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TWELVE HOURS, TWO GUYS, ONE DRIVEWAY, AND A FAB9 TRANSFORM THE KILLER PANDA

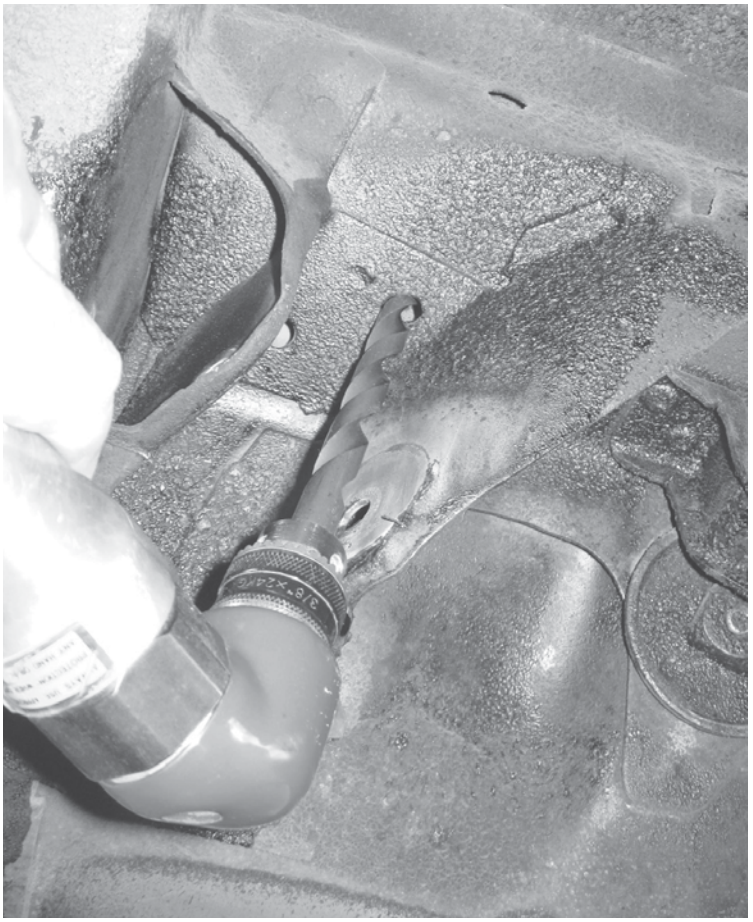
Last month, our cover feature highlighted the ongoing buildup of the Bionic Banana at Team Z Motorsports. That project is an excellent illustration of the kind of precision work you get when you drop off your roller at a first-rate chassis shop and let them go nuts. Since our goal with that car is to eventually claim the title of "Fastest Magazine Project Mustang, Period," a cost-is-no-object, leave-it-to-the-experts approach is the only way to go. Unfortunately, unless you're willing to live on saltines and tap water, have magazine-guy connections, or both (like editor Jason Reiss), time and money are always going to be a factor when you're building your car. Most of us have to invest a significant amount of our own 'sweat equity' in our cars, but that doesn't mean you can't get first-class results right in your own driveway. Thanks to companies like Chris Alston's Chassisworks and Wild Rides Race Cars, true race-worthy "bolt-on, stock suspension" parts are just a phone call and a credit card away, and getting them on your car is as easy as a few hours of your own semi-skilled labor.

Since 'semi-skilled' is a perfect description of our own chops when it comes to turning wrenches, we challenged these two companies to help us revamp the Panda from the subframe back in preparation for our upcoming drivetrain upgrade. We anticipate 500 horses on the motor, and another 250 or so on top when the squeeze is flowing, and we'll be delivering it all to the pavement through whatever we can stuff into the unaltered wheelwells, so nothing short of the best, most-adjustable stock-style suspension will do. Chassisworks' Direct Fit Fab9 rearend puts the bulletproof strength and custom options of a fabricated Ford 9-inch into a package that will bolt right up to any stock-style Fox or SN-95 Mustang four-link, but to 'keep it in the family' we also added Chassisworks' ProPower upper and lower control arms, VariShock coilover conversions, and Chassisworks' race-spec anti-roll bar. It didn't make much sense to get under the car and do all that work without attending to the points where it all meets up with the rest of the chassis, so while the rearend and suspension were out, we installed Wild Rides' Battle Box reinforcements for both the upper and lower control arm mounts. And we did it all in a driveway, with nothing more than hand tools, in one (admittedly long) day. If we can do it, and do a good job, anybody coordinated enough to pick this magazine up off the counter at their favorite speed shop should be able to handle it too. ■

