

# **National Occupational Standards For Operating Engineers**

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## **HEAVY EQUIPMENT TRANSPORT OPERATOR**



## **Table of Contents**

<b>INTRODUCTION</b>	<b>2</b>
<b>FOREWORD</b>	<b>3</b>
<b>DEVELOPMENT OF THE OCCUPATIONAL ANALYSIS</b>	<b>4</b>
<b>SCOPE OF THE OCCUPATIONAL ANALYSIS</b>	<b>5</b>
<b>STRUCTURE OF THE OCCUPATIONAL ANALYSIS</b>	<b>6</b>
<b>A. PROFESSIONALISM</b>	
1. Acts Professionally	7
2. Uses Communication Skills	10
<b>B. SAFETY</b>	
3. Interprets Applicable Legislation and Policies	12
4. Works Safely	14
5. Complies with Site Emergency Plan	16
<b>C. EQUIPMENT</b>	
6. Describes Equipment and Attachments	18
<b>D. MAINTENANCE</b>	
7. Performs Pre-operational Inspection and Daily Service with Engine Off	20
8. Performs Pre-operational Inspection and Daily Service with Engine Running	27
9. Complies with Scheduled Maintenance Requirements	29
<b>E. OPERATING PROCEDURES</b>	
10. Completes Pre-trip Planning	30
11. Loads/Unloads Trailer	32
12. Operates Transport Vehicle/Trailer	36
13. Follows Shut-down Procedures	39
<b>DACUM CHART</b>	<b>41</b>
<b>ACKNOWLEDGEMENTS</b>	<b>44</b>

## **Introduction**

The Construction Sector Council (CSC) is one of 40 sector councils in Canada. Sector councils are industry-led, labour/management partnership organizations designed to address human resource development issues within specific industries.

The primary objective of the CSC is the development of a highly-skilled workforce and a safe workplace environment, contributing to the organizational productivity and individual prosperity of the members of the construction industry. The development of national occupational standards for operating engineer occupations is one of the many ways the CSC is meeting this objective.

The CSC acknowledges all of the subject matter experts who provided their valuable time and efforts toward the definition and validation of these national occupational standards. Without their combined contributions, the development of these occupational analyses (OAs) would not have been possible. A complete list of the subject matter experts can be found at the back of this document.

An OA has the following objectives:

- to identify and group the tasks performed by skilled workers in particular occupations
- to identify those tasks that are performed by skilled workers in every province and territory
- to develop instruments for use in the assessment and training leading to the certification of skilled workers
- to facilitate the mobility, in Canada, of trainees and skilled workers
- to supply employers and employees, and their associations, industries, training institutions, and governments with analysis of the tasks performed in particular occupations

Therefore, the standards define the skills, knowledge, and abilities required for an occupation and against which the qualifications of an individual in that occupation can be assessed.

The vision of the Construction Sector Council is to reach a point where operators who demonstrate the skills, knowledge, and abilities in the national occupational standards will possess the nationally recognized credentials and those credentials will assist the operator in obtaining employment anywhere in Canada.

## Foreword

Operating engineer occupations can be grouped into three broad areas—hoist and crane operators, construction heavy equipment operators, and industrial equipment operators. Within each of these broad categories, there are several operating engineer occupations.

### **1. *Hoist and Crane Operators***

Crane operators' work tends to be centred in the construction industry. Operators work on a broad range of building sites including high-rise residential, institutional, and commercial structures, as well as most large industrial sites and many types of heavy engineering projects. The Statistics Canada Labour Force Survey (LFS) identifies around 4,000 crane operators in the construction industry across Canada. There are cyclical variations in employment, with low levels below 3,000 jobs in the mid-1990s and peak levels near 5,000.

### **2. *Construction Heavy Equipment Operators***

Heavy equipment operators are largely concentrated in the construction industry. Operators work on a variety of jobs from residential, institutional, and commercial structures to most large industrial sites and most types of heavy engineering. The LFS identifies around 37,000 equipment operators employed in the construction industry across Canada. This occupation is one of the larger trades in the industry, comparable in size to the workforce for electricians, pipe trades, and masonry trades. There are cyclical variations in employment, with low levels below 27,000 jobs in the early 1990s and peak levels near 40,000.

### **3. *Industrial Equipment Operators***

Industrial equipment operators encompass a variety of occupations ranging from forklift operators and environmental workers to tractor trailer drivers. The demand for environmental workers is increasing as knowledge, awareness, and regulations proliferate. Forklift training has taken on added importance due to safety regulations that require trained or certified forklift operators.

The mobility and accessibility of operating engineers is difficult if not impossible if there are no jurisdictional agreements on national occupational standards. The project to develop occupational analyses for national occupational standards for 29 operating engineer occupations began in January 2004 and was completed in March 2005.

## **Development of the Occupational Analysis**

A draft analysis was developed by a knowledgeable team of consultants (process experts) who, with the assistance of a committee of subject matter experts in the field, identified all the tasks performed in the occupation. In order to facilitate an efficient and effective process, the 29 occupations were grouped according to commonalities. Profile meetings, with both process and subject matter experts, were held for each grouping between January and March 2004 in:

- Edmonton, Alberta
  - Excavating, Feb 5 & 6
  - Paving, Feb 9 & 10
- Morrisburg, Ontario
  - Grading, Feb 24 & 25
  - Crane and Hoisting, Mar 1 & 2
  - HAZMAT, Mar 3 & 4
  - Plant Operations, Mar 23 & 24
  - Concrete Pumping, Mar 25 & 26
- Montreal, Quebec
  - Hauling, Feb 26 & 27
- Vancouver, British Columbia
  - Utilities, Mar 16 & 17
  - Material Handling, Mar 18 & 19
- Quebec City, Quebec
  - Profile Completion Forum, Mar 29 – 31

The draft OAs were then distributed to more subject matter experts and stakeholders across Canada for review and input between June and September 2004. They were also posted on a website where subject matter experts were invited to provide feedback.

