

Operations Manual

Systems on board

Introduction

"Suckin' Diesel" is a Rival 41 aft cockpit built in 1980. She weighs about 14 tons fully laden. She has a cutter rig with an inner forestay for a relatively small foresail. The mast height is 18 metres above the water level. The keel is lead encapsulated in fiberglass. The boat draws 1.8 metres and the keel is about 4 metres long raking forward to the bow. The rudder is skeg hung for strength and support. The propeller shaft comes out of the back of the keel and is very short giving good support for the shaft and reasonable protection from underwater objects. The hull is made up of a teak skeleton (stringers and keelson) fibreglassed in place for stiffness.

Safety Equipment

- Life jackets are stored in the aft cabin. They automatically inflate when the jacket is immersed in water but have a manual inflation toggle as well. There is a harness clip attached also.
- There are fire extinguishers in the aft cabin, the forepeak and an automatic one in the engine bay on the inside of the rear access cover to the engine. There is a fire blanket on the left of the cooker.
- There is an EPIRB in the cockpit. It is located in the left corner of the sprayhood. To use, take it out of the yellow pouch. Open the lid and raise the antenna. Press the button to turn on. It sends a continuous distress signal for 48 hours.
- The flares are in a yellow waterproof box beside the steps in the aft cabin. Open the box and follow the instructions on each flare. There is also a single white handheld flare at the top of the steps in the aft cabin for emergency signaling. The yellow box also has other safety gear such as a back up battery GPS, signaling mirror, etc.
- 2 Chest harnesses and 6 harness lines are in the aft cabin above the mirror.
- There is a wire on both side decks to clip into when using a harness.
- There is a Dan buoy beside the A-frame. It is tied to a life ring with a floating safety light attached.

- On the VHF radio in the nav area or in the cockpit pull the red flap and press the DSC button for 5 seconds when the radio is operating with GPS. It will send the coastguard and all nearby a continuous distress signal including vessel location.
- There is a splash proof handheld VHF beside the flares box.
- There is a gas and fumes alarm, a white box in the galley on the side of the engine cover. It is permanently on.
- There are navigation tricolour lights on the bow and stern (switch marked "nav") with a single light on the masthead (switch marked "mast") as backup or on long offshore passages.
- The 4 person liferaft sits in a cradle. It is tied to the A-frame in two places. One thick rope is lightly tied to the top handle in case it falls out of the cradle. Before releasing the liferaft undo this rope. To release the liferaft, pull the pin on the back of the cradle and push it into the water. The thin rope remaining is cut when all crew are in the liferaft from the sinking boat.

Seacocks

There are 11 seacocks. Each is labeled and has an adjacent wood bung.

- For'd head: one under the toilet and two under the sink.
- Galley sink: there are two under the sink.
- Aft head: there is one under the shower grating in the floor and two under the sink.
- Aft cabin: there are two at the aft end of the cabin.
- Engine bay: the engine seacock is accessible by removing the rear access cover in the aft cabin.

Sail plan

The main is slab reefed with three reefs. It must be raised and reefed at the mast on the starboard side. The roller reefing Yankee is not as large as a genoa and is probably 100% of the main. We tend to look to reef when there is constant 16-18 knots coming over the deck. The reefing sequence is:

1. First reef in the main
2. Second reef in the main
3. 3 turns of the Yankee
4. half of the Yankee
5. Third reef in the main and staysail
6. Staysail only with no main
7. Trysail and storm jib

There is a cruising chute onboard, usually left on the foredeck in its bag. The foot clips into the shackles beside the anchor. The head is attached to the spinnaker halyard. We bring it up most of the way and then tie in one sheet once the twists in the chute have fallen out. Then raise it the rest of the way, lock off and tie to a clear. Then you pull up the sock and take in the sheet at the same time. It usually

takes two on the foredeck to comfortably raise and lower. When going downwind the red pulley at the foot can be slackened off to maximise balloon shape and taken in when you approach a reach. It should be lowered when there is consistently over 10-12 knots over the deck to protect the sail from damage.

For extended downwind sailing there are two Yankees of the same size sewed together so the two of them can be put up the single groove on the roller reefing foil. The two poles should be used in a twizzle rig setup for maximum flexibility. These Yankees can also be used as replacement for the main Yankee. There is a spare main with battens under the right hand seat in the saloon.

