



**Cascade**  
Yacht Works, LLC

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## **HARD DODGER INSTALLATION INSTRUCTIONS**



Please Read and Understand this Entire Document before beginning installation. If you feel uncomfortable with any of the steps please seek the assistance of a qualified professional or experienced friend.

### **Recommended Tools**

Jigsaw with several blades (Finer tooth such as 14-18 TPI suggested)

#2 Phillips Screwdriver

Wrenches for machine screw nuts

3 to 4 C Clamps

Light Lines, for suspending dodger top during installation

Cordless Drill with Phillips and Square Drive Bits

Drill Bits: 9/64" (for #10 screws) 11/64", 1/8" (for #8 Screws Clearance Holes), a Counter Sink Bit if desired, and a #10-24 Tap

Pencil(s) and wood blocks or Drafting Compass

Delicate Surface Masking Tape

Sander with assortment of Sandpaper

Marine Sealant (3M® 4000UV (excellent), 5200 or similar SikaFlex products (also good)

Wood blocks

The 2-piece dodgers are supplied with, ironically, 2 main components, the Front and Top. We recommend NOT cutting out the window holes until after mounting the front section on the boat. This keeps the part more stable, making it easier to keep the window areas flat and untwisted.

Dodger Fronts for Cascade vessels with the factory fiberglass deck can be trimmed just outside the scribe lines for a quick fit (with the new painting methods the lines may not be visible on the finished part, but let us know and we can trim it close before final paint and delivery).

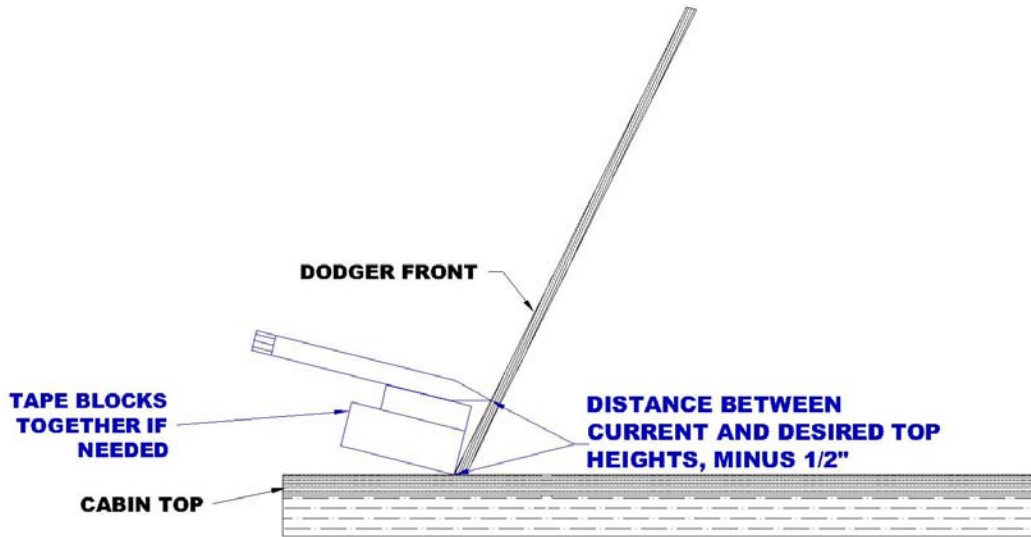
A helper should be on hand during the installation. The parts can be awkward and heavy, risking damage to them or scratching the boat without a 2<sup>nd</sup> set of hands. Also have any installation hardware and accessories on hand, such as Starboard® or other cleat blocks, stainless aft end supports, handrails, etc

