



ONTARIO COLLEGE OF TRADES

ORDRE DES MÉTIERS DE L'ONTARIO

Apprenticeship
Training Standard

Schedule of Training

Concrete Pump
Operator

Trade Code: 637C

Development Date: January 2008

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PREFACE

This training standard was developed by the Ministry of Training, Colleges, and Universities (MTCU), in partnership with the Provincial Advisory Committee and in consultation with representatives from the industry. This document is intended to be used by apprentice, supervisor/trainer and sponsor/employer as a "blueprint" for training and as a prerequisite for completion and certification.

This training document becomes the apprentice's only record of workplace training performance. Supervisor/trainer and apprentice are required to sign off and date the skills following each successful acquisition unless a skill is marked shaded (optional).

The care and maintenance of this training document are the joint responsibility of the apprentice and the sponsor/employer. By signing off the skill, the supervisor/trainer and the apprentice are indicating that the apprentice has demonstrated competence of the skill. This training standard has been developed specifically for documenting the apprentice's acquisition of skills of the trade.

Please Note: Apprenticeship Training and Curriculum Standards were developed by the Ministry of Training, Colleges and Universities (MTCU). As of April 8th, 2013, the Ontario College of Trades (College) has become responsible for the development and maintenance of these standards. The College is carrying over existing standards without any changes.

However, because the Apprenticeship Training and Curriculum Standards documents were developed under either the Trades Qualification and Apprenticeship Act (TQAA) or the Apprenticeship and Certification Act, 1998 (ACA), the definitions contained in these documents may no longer be accurate and may not be reflective of the Ontario College of Trades and Apprenticeship Act, 2009 (OCTAA) as the new trades legislation in the province. The College will update these definitions in the future.

Meanwhile, please refer to the College's website (<http://www.collegeoftrades.ca>) for the most accurate and up-to-date information about the College. For information on OCTAA and its regulations, please visit: <http://www.collegeoftrades.ca/about/legislation-and-regulations>

DEFINITIONS

ACA

Apprenticeship and Certification Act, 1998

Certificate of Apprenticeship (C of A)

Certification issued to individuals who have demonstrated that they have completed an apprenticeship in Ontario.

Certificate of Qualification (C of Q)

Certification issued to C of Q applicants who have achieved a passing grade on the certification exam for their trade.

Competence

The ability of an individual to perform a skill repeatedly and without assistance in the workplace to the standard set out in the Training Standard or Schedule of Training.

General Performance Objective (On-the-job Skill Set)

Describes set of skills which include all performance objectives under that skill set.

Industry Committee (IC) - under the ACA and Provincial Advisory Committee (PAC) under the TQAA

Under the ACA and TQAA, the Minister may appoint a provincial committee in any trade or group of trades to advise the Minister in matters relating to the establishment and operation of apprenticeship training programs and trades qualifications.

Journeyman or Equivalent

A person who has acquired the knowledge and skills in a trade, occupation or craft as attested to by a provincial or territorial authority.

Mandatory

Status assigned to unshaded individual skills, skill sets or general performance objective which must be signed off for the apprentice to complete their program.

Optional

Status assigned to shaded individual skills, skills sets or general performance objective for which sign-off is not required for the apprentice to complete the program.

Sign-off

Signature of the sponsor/employer of record or an individual to whom, that sponsor or employer has delegated signing authority, indicating an apprentice's achievement of competence.

Skill

Individual skill described in the Training Standard (note: does not mean the larger skill groups referred to in the Training Standard as Skill Sets, Training Units, or General Performance Objective, but the individual skills that make up those groups).

Skill Sets

Group of individual skills found in the Training Standard (may also be called Training Unit or General Performance Objective)

Skill Set Completion Form

Lists all skill sets and includes space for sign-off by sponsor/employer of record.

Sponsor/Employer

Means a person that has entered into a registered training agreement under which the person is required to ensure that an individual is provided with workplace-based training in a trade, other occupation or skill set as part of an apprenticeship program approved by the Director.

Sponsor/Employer of Record

Refers to the sponsor or employer documented as the signatory to the current training agreement or contract. In order for a sponsor/employer to be considered for the training of apprentices, they must identify that the workplace has qualified journeypersons or equivalent on site and can identify that the workplace has the tools, equipment, materials, and processes which have been identified by Provincial Advisory Committees (PACs) or Industry Committees (ICs) to be required for the trade.

Supervisor

An individual who oversees the execution of a task and oversees the actions or work of others.

TQAA

Trades Qualification and Apprenticeship Act.

Trainer

A qualified trainer in a compulsory trade is a journeyperson with a Certificate of Qualification or in a voluntary trade is an individual who is considered equivalent to a journeyperson with a Certificate of Qualification

Training Standard

A document that has been written in concise statements, which describe how well an apprentice must perform each skill in order to become competent. In using the document, trainers will be able to ensure that the apprentice is developing skills detailed for the occupation.

IMPORTANT DIRECTIONS

Apprentice

1. All complete skills or skill sets must be signed and dated by both the apprentice and sponsor/employer when either all terms of the contract have been completed or the apprentice leaves the employ of the employer.
2. It is the responsibility of the apprentice to inform the apprenticeship staff at the local Ministry of Training, Colleges and Universities office regarding the following changes:
 - change of sponsor/employer address;
 - change of apprentice name or address;
 - transfer to a new sponsor/employer.
3. The Skill Set Completion Form and Learning Outcome Completion Form must be completed and signed by the current sponsor/employer and presented to the local Apprenticeship Client Services Office at the fulfillment of all terms of a Training Agreement.
4. The apprentice completion form with the Completed and Authorized Schedule of Training must be presented to the local Apprenticeship Client Services Unit.

Sponsors/Employers and Supervisors/Trainers

The Schedule of Training identifies skills and supporting learning outcomes required for this trade/occupation and its related training program.

This Schedule of Training has been written in concise statements which describe how an apprentice must perform each skill/outcome in order to become competent. Competence means being able to perform the task to the required standard.

