the boom-trucks carry-deck for considerable distances
- The operator often uses trailers as well to transport large and/or awkward loads-seldom a requirement, by contrast, of typical mobile crane operations

Boom Truck Operators ply their skills in all weather, at heights, over water, in forested and other congested areas, on remote jobsites as well as in the midst of dense traffic and built structures often in proximity to such special hazards as high voltage electrical installations. Their work is highly visible and stressful, subject to multiple and sometimes conflicting demands. They closely coordinate their work with other trades people, construction/demolition jobsite personnel, as well as with individuals and corporate



clients. They are also required to understand and comply with a stringent array of regulatory, technical, and other requirements that reflect the distinctive hazards and precautions associated with hoisting equipment operations.

Perhaps the most important among these requirements is the Boom Truck Operator's ability to maintain focus on exacting technical tasks in complex, dynamic jobsite environments, while remaining alert to the operation's broader surroundings. Operators must be able to assess with confidence and accuracy the availability of dependable footings and ground conditions. They must relate these judgments to such considerations as equipment configuration/security. As well as weight, geometry, composition and other physical properties of the load, this could range from a simple, structural-steel beam all the way to an intricately engineered jet aircraft, for example. Regardless of the load characteristics, however, the balance of forces with which a working operator must be concerned during the course of a single lift can shift abruptly. This requires the operator to remain alert to small changes that can have sudden, dramatic and even fatal impacts. Safe proficient operation depends on well-developed mechanical and mathematical knowledge, including thorough understanding of a particular boom truck's operational characteristics and its load chart. Above-average hand-eye coordination, depth perception and fine motor skills as well as the ability to plan sequentially and multi-dimensionally are also advantageous to boom-truck operations. Similarly, because boom truck operators frequently operate close to or inside of built structures, they require a working knowledge of the location and other characteristics of a building's mechanical systems (HVAC; electrical; plumbing). Closely related to these technical requirements is the need for thorough working knowledge of the regulatory environment and industry technical standards associated with crane and hoisting operations.

# **ANALYSIS**

## BLOCK A

### BOOM TRUCK LIFT-PREPARATIONS AND INSPECTIONS

**Task 1** Participates in off-site consultation re: technical specifications resources and other job requirements.

#### Sub-task

**1.01** Clarifies on/off site roles/responsibilities.

#### Supporting Knowledge and Abilities

- 1.01.01 Knowledge of job requirements, including client expectations, equipment/attachments, personnel and resources
- 1.01.02 Knowledge of job-related roles and responsibilities
- 1.01.03 Ability to maintain communication and adapt operation as required
- 1.01.04 Ability to schedule and coordinate multiple assignments
- 1.01.05 Ability to adapt plans as required by changing conditions and requirements

#### Sub-task

**1.02** Review work-order specifications.

#### Supporting Knowledge and Abilities

- 1.02.01 Knowledge of work-order's scope and purpose
- 1.02.02 Knowledge of factors that can require improvisation/revision of work-orders regarding repeat assignments
- 1.02.03 Knowledge of job-related roles and responsibilities.
- 1.02.04 Ability to maintain communication and adapt operation as required
- 1.02.05 Ability to improvise/create a work-order in the case of repeat assignments
- 1.02.06 Ability to use/interpret work orders to obtain detailed information about job specifications
- 1.02.07 Ability to assess/verify on site-conditions in relation to work order-information
- 1.02.08 Ability to communicate and coordinate with other job-site personnel

**Task 2**            **Participates in on-site consultation re: technical specifications, resources and other job requirements.**

**Sub-tasks**

**2.01**    **Confirm designation and capabilities of single person/rigger.**

**Supporting Knowledge and Abilities**

- 2.01.01      Knowledge of rigging procedures and accessories
- 2.01.02      Knowledge of trade communication technologies and conventions (e.g. hand signals, radio frequencies, etc.)
- 2.01.03      Knowledge of techniques for managing conflict
- 2.01.04      Knowledge of workplace coaching principles and techniques
- 2.01.05      Knowledge of protocols for postponing a lift due to safety hazards and precautions (e.g. unavailable or unsuitable riggers/signal persons)
- 2.01.06      Ability to anticipate and/or resolve conflict with other job-site personnel
- 2.01.07      Ability to verify the capabilities of designated rigger/signal person
- 2.01.08      Ability to coach/train designated rigger/signal person
- 2.01.09      Ability to exercise judgment re: safety procedures and/or liability
- 2.01.10      Ability to comply with protocols for postponing a lift due to safety hazards and precautions

**Sub-task**

**2.02**    **Verifies suitability of site characteristics re: boom truck operations.**

**Supporting Knowledge and Abilities**

- 2.02.01      Knowledge of equipment's operational characteristics and requirements for stability
- 2.02.02      Knowledge of weather impacts and soil characteristics re: footing conditions and set-up time
- 2.02.03      Knowledge of criteria for assessing site suitability (e.g. location of utilities, buildings, jobsites traffic, etc.)
- 2.02.04      Ability to anticipate the interplay between site conditions, and job specifications and equipment's operational characteristics.

- 2.02.05 Ability to ensure that job-site conforms with expectations and safety requirements
- 2.02.06 Ability to improvise and adapt to unanticipated job-site conditions

**Task 3 Selects boom truck equipment and attachments.**

**Sub-task**

**3.01 Reconciles load characteristics with equipment capabilities.**

**Supporting Knowledge and Abilities**

- 3.01.01 Knowledge of job specifications including destination and site characteristics
- 3.01.02 Knowledge of varieties of boom truck equipment/attachments in general
- 3.01.03 Knowledge of load characteristics in general
- 3.01.04 Knowledge of boom truck functions re: weight, dimension, and radius from machine
- 3.01.05 Ability to interpret load charts
- 3.01.06 Ability to match specific load requirements/characteristics with particular boom truck equipment and attachments

**Sub-task**

**3.02 Inspects, installs and assembles boom truck attachments.**

**Supporting Knowledge and Abilities**

- 3.02.01 Knowledge of varieties of boom truck equipment/attachments in general
- 3.02.02 Knowledge of assembly requirements and procedures
- 3.02.03 Ability to verify structural integrity and safety compliance of the assembled attachment and boom truck (e.g. bucket and boom)
- 3.02.04 Knowledge of procedures and standards re: assembly/disassembly of boom truck equipment and attachments