The staysail is stowed in a bag on top of the dinghy. It is permanently hanked on. It is used generally in close-hauled conditions. To fly it, open the zip in the bag and hook on the halyard onto the top of the sail. Make sure the crew pull on the sheet to tighten the clew of the sail. Pull the halyard to raise the sail and use the winch to tighten it the last foot or so. The crew can winch the sheet enough so that the sail is not overly toughing the rigging.

Electrical Supply and Charging Systems

The shore power is 240v 50hz. The plug socket is in the port side cubbyhole in the cockpit. The cable is 20metres long but there are two further cables in the locker under the starboard side seat in the saloon. There is a 13amp RLCD in the aft cabin on the rear wall on the port side between a shelf and the sidewall. From the RLCD there are plug boards on the left side of the galley worktop, under the nav table and above the toilet in the For'd head.

There are a number of independent systems onboard for charging the 24v systems onboard. There are three battery banks of 250 amp hours each. There are two battery switches, one **under the sink** which choses between the 2 aft banks of main Gel battery banks. This switch is usually left on "both" so that the two banks are connected together as they are identical banks in terms of battery size, type, and age. The second switch **under the main hatch steps** has the backup for'd bank as number 1 and the other banks as number 2.



The Smartgauge is a battery-monitoring device. If you press the left button on it you see the volts of the main batteries (bank 2). It should always be well above 25.0 but when charging well it will go to 27.0 and above. The middle button shows the capacity of the main batteries. E.g. C 94 means that they are at 94% of full capacity. Try to make sure they never go below 80% as it takes a lot more energy to bring them from 70% to 80% than from 80% to 90%. The right button shows the volts on the backup battery bank. It should always read at least 25.4 volts.



Charging Systems:

1. The mains battery charger under the nav table is connected whenever the boat is connected to shore power. If you wish to disconnect it, unplug it from the plug board.
2. Rutland Wind Generator – controller is the white box under the lifejackets in the aft cabin. To turn off the wind generator, e.g. if it is too loud, press

the switch so the red section is visible. (The turning dial on the controller shows the voltages on the main and back up batteries as well as the charge from the wind generator and A Frame solar panels)

3. 2 x 40watt solar panels on the A Frame – these are connected to the white Wind Generator controller.
4. Air Breeze Wind Generator – controller is the black box under the lifejackets in the rear cabin. It can be turned off by turning the “Run” switch left to Stop.
5. 2 x 48watt solar panels on the deck in front of the main hatch. They are controlled by the Grey controller under the main hatch steps. They can be turned off by turning off the switch to the right of the controller. (The amps being generated by them are shown in the ammeter on the left above the Grey controller. The controller itself has a light which illuminated is the solar panel is charging).
6. 1 x 70watt solar panel on the sprayhood roof – controller is the Black controller that can be switched off with the switch cable tied to the thick red cable under the controller. (The amps generated by it are shown on the right hand ammeter above the Grey controller).
7. There is a Honda 1000-watt petrol generator under the bed in the aft cabin. It can be used to charge the batteries or heat water, not both as it will draw more watts that the generator can cope with. To start, turn on the main switch, push the choke on and pull. When it is running for a few seconds turn the choke off. If a red light comes on when trying to charge the batteries it means the batter charger is taking too much power. In that case you have the get the portable battery charger from under the aft cabin bed and plug it in directly to the batteries.

Fresh Water Drinking System

There are two tanks under the floor in the main saloon labeled For'd and Aft. They hold a combined total of 500 litres, with the aft a little bigger than the For'd tank. Lift the access panel on the floor in front of the sink to access the **Water Control Area**.



1. Electric water pumped system:

There are two lever valves which control which tank the water pump draws from. If you have a tap open and hear the pump increase in pitch noticeably, it means that tank is empty. In that case, leave the tap open and close the lever valve on that tank and open the lever on the other tank. The pump will continue to operate as it expels the air in the system for a few seconds. It will slow down as the air is replaced with water and you can close the tap once a steady flow starts coming out of the tank.

2. Hand pumped system:

Beside each of the three sinks there is a hand pump on the left which pumps water from the tanks. There is a yellow hose selector in the water controls area that lets you switch between the two tanks. This water is filtered with an inline filter that should be replaced every year. The filter is on the left side of the water control area.

