

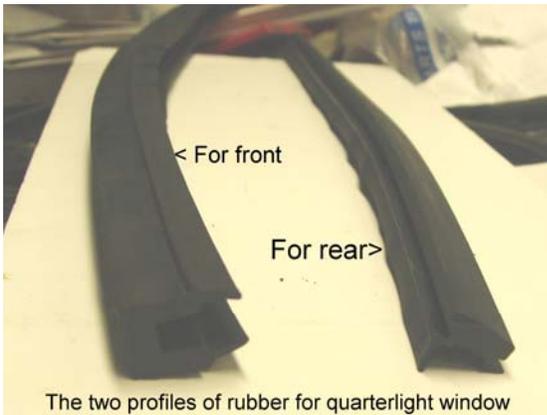


# Sunbeam Venezia

Instructions for the fitting of the  
Quarterlight Window Rubber.

September 2006 by: Robert Jaarsma

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**Definitions:** “Front” is toward the front of the car, and has the largest extrusion rubber with the two lips.

“rear” is toward the rear of the car, and has the narrower extrusion with one lip.

“top” toward the top of the car, “bottom” or “lower” toward the bottom of the car.

**Material:** Front 146cm(57.5”). Needed 2x60(24’)=120cm(48”); 26cm(9.5”) is extra.

Rear 96cm (37.5”). Needed 2x38(15’)= 76cm(30”); 20cm(7.5”) is extra.

#### Tools needed:

1. **Loctite #404 Superglue.** You cannot use superglue from the corner store. This is higher strength than your corner store glue. Available from industrial suppliers f.e. McMaster Carr ( [www.McMaster.com](http://www.McMaster.com) ) #7569A22 US\$18.39 for a 1/3 oz tube (is plenty). Or MSC ( [www.msc.com](http://www.msc.com) ). *Store in the refrigerator!*  
(Note: You can also buy round and square O-ring stock from these suppliers, which is great for making O-rings for the dash instruments).
2. **Weatherstrip adhesive**, to install the weatherstrip in the channel.
3. **X-acto knife, or utility knife**, with a **NEW** blade. A pair of surgical scissors are very useful, the kind with a 2 cm blade and a 12.5 cm long handle.
4. **Rubber lubricant**, best made of a mixture of water & dish wash liquid.
5. **Hand Drill or drill press.**
6. **A 5cm(2”) piece of thin walled (brass or steel) 6.5mm (1/4”) tubing**, as a drill for the lower drain holes and the pivot slot. I used 1/4” gas line tubing, which worked well ! The tubing must have a good edge ground on the end on a fine grinding wheel, at ~45 degrees, or a little steeper. (22ga shotgun shells drill nice but are too small).

#### General notes:

To cut the extrusions, always dip the knife in the rubber lubricant.

To drill dip the sharpened tube in the lubricant and apply pressure while rotating. It will slice right through.

#### To start:

1. Read the all these instructions carefully.
2. Cut off the final pieces with about 3cm (1”) extra each. Better safe than sorry!
3. Do some experimenting with the extra pieces to get a feel for working the rubber.

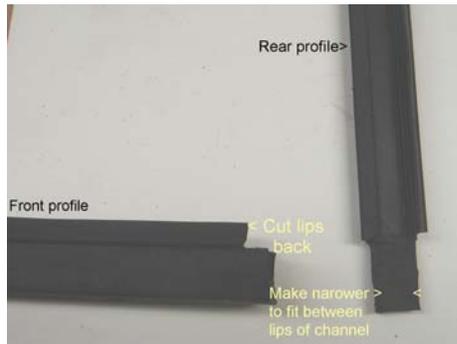
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I had the most difficulty with the rubber sitting nicely in the front bend and making the flap sit tight. You can also try step #4 for a proper fit with a scrap piece.

**!!!! Try this first before you make the final pieces !!!!**

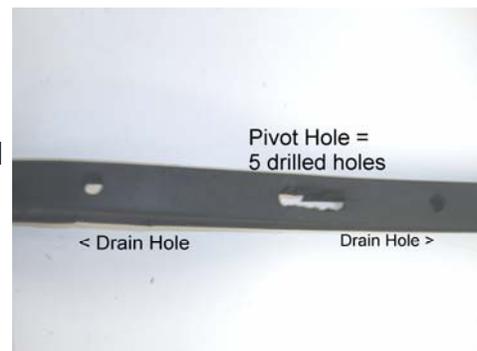
**When you feel confident start the final pieces:**

1. Put a piece of masking tape on the side of the channel, and mark on the tape with a felt-tipped pen the location of the lower pivot and two drain holes. When the extrusions are in place, you will no longer be able to see these points.

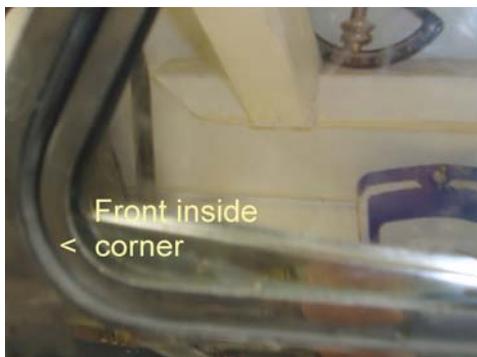


2. On the front extrusion, cut the lips back to allow the rear extrusion lips to seat, as shown in the left picture. Install the double sided extrusion in the channel, beginning with a just-cut end at the lower rear. It should seat against the lips of the vertical metal channel. This will leave enough clearance for the single-sided extrusion. The flaps on either side will pucker at the front turn. Don't worry about that now. Make sure the base is firm against the rear channel. You want to cut the extrusion so that it fits at the top back, leaving enough clearance for the single-sided extrusion.