## BLOCK B

### BOOM TRUCK SET-UP AND OPERATIONS

**Task 4** Performs engine diagnostics.

**Sub-task**

**4.01** Reviews job specifications and safety requirements with crew.

**Supporting Knowledge and Abilities**

- 4.01.01 Knowledge of roles and responsibilities, including participation in tailboard discussions
- 4.01.02 Knowledge of all safety regulations and job-specific requirements
- 4.01.03 Knowledge of employer and client requirements re: safety
- 4.01.04 Knowledge of job specifications
- 4.01.05 Knowledge of workplace coaching principles and techniques
- 4.01.06 Knowledge of requirements and standards re: supervision of apprentices
- 4.01.07 Ability to supervise/coach apprentice boom-truck operators
- 4.01.08 Ability to conduct/participate in tailboard discussion (on-site safety meeting)
- 4.01.09 Ability to use technical documents
- 4.01.10 Ability to communicate and coordinate re: boom truck operation with other job-site personnel
- 4.01.11 Ability to comply with safety requirements

**Sub-task**

**4.02** Monitors, adapts and communicates about changing job requirements.

**Supporting Knowledge and Abilities**

- 4.02.01 Knowledge of criteria for monitoring and responding to jobsite conditions and requirements, including safety-related (e.g. footing-conditions, limits of approach, load capacities, site congestion/traffic, weather impacts, mechanical malfunction, client demands, etc.)
- 4.02.02 Knowledge of job-site communication and coordination protocols
- 4.02.03 Knowledge of workplace coaching principles and techniques

- 4.02.04 Knowledge of requirements and standards re: supervision of apprentices
- 4.02.05 Ability to manage on-site stress and conflict
- 4.02.06 Ability to monitor operation, and assess changing job requirements
- 4.02.07 Ability to identify options and improvise
- 4.02.08 Ability to coordinate and communicate re: changing job requirements
- 4.02.09 Ability to coach and guide apprentice boom-truck operators

**Task 5 Set up and operates stiff-boom (SB) boom truck.**

**Sub-tasks**

**5.01 Interprets SB boom truck load charts re: job specifications and other requirements.**

**Supporting Knowledge and Abilities**

- 5.01.01 Knowledge of SB boom truck's capabilities and limitations
- 5.01.02 Knowledge of load charts in general, and SB boom-truck load charts in particular
- 5.01.03 Ability to interpret SB boom-truck load charts re: load weight, boom radius, quadrants, etc.

**Sub-task**

**5.02 Relocates/secures SB boom truck, including manual extensions of boom.**

**Supporting Knowledge and Abilities**

- 5.02.01 Knowledge of procedures for attaching boom extension
- 5.02.02 Knowledge for requirements for extending outriggers and leveling/stabilizing boom truck
- 5.02.03 Knowledge of interaction between boom extension/angle and operational characteristics
- 5.02.04 Knowledge of boom engineering/assembly (e.g. dead sections, hydraulic operation, manual extension, sheaves)
- 5.02.05 Knowledge of computerization re: boom truck technology
- 5.02.06 Ability to level and secure boom truck
- 5.02.07 Ability to assemble/disassemble boom, sheaves and load-line
- 5.02.08 Ability to extend boom

- 5.02.09 Ability to plan and sequence lifts and tasks
- 5.02.10 Ability to calibrate/adjust computerized components as required and interrupt readouts
- 5.02.11 Ability to calibrate/adjust computerized components as required and interpret readouts

**Sub-task**

**5.03 Operates SB boom truck with/without jib boom installed.**

**Supporting Knowledge and Abilities**

- 5.03.01 Knowledge of boom engineering/assembly (e.g. dead sections, manual extensions, sheaves)
- 5.03.02 Knowledge of interaction between boom extension/angle and operational characteristics
- 5.03.03 Knowledge of boom controls and indicators
- 5.03.04 Knowledge of load-line capacities
- 5.03.05 Knowledge of procedures for attaching boom extensions
- 5.03.06 Ability to plan sequence lifts and tasks
- 5.03.07 Ability to monitor/adjust operations re: changing requirements, overhead hazard points, and limits of approach. Etc.
- 5.03.08 Ability to adjust/calibrate computer components and interpret controls
- 5.03.09 Ability to synchronize manipulation of multiple controls
- 5.03.10 Ability to coordinate hand and eye with a high degree of precision.
- 5.03.11 Ability to monitor and adapt operations to site activity and traffic

**Sub-task**

**5.04 Complies with SB boom truck shut-down and boom-stowage procedures.**

**Supporting Knowledge and Abilities**

- 5.04.01 Knowledge of manufacturer and other specifications re: mechanical shut-down procedure



- 5.04.02 Knowledge of jobsite characteristics, including security requirements
- 5.04.03 Knowledge of boom-stowage procedures
- 5.04.04 Knowledge of employer /operator requirements re: tools/equipment audit
- 5.04.05 Ability to account for tools/equipment used on site
- 5.04.06 Ability to clean wheels/tracks and attachments and perform other housekeeping tasks as required
- 5.04.07 Ability to park and secure machine in an appropriate location against movement, theft and vandalism
- 5.04.08 Ability to stow auxiliary equipment and rigging equipment used on site
- 5.04.09 Ability to perform post-operation visual inspection and document/communicate results

**Task 6 Set up and operate knuckle-boom (KB) boom truck.**

**Sub-task**

**6.01 Interprets KB boom truck load charts re: Jon specification and other requirements.**

**Supporting Knowledge and Abilities**

- 6.01.01 Knowledge of boom truck load charts in general, and KB boom truck load charts in particular
- 6.01.02 Knowledge of KB boom truck's special capabilities and limitations (e.g. low-clearance lifts)
- 6.01.03 Ability to interpret KB boom-truck load charts re: load weight, boom radius, and other lift requirements

**Sub-task**

**6.02 Sets up, secures and relocates KB boom truck.**

**Supporting Knowledge and Abilities**

- 6.02.01 Knowledge of procedure for attaching boom extensions
- 6.02.02 Knowledge of requirements for extending outriggers and leveling/stabilizing the KB boom truck
- 6.02.03 Knowledge of interaction between boom extension/angle and operational characteristics

