CHAPTER 14

Power Windows

The windows on the roadster are designed to be installed with an optional electric openers. The windows are compound curved windows that must fit within the frame. The frame has to be inserted into the door and then secured. This is a very tedious process. To prevent cracking or breaking the windows the utmost care must be taken to make sure that the frame and guide rails match the glass. Make sure the glass slides easily with in the track.

The pieces you will need to install your windows are the window, the frame and guide rails, the electric motors, the door frame and the Fiero controls.

FIGURE 137. **Window in protective wrap**

The glass included with the kit is AGP Lamborghini glass. If there are any rough edges on the glass these can be smoothed with emery cloth. It is best to work with the glass on a padded surface to prevent any scratching of the surface.

FIGURE 138. **Window Frames**

The easiest way to insure that the frame fits is to leave it all intact until it is installed in the window. Once the frame is secured, you can then cut our the section that is above the roof line.

Channel Assembly

Start by taking the frame and laying it on a padded surface.

Now putting small pieces of the padded channel lining on the edge of the glass and lay it on the frame. Make sure that the frame fits the contour of the glass. If it does not, bend the frame to make sure it is matching the curvature. This is critical if the window is going to slide smoothly.

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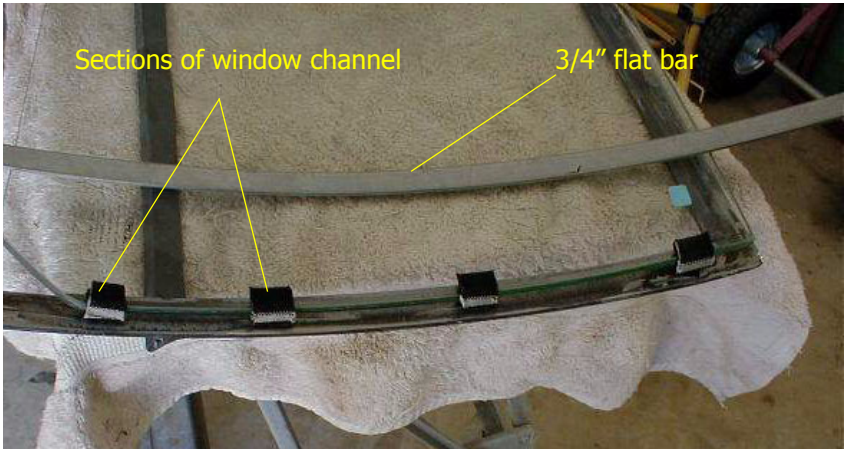


Next take a piece of 3/4" flat stock and bend it to match the curve and set it on top of the channel pieces. Make sure that the glass is aligned properly

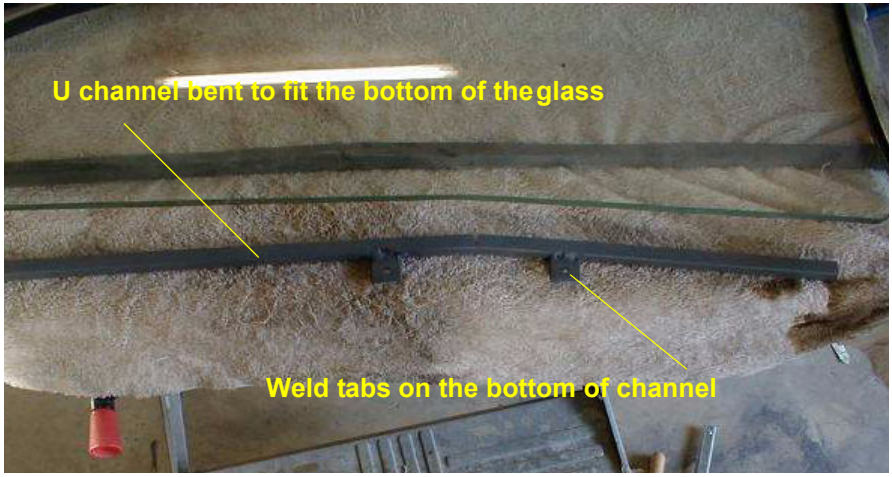
in the frame. Clamp the bar to the frame over the window channel and carefully slide the glass out. Now cut 3/4" pieces to weld the flat bar to the channel. Do this between the window channel sections.