In using this training standard, supervisors/trainers will be able to ensure that the apprentice is developing the skills detailed for the trade/occupation.

Supervisors/Trainers and apprentices are required to sign off and date the skills following each successful acquisition.

Sponsors/Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement by signing the appropriate box included at the end of each skill set.

NOTICE OF COLLECTION OF PERSONAL INFORMATION

1. At any time during your apprenticeship training, you may be required to show this training standard to the Ministry of Training, Colleges and Universities (the Ministry). You will be required to disclose the signed Apprenticeship Completion form to the Ministry in order to complete your program. The Ministry will use your personal information to administer and finance Ontario's apprenticeship training system, including confirming your completion and issuing your certificate of apprenticeship.
2. The Ministry will disclose information about your program completion and your certificate of apprenticeship to the Ontario College of Trades, as it is necessary for the College to carry out its responsibilities.
3. Your personal information is collected, used and disclosed by the Ministry under the authority of the Ontario College of Trades and Apprenticeship Act, 2009.
4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

Manager, Employment Ontario Contact Centre
Ministry of Training, Colleges and Universities
33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
Toll-free: 1-800-387-5656; Toronto: 416-326-5656
TTY: 1-866-533-6339 or 416-325-4084.

**ROLES & RESPONSIBILITIES OF APPRENTICE, SPONSOR/EMPLOYER
AND SUPERVISOR/TRAINER**

Apprentice “Apprenticeship is Learning On-the-job”

- Practice safe work habits.
- Use your apprenticeship training standard as a journal to keep track of which skills you have achieved.
- Talk over your training plan with your Training Consultant, Employer, Union, or Sponsor.
- Know what tools are required for your trade and how to use them.
- Ask questions and keep asking.
- Talk to your employer about your training needs.
- Demonstrate enthusiasm and good work habits.
- Ensure that you and your supervisor/trainer sign off skill/skill sets upon demonstration of competency.

Sponsor/Employer “Training is an Investment”

- Demonstrate safe work habits.
- Attest to successful achievement by signing the skill/skills sets.
- Provide opportunities and time for the apprentice to learn the trade.
- Offer practical trade training experiences that cover all of the skill sets.
- Foster work ethics that support training while minimizing productivity losses.
- Set out clear expectations, then recognize or reward performance excellence.
- Involve both the apprentice and supervisor/trainer in developing the training plan.
- Use the Training Standard as a monitoring tool and part of regular performance evaluations.
- Select supervisors/trainers with good communication skills and who work well with others.
- Encourage supervisors/trainers to take upgrading courses - (e.g. Train the Trainer, Mentor Coach, etc).
- Complete the Skill Set Completion Form once the apprentice has demonstrated competency in the training.
- Ensure that the apprentice always works under the direction of or has access to a qualified supervisor/trainer.

Vary the apprentice’s exposure to all the skills set out in the training standard

Supervisor/Trainer

- Demonstrate safe work habits.
- Treat apprentices fairly and with respect.
- Use the Training Standard as a guide to evaluating competence in each skill area. In using the Training Standard, supervisors/trainers will be able to ensure that the apprentice is developing skills detailed for the trade/occupation.
- Review the Training Standard with the apprentice and develop a training plan.
- Respond fully to all questions.
- Be patient. Explain what is to be done then, show how it is done, and then let the apprentice demonstrate the task.
- Provide continuous feedback.
- Sign off individual skills/skill sets once the apprentice demonstrates competence in the skill.

Suggestions for Assessing the Progress of the Apprentice in the Workplace

- Use informal daily observation.
- Provide constructive feedback to build confidence.
- Allow the supervisor/trainer time to teach and demonstrate the skills.
- Take prompt action wherever problems occur.
- Conduct regular performance reviews involving the apprentice, supervisor/trainer and sponsor/employer.
- Use the Training Standard as the reference for establishing the competency of the apprentice.

SKILL SET COMPLETION FORM

SKILLS SETS	TITLE	SIGNING AUTHORITY
UU0831.0	PROTECT SELF AND OTHERS	
UU0832.0	COMMUNICATE IN THE WORKPLACE	
UU0833.0	OPERATE VEHICLE	
UU0834.0	SET-UP CONCRETE PUMPS AND COMPONENTS	
UU0835.0	OPERATE CONCRETE PUMPS AND COMPONENTS	
UU0836.0	CLEAN CONCRETE PUMPS AND COMPONENTS	
UU0837.0	MAINTAIN EQUIPMENT	
UU0838.0	SET-UP HIGH PRESSURE PUMPS AND SEPARATE PLACING BOOMS	
UU0839.0	LOAD AND UNLOAD CONCRETE PUMP AND ATTACHMENTS	

NOTE ON SHADED PERFORMANCE OBJECTIVES AND SKILLS:

- Shaded performance objectives and skill sets are optional. The shaded skills do not have to be demonstrated or signed-off for completion of the on-the-job component of the apprenticeship
- The learning outcomes will cover all of the skill sets, both shaded and unshaded.

LEARNING OUTCOMES COMPLETION FORM

Date of Completion	Organization Name(s)	SIGNING AUTHORITY

APPRENTICE COMPLETION FORM

APPRENTICE NAME	
Print	
Signature	
Social Insurance Number	

Skill Sets and Learning Outcomes when completed should be signed by the Supervisor/Trainer and presented with this completion form to your local Apprenticeship Client Services Office. Any supporting documentation should also be attached.

In-school Completed Yes () No () Not applicable ()
(Proof to be provided)

Hours completed as Yes () No () Not applicable ()
Per Contract:

SPONSOR/EMPLOYER INFORMATION	
Name	
Address	
Telephone	
E-mail Address	
Signature of Signing Authority	

A. DESCRIPTION/DUTIES

A **Concrete Pump Operator** coordinates the placement of ready-mix concrete through a pump at the site, sets up the concrete delivery system, monitors the movement of the concrete to the pour location, and resolves issues related to the movement of pumpable concrete.

