ESCAPE

BAVARIA 36
Welcome Aboard!

The information summarized in these notes is intended to assist all skippers, crew and guests on board ESCAPE in feeling more comfortable with the basic "systems" and how they work. If something isn't familiar to you, please check these notes. If the information is unclear, incomplete, confusing, or otherwise less than helpful, please help us to add, change, or restate the information so that it conveys the desired results: "Oh, now I know how to operate the ....."

Please feel free to add YOUR suggestions for other information or clarifications at the end of these notes on the blank pages. Your suggestions will be incorporated into future revisions and will help everyone sailing ESCAPE. There are several diagrams and figures appended to these notes to help you identify the location of equipment, valves, and related items.

You will also find additional reference manuals aboard ESCAPE that can assist you in feeling comfortable with the major systems. Two binders, “Mechanical Systems” and “Electrical and Electronics”, contain original manufacturers manuals for most of the systems installed aboard ESCAPE. When in doubt, or questions arise that are not adequately covered in the “ESCAPE Plan”, please refer to these notebooks for additional information.

You will see that ESCAPE is posted as a No-Smoking vessel. We ask that you restrict smoking to the cockpit or decks and/or dockside in order to maintain a pleasant sailing environment for all guests. Your cooperation is appreciated.

May you be blessed with fair winds and calm seas!

Owners
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DOCUMENTATION, REGISTRATION & INSURANCE

A copy of the Insurance record is kept in a pocket in the AYC Gray Manual. All necessary Ship’s documentation papers, and license are in the AYC Gray Manual. The manual is located in the lower shelf on the right side of the Nav Station bench.

SHORE POWER

The cord is normally stored in the starboard lazarette (cockpit) locker. The Shore Power cord is a three-prong "twist lock" plug, with one "L" prong that must be matched with the receptacle, then "twisted" about one quarter turn. The onboard connection is found on the transom and is locked in by the same type of twist lock and sealed by the screw-on ring attached to the plug.

The yacht is equipped with a main 110V breaker switch. It is located at the electric panel next to the chart table.

The yachts shore power system is a normal 30 amp marine service. Adapter plug units are under the bench at the chart table.

Important: Be sure that your hands are dry before you touch the 220-volt cable and it’s terminal connector strip!!

Check to see if there is a switch or fuse box at the dock connection. To connect or disconnect the Shore Power cord, first make sure the “30 Amp Master Circuit Breaker” switch on the boat electrical panel and the power switch on the Dock plug box are both turned OFF. Connect the dock end of the cord first, then connect to the boat receptacle, and then activate the switch on the dock. If the shore power circuit breaker trips (the polarity is incorrect) then disconnect the cable immediately. Do not activate the yachts main circuit breaker until this problem is corrected. Contact the Harbor Master or marina staff and report the problem to them.

To activate shore power, turn the “30 Amp Master Circuit Breaker” on the electrical panel to “On” (upper left corner).

It is strongly recommended that the shore power cord be disconnected before leaving the dock. Power cord is only 50’!!

THE BIG “KILL” SWITCH

Tucked under the Nav Table, above the bookshelf containing this “Grey” book and other reference materials is a red switch. This will kill all 12V power to the entire yacht except the Espar Diesel Heater. If you should have an issue on ESCAPE and feel the need to stop all power to everything, this is the switch! PLEASE use this switch only in case of emergency. Shutdown the engine before using the “KILL” switch to avoid damaging the alternator.
ELECTRICAL PANEL

The left side of the electrical panel contains the switches for the AC 110 volt accessories. The right side of panel contains the switches for all 12-volt circuits such as instruments and accessories. When connected to shore power both the 110-volt/AC and 12-volt/DC are operable. When not connected to shore power only the 12-volt systems are operable. We do not have an inverter aboard this vessel.

To the left of each 12V switch is a light that indicates if the switch is turned on and a push button circuit breaker. If the switch is in the “on” position but the device does not work, push the button to reset the breaker.

The Espar Diesel Heater does not have it’s own switch on the electrical panel. Due to the nature of it’s cool down cycle the on/off switch is located on the wall to the left near the VHF radio. There is also a push button circuit breaker for this heater located at the battery terminal under the aft settee bench.

Below the 12-volt switch panel there is a 12-volt ‘cigarette-lighter’ type plug that may be used for various 12-volt accessories or chargers for items such as laptop computers, etc.

More information about specific switches is contained in the pages to follow.

The 12-volt Panel Switches

When a switch is toggled to the right the power is ON, look for the small green light. When toggled to the left, the power is OFF. A detail diagram of switch labels is located on the next page. The following is a list of the switches by number and the order they are on the panel.

1 Anchor Light  9 Bilge Pump
2 Steaming Light  10 Water Pump
3 Tri-colored Navigation Lights  11 Shower Pump
4 Deck Light  12 Refrigerator
5 Cabin Lights  13 Blower (engine room)
6 Instrument Lights  14 Windless
7 Binnacle Instruments  15 Vacant
8 12 Volt Outlets  16 Holding Tank
AM-FM Stereo Radio Compact Disc Player

The Stereo system is wired directly to the batteries and is not controlled by any switches on the DC control panel. The Stereo System can be turned ON or OFF by the “Select” button located in the middle of the faceplate. A copy of the Operation Manual is in the “Electrical/Electronics” binder. An iPod/MP3 type device can be plugged in using one of the ports at the lower right hand corner (“11 or 12”). There is also a USB port at the same location.
CD Player Operation

To insert or eject a CD press the “Release” button (1) to open the flip cover panel; push the CD into the slot and push the panel closed; the CD will begin to play. To eject the CD open the cover and press the “EJECT” located on the inside of the panel.

