

TECH TALK

Words by Ian Bowman

Front and center!

A comprehensive guide to front end upgrades.

When it comes to building a tri-five, everyone likes to spend money in places that you can see. That dressed-up LS3 under the hood, an all-new interior, or fresh, shiny chrome. Almost anyone can justify spending the cheese on these types of things everyone notices when they walk up on a car. But what about the pieces underneath, the things you can't see? You know, the things that make the driving experience and the car as a whole that much more enjoyable for the operator?

This is where the topic of front end upgrades comes into play. And all too often, when I talk to people about front end upgrades, the response generated is generally one of three things:

"My car doesn't need it. It drives just fine."

"I can't afford a bunch of fancy parts."

"Best thing I ever did to my car!"

Let's address these responses individually to start this conversation.....

"My car doesn't need it. It drives just fine." This will always be a very subjective point to make. Chances are, no matter who you are, your definition of "just fine" and my definition of "just fine" are likely two different things. I'd argue the fact that multiple manufacturers, hundreds of builders, and thousands of consumers simply can't be wrong. The problem is, most people aren't afforded the luxury of a back to back test drive with an upgraded car to see what an immense difference these upgrades can make to the car that "drives just fine." I've personally taken the Pepsi Challenge with the upgrades discussed. Between my dad and I owning 6 wildly different variations of '55s, as well as the time spent in the shop at Woody's Hot Rodz, the back to back drives time and time again have given me the insight I share here. For example, the difference between my fresh, all stock suspension setup on my sedan delivery and last year's giveaway car was absolutely staggering. If I could've drove with my eyes shut, I would have sworn I wasn't even in the same type of car.

"I can't afford a bunch of fancy parts." And where I can sympathize with this in the sense that not everyone can afford top-of-the-line tubular control, Wilwood

brakes, and billet coilovers, there are plenty of options that are affordable for even the lower-line hobbyist that can make a drastic improvement to these cars, and I'll address options for multiple price points as we go.

"Best thing I ever did to my car!"

I can't do anything more than simply agree with this. Out of every aspect of these cars that actually affects drivability, the front end is the biggest place that GM left something to be desired, in my opinion. And just like comparing the stock 235 to a modern LS3,

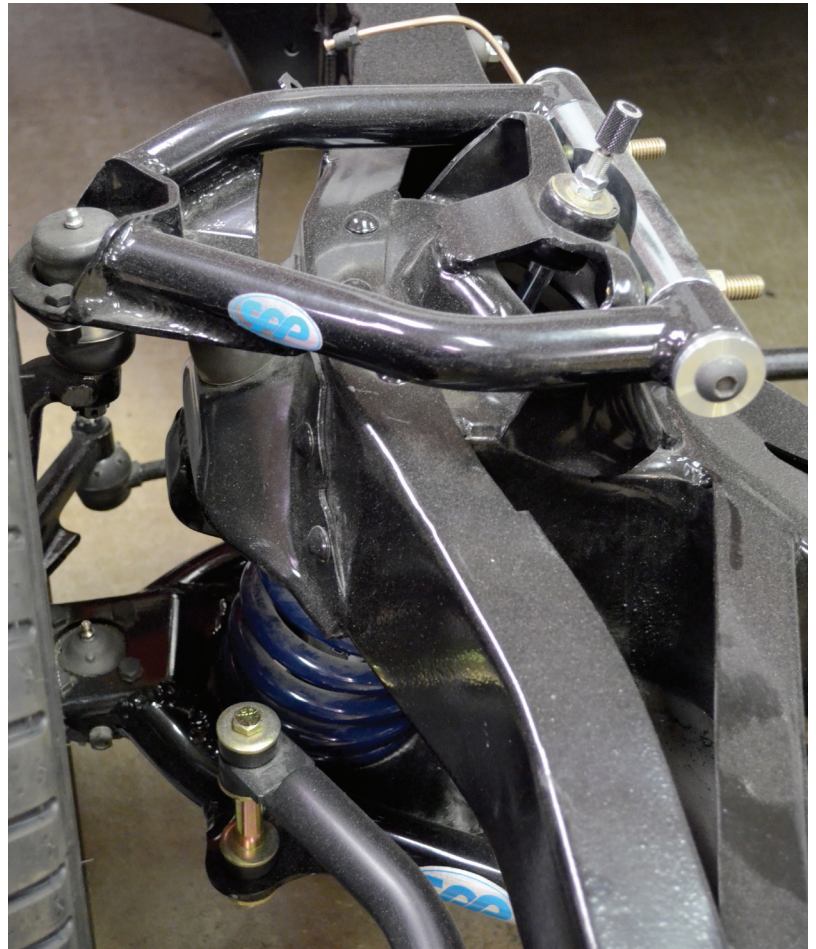


it's the passage of time and the knowledge accumulated that goes into modern engineering that has yielded us all these options.

So, to better understand these upgrades and their respective purposes, we'll go ahead and break down a few of the biggest areas that typically need tended to on these cars.

