

Elaine C.



Operation Manual and Boater's Handbook

The *Elaine C* is a 28' x 10' offshore built in 2014 at Peregrine LLC in Eagle River, Alaska.

Operation

Elaine C is powered by a single Yanmar 6lp 315HP diesel engine coupled to a Mercruiser Bravo II outdrive. The most efficient cruising speed is approximately 22-25 knots @ 3200 rpms.

- Never operate this engine over 3400 rpm.

This engine/outdrive combination has provided tens of thousands of hours of reliable service on charter boats. There are a few tips that keep both the engine and drive healthy.

- A single station, double lever Morse control provides throttle and shifting. When idling for any length of time such as warm up, it is best to increase to 1000 rpms. This is better for the engine, and minimizes “chattering” of gears in the outdrive.
- ALWAYS return the rpm's back down to low idle (around 750 rpms) before shifting into gear. Shifting should be deliberate. The drive should “clunk” into gear positively. Failure to engage fully into gear will cause outdrive damage. Do not slam the lever back and forth from forward to reverse, always pause in neutral.
- Warm the engine up to temperature before accelerating. It's best to run under load at 1500 rpm until the engine is at operating temp.
- Accelerate slowly until the boat is on step. The engine has a lot of torque. “Punching” it will break outdrives.
- Check fluids after each long run and/or daily. Checking the oil in these engines can be a little tricky. It's best to check after the engine has been off for at least a few hours. Check the dipstick several times to ensure an accurate reading. Only add enough to keep the level between the lines. Do not overfill. There will be a significant delay from the time you add until it shows on the dipstick. Do not overfill.

Expensive damage usually starts out as a small noise that gradually becomes a big Bang. If you hear anything that resembles “ticking”, “grinding”, “thumping”, “grumbling”, or “whining”, it's best to shut down to idle speed, or stop the engine completely. A bad gimbal bearing and/or a bad u-joint will normally change sounds when the wheel is turned hard over to hard over. Stop operation if you hear these noises. When a u-joint explodes, it can do severe boat damage. If the rubber boot is ruptured, you will take on water.

While operating any vessel, it is important to monitor engine gauges. Immediately shut down if any alarms sound, if the operating temperature climbs above 190 degrees, or if oil pressure drops.

Pay attention to the vessel. Most problems start off small and can be prevented. Monitor the bilge spaces and engine regularly.

Additionally, it is important to constantly watch ahead for logs, ice, and other debris. Striking a floating or submerged object will do severe damage to the vessel and outdrive. With lost revenue and shipping, a broken outdrive can cost nearly \$20,000 during the season. Pay careful attention while at the helm!

If the engine fails to turn over, it is possible and most likely that the starter solenoid is not working. Try tapping the starter. Solenoid malfunction is sometimes common among marine engines.



Boat Maneuvering

Whittier is known for its occasional windy conditions, especially during clear, high pressure conditions. Although these conditions are typically only local to Whittier and the Sound will be considerably calmer, winds make moving around in the harbor and other close quarters tricky. Expensive damage to your boat or others is possible if you are not extremely careful. Travel at a very slow speed in the harbor, even if this means you have to bump the drive in and out of gear. Always be prepared with lines and fenders ready. Have at least one person holding and ready to use an extra fender if needed. Call for assistance if necessary. We will meet you at the fuel dock, or outside dock if you need help. Whittier Harbor will also send personnel to assist you if you need help. They can be called on VHF channel 68. Never approach a dock without fenders out and people ready to handle lines. **Err on the side of caution, you don't want to be responsible for expensive damage.**

Boat Loading

Load the boat so that it sits level. Listing is better corrected by moving gear rather than by using trim tabs. Trim tabs will slow you down and decrease efficiency. Do not overload the vessel as this will stress the engine and drive and may cause unsafe stability

issues. Eliminate extra and duplicate gear. Most boaters carry far more gear than necessary.