3. Mark the location of the lower pivot and the drain holes on the double sided extrusion. I used the felt-tipped marker. Also mark the top pivot point of the window. Remove this piece from the channel and drill the holes for the pivot and two drain holes.



4. Since the angled channel of the window frame is not as deep as the horizontal section, I found I had to remove some material from the curve to the top. The quickest way is just to grind away about 2 mm ( 5/64") of the back of the rubber with a bench grinder.



5. Next, you must cut away the unwanted flap on the double-sided extrusion. The quarter light pivots so that the part in front of the pivot moves toward the inside of the car, and the part behind the pivot moves toward the outside of the car. Hence, the flap in front of the pivot must be cut away on the inside of the car, and flap behind the pivot must be cut away on the outside of the car. The flap should be cut just above the lip which covers the metal channel. Better leave too much, than
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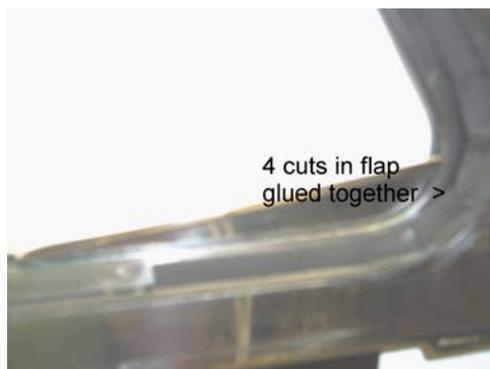
cutting too deep. I trimmed and rounded these cuts with wet sandpaper (200 grit) and plenty of lubricant, for aesthetic reasons. The location of the vertical cut in the flap should be a little behind the pivot at the bottom and top on the inside, and a little in front of the pivot at the bottom and the top on the out side, to leave room for the thickness of the glass.

6. Now trim the rear extrusion with the single flap on the inside of the car, along the back opening. This will eventually be glued to the double-sided piece at top and bottom. A little fiddling will be necessary to cut a clean, flat butt joint between the two, with little or no clearance. Some of the single-sided extrusion will have to be cut away to provide a flat surface. (See previous picture). You need to have a nearly perfect flat joint for the superglue to work. When you are satisfied with the fit, **DO NOT GLUE YET.**



The metal channel does **not** have the inner lips like at the bottom rear corner. Hence, it is not necessary to change the width at the top. Finish both ends and install this piece. It will fit very tight in the metal channel. (note: I did not use weather strip adhesive).

7. Install the front extrusion and trim the top fit. Make sure you do not make it too short!
8. Prof Lumley advised: Now you can glue the two pieces together. You need only a couple of drops of the super glue. Do not get it on your fingers – it will glue them together permanently. You must move fast – you have only about 30 seconds from the time the drop of glue is squeezed out until it dries. When the pieces are put together, they are bonded - you will get no second chance. For practice, carefully align the pieces on a flat surface covered with plastic wrap (any extruded glue will stick to that, but not as tightly). Your goal is to have *no excess extruded* glue from the joint, so be sparing. Apply a couple of drops of glue to one bonding surface and immediately press the pieces together (as you did for practice), applying light pressure. You should be able to see whether the joint is properly aligned and tight (plenty of light!). Keep applying pressure for about 40 seconds. The joint is now stronger than the rubber and will never come apart.



9. The fun part: fixing the puckering of the flap at the front corner. Reinstall the weatherseal in the channel, and install the quarterlight window so you will have something to cut against. Insert a piece of thin sheet-metal in order not to cut into the chrome of the window frame. Your goal is to cut little V-sections out of the puckered flap and glue it back together so that it will lie flat. You can see that the puckered flap forms a sine wave, bending down to touch the quarterlight glass, and up, and then down again, and so forth. You will want to make one cut in each "up" section,
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flap at each “up”, which for me was four times. The hard part is to cut just enough out of the flap so that it will lie flat, with the cut edges together.

There is a trick: make a first cut perpendicular to the flaps at each “up”. Make the cut all the way to the base of the flap. Now the two sides of the cut flap can overlap each other, the flap lying flat against the quarterlight. Now make a single cut bisecting the two cut edges, so that you are cutting both layers at once, ending at the apex of the first cut. This will remove two little triangles of material, one from each side of the original cut in the flap, and the newly cut edges should line up perfectly. Do this on each “up” section of the flap.

10. Remove the weatherseal from the channel. It is time to glue the cut sections together again. With the weatherseal lying on the bench, the cuts should open out, so that the cut edges on each side are accessible. At each cut, you want to apply one small drop of superglue to the cut edge on one side, and then (using one hand on each side of the cut) gently bend the weatherseal so that the two cut edges are brought together, properly aligned. Try this a few times with a scrap piece to get the hang of it. The cut edges want to align perfectly, since they are attached to the thick base, and were attached to each other just a few moments ago – they just need a little help from you.

11. When you have glued all the cuts, you are done. You can permanently install the weatherstrip, using trim adhesive in the channel. Congratulations!



We should be thankful for the time spent and effort made by Prof. John Lumley for making this project a reality. His students and the Cornell University workshop for making the dies.

The extrusion manufacturing was very reasonable because of John's efforts.

Maybe not perfect, but if you find better ways, please let me know.

Robert Jaarsma

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