

O'Day 28 Pre-Departure Inspections

Pre-Departure:

1. Read Log Entries, checking for equipment deficiencies.
2. Walk the boat, checking rigging and ensure equipment is in order and in proper location
3. Guests must sign Liability Release Forms
4. Check who has NJ Boating Safety Certificates
5. Give Crew Safety & Boat Operation Briefing (See Note 1)
6. Make Log entry: listing crew, destination, departure time and note any Boat deficiencies and discrepancies found.

Engine oil, fuel and cooling water pre-start procedures:

1. **Engine OIL:** Check oil level on the engine using dip stick before starting engine for the first time each day (Remove companion way steps, lift top engine compartment cover, release access panel latches, remove panel – dip stick is on left front side of engine behind raw water pump as you look rearward at the engine). If oil level is at or just below mark on dipstick it is OK, if level is 1/4 inch or more below mark add small amount of oil using small plastic cup pouring oil through oil fill on top of engine. This engine only has capacity for 2 1/2 quarts of oil, only add small amounts, wait several minutes and recheck when adding oil. Do not over-fill. If level is very low, check engine for traces of leaks, fill to mark on dip stick and run a dock side engine check and re-check oil level before leaving dock. Notify SEAS Dock-master of low engine oil level.
2. **Fuel Filter:** Check clear plastic bowl on the bottom of the fuel filter located on bulkhead on left side of engine compartment (looking aft). Marine diesel fuel is colored red/orange. Bowl should be one color without and layering or separation. Indication of water will be on the bottom with fuel on top. If you find indication of water you should drain it off using black plastic knurled drain on bottom of filter. Drain is connected to hose going into engine sump. **DO NOT DRAIN FUEL INTO ENGINE SUMP – REPORT WATER FOUND IN FUEL TO SEAS DOCK-MASTER.**
3. **Fuel, Water, Oil Leaks:** Check engine compartment for fuel, oil or water leaks by looking at pan under the engine to make sure it is not full of oil, fuel or water. (Note there is a pad in pan to absorb traces of fuel or oil, but pan should not be full of any liquids).
4. **Raw water Strainer:** Use a flashlight to shine through the plastic bowl and strainer to check basket for seaweed, leaves or other debris. Strainer is secured to bulkhead on the left side of the engine compartment looking rearward. ***Do not unscrew top cover over plastic strainer basket unless you need to clean it as you may lose the water pump prime.*** To clean the strainer, lift out the basket screen and clean out debris. Replace basket in strainer, fill strainer completely with water, ensure that the basket is in the center of the container correctly in the indent on the bottom and then carefully re-screw cover over basket. Make sure you do not cross-thread the cover when re-installing it.

5. **Raw Water Seacock:** Go back up to cockpit and open cockpit locker hatch. (The lock combination is the standard SEAS 4 digit lock code.) Put the lock in the Nav Station drawer after opening the locker.) Look in the forward inboard area of the cockpit locker. You will see a seacock handle that shuts off the raw water from getting to the strainer in the engine compartment. Pull the handle up to open the seacock. In the front of the locker area you will see the engine key and a yellow tag with "OPEN" on one side and "CLOSED" on the other. When you open seacock, take key from screw hook and place in engine panel switch, reverse tag so that it indicates "OPEN".
6. **Fuel Level:** The fuel tank is located under the cockpit. The fuel gauge is located on top of the tank and is visible through cockpit locker hatch. Check tank level, if below 1/4 level you will need to refuel it yourself or make arrangements for adding 5 gallons of **diesel fuel only** by contacting the SEAS Dock-master. Mix one ounce of conditioner for every 15 gallons of fuel. (The Perth Amboy Harbor Master says that Morgan Marina is the closest location to buy diesel fuel in New Jersey.)

Shore power, Battery and breaker Checks:

1. **115 VAC Shore Panel:** Boat AC voltage panel is located on side of bulkhead under companionway facing sink. There are two breaker switches (water Heater on top and outlets on bottom), a main breaker switch (up is on, down is off) and two panel lights (Red –Power to boat; yellow – reverse polarity). Switch Main AC breaker off. Leave AC Outlet breaker ON. (The water heater breaker, covered with tape, should never be turned on).
2. **Shore Power plug:** Lift cover on Shore Power box and switch off Shore Power Main AC breaker. Check Red LED light on shore power plug at boat end to insure power to cable has been turned off.
3. **Boat Shore power cord:** Unthread black plastic retaining ring around power plug. Unplug shore power plug from boat. Thread stainless steel cover over plug socket using care not to cross-thread the cover. It should thread on easily and not require a lot of torque.
4. **Coil Power cord:** Coil Boat end of power cord and leave it on the dock. For trips, where you will be going to another marina dock a second power cord is stored in the Starboard Settee Locker.
5. **Battery check:** Using battery test switch on 12-volt DC panel and meter on panel, check voltage on both battery #1 and battery #2. Both batteries should indicate approximately 12 volts. If battery reading is low notify dock master indicating which battery and the reading observed. (Bilge pump is directly hooked to battery #1, a low voltage could indicate pump has been running and there are water leaks and/or the AC Charger is not functioning) (The AC Charger charges both batteries when plugged into shore power and the engine alternator charges both batteries when the battery switch is set to all).
6. **Set Battery Switch:** Set rotary battery switch to "ALL".

