

OPERATION MANUAL

Zielschmerz

‘The Z Boat’

1974 Grand Banks 36 Classic

Welcome aboard!

Thank you for choosing the Zielschmerz for your vacation.

We hope this manual will help you become familiar with the boat. If you have questions about the boat or about places to visit, please do not hesitate to ask the AYC staff.

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Safety Equipment & Bilge Pumps

Safety should be paramount in your daily cruising. An overboard drill should be discussed and perhaps even practiced using a Personal Flotation Device (PFD aka lifejacket) as your target.

- * PFDs are stowed under the starboard seat on the flybridge. A few should always be out and ready.
- * Flares are in the marked cabinet on the port side wall of the ladderway to the forward berth.
- * First Aid kit – with the flares.
- * A safety lantern is located on top of the storage cabinet on the port side of the aft cabin.

Zielschmerz is equipped with an automatic bilge pump. The master switch is located on the DC electrical panel. The switch will be left in the on position. You may occasionally hear the pump operate due to condensation accumulating in the bilge.

Engine spare parts are in the storage cabinet in the aft cabin. The collection includes oil filters, raw water impeller, pump parts, injectors, and other small parts.

BOAT OPERATION

Engine Inspection

Check the level of OIL in the engine by checking your dipstick located starboard side. Look at the etch marks on the dipstick that indicate the proper oil level. Only fill if oil levels are below the ½ way mark. The engine should take two quarts of oil at that point. Spare oil is stored in the engine room, starboard, between the forward bulkhead and the wastewater tank. Most likely you will not need oil. Please use a paper towel or oil rag, not the dish towels! Check the general condition of the belts, hoses and fuel lines.

Getting Underway

Disconnect the shore power cord (see 110-Volt next page). Turn on your VHF and electronics. assign crew members their positions. Once outside the marina, idle the engines while crew brings in fenders and lines.

Start-Up

The engine is started from the lower helm station. Ensure gearshift is in neutral or the engine won't start. Also, ensure the engine stop pull lever on the top of the lower helm is fully depressed prior to starting. The engine ignition switch is at the top of the DC electrical panel on the left (port) side of the lower helm. When you turn this on a buzzer will sound. Press the silver Start button above the ignition switch until the engine engages. The engine should start within a few seconds. If not, release the start button, wait a few seconds and try again.

Troubleshooting

If the engine cranks slowly or fails to turn over, check the condition of the battery on the electrical panel. Move the throttle to raise the engine speed to 1000 rpm on the tachometer. Warm the engine for about 5 minutes before raising engine speed to full operational RPM, max 1800. Observe the readings of the gauges. The oil pressure will register about 40-60 PSI. The engine temperature should rise slowly.

Note -- If oil pressure is low, shut down engine. Inspect engine compartment and look for possible cause (for example, loss of oil.) Caution -- If an engine is overheating or there is lack of raw water expelled in the

engine exhaust, stop the engine immediately. Recheck the raw water-cooling system to ensure the seacock is open (handle in-line with valve). Next, check the raw water strainer for debris. Remove the strainer, clean, re-assemble, and reopen the raw water intake valve (seacock). Restart the engine and re-check water flow from the discharge at the stern. If water is not flowing properly, the raw water pump may need to be serviced. Seek help.

Shut Down

Before shutting down, allow the engines to idle for about 5 minutes to cool them gradually and uniformly. The time engaged in preparing to dock the boat is usually sufficient. Ensure gearshift is in the neutral position and throttle is in the idle position. Turn off engine by pulling the stop switch on top of the lower helm.

Cruising

Engage the gearshift. Ensure the throttle is in the idle position before engaging the gearshift to avoid transmission damage. Cruising speed is a maximum of about 1800 RPMs. Your speed will vary depending upon the load, water currents and wind.

Docking

During docking, use the flybridge helm for greater visibility to the stern. Have your crew make ready the lines and fenders and give clear instructions on how you will be docking. Another crew member will need to be at the bow or midships to hand over the lines. **All close quarters maneuvering should be performed from the upper helm.**

Fueling

Open the filler caps located midships port and starboard side with the deck key which is kept in the smallest compartment of the cabinet immediately astern of the main cabin entry door. DIESEL fuel only.

Before pumping, have an oil/fuel pads handy to soak up spilled fuel. The fuel dock may provide or there are some in the engine compartment port side. You should have a rough idea of the number of gallons you will need by the engine hour indicator. The fuel gauge is a stick with gouge marks indicating 7 gallons per mark. The stick is located under the rear deck hatch. Please wipe off excess fuel from the stick before putting it away.

