

Fatman Fabrications

49-54 Chevy Chassis Builders Guide



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Thank you for your interest in a Fatman Fabrications chassis for your 1949-1954 Chevy. Before you begin there are a few things we would like to point out. First off, the 53-54 Chevy had a slightly different body mount configuration than the 49-52 models. We can build either one, but you'll need to specify your exact year and model.

First, **Plan Out Your Project!** Knowing how you want it to look when it is finished is just as important as when you start. Do you intend for the build to be hi-tech or old style? Billet wheels or painted steelies? Pro street? Pro touring? Ground scraping as low as you can go? Who is going to drive the car and where will it be driven to? Is it going to be a low mileage show car or a freeway flyer for cross-country cruising?

Establish parameters based on reality and not just wishful thinking. Blown big block motors rarely make good long-distance cruisers. Big inch wheels look awesome on some cars but tradeoff ride comfort for looks by requiring short sidewalls that do not absorb road shock. Remember, there is a tradeoff to everything, so save yourself time, money, and aggravation by planning your project from start to finish.

Also, keep in mind you are building a car. You might be using an old steel body, which is great, but Chevy was not very exact in the manufacturing process over 60 years ago and there are minor variations in all old cars.

If a fiberglass body is your choice, then there are some excellent quality glass bodies, but each has its own variations and tradeoffs. Some are not made or designed to fit on a 49-54 chassis. Not everything is exact, and some minor modifications are likely every step of the way, so plan for that and **test fit everything** before you paint or powdercoat anything.

Take comfort in knowing that after building a thousand plus chassis, we have them dialed in and know all the ins and outs. Some models may require some modifications to the floor pan to clear the 4-bar brackets, rear coilover mounts and driveshaft loop.

Our chassis for the 49-54 Chevy is constructed of strong 2"x 4" x.188" mandrel bent rectangle tubing, and we are known for building the strongest chassis on the market. Each one is made to follow the original shape, form, and to fit with the original body mounts along with the core support mounts.

Expect a 2"- 3" drop from stock with our standard chassis and standard spindles. Air ride, ultra-low crossmember, and 2" dropped spindles are options to put the car radically low. For those looking for a more conservative stance we can also outfit your chassis with our industry exclusive 1 ½" raised spindles. Clearance for 3" exhaust is provided while maintaining full strength and good ground clearance.

The ultra-low option will require modification to the trunk area for coilover and raised rail clearance, while the floor under the back seat will need some modifications for the 4-bar crossmember driveshaft loop.

Another item we have found is that 60-year-old repro fenders seldom fit together well without some tweaking. We suggest you fit them, then drill and tap fine thread bolt holes for proper mounting locations. By doing this, the bolt holes will be where you need them, rather than having to stretch a hole in a fender to match a predrilled hole.

We have heard it all including being accused of building our chassis “too heavy duty”, but we pride ourselves on a strong, rigid product which you will find is an extra big benefit if you are using a fiberglass body or parts. These are the strongest chassis available!

Front Suspension

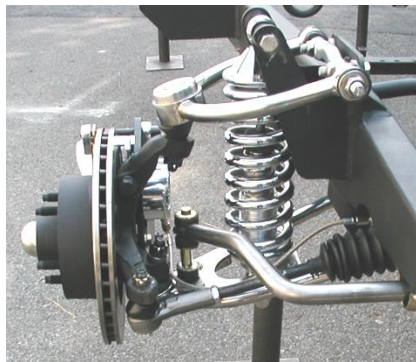
Fatman Fabrications 49-54 Chevy chassis come standard with Stage 3 Custom IFS with heavy duty .188 wall mild steel control arms, Delrin bushings, and premium single adjustable coilovers. The ride height is approximately 2”- 3” lower than stock height with the standard crossmember. The ultra-low crossmember option will lower the vehicle an additional 1 ½”. Track width comes at 57” which is very close to the stock IFS.

