



"SPECIALISTS IN MARINE WINDOW DEFOGGING"

**MARINE WINDOW HEATER
H-SERIES**

MODELS: HS and H2

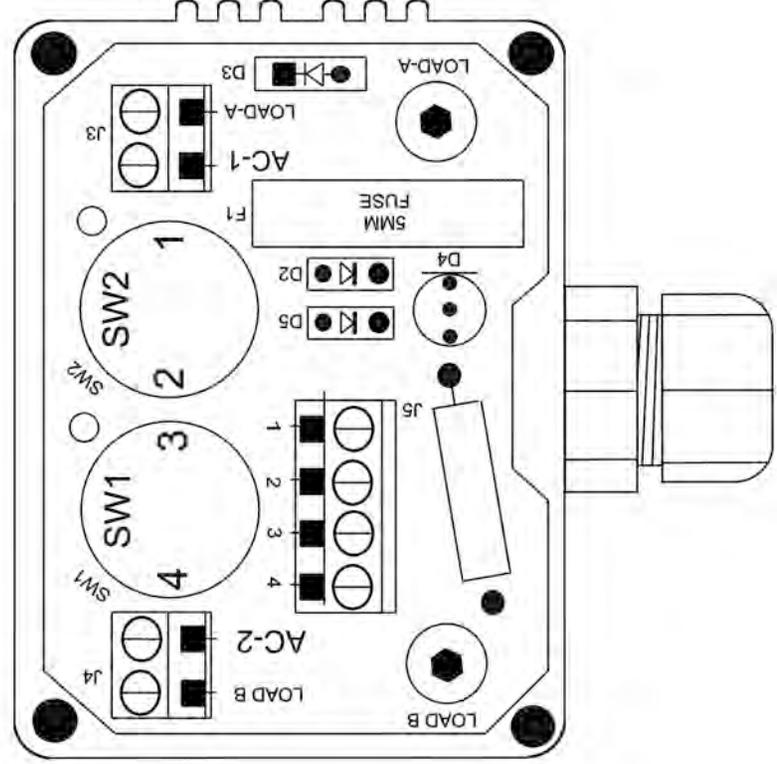
**INSTALLATION INSTRUCTIONS AND
OWNERS MANUAL**

FOR USE ON GLASS WINDOWS ONLY
(TEMPERED RECOMMENDED)

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History

During the winter 1989 Bering Sea crab season, a young captain, Scott Sperbeck was fighting to see out of the iced over pilot house windows. Frustrated with the limited options that were available, Scott knew there had to be a better way to keep the windows free of ice and condensation. At the end of the season, Scott began to develop the Seaclear marine window heater. A year later prototypes had been installed on a number of vessels throughout the fleet. Feedback was very positive and Seaclear Industries was born. Over 20 years and thousands of units later, Seaclear Industries has grown into the industry leader in window defogging. Today, Seaclear Industries not only continues to develop and manufacture clear film heaters for the marine industry, but also is involved in many other products as well.