There are four speakers aboard *ESCAPE*, two in the main cabin and two in the cockpit. To select either set of speakers press the “AUDIO/MENU” button until “FADER” appears. Turn the center button (Select) outer ring, FAD F 12 for the cabin speakers or FAD R 12 for the cockpit speakers. Of course you may select something in between to have sound at both locations. Use this same “AUDIO/MENU” button to adjust balance, bass & treble. Please see the manual for the full explanation for using your iPod / MP3 devices.

**BATTERIES**

*ESCAPE* is equipped with two 12-Volt batteries. They are located under the aft starboard dinette seat. One battery is a “cranking” battery and dedicated to starting the yacht’s engine. The other battery is a “4 – D” AGM battery. It is dedicated to the yacht’s house 12-volt electrical system.

Both batteries are maintenance free, sealed batteries. There is no need to add water.

At the top of the 12V Electrical Panel are two LED display’s. Below each display is a push button for the display. Push the left button and the voltage of the starting battery will be displayed. Push the right button and the voltage of the house battery will be displayed. Please check the house battery frequently to gauge your battery usage and necessity to recharge the battery, either by running the engine or plugging into shore power. You may also monitor battery condition using the “LINK 10” display as described below.

To the right of these displays is a low voltage LED indicator light. It will light up when the house battery is below 11.2 volts. When you see this light immediately shut off ALL unnecessary 12V systems and begin charging the battery. When the house voltage drops below 10.5 volts an automatic shut down of the house 12 V systems will engage and you will have NO power for anything, including such critical instruments as the depth sounder or GPS. PLEASE DO NOT LET THE HOUSE BATTERY DROP THIS LOW IN VOLTAGE. (The reever will probably be your culprit in running down the battery).
BATTERY CHARGER

The charger is located (hidden) on the starboard side BEHIND the settee in front of the Nav. Station. The charger is turned on at the AC Panel; the last switch marked charger.

There is a house battery that operates all on board 12V systems. The batteries’ operation is controlled and monitored by the “LINK 10” battery monitor system, an automatic system that requires no manual switching of batteries.

Battery discharge and condition can be monitored by the Link 10 LCD display located on the Navigation Panel.

Link 10 Battery Monitor

The most important information the Link 10 monitor can provide to your is the charge level of the batteries and the approximate time the batteries will operate at their current charge level. To determine the estimated time of the batteries, push the “SEL” key until the small “t” on the right directly under the display is lit. When the batteries are fully charged they will operate the yachts systems for approximately 284 hours (depending on the level of electrical use). When the batteries estimated operation time drops below 140 hours, they should be charged. The batteries can be charged by plugging into shore power or by running the yachts engine. The charger switch is the bottom switch on the A/C panel and should be turned on.

The LED lights to the right of the meter indicate the charge state of the batteries, which can be determined at a glance. The diagram below is a quick reference for operation of meter.

The Link 10 control panel allows the owner to customize the charging operation to the size type and brand of batteries currently in use. Please do not reset any of the system parameters currently set on the system.

INSTRUMENTS

Autohelm ST50 Speed, Depth & Wind Indicator
and ST4000 Auto Pilot & GPS

All the Navigation instruments except the chartplotter are activated from the 12-Volt electrical panel, using the Nav/Com switch #7. The Knot Meter, Depth Sounder, Apparent Wind Indicator, GPS and Auto Pilot are then powered and activated. All of these instruments are linked to share information, therefore providing you with accurate information.

Holding down the buttons for several seconds at a time may cause the instruments to go into reset and calibration modes. We ask that you not do this as these functions are complicated and time consuming to reset. The instruments may also go into “Code Lock”. If this occurs, the instrument can be reset by entering four zeros. Again, please do not attempt to reset or calibrate these instruments as you may lock the system. If you have any problems with the instrument please contact your AYC fleet skipper.

The Depth Sounder will generally give measurements in several hundred feet of water. In some instances thermal-climb (layers of water with dramatic temperature differences) may confuse the instrument causing it to give improper readings.

Remember the primary rule when using any electronic navigation instrument “Your Nautical charts should always be consulted for final authority on location depth and hazards.”

Chart Plotter

The RayMarine C-80 Chartplotter has dedicated wiring and is not activated by Nav/Com switch #7. However because they share data wiring, remember to turn on switch #7 before turning on the C-80 or the chartplotter will back feed 12V to the other instruments causing the autopilot to beep.

On the left side of the Chartplotter is the access door to the chart chip. This door needs to remain snapped shut at all times to ensure water does not enter and cause damage. There should be no need to remove this chip, in fact the C-80 needs to be powered down before removing or the card can be damaged. Again, please do NOT open this door or remove the card.

