

Shelly T



2002 36' Endeavour TrawlerCat

Operations Manual

JUNE 2013
Version 1.6

Welcome Aboard!!

Thank you for choosing the Shell y T for your vacation. We're sure that you will enjoy your cruise among the lovely and intriguing islands of the Pacific Northwest. The Shell y T will take you there in comfort and safety. She has carried us many thousands of miles while cruising America's Great Loop, including the East Coast, the Florida Keys, Chesapeake Bay, the Long Island Sound, New England, Ontario, Canada, the Great Lakes and the Heartland Rivers. We've found her to be a safe and dependable vessel and a joy to operate and live aboard.

This manual will help you become familiar with the boat and her major systems. If you have any questions about the boat or would like suggestions on where to go and what to see, please contact the staff at San Juan Yacht Charters. They are both knowledgeable and informative.

There are a number of books, games and DVD's that we've enjoyed and hope you will also enjoy them. If you take home one of the books, please leave one in its place. There is a crab ring for your use but please be familiar with the fishing regulations.

We ask only two things of our guests: please, do not smoke on board and please don't run into anything solid!

Bon voyage!

Tim & Michelle Smith

About Shell y T

The Shell y T is a 2002 36' Endeavour TrawlerCat that was built to order for us by Endeavour Catamaran Corporation in Clearwater, Fl. She is powered by twin Yanmar 125 hp, turbo diesel engines.

Specifications:

Length overall	36'
Length waterline	33'
Beam	15'
Draft	36"
Bridge Clearance	
antenna up	18.75'
antenna down	12.0'
Displacement	15,200 lbs
Fuel Capacity	300 gallons diesel
Water Capacity	115 gallons
Holding Tank	30 gallons
Water heater	6 gallon

Instrumentation:

Raymarine color Radar/Chartplotter/GPS with current C-Map chip M-NA-C-701

Raymarine ST5000 Hydraulic Autopilot

Raymarine ST60 Depth Sounder

Dual station VHF radio

Remote searchlight

***Ritche* Helmsman compass**

On-Board Systems and Equipment:

5kw *NextGen* diesel generator
30 amp/110 v shore power
40 amp smart charger
16000 btu *Cruisaire* air conditioning/heating
***Sea Gull* water purification system**
110-v icemaker
(2) 12 v automatic bilge pumps
(2) manual bilge pumps

***Sony* AM/FM/CD stereo, I-Pod compatible, with remote,**
***Sony Hi-Def* marine speakers in cabin & cockpit**
***Sony* color monitor**
***Samsung* DVD player**

***Splendide* compact washer/dryer**

Ground Tackle:

primary *Lewmar* 800lb dual direction windlass with *Delta Set-Fast*
35# anchor with 200' chain rode

auxiliary *Danforth* 22# anchor with 10' chain & 200' nylon rode

Dinghy: AB 10' aluminum RIB with 6 hp 4-stroke outboard running
on regular gas. (No mixing)

Manuals for most equipment are kept in a black 3-ring binder in the chart locker.

Raymarine manuals are in the bookshelf in the starboard cabin.

An additional owners manual, prepared by an Endeavour owner, Don Kalen, is in the chart locker.

VESSEL OPERATION

Pre-start Inspection:

Each engine is easily accessible by lifting the front of the first panel underneath the aft cabin mattress. There is a support stick that is tucked behind a hose at the front of the compartment. Simply put the top of the stick in the finger hole and rest the bottom of the stick on the base of the berth. Use a flashlight to visually inspect the engine compartment.

Check Engine Oil:

The dipstick is located on the left side of the engine, as you face it. If the level is below the mark, add 15-40W oil from the Shell Rotella container that should be on the floor alongside the engine. DO NOT OVERFILL. Return the oil dipstick so that the handle loop is towards you. (Yes, it does make a difference.)

Check Coolant:

The overflow container is on the bulkhead, forward of the engine. It should be about half full. Extra coolant is in the Havoline DEX-COOL gallon container on the floor alongside the engine.

