Notes from the Owners of Areté

Welcome aboard Areté!

Following our ASA certifications and spending more time in the Pacific Northwest, we decided to take the leap and put a boat in the San Juan Sailing fleet. Areté became just the right boat at the right time. She is responsive, easy to handle, and a joy to sail as a couple, a family, or with a small group of friends.

Sara grew up sailing on the St. Lawrence River in the 1000 Islands region, while Kallie served in the Navy. Most recently, we had a boat on Lake Tahoe, where we enjoyed mountain sailing and camping before setting our sights on saltwater cruising.

Areté came to us already well-equipped with solar power, a lithium house battery, and hydronic heat for year-round comfort. We've since added satellite internet to enhance connectivity while cruising off the grid.

Her name, "Areté," is an ancient Greek concept meaning excellence—reaching one’s highest potential or purpose. We think it's fitting, not just for the boat herself, but for the experiences and freedom she provides while exploring the Salish Sea.

We hope you enjoy your time aboard Areté as much as we do and that she brings you unforgettable adventures on the water.

Kallie and Sara

Online PDF version

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Specifications

Year: 2003	Engine: 29 hp. Volvo
LOA: 37’ 11”	Mast height above water: 50’ 6”
Beam: 12' 1"	Headroom: 6’ (throughout)
Draft: 6' 4"	Berth Mattresses: - V-Berth 6’ 6” L X 7’ W at head & 2’ W at foot - Aft Berth: 6’ 6” L X 5’ 6” W
Displacement: 11,792 lbs (dry)	
Fuel: 40 gallons	
Water: 79 gallons (2 tanks)	Refrigerator (no freezer): - Top-load refrigerator: 19” W x 13” D x 18” H, plus 8” W x 13” D x 10” H
Hot water: 4 gallons	
Holding: 25 gallons	

Key to Markings: Throughout these notes we use the following convention:

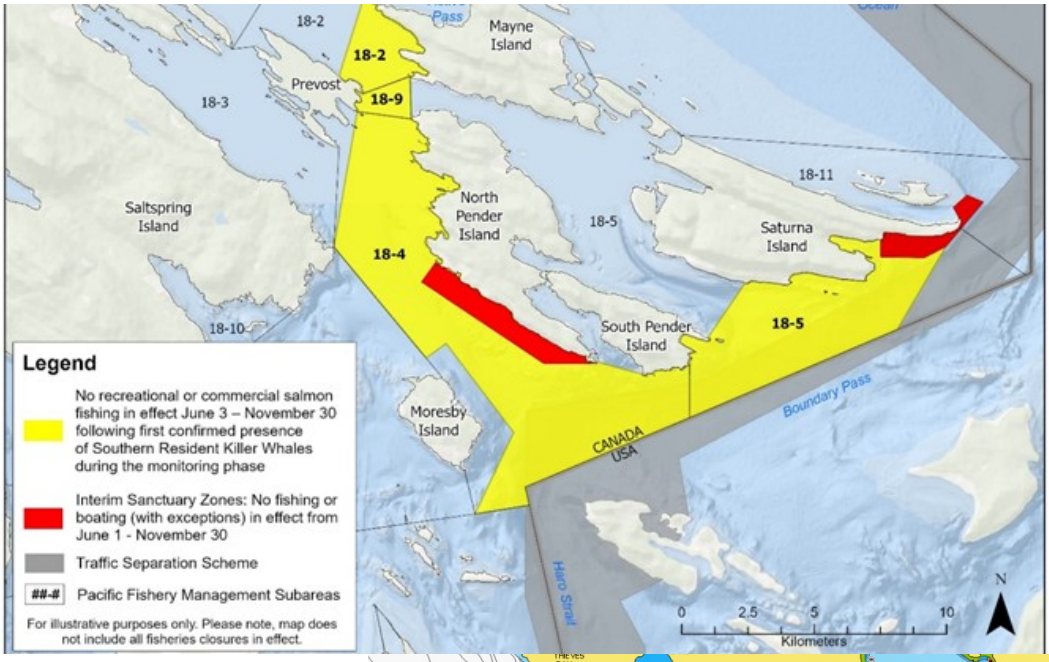
- ALL CAPS – used for safety and operational warnings.
- <u>Underlining</u> – indicates the location of things.
- **bold –** indicates important knowledge or data.

Being Whale Wise

Our resident orca whales are a wonderful part of the local family. But they are having a difficult time surviving due to declining salmon runs. These whales use echo location to find and catch their food, and noise pollution from boats and ships makes it harder for them to thrive. In an effort to decrease human impact both the Canadian and US governments have implemented new rules. We provide a summary of these rules in the packet you receive when you arrive and more information in section 10 of the white reference book onboard Arete. Here is a summary of the rules in Washington State and in BC:

