

# Motor Mounts Made Easy

## Circle City Hot Rods Shows Us How



Circle City's claim to fame is its reputation for attention to detail and excellent metalworking and fabrication skills...That and the fact that they're true traditional hot rodders.

By Jim Rizzo

When it comes to building a rod or custom, home parts fabrication can be some of the most rewarding, or conversely, the most frustrating, of chores. When all goes well, the feeling of accomplishment makes all the effort worthwhile; when things don't work out, well, it can become a different story all together. I, for one, have had a larger percentage of self-fabricated components cause me more heartache than joy, yet I continue to try my hand at parts construction. However, now thanks to the expert direction of my newfound friends at Circle City Hot Rods of Orange, California, I've begun to receive some priceless training in the art of fabrication.

So impressed was I with the ease that Circle City's head honcho Jimmy White explained and demonstrated the finer points of making parts from scratch that I just had to share a bit of it with our readers. Now, I know that there are plenty of you out there who may think this is mere child's play, but I also know that there's an even larger amount of folks out there that are, like me, wannabe fabricators. So, with this in mind, follow along while Jimmy shows us how to whip together an awesome pair of homebuilt engine mounts. **R&C**



First things first, you've got to start out with the engine/trans combo supported in exactly the position it needs to be for your particular application. Once solidly positioned, work can begin. Jimmy suggests 3/16-inch plate for the block mount and frame ears, 7/8 x .165 tubing for the support struts, and a pair of four-bar sleeves and bushings as the material needed for the job. Start out by coating your piece of plate with layout fluid so you can easily see the markings you'll be scribing.



Using a cardboard template (or a factory rubber mount), transfer the motor-mount holes from the block to the plate using a starter punch. Then center those punch marks in a circle template and scribe them.



Here you can see the scribed circles, which will serve as a guide when cutting out the engine-side plate. Connecting each of the circles with straight lines lays out a good-looking triangular shape with radii at each point. The next step is to re-punch the bolthole centers with a center punch.



The next step is to cut out your plates. Jimmy uses an industrial band saw, but for those of us that are a bit more equipment-disadvantaged a good jig saw equipped with a metal cutting blade will suffice.



Once both plates are cut out, you can then proceed to drill the mounting holes. Jimmy suggests making them just a hair larger in diameter than the bolts that'll be going through them and chamfering each one to help ease bolt insertion.



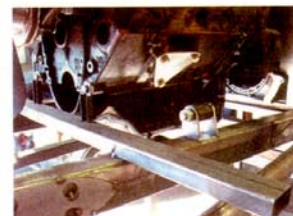
After the holes are drilled and chamfered, smooth the edges with either a band sander or a grinder with a fine (100-grit) disc for a nice, professional look.



This shows one of the finished engine-side mounting plates ready to be attached to the block.



In this shot you can see the plate being attached to the block, as well as the temporary mount Jimmy made to locate the engine while the mounts were being fabricated.



Jimmy fabbed the framerrail tabs in the same manner as the engine-side plates. The rubber-bushed cylinders between the tabs are four-bar components that Jimmy picks up at SAC Hot Rods (also in Orange, CA). The tabs and bushing assemblies are bolted together, centered with the engine-side plates, and tacked to the framerrails.



Once the tubes are cut (and if you don't have access to a tubing notcher), one end will have to be ground to match the radius of the bushed sleeve.

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The next step is to take some measurements in preparation for cutting the strut tubes that bridge the gap between the frame tabs

and engine plates. Make the tubes about an inch longer than your measurement because they will have to be trimmed and ground to fit.



Lay the tube on the sleeve and lean it against the upper edge of the engine-side plate. This will give you an idea of where and at what approximate angle to mark

the tube. Be especially careful here as it'll be easy to cut off too much, thus trashing that piece of tubing. It's better to be conservative and repeat the process until you get it close.



Once close, the final fit and angle can be achieved using a grinder.

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Here you can see the finished upper strut tube. Notice how well it fits between the plate and sleeve. You can now use this tube as a guide for cutting and grinding the tube for the opposite side (that is if the engine is perfectly centered between the framrails).



The bottom tubes are then cut, ground, and fit in the same manner as the uppers, though due to their location they will be a bit more of a challenge.



The final pieces were fit into place and tacked to the framrail-side mounting tabs.



Once the tubes are cut, the next step is to tack them into place. Care is needed to make sure they are correctly located and that you don't overheat the sleeves and damage the rubber bushings. When all four tubes have been tacked, remove the assemblies from the vehicle, remove the bushings from the sleeves, and finish-weld the mounts.



This shot shows a finished mount reattached to the vehicle. The next step is to finish the framrail-side mounting tabs.



The mount shown here is nearly complete. The only thing left is to remove the engine mount assemblies (again to save the rubber bushings from excessive heat) and to finish-weld and grind the gussets on the tab assemblies.



Jimmy made a cardboard template for a gusset that'll both strengthen and make the frame-side mounting point more presentable.



The template was traced out on a piece of remaining plate, and two pieces were cut to match the template.

It took Jimmy about an hour and a half to fab this pair of mounts, but now that I've been taught the procedure, I'm sure I could make an equivalent pair in about a half a day. I can't wait to see what's in store for my next lesson!

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