Concrete Pump Operators work outdoors and must often perform their jobs in conditions that may present discomfort and danger. They work in all types of weather and environmental conditions. Loud noise and dust are common working conditions. They routinely co-ordinate their work with other trades people, including ready-mix truck operators, crane operators, carpenters, concrete formers, bricklayers, ironworkers, and construction labourers.

A **Concrete Pump Operator** should have a mechanical aptitude, good communication skills and problem solving skills, be physically fit and capable of lifting heavy objects/materials.

Most employers require a D licence with Z endorsement or equivalent drivers licence.

A **Concrete Pump Operator** demonstrates competency in the following:

- Protection of self and others
- Communication in the workplace
- Use and care of tools and equipment
- Vehicle operation
- Set-up of concrete pumps and components
- Operation of concrete pumps and components
- Maintenance of equipment
- Loading and unloading of concrete pumps and attachments

In addition to the above, some **Concrete Pump Operators** are also competent in:

- Setting-up of high pressure pumps and placing booms

A **Concrete Pump Operator** demonstrates knowledge in the following:

- Acts, legislation, codes, and regulations
- Manufacturers' recommendations and specifications
- Company policies and procedures
- Impact of environmental and site conditions on the equipment
- Effective communication and problem solving

BENCHMARK/GUIDELINE TOTAL TRAINING TIMEFRAMES: (ON-THE-JOB AND OFF-THE-JOB):

2000 hours

Includes **159 hours** of in-school training.

B. ON-THE-JOB PERFORMANCE OBJECTIVES

U0831.0 PROTECT SELF AND OTHERS

U0831.01 Comply with acts, regulations, codes, standards, and directives, including *Occupational Health and Safety Act (OHSA)*, *Environmental Protection Act (EPA)*, *Workplace Safety Insurance Act (WSIA)*, *Highway Traffic Act*, Workplace Hazardous Materials Information System (WHMIS); Canadian Radio-television and Telecommunications Commission (CRTC), Construction Safety Association of Ontario (CSAO), municipal requirements, and company policies, by reading, interpreting, and following direction; according to the written content of documents and verbal direction of regulatory authorities.

Date Completed

Apprentice

Supervisor/Trainer

U0831.02 Utilize personal protective equipment, including hard hats, gloves, glasses, goggles, masks, face shields, ear protectors/plugs, coveralls, reflector vests, safety footwear, fall-protection equipment, harnesses, and radiation badges, by inspecting, selecting, wearing, and adjusting to ensure the safety of self and others; according to regulatory requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.03 Maintain personal protective equipment including hard hats, gloves, glasses, goggles, masks, face shields, ear protectors/plugs, coveralls, reflector vests, safety footwear, fall-protection equipment, harnesses, and radiation badges, by inspecting and analysing performance and function, checking for wear, breaks, tears, cracks, leakage, and loose and defective components and by storing or noting/tagging deficiencies and removing devices and components from service to ensure the safety of self and others; according to regulatory requirements, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.04 Perform housekeeping duties by removing and disposing of excess or unwanted materials, positioning equipment, identifying the location of first-aid supplies and equipment, erecting protective barriers and signs, and ensuring work area is free of obstructions; according to regulatory requirements, codes, job requirements, site procedures, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.05 Identify hazards and hazardous conditions, equipment, and materials including worksite conditions, heavy equipment operations, overhead operations, material handling, and storage, by visually inspecting and analysing performance and function, checking for obstructions, and taking remedial action; according to regulatory requirements, codes, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.06 Manually move equipment, supplies, and components by utilizing safe lifting, lowering, carrying, pushing, climbing and pulling techniques to protect self and others against injury; according to regulatory requirements, codes, job requirements, site procedures, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.07 Report injuries to supervisor or first-aid personnel promptly and clearly, ensuring that the injured person is attended to and describing precisely how the incident occurred; according to regulatory requirements, company policies and procedures, site procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.08 Respond to audio-visual alarms including warning signs, danger notices, alarm bells, whistles, and buzzers, by recognizing the sign/alarm and taking action; according to regulatory requirements, site conditions, and company environmental safety procedures.

Date Completed

Apprentice

Supervisor/Trainer

U0831.09 Follow company or worksite fire procedures including assessing the type and severity of the fire, activating the alarm system, taking action to suppress a minor fire, reporting the fire, and following evacuation procedures; using extinguishers, hoses, and fire blankets to protect self and others; according to regulatory requirements, codes, site procedures, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.10 Handle hazardous/toxic materials including gases, acids, solvents, fuel, concrete additives, powders, hydraulic fluids, and cleaners, by identifying, selecting, handling, transporting, and storing them to protect self and others, property and the environment; using personal protective equipment and safe lifting techniques; according to regulatory requirements, codes, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.11 Assess worksite conditions including lighting and ventilation, height clearances, floor/base conditions, environmental conditions, presence of hazards, and unsafe equipment and materials, and reporting unsafe conditions to designated supervisory personnel to ensure there is no injury to self and others, and no damage to equipment; according to regulatory requirements, codes, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0831.12 **Manage personal health** by adopting strategies to recognize the signs of fatigue and taking effective measures, maintaining physical and mental fitness and alertness, and a healthy diet, managing stress and time and ensuring adequate rest, and accessing assistance as required; according to recommended standards, company policy and procedures, conditions of work and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0832.0 COMMUNICATE IN THE WORKPLACE

U0832.01 Communicate orally by speaking clearly and concisely, listening attentively, seeking validation of the conversation to ensure understanding, conveying and summarizing information accurately, and engaging in constructive feedback; using tact and diplomacy; according to business etiquette, workplace standards, and company policies.

Date Completed

Apprentice

Supervisor/Trainer

U0832.02 Communicate in writing including work and change orders, check-off forms/sheets, damage and collision reports, and accident forms by writing clearly, concisely and in a timely manner; interpreting and verifying details, editing and verifying for language usage, completeness, and accuracy, verifying that correspondence/documentation requiring signature is completed; according to regulatory requirements, codes, job requirements, business etiquette, and company policies and procedures.

