

MACHINIST'S MATE - Submarines

MM (SS)

Auxiliary Maintenance, Diesel Engine Technician, Fire Fighting, Torpedo Systems Specialist, Refrigeration Systems Technician, Air/Hydraulic Systems Technician

Machinist's Mates (Submarines) receive extensive training in the operation and maintenance of hydraulic power plants, hoists and cylinders, oxygen generators, atmosphere control equipment, refrigeration systems, emergency diesel engines, pressurized air systems, plumbing systems and submarine weapons and weapons delivery systems. Responsible for the operation, routine care, and repair of submarine auxiliary and weapons systems as well as fire fighting and damage control equipment, these mechanical specialists are a vital element in the day-to-day operation and combat survivability of the submarine.

Job Categories. Machinist's Mates (Submarines) specialize in one of two areas: weapons or auxiliary systems. The specialty area is determined at Basic Enlisted Submarine School.

- Weapons systems specialists operate and maintain underwater weapons launch systems (including air and hydraulic systems). They are responsible for the safe loading, unloading, shipping and storage of these weapons and conduct limited maintenance on torpedoes and missiles.
- Auxiliary systems specialists operate and maintain submarine non-nuclear mechanical systems in hydraulic, air, refrigeration, atmosphere control, plumbing and diesel engines.

Obligation. Active duty obligation is four years. Applicants will enlist for four years.

Advancement. Enlistees enlist as E-1s (seaman recruits). Completion of all advancement-in-rate requirements (including minimum time-in-rate) must be completed prior to advancement to E-2, E-3 and E-4. Top graduates of initial "pipeline" training may elect accelerated advancement to E-4 if they execute an agreement to extend their enlistment one additional year. Advancement in this rate to E-4 (Petty Officer Third Class) is good.

Elite Program. This rating is open to men who volunteer for submarine duty. Submarine pay is paid monthly upon the start of Basic Enlisted Submarine School, currently \$75.00 to \$425.00 (see Submarine Pay chart). All submarine ratings are members of an *elite* community consisting of highly professional, well-trained personnel. Upon advancement to E-4, submariners receive sea pay in addition to submarine pay.

Career Opportunities. This rating has outstanding technical skills training and development directly transferable to the civilian job sector, either at the end of obligated service or a full 20 to 30 year career. New and exciting career opportunities await the select group of people who possess submarine advanced technology knowledge gained through Navy training. These skills and training are in demand in both the civilian and military career fields.

Some of What They Do: The Machinist's Mate (Submarines) focuses on mechanical work. Typical duties include:

- manufacturing and storing oxygen;
- removing airborne waste products such as carbon dioxide, carbon monoxide and hydrocarbons;
- cleaning, adjusting, testing and performing preventive maintenance on submarine emergency diesel engines, mast and antenna hoists, hatches and watertight doors;
- repairing or replacing valves, filters, pumps, compressors and hydraulic or pneumatic control devices;
- operating, troubleshooting and repairing ship's refrigeration systems using specialized equipment after receiving EPA certification;
- removing and installing as well as securing and reinstalling weapons components from containers;
- testing equipment using voltmeters, ammeters, meggers and ohmmeters;
- testing and replacing portable cable, self-contained relays, lamps and fuses;
- locating and identifying components and assemblies of electronic equipment using technical maintenance publications;
- checking weapons storage, security and alarm systems;
- maintaining equipment work logs and torpedo record books;
- identifying torpedo components, tools and test equipment as well as ordering replacements;
- using and caring for common hand tools, special tools and soldering equipment;
- performing preventive and corrective maintenance on hydraulic and pneumatic systems and components associated with launching systems;
- serving as team members performing inspections and final close-out checks on weapons;
- tracing mechanical/electrical circuits on schematics and drawings.

Credit Recommendations

The American Council on Education recommends that semester hour credits be awarded in the vocational certificate or lower-division bachelor's/associate's degree categories for courses taken in this rating on basic electronic, electricity, computer operation, machinery maintenance, blueprint reading, air conditioning and refrigeration. The following are degree programs that relate directly to the MM ratings: Nuclear Power Technology, Computer Science, General/Nuclear Engineering, and Applied Science.

Qualifications and Interests

An aptitude for working with tools, equipment, mechanical devices and machines; good manual dexterity and physical stamina; above average math skills; good speaking ability; clerical ability for record keeping and detailed work; and the ability to do repetitive tasks are important qualifications. Also helpful is the ability to get along with others and work as part of a team. Candidates must be U.S. citizens eligible for security clearances. Machinist's Mates (Submarines) work within, and external to, the hull of a submarine in engine rooms or shops that are sometimes hot, noisy and dirty. Their work is sometimes physical, and they must be able to work

closely with others as well as alone with limited supervision.

Opportunities.

The Navy has a continuing need for qualified submarine Machinist's Mates. About 3,000 men work in this rating. Placement opportunities are excellent for qualified candidates.

Civilian, Federal, and Military Sealift Command Related Occupations

To see Related Civilian, Federal, and Military Sealift Command Occupations for this rating:

MMA

<https://www.cool.navy.mil/usn/enlisted/mma.htm>

MMW

<https://www.cool.navy.mil/usn/enlisted/mmw.htm>

Navy LaDR (Learning and Development Roadmap)



To see the Navy LaDR (Learning and Development Roadmap) for this rating:

MMA

https://www.cool.navy.mil/usn/LaDR/mma_e1_e9.pdf

MMW

https://www.cool.navy.mil/usn/LaDR/mmw_e1_e9.pdf

College Credits for this Rating

To see the college credits available via a Joint Service Transcript for this rating

MMA

https://www.cool.navy.mil/usn/jst/mma_jst.pdf

MMW

https://www.cool.navy.mil/usn/jst/mmw_jst.pdf

Additional Information

For more information on opportunities available for this rating, please visit Navy Credentialing Opportunities On-Line (COOL)

MMA

<https://www.cool.navy.mil/usn/enlisted/mma.htm>

MMW

<https://www.cool.navy.mil/usn/enlisted/mmw.htm>

Since Navy programs and courses are revised at times, the information contained on this rating card is subject to change.

Career Path After Recruit Training.

Enlistee is taught the fundamentals of this rating through formal Navy schooling and some on-the-job training. Advanced technical and operational training is available in this rating during later stages of career development.

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(School/Present Location/Approximate Training Time/Subjects/Training Methods)

1. Basic Enlisted Submarine School/Groton, CT/4 weeks/Indoctrination in basic submarine systems/Group instruction.
2. Machinist's Mate Class "A" Technical School/Groton, CT/9 weeks/Basic technical knowledge and skills required in the rating/Group instruction, practical application and equipment labs.
3. Machinist's Mate Class "C" Technical School
 - a. **Auxiliary Specialists:** Auxiliary Package Course/Groton, CT; Kings Bay, GA; Bangor, WA/7 weeks/Additional technical knowledge required for auxiliary systems operators/Group instruction, practical application and equipment labs; **or**
 - b. **Weapons Specialists:** Weapons Package Course/Groton, CT/17 weeks/ Additional technical knowledge required for weapons systems operators/Group instruction, practical application and equipment labs

After MM (SS) "A" School and the appropriate package course, trainees will serve on submarines and shore stations in the United States and overseas. During a 20-year period in the Navy, MM (SS)s spend about 60 percent of their time assigned to fleet units and 40 percent to shore stations.

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Note: All applicants must read and understand the Submarine Volunteer Statement of Understanding.

(Revised 02/06)