7. **DC Breakers:** Switch 12 volt DC breakers on for departure: 1) Instruments, 2) VHF, 3) GPS.
8. Check the bilge for water and check that the float switch is operational by lifting it slightly. Press the momentary contact bilge switch, on the 12 volt breaker panel, if you wish to drain water from the bilge.
9. **Light breakers:** Note location of cabin light breakers, running and steaming light breakers in case you require these during your trip.
10. **Radio:** Turn on VHF radio, listen for traffic on channel 16 and also check weather (channels 1 and 5) before leaving dock. You may also wish to call a boat or marina for a radio check. The Radio should be set to monitor channels 16, 13 and 9.
11. **Instruments:** Remove cover from wheel and check reading on depth instrument, it is critical that the depth instrument be functioning. The Boat speed/log is not operational. You can use the GPS to accommodate these functions. The GPS is stored on the shelf above the Nav Station and when used it is installed in the black plastic bracket mounted on the steering pedestal. The cable plugs into a socket in back of the unit.

Starting engine:

1. **Engine controls:** The throttle and gearshift controls are located on the binnacle in front of the wheel on each side of the compass.
2. **Throttle control & engine shut down:** The throttle control is located on starboard side of compass. Check operation of throttle by moving throttle control forward and return to vertical position. Note that the operation of the lever becomes stiff when moved to vertical position, but can be pulled back further with force, but will not stay in that rearward position. This forced rearward position is the engine "SHUT DOWN POSITION". Never pull back on the throttle lever hard while you are using the engine or you will shut it down and lose power. To return engine to idle lightly pull back on lever with a couple of fingers till you feel resistance.
3. **Transmission shift control:** The transmission shift control is located on port side of compass. Check operation of shift lever by moving forward for forward gear, back to vertical for neutral and then backward to reverse position. Become familiar with forward, neutral and reverse positions of the shift lever so you will recognize what gear you are in by looking at lever. Always put throttle in idle or close to idle position before shifting gears. Move shift lever to vertical "NEUTRAL" position before starting engine.
4. **Key:** Engine key is kept in Cockpit locker on the wall directly above the raw seawater valve and should be returned there after returning to slip. When taking out the key, open the raw seawater valve and turn the yellow tag to open. Key is inserted into the key switch located on the front bottom of the engine instrument panel that is located on lower port side of the cockpit back by the wheel. Make sure the shift lever is in neutral position. Turn key clockwise (you will not hear any alarms, but the red Oil pressure warning light should light up).

5. **Glow plug switch:** This boat has a Universal Diesel engine and requires that the glow plug switch be depressed to start engine. The glow plug switch is a press-on rubber covered switch located on the bottom rear of the engine instrument panel. Depress glow plug switch for 10-20 seconds before attempting to start the engine.
6. **Start switch:** While holding the glow plug switch on (in) press the start switch (a second rubber covered press on switch located in front of the glow plug switch). The engine should start after a few seconds. Release both the start and glow plug switches when the engine starts. If the engine does not turn over, you probably did not hold the glow plug button in long enough or hold it in while pushing the start button. Set the throttle so engine idles smoothly without a lot of vibration.
7. **Exhaust & cooling water:** Look over stern of boat at exhaust pipe in center of transom. Make sure there is some water spitting out of exhaust along with engine exhaust gasses. At first you will only see spurts of water. The engine on this boat re-circulates warm water back through the engine and not out the exhaust until the engine is warm. After several minutes look back again at exhaust and make sure it is still spitting out water. After running the engine for some time you will notice an increase on the flow of water but it will always come out in spurts.
8. **Engine exhaust pipe:** After starting engine open cockpit locker hatch and look just in front of the seacock at the pipe covered with white insulation and the gray fiberglass box it is connected to. Make sure there is not exhaust gasses leaking from any of the pipe or hose connections.
9. **Alternator output:** At the 12 Volt DC panel use battery test switch to check alternator output. Readings should be just above 12 volt to indicate charging output of alternator.
10. **Engine Temperature Gage:** The Universal engine in the O'Day is RAW water (salt water) cooled. Cooling water is re-circulated back to the pump until the engine reaches proper operating temperature (140 degrees F), at which time the thermostat opens and sends the cooling water into the exhaust. As soon as this occurs fresh cooling water is pulled into the pump and immediately starts to cool the engine. The engine Temperature Gage located on the engine control panel will fluctuate as the engine is operating. It will slowly rise to 140 degrees, drop quickly and slowly rise to 140 again. This will continue as long as the engine is running. If the Temperature gage rises above 140 degrees and continues to rise without dropping there is a problem with the cooling system and the engine should be shut down until the problem is fixed. The inlet could be blocked by leaves, plastic bag, or other object. The raw water strainer could be clogged with leaves, marine creatures, or other objects. The impeller in the pump could have failed and the pump is not longer circulating water.
Identifying and correcting the problem is necessary before the engine can be restarted.