The Chartplotter is a wonderful tool for navigation and trip planning. There is so much information available that a three binder containing all the information is found in the Nav Station. Please feel free to consult this and have fun. But do remember the primary rule of navigation, charts are the final authority!

PLEASE do not change the pre-set WAYPOINTS entered into the GPS. Additional temporary waypoints may be created (see instruction booklet) if needed. In addition, the MOB function can be used to set a temporary waypoint for the current boat position.

A secondary chartplotter is located on the wall at the Nav Station, Raytheon RL70. If the other instruments are turned on it will repeat those instruments on its’ screen. However the
chart chip is totally separate from the C-80 and the WP’s will not be duplicated. But depth, wind speed, etc can be read and in an anchorage your location can be monitored.

VHF Radio

The VHF radio call sign for *ESCAPE* is WCZ2587 and is also printed on a label above the radio. PLEASE use the radio properly. Violations are "EXPENSIVE"! Guidelines for proper use of the radio are included in the Grey AYC Manual.

The FCC has shut down all telephone use connected with VHF radios, in other words there are no more marine telephone operators.

In normal cruising areas it is also possible to use most Cellular phone networks, reducing the need to utilize the VHF system for non boat-to-boat conversations.

WATER SYSTEM

There are two water tanks with a total 90 gallons of water. The tank designated as Tank #1 is located below the port side aft berth. The filler port for Tank #1 is located on the port side transom above the swim platform. The tank designated as Tank #2 is located below the bed in the “V” berth. The filler port for Tank #2 is located on the deck forward of the anchor rode locker lid. The caps have a pop-up handles to assist in unscrewing the cap. The caps are attacked to a chain anchored to the fill spout. When replacing the cap please do not over tighten the cap, it should only be snug using your fingers. When filling the water tanks do not leave the hose in the filler spout unattended.

The fresh water system operates utilizing a pressure water pump. The pressure water pump is located in the cabinet in the head. The pressure water pump serves to produce pressure water for the entire hot and cold-water circulation system.

The Water Pump switch, #10 on the electrical panel, must be in "On" position to obtain water pressure to have either hot or cold water.

The valve to switch from one tank to the other is located behind the right cupboard door in the head. The valve has a red handle. When the handle is pointing forward the water is being drawn from the forward tank. To begin drawing water from the aft tank, the valve must be turned until it is pointing upward.

Each sink drain is equipped with a through-hull valve. If a sink does not drain, check to ensure the valve is in the open position (handle parallel to drain hose rather than perpendicular). For safety reasons the valves should remain closed when not in use while sailing. Under extreme healing the sinks may overflow so the valves should be closed if those conditions arise.

The hot-cold wash-down hose at the swim platform is located on the port side transom. The main water system pressure switch must be turned on for this hose to operate.
WATER HEATER

The yacht’s hot water system has three heating systems on board. The yacht has a 110volt AC system, the usual hot water exchange system that is tied into the engines cooling system and a separate Espar diesel hot water heating system. Both of these systems are integrated, providing hot water from both systems with a minimal of attention to operate either system.

The Water Pump switch, #10 on the electrical panel, must be in "On" position to obtain water pressure to have either hot or cold water.

110 volt AC hot water heater

The electric hot water heater can be operated when the yacht is hooked up to shore power. To turn on the electric hot water heater plug in the shore power cord, activate both the shore power breaker and yacht main breaker switches and then turn on the Water heater breaker switch located on the yachts 110V electrical panel located at the Nav station. Activate the switch and you will have hot water in approximately 30 minutes (if you are starting with cold water).

Engine heat exchanger

Water is heated automatically whenever the engine is running. The water is heated when it runs through the hot water exchange heater of the diesel engine. When starting with cold water, a full hot tank can be obtained in approximately 30 minutes once the engine is at normal operating temperature. Water in the tank will stay hot for several hours, but is cooled as water is used and replaced with cold water from the water tanks. Remember, the engine can only heat the water so much so don’t expect to get “blazing” hot water.

Espar Diesel Hot Water Heater

A diesel hot water heater provides heat to each of the yacht’s cabins. The distinct advantage of this system is that it also heats the domestic hot water when operating. The heater is separate from the yacht’s diesel engine. It is a separate diesel fired unit heating water in a closed loop system, circulating this water in hoses throughout the yacht. The main cabin and each sleeping cabin has a “radiator” type unit to provide the heat. The “boiler” is located under the transom aft of the starboard side cabin. Its exhaust exits on the stern starboard side. Therefore it is not necessary to run the yacht’s diesel engine to heat water.

The exhaust from the Heater is very hot! DO NOT tie the dingy to the starboard side of while the yacht, as it will damage the line (painter), which may result in the loss of the dingy towing. Also make sure the dock lines do not lie against the exhaust.

When the heater is in operation, you will hear the sound of water circulating from the starboard aft cabin and the normal operational sound of the heating unit running.

The controls for the heating system are located at the Nav-station just below the stereo
system. A discussion of heating *ESCAPE* is contained in the “Heating” section. To turn on the Espar Diesel heater to make hot water, simply turn the rocker switch to the on position. The red LED light should come on. If cabin heat is wanted the thermostat must be adjusted as discussed later. It normally takes about 20 minutes for the Espar unit to run thru its start up cycle so allow plenty of time before expecting hot water. Remember using the Espar heater will not fill the Hot Water tank with a reserve of hot water. There are no other steps required to obtain hot water for the water facets in the kitchen, bathroom and swim platform.

