

Response Marine, Inc.

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Specifications: RESPONSE FR-8.8

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1.0 GENERAL

Proposed to: Lake George Fire Department

Builder: Winninghoff Boats, Inc.

Delivery: September, 1994

Hull Type: Modified Vee
Hull Length Overall: 29'
Beam Overall: 10'
Draft (hull): 1' 6"
Freeboard Fwd.: 4' 0"
Norm. Oper. Displ.: 7,500 lbs.
Power: Hamilton Jet 273, GM 454 cid, gas inboard

Reference Design: Drawing #'s 1208B, 1231B, 1232B, 1233B, 1234B

Design and outfitting have been developed in conjunction with the Lake George V.F.D. Correspondence over the summer of 1993 and subsequent meetings and conversations have resulted in a customized design that is tailored specifically to the dive rescue operations of this department. The departure points for this design are the successful Skaneateles and Akwesasne, NY fire/rescue boats. As always, reliable and safe service are design and construction priorities.

2.0 CONSTRUCTION

The boat shall be of all welded aluminum construction featuring both trans-verse and longitudinal framing. There shall be a watertight bulkhead between the stem and the cabin/cockpit and another just forward of the engine. Scantlings shall equal or exceed those listed below:

<u>Item</u>	<u>Dimension</u>	<u>Alloy</u>
Keelson	.375" Plate	5086 H116
Transverse Frames, Bot.	4" x 1.7" x .190 Tee	5086 H32
Transverse Frames, Top	3' x 2" x .190" Ang.	6061 T6
Bulkheads	.190" Plate	5086 H32
Bulkhead Stiffeners	1.5" x 1.25" x .190" Tee	6061 T6
Longitudinals- Bot.	3" x .25" Flat Bar	6061 T6
Longitudinals- Topsides	1.5" x 1.25" x .190" Ang.	6061 T6
Longitudinals- Deck	2" x .190" Flat Bar	6061 T6
Bottom Plating	.190" Plate	5086 H32
Chine Bar	.250" Plate	5086 H32
Topside Plating	.190" Plate	5086 H32
Transom	.250" Plate	5086 H32
Working Deck	.190" Plate	5052 H32
Pilothouse & Trunk	.160" Plate	5052 H32
Cabin Beams	1.5" x 1" x .125" Chan.	6061 T6
Fuel Tank	.190" Plate	5052 H32
Pipe & Tubing	Primarily Schedule 40	6061 T6 & 6063 T6

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 80 gallons in a single aluminum tank constructed and tested as per USCG and ABYC standards. Fuel feed plumbing shall include a filter manifold with valves. All hoses shall be appropriately sized and USCG approved. The tank shall be fitted with fuel level sending unit wired to gauge at console.

3.2 PROPULSION

Propulsion shall be a Hamilton model 273 Jet drive coupled to a Marine Power (General Motors) 454 cid inboard engine with throttle body fuel injection, a Borg Warner 1.5:1 reduction gear and short universal shaft. The jet drive shall be fit with a screen rake and a clean out fitting accessible from above deck. The engine shall be raw water cooled and shall be installed with the following related accessories: Tachometer, voltmeter, water temperature and oil pressure gauges,

hour meter, 14v/100 amp alternator (Balmar 91-100D, ARS, dual output) and mufflers with side exhausts. Throttle and shift (jet bucket) controls shall be the standard Hamilton Jet twin lever, binnacle.

The engine installation shall include a sound proofed engine box the top of which shall serve as a seat. The engine compartment shall be have forced and natural ventilation.

3.3 STEERING SYSTEM

The steering system shall be Teleflex cable with Safe-T helm. The helm shall be fitted with a 15" Stainless Steel, destroyer type steering wheel.

4.0 SUPERSTRUCTURE

There shall be a small trunk cabin with an enclosed pilothouse. The sole in the pilothouse shall be raised approximately 6" above the cockpit sole for improved visibility.

Pilothouse outfitting shall include, Pilot's Seat with stowage pedestal, Crew Seat (hinged, sliding) and two bench seats per the referenced drawing. The forward cabin shall be accessed by a door in the dash bulkhead. The aft pilothouse bulkhead shall have a bi-fold door (32" opening) swinging to starboard. Pilothouse windows shall include the following, all aluminum framed, clamp ring design with .25" safety glass.