Cooling System

The Yanmar 6lp is cooled via a seawater heat exchange system. Seawater is pumped through the engine and is used to cool the freshwater/antifreeze system surrounding engine components. There is a large sea strainer mounted on the forward engine bulkhead. This will require occasional cleaning and is the most likely cause of engine overheating. The fresh water system is filled on the top of the engine and operates like a car radiator. Coolant levels should be checked prior to long trips. Only open the cap when the engine is cool. An overflow reservoir is mounted to starboard of the engine. Levels in this bottle change greatly. As long as the tank on the engine is full, the engine is fine.

Belts

Spare V belts are onboard and can be changed with a 12 and 14 mm socket. The small serpentine belt is for the power steering pump. It is fine to operate the engine without this belt in place.

Fuel

Two 80 gallon fuel tanks are located forward of the main engine room bulkhead. One is to port and one is to starboard. Sight tubes indicate the tank's level. The engine draws from the port tank and an equalizer hose will keep the tanks level. Be sure that the valve is left open.

A Racor filter is located on the port side of the bulkhead forward of the main engine. 2 micron replacement elements are onboard in the unlikely event that a filter should become plugged. A second stage filter is mounted on the port side of the engine forward of the fuel pump. This filter should not need service, but there is a spare onboard.



Racor filter



Secondary filter



Sight tube

Auxiliary Power

A Yamaha outboard provides auxiliary power. The motor bracket must be lowered for use. The motor has electric start.

Electrical System

The boat is equipped with a house and a starting battery. Batteries are automatically isolated and charged. Switches are to port and starboard should you need to shut a bank down. Normally, you would not need to turn batteries off.



Bow Thruster

This boat is equipped with a bow thruster to aid in maneuvering. To turn in on, you must push the button twice. Then the jog stick should work. Do not operate the motor for more than 20 seconds continuously. Always have someone ready with an extra fender when docking and never operate at a speed faster than you would want to hit something when docking. The thruster is operated from a battery located under the v-berth floor. There is a resettable breaker mounted on the bulkhead near the thruster.

Bilge Pumps

There are four bilge pumps onboard. Two are located under the engine, one is located in the fish hold, and one is located under the cabin sole. They are controlled from switches on the dash and should be left on “Auto” at all times.

There are two high water bilge alarms onboard. One is located under the engine and the other is located under the cabin sole through the aft hatch. Bilges should always remain fairly dry. If an alarm sounds, you need to immediately address the source of the water.

Trim and list

The stern drive trim is controlled by the toggle switch starboard of the steering wheel. Normally, it does not need to be adjusted. If you do need to tilt the drive, be certain that it is all the way down and then “bumped up” before operation. Severe ujoint damage will occur if you operate the drive when it is up. Drive trim is powered by a breaker on the dash panel. **Adjusting trim should not be necessary on your trip. Do not operate this vessel in the shallows.**

Consider list when loading the boat. If the boat lists to one side, a correction can usually be made by sliding a heavy cooler, the halibut weight basket, fish box, etc. to even the boat out. It's unlikely that you will need to use the trim tabs, but they are controlled from the rocker switches on the dash. Both trim controls are powered from a breaker on the dash.

Fresh Water System

There is a 20 gallon fresh water tank located under the cabin sole. A 12 volt pressure pump, run from a breaker on the panel, runs the pump.

Salt Water Wash down

The wash down pump is located in the engine compartment. The pickup is through the sea chest in that compartment. A breaker in the panel controls the pump. The breaker should be turned off when not in use. Although there is a pressure switch, leaving the pump on all of the time will lead to shortened life. Additionally, the pump will flood the boat if a line is ruptured.

Planar Heater



A hot air furnace is mounted under the sink and controlled by a keypad mounted near the sink. Touch the center button until you see dashes. Use the arrow keys to turn the heater up or down. The unit gets hot. Do not stuff items under the sink.

Marine Head

The marine head sits on a holding tank. When 3 Nm offshore, the valve under the tank can be opened so that the tank can be drained overboard. The valve is located under the cabin sole and is locked. The key is on the chain with the ignition key. This is a very reliable system. Never put anything other than human waste and marine toilet paper into the toilet. You will be charged a cleaning fee if we need to remove objects from the tank.



Bunks

Along with the v-berths, the table will drop into a bunk. Remove the table from the bracket. It will then fit between the seats. The seatbacks will cover the table.