Leaving the slip:

1. Check wind and current and plan method of departure
2. Assign departure responsibilities to the crew.
3. Assign one person as spotter in bow to look for other boat traffic and handle the bow line. Bow person should remain at the ready with a boat pole and if necessary the anchor should the engine fail or other emergency arise.
4. Assign fender and line handlers on port and starboard sides to fend off the adjacent boat and bulkhead. Assign Bow, Spring and stern line cast off responsibilities before departure.
5. Check to see if the engine is continuing to spit water out of the exhaust. Very little water will be spit out of the exhaust until the engine is warmed up. Keep checking while under way.
6. Note: When backing out of the slip Prop Walk will cause the Stern to walk to Port and the Bow to swing to Starboard. Plan for this to avoid hitting other boats or the dock.

Getting Ready to Sail:

1. When ready to sail, put mainsail up first and then unfurl the jib.
2. After sails are up and the boat is under sail power, Shut down the engine by pulling back on the throttle beyond the idle position and hold it there until the engine stops. This will cut off the fuel to the engine and stop it. After engine has stopped turn off key switch and move transmission lever to reverse position to keep the propeller from rotating. Never turn the key switch off while the engine is running, as it will damage the alternator.
3. **Battery Switch:** With engine off switch battery switch to match day of month (even day use #2 battery; Odd day use #1 battery).
4. The main sheet traveler is adjustable under sail using traveler block adjusting lines and cam cleats.
5. If you need to furl the jib the furling line must be secured to the cleat on the track or behind the winch. The single line furler should not be used to REEF the Jib. The Jib should be completely out or completely rolled (furled) in.
6. There are two main sail reefing lines set up that run out of the bottom of the boom at the gooseneck. They have jam cleat mechanisms there, however you should never rely totally on these jam cleats. When reefing the main secure the reefing Tack with the attached webbing and rings to the gooseneck horns and secure a separate line through the reefing Clew around the boom to insure that the reefing line does not accidentally release and tear out the reefing points. Separate lines or webbing can be used to gather the sail at reef points along the boom.

Preparing to re-start engine or return:

1. Turn battery switch to "ALL".
2. Move transmission gear shift lever to neutral, throttle lever to idle (both in vertical position).
3. Turn key to on
4. Push glow plug switch on to 10-20 seconds
5. Push start switch while holding glow plug switch in.
6. Check to see if the engine is spitting water out of the exhaust. Very little water will be spit out of the exhaust until the engine is warmed up. Keep checking while under way.
7. Furl jib until sheets wrap twice around the sail and secure furling line to cleat at end on track. Lower main sail and secure with sail ties. Move main halyard to stanchion base near cockpit.
8. Check wind and current and plan for entry into the marina.
9. Assign bow person to stand by with boat pole and if necessary the anchor in emergency and to watch for boat traffic.
10. Assign return responsibilities to Crew. Decide on a technique that will be used to dock the O'Day 28. Assign responsibilities to crew and ensure they know what is expected of them.
11. When close to the slip reevaluate the chosen docking technique. If it is changed, alert the crew and reassign responsibilities.
12. The docking conditions include **traffic** in and around the marina; **wind** (bow is swung by the wind); **current** (boat will drift with the current – remember this is a fixed keel boat with a lot under the water line, however there should be little current in the protected Perth Amboy marina).