Check Raw Water:

The raw water strainer is located on the floor, in front of the engine. Check it for debris. If fouled, close the seacock and remove the top cover-retaining nut. Lift off the top cover. Clean and replace the strainer, gasket and the cover. Loosely tighten the cover-retaining nut. Open the seacock and allow air to escape from the cover. As water starts to escape, tighten the retaining nut until the water flow stops. Do not over tighten.

Pump Bilges:

There is a hand operated bilge pump mounted on the bulkhead in each of the aft cabin hanging lockers. The inlet hose accesses the bottom of each hull. The outlet side goes overboard. During engine operation, the propeller shaft is lubricated by water pumped through hoses attached to a PSS seal that surrounds the shaft as it goes through the hull. These seals drip water and, sometimes, a fine spray. Water collects and drains into the hull bilges. Pump the pump until you hear the pump sucking air and the hand pump loses resistance. After a hard day's run, it can take 50-60 pumps to clear the bilge. You can also see the water level just forward of the engine raw water strainer.

Starting the engine:

ASSURE THAT THE SEACOCKS ARE OPEN.

START THE STARBOARD ENGINE FIRST.

(It has to do with the load placed on the alternators.)

There is no glow plug or warm up procedure. Set the gearshift/throttle control in neutral. The engines will only start in neutral. If the throttle is not in the neutral detent, the engine will not start. Turn on the ignition key and the low oil pressure alarm will sound. Continue turning the key and the engine should promptly start. Release the key. If the engine doesn't start, wait 30 seconds and try again. If it doesn't start after 3 attempts, stop trying and contact SAN JUAN YACHTS for help.

After starts checks:

Oil pressure should register and the alarm should go off after a couple of seconds. Go to each side and assure that water is splashing out of the exhaust port.

If any of this doesn't happen, shut off the engine immediately and call SAN JUAN YACHTS.

There is no need to let the engine warm up. In fact, try to avoid idling for more than 15 minutes, as unburned fuel will start to clog the injectors and cause soot build-up.

The right throttle control is stiffer than the left. This is normal.

Stopping the engine:

TURNING OFF THE KEY WILL NOT STOP THE ENGINE. THE KEY CONTROLS THE ELECTRONICS, NOT THE ENGINE.

Push the large red STOP button next to the key until the oil pressure alarm sounds. Release the button and turn off the key.

CRUISING RPM

We like to cruise at about 2400 rpm on both engines. If you are in a hurry, then the max RPM is 3600. Turn on the TRIM TAB rocker switch at the helm station. This energizes the trim tab control in bulkhead in front of the steering wheel. Push the top of both buttons to lower the bow which should improve the ride and increase your speed. Push the bottom of both buttons to return the tabs to the retracted

position, which is where they should be kept. Never leave the trim taps in the bow down position. It can tear them loose from the piston if you go in reverse and you will discover that you have made an expensive mistake.

FUEL SYSTEM

This boat runs on diesel only.

The fuel fill is on the aft deck and is clearly marked 'Diesel". The cap is NOT attached to the boat so please don't lose it. While the capacity is 300 gallons, the boat rides and handles best when there is less than 150 gallons. Although the fuel gauge on the electrical panel is a good indicator of the fuel quantity, the best method of determining fuel quantity is to dip a yardstick down the fill hole and measure the number of inches of fuel in the tank. One inch = 15.1 gallons.

You will receive the boat with 10 inches of fuel and it should be returned with 10 inches of fuel. There is a yardstick laying on top of the fuel tank, above the Racor fuel filters in the aft lazarette. Add an appropriate amount of Diesel Kleen, which is also kept in the aft lazarette.

Fuel Filters

While it is doubtful that you will need to change fuel filters, spares are kept in an orange dry box in the aft lazarette. The filter package contains a rim seal and a handle 'O' ring which should also be changed. Before replacing the top cover, fill the filter with diesel fuel. There is a fuel line, with a bulb to pump fuel into the filters, attached to the lazarette port bulkhead.