FIGURE 139. Flat bar welded to frame with new channel inserted

FIGURE 140. Glass in lined channel

Repeat for the other end and the top. It is only necessary to extend the top channel to the edge of the roof line. Remember you are going to cut our that section once it is installed.

The glass should now slide smoothly in the channel. Make sure it seats properly in the top channel.



Take a section of U channel and cut and bend to fit the bottom edge of the glass. This will later be filled with Silicone sealant to fix it to the bottom of the glass. You will need to weld tabs to this section. The exact tab position will be determined once the motors are installed.

Installing the frame

Now that the window is sliding up and down in the channel. Take the whole assembly and slide it into the door. It may be necessary to grind the inside of the rear posts to make sure the glass is as close to the inside as necessary.

You will need to check to make sure the Gas shock clears the window where it exits the door as well as where it attaches to the metal door frame.

IMPORTANT: Before you actually secure your frame in place, make sure that the weather seal has been installed on you door frame and is in place when you make the final settings. The weather seal will change the alignment of the door itself and can cause the window to be out of alignment if not resting on the weather seal.

Secure Track to inner door

FIGURE 141. Front track

Secure the end of the track next to the front of the door by welding a small tab to the edge of the window frame. This will then be welded to a piece of metal that will be glassed to the inner door. The welding of the tab to the frame will need to be done when the frame is not in the car and the lined channel has been removed. Make sure the tab allows the window to clear any metal. When you actually weld the tab to the tube inside, be sure to put a wet cloth over the lined channel so it does not melt from the heat of the weld.

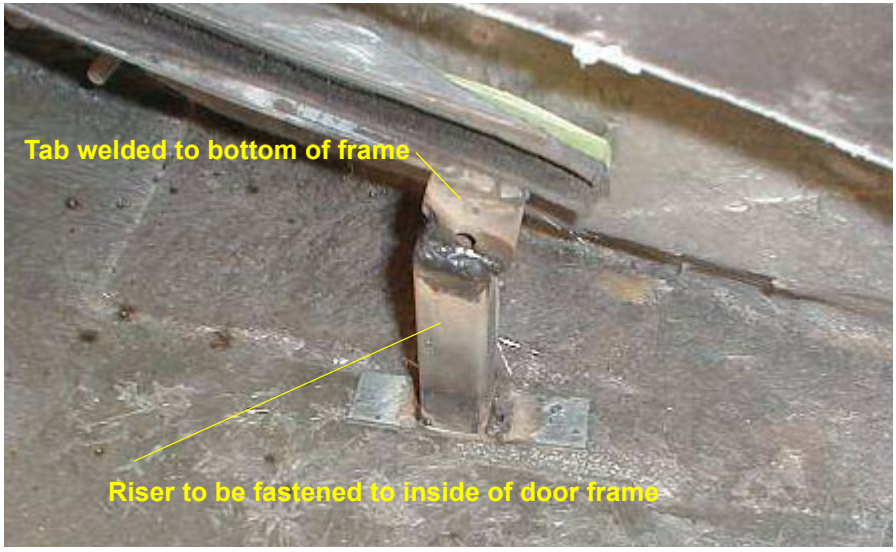


FIGURE 142. **Back Track**

Repeat the process for the edge at the back of the door. This will need a riser to be assembled as it will sit farther from the inside of the door.

When fastening the top guide, you can remove the channel and secure the window channel to the window post by using a screw through one of the tabs connecting the window frame to the flat bar into the window post.

This may involve trimming some of the window post to make the channel fit properly. You are going to build the door to fit the channel. Remember glass does not bend so make sure the channel works properly and then secure it to the door and with screws and bondo.