- 6.02.04 Knowledge of knuckle boom engineering/assembly (e.g. articulating characteristics, hydraulic operation, dead sections, manual extensions, and sheaves)
- 6.02.05 Knowledge of computerization re: KB boom truck technology
- 6.02.06 Ability to level and secure KB boom truck
- 6.02.07 Ability to assemble/disassemble manual boom and sheaves, and load-line
- 6.02.08 Ability to extend knuckle boom
- 6.02.09 Ability to identify best location and position for set-up
- 6.02.10 Ability to plan and sequence lifts and tasks
- 6.02.11 Ability to adjust computer components and interpret readouts

**6.03 Operates KB boom truck, including low-clearance lifts.**

**Supporting Knowledge and Abilities**

- 6.03.01 Knowledge of KB boom trucks and knuckle-boom engineering/assembly and knuckle-boom components (e.g. dead sections, hydraulic operations, manual extension, sheaves, etc.)
- 6.03.02 Knowledge of interaction between knuckle-boom extension/angle and operational characteristics
- 6.03.03 Knowledge of knuckle-boom controls and indicators
- 6.03.04 Knowledge of load-line capacities re: knuckle-boom specifications
- 6.03.05 Knowledge of procedures for attaching boom extensions
- 6.03.06 Ability to plan and sequence knuckle-boom lifts and tasks
- 6.03.07 Ability to monitor and adjust operation re: changing requirements, overhead hazard points, limits of approach etc.
- 6.03.08 Ability to adjust/calibrate computer components and interpret readouts
- 6.03.09 Ability to coordinate hand and eye with a high degree of precision
- 6.03.10 Ability to synchronize manipulation of multiple controls
- 6.03.11 Ability to monitor and adapt operation to site activity, traffic and limited clearances

**6.04 Complies with KB boom truck shutdown and knuckle-boom stowage procedures.**

**Supporting Knowledge and Abilities**

- 6.04.01 Knowledge of manufacturer and other specifications for mechanical shutdown procedures
- 6.04.02 Knowledge of job-site characteristics, including security systems
- 6.04.03 Knowledge of extension-boom stowage procedures
- 6.04.04 Knowledge of special requirements for knuckle-boom stowage points/positions
- 6.04.05 Knowledge of employer/operator requirements re: tools/equipment audit
- 6.04.06 Ability to account for tools/equipment
- 6.04.07 Ability to clean wheels/tracks and attachments and perform other housekeeping tasks as required
- 6.04.08 Ability to park and secure machine in a appropriate location against movement, theft and vandalism
- 6.04.09 Ability to stow auxiliary equipment and rigging equipment on site
- 6.04.10 Ability to perform post operational visual inspection and document/communicate results

## BLOCK C

### BOOM TRUCK SPECIALTIES

**Task 7** Diagnoses clutches and primary drive systems.

**Sub-task**

**7.01** Selects and operates permanently attached buckets from aloft.

**Supporting Knowledge and Abilities**

- 7.01.01 Knowledge of safety regulations
- 7.01.02 Knowledge of load capacity for single and multi-person buckets
- 7.01.03 Knowledge of bucket-escape and bucket rescue procedures
- 7.01.04 Knowledge of varieties of personnel-lift equipment, including controls and their functions
- 7.01.05 Knowledge of tool use
- 7.01.06 Knowledge of special requirements for tools while aloft
- 7.01.07 Ability to adapt personnel lift operation to site-specific conditions
- 7.01.08 Ability to identify and respond to site-specific hazards and emergencies (e.g. limits of approach to live conductors)

**Sub-task**

**7.02** Selects and operates removable buckets with lower controls and other personnel.

**Supporting Knowledge and Abilities**

- 7.02.01 Knowledge of safety regulations
- 7.02.02 Knowledge of load capacity for single-and multi-person buckets
- 7.02.03 Knowledge of bucket rescue procedures
- 7.02.04 Knowledge of singles and other communication requirements
- 7.02.05 Knowledge of varieties of personnel lift equipment and their controls and functions
- 7.02.06 Knowledge of techniques, standards, and other requirements for installing buckets/accessories
- 7.02.07 Knowledge of tool use

- 7.02.08 Knowledge of special requirements for tell use while aloft
- 7.02.09 Ability to adapt personnel-lift operation to site-specific conditions
- 7.02.10 Ability to identify and respond to site-specific hazards/emergencies (e.g. limits of approach to live conductors)
- 7.02.11 Ability to coordinate operation with other personnel

**Task 8 Performs boom truck hoisting of specialty machinery and equipment (e.g. HVAC equipment, aircraft, automated teller machines (ATMs) transformers, etc..).**

**Sub-task**

**8.01 Assists in identifying technical requirements for hoisting specialty machinery and equipment (e.g. hook-points).**

**Supporting Knowledge and Abilities**

- 8.01.01 Knowledge of structural integrity and special characteristics of load
- 8.01.02 Knowledge of load geometry
- 8.01.03 Knowledge of special rigging (e.g. strong backs, grapple hooks and other devices)
- 8.01.04 Knowledge of client expectation/authorization
- 8.01.05 Ability to coach/advise apprentice re: special lifting requirements
- 8.01.06 Ability to consult with manufacturers, engineering/technical advisors
- 8.01.07 Ability to analyze load to identify lift points

**Sub-task**

**8.02 Interprets all relevant lift documentation (e.g. schematics, lifting points).**

**Supporting Knowledge and Abilities**

- 8.02.01 Knowledge or relevant lift documentation
- 8.02.02 Knowledge of load's geometry, structural integrity, weight and special characteristics
- 8.02.03 Ability to interpret technical documents

**Sub-task**

**8.03 Prepares and completes signed work order.**

**Supporting Knowledge and Abilities**

- 8.03.01 Knowledge of client expectations and all required authorization(s)
- 8.03.02 Knowledge of trade technical documents and communication
- 8.03.03 Knowledge of roles, responsibility and apportionment of liability
- 8.03.04 Ability to consult with client, manufacturers, engineering/technical advisors and employer

**Sub-task**

**8.04 Communicates and consults with manufacturer, client, other job-site personnel.**

**Supporting Knowledge and Abilities**

- 8.04.01 Knowledge of trade technical documents and communication media
- 8.04.02 Knowledge of client expectation/authorization
- 8.04.03 Knowledge of roles, responsibilities and appointment of liability
- 8.04.04 Ability to interpret communications with client manufacturers, engineering/technical advisors and employer
- 8.04.05 Ability to use communication technology and procedures (e.g. hand-signals, radio, email)
- 8.04.06 Ability to consult with client, manufacturers, engineering/technical advisors and employer

