

APALACHICOLA MARITIME MUSEUM

BOATBUILDING SHOP SAFETY MANUAL

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SAFETY MANUAL
APALACHICOLA MARITIME MUSEUM WOODEN BOATBUILDING SCHOOL

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Reference: Activity Hazard Analysis, Rev. 1. 10/27/2012

1.0 PURPOSE

The purpose of this manual is to provide basic safety information pertaining to the Apalachicola Maritime Museum Boatbuilding Shop and Boatbuilding School. Included in this manual are the locations and use of safety equipment, mandatory safety practices, and emergency procedures. Roles and responsibilities of students and museum staff are also specified.

The basis for this manual is an Activity Hazard Analysis (AHA) identifying possible hazards and engineered controls and personal safety requirements for the mitigation of the hazards.

All practices and precautions in this manual are mandatory and must be observed when the shop is in use.

2.0 IMPLEMENTATION AND MAINTENANCE

2.1 Implementation

2.1.1 Museum Staff: All museum staff members working in the boatbuilding shop are required to read this manual. An initial safety orientation is required for all existing and new staff members.

NOTE: Museum personnel are expected to both observe the requirements of this manual AND to enforce the requirements when working with other museum employees, volunteers, and/or students.

2.1.2 Museum Volunteers: All volunteers working in the boatbuilding shop or for the boatbuilding school are required to read this manual. An initial safety orientation, provided by a museum staff member, is required for all volunteers. Volunteers are required to adhere to the requirements of this manual.

2.1.3 Students: The boatbuilding school director or a museum staff member will brief all students on the contents of this manual. Students are expected to comply with the requirements of this manual.

2.2 Maintenance

2.2.1 The shop supervisor is responsible for the maintenance of this manual.

2.2.2 All museum staff will be briefed on changes to this manual within two weeks of any changes implemented.

3.0 SHOP SAFETY EQUIPMENT AND MARKINGS

3.1 Safety equipment

- * Fire extinguisher
- * Eyewash Station
- * Personal safety equipment, provided by AMMFL, to include, but not be limited to:
 - Safety glasses and goggles
 - Ear plugs for hearing protection
 - Gloves
 - Rubber gloves (for use with epoxies, paints and varnishes)
 - Dust masks

3.2 Signs and Placards

The following signs and placards are present in the boatbuilding shop:

- * Exit signs above all shop exit doors
- * The locations of the fire extinguisher and eyewash station
- * Location of personal safety equipment.

ALL MUSEUM PERSONNEL MUST BE AWARE OF THE LOCATION OF SAFETY EQUIPMENT AND SHALL BE TRAINED IN THEIR USE.

ALL STUDENTS, VOLUNTEERS, AND OTHER INDIVIDUALS WORKING IN THE SHOP SHALL BE BRIEFED ON THE LOCATION AND USE OF SAFETY EQUIPMENT.

3.3 Markings

- 3.1 All chemicals and containerized liquids, solids and gases will be stored in their original containers.
- 3.2 Whenever the markings on an original container are obscured or become damaged they will be clearly re-labeled.
- 3.3 Whenever a material is placed in another container for use that container shall be clearly marked with the contents.
- 3.4 Any container without legible markings AND in which the stored contents are unknown shall be labeled "Unknown" and the shop supervisor or designee shall be notified.

4.0 GENERAL SAFETY REQUIREMENTS

4.1 All AMMFL personnel and students must receive a safety briefing prior to beginning work for the first time.

- * Tool safety
- * Chemical safety
- * Housekeeping
- * Policies on smoking, drinking and eating in the shop.

4.2 The Shop Safety Manual must be kept in a location in the shop that is accessible to all individuals working in the shop.

4.3 No smoking or open flames (without the permission of the shop supervisor) in the shop.

4.4 Good housekeeping will be practiced at all times:

- * Tools will be returned to their proper storage location after each use.
- * Scrap and waste materials will be properly disposed of immediately following generation or at the end of the work day depending on the type of material.
- * Chemicals will be stored in designated areas except during use.
- * The shop will be swept and/or vacuumed after each workday.
- * Workspaces will be kept free of clutter.

4.5 The shop doors will remain closed when work is in progress.

4.6 Spectators will not be allowed in the shop when chemicals, epoxies, or power tools are in use. If visitors request to visit the shop the shop supervisor or designee will determine when visitors may enter.

4.7 No liquids (other than water), or loose (i.e. granulated, powdered) materials may be brought into the shop without the permission of the shop supervisor or designee.

