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# **Marine Service Technician**

## General Assessment Information

### Blueprint Contents

General Assessment Information  
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**Test Type:** This entry-level Marine Service Technician Certification assessment is a customized assessment from the American Boat and Yacht Council (ABYC), that measures technical skills at the occupational-training level and includes items which gauge factual and theoretical knowledge. This assessment offers a knowledge-based component that can be used at the secondary and post-secondary levels, in an online or in-person format.

**Revision Team:** This certification was developed by the American Boat & Yacht Council, the preeminent standard writing body for the boat building and repair industry in North America. Certification content is based on standards established by industry professionals from the US and Canada who have identified entry level skill sets needed for successful employment and career growth within the marine service sector.



47.0616 Marine  
Maintenance/Fitter and  
Ship Repair Technology/Technician



Career Cluster - Transportation,  
Distribution & Logistics Career Cluster



49-3051.00 - Motorboat Mechanics  
and Service Technicians

## Written Assessment

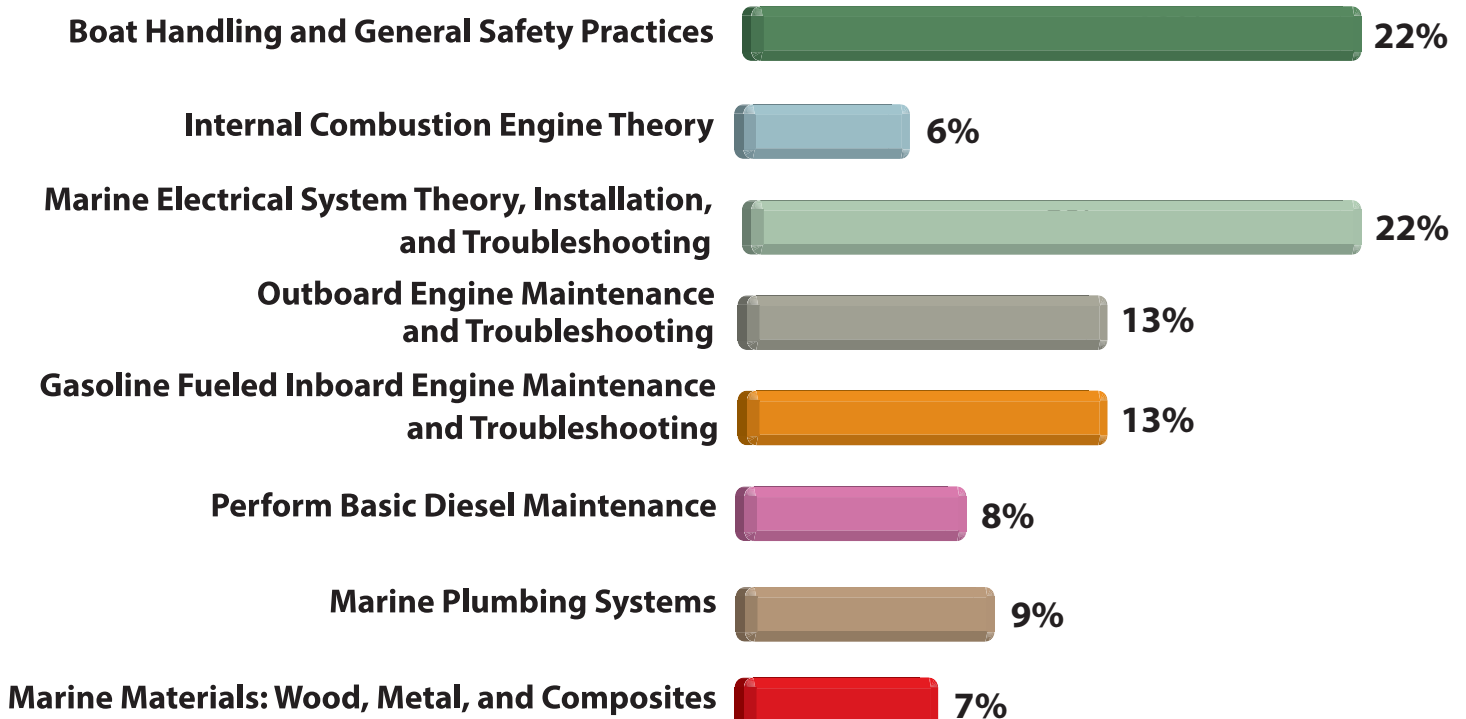
Written assessments consist of questions to measure an individual's factual theoretical knowledge.

**Administration Time:** 2 hours

**Number of Questions:** 113

**Number of Sessions:** This assessment may be administered in one, two, or three sessions.

### Areas Covered



## Specific Standards and Competencies Included in this Assessment

### **Boat Handling and General Safety Practices**

- Identify the parts and dimensions of a boat
- Identify safety related to refueling a boat and securing boat to a dock
- Demonstrate appropriate shop behaviors, personal protective equipment (PPE), first aid procedures
- Properly use precision measurement tools and hand tools
- Comply with federal and state safety regulations regarding chemicals and fire safety practices
- Service boat trailers

### **Internal Combustion Engine Theory**

- Identify operation specific to two-stroke and four-stroke engines
- Compare spark-ignition engines and compression-ignition engines

### **Marine Electrical System Theory, Installation, and Troubleshooting**

- Demonstrate basic electrical principles and theory
- Wire a circuit in series and parallel
- Measure and interpret electrical measurements
- Identify circuit faults and wire terminations
- Sizing fuses and circuit breakers
- Demonstrate knowledge basic installation requirements



(Continued on the following page)

## Specific Standards and Competencies (continued)

### **Outboard Engine Maintenance and Troubleshooting**

- Perform routine maintenance
- Maintain steering and control systems
- Troubleshoot outboard engine

### **Gasoline Fueled Inboard Engine Maintenance and Troubleshooting**

- Demonstrate knowledge of general maintenance
- Service inboard and outboard drive systems
- Troubleshoot inboard engines symptoms and probable causes

### **Perform Basic Diesel Maintenance**

- Perform basic diesel fuel maintenance and troubleshooting
- Safety concerns when working around diesel engines

### **Marine Plumbing Systems**

- Describe general marine plumbing system
- Demonstrate knowledge of marine-sanitation devices (MSD)

### **Marine Materials: Wood, Metal, and Composites**

- Select appropriate wood and composite materials for marine applications
- Select appropriate metal materials for marine applications



## Sample Questions

**What action should be taken first if battery acid gets in the eyes?**

- A. call a physician
- B. flush eyes with soda
- C. flush eyes with water
- D. wipe eyes with a cloth

**Air is mixed with very fine particles of gasoline through the process of**

- A. fractionalization
- B. distillation
- C. atomization
- D. evaporation

**Paralleling batteries increases**

- A. voltage
- B. resistance
- C. capacity
- D. inductance

**Which of the following conditions indicates water in a gear lube?**

- A. white milky color
- B. black color
- C. silver color
- D. clear blue or green color

**Lip seals typically have a very low tolerance for**

- A. running dry
- B. radial run out
- C. engine misalignment
- D. all of the above