

GC103TC

DESIGN BRIEF

Custom designed and equipped for long, rough ferry routes. The design will provide a superior ride with excellent fuel efficiency. Full Computational Fluid Dynamics (CFD) study conducted by the Alan C. McClure Associates (ACMA) followed by a Finite Element Analysis (FEA) for the structure based on the above CFD study all of which has been prepared for and reviewed by the USCG, at the Marine Safety Center (MSC). Carbon Fiber materials' testing was done by Atlantic Metallurgical Consulting (AMC) also done to meet USCG requirements.



SPECIFICATIONS

LOA	103'- 2" (31.45m)
Hull Length	98'- 4" (29.98m)
BOA	17'- 6" (5.33m)
Draft	2'- 9" (0.85m)
Light Displacement	25,700lbs
Heavy Displacement	48,500lbs
Passengers	92 max.
Engines	2 x QSB 6.7 380HP Cummins
Cruise speed loaded	20 knots plus
Top speed +/-	24 knots plus
Fuel Capacity	2 x 250 gal.
Water	55 gal.
Waste	55 gal.
Electronics	Standard Horizon, Raymarine, Simrad
Steering	Hydraulic to stern drives
AC Electric	2 x 11.5 KW Onan
Air Conditioning	Dura SEA, 6 x 15,000 BTU Roof Air Conditioners

FEATURES

HULLS, DECKS AND SUPERSTRUCTURE

Construction

Hulls, deck, roof, cabin and cross beams built with Corecell foam and Foremax carbon fiber uni-directional cloths and using Proset epoxy resin via resin infusion and vacuum-bag processes.

Exterior/Interior Finish

Dupont MS 600 polyurethane paint over Dupont Corlar epoxy primer--commercial yacht finish.

Paint and Graphics

- 787176 Snow White hulls, salon and cabin exterior
- Window stripe & (color) TBD
- Nonskid color TBD
- Bottom paint – TBD
- Cabin, stern any other graphics provided by Purchaser

DECK FITTINGS AND EQUIPMENT

Cleats

- 6 - 12" Stainless

Liferaills

- 1.25" aluminum handrails and posts as needed
- 1 – Roof access ladder
- 1 – Transom drive guard

Deck Hatches

- 2 – Composite engine hatches with gutters
- 4 - Lewmar Ocean 60 hatches w/ aluminum plates & non-skid, flat base
- 6 - Lewmar Ocean 50 hatches w/ aluminum plates & non-skid, flat base

Windows/Doors

- 3 – Fixed fwd windows, 3/8" tempered clear glass, flush install
- 2 – Pompanette 1600RD exterior doors w/ window and dogs (helm sides)
- 1 - Pompanette 1600RD exterior doors w/ window (aft)
- 2 - Pompanette 600MP interior doors (heads)
- 1 - Pompanette 600MP interior doors w/ window (center-mid)

Steering

Simrad autopilot 'fly by wire' steering to Konrad stern drive.

GROUND AND MOORING TACKLE

- 2 – 55 Fortress anchor with 15'- 1/2" chain and 120' of 1" rode
- 6 - 60' - 1" dock lines
- 8 – Polyform F Series Fenders, 15" x 56"

ELECTRICAL

- 1 - Standard Horizon Matrix AIS VHF
- 1 – Standard Horizon Loudhailer w/ 2 horn speakers
- 1 - Standard Horizon CP590 12" chart plotter, GPS w/ depth sounder
- 1 – Raymarine 24" Radar
- 1 – Simrad Autopilot
- 1 – 4-1/2" Richie DNB 200 Compass
- 1 - Paneltronics AC/DC electrical panels
- 2 – 12 VDC outlets at helm
- 1 – 185 watt solar panel and charge controller
- 8 - camera security system with DVR, monitor and remote viewing option

- 1 - Buell DS air horn and compressor
- 1 - Golight Dual-Remote Control Searchlight
- 2 - 12V SS R/W Dome lights for captain station
- 2 – 32" LCD TV w/ DVD player and sound system
- 6 – 115 VAC duplex outlets
- 1 – windshield wiper with washer
- 6 – Dura SEA 15,000 BTU AC units, 115 VAC
- 1 - Port and starboard LED navigation lights, stern light, steaming and anchor lights
- 6 – Lumitec 12V LED Flood lights roof corners
- 5 - 12V Fluorescent (CCFL) light fixtures for (2 head), (3 cargo)
- 6 – 115VAC lights (4) for engine room (2) for generator
- 15 - 12V SS Dome lights for (8 cabin), (2 back deck)
- 2 - Dyna plate ground plates
- 1 – Lightning Master static dissipater

PLUMBING

Piping

- Water supply hosing is rigid Sea Tec, PVC, nylon and reinforced vinyl.
- 5 - Rule 2000 UL Listed bilge pumps with float switches (engine, gen & waste)
- 8 – High water float switches to Water Witch alarm panels

