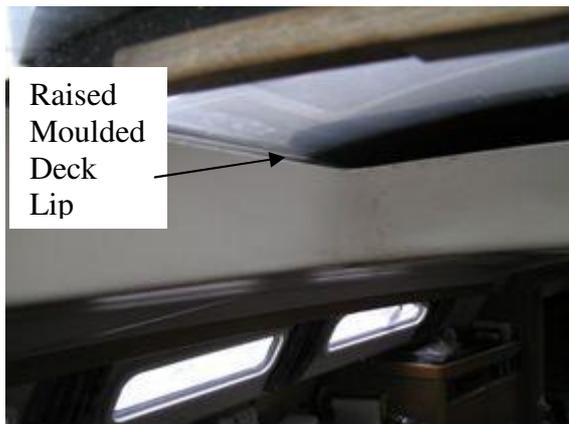


## Modifications to CC19 Hatch Cover Arrangement

By David Peck

### Design

The design of the CC19 hatch arrangement is unusual but this is for a very good reason. Most sliding hatch covers overlap a raised moulded lip section on three sides of the coach roof; hence any water always runs off onto the deck. A garage installed behind the sliding hatch helps to protect it when open and prevent any water or waves getting under the forward edge (see photographs of some typical hatches below).



With the CC19, the sliding hatch only overlaps the raised moulded lip on two sides with the third raised moulded side being sited well forward beyond the forward edge of the sliding hatch. The forward raised moulded lip is overlapped by the garage incorporating a fixed window. It is the fixed window that dictates this design requirement but allows a wonderful amount of light into the main cabin area, far greater than that which could be obtained with port holes or side cabin windows (which usually end up leaking anyway). Because the boat is small, there is insufficient distance to allow a deck light or hatch to be fitted in front of a conventional garage (see photograph above of a hatch in front of the garage on a larger boat).

This type of design does, however, require a more precise sealing arrangement. The current design employs two plastic machined runners to enable the flat Perspex hatch to slide open and close (see photograph below). The runners are screwed to an outer raised moulding lip. Water is prevented from entering forward into the cabin by a double lip seal fitted to a metal channel mounted between the two outer raised lips just inside the front vertical edge of the garage (see photograph). This double lip seal presses onto the Perspex sliding hatch and forces the water to escape over the sides of an inner raised moulded lip and into the plastic side runners. The Perspex hatch cover has slots cut in them (one each side) just in front of the lip seals (when the hatch is fully closed – see modification drawing). Also, immediately below these cut outs, the lower edge of the runner is removed to allow water to run off the hatch, through the slot and drop down and run out between the inner and outer raised moulding lips and finally out from holes in the garage sides.

Some water can get past this sealing system and is catered for by fitting a foam rubber sealing strip near the top inner edge of the sliding Perspex cover. Again, this is intended to force the water to run into the side runners and out between the inner and outer raised moulding lips. Unfortunately, if there is a slight gap between the edge of the sealing strip and the runners, water can get round and drip off the front edge of the Perspex cover and drip into the cabin (see photograph showing gap). It is probably this fact that has caused some boats to suffer leaks from their sliding hatches.



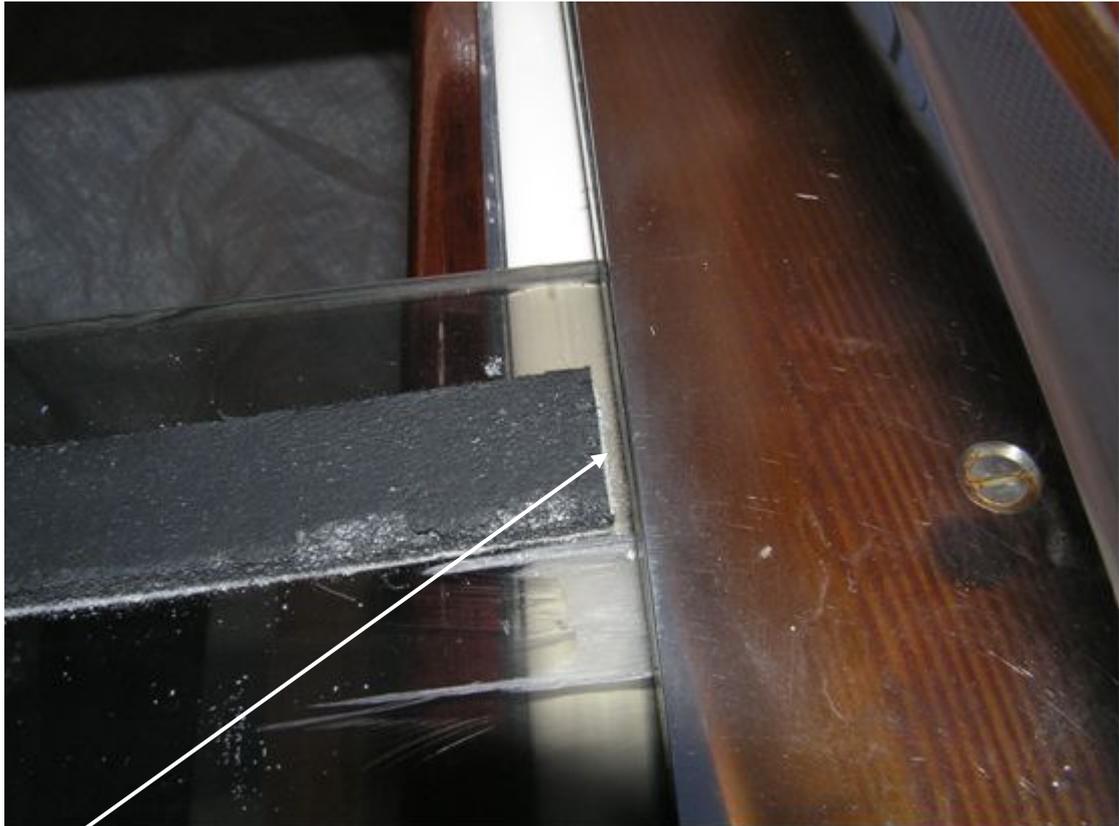
**Plastic runners – note lower edge of groove cut away just in front of garage**