The combined input from the review was collated in October 2004. Recommendations were assessed and incorporated into the final draft, which included the identification of common core tasks performed in all occupations. Validation meetings were held for each grouping, with process and subject matter experts, between October 2004 and January 2005 in:

2004:

- Saskatoon, Saskatchewan
  - Utilities, Oct 20 – 22
  - Material Handling (including HAZMAT), Oct 26 – 29
- Halifax, Nova Scotia
  - Grading, Nov 2 – 5
- St John's, Newfoundland
  - Crane and Hoisting (including Concrete Pump), Nov 15 – 19
- Winnipeg, Manitoba
  - Excavating, Nov 23 – 25
  - Hauling, Nov 30 – Dec 3

2005:

- Vancouver, British Columbia
  - Paving, Jan 5 – 7
  - Plant Operations, Jan 10 – 12
- Victoria, British Columbia
  - Validation Forum, Feb 21 – 23

The OAs were then edited, translated, and published in both official languages.

## **Scope of the Occupational Analysis**

This occupational analysis identifies all of the tasks that a qualified operator must be able to perform. The performance of these tasks is dependent on a range of related activities, described in the body of the analysis as subtasks. The analysis is composed mainly of tasks that operators perform frequently, including such tasks as cleaning, driving, and maintenance.

Most operators have a range of experience on different types of equipment. Regardless of the type of equipment, the duties of the operator remain relatively constant. Accomplishment of the operator's tasks depends largely on knowledge of the equipment and its components, experience in a wide variety of situations, and an ability to determine the most appropriate means of proceeding with the work.

Though not described in the analysis, other important attributes of operators include mechanical aptitude, mathematical ability, excellent vision, and a high degree of physical coordination. Operators are also often called upon to perform their jobs in extremely difficult conditions.

Although this analysis is not a training document, it is worthwhile noting that aspiring operators may find it useful to reflect on their own abilities to deal with lengthy periods of physical restriction and isolation coupled with frequent subjection to pressures of time and productivity. Operators are often required to demonstrate the ability to concentrate for long periods of time while enduring physical discomfort and inclement weather conditions.

Heavy equipment is used in virtually every facet of the construction sector. In some cases, an operator may work for years on a single site, such as a plant, and may, during that time, operate only one type of equipment and therefore perform similar and relatively constant tasks. Operators who work for contractors may rarely work on the same site more than once and may perform a tremendous variety of tasks using a wide range of equipment types and sizes. The work of an operator often overlaps with that of other equipment operators.

## **Structure of the Occupational Analysis**

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

- A. BLOCK**            the largest division within the analysis and reflects a distinct operation relevant to the occupation
- B. TASK**             the distinct activity that, combined with others, makes up the logical and necessary steps the operator is required to perform to complete a specific assignment within a BLOCK
- C. SUBTASK**        the smallest distinct, measurable, and observable activities into which it is practical to divide any work activity; combined with other SUBTASKS, these fully describe the logical steps required to complete a TASK

The importance of a task describes the benefits that operators, employers, and the public receive as a result of an operator's ability to perform the task.

*Trends* are any shifts or changes that are occurring in the industry and affect the task.

*Supporting Knowledge and Abilities* are the elements of skill and knowledge that an individual must acquire to perform the task adequately.

*Tools and Supplies* are those items that are needed to perform the skill.

**BLOCK A      PROFESSIONALISM**  
**Task 1        Acts Professionally**

This task is important because it helps to:

- present positive image of industry
- demonstrate personal integrity and competence
- instill confidence and maintain relations with general public, site personnel, owners/clients, and their clients
- maintain employment and advance in industry

Trends:

- Employers and employees are placing more emphasis on company/personnel fit in relation to attitudes and values.
- There is less tolerance for unprofessional behaviour, including workplace violence, substance abuse, and harassment.
- There is increased awareness of the importance of a balanced lifestyle.
- There is an increasing demand for knowledgeable and experienced operators that have the interpersonal skills and desire to advance to supervisory and management levels.
- Individuals need to continually upgrade their knowledge and skills because of technological advances and new methodologies.

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
1.01	Demonstrates work ethic	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• principles of work ethic and expectations, such as be punctual, prepared for work, co-operative, honest, productive, and respectful</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• follow principles of work ethic in all situations</li> </ul>	
1.02	Is aware of factors affecting personal health	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• factors affecting personal health</li> <li>• own current mental, emotional, and physical state</li> <li>• own limitations</li> <li>• factors/situations/conditions that cause stress in professional and personal life</li> <li>• working conditions on construction site</li> <li>• impact of fatigue on job performance</li> </ul>	
1.03	Resolves problems or disagreements with others	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• company policies and procedures</li> <li>• applicable legislation, such as harassment</li> <li>• conflict resolution techniques</li> </ul>	

Ability to:

- communicate effectively
- use calm approach
- be open-minded and flexible
- determine cause of problem or disagreement
- discuss and resolve issues
- walk away from conflict if necessary

1.04 Participates in professional development

Knowledge of:

- industry trends
- areas requiring ongoing learning, such as new equipment, technologies, techniques, and industry practices

Ability to:

- assess own knowledge and skills
- acquire information about training opportunities
- learn through various methods, such as on-the-job training, reading, courses, co-workers

1.05 Works with others

Knowledge of:

- own role and responsibilities
- roles and responsibilities of others in industry

Ability to:

- work as team member to achieve common goals
- keep open mind
- participate in workplace meetings
- communicate clearly and accurately
- co-ordinate job-related activities
- co-operate with others

1.06 Works independently

Knowledge of:

- company policies and procedures, such as work-alone plan
- applicable legislation, such as responsibilities of supervisor/owner and site personnel
- own role and responsibilities
- own capabilities and limitations
- work assignment, location, and working conditions

Ability to:

- confirm and clarify assignment
- take initiative, such as anticipate and prepare for next steps in job
- identify and resolve potential and actual problems
- communicate with other site personnel
- co-ordinate work with others
- complete assignment

**BLOCK A      PROFESSIONALISM**  
**Task 2        Uses Communication Skills**

This task is important because it helps to:

- work safely and efficiently
- reduce errors and miscommunication
- comply with applicable legislation and insurance requirements
- represent company and industry in professional manner
- summon help in emergency
- prevent injury, save lives, and limit damage to equipment and property

Trends:

- There is an increased use of communication devices to increase productivity and improve safety.
- There is an increasing legislative requirement for documentation and participation in job site meetings.

