3. Install source 1, source 2 and output wires
Install the feed wires from AC Shore Power and AC Generator. Install the output wires. Refer to the wire sizing chart to select the minimum wire size. Connect the brown AC hot, light blue AC neutral and green AC safety ground as shown in the illustration. To avoid excess wire temperatures when cooling may be limited, we recommend using at least 12 gauge wire for 30A and 8 gauge wire for 50A.
Do not confuse the neutral current carrying wires (sometimes called ground) with the green normally non-current carrying wires (sometimes called grounding). These two wires must be connected only at the source of power, nowhere else.
A double pole circuit breaker must be installed within 10 feet of the shore power inlet, ahead of this switch. The measurement is made along the conductors. The switch provides switching, but does not provide circuit protection. It is not a substitute for a main circuit breaker.

4. Testing Connections
It is very important that the wiring be connected according to the diagram. The line and neutral from each source must be paired together and not connected such that the switch selects line from one source and neutral from another. Verify the connections and see that each connection is securely tightened, including the terminals for the jumpers installed on the switch where no wires are attached.
It is possible to verify the connections using an ohmmeter before power is applied. These procedures take a little time, but are recommended, especially if some elements of a previous installation might not have been properly labeled or followed the expected color codes.
Installation (continued)

6. Testing Performance

Test Shore Power
Connect the shore power cable to the shore power source. Turn on the shore source to make power available to the boat.

a. Turn the selector switch to SHORE. No Reverse Polarity lights should be lit, and power available should be indicated. If any red Reverse Polarity lights are on, turn off the shore power circuit breaker and disconnect the shore cord at the shore source. Either the hot and neutral or hot and ground wires have been reversed. Starting at the distribution panel, trace the connections as far back as necessary to locate the error.

b. If there are no indications of reverse polarity, check to see that power is available. If the electrical distribution panel has a meter, verify that shore power is available and at the proper voltage. If there is no meter, turn on the load circuit breaker for an AC circuit powering a convenience outlet and use a voltmeter to verify that power is available from line to neutral at the plug. Verify that there is no voltage between ground and neutral.

Test Generator System
Turn the circuit breaker at the shore source to OFF. Set the selector switch to OFF. The shore power available lights should all be off. Start the generator and turn the generator breaker to ON.

a. The power available light for the generator output should light. The reverse polarity light should be off.

b. There should be no power available indication at the shore power circuit breaker.

c. Set the selector switch to GENERATOR. Power should be available at the power distribution panel. If the electrical distribution panel has a meter, verify that power is available and at the proper voltage.

d. There should be no power available lights indicating at the shore circuit breaker, or the shore indicator of this panel.

The Purpose of the AC Main Source Selector Panel
Alternating Current (AC) power changes polarity 60 times per second in the US, Canada and Latin America and 50 times per second in Europe. This is the frequency of the power and is referred to as Hertz (or the now outdated term “cycle”). Because of this alternating nature of AC power, two live sources of AC power, such as shore power and inverter power, or shore power and a generator, cannot be electrically connected. The AC Main Source Selector panel is designed to connect two sources of AC power to a common circuit while preventing both sources from being connected to the circuit simultaneously.

Related Products from Blue Sea Systems
- High Amperage Fuses and Circuit Breakers for positive feed wires
- High Amperage Battery Switches
- Terminal Blocks and Common Bus Connectors
- AC Distribution Panels
- DC Distribution Panels
- AC and DC Digital and Analog Voltmeters and Ammeters

Useful Reference Books

Installation (continued)

Wiring Diagram
AC Source Selector Panel
PN 8359 Shown

Panel Template
AC Source Selector Panel
PN 8357 / PN 8359

This template has been provided to help you in installing your new Blue Sea Systems power distribution panel.

Drill pilot hole as needed for panel mounting screws.

Cut out template and trace onto mounting surface.