

Sector Baltimore
Small Passenger Vessel Branch
Initial Certificate of Inspection (ICOI) Work Instruction

The purpose of the work instruction is to assist a Coast Guard marine inspector to verify the vessel meets the applicable requirements and is properly certificated.

Note: This is not an all-inclusive list of items. A vessel may require additional information or requirements due to route, design, or operation.

Vessel Name or Hull Number: _____

Primary Inspector's Name: _____

VESSEL INSPECTION WORKLIST ITEMS

PRELIMINARY PAPERWORK

_____ Application for Inspection received. (Note: A marine inspector will not schedule an inspection until the owner of the vessel has submitted an Application for Inspection.)

PLANS REQUIRED

Initials/Date

- _____ Hull structural plans approved by the Coast Guard
- _____ Outboard profile, inboard profile, and arrangement of decks approved by the Coast Guard
- _____ Machinery and propulsion plans approved by the Coast Guard
- _____ Electrical one-line diagram, cable list, power and lighting list, type and capacity of storage batteries, circuit breaker ratings, and electrical plan analysis approved by the Coast Guard
- _____ Lifesaving equipment and locations approved by the Coast Guard
- _____ Fire main system, fixed gas extinguisher, and portable fire extinguisher types and location approved by the Coast Guard
- _____ Fuel tank plans approved by the Coast Guard
- _____ Bilge, hydraulic, and sanitary piping systems approved by the Coast Guard
- _____ Lifesaving equipment and locations approved by the Coast Guard

HULL / STRUCTURE

Initials/Date

- _____ Review the preparation guide for a dry-dock from Coast Guard Activities Baltimore. Make the vessel available for a dry-dock hull exam, and provide this office with a copy of the latest Marine Surveyor's report if available.
- _____ Freeing Port area to equal _____ square inches (protected, P/P or Exposed). 46 CFR §178.450.
- _____ Add non-return flaps on all freeing ports. 46 CFR §178.420 (d)(3).
- _____ The exhaust piping discharge located within 3 inches of the highest waterline must be installed with a means to prevent the backflow of water.

Piping should have 'U' bend or non-return flappers. 46 CFR §182.430(c)

_____ Provide the required sea valves at all hull penetrations within 6" of the waterline and below, and reach rods where needed for accessibility. 46 CFR §171.119(b) Thru-hull fittings must meet the material standards of ANSI/UL 1121, and American Boat and Yacht Council (ABYC) P-21.

_____ Provide a proper lightning ground conductor for the nonmetallic mast. 46 CFR §183.370 (c).

_____ Provide documentation that the non-metallic thru hull fitting meets the equivalent degree of safety and heat resistance as required by 46 CFR §182.720 (d)(3). (for non-metallic hull)

_____ Provide metallic thru hull fittings as required by 46 CFR §182.720 (d)(3). (for metallic hull)

DECKS / BULKHEADS

Initials/Date

_____ Provide the required collision bulkhead. It must be located between 5% to 15% of the length of the Load Water Line. 46 CFR §'s 179.210, 179.310, 182.510(d) and 185.335(c).

LWL=_____ 5%=_____ 15%=_____ Actual:_____

_____ Provide the required watertight bulkheads with one compartment subdivision. No compartment can be more than 1/3 of the vessel's total length over deck. 46 CFR §179.212 and §179.220 (Vessels over 49 passengers).

_____ Provide the required watertight hatches. A hatch on a watertight trunk extending 12" from the deck may be weather-tight. Provide the required coamings on raised engine boxes. A 6" coaming **with a gasketed engine box** is allowed in this zone **vice** 12" coamings. 46 CFR §179.360

_____ Provide the required captive chain or similar securing device to prevent loss of hatch. 46 CFR §179.360

_____ Provide the required weathertight door (must be a **minimum of 32 inches wide** if used as a means of escape for the passengers, 28 inches wide if **SOLELY** used by the crew) for each deckhouse, companionway or entry into a cabin. Provide the required coamings. Door coamings of 6" are required at all weather-tight door openings on weather decks for exposed and partially protected waters (or 3" on protected waters). 46 CFR §179.360 (d)

_____ Provide the required rails with a proper height of 39.5", 12" spacing of rail courses, securely attached to deck; Except ferry/Excursion vsls which require 4" spacing. 46 CFR §177.900(g)