It will be necessary to remove the section of the channel from the end of the front post to the back post before the roof can be set on to check the fit.

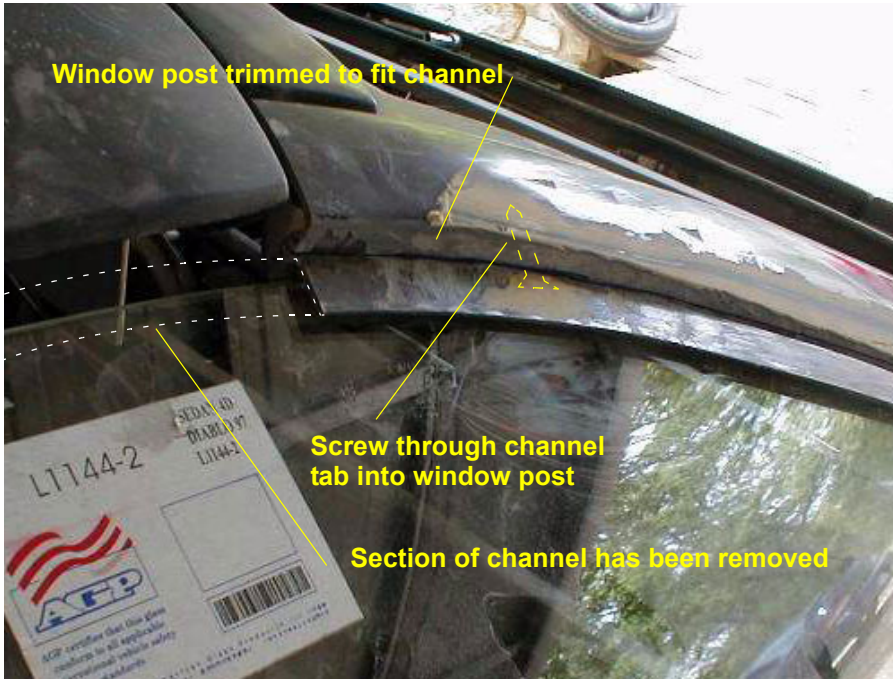


FIGURE 143. **Fastening top channel to post**

Once the window frame is secure and the window slides smoothly, fasten the frame in permanently with bondo.

Here you can see the edge of the window post is finished into the window frame. When painted, it will produce a very smooth edge.

It may be necessary to build up the back edge of the window post depending on what steps had to be taken to make the window channel fit properly.


Front Window post after finishing


Rear window post after finishing

FIGURE 144. **Finished Channel**

Electric Motor modifications

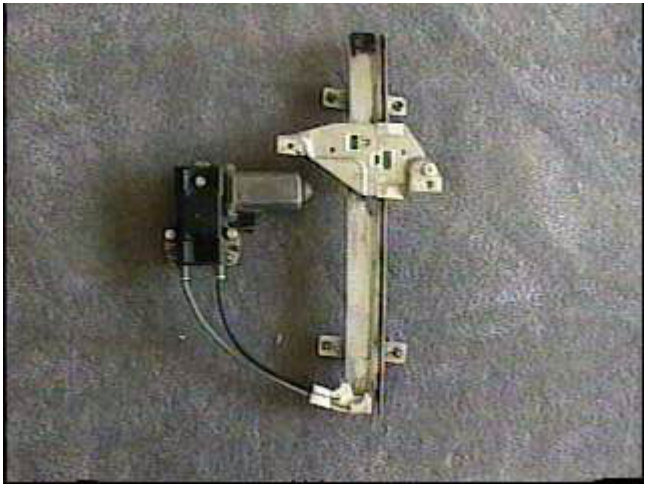


FIGURE 145. Electric Motor assembly

The electric motors that are provided with the kit consist of the motor and a cable driven track that raises and lowers the window. The motor assembly will need to be fastened to the door frame. However, it is necessary to make some modifications to the track before proceeding.