4.7 Routine Inspections will be performed by the shop supervisor and/or designee in accordance with Appendix A of this Safety Plan.

4.8 Prior to the start of every work day the shop supervisor or designee shall verify the following:

- * Fire extinguishers are in place.
- * There is adequate personal protective equipment for the day.
- * Signs and placards are in place (see Section 3.2 of this Plan).
- * The primary vacuum system is operational.

4.9 The following limits apply to the operation of power tools.

- * No client, student, or visitor operates any power tool without the guards installed.
- * Only employees may operate the following power tools:
 - Table saw
 - Chop saw
 - Band saw
 - Drill press
- * No one under 15 uses the bench sander or sabre saws.
- * No one under 13 uses power drills or belt sanders.

4.10 Chemicals Management

- * The shop supervisor or designee will be notified when any new chemical is brought into the shop and must approve of the addition.
- * The shop supervisor will determine when an MSDS is required for any new chemical.
- * Any new chemical requiring an MSDS must have the MSDS with the material.
- * The MSDS manual must be kept in the shop with the Safety Manual.
- * The MSDS manual will be updated any time a new chemical is brought into the shop.

4.11 Flammable Materials Management

- * All flammable liquids will be stored in the safety cabinet.
- * No new material may be placed in the flammable liquids cabinet without the permission of the shop supervisor.

5.0 EMERGENCY PROCEDURES

5.1 FIRE

5.1.1 IMMEDIATE ACTIONS:

* Upon the discovery of a fire in the shop or in any other area of the museum the person discovering the fire will immediately activate the nearest fire alarm and will evacuate the museum, warning any other individuals on the way to the assembly area.

* All individuals in the museum, including museum staff, will immediately evacuate to the assembly area.

* The assembly area is the municipal parking lot to the west of the museum and directly across Water Street.

* Museum personnel will contact the fire department by cell or museum phone by dialing 911.

* Museum staff will attempt to account for all visitors and museum personnel and will alert emergency personnel if it is believed an individual is unaccounted for and may still be in the museum.

* One member of the museum staff will inform emergency personnel as to the location and nature of the fire.

5.1.2 FIREFIGHTING

Museum personnel MAY attempt to control the fire under the following circumstances:

- * The fire is small and is in a container – i.e., waste container, can, metal box, etc.
- * The fire is not spreading rapidly.
- * The fire is not close to flammable liquids.
- * There is a fire extinguisher nearby.
- * There is an immediate escape route located away from the fire and the individual can keep himself between the fire and the exit.

DO NOT ATTEMPT TO USE WATER TO CONTROL ANY FIRE.

IF AT ANY TIME THE INDIVIDUAL ATTEMPTING TO CONTROL THE FIRE FEELS HE/SHE IS IN DANGER IMMEDIATELY CEASE FIREFIGHTING EFFORTS AND EXIT THE FACILITY

5.2 Liquid/Chemical Spill

The shop uses several chemicals that are toxic and/or flammable. Examples include denatured alcohol, epoxies, paint thinners, etc. Care must be taken to avoid spills. Should a spill occur, museum personnel are responsible for containing and cleaning up the spill. Visitors and students should not be requested to assist in such efforts.

Should a spill occur the following actions are required:

- 5.2.1 Have all non-museum personnel leave the boat shop.
- 5.2.2 Don rubber gloves.
- 5.2.3 Return the container to an upright position and close the container.
- 5.2.4 Activate the primary vacuum system if not in operation.
- 5.2.5 Use disposable or shop towels or the cleanup kit, to clean up the spill.
- 5.2.56 Immediately dispose of the cleanup materials in the outside waste container.

IF AT ANY TIME EFFECTS FROM THE SPILLED CHEMICAL (WATERY AND/OR BURNING EYES, NAUSEA, SKIN IRRITATION, ETC., ARE NOTICED) IMMEDIATELY CEASE CLEANUP EFFORTS AND EXIT THE SHOP AREA.

NOTIFY THE SHOP SUPERVISOR OR MUSEUM MANAGEMENT.

FURTHER ACTIONS WILL BE DETERMINED BY THE SHOP SUPERVISOR AND/OR MUSEUM MANAGEMENT.

5.3 Contact with chemicals

5.3.1 Eye Contact

- * Immediately flush eyes at the shop eyewash station.
- * Seek medical attention.

IF THE REACTION TO THE CHEMICAL CAUSES SHORTNESS OF BREATH, SKIN RASH, ANY SWELLING, SEVERE PAIN, OR OTHER SERIOUS REACTION IMMEDIATELY CALL 911.