After docking:

1. Secure bow, spring and stern lines.
2. Turn off engine by pulling back on the throttle beyond the idle position and hold it there until the engine stops. This will cut off the fuel to the engine and stop it. After engine has stopped turn off engine key switch.
WARNING: DO NOT TURN KEY SWITCH OFF WHILE ENGINE IS RUNNING – YOU WILL DAMAGE CHARGING CIRCUIT.
3. Turn off radio and turn off instrument and other breaker panel switches. Move battery switch to OFF position.
4. Open cockpit locker hatch. Close the engine raw water-cooling seacock (Push handle down). Reverse yellow tag so it reads "CLOSED" and hang engine key on screw hook.
5. Check fuel level. If the fuel level is below 1/4 full and you cannot refuel, contact the SEAS Dock-master and the next skipper so that they can plan to refuel. USE DIESEL FUEL ONLY. Add one ounce of conditioner per 15 gallons of fuel. Fueling is prohibited on the Dock, fueling up must be done somewhere else. A five Gallon Yellow container is on board to allow refueling in emergencies.

Connecting shore power:

1. **Cord and boat plug:** Run shore power cord behind port side stanchion, under lifelines and run plug to boat AC plug. Un-thread the cover from forward boat socket (rear socket is for phone line), line up plug with socket, insert and then twist plug to lock in position. Screw black retainer ring to plug outlet. Hang cord from Lifelines with Bungee Cord to prevent it from dangling in the water.
2. **Shore plug:** Lift cover on shore power box and switch on breaker.
3. **Plug power light:** Check boat end of power cord, a light indicates that there is power to the boat.
4. **AC Breaker panel:** Check for Red power on indicator light and insure that Yellow reverse polarity warning light is not on (do not leave power hooked up if reverse polarity light is on).
5. **Main AC breaker:** Turn on Main AC breaker to power outlets and battery charger.

Leaving the boat:

1. **Walk around boat before leaving.** Check dock lines and fenders. Make sure dock line eyes are properly secured to cleats. Make sure Port spring lines are run under the Jib Furling lines and run straight to cleats without chafing on stanchions.
2. **Check for loose rigging.**
3. **Make sure furling line is secured to cleat.**
4. **Go below to secure forward hatch,** make sure screw dogs are tight so that gasket seals hatch. **Also check window hatches.**
5. **Check bilge for water,** run pump if necessary to pump overboard.
6. **Check 12 volt panel and battery switch (all off).**
7. **Make sure all equipment is stowed where it belongs according to the equipment schematics and labels.**
8. **Pack-up any garbage and take ashore with you.**
9. **Check seacock** make sure it is closed (handle pushed down) then lock cockpit locker hatch with silver lock.
10. **Check to ensure the Head seacock is closed.**
11. **Get locks from navigation station drawer.**
12. **Lock the cockpit locker.**
13. **Fill in the log and Keelboat Income form.**
14. **Install companionway boards and lock it with the combination lock.**
15. **Return gate key to the shower room.**

NOTES:

1. Safety Briefing to Crew should cover location and operation of all Safety Equipment and boat operation equipment including: Flares, Air Horn, Manual Horn, VHF DSC Emergency button, Emergency Tiller, Cable Cutters, Life Sling, Rescue Throw Rope, Throw Cushions, Fire Extinguishers, Tool Box, First Aid Kit, Seacocks, Sea Cock Plugs, Starting & shutting down engine, Reefing Main Sail, Furling Jib, spare dock lines, raw water strainer, engine raw water seacock, 12 Volt DC Breaker Panel - Running Lights, Steaming Lights, Bilge Pump, Main Battery Switch, Search Light, Flash Light, boat poles, emergency knife.
2. There is no rpm gauge. Throttle by vibration. If there is vibration at high rpm, reduce rpm, if there is vibration at idle increase throttle just slightly until vibration is reduced.
3. Before departure the Starboard Forward Spring Line should be unsnapped from the stanchion and laid out on the dock behind the piling. If someone is available to hold the boat against the dock at the Port Shrouds, the bow lines and Port Spring Lines can be released and laid on the dock. The Helms-person can release the Stern Line before the boat moves back out of the slip.
4. Departure using the "Push and Board" technique from the dock: A agile crew member can position him/herself on the dock near the boats shrouds and can push and guide the boat straight back out of the slip. Once boat is moving backward the helms person would shift engine into reverse and take control of boat. The crew on the dock would jump aboard using the shrouds to climb aboard. NOTE: Crew person must be agile and helms person must watch crew climbing aboard to make sure they are safely aboard.
5. Companionway Lock and Cockpit Locker combinations are the standard SEAS four digit lock code. Place all locks in navigation station drawer after unlocking locks.