### **Determine Dodger Height**

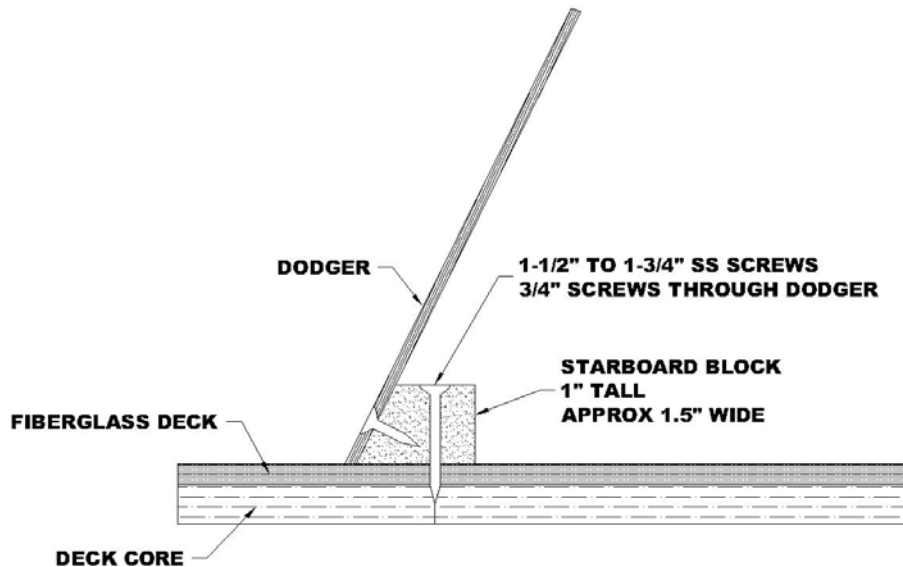
Dodger height is controlled by factors such as boom clearance, helm position sighting through or over, head clearance above the companionway, and aesthetics. The dodger Top is generally kept level, or nearly so, fore and aft. Attach several C clamps to the dodger top. Suspend the top from the clamps with halyard(s) and lines to the boom. Note the desired height.

### **Fitting, Trimming, Mounting**

Attach the Front to the Top with several machine screws along the front. The Front's width at the deck can be adjusted some depending on your cabin top shape. On Cascade's the sides of the dodger typically screw to the cabin trunk sides, while the rest mounts to the top of the cabin. In some installations the entire dodger may mount to the cabin top. Center the dodger on the cabin top and adjust the sides as needed. ENSURE THE FORWARD END OF THE DODGER TOP WILL NOT INTERFERE WITH YOUR BOOM, MAINSHEET, TRAVELER, OR OTHER SAILING HARDWARE. It may help to block the dodger up off the deck to keep it sitting level and in place. Mark the companionway hatch or sea hood width and height on the dodger Front. Trim the dodger with a jigsaw for the hatch. Suspend the dodger in place again with the Front and Top loosely bolted together. Measure the distance between the current and desired heights of the Top. Use blocks and a pencil, or drafting compass, to trace the cabin onto the dodger front. It is suggested to cut off approximately ½" less than the height distance between the desired and current Top height location, to allow space for final trimming. See below.



Trim the front with a jigsaw. Position the dodger back on the boat. Mark and re-trim the dodger as needed for the best fit. Small adjustments can be made by block or machine sanding when it's difficult to get a straight edge with the saw.



**STARBOARD PLASTIC OR SIMILAR BLOCK CUT WITH APPROX ANGLE BETWEEN DECK & DODGER ON TABLE SAW, CUT SECTIONS TO LENGTH AS NEEDED. DRILL & COUNTERSINK CLEARANCE HOLES FOR SCREWS-TO-DECK IN STARBOARD. DRILL PILOT HOLES IN DECK. FASTEN BLOCKS TO DECK. DRILL PILOT HOLES IN STARBOARD FOR SCREWS FROM DODGER TO BLOCK. SECURE DODGER WITH PAN HEAD SCREWS, OR FLAT HEAD SCREWS WITH COUNTERSINK DRILLED IN DODGER. USE SEALANT SUCH AS 5200, 4000UV, OR SIMILAR BETWEEN ALL SURFACES. DO NOT OVERTIGHTEN SCREWS.**