SANITATION SYSTEM

Head

The toilet is equipped with a waste macerator and empties into the 30-gallon holding tank. There is no direct overboard discharge nor is there a Y valve. Flush the toilet by holding the Red button to the left of the sink. If additional water needs to be added to the bowl, there is a rocker switch below the Red button that can either drain or fill the bowl.

Please use only marine grade toilet paper. Please dispose of toilet paper in the waste can. Remember, if you haven't eaten it, it doesn't belong in the toilet.

Shower

There is a very fine line between cold and hot water in the shower. To conserve hot water, it's best to turn off the water between soaping and rinsing. Shower water will accumulate in the bottom of the shower and can be evacuated by pushing the macerator pump button on the back wall of the shower. The 'Shower Pump' switch, on the Electrical Panel, must be on. And, please, no hair down the drain because it will clog the macerator pump.

Holding Tank

The holding tank is located on the port side, aft. It has a capacity of 30 gallons. A Tank Watch indicator is located above the toilet flush button. When the Red light comes on, there is room in the tank for about 3 more flushes.

Pumping out

The pump out deck fitting is located on the starboard aft deck and is clearly marked "WASTE". The cap is NOT attached to the boat so please don't lose it. Just prior to pumping out, flush the head several times to rinse out the discharge line. After pumping out, rinse the tank out thoroughly by filling the tank with fresh water and repeating the pump out process. After emptying the tank, add 4 oz of tank treatment via the toilet with about a gallon of fresh water. The tank treatment is under the head sink.

Gray water

Galley and head sinks drain directly overboard, as does the shower water after shower pump is activated.

FRESH WATER SYSTEM

The dockside connection is located on the inside of the aft starboard stem wall. It is internally regulated to prevent over pressurization of the boat's water lines. A 50' water quality hose is stored in the aft lazarette inside of the brown CordPro holder. Uncoil as much hose as needed to connect the boat to shore spigot. There is no need to uncoil the whole 50 ft. There is an additional 50' back-up hose, if needed, in the forward deck starboard hatch. When connected to shore water, do not turn on the water pump at the Electrical Panel.

The fill for the 115-gallon fresh water tank is located on the starboard side, amid ship, and is clearly marked. The water level gauge is located on the Electrical Panel. The water pump and filter is located under the settee in the salon.

There is a hot/cold shower at the swim step that has a shut off at the showerhead. Make sure the handles are turned off, and not just the slide on/off button, when finished or it will pump all the fresh water overboard. I know this from experience.

