

Body Preparation

This step will require cutting the back half of the Fiero from the front half. You will also remove a portion of the front fenders and bumpers. You will need to relocate the radiator and A/C cooling unit. In addition, you will need to remove the trunk and part of the rear horns of the frame to accommodate the body. You will be provided the pieces to stretch the frame, brake lines, relocate emergency brake and clutch assembly.

Stretching the Frame

Prior to stretching the frame, you will need to loosen or remove the radiator hoses, unhook the shifting cables, fuel line, brake line and the wires that are attached to the firewall that do not have sufficient length to be moved back 11 inches. If you have not removed the battery, you will need to do so at this point. The cut will actually go through the current location of the battery.

Stretch Kit

The stretch kit consists of 2 - 2 x 2 x 16" square tubes and 2 - 2 x 1/8 x 18" flat bars for the top rail and 4 - 2 x 2 x 16" square tubes and 2 - 4 x 1/8 x 18" flat bars for the bottom rails and 2 - 1 x 3 x 14" for the cradle

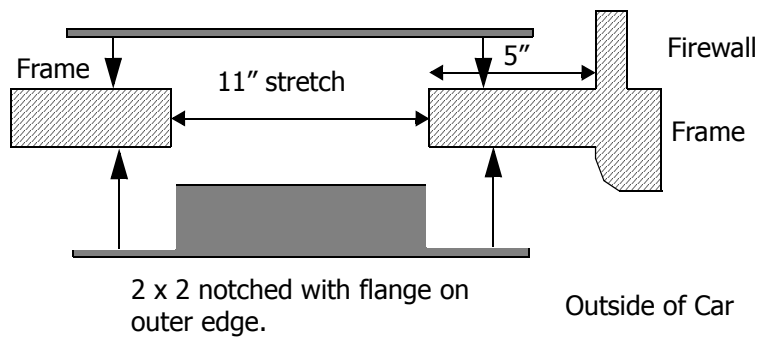
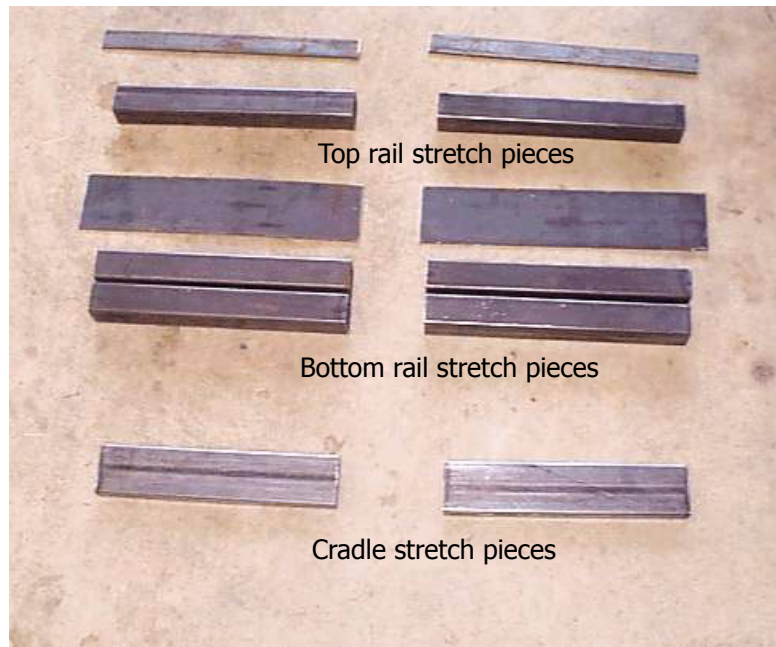


FIGURE 25. Top view of stretch pieces to be welded



Preparation for cutting

It is very important that you have a level surface to work on for this next step. Place the car on blocks and use shims to level the car across the front as well as along the door frames. Be sure to support the front half of the car in such a manner that when you finish the cuts that the front will still be supported. Use masking tape or duct tape to mark the frame 5 inches back from the firewall where you plan to cut. This works better than trying to draw a scribed line on the frame.