Place the DIESEL nozzle into the tank opening, pump slowly and evenly, and note the sound of the fuel flow. Pumping too fast may not allow enough time for air to escape, which may result in spouting from the tank opening. As the tank fills, the sound will rise in pitch or gurgle. The sound may indicate that the tank is nearly full. The fuel tanks hold 200 gallons each. They are not connected. Top off carefully and be prepared to catch spilled fuel. Spillage may result in a nasty fine from law enforcement.

Replace each tank cap. Ensure the gasket is in place.

Switching Fuel Tanks

The fuel tank valves are located under the port and starboard settees in the main cabin. In addition to opening one and closing the other, you will need to go below to throw a third valve for spent fuel recirculation. This valve is located near the top forward corner of the starboard fuel tank. Turn the square valve key 90 degree to the other arrow position.

ELECTRICAL SYSTEMS

The electrical system is divided into two distribution systems: 110-volt AC and 12-volt DC.

The systems are controlled from the AC electrical panel located starboard of helm, and the DC panel located port side of helm and the battery switch found port side of helm under DC panel. When not connected to shore power, batteries are providing all power. Therefore, monitor the use of onboard electricity carefully with your amp and volt-meters located starboard side of helm, and turn off electrical devices that are not needed. Note that the individual circuit breaker is above the nameplate for it.

110-Volt AC (Shore Power or Generator) System

SHORE POWER supports all AC equipment and receptacles on board, as well as the battery chargers.

To connect to shore power, plug the orange end of the POWER CORD into the boat on the port side of the cabin and then the yellow twist-lock end into the dock receptacle. Protect the cord ends from falling into salt water! Ensure the cord does not dangle in the water when energized. Check the power rating/plug size of the nearest dock receptacle. If necessary to connect to a 50 amp receptacle because it is the only option, add a cord adapter from the spare parts bin located in the aft cabin storage closet. Turn the dock power on. Cords coming off the bow can be wrapped loosely around the bow line or pulpit rail.

At the AC electrical panel, flip the Shore Power switch on. Check the volt-meter to ensure power is flowing. The Reverse Polarity light will be on. Then turn on appropriate breakers for battery charger, etc. as needed. Watch your amp-meter for load. If the load exceeds supplied amperage, you will pop your breaker – if it is working properly! If the breaker fails, the plug may melt, or onboard wiring may melt and start a fire. If the shore breaker does switch off, wait to turn on one of your systems (i.e. water heater) until your use of amperage drops. Best to avoid relying on the breaker. The water heater and the aft cabin heater will exceed 20 amps if run at the same time.

If the outlets fail to work, check the GFIs in the front and rear heads to see if they have been tripped.

Generator

The diesel generator draws fuel from the port side fuel tank. The valve for the fuel line is evident between the generator box (big red box to the rear of the engine) and the big gray cube of the port side fuel tank. The fuel line lies behind the generator starter battery in its black storage box just beside and forward of the fuel tank.

To start the generator, locate the Westerbeke GenSet control panel below the AC electrical panel on the starboard side of the lower helm. Switch the AC source selector to Generator. Press up on the two upper toggle switches on the generator control panel (Start and Warm). You should hear the generator crank. If the generator doesn't start in 5 seconds, release the switches. Wait ten seconds and try again. If the generator still doesn't start, go below and ensure the fuel line valve is open. If the generator does not crank at all, the battery may be dead. The battery is new so this shouldn't happen. Once the generator starts, look for the raw water discharge on the port side midships.

12-volt DC (Battery) System

The BATTERY SWITCH is located port side of the lower helm. Normally, leave in BOTH position.

Note -- Do not change the position of the switches while the engine is running or the alternator diodes will be damaged. Change positions with the engine off.

The 12-volt DC panel shows all the systems supported by your batteries. Primarily you will be turning on the breakers for lights, fresh water, etc. Bilge pump should always be left on.

The 2 house battery banks provide power for all DC systems, except the engine. When disconnected from shore power, all 12-volt devices pull from the house battery.

When a battery bank is being charged, the voltage will read from about 13.1 volts to 14.4 volts depending upon state-of-charge of the battery bank. When the battery bank is at rest, (in other words not being charged), the volt-meter above the DC panel can give a rough indication of the state-of-charge of the battery bank. Positions 1 & 2 on this meter are the house batteries. Position 3 is the engine starter battery. Position 4 is not in use.