Water Systems

- 1 – 55 gal. water tank with UltraMax pressure pump and deck fill (port)
- 2 - Sinks w/spigot
- 4 – Hose bibs for deck wash down fwd & aft, 1 each head
- 1 - Windshield washer system

Head

- 2 – Dometic 8100 12 vdc electric marine toilet, w/Marlon thruhulls and seacock.
- 1 – 55 gal holding tank with overboard and deck pump out discharge (port)

ENGINE AND GENERATORS

2 – QSB 6.7 380 hp Cummins diesels with ZF transmissions and Konrad stern drives, 2 x 3 bladed fixed props. Rubber mount engine mounts. 6' extension shaft. 8D Lifeline starting batteries. Cummins Smart Craft display panel w/oil pressure, water temp, alarms, tachometers and engine hour meters. 2 - 11.5KW Onan generators w/ sound shield. 2 - Optima Start Batteries. Wet exhaust for

engines and generators. (2) 250 gal. aluminum fuel tanks with Racor fuel filters. Parker 221FR fuel lines. Electric fuel sender to Smart-craft Panel. Composite deck access/engine removal hatch. Owners, service and parts manuals for engines, transmissions and generators.

ACCOMODATIONS

- Two heads w/ door, sink, toilet, mirror & TP holder
- Air conditioned main cabin.
- Springfield ferry seating
- Two luggage storage areas w/ aluminum pipe rack, rubber floor mat)
- Forward pilothouse with Helm Seat
- Extended aft roof
- PFD stowage on fwd. face of main fwd beam, stacked and snap fabric covered

MISCELLANEOUS

Buckets, scrub brush, sponges & boat hook

USCG CERTIFICATION:

USCG plans approval [92 passengers, 6 crew, Coastal 20 mile near shore route]. USCG documentation, Stability letter, Consultation with local OCMI to expedite final certificate. FCC Station Inspection and Safety Certificate.

Construction and equipment requirements as follows:

- 3 - GO-24-24" Ring buoys (orange) w/brackets, (light, throw line, 6' line)
- 3 - Jim-Buoy 1820 Man overboard lights w/racks and batteries (2 rafts, 1 ring buoy)
- 88 -Taylortec Adult Type 1 PFD's w/ retroreflective tape
- 9 - Taylortec Child's Type 1 PFD's w/retroreflective tape
- 2 – 50man Survitec Zodiac IBA on roof in canisters
- 1 – Hand pump w/15' intake and 5' discharge hose
- 1 - USCG required high water bilge alarm system
- 1 - Very tall roof tree for lights, antennas & radome
- 6 - Red hand-held flares
- 6 - Orange smoke hand-held flares
- 2 - Waterproof flashlights

- 4 - D-cell batteries - dated
- 150' - 3/8" black polypropylene line (ring buoy, MOB lights, rafts)
- 4 - 10 lb. ABC (B II) Fire Extinguisher
- 1 - Watertight orange container (flares, flashlight & whistle)
- 1 – USCG Signage (emergency procedures, waste plan, MARPOL, PFD Donning, oil, garbage, drugs and lettering as needed)
- 1 - Chart of local area - Electronic
- 1 – Radio/Ships log
- 1 – Fixed PA System w/ 2 horn speakers
- 2 – First Aid Kits
- 1 – Brass signal bell
- 1 - 406 CAT-1 Self-launching EPIRB
- 1 - CSD Bulkhead sealant
- 2" fire & sound insulation, engine room ceilings
- 1" sound insulation engine room sides
- 1" fire insulation generator room ceilings
- 4 – Automatic Engine/Generator Shut-Down w/ Alarm
- 2 – Engine room fixed fire extinguishing system, MA2-375-227
- 2 – Generator room fixed fire extinguishing system, MA2-275-227
- USCG approved Trident raw water hose on engines/generators
- 2 – USCG tested aluminum fuel tanks
- 4 - Engine (300 sq. in) & Gen (15 sq. in) air intake w/ closures.
- 4 - Engine & Gen 3" auxiliary air intake PVC scoops with closures.
- 1 – Fire ax
- 1 – PTO Fire Pump
- 1 – PTO custom engine bracket
- 1 - USCG PTO FC300 hose with assembly ends
- 1 – USCG approved fire hose & nozzle
- 1 – Brass/bronze engine driven raw water firefighting system w/ hydrant & USCG approved hose & nozzle
- 1 - MOB recovery system w/ lifting tackle
- 1 – FCC station license
- 1 - Documentation board
- 1 – USCG Certificate of Inspection

SEATRIALS:

Seatrials will be conducted to confirm;

- Correct rpm is achieved for the engines
- Vibration and alignment is correct
- Steering is functional and stern drives go to the stops
- Cummins satisfaction with installation of the engines and generators including rpm at graduated speeds, backpressure, exhaust gas temperature, oil pressure and cooling water flow.