WIRING LEGEND

	115 VAC	220 VAC
AC-1	HOT	HOT
AC-2	NEUTRAL	HOT



SEACLEAR INDUSTRIES
 2020 MALTBY ROAD S#131
 BOTHELL, WA 98021 USA

TITLE

H SERIES WIRING DIAGRAM

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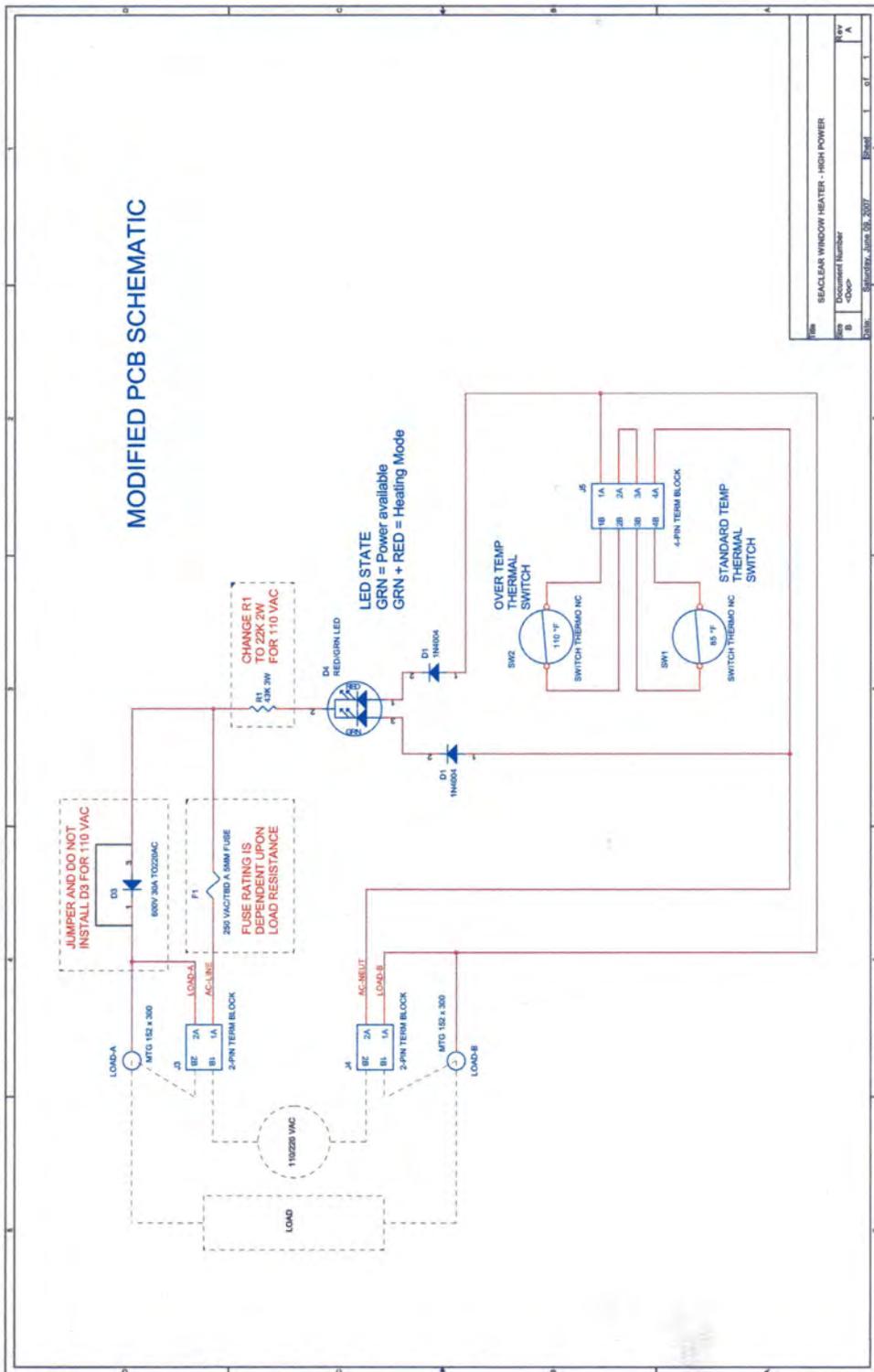


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Troubleshooting Guide (cont.)

(P/N OA100) is available which operates at a higher temperature which helps speed up drying.

In more severe cases where large pockets of wetting agent are visible, please call Seaclear for instructions and assistance.

Product Registration

Why should you register your product?

Registering your product is important as it provides Seaclear with the information needed to honor any warranty claims if needed. Additionally, it allows us to inform you of any updates or service notices. Seaclear does not sell any of its mailing lists.

There are two ways to register your product.

- 1) Complete the enclosed warranty card and mail it back to Seaclear.
- 2) Visit www.seaclearllc.com, click product registration, and fill out the form.

Contact Information

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Contents Checklist

Seaclear Marine Window Heaters are designed to provide professional results when installed according to the instructions contained in this manual.

Your Seaclear Window Heater contains the following items.

- ❖ Installation Instructions
- ❖ Seaclear Warranty Registration Card
- ❖ Heater Film
- ❖ Temperature Control Enclosure
- ❖ 4oz Wetting Agent
- ❖ Plastic Squeegee
- ❖ 2 Mounting Screws and an Allen Wrench

If you are missing any of the above items, please call Seaclear or your nearest dealer.

The following items (not supplied by Seaclear) will be needed to install your heater.

- ❖ Glass Cleaner
- ❖ Lint Free Paper Towels
- ❖ Razor Blade
- ❖ Masking Tape

**PLEASE READ THESE INSTALLATION GUIDELINES
CAREFULLY BEFORE INSTALLATION**

1. The film is applied to the inside surface of a GLASS window.
2. Installation should be done during daylight hours.
3. If window temperature is below 45° f, a fan forced heater should be used to keep the window temperature warm during the installation and drying period.
4. During squeegeeing, use strong pressure. The more pressure that is applied, the more wetting agent will be removed from behind the film. This will help reduce the drying time.
5. Handle the film with care. Do not bend or crease.
6. After installation, dime sized air bubbles may appear around the electrical studs. This is normal and will be able to be flattened out after the film has dried.
7. During the drying process, fogging or cloudiness will appear. This is normal and as the film begins to dry streaks will appear.
8. Never remove the film or the temperature enclosure without consulting with Seaclear first.