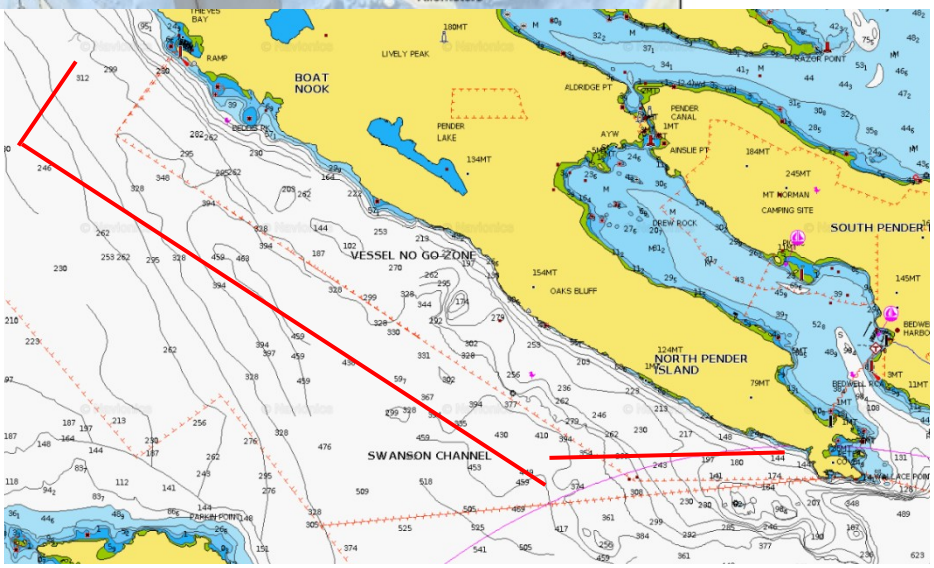
Washington State: In an effort to reduce boat-related noise, which negatively affects the southern resident orca's salmon foraging behavior and success, Washington State made some rule changes, effective January 1, 2025. Vessels are not allowed to approach within, or intentionally position themselves to become within, 1000 yards of a southern resident orca. If you find yourself inadvertently within 1000 yards of a southern resident orca, you must reduce speed to less than 7 knots and proceed as directly as possible to a distance that is more than 1000 yards away. However, if you find yourself inadvertently within 400 yards of a southern resident orca, you must disengage your transmission and wait for the orca to move away. Exceptions will be made where safety or rules of navigation do not allow compliance. Since most of us would not be able to distinguish a southern resident orca from a Biggs orca at any distance, let alone 1000 yards, please assume any orca you see is a southern resident.

British Columbia: In Canada they have gone a step further by creating some zones where boats are not allowed to further improve the environment for whales. Those zones are red on the diagram below.



And here is an example of what they look like on Arete's chart plotter(s). The red lines have been added to help point out the dashed lines, which are what you will see on the plotter.

Note this zone is just to the west of Bedwell Harbour, so on your way in or out of there be sure to avoid this area.



Emergencies

Fire

There are five fire extinguishers onboard, located in the following places:

1. Forward cabin – inside the port hanging locker
2. Under the nav station seat
3. Inside the aft locker in the head
4. Aft cabin – inside the hanging locker
5. Port cockpit locker

IN CASE OF A FIRE AT THE GALLEY STOVE/OVEN OR BBQ, IMMEDIATELY TURN OFF THE PROPANE.

Hitting a Log, or Running Aground

If you hit a log or run aground, immediately check the bilge for leaks. Inspect the forward and aft sections of the bilge where the keel attaches to the hull for any cracks, and check all keel bolts. Once you have confirmed that no water is entering the hull, contact San Juan Sailing at 360-671-4300 and follow their instructions.

Leaks

First, get bilge pumps going, both manual and electric. Then determine the source of the water, check the through-hulls first. There is a diagram showing the location of the through hulls in the notebook. Get the crew on deck and into life jackets. There are wood plugs tied to each of the through hulls.

There are **two bilge pumps**. The manual bilge pump is located on the starboard side of the stern walk-through, beneath the helm seat. The handle is located in the nav station. The electric bilge pump has an automatic float switch **but the switch on the electrical panel can be used to power the main pump manually**.

Steering Failure

In the event of steering failure, an emergency tiller is stored in the port cockpit locker. It fits onto the rudderpost, which is located under an access plate on the cockpit floor beneath the helm seat.

Safety Gear

Flares, the horn, and other safety items are located under the seat cushion at the starboard side of the nav table. The radar reflector is permanently mounted on the forward side of the mast. The first aid kit is stored in a cabinet in the head.

Spare Parts and Tools

Tools are stored under the bench in the forward stateroom. Spare parts can be found both under the bench in the forward stateroom and under the port settee.

Anchors and Windlass

Primary anchor: 35lb Mantis w/250ft of 5/16"chain marked every 25' with a yellow poly line.
Secondary anchor: 33lb plow with 35' of chain and 150' of rope, located in the starboard cockpit locker.

The typical scope in the San Juan Islands is **4:1**. A scope of 7:1 is only necessary in certain conditions, such as sustained winds over 25 knots. Most anchorages are well-protected and popular, so you'll likely have nearby boats. Popular coves range from 20' to 40' deep, so expect to pay out 100' to 175' of chain. Keep in mind that **tides change water depth by up to 13 feet twice daily**, so be mindful of the tide cycle when choosing an anchorage and determining how much chain to deploy.

(Water depth on sounder + tide increase expected + 4 feet *) x 4 = Length of Chain

*to account for the distance from sounder to bow roller. For example: 25' of water + 6' of tide increase + 4' = 35' x 4 = 140'

The anchor windlass is powered by the engine start battery so be sure to only use the anchor windlass with the engine running. The windlass is operated with up/down foot controls located in the anchor locker. The windlass breaker is located at the base of the forward cabin berth.

Lowering the anchor:

1. If engine not running, start engine.
2. Turn on windlass breaker.
3. Untie the line holding the anchor in place.
4. **Please lower the anchor by hand for the first 5-6 ft. so it does not swing into the bow.**
5. Continue lowering the anchor with windlass until desired length of chain is paid out.
6. Place the snubber on the chain and secure the other end of the snubber to a forward cleat.
7. Let out additional chain so that the snubber carries the strain and there is some slack in the chain between the snubber and the windlass.
8. Set the anchor.
9. Turn on the anchor light.

Raising the anchor:

Important Safety Note -- This windlass is very high powered and can bend metal if the anchor is brought up hard against the roller. Bring the last feet of anchor chain up manually, using the handle located in the anchor locker.

1. Start the engine.
2. Turn off the anchor light.
3. **Slowly motor toward the anchor** while using the windlass just to take up the slack (never use the windlass to pull the boat). If the anchor is really stuck in the mud you will hear the windlass slow

under the load. If you hear this change, immediately stop the windlass and motor the boat forward to free the anchor. **Be aware that the chain piles up in the anchor locker quickly and will need to be knocked down with a boat hook or mop handle every 25' or so.**

4. **Once the anchor is out of the water, please bring onto the boat that last few feet of chain by hand.** This windlass is very high powered so snugging the anchor up tightly onto the rollers using the power of the windlass can damage the anchor, the bow roller or the windlass itself. There is a handle in the anchor locker that can be used to manually crank the windlass the last few feet.
5. When the anchor is seated on the bow roller, assure the tip of the anchor rests against the underside of the rubber stop.
6. Secure the anchor with the provided line.
7. Turn off windlass breaker.