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
2.01	Speaks and listens effectively	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• importance of effective communication</li> <li>• industry terms</li> <li>• roles of individuals on job site, such as supervisor, inspector, other tradespeople</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• listen carefully to what is said</li> <li>• confirm understanding, such as repeat or paraphrase instructions</li> <li>• communicate message clearly and accurately to others</li> <li>• exchange information with others, such as supervisor, signaller, general public, inspectors, other operators and tradespeople</li> </ul>	
2.02	Uses documentation	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• company policies and procedures</li> <li>• applicable legislation, such as Access to Information Act</li> <li>• own role and responsibilities</li> <li>• types of documentation required, such as log books, safety reports, maintenance reports, inspection reports, time cards</li> <li>• importance of complete, legible, and accurate documentation</li> <li>• where documentation is stored</li> <li>• industry terms</li> </ul>	

Ability to:

- access and store documents as required
- provide complete, legible, and accurate information in documents in timely manner
- read and interpret equipment inspection documentation from previous shifts before conducting pre-operational inspection

2.03 Communicates using signals

Knowledge of:

- company policies and procedures
- applicable legislation
- role and responsibilities of signallers
- signallers on job site
- audible and warning signals used on job site
- hand signals

Ability to:

- identify and work with signallers
- communicate using audible signals, such as back-up alarm, site emergency horn
- communicate using hand signals

2.04 Uses electronic communication equipment

Knowledge of:

- manufacturers' specifications and operating instructions
- company policies and procedures
- applicable legislation
- types of communication equipment used on job site

Ability to:

- check communication devices to verify operating condition, such as complete radio check
- deliver and receive messages using communication equipment
- follow communication protocol

*Communication devices*

**BLOCK B SAFETY**  
**Task 3 Interprets Applicable Legislation and Policies**

This task is important because it helps to:

- ensure health and safety of workers and public
- comply with applicable legislation
- prevent damage to property and environment
- decrease potential of litigation

Trends:

- There is an increasing amount of training and documentation required by amended and new legislation.
- There is an increasing demand for standardized national legislation to reduce confusion and duplication caused by differences between jurisdictions. Lack of standardized legislation may lead to fatalities and accidents, and to damage of equipment, property, and the environment.
- There is an increasing expectation that operators will be knowledgeable about relevant legislation.

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
3.01	Interprets federal, provincial/territorial, and municipal legislation	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• applicable federal, provincial/territorial, and municipal legislation, such as Highway Traffic Act, Occupational Health and Safety Act</li> <li>• where relevant legislation can be located</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• locate relevant sections in legislation</li> <li>• read legislation</li> <li>• seek clarification of legislation</li> </ul>	
3.02	Interprets permits, licences, and insurance requirements	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• applicable permits, licences, and insurance requirements</li> <li>• authorities having jurisdiction</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• locate permits, licences, and insurance documentation, such as over-dimensional permits, ground disturbance permits, air emissions permits, water use permits</li> <li>• read permits, licences, and insurance documentation</li> <li>• seek clarification on permits, licences, and insurance documentation</li> </ul>	<i>Permits, licences, insurance documentation</i>

3.03 Interprets environmental legislation

Knowledge of:

- relevant environmental legislation
- authorities having jurisdiction, such as department of fisheries, ministry of environment, municipality
- potential environmental damage caused by construction activities

Ability to:

- locate applicable permits on job site
- read environmental legislation
- seek clarification of environmental legislation

3.04 Interprets company policies and procedures

Knowledge of:

- where copies of company policies and procedures can be located

Ability to:

- read company policies and procedures
- stay current with company policies and procedures
- seek clarification on company policies and procedures

**BLOCK B SAFETY**  
**Task 4 Works Safely**

This task is important because it helps to:

- protect self and others from injury or death
- comply with applicable legislation
- prevent damage to equipment and environment
- reduce unscheduled downtime

Trends:

- Legislation relating to PPE and training is frequently being amended to protect employees, employers, the environment, and the general public.
- The industry is involved in improving safety on job sites to reduce accidents.

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
4.01	Uses personal protective equipment (PPE)	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• PPE required/recommended by manufacturers' manuals</li> <li>• PPE required for construction sites, such as footwear, hard hats, safety vests, safety glasses</li> <li>• PPE required for specific conditions, such as breathing apparatus for hazardous breathing conditions, dielectric boots and gloves for protection from electrical shock</li> <li>• inspection, care, and use of PPE</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• identify PPE required for job site and situation</li> <li>• ensure PPE meets safety standard requirements, such as Canadian Standards Association (CSA)</li> <li>• inspect PPE for damage, and repair or replace as necessary</li> <li>• ensure PPE fits correctly</li> </ul>	<p><i>Steel-toed footwear, hard hat, safety gloves, appropriate safety glasses, high visibility vest, hearing protection, breathing apparatus, fall protection, and other applicable PPE</i></p>
4.02	Completes required health and safety training	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications, such as recommended operating procedures</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> </ul>	

Ability to:

- take required health and safety training, such as confined space entry, Workplace Hazardous Materials Information System (WHMIS), first aid, cardiopulmonary resuscitation (CPR)

**BLOCK B SAFETY**  
**Task 5 Complies with Site Emergency Plan**

This task is important because it helps to:

- protect self
- prevent property damage
- ensure safety of public and job site personnel
- evacuate and secure area efficiently and effectively

Trends:

- Emergency exercises and preparedness activities are becoming more common.

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
5.01	Prepares for emergencies	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications, such as equipment emergency shut-down procedure</li> <li>• company policies and procedures</li> <li>• site emergency response plan, such as evacuation routes, procedures, contact protocol</li> <li>• types of fires, i.e., Class A, B, C, and D</li> <li>• types of extinguishers</li> <li>• potential and actual hazards on work site</li> <li>• location of fire extinguishers and first aid stations (on equipment and site) and how to use them</li> <li>• inspection requirements for safety equipment and supplies, such as fire extinguisher, first aid kit</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• take emergency response training, such as emergency response exercises, first aid, CPR</li> </ul>	<p><i>Site emergency response plan, fire extinguishers, fire blankets, respirators, masks, fire hoses, first aid kits, stretchers, WHMIS book, and other related tools and gear</i></p>
5.02	Responds to emergencies	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications, such as equipment emergency shut-down procedure</li> <li>• company policies and procedures</li> <li>• site emergency response plan, such as evacuation routes, procedures, contact protocol</li> <li>• types of fires, i.e., Class A, B, C, and D</li> <li>• types of extinguishers</li> <li>• potential and actual hazards on work site</li> <li>• location of fire extinguishers and first aid stations (on equipment and site) and how to use them</li> </ul>	<p><i>Fire extinguishers, fire blankets, respirators, masks, fire hoses, first aid kits, stretchers, and other related tools and gear</i></p>

- inspection requirements for safety equipment and supplies, such as fire extinguisher, first aid kit

Ability to:

- follow emergency plan
- communicate or follow instructions
- assess risks and determine course of action
- operate emergency equipment and supplies

**BLOCK C      EQUIPMENT**  
**Task 6        Describes Equipment and Attachments**

This task is important because it helps to:

- operate equipment properly and safely
- identify correct equipment for materials and working conditions
- communicate about equipment with site personnel, mechanics, and others
- understand types of transport vehicles and trailers, their advantages and disadvantages, and their uses

Trends:

- There is a trend to choose higher-than-necessary capacity of trailers.
- There is an increasing demand for standardized national legislation to reduce confusion, duplication, and overlap.
- Newer equipment is ergonomically designed and computer-controlled.