When the system is going to be turned “OFF” (shut down) you may still hear the fan and pump running in the aft cabin. This is normal.

Instructions for cabin heat see section marked Heating.

**GALLEY**

Sink Drains

The drains on the galley sink connect to individual through-hull values. The galley through-hull valves are located directly under the sinks.

The valve should be **CLOSED** if *ESCAPE* will be sailed in heavy weather conditions and severe healing is expected, this will prevent back filling of the sink and avoid possible water overflow into the cabin.

Galley Stove

The stove operates on propane (LPG) fuel. The fuel tank is mounted in a self-draining case molded into the deck on the port side of the walk-through transom. The tank may be difficult to remove but a little finesse will do the job.

**BE CAREFUL**

IF ANY FUMES ARE DETECTED at ANY TIME WITHIN THE BOAT, the electrical switches should be turned off and the boat adequately ventilated.

A standard valve is located on top of the tank. On the bulkhead above the stove is a gas control panel. The control panel has an on/off switch to control the gas flow. When the switch is on a green light on the panel will be lit. When the stove is not in use, the switch should remain off. If the yacht is going to be left for a long period of time the gas should be shut off at the tank.

Make sure the individual stove knobs are closed before the bottle valve is open.

If there is a leak turn off the gas valves and call for repairs.

Lighting Instructions

Open the valve on the tank and activate the switch above the galley.
A butane lighter is located in the bin above the stove.

To light the burner, choose the appropriate knob for the burner on the front of the stove. The knob will have a white dot at the 12 o’clock position. Turn the knob counter clockwise approximately 90 degrees. (There is a small flame picture) Push in on the knob and light the burner. Hold in on the knob approximately 15-30 seconds, and then release. The burner should stay lit. If the burner does not light, repeat the above hold down the knob for a longer time. At this setting the burner is on high. Continue moving the knob counter clockwise to reduce the heat.

To light the oven, open the oven door. In the center of the bottom of the oven, you will see a small round tube. Place the butane lighter at the end of the tube, depress and turn the knob as described above for the burners to light the oven. Continue holding the knob until the burner has heated sufficiently heated to remain lit. To regulate the oven temperature, continue moving the knob counter clockwise for lower temperatures. For your convenience an oven temperature gauge is located in the lower right hand side of the glass oven door.

The stove on this yacht is gimbaled, allowing you to cook while under sail. A lever in the lower right hand side of the stove face can release the stove. The stovetop is equipped with arms to hold the pots in place and can be adjusted with the setscrew knobs located at the front of the stove.

This completes the basic class 101 on stove operation. To ESCAPE galley duties, claim total innocence and knowledge of stove operation and reassign duties to your mate!

Refrigerator / Freezer

Power is supplied to the Refrigerator using the #12 switch on the electrical panel. Switch on the refrigerator by turning the thermostat knob clockwise, located within the reefer. By rotating the knob you can regulate the internal temperature. Start with setting #4 and make fine adjustments from there. The compressor is located in the cabinet under the refrigerator.

Within the fridge are dividers and the Freezer compartment is the smaller of the compartments in the box. The refrigeration unit will keep items frozen that are already frozen when placed in here but as with most small units it will have a tougher time freezing an item or two. Putting more frozen items will help stabilize the temperature. Of course when in doubt, eat the ice cream first!

HEAD

Thru-Hull Drains

The drains in the head have individual through-hull values. There are four total: the sink, the salt water inlet and outlet for the head and the shower sump outlet. All thru-hull valves are located directly under the sink.
There is no need to close the thru hulls in normal conditions but should you find yourselves in extreme sailing conditions it may be wise to close all valves to prevent back filling and avoid possible water overflow into the cabin when healing strongly in heavy sailing.

Marine Toilet

Proper operation the marine toilet contributes greatly to the comfort of the crew and guests! Improper usage requires disassembly of the pump and this is not fun. So please take time to FULLY understand the basics of properly using this system.

As you look into the head, immediately to the left, on the sink cabinet, is a black lever. The lever is secured in place with a plastic tie fastener. This yacht is designed for long distance cruising and therefore allows for direct discharge overboard into the water. However USA Federal regulations require that this lever be secured to the “Tank” position. There is a through-hull under the sink that must also be opened if the head is to be directly discharged overboard. This through-hull should be maintained in the closed position. If the Coast Guard boards the vessel and finds this valve in the “overboard” position, they will get extremely cranky and levy a large fine. Please do not change the position of the switch.

The head pumps into the holding tank located under the starboard settee seat. This tank may be emptied at a pump station or by utilizing the Macerator Pump as described under “Macerator Pump.” The pump out deck fitting is located on the port midships and will require the use of the deck key (located under the nav station table). This is always one of the highlights of a sailing vacation!

Head Operation: Please also refer to the laminated card attached to the hose.