Stern Ties

There are times when adding a stern tie to shore will be handy, especially in Desolation Sound. Areté has **600' of line on a spool** stored in the starboard cockpit locker.

Batteries & Internet

House Battery

Areté has a 300 amp hour LiFePo house battery (approx 275 ah usable), which is charged by the solar panels, as well as the engine or when on shore power. The house battery is located under the forward berth and the voltmeter is located above the nav station, next to the heater thermostat.
Voltmeter readings for lithium batteries are different than for standard lead acid batteries (they read higher). **If the voltmeter drops below 13.0 then you have discharged the battery too much. Pay most attention to the state of charge % on the voltmeter and take care to not let it drop below 20%.** For reference, if the battery is drawn down to 20% at anchor it will take at least 8 hours of both running the engine and solar power to fully top off the battery. Keep an eye on your power consumption, and if staying multiple nights in a row at anchor, one option to conserve power would be to turn the refrigerator off at night.

House battery on/off switch (leave on) located under forward berth, just forward of the battery. House battery monitor located above forward end of nav station. Charge battery no later than 13.0v or 20% state of charge.

Starlink Satellite Internet (New in 2025)

Areté is equipped with Starlink satellite internet, providing reliable connectivity while cruising. There is a large switch above the AC breakers to activate the satellite system and it's wifi network. Keep in mind that using the **satellite internet will drain the battery**, so be sure to monitor the battery level closely when not motoring or plugged into shore power. For easy login, you can also scan the QR code to automatically connect to the network.

Scan to Connect

Network Name: AreteStarlink
Password: sjsarete

Engine Starter Battery

The engine battery (AGM) is located under the aft end of the starboard settee, with its **on/off switch at the aft base of the settee**. We typically turn the engine battery off when not in use, especially at night or when away from the boat, as it also powers the windlass and bow thruster. The voltmeter for the engine battery can be found on the DC panel, alongside the water gauges.

Berths

Areté accommodates up to 6 guests: 2 in the forward cabin v-berth, 2 in the aft cabin, and up to 2 in the salon. If you plan to sleep in the salon, please remember to request extra bedding. Both cabins feature Hypervent mesh under the mattresses to help vent moisture and provide extra cushioning. The seat backs for the port and starboard salon settees can be raised and secured to create a wider sleeping area. The port settee is 6'1" long, and the starboard settee is 5'10" long.

Cabin Heat

Areté has a diesel-powered Webasto TL17 hydronic heater. The thermostat is located above the forward end of the nav desk. The "Off/Heat" switch can stay in the "Heat" position, as it only powers the thermostat. To control the heater itself, use the 3-position switch above the starboard side of the nav

Furnace thermostat (okay to leave set to "heat"). Located above forward side of nav station.

Main on/off switch for furnace. Located above outboard side of nav station.

station (middle position is off, top powers the circulation pump for hot water when the engine runs, bottom turns the heater on).

Each stateroom, the head, and the salon (near the heater outlet) have individual heat exchangers with a high/low/off switch for zone control. At anchor, you can have hot water without cabin heat by turning on the heater and keeping the heat exchangers off. To activate the heater, ensure the thermostat is set higher than the ambient temperature (typically 88°F in summer when only heating water). If the fans aren't turning on, try raising the thermostat.

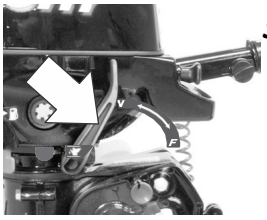
The furnace may make a clicking noise from the fuel pump drawing diesel from the main tank. While it can run overnight, it may disturb those in the aft cabin, so we recommend using it during the evening and morning. The dry, comfortable heat is perfect on cool, rainy evenings and provides hot water while at anchor. Hot air is distributed through vents in the staterooms, salon, and head, each with its own on/off control.

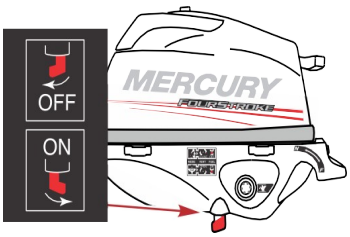
Dinghy and Outboard

Areté carries a 10' 2" West Marine 310 inflatable aluminum-bottom Hypalon dinghy. When towing, it's best to keep the dinghy about 4–5 feet off the stern to avoid accidentally wrapping the painter around the propeller when reversing. To ensure the dinghy stays secure, tie the painter off in two places—once close to the dinghy (e.g., a cleat tie) and once to the stern rail with the bitter end.

We kindly ask that you exercise special care when beaching the dinghy. The beaches in the San Juans are rarely gentle, sandy shores. They tend to be rocky and covered in barnacles, which can be quite sharp. Taking extra care will help protect the dinghy and the surroundings. Additionally, securing the painter under a rock or to a log is recommended, as a rising tide can leave you stranded without the dinghy.

The 3.5 HP Mercury outboard is a four-stroke engine, so please use **only straight unleaded gasoline—no oil should be added** to the fuel mixture. San Juan Sailing will ensure the gas can is full, typically stored in the dinghy. Finally, please **do not cruise with the outboard mounted on the dinghy**, as a strong gust of wind or large wake could cause the dinghy to capsize.





Starting the Outboard

1. Shift the gear lever to the neutral (N) position.
2. Assure the cooling water intake (near the prop) is submerged.
3. Open the air vent on the fuel cap.
4. Move the fuel shut off valve to the open (ON) position.
5. Attach the lanyard to the stop switch. The engine will not start unless the lanyard is in place.
6. If the engine is cold, set the throttle grip to the "START" position. If the engine is warm, set the throttle grip to the "RE-START" position.
7. If the engine is cold, completely pull out the choke. Push in the choke halfway as the engine is warming up. Push in completely after the engine is warmed up.