House batteries are charged by the engine alternator while underway. The engine/house batteries are charged by the battery charger when connected to shore power. Ensure the Battery Charger circuit breaker on the AC electrical panel are ON when on shore power or generator.

| Voltage (Wet Cell Battery) | Battery State |
|----------------------------|---------------|
| 12.65 volts | 100% |
| 12.47 volts | 75% |
| 12.25 volts | 50% |
| 11.95 volts | 25% |
| 11.70 volts | 0% |

ELECTRONICS & NAVIGATION

Navionics

Zielschmerz is equipped with two iPads with access to the Navionics navigation and chart plotting software. The lower helm iPad is mounted to the helm. For upper helm navigation, a portable iPad is in the horizontal hatch to the right of the lower helm wheel. The protective case is not a flotation device. Please be cautious with this equipment. You will find the portable iPad sits securely on the upper helm between the console and the windscreen. The passcode for the iPads is 0420. The login for Navionics is automatic. Use instructions can be found at navionics.com.

Autopilot System

Zielschmerz is equipped with a ComNav Autopilot system. If you choose to use the autopilot system remember it is required by law to have a designated person on watch while underway.

To begin, turn on the autopilot breaker switch on the DC panel. Press and hold the red power button on the lower left of the ComNav display unit, located above the lower helm. When you have a desired heading and are ready to use the autopilot, press the Auto button on the right side of the screen. You may hear a clunk sound as the autopilot is engaged, and you will notice that you cannot move the wheel anymore. Now the system will take your current compass heading and automatically pilot the boat toward that heading. To disengage the autopilot, press the power button for one second. This places the autopilot in Standby Mode. See the 4-page ComNav Basic Operations Guide at the end of this manual for further details. Note that the NAV feature is not enabled. To turn off the autopilot, press and hold the power button for 3 seconds.

The autopilot has a remote steering module on the upper helm. Activate the main autopilot at the lower helm. Once active, place the autopilot in Standby Mode by pressing the power button for one second. The upper helm remote autopilot may now be placed in control. On the upper unit, press the green Starboard and the red Port buttons at the same time. The upper helm unit may then be operated in either Tiller or Auto mode. To disengage the remote autopilot, turn the selector knob to STBY. See the Basic Operations Guide for further details.

VHF Radio

There are 2 VHF radios. There is no circuit breaker for the VHF radios. They run on DC power directly from the house batteries. (The DC breaker labelled Radio is for the radio/CD/audio player.) Turn on both upper and lower VHF units by pressing the power button on the lower unit. Always monitor channel 16 while underway.

Depth Sounder

There are 2 separate depth sounders, one at each helm. There is no circuit breaker for the depth sounders. They run on DC power directly from the house batteries. To activate the upper depth sounder, pull the round silver knob on the helm. To activate the lower depth sounder located above and to the right of the lower helm, press and hold the power button on the unit until it activates. Reverse to power off.

ALWAYS consult charts for depth!

Radar

The radar is directly above the lower helm. There is no circuit breaker for the radar. It runs on DC power directly from the house batteries. The two orange buttons to the lower right of the screen turn on the unit. First press the ST-BY button and release when the screen lights. There will be a countdown timer as the radar warms up. After the timer is done, press the X-MIT button to start the scan.

To change the range of the radar scan, use the up and down arrow buttons at the top right of the unit.

To turn off, press and hold both the ST-BY and X-MIT buttons together for about 3 seconds. Remember you are not allowed to travel in fog or in serious wind conditions.

WATER SYSTEM

Fresh Water Tank(s)

The 2 fresh water tanks hold 100 gallons each. Waste gray water from the sinks and shower drains overboard through various above waterline thru-hulls.

To refill the tank, remove the water caps located port and starboard aft deck. Avoid flushing debris from the deck into the tank opening. Do not fill water and diesel at the same time! There is no gauge. The tanks are connected so if you fill one they will equalize.

Fresh Water Pump

Activate pump at the DC panel by turning on the breaker. Turning off the pump at night is recommended. If you run out of water shut off the water heater on the AC panel. Serious damage can occur.

Hot Water Tank

The water heater has a 10-gallon tank and is available when connected to shore power or via a heat exchanger underway. To use on shore power, flip on the water heater circuit breaker on the AC electrical panel. The water heater is located starboard side of engine room.