**Sub-task**

**8.05 Performs engineered lifts of specialty equipment and machinery.**

**Supporting Knowledge and Abilities**

- 8.05.01 Knowledge of rigging-related and other special requirements re: engineered-lift standards and procedures
- 8.05.02 Ability to design implement a lift plan
- 8.05.03 Ability to follow a plan of action as specified
- 8.05.04 Ability to analyze lift requirements
- 8.05.05 Ability to satisfy all technical requirements
- 8.05.06 Ability to consult with client, manufacturers, engineering/technical advisors and employer

**Task 9 Performs boom truck hoist of structural members and other building components.**

**Sub-task**

**9.01 Evaluates lift-related information provided by other job-site personnel.**

**Supporting Knowledge and Abilities**

9.01.01 Knowledge of communication requirements and procedures (e.g. hand signals, radio etc..)

9.01.02 Knowledge of hoisting operation's project contexts

9.01.03 Knowledge of roles, responsibilities and job-site relationships

9.01.04 Knowledge of hoisting standards and accepted practices in general

9.01.05 Ability to think critically

9.01.06 Ability to monitor and adapt to job-site conditions/expectations

**Sub-task**

9.01.07 Ability to apply hoisting standards and accepted practices

**9.02 Negotiates with other job-site personnel in situations of uncertainty and/or conflict regarding lift.**

**Supporting Knowledge and Abilities**

9.02.01 Knowledge of roles, responsibilities, and job-site relationships

9.02.02 Knowledge of hoisting standards and accepted practices in general

9.02.03 Knowledge of conflict resolution and negotiation techniques

9.02.04 Ability to ascertain and document liability

9.02.05 Ability to manage work-related stress and conflict

9.02.06 Ability to think critically and respond to changing situations

**Sub-task**

**9.03 Hoists and positions structural steel members.**

**Supporting Knowledge and Abilities**

9.03.01 Knowledge of special precautions and hazards re: structural-steel construction projects and hoists

9.03.02 Knowledge of rigging procedures and accessories

- 9.03.03 Knowledge or communication requirements and methods
- 9.03.04 Knowledge of jobsite work stations, personnel and traffic
- 9.03.05 Knowledge of special safety requirements re: structural steel hoisting (e.g. monitoring/management of jobsite traffic)
- 9.03.06 Ability to manipulate load and maintain position
- 9.03.07 Ability to execute single-point lifts (e.g. using balance beam)
- 9.03.08 Ability to adapt/improvise rigging techniques

**Sub-task**

**9.04 Hoists/stabilizes timberframe bent (sub-assembly) and roof members.**

**Supporting Knowledge and Abilities**

- 9.04.01 Knowledge of special precautions and hazards re: timberframe construction projects and hoists
- 9.04.02 Knowledge of rigging procedures and accessories
- 9.04.03 Knowledge of communication requirements and methods
- 9.04.04 Knowledge of jobsite work stations, personnel and traffic
- 9.04.05 Knowledge of special safety requirements re: structural-steel hoisting (e.g. monitoring/management of jobsite traffic)
- 9.04.06 Ability to manipulate load and maintain position
- 9.04.07 Ability to execute single-point lifts (e.g. using balance beam)
- 9.04.08 Ability to adapt/improvise rigging techniques

**Task 10 Operates digger-derrick boom trucks.**

**Sub-task**

**10.01 Drills holes with auger.**

**Supporting Knowledge and Abilities**

- 10.01.01 Knowledge of underground utilities and required clearances
- 10.01.02 Knowledge of conventions re: stakes, signage, map-reading, etc.
- 10.01.03 Knowledge of technical documents



- 10.01.04 Ability to monitor drilling operation and clear flights
- 10.01.05 Ability to coordinate efforts with apprentice or helper
- 10.01.06 Ability to achieve a specified depth and diameter
- 10.01.07 Ability to monitor drilling operation
- 10.01.08 Ability to drill in a variety of soil conditions
- 10.01.09 Ability to transfer dimensions/locations from job specifications to drilling site

**Sub-task**

**10.02 Erects and salvages poles and pole structures.**

**Supporting Knowledge and Abilities**

- 10.02.01 Knowledge of job specifications (e.g. pole depth)
- 10.02.02 Knowledge of limits of approach
- 10.02.03 Knowledge of pole composition/material and pole structure components
- 10.02.04 Knowledge of winch operation, pole tongs, and attachments
- 10.02.05 Knowledge of pole removal techniques
- 10.02.06 Ability to determine balance points of load (when pulling tools)
- 10.02.07 Ability to adapt salvage operation to account for indeterminate load weight
- 10.02.08 Ability to determine load weight
- 10.02.09 Ability to coordinate with rigger and other on-site personnel
- 10.02.10 Ability to manipulate, position and stabilize load
- 10.02.11 Ability of release rigging
- 10.02.12 Ability to determine integrity of new/salvaged pole
- 10.02.13 Ability to backfill pole-holes and secure pole

**Sub-task**

**10.03 Installs/removes anchors re: pole structures.**

**Supporting Knowledge and Abilities**

- 10.03.01 Knowledge of anchors and associated hardware, including their application

- 10.03.02 Knowledge of specifications re: installation, capacity, and placement of anchors in general
- 10.03.03 Ability to determine anchor's holding capacity
- 10.03.04 Ability to improvise and adapt installation/removal to suit specific conditions

**Sub-task**

**10.04 Installs/salvages streetlight standards, bases etc..**

**Supporting Knowledge and Abilities**

- 10.04.01 Knowledge of job specifications (e.g. pole depth)
- 10.04.02 Knowledge of limits of approach
- 10.04.03 Knowledge of pole composition/materials and pole-structure hardware/components
- 10.04.04 Knowledge of winch operation, pole tongs, and attachments
- 10.04.05 Knowledge of pole removal techniques
- 10.04.06 Ability to determine balance points of load (when pulling poles)
- 10.04.07 Ability to adapt salvage operation to account for indeterminate load weight
- 10.04.08 Ability to determine load weight
- 10.04.09 Ability to coordinate with rigger and other on-site personnel
- 10.04.10 Ability to manipulate, position and stabilize load
- 10.04.11 Ability to release rigging
- 10.04.12 Ability to determine integrity of new/salvaged pole
- 10.04.13 Ability to backfill pole holes and secure pole