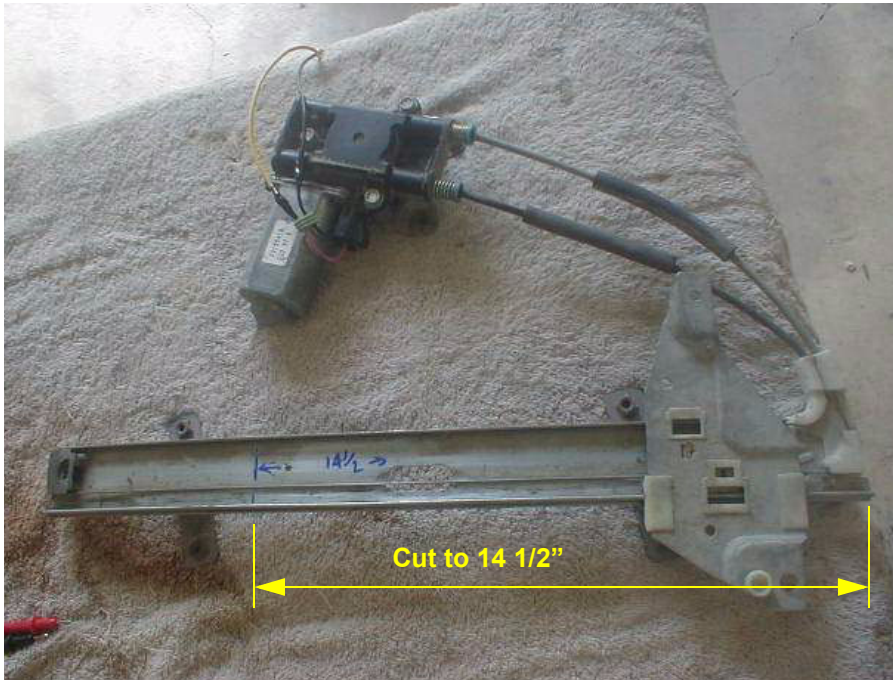
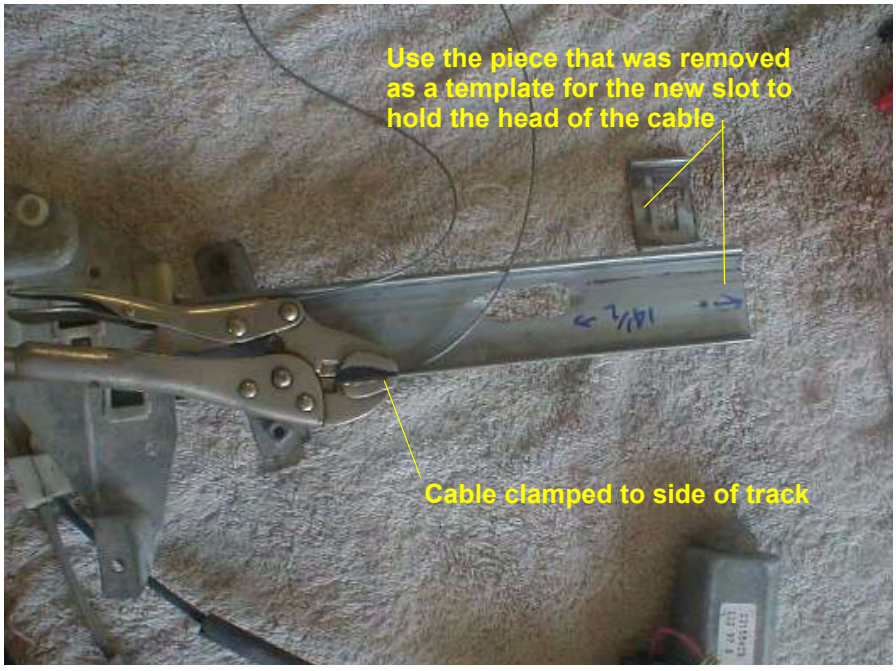
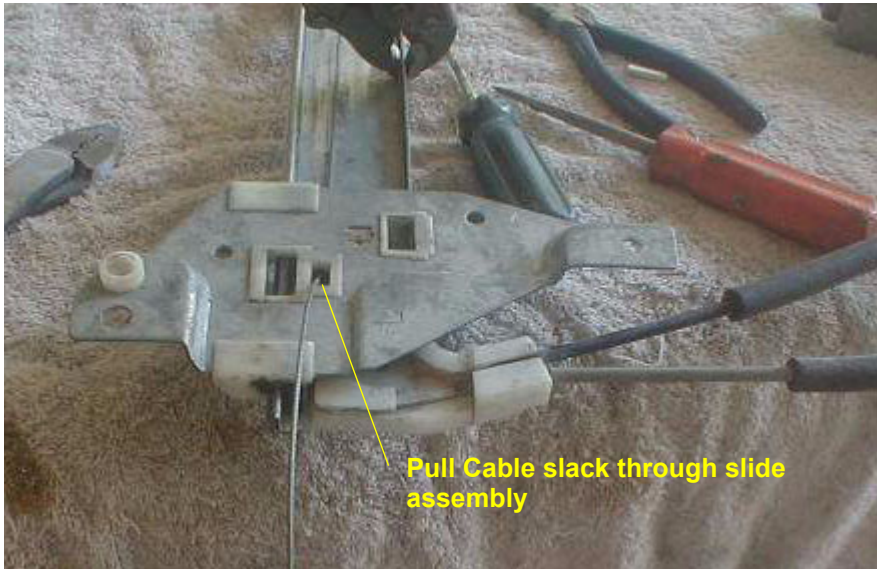