8. Pull the starter rope slowly until you feel the starter engage, then pull rapidly to crank the engine. Allow the rope to return slowly. Repeat until the engine starts.
9. Check for a steady stream of water flowing out of the water pump indicator hole.

Shifting Gears

The outboard has two gear shift positions to provide operation: Forward (F), and Neutral (N). Reduce throttle speed to idle before shifting between the two, and always shift the gear lever in a quick motion. To reverse, reduce the throttle speed to idle and turn the outboard 180°. The tiller handle can be swung back for ease of operation.

Shutting Off the Outboard

1. Reduce throttle to idle and push the red stop button. Or just pull the lanyard until the clip pops off.
2. Push the fuel valve lever forward to close and close the air vent on top of the fuel cap.
3. To avoid prop damage, shut the outboard off and raise it out of the water before you reach the shore. Pull the outboard forward and out of the water until it clicks and stays in place.
4. To put the outboard down, release the stainless steel lever on the starboard side of the shaft.
5. When done using the dinghy for the day, put the outboard back on the outboard mount on the stern rail and tighten both braces.

Troubleshooting the Outboard

If the outboard engine won't start, review steps 1-6 above to make sure you've done all 6 steps. There is a spare spark plug and spark plug wrench in with the manuals in case you need them. If the outboard is running and you're heading toward shore, and the engine suddenly quits, it's usually that someone has forgotten to vent the fuel cap. If the engine is running fine but the propeller isn't moving, the shear pin is probably broken – just take the cotter pin out to remove the propeller and replace the broken shear pin (a spare pin is located forward of the shaft under the handle grip).

Docking & Boat Handling

Areté is light on her feet (turns in a short radius) and, like most sailboats, carries momentum well. We find it is helpful for the person handling the lines to take a line from the mid-ship cleat, this allows them to pull the boat to the dock without 'losing' the stern. The other important issue is prop-walk – **Areté will walk to starboard in reverse**.

Areté also has a bow thruster that can be used when docking. **ONLY use the bow thruster when the engine is running** as it uses the same battery as the engine does. The bow thruster breaker (labeled Lewmar) is located

under the forward berth and is always left in the “on” position. Turn the bow thruster on by pushing the green button. It will stay on until you either hit the green button again or turn off the engine. Just press the left or right side of the grey rocker switch to activate the bow thruster.

Dodger & Bimini

As with all dodgers, please be gentle. If the glass becomes spotted with salt please get a pot of fresh water from the galley sink and “flood” the salt crystals off the plastic. Our dodger has some very handy rails on the sides that make staying upright and onboard easier. We have in the head a “waterblade” squeegee that is great for wiping away the morning dew from the windows. Fresh water from the fresh-water hose can be used to spray down the dodger/bimini. Please avoid using salt water to clean them.

There is a connector piece of canvas that can be zipped in between the dodger and bimini when it is raining or when you are at dock or anchor. It is not well suited for use when sailing because the boom has to be lifted to keep from abrading it. We normally roll it and store it in a dedicated canvas holder in the aft stateroom.

You will also notice two flexible solar panels are mounted on the bimini. Please don’t place items on them and please avoid using them or their cables as handholds.

Electrical System

DC Panel - All breakers are located on the electrical panel above the nav station.
This panel also houses the voltmeter (for engine battery) and the water tank gauges.
(Note that not green all panel indicator lights are working.)

AC Panel - Turn on all six breakers when connected to shore power. Flip the switches up to turn them on.

Solar Panels

The two 110W solar panels mounted on the bimini supplement the electrical supply and are helpful to offset navigation and refrigeration needs while sailing and while anchored/moored (extended periods without running the engine). The system is self-controlling and should not require any attention. Care should be taken to avoid using the cables as handholds.

Electronics & Instruments

Manuals for the chart plotter, radar, and other instruments are in the cupboard below the nav station. The chart plotter manual is also available on-screen, or you can download a copy for yourself online before your cruise.

Chart Plotter & Radar

We recommend your PRIMARY navigation tool should be the Maptech waterproof chart book or paper charts (with the most active "killer rocks" marked in red). **The best way to stay off the rocks is by knowing where you are at all times.** And the primary role of the chart plotter is to verify you are where you think you are. It can also be used to zoom in to get more detail that the paper charts provide.

CHART PLOTTER:

Areté is equipped with a Raymarine E-127 Hybrid Touch chart plotter. To power it on, turn on the "sailing instruments" breaker on the DC panel. We ask that you refrain from changing settings beyond the basic functions, such as chart orientation, radar overlay, AIS overlay, and range.

For commonly used chart plotter functions, please see the details below. For a more complete understanding of how to operate and get the most value from the Raymarine E-127 Hybrid Touch, we recommend downloading the user manual. The manual is also available in the plotter's memory for reference while onboard.

Commonly Used Chart Plotter Functions:

Displaying the Navigational Chart: The navigational chart should automatically appear when you power up the chart plotter. If it doesn't, hit the home button and then the chart icon.

Zooming In and Out: To zoom in, press the "+" button; to zoom out, press the "-" button. You can also use the "+" and "-" icons on the touch screen or perform a pinching motion on the screen (though this may not be as seamless as on a phone or tablet).

Returning to the Vessel's Current Location: If you pan the screen away from your vessel's position and want to return, click the boat icon in the upper left corner of the touch screen or press the "menu" button and select "find ship" (refer to the chart plotter screen photo on the previous page).

Clearing Pre-existing Waypoints, Routes, and Tracks: Press the "menu" button, then select "my data" and choose waypoints, routes, or tracks. For waypoints, select "all waypoints" and then "erase wpts." You can delete individual waypoints, routes, or tracks by selecting the item and then choosing the erase option.