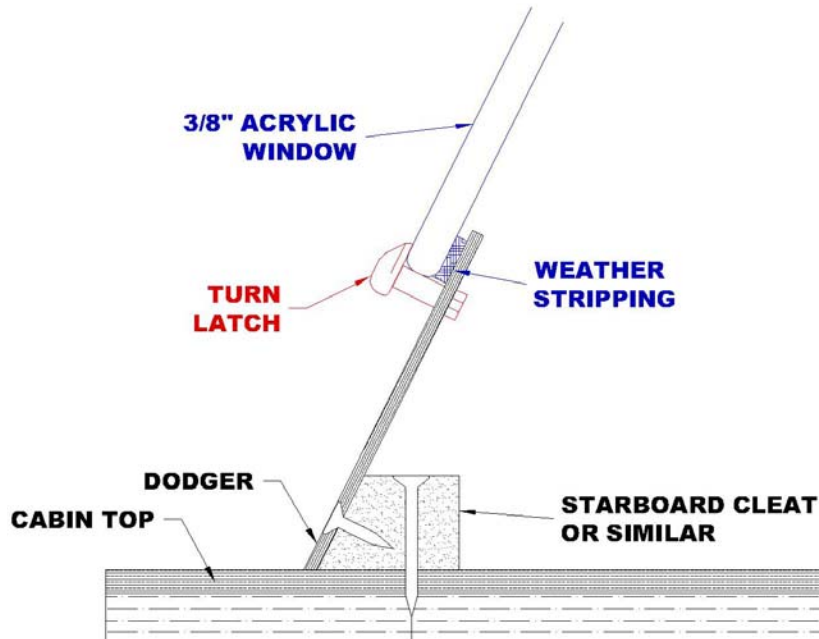
Drill and bolt the Top to the Front in several places along the side and back sections. Mark the cabin top along the inside of the dodger's final position. If glassing the dodger to the deck grind and prep all surfaces, mask off all other's, and glass as per standard practice. Glass should be done with epoxy resin. Topcoat all epoxy with primer and an appropriate color of Awlgrip or similar UV protecting paint. For more typical installations, cut or sand the Starboard® or other cleat material (ie epoxy sealed wood or teak) to the approximate angles and lengths needed. Remove the dodger. Pilot drill the deck for the cleat mounting screws. Apply marine grade sealant and screw down the cleat material.

Replace the dodger. Drill pilot holes through the dodger front into the cleat material. Screw the dodger in place. If all fits properly apply sealant, if not make final adjustments and then seal and fasten.

Drill, apply sealant, and bolt the Top to the Front. **IF THE TOP WILL INTERFERE WITH CUTTING THE WINDOW OPENINGS, CUT AND MOUNT WINDOWS BEFORE FINAL INSTAL OF THE TOP.** Bolts should be located no more than 12-15" apart, including a bolt at each of the 4 corners.

### **Windows**

At this point mark the window cutouts. For surface mounted windows trace the window lightly with pencil, then offset 1/2-3/4" inside all around. This will leave the cutout smaller than the window. It may be easier to draw the lines if you first apply masking tape to the general area, then draw on the tape. The tape will also protect the surface from scratching while cutting. Remove the Top if necessary to allow cutting space. Cut the window openings with a jigsaw, touching up with a sander. Some prefer to cut the corners out with a hole saw to achieve a smooth radius. Properly locating the hole's center is critical, so cutting with a jigsaw and sanding is often easier. Lightly sanding to soften the cut edges is suggested.



Mount the windows. Acrylic windows can be drilled and through bolted (with sealant or weather-stripping) for a permanent installation. More commonly windows are secured with turn buttons. Hold the windows in place and mark drill locations for the turn buttons (should be roughly 1/4" outside the window). Drill with a #25 sized bit. Partially tap the holes for the #10 machine screws. Screw the buttons on. The screws should be fairly stiff, and stick out on the inside 1/8-1/4". Use cap or lock nuts on the inside to achieve a finished look and lock the screws in place. A dab of Loctite or other thread locker on cap nuts will ensure they won't vibrate loose over the years.

### **Stainless Supports**

Some installations may require stainless aft supports. If the aft end of the dodger Top droops down or seems floppy it should be supported. The supports run from the Top or back upper end of the Front, to the deck or gunwale. Most installations can be made using standard 1" stainless railing fittings from your local marine supply store or purchased through Cascade. Where necessary, Cascade can also fabricate custom stainless supports, mounts, and railings. Even when not necessary for support the stainless supports make convenient hand holds.

### **Edging**

Vinyl edging can be added for a cleaner look and to protect the raw fiberglass edges. Most common applications include around the Top's perimeter, and along the aft edges of the Front section. Apply adhesive sealant such as 5200 (4000UV is less adhesive but can also be used) around the edge and push on the vinyl. The seam around the Top should be in front, and the vinyl clamped in place at the joint for several days until the sealant has cured. Edging can often be found at your local marine store, or ordered through Cascade.

### **Grab Rails and Accessory Mounting**

Grab rails, GPS sensors, Boat Pole Holders, and other items are often mounted to dodgers. Keep in mind some dodger Tops include foam core in the middle. When mounting into a cored panel either self tapping screws for light loads (with sealant). For through-bolted equipment an extra step is needed. Drill the holes oversize and fill with thickened epoxy. After curing, drill the appropriate sized bolt holes and fasten as normal.