

Full Frontal Galaxy

Two different ways to upgrade the classic 1960-64 Ford Galaxy front suspension



By Doc Frohmader

Those who haven't spent the last 20 years in an Iraqi spider hole already know that there has been something of a revolution in suspensions. Although air springs were tried as early as the 1920's, the technology and production methods were just not developed to practical levels for a long time after. Historically, the greatest impediment to the development and wide-spread use of air springs was the ill-timed and half-hearted offerings in 1958 or so by the Big Three and then some. After all, busses and trucks had been using them happily since the early 50's. The problem was that these systems were not de-bugged before introduction and by the time anyone had it sorted out the public was so turned off that it killed air suspension for a long time.

Air suspension really came back again due to rodders. For many of us this is no surprise. We've long known that when Detroit can't figure it all out, it's time for Bud Tugley in his back yard to make it work. A case in point is how in the mid-80's Ford trotted out another shot at air suspension. The system actually worked quite well. It rode nice (Lincolns, anyway) and was manageable without a lot of complication. As it turned out, the computer/solenoid controls were what made people walk away. If every time the system fails you have to shell out \$1200 for another computer and parts, it doesn't take long for people to try another way – even if it is not quite as good.



I'll show the CoolRide setup as it was developed on the original prototype chassis. The chassis may not be pretty, but it was a straight and original unit so ART could be sure their kit would fit.

In addition to supporting the frame and all the other common sense safety stuff, I suggest you secure a chain around the spring as you go about removing it. After the old shock is out, you can knock the lower ball joint loose and SLOWLY lower the arm until the pressure is off.



What worked was when Air Ride Technologies started looking for practical and functional air suspension system answers. They walked before they ran and crawled before they walked. The first systems were basic, used simple springs, lines and manual/analogue controls. Then they moved to ShockWaves and to solenoid controls. Finally they've gone to computer controlled ride automatic height self-adjusting grand wahzoo stuff. None of it until after it was thoroughly tested.

For this story, there's yet another path that had to intersect. Back in the 60's NASCAR and other race sanctioning bodies had to come to grips with suspension. It was the time where 'stock cars' ceased to be and a more regulated, dedicated vehicle chassis was substituted. (A crying shame from my point of view, but that's another bucket of chum...)

The lower A-arm has a pair of cage nuts that were used to make the lower shock mounting. These will have to be removed. Since they are spot welded most often a chisel will pop them off.



The original bump stops and sway bar hardware remain intact on the original arm. Other than cleaning it up and repairing any damaged or worn bushings or joints, all the stock parts are used.

Anyway, a standardized chassis had to be sorted out and it came down to the Big Three. MOPAR stuff would not work because it was all torsion bars and besides the politics there were some issues with using it for racing. In the toss-up between the GM fronts and the Fords, the decision was really a no-brainer. GM suspension was and still is known for its strong tendency to understeer. The Ackerman geometry was WAY off and there wasn't anything that was going to fix it. The best steering was probably in the Chevy

truck – definitely not the Impala.

That left the Ford as the model for what has become the standard in sedan racing. Ford style steering has good geometry and can be tweaked and modified to go from understeer to oversteer with relative ease and so it was also a favorite of pit crews and builders. NASCAR went with it.



The complete kit for one side. It doesn't get much simpler than this. The great part is that because it is such a simple kit you will have less work to do.

The air spring and upper sleeve adapter bolt together along with the center mount stud and the air fitting. You make up this assembly and then install it as a complete unit. Remember to connect the air line as the assembly is lifted into the original spring tower.



Although non-Ford guys hear fingernails clawing blackboards and think of being circumcised with a rusty olive fork when they hear this, the main reason the Mustang II type suspension (virtually the identical thing to the 1960-64 Ford Galaxy) had been so monumentally successful in rodding is that it WORKS better than almost anything else.

That brings us up to today where the

classical Galaxy suspension has been mated with air suspension thanks to the guys at Air Ride Technologies. In fact they didn't just do one type, they did both a CoolRide (conventional air spring and separate shock) and a ShockWave (air spring with integral adjustable billet race-style shock) system to fit preference and pocketbook.

Unlike some other air spring upgrades, the Galaxies do not require any trimming around the spring tower opening for clearance. Slide the assembly up into the tower and push the stud up through the original shock mount hole and nut it down tight.

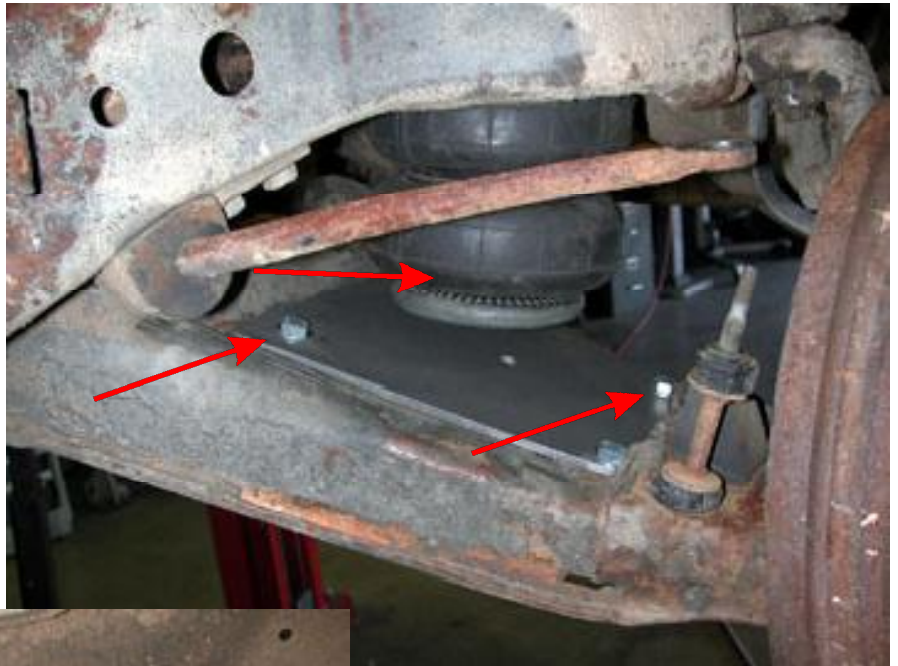


For the bottom mount ART used a plate adapter. You'll see there is one hole that is already in the A-arm for it, so use that and align the plate so it lays flat and looks even.

The result is to add another layer of performance to the Ford legend. This is done by incorporating the adjustability, sound and vibration dampening, and spring rate curve improvements of air springs with already good handling and steering. A stable, smooth, and quiet ride with great spring control and consistent steering control is only what you'd expect from such a natural combination.

Source:
Air Ride Technologies
350 S. St. Charles Street
Jasper, IN 47546
812-482-2932

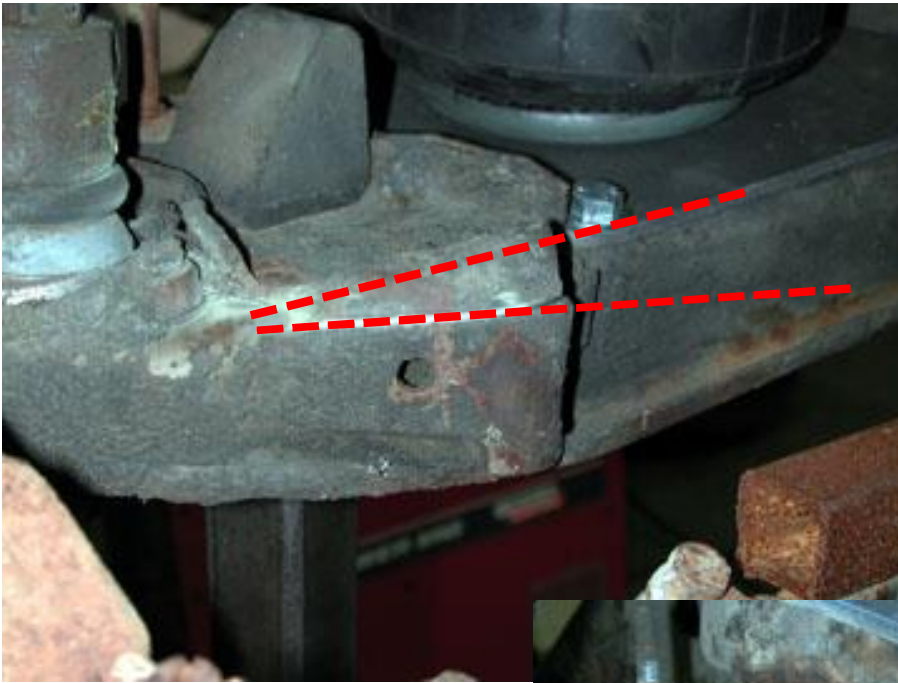
The other three holes are drilled and the remaining hardware is installed and tightened. You can see how this will provide a solid base for the bottom of the air spring.



The spring is held in the right position by a single bolt up through the bottom.

There is room to route the air line up next to the top mount in the spring tower like this. Make sure the lines are safe and tight so they won't rub or vibrate.





The steering stop needs to be pie-cut so it can be flattened. This will allow the lower shock mount to be positioned properly.

After the cut is made, flatten the top down to the side and weld it solid. Now the top will be nice and flat and strong enough to hold the shock mount.



While you are there, the crossmember tube sticking out of the side of the frame needs to be trimmed back for shock clearance. Usually this needs to be trimmed about ¼ inch back.

The shock mount is tacked in place like this. Note the outer end is about flush with the stop while the inner hangs over the side a little. After you pre-fit you'll weld this solid and it will be plenty strong.



The upper shock mount is cut from a longer piece. You'll need 5-1/4 inches of it for this application.

You'll also have to make a little notch on the front side of the mount to clear the raised part of the frame. Trim just what you need to make it fit. After you've checked the fit with the shock and mount tacked in place, weld it all solidly.





The completed installation of the CoolRide version looks a lot like a factory setup. With some paint and cleanup it takes on a very workmanlike appearance - not to be done on this prototype workhorse. You'll love the way it enhances ride and handling.

The ShockWave setup was done on a custom '60 Ford that already has a disc brake conversion. Both kits will work with either drum or disc brakes.





The old shock unbolts at the bottom. This one had damaged mount nutserts, hence the extra hardware.



The upper shock mount is this bayonet. The same hole will be the new upper ShockWave mount to make things simple.



Use the chain to keep the spring from popping out as you drop the A-arm and release the pressure. Note that the upper arm and brake assembly can stay in place and are self-supporting.

Those caged nuts or nutserts are again in the way and you'll want to chisel them off.



If you look up inside the spring tower, you'll see there is a lip that hangs down that was used to keep the top of the coil spring from walking around.

Trim or grind the lip down until it is flush with the rest of the tower. This is needed to provide clearance for the ShockWave.





Where the A-arm is marked you need to make little notches – again for a little needed clearance for the bottom of the ShockWave mount.

Although no major mods are required, they are important. This is what the modified arm looks like.



Sometimes the kit looks WAY too simple, but that's the way it goes. This is the entire assembly for one side. Note the order of assembly at the top so you sandwich the frame between the two urethane rubber biscuits.

The top bayonet mount uses a double-nut arrangement to keep the unit tight. Be careful not to over-tighten the nuts and over-crush the biscuits.



The bottom of the shockwave mounts using the original holes, sans cage nuts and drilled to 3/8 inch. You can see now why the notches were needed. Also, unlike the original shocks, the ShockWave mount ears are ABOVE the A-arm not under it.

Again, almost to clean and neat to be a major upgrade to suspension, but it certainly is. The adjuster for the shock is aimed to the outside for easier access. Remember this system has additional adjustability and you can tune your ride to suit your tastes and needs with both air pressure and shock rates.

