

# **Fatman Fabrications**

## **35-40 Ford Car & 35-41 Ford Pickup Chassis Builders Guide**



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Thank you for your interest in a Fatman Fabrications chassis for your 1935-1940 Ford car or 1935-1941 Ford pickup. Before you begin there are a few things we would like to point out.

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.



**Low Tech**

**Hi-Tech**

Also, keep in mind you are building a car. You might be using an old steel body, which is great, but Henry Ford 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 35-40 Ford car or 35-41 Ford pickup 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.

Our chassis for the 35-40 Ford cars and 35-41 Ford pickups are constructed of strong 2"x4" 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.

Fatman Fabrications chassis include radiator mounting brackets, bumper mount holes, drilled and tapped the topside body mount and gas tank holes. Body boxes are also included for car applications but omitted on the pickup chassis.

Another item we have found is that 60-year-old and repro running boards and fenders seldom fit together well without some tweaking. We suggest you fit them, then drill and tap 5/16" fine thread bolt holes into our 3/16" thick chassis rails in the 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. We also use a 1/4" wall front crossmember and .120" wall X-bracing to make these the strongest chassis available!

### **Front Suspension**

Fatman Fabrications chassis come standard with Stage 2 suspension, which uses coil springs and single adjustable shocks. The ride height is approximately 4" lower than stock height. Track width comes stock at 56 1/2" which works well with normal street rod heights. Keep in mind to achieve that height 6" front wheels with a centered, non-offset hub are used. If you want to run extra-low, use 7" or wider rims, or use traditional style offset wheels such as original Halibrands, 5-spoke Americans, or wire wheels. You will find that with using this option, the tire to fender clearance is very tight. Billet wheels, and some after-market wheels are available with special backspacing to increase tire clearance, but of course your wheel selection will be limited.



**Standard Height**

Another solution is Fatman Fabrications exclusive narrowed 54 1/2" option. By narrowing the mounting points for the front control arms 1" per side, tire clearance is greatly improved so that extra-low ride height and full wheel selection can be accommodated.

Keep in mind that a narrowed frontend will require a custom chassis notch and are only available on Stage 3 with coilovers or Stage 5 with Shockwaves.



If you want to run extra low, you can use drop spindles or our ultra-low option. Keep in mind that the drop spindles will reduce ground clearance. Our ultra-low option mounts the crossmember 1 ½ " higher in the chassis. When it comes to your power choice, Chevy engines normally fit just fine, Ford engines are harder to fit and not recommended.

The ultra-low option is usually used on 35-37 which sit higher off the chassis than 39-40. Also, the narrowed option is recommended with the ultra-low to help with tire clearance as pictured below.

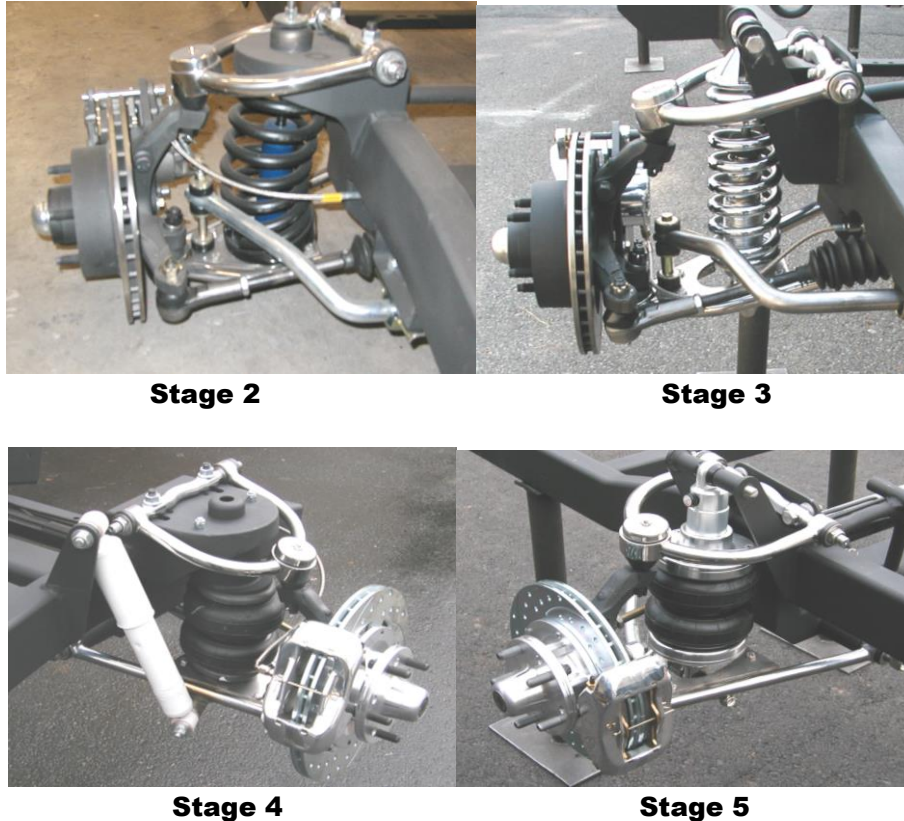


### **Ultra-Low Narrowed**

Stage 3 coilovers are the most popular option for the front end because of the slight height adjustment, excellent shocks, and good looks that match the heavy duty .188 wall steel tubular control arms that are standard on all chassis. Single adjustable coilovers are standard on all Fatman Fabrications Stage 3 chassis.

Air ride comes in either Cool Ride Stage 4 or Shockwave Stage 5. Cool Ride has the air spring in place of the coil spring and the shock mounted behind the control arms. The Shockwaves are similar to how a coilover looks and mounts with the shock inside the air spring. A compressor system is needed with both options.