Date Completed

Apprentice

Supervisor/Trainer

U0832.03 Communicate by mechanical and electronic devices including public address systems, telephones, pagers, radios, and wireless devices, ensuring that clear, concise, and accurate instructions and procedures are conveyed safely and efficiently; according to regulatory requirements, codes, job requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0832.04 Communicate by hand signals so that information is given and received in full view and on a timely basis, so that self and others are protected; according to regulatory requirements, codes, job requirements, international hand signal standards, site conditions, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0832.05 **Build and maintain interpersonal relationships** by networking, maintaining confidentiality, respecting others, collaborating, consulting, participating at meetings, demonstrating availability, utilizing conflict resolution and problem-solving methodologies, identifying and recommending alternative solutions, and listening effectively; using verbal and non-verbal methods to convey messages/meaning, using acceptable language in the workplace, recognizing and respecting the chain of authority on the job site, explaining problems and procedures, and obtaining approvals from clients; according to business etiquette, workplace standards, and company policies.

Date Completed

Apprentice

Supervisor/Trainer

U0832.06 **Practice customer relations (internal and external)** by demonstrating professionalism with customers, other trades, and the general public, following site protocol, handling enquiries, confirming delivery and installation of equipment and components, sharing information about customer requirements with company staff, keeping customer and business information confidential, advising of delays, and reporting general concerns; using oral and written communication skills, and communication devices; according to business etiquette, workplace standards, and company policies.

Date Completed

Apprentice

Supervisor/Trainer

U0832.07 **Present a professional image** by wearing apparel according to location, maintaining clean clothing, and following a hygiene regimen so that personal appearance and hygiene are not offensive to clients or co-workers; according to business etiquette, workplace standards, and company policies.

Date Completed

Apprentice

Supervisor/Trainer

U0832.08 **Coach and mentor co-workers** by demonstrating and/or explaining workplace practices, procedures, and requirements, promoting company policies and procedures, assessing workplace performance and progress, and ensuring timely constructive feedback is provided; using communication skills and physical demonstration; according to regulatory requirements, codes, business etiquette, workplace standards, job requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.0 OPERATE VEHICLE

U0833.01 Perform pre-operational inspection with engine off/on including engine system, steering wheel free-play, mirrors, windshield wipers, fenders, outriggers, suspension system, brakes, belts, hoses, lights, tires, cab and components, seat belts, wheel fasteners, air pressure, warning devices, boom, accessories, fire extinguishers, first aid kits, and documentation; checking for wear, missing loose or damaged components, brake fade, damage, leaks, corrosion, fuel and fluid levels, under all weather and lighting conditions, ensuring loads and components are secured, using three-point contact when mounting and dismounting the vehicle; according to regulatory requirements, Highway Traffic Act, codes, job specifications, site conditions, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.02 Perform routine daily servicing including inflating tires, refueling vehicle, replacing bulbs, wiper blades, adding fluids, cleaning cab interior, windows and mirrors, noting and bringing to the attention of service personnel components for servicing; using hand and power tools, replacement parts, fuels, fluids, lubricants, cleaning apparatus, oral and written communication, communication devices, and three-point contact when mounting and dismounting the vehicle; according to regulatory requirements, Highway Traffic Act, codes, job specifications, site conditions, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.03 Plan route ensuring route is optimal with respect to time, weight and height restrictions, and accessibility; using maps and/or directional devices; according to regulatory requirements, Highway Traffic Act, codes, job specifications, site conditions, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.04 **Drive vehicle** ensuring there is a safe gap before changing lanes, passing other vehicles, merging or crossing into other traffic, monitoring traffic flow and speed of vehicle and other vehicles, checking mirrors and blind spots and judging clearances on sides of vehicle, and ensuring spatial awareness with respect to vehicles, obstacles and obstructions; according to regulatory requirements, Highway Traffic Act, codes, weather, road and lighting conditions, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.06 **Position vehicle** checking with security and site supervisor for location, inspecting to ensure site location is suitable for pumping of concrete and wash-out, checking for power lines, obstacles, obstructions, ground conditions, and that optimal conditions are present for equipment operation; using communication skills, communication devices, driving skills and personal protective equipment; according to regulatory requirements, permits, codes, job specifications, site conditions, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.07 **Engage the PTO (power take-off)** by setting parking brake, engaging the PTO, activating the hydraulics, selecting transmission/gear, feathering clutch to ensure transmission is properly engaged prior to shifting PTO switch; according to Highway Traffic Act, codes, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.08 **Disengage the PTO (power take-off)** by depressing the clutch, shifting the transmission to neutral, and disengaging the PTO switch; according to Highway Traffic Act, codes, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0833.09 **Shut-down vehicle at end of workday** by positioning vehicle in designated area, shutting off engine, refueling, draining condensation from air and hydraulic tanks, connecting power to block heater, inspecting site, checking for clearances, obstructions, and that vehicle is secure; using three point mounting and dismounting techniques, locks/keys, personal protective equipment, and power sources; according to regulatory requirements, Highway Traffic Act, codes, weather, road and lighting conditions, manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.0 SET-UP CONCRETE PUMP AND COMPONENTS