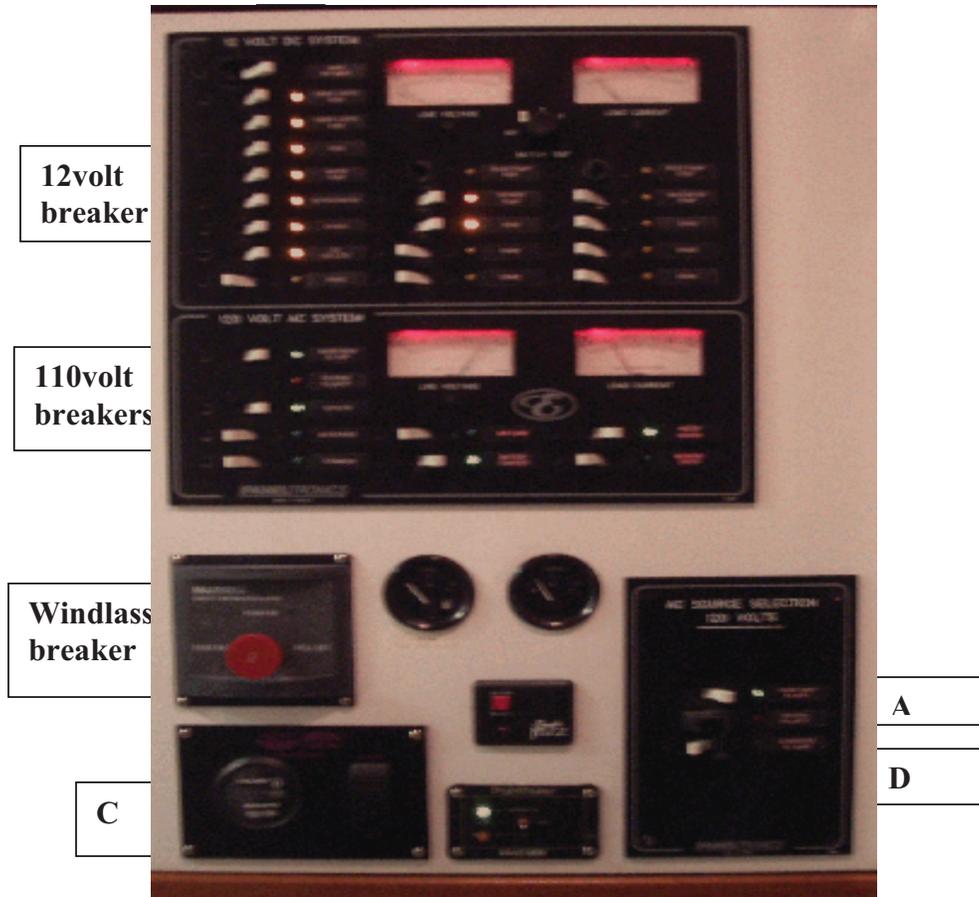
Sea Gull filter

The curved spout, to the right of galley faucet, draws water from the tank or dockside water and forces it through a very powerful (and expensive) water filter. It produces bottled water quality drinking water and we use it for both drinking and cooking if there is the slightest doubt about the quality of the on board water.

Water heater

The hot water heater has a 6-gallon capacity tank and is heated by circulating water from the port engine when it is running or by a 110v. heater controlled at the Electrical Panel.

ELECTRICAL PANEL



ELECTRICAL PANEL

The Electrical Panel is located on the wall just forward of the starboard cabin. It controls all of the electrical needs on the boat. The boat has two electrical systems; 110v from shore power or the generator and 12v battery power. Each system is controlled at the electrical panel. The 12v runs all of the lights, fans, pumps, refrigerator and the helm station navigation instruments. The helm station 12v system is always energized. Above the Electrical Panel is a circular Link10 battery monitor, which shows the condition of the house batteries. If the 4 bars across the top start to turn red, it's past time to recharge.

When connecting to shore power, turn off the "SHORE POWER" (A) breaker on the Source panel. Plug in the yellow shore power cable to the inlet at amidships starboard. Make sure the shore pedestal breaker is off, and then plug in the cable to a 30-amp outlet. After connecting the cable, THEN turn on the shore pedestal

breaker and check to see that the Green light is lit at the Shore Power breaker **(A)**. If so, flip the breaker and the 110v panel will be energized. There is a master 110v breaker at the upper left side of the panel. When it is on, an orange light will indicate which of the individually marked breakers are active.

The 110v system runs the electrical outlets, including the icemaker, microwave and coffee maker and the four circuits for the washer/dryer, air conditioner/heater, battery charger and water heater. Normally, you can run 3 of the 4 circuits with 30-amp service. If the 30 amps are exceeded, the main breaker will trip **(A)**. Turn off something and then reset the breaker. Life will be good again. As a general routine, we leave on the battery charger and the water heater when connected to shore power, turning them off when other power needs are present, like using a hair dryer, coffee maker or microwave. All of which draw a lot of power and should be run separately.

Helm Station

The 12v. electrical sub-panel at the helm station is always energized. This panel contains rocker switches for the navigation equipment, radio, above deck lighting and trim tabs. The rocker switch for the nav lights also rocks down to turn on the anchoring light.

INVERTER

The vessel is not equipped with an inverter. 110v. power is only available when the boat is plugged into shore power or when the generator is operating.