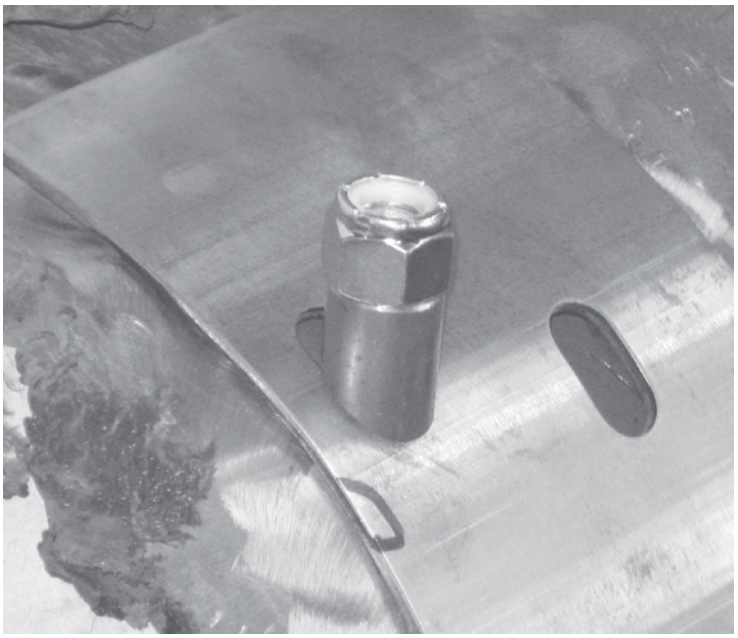
Chassisworks supplies the Fab9 in bare metal, so the first step was to prepare the housing by taping off the parts we didn't want to get all sandy, then media-blast it with aluminum oxide. This served to both remove any spot rust that occurred in transit, and to give the metal some "tooth" for the paint that followed. Compressed air, followed by brake cleaner got rid of any remaining grit and oil, and it was ready for the finish coat. Rather than sending it off to get powder-coated, in keeping with our DIY theme, we hit it with two coats of "hammered metal" gray spray paint.

When the paint dried, we were pretty happy with how it turned out. A professional powder-coating will always be better looking than even the best spray-bomb job, and somewhat more durable, but our approach has the advantage of being easily touched up if the need arises, and did we mention that it was easy on the wallet?

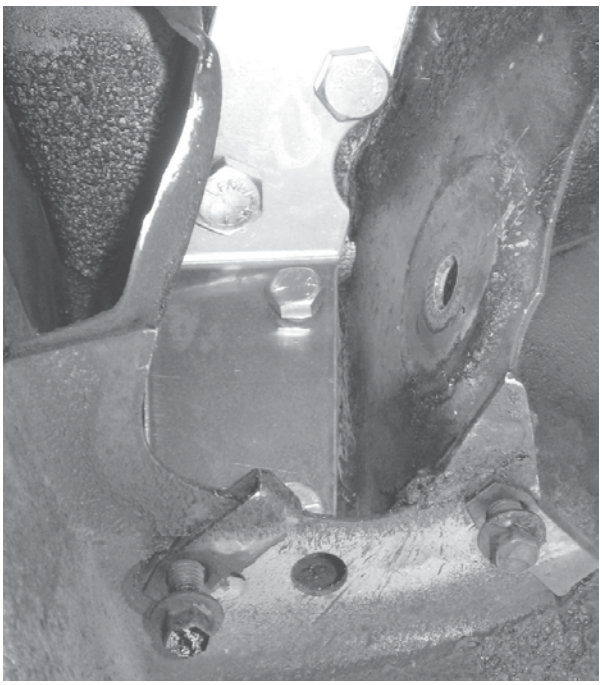
While the housing was drying, we set to work on the Panda, removing the old axle housing, control arms, shocks, and springs, and remembering just in time to disconnect the brake line. Then, we turned our attention to the interior, where the back seat came out so that we could access the area we'd need to work in to install the Battle Boxes. While the reinforcements can be bolted in place without removing the sound insulation from the floorpan, we planned to follow Wild Rides' recommendation and weld them in as well, requiring the removal of the insulation. Even if you're just bolting in torque box reinforcements, it's a good idea to get down to bare metal to avoid adding in compliance from the insulation trapped between the floorboard and the backing plate. There are a bunch of different ways to peel that crap up off the floorpan, but we elected to go the quick and dirty route of using an air chisel. A steady hand and careful adjustment of the air regulator will keep you from punching holes in the sheetmetal, and if they don't, you were planning on doing some welding anyway, right? Don't ask how we know this.



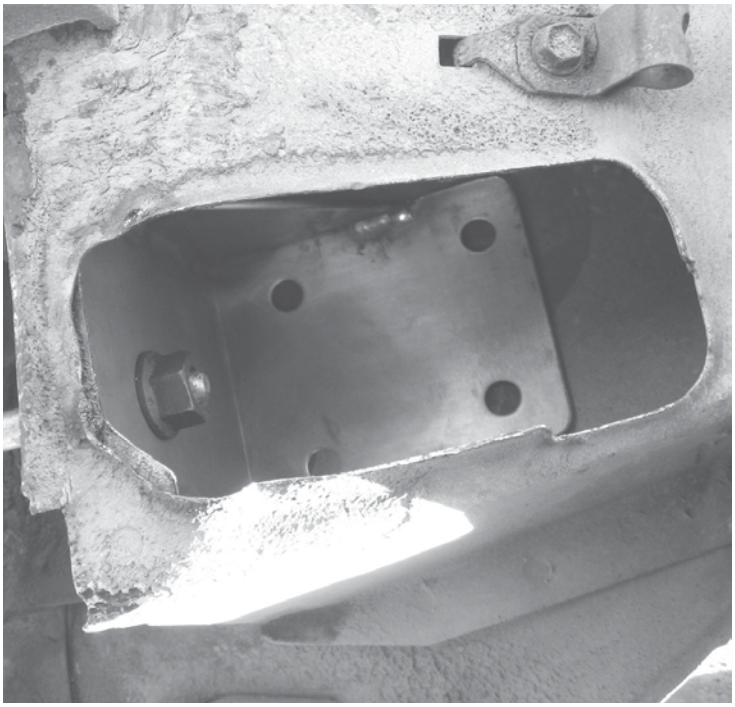
Installation of the upper control arm reinforcements begins with extending a half-inch hole through an existing spot in the mount and through the floor of the car, into the interior. Since everything else will locate off this first bolt, it's important to get it as straight as possible.



^^ Inside the car, a spacer sleeve and a nylock nut secure the plate in place so that the other holes can be accurately drilled. If you store your drillbit collection in a rusty coffee can, you may want to invest in some new ones for this job, so that you can get the holes drilled before the sun burns out. You'll notice that we've also taken the floorpan down to bare metal around the edges, in preparation for welding later on.



>> On Fox and SN-95 Mustangs, it isn't the control arm mount itself that fails; it's the connection between the stamped mount and the unibody that breaks. The stock mount and body are held together with a series of spot welds, and the kit from Wild Rides reinforces that connection by sandwiching it between two plates connected by four through-bolts. By spreading the load across a much greater expanse of unibody, the plates keep the stock mounts in place under duress.



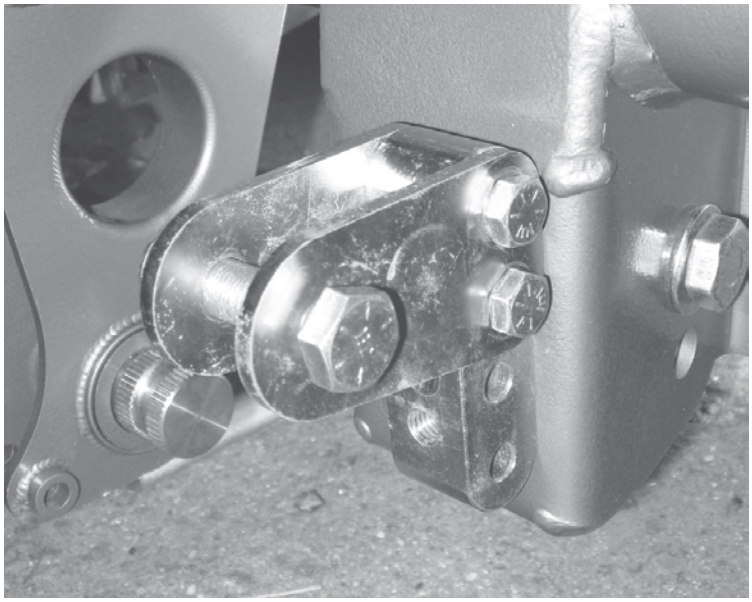
^^ The Battle Box reinforcements for the lower control arm mounts slip inside the cavity in the body and reinforce the outer end of the mounting bolt. The inner end goes through what passes for a framerail on the unibody Mustang, while the outer end goes through a lighter sheetmetal pressing. The boxed-and-triangulated Wild Rides piece reinforces the outer mounting point, and passes the load up through the unibody and distributes it to the 6 by 6 plate inside the car.

^^ With the plates bolted securely in place, we stitch-welded them around the perimeter, then painted the new steel and exposed floorpan to keep them from rusting. Now, we were finally ready to hang the new rearend and suspension.

^ Both the ProPower uppers and lowers are double-adjustable, meaning that they can be lengthened or shortened while still on the car by backing off the jam nuts and turning the center section, turnbuckle-style. To make sure we had the full range of adjustment available after they were installed, we made sure we had the same number of threads showing on each end, then turned the center section until we had the right center-to-center length: 9-13/32 inches for the uppers, and 17-11/16 inches for the lowers.

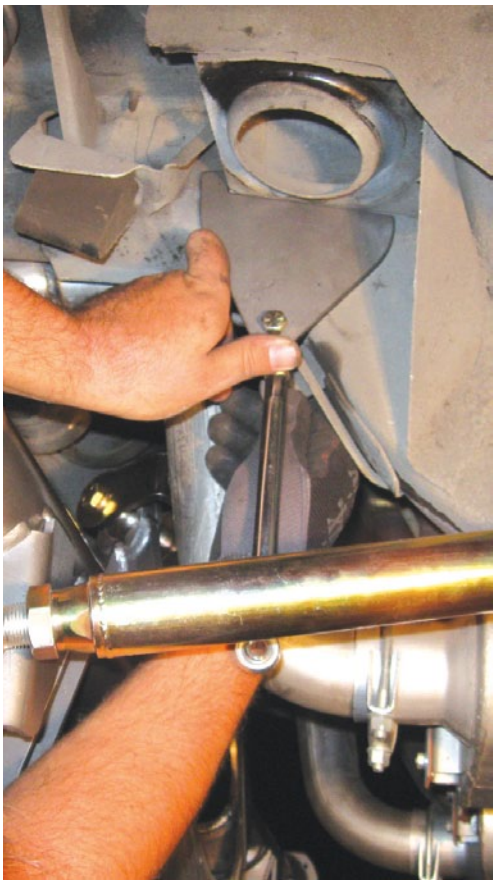
^ The control arms go in just like the stockers, but rather than being located by soft bushings, spacers and spherical bearings carry the load. You'll note that the lowers are equipped with offset spacers that move the arms toward the centerline of the car, which provides additional clearance for big tires. Chassisworks offers separate lower control arms for older-style 12mm chassis mount bolts, or the newer 14mm style, so be sure to check which ones are correct for your application.

^ The other ends of the arms connect to the Fab9 housing just like you'd expect – up top, spherical bearings connect the UCA's (you can also order a Fab9 set up for conventional-style bushings) and the LCA's bolt into stock-style mounting pockets on the underside. One nice feature of the Fab9 is that there are two different mounting positions for the lowers to allow a modicum of adjustment of the instant center.



^ Because there is no provision for stock-style springs with the lower control arms we're using, Chassisworks provided a set of their double-adjustable Varishock coil-over conversions, and their trick adjustable shock mounts. The "standard" Fab9's shock mounts provide two different positions for ride height adjustment, but for maximum tunability the adjustable mounts are the way to go. Like the standard mount, using the upper or lower mounting holes on the housing gives you 7/8-inch of adjustment, but the four holes on the body of the mount allow three more possible positions, and flipping the mounting tabs lets you fine-tune ride height down to 7/16-inch increments.

^ The coilovers install just like regular shocks, except that at the top, a spherical stem bearing takes the load instead of a polyurethane bushing. Because there's literally no friction on the bearing, it can be a challenge to feed the top stub through the hole in the mount up top, but it just takes a little patience. The shocks offer 16 'clicks' of independent adjustment in both compression and rebound, and Chassisworks can supply springs with rates ranging from 80 pounds per inch of compression all the way up to 450, with 175-200 typical for street use.



^ The anti-roll bar end links mount to the chassis via sheetmetal plates, which must be welded to the frame rails alongside the stock upper spring perches. The links themselves are double-adjustable, and connect to the solid 1.25-inch steel bar via 8.2-inch long (center to center) billet aluminum arms.

^ The Chassisworks Fab9 and suspension installation is complete, and now awaits a third member, axles, and brakes to round out the package. Keep your eyes on upcoming issues of Race Pages as we finish up the Panda's killer new rearend.

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