Fish Hold

The large fish hold below decks is used for storage. Do not put fish in it. Monitor it for water and pump it out if necessary.

Electronics

A Garmin 840xs offers GPS charting, radar, and broadband sonar functions. Operation is intuitive, but the manual is onboard, or can be downloaded to a smart phone if needed.

Safety Equipment

7- Type I Adult personal floatation devices located under the port side seats. Flares, first aid kit, fire extinguishers, a throwable floatation device, and a smoke/CO detector are onboard. Become familiar with their locations prior to departing.

Signal flares and a basic first aid kit are located in the drawer under the table.

Spare Prop

If available, a spare propeller is located in the boat's fish hold. It can be changed by tilting the drive up and using Channel locks. Take great care not to drop any of the parts, and make certain that you put it back the way it came off. Severe drive damage will occur if you don't.

Anchoring

The anchor system consists of a 33lb Bruce anchor, 30' of chain, and 600' of line. A buoy system with either a ring or a retrieval device is used to pull the anchor. Take great care when pulling the anchor as it can be extremely hazardous. **Do not wrap the anchor line around the outdrive. Doing so in heavy seas and/or current will sink you quickly.** There is a sacrificial line tied to the chain. This should allow a stuck anchor to be pulled.

Instructions for Use

Setting an anchor

Oregon State Marine Board guidelines recommend paying out anchor line a minimum of seven times the depth of water. Then apply Orval's EZ Pull.

How to install Orval's EZ Pull™

Hold the device in your left hand with the slot facing to the right, use your left thumb to depress the lever down.

Lay the anchor line in the slot, beginning at the roller end. The line snaps in and under both line locks with a little pull on the rope

Detailed Instructions



Hold the EZ Pull in your left hand and with the left thumb press the lever down.



Lay line in the slot and then pull line in under the center rope lock and under the retainer on the roller end of the casting.

and a slight twist on Orval's EZ Pull™.

You're now ready to toss the line overboard with the puller and buoy in-place. Pay out some more line and secure the line to the bow.

Lifting & retrieving an anchor

Move the vessel forward till the line is tight and the anchor has lifted clear of the bottom. You're now able to lift and retrieve using the boat's forward motion at a nominal speed.

Pulling crab pots

Pull along side the buoy and retrieve the pot buoy and some line; place Orval's EZ Pull™ on the crab pot line (as described above) with the attached puller buoy. Give Orval's EZ Pull™ its buoy and some slack line in the water. You're now able to retrieve using the boat's forward motion at a nominal speed.

Removing Orval's EZ Pull™

Grasp the rope about 8" to 10" below the roller end, fold it back into the slot and give it a pull toward you.



This end faces the anchor or crab pot.



This end faces the boat.



To remove rope from EZ pull. Grab the rope about 10" below the EZ Pull and fold the rope back in the slot and give it a pull toward you. Then it will snap right out.



Chain should be about 14" from buoy. This length works best for me.

Pot Puller

The pot puller on the davit is an electric capstan. A push button switch located on the gunnel near the davit turns it on. It is powered through a resettable breaker mounted on the starboard side of the engine room. Use care when pulling pots. Do not pull too hard, personal injury and/or damage to the boat can occur.

Raft

An Achilles raft is onboard for shore excursions. Take care in where you land the raft as sharp rocks and barnacles will puncture the raft. You are responsible for damage to the raft. Always wear a life jacket and be prepared while ashore. Remember to take adequate safety equipment, food and water, and to be mindful of tidal and weather conditions.

Monitor the vessel

Most boat problems begin small and grow quickly. Monitor bilges and engine regularly. You are responsible for the equipment and contents of the vessel.

Returning the Vessel

It is your responsibility to return the vessel in the condition in which you received it. Fuel tanks must be full and the boat needs to be clean. Portable toilets also need to be emptied. Cleaning supplies will be provided to you after you unload and prior to final checkout.

Plan accordingly. If you run off for the tunnel and leave the boat messy, you will be charged a steep cleaning fee.

Whittier Harbor

Make arrangements with the Harbor Master if you plan to stay in the harbor overnight. You are responsible for moorage fees while you are renting the vessel.