



Specifications: Response F/R 260/280 Fire/Rescue Boat

6/16/05

1.0 GENERAL

Hull Type: Modified Vee (50° deadrise fwd., 14° aft)
Hull Length Overall: 25' 11" w/o extension
27'11" w/ extension
Hull Beam Overall: 8' 6" w/o rubrails
9' 2" w/ 3" D rub rails
Draft (hull): 1' 6"

Norm. Oper. Displ.: 7,700 lbs. w/ 3 crew, half fuel, 300 lbs gear

Power: Twin Outboard, 150 HP each

Reference Drawings: 236-1-01, -02, -03, -04

Comments:

The standard layout for this boat works well as a pure dive/rescue boat and with fire systems up to 550 gpm. With some changes to the arrangement the boat will accommodate up to 1500 gpm.

2.0 CONSTRUCTION

The boat shall be of all welded aluminum construction featuring both transverse and longitudinal framing. There shall be at least four watertight bulkheads. Other frames may be frames or bulkheads. Scantlings shall be as per the following table:

<u>Item</u>	<u>Dimension</u>	<u>Alloy</u>
Keelson	.375" Plate	5086 H116
Transverse Frames	4" x 1.7" x .190 Tee	5086 H32
Bulkheads	.190" Sheet	5086 H32
Bulkhead Stiffeners	1.5" x .25" Angle	6061 T6
Longitudinals- Bottom	4" x .25" Flat Bar	6061 T6
Longitudinals- Deck	2" x .25" Flat Bar	6061 T6
Longitudinals- Topsides	3" x .25" Flat Bar	6061 T6
Bottom Plating	.250" Plate	5086 H32
Chine Bar	.250" Plate	5086 H32
Topside Plating	.190" Sheet	5086 H32
Transom	.250" Sheet	5086 H32
Working Deck	.190" Sheet	5052 H32
Side Decks	.190" Sheet	5086 H32
Pilohouse	.190" Sheet	5052 H32
Fuel Tank	.190" Sheet	5052 H32
Pipe & Tubing	Primarily Schedule 40	6063 T6

Note: Beds, knees and other heavy duty reinforcements shall be provided in areas of high stress such as engines and fire system plumbing.

Welding- MIG and TIG processes using 5356 filler wire. All underwater seams shall be continuously welded inside and outside. All frames and stiffeners shall be stitch welded both sides.

3.0 FUEL & PROPULSION

3.1 FUEL

Fuel capacity shall total 120 gallons in single aluminum tank constructed and tested as per USCG and ABYC standards. Tank shall be installed in watertight compartment and shall be located near the vessel's normal operating LCG. There shall be exposed primer bulbs between the tank and each engine and shut-off valves at the tank pick-ups. All hoses shall be USCG approved. The tank shall be fitted with a fuel level sending unit wired to gauge at console.

3.2 PROPULSION

The vessel shall be outfitted with twin 150 HP, 25" shaft, counter-rotating, Honda outboards. Outboards shall be mounted on 36" centers. Outboard accessories shall include the following (all are Honda products unless noted otherwise):

- (2) Tachometer
- (2) Trim gauge
- (2) Battery meter
- (2) Hour meter
- (1) Fuel gauge
- (1) Dual Binnacle Control w/ Trim, Key & Kill Switches
- (2) Control Cables- Morse or Teleflex
- (2) Stainless Propeller
- (2) Fuel Filters

3.3 STEERING SYSTEM

The steering system shall be Teleflex SeaStar PRO hydraulic, with front mount cylinder and tie bar. The helm shall be fitted with a 15" Stainless Steel, destroyer type steering wheel.

4.0 SUPERSTRUCTURE

4.1 PILOT HOUSE

The pilot house shall be closed-backed, 6'1" long, with a hinged door, and shall have an aft raked, eastern style windshield. There shall be two windows forward, one each port and starboard and three in the aft bulkhead/door. The arrangement shall consist of a full length bunk to port and a helm station to starboard.

Electronics and radios shall be mounted overhead and/or on the dash.

4.2 FORWARD CABIN

Forward of the dash bulkhead there shall be a trunk cabin providing headroom to the cabin below. The forward cabin shall be accessed via a 24" wide (approx.) companionway located to port of the helm station, as close to centerline as possible. The companionway shall be fit with a hinged door which can be secured both open and closed.

The forward cabin shall be approximately 6' long and shall be configured with a small sole and a raised platform for working through the trunk roof hatch.

5.0 AUXILIARY SYSTEMS & EQUIPMENT

5.1 BILGE PUMPS

The boat shall be outfitted with two electric bilge pumps of at least 1,000 gph with integral float switches and strainers. Manual/Automatic operation shall be controllable from the dash panel and shall include indicator lights. Watertight bulkheads shall be fitted with drain plugs in order to enable draining to a bilge pump.