**Double rubber lip seal**



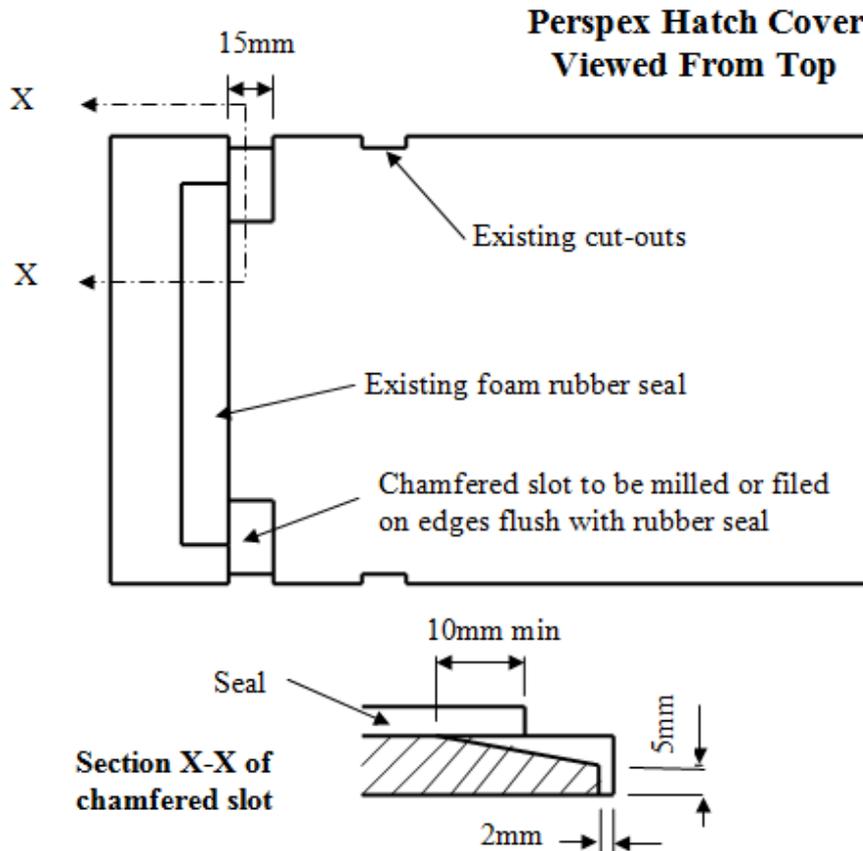
**Testing to prove source of leaks**



**Gap at end of sealing strip**

Fortunately, there is a simple solution to prevent the leaks from happening. This involves milling or filing two chamfered slots immediately in front of the foam rubber sealing strip (see the photographs and instructions below). I carried this out on "Whistling Rufus" CC94 and successfully tested it for 4 hours (see photograph). The modification itself only took one hour.

## Modification to Hatch Cover



DAP 22.03.2010

## Modification Instructions

1. Remove the two front removable wooden hatch location slats.
2. If replacement foam rubber sealing strip is to be used (recommended), mark its position and remove. If it is to be retained it must be protected when pulling out under the forward double lip seal at front of garage. Slide a thin sheet of stiff cellophane or similar under the fixed lip seal and over the top of the foam rubber sealing strip. Pull out sharply.
3. Mill in (or file) the two chamfered slots immediately in front of the foam rubber strip as shown in the drawing above. It is important that the start of the slot goes well past the end of the sealing strip.
4. Ideally, when the hatch is fully closed, the slot should lie immediately above a gap in the lower edge/lip of the tracking grooves. If not, this could be recessed using a small Dremel Drill or similar with suitable cutter. This will allow water to escape more quickly.
5. Replace sliding hatch taking care to protect the seals using a strip of cellophane as in 2 above.