Shower

Before taking a SHOWER, make sure Fresh Water Pump and Drain Pump breakers are on. The Drain Pump is then activated by using the round silver pull knob on the cabinet next to the shower wand. Please ensure the drain pump switch and breaker are turned off after use. To keep the shower tidy, please use the curtain and wipe down the shower stall and floor. If draining is slow, check for accumulation of hair in the shower and sink drains. Ensure that the faucets and nozzle are completely off after use.

SANITATION SYSTEM

Marine Toilet

It is important that every member of the crew be informed on the proper use of the marine toilet or head. The valves, openings, and pumps are small and may clog easily.

Always pump the head for children so you can make sure nothing foreign is being flushed.

*Caution – **Never** put paper towels, tampons, Kleenex, sanitary napkins, household toilet paper, or food into the marine toilet. Place all products including toilet paper in the waste can.*

After using the head, turn the knob to flush and use the pump handle to fill the bowl with sea water. Then move the pump lever to Dry. Pump to remove water from the bowl. Flush sufficiently to move effluent in the hoses. Heavy effluent may clog hoses. Clean the toilet as necessary.

Holding Tank

The tank holds 40 gallons. Be aware of the rate of waste production. The holding tank is in the engine room starboard midships.

The holding tank may be emptied in two ways:

#1 At the Marine Pump-Out Station, remove the WASTE cap located starboard midships. Use the deck cap key in the small drawer to the right of the main cabin exterior door. Insert the pump-out nozzle into the waste opening and follow the instructions on the pump.

If there is a fresh water hose on the dock, rinse the tank by adding 2 minutes of water into tank. Then repump to leave the tank rinsed. This will reduce head odors and extend the time before next pump out.

#2 The tank's contents can be discharged with the macerator only in Canadian waters.

To operate the macerator, open the thru-hull located beside the holding tank. Open the waste cap on the exterior hull. Turn on the waste pump breaker on the DC panel. Open the valve leading from the pump on top of the holding tank.

ANCHORING

The primary working anchor is a Bruce 20kg and is attached to 200-foot chain passed through the deck from the anchor locker. The locker can be accessed through the forward cabinet in the V-berth.

The anchor can be free dropped only, meaning you do not use the power to drop the anchor. The clutch is operated by using the two-prong wrench with the white handle. Insert prongs in the spokes of the handwheel on the windlass. Loosen the handwheel by turning counter-clockwise. Once the handwheel is free, push anchor and pull chain to free drop the anchor. If there is an anchor keeper in place at the windlass, ensure it is removed prior to releasing the windlass clutch.

The windlass is DC powered directly from the house batteries but draws enough amperage that you should always start the engine before raising the anchor. The windlass power switch is located on the forward wall of the V-berth to the right of chain locker access door.

Once the windlass is energized, place yourself in position to guide the anchor onto the roller. The windlass activator foot switch is located starboard side by the windlass. As the anchor rises, be careful not to allow it to swing against the hull. Wash down chain and anchor with the wash down nozzle to the port side of the windlass. The wash down pump breaker is on the DC panel. See end of the manual for the thru-hull location to bring water to the pump.

There is a spare anchor, Danforth 10kg, stowed under the rear deck hatch.

Mooring Buoys

The State Park Sticker on your vessel allows you to pick up the Mooring Buoys in the parks for free. You only need to register at the kiosk usually located at the heads of the docks. Mooring buoys have a metal triangle at the top upon which is a metal ring. The metal ring is attached to the chain which secures your boat.

Come up to the buoy into the wind as you would for anchoring. Have crew members on the bow, one with a boat hook and one with a mooring line secured like a bow line. As you are coming slowly up to the buoy have the crew holding the boat hook point at the buoy with the hook so the skipper always knows where it is. Hook the buoy and bring the ring up to the boat to allow the second crew to thread the ring with the line. Release the hold with the boat hook. If your mooring line is led out the starboard chock bring the end of the line back through the port side. You will essentially create a bridle with about 10 feet of slack from the chalk to the buoy.

DINGHY & OUTBOARD MOTOR

Your dingy is mounted astern of the flybridge and has a 9.9hp outboard engine. It has a capacity of 780 pounds for people and their gear. Always wear Personal Flotation Devices.

Deploying and retrieving the dinghy requires a minimum of two adults.