**Sub-task**

**10.05 Hoists line hardware and equipment re: power line construction/services.**

**Supporting Knowledge and Abilities**

- 10.05.01 Knowledge of limits of approach
- 10.05.02 Knowledge of human and other job-site traffic
- 10.05.03 Ability to position machine in relation to site characteristics (e.g. buildings)
- 10.05.04 Ability to verify energized/de-energized status of power line

**Sub-task**

**10.06 Hauls pole trailer and other wheeled attachments.**

**Supporting Knowledge and Abilities**

- 10.06.01 Knowledge of requirements re: trailers, attachments, associated load limits, third axles and licensing regulations
- 10.06.02 Ability to select/assemble trailers and attachments
- 10.06.03 Ability to anticipate change in operational requirements due to attachment of trailer (e.g. turning radius, overhang of poles, licensing requirements, permits etc..)

**Task 11 Performs multi-crane lifts using boom trucks.**

**Sub-task**

**11.01 Participates in multi-crane lift planning re: equipment capacity and specific load chart characteristics.**

**Supporting Knowledge and Abilities**

- 11.01.01 Knowledge of methods to achieve a lower lifting height on large items by combining lifting points and using more than one boom truck
- 11.01.02 Knowledge of boom trucks and load charts
- 11.01.03 Knowledge of roles and responsibilities
- 11.01.04 Knowledge of how multi-crane arrangement alters balance-point characteristics and rigging requirements
- 11.01.05 Ability to predict the effects of one crane on the operational characteristics of the second crane and vice versa
- 11.01.06 Ability to devise multiple-crane arrangements to achieve greater versatility, capacity, access re: large loads
- 11.01.07 Ability to communicate about/coordinate lifts with other craning personnel (e.g. second operator)

**Sub-task**

**11.02 Assess and identifies need for multi-crane approach.**

**Supporting Knowledge and Abilities**

- 11.02.01 Knowledge of methods to achieve a lower lifting height on large items by combining lifting points and using more than one boom truck
- 11.02.02 Knowledge of boom trucks and load charts
- 11.02.03 Knowledge of roles and responsibilities

- 11.02.04 Knowledge of how multi-crane arrangement alters balance-point characteristics and rigging requirements
- 11.02.05 Ability to predict the effect one crane on the operational characters of a the second crane and vice versa
- 11.02.06 Ability to devise multiple-crane arrangements to achieve greater versatility, capacity, access, re: large loads
- 11.02.07 Ability to communicate and coordinate with other craning personnel (e.g. second operator) regarding lifts
- 11.02.08 Ability to predict requirements of multi-crane approach off-site
- 11.02.09 Ability to adapt approach to on-site conditions
- 11.02.10 Ability to communicate on-site regarding reassessed situation (e.g. with employer, customer)

**Sub-task**

**11.03 Consults with and coordinates with a second operator.**

**Supporting Knowledge and Abilities**

- 11.03.01 Knowledge of communication/coordination requirements and resources
- 11.03.02 Knowledge of remote-control operations and safety protocols
- 11.03.03 Ability to establish and maintain vision lines between operators (and/or "third person")
- 11.03.04 Ability to use hand-signals and radios
- 11.03.05 Ability to operate in unison
- 11.03.06 Ability to anticipate and respond to changing conditions
- 11.03.07 Ability to communicate with second operator

## BLOCK D

### BOOM TRUCK TRANSPORT AND HAULING

**Task 12** Diagnoses chassis and steering systems.

**Sub-task**

**12.01** Verifies suitability to boom truck for specific load requirements. **Supporting Knowledge and Abilities**

12.01.01 Knowledge of boom truck capacity and operational characteristics

12.01.02 Knowledge of weights and dimensions of load

12.01.03 Ability to select boom truck equipment, attachments and accessories to suit load characteristics and job requirements

**Sub-task**

**12.02** Performs pre-trip inspection of boom truck, boom and rigging. **Supporting Knowledge and Abilities**

12.02.01 Knowledge of rigging equipment and its use

12.02.02 Knowledge of criteria for inspection of boom and chassis

12.02.03 Knowledge of maintenance schedule

12.02.04 Knowledge of required documentation and its use (e.g. logbook)

12.02.05 Knowledge of requirements re: driver licensing/endorsements and vehicle registration.

12.02.06 Knowledge of employer and statutory requirements (e.g. Highway Traffic Act) re: inspections

12.02.07 Ability to confirm operational status of all required equipment, accessories and other targets of inspection

12.02.08 Ability to perform minor repairs

12.02.09 Ability to verify compliance with requirements re: drivers licensing/endorsements and vehicle registration

12.02.10 Ability co-communicate about and/or act on results of pre-tip inspection

**Sub-task**

**12.03 Confirms boom truck route and destination.**      **Supporting Knowledge and Abilities**

- 12.03.01      Knowledge of employer and statutory requirements (e.g. Highway Traffic Act) re: boom truck transportation
- 12.03.02      Knowledge of preferred and alternative routes
- 12.03.03      Ability to interpret maps and other documents
- 12.03.04      Ability to select optimal route
- 12.03.05      Ability to verify suitability/accessibility of route

**Task 13      Repairs chassis and steering systems.**

**Sub-task**

**13.01 Interprets and complies with all relevant regulations re: load securement.**      **Supporting Knowledge and Abilities**

- 13.01.01      Knowledge of employer and statutory requirements re: load-securement regulations (over height/over width dimensions road permits procedure; transport of dangerous goods)
- 13.01.02      Knowledge of load securement/protection equipment, including special accessories and their use (e.g. tarps and other weather-protections)
- 13.01.03      Knowledge of specific securement techniques to suit particular loads/materials
- 13.01.04      Ability to analyze and fulfill load securement requirements
- 13.01.05      Ability to select, inspect, and use load securement equipment and accessories
- 13.01.06      Ability to execute specific securement techniques
- 13.01.07      Ability to communicate/coordinate with client as necessary