Troubleshooting Guide

NOTE: NEVER remove the film or the temperature enclosure without consulting with Seaclear first. To do so will void warranty and possibly destroy the heater.

Film Does Not Feel Hot to the Touch

Several factors can affect how hot the film will feel to the touch. Cabin temperature, outside temperature, window thickness will all effect how hot the film feels.

The standard operating temperature range is on at 70° and off at 85°. In general, the colder it is outside, the warmer the heater will feel.

SW2 Thermostat Keeps Tripping

This indicates that there is a problem with SW1. Either SW1 has failed or is not seated against the window.

Fuse is Blown

Turn off power. Check resistance of film. A reading of 40-55 ohms should be present. If so, replace fuse and monitor the heater.

Film is Foggy or Distorted

If the film is foggy or distorted, it is due to excessive moisture between the film and the glass window. This is usually a direct result of not applying enough pressure with the squeegee during installation. In almost every case, over time the film will become crystal clear. Keeping the film operating 24 hours a day, increase cabin temperature and using a fan forced heater will all speed up the drying process. A fast start thermostat

Window Heater Operation

Once installation is complete, plug the AC power cord in. Once the circuit has power, the green LED will light up. The chart below references the LED color and mode of operation.

LED COLOR:	GREEN	RED	
MODE:	Power Available	Heating	

Green indicates that power is available and the heater is in standby mode. This means that the temperature is above the upper set point.

Red is the heating mode and will switch back to green when operating temperature is reached.

Maintenance

1. The film may be cleaned with any household glass cleaner and paper towel or soft cloth. Do not use harsh chemicals or abrasive pads for cleaning.
2. The SW1 thermostat must be replaced annually. Seaclear recommends that during the yearly thermostat replacement, to check electrical connecting nuts for snugness.

Window Heater Installation

Glass Cleaning

All glass surfaces have contaminants (oils, nicotine, silicones, dust, dirt, etc.) that must be removed for maximum adhesion and clarity.

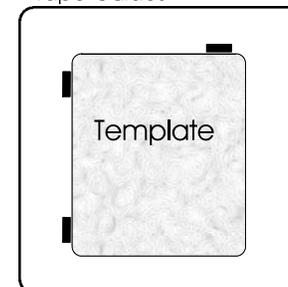
1. Use a good window cleaner or isopropyl alcohol and thoroughly clean the window on both the inside and outside. Use a razor blade to remove any stubborn materials such as paint, sealants or any other foreign materials.
2. Inspect the window to ensure that it is clean and ready for the film.

Applying the Film

Film Template Placement

1. Using the white liner template that came with the film, hold it up to the window. Position the liner where the Seaclear film is to be applied. Make note of the electrical box so that it will be close to an electrical outlet. Using masking tape, mark 2 long sides and 1 short side with tape parallel to the liner. This will be your guidelines for the film placement.

Tape Guides



Applying the Film (cont.)

3. Shake the bottle of wetting agent. Generously spray the window, concentrating on the area where the film is to be placed. Make sure the area is completely covered with the wetting agent.
4. Remove the CLEAR liner from the back of the film. This is most easily done by using opposing pieces of masking tape. At one of the corners, place one piece of tape on the film side and one on the liner or back side of the film directly over the first piece. By pulling the two pieces away from each other, the clear liner will separate from the adhesive on the film. Discard the liner. CAUTION: Once the liner is removed, the adhesive of the film will be exposed. Do not touch the adhesive or set it near something that could stick to it.
5. Using the guides, place the film on the window. Gently slide the film into the exact position
6. Spray the surface with a glass cleaner to prevent the film from scratching during squeegeeing.
7. Begin squeegeeing the film. Work out the wetting agent from behind the film using long firm and overlapping strokes. Work away from the studs. Do not squeegee towards the studs. Hitting them with the squeegee could tear them from the film. Repeat this process a number of times using very firm pressure at all times. Be sure to keep the film wet with glass cleaner while squeegeeing. Dime sized air bubbles around the studs are normal and can be pressed down once the film has dried.
6. The film will need 24-48 to dry. If needed, use a fan forced heater to speed up drying.

Attaching the Temperature Controller

1. Be sure the film has securely adhered to the window before attaching the temperature controller. Failure to do so could result in excessive air around the enclosure. You will know it has dried enough by pressing the dime sized air bubbles and they stick to the glass. Drying time usually takes between 24-48 hours.
2. Remove the cover of the enclosure.
3. Peel the liner from the base gasket on the bottom of the enclosure.
4. With the cable leading away from the laminate slip the enclosure over the two studs on the film. The studs should be used with the two plated holes on the circuit board. Press the enclosure down firmly.
5. Using the supplied hex wrench, thread the two supplied nuts onto the studs. Tighten snug.