

## Installation of Hatches and Ports

*This Guide is for the installation of Atkins & Hoyle Hatches and Ports. See separate Guide for Removal of Hatches and Ports.*

### Suggested Tools:

- Paint Scrapper, Utility Knife, Putty Knife
- Rag or Paper-towel
- Sandpaper (100 Grit or preferred)
- Caulking Gun
- Marine Silicone – Polyurethane (ex. 3M 4000 UV or similar, SikaFlex, LifeCaulk, etc)
- Painters Tape
- Solvent (for cleanup - Acetone, Mineral Spirits, or similar)
- Fasteners (#12 Self Tapping, or Bolts if through bolting) *Length varies by boat*
- Epoxy Resin
- Hand Drill
- ¼” Drill Bit (for deck, hull, or clearance)
- 9/64” or a 5/32” Drill Bit (for Deck / Hull)
- Spray bottle with denatured alcohol (*optional*)

### A note about Fasteners!

There are many types of fasteners you can use to install our products~

- **Round headed Self-tapping screws or bolts** (with washers and nuts) are most commonly used and are available at most hardware stores in the length you require. We also sell stainless hardware if you need.
- Specialty hardware known as “**Barrel Nuts**” or “**Binding Posts**” will allow you to through bolt with a ‘flusher’ appearance. These can be costly, but are available at places such as *Jamestowndistributors.com*
- Stainless Steel fasteners are preferred, though Aluminum can be used
- Nylon washers can be placed between the fasteners and the castings to eliminate the possibility of corrosion. This is a process which is more likely to affect the fastener itself over the course of decades, not our castings which have been treated and will resist corrosion.

### **Pre-Installation Tips:**

1. Determine the location of the Hatch or Port to be installed. In many cases, there will already be a rough cutout where an older window, hatch, or port was installed. Enlarging this cutout (for a larger replacement) by a couple inches each side if necessary is usually accomplished with little effort using a saw or grinder. Making the cutout a bit 'short' is recommended initially, use a Dremel wheel or sandpaper to create a smooth opening to the desired size.
  - a. If you are cutting a new hole to add a hatch or port in your boat, then it may be necessary to consult with a naval engineer. In most cases this is not an issue as our castings will typically strengthen any cutout made.
2. If required, create a template using cardboard to help with the positioning of the new hatch or port. In most cases, the hatch or port itself will serve as the template. Have someone hold the unit in position while you mark the rough cutout and fastener locations.
3. Start by cutting out the middle of the opening, slowly working your way towards the edge of your markings; test the fit of the new unit as you continue to make an opening.
  - a. For hatches, you will want the opening in the deck to match the opening of the hatches. This way the hatch frame will be flush with the opening.
  - b. For ports, you will be looking to cut the opening roughly 3/16" larger (on either side). This 'gap' will be filled with adhesive, which forms a good seal, and allows for some flexibility in the installation.

## Preparing the Mounting Surface:

*Be sure to have the mounting surface properly prepared prior to installing a hatch or port. Failure to properly prepare the mounting surface can result in leakage or damage to the vessel. A properly prepared surface will be smooth, clean with all old caulking, residues, and oils removed.*

1. Start by removing the old caulking from both the interior (if applicable) and exterior mounting surfaces. This laborious job can be done using a paint scrapper, utility or putty knife.
2. Use sandpaper to remove any remaining caulking, and any imperfections in the mounting surface. Repair mounting surface (if required) using the appropriate filler.
3. Use Solvent to thoroughly clean both the interior and exterior mounting surfaces. Wipe until Rag comes away clean. Also clean the metal of the new hatch or port. Be careful not to touch cleaned surfaces with your hands, oils from your skin may prevent adhesives from sticking.
4. Using a template or the unit itself, tape off the perimeter of the flange to help with cleanup. Later in the installation, this will allow you to apply a bedding a caulking which will squish out, but it will be easier to clean using the tape, it will also make a nice bead.
5. Drill holes for fasteners, hole size based on fastener size and type.
  - a. If through bolting, drill fastener holes for clearance. Drill ¼” for #12 Bolts. A layer of caulking will be surrounding each hole regardless of whether you are through bolting or not.
  - b. If using Self Tapping Screws, then we recommend installing the screw with Epoxy resin to prevent the possibility of water following the screw into the boat. This can be done a couple of ways.
    - i. Drill hull or deck using a 9/64” bit and coat the screws in Epoxy as you install each screw (during the installation phase).
    - ii. This method will totally encase each screw in epoxy, to minimize the chance of wet/ rotten coring. Drill the hull or deck for fastener clearance (i.e Oversized drill). A #12 Screw measures 0.216”, a ¼” bit will suffice. For this method we will only drill part way through the mounting surface based on the length of the fastener (you want the hole to be a bit deeper than the length of the screw). Fill the ¼” hole with Epoxy and allow to cure. Once hard, re-drill the center of the ‘epoxy plug’ using a 5/32” Drill. Coat the screws in Epoxy as you install each screw (during the installation phase).

## Installing the Hatch or Port

1. Always attempt a dry-fit prior to installing the unit. Thoroughly read through ALL the instructions and make any necessary changes prior to applying adhesives.
  - a. A Hatch is installed from *above* deck, a port is installed from *inside* the boat.
2. Caulk a thin bead of silicone around each fastener/ mounting hole. Caulk a bead around the cutout opening. Caulk a bead around the inside of the tape line (installed earlier, marking the outer edge of the unit). Optionally, a thin bead can also be applied in the same locations on the back of the hatch or port. Keep in mind that excessive adhesive will squish out as the unit is screwed down, this is good. Care must be taken not to make a large mess though. Use Solvent or mineral spirits to clean up any mess, or as recommended on the backside the adhesive cartridge. Note that it is not necessary to fill the entire 'void'/ 'hollow' section on the bottom of the mounting flange. This is there to increase the strength, while reducing the weight of the unit.
  - a. When installing a port, this caulking should be applied both inside and outside surfaces.
3. Note fastener type and preparation required (above). Insert one or two fasteners into the hatch or port to help with aligning it with the cutout. Optionally, doweling can be used to ensure the unit is installed square and on top of the proper fastener holes. You won't want to shift the unit around once it's in place with all the caulking.
  - a. If installing a port and through bolting, the exterior trim ring must be installed during this step. If using self-tapping screws, the trim ring can be added after using this same process.
    - i. From outside the boat, fill the ( $\frac{3}{16}$ "") void between the port and the cutout, with caulking.
    - ii. Use a putty knife to smooth out the adhesive, then caulk a small bead around each mounting hole.
    - iii. Center the trim ring over the port and press it down until you can tighten the fasteners.
4. Insert and partially tighten the remaining fasteners, evenly. Start top left, then bottom right, tightening screws evenly all the way around.
5. Carefully spray the bead (excess) caulking with the denatured alcohol. Then use your finger (or a bead smoothing tool) to smooth out the bead.
6. Use solvent, mineral spirits (or other) to clean up any caulking on the unit
7. Trim off the other side of the installation.
  - a. For hatches through-bolted, this may mean headliner.
  - b. For hatches simply screwed down to the deck, trim may not be necessary.
  - c. Our Ports come with an exterior trim ring which will 'decorate' the cutout. See Step 3 (above). Care must be taken to seal mounting holes if the unit has been through bolted. Care must be taken to properly seal between the port and the hull.
8. Allow caulking to cure, then test for water tightness using a hose.