U0834.01 Meet with job site personnel, including security, site supervisor, other trade representatives, to coordinate position of pump set-up area and concrete delivery, ensuring sign in with site office/superintendent; using oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, company policies, and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.02 Inspect set-up area checking for grade, stability, ground and aerial obstacles, power lines, slope, condition of ground, proximity to pour, accessibility for concrete delivery, and discussing work area conditions and weather conditions with on-site personnel; using oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.03 Inspect pour area checking for grade, ground and aerial obstacles, power lines, slope, condition of ground, proximity to pour; discussing work area conditions and weather conditions with on-site personnel, using oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.04 **Position vehicle in proximity to pour** ensuring accessibility for concrete delivery, checking for grade, ground and aerial obstacles, power lines, slope, condition of ground, and proximity to pour; using oral communication and communication devices, and personal protective equipment; according to regulatory requirements, codes, job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.05 **Activate outriggers** by engaging power take-off (PTO), clearing emergency stops, activating outrigger valves or electrical outrigger switches to the extend position, inspecting, and monitoring controls to ensuring outriggers are extended to permissible working range; using oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.06 **Stabilize vehicle** by installing and adjusting donnage and pads, activating outrigger valves or electrical outrigger switches to extend the outriggers to the desirable position, ensuring that each pad is level on the donnage, inspecting and monitoring controls, checking for permissible working level, stability and movement; using oral communication and communication devices, safe moving and lifting techniques, levels, and personal protective equipment; according to job requirements, ground conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.07 **Unfold boom** including tip hose, by releasing transport straps and latches (when applicable), activating boom hand valves or electrical boom switches to activate boom select mode, clearing all emergency stops, energizing remote controls for the boom, and operating levers to extend the boom; inspecting and checking for aerial obstacles, boom to chassis clearance, noise, leaks, bearing play, loose components, obstructions, reporting deficiencies or removing from service; using remote devices, hand controls, communication devices, and personal protective equipment; according to regulatory requirements, job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.08 **Verify stability of vehicle and components** including boom, by checking and adjusting donnage and outrigger pads, ensuring that outriggers are in optimum contact with outrigger pads; using remote devices, hand controls, communication devices, and personal protective equipment; according to job requirements, ground conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.09 **Verify concrete pump system is ready to operate** by inspecting, checking that water box is full, trap door is closed, back-end connections are secure, agitator is operational, engaging mechanical hand pump valves or electric pump switches ensuring that the pump cycles, engaging mechanical hand pump valves or electric pump switches in the forward pump position, and monitoring pump pressure gauges; using personal protective equipment, remote control devices, and measuring devices; according to manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.10 **Unload pipeline equipment and components** including pipes, hoses, clamps, gaskets, elbows, reducers, hooks, chokers, chain, and rope; inspecting checking for damage, and cleanliness; using personal protective equipment and safe lifting practices; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.11 **Lay-out pipeline equipment and components** including pipes, hoses, clamps, gaskets, elbows, reducers, hooks, chokers, chain, and rope, by positioning and aligning pipes and components, and installing blocking; inspecting, checking for damage and cleanliness; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0834.12 **Connect pipeline equipment and components** including pipes, hoses, clamps, gaskets, elbows, reducers, chain, and rope, by clamping components together, starting from the pump working to the end of the pour area; inspecting, checking for fit, stability and alignment; using hand tools, fastening devices, and personal protective equipment; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0835.0 OPERATE CONCRETE PUMP AND COMPONENTS

U0835.01 **Select priming agent** including chemical and pre-mix primers, and water; verifying the agent is suited for the application, and the quantity is sufficient; according to regulatory requirements, codes, job requirements, environmental conditions, manufacturers’ recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0835.02 **Mix priming agent** by stirring, agitating and mixing components and by adding water; visually inspecting, checking for desired slump, viscosity and consistency; using hand tools, personal protective equipment, water, priming additives, buckets, and hoses; according to regulatory requirements, codes, job requirements, environmental conditions, manufacturers’ recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0835.03 **Prime pumps** including line pumps, boom pumps, and high pressure pumps, by adding priming mixture into the hopper or priming port; inspecting, checking slump, viscosity, consistency, and quantity; using personal protective equipment, communication devices, water, priming additives, buckets, and hoses; according to regulatory requirements, codes, job requirements, site conditions, manufacturers’ recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0835.04 **Confirm pumpable mix** by inspecting, checking delivery ticket, confirming aggregate size and mix consistency, slump, and admixtures, identifying and reporting quality of concrete issues; using documentation, personal protective equipment, and communication skills; according to regulatory requirements, codes, job requirements, site conditions, manufacturers’ recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0835.05 **Pump concrete** by activating manual pump hand valves, engaging mechanical hand pump valves or electric pump switches in the forward pump position, and monitoring pump pressure gauges until mix is discharged; using personal protective equipment, remote control devices, and communication devices, according to regulatory requirements, codes, job requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0835.06 **Operate boom** by activating manual boom hand valves, engaging mechanical boom hand valves or electric boom switches, ensuring boom is positioned so that concrete is discharged to the designated location; using personal protective equipment, remote control devices, and communication devices; inspecting, checking for power lines/limits of approach, obstructions, obstacles; according to regulatory requirements, codes, job requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0835.07 **Monitor concrete pour** by reviewing gauges, concrete supply and output, concrete composition, flow, and slump, interpreting information and taking corrective action such as shutting down pump and/or contacting supervisor for direction; using personal protective equipment, remote control devices, and communication devices; according to regulatory requirements, codes, job requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0835.08 **Locate blockages** including wedged aggregates and foreign debris; checking for sound differential in delivery lines, and erratic movement of the pipe line; engaging mechanical pump hand valves or electric pump switches in the forward/reverse position, and tapping lines to identify blockage location; using hand tools, personal protective equipment, and communication devices; according to site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0835.09 **Remove blockages** including wedged aggregates and foreign debris by reversing mechanical pump hand valves or electric pump switches to alleviate line pressure, lifting handle, opening clamp and separating blocked pipe/hose/reducer from delivery line, and verifying pipe is free of obstructions; using hand tools, safe lifting procedures, pressurized water, and personal protective equipment; according to manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0835.10 **Reassemble delivery line** including clamps, gaskets, elbows, pipes, reducers, and hoses, safety pins, pipe supports and brackets, by connecting pipe ends and closing clamp handle, and installing safety pins; inspecting, checking for fit, alignment, stability, cleanliness, lubrication and tolerances; using hand tools, safe lifting procedures, and personal protective equipment; according to manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.0 CLEAN CONCRETE PUMP AND COMPONENTS

U0836.01 Plan clean-out process of concrete pump and components including placing boom and delivery lines, determining the concrete consistency between hopper and delivery line, hopper concrete volume, and location for concrete disposal, by inspecting and accessing concrete viscosity, age, and type; using hand tools, and personal protective equipment; according to regulatory requirements, codes, manufacturers' specifications and recommendations, site conditions, job specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.02 Alleviate line pressure by engaging mechanical pump hand valves or electric pump switches in the reverse position for one to two strokes, checking that pump is not pressurizing the system; using personal protective equipment; according to manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.03 Disassemble pipeline and components including pipes, clamps, hoses, reducers, brackets, and elbows, by lifting clamp handle, opening clamp and separating pipe from clamp, removing clamps, inspecting and identifying broken or damaged pipe and components; using hand tools, safe lifting procedures, and personal protective equipment; according to manufacturers' specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.04 Clean-out concrete placing boom and delivery lines by reverse pumping by placing ball/sponge into discharge end of elevated delivery line, engaging mechanical pump hand valve or electric pump switches in the reverse position to alleviate line pressure, reversing pump to until ball/sponge is drawn back into the wash-out port/hinged elbow, and tapping pipe to determine when the ball has passed; inspecting, checking for cleanliness; using hand tools, personal protective equipment, communication skills, communication devices, safety barriers; according to regulatory requirements, codes, manufacturers' specifications and recommendations, site conditions, job specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.05 Clean-out concrete placing boom and delivery lines by compressed air by placing ball/sponge into blow-out head/cannon, connecting compressed air line to blow-out head/cannon and air compressor, attaching ball/sponge catcher to discharge end of delivery line, releasing compressed air, turning mechanical hand valve to put compressed air into the delivery line, tapping pipe to determine speed of the ball/sponge in the pipe in order to regulate air pressure and volume of discharge; ensuring that the discharge area is clear of personnel; inspecting, checking for the expelling of the ball/sponge into the ball/sponge catcher, and cleanliness; using hand tools, communication skills, communication devices, safety barriers, personal protective equipment, and compressed air; according to regulatory requirements, codes, manufacturers' specifications and recommendations, site conditions, job specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.06 Clean-out concrete delivery lines by high pressure water by placing ball/sponge into blow-out head/cannon, connecting high-pressure water source to blow-out head/cannon, attaching ball/sponge/clean-out pig to end of delivery line, turning mechanical hand valve to put pressurized water into the delivery line; inspecting, checking for the expelling of the ball/sponge/clean-out pig and cleanliness; using hand tools, communication skills, communication devices, safety barriers, personal protective equipment, and pressurized water source; according to regulatory requirements, codes, manufacturers' specifications and recommendations, site conditions, job specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.07 Clean-out concrete delivery lines by nitrogen gas by placing ball/sponge/clean-out pig into blow-out head/cannon, connecting nitrogen gas line to blow-out head/cannon and nitrogen cylinders, attaching ball/sponge catcher to delivery line, releasing nitrogen gas, turning cylinder mechanical hand valve to put nitrogen gas into the delivery line, tapping pipe to determine speed of the ball/sponge/clean-out pig in the pipe in order to regulate nitrogen gas pressure and volume of discharge; ensuring that the discharge area is clear of personnel; inspecting, checking for the expelling of the ball/sponge and cleanliness; using hand tools, communication skills, communication devices, safety barriers, personal protective equipment, and nitrogen gas cylinders; according to regulatory requirements, codes, manufacturers' specifications and recommendations, site conditions, job specifications, company policies and procedures, and safety

Date Completed

Apprentice

Supervisor/Trainer

U0836.08 Empty concrete from pipe by lifting the pipe to drain concrete, inspecting, checking for damage, and excess concrete; using hand tools, safe lifting procedures, and personal protective equipment; according to manufacturers' specifications and recommendations, site location, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.09 Wash pipe and components including clamps, gaskets, hoses, reducers, brackets, and elbows; inspecting, checking for wear, cleanliness, damaged or missing components, corrosion, breaks, and tagging/removing defective equipment from service; using hand and power tools, using pressurized water source, clean out rakes, scrub brushes, personal protective equipment, safe lifting techniques, lubricants; according to regulatory requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.10 Stow pipe and components including clamps, gaskets, hoses, reducers, brackets, and elbows; verifying items have not been left on site, securing items in designated storage locations; using fastening apparatus, personal protective equipment, safe moving of equipment techniques, and lubricants; according to regulatory requirements, site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.11 Fold boom and tip hose for transport by activating boom hand valves or electrical boom switches to activate boom select mode, clearing all emergency stops, energizing remote controls for the boom, operating levers to retract the boom, and securing boom to transport position; inspecting and checking for aerial obstacles, power lines, boom to chassis clearance, noise, leaks, bearing play, loose components, and obstructions; reporting deficiencies or removing from service, using remote devices, hand controls, fastening devices, communication devices, and personal protective equipment, according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.12 Retract outriggers by clearing emergency stops, activating outrigger hand valves or electrical outrigger switches to the retracted transport position; inspecting and monitoring controls; ensuring latches, mechanical locks, donnage and pads are stowed, secure and pads are free of debris, and clear access is present for the retraction of the outriggers; using hand tools, safe moving and lifting techniques, and personal protective equipment; according to job requirements, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.13 **Wash hopper and pump kit** including agitator, pumping cylinders, valve assembly, water box, grill, trap door, and back of vehicle assembly; inspecting, checking for obstructions, wear, cleanliness, damaged or missing components, corrosion, breaks, tagging/removing defective equipment for servicing, and lubricating equipment so that it ready for the next job; using hand tools, lubricants, high pressure water, scrapers, brooms, chipping bars, personal protective equipment, safe moving techniques; according to site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0836.14 **Perform circle check** including vehicle, pipeline, trap door, and back of vehicle assembly; inspecting, checking that all external operative components are present, clean in preparation for transport, and secured in designated areas; using personal protective equipment; according to site conditions, manufacturers' recommendations and specifications, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0837.0 MAINTAIN EQUIPMENT

U0837.01 Inspect hydraulic systems (PTO running) including pumps, lines, tanks, site levels, indicators, gauges, filters, cylinders, valves, fittings, accumulators, lubrication, caps, checking for leaks, contamination, scoring, missing, damaged or loose components, distortion, routing of pipes, noise, odour, volume flow, fluid and lubricant levels; using personal protective equipment, sight glass indicators, and measuring devices; according to regulatory requirements, codes, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0837.02 Service hydraulic systems including pumps, lines, tanks, site levels, indicators, gauges, filters, cylinders, valves, fittings, accumulators, lubrication, caps, by selecting, inspecting, testing, and analysing performance and function, and by exchanging, aligning, tightening, cleaning, lubricating, and storing or removing vehicle/equipment from service; using oral and written communication skills, hand and power tools, measuring devices, fluids, lubricants, sight glass indicators, measuring devices, cleaning equipment and cleaners, drain pans, and personal protective equipment; according to regulatory requirements, codes, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0837.03 Inspect concrete delivery systems (PTO running) including hopper, agitator, valve system, pumping pistons, water box, piping, gaskets, seals, o-rings, clamps, brackets, end hose, and safety restraints, checking for fit, alignment, leaks, contamination, scoring, missing, damaged or loose components, distortion, fraying, routing of pipes, noise, volume flow, fluid and lubricant levels; using personal protective equipment, sight glass indicators, and measuring devices; according to regulatory requirements, codes, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed	Apprentice	Supervisor/Trainer
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U0837.04 **Service concrete delivery systems** including hopper, agitator, valve system, pumping pistons, water box, piping, gaskets, seals, o-rings, clamps, brackets, end hose, safety restraints, by selecting, inspecting, testing, and analysing performance and function, and by exchanging, aligning, tightening, cleaning, lubricating, and storing or removing vehicle/equipment from service; using oral and written communication skills, hand and power tools, measuring devices, fluids, lubricants, measuring devices, cleaning equipment and cleaners, and personal protective equipment; according to regulatory requirements, codes, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0837.05 **Inspect superstructure (PTO running)** including frame mounting, outrigger leg supports, pedestal, boom arm assembly, links, levers, pin keepers, pins, clamps, brackets, safety restraints, checking for fit, alignment, cracks, leaks, corrosion, scoring, missing, damaged or loose components, distortion, routing of pipes, noise; using personal protective equipment, sight glass indicators, and measuring devices; according to regulatory requirements, codes, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0837.06 **Service superstructure** including frame mounting, outrigger leg supports, pedestal, boom arm assembly, links, levers, pin keepers, pins, clamps, brackets, safety restraints, by selecting, inspecting, testing, and analysing performance and function, and by exchanging, aligning, tightening, cleaning, lubricating, and storing or removing vehicle/equipment from service; using oral and written communication skills, hand and power tools, measuring devices, fluids, lubricants, cleaning equipment and cleaners, and personal protective equipment; according to regulatory requirements, codes, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0837.07 **Inspect electrical systems (PTO running)** including alternators, starters, regulators, batteries, wiring, gauges, fuses, circuit breakers, relays, coils, solenoids, wiring harnesses, fasteners, mounting brackets, mounting, switches, gauges, indicator lights, plugs and connectors, checking for wear, fit, cracks, leaks, corrosion, chafing, fraying, discolouration, odour, missing, damaged or loose components, distortion, routing of wiring harness, noise; using hand tools, measuring devices, personal protective equipment; according to regulatory requirements, codes, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0837.08 **Service electrical systems** including alternators, starters, regulators, batteries, wiring, gauges, fuses, circuit breakers, relays, coils, solenoids, wiring harnesses, fasteners, mounting brackets, mounting, switches, gauges, indicator lights, plugs and connectors, by selecting, inspecting, testing, and analysing performance and function, and by exchanging, aligning, tightening, cleaning, lubricating, and storing or removing vehicle/equipment from service; using oral and written communication skills, hand and power tools, measuring devices, fluids, lubricants, cleaning equipment and cleaners, charging equipment and personal protective equipment; according to regulatory requirements, codes, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.0 SET-UP HIGH PRESSURE PUMPS AND SEPARATE PLACING BOOMS

U0838.01 Meet with job site personnel including security, site supervisor, and other trade representatives, to coordinate position of pump set-up area and concrete delivery, and to discuss lifting procedures, weights and dimensions; using oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, , manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.02 Inspect set-up area checking for grade, stability, clearances, ground obstacles, slope, condition of ground, proximity to pour, accessibility for concrete delivery, and discussing work area conditions and weather conditions with on-site personnel; using oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.03 Position high pressure pumps and separate placing booms by coordinating delivery, positioning equipment for optimal pipe routing and to ensure access for concrete delivery; using oral communication and communication devices, personal protective equipment; according to job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.04 Stabilize pumps by extending support jacks manually or hydraulically or by coordinating positioning with other workers; inspecting and verifying jacks are in contact with ground/pads, stable and level; using oral communication and communication devices, personal protective equipment; according to job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.05 **Erect tower** by selecting and assembling vertical tower sections, aligning, wedging, pinning bolting, and tightening to torque specifications, checking for level, damage, torque, lubrication; using hand and power tools, measuring devices oral communication and communication devices, lubricants, and personal protective equipment; according to regulatory requirements, codes, job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.06 **Attach separate placing boom** including pedestal power pack, by coordinating the hoisting of the boom to the top of the tower, aligning, pinning boom to the tower, inspecting, checking for damage, lubrication, using hand tools, oral communication and communication devices, lubricants, and personal protective equipment; according to regulatory requirements, codes, job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.07 **Install pipe line** including pipe, diversion valves, clean out pipe, shut-offs, positioning thrust blocks, brackets, heavy duty bolt clamps, gaskets, mounting brackets, and lubrication, by blocking, aligning and fastening sections of pipe, inspecting, checking for fit, alignment, damage, and removing and replacing damaged components; using hand tools, lubricants, oral communication and communication devices, and personal protective equipment; according to job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.08 **Verify pumping system operation** including pump, separate placing boom, and pipeline, by energizing pump and placing boom, activating diversion valve and monitoring the purging of the pipe system and boom, inspecting, testing and analyzing performance and function, checking for obstructions, hydraulic leaks, damage, noise; using hand tools, oral communication and communication devices, lubricants, and personal protective equipment; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0838.09 **Jack tower and separate placing boom** by installing jacking system on the desired floor of the structure, coordinating the installation and activation of the power source, activating the jacking system and extending the lift cylinders, adding piping, clamps, and brackets and installing pins or bolts; inspecting, checking for alignment, fit, tilting, lubrication, obstructions, clearances, damage, loose or missing components and ensuring all guard rails are at floor openings; using hand and power tools, lifting devices, remote control devices, oral communication and communication devices, lubricants, and personal protective equipment; according to job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0839.0 LOAD AND UNLOAD CONCRETE PUMP AND ATTACHMENTS

U0839.01 Select components for transport including pump, placing boom, tower/mast sections, pipes, clamps, hoses, reducers, brackets, elbows, lubricants, and donnage, inspecting and identifying broken or defective components, and replacing/removing from service; using hand tools, measuring devices, safe lifting procedures, personal protective equipment; according to job requirements, manufacturers’ specifications and recommendations, company policy and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0839.02 Load components for transport including pump, placing boom, tower, pipes, clamps, hoses, reducers, brackets, elbows, lubricants, and donnage, identifying locations for storage or positioning components in designated locations; using straps, chains and binders, personal protective equipment, measuring devices, hoisting and lifting devices, warning/signalling devices and safe lifting and loading techniques; according to regulatory requirements, job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0839.03 Secure components for transport, including pump, placing boom, tower, pipes, clamps, hoses, reducers, brackets, elbows, lubricants, and donnage, by inspecting, and adjusting fastening devices and positioning of components, ensuring load is securely fastened, checking straps, chains, binders, stability of load, and signage is in place; using hand tools, personal protective equipment, safe lifting and loading techniques; according to regulatory requirements, job requirements, site conditions, manufacturers’ specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

U0839.04 **Unload components from transport vehicles**, including pump, placing boom, tower, pipes, clamps, hoses, reducers, brackets, elbows, lubricants, and donnage, inspecting, checking for site hazards, site conditions, power lines, aerial obstacles and damage, replacing/removing damaged components from service, ensuring components are unloaded with care so that damage does not occur during handling, and that components are organized for access on site; using hand tools, personal protective equipment, safe lifting and unloading techniques, and communication skills and devices; according to regulatory requirements, job requirements, site conditions, manufacturers' specifications and recommendations, company policies and procedures, and safety requirements.

Date Completed

Apprentice

Supervisor/Trainer

C. LEARNING OUTCOMES

S0831 Protect self and others (9 hrs)

Upon completion the apprentice is able to:

- interpret regulations, codes, standards and directives, and manufacturers' recommendations and specifications
- describe the effect of work-site conditions on the transport, set-up and operation of equipment and components and delivery of concrete
- select, wear and maintain personal protective equipment
- handle and dispose of materials safely
- recognize workplace hazards and take corrective action
- apply basic first aid
- manage personal health

S0832 Communicate in the workplace (9 hrs.)

Upon completion the apprentice is able to:

- communicate effectively and in a timely manner using various methods, equipment and devices
- complete reports, forms and logs
- demonstrate effective customer relations, and present a professional image
- coach and mentor others

S0833 Operate vehicle (18 hrs.)

Upon completion the apprentice is able to:

- inspect vehicle prior to operation and perform daily servicing
- plan most effective route to work-site taking into consideration multiple factors
- drive vehicle in a professional manner
- position vehicle safely and strategically
- perform daily vehicle shut down procedures

S0834 Set-up concrete pump and components (39 hrs.)

Upon completion the apprentice is able to:

- describe work-site protocol
- perform job site and pour area inspection
- determine set-up position for concrete delivery
- stabilize vehicle using outriggers
- unfold and operate boom
- perform set-up of pipeline and components
- prepare pump for pumping concrete

- S0835 Operate concrete pump and components (42 hrs.) Upon completion the apprentice is able to:**
- select and mix priming agents
 - prime pumps
 - identify pumpable concrete application and composition
 - operate the concrete pump
 - interpret equipment performance and take corrective measures
 - describe how to locate and remove blockages
 - disassemble and reassemble delivery lines
 - describe the placing and lay-out of high pressure pumps and separate placing booms
 - describe how to erect and jack towers and separate placing booms
 - describe how to install pipe line

- S0836 Clean concrete pump and components (12 hrs.) Upon completion the apprentice is able to:**
- describe the clean-out process of concrete pump and components
 - disassemble and clean pipe and components
 - describe cleaning processes for placing boom and delivery lines (reverse pumping, compressed air, high pressure water, and nitrogen gas)
 - clean placing boom, delivery lines and components using reverse pumping and compressed air
 - describe process for washing hopper and pump kit
 - describe the pack-up process for leaving the site

- S0837 Maintain equipment (24hrs.) Upon completion the apprentice is able to:**
- perform routine daily servicing
 - inspect vehicle mechanical systems
 - inspect and service hydraulic systems
 - inspect and service concrete delivery systems
 - inspect and service superstructure
 - inspect and service electrical systems

- S0838 Load and unload concrete pump and components (6 hrs.) Upon completion the apprentice is able to:**
- describe components required for the job
 - load components for transport
 - secure components for transport
 - unload components from transport vehicle

APPRENTICE RECORD

APPRENTICE NAME (Print):

SPONSOR/EMPLOYER INFORMATION	
Training Agreement #	
Name	
Address	
Telephone	
E-mail Address	

SUMMARY OF TRAINING	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	

Date Completed

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Date Completed

Apprentice

Supervisor/Trainer

You will be required to disclose this signed form to the Ministry of Training, Colleges and Universities in order to complete your program. The Ministry will use your personal information to administer and finance Ontario's apprenticeship training system. For further information please see the notice/declaration for collection of personal information that is referenced in the table of contents of this training standard.