Chart Orientation: You can choose between Heading Up or North Up (the default). To adjust the orientation, press the "menu" button, then select "presentation," followed by "view & motion," and then "chart orientation." Choose between Head Up, North Up (default), or Course Up.

Display Brightness: Tap the power button, and a shortcuts screen will appear. From here, use the slider to adjust screen brightness. You can also access options to power the radar, set it to transmit or standby, and engage or disengage the autopilot.

Course over Ground (COG) Vector/Line: The COG vector (a bluish-green "infinity" line) will appear on the chart plotter whether the boat is moving or docked. If it doesn't appear, press the "menu" button, select "presentation," then "vectors," and toggle "COG vector" from "off" to "on."

Displaying and Using a Split Screen: Press the "home" button and select the split screen option. This will open two plotter screens side by side, useful for having one screen zoomed in while using the other for an overview.

Radar Overlay: To enable the radar overlay, press the "menu" button, select "presentation," then "overlays," and toggle "radar" from "off" to "on."

AIS Overlay: To enable the AIS overlay, press the "menu" button, select "presentation," then "overlays," and toggle "AIS" from "off" to "on."

A.I.S. (Automatic Identification System):
Areté transmits her position and data through an AIS signal and receives AIS signals from other vessels equipped with AIS transmitters. While AIS is mandatory for commercial vessels, it's optional for recreational vessels. Areté is equipped with a dedicated AIS unit wired to the batteries for continuous transmitting. The chart plotter is linked to the VHF radio or AIS unit and displays the positions of other vessels with AIS as triangles.

To turn on the AIS overlay, press the "menu" button, then select "presentation," followed by "overlays," and toggle the “AIS” setting from "off" to "on."

AIS enhances marine radar, which remains the primary tool for collision avoidance, by providing additional data about nearby vessels. However, AIS cannot replace radar for collision avoidance.

Each vessel with AIS must have a 9-digit MMSI (Maritime Mobile Service Identity) number to transmit position and data. Areté’s MMSI number is 338470129.

When AIS is enabled, vessels with AIS appear on the chart plotter as triangles. The triangle points in the direction the vessel is moving. By tapping on the triangle, you can view more details about the vessel, such as its name, size, speed, and bearing. Similarly, Areté’s AIS unit transmits this same type of information to other vessels equipped with AIS.

AIS is an added safety feature that allows large commercial vessels to easily identify Areté, her direction, and speed. These vessels may attempt to contact you via VHF channel 16 to confirm your course. Additionally, AIS enables San Juan Sailing/Yachting to provide quicker assistance in the event of unplanned maintenance issues and to track Areté's return approach.

Vessels with AIS can also be monitored in real-time through mobile apps and websites like www.marinetraffic.com, which display vessel names, courses, speeds, tracks, and more.

AUTOPILOT

1. Turn on the “autopilot” breaker located on the DC panel above the nav station.
2. Ensure that the wheel brake is not engaged.
3. To engage the autopilot, press the “AUTO” button once.
4. To disengage the autopilot, press the “STBY” button.
5. The gyrocompass for the autopilot is located in the salon beneath the nav desk. Ensure that no magnetic (ferrous metal) items are stored nearby, as they can interfere with the gyrocompass.

VHF Radio

Areté’s VHF radio is located at the nav station, with an additional remote handset at the helm. We recommend monitoring Channel 16 during your cruise, as it is reserved for emergencies and initial boat-to-boat contact. After establishing contact, switch to a working channel such as 68, 69, 72, 74, or 78. For weather updates, we listen to channels 1, 2, 3, 4, or 8 (whichever provides the best reception) before sailing in the morning and before anchoring for the evening. Listen for reports identified as “Northern Inland Waters” for the San Juan Islands. **San Juan Sailing monitors Channel 80** during office hours and can usually receive transmissions from the vicinity of Bellingham Bay.

Additionally, there is a handheld VHF radio aboard, located in the cabinet above the nav station. The 12V charging port for it is located in the forward stateroom behind the cabin door.

Below are instructions for using some common features of Areté's VHF radio:

- **Turning On and Off the Radio:** To turn the radio on, twist the volume knob clockwise, away from the off position. To turn it off, twist the volume knob counterclockwise back to the off position.

- **Silencing a DSC Alarm:** If another boat or the Coast Guard presses the DSC (Digital Selective Calling) button, it will trigger an alarm on all boats in the area. To silence this alarm, simply press any key on the radio.

- **Changing from High to Low Transmit Power:** Press the H/L button in the bottom row, then select either 1W (low power) or 25W (high power).

- **Quickly Getting to Channel 16:** Tap the blue 16/9 button to go to channel 16. If you hold it in for a second, it will take you to channel 9.

- **Accessing the Weather Channels (WX):** Press the CH/WX button (bottom center) to toggle between weather channels and regular channels.

- **Adjusting Volume and Squelch:** Use the dedicated knobs for both volume and squelch to adjust the radio settings to your preference.

- **Changing Between International & U.S. Channels:** Press and hold both the CH/WX and H/L buttons at the same time to select between U (USA), I (INTERNATIONAL), or C (CANADA). The radio should be left in USA mode, but these instructions are provided in case it is accidentally switched to another mode.

- **Setting Up and Using Dual Watch:** Dualwatch allows you to monitor Channel 16 while simultaneously receiving another channel. Choose the channel (other than 16) you'd like to monitor, then press and hold the CH/WX button to activate dual watch.

Radar

To activate the radar, press the "home" button on the chart plotter, then select the "radar" icon. Switch the radar from standby to transmit mode. Next, to activate the chart plotter overlay, press the "home" button again, choose "chart," then press the "menu" button, select "presentation," then "overlays," and toggle the "radar" option from "off" to "on."

Radar is typically not necessary in this area, except for the rare occurrence of fog. Fog in the islands usually forms early in the morning and clears by midday. If conditions are still foggy after breakfast, we typically put on an extra pot of coffee while we wait for it to lift. **Remember that SJS contracts prohibit night sailing or sailing in restricted visibility**, but it's a good idea to occasionally practice using the radar. Comparing the radar screen to what you see in reality can help you become familiar with it in case fog rolls in while you're underway.