There is a hot water calorifier that is heated when the engine is running. It also has a 750-watt immersion element for heating hot water when plugged into shore power or on generator. It heats from cold in about 2 hours. The shower in the aft head works by lifting the tap head and hooking it to the back of the aft door. Water is expelled from the shower tray by turning on the electric pump on the left hand side of the sink unit.

Toilets

There are two toilets on board. Each has a small seacock for the inlet water and a large seacock for the dirty water out. The outlet water is piped into the top of a holding tank and then straight out the bottom. If the seacock is closed the water is held in the tank. Users are advised to use cheap thin toilet paper to avoid blockages. There is a deck fitting which allows you to put water into the top of the tank. Every couple of months it is advisable to flush out the tank by filling it two or three times with the seacock closed and opening the seacock to empty it.

The inlet seacock for the For'd toilet is under the toilet and the outlet is the left seacock under the sink. (The right seacock is for the sink).

The inlet seacock for the aft seacock is under the shower grating in front of the toilet. The outlet is the left seacock under the sink. (The right seacock is for the sink).

Each sink has hot and cold pressurised water as well and a hand pump for filtered drinking water.

Bow thruster.

The Vetus 95 Bow thruster is located under the middle of the For'd bed. It has a single plastic propeller with an anode fitted that must be replaced each year when the boat is out of the water. Aside from that, there is no maintenance on the Bow thruster. The controls are in the cockpit beside the throttle lever. To

turn on, press the power button twice. To turn off, press the power button once. The Bow thruster turns itself off automatically with a beep after 30 minutes of not being used.

Engine

The 68hp Mercedes Benz engine is direct injection so needs no glow plug heating. It usually starts first time. If it does not, check that the engine stop is pushed fully down. When the engine is warming up the oil pressure is at 8 bar but drops to 6.5 bar after an hour at cruising speed. Water temp should warm up to 80 degrees after half an hour. Both oil and water should stay stable once the engine is warm.

The engine has a seawater impellor to pump seawater through a heat exchanger for cooling the coolant water in the engine. When the engine starts you should look over the stern on the port side to ensure there is seawater coming out. If it isn't the exhaust will sound loud and rough. **If you hear a noticeable increase in exhaust sound at any time, stop the engine at once to avoid overheating the engine.** The impellor is located on the front left of the engine. There are spare impellors and filters beside the Bow thruster under the bed in the For'd cabin.. Spare engine oil is located also under the bed in the locker to the right.

The seacock for the engine is located on the port side rear of the engine bay. It is accessible by removing the rear cover under the lifejackets in the aft cabin. The exhaust seacock is in the lazarette locker on the port side.

The propeller is a fixed two blade and usually starts spinning when hull speed is over 4 knots. It is not restrained.

The stern gland is a traditional stuffing box lubricated by waterproof grease. Give a turn on the grease gun under the floor in the aft cabin each time you return or every 24 hours on a long passage.

Bilge Pumps

There are four main bilge pumps onboard:

1. An automatic bilge pump with a built in float switch located on the starboard side of the aft water tank.
2. An automatic bilge pump with a separate float switch located in the engine bay under the front of the engine.
3. A manual bilge pump with handle located in the cockpit on the port side beside the engine controls. This pump sucks water from the bottom of the main bilge.
4. An electric bilge pump with a switch on the main switch panel beside the nav table. This pump sucks water from the bottom of the main bilge.

Also, the shower drain pump can be used as a bilge pump in emergencies.

Navigation Electronics

To switch on the instruments, turn on the Instruments Switch. The autopilot is turned on by turning on the SSB Switch.

In the cockpit the three main displays are for depth, wind speed and boat speed. The autopilot on the binnacle above the compass. Remove its cover and press auto to turn on and release the wheel. To turn off, press standby and steer using the wheel. The autopilot controls the rudder by a built in compass. I use it to steer a constant magnetic heading. When it senses I am off course, it pushes a hydraulic ram connected to the rudder mechanism to bring me back on course.

If the autopilot does not alter course, look at the display. If the rudder indicator shows the rudder fully right and does not move then **the sensor has become disconnected**. To reconnect, open the lazarette locker and step into it facing forward. You should be able to see the hydraulic ram on your right. Follow it with your right hand to where it connects with the steering mechanism. To the left of where it connects is a small bar connecting the mechanism with a rudder indicator sensor. This is a spring-loaded piece of plastic forward of the mechanism. Using one hand connect this bar to the sensor and your autopilot should work. The bar pops out when people helming turn the wheel all the way to the left or right until hitting the stopper. The vibration of the shock pops out the bar. **Always advise inexperienced helms people to be gentle tacking and gybing.**

There are two systems onboard for chart plotting with a backup using Open CPN on a laptop with its own GPS receiver. The depth, speed and wind instruments are linked to both chart plotters using seataalk.