The small grey lever located near the pump handle allows a “wet” pump or a “dry” pump. Moving the grey control lever to the left, “W” position, will allow salt water to be pumped into the bowl. Moving the grey lever to the right, “D” position, will pump dry the contents of the bowl out. PLEASE DO NOT PUMP SALT WATER INTO THE BOWL UNLESS THE YACHT IS LOW ON POTABLE WATER. The preference is to use the sink faucet to partially fill the bowl with fresh water. The bowl half full is only about 1 quart of fresh water. “Dead” seawater left stagnant in the discharge hose begins to smell in a fairly short period of time, but fresh water will not smell. So when your sailing mates leave the head, they cannot blame the odor on the salt water!

Pump the handle up and down until the pump is primed. Operate the pump with long smooth strokes for efficient and easy operation.

Use good quality biodegradable toilet paper, but do not use more than is necessary.

During use, pump as necessary to keep the content of the bowl low enough for comfort. After pumping the bowl dry keep the grey flush control lever to the right and pump one more time. Always leave the bowl empty to minimize odor and spillage. The grey valve should remain in the “Dry” position when boat is sailing.
This will prevent back filling of the toilet and/or the head sink and avoid possible water overflow into head compartment when healing strongly in heavy sailing.

**Do not put in the bowl:** sanitary napkins, paper towels, cloth, cotton, cigarettes, matches, chewing gum or any other solid objects, petroleum products, solvents or water that is more than warm to the touch (no I don’t want to tell you how to know this). Remember: Do not put anything in the toilet unless you have eaten it first! Except of course toilet paper.

**Shower**

The water from the shower is collected in the molded bathroom floor and drained to the outside by means of an electric sump pump. The switch to activate the shower pump is located on the left front of the sink cabinet. Switch #11 on the 12V Electrical Panel will need to be turned on before the sump pump can be used.

The fixture on the sink pulls out on an extended hose. The Water Pressure/Shower Pump switch on the 12 v. electric panel must first be turned on. After completing your shower flush the drain with water. Continue to run the shower sump pump in order to remove excess water accumulation, which will reduce the potential for odor buildup!

**MACERATOR PUMP**

Where legal (i.e. in Canada outside closed bays, marinas, etc) and if treatment chemicals have been added to the holding tank the macerator pump may be used to pump the tank. Make sure the macerator through-hull is open. It is located in the storage area adjacent to the holding tank, which is located under the cushion and hatch of the starboard settee bench. The sewage tank is a 15 gal tank and does not have a gauge. You will need to use good judgment emptying the tank whenever you feel it is necessary. When the tank is overfilled it will be difficult to pump the toilet and the tank should be emptied immediately.

When pumping the tank you will be able to tell it is empty by listening to the macerator pump. There is a definite change in the sound of macerator pump when the tank is empty. A full tank will tank only about 3-4 minutes to pump.

The macerator through-hull must be opened, (handle parallel to through hull fitting or vertical) before turning on the “Holding Tank” Switch # 16 on the 12V Electrical Panel. Failure to do so will result in damage to the pump.

**HEATING**

**Espar Diesel Hot Water Heater**

A diesel hot water heater provides heat to each of the yacht’s cabins. The heater is separate from the yacht’s diesel engine. It is a separate diesel fired unit heating water in a closed loop system, circulating this water in hoses throughout the yacht. The main cabin and each sleeping cabin has a “radiator” type unit to provide the heat. The “boiler” is located under
the transom aft of the starboard side cabin. Its exhaust exits on the stern starboard side. Therefore it is not necessary to run the yacht’s diesel engine to heat water.

The exhaust from the Heater is very hot! DO NOT tie the dingy to the starboard side of while the yacht, as it will damage the line (painter), which may result in the loss of the dingy towing. Also make sure the dock lines do not lie against the exhaust.

When the heater is in operation, you will hear the sound of water circulating from the starboard aft cabin and the normal operational sound of the heating unit running.

There are fan controls located in the three berths and at the Nav-station for the main salon. The fan control in the aft port berth also heats the head. Each room is equipped with a vent duct. The vent duct must be manually opened and closed.

The temperature control for the heating system is located at the Nav-station just below the stereo system. It is a thermostat and on/off switch. The thermostat can be turned on or off by depressing the rocker switch in the upper right hand corner. A red light should indicate the thermostat is operational. The red green light will not come on until the water in the closed loop has been heated to operation temperature, therefore there will be a delay. Please be patient.

A circular knob located in the lower right hand corner of the thermostat operates the temperature control setting.

When the system is going to be turned “OFF” (shut down) you may still hear the fan and pump running in the aft cabin. This is normal.

ENGINE OPERATION

ESCAPE is equipped with a Volvo Penta Model D2-40, 40 HP diesel marine engine. The yacht is equipped with a sail drive unit (a drive unit connected to the yacht’s propeller, which eliminates a propeller shaft). The cooling water for the engine is brought in through the foot of the sail drive.

Instrumentation

The instrument panel with ignition switch is located on the aft side of the binnacle console below the wheel, above the Tachometer / Digital hour meter.

Starting the Engine
ESCAPE does not have an ignition key starting system. Located on the binnacle, above the Tachometer is a small square black panel with four buttons. The top left button is the On/Off switch supplying power to the Tach. The top right button is the start button for the engine. The bottom right button is the stop for the engine. The bottom left button is to acknowledge an alarm.

