CHAPTER 9  Mounting Body

During the build of your car, you will need to trial fit the body numerous times. It is possible to construct a simple moveable rack that can lift the body and then move the body over the chassis and lower it into place. The following shows how to construct such a rack.

The rack consists of 2 - 2x8x16ft for the top rail. These were fastened to 4x4x7'6" posts with casters on the bottom. Use 2x8x7ft across the front and back on the top and bottom. 2x4 angle braces are used from the post to the 2x8s. Placed a 2x8 above the wheel wells over both the front and the rear wheels. install pulleys in the 2x8s over the wheel wells.
Use a come along attached to the ropes that allow you to lift the front and back together or separately. You do need to make sure that your garage has the clearance to move past the garage door opener as well as allow the doors to close.
Test Fit For Clearance

Once you have a method of moving the body, you will want to test fit it on the chassis. Your body may have a large flange on the bottom. If so, it will be necessary to cut this off to clear the body. Save the pieces if you wish to re-attach them after you have the body mounted.

You are looking for clearance over the rear shock towers and the clearance over the brake fluid reservoir for starting points. It is handy to have several wedge shaped blocks of wood that can be used for adjustments that the body can rest on.

During this initial test fitting, you will want to check that the wheels are positioned correctly in the wheel wells both front and back.
FIGURE 94. Rear test fit

FIGURE 95. Front test fit
Mounting Point Preparation

The body is fastened to the body by welding the metal framework that has been cast in the body to the actual chassis. Once you have determined the proper positioning of the body, you will construct attach points on the body that will hold the body in the final position.

Front Bumper Area

When fabricating the radiator supports, you will have a 3” flat bar that will be clamped to the inside bumper. You will need to measure from this flat bar to the front bumper support to determine the length of the tube that will hold this bar in place. Ultimately, you will drill and tap this bar to accept counter sunk screws through the top of the bumper.
Front Wheel Well Area

The door hinges have a plate that extends into the front trunk area. You will need to fabricate two towers with a plate that the hinge extensions will rest on. The towers are constructed out of 1” x 3” rectangular tube with a 1/4” plate welded to the top as a rest for the hinge plate. It is best to clamp the 1/4” plate to the bottom of the door hinge plate and then measure and cut the 1 x 3 tube to fit.

FIGURE 96. Passenger side mounting tower
Mounting Point Preparation

Side

The sides of the body under the doors have a piece of metal glassed into the fiberglass. You will need to fabricate a rail for this metal support to rest on.

This rail is fabricated out of 1 x 3 tube and then welded to 1” square tube that has been fastened to the Fiero chassis. Start by welding the 1” square tube to the inner door frame on the Fiero, weld a second 1” tube to the bottom of the Fiero frame. This second tube should extend beyond the fiero frame towards the rear wheel. This will later be used for supporting the rear wheel well. With the body in place, clamp the 1 x 3 tube to the bottom of the door. Now measure and cut two pieces of 1” tube that will be tack welded to the tube on the Fiero and the 1 x 3 tube that is clamped to the bottom of the door. Now remove the body and then add additional support pieces and complete the welding for the side rail support.
When the body is mounted, it will be necessary to secure the bottom flange of the body to the frame. To do this, you will need to glass in a 1” tube inside the body that will later be used as an attach point.

This is a top view of the rail welded to the supports that are fastened to the Fiero frame. This creates a triangular support that adds stiffness to the body.
Rear Wheel Well Area

It is necessary to run a 1” tube across the body for the rear trunk hinges to be mounted. Weld a diagonal brace from the tube mounted in the body to this 1” tube for additional support. Later this tube will be welded to the body.

Attachment

Once you have completed all of the work on the chassis, it is time to permanently mount the body. Be sure to have your doors on the body and aligned properly when making the final attachment.

For those areas that you will be attaching to the tubing that is cast into the body, you will have to grind off the fiberglass that is covering the tube so you will be able to weld to the chassis. Fiberglass will burn when it gets too hot. Be sure and have a wet rag or fire extinguisher handy before you start the process.

You will want to mark the center line of the chassis as well as the body. It is a good idea to run a string from the front to the back on the body to help with the alignment.
Start by double checking that the wheels are centered properly. Make sure that the chassis is level before setting on the body. You will need to check to make sure the body is level after you have the body positioned. Check in multiple locations.

**FIGURE 98. Check for level**
After you have made sure everything is aligned, you can begin to weld the body in place. You can start on the sides under the doors by welding the tube in the body to the tube on the chassis. Work from side to side and continue to check your alignment to make sure that everything stays in place until you have the final welds in place.

The rear of the body is fastened to the frame of the trunk.

![Rear attachment diagram](image)

**FIGURE 99. Rear attachment**

The front hinges are now welded to the towers that were built earlier. You may also wish to weld a 1” bar between the two hinges for additional stability.
Once the sides have been welded under the doors, you will want to secure the lower edge of the rocker panel to the body. This is where the door alignment needs to be double checked prior to making these final welds.
If you wish to replace the flange that was cut earlier, you can glass it in place and use body filler to finish off the bottom.

Measure 3/4” tube that will go from the 1” tube that was glassed in the body to the 1” tube that has been welded to the Fiero chassis. This will provide the rigidity to make sure that the rocker panels do not move.

If you wish to replace the flange that was cut earlier, you can glass it in place and use body filler to finish off the bottom.

Glass mat being placed to fasten the flange in place.
The rear wheel wells can be secured to the body by running a brace from the tube that was glassed in the rocker panel to the tube on the Fiero chassis and then to the chassis itself.

![Diagram of rear wheel well attachments](image1)

**FIGURE 101. Rear wheel well attachments**

The front wheel wells are secured in much the same manner of connecting a brace from the tube that was glassed into the body to the Fiero body itself.
Connection over firewall

Because the metal bracing in the body extends into the cockpit area, you can secure this area from the top of the firewall brace to this metal tube in the body.

This is also a good time to install a plate that will be used for the deck lid hinges. This plate can be welded to the firewall and the connecting tube as well.
Front trunk area

You will secure the front trunk area to the 3” plate that had been welded to the radiator supports in an earlier step by using 1/4” screws.
**Windshield Supports**

With the roadster, the windshield is not tied into a roof structure like on the VT or SE. To reinforce the windshield frame, it is a good idea to weld these side supports to the dash structure. The support can be located as far from the front so that it will not extend past the front edge of the side windows.

**IMPORTANT!** Make sure that the doors are mounted on the body when determining the location and height of the support posts.

These supports are tied into the dash frame. You may also wish to reinforce the steel tube by welding a flat bar to the side.

**Window post may be reinforced with flat bar for increased support**

**Braces**

**Dash frame**
Mounting Body

Once the car is finished, these supports will be covered with upholstery. This cover is a good housing for the tweeters for the stereo system.

Skid Plate

In Chapter 5, the skid plate was attached to the body prior to mounting the body. This shows how the skid plate is now fastened to the frame to provide the support that is needed to take any weight of the car should the skid plate come in contact with an obstacle.
Now you will need to run parallel braces from the frame of the Fiero all the way to the skid plate. This will provide the structural support to actually lift the car by the skid plate. Some builders actually mount small wheels under the bumper to allow it to roll over a bump.
Wheel Wells

Once the body has been mounted, you will want close in the wheel well area. This is done by using sheets of ABS that are cut and secured to close the area.

Front Wheel Wells

Depending on how you cut your fender wells, you may have open areas that will need to be filled in prior to installing the fender wells. One tech-
A technique that can be used is to use a mesh that is pop riveted to the inner fender well. This can then be filled in with body filler to give it a shape. After the filler has dried, this can be sealed with fiberglass mat and resin. A good coat of flat black paint will finish off the area.

1. Close in areas with mesh
2. Fill in with body filler
3. Cover with fiberglass
4. Paint flat black
Mounting Body

You will need to attach a framework to the inside of the fender well, on the body, not the Fiero, that can be used to fasten the ABS to. You can use a cardboard template to shape the angle iron. Drill holes in the angle iron to allow the bondo to hold it in place. Once the bondo has dried, complete the attachment with glass and resin.

FIGURE 105. Bracket for inner fender well

Using a cardboard template, cut out a pattern to transfer to the ABS. The ABS can be shaped with a heat gun. The small tabs will be used to secure to the inner fender well with 1/4” self tapping screws. The ABS has a smooth finish and a textured finish. You will want the textured finish to be toward the wheel.
Wheel Wells

Rear Fender Well

The rear fender well uses a similar technique, however the angle brackets will be attached to both the body and the Fiero.

In order for the ABS to sit correctly against the Fiero, it is best to make a cardboard template to determine the shape for the ABS. You will need to shape a metal flat bar that can be bonded to the inside of the body. You can hold a piece of cardboard against the car and then from the inside, draw the wheel well opening as the basis for shaping this angle.

This may be one of those items that would be easier to do when the body has not been mounted and you have easier access to the inside of the fenders. The purpose of the flat bar is to provide a secure anchor point for the ABS.

FIGURE 106. Front fender well
Next the bar is secured to the fender well on the body.
Next you will need to attach an angle to the inside of the Fiero chassis as a connection point for the ABS.

Now cut the inner piece of ABS to match the template to clear the shock towers, brake lines etc. Insert it into the fender well and temporarily secure it leaving the outer edge protruding past the car.

Now scribe a line on the back of the ABS that matches the body contour. Cut the ABS off 1/4” inside the line so the edge of the ABS will be inside the...
fender well. Sand the edge of the ABS to provide a finished look. Secure the ABS to the framework and mount the tire.

FIGURE 107. Rear Wheel Well