Windshield Assembly

A technique used by Ron Heppner

1. Frame Preparation

a. Frame should be sandblasted on all surfaces. Care should be taken so as not to "Burn thru" when blasting.

b. If any welding is done to fill holes in the glass channel or any other locations that should be done now. (Use caution because excess heat will cause the frame to distort). See frame fitment for corrections in cord height.

2. Frame Fitment on the Car

a. Before filling and painting the frame should be fitted to the vehicle now. On 1930 and 1931 sedans there are a few measurements that need to be maintained. The most critical is the height of the arc at the bottom of the frame. This is measured using a straight edge from bottom corner to bottom corner of the outside face of the frame. The measurement is taken at the center of the bottom of the frame and the height would seem to be at least 2 3/16" (the cord height). Measurement should be taken with the glass out of the frame with the top frame firmly in place. If the measurement is correct then proceed to temporarily installing the glass in the frame using small shim blocks made from pieces of the final bedding rubber material. Put blocks at each end and the middle of the bottom and to frames. Add two blocks top and bottom of the side frames.

   If the cord height changes when the glass is install them the glass needs to be ground so that the cord height is maintained.

   If the cord height is less than the 2 3/16" you probably will find that your frame will not close properly. If it is less than 2" the frame will hit the gas cap and the top of the gas tank. The very least the window seal will hit the gas tank welting and not provide a proper weather seal.

b. The cord height can be increased by bending the arched bottom. This can be done by assembling the frame without the glass and putting a 2"x4" across the top of the frame from side to side. Using a pipe clamp and a small block of wood in the center of the bottom frame slowly tension up the clamp. Take a measurement and record at the point that you stop bending. (Go in small increments until you get the feel of how it's going to go. Attempting to do too much to fast may cause irreparable damage).

3. Filling and Painting

a. The glass channel must be perfectly smooth. Any imperfections will give water a place to infiltrate and cause severe rusting and frame failure. It is recommended to use something like JB Weld and epoxy glue to fill all imperfections that are left after welding and grinding.

   Paint with your favorite primer. I recommend epoxy primer as it has excellent bonding ability to sandblasted metal.

4. Glass Installation

At this point you have already fitted the glass to the frame and all that is left is to bed the glass in the frame.

a. Stand the glass top side down in blocks of 2"x4" that have a saw kerf the thickness of the glass. Tape the bedding rubber seal to the bottom of the glass with enough seal to do the two sides and the bottom. Only tape the seal at what is now the top of the glass (actual bottom). Using strips of masking tape at about 6" oc down the length. Now using the heat gun warm them bedding tape until it softens, and then press it down to take the shape of the glass. One can also use a roller to flatten the bedding tape on all sides. You will find that the bedding tape when heated becomes quite sticky which at this point is an advantage. Then at the corners using a 45° square cut the tape at both corners on both sides, being careful not to cut through from one side to the other.
b. Now do the same for the two ends. First taping with masking tape, heating the bedding tape so that it can be massaged to take the shape of the glass.
c. The corners can now be trimmed so that you get a perfect matching miter. Being careful not to trim too much off. To finish the corner heat the miter with the heat gun until it becomes soft and pliable. With your fingers or thumbs push the two miter edges together. You will find that the rubber will bond together as though it had never been cut.
d. The glass is now ready to install into the lower frame. Using electrical wire pulling lubricant, lube the rubber seal and the frame. Install the glass into the frame. This can be done when the glass is in the 2"x4" blocks. You should be able to tap it down into position.
e. Trim the miter at the open top at the ends. Fit the bedding tape to the top of the glass using the above technique. Miter the top ends to fit the side ends. Lubricate the top pieces and install. Use pipe clamp and 2"x4" and blocks as required to seat the glass.