- _____ Provide the required rails with a height of 36.0", w/ 12" spacing of horizontal rail courses. 46 CFR §177.900
- _____ Provide storm rails or handrails where necessary in all hatches, passageways and ladders; 46 CFR §177.920.
- _____ Provide ventilation openings outside of the inner periphery (recess) if vessel is to be on an exposed waters route. 46 CFR §178.420(a)(2).
- _____ Provide the required two means of escape / access to all compartments over 12ft in length. 46 CFR §177.500. They must be marked on both sides with minimum 2" letters "Emergency exit, keep clear". 46 CFR §185.606.
- _____ Provide all cabin window glass with the required safety glass. 46 CFR §177.1010

FUEL TANKS / SYSTEMS

Initials/Date

- _____ Provide a proper fuel tank. It must meet the standards for material and thickness set forth in 46 CFR Table 182.440(a)(1). The tank must be hydrostatically tested to 5 psig prior to installation. 46 CFR §182.440(c)(1).
- _____ Alternative procedures for providing a proper fuel tank: Vessels \leq 65ft **and** \leq 12 passengers may meet ABYC H-24 or H-33.
- _____ Provide proper supports and electrical ground for the fuel tank. 46 CFR §182.440 (b)(3)
- _____ Provide a proper fuel fill pipe (bonded from the fuel fill neck to the fuel tank if flex hose). 46 CFR §182.445.
- _____ Provide the required type of fuel fill closure device. The fuel fill pipe must be located on the weather deck or on the washboards. The fill pipe must be arranged so that overflow of fuel cannot escape to the inside of the vessel. 46 CFR §182.445(e)
- _____ Provide the required means of accurately determining the amount of fuel in the fuel tank. 46 CFR §182.445(b)
- _____ Provide the required fuel tank vent pipe and the fuel tank vent pipe flame screens. They must be minimum 30 x 30 mesh corrosion resistant screens. 46 CFR §182.450.
- _____ Provide proper fuel lines of the required size and material, either type SAE J1942 standard flexible hose, or copper tubing (0.035 inch minimum wall thickness), and properly supported by non-corrosive metal straps. If fuel

lines pass through bulkheads they must have ferrules or stuffing boxes. 46 CFR §182.455 (b)(3).

_____ Provide the required looped copper tubing at the engine end of the supply fuel line. For the purposes of flexibility only, short flexible hose of not more than 30 inches may be used. It may be U.S. Coast Guard approved hose type A1, A2, B1 or B2. 46 CFR §182.455 (b)(5)

_____ Provide proper fuel filters located inside engine compartment (metal UL or Coast Guard approved for marine use with metal shield). 46 CFR §182.455 (b)(6).

_____ Provide the required emergency fuel shut off valves. One is required at the tank and one is required at the engine end for servicing. 46 CFR §182.455(b)(4).

_____ Provide the required labeling for the emergency fuel shutoff valve. It must clearly show the direction for opening and closing. 46 CFR §185.608

_____ Provide the required separate ventilation for the fuel tank space. 46 CFR §182.470

MACHINERY / EXHAUST SYSTEM

Initials/Date

_____ Provide the proper material to be used in the construction of the machinery spaces vents. Vents must be constructed from the same material as the hull, or of non-combustible material. 46 CFR §182.465(d)

_____ Provide the proper size of the vent cowling openings, they must be 2 times the vent diameter. 46 CFR §182.465(e)

_____ Provide the required vent terminating in the engine room. 46 CFR §182.465 and ABYC H-32.

_____ Provide the required gauges to indicate engine RPMs, jacket water discharge temp., and lube oil pressure at the operating station for propulsion engines installed *in* the vessel. 46 CFR §182.410(b)

_____ Provide the required fume tight separation of machinery and fuel tank spaces from accommodation spaces. 46 CFR §177.405(c).

_____ Provide the proper material to be used in the exhaust piping. It must be Schedule 80 steel or corrosion resistant. 46 CFR §182.430 (d) & (e).

_____ Provide the proper flexible wet exhaust line. It must be SEA J2006 or UL 1129 type in accordance with ABYC P-21 and 46 CFR §182.430(f).