6. If replacing the sealing strip, ensure it is fitted flush with the edge of the slots or slightly overlapping it by say 1.00mm. It is important that there is no gap to allow water to creep around the end of the seal. If purchasing sealing strip for this purpose ensure it is of the "closed cell" type (i.e. smooth outer surface and not sponge like that could allow water to seep through). Alternatively a strip 10mm thick Perspex could replace the foam rubber seal and be screwed from underneath and sealed with a releasable sealant. Take care to ensure the outer screws can be accessed from inside the cabin after it is fitted.
7. Replace the two wooden hatch slats using sealant on the 4 screws.

### **Testing (if required)**

1. With the boat slightly down on the bows and the hatch fully closed, place hose on top of the Perspex sliding cover and direct water flow under forward hatch lip seal.
2. After 1 hour (minimum), check for leaks.

Note: This modification was carried out and tested for 4 hours on CC19 No.94 "Whisting Rufus" on 21.03.2010. There were no leaks found and water was observed running out of garage side exit holes as normal. This modification means it is not necessary to have an exact butting of the sealing strip against the edge of the tracking groove. Also it is now possible to allow a little more side float of the sliding hatch to allow it to open and close more freely.

DAP 23.03.2010



**Filing chamfered slot in front of sealing strip**

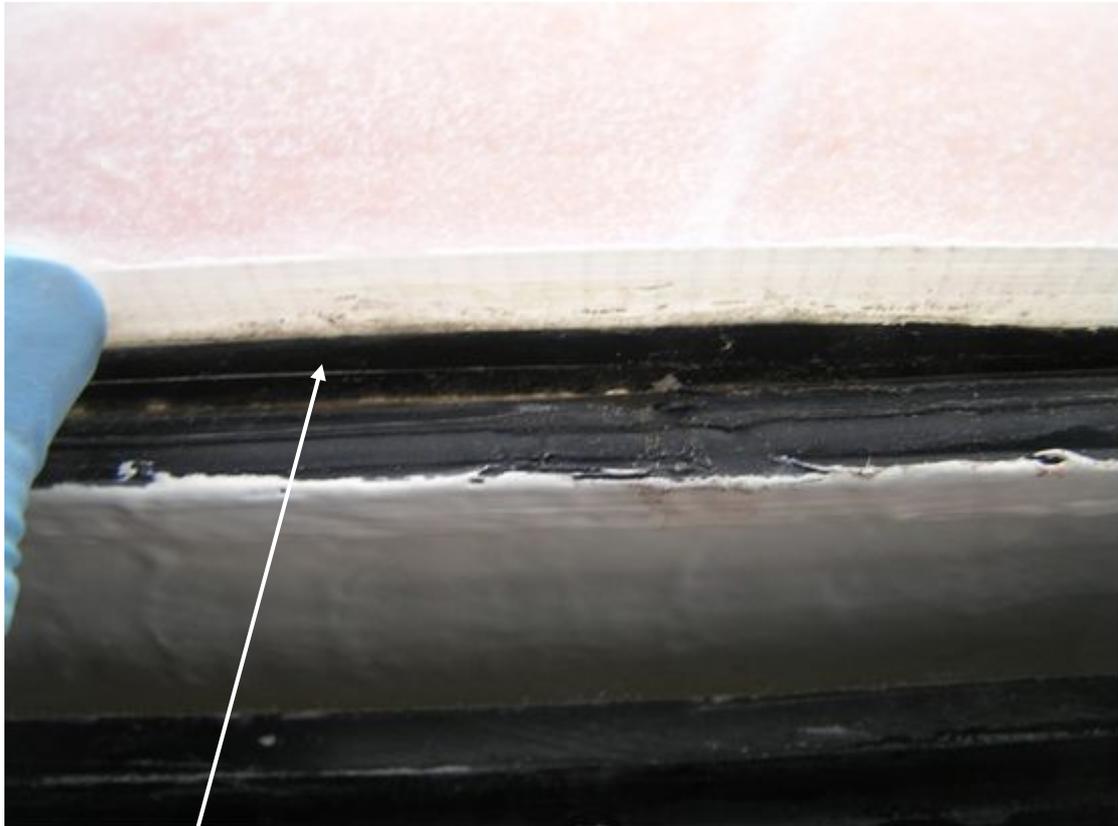


**Testing into the night**

## Sealing Garage Fixed Window

### Design

The front end of the g.r.p. garage has a Perspex window retained in a moulded recess using a sealant. The seal between the Perspex and g.r.p. can eventually fail and cause leaks (see photograph below).



### Gap between sealant and Perspex window

Due to flexing, it is important to achieve a strong adhesive bond between the Perspex and the g.r.p. gel-coat surface. In a recent Post I recommended using "Sikaflex" 295 UV to obtain a good bonding. I have since spoken to Sikalfex technical people who have confirmed my choice of sealant grade but also recommended that the Perspex is first primed with Primer 209 and the g.r.p. moulding is primed with Primer 206 GP.

It is important get the Perspex seated down on a good bedding of sealant before "skinning" of the sealant surface commences.

D.A.P. 28.03.10.