

Fatman Fabrications

Morris Minor

Chassis Builders Guide



Thank you for your interest in a Fatman Fabrications chassis for your Morris Minor. 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.

Also, keep in mind you are building a car. You might be using an old steel body, which is great, but Morris Minor 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 Morris Minor 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 powder coat anything.

Take comfort in knowing that after building a thousand plus chassis, we have them dialed in and know all the ins and outs.

All our chassis for the Morris Minor are constructed of 2"x 3"x.188" with the rear axle pickup being a modular design. They are made to allow you to fit your choice of wheel and tire within reason.

We will need to know the actual real measurements of the wheels and tires you are going to use keeping in mind that going off a specification sheet in a catalog or website will not be an accurate guide, and whether you plan on using standard or widened rear fenders.

Since these vehicles are an early unibody design, you will need to fabricate a new floor and rocker area to fit the new chassis, then fabricate a set of mounts to join the two together.

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.

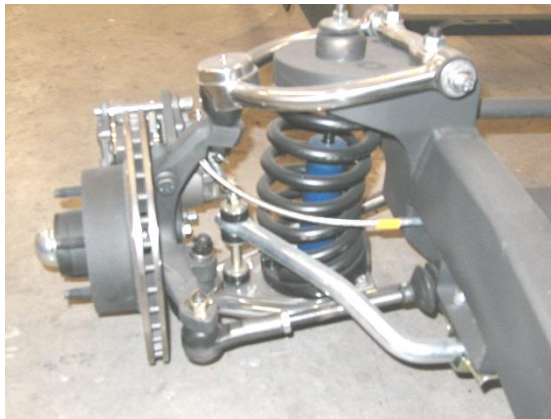
Front Suspension

Our Fatman Fabrications Morris Minor chassis comes standard with Stage 2 suspension, which uses coil springs and single adjustable MII based shocks. The ride height is approximately 4" lower than stock height with the track width coming in at 48 1/2" on Morris Minor which is slightly narrower than original width dependent on your choice of brakes. Tire to fender is adequate on these vehicles, but attention should be paid to your wheel and tire sizes and spacing.

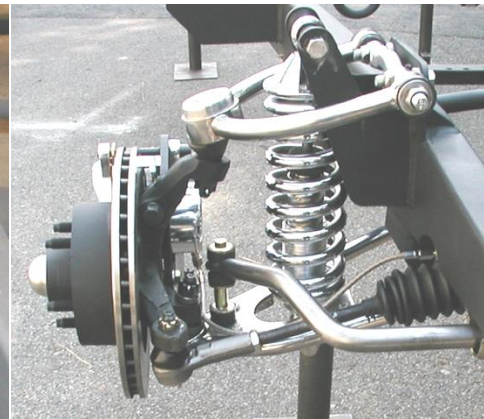
Stage 3 coilovers are the most popular option for the frontend because of slight height adjustment, excellent shock, and good looks that match the heavy duty .188 wall mild steel tubular control arms that are standard on all frames. Premium single adjustable coilovers are used in all Stage 3 optioned frames.

Air ride comes in either Cool Ride Stage 4 or Shockwave Stage 5. The Cool Ride has the air spring in place of the coil spring and the shock mounted behind the control arms. 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 required on our roller frames with power steering not an option or recommended.



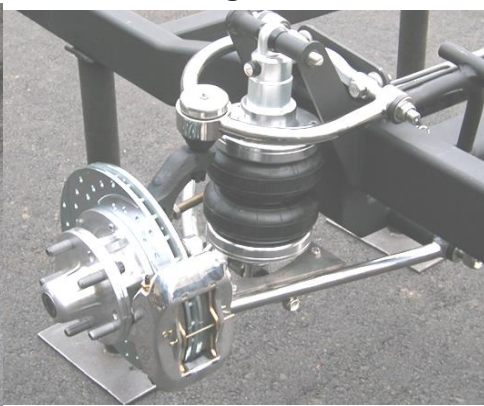
Stage 2



Stage 3



Stage 4



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. 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 is 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

A manual brake pedal and master cylinder comes standard and work well with common disc/drum combination brakes. This will also leave extra room for exhaust routing. We do not install the brake pedal/master cylinder assembly on this chassis. With the small size of those vehicles and the variable sizes of drivers, it is much better to let you set the pedal where it will be most comfortable for you. To make it easier to service the master cylinder, remote filling kits are available as is a good-looking aluminum reservoir kit.

We use standard automotive steel brake lines for brake plumbing. These 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.

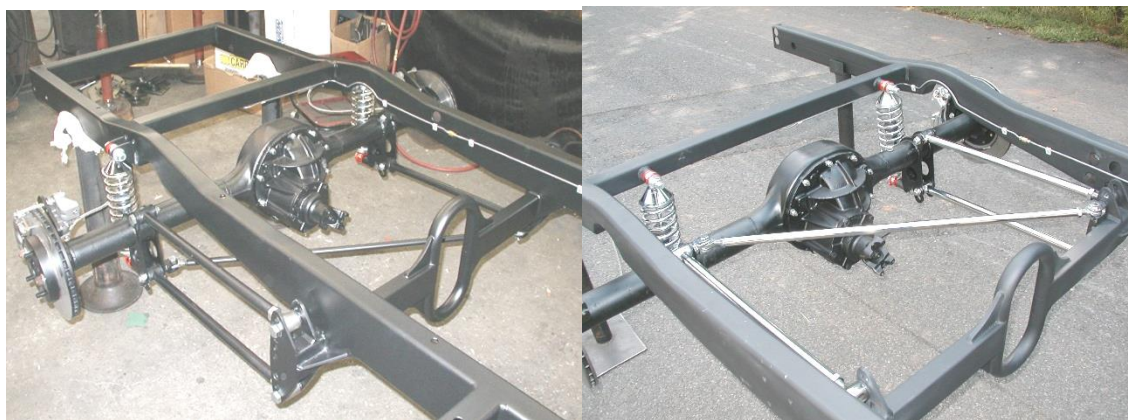
Metering valves are used with disc/drum applications. 2 psi residual pressure valves are used between master cylinder and discs, and 10 psi residual pressure valves are used with drums.

Brake lines will be terminated to an area under the floor where you would then have to finish the hookup to the master cylinder once you have welded the pedal assembly to the chassis.

Rear Suspension

A 4-bar with premium single adjustable coilovers are standard on the Morris Minor chassis and provide excellent ride quality, looks, and serviceability for the street rod type vehicle. If the vehicle is pulling a small trailer, then we often recommend the use of air ride on the rear due to the flexibility afforded with the variable pressure. 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.

Because the Morris Minor chassis is narrower than a typical car or truck chassis, putting air ride in the back does reduce exhaust routing area, so some planning is required.



Rearends

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

You can order brand new gear sets also 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 new non-billet 1350 series yoke.

New drum brakes or disc brake conversions are available. We generally install rear disc brake kits that use O.E.M. parts. Kits from Master Power, CPP and Wilwood are also available to match front brake assemblies and for better chassis clearance issues.

For our Morris Minor chassis, 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

We can set up the chassis for small block Chevy engines. The small block with a short snout water pump will fit the best and is easily customized. LS/LT series engines may require aftermarket accessory/front drive systems.

The 700R4 and 4L60 automatic overdrive transmissions are popular due to the stoplight friendly first gear and the overdrive for the highway. With the 700R4 we do need to know if it is case mount or tail shaft mount. We also will need the measurement from front of transmission to the transmission mount on the Chevy 4L60E as they do vary.

With manual shift transmissions we will need the measurement from bellhousing to transmission mount, the width at the widest point, and if you will use hydraulic or mechanical clutch linkage.

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

Morris Minor Chassis Example



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