1. The main chart plotter in the cockpit has its own dedicated GPS receiver attached. It also displays AIS data received.
2. The much older chart plotter in the nav area is connected to the Garmin GPS beside it. The NMEA data from the Garmin is also used by the VHF radio for DSC. To turn on the Garmin and plotter pull down the switch marked "GPS" to the left of the main switch panel. Then press the power on buttons on both devices.

There is a repeater display at the nav table for wind, depth and speed.

Hydrovane Wind Pilot

The Hydrovane on the stern of the boat steers a wind angle, meaning that when it is engaged, it will steer the boat on one point of sail. There is a rudder attached to the bottom of the mechanism. The wing for the top of the mechanism is stored in a black bag underneath the A frame. It is screwed onto the top of the mechanism and then you use the thin control rope to adjust the wing in setting the point of sail. When you are on the right course, lock the steering wheel by tightening the black knob on the right hand side of the steering pedestal. **It is**

vital that the main and sails are well balanced when using the Hydrovane, otherwise the sails will overpower its rudder.

Radios and Communication

The VHF is connected to the Garmin GPS and needs data from it for DSC operation. Using the VHF without this data will cause an alarm to sound on the VHF. Press the button on it to turn it on.

The Navtex weather receiver in the nav area is turned on by the switch on the right of the plotter. Once it is turned on and set up, leave it on 24 hours a day for the season to download any weather or navigation warnings.

To use the SSB radio, turn on the switch on the switch panel marked "SSB". For sending distress messages, turn to 2182khz and broadcast on LSB. It is possible to connect the radio to the pactor modem to send and receive emails as well.

Galley Equipment and Refrigeration

The main sink has three taps. The main one is hot and cold water from the pressurised system. To the left is the pump for the filtered water. On the right is the seawater outlet controlled by the foot pump to the right of the sink.

There are two fridges. The main one is left on all the time on setting 4 usually. The freezer box in it doesn't really freeze but will preserve meat etc. The second fridge to the left of the sink is top loaded and very deep. Its controls are on the right of the door below the sink. It is usually set at 2 but if you turn it up full it can just about freeze contents over a 24-hour period. Stack this fridge according to expected use on a long passage to avoid leaving the door open for long periods. Transfer contents to the main fridge as needs be.

The cooker is controlled by turning the knobs and holding them pressed in as you use the white sparker to ignite. The oven is turned on by clicking the sparker on the gas row at the back of the oven. The grill is ignited by clicking on both sides of the row in the middle. Make sure both sides are lit. If not, turn it off and try again.

The microwave is mains electricity only and only works when plugged in to shore power. The same for the electric kettle. When at sea, the electric kettle lives in the bottom of the wet locker beside the nav table and that is where you will find the gas kettle for the cooker. Food storage is in the 3 sliding cupboards behind the cooker as well as the first locker on the left in the saloon. Pots and frying pans in the cupboards under the sink and to the right of the fridge. Cutlery is in the top drawer beside the nav table.

Anchoring, Storm Anchor and Ground Tackle

The main anchor is a 25kg Rocna and is permanently setup on the bow. It has 65 metres of chain attached and is tied off at the end. There is a spare 45lbs CQR stored under the right hand seat in the saloon. There is a bag with 10 metres of chain stored in the right hand locker under the forepeak with the spare engine oil. This chain is used to weigh down the head of the spare anchor. The rest of the rode should be mooring warp or the heavy warp at the bottom of the lazarette..

The Lofrans anchor windlass is controlled by two foot switches on the deck. The circuit breaker is marked on the top right of the main switch panel. You can lower the chain electrically but I prefer to release the clutch to release it. This is explained in the procedures section at the end. There are two ropes holding the anchor in place which will have to be released before lowering the anchor on to the roller.

The Rocna digs in very quickly and can quickly shock load the windlass. So make sure not to drop the anchor when the boat is still moving and then feed out plenty of chain before slowly tightening the clutch.