**Sub-task**

**13.02 Selects/uses appropriate load and securement devices (e.g. tarps, chain, straps, load binders).**

**Supporting Knowledge and Abilities**

- 13.02.01 Knowledge of employer and statutory requirements re: load securement regulations (over height/over width dimensions: over dimensional road permits procedure: transport of dangerous goods)
- 13.02.02 Knowledge of load securement and protection equipment, including special accessories and their use (e.g. tarps and other weather protection)
- 13.02.03 Knowledge of specific securement techniques to suit particular loads/materials
- 13.02.04 Ability to analyze and fulfill load securement requirements
- 13.02.05 Ability to select, inspect and use load securement equipment and accessories
- 13.02.06 Ability to execute specific securement techniques
- 13.02.07 Ability to communicate/coordinate with client and necessary

**Task 14 Drives boom truck.**

**Sub-task**

**14.01 Complies with all Compliance Regulations and licensing requirements.**

**Supporting Knowledge and Abilities**

- 14.01.01 Knowledge of all relevant Compliance Regulations, licensing requirements, bill of lading, signage/placarding, permits, endorsements. Etc. re: boom-truck transport
- 14.01.02 knowledge of hydraulic steering components such as discs, seals, fluids and valves

**Sub-task**

**14.02 Adapts to changing conditions (e.g. weather, road conditions, accidents etc.).**

**Supporting Knowledge and Abilities**

- 14.02.01 Knowledge of interplay between equipment's on-road characteristics and changes in weather, environment traffic etc.

- 14.02.02 Knowledge of factors that can affect on-road operation of boom truck
- 14.02.03 Knowledge of options can techniques for responding (e.g. tarps)
- 14.02.04 Ability to monitor road conditions and respond to change(s)
- 14.02.05 Ability to communicate and coordinate re: travel arrangements and rescheduling
- 14.02.06 Ability to apply load protection en route

**Task 15 Completes documentation re: boom truck transport/hauling.**

**Sub-task**

**15.01 Clarifies documentation requirements.**

**Supporting Knowledge and Abilities**

- 15.01.01 Knowledge of all relevant Compliance Regulations, licensing requirements, bills of lading, signage/placarding, permits, endorsements, etc.... re: boom truck transport
- 15.01.02 Knowledge of agencies, protocols, and documentation associated with the regulations of transport and hauling
- 15.01.03 Knowledge of roles and responsibilities re: special documentation requirements
- 15.01.04 Ability to collect/verify/exchange information required to complete documentation

**Sub-task**

**15.02 Complies with documentation requirements.**

**Supporting Knowledge and Abilities**

- 15.02.01 Knowledge of requirements re: bills of lading, special permits, endorsements, signage/placarding
- 15.02.02 Knowledge of agencies, protocols, and documentation associated with the regulation of transport and hauling
- 15.02.03 Knowledge of roles and responsibilities re: special documentation requirements
- 15.02.04 Ability to collect/verify/exchange information required to complete the documentation



- 15.02.05 Ability to attach, display, and remove signage/placard in accordance with regulatory requirements
- 15.02.06 Ability to modify/update documentation due to changing load and job characteristics (e.g. revised bill of lading)

## BLOCK E

### BOOM TRUCK MAINTENANCE

**Task 16** Diagnoses braking systems.

**Sub-task**

**16.01** Performs/arranges for scheduled maintenance of equipment.

**Supporting Knowledge and Abilities**

- 16.01.01 Knowledge of government safety inspection requirements
- 16.01.02 Knowledge of mandatory maintenance schedule
- 16.01.03 Knowledge of roles and responsibilities re: for scheduled maintenance
- 16.01.04 Ability to complete arrangements for government and other safety inspections

**Sub-task**

**16.02** Maintains boom truck maintenance-related documentation.

**Supporting Knowledge and Abilities**

- 16.02.01 Knowledge of role and responsibilities re: maintenance documentation
- 16.02.02 Knowledge of types of maintenance documentation
- 16.02.03 Ability to maintain maintenance log book

**Task 17** Monitors and troubleshoots boom truck equipment during operations.

**Sub-task**

**17.01** Monitors/troubleshoot mechanical performance of boom components (e.g. hydraulic systems).

**Supporting Knowledge and Abilities**

- 17.01.01 Knowledge of basic hydraulic systems
- 17.01.02 Knowledge of symptoms of hydraulic system malfunction
- 17.01.03 Knowledge of shutdown procedures and requirements
- 17.01.04 Knowledge of basic hand/power tools and equipment
- 17.01.05 Ability to recognize and respond to emergency shutdown situations

- 17.01.06 Ability to select and use maintenance tools/equipment
- 17.01.07 Ability to recognize and respond to symptoms of malfunction

**Sub-task**

**17.02 Responds to mechanical problems with accordance with employer expectations and policies.**

**Supporting Knowledge and Abilities**

- 17.02.01 Knowledge of employer expectations and policy
- 17.02.02 Knowledge of basic hydraulic and other operational systems
- 17.02.03 Knowledge of basic hand/power tools and equipment
- 17.02.04 Knowledge of operating manuals and other manufacturer documentation
- 17.02.05 Ability to document and report mechanical problems/failures
- 17.02.06 Ability to document and report mechanical problems/failures
- 17.02.07 Ability to perform minor repairs and adjustments on-site in accordance with employer expectations

## BLOCK F

### RIGGING FOR BOOM TRUCK OPERATIONS

**Task 18** Inspects slings/rigging equipment for boom truck hoisting operations.

**Sub-task**

**18.01** Interprets coding and other documentation re: slings.

**Supporting Knowledge and Abilities**

- 18.01.01 Knowledge of conventions re: coding and application of sling and rigging equipment
- 18.01.02 Knowledge of standard reference sources (e.g. *Riggers Handbook*) re: rigging practices, standards and accessories
- 18.01.03 Knowledge of types and capacities of slings
- 18.01.04 Knowledge of rigging-safety requirements
- 18.01.05 Ability to use/interpret conventions and reference sources re: selection of slings
- 18.01.06 Ability to determine capacity and other characteristics of unmarked slings and rigging accessories

**Sub-task**

**18.02** Selects sling and other rigging equipment.

**Supporting Knowledge and Abilities**

- 18.02.01 Knowledge of conventions re: coding and application of slings and rigging equipment
- 18.02.02 Knowledge of standard reference sources (e.g. *Rigger Handbook*) re: rigging practices, standards, and accessories
- 18.02.03 Knowledge of types and capacities of slings
- 18.02.04 Knowledge of rigging safety equipment
- 18.02.05 Knowledge of impacts of load weight, dimensions, configurations, type of material re: sling and rigging equipment
- 18.02.06 Ability to use/interpret conventions and reference sources re: selection of slings
- 18.02.07 Ability to determine capacity and other characteristics of unmarked slings and rigging accessories
- 18.02.08 Ability to interpret job and load specifications

