

# NPS Owned Vessel Specifications

Length OA 72'-2"

Length WL 71'-6"

Beam 28'

Draft 5'-6"

Engines 2 x Scania Di13-081

(estimated fuel consumption from curve table: @12 knots (cruising speed) equals 15 GPH

Rating 450 bhp @ 1800 rpm

Service speed 12-15 knots

Fuel capacity 1000 Gal

Propulsion Propeller

Hull type Catamaran

Subchapter T rating



# **P161 NPS Equipment & Systems Maintenance Instructions\*\***

**\*\*Preliminary – more detail provided at time of vessel delivery to  
concessioner\*\***

Navigation Electronics

24VDC System

120VAC System

Fresh Water System

Sanitary System

Engine Cooling System

Fire Alarm System

Battery Charging System

## **Major Equipment**

Main Engines Scania DI1381M 2 each

Seawater Strainer 2 each Thompson 3" Stainless Steel Raw Water Strainer

Reduction Gears ZF 500-1A gear

Propulsion Control System

Generators Northern Lights C40M.3 120/240 1Ø 40KW 2 each

Seawater Strainer 2 each Thompson 2" Stainless Steel Raw Water Strainer

Batteries and Chargers Marine Start 12VDC Trojan/AGM Optima D31M Total 6 1 for each generator 2 per main engine in series for 24VDC Start. Battery Golf Cart 6VDC Trojan DC2206 AGM 2 each in series for 12VDC

Shore Power 2 Shore Power Inlets 120/240VAC 1Ø 50 Amp Marinco 6353ELB

Lighting Systems interior & exterior Interior 4" Recessed Dome Lights Lotus LED Light 12 Watt #ly41RCD 30 each located in heads, pilot house and main cabin. Exterior and Void lighting 2" watertight Fluorescent light with 2 17 watt

T8 Bulbs total 24 located in below deck spaces (voids) and on the upper out side passenger area. Pilot house DC dome light red white dimmable Lumitec Lighting touch dome light #101098.

Steering System Jastram steering system with helm wheel/pump a reservoir power steering manifold and hydraulic power pump and 1 jog lever

Navigation & Signaling & Electronics

Navigation Lights Hella Port Stbd Masthead All-round Stern

Radar GPS Depth Sounder Radar Ray Marine 48" Open array # T70170 with 2 12 " Touch Screen Displays E127

Search Lights Golight Stryker GL-3066

PA System

VHF Radios Icom M424 2 each

AIS Raymarine AIS 650 includes GPS

Whistle (horn) Dual Trumpet electric horn AFI 1029XLP with Fogmate 12 Automated Horn Controller

General Alarm & Fire Alarm Systems

Fire Suppression System; Fire Alarm & Engine room Fire Suppression is the Fireboy Suppression bottle and engine shutdown system for each engine room. Fire Extinguishers dry chemical 1 2 1/2 lb ABC and 4 10 lb ABC

Fire Dampers & Ventilation systems

HVAC system Engine Room Ventilation Intake and Exhaust Fans and engine room louvers

Sewage and Gray Water Systems 2 Black Water holding tanks 100 gallons each, 1 Gray Water Holding Tank 100 Gallon

Fire and Bilge Systems (Pumps etc) 2 each Oberdorfer 24VDC V-Pulley Clutch Pumps #N13HDM-E24 1 primarily fire pump 1 primarily bilge pump Fire pump comes off main engine seawater strainer. There are 2 each Fire Hose Stations. Bilge pump Compartment Pick ups have An Aluminum Suction Screen 8 each

Potable & Fresh Water Systems (Pumps, Hot water tanks etc) Fresh Water System Pump Grundofs #MQ3-35 Hot Water Tank 28 Gallon Whirlpool #E2F30LD035V 2 each Headhunter Royalflush Commercial Toilet Windshield Washing System 2 Fresh Water Tanks 100 Gallon each

Life Saving Equipment (life jackets life rings etc)

Door Hardware (Locks Hinges etc) Total of 10 doors all have lock sets 6 have automatic closures