5.2 FIREFIGHTING SYSTEM

There shall be a fire fighting system with a Hale HP550 "Minuteman", aluminum, high volume portable pump installed just forward of the center console. The pump shall be incorporated into the boat's main battery and fuel system. The pump shall be installed on aluminum beds with four bolts. The pump may be removed from the boat by removing the four bolts and disconnecting the suction and discharge. System accessories shall include the following:

Suction-

- 4" welded aluminum thru hull with grate and 4" butterfly valve.
- Deck fitting for attachment of 4" Tee with one leg for clean-out and the other leg leading to the pump. Above deck suction fittings shall include a short section of hose to isolate pump vibration.

Discharge-

- (2) 2 1/2" NST male gated outlets aft.
- Elkhart Stingray monitor (#8393) w/ Elkhart SM100 nozzle mounted on the foredeck. The monitor shall be plumbed from one of the pumps discharge valves to a 3" pipe leading forward under the starboard side deck. Note that the discharge line shall include a short length of flexible piping at the pump and in the forward cabin.

6.0 ELECTRICAL SYSTEM

6.1 BATTERY SYSTEM

The vessel shall be outfitted with two batteries each of which shall be Group 31 marine batteries (absorbed glass mat type). There shall be four, four position battery selector switches to control flow of current to and from the fire pump engine, each outboard engine and to the accessory system. Battery switches will be wired to permit independent switching for the port engine (Batt. 1, Batt. 2, Both, Off), the starboard engine (Batt. 1, Batt. 2, Both, Off), and the pump engine (Batt. 1, Off).

The accessory system shall include a main circuit breaker at the batteries. The bilge pump circuit shall be wired directly from a main battery with a dedicated circuit breaker installed at the battery. Batteries, main breakers and all battery switches shall be located in the transom compartment.

6.2 ACCESSORY SYSTEM

The vessel shall be outfitted with a main accessory circuit breaker panel providing individually protected and labeled circuits as listed below. The main breaker panel shall be mounted near the helm and inset to prevent accidental tripping of circuits.

Main Breaker Panel:

Navigation Lights	Search Light
Cabin Lights- Fwd	Wiper- P
Cabin Lights- Aft	Wiper-S
Deck Lights- Fwd & Aft	Light Bar
Scene Lights- P&S	Siren
VHF Radio	Auxiliary/Spare (6)
Fire Radio	
Navigation Electronics	
Depth	

There shall be an auxiliary switch panel at the helm. Switches shall be rocker switches with LED indicator lights. Circuits shall be as follows:

Gauge Lights (Dimmer)	Wiper- Port
Nav/Anchor Light (3 way)	Wiper- Stbd.
Deck Lt. Fwd	Light Bar
Deck Lt. Aft	Spare
Scene Lt. Port	Bilge Pump Fwd.- Man/Auto (3 way)
Scene Lt. Stbd.	Bilge Pump Aft- Man/Auto (3 way)
Search Light	

There shall be a weathertight fuse panel with surface mount fuse holders installed at the helm area. Fused circuits are to include bilge pumps and any fuses necessary for low amperage electronics.

6.3 ACCESSORIES

Vessel shall be outfitted with the following 12V electrical accessories.

- Bilge Pumps: (2) Rule RM1100
- Cabin Lights: (1) 7" Red/White w/ switch on casing
- Pilothouse Lights: (2) 7" Red/White w/ switch on casing
- Compass: Ritchie SS1000 w/ light
- Deck/Scene Lights: (4) 3' x 5" Halogen- one each, fwd, aft, port & stbd. Controlled by (4) switches.
- Depth Finder: Furuno RD30 Depth Display (signal from Navnet)
- Fire Radio: (1) Customer Furnished and Builder Installed. Builder to run power leads from panel to installation location.
- GPS/ Chart Plotter: See Radar
- Light Bar: Whelen 48" Light Bar- 9m14400
- Navigation Lights: Port; Starboard; Steam/Anchor, Aqua Signal.
- Radar: Radar- Furuno 1733C Navnet w/ radome antenna, BBWGPS WAAS, Transom mount transducer
- Search Light: 225,000 cp, manual remote, Vetus Z7012
- Siren: Whelen WS2100 w/ SA40 Speaker
- VHF Radio: Standard Quantum with 40W Hailer Horn & 8' Digital antenna
- Windshield Wipers: (2) AFI, self parking, Pantographic Arms

6.4 AC SYSTEM

30 amp shorepower inlet & galvanic isolator (isolation transformer is an option) with main breakers and five accessory breakers. Accessories shall include 30 amp shorepower cord (50'). Accessories shall include the following:

- Battery Charger: Guest 2614 charger
- Isolation Transformer: Charles 30 amp
- Outlet: (1) located in the foreward area of the pilothouse
- Cord: 50', 30 amp shorepower cord

7.1 OUTFITTING EQUIPMENT & HARDWARE

The vessel shall be outfitted with the following:

- Hull & Deck Equip.:
- 3" Mooring Bitt. (1) Welded to foredeck
 - 8" Aluminum Cleats. (6) Welded to side decks.
 - Bow Eye & two Stern Eyes. Aluminum Fabrication welded to Hull.
 - Dive Door. Vessel Topsides shall include a 36" dive door on the starboard side. Door opening shall be 30" clear between handrails. Door shall hinge downward/outboard to form integral boarding ladder. Door shall include generous limbers and (2) lanyards for lifting.
 - Sheerline Rub Rail. 3" Rubber "D" running full length each side. Rub rail to be secured by welded aluminum angles, no fasteners.
 - Rub Strake. 3" Rubber "D" running approximately 15', port side only. Rub strake to be secured by welded aluminum angles, no fasteners.
 - Scuppers. Scupper pipes shall be provided for drainage of self bailing cockpit, port & starboard.
 - Signal Mast. Hinged mast to accommodate radome, hailer speaker, aft deck light & anchor/steaming light.
 - Tow Post. 4" Pipe Fabrication at transom deck w/ structure carried to keel

- Rails:
- Bow Rail. Fabricated with 1" Schedule 40 Aluminum pipe. Welded to foredeck. Arrangement per reference drawings.
 - Hand Rails.
 - Pilothouse interior- overhead on centerline
 - Pilothouse exterior- aft corners & roof top
 - Outboard Engine Guard Rail. 2.5" sch. 40 aluminum pipe, welded.
 - Rescue Rails. Dive door area shall have vertical rails fwd and aft. Vertical rails to be accessible only when door is open. Horizontal rails shall be approximately 36" long on forward and aft sides of door and shall be covered with durable rubber hose. Horizontal rails shall be 1" sch. 40 aluminum pipe, welded.

- Stowage:
- Anchor Locker. Forward of bulkhead #1. Deck access via Freeman Deck Hatch # 1218. Locker to have a watertight bottom above the waterline w/ overboard drains.

- Below Cockpit Sole. (1) Freeman or Bomar Deck Hatch (15" x 24" CO) provided in cockpit sole to access compartment with removable, flat bottom and side liner.
- Below Cockpit Sole. (1) Freeman or Bomar Deck Hatch (15" x 24" CO) provided in cockpit sole to access compartment with removable, flat bottom and side liner.

Misc. Deck Access: - Viking Marine plastic round deck plates with Tee handles accessing fuel tank fittings, fire pump suction assembly and outboard engine bolts.

7.2 PILOTHOUSE & CABIN JOINER WORK

Pilothouse Windows: - Windshield- (2) fixed
 Sides- Horizontal sliders (P&S)
 Sides- Fixed (P&S)
 Aft- (3) Fixed, including door window

All windows shall be Bomon, Diamond Sea Glaze or equal, aluminum framed, clamp ring design with .25" safety glass.

Seating: - Helm shall have a Garelick # 48423 pedestal helm seat with slider, swivel and height adjustment. Seat shall be installed on a welded box enabling mounting of fire extinguishers and other gear.

Dash: - Custom dash arrangement to accommodate engine gauges and controls, breaker panels, pump panels and electronic accessories. Helm shall be located to starboard.

Doors: - 22" Companionway Door (single or bifold hinged) with lock set and eyes for securing door open/closed.

Forward Cabin: - Platform for accessing forward hatch for monitor operation.
 - The trunk shall be fit with an 24" square escape hatch/skylight, Bomar # 2049-10AX.

8.0 PAINT & FINISH

Bottom: Epoxy primer
No Foul or International Tri-Lux antifoulant
Boot Stripe

Topsides: Buffed aluminum finish, no paint. Decks shall be sanded to non-skid finish.

Lettering: Reflective lettering on Pilothouse sides, to be determined.

9.0 FINAL OUTFITTING & SEA TRIALS

Manufacturer and component manufacturer manuals. Manufacturer manuals to be highlighted for appropriate model, as necessary.

Spare parts kit to include:

- (2) spare fuses for each fuse
- (1) spare bulb for lights (one spare of each bulb type)

Factory Trials will be performed prior to acceptance trials. At this time all features of the vessel will be checked for proper performance and operation. Upon successful completion of the factory trials, the vessel will be provided with half fuel and personnel for Customer Acceptance Trials at the builder's facility.