- Windshield- (2) fixed
- Sides- (2) ea. side, fwd. windows sliding
- Aft Bulkhead- (1) ea. side, drop down
(2) in door, fixed

5.0 AUXILIARY SYSTEMS & EQUIPMENT

5.1 BILGE PUMPS

The boat shall be outfitted with two electric bilge pumps of 1,500 gph each. Pumps shall be wired to float switches with float assembly enclosed and protected from debris. Manual/Automatic operation shall be controllable from main circuit breaker panel, and there shall be indicator lights which will be on when the pump is running in either manual or automatic. Forward pumps shall be located at after portion of forward bilge, and aft pump shall be located just forward of the transom.

5.2 FIRE FIGHTING SYSTEM

To provide for the occasional use of a portable fire pump, the vessel shall include a 3" suction thru-hull. This thru-hull shall include flush flat bar grating at the hull opening, a 4" clean out flange, and shall terminate just above the cockpit sole with a 3" NPT male thread for attachment of a 3" (75mm) Storz adapter. The thru-hull shall be 6061T6 aluminum pipe or tubing welded to hull (both sides) and braced to hull structure.

5.3 HEAT

There shall be a bus heater with two adjustable (direction, open/closed) ducts at the dash. Plumbing shall be in accordance with heater and engine manufacturer recommendations and shall include shut off ball valve(s) to isolate the system. Heatercraft #201.

5.4 WASHDOWN SYSTEM

There shall be a valved outlet plumbed from the discharge side of the jet, for attachment of a garden hose.

6.0 ELECTRICAL SYSTEM

6.1 BATTERY SYSTEM

The vessel shall be outfitted with two batteries each of which shall be at least 85 Amp-Hour marine type batteries. The output of each battery shall be protected by an in-line breaker. There shall be a four position Battery Selector Switch to control flow of current to the engine and the accessory system.

6.2 ACCESSORY SYSTEM

The vessel shall be outfitted with a 26 (approx.) position circuit breaker panel which will provide for individually protected circuits per the referenced drawing. The bilge pump circuits shall include indicator lights for "on"-manual and "on"-automatic. The circuit panel shall be fed from the battery switch, and the bilge pump breakers are wired directly (with in-line breaker) to Battery 1 in order to provide for operation with the battery switch in the "Off" position.

There shall be a rheostat controlling instrument lights, and there shall be an additional, unswitched wire run directly to the pilothouse for radio memory.

6.3 ACCESSORIES

Vessel shall be outfitted with the following electrical accessories.

Blower:	3" Blower for ventilation of engine compartment.
Cabin Lights:	(3) Guest Red/White Dome Lights
"Cigar" Outlet:	Installed at port side of dash
Deck Lights:	(2) 3' x 5" Halogen
Docking Lights:	Morse type 33, one each port and starboard
Compass:	Ritchie HB70 w/ Light
Courtesy Lights:	(6), (4) in cockpit and (2) at transom platform
Depth Finder:	Sitex AVS-107 w/ bz. thru hull, DTS transducer
Fans:	(2) Hella-Jet, installed overhead
Fire Radios:	(2) Customer Furnished, w/ antennae
Light Bar:	Customer Furnished
Navigation Lights:	Port; Starboard; Pole/Anchor
Siren:	Customer Furnished
Spot Light:	(2) Rayline 5" Electric Remote
VHF Radio:	Icom M-57 w/ antenna & ratchet mount
Radar:	Customer Furnished
Windshield Wipers:	(2) AFI, self parking, Pantographic Arms

7.1 OUTFITTING EQUIPMENT & HARDWARE

The vessel shall be outfitted with the following:

- Safety Rails: - Bow Rail. Fabricated with 1" Schedule 40 Aluminum pipe. Welded to deck at sheer. Bow Rail shall extend approximately 24" above deck and shall run from after edge of pilothouse to stem. At the stem there shall be a 24" opening with rope/shain across and tabs to receive the transom dive ladder.
- Interior Rails. Pilothouse shall be fitted with (2) overhead rails.
- Exterior Rails. Pilothouse Roof shall be fitted with handrails extending at least 4' each side. Aft bulkhead shall be fitted with vertical rails.