Cathodic Protection (zincs etc) Harbor Island Supply AHC-4 Aluminum Anodes 4 lb 4 each, Circular Aluminum Anode AEP-B-9 6.30 lb 8 each, Martyr Aluminum Anode CMX12AL 2.67 lb (shaft) 2 each and Martyr Aluminum Anode CMC12AAL 2.03 lb (shaft) 2 each. Seaguard Sentry Log Corrosion Monitor system

Snack Bar Equipment refrigerator True GDM-23-LD, ice cream freezer True THDC-2SF and coffee brewer Bunn 234VRP

### **066 Start Up & Shutdown**

All systems shall be set up with efficiency in mind so that a single trained operator can start up or secure the vessel in no more than 30 minutes, including safety walkthrough, fluid level checks for generators and main engines, engine and steering controls, alarms, navigation lights, and navigation equipment. A system start-up checklist shall be provided by the OFFEROR and included with the Vessel Information Book (as per Section 821) and Training Materials (as per Section 810).

### **821 Vessel Information Book (VIB)**

The manufacturer shall prepare a vessel Information Book in both 3-Ring Binder hard copy (2 sets per vessel) and electronic copy on CDROM (2 per vessel), which contains the following volumes:

Y Copies of all USCG approved drawings

Y Copies of all USCG approval letters and Certificate of Inspection (COI)

Y Stability Manual

Y Copies of all As-Built Construction Drawings and Electrical Schematics for reference

Y Commercial Off-the-Shelf (COTS) Manuals, Schematics, Diagrams, Parts Lists of all equipment purchased from Manufacturers and Vendors

Y Specific descriptions, crew operating instructions, or maintenance instructions for all custom-designed systems unique to the vessel. Some examples include:

♣ Navigation Electronics

♣ 24VDC Electrical System

- ♣ 120 VAC Electrical System
- ♣ Fresh Water System
- ♣ Sanitary System
- ♣ Engine Cooling System
- ♣ Fire Alarm System
- ♣ Battery Charging System

The vessel Information Book is considered by the CO to be an extremely important deliverable that must be well organized and of high quality.

Until manufacturer purchase all of the systems and electrical items for the vessel we cannot add to the specific maintenance to each of these items until we have procured and received the O&M manuals.

## **Preliminary Maintenance of Boat (Not inclusive or final, only a starting point)**

- Do required equipment maintenance.
- Here are areas sometimes overlooked:
  - Check Engine Zincs - Suggested every 50 hrs
  - Checking and Tightening mounting bolts 3 months after delivery and then annually
    - Engines
    - Gensets
    - Electrical boxes
    - Tanks and muffler mounts
    - Exhaust flanges and hose clamps
    - Hose clamps on piping
  - Engine driven pump drive belts
- Exterior Maintenance
  - Rinse boat as often as possible
  - Avoid use of any acids as it will discolor aluminum, clasps and latches
  - Rinse out drain pipes, chain/ anchor lockers and any low point areas where debris has settled
  - Lubricate hinges
- Inside hull
  - Keep surfaces clean
    - Solids will collect in bilge and trap moisture against hull and cause local pitting
    - Baking soda washes will neutralize any minor pitting that has happened
    - Salt air from cooling air flow will result in salt deposits, concentrated when condensation happens on underwater hull. Salt areas become moist in 50% humidity and will promote pitting. Regular fresh water rinse is necessary to remove these salts
- Exterior of hull
  - Renew anodes when 50% wasted