Disc Brakes: Our cars weren't designed with modern speed limits in mind, and the brakes are one of many places that it shows. Simply put, there's a reason every single car and truck produced nowadays has disc brakes on it. The design of a modern disc brake setup provides better fade resistance than drums ever thought of, and slowing a 3500+ pound car from highway speed is no small task and will be where the drums typically show their weakness. Where a drum/shoe setup typically has more surface area when it comes to clamping, the fade factor makes them less effective in every scenario. From a safety standpoint, this is a no-brainer, on the front of the car at the very least. In the same vein, disc brakes will require an upgrade to a dual master cylinder, which will prevent catastrophe in the event of a brake line failure by not depressurizing the entire brake system. On top of being a good safety-minded upgrade, every disc brake kit out there upgrades the bearings to taper bearings, which are hands down better equipped to the task of modern highway speeds, and will last tens of thousands of miles longer than the original ball bearing setups. Serviceability also shines with the discs, as there's a heck of a lot less to disassemble in order to do a simple pad change. And with many front kits starting under \$300, it's an option that even those on a tight budget can consider.

Additional caster: On an almost daily basis, I'm consistently asked, "why would I upgrade my control arms?" or "what's the difference in these control arms with added caster?" To better explain the question, we need to fully understand what caster actually is, and how it affects the way a car drives. Caster is the angle at which the spindle is mounted vertically. Negative caster would be the top of the spindle further towards the front of the car than the




bottom, and positive would be the top further towards the back of the car than the bottom. Caster directly affects the steering system's ability to re-center, and therefore controls how truly the car tracks down the road. On a Tri-Five, the caster will generally wind up very close to zero, as it was designed this way to keep steering effort down in the days of these cars being manual steer, at least for the most part. The result is a car that is easier to steer, but doesn't return the steering wheel to center as easy, which causes the car to track poorly, or track worse than it would if the caster were corrected, even on the tightest of steering systems. This symptom is only accentuated when coupled to power steering, and steering effort is even more so reduced. This is exactly why most control arm options you see available have anywhere from 4-6 degrees of positive caster built into them. And now my second point earlier in this article comes into play here: "But I can't afford a set of tubular control arms!" Have no fear, CPP makes an offset cross-shaft for factory control arms that adds 2 degrees. Where the offset cross-shafts don't obtain quite the full effect of the tubular control arms, at less than a hundred dollar bill and a couple hours of labor, it's still a noticeable difference, and one of the best upgrades you can possibly make to your car.

Sway Bar: If you're a continuing member of The American Tri-Five Association, you likely read about the sway bar install last



roll over on themselves under cornering, so handling and drivability is adversely affected across the board. For those who insist on the unmistakable look of a whitewall tire, there are multiple options from Coker, Diamondback, and others, even with a classic bias-ply appearance.

Fresh suspension: Sometimes it's really just THAT simple. These things are at best a 62 year old car, folks. Things wear out, and these things directly affect how your car goes down the road. Control arm bushings get brittle and deteriorate. Tie rod ends wear and get sloppy. Springs get weak, reducing their capacity to handle the weight of a tri-five being thrown around. Ball joints wear and cause misalignment and poor handling. Shock absorbers leak gas and oil, and lose their dampening capacity. Idler arm bushings break down and cause unnecessary give. Even steering boxes wear over time, directly contributing to your car under performing when it comes to the front end. So, in this case, simply getting back to a solid basis can most certainly be considered an upgrade from a worn down, ill-performing car. And as an added bonus, upgrading certain pieces like control arms can knock out multiple of these points in one fell swoop with less work than replacing them individually, which can help justify the cost of doing so.

I know a few of you are reading this thinking "What about (insert part here)?" We know there are multiple other options out there ranging from simple bolt on parts to a full-blown chassis swap. The options listed in this article, again, in my opinion, simply hold the most water as far as a noticeable change goes from original pieces. So get out there and make your car more enjoyable. You can thank me later! 

month. For those who didn't, I'll happily reiterate: This is, in my opinion, pound for pound and dollar for dollar the best drivability-related modification you will do to your tri-five. A sway bar is more or less a mechanical connection between both lower control arms and to the chassis itself. In making said connection, each individual side of the front suspension is less apt to move an extreme amount compared to the other under cornering, which is exactly what causes that nauseating body roll going into a corner that all of us with a non-equipped car have certainly felt. The end result of a sway bar being installed is flatter cornering, better handling, and no adversely affected ride quality. And as with the others, this is one modification that is easily noticed in the first test drive, and for the ease of the install, there's no excuse not to do it. If more enticement was needed, there are multiple options available for under \$140!

Radial Tires: Ok, maybe this one, for the most part, is a well known given at this point. You really have to go out of your way to get bias ply tires any more at any rate, so more often than not, tri-five owners are already hip to this one, whether intentional or not. But, there are still some die-hards out there installing bias ply tires, and these cars change hands every day sometimes to those new to the hobby. Nylon belted bias-ply tires are notoriously squirmy even under optimal driving conditions, and can absolutely contribute to the poor tracking mentioned in the section regarding

