

**Job Class Profile: Marine Engineer (Fourth Class)****Pay Level: CG-28 Point Band: 578-621**

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	5	2	5	6	3	2	2	1	6	
Points	233	33	32	29	90	43	41	21	64	586

**JOB SUMMARY**

The Marine Engineer (Fourth Class) performs technical work assisting the Chief Engineer in charge of the engine room and its auxiliaries of a passenger/vehicle ferry in coastal waters off Newfoundland.

**Key and Periodic Activities**

- Inspects, cleans and performs minor and routine electrical, plumbing, mechanical and hydraulic repairs as required to generators, compressors, pumps, deck machinery, equipment and facilities to maintain effective operation and functionality; greases and oils equipment and checks for equipment wear and tear, etc.
- Communicates with bridge staff for docking purposes.
- Assists with tie-up lines and other routine work during arrivals/departures of the vessel; participates in security watches when vessel is not operational; conducts pre-departure checks (i.e. oil levels, power, steering operation and communication); monitors machinery prior to sailing.
- Ensures plug-in for shore power; maintains maintenance schedule (oil change, filter change, refuel ship, etc.).
- Investigates unusual odours, sounds, fluids, temperatures, etc.
- Tests safety of ship by simulating power outages and checks fire doors; conducts fire drills and boat drills, tests water-tight doors, sprinkler pumps, fire pumps and inspects carbon dioxide release systems.
- Ensures engine room is in proper condition by performing cleaning, wiping and general repairs to equipment.
- Maintains and repairs all lighting systems and maintains back-up batteries.
- May assist with disassembly and overhaul of mechanical and related equipment and components and makes the necessary electrical, mechanical, plumbing or other applicable repairs, adjustments or parts replacements.
- Assists the Chief Engineer by ensuring conformance with departmental preventative maintenance schedules and maintains an adequate supply of routine parts, oils and greases.

**SKILL****Knowledge**

**General and Specific Knowledge:**

- Knowledge of operation and maintenance of marine diesel, hydraulic and electrical equipment.
- Knowledge of electrical codes and subsequent changes.

**Formal Education and/or Certification(s):**

- Minimum: 4-Year Post Secondary Diploma in Marine Engineering Technology. Possession of a Fourth Class Motor Engineer's Certificate as issued by Transport Canada and associated endorsements such as MED (Marine Equipment Directive) Certificate; Marine Basic First Aid and Marine Medical.
- **Years of Experience:**
- Minimum: 4 - 5 years.

**Competencies:**

Ability to apply established techniques to the completion of activities.

Ability to coordinate a range of related work or project activities.

Ability to develop new solutions to deal with new problems.

Ability to design/develop new methods, procedures.

Ability to repair, calibrate and operate machinery; and conduct analysis or assessment.

Written and verbal communication skills.

**Interpersonal Skills**

- A range of interpersonal skills are used such as listening, asking questions and gaining the cooperation of others, and providing routine information and direction to others.
- Most significant contacts are with: Chief Engineer (to obtain direct orders/assignments and make mechanical decisions); and Captain (as directed).

**EFFORT****Physical Effort**

- The demands of the job regularly result in considerable fatigue, requiring periods of rest.
- Lifting or moving objects over 50 lbs. such as oil drums and working in cramped positions for the purpose of removing piping, pumps and motors is occasionally required. Physically handling materials or other objects such as piping and pulling on wrenches and sockets occurs on a constant basis.
- Sitting, standing, walking and climbing are all required in the performance of daily tasks and activities.
- The use of fine finger/precision work, using hand tools that require accurate control and steadiness, using gross motor skills and maintaining physical balance are a constant occurrence.
- Occasionally uses machinery or equipment that requires very controlled movement.

**Concentration**

- **Visual** concentration is a required when reading blueprints and information stamped on machinery (small print).
- **Auditory** demands are required to listen for unusual sounds from machinery, especially in the

<p>engine room which is a high noise environment.</p> <ul style="list-style-type: none"> <li>— Other sensory demands such as <b>touch</b> and <b>smell</b> are used to determine if machinery is malfunctioning or overheating.</li> <li>— Activities such as starting engines and pumps to ensure working order can be <b>repetitious and require alertness</b>.</li> <li>— <b>Higher than normal level of attentiveness/alertness</b> is required when responding to emergency standby activities as vessel has to be ready to sail with a specified response time.</li> <li>— <b>Time pressures and deadlines</b> are experienced when performing standby activities for ambulance service and maintaining schedules.</li> <li>— Setting valves on an engine and working on electrical equipment requires <b>eye/hand coordination</b>.</li> <li>— <b>Exact results and precision</b> are required when performing all work associated with electrical equipment, engines and making repairs.</li> </ul>
<b>Complexity</b>
<ul style="list-style-type: none"> <li>— Tasks and activities are different but related and allow for the use of similar skills and knowledge. Tasks are usually well defined.</li> <li>— Tasks are typically well defined but may be different but related. Challenges/problems/issues tend to have obvious solutions and can be addressed by following procedures and/or guidelines as positions work within defined and standard work processes.</li> <li>— Reference material available includes service manuals, Occupational Health &amp; Safety Regulations, departmental policies and procedures, Transport Canada Shipping Act, etc.</li> </ul>

## RESPONSIBILITY

<b>Accountability and Decision-Making</b>
<ul style="list-style-type: none"> <li>— Work tasks and activities are highly monitored or controlled and are regulated by Transport Canada.</li> <li>— Work is performed with technical responsibility under control of the Chief Engineer of the vessel in accordance with provincial and federal codes and standards.</li> <li>— Work is reviewed through discussions, reports and observation of overall results achieved.</li> </ul>
<b>Impact</b>
<ul style="list-style-type: none"> <li>— Impacts are felt internally within the immediate work area/department/government as well as externally by vessel passengers.</li> <li>— Work activities impact resources such as equipment, health/safety and corporate image. If the vessel is not in operation due to mechanical failure, it affects all of the above.</li> <li>— The consequences of a mistake or error can have an impact on the above noted people and resources as it can affect transportation for the general public.</li> <li>— The risk or consequences of an error that occurs can be mitigated by the supervision received and by following standard preventative maintenance standards and procedures and providing immediate attention to problems as they arise.</li> </ul>
<b>Development and Leadership of Others</b>
<ul style="list-style-type: none"> <li>— Work is non-supervisory nor are there any development and leadership responsibilities.</li> </ul>

**WORKING CONDITIONS****Environmental Working Conditions**

- Safety equipment such as safety harness, face shields, glasses, ear protection, welding jacket, gloves and other personal protective equipment are required.
- There is a moderate likelihood for minor cuts, bruises, abrasions or minor illnesses and limited likelihood of injuries or occupational illnesses resulting from hazards given that all health and safety regulations are followed.
- Exposure to unusual/distracting noise, dirt, dust, filth or garbage, fumes, limited ventilation and lighting, vibration, toxic or poisonous substances, odours, wet or slippery surfaces, awkward or confining workspaces and temperature extremes occurs on a constant basis as a result of working in an engine room. Occasionally exposed to glare, bodily fluids and waste, dangerous heights or depths, lack of privacy, isolation, radiation, physical dangers, sharp objects, heavy machinery, adverse weather conditions and travel.