FIGURE 146. **Where to cut**

The track will need to be shortened to 14 1/2”. This will require removing the cable, cutting a new hole to hold the top assembly and shortening the cable. The cable is coiled on a spool inside the motor assembly. You need to make sure that it does not get slack and become tangled in the spool. The best way to do this is to clamp the cable to the side of the track with vice grips and then remove the top assembly prior to cutting the track.

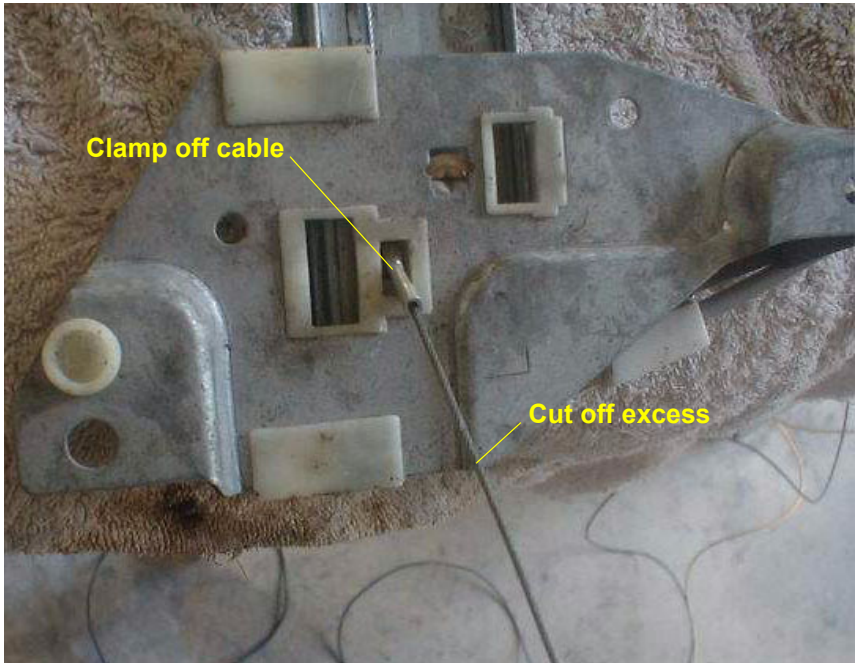


Once the top unit is installed, remove the slack from the cable at the slide assembly.