5.3.2 Skin Contact

- * Immediately wash the affected area with soap and water at the sink or the restroom.
- * IF skin irritation or other reaction is noticed immediately seek medical attention.

6.0 ACTIVITY-SPECIFIC SAFETY REQUIREMENTS

6.1 Material and Equipment Handling and Movement

- 6.1.1 Wear gloves when handling heavy items items with sharp edges, burrs, or sharp corners.
- 6.1.2 Use dollies or other material handling equipment or request assistance when moving items weighing greater than 50 pounds or bulky, unwieldy, or unbalanced objects.
- 6.1.3 Wear closed-toe footwear.
- 6.1.4 Ensure the route is free of tripping hazards.
- 6.1.5 Use care when negotiating narrow aisles and corners to prevent pinch points, impacts.

6.2 Power Tools Usage

- 6.2.1 Wear safety glasses or goggles when drilling, cutting, etc.

NOTE: The shop supervisor may require the wearing of eye protection at other times as necessary.

- 6.2.2 Exercise care when using power tools.
- 6.2.3 Inspect all power cords for damage prior to use and do not use any damaged power or extension cord.

NOTE: Do not use any damaged power or extension cord. Notify the shop supervisor or designee of any damaged cords.

- 6.2.4 Unplug all tools when changing bits, blades, sanding belts, etc.
- 6.2.5 Unplug all tools when finished using them.
- 6.2.6 Remove the battery from battery-powered tools before changing bits, blades, sanding belts, etc.
- 6.2.7 The primary vacuum system will be in operation when sawing sanding, grinding, or any other activity that produces fine particles is in progress.
- 6.2.8 When using portable sanders a vacuum will be connected to the sander dust outlet and will be used to collect dust OR the sander dust collection bag will be used.
- 6.2.9 Dust will be swept or vacuumed up and disposed of at the end of each workday.
- 6.2.10 A dust mask will be worn when sanding, grinding, or any other activity which produces fine dust is in progress.
- 6.2.11 Eating in the shop is prohibited while dust- generating activities are in progress.
- 6.2.12 All drinks must be in closed containers (no open cups or cans).
- 6.2.13 Earplugs will be worn when circular saws and power sanders are in use.

NOTE: The shop supervisor may require the use of earplugs at other times.

- 6.2.14 An inspected ABC fire extinguisher shall be in the shop at all times.
- 6.2.15 Power tools shall not be used when flammable chemicals are being used.

6.3 Use of Flammable Chemicals

- 6.3.1 An inspected ABC fire extinguisher shall be in the shop at all times.
- 6.3.2 Flammable chemicals will not be stored in open containers.
- 6.3.3 Flammable chemicals will be stored in an approved safety cabinet.
- 6.3.4 Rags and other waste materials which contain flammable chemicals or which were used to cleanup up flammable chemicals will be placed in the outside waste container when generated and will not be allowed to accumulate in the shop.

- 6.3.5 Combustible/flammable waste materials (cardboard, rags, paper, etc.) must be disposed of at the end of each workday (exception: brush cleaners may be kept in closed containers until spent).
- 6.3.6 Any work that may generate a spark may not be done while flammable chemicals are in use in the shop.
- 6.3.7 The primary vacuum system will be in operation when flammable chemicals are being used.

6.4 Use of Two-Part Epoxies

- 6.4.1 Rubber gloves must be worn when using two- part epoxies.
- 6.4.2 When the potential for contact by lower and upper arms is present protective sleeves will be worn.
- 6.4.3 Immediately wash hands and lower arms after using two-part epoxies.
- 6.4.4 The primary vacuum system will be in operation when two-part epoxies are in use.
- 6.4.4 Eating and drinking while using epoxies is prohibited.
- 6.4.6 When sanding is in progress the requirements of sections 6.2.5 through 6.2.9 will be observed.

6.5 Use of Toxic Chemicals

Toxic chemicals used in the shop include, but are not limited to, the following:

**Paint thinners
Paint strippers
Alcohols
Epoxies
Paints and varnishes**

- 6.5.1 The primary vacuum system will be in operation when toxic chemicals are in use.
- 6.5.2 Only one toxic chemical may be in use at any time.
- 6.5.3 Rubber gloves or other gloves suitable for the chemical will be worn.

NOTE: The shop supervisor or designee will specify when gloves other than the surgical-type of gloves are required.

- 6.5.4 Immediately wash hands and lower arms after using toxic chemicals.
- 6.5.5 Goggles will be worn when handling toxic chemicals.
- 6.5.6 Eating in the shop is prohibited while toxic chemicals are in use.
- 6.5.7 All drinks must be in closed containers (no open cups or cans).

