

# Building a View-Canoe or Kayak

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Placing a viewing window in the bottom of a canoe or kayak involves three operations:

- Cutting an opening in the bottom of the canoe and covering it with a piece of clear plastic.
- Providing a covering so sunlight does not hit the top side of the plastic window.
- Adding a seat for the person viewing the area under the canoe.

*If you are using a kayak the third step is unnecessary because the normal kayak seat works fine.*

In selecting a canoe, try to find one with a wide center section without a keel. We used an Old Town Guide canoe. The center section is wide and relatively flat with a thwart across the canoe near the center. If you are working with a kayak it is unlikely that you will have a flat space large enough to fit a window. Don't be discouraged. It is possible to build up the front and back section of the opening to provide a flat surface to mount the plastic window.

## Install the flat plastic window



In our canoe we cut a 10" x 13" opening in the center, just forward of the thwart using a saber saw. We obtained a section of Lexan polycarbonate resin thermoplastic intended to replace glass where higher strength is needed. A piece 13"x16" x 1/4" was used to allow 1 1/2" overlap on all four sides. Lexan is a registered trademark of GE, but there are other companies that make similar materials that are as good.

A row of holes were drilled around the edge of the opening in the canoe about 3/4" in from each edge. The holes are slightly larger than the diameter of a #6 machine screw. We used #6 machine screws and mating T-nuts with the screw heads on the bottom of the canoe. Using the holes in the canoe as a template, drill a similar set of holes in the plastic sheet. The holes in the plastic must be slightly larger than the holes in the canoe to accept the T-nuts. The holes in both the plastic and the canoe should not be too snug to allow for some movement between the plastic sheet and the canoe surface.

Then, using 3M Marine Adhesive/Sealant, make two beads of the material around the plastic sheet. One bead should be just inside the row of holes and one just outside the row of holes. Be sure to use sufficient material, so that when the plastic sheet with the adhesive on it is placed against the bottom of the canoe the adhesive will fill

the screw holes and provide a water tight seal. As soon as the adhesive is spread, place the plastic sheet over the holes in the bottom of the canoe with the adhesive in contact with the inside of the canoe.

Hold the plastic sheet in place by putting a machine screw and T-nut in the center of each side. The T-nut is placed in the hole in the plastic and the machine screw is put in the hole in the canoe with the head on the bottom of the canoe. When the screws are tightened, the threaded part should be flush with the top of the nut or just below the top. Add screws and nuts to the corners. Complete the operation by installing the remaining screws and nuts. When all screws and nuts are in place, tighten them just enough to spread the adhesive across the overlapping area. Do not over tighten these screws. This operation will require at least two people - one holding the nuts on the inside of the canoe and one installing the screws from the outside of the canoe. Support the canoe on its side so both people can work comfortably.

If you are installing the view window in the bottom of a kayak, the procedure is similar, but the bottoms of most kayaks are sloped. To provide a flat surface for the window it will probably be necessary to build up an area just forward and behind the opening in the kayak. This can be done using the fiberglass material from the opening cut in the kayak or a commercial material like Marine-Tex. The opening in our kayak was 8"x10" and the plastic sheet was 10"x 12"-allowing a 1" overlap on each side.

### **Provide a covering to shield the surface of the view window from the light**

In the canoe we installed a 1"x 6" board just ahead of the existing thwart. A piece of plywood was placed across the canoe covering the thwart and the added 1x6 board and the space between them. Then a hole was cut in the plywood that would accept a short piece of 6" plastic pipe. The pipe is installed at an angle so the viewer can look down the pipe easily. A section of soft plastic material is mounted around the upper section of the pipe that can be adjusted up or down by the viewer.



A rectangular box under the shelf is provided to block out most of the light. Our box was made using 1/8" Masonite. If Masonite is used it must be coated with something to keep it from getting wet.

When using a kayak, a similar rectangular box was made as a separate unit so it can be placed in position over the view window after getting in the kayak.

### **Add a seat for the person viewing the area under the canoe**

The final step is to provide a comfortable seat that can be adjusted to suit the viewer. For our canoe we found a commercial seat in the Overton Catalog at a reasonable price. Two padded strips of wood were added to the bottom to provide a seat that can be moved around the canoe without damaging the surface.