Make sure that spring is compressed at motor before fastening and cutting cable

Now use a cable clamp and clamp off the cable and cut off the excess.



Attach motor to Door Frame

This is what the final frame will look like when completed.

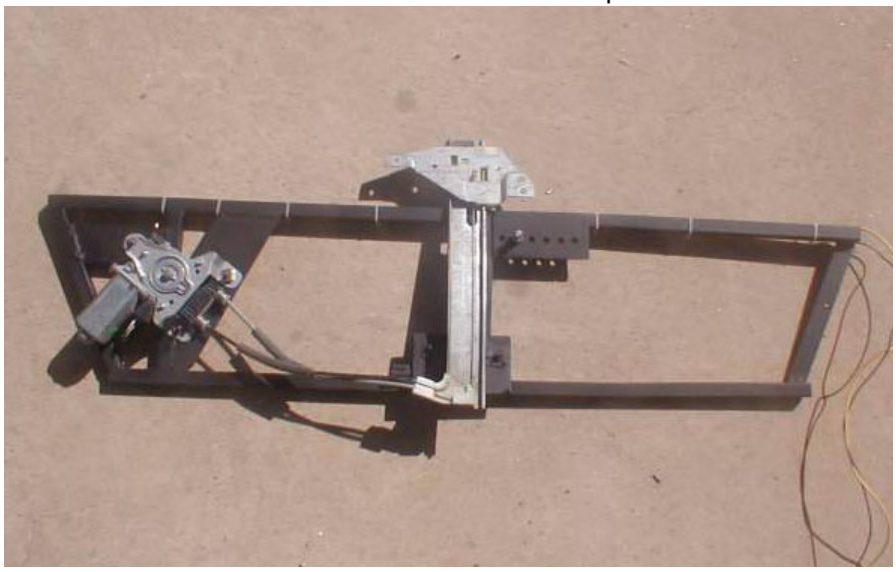
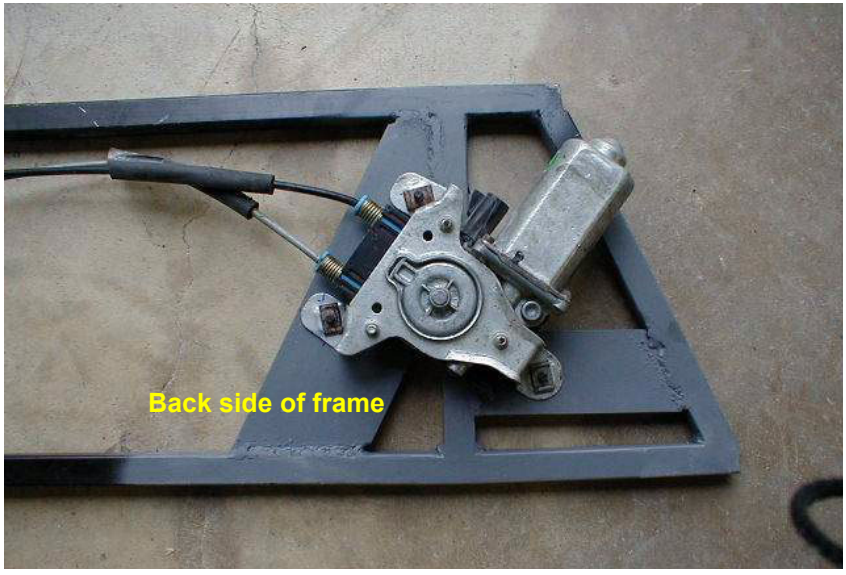
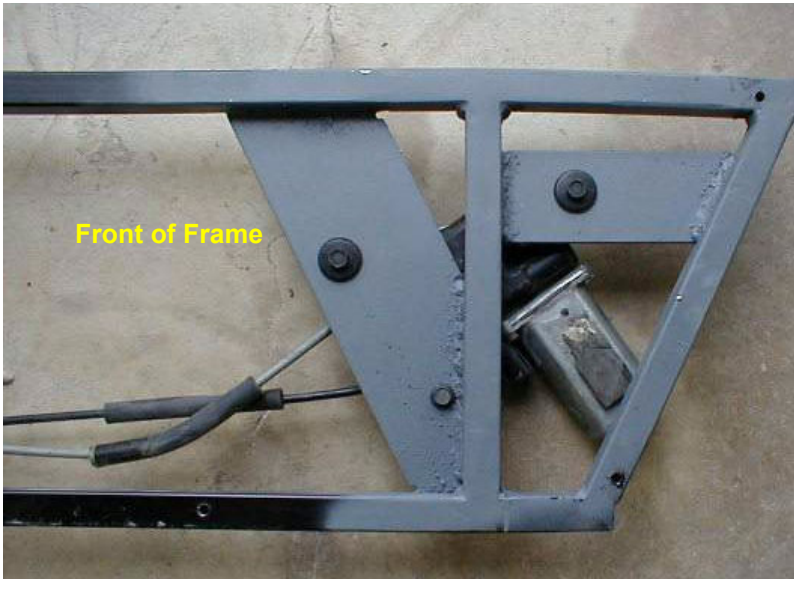