_____ Provide the proper exhaust pipe supports. It must be supported by non-combustible hangers or blocks. 46 CFR §182.430(b)

_____ Provide exhaust system insulation between the point of cooling water

injection and the engine manifold. 46 CFR §182.425 (b)(3), §177.405(b), §177.970 and §182.425(c)

_____ Provide the proper arrangement of wet exhaust piping through the bulkhead to relieve the stresses of expansion of the exhaust pipe. 46 CFR §182.430 (g)

_____ Provide Non-Destructive Testing (NDT) results of the vessel's shaft/s due to vessel age.

_____ Provide an indicator on the marine sanitation device tank to show when it is 3/4 full. 33 CFR §159

FIREFIGHTING

Initials/Date

_____ Provide the required B-II portable fire extinguisher, outside of the engine room space, a B-I at the operating station and at least an A-II for accommodation spaces of at least 2500 sq. feet or fraction thereof. 46 CFR Table 181.500(a). Existing firefighting equipment must have been serviced within the last year.

_____ For General-purpose resin FRP hulls: No open-flame cooking or heating systems are allowed. Must be fitted with a smoke activated fire detection system in below-deck accommodation spaces, service, void and isolated spaces with ignition sources. 46 CFR §177.410(c)(1)(3).

_____ Provide the required smoke activated fire detection system. Use a smoke activated alarm or independent modular smoke detecting unit. It must meet UL Standard 217. 46 CFR §181.450

_____ Provide the required fixed firefighting system to cover ___ cubic feet. All spaces with propulsion machinery, internal combustion engines (50 HP / 37.3kW), and gasoline machinery and/or tanks must be protected. 46 CFR §181.400

_____ Provide the required Coast Guard approved Structural Fire Protection inside the engine box for General-purpose resin FRP hulls. It is required for boundaries that separate machinery spaces from accommodation spaces, service spaces and control spaces. It must have a Coast Guard approval number of the 164.009 series. 46 CFR §177.410(c)(4).

_____ Provide the required secondary means of escape from engine room, if the space is used by the crew on a regular basis. 46 CFR §177.500

_____ Provide the required a self-priming, power driven fire pump. The pump must deliver 50 GPM at 60 PSI by gauge. 46 CFR §181.300

_____ Provide three 2.5 gal. fire buckets w/ lanyards and labeled in contrasting color. 46 CFR §181.610

BILGE / PIPING SYSTEM

Initials/Date

_____ Provide the required fixed power bilge system. Individual bilge suction piping must be minimum 1.5", must have a strainer at the bilge, a check valve in line, a stop valve and all led to a central location or manifold. 46 CFR §182.510.

_____ Any bilge pipe piercing the collision bulkhead must have a valve installed at the bulkhead. 46 CFR §182.510.

_____ Provide the required UL listed bilge pumps in all watertight compartments, except for the space forward of the collision bulkhead. The only Rule pumps that are UL approved are the 2000 (14A-6UL) and 3700 (10-6UL) pumps. 46 CFR Table 182.520(a) and 46 CFR §182.510(a).

_____ Every bilge pump pipe discharge must be minimum 1" nominal pipe size, discharge as high above the waterline as possible and have an accessible shutoff valve at the hull penetration. 46 CFR §182.520 (e)(6) and (7).

_____ Provide the required visual indicator at the operating station to show when the bilge pump is operating. 46 CFR §182.520(a) and §182.530 (c).

_____ Provide a portable hand bilge pump in addition to the fixed bilge pump. 46 CFR §Table 182.520(a).

_____ Install an explosion-proof bilge pump if the electric pump is located in spaces containing machinery powered by, or fuel tanks for, gasoline. 46 CFR §182.410(a) and §183.530(a).

_____ Provide the required audible and visual high water alarms for all compartments with: 1. Through-hull fittings below the deepest load water line (LWL) and 2. Spaces containing sea water piping. Note: Wood vessels will install alarms for all watertight compartments. Provide an audible & visual indication at the operating station for each alarm and label. A common audible alarm is acceptable. 46 CFR §182.530.

STEERING SYSTEM

Initials/Date

_____ Provide the required arrangement of rudder stops. 46 CFR §182.610(e)

_____ Provide the required auxiliary means of steering. 46 CFR §182.620

_____ Provide the following required items: Limit switches to stop steering gear before it reaches the rudder stops. 46 CFR §182.610(f)(5), A manual means to center and steady rudder in an emergency. 46 CFR §182.610(f)(4), A disconnect switch for steering motors in steering

compartment, 46 CFR §182.610 (f)(1) and an independent rudder angle indicator 46 CFR §182.610 (f)(2)