Note: The radar reflector is permanently affixed to the leading edge of the mast.

Depth Sounder

Depth is displayed both on the chart plotter and on the tridata instrument at the nav station. The depth reading on the sounder is measured from the transducer, which is located about 12 inches below the true water level, meaning the actual water depth under the boat is slightly deeper than what the sounder shows. The transducer is located under the floor in the forward stateroom. **We strongly recommend maintaining a minimum of 10-12 feet of water beneath the boat at all times**. We do NOT recommend

using the depth alarm, as experience in the islands has shown that it often goes off at inappropriate times—usually in the middle of the night when a seal or fish passes underneath.

In general, **depth sounders are not accurate beyond 400 feet**. In deeper water, the sensitivity of the unit increases as the transducer attempts to get a reading, which can lead to false readings caused by currents, temperature changes, fish, or other factors. These false readings may indicate very shallow water, so knowing you're in deep water can help prevent unnecessary panic.

Knot Meter

Speed is displayed on the chart plotter, as well as on the tridata instrument at the nav station. If the digital knot meter shows a reading of "0.00" while underway, it's likely that the impeller is clogged. Sometimes, the impeller will clear itself—wakes from larger powerboats can help with this. You can also try clearing it by traveling in reverse. The knotmeter thru-hull is located under the floor in the forward stateroom. If needed, you can remove the impeller to clear it, but only if you are experienced in handling this type of task. It's important not to attempt this unless you're comfortable with the procedure, as improper handling could lead to complications. As a backup, the SOG (speed over ground) reading on the chart plotter will work as a reliable substitute for the knot meter.

Power Outlets

Personal electronic devices can be charged and operated while underway through the two USB outlets on the lower instrument panel and two USB outlets, along with a 12V outlet, located in the forward cabin behind the door. The AC outlets located throughout Areté's interior require shore power to function.

Stereo (AM/FM/Bluetooth)

The stereo is located at the nav station and receives AM and FM signals. You can also connect your own device to it via Bluetooth or through the nearby USB/3.5mm mic port (unpowered). The Bluetooth signature to look for is the small model number on the front of the stereo. Speakers are located in both the salon and cockpit. When in harbor, please be mindful of other boats and adjust the fader as needed. The forward setting directs sound to the salon speakers, the rear setting to the cockpit speakers, and the middle setting activates both. Be sure to turn off the cockpit speakers when not in use.

TV/DVD

The 12V TV/DVD is mounted on the forward salon bulkhead, and since it runs on 12V power, you don't need shore power to use it. A few of nautical-themed DVDs, along with some games, can be found in the forward port salon cabinet. The TV is powered by the "TV" breaker on the DC electrical panel. The DVD player is located behind the TV on the right side. To insert or eject DVDs, make sure the TV source is set to "DVD."

Wind

Wind speed and direction are displayed on the Raymarine instrument above the chart plotter. Press the "True/App" button to toggle between True and Apparent wind readings.

Engine and Operating Under Power

Areté is equipped with a 29 HP Volvo engine with a sail drive, which has proven to be very reliable. For cruising, we recommend **maintaining engine RPMs between 2400 and 2800**. In this range, you'll typically cruise at about 6 knots with a fuel consumption of 0.75 gallons per hour.

Inspecting the Engine

Engine access is provided by lifting the companionway stairs, which operate on hydraulic lifts—there are no latches; just lift it up and push it down. Additional side access is available via a hatch in the aft cabin.

We recommend visually inspecting the engine compartment daily. As long as there is no oil or liquid under the engine, you are good to go. All boats in the San Juan fleet are checked by a mechanic on every turnaround, so there is no need to check the oil level unless you are out for more than a week. If you do need to check the oil after being out for over a week, remove the dipstick, reinsert it, and then remove it again to get a more accurate reading. If the oil level is low, spare oil is stored in the port cockpit locker. Be cautious not to overfill—if adding oil, add no more than a cup at a time through the filler cap on top of the engine and re-check the level.

Raw Water Strainer

The raw water strainer is located above the waterline in the engine compartment. If you need to clear eelgrass from the strainer, simply unscrew the top cover, remove the eelgrass, and be sure to replace the ring gasket properly to prevent the system from drawing air and overheating.

Starting the engine

1. Ensure the engine battery is turned on (see the Batteries section for details).

2. Turn on the power button on the engine start panel, located below the wheel. When the power is on, the fuel gauge will show a reading.
3. Make sure the gearshift is in neutral (slightly forward of vertical, marked with blue tape). Push in the black button at the bottom of the handle (this disengages the shifter) and push forward until you feel it engage the throttle a bit.
4. Hold the "glow" toggle up for 20 seconds.
5. Push the start button to start the engine.
6. Once the engine starts, check for water flowing out the exhaust to confirm it's running properly.

7. There is no need to warm up the engine; simply getting off the dock or anchor and leaving the harbor will do this. If switching from sailing to engine power, starting the engine before furling the sails will provide enough warm-up.
8. When you're ready to go, return the throttle lever to the "home" neutral position. This will re-engage the gearing, so moving the handle forward will engage forward gear, and moving it aft will engage reverse.

Engine Shutdown

1. Ensure the gearshift is in neutral.
2. Pull the T-shaped "fuel kill" handle, located on the starboard side of the binnacle, to cut the fuel supply.
3. Once the engine has fully stopped, push the "fuel kill" handle back in.
4. Turn off the power button on the engine start panel. (If you're unsure whether the power button is off, you can check the fuel gauge—it will read empty when the power button is off.)

Steering Wheel

Areté's steering wheel can be folded for easier movement around the cockpit when docked or at anchor. Before getting underway, ensure the wheel is unfolded and secured in the "round" position. To fold it, loosen the grey plastic locks on two of the spokes. This allows the wheel to fold on hinges. Secure the folded portions with a bungee. To return the wheel to its round position, simply reverse the process.