FIGURE 147. Completed frame assembly

Start by determining where the center of the gravity is for the window. This is pretty much trial and error. By raising an lowering the windows you will find a spot that it doesn't bind on the front or back. It will be a little closer towards the back than the front. Mark this point on the frame and then determine how to mount the motor to the frame.



By positioning the motor assembly on the frame, you can determine where the plates need to be welded to give you a good anchor point for the motor assembly.



The next step is to fasten the track to a hinge that will allow the track to tilt as the window moves up the track. This hinge can be a door hinge that is modified to fit the frame rail. Drill two holes through the frame and insert 1/4" bolts. Weld the bolts in place so they will not turn when tightening the nuts onto the hinge.

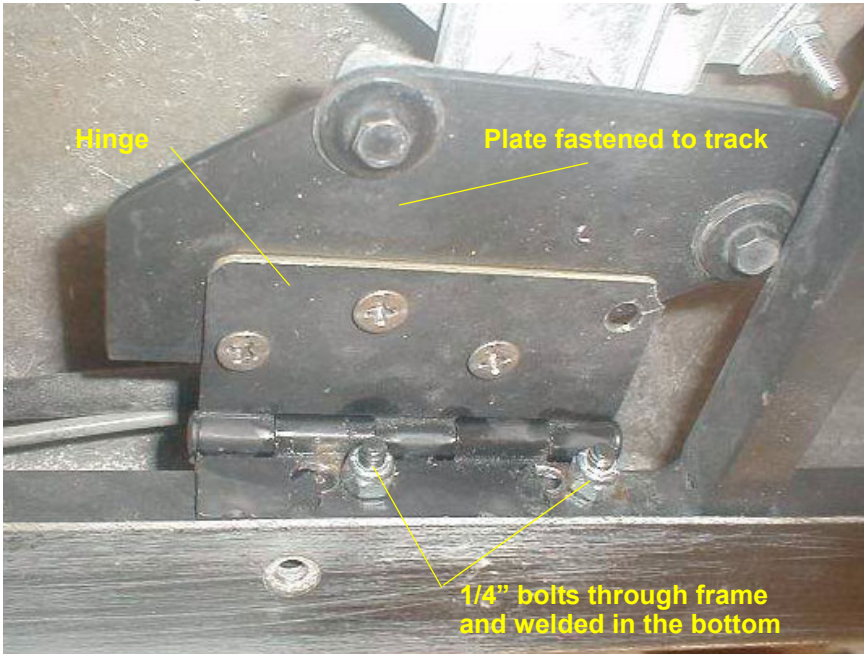
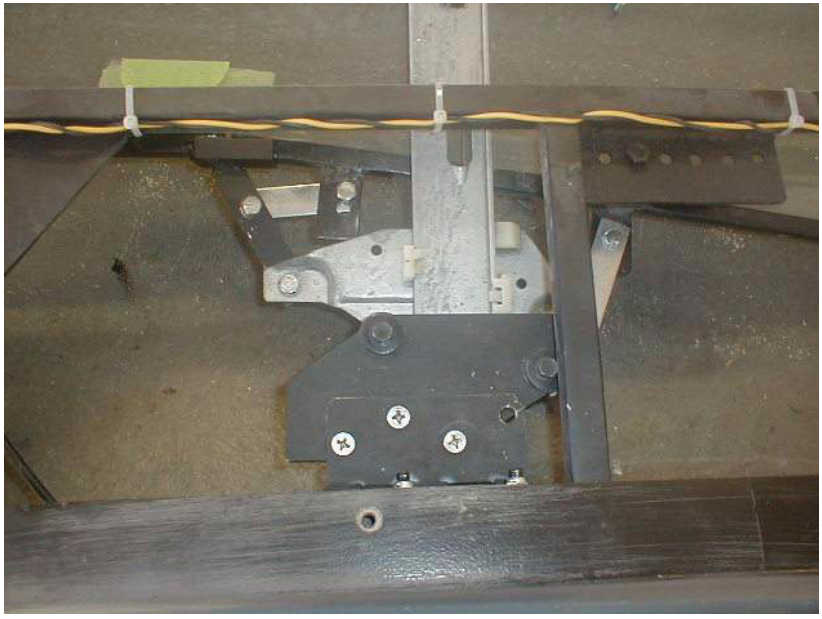
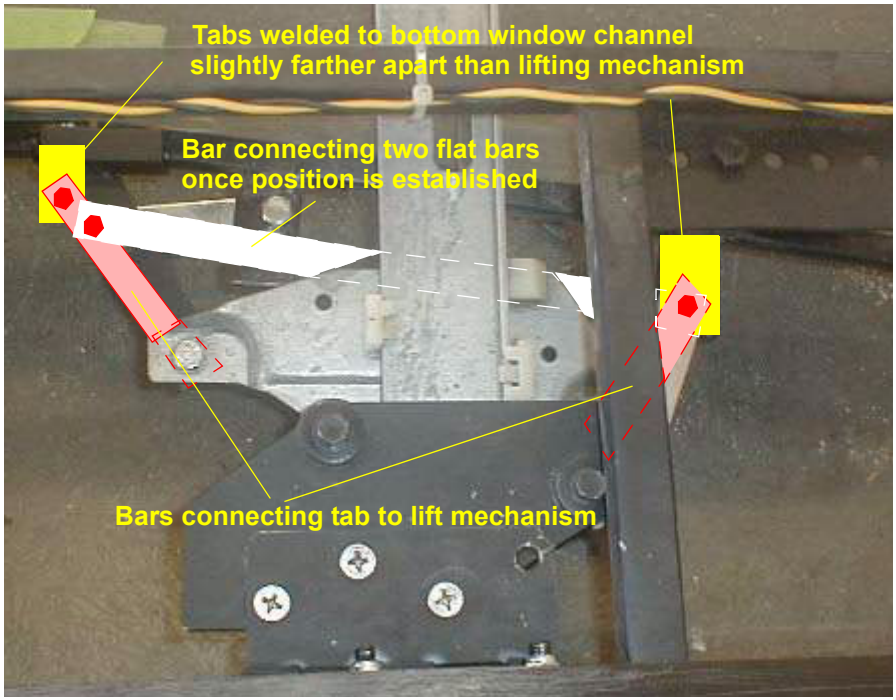


FIGURE 148. Hinge assembly

Connecting the window to the track can be accomplished by using three pieces of flat bar. The illustration shows one method that could be improved upon.



Because the tabs were not located properly on the bottom channel, an alternative method was implemented. The following shows what would work best.



The illustration shows that with the two independent bars this will allow you to adjust the lengths to accommodate the window in the horizontal position. Once it is set, connect the two bars with a third bar that will freeze the position.

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