Shockwaves by Ridetech are optional and will fit the same crossmember and shock towers as built. A simple swap to the correct Shockwaves, modification to the sway bar mounts, and the air system are all that is required.

Power steering and a front sway bar are standard. Alignment is accomplished with a shim system allowing easy adjustment without disassembly all while maintaining proper axial alignment of the pivot bushings.

Stage 3 coilovers are used for the front end to provide slight height adjustment, excellent shocks, and good looks to match the tubular control arms that are standard on all frames. Premium single adjustable coilovers are standard on all Fatman Fabrications 49-54 Chevy frames.

Air ride comes in Shockwave Stage 5, which are similar to how a coilover looks and mounts with the shock inside the air spring. A compressor system is needed with this option. If you want to run extra low, you can use 2” drop spindles. The drop spindles will reduce ground clearance 2” as well.



Stage 3



Stage 5

Shocks are probably the biggest factor in ride comfort and handling. Shocks are the brains of the front suspension because it controls the velocity of the suspension.

As an example of this, NASCAR teams take dozens of shocks to the track but only a couple pair of springs. Single adjustable shocks are standard on Stage 2 and Stage 4 which will allow you to fine tune your ride comfort and handling of your car. Stage 3 and Stage 5 have single adjustable shocks that are also standard.

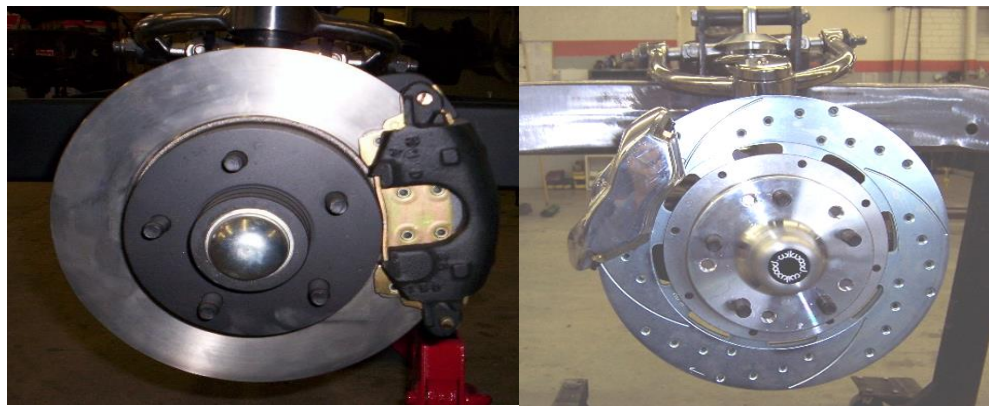
Brakes

Something to keep in mind as we go over brakes is that sometimes people use bigger brakes to fill the space behind big billet wheels or just for dress up, without thinking about the safety aspect. 49-54 Chevys generally weigh about the same as a stock Ford Mustang II, but keep in mind that bigger brakes are better brakes.

Fatman Fabrications chassis all come standard with OE style kits that use early GM big piston calipers and provide 65% more braking capacity than the stock Mustang II, and twice as much as other kits that use the small piston GM calipers. The 11" disc brakes use OEM parts that are easily serviceable using parts that are available at your local auto parts store in case you need to make an emergency repair.

5 lug 4 3/4" Chevy pattern is standard, 12mm x 1.5mm metric studs are also available but use the above-mentioned small piston GM calipers. Give us a call to talk about the options that are available for bigger brakes if using the Chevy pattern.

We have several options from Master Power, CPP and Wilwood. CPP front kits use a Corvette style sealed hub which means no bearings to pack and 13" Corvette drilled/slotted rotors with matching calipers. Master Power brakes all include drilled/slotted hub style 1-piece rotors and have either late model OE calipers or their billet 4-piston calipers. Complete Wilwood big brake kits are available that use aluminum hubs, 4 or 6 piston aluminum calipers with 11" to 14" rotors. Drilled rotors and polished calipers are options on these kits.