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
6.01	Describes types and sizes of transport vehicles	Knowledge of: <ul style="list-style-type: none"> <li>• manufacturers' specifications for different types and sizes of transport vehicles, such as highway tractor</li> </ul>	<i>Manufacturers' manuals and literature</i>
6.02	Describes components and functions	Knowledge of: <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• operating systems, such as hydraulic, electrical, lubrication</li> <li>• major components of transport vehicles, such as frame, operator station, fifth wheel, engine</li> <li>• functions of major components of transport vehicles, such as that fifth wheel is used to connect tractor to trailer</li> </ul>	<i>Manufacturers' manuals and literature</i>
6.03	Describes capacities/capabilities of transport vehicles	Knowledge of: <ul style="list-style-type: none"> <li>• manufacturers' specifications for capacities and/or capabilities of common types and sizes of transport vehicles</li> </ul>	<i>Manufacturers' manuals and literature</i>
6.04	Describes trailers and attachments	Knowledge of: <ul style="list-style-type: none"> <li>• manufacturers' specifications for trailers, such as rear-loading trailer, front-loading trailer, flat bed trailer</li> <li>• manufacturers' specifications for attachments, such as booster, jeep</li> </ul>	<i>Manufacturers' manuals for trailers and attachments</i>

6.05	Describes purposes of trailers and attachments	Knowledge of: <ul style="list-style-type: none"><li>• manufacturers' specifications for purposes of trailers, such as that flat bed is used to haul heavy equipment attachments</li><li>• manufacturers' specifications for purposes of attachments, such as that jeep and booster are used separately or in combination to distribute weight</li></ul>	<i>Manufacturers' manuals for trailers and attachments, manufacturers' manuals and literature for transport vehicle</i>
6.06	Describes basic tools and supplies associated with transport vehicles	Knowledge of: <ul style="list-style-type: none"><li>• manufacturers' specifications for tools and supplies</li><li>• basic tools, such as hammer, screwdriver, pliers, self-locking pliers, adjustable wrench, assorted other wrenches, grease gun, tape measure</li><li>• basic supplies, such as rags, window cleaner, oil, grease, ice scraper, whisk broom</li></ul>	<i>Manufacturers' manuals and literature for tools and supplies</i>

**BLOCK D MAINTENANCE**

**Task 7 Performs Pre-operational Inspection and Daily Service with Engine Off**

This task is important because it helps to:

- ensure continuous and safe operation of transport vehicle/trailer
- meet manufacturers' specifications, company policies and procedures, and applicable legislation
- prevent damage to transport vehicle/trailer and property
- prevent injury
- reduce unscheduled downtime

Trends:

- There is an increased awareness of the consequences of not complying with environmental, Occupational Health and Safety, and highway traffic legislation.
- Increasingly, systems are being controlled electronically or by computer.
- New emission-control systems on engines are becoming standard and have more components to check than engines on older transport vehicles.
- There are increased requirements for training and competency testing for pre-operational inspections.

Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
7.01 Inspects and services lubrication system	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• lubrication systems, components, and functions</li> <li>• normal operating conditions</li> <li>• spill kit procedures</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• locate components to be inspected</li> <li>• identify service needs, such as low oil levels, dirty filler cap</li> <li>• select and use appropriate tools</li> <li>• perform basic service, such as adjust oil levels</li> <li>• use spill kit</li> <li>• perform or arrange for repair or replacement of defective components, such as seals, gaskets, lines</li> </ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, flashlight, spill kit</i></p>

7.02	Inspects and services electrical systems	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• electrical system, components, and functions</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions through visual inspection</li><li>• select and use appropriate tools</li><li>• perform or arrange for service</li><li>• perform or arrange for repair or replacement of defective components, such as batteries</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies</i></p>
7.03	Inspects and services hydraulic system	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• hydraulic systems, components, and functions</li><li>• spill kit procedures</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions through visual inspection</li><li>• select and use appropriate tools</li><li>• perform basic maintenance, such as check hydraulic oil levels</li><li>• use spill kit</li><li>• perform or arrange for repair or replacement of defective components, such as hoses</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, spill kit</i></p>
7.04	Inspects and services cooling system	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• cooling systems, components, and functions</li><li>• spill kit procedures</li><li>• normal operating conditions</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, spill kit, coolant</i></p>

Ability to:

- locate components to be inspected
- identify service needs, defects, and hazardous conditions through visual inspection, such as ensure unobstructed air flow through radiator
- select and use appropriate tools
- perform basic service, such as add coolant
- use spill kit
- perform or arrange for repair or replacement of defective components, such as hoses, belts

7.05 Inspects and services air intake system

Knowledge of:

- manufacturers' specifications
- company policies and procedures
- applicable legislation
- air intake systems, components, and functions
- normal operating conditions

Ability to:

- locate components to be inspected
- identify service needs, defects, and hazardous conditions through visual inspection, such as check air service indicator
- select and use appropriate tools
- perform or arrange for repair or replacement of defective components, such as intake hoses, clamps

*Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, air filters*

7.06 Inspects and services fuel system

Knowledge of:

- manufacturers' specifications
- company policies and procedures
- applicable legislation
- normal operating conditions
- spill kit procedures

Ability to:

- locate components to be inspected
- identify and read gauges and level indicators
- identify service needs, defects, and hazardous conditions through visual inspection
- select and use appropriate tools
- perform basic maintenance, such as refuel tank
- use spill kit
- perform or arrange for repair or replacement of defective components, such as fuel filters

*Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, spill kit, fuel, fuel conditioner*

7.07	Inspects and services suspension system	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• suspension systems, components, and functions</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions through visual inspection, such as check for gashes or bulges in tires, check oil levels in wheel hub</li><li>• select and use appropriate tools</li><li>• perform basic maintenance, such as grease bushings, bearings, and pins</li><li>• perform or arrange for repair or replacement of defective components</li></ul>	<i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, flashlight</i>
7.08	Inspects and services drive train	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• drive train, components, and functions</li><li>• spill kit procedures</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions through visual inspection</li><li>• select and use appropriate tools</li><li>• use spill kit</li><li>• perform basic maintenance, such as check for wear, leaks, and damage to components</li><li>• perform or arrange for repair or replacement of defective components, such as universal joints</li></ul>	<i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, spill kit, flashlight</i>

7.09	Inspects and services braking system	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation, such as air brake endorsement and adjustment certification</li><li>• type of braking system (such as electrical, mechanical, hydraulic, pneumatic), components, and functions</li><li>• normal operating conditions</li><li>• spill kit procedures</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions through visual inspection</li><li>• select and use appropriate tools</li><li>• perform basic maintenance, such as top up fluid reservoirs</li><li>• use spill kit</li><li>• perform or arrange for repair or replacement of defective components, such as brakes</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, flashlight, brake fluid, air line conditioner, spill kit</i></p>
7.10	Inspects and services load-bearing structure	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications for structure and components</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• load-bearing structures, components, and functions</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions through visual inspection</li><li>• select and use appropriate tools</li><li>• perform basic maintenance, such as grease bushings and pins</li><li>• perform or arrange for repair or replacement of defective components</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, flashlight</i></p>

7.11	Inspects and services operator station	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• operator station and components, such as seat, instrument panel, communication devices</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate and identify controls inside operator station</li><li>• identify missing or defective components or controls</li><li>• clean windows and mirrors</li><li>• adjust mirrors</li><li>• perform or arrange for repair or replacement of defective components</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies</i></p>
7.12	Inspects safety equipment	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• required safety equipment, such as reflectors, fire extinguisher</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• ensure safety equipment is present and securely mounted</li><li>• identify service needs, defects, and hazardous conditions through visual inspection</li><li>• arrange for repair or replacement of defective components, such as fire extinguisher</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, safety equipment</i></p>
7.13	Inspects and services attachments	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• attachments, components, and functions</li><li>• normal operating conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• locate components to be inspected</li><li>• identify service needs, defects, and hazardous conditions (such as leaks on winch) through visual inspection</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies</i></p>

- select and use appropriate tools
- perform basic maintenance, such as grease pins and bushings
- perform or arrange for repair or replacement of defective components, such as wire rope on winch

7.14 Inspects and services auxiliary pneumatic system

Knowledge of:

- manufacturers' specifications
- company policies and procedures
- applicable legislation
- auxiliary pneumatic systems, components, and functions
- normal operating conditions

Ability to:

- locate components to be inspected
- identify service needs, defects, and hazardous conditions through visual inspection
- select and use appropriate tools
- perform basic maintenance, such as close drain valves, top up alcohol injectors
- perform or arrange for repair or replacement of defective components, such as air lines

*Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, flashlight*

**BLOCK D MAINTENANCE**

**Task 8 Performs Pre-operational Inspection and Daily Service with Engine Running**

This task is important because it helps to:

- identify problems not evident when engine is off
- ensure that transport vehicle/trailer is safe and ready to operate
- prolong transport vehicle/trailer life
- reduce unscheduled downtime
- prevent damage to transport vehicle/trailer and property
- protect own and public safety
- meet applicable legislation

Trends:

- There is increased awareness of the consequences of not complying with environmental, Occupational Health and Safety, and highway traffic legislation.
- Increasingly, systems are being controlled electronically or by computer.
- New emission-control systems on engines are becoming standard and have more components to check than engines on older transport vehicles.
- There are increased requirements for training and competency testing for pre-operational inspections.

Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
8.01 Starts engine and checks monitoring and warning systems	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• monitoring and warning systems and components</li> <li>• impact of weather and seasonal conditions on start-up procedures</li> <li>• battery-boosting procedures</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• locate components to be inspected</li> <li>• identify service needs, defects, and hazardous conditions (such as leaks, burnt out lights) through visual inspection</li> <li>• select and use appropriate tools</li> <li>• perform basic service, such as replace fuse</li> <li>• perform or arrange for repair or replacement of defective components, such as seals, gaskets, lines</li> <li>• assist mechanic with battery boosting if necessary</li> </ul>	<i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE</i>

8.02	Warms up engine	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• impact of weather and seasonal conditions on transport vehicle/trailer functions and fluids</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• monitor instrument panel</li><li>• warm up engine according to weather conditions and manufacturers' instructions</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE</i></p>
8.03	Cycles transport vehicle/trailer functions	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policy and procedures</li><li>• equipment controls</li><li>• normal operating characteristics</li><li>• impact of weather and seasonal conditions on transport vehicle/trailer functions and fluids</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• activate all functions (such as brakes, steering, lights, wipers, hydraulic functions) according to weather conditions</li><li>• select and use appropriate tools</li><li>• identify problems with functions</li><li>• arrange for or perform required maintenance</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies</i></p>

**BLOCK D      MAINTENANCE**  
**Task 9        Complies with Scheduled Maintenance Requirements**

This task is important because it helps to:

- ensure continuous and safe operation of transport vehicle/trailer
- validate manufacturers' warranties
- prevent damage to transport vehicle/trailer and property
- prevent injury
- reduce unscheduled downtime

Trends:

- Scheduled maintenance requirements are changing to meet new emission requirements for engines.
- Increasingly, manufacturers are using computer-controlled equipment to identify service requirements.
- Increasingly, manufacturers are able to monitor, through computer-controlled equipment, whether warranty requirements have been met.

Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
9.01      Arranges for or performs scheduled maintenance	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• factors that affect scheduled maintenance, such as where transport vehicle/trailer is being used, weather, seasonal conditions</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• comply with safety requirements</li> <li>• read indicators that signal need for replacement</li> <li>• read maintenance records and documentation relating to service, such as log books</li> <li>• select and use appropriate tools</li> <li>• arrange for or perform scheduled maintenance</li> </ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, fluids, filters, basic tools and supplies</i></p>

**BLOCK E      OPERATING PROCEDURES**  
**Task 10      Completes Pre-trip Planning**

This task is important because it helps to:

- comply with applicable legislation
- ensure safe route
- ensure safety of public

Trends:

- There is a trend in the industry to use a Global Positioning System (GPS) instead of, or in addition to, a map.
- Cross-border regulations and requirements are becoming more stringent and extra time or measures may be required during pre-trip planning.
- There are increased requirements for site-specific training and orientation.

Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
10.01    Plans route	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• authorities having jurisdiction on planned route</li> <li>• maps, permits, restricted routes, toll roads, and weight and dimension restriction locations, such as bridges, tunnels, power lines, railway tracks</li> <li>• emergency procedures on planned route</li> <li>• international customs and immigration procedures, if on planned route</li> <li>• company fuel locations</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• plan best route as required</li> <li>• navigate using a map or GPS</li> <li>• identify potential stops for rest, refuelling, and to meet regulations, such as location of weigh scales</li> <li>• estimate time schedule</li> </ul>	<p><i>Equipment maintenance documentation, PPE, maps</i></p>
10.02    Confirms appropriate documentation for trip	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• required documentation, such as permits, licences, insurance</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• arrange for or acquire appropriate permits, licences, and other documentation for planned trip, such as log books, insurance</li> </ul>	<p><i>Equipment maintenance documentation, PPE, permits, licences, insurance, pre-trip inspection reports, pen/pencil</i></p>

		<ul style="list-style-type: none"><li>• interpret information on permits, licences, and other documentation</li></ul>	
10.03	Confirms that transport vehicle and trailer are appropriate for load	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• weight and dimension limits for different jurisdictions on route</li><li>• weight and dimensions of load</li><li>• special considerations of load</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• determine limits for transport vehicle and trailer in each jurisdiction on route</li><li>• confirm that transport vehicle and trailer are appropriate for load</li></ul>	<i>Manufacturers' manuals and literature, PPE</i>
10.04	Confirms that appropriate tools and accessories are available	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• applicable legislation</li><li>• load to be transported, such as weight, dimensions, tie-down points</li><li>• safe working load limits of tie-down assemblies, such as chains, synthetic webbing, wire rope, end connections</li><li>• how to use, maintain, and inspect tie-down assemblies</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• inspect and maintain appropriate tools and accessories</li><li>• calculate aggregate working load limits for tie-down assemblies</li><li>• identify appropriate tools and accessories, such as binders, blocking, tire chains</li></ul>	<i>PPE</i>

**BLOCK E OPERATING PROCEDURES**  
**Task 11 Loads/Unloads Trailer**

This task is important because it helps to:

- ensure that work is done according to job specifications
- prevent damage to equipment and property
- prevent injury

Trends:

N/A

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
11.01	Assesses loading/unloading site hazards	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• company policies and procedures</li> <li>• applicable legislation, such as Occupational Health and Safety</li> <li>• authorities having jurisdiction</li> <li>• locations of utilities on site</li> <li>• locations of other equipment, personnel, and vehicular traffic</li> <li>• how ground and other supporting conditions affect operation of equipment and transport vehicle/trailer</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• inspect site visually</li> <li>• communicate with site personnel</li> <li>• identify actual and potential hazards</li> </ul>	<i>PPE</i>
11.02	Discusses environmental concerns with site personnel	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• applicable legislation</li> <li>• environmental concerns</li> <li>• site characteristics and boundaries</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• identify actual and potential environmental concerns, such as proximity to water courses, noise levels, fuel leaks, hazardous materials</li> <li>• communicate with employer or site personnel</li> </ul>	<i>PPE</i>
11.03	Reviews job specifications and safety considerations with site personnel	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• job specifications</li> <li>• applicable legislation, such as Occupational Health and Safety</li> <li>• site plan</li> <li>• other construction equipment on site</li> </ul>	<i>PPE, site plan, utility locate document</i>

- actual and potential hazards, such as overhead wires, underground utilities
- site and weather conditions
- roles of personnel on site, such as foreman, inspector, operators, other tradespeople
- job- or site-specific PPE and training

Ability to:

- communicate with site personnel to confirm job specifications and identify safety concerns, such as location of utilities

11.04 Prepares to load/unload trailer

Knowledge of:

- manufacturers' specifications
- job specifications
- company policies and procedures
- requirements to complete job tasks
- procedures specific to type of trailer
- blocking and ramping procedures
- potential hazards on and around trailer decks
- appropriate loading/unloading location

*Manufacturers' specifications and literature, PPE*

Ability to:

- select appropriate loading/unloading location
- identify tools, equipment, and attachments needed
- identify access and exit points on site
- plan work procedures for safety, efficiency, and effectiveness
- sequence job tasks to co-ordinate activities with other site personnel
- ensure that trailer deck and loading areas are hazard-free, such as free of ice, debris, overhead wires, pedestrians, traffic, and underground utilities
- perform pre-loading/unloading procedures for type of trailer
- select proper blocking and ramping as required

11.05 Loads or assists with loading equipment

Knowledge of:

- manufacturers' specifications, such as weight and dimensions of equipment to be loaded
- company policies and procedures
- operating procedures for equipment to be loaded, or where to find qualified operator
- safe loading procedures

*Manufacturers' manuals and literature, PPE*

- where and how to position equipment and attachments on trailer deck
- potential or actual hazards during loading procedure
- how to direct equipment operator safely during loading
- hand signals

Ability to:

- operate equipment to be loaded, or locate qualified operator
- position equipment, or direct equipment operator to position equipment, correctly on trailer deck
- use and respond to hand signals

11.06 Secures equipment

Knowledge of:

- manufacturers' specifications, such as tie-down points
- company policies and procedures
- authorities having jurisdiction
- weight and dimensions of equipment to be transported
- working load limits of tie-down assemblies
- how to use tie-down assemblies

*Manufacturers' manuals and literature, PPE, tie-down assemblies*

Ability to:

- calculate number of tie-down assemblies required to comply with regulations and equipment requirements
- identify tie-down points on equipment being transported
- use tie-down assemblies

11.07 Unloads or assists with unloading equipment

Knowledge of:

- manufacturers' specifications, such as weight and dimensions of equipment
- company policies and procedures
- operating procedures for equipment, or where to find qualified operator
- safe unloading procedures
- potential or actual hazards during unloading procedure
- how to direct equipment operator safely during unloading
- how to use and store tie-down assemblies
- hand signals

*Manufacturers' manuals and literature, PPE*

Ability to:

- operate equipment to be unloaded, or locate qualified operator
- unload equipment, or direct equipment operator to unload equipment
- remove and store tie-down assemblies
- use and respond to hand signals

**BLOCK E OPERATING PROCEDURES**  
**Task 12 Operates Transport Vehicle/Trailer**

This task is important because it helps to:

- move equipment safely from one point to another
- ensure safety of public
- prevent injury
- prevent damage to property, transport vehicle/trailer, and equipment
- fulfill job specifications
- co-ordinate operations with other construction activities on site

Trends:

- There is an increasing amount of paperwork required.
- There is a trend to haul equipment for longer distances.
- Equipment transport vehicles are becoming more computerized, as well as larger and more powerful.
- There are increased requirements for training and competency testing for transport vehicle/trailer operators because of increased litigation.

Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
12.01 Complies with transport vehicle/trailer safety requirements	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• safety controls and equipment, such as travel alarms, seat belts</li> <li>• caution, warning, and hazard decals, lights, and symbols</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• use safety controls and equipment</li> <li>• respond to caution, warning, and hazard decals, lights, and symbols</li> </ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, first aid kit, fire extinguisher</i></p>
12.02 Uses operating controls	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• operating controls and functions</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• use operating controls on transport vehicle safely and smoothly</li> <li>• use different operating controls simultaneously as required</li> <li>• react to changing conditions/situations</li> </ul>	<p><i>Manufacturers' manuals and literature, PPE</i></p>

12.03	Optimizes equipment capabilities	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• applicable legislation</li><li>• operating characteristics of transport vehicle</li><li>• how to operate transport vehicle under various conditions, such as different types of road, in mountains, in city, on highways</li><li>• defensive driving techniques</li><li>• climatic conditions on route</li><li>• headlight limitations and impacts of different weather conditions</li><li>• hazards, such as nighttime hazards</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• operate vehicle on all types of roads and in all conditions</li><li>• monitor tie-down assemblies</li><li>• inspect transport vehicle/trailer at each stop</li><li>• drive defensively</li><li>• maintain equipment maintenance documentation in compliance with regulations</li></ul>	<p><i>Manufacturers' manuals and literature, equipment maintenance documentation, PPE, basic tools and supplies, tire chains, sand, salt, flashlight, emergency roadside kit procedures,</i></p>
12.04	Monitors transport vehicle/trailer performance	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• normal operating characteristics</li><li>• instrument panel, such as gauges, symbols</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• monitor information from gauges and symbols</li><li>• use own senses to monitor performance</li><li>• identify transport vehicle/trailer problems</li></ul>	<p><i>Manufacturers' manuals and literature, PPE</i></p>
12.05	Troubleshoots mechanical problems	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• normal operating characteristics</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• identify problems and possible solutions</li><li>• communicate problems accurately to others, such as maintenance personnel</li></ul>	<p><i>Manufacturers' manuals and literature, PPE, basic tools and supplies, communication devices, flashlight</i></p>

12.06	Couples/uncouples trailer	<p>Knowledge of:</p> <ul style="list-style-type: none"><li>• manufacturers' specifications</li><li>• company policies and procedures</li><li>• coupling/uncoupling procedures for type of trailer</li><li>• inspection and maintenance procedures for coupling devices</li><li>• coupling devices</li><li>• ground conditions</li></ul> <p>Ability to:</p> <ul style="list-style-type: none"><li>• assess ground conditions</li><li>• use appropriate blocking</li><li>• inspect and maintain coupling device</li><li>• perform coupling/uncoupling procedures for type of trailer</li><li>• engage/disengage coupling device</li></ul>	<i>Manufacturers' manuals and literature, PPE</i>
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**BLOCK E OPERATING PROCEDURES**  
**Task 13 Follows Shut-down Procedures**

This task is important because it helps to:

- prevent injury
- prevent damage to transport vehicle/trailer, equipment, and property
- ensure that transport vehicle/trailer is ready for next shift
- reduce unscheduled downtime
- prevent vandalism and unauthorized movement of transport vehicle/trailer

Trends:

N/A

	Subtasks	Supporting Knowledge and Abilities	Tools and Supplies
13.01	Parks equipment in appropriate location	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> <li>• suitable and safe parking locations, such as dry and clean surface, level, away from fuel storage and water courses, secure area</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• identify appropriate parking location</li> <li>• park equipment according to company policies and procedures</li> </ul>	<i>Manufacturers' manuals and literature, PPE</i>
13.02	Shuts down and secures equipment	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> <li>• applicable legislation</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• shut down transport vehicle/trailer according to manufacturers' specifications</li> <li>• secure equipment against movement, theft, and vandalism</li> </ul>	<i>Manufacturers' manuals and literature, PPE, basic tools and supplies, wheel chocks</i>
13.03	Performs housekeeping tasks	<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• company policies and procedures</li> </ul> <p>Ability to:</p> <ul style="list-style-type: none"> <li>• clean items, such as windshields, rails, steps, instrument panel</li> <li>• sweep floor</li> <li>• remove garbage</li> </ul>	<i>Manufacturers' manuals and literature, PPE, basic tools and supplies</i>

13.04 Performs visual inspection

Knowledge of:

- manufacturers' specifications
- company policies and procedures
- applicable legislation

Ability to:

- check parked transport vehicle/trailer visually, such as tires, wheels, hubs
- identify existing or potential problems
- communicate concerns to appropriate personnel, such as supervisor, mechanic

*Manufacturers' manuals and literature, PPE*

## Heavy Equipment Transport Operator DACUM Chart

Block	Task	Subtask					
<b>A. PROFESSIONALISM</b>	<b>1. Acts Professionally</b>	1.01 Demonstrates work ethic	1.02 Is aware of factors affecting personal health	1.03 Resolves problems or disagreements with others	1.04 Participates in professional development	1.05 Works with others	1.06 Works independently
	<b>2. Uses Communication Skills</b>	2.01 Speaks and listens effectively	2.02 Uses documentation	2.03 Communicates using signals	2.04 Uses electronic communication equipment		
<b>B. SAFETY</b>	<b>3. Interprets Applicable Legislation and Policies</b>	3.01 Interprets federal, provincial/territorial, and municipal legislation	3.02 Interprets permits, licenses, and insurance requirements	3.03 Interprets environmental legislation	3.04 Interprets company policies and procedures		
	<b>4. Works Safely</b>	4.01 Uses personal protective equipment (PPE)	4.02 Completes required health and safety training				
	<b>5. Complies with Site Emergency Plan</b>	5.01 Prepares for emergencies	5.02 Responds to emergencies				