GENERATOR

The Shell y T has a 5.5kw diesel genset located in the forward starboard hull. It has a glow heater for starting. The remote starter is at the Electrical Panel **(C)**. There is a safety bar that allows either the generator or shore power to electrify the boat but not both at the same time

Push down on the rocker switch **(C)** for about 7-8 seconds to heat the glow plug then rock it up to start. After running for a minute or so, turn off the shore power breaker **(A)**, push up the safety bar and turn on the generator breaker **(D)**. If it doesn't start after three tries, call SAN JUAN YACHTS.

The exhaust is discharged below waterline so it has a quiet operation. Two electric fans in the generator compartment cool it. They exhaust into the forward lockers so slightly prop open a forward hatch to avoid diesel-smelling back pressure. When you want to run the coffee maker or microwave or a hair dryer, turn off all the other electrical devices.

SAFETY EQUIPMENT

Life vests are stored in the Generator Room. There are at least 6 adult, two youth, one child vest and a medium size dog vest. (Yes, our dog GrayD always wears his vest when on board.) A first aid kit is under the step leading down into the salon. The emergency flares and signaling gun are also located there. There is a fire extinguisher behind each of the rear cabin doors and another is strapped to the helm seat post

Each hull has an electric 500 GPH bilge pump that is activated by a float switch. Each hull also has a manual bilge pump located on the bulkhead of each of the aft cabin hanging lockers.

GALLEY

Propane

The aluminum, horizontal propane tank is located in the port lazarette on the front of the boat. Normally, it is left on. The valve works just like a water hose bib at home. Turn on the valve slowly.

Stove

To light the stove, remove the protective top and slide it into a slot above the microwave. Flip the 'gas on' switch, located to the right of the galley sink. Indicator light will glow red. Turn stove knob to 'IGN' position. Push in and, at the same time, push the red 'burner ignite' button in. It may take a couple of tries to get excess air out of the lines.

Oven

Lighting the oven is not QUITE as simple. Light the right front burner to bleed air from the system for at least one minute. Turn the temperature control knob to the 'pilot on' position and release. Hold in the 'Oven safety/push to light' button while using the long lighter to light the pilot located on the underneath side of the oven cooking shelf. Hold 'push to light' button in for a few seconds to assure the pilot stays lit. I've indicated the pilot light location with white dots.

Coffee Maker

The coffee cubby has an outlet in the back to plug in the coffee maker. It runs on the microwave circuit. Be sure the microwave switch is flipped on at the Electrical

Panel. This will run the coffee maker and microwave, but not at the same time. This will pull too much amperage. Remove the coffee maker from the cubby to fill with water and coffee. Plug in and slide coffee maker back in.

Refrigerator/Freezer

To operate refrigerator, flip switch on Electrical Panel and set the thermostat inside the refrigerator to desired coldness setting. :”3" is a good setting. It is 12v.

Icemaker

To operate the icemaker, make sure the icemaker switch is flipped on at the Electrical Panel. If not connected to shore water, be sure the water pump switch is also on. To keep ice frozen, but not make any more ice, flip up the wire lever inside the icemaker. The icemaker will work only when the Ice Maker breaker on and when plugged into shore power or when the generator is running. There is a slight leak inside the unit but it does not affect the ice making capabilities.

AIR CONDITIONING/HEATING SYSTEM

The 'Air Cond' switch must be in the on position on the Electrical Panel. The temperature control box is located on the wall just below the stereo system on the starboard side of the salon just forward of the back berth. Open the access door. To activate the air conditioning or heat, push 'cool' or 'heat' button on third row down. Use 'up' and 'down' buttons on first row to set desired temperature. The temperature read out is to the left of the first row of buttons. It continuously shows the cabin temperature when no other function has been chosen. Push the 'Fan' button on the bottom row to just circulate air. To set dehumidifier, press, the 'Cool' 'Heat' and 'Fan' buttons SIMULTANEOUSLY.



SPLENDIDE 2000 WASHER/DRYER

Examples of load sizes:
1 queen sheet, 2 pillowcases or

2 standard bath towels or
3 cotton t-shirts, 3 cotton undergarments or
1 pair jeans, 1 t-shirt, 1 cotton undergarment
Distribute load evenly in drum and close door.

Gently pull out dispenser tray until it stops (Fig. A). Add 2 tsp. powder or liquid laundry detergent to compartment. Compartment A is for cold wash/rinse, compartment B is for all other cycles. Add 1 tsp. liquid fabric softener to the 'softener' compartment.

Close dispenser drawer.

Turn wash/rinse knob to desired temperature selection. (Fig. B)

Turn wash cycle selector knob clockwise to the start of desired cycle. (Fig. C) The Regular cycle is about an hour and the Permanent Press cycle is a little shorter.)

Press the ON button (Fig. D)

(Door will automatically lock and cannot be opened until 2 or 3 minutes after the load has ended.)

The Splendide Instruction Manual tells you to set the dryer timer (Fig. E), so the dryer function will start immediately upon completion of wash/rinse cycle. I PREFER TO WAIT UNTIL THE LOAD HAS FINISHED AND THE AUTOMATIC LOCK HAS RELEASED AND THEN I SHAKE WRINKLES OUT OF LAUNDRY, PUT BACK IN TO THE DRUM WITH A DRYER SHEET, AND THEN SET THE DRYER TO DESIRED DRY TIME. This seemed to work much better and the clothes came out less wrinkled.

We have also found that propping open the front port lazarette a few inches helps with the venting of the dryer.

Cleaning the Washer/Dryer Filter (Fig. F)

The filter should only be cleaned after you've run a short dry cycle to make sure that all water has been evacuated from the filter. This will alleviate any water leaking out from the filter itself.

Open the service door. Turn the filter counter clockwise to release it from housing. Pull it out and clean any debris off it. Replace it into housing and tighten securely. (A FIRM finger tightening will suffice.)

There is also a filter when the dryer vents into the front port lazarette. Slide out the screen to clean it off.

COMMON MANEUVERS

GETTING UNDERWAY

Turn off the Shore Power circuit breaker switch on the AC SOURCE SELECTION at the electrical panel. This will shut off external AC electrical power to the boat.

Turn off the breaker at the shore power pedestal and disconnect the 30-amp shore power cord. THEN disconnect the power cord from the boat. Coil the cord into the Cord Caddy and stow in the aft lazarette. Close and latch the cover of the shore power inlet plug on the boat.

The helm station DC switches are always energized.

Toggle both electronics switches, marked ELECTRONICS and AUTOPILOT, which will power up the electronic navigation equipment. The C-Map chip # M-NC701 should be inserted in the chart plotter in the slot covered by an access door at the lower left side.

Operation of the Raymarine navigation equipment is covered in detail in the Raymarine equipment manuals kept in the bookcase of the starboard cabin. Please acquaint yourself with the features of the color radar/chart plotter, depth gauge and autopilot before attempting to use them for navigation.

Toggle on the trim tab switch. This supplies power to the dual Bennet Trim Tab keys located next to the helm. These trim tabs are normally engaged when you are at 3000+ RPM and tend to lower the bow to increase speed and improve handling. Remember to return them to an UP position when slowing to cruising speed and NEVER have them in the down position when backing.

Departing:

Make sure all electrical cords are disconnected, stowed and that the engines are started and in neutral and the rudders are centered (check the rudder indicator lines at the bottom of the ST5000 autopilot). Check for other vessel traffic. Take in and stow the dock lines.

If backing out from a slip and there is minimal current, gently bump both throttles into reverse to start the Shell y T moving backward. She backs true because the twin props balance the engine torque. Once clear of the slip, use the throttles and helm to clear the dock.

If departing from a face dock with minimal current, leave the outboard engine in

neutral and gently engage the engine closest to the dock and then slightly turn the helm away from the dock. Shell y T should swing away from the dock and you can then engage the outboard engine.

Retrieve and stow the fenders in the forward starboard locker and the dock lines in the port.

Docking: All docking maneuvers should be done at dead slow speed.

Place a fender about 1/3 of the way back from the bow and one at mid-ship and one just forward of the rear deck gate. Adjust the height to match the dock. Secure a bow, mid-ship and stern dock lines. We've found it easiest to tie the mid-ship line to the dock first, or pass the mid-ship line to a dock assistant. Once the boat has been brought alongside, we tie the stern and the bow lines. We then adjust the mid-ship line as a spring line.

Connect shore power:

Make sure the power pedestal breaker switch is OFF. Connect the 30-amp cord to the boat first and then to the power pedestal. Turn on the pedestal breaker and check the AC SOURCE SELECTION panel to make sure the green light is illuminated. Then turn on the Shore Power breaker.

Anchoring:

The windlass uses a considerable amount of battery power so use it only when the engines are running. Turn on the Maxwell windlass switch at the Electrical Pane. We leave it in the ON position whenever we are at anchor. This assures the UP/DOWN foot switches are always ready for action, should the need arise.

Flip open the anchor chain stop and tap the windlass DOWN foot control a couple of time to slacken the chain. Push the anchor forward until it is ready to launch. When you arrive at your selected location, step on the DOWN foot control and the windlass will power out the chain. The outgoing chain may slap the chain stop and cause it to close, fouling the chain. There is a 1-foot section of chain painted red at each 25' interval to allow you to keep track of the amount of chain deployed.

After you have securely set the anchor and established the proper scope, close the chain stop and relieve the pressure on the windlass by tapping the DOWN switch.

There is a stainless chain hook on a white line in the port forward locker. Use it to create a slack loop in the chain, forward of the anchor roller. This will minimize chain rattle noise and let you have a peaceful evening.

Weighing Anchor:

Turn off the anchor alarm, if you set one. Slowly motor to the anchor while crew

retrieves the chain using the UP foot switch. Shift to neutral as the anchor rode nears vertical and allow the boat to coast a little past the anchor to break it loose using the boat's momentum.

In the starboard forward locker there is a faucet and a length of hose. You can use this to wash off the chain and anchor but it can rapidly deplete the fresh water supply. Raising and lowering the anchor or using a bucket of seawater can also clean off the chain and anchor.

Mooring:

From the bow, slide the Grab 'n Go hook onto the track attached to the boat hook. Keeping tension on the line, snap the Grab n' Go to the mooring ring. Secure the lines to the front cleats, equal distance to the mooring ball. This will prevent the mooring ball from hitting the hulls and give you a better night's sleep.



DINGHY

Launch the dinghy by uncoiling the line on the motor side and raising the spin lock half up. Take hold of the line and release the spin lock. Ease the line until the boat is in the water. Then follow the same procedure for the bow. Always start the motor while the dinghy is still attached to the mother ship.

It will start easily when cold if you pull out the choke until the engine fires and then immediately push it in and off. Put the shift lever in Neutral and the throttle grip to START. Pull the starter rope handle until it engages and then rapidly pull it until the engine starts. Turn off the choke and set the throttle grip to slow and allow the motor to warm up. Oil pressure is required to lubricate the internal engine parts. When the warning lamp (Red) is off, it indicates that oil pressure is present. When engine is first started, the red light will turn on for several seconds to confirm that it is working and then turn off. Be sure to check that cooling water is coming out of the

cooling water check port during warm up.

To stop the motor, push in the stop switch by pulling off the Man Over Board lanyard. Don't lose the lanyard.

We leave the motor on the boat. The boat is raised and lowered by manual pulleys from the stern davits. The bow points to the starboard side. It takes quite a bit of effort to raise the dingy. Raise the dingy by hoisting the bow about half way up. Then raise the stern, (this is the hard part), about 1/3 up. It helps to pull up on the side of the tube while standing on the swim step. Then hoist the bow the rest of the way up and then pull the stern up (this is the harder part). The plug should be taken out when the dingy is in the davits.

The gas is regular unleaded. A gallon spare can of gas is kept in the aft lazarette. A spare spark plug is in the toolbox.

MISCELLANEOUS

All the cabin hatches can be locked from the inside. Have the hatch handle in the closed position and push up firmly on the curved end. Just pull down on the curved end to unlock.

The combination to the lock is 430.