You will cut the cradle at a location 1.5 inches back from the point where it attaches to the section next to the firewall.

Once the car is fully supported, place a floor jack under the back half of the car beneath the support that runs under the engine. Cut through the first two frame pieces on each side. Then cut through the cradle section. Once the car is sectioned move the back half away using the floor jack. Insert the 11 inch spacers starting on the top rail.

Tack weld the extension brackets in place. Continue to check the level both across the car as well lengthwise.

Check for square by using diagonal measurements. A good measurement is from the edge of the rear strut support to where the firewall meets the frame.



FIGURE 26. Measuring to check for square

When you are done welding the 2" square tube, you will then weld the flat bar on the opposite side to provide additional structural support.

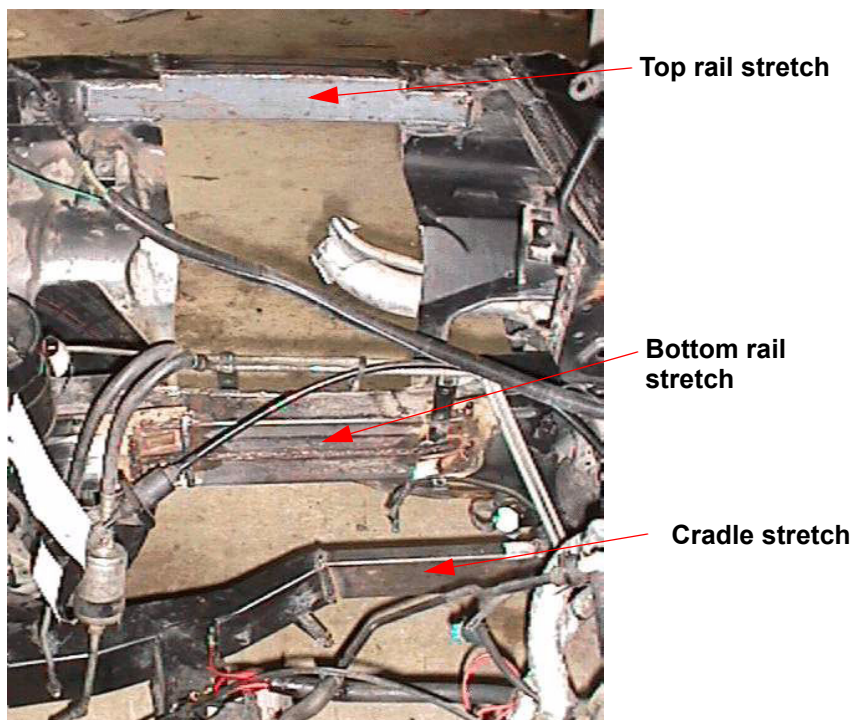


FIGURE 27. View of stretch from inside the car looking out

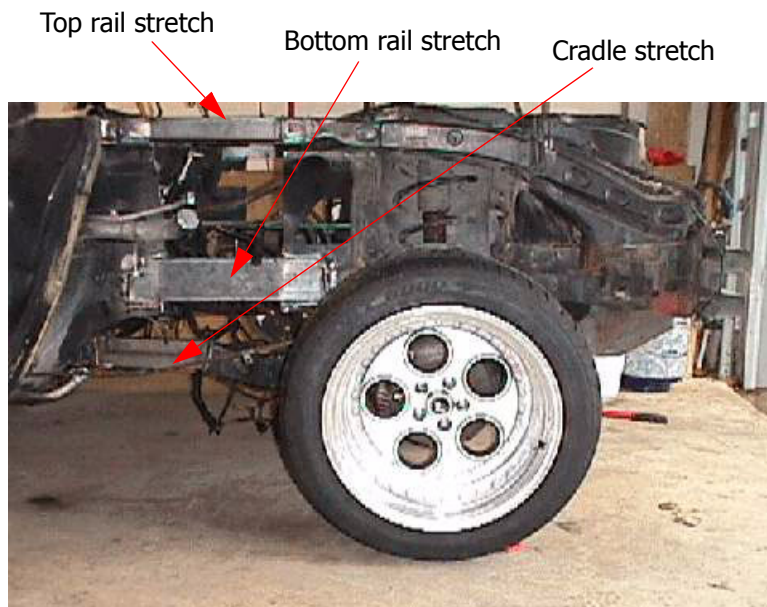


FIGURE 28. Outside view of stretch

You will also need to add a diagonal brace from the top stretch to the base of the firewall. This will provide additional rigidity to the rear of the car.