OE 11" standard

Wilwood drilled and polished brakes

Keep in mind that larger brake kits require larger wheel/tire combinations. Make sure to let us know what you plan on using. Always think safety first!

We use standard automotive steel brake lines for brake plumbing. Since you must retain a firewall mounted master cylinder, we will “stub” the line at a point for you to finish the connections. These are D.O.T. approved, Tin-plated steel lines, show quality looking and will last a lifetime.

A simple scrub with a 3M pad and a coat of clear lacquer will preserve their fresh appearance without the safety issued related to stainless steel hard lines. We do use D.O.T. approved braided stainless flex hoses from the chassis to the calipers.

Metering valves are used with disc/drum applications. 2 psi residual pressure valves are used between the master cylinder and discs, and 10 psi residual pressure valves are used with drums.

Rear End & Suspension

A new 9” rear with 31 spline axles supplied by Moser Engineering is standard. Normally built 58” hub to hub, it provides the foundation of the rear suspension. A fresh 3.70 Trac-Loc gearset is installed along with 4 ½” or 4 ¾” bolt pattern OE style rear disc brakes featuring a functional emergency brake system. Kits from Master Power, CPP and Wilwood are also available to match front brake assemblies or also for better chassis clearance issues.

Our Fatman Fabrications fully adjustable Pro-link rear 4-bar, Z-bar along with rear sway bar and premium single adjustable coilovers control the motion of this rugged and responsive design. The stock rear wheel wells are just over 10” wide. Rear wheels with the proper spacing, up to 8” wide, will clear the stock wheel tubs. The chassis is narrow enough for more tire if the tubs are enlarged, but measure before you buy.

The standard height suspension will clear the floor, fuel tank and spare tire well, while the Ultra-Low option will require floor pan modification to clear the rear coilover mounts, raised rear rails, and driveshaft safety loop. Please note that lowering the car and fitting modern wheel and tires may require disconnecting the rear coilovers for rear tire changes.

We often recommend air ride on the rear due to the flexibility afforded with the variable pressure. Coilovers do not accommodate changes in the load as well. The air ride can be set for a comfortable ride and proper ride height at the push of a button, regardless of the load. Don’t forget a compressor fill kit is required with an air ride suspension so there is an extra cost associated with that kit.

Sway Bars

Rear sway bars come standard on all car chassis to help control body lean. We seldom use a front sway bar because of the nearly 50/50 weight distribution and good roll center on Mustang II based suspensions.

If using a big block engine, then a front sway bar is recommended. Also, if you want a car that has excellent cornering qualities, then choose this option. Please note that some ride quality suffers to make it handle better. Again, this all goes back to what kind of car you are building.

If using rear disc brakes with coilovers or air ride suspension with either disc or drum, a prostreet style rear sway is required.

Engine/Transmissions

Mounts for small block Chevy engines and TH-700R4 automatic transmission are installed as standard equipment but mounts for big block Chevy, LS and LT engine and transmission combinations are optional. The front steer power rack gets the steering out of the way for best oil pan and exhaust clearance.

Depending on your drivetrain choice, you may have to purchase one of the aftermarket front accessory drive/front runner systems for clearance with the chassis rails. The newest GM LT engine will require the fitment of a hydraulic power steering pump. Kits have become available for retrofitting a pump onto these engines and we can help you with selecting the right choices.

Finish of Chassis

All chassis come assembled and coated with a rust inhibitor. As an option, Reflections Paint and Body Shop of Mint Hill, NC has a chassis priming service that includes the following steps, and we will take the chassis to & from the body shop for you:

1. Alcohol wash
2. Orbital sanding
3. Phosphoric acid wash
4. Etch priming
5. Epoxy priming

Epoxy primer is packaged in a variety of different colors. The black epoxy is the most popular of all the colors but will fade in the sun and eventually absorb water, so it should receive at least a coat of semi-gloss clear to seal it.