- Use proper grade of metals - see drawing
- Monitor hull potential with installed meter
  - If high look for stray current
  - If low check anodes, check for damaged paint or stray current
- Equipment Operation
  - For operators or owners of boats built by All American Marine that utilize water-lift mufflers on the main engines or gensets, please be reminded or advised of the following standard marine practice:
    - Any time a genset is not in operation (not running) while the boat is moving at more than an idle speed, All American Marine recommends the valve between the genset and the sea-water intake be closed. Putting the genset back in operation would require the re-opening of the valve.
    - Any time a main engine in a multi-engine catamaran is not in operation (not running) while the other engine(s) are in operation, All American Marine recommends the valve between the non-operating engine and the sea-water intake be closed. Putting the engine back into operation would require the re-opening of the valve.
- Welding Power Connections
  - The AWS Guide For Aluminum Hull Welding explains the correct way to make welding power lead connections to prevent electrolytic corrosion of a hull that is in the water.
    - The arc welding machine should be put aboard the boat being welded. The welding ground lead should be connected directly to the area of the welding being done. If the ground is connected some distance from the work being done, some current may flow through the water along-side the vessel.
    - A welding machine should be set up to avoid passing a current through the water to ground. The machine set up on one boat, and grounded to it should not be used to perform welding on another boat.
    - A welding ground lead should not be connected to a shoreside, or shore-power ground of any kind. Cables should be kept out of the water. It is essential that no welding current flows through the sea water to or away from the metal hull.
    - It is not recommended to weld on two ships simultaneously from the same welding machine, as both hulls would then be grounded to the same machine and any welding on one hull would allow a circuit to be completed through the other hull as well.
    - Cables should be of adequate size for the work being done, and all connections clean and tight.

Optional equipment some customers have used:

Foam plug for holes in the boat:

Forespar Sta-Plug Emergency Plug <http://www.edsonmarine.com/support/PDFs/TruPlugFAQ.pdf>

#### Window Cleaning Procedures

Windows, especially on vessels operating in a salt water environment, can end up looking streaky with salt and other chemical residue and can be extremely difficult to clean. Below are a set of procedures that can be used to restore tempered marine glass windows to a "like new" condition.

**Supplies and Equipment:**

- Meguiar's Mirror Glaze – 4, Professional Heavy-Cut Cleaner
- Meguiar's Mirror Glaze – W8000, Professional Soft Buff 8" Foam Polishing Pad
- Meguiar's Backing Plate for Rotary Polishers, W65 - 6.25 inch (fits 8 inch pads)

[http://www.detailing.com/store/meguiars-w65-backing-](http://www.detailing.com/store/meguiars-w65-backing-plate.html?gdftrk=gdfV28273_a_7c2854_a_7c11955_a_7cMEG_d_W65)

[plate.html?gdftrk=gdfV28273\\_a\\_7c2854\\_a\\_7c11955\\_a\\_7cMEG\\_d\\_W65](http://www.detailing.com/store/meguiars-w65-backing-plate.html?gdftrk=gdfV28273_a_7c2854_a_7c11955_a_7cMEG_d_W65)

- Winsol Crystal Clear 550, Glass Clearing Agent and Water Spot Remover (<http://www.winsol.com/550.htm>)
- Squeeze bottle, i.e 16 oz -

[http://www.uline.com/Product/Detail/S-18126/Bottles/16-oz-Squeezable-Cylinder-Bottles?pricode=WZ588&utm\\_source=Bing&utm\\_medium=pla&utm\\_term=s-18126Q&utm\\_campaign=Jars%2C%2BJugs%2B%26%2BBottles](http://www.uline.com/Product/Detail/S-18126/Bottles/16-oz-Squeezable-Cylinder-Bottles?pricode=WZ588&utm_source=Bing&utm_medium=pla&utm_term=s-18126Q&utm_campaign=Jars%2C%2BJugs%2B%26%2BBottles)

- Variable-speed Rotary Electrical Polisher, i.e. (<http://www.makita.com/en-us/Modules/Tools/ToolDetails.aspx?Name=9227C>)

**Instructions:**

- Wash vessel windows in the normal manner using a standard marine window soap solution, apply with an applicator pad and brush the surface. Remove solution with a squeegee.
- Apply Meguiar's Mirror Glaze – 4, Professional Heavy-Cut Cleaner to a portion of the window, i.e. with a gloved hand or applicator
- Dampen the 8" foam polishing pad with ½ ounce of the Winsol Crystal Clear 550 solution
- Buff window with circular motions
- Continue the above steps with the glaze cleaner and Winsol solution until window streaks are gone.
- Repeat step 1 – wash windows

**Note:**

- This cleaning procedure will also remove the stains on the vinyl signage, including the skyscape
- Follow all manufactures' instructions and review the MSDS information for each product, especially the Winsol Crystal Clear 550.

<http://www.winsol.com/550MSDS.htm>