**18.03 Inspects/applies sling and other rigging equipment.**

**Supporting Knowledge and Abilities**

- 18.03.01 Knowledge of standard reference sources re: rigging practices, standards and accessories
- 18.03.02 Knowledge of conventions re: coding and application of slings and rigging equipment
- 18.03.03 Ability to select and place rigging at suitable lift points
- 18.03.04 Ability to combine sling and rigging equipment to satisfy requirements of special loads or lift situations

**Sub-task**

**18.04 Improvise/adapts rigging using equipment on hand.**

**Supporting Knowledge and Abilities**

- 18.04.01 Knowledge of conventions re” coding and application of slings and rigging equipment
- 18.04.02 Knowledge of standard references sources (e.g. *Rigger’s Handbook*) re: rigging practices, standards, and accessories
- 18.04.03 Knowledge of types of capacities of slings
- 18.04.04 Knowledge of rigging and safety requirements
- 18.04.05 Knowledge of impacts of load weight, dimensions, configurations, type of material re: sling and rigging equipment
- 18.04.06 Ability to use/interpret conventions and reference sources re: selection of slings
- 18.04.07 Ability to determine capacity and other characteristics of unmarked slings and rigging accessories
- 18.04.08 Ability to interpret/reinterpret job and load specifications

**Sub-task**

**18.05 Diagnoses air delivery systems.**

**Supporting Knowledge and Abilities**

- 18.05.01 Knowledge of roles and responsibilities
- 18.05.02 Knowledge of liability and requirements re: due diligence
- 18.05.03 Knowledge of hand signals and other on-site communication and technologies
- 18.05.04 Ability to provide coaching re” rigging to other personnel as required

- 18.05.05 Ability to communicate/coordinate with other site personnel
- 18.05.06 Ability to assess riggers/signal person's familiarity with hand signals and rigging procedures

**Sub-task**

**18.06 Verifies/confirms compliance with rigging standards and approved procedures.**

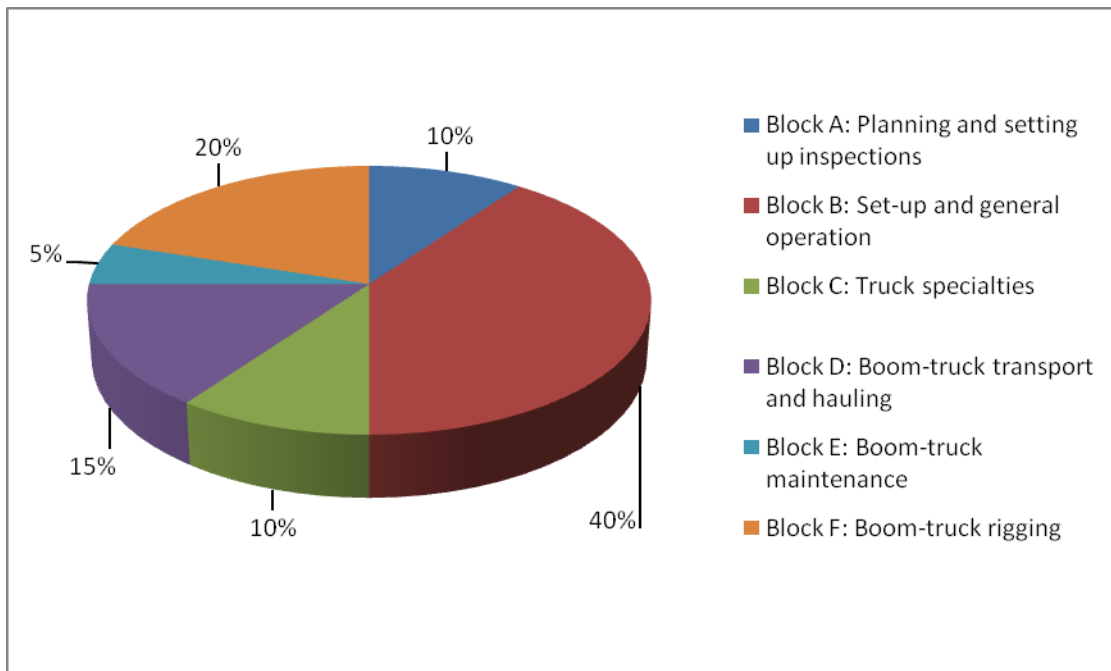
**Supporting Knowledge and Abilities**

- 18.06.01 Knowledge of role and responsibilities
- 18.06.02 Knowledge of liability and requirements for due diligence
- 18.06.03 Knowledge of hand signals and other on-site communications technologies
- 18.06.04 Knowledge of rigging procedures, standards and conventions
- 18.06.05 Ability to interpret and applying rigging standards
- 18.06.06 Ability to provide workplace coaching re: rigging to other personnel as required
- 18.06.07 Ability to communicate/coordinate with other site personnel
- 18.06.08 Ability to assess rigger's/signal person's familiarity with hand signals and rigging procedures

## Appendix “A” Pie Chart

Titles of Blocks	Percentage <sup>1</sup>
Block A: Planning and setting up inspections	10 %
Block B: Set-up and general operation	40 %
Block C: Truck specialties	10 %
Block D: Boom-truck transport and hauling	15 %
Block E: Boom-truck maintenance	5 %
Block F: Boom-truck rigging	<u>20 %</u>
<b>TOTAL:</b>	<b>100%<sup>1</sup></b>

<sup>1</sup>Percentages reflect the average amount of time workers within the occupation spend performing these tasks on a yearly basis.