Manual rack and pinion steering is standard on roller chassis, but power steering is available as an option and is generally recommended. The power steering option on narrowed front ends requires a special rack and is higher priced.



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. 35-40 Fords 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 ½" Ford pattern is standard. 5 lug 4 ¾" Chevy pattern, 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!

### **Master Cylinder and Power Brake Options**

Manual brakes come standard and work well with common disc/drum combination brakes. They also leave extra room for exhaust routing. Power assist brakes are a great option, and we recommend them with disc/disc applications. To make it easier to service the master cylinder, remote filling kits are available as are a better-looking aluminum reservoir kit. Chromed and polished booster/master cylinder kits are also available.

Please note that our pedal assemblies are not designed to fit through the original hole in the floor. Most vehicles built back then had the driver positioned more centered to make room for the large steering wheel required to steer these vehicles. The idea is to place the pedal where it is most comfortable for the driver. The pedals can then be bent to fit.

Fatman Fabrications use standard automotive steel brake lines for brake plumbing. They are D.O.T. approved, show quality looking and will last a lifetime. We also use 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 Suspension

Fatman Fabrications uses Chassis Engineering parallel leaf springs on the rear. They can be set up to accommodate either the standard or ultra-low ride heights as mentioned earlier. They provide excellent quality of ride and adjust very well for changes in load weight such as people, gas, and luggage. These springs are excellent for a stock width chassis but do not work well with chassis rails that have been narrowed to accommodate larger tires.

A 4-link rear suspension, either parallel or tri-link, is used with coilovers or air ride. We often recommend the air ride on the rear due to the flexibility afforded with the variable pressure.

Coilovers do not accommodate changes in loads very well as they have a given spring rate that may be comfortable in an empty car but not heavy enough in cars loaded with extra weight. The air ride can be set for a comfortable ride and proper ride height at the push of a button, regardless of the load. Do not forget a compressor fill kit is required with an air ride suspension so there is an extra cost along with less exhaust routing area.

On some cars, the floor drops down below the top of the chassis and will get in the way of the 4-link bars, so sheet metal may have to be modified.



**Leaf Springs**

**Tri Link w/air springs  
(shown w/setup bars)**

## 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.

### **Rearends**

Fatman Fabrications standard roller chassis includes a new 9" Ford rear housing and 31 spline axles supplied by Moser Engineering.

You can also purchase a brand-new gear set supplied by Moser Engineering. Available in Trac-Loc, Tru-Trac or Wave-Trac configuration. All new gearsets feature their lightweight nodular case, which is good up to 600HP, aluminum bearing support and a new non-billet 1350 series yoke.

You can have disc and drum brakes for the 9" rear-ends. We generally use kits that have O.E.M. parts. Kits from Master Power, CPP and Wilwood are available to match front brake assemblies and better for clearance issues.

8" wide wheels, regardless of the diameter, will fit under the rear fenders with the proper backspacing. 10" or wider wheels will require the rear chassis rails to be narrowed. We will have a 9" rearend built to your exact measurements of the mounted tire and wheel combination. One thing to keep in mind, we are not going to go by what the tire manufacturer says the inflated tire size should be as they are not always correct.

### **Engine/Transmissions**

First, the Coyote and Modular engines will barely fit between your fenders, about ¼ inch clearance on either side due to the engines being so wide. You will need to use the Moroso road race/conversion oil pan, part #20575, to help with crossmember clearance. The oil filter on some engines ends up where the upper control arm is located, so you may have to cut up the x-member for exhaust clearance, and the brake pedal gets into the back of the motor just to name a few problems with using those engines. To say the least, steering hookup will be complicated. So, if you must have it, be prepared for extra labor and cost.

The 35-39 Standard radiators lean back, creating fan clearance problems. The vertical 39 Deluxe-40 radiators leave more room and a small block Chevy with a short water pump and small distributor do not require a recessed firewall. Other motor combinations or anything in a slant back radiator car will require a recessed firewall. The Chevrolet small block fits the best and is easily customized.



Nevertheless, they fit better than anything else. LS series engines require an adapter plate that we can supply. LS engines also require the use of an aftermarket accessory drive system. Steering hookup for an LS series is difficult at best, so choose headers carefully.

The chart below will provide some help in determining a workable combination.

Year	Engine	Water Pump	Distributor	Firewall Recess	Fan/Radiator
39-40	SB Chevy	short	small	0	behind
39-40	SB Chevy	short	HEI	notch 1 ½"	behind
39-40	SB Chevy	long	HEI	3"	behind
39-40	GM LS			3"	behind
35-38	SB Chevy	short	small	3"	electric/ front
35-38	SB Chevy	short	HEI	3"	electric/front
35-38	SB Chevy	long	HEI	5"	electric/front
35-38	GM LS			5"	electric/front
39-40	BB Chevy	short	either	5"	electric/front
37-39	BB Chevy	short	either	5"	electric/front
Any	SB Ford	needs dual sump oil pan		5"	electric/front
Any	BB Ford	needs "Fox" conversion rear sump oil pan		5"	electric/front
Any	Ford Mod/Coyote			5"	electric/front

We can mount almost any Ford or Chevy transmission. We will need the measurement from the front of transmission to the trans mount on the Chevy 4L60E as they do vary.

With manual shift transmissions, we will need the measurement from the front of bell housing to trans mount, the width at the widest point, and if you will use hydraulic or mechanical clutch linkage.

The option price on clutch pedal setups will vary according to what setup you use, any chassis rework, and if you want us to mount a clutch master cylinder.

### **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

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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](mailto:tim@fatmanfab.com)

## 35-40 Ford Chassis Example



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