



A Career as a Non-Commissioned Member Marine Engineering Mechanic

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WHAT THEY DO Marine Engineering Mechanics operate and monitor the correct operation of a ship's mechanical equipment. The mechanical systems for which they are responsible are diverse and complex; the technical aspect of this job is challenging. Under supervision, they will inspect, test, maintain, repair, modify and install equipment associated with the trade. They should be manually dexterous and enjoy working with machines and numbers. The ability to perform as a member of a tactical team, to understand directions, to react quickly, and to cope with unfamiliar situations is essential. Initiative and dependability are necessary attributes, as is the willingness to work for extended periods to complete a given job.

Monitor correct operation and assist with maintenance of:

- Main and auxiliary high-pressure boilers
- Diesel and gas turbine propulsion engines
- Hydraulic, mechanical and electrical control systems used in monitors, alarms, helicopter haul-down and replenishment-at-sea equipment
- Refrigeration and air conditioning equipment
- Ship's steering equipment
- The systems that produce the ship's domestic and boiler feed water
- Filling and transfer systems for water, fuels and lubricants
- Complete departmental records and maintenance reports
- Complete administration required for obtaining, storing and disposing of supplies and hazardous materials used by the trade

Training

Basic Military Qualification

The first stage of training for everyone is the 10-week Basic Military Qualification (BMQ) course at the Canadian Forces Leadership and Recruit School in Saint-Jean-sur-Richelieu, Que. This training provides the basic core skills and knowledge common to all trades. A goal of this course is to ensure that all recruits maintain the CF physical fitness standard; as a result, the training is physically demanding. BMQ covers the following topics:

- Policies and regulations of the Canadian Forces;
- CF drill, dress and deportment (the "three D's");
- Basic safety;
- First aid;
- Personal survival in nuclear, biological and chemical conditions;
- Handling and firing personal weapons;
- Cross-country navigation; and
- Personal survival in field conditions.

Basic Military Occupational Training

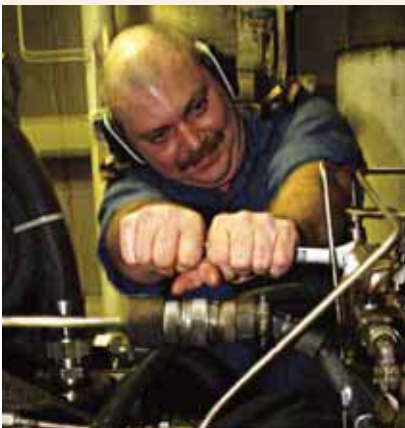
On completion of the BMQ, MAR ENG MECHs attend Naval Environmental Training (NETP) at the Canadian Forces Fleet School (CFFS) in Esquimalt, B.C. or Halifax, N.S. Training takes approximately 5 weeks and includes:

- Naval history and organization
- Shipboard firefighting and damage control
- Watchkeeping duties
- Seamanship

Qualifications Requirement

Marine Engineering Mechanics should have a high level of academic education with strengths in physics and mathematics.

You must meet Canadian Forces medical standards, and successfully complete a selection process that includes interviews and a wide range of examinations, including tests of physical fitness.



The second portion of the MOC training takes place at the Canadian Forces Fleet School (CFFS) in Esquimalt, BC. Training takes approximately 13 weeks and includes the following:

- Common engineering practices and publications
- Liquid contamination detection
- Safe working attitudes and practices
- Machinery lubrication
- Use of hand tools
- Maintenance of valves and gaskets
- Systems familiarization

Basic MOC training is continued through on-the-job training onboard ship.

Career Development

Marine Engineering Mechanics have opportunity for career progression and advanced training courses. At various stages throughout their career, they must obtain Marine Engineering operating certificates, which reflect and assure a competent level of watchkeeping and technical ability. MAR ENG MECHs who exhibit the necessary abilities are promoted to the rank Leading Seaman and are selected for the academically challenging, advanced MOC technical training. On commencement of that training they are provisionally transferred to the Marine Engineering Technician (313) occupation and are employed in the more technical aspects of the MOC. When they are promoted to the rank of Petty Officer 2nd class, they again receive additional technical training and on successful completion, are occupationally transferred to Marine Engineering Artificer (314). They are then employed in primarily high-level maintenance and supervisory duties at sea. At either the Technician and Artificer level in their career, they may be selected to serve on one of the four submarines located on either Coast. There are many varied shore-based employment opportunities at the Technician and Artificer levels located in many different locations throughout the country. The shore-based jobs may include working with reserve units, recruiting centers or they may instruct in a Canadian Forces engineering school. They also may have opportunities to work directly with ship repair facilities that are tasked with military contracts. Qualified candidates who demonstrate sufficient technical ability and strong leadership potential may be selected for commissioning as Maritime Engineering officers.

Journeyman Occupation Training and Specialty Training

Personnel who demonstrate the desire and possess the pre-requisite qualifications may be selected for advanced MOC formal coursing and specialty training as they progress in their careers. Below are examples of training related to this MOC.

Journeyman Occupation Training Courses

- Preventive and Corrective Maintenance Techniques
- Auxiliary and Propulsion Machinery Operator Certification

Specialty Training Courses

- Submarines
- Ship's Diver
- Instructional Techniques
- Gas Turbine Heavy Maintenance
- Heavy Diesel Maintenance – specific to shipboard models
- Integrated Machinery Control System Technician Training (IMCS)
- Diesel Inspector
- Non-destructive Testing Techniques
- Helicopter Haul-down and Fuelling Training
- Machinist Specialist

Working Environment

Marine Engineering Mechanics spend much of their careers onboard surface ships stationed in Halifax, NS or Esquimalt, BC. At sea, they are employed in operational, watchkeeping and maintenance duty in machinery spaces on a continuous shift rotation. In harbour, where the majority of maintenance is done, they normally work a regular day shift. Personnel gain much of their training through hands-on experience and under close supervision and day-to-day guidance by senior personnel. The work is sometimes very demanding, both physically and mentally. MAR ENG MECHs work in confined spaces, above and below the waterline. They must occasionally work for extended periods while exposed to uncomfortably warm compartment temperatures and high noise levels, which make the use of ear protectors mandatory. They may also be required to work on decks in all climatic conditions. As with all sea-going personnel, MAR ENG MECHs are sailors first and mechanics second. In addition to their occupation-related duties, junior personnel, in particular, are employed in out-of-occupation duties such as cleaning and painting the ship, working in the cafeteria, standing sentry duty, or loading supplies.

Appropriate training, environmental clothing and equipment are provided, and Marine Engineering Mechanics' health, safety and morale are closely monitored.

Related Civilian Occupations

- Construction Millwright and Industrial Mechanics
- Heavy-duty Equipment Mechanics
- Refrigeration/Air Conditioning Mechanics
- Machine Fitters
- Appliance Servicers and Repairers
- Equipment Mechanics
- Stationary Engineers and Auxiliary Equipment Operators
- Hydro Power Station Operators
- Engine Room Crew, Water Transport
- Machining Tool Operators

For more information, please call the Canadian Forces Recruiting at **1-800-856-8488**, or visit our Web site: www.forces.gc.ca

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