Make a habit of visually checking the engine and engine compartment before starting the machinery:

Check that the Raw water cooling valve is open, at the sail drive.

Check that the Fuel / water coalescer is dry.

Check for fuel or oil leaks.

To start the engine, turn the panel on (top left button) and wait for the beep. This will notify you when the glow plugs have received power and the engine may be started. Push the top right button to start the engine. Ensure there is cooling water coming out the exhaust (on the port quarter).

Never use starting spray or similar agents to start the engine.

Check whether there are any lines, chains, or other ropes in the water, which could easily get caught in the propeller.

Check to ensure the shore power cable has been removed and stowed.

When sailing the transmission control lever must be in the neutral position.
Cooling System

The Cooling system is divided into a freshwater and a saltwater system. The seawater pump sucks water into the seawater system through the sail drive unit. Seawater is then pumped through the heat exchanger and into the exhaust elbow pipe where it is mixed with the exhaust gases.

The freshwater system is the internal engine coolant system. It is a closed system driven by the circulation pump. The freshwater system engine coolant in cooled in the heat exchanger by the seawater.

A control valve for the cooling water system is located on the port side of the sail drive and operates the same as through-hulls. A raw water filter is located on the aft starboard side of the engine compartment. **The filter screen should be checked at least once a day prior to engine starting** or if the boat is operated in waters with a large amount of debris. It is not necessary to close the raw water valve to clean the filter. Simply unscrew the top of the raw water filter, remove and clean the filter, replace and screw the top back on.

The fresh water system fluid level should be checked daily prior to starting the engine. If needed fill coolant from bottle marked 50/50 coolant located in stores.

Check the exhaust outlet on the port quarter of ESCAPE after the engine starts. Cooling water should be exiting from the exhaust valve, indicating that the water pump for the cooling system is operating properly.

At operating temperature, the engine temperature gauge should be between 165 – 195 °F and 75 - 90 °C.

Operating the engine at wide-open throttle should be avoided. ESCAPE runs best between 2,800-3,000 rpm while motoring.

Stopping the Engine

Push the stop button (bottom right button) located on the engine instrument panel to stop the engine. After the engine stops, a warning buzzer will sound then stop. This is normal.

Fueling

The diesel fuel tank capacity is approximately 39 gal. The filler pipe is located on the starboard transom of the yacht. The deck plate is colored red. To remove the deck plate push up the tab and twist the cap off. You may need to use the deck plate key if the cap was tightened to tight. Please take care not to break the tab off the plate cover.

When fueling, shut off engine and watch carefully to avoid overfilling. Use an OilSorb to catch or clean up any spilt fuel. The OilSorbs are located in the locker cabinet under the Nav Table.
The tank vent is located next to the filler pipe. Please place an OilSorb over the vent to catch diesel spills. Keep the OilSorb in place until after the engine is started as the tank has a tendency to burp as it is filling or when the engine is started and rocks the level in the tank.

The engine is serviced regularly and under normal conditions should require no special attention. The oil dipstick should be checked daily before starting the engine. Spare oil is kept on board and may be added ONLY IF NECESSARY. DO NOT OVERFILL! The dipstick is located on the starboard side of the engine inside the small engine access hatch in the starboard aft cabin area.

The Sail Drive unit (Reverse Gear “S” Drive Unit) oil level is serviced regularly. The oil level is checked with the dipstick unscrewed from the housing. PLEASE DO NOT ADD OIL AS THE UNIT IS EXTREMELY SENSITIVE FOR PROPER OPERATION.

ANCHOR & CHAIN

A CQR Anchor is located on the bow with a secondary anchor kept in the port aft cockpit locker. The primary anchor is connected to 60 feet of chain, with an additional 240-foot anchor line. The secondary anchor has 15 feet of chain and 150 feet of rode. The primary chain is marked with paint at 10-foot increments. The anchor line is marked with plastic "flags". The anchor should be carefully released over the bow roller and then lowered manually until contact is made with the bottom. Do not simply let the anchor line ‘run free.”

Depending on depth and weather conditions, additional chain/line should be played out as the boat is slowly backed down to firmly set the anchor. Once the anchor "catches" set it firmly by tying down the line and placing the engine in reverse and increase engine power to approximately 1000-1250 rpm to confirm that anchor is not dragging (better to take 5 minutes now than a chaotic hour at 2 am!). Tie off the anchor line to the anchoring cleat inside the Anchor Locker once the anchor is securely set. Make SURE that the anchor line is securely cleated!!

The secondary anchor is not connected to the anchor rode. This will allow you to use the line to be used as a shore-tie line in close anchorage (as commonly practiced in Canadian waters).

A low amp Anchor Light is located on the masthead. If anchored in a crowded area or in "open" water, turn on anchor light at dusk and leave on until daybreak. If in doubt, use the anchor light!

In close anchorage conditions, watch adjacent boats as ESCAPE swings with the wind or current. Assure adequate clearance so that you are not "surprised" later when you change position. Assure adequate depth for the duration of your anchorage - not just when you "drop the hook". Consult "Ports and Passes" to determine the full tide range occurring during your intended anchorage!
Windlass Operation

The power windlass is located in the foredeck anchor locker. The anchor windlass switch is located on the electrical panel and is switch #14. This must be turned on to operate the windlass.