When catalyzed and sprayed, the black epoxy gives the same satin appearance as any new sheet metal parts right out of the factory. This primer can be left as is but will hold up best if scuff sanded and topcoat painted. This paint system is recommended by the paint manufacturer and is the best undercoat system available on the market today.

Remember, not everything is exact, and some minor modifications are likely every step of the car build, so plan for that and **test fit everything** before you paint anything.

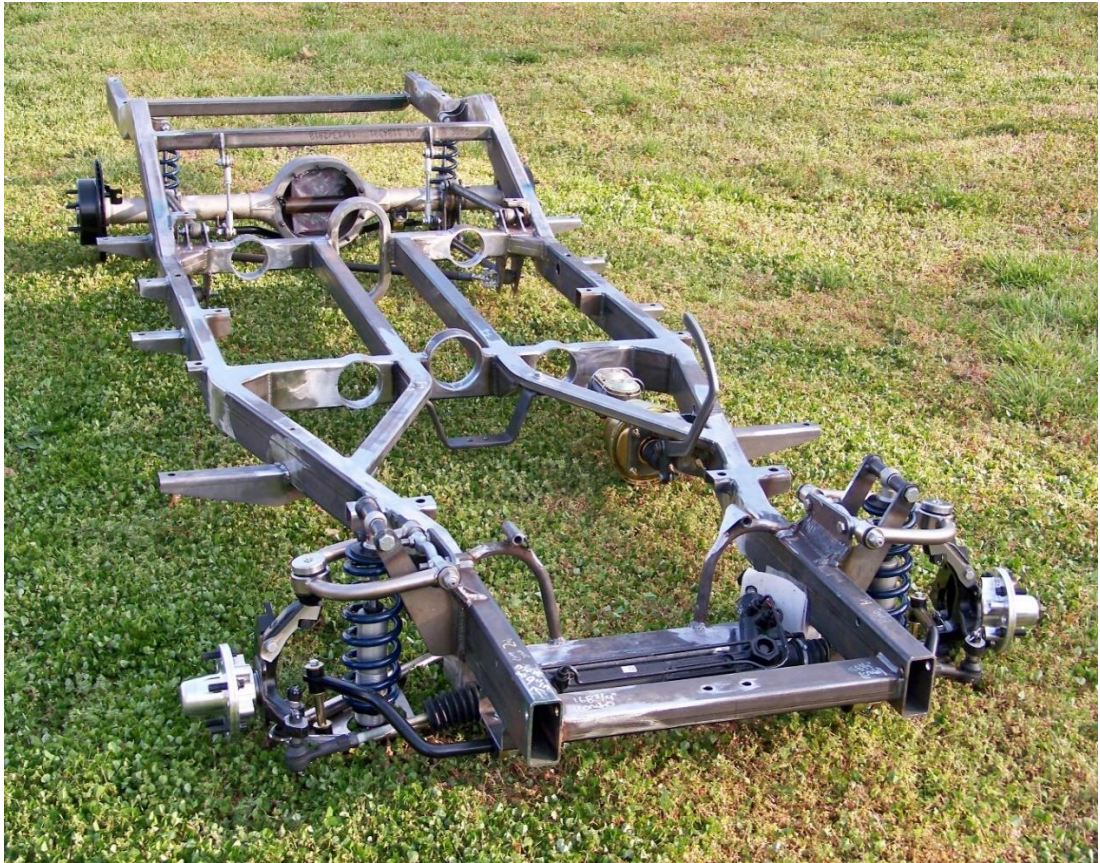
Notes

See our Builders Price Guide and Order Form for additional information and pricing.

When you are ready, give us a call to talk with our chassis shop specialist. They will assist you in verifying and dialing in the final version of your chassis, then they will send you a detailed written proposal for your approval.

Call us at (704) 545-0369 or email tim@fatmanfab.com

1949-1954 Chevy Frame Example



Please note: brake pedal assembly pictured is not included.

Revised 10-2024

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