1. Use the 2-direction crank located on the starboard rear of the flybridge to first clear the cradle the dinghy rests on.
2. From its stern, pull the dinghy away from the cabin of the boat, so the nose of the dinghy clears the sidewall of the cabin.
3. Push the dinghy toward the starboard rail of the Zielschmerz.
4. Ensure the outboard prop clears the rail and the entire dinghy is out over the water.
5. Lower the pulley crank from the flybridge while another person pushes the dinghy away from the side of the Zielschmerz.
6. Once the dinghy is in the water, tie the dinghy to the rail of the main boat until all are ready to cast off and the outboard motor is running.
7. Reverse the process to return the dinghy to the boat.

Starting the Outboard Motor

1. Ensure vent screw on black plastic cap of fuel tank is open.
2. Squeeze the primer bulb 1-2 times. If primer bulb will not squeeze, the fuel line is full and should not need priming.
3. Pull choke knob out.
4. Turn throttle to start.
5. Pull starter rope.
6. Close choke when started.

When towing your dinghy, always keep it tight to the boat any time that you slow down or stop, Assign one of your crew members as the “dinghy” person to be responsible for taking up slack. You don’t want to wrap a propeller.

Coast Guard regulations require any child 14 and under to wear a life jacket in a dinghy. It is a good idea for everyone to follow this rule.

SALON/ GALLEY

Stove/oven

The stove and oven are propane. To operate, turn on the red solenoid switch above the DC panel. Turn the burner knob desired. Press and hold the knob in while using a hand-held igniter. To light the gas. The oven is lit the same way. Light at the burner element using the lighter provided. The built-in igniter clicks but doesn’t work.

Refrigerator

The refrigerator is DC powered via the breaker marked ICEBOX. Leave this switch on.

CABIN HEAT

The aft cabin heater is AC powered. It has a breaker on the AC panel and a thermostat on the wall over the small aft berth. If the heater switches off during operation first check the thermostat to see if it will switch on when adjusted. If this doesn’t work, the heater fan will need to be reset. This is often caused by overheating when the aft head door is left open in front of the heater.

To reset the heater, first turn the thermostat all the way down. Use a phillips screwdriver to unscrew the screen for the heater fan, located under the aft cabin steps. With the screen off, locate the reset button under

the fan. Press until it clicks. Turn the thermostat up to see if the reset works. If so, turn the thermostat back down and replace the fan cover.

AM/FM Stereo Radio

The AM/FM unit is located starboard side in the cabinet. It operates like a normal car radio. There are 2 speakers (stereo) in the salon and two on the flybridge. These are under the upper helm and will need to have the speaker wires attached while enjoying outside the main cabin. We keep them disconnected out of respect for neighboring boaters.

Barbecue

The barbecue (Magma) is mounted on the flybridge back rail. The regulator for the Magma is in the aft cabin storage closet on the shelf with the spare parts. Attach the regulator, then attach a 16-ounce propane bottle. Carefully light the unit, preferably with a long-stem butane lighter. The barbecue generates a lot of heat and cooks hot and fast.

Caution -- For safety reasons, do not store an opened propane bottle within the salon or engine compartment. Chances are these will leak slightly once opened and propane gas could settle into low spaces. Store these bottles in the flybridge cabinet. Ensure gasoline and flammable materials are not near the barbecue.

CRABBING & FISHING

Always check the fishing and crabbing requirements before you leave on your cruise. You will need a license. Many areas are CLOSED to crabbing and fishing on certain months.

CRAB AWAY FROM THE BOAT! Lines can get wrapped around props. Fish-flavored cat food with the pop-up ringed lids work the best for a nice neat way to bait the ring. After 15-20 minutes, retrieve the crab line and ring quickly. Follow regulations carefully for catch and size.

After using, wash equipment thoroughly with fresh water. *Note -- Please do not store wet rings and gear inside the boat.*

THRU-HULL LOCATIONS

Engine Raw Water Coolant Line – Midships, below lower helm, just forward of alternator pulley.

** Remains open during normal operations.

Generator Raw Water Coolant Line – Port side, to the rear of the engine, situated between port fuel tank and generator housing.

** Remains open during normal operations.

Wash Down Pump Inlet – Port side, below galley sink, just forward of battery banks.

** Open for anchor chain washdown, etc. Close after use.

Holding Tank Discharge Pump (Macerator) – Starboard side, below salon/galley exterior door.

** Remains closed in U.S. waters. Close after use if in Canadian waters.