Once the anchor is holding hook the short snubber rope on the chain and let out a little more chain so the weight is on the rope instead.

In the anchor locker there are a couple of diving weights tied to a large shackle. This is a chum used to weigh down the anchor chain when anchoring in a location with restricted space. There is also a small float tied to 10 metres of line that can be used as a tripping line.

The **storm anchor** is in a large circular blue bag in the lazarette. It should be set off the stern of the boat in order to slow it down. There is a heavy bridle in the main sail locker with two tails which is secured to the port and starboard mooring cleats. It is advised to run two lines from those cleats forward to other strong points on the boat like winches or midship cleats for reinforcement. You secure the 50m of thick blue and white line to the eyelet on the bridle and the other end to the eyelet on the storm anchor. Also tie on a fender with a 10 metre line onto the storm anchor so you can see where it is. To deploy lower the storm anchor into the water and slowly feed out the heavy line. Secure the rudder midships so the storm anchor keeps the boat facing downwind.

Another use of the storm anchor is as a **Flopper Stopper**. By lowering it over the side and securing it midships, you can reduce roll in a rolly anchorage. You can increase its effectiveness by tying it onto the end of the boom with the main halyard tied onto the end of the boom for support. Then you can push out and lock the boom in place.

Boat Storage Inventory

Saloon

Yellow dry bag:	single duvet and cover
Blue dry bag:	single duvet and cover
Light blue stuff sack:	2 pillows, 2 protectors, 2 pillowcases
Light blue stuff sack:	3 fleece blankets
Light blue stuff sack:	2 pillows, 2 protectors, 2 pillowcases
Green stuff sack:	4 spare towels (2 blue, 1 black, 1 orange)
Small orange stuff sack:	2 sets saloon sheets top and bottom
Blue dry bag:	sleeping bag
Small orange stuff sack:	2 sets forepeak sheets top and bottom
Light blue stuff sack:	spare double duvet cover, 2 spare pillowcases

Under the main bed in the aft cabin

Spare engine hoses, fanbelts, etc.
 Spare Blakes Seacocks, winches and other hardware
 Spare gas cooker, VHF, SSB receiver, mooring lines, netting etc.

Under the wormhole

Spare hydraulic ram for the autopilot
 Spare electrical cables
 Spare blades for the Air breeze wind generator

Under the forepeak

Spare anodes for Bow thruster
 Spare filters (oil and both fuel types)
 Rolls of sandpaper
 Spare engine oil
 10 metres of spare anchor chain
 Angle grinder, jigsaw etc.
 Spare material and bits of closed cell foam

Procedures on board

Preparing to cast off

1. Close the right hand seacocks under the sinks in both heads.
2. Open the back hatch and close front hatch.
3. Stow all loose items safely.
4. Instruments on.
5. Autopilot on.
6. GPS switch on and power up the Garmin GPS.
7. Radio on by pressing 16 and hold.
8. Put on lifejackets.
9. Disconnect shore power and secure cable.

10. Warm up the engine.
11. Bow thruster on by pressing the power button twice.
12. Uncover the instruments and chartplotter, **but not the Autopilot until it is needed.**
13. Center the traveller to ensure good visibility.
14. Center the wheel and test bow thruster works.
15. Cast off lines in sequence as appropriate to conditions.
16. Close gate once underway and raise fenders leaving headsail sheets free on both sides.
17. Stow mooring lines securely.

Preparing to moor up

1. Lower the sails.
2. Secure all sail control lines.
3. Prepare mooring lines.
4. Once in calm water, set fenders.
5. Turn on Bow thruster.
6. Moor up.
7. Once secure, move traveller to starboard side.
8. Open the seacocks under the sinks in the heads.
9. Give the stern gland greaser under the floor in the aft cabin a few turns.

Raising the Main Sail

1. Remove the cover at the front end of the boom.
2. Open the zip on the top of the cover.
3. Let out the red main sheet about one metre. Make sure the traveller is centered.
4. Bring the boat head to wind.
5. If you are going to set up a reef, pull in the reefing line (red = first, blue = second, third = black) until the eyelet at the aft end of the boom is close to the boom. As the sail rises, you will have to look out for the relevant loop of rope to hook.
6. On the right side of the mast, take the blue and white halyard off the winch.
7. Undo the shackle attached to the thin blue rope on your left.
8. Put the shackle onto the top of the mainsail.
9. Look up to ensure the halyard is not caught up the mast before raising.
10. Pull up the sail by hand most of the way. You should only have to winch the last metre of so. Sometimes the first two sliders in the mast can catch so make sure they run freely before starting to raise the sail.
11. Set the main sheet.

Letting out the headsail (also know as Yankee)

1. Throw headsail sheets off winches.
2. Uncoil thin blue roller reefing line from small rear winch.

3. Put three turns of the red sheet of the headsail around winch you are setting sail on.
4. Pull in by hand until you can't pull any more.
5. Put sheet onto the collar and make sure it is firmly caught.
6. Winch to set the sail.

Reefing the mainsail.

If conditions are gusty, e.g. in squalls, you can half reef temporarily by letting go the traveller line under the sprayhood so the traveller falls off to leeward and depowers the main.

You can reef on any point of sail.

1. If the weather is rough, harness up before leaving the cockpit.
2. Before starting you need to take the pressure off the mainsail. If going downwind this means sheeting in tight but if close hauled it means letting out the mainsheet until the sail depowers.
3. Slacken main halyard on winch on right side of the mast.
4. Pull down the sail until you reach the loop of rope for the reef. Hook this in to mast end of boom hook.
5. Pull relevant rope under the boom until the eyelet at the outer end of the boom is close to the boom. (You may need a person in the cockpit to eyeball the eyelet for you).
6. First reef = RED; Second reef = BLUE; Third reef = Black.
7. When you have the reef secured, make sure the other reefing lines are taken in and cleated off.
8. Reset the main halyard.
9. Reset the main sheet.

Taking in the headsail

1. Put one turn of the thin blue roller reefing line around the small winch.
2. Release the headsail sheet of the collar on the winch.
3. Start pulling in the line. If it is difficult to pull in, feed out more of the sheet or in strong winds consider going downwind to take the pressure off the sail.
4. Secure the roller reefing line in the adjacent cleat.

Using the Dinghy

1. Unlock the outboard using the small key on the engine key ring.
2. Check there is fuel in the outboard.
3. Unclip the dinghy cover on the front and the left side and lift off onto the right side deck.
4. Lift dinghy on to the port side deck.

5. Clip in spinnaker halyard on to the red line on the dinghy.
6. Using the dinghy painter, pull the dinghy as far forward on the deck as possible to clear the rigging.
7. One person keeps holding the tension on the painter while the other winches the halyard.
8. When the dinghy is up to rail level, guide it over the rail and gently release the spinnaker halyard until the dinghy is in the water.
9. One person into dinghy.
10. Bring the dinghy to the stern and crew lowers outboard.
11. Screw the outboard tight onto the stern of the dinghy.
12. To start the outboard, pull out choke and pull hard on starter.
13. Once the engine starts, wait 10 seconds and then push choke back in.
14. Leave the engine to warm for a minute before starting off.
15. Reverse procedure to restow onboard.

Using the main anchor

1. Make sure engine is on.
2. Make sure circuit breaker at the nav table is on.
3. Open anchor locker and secure lid safely on port side.
4. Undo the small snap shackle on the head of the anchor.
5. Undo the small rope on the windlass and keep away from fouling on the anchor chain.
6. Release one foot of chain manually onto the floor of the locker.
7. On the right side of the windlass, by hand rotate the gipsy (the round slotted wheel the chain sits into) until you can slot in a lever to hold it.
8. Then use the bar at the back of the locker to lever onto one of the prongs on the gipsy nut to loosen it. Leave the nut hand tight, as you will use it to control letting out the chain.
9. Lift the anchor on the roller so that its weight is being held by the tight chain on the windlass.
10. The helmsperson chooses the place to anchor and brings the boat into wind and into neutral to stop.
11. The nut is released to let the anchor fall, followed by 25-30 metres of chain. (We are assuming here that you are anchoring in 5-8 metres of water. If you are deeper, let out more.).
12. Slowly tighten up the nut as the anchor digs in. Use the bar to tighten fully.
13. Let out further chain using the windlass to suit conditions.
14. Put the snubber around the left cleat and feed it out over the left roller.
15. Hook it onto a link in the chain and let out a little more chain until the weight is held by the snubber.
16. Put two turns of the chain around the right cleat.
17. Reverse this process to raise. Make sure the anchor is well seated on its roller and secured with its two ropes before setting sail.