## Heavy Equipment Transport Operator DACUM Chart

Block	Task	Subtask						
<b>C. EQUIPMENT</b>	<b>6. Describes Equipment and Attachments</b>	6.01 Describes types and sizes of transport vehicles	6.02 Describes components and functions	6.03 Describes capacities/ capabilities of transport vehicles	6.04 Describes trailers and attachments	6.05 Describes purposes of trailers and attachments	6.06 Describes basic tools and supplies associated with transport vehicles	
		<b>D. MAINTENANCE</b>	<b>7. Performs Pre-operational Inspection and Daily Service with Engine Off</b>	7.01 Inspects and services lubrication system	7.02 Inspects and services electrical system	7.03 Inspects and services hydraulic system	7.04 Inspects and services cooling system	7.05 Inspects and services air intake system
7.07 Inspects and services suspension system	7.08 Inspects and services drive train			7.09 Inspects and services braking system	7.10 Inspects and services load-bearing structure	7.11 Inspects and services operator station	7.12 Inspects safety equipment	
7.13 Inspects and services attachments	7.14 Inspects and services auxiliary pneumatic system							
<b>8. Performs Pre-operational Inspection and Daily Service with Engine Running</b>	8.01 Starts engine and checks monitoring and warning systems			8.02 Warms up engine	8.03 Cycles transport vehicle/trailer functions			
	<b>9. Complies with Scheduled Maintenance Requirements</b>			9.01 Arranges for or performs scheduled maintenance				

### Heavy Equipment Transport Operator DACUM Chart

Block	Task	Subtask					
<b>E. OPERATING PROCEDURES</b>	<b>10. Completes Pre-Trip Planning</b>	10.01 Plans route	10.02 Confirms appropriate documentation for trip	10.03 Confirms that transport vehicle and trailer are appropriate for load	10.04 Confirms that appropriate tools and accessories are available		
	<b>11. Loads/Unloads Trailer</b>	11.01 Assesses loading/unloading site hazards	11.02 Discusses environmental concerns with site personnel	11.03 Reviews job specifications and safety considerations with site personnel	11.04 Prepares to load/unload trailer	11.05 Loads or assists with loading equipment	11.06 Secures equipment
		11.07 Unloads or assists with unloading equipment					
	<b>12. Operates Transport Vehicle/Trailer</b>	12.01 Complies with transport vehicle/trailer safety requirements	12.02 Uses operating controls	12.03 Optimizes equipment capabilities	12.04 Monitors transport vehicle/trailer performance	12.05 Trouble-shoots mechanical problems	12.06 Couples/uncouples trailer
<b>13. Follows Shut-down Procedures</b>		13.01 Parks equipment in appropriate location	13.02 Shuts down and secures equipment	13.03 Performs housekeeping tasks	13.04 Performs visual inspection		

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### **Material Handling:**

Bernie Elliott, ON  
Alain Jacques, QC  
Frank Jones, BC  
Bruno Malbasa, MB  
Shawn McAdam, NB  
John McIsaac, BC  
Rae Munroe, ON  
Jim Oleksyn, SK  
Bob Raymack, MB  
Terry Robichaud, NB  
Bob Tytko, ON

### **Grading:**

Guenther Bott, ON  
Gerry Chouinard, QC  
Alain Jacques, QC  
Grant Labrash, BC  
Richard Lagace, NB  
Blair Lentz, ON  
Rae Munroe, ON  
Daryl Sweetland, MB  
Darrell Tremblay, BC  
Ron Ward, ON

### **Crane:**

Harry Boon, NB  
Kevin Caines, NL  
Steve Deady, ON  
John Doherty, MB  
Joe Dowdall, ON  
Charlie Eddy, NL  
Oneil Lapointe, ON  
Marty McDonnell, AB

Craig McIntosh, BC  
Rae Munroe, ON  
Len Phelan, BC  
Len Poitras, SK  
Gary Snow, NL

### **Plant Operations:**

Reynold Amey, BC  
Roger Beck, NS  
Mervyn Benson, NS  
Vito DeFrancesco, ON  
Barry Dupres, MB  
Jeff Emimo, NS  
Nelson Fowler, NB  
Rae Munroe, ON  
Peter Serrette, MB  
Kent Walker, ON

### **HAZMAT:**

Bernie Elliott, ON  
Frank Jones, BC  
Dan O’Keefe, BC  
Bruno Malbasa, MB  
John McIsaac, BC  
Tom Miller, ON  
Rae Munroe, ON  
Jim Oleksyn, SK  
Bob Raymack, MB  
Randy Stegner, ON  
Bob Tytko, ON

### **Concrete Pumping:**

Mike Bruce, ON  
Kevin Caines, NL  
Steve Deady, ON  
Joe Dowdall, ON  
Charlie Eddy, NL  
Stan Fortune, ON  
Nelson Fowler, NB  
Wayne Hannah, ON  
Marty McDonnell, AB  
Craig McIntosh, BC  
Rae Munroe, ON  
Len Phelan, BC

Gary Snow, NL

### **Excavating:**

Archie Fontaine, BC  
Dan Johnson, MB  
Merv Marcynuk, MB  
Harold McBride, ON  
Robert Middleton, MB  
Rae Munroe, ON  
Vance Simpson, MB  
Jack Walker, AB  
Pat Watson, BC  
Gary Snow, NL

### **Hauling:**

Alain Jacques, QC  
Archie Fontaine, BC  
Bruce Hecht, AB  
Dan Henry, MB  
Richard Lagace, NB  
Robert Middleton, MB  
Rae Munroe, ON  
Shawn Robertson, ON  
Larry Smith, NL  
Scott Smith, ON  
Ernest Wainio, ON

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David Alves, ON  
Gordon Biegler, AB  
Orest Cesmistruk, NS  
Frank Cardile, AB  
Peter Gamble, ON  
Rae Munroe, ON  
Greg Paciorka, MB  
Brian Parisien, MB  
Robert Parisien, MB  
Todd Paterson, ON  
Rick Spaidal, BC