**When the electric windlass is operated, the diesel engine should always be running at a low speed.** Trust me, by experience, it will run the battery down in nothing flat! The anchor windless remote is stored in the cabinet underneath the Nav Station or in the deck well.

Help the winch by motoring slowly in the direction of the pull of the anchor rode. This will ease the strain put on the bow sprint and windless and provide maneuverability for the yacht when the anchor lifts from the sea floor. Take care in raising the anchor to insure it does not hit the yacht’s bow damaging the gel coat.

**KEEP hands, fingers, and feet clear at all times when operating the windlass**

- Check for swimmers. Keep clear of moving anchor rode.
- Use UP or DOWN button to operate windlass.
- After setting the anchor, it is recommended that the UP switch be operated briefly. This engaged the internal clutch mechanism, locking the windlass; failure to do this could result in the rope/chain creeping out.
- Do not over load the windlass. Avoid stalling the windlass.
- When anchor is raised secure anchor to bow fitting to prevent accidental release. The anchor line/chain should be tied to a cleat securely when the anchor is “set”.
- When not in use turn off the Anchor power switch on the electrical panel, switch #14.
Sails and Running Rigging

When sailing, the transmission control lever MUST be in the neutral position.

ESCAPE is equipped with an Elvstrom full batten mainsail with Lazy jack system and a 135% Genoa, with Selden Furlex roller furling. When setting the sails use the engine to move ESCAPE slowly with the wind. Fall off the wind slowly, let the yacht gather speed and switch engine off and shift transmission control lever to neutral.

Mainsail

Prior to raising the mainsail, ease the lines to the boom vang, mainsheets and reefing system. When the main is lowered there will be an excess of line from the reefing system. Do not pull the slack from the sail but just tuck the line into the sail cover. Raise the mainsail just enough to remove the creases in the vicinity of the mast. Too much tension in the halyard can be detected by the fact that creases form roughly parallel to the mast. Once the sail is properly raised and tensioned, tighten the boom vang and adjust the main sheet to sailing conditions.

Reefing the Mainsail

The mainsail is equipped with a single line reefing system, which allows the sail to be reefed from the cockpit. Position the yacht into the wind approximately 10° off bow. Ease the main sheets and boom vang. Release the main halyard and pull in the single reefing line. Once the sail is reefed cleat the reefing line and main halyard.

When you have finished sailing please release the reefing system prior to dropping the sail. Assure that all halyards, sheets and other lines are secure and tight BEFORE the boat is docked or anchored. You will minimize confusion and crew anxiety while maneuvering you will also sleep better - as will the neighbors across the dock! "Funny noises" in the dark mean that something is loose somewhere inside or outside the boat! Check it out. Once you have docked or anchored replace all covers on sails, winches, and binnacle.

Roller Furling

The control line for furling the genoa runs from the roller furling aft to the port side deck near the cockpit. If possible position the yacht approximately 10° off bow. Furl the sail by pulling on the furling line while keeping the sail under control with the appropriate jib sheet. In light winds the sail may furl with ease but in heavy winds the furling line may be tough.

If the line does not pull smoothly, check the drum to insure the line is not coiled over each other. Look at the mast to insure the sail is not tangled or that a free halyard was not furled up with the sail.
The sail has a blue ultra-violet leech panel for preventing sun damage to the furled sail. Continue pulling the control line until the sheets make 2-3 wraps of the genoa which will keep the sail under control and tight.

Lines and Fenders

There are 25’ blue dock lines and 35’ black dock lines stored in the aft port lazeratte (cockpit) locker and in the forward anchor deck locker. There are also fenders stored in each location.

SAFETY & EMERGENCY EQUIPMENT

In General all Safety Equipment is located under the Nav Station bench unless described below.

Life Vests

Safety should be a continuous aspect of enjoying your time aboard ESCAPE, and is a legal responsibility of the Skipper. All required safety equipment is on board. Life jackets are located in the locker under the forward berth. Eight Adult and two child Type II life jackets are stowed. NOTE: life jackets for all persons on board are REQUIRED. All required life jackets must be in open areas, which can be easily reached in an emergency. Children under 13 years of age are required to wear a life jacket at all times. Also, life jackets are REQUIRED for each person in the dinghy - while the cushions are "soft" for seating, they are not sufficient to meet new Coast Guard safety requirements.

Fire Extinguishers

Four fire extinguishers are kept on the yacht. All the fire extinguishers are the dry powder type and checked every year. They are stored in the following location:

Forward Cabin, Port Aft Cabin, Starboard Aft Cabin and the Starboard Cockpit locker.

Flares

Required Safety Flares are stowed in plastic containers in the Nav Station Seat. Please note the location and read the instructions for use of these devices if you are not already familiar with these items.

Life Sling

A life sling is mounted on the stern rail. Read the LIFE SLING instructions AHEAD of TIME to avoid possible confusion in an emergency situation.
A mini-practice session in deploying and recovering the system so all the crew know how the system works ahead of time is advised! The Skipper is often the first person to go overboard.

First Aid Kit

A First Aid Kit is stored in the in the forward cabinet of the Head.

