



Canadian  
Supply Chain  
Sector Council

Conseil canadien  
sectoriel de la chaîne  
d'approvisionnement

## OCCUPATIONAL STANDARD

(For use in the development of supply chain related job descriptions, performance evaluations, career development plans, etc.)

<b>Material Handler Position:</b>	<p><b>INTERNAL COMBUSTION ENGINE LIFT TRUCK OPERATOR</b></p> <ul style="list-style-type: none"> <li>• Class IV – Lift Code 3: Fork, Counterbalanced, Cushion Tire</li> <li>• Class V – Lift Code 4: Fork, Counterbalanced, Pneumatic Tire</li> </ul>
<p style="text-align: center;">Description of Position (As defined by the CSCSC Stakeholder Community)</p>	<p><i>Internal Combustion Engine Lift Truck Operators handle, move, load and unload materials manually and/or by using an internal combustion engine lift truck. They are employed by transportation, storage and moving companies, and by a variety of manufacturing and processing companies and retail and wholesale operations.</i></p>
<b>Position Development</b>	Progression to supervisory and management positions is possible through experience, additional training and associated supervisory certifications.
<b>Required Qualifications:</b>	<b>(Education, Training, Related Work Experience)</b>
<b>Education</b>	A high school diploma is considered an asset.
<b>Specific Training for Internal Combustion Engine Lift Truck Operators</b>	<b>(Certification, Training Composition, and Additional Safety Training)</b>
<i>ST.1 – Certification</i>	<ul style="list-style-type: none"> <li>• Internal Combustion Engine Lift Truck Operators require an operator's certificate for use of an internal combustion engine lift truck from a CSCSC accredited training course or program.</li> <li>• Additional training requirements may include retraining certification, need of which is determined by the equipment being utilized, task(s) being performed, operator performance issues, environment in which the equipment is being operated, operator period of inactivity, and/or the original date of the operator's certification. Retraining frequency consistent with the timelines recommended in applicable standards and regulations.</li> </ul>
<i>ST.2 – Training Composition</i>	<ul style="list-style-type: none"> <li>• The Operator will have received training in both theory and practical use of the lift truck.</li> </ul>
<i>ST.3 – Additional Safety Training</i>	<ul style="list-style-type: none"> <li>• Training on fire extinguisher use and maintenance specific to the extinguisher type provided with the combustion engine lift truck.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Due to the potential for working at heights, an Internal Combustion Engine Lift Truck Operator may require fall protection training (e.g. inspection, fit testing, maintenance, use of, etc.).</li> </ul>
<p><b>General Training for Material Handlers</b></p>	<p>In general, Material Handlers need anywhere from a few weeks to one year of working with experienced employees. The length of training will depend on the complexity of the material handling operations and types of material handling equipment. Training in Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG), and First Aid and Cardiopulmonary resuscitation (CPR) is considered an asset.</p>
<p><b>Related Work Experience</b></p>	<p>An Internal Combustion Engine Lift Truck Operator may require previous work-related skill, knowledge, and experience. The amount of skill, knowledge and experience would be dependant upon the level of the position to be filled (entry-level, experienced, and supervisory).</p>
<p><b>General Material Handling Tasks:</b></p>	
<p><b>Material Handlers, including Internal Combustion Engine Lift Truck Operators, perform some or all of the following general tasks</b></p>	<ul style="list-style-type: none"> <li>• Operate, navigate, or drive mechanized material handling equipment</li> <li>• Inspect material handling equipment, structures, or materials to identify problems or defects</li> <li>• Install protective devices, such as bracing, padding, or strapping, to prevent shifting or damage to items being transported</li> <li>• Attach slings, hooks, and other devices to lift cargo and guide loads</li> <li>• Perform general physical activities, such as stockpicking tasks, in order to load, unload, sort and move products and materials by hand or using basic material handling equipment</li> <li>• Perform tasks in varying work environments (e.g. multi-temperature, wet, etc.)</li> <li>• May participate in inventory, replenishment, letdowns, shipping and receiving functions</li> <li>• Read work orders or receive oral instructions for work assignments</li> <li>• Prepare and/or review load plans</li> <li>• Complete daily production sheets or work tickets</li> <li>• Maintain storage areas and carry out general yard duties</li> <li>• Provide on the job training to new/junior material handling staff</li> <li>• Contribute to the completion of incident reports in relation to health and safety issues or material spills</li> </ul>
<p><b>Tools and Technology:</b></p>	

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	<ul style="list-style-type: none"> <li>• Material Handling Equipment – Internal Combustion Engine Lift Trucks (including equipment accessories and auxiliary equipment used in maintenance of equipment)</li> <li>• Computer Hardware and Associated Software (e.g. data entry, machine control, inventory tracking, spreadsheet, electronic mail)</li> <li>• Communication Devices (e.g. voice pick systems)</li> <li>• Scanning Equipment (e.g. bar code scanning equipment)</li> <li>• Packaging Tools (e.g. staplers, tape guns, strapping machines)</li> <li>• Measurement Tools (e.g. scale, measuring tape, thermometer, temperature gauge, air pressure gauge)</li> </ul>
<b>Required Competencies:</b>	<b>(Knowledge, Skills, Personal Attributes)</b>
<b>Specific Knowledge for Internal Combustion Engine Lift Truck Operators</b>	<p><b>(Legislative Requirements, Equipment Design and Stability, Pre-Operational Safety, Operational Safety, Maintenance, Inspection and Repair, Power Source, and Attachments)</b></p> <p>Based on CSA B335-04 and CSA Plus 1156 available from <a href="http://www.shopcsa.ca">http://www.shopcsa.ca</a>, and the Industrial Truck Standards Development Foundation (ITSDF) B56 Standards, available from <a href="http://www.itsdf.org/pB56.asp">http://www.itsdf.org/pB56.asp</a>.</p>
<b>SK.1 - Legislative Requirements</b>	<ul style="list-style-type: none"> <li>• Knowledge of where to locate and the content of applicable legislation, standards and guidelines</li> <li>• Aware of the legal responsibilities of an Internal Combustion Engine Lift Truck Operator</li> </ul>
<b>SK.2 – Equipment Design and Stability</b>	<ul style="list-style-type: none"> <li>• Aware of causes of equipment related accidents and associated preventative measures</li> <li>• Acquainted with general ergonomic principles and postures for operating the combustion engine lift trucks and conducting material handling activities</li> <li>• Aware of the equipment capacity limitations</li> <li>• Familiar with the manufacturer’s criteria for equipment modifications</li> <li>• Knowledgeable of equipment stability including:             <ul style="list-style-type: none"> <li>✓ general stability requirements</li> <li>✓ high lift truck stability requirements</li> <li>✓ load and/or suspended load conditions that may impact lift truck stability</li> <li>✓ special operating conditions such as forward and rearward tilt</li> <li>✓ lift truck tipping prevention techniques</li> <li>✓ load suspension impact on stability &amp; associated hazards</li> </ul> </li> </ul>
<b>SK.3 – Pre-Operational Safety</b>	<ul style="list-style-type: none"> <li>• Knowledge of how to conduct a pre-operational safety and</li> </ul>

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	<p>maintenance inspection of the lift truck and the applicable reporting procedures</p> <ul style="list-style-type: none"> <li>• Knowledge of how to complete a pre-shift lift truck inspection form (also known as a checklist caddy or log book)</li> <li>• Aware of any applicable safety bulletins made available to employees for review (e.g. posted on health and safety boards, notice attached to pay stubs, etc.)</li> <li>• Aware of the personal protective equipment required for safe operation (e.g. steel toed boots, hard hat, fall protection equipment, seat belts, etc.) and handling of materials (e.g. dangerous goods)</li> <li>• Knowledge of guarding for the enhancement of the safe operation of the lift truck</li> <li>• Familiar with lift truck entering and exiting procedures, and equipment controls</li> </ul>
<p><b>SK.4 – Operational Safety</b></p>	<ul style="list-style-type: none"> <li>• Aware of the responsibilities of operators when operating equipment</li> <li>• Knowledgeable of how to identify, report, and take corrective action in order to address job, equipment, and workplace hazards (e.g. stability, fire, explosion, asphyxiation hazards, hazards from enclosed working environments, etc.)</li> <li>• Familiar with the environmental limitations in which the equipment can be operated</li> <li>• Knowledge of how to calculate approximate load weights and load centre</li> <li>• Familiar with hand signals (both use and interpretation)</li> <li>• Knowledge of the organizations fall protection plan and/or applicable safety procedures when employing lift trucks to lift personnel (for both operators and those being lifted)</li> <li>• Knowledge of the practical essentials for the selection, use, and care of fall protection equipment</li> <li>• Knowledgeable of the use and maintenance of the lift truck dedicated fire extinguisher</li> <li>• Familiar with the environmental limitations in which the internal combustion engine lift truck can be operated</li> <li>• Familiar with load charts and determining lifting capacities</li> <li>• Knowledgeable of proper load handling (e.g. selection, security, integrity, pickup, placement, and stacking procedures), handling heavy or oversized loads, or loads with varying load centres, and how to handle suspended loads</li> <li>• Knowledgeable of handling specific to loading docks, trucks, ships, and rail cars</li> </ul>

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	<ul style="list-style-type: none"> <li>• Knowledge of safety procedures to be taken when using elevators</li> <li>• Knowledge of general safety for operating internal combustion engine lift trucks and conducting material handling activities, including:             <ul style="list-style-type: none"> <li>✓ observance of company material handling, emergency, and accident reporting procedures</li> <li>✓ recognition of different brands of internal combustion engine lift trucks and manufacturer specific operation and safety features such as warning devices</li> <li>✓ awareness of the internal combustion engine lift truck operational limitations</li> <li>✓ knowledge of safe operating procedures (e.g. preoperational, start-up, travelling, elevator use, shutdown etc.)</li> </ul> </li> <li>• Basic knowledge of hydraulics and pressure</li> <li>• Knowledge of site specific company rules and safety considerations, such as load handling, traffic rules, pedestrian safety, defensive driving techniques, etc., when travelling with or without a load</li> </ul>
<p><b>SK.5 - Maintenance, Inspection and Repair</b></p>	<ul style="list-style-type: none"> <li>• Aware of shutdown procedures to be followed prior to maintenance</li> <li>• Application of basic equipment inspection techniques, including the frequency of inspection</li> <li>• Able to identify when specialized personnel are required for maintenance, inspection, and/or repair activities</li> <li>• Familiarity with the manufacturer recommended or company defined inspection and planned maintenance program</li> </ul>
<p><b>SK.6 – Power Source</b></p>	<ul style="list-style-type: none"> <li>• Knowledge of lift truck start up and shutdown procedures, refueling procedures, and applicable emergency procedures</li> <li>• Aware of the potential need for trained personnel to utilize refueling equipment</li> <li>• Familiarity with the fuel’s material safety data sheet (MSDS) including information on potential hazards, and on the use, storage, handling and emergency procedures related to the fuel’s hazards</li> <li>• Knowledge of personal protective equipment required when conducting refueling activities</li> <li>• Aware of potential damage and/or maintenance issues that may arise with lift truck related refueling equipment</li> <li>• Knowledge of manufacturer’s safety manual instructions, workplace safety protocols for refueling (e.g. ventilation, equipment heat management, etc.)</li> </ul>
<p><b>SK.7 - Attachments</b></p>	<ul style="list-style-type: none"> <li>• Aware of the requirement for lift truck attachments to be certified</li> <li>• Familiar with approved attachments for the lift truck (e.g. sideshift,</li> </ul>

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	<p>box clamps, paper roll clamps, rotators, etc.), including knowledge of installation, safe operation, maintenance, and if applicable, removal, of the attachments</p> <ul style="list-style-type: none"> <li>• Aware of defects and hazards associated with lift trucks that have attachments (e.g. impact to stability, reduced load ratings, etc.)</li> </ul>
<p><b>General Material Handling Knowledge</b></p>	<p>Knowledge of health and safety procedures, standards and regulations, public safety and security, customer service, basic mathematics, English language, and other languages as required.</p>
<p><b>Specific Skills for Internal Combustion Engine Lift Truck Operators</b></p>	<p><b>(Safety, Equipment Operation, and Equipment Care)</b> Based on CSA B335-04 and CSA Plus 1156 available from <a href="http://www.shopcsa.ca">http://www.shopcsa.ca</a>, and the Industrial Truck Standards Development Foundation (ITSDF) B56 Standards, available from <a href="http://www.itsdf.org/pB56.asp">http://www.itsdf.org/pB56.asp</a>.</p>
<p><b>SS.1 - Safety</b></p>	<ul style="list-style-type: none"> <li>• Able to conduct pre-operational safety and maintenance inspection of the equipment, including at minimum inspections of all critical equipment components, warning devices, power sources, etc.</li> <li>• Able to complete a pre-shift lift truck inspection form (also known as a checklist caddy or log book)</li> <li>• Able to identify, avoid, and correct hazards related to the material handling task, equipment, and/or work environment in which the equipment is being used</li> <li>• Apply general safety practices, follow traffic rules, and implement defensive driving techniques during operation of the internal combustion engine lift truck</li> <li>• Able to communicate using hand signals (both use and interpretation) or other means of two way communication</li> <li>• Apply safety practices and follow applicable regulations when employing lift trucks to lift personnel (for both operators and those being lifted)</li> <li>• Able to use and maintain the lift truck dedicated fire extinguisher</li> <li>• Ensure safety guards are installed as required</li> </ul>
<p><b>SS.2 – Equipment Operation</b></p>	<ul style="list-style-type: none"> <li>• Operate, maintain, and practice good housekeeping to ensure stability of the lift truck and to prevent tipping</li> <li>• Operate equipment responsibly given the lift truck limitations (e.g. able to read load charts and determine lifting capacities)</li> <li>• Able to calculate approximate load weights and load centre</li> <li>• Implement extra care procedures based on the environment in which the equipment is used (e.g. overhead hazards such as obstructions and energized overhead wires, grade changes, etc.)</li> <li>• Able to precisely maneuver lift truck in confined areas of operation</li> </ul>

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	<ul style="list-style-type: none"> <li>• Able to safely operate lift truck with suspended loads</li> <li>• Determine and implement appropriate stopping distances and modify driving technique to compensate for changes in grade</li> <li>• Apply proper elevator boarding techniques if applicable</li> <li>• Apply proper start-up and shutdown procedures</li> </ul>
<b>SS.3 – Equipment Care</b>	<ul style="list-style-type: none"> <li>• Apply all shutdown procedures for safe maintenance, inspection, repair, and refueling of lift truck</li> <li>• Able, if trained, to safely use refueling equipment</li> <li>• Conduct safety and maintenance inspections of refueling equipment</li> <li>• Recognize when maintenance is necessary, and how to apply basic preventative maintenance techniques</li> </ul>
<b>General Material Handling Skills</b>	A Material Handler should have the following skill sets: active listening, reading comprehension, instructing, coordination, and time management.
<b>Personal Attributes</b>	<b>(Abilities, Work Values, Work Styles)</b>
<b>Abilities</b>	The following abilities are important to the role of an Internal Combustion Engine Lift Truck Operator: strength, multi-limb coordination, oral expression and comprehension, written comprehension, control precision, manual dexterity, and arm-hand steadiness.
<b>Work Values</b>	Individuals who will succeed in this position value providing service to others, working with co-workers in a friendly environment, and contributing to a safety conscious working environment.
<b>Work Styles</b>	The following work styles are attributable to an Internal Combustion Engine Lift Truck Operator: attention to detail, accuracy, dependability, integrity, cooperation, self control, confidence, stress tolerance, adaptability/flexibility, initiative, creative problem solver, and social orientation.
<b>Essential Skills Profile:</b>	Essential Skills are the skills needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. For more detailed essential skills profiles please refer to the ESDC website: <a href="http://www.esdc.gc.ca/eng/jobs/les/index.shtml">http://www.esdc.gc.ca/eng/jobs/les/index.shtml</a>
<b>Reading Text</b>	<ul style="list-style-type: none"> <li>• Frequently read equipment manuals, supervisor instructions, storage and handling recommendations, standard operating procedures, and health and safety policies and procedures</li> </ul>
<b>Document Use</b>	<ul style="list-style-type: none"> <li>• Utilize, complete and/or read inspection forms, manufacturer bulletins, warning and direction signs, work schedules, weight charts, site maps, assembly drawings, schematic drawings, etc.</li> </ul>