ELECTRICAL INSTALLATIONS

Initials/Date

- _____ Provide that the required vital systems are arranged so that they have two power sources. Battery with three hours power or a generator run off a propulsion engine will suffice. 46 CFR §183.310(a)(1), §182.710 (Bilge system, Steering system, S/S & Emerg. Generators, Fire suppression systems, Interior Lighting, VHF Radio, Public Address sys., Navigation equipment and Navigation Lights)
- _____ Provide a voltmeter, ammeter and frequency meter, to monitor the voltage, current, and cycles per second on a generator rated at 50 volts or more. 46 CFR §183.320(c)
- _____ Provide that the generator has the required overcurrent device set not to exceed 115% of the full load rating. 46 CFR §183.320(f).
- _____ Mount all electric motors, switches, wiring and other spark producing equipment as high above the bilges as possible. 46 CFR §182.410(a).
- _____ Provide that the conductors are the correct sizes for amperage draw. 46 CFR Table 183.340(p)
- _____ Provide the required overcurrent protection for each conductor. It must be 150% or less of current carrying capacity of the conductor (amperage draw). 46 CFR §183.380(d).
- _____ Provide the required panel breaker. It must be the correct size for amperage draw of conductors out if it. 46 CFR §183.380
- _____ Provide the required emergency disconnecting switch from the power source. 46 CFR §183.380(i)
- _____ Properly mount all batteries (high above bilge, prevent from shifting with the roll & pitch) in the proper trays or boxes – lined with electrolyte-resistant material. 46 CFR §183.350
- _____ Position Masthead light to equal an 8.2 foot height above gunwale (deck), and the sidelights (running lights) at least 3.3 feet below the masthead light. NAVRULES, Annex I, §84.03

LIFESAVING

Initials/Date

- _____ Provide the required EPIRB for over 3 nautical miles from land. 46 CFR §180.64
- _____ Provide 3 orange and 3 red (or 3 combination day/night) flares. As an alternative -- 6 red flares or 6-combination day/night flares. Must be stowed in a portable, watertight container. For coastwise and oceans

routes Provide 6 orange and 6 red flares. 46 CFR §180.68.

_____ Provide the required number and required type of Survival Craft. 46 CFR §180.200 Example: 15-person Life Float --Label vessel name and person capacity in clearly legible letters & numbers, 100' sea-painter w/ proper float-free link, water light w/ 18' of line permanently (both attached around the body or an anchoring point. 2 four-foot paddles (floatable w/ vessel name on each paddle & lashed to life float).

_____ Provide the required First Aid Kit. Kit must meet Coast Guard approval number 160.041 or equivalent.

_____ Provide a Coast Guard approved Type I PFD offshore lifejacket for each adult. In addition, a number of child size life jackets equal to at least 10% of the number of total persons permitted on board must be provided. 46 CFR §180.71 Label vessel name on all lifejackets.

_____ Provide Coast Guard approved lifejacket lights for each lifejacket. 46 CFR §180.75. For Coastwise and Oceans routes.

_____ Provide the required 24" Ring life buoy with 60' of UV resistant 5/16" poly line around the body, a water light with a 3-6 foot line and corrosion resistant clip around the body, and vsl name on Life Ring Buoy. 46 CFR §180.70. Must be orange in color if on Oceans & Coastwise routes.

_____ Perform a satisfactory Man Overboard Drill. Must show that a Person In the Water (PIW) can effectively be retrieved. May be required to provide a rigid ladder or a platform.

MISCELLANEOUS

Initials/Date

_____ Provide FCC Station License, FCC Safety Certificate and FCC radio operators permit – unless operating <1000 feet from shore.

_____ Provide a copy of 46 CFR "T" regulations and all required navigational publications: Charts within 3 years current, Coast Pilot, Navrules (COLREGS) and Tides. For Oceans additional pubs: Light Lists, Currents

_____ Provide the required radios as per 46 CFR §184.502 & 47 CFR 80.

_____ Provide the required radar. 46 CFR §184.404. (Other than rivers & L, B&S).

_____ Provide the required Electronic Position Fixing Device. 46 CFR §184.410 (Oceans).

_____ Provide permanent draft marks at each end of the vessel. 46 CFR §185.602 (Intact stability / 2 deck vessels).

_____ Document the vessel through the CG National Vessel Documentation Center to receive an Official Number – if over 5 gross tons.

_____ Provide permanent markings of the vessel's Official Number to the interior hull. Vessel must be marked with the vessel Name & Hailing port on the transom and vessel name on Port & Starboard side. 46 CFR §185.602(a)

_____ Perform all sea trials and have vessel ready to operate under a COI prior to vessel's final Inspection For Certification.

Marine Inspector: _____

Initials: _____

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Initials: _____

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