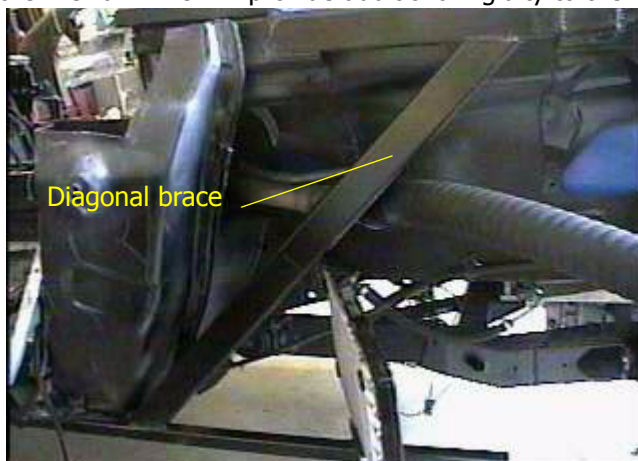


FIGURE 29. Diagonal brace

Gas tank filler cut

It is necessary to cut off the gas tank filler line and vent line. Be sure to make the cut in the thick part of the tube before it necks down to the narrow part. This will allow you to use a 2" rubber tube for the extension to the kit body.

You will also need to add a grounding strap to the section that will be fitted into the fiberglass and attach the grounding strap to the frame of the car.



Filler pipe
after cut.
Duct tape
covering
opening

FIGURE 30. Gas tank filler and vent cut

Installing Subframe

Note: It is extremely important that gas tank be empty and no fumes are present during this step. Be sure to remove the carpet and pad from the car prior to welding to avoid starting a fire.

The kit includes a sub frame to be welded under the car. The sub frame fits snugly from the point where the cradle attaches to the back of the firewall to a point even with the front axle. It may be necessary to slightly notch the subframe for the required clearance past the cradle mounting points. You will also need to use a small strip of flat iron to attach the front of the sub-frame to the bottom of the front axle.

The sub frame may cover two of the bolts on the bracket that supports the gas tank. If they do, it is suggested that these two bolts be removed before welding the sub frame in place.

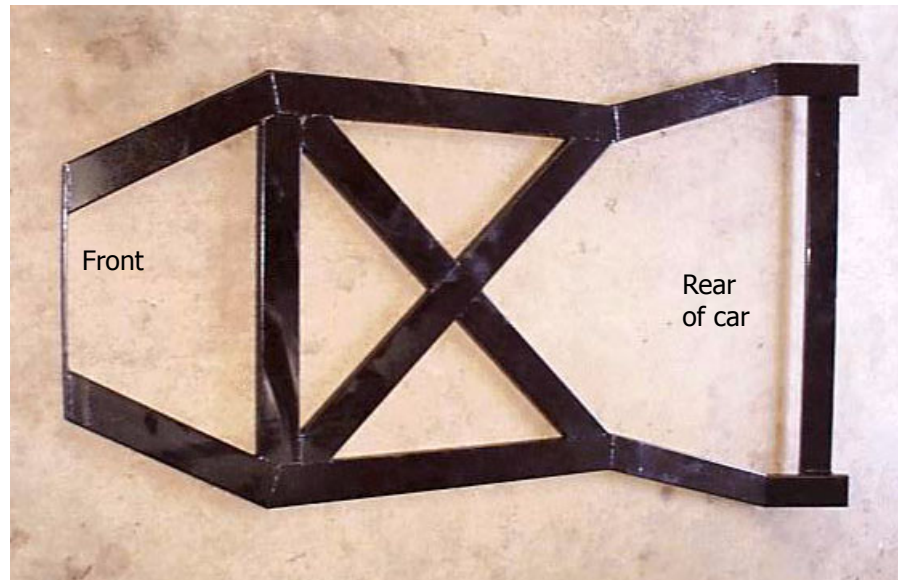


FIGURE 31. Subframe prior to install

The sub frame mounts just in front of the cradle attachment points on the body.

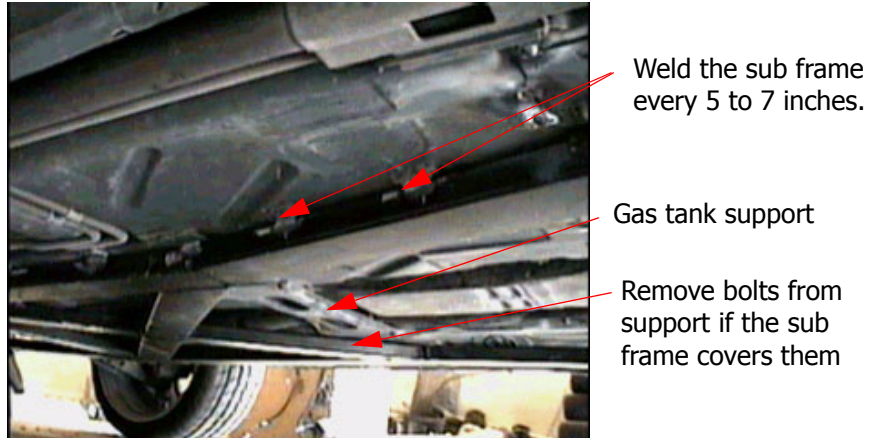


FIGURE 32. Sub frame - Welding points

Removal of Gas Tank after Sub Frame installation

In the event that you need to remove the gas tank after you have installed the sub frame, it is possible with a few modifications.

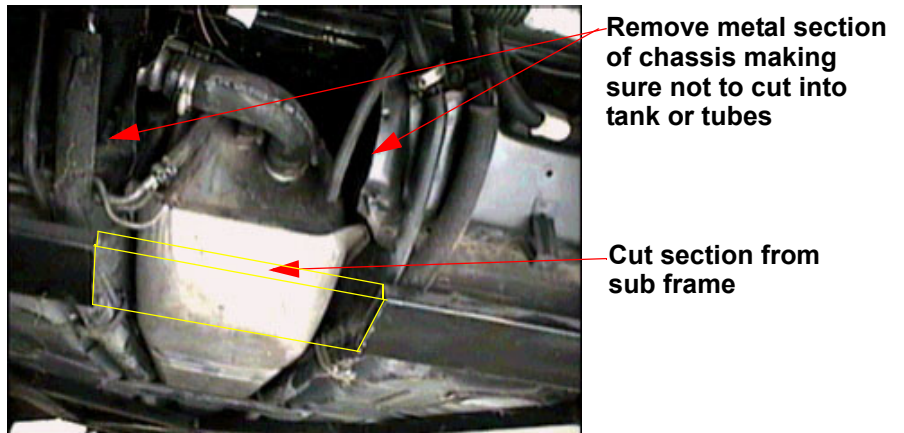
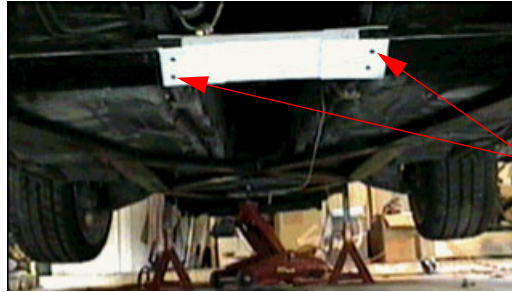


FIGURE 33. Sectioning sub frame for gas tank removal

Weld flat plates to either side of the piece that was sectioned from the sub frame. Drill 4 holes through the flanges and the sub frame. Use bolts to attach the spliced section back into the sub frame.



Bolt section to
sub frame

FIGURE 34. Sub frame section replacement

Emergency Brake Relocation

Having removed the seats and the carpeting, remove the emergency brake cable from the emergency brake. The cable will be pulled back through the firewall and the emergency brake unit will be moved back 11".

There are two options that can be used to relocate the brake handle. One option is to leave the emergency brake handle as it was removed and use the supplied hardware to relocate the emergency brake. The second option is to modify the emergency brake handle and bolt directly through the frame.

Option 1 - Using Supplied Hardware

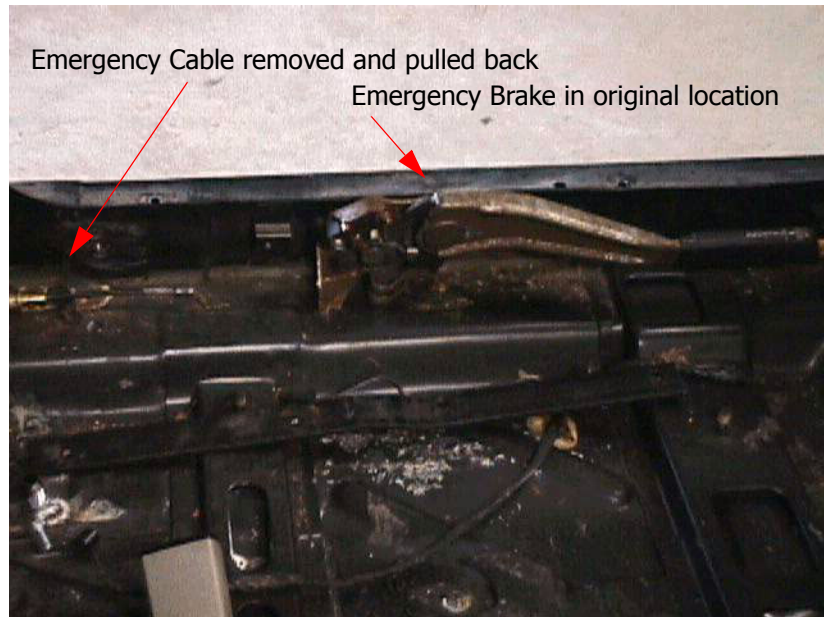


FIGURE 35. Emergency Brake before relocation

Use the parts that are supplied to attach the bracket to the original location and then attach the emergency brake to the bracket.



FIGURE 36. Emergency Brake relocation pieces

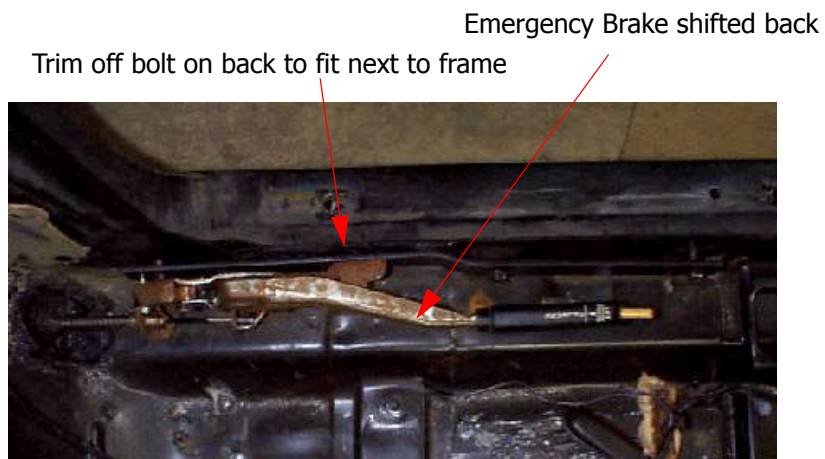


FIGURE 37. Relocated emergency brake

Option 2 - Modify Emergency Brake Handle

Emergency brake straightened

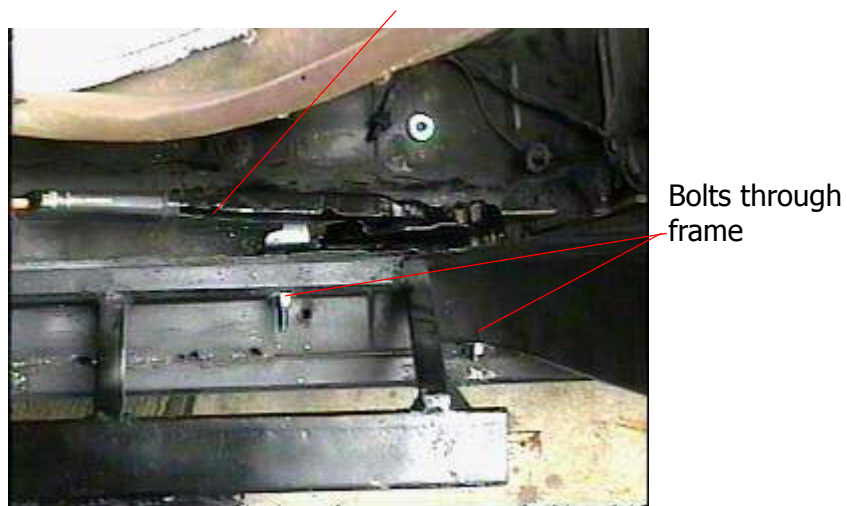


FIGURE 38. Straight handle option

Moving the Firewall

The firewall needs to be tipped forward approximately 3 1/2". This is accomplished by making a cut next to the sides down to the crease on the firewall that runs just above the center console. Make a cut on each side. When completed, you will be able to tilt the firewall forward.

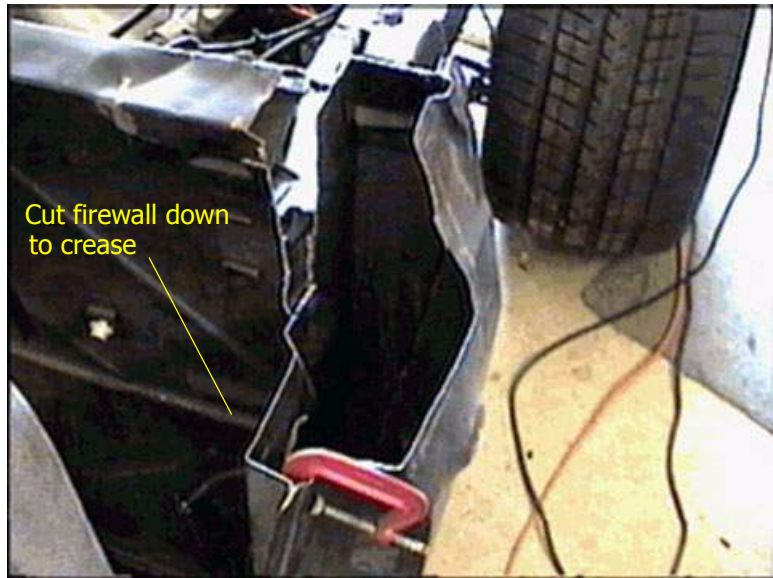


FIGURE 39. Firewall cut

Side Supports

It will be necessary to support the firewall with braces on either side of the cuts. These will be fabricated out of 1 x 2 tubing that is fastened to the top of the firewall and welded to the frame. The tube that is attached to the top of the firewall will also act as a point to weld the brace that ties into the tube imbedded in the frame once the kit is mounted.

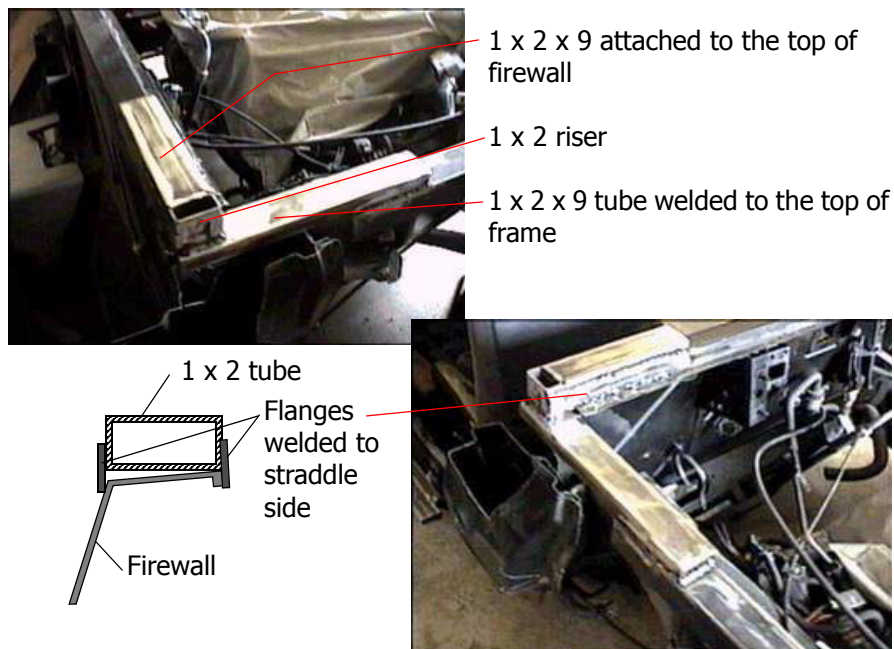
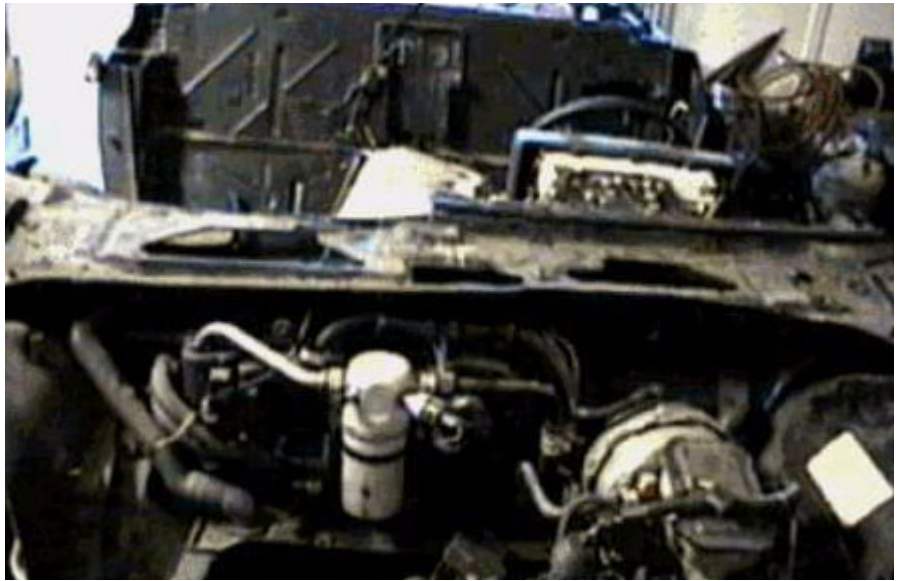


FIGURE 40. Firewall supports

Dash Cuts

The new dashboard will require cutting the top out of the existing dash. Before these cuts are made, be sure to remove the windshield wiper assembly and all mechanical and electrical components that are affixed to the portion of the dash that will be removed.



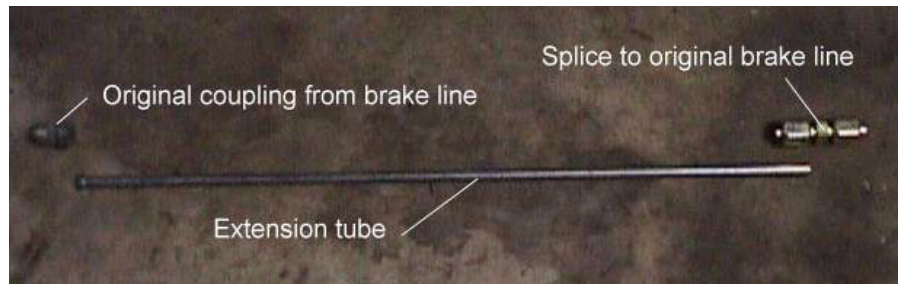
This is a noisy time consuming process. You will need to use the long saw-zall blade.



After the metal sections have been removed. Build a rectangular brace out of 3/4" square tube. This will allow you to seal off the area between the trunk area and the interior.

Brakeline

The brake line needs to be extended the 11" to compensate for the stretch of the frame. The existing fitting needs to be removed from the T connection. This fitting is a metric fitting. You will need to cut the existing brake line just in back of the fitting. Place the splice over the existing line and position the extension tube to determine the correct length. Cut the extension tube with a tube cutter. This end of the tube as well as the section of the original tube will need to be flared. Be sure to use a flaring tool that will provide a double flare. This equipment can be purchased, rented or in some cases auto stores will loan you this equipment.

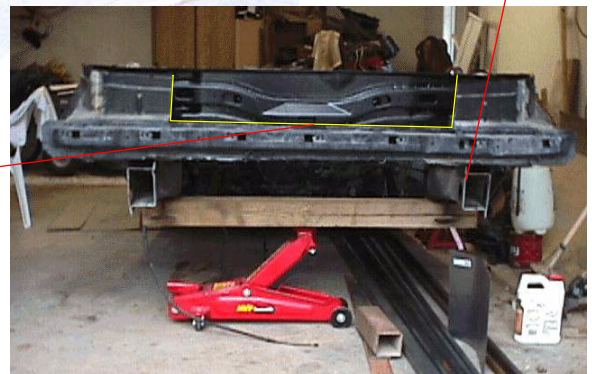


Trunk cutout

It is necessary to cut off the rear horns to allow clearance of the lower bumper. You will also need to remove a section of the trunk.



Section to be removed



Side cuts

The following picture show the side being notched. This is a step that is normally done for those cars that have a rear quarter panel, like the VT or SE. This notch is not necessary on the roadster as you do not have the rear quarter windows.

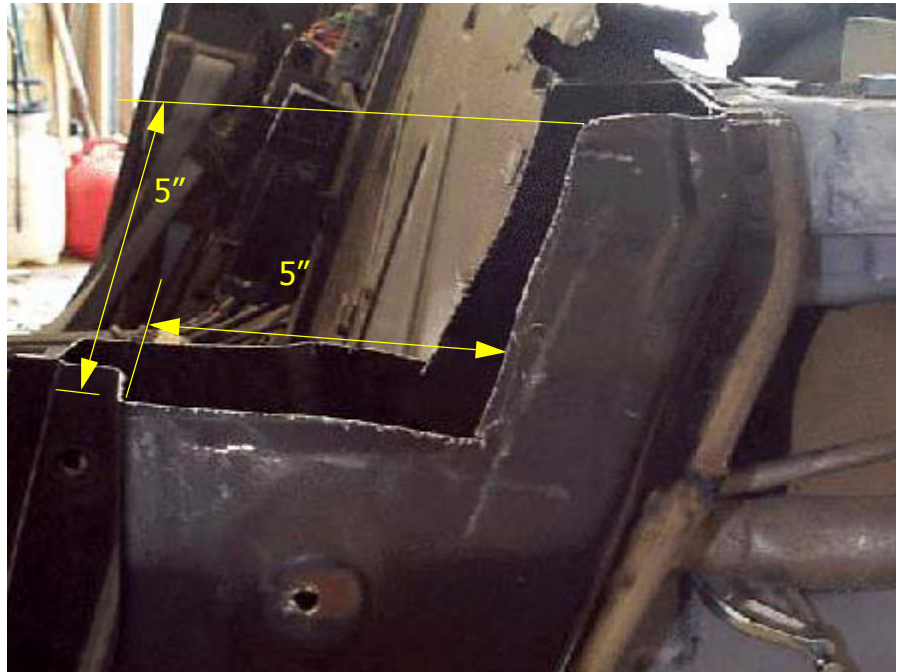


FIGURE 41. Side cut

When you trial fit the body, it may requires some trimming to clear the body.

Shock Plate

It is necessary to provide a solid mounting point for the door shocks. They exert a lot of pressure to lift and hold open the doors. The plates are constructed from 1/4" plate that is welded to a 2" angle iron. This angle iron is then bolted to the side panel.

The positioning of the plate will be set once the body is properly aligned in the test fitting stage.



FIGURE 42. Shock plate

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