Man Over Board Key on GPS

A special MOB key on the GPS can be used to immediately set a ‘man-overboard’ waypoint and return bearing in case of an overboard emergency. See the GPS operating manual in the bookrack for instructions on using this procedure. Throw a floating cushion overboard at a calm relaxed time for practice “emergencies” will allow you to try this out! The use of the “Man Overboard” capability to immediately record the boat position should be explained to all crew on board. See the operating manual.

Emergency Tiller

An emergency tiller is located in the port cockpit locker. The emergency tiller shaft head is located immediately aft of the wheel under the helmsman’s seat.

Bilge Pump

The bilge pump is located in the bilge under the bench in the salon. By unlatching the bench and raising the floor panel you will have access to the pump. The pump is turned on using switch #9 “Bilge Pump” located on the 12V Electrical panel

Manuel Pumps

The shipboard manual bilge pump is located on the aft starboard side of the cockpit under the helmsman’s seat. The handle is located inside the port cockpit locker. There is also a Thirsty-Mate hand pump stored in the starboard locker. This hand pump is also used clear the dinghy of water.

Wood Through-Hull Plugs

Tapered Wood plugs for all through-hull valves for use in an emergency are stored with the “Tools and Spare Parts”. There is a “map” of all thru hull’s and sizes in this “Grey” book as well as in the bag containing the wooden plugs.

VHF Emergency Channel

Use Channel 16 on the VHF for true life-threatening emergency situations only. The U. S. Coast Guard monitors this channel and will respond to a “MAYDAY” call on channel 16. BE prepared to give the boat name clearly, and provide an accurate position - preferably
giving the longitude and latitude from the GPS "Position" screen. If necessary, push the “MOB” button to obtain the current position. Follow Coast Guard instructions once contact is made. See small card mounted above VHF for other information and procedures.

If you do NOT have a life/yacht threatening situation but are in dire need of help, use the call signal “PAN, PAN, PAN”.

Flashlights

There are two waterproof flashlights in the bookshelf in the Nav Station. A small penlight flashlight with a red lense for nighttime use is under the Nav Table. Extra flashlight batteries are located under the Nav Station seat.

CHARTS

A Map Tech Chart book, Evergreen Pacific San Juan Cursing Atlas, WaterProof Chart # 43 and Canadian Gulf Island charts are located in the Nav. Station. "Chart 1" is kept under the Nav table. This book identifies all chart symbols. Please allow for at least eight feet of water at all times! WATCH the depth sounder whenever in doubt. The shallow water warning can be set on the depth sounder. Keep a chart handy in unfamiliar waters. A current copy of “Ports and Passes” tides, currents and chart are kept in the book cabinet as well as Waggoners. When anchoring, be sure you know the depth range for at least the next 12 hours!

OVERHEAD OBSTRUCTIONS

BRIDGES, WIRES and OTHER

In general, you will encounter very few overhead objects. Check ahead of time whether any obstructions are on your intended daily route the total mast height is approximately 56 feet from waterline, including antenna.

TOOLS AND SPARES

There are toolboxes and small spare parts (screws, etc) stored under the main cabin aft settee bench. Replacement pumps and repair kits for the head pump and the macerator pump, as well as spare diesel fuel and oil filters and other engine parts are located under the forward V-berth. Please record any spares consumed and report this information to the AYC check in skipper upon return.

CLEANING SUPPLIES

Cleaning supplies are in the bucket in the starboard Lazeratte locker. A hose is also in the starboard locker. Some cleaning supplies are also under the Sink in the Galley including a small dustpan and broom. A 110-volt vacuum cleaner and attachments are stored in the forward starboard settee seat back. PLEASE do not use any cleaners or sprays on the
Plexiglas windows or dodger windows that contains AMMONIA! This can seriously damage the surfaces.

**PROPANE BBQ**

Propane BBQ is attached to the stern rail, covered by a black canvas cover. A complimentary propane bottle is provided in the Starboard cockpit locker. If you like to BBQ then it might be advisable to purchase extra propane. Make sure control valve is set to “Closed” position prior to attaching to canister. Please ensure the BBQ has cooled down completely before replacing the canvas cover. Enjoy!

**COCKPIT TABLE**

A cockpit table is permanently attached to the steering pedestal, and is held by small braces, which clamp into preset brackets. Table should be lowered when not in use.

**DINGHY**

An inflatable dinghy is available with *ESCAPE* and is sometimes known as the “*Escapee*”. A hand pump and inflation hose are also kept in the starboard cockpit lazeratte. The dinghy will normally stay firmly inflated, but the pump should be taken on any extended dinghy adventures just in case for safety. The Dinghy is equipped with oars for fun and/or exercise (also emergencies). The oars are locked into position on the port and starboard side of the dingy floor. A repair kit is stored with the spare parts. Remove and store the oars before towing the dinghy while sailing or motoring.

**COMMENTS & ADDITIONS**

Please add YOUR suggestions, questions, or comments for additional items to be included in these NOTES, or where you feel that some topic should be better "explained" or simply clarified. Just write us a note below or in the margins/back of page at the appropriate point. Thanks!

**Feedback**

These NOTES would be more helpful.

IF: