Fatman Fabrications

49-51 Ford Chassis Builders Guide

Thank you for your interest in a Fatman Fabrication frame for your 49-51 Ford. Before you begin there are a few things we would like to discuss and point out.

First, **PLAN YOUR PROJECT!!!** Know how you want it to look when it's finished. This will be repeated many times because it can't be said enough. Do you intend for it to be hi-tech or old style? Billet wheels or painted steelies? Pro street? Pro touring? Ground scraping low? Who's going to drive the car and where? 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 don't absorb road shock. Remember, there is a tradeoff to everything, so save yourself time, money, and aggravation by planning your project.

Second, keep in mind **you are building a car**. You may be using an old steel body, but factories were not as exact in the manufacturing process 50+ years ago and there are minor variations in all these old cars. Not everything is exact, and some minor modifications are likely on **every** step of the car, so plan for that and **test fit everything** before you paint or powdercoat anything. Having built hundreds of frames we have them dialed in pretty good. Some models may require some modifications to the floor pan to clear the 4-bar brackets, rear coilover mounts and driveshaft loop.

All of our frames for the 49-51 Ford are constructed of 4"x4"x.188" and 3" x 3" x .188 wall rectangle tubing rear kick up rails. They are made to follow the original shape and form, and to fit with original body and core support mounts.

Expect a 2"-3" drop from stock with our standard chassis and standard spindles. Airride, and 2" dropped spindles are options to put the car radically low.

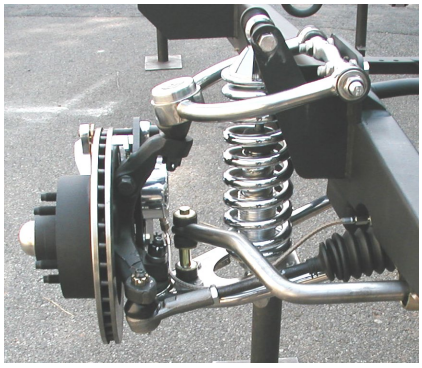
For paramount strength and rigidity so necessary for Pro Touring performance, the frame is constructed using 4 x 4 x .188 main rails with a massive X member and driveshaft tunnel. We designed our central tunnel to a fully completed box for stress acceptance without the flex inherent in the open top tunnels seen in competitor's designs. Simply put, a box is stronger than a "U". Clearance for 3" exhaust is provided while maintaining full strength and good ground clearance.

Front suspension

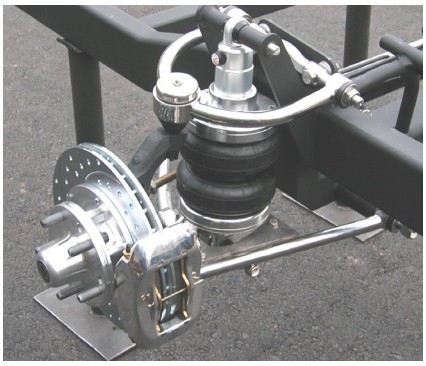
Fatman Shoebox Ford frames come standard with Stage 3 Custom IFS which features heavy duty .188 wall mild steel control arms, Delrin bushings, and premium single adjustable coilovers. The ride height is approximately 2"-3" lower than stock height. Track width comes at 57", which is very close to the stock IFS. Shockwaves by Ridetech are optional and will fit the same crossmember and shock towers. 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, 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 heavy duty .188 wall steel tubular control arms that are standard on all frames. Premium single adjustable coilovers are standard on all Fatman 49-51 Ford frames.

Air ride comes in Shockwave (Stage 5). Shockwaves 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



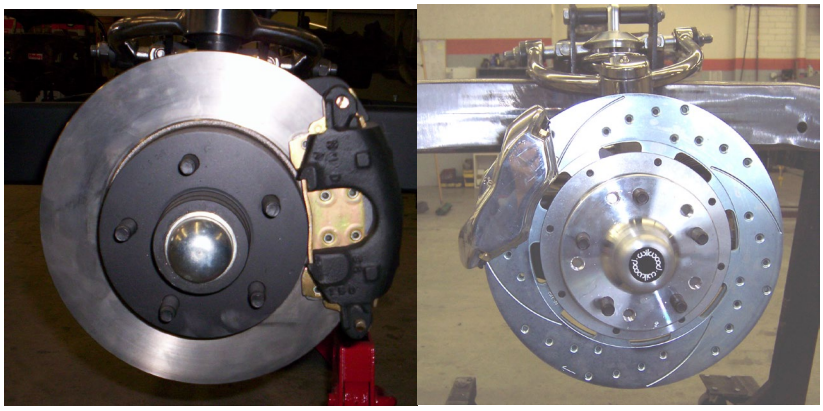
Stage 5

Shocks are probably the biggest factor in ride comfort and handling of a car. Shocks are the 'brains' of the front suspension because they control the velocity of the suspension. NASCAR teams take dozens of shocks to the track but only a couple pairs of springs.

Brakes

Something to keep in mind as we discuss brakes is that some people use bigger brakes to "fill" their new big billet wheels or as a "dress up", without thinking about the safety aspect. That is why all Fatman frames come standard with disc kits that use early GM "big" piston calipers and provide 65% more braking capacity than those that use the small piston GM calipers. These 11" disc brakes use OEM parts that are easily serviceable units using parts that are available at your local auto parts store, should you need to make emergency repairs. 5 lug 4 ½ "(Ford pattern) is standard. 5 lug 4 ¾ "(Chevy Pattern, w/ 12mm x 1.5mm metric studs) is also available but use the above-mentioned small piston GM calipers. Talk to the Fatman rep. about the options that are available for bigger brakes if using Chevy pattern.

We have several options from Master Power, CPP and Wilwood. CPP front kits use a Corvette style sealed hub (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 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 through 14-inch rotors. Drilled rotors and polished calipers are options on these kits.



11" standard **Wilwood drilled and polished brakes**

Keep in mind that larger brake kits require larger wheel/tire combinations. Talk to the Fatman rep about what will fit**. Remember** bigger brake options are cheaper than a new fender or grill that you will have to buy because a new Honda that you rear ended has better brakes than you! Above all, think safety first.

A firewall mounted brake pedal/ master cylinder assembly will be required when using our chassis. The new frame x-member installed for strength makes using a factory floor mounted pedal assembly impossible. Several quality brake parts manufacturers like Wilwood, ECI and Master Power can help with new pedal assemblies.

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. When you see the bent lines, you'll swear a machine did it. 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 DOT approved braided stainless flex hoses from the frame to the calipers.

Rear Suspension

A new Moser Engineering Ford 9"- 31 spline rear axle assembly provides the foundation of the rear suspension. A fresh 3.70 Trac-loc gearset is installed along with 4 ½" bolt Ford pattern OE style rear disc brakes featuring a functional emergency brake system. Kits from MP, CPP and Wilwood are also available to match front brake assemblies or also for better frame clearance issues. Our own fully adjustable Pro link rear 4 bar, Z bar, 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 9" wide. Rear wheels with the proper spacing, up to 7" wide, will clear the stock wheel tubs. The frame is narrow enough for more tire if the tubs are enlarged, but measure before you buy. Be aware, lowering the car and fitting modern wheel and tires will require disconnecting the rear coilovers for rear tire changes. Some models may require some floor pan modification to clear the 4-bar brackets, rear coilover mounts and driveshaft safety loop.

We often recommend the air ride on the rear due to the flexibility afforded with the variable pressure. Coilovers do not accommodate changes in 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.

Engine/Transmissions

Mounts for 289/302/5.0 engines and AOD transmissions are installed. The front steer power rack gets the steering out of the way for best oil pan and exhaust clearances. A dual sump Fox body 5.0 oil pan will be required. Other engine/transmission combinations can be installed upon discussion with one of our frame specialists. Flatheads will **NOT** work; the design of the oil pan & pump will not allow them to fit in our chassis or stubs. We can provide assistance with selection of those proper fitting components. The '51 cars came fitted with an automatic transmission and have a much larger transmission tunnel than the 49-50's. Plan on removing and enlarging the spot-welded transmission cover on the 49-50 cars. Ford modular engines require an adapter plate that we can supply. They also may require the use of an aftermarket accessory drive system.
The new Coyote engines add their own issues. The oil pan is different than the early modular engines and requires the use of a Moroso oil pan #20575 as well as recessing of the firewall on some applications. Many Coyote engines have no provision for a power steering pump, requiring an aftermarket pulley system or an add-on power steering pump kit. Plan of having to heavily modify or replacing the transmission tunnel for the larger overdrive transmissions that come with the Coyote engines.
There simply is not enough space for mounting of a brake and clutch pedal assembly on the frame without compromising safe ground clearance, so we require the use of an under-dash aftermarket assembly from one of the various manufacturers.

Finish of frames

All frames come completely assembled (except air ride compressor systems and fuel tanks) and coated with a rust inhibitor. As an option *Reflections Paint and Body Shop, Inc.* (located in the same complex) has a frame priming service that includes the following steps:

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 on **every** step of the car, so plan for that and **test fit everything** before you paint anything.

Date_____

Name_____

Street_____

City_____

Phone_____

Email_____

Car type_____

Engine/trans_____
Bolt pattern_____

notes_____
_____

Total options $_____
Roller frame +$19,295.00

Total price $_____

Options

Front upgrades:

__coilovers (Stg III) N/C
__shockwave (Stg V) add $1,000
__2" drop spindles N/C option
__1 ½" raised spindles add $295
__Chevy bolt patt. N/C option 82-92 Camaro rotor and caliper
__Zero offset brake kit add $525 hub style, large caliper, avail Ford or GM pattern
__Zero offset-13 kit add $625 " " ,13" rotor, " " " " "
__CPP Vette brake kit add $800 Corvette style sealed brgs w 13" D/S rotors, Vette calipers
__MP Legend ser. 11" add $649 11" D/S rotor- OE big GM cal – Hawk pads
__MP Ralley ser. 11" add $1,000 11" D/S rotors-4 piston cal- 15" wheels OK
__MP Pro Driver 13" add $1,836 13"D/S rotors- 4 piston cal- 17" or larger wheels
__Wilwood caliper only add $495 black or red powdercoat- includes pins
__Wilwood 11" kit add $925 4 piston, alum. hub, fits 15" or larger wheels
__Wilwood 12" kit add $980 4 piston, alum. hub, fits 17" or larger wheels, some 16's
__Wilwood 12" kit add $1,140 6 piston, alum. hub, fits 17" or larger wheels, some 16's
__Wilwood 13" kit add $1,455 6 piston, alum. hub, fits " " " "
__Wilwood 14" kit add $2,120 6 piston, alum. hub, fits 18" " " "
__above Wilwood kits drilled rotors add $225
__above Wilwood kits red calipers N/C
__above Wilwood kits polished calipers add $255 4 piston, 6 piston N/A

Engine upgrades:

__289/302/5.0 Ford no charge
__any other motor add $500 including Ford Coyote engine
__Chevy LS1/Ford Mod add $125 motor mount adaptors

Rear Suspension upgrades:

__4 bar w/ coilovers	N/C	
__4 bar w/ shockwaves	add $1,000	
__Stainless steel 4 link bars	add $980	add on to above 4 link systems
__Pro street rear rails	add $2,500	
__pro street sway bar	add $550	required with pro street rear rails

Rearend upgrades:

__Tru-trac upgrade from Trac-loc	add $250 to Trac-loc option	
__Wave-trac upgrade from Trac-loc	add $340 to Trac-loc option	
__new HD Nodular case -35 spline Tru-trac gearset	add $850 to trac-loc gearset	
__ OE style rear disc	N/C	11" Trans-Am rotors, Cadillac calipers w/ parking brake
__CPP 11" rear disc	add $500	11" T/A rotor- D/S, GM caliper w parking brake
__CPP 12" rear disc	add $600	12" rotor- D/S, GM caliper w parking brake
__MP Legend ser. 11"	add $500	11" rotor- D/S, OE caliper w parking brake
__MP Pro Driver 12"	add $1,120	12" D/S rotor, 4-piston caliper, internal shoe p.b
__Wilwood 11" rear disc	add $720	11" rotors, 4 piston-will fit most 15" disc brake wheels
__Wilwood 12" rear disc	add $725	12" rotors, 4 piston with internal shoe parking brake
__Wilwood 13" rear disc	add $1,725	13" rotors, 4 piston with internal shoe parking brake
__above Wilwood kit drilled rotors	add $225	
__above Wilwood kit red calipers	N/C	
__above Wilwood kit polished calipers	add $255 on 11" & 12" and $425 on 13" brakes	

Other options:

__brake lines	add $895	D.O.T app. steel hard lines and s/s hoses to F/W
__epoxy primer	add $1,950	
__2 way Air ride comp. kit w tank	add $995	
__4 way Air ride analog system-3 gal.	add $1,375	manual operation, dial gauges
__4 way Air ride digital system- 3 gal.	add $2,425	Ridepro E5
__4 way Airpod comp kit-3 gal. w/ cover	add $2,775	Ridepro E5
__ Ride height sensor kit add on to E5 systems	add $525	

Other Air Ride systems are available- call for $

1/3 deposit required with order. 1/3 payment when your frame goes into the jig. Balance due prior to frame shipment or pickup. Payments to be made via check or ACH transfer which is preferred. If sending by check, we highly recommend using UPS or FedEx. Shipping cost will be added to the final balance once a shipping quote is received from one of our freight carriers. No credit cards on frame orders. Shipped frames require a $375.00 pallet fee. Shipped frames may require applicable sales tax charges for their respective states. No refunds on completed frames. Frames picked up are subject to North Carolina sales tax currently 7.25%

When you are ready, we will connect you with our frame shop specialist. He will assist you in verifying and dialing in the final version, then we'll send a written proposal for your approval. A signed copy must be returned to us before the frame is ready to be built and will ensure that both parties clearly understand the chassis specifications the way you want it.

Call us at (704)545-0369 or email tim@fatmanfab.com 8-24