6.6 Use of Paints and Varnishes

- 6.6.1 The primary vacuum system will be in operation when toxic chemicals are in use.
- 6.6.2 Paints and varnishes will be stored in closed containers at all times when not in use.
- 6.6.3 An inspected ABC fire extinguisher shall be in the shop at all times.
- 6.6.4 Paints and varnishes will be stored in closed containers at all times when not in use.
- 6.6.5 Wash hands and lower arms immediately after using paints and varnishes.

6.7 Use of Hand Tools

- 6.7.1 Exercise care when handling and using hand tools.
- 6.7.2 Use hand tools only for their intended use.
- 6.7.3 Do not use excessive force which could cause the tool to break or deform.

6.8 Electrical Work

- 6.8.1 If any extension cord is damaged dispose of it.
- 6.8.2 If the power cord on any power tool is damaged notify the shop supervisor or designee.

CAUTION: DO NOT ATTEMPT TO REPAIR EXTENSION CORDS.

- 6.8.3 Unplug all power tools when finished using.
- 6.8.4 Ensure that the area is dry before using any electrically powered tool or equipment.
- 6.8.5 Keep power and extension cords off of floors.

Appendix A

Routine Inspection Requirements

A.1 Facility Inspection Checksheet and General Requirements

- A.1.1 The Weekly Facility Inspection Checksheet (WFIC) and Monthly Facility Inspection Checksheet (MFIC) will be used for all inspections.
- A.1.2 The inspector will initial and date each checksheet for each inspection. Initials and date must be printed and legible.
- A.1.3 The checksheets will be kept on file for a minimum of two years from the date of inspection.
- A.1.4 IF the facility is closed for an extended period (seasonal closure) the inspections are not required. HOWEVER, the facility will be inspected prior to beginning any activity after such a closure.
- A.1.5 The facility will be inspected prior to beginning any activity following closure for a natural disaster or unusual event (fire, etc.).

A.2 Weekly Inspections

A.2.1 Vacuum System

A.2.1.1 Inspection Requirements

- * Activate the vacuum system.
- * Check for suction at all intakes.

A.2.1.2 Operational Requirements and Checksheet Entries

- * Suction must be present at all intakes.
- * Enter “Y” for proper operation, “N” if suction is not present at all inlets.

A.2.1.3 Required Actions

- * IF the system does not operate properly notify the shop supervisor or designee.
- * DO NOT conduct any activities using hazardous or toxic chemicals until the system is repaired.
- * Utilize alternative dust collection methods during dust –generating activities until the system is repaired.

A.2.2 Fire Extinguishers

A.2.2.1 Inspection Requirements

- * Check that all fire extinguishers are in their designated places (See Appendix B).

A.2.2.2 Operational Requirements and Checksheet Entries

- * Enter “Y” if all extinguishers are in place, “N” if not.

A.2.2.3 Required Actions

- * Replace fire extinguishers in their designated places.
- * IF a fire extinguisher cannot be replaced OR is damaged, do not conduct any activities which pose a fire risk until the extinguishers are replaced.
- * IF a fire extinguisher cannot be replaced OR is damaged notify the shop supervisor or designee.

A.2.3 Signs and Placards

A.2.3.1 Inspection requirements

- * Inspect all signs and placards and sure they are in their designated locations and are legible and not damaged (see Appendix B).

A.2.3.2 Operational Requirements and Checksheet Entries

- * Enter “Y” if all signs are present in designated locations, “N” if not, in the correct column.
- * Enter “Y” if all signs are legible and undamaged, “N” if not, in the correct column.

A.2.3.3 Required Actions

- * Replace any signs that are out of place.
- * IF a sign is missing or damaged notify the shop supervisor or designee.
- * A temporary sign may replace a damaged or missing sign IF the sign is approximately the same size as the original sign AND the sign may be read from any area of the shop.

A.2.4 Eyewash Station

A.2.4.1 Inspection Requirements

- * Inspect the solution container to ensure it is full.
- * Ensure that the eyewash covers are in place.

A.2.5 Safety Equipment

A.2.5.1 Inspection Requirements:

- * Inspect all items for damage and dispose of damaged items.
- * Ensure that the following minimum quantities of safety items are present:

Rubber gloves:	One unopened box
Dust masks:	One unopened box
Goggles:	6 pairs
Safety glasses:	6 pairs
Leather gloves:	6 pairs
Ear plugs:	½ box
Protective sleeves:	2 doz.

