

# Machinist's Mate (MM)

# NAVY

## Machinist's Mate (Surface) (MM)

Machinist's mates operate and maintain steam turbines and reduction gears used for ship propulsion and auxiliary machinery such as turbogenerators, pumps and oil purifiers. They also maintain auxiliary machinery outside of main machinery spaces, such as electrohydraulic steering engines and elevators, refrigeration plants, air conditioning systems and desalinization plants. They may also operate and maintain compressed gas producing plants.

### What They Do

The duties performed by MMs include:

- aligning piping systems for oil, water, air and steam, and controlling the operation of ship boilers and steam turbines used for ship propulsion and service systems;
- controlling operation of turbogenerators used to produce electrical power;
- cleaning, adjusting, testing and performing other preventive maintenance on a ship's boilers, main engines, turbogenerators and other auxiliary machinery including steering engines, elevators, winches, pumps and associated valves;
- operating and maintaining desalinization plants (distilling plants) to make fresh water from sea water;
- maintaining refrigeration plants, air conditioning systems and galley equipment;
- repairing or replacing valves, pumps, heat exchangers, compressors, steam turbines and hydraulic or pneumatic control devices;
- making entries in and analyzing machinery operating records and reports.

### 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 machinery maintenance, blueprint reading, air conditioning and refrigeration.

### Qualifications and Interests

Machinist's mates should have clear speech, physical stamina, manual dexterity and the ability to work with others as a team. They should know how to use common hand and power tools and enjoy working with mechanical devices.

Other helpful characteristics are resourcefulness and an interest in learning new ideas and skills. Normal hearing is required.

### Working Environment

Machinist's mates work within the hull of a ship in fire rooms, boiler rooms, engine rooms or shops. These locations are sometimes hot and noisy. MMs may be required to perform some heavy physical work. They must be able to work closely with others and, in some cases, with limited supervision.

## Career Path After Recruit Training

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

School	Present Location	Approximate Training Time	Subjects	Training Methods
Basic Engineering Common Core	Great Lakes, Ill.	9 Weeks	Introduction to technical documentation, basic mechanical theory, safety precautions and programs, alignment and operation of piping systems and equipment, hand tools, precision instruments, lubricants, bearings, couplings, gears, valves, pumps and the Maintenance Material Management System (3M). Introduction to technical documentation, basic watch standing procedures, alignment and operation of piping systems and equipment, hand tools, precision instruments, lubricants and lubricating systems, bearings, couplings, gears, valves, the Maintenance Material Management System (3M), basic technical knowledge, terminology and watch standing procedures for the operation of conventional marine steam propulsion systems and preventive maintenance of plant equipment.	Self paced and Group instruction and practical application

After "A" School, MMs may be assigned to ships and naval repair activities afloat and at shore stations in the United States or overseas. During a 20-year period in the Navy, MMs spend about 70 percent of their time assigned to fleet units and 30 percent to shore stations. Shore assignments are normally at shore intermediate activities (SIMAs) as instructors in Class "A" or "C" Schools, as recruit company commanders or in recruiting duty.

### Opportunities

The Navy has a continuing need for qualified machinist's mates. Approximately 6,300 men and women perform duties in the MM rating aboard conventional steam-propelled ships and at shore stations. Opportunities for placement are good for qualified candidates.

### Related Civilian Jobs-- O\*Net SOC Code O\*Net SOC Title

47-4041.00 Hazardous Materials Removal Workers  
49-1011.00 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers  
49-3042.00 Mobile Heavy Equipment Mechanics, Except Engines  
49-9012.00 Control and Valve Installers and Repairers, Except Mechanical Door  
49-9021.00 Heating, Air Conditioning, and Refrigeration Mechanics and Installers  
49-9021.02 Refrigeration Mechanics  
49-9041.00 Industrial Machinery Mechanics  
49-9043.00 Maintenance Workers, Machinery  
49-9098.00 Helpers - Installation, Maintenance, and Repair Workers

51-1011.00 First-Line Supervisors/Managers of Production and Operating Workers  
51-2031.00 Engine and Other Machine Assemblers  
51-8013.00 Power Plant Operators  
51-8021.00 Stationary Engineers and Boiler Operators  
51-8031.00 Water and Liquid Waste Treatment Plant and System Operators  
51-9012.00 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders  
51-9193.00 Cooling and Freezing Equipment Operators and Tenders  
53-5031.00 Ship Engineers  
53-7041.00 Hoist and Winch Operators  
53-7071.00 Gas Compressor and Gas Pumping Station Operators  
53-7072.00 Pump Operators, Except Wellhead Pumpers

Since Navy programs and courses are revised at times, the information contained on this rating card is subject to change.  
(Revised 01/08)