## Appendix “B”

### DACUM Chart – Task Profile Chart

#### Manitoba Boom Truck Operator Provincial Occupational Analysis (POA)

BLOCKS	TASKS	SUB-TASKS			
<b>Block A</b> <b>BOOM TRUCK</b> <b>LIFT</b> <b>PLANNING</b> <b>AND</b> <b>INSPECTION</b>	<b>Task 1</b> <b>Consults off-site re: tech, specifications, resources.</b>	Sub task 1.01 Clarifies on/off site roles/responsibilities/ other job requirements.	Sub-task 1.02 Reviews work-order specifications.		
	<b>Task 2</b> <b>Consults with on-site re: tech, specifications, resources.</b>	Sub-task 2.01 Confirms designation and capabilities of signal person/trigger.	Sub-task 2.02 Verifies suitability of site characteristics re: boom truck operations.		
	<b>Task 3</b> <b>Selects boom truck equipment and attachments.</b>	Sub-task 3.01 Reconciles load-characteristics with equipment capabilities.	Sub-task 3.02 Inspects, installs and assembles boom truck attachments.		
<b>Block B</b> <b>BOOM TRUCK</b> <b>SET-UP AND</b> <b>OPERATION</b>	<b>Task 4</b> <b>Complies with all safety requirements.</b>	Sub-task 4.01 Reviews job specifications and safety requirements with crew.	Sub-task 402 Monitors, adapts to, and communicates about changing job requirements.		
	<b>Task 5</b> <b>Sets up and operates stiff-boom (SB) boom truck.</b>	Sub-task 5.01 Interprets SB boom truck load charts re: job requirements.	Sub-task 5.02 Relocates/secures SB boom truck incl. manual extension.	Sub-task 5.03 Operates with SB boom truck with/without job boom installed.	Sub-task 5.04 Complies with SB shut-down and boom stowage procedures.



<b>Task 6</b> <b>Sets up and operates knuckle-boom (KB) boom truck.</b>	Sub-task 6.01 Interprets KB truck load charts re: job requirements.	Sub-task 6.02 Sets up, secures, and relocates KB truck.	Sub-task 6.03 Operates KB truck, including low clearance lifts.	Sub-task 6.04 Complies with KB shutdown/and boom truck stowage procedures.
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**Block C**  
**BOOM TRUCK SPECIALTIES**

<b>Task 7</b> <b>Operates personnel lift boom truck.</b>	Sub-task 7.01 Selects and operates permanently-attached buckets from aloft.	Sub-task 7.02 Selects/operates removable buckets w/lower controls and other personnel.
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<b>Task 8</b> <b>Performs a boom truck hoisting of specialty machinery and equipment.</b>	Sub-task 8.01 Assists in indentifying tech. reqts .for hoisting specialty machinery.	Sub-task 8.02 Interprets all relevant lift documentation.	Sub-task 8.03 Prepares and completes signed work order.	Sub-task 8.04 Communicates and consults with manufacturer, client.	Sub-task 8.05 Performs engineered lift of specialty equipment and/or machinery.
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<b>Task 9</b> <b>Performs boom truck hoists of structural members and other building components.</b>	Sub-task 9.01 Evaluates lift-related info provided by other job-site personnel.	Sub-task 9.02 Negotiates with other job-site personnel.	Sub-task 9.03 Hoists and positions structural steel members.	Sub-task 9.04 Hoists/stabilizes bent (timberframe sub assembly) during bracing.	Sub-task 9.05 Lifts and positions timberframe roof members.
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<b>Task 10</b> <b>Operates digger-derrick boom trucks.</b>	Sub-task 10.01 Drills holes with auger.	Sub-task 10.02 Erects and salvages poles and pole structures.	Sub-task 10.03 Installs/removes anchors re: pole structures.	Sub-task 10.04 Installs/salvages streetlight standards, bases, etc....	Sub-task 10.05 Hoists line hardware, equipment re: power line installations.
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Sub-task 10.06  
 Hauls pole trailer and other wheeled attachments.

<b>Task 11</b> <b>Performs multi-crane lifts using boom trucks.</b>	Sub-task 11.01 Participates in multi-crane lift planning re: equipment capacity etc.	Sub-task 11.02 Assess and identifies need for multi-crane approach.	Sub-task 11.03 Consults and coordinates effort with a second operator.
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BLOCKS	TASKS	SUB-TASKS		
<p><b>Block D</b></p> <p><b>BOOM TRUCK TRANSPORT AND HAULING</b></p>	<p><b>Task 12</b> <b>Prepares boom truck for transport.</b></p>	<p>Sub-task 12.01 Verifies suitability of boom truck for specific load requirements.</p>	<p>Sub-task 12.02 Performs pre-trip inspection re: truck boom and rigging.</p>	<p>Sub-task 12.03 Confirms boom truck route and destination.</p>
	<p><b>Task 13</b> <b>Secures boom truck load.</b></p>	<p>Sub-task 13.01 Interprets/complies with all relevant regulations re: load securement.</p>	<p>Sub-task 13.02 Selects/uses appropriate load-securement devices.</p>	
	<p><b>Task 14</b> <b>Drives boom truck.</b></p>	<p>Sub-task 14.01 Complies w/ all Compliance Regulations and licensing requirements.</p>	<p>Sub-task 14.02 Adapts to changing conditions (e.g. weather, road, etc.).</p>	
	<p><b>Task 15</b> <b>Completes document. Re: boom truck transport/hauling.</b></p>	<p>Sub-task 15.01 Clarifies documentation requirements.</p>	<p>Sub-task 15.02 Complies with documentation requirements.</p>	

BLOCKS	TASKS	SUB-TASKS		
<b>BLOCK E</b> <b>BOOM TRUCK</b> <b>MAINTENANCE</b>	<b>Task 16</b> <b>Communicates re: mechanical performance.</b>	Sub-task 16.01 Performs/arranges for scheduled maintenance.	Sub-task 16.02 Maintains boom truck maintenance-related documentation.	
	<b>Task 17</b> <b>Monitors and troubleshoots boom truck equipment.</b>	Sub-task 17.01 Monitors/troubleshoots mechanical performance if boom components.	Sub-task 17.02 Responds to mechanical problems.	
	<b>Task 18</b> <b>Inspects sling/rigging equipment.</b>	Sub-task 18.01 Interprets coding/other documentation re: sling.	Sub-tasks 18.02 Selects slings and other rigging equipment.	Sub-task 18.03 Inspects/applies slings and other rigging equipment operation.
		Sub-task 18.04 Improvises/adapts rigging using equipment on hand.	Sub-task 18.05 Consults/cooperates with rigger and other jobsite personnel re: rigging.	Sub-task 18.06 Verifies/confirms compliance with rigging standards and approved procedures.