

StrongArmmed Hawler

A quantum leap in
sport truck
suspension for the
1968-72 GM trucks



by Doc Frohmader

Thinking back on the emergence and popularity of air suspension systems, I occurs to me that not only was the venerable 68-72 GM truck one of the earliest subjects, but that these trucks have thoroughly benefited from the technology – turning them into some smooth items. That despite the fact their very popularity made them subject to not only quality suspension parts and ethical fabricators, but about every load of junk someone could find to peddle on an

unsuspecting public. I have a box of dangerous and expensive junk sitting on my shelves that will NEVER be used for anything but as an example of what not