- Hull & Deck Equip.: - 8" Aluminum Cleats. (4) Welded to deck.
- Mooring Bit on Foredeck. 3" Diameter with pin.
- Tow Eyes, Alum. (2) Transom mounted eyes for attachment of dive sled bridle.
- Bow Eye, Alum. Fabrication welded to Stem.
- Sheerline Rub Rail. PVC running full length each side and thru bolted on approximately 10" ctrs.

- Rubbing Strakes running 10-12' each side approximately 12" above waterline. Material and installation as per Sheerline Rub Rail.
 - Freeing Ports. Fitted at hull sides, aft, w/ flaps/
 - Vents. The forward cuddy shall be fit with two clamshell type vents for air circulation. There shall also be a vent in the companionway door.
- Rescue:
- Transom Cutout & Platform. The transom shall be arranged per drawing #1137B, except that the platform shall be approx. 30" deep (fore & aft). The platform shall be fit with a single, removable, hinged ladder (open at sides) and non skid deck planking. Platform and ladder shall have a capacity of at least 1,000 and 500 pounds, respectively. Welded aluminum fabrication. Ladder arrangement shall include a second base plate fabrication for bow mounting.
- Stowage & Access:
- Six & Ten inch deck plates. Deck plates shall be secured by dog handle. Appropriate sized plates shall be provided at all areas requiring access to include: Fuel tank fittings, Bilge Pumps and fittings, Wiring and plumbing connections.
 - Anchor Locker. The area forward of the Collision Bulkhead shall be divided into two anchor lockers to accommodate 300' of anchor rode each. Each locker shall be fit with 10" x 20" watertight hatches for access from forward cabin. Each anchor locker shall be fit with a chain deck pipe through the foredeck. There shall be two sets of anchor chocks on the foredeck or integral with bow rail.
 - Dive Tanks. There shall be provision for the installation of (4) Zico bottle racks on the engine box.
 - (2) Freeman 1524 watertight deck hatches. Welded to deck. Hatches shall be located in cockpit (hinged hatch) and pilothouse (unhinged hatch) soles for stowage access to largest available compartment(s).
 - Litter Stowage. There shall be provision to stow a litter on the starboard side of the pilothouse, outboard of the helm seat and under the bench seat. Access shall be via a door in the aft pilothouse bulkhead.

7.2 PILOTHOUSE & CABIN JOINER WORK

Pilothouse outfitting shall include the following:

- Windows: - Per 4.0 Superstructure.
- Seating: - Pilot Seat with stowage pedestal. Seat shall adjust fore/aft and swivel.
 - Crew Seat, hinged, sliding.
 - (2) Bench Seats with cushions & stowage below
- Dash: - Custom dash arrangement to accommodate engine gauges and controls, breaker panels and electronic accessories. Dash shall be located to starboard. The breaker panel shall be mounted on the upper surface of the dash panel.
- Doors: - Companionway Door (hinged) with latch set and eyes for securing door open/closed.
- Cuddy Cabin: - Cuddy joiner work will consist of bunks/work benches to port and starboard. Construction shall be aluminum framework and painted plywood tops. The floor shall be painted plywood.

8.0 PAINT & FINISH

All topside and cabin surfaces shall be painted with Ameron paint systems (polyurethane topcoat over epoxy primer). In addition, all deck surfaces shall have a painted non-skid finish. The bottom (below the chine) shall not be painted. Colors and lettering shall be as follows:

Hull- Fire Service Red

House- White

Decks and interior- Gray

Lettering-

Hull Sides- "RESCUE" in white reflective, large letters. White Coast Guard type stripe forward, 24" wide to accommodate decal. Stripe to be accented with reflective.

Hull Sides at Bow- "MARINE RESCUE I", 3"-4" letters.

House Sides- "LAKE GEORGE FIRE DEPT." in red reflective

Cuddy Front- "FIRE - RESCUE" in red reflective

9.0 FINAL OUTFITTING & SEA TRIALS

The boat will be provided with one copy of manufacturer and component manufacturer manuals.

Additional Equipment shall include the following:

(2) 10 # ABC (4A, 60 B:C) Fire Extinguishers w/ mounting brackets

(1) Hale HP400 fire pump w/ suction hose & tie downs.

The vessel will be provided with half fuel and personnel for sea trials and acceptance at Rowley, MA. Delivery is FOB Rowley, MA.