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<b>Writing Skills</b>	<ul style="list-style-type: none"> <li>• Write notes to supervisors</li> <li>• Write reports (e.g. incident, accident, inspection, maintenance, etc.)</li> <li>• Complete activity logs to record tasks completed</li> </ul>
<b>Numeracy</b>	<ul style="list-style-type: none"> <li>• Apply scheduling, budgeting and accounting math</li> <li>• Apply measurement and calculation math</li> <li>• Utilize numerical estimation</li> </ul>
<b>Oral Communication</b>	<ul style="list-style-type: none"> <li>• Discuss and co-ordinate tasks with coworkers</li> <li>• Interact with supervisors to get direction and to problem solve</li> <li>• Speak with other specialized staff regarding equipment repairs</li> </ul>
<b>Thinking Skills</b>	<b>(Problem Solving, Decision Making, Job Task Planning and Organizing, Significant Use of Memory, Finding Information)</b>
<b>Problem Solving</b>	<ul style="list-style-type: none"> <li>• Find creative solutions to spatial challenges when moving materials</li> <li>• Find creative solutions to address work load challenges</li> </ul>
<b>Decision Making</b>	<ul style="list-style-type: none"> <li>• Participate in decision making on how to position a load so its weight will be distributed</li> <li>• Participate in decision making regarding how to move, stack and store items in the most efficient way</li> </ul>
<b>Job Task Planning and Organizing</b>	Internal Combustion Engine Lift Truck Operators receive assignments from supervisors and plan how best to sequence tasks to meet deadlines. They may have to adjust these plans to address unanticipated events. Some liaison with co-workers is needed to co-ordinate the movement of goods.
<b>Significant Use of Memory</b>	<ul style="list-style-type: none"> <li>• Remember safe operating procedures, including fueling procedures</li> <li>• Remember legal responsibilities of the operator</li> <li>• Remember hand signals, traffic rules, and defensive driving techniques</li> <li>• Remember applicable legislation and standards</li> </ul>
<b>Finding Information</b>	<ul style="list-style-type: none"> <li>• May consult co-workers, supervisors and suppliers when seeking information</li> <li>• May refer to operating manuals, maintenance manuals, parts manuals, and/or repair manuals</li> </ul>
<b>Working with Others</b>	Internal Combustion Engine Lift Truck Operators are generally self-directed. Partnering is important when moving heavy materials, when trying to load or unload trucks quickly, or when other material handling health and safety considerations demand it.
<b>Continuous Learning</b>	Internal Combustion Engine Lift Truck Operators gain experience on the job, however operator refresher training is considered best practice. In addition, they may receive training in first aid, pedestrian safety, hazard identification, transportation of dangerous goods, etc.

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	Annual health and safety training is strongly recommended for the reduction in the numbers of workplace injuries.
<b>Additional Information</b>	<b>(Physical Aspects, Attitudes)</b>
<b>Physical Aspects</b>	Internal Combustion Engine Lift Truck Operators may need to adapt to multi-temperature work environments and be comfortable working at higher elevations. Internal Combustion Engine Lift Truck Operators need to stand and walk to carry out their tasks. They may also bend, stoop, kneel and crouch to lift, move and stack objects.
<b>Attitudes</b>	Internal Combustion Engine Lift Truck Operators should be safety conscious, well organized, have a positive attitude, customer service oriented, patient, confident, and industrious.
<b>Future Trends Affecting Essential Skills:</b>	As the focus on safety in the workplace increases, Internal Combustion Engine Lift Truck Operators will be required to learn more about safety regulations. They may need to upgrade their document use and text reading skills in order to gain sufficient knowledge for obtaining a license for transporting dangerous goods. In addition, the advancement of alternative fuel sources and hybridization of lift trucks will require enhanced operator knowledge as specialized equipment is introduced into the lift truck market.

<b>Government of Canada Defined - Related NOC Code &amp; Description</b>	<b>7452 Material Handlers</b> This unit group includes workers who handle, move, load and unload materials by hand or using a variety of material handling equipment. They are employed by transportation, storage and moving companies, and by a variety of manufacturing and processing companies and retail and wholesale warehouses.
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