A.2.5.2 Operational Requirements and Checksheet Entries

- * Enter “Y” if all safety items are present in the required quantities, “N” if not, in the correct column.

A.2.5.3 Required Actions

- * Notify the shop supervisor or designee if the minimum quantities of safety items are not present..
- * No activities requiring safety items may be conducted unless all individuals present have the necessary items.

A.2.6 First-Aid Cabinet

A.2.6.1 Inspection Requirements

- * Inspect the cabinet for damage.
- * Remove and dispose of any damaged or used items.

A.2.6.2 Operational Requirements and Checksheet Entries

- * The following minimum quantities of each item must be present:

First Aid Guide	1
Adhesive bandages	1 Box
Adhesive tape	1 roll
Antiseptic pads	10
Burn treatment pads	10
3" x 3" sterile pads	4
Exam gloves	1 pr.
Triangular bandage	1
Absorbent compress pad	1
Infection control kit	1
Eye covering	1
Burn dressing	1
Cold pack	1

A.2.6.3 Required Actions

- * Enter "Y" if all items are present in the prescribed quantities, "N" if not, in the correct column.
- * Enter the items missing or in short supply on the checksheet.
- * Notify the shop supervisor or designee of items in short supply or missing.
- * Shop activities must be curtailed until the required first aid items are procured.

A.2.7 Bench Power Tools

A.2.7.1 Inspection requirements

- * Inspect blade guards and ensure guards are in place and are in good shape.
- * Inspect for debris, dust and other materials which may hinder proper operation.
- * Start all bench power tools and check for unusual vibration, noise, or other indications of problems.

A.2.7.2 Operational Requirements and Checksheet Entries

- * Enter "Y" if all tools meet the inspection requirements, "N" if not, in the correct column.
- * Identify the substandard tool in the correct column.

A.2.7.3 Required Actions

- * Replace guards or notify the shop supervisor or designee if a guard is missing or damaged.
- * Remove debris and other materials.
- * Notify the shop supervisor or designee if a tool appears to be damaged or is inoperable.
- * Immediately unplug any power tool suspected to have damage or other problems and place a DO NOT OPERATE tag on both the plug and the tool start switch.

A.3 Monthly Inspection Requirements

A.3.1 All Hand-held Power Tools

A.3.1.1 Inspection Requirements

- * Inspect all power cords and plugs for damage.
- * Inspect tools for any outward signs of damage (dents, missing parts, etc.)

A.3.1.2 Operational Requirements and Checksheet Entries

- * Enter “Y” if all hand-held power tools meet inspection requirements, “N” if not, in the correct column.
- * Identify the hand-held power tools not meeting inspection requirements in the correct column.

A.3.1.3 Required Actions

- * Immediately unplug any power tool suspected to have damage or other problems and place a DO NOT OPERATE tag on both the plug and the tool start switch.
- * Notify the shop supervisor or designee of the damage.

A.3.2 Vacuum System

A.3.1.1 Inspection Requirements

- * Inspect the outside drum and inside filter bag contents and inspect both for damage..
- * Visually inspect the ductwork, inside equipment, and outside equipment for damage and/or corrosion.
empty contents if drum is 1/3 full or greater.
- * Run the internal filter brush by slowly pulling down on the red handle and then pulling the black handle Be sure to hook the black handle on the tab when finished.
- * Empty the plastic bag at the bottom of the inside filter.

A.3.2.2 Operational Requirements and Checksheet Entries

- * Enter “Y” if the bag and outside drum are in good condition, “N” if not, in the correct column.
- * Enter “Y” if the equipment has no visible damage or corrosion “N” if there is visible damage or corrosion.
- * Enter “Y” if the filter brush has been operated (see A.3.2.3), “N” if not, in the correct column.
- * Identify the damaged item in the correct column.
- * The outside drum must be less than 1/3 full.
- * The inside bag must be less than ¼ full.

A.3.2.3 Required Actions

- * Notify the shop supervisor or designee of any damage to the system.
- * Use the inside filter brush by pulling the red handle down slowly, then pulling the black handle down slowly. Be sure to hook the black handle on the hook at the base of the filter.
- * Empty the outside drum if more than 1/3 full, the inside bag if more than ¼ full.
- * IF the shop supervisor or designee determines that the system may not be operated until any damage is repaired, hang a DO NOT OPERATE tag on the power panel. Do not conduct any activities requiring the use of the system.

A.4 Semi-Annual Requirements

A.4.1 Eyewash Station

Replace the eyewash solution.