

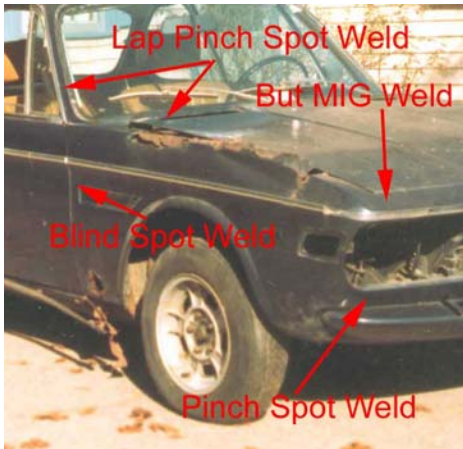
Replacing Front Fenders on a BMW 3.0CS

July 6, 2010

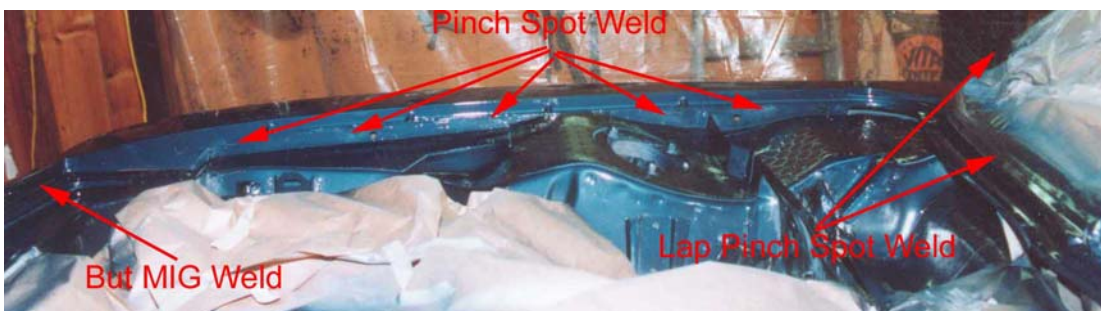
Replacing front fenders on a CS is not an unusual task during a restoration, but it is a task that is well beyond the capabilities of the average home mechanic. Don't attempt this project yourself unless you have excellent metal working and welding skills.

The first challenge you will encounter is that the fenders are welded on, not bolted on like most cars. You will need to cut the existing fenders off to repair major rust problems. The fenders will be destroyed when you cut them off.

The first steps are to remove the windshield, front grille, head light bucket, beltline trim, turn signal and light assembly, and rocker cover. I removed the door to make access easier. I cut the fender off in pieces so I could see what was behind the area that I was cutting. I used a combination of a reciprocating saw,



air chisel, and grinder. Before you cut the weld above the headlights, look for the original MIG weld. You can feel it in the inside surface of the fender. Cut to the outside of the original weld. When you fit the new fender you can remove any excess material with a grinder. If you cut too off much you will need to fill it in later. I used an air chisel to split the spot welds below the headlights, to the side and below the windshield, and near the door hinges. The metal along the fender well was gone so I didn't need to split those welds.



Be prepared for the carnage that you find under the fender. My car was only 10 years old when these pictures were taken, but it had lived the entire time in New England. Karmann must have never expected these cars to be subject to salty roads. In the picture below you can see how easy it was to put things in the glove compartment from outside of the car. The driver's side had the same easy access to the fuses. At this point I had removed quite a few brackets that were nearly rusted through. Clean up the rusty parts as best you can and get started with the reconstruction.



In the picture below you can see the replacement sheet metal I fabricated and MIG welded in place. I did this work in the mid 80s when no patch panels were available. Many of the parts that I fabricated are now available from [Jaymic](#) and [Walloth & Nesch](#). When I fabricated the sheet metal I made sure that the joints I made the same as the original parts. If you open the glove compartment and look at these fabricated parts, they look original. I also MIG welded in small patches for the holes in the cowl.

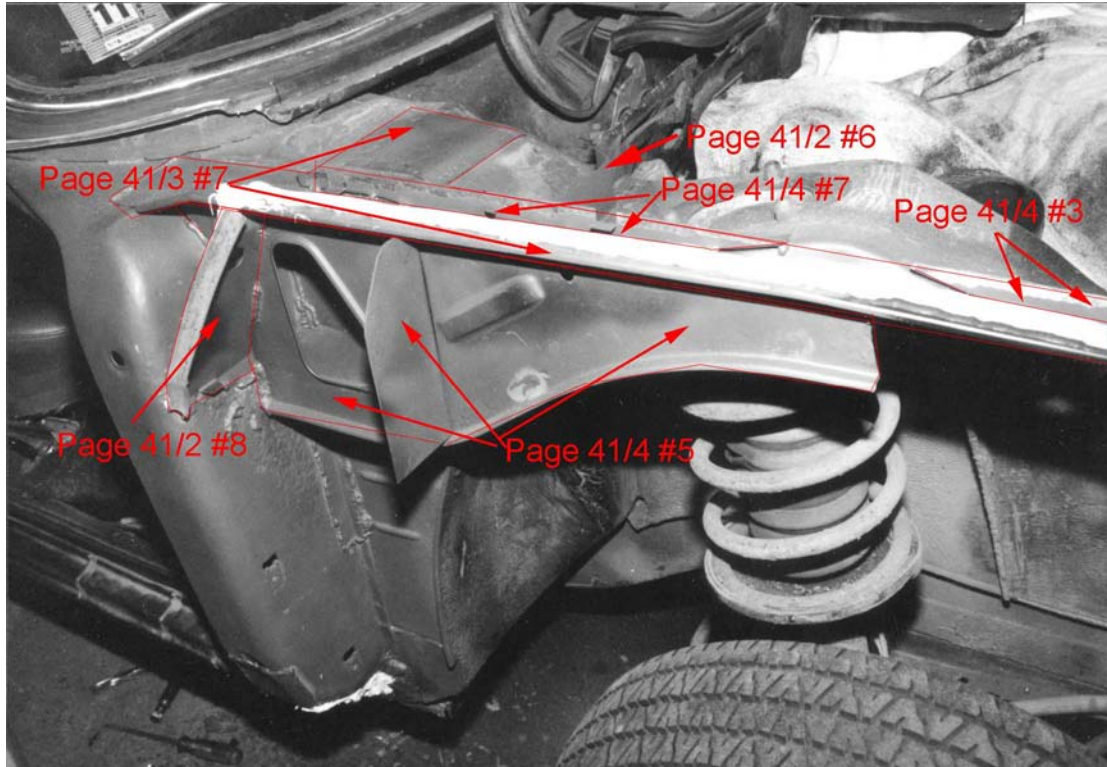


Once you repair the basic structure it is time to start installing all of the reinforcing brackets. The image below shows the parts that I bought.



There are two Supporting Struts shown in the parts manual. The first is item #8 on page 41/3, the second is item #5 on page 41/4. The second one has an extra plate to block a little of the sand from getting into the areas over the glove compartment and fuses. I bought both styles because they were only about \$10 each at the time. I used the second ones, but had to trim the extra plate to clear the fender. The second ones are for a Bavaria and shouldn't be listed with the CS parts. The Bavaria Supporting Struts cost \$31 less than the CS specific ones.

The image below shows the brackets in place.



Assembling these brackets took quite a bit of juggling. The Extension, P/N 41141826897/8, item #7 on page 41/3 was the first to go on. This part goes all the way from the radiator support to the cowl. I tack welded this part in place and then trial fit the fender. The outside of this part supports the centerline of the fender. I think that this part and the fender were connected with double-sticky tape that dissolved early in the car's life. This led to a large accumulation of salty sand which dissolved the fender. When I first trial-fit this part it was low near the strut. Since it was just tack welded it was easy to bend into place. This part is pinch spot-welded to the Wheelhouse and other parts. I bought a Miller MSW spot welder for this task. You could MIG weld it in place, but you would see the difference in the welds when you were done.

The second part in the sequence was the Supporting Strut, P/N 41111809681/2, item #5 on page 41/4. I had to grind this a little were it fit to the cowl and had to cut off the corner of the rectangular tab to get it to fit under the CS fender. Most of this part tucks into a channel under the Extension. I clamped this into place and tried the fender for fit. This part is pinch spot welded to the Wheelhouse, Extension, the little filler piece that I made that you can see through the triangular hole, and MIG welded to the cowl. Don't weld this in place until you are sure that the other parts will fit.

There are two Connection Plates, P/N 41141814039/40 & 41141814037/8, items 3 & 7 on page 41/4. These fit between the fender and the Extension and are spot welded to both. There are little tabs on them that will assist with fitting.

You will also need to adjust the fit between the fender and the front panel above and below the headlights, along the bottom by the sill, near the hinges, and around the windshield.

Once I had the fender fit in place, the Extension fitting nicely beneath the centerline of the fender, the Supporting Strut clamped in place, and the extensions fit between the fender and the Extension, I tack welded the Connection Plates in place. At this point everything fit well. I put the hood back on and made sure that the fit was still OK.

The ends of the Extension, P/N 41131814031, item #6 on page 41/2 were rusted on my CS. I bought new parts for about \$15 each, cut the ends off, and spot welded them in place. Only left on is still available from BMW for \$200, so you might fix the ones that you have.

Now it was time for commitment. I removed the fender, hopefully for the last time. One of the BMW factory repair manuals recommended grinding off the primer where parts were going to be spot welded, and painting it with zinc rich primer. This sounded like a good idea and worked well on a test piece. I did this at all of the spot weld locations.

I removed the Supporting Strut so I could spot weld the Extension to the wheelhouse and other parts. I MIG welded the Extension to the cowl and radiator support where you couldn't see the welds.

I spot welded the two Connection Plates to the Extension. Then spot and MIG welded the Supporting Strut to the Extension and cowl. I MIG welded the Covering Plate, P/N 41141814035/6, item #8 on page 41/2, to the Extension, Supporting Strut, and cowl.

Even after all of the careful fitting the sheet metal needed some adjustments to get the fender to fit correctly after the supporting parts were welded in place. Spend the time to adjust to fit now, because you can't change it after it is welded in place.

I made just a few spot welds around the windshield, between the fender and the Connection Plates, below the headlights, and near the sill. The door and hood still fit OK. I added more spot welds, and MIG welded near the windshield. The but MIG weld between the fender and the Front Panel was challenging. I spot welded a piece between them and then MIG welded the three parts together. If you MIG welding skills are better than mine you can skip the filler piece.

The part of the fender that spot welds to the cowl requires a special blind spot welder. I was able to use a Lenco L-4000 at a friend's Chevy dealer so I didn't need to buy another \$1,000 tool. Maybe you can get a local body shop to do this part for you.

The image below is of a much younger version of me painting the nose of my CS at home. Just a week later we drove the CS to a BMW CCA Oktoberfest.



Looks OK for a do-it-yourselfer!