Troubleshooting Engine Problems

Volvo engines are known for their durability, so engine issues are rare. However, there are a few things to watch for.

Engine Overheating

If the engine overheat buzzer sounds, it is usually due to eelgrass clogging the raw water strainer. The solution is prevention—keep an eye out for eelgrass mats, especially along "soapy" looking tide and eddy lines, and avoid running over them. When eelgrass gets sucked into the engine's cooling water intake, it collects in the raw water strainer.

To clear the strainer, stop the engine, remove the clear screw-top, and pull out any eelgrass. Replace the lid, tightening it just enough to secure it. Be careful not to overtighten, as the lid can crack. Ensure that the lid's threads are not crossed, as this can prevent it from sealing properly. Then, restart the engine.

If the engine continues to overheat after restarting, check the seal between the strainer, the gasket, and the lid. If air is getting in, it will prevent the system from drawing water. If needed, remove and retighten the lid, making sure the gasket is correctly positioned.

If these steps don't solve the problem, call San Juan Sailing for assistance.

Loss of Oil Pressure or Coolant

If the engine loses oil pressure, the warning buzzer will sound, and the oil icon light on the tachometer will turn on. In this case, shut down the engine, check the oil level, and contact San Juan Sailing.

The alarm may also indicate engine overheating, in which case the temperature icon light will be on. Before turning off the engine, check for water gurgling out of the exhaust. If you have a "wet exhaust," check the coolant level in the overflow reservoir bottle. If the coolant is low, add enough to reach the top-level line on the bottle. After the engine cools, remove the cap on the engine block and add coolant if necessary. Also, check the bilge for any green liquid (coolant). If you find coolant in the bilge, call San Juan Sailing immediately.

If the coolant reservoir is full, check to see if the engine's belt has been thrown off. Without the belt on the raw water pump, coolant won't circulate and will cause the engine to overheat. Replacement belts are in the engine spares kit. Another possibility is that the impeller in the raw water pump has failed.

Although the impeller is replaced every spring, a hard object could have broken a blade. A replacement impeller is also in the engine spares kit. If you suspect an impeller problem, contact San Juan Sailing for help.

Fuel Tank

Areté's diesel tank has a capacity of 40 gallons and is located under the floor of the starboard cockpit locker. The fuel gauge is on the engine start panel, but be aware that **boat fuel gauges are often inaccurate**. To avoid running low on fuel, we recommend refilling the tank when the gauge reads about **halfway** rather than relying on its lower range.

Filling the Tank: The fuel fill is located on the starboard stern, and the tank vents through the same fitting. When filling, listen closely to the tank as you fill it. **Stop as soon as you hear fuel reaching the top of the fill pipe to avoid overflow.** We always place a fuel absorbent pad below the fuel fill to avoid spills.

Galley

Refrigeration

Areté is equipped with a top-loading refrigerator. There is no freezer section but be aware that the forward wall of the refrigerator can get quite cold. We typically avoid storing ice in the refrigerator because the refrigerator does not have a drain (there is a small blue cooler in the port cockpit locker for ice). The refrigerator does a nice job of keeping our provisions cold and we find there are no issues with allowing it to run 24 hours/day. There is a temperature dial located in the forward inboard corner of the fridge. We've marked the setting that we find works best.

Cooking

Areté is equipped with a two-burner gimballed propane range. Propane is heavier than air and requires caution. For your safety, please follow these procedures.

To light the cooktop burners:

1. Open and stow the folding cover for the stove.
2. Make sure all stove controls are in the **"off" position**
3. Turn on the gas valve. The gas valve is located behind the stove and to your left. When the handle is in line it is open. When perpendicular it is closed.
4. Push burner control knob in as far as it will go and counterclockwise to the 'light' position.
5. Light the burner with a butane lighter or match.
6. Continue holding the knob in for approx. 20 seconds after ignition to warm up the thermocouple.
7. Release burner knob and adjust flame to your needs.
8. When you are finished, turn off burners and gas valve.

To light the oven and broiler burners:

1. Make sure all controls knobs are in the "off" position
2. Turn on the gas valve.
3. Push in the oven control knob as far as possible and turn the control knob counterclockwise for oven temperature or clockwise to the broiler position.

4. Use a butane lighter to light the oven burner (below) or broiler (above).
5. Continue holding the knob in for approx. 20 seconds after ignition to warm up the thermocouple and allow the gas valve to stay open.
6. Release burner knob and further adjust temperature to your needs.
7. Close the oven door carefully to ensure the oven burner will not be extinguished.
8. Broil with the door open and do not broil for longer than 20 minutes. There is a notch in the door locking mechanism to lock the door in a slightly propped open position.
9. When you are finished, turn off oven controls and gas valve.

Please note that the propane that supplies the galley is located the port side of the helm seat. The storage compartment is vented and isolated from the rest of the boat so that any leaks will be vented away from the boat. San Juan Sailing's staff check the propane level on every turn around. One tank normally lasts 3 weeks or more.

Outdoor Propane Grill

The stainless-steel propane grill is mounted on the starboard stern rail and has its own dedicated propane tank. If the hose is not already connected to the BBQ, simply attach it before use. The grill has a built-in ignition button, but if it doesn't spark after a few tries a separate lighter can be used. After cooking, be sure to turn off both the grill's valve and the propane tank. As a courtesy to the next guest, please use the attached wire brush to clean the grill after use.

Head & Holding Tank

Please do not put anything in the toilet that hasn't been eaten. Experienced sailors dispose of toilet paper in a wastebasket rather than flushing it, as paper can clog the system.

Toilet

The head is a traditional Jabsco manual marine toilet that flushes with seawater. The seawater intake through-hull is located under the head sink. Be sure to follow the flushing guidelines above to avoid clogs.

Holding Tank

The 25-gallon holding tank is located in the starboard cockpit locker.

There is no level indicator, but you can estimate the tank's fullness by tapping on the side. All waste from the toilet flows directly into the holding tank—there is no y-valve. The tank can be emptied via the deck fitting at a pump-out station or with a mobile pump-out cart. Where legal, it can also be emptied into the sea using the gravity drain.

Gravity Drain

In legally permitted areas, the holding tank can be emptied into the sea by opening the through-hull for the gravity drain. The red seacock handle for this drain is located in the outboard cubby of the aft cabinet in the head (see photo). It may bind slightly against the cable covers above it—just nudge them aside as needed.

Showers

Areté has a “wet head”. To shower just make sure that both the water pressure and shower sump switches are on at the electrical panel, then extend the sink faucet on its attached hose. Activate the shower drain as needed by pushing the black button on the side of the sink base. After showering we find it helpful to use the squeegee located in the aft locker in the head to sweep any water remaining on the head floor into the shower drain.

Experienced cruisers know the sailor's shower: get wet, turn it off, soap up, rinse off to save water. If showering in the morning after a night at anchor you can either run the hydronic heater or the engine to heat the hot water. It will also heat at shore power if you have the “water heater” breaker flipped on at the AC panel. **CAUTION: THE WATER CAN HEAT TO SCALDING TEMPERATURES!**

The ***swim platform shower*** is useful for washing off shoes after returning from the beach and less useful for bathing. The control and warm/cold sprayer are located on the transom, to starboard of the walkthrough, above the swim step. Be sure to turn it all the way off after use so it does not accidentally drain the freshwater tanks while sailing.

Sailing

Areté is a pleasure to sail. Her sloop rig makes sail handling easy and provides flexible options for different weather conditions. Her ideal wind range is 10 to 15 knots, and she can carry full sails comfortably up to 20 knots. As the wind strengthens, it’s best to reef or furl the mainsail first.

Note: Volvo recommends leaving the engine gear shift in neutral while sailing, allowing the prop to spin freely.

Both the mainsail and genoa are furling sails. Below are some tips for handling them effectively.

Mainsail

Unlike a standard mainsail, a furling main deploys best with wind in the sail, similar to a furling jib. The wind provides even pressure along the mast, helping the sail unfurl smoothly. Because of this, the order in which the sails are deployed doesn’t matter. **We typically deploy the main while sailing close-hauled or on a close reach.** Unless winds exceed 15 knots, pointing the boat directly into the wind to deploy the main is unnecessary and not recommended.

Steps to unfurl the main sail:

1. Ensure the lever on the furling drum (located on the mast below the boom) is set to “free.”
2. Open the vang and mainsheet clutches to allow boom movement. Pull a few feet of mainsheet

through the clutch, then close the mainsheet clutch to prevent the sail from unfurling too quickly.

3. Areté has a continuous furling line. Open both the clutch labeled “inhaul” and the blank clutch to its left to let the line run free.
4. Pull the outhaul line by hand until you need more force, then switch to a winch if necessary. Once the sail is fully unfurled, close the inhaul clutches and tighten the outhaul to achieve the desired draft. Use the winch to fine-tune the outhaul tension.
5. Adjust the vang and mainsheet as needed.

When furling the mainsail, keep slight tension on the outhaul (and allow a little air in the sail) to ensure a tight wrap around the furler. **The last 1.5 feet of the mainsail—the section covered by the blue sun cover—should remain outside the mast.** If you accidentally furl part of the sun cover, you may need to go on deck and manually pull the outhaul to help the sail start unfurling next time.

When reefing the mainsail or furling in stronger winds, switch the lever on the furling drum (located on the mast just below the boom) to the “ratchet” position. This prevents the wind from overpowering the furling mechanism and pulling the sail out. In this mode, the sail can only be furled. When you're ready to unfurl the sail, switch the lever back to the “free” position.

Headsail

The jib is on a roller furling system and maintains good sail shape when fully unfurled. In stronger winds, you can reef the jib by furling it partially to reduce sail area. Sailing with a reefed mainsail and a partially furled jib in winds over 20 knots will significantly reduce boat heel.

Tip: Keep slight tension on the roller furling line when deploying the jib and on the sheets when furling. This helps prevent tangles on the furling drum and uneven "candy striping" on the furled sail.

Backstay

Areté has an adjustable backstay, but please do not adjust it. Incorrect adjustments can reduce sailing performance and may compromise mast support.

Tools & Spares

Tools are stored under the bench seat in the forward stateroom. Spare parts can be found under the bench seat in the forward stateroom and beneath the port settee.

Water

The freshwater system has a total capacity of 79 gallons, split between two tanks.

One tank is located under the V-berth, and the other is beneath the aft stateroom berth. To switch between tanks, use the valves located at the forward end of the aft berth. The freshwater pump breaker is located on the electrical panel, and it’s important to **switch this off when motoring or sailing**. If a tank

runs dry, you might not hear the pump running over the sounds of the engine or wind, which could lead to burning out the pump.

You can monitor water tank levels through the gauge on the electrical panel, which is also used to check the start battery level. To check the water levels, use the lower rocker switch. The deck plates for filling the tanks are located inside the anchor locker for the V-berth tank and on the aft port corner of the deck for the aft tank. The deck key is stored in the nav station desk.

Water Heater

Water is heated by the hydronic heater when away from the dock (see the Cabin Heat section for heater operation details). If the engine is running, push the heater switch up to activate the circulation pump and heat the water. If you're at anchor, push the heater switch down to turn on the heater and heat the water (the boat itself won't be heated unless you turn on the individual zone controls). For the heater to activate and heat the water, the thermostat above the forward end of the nav station must be set higher than the ambient interior temperature. In summer, when we only need hot water (and not heat for the boat), we typically set the thermostat to around 88 degrees.

The hot water tank holds 4 gallons, so use it wisely. The tank is located under the aft berth and can also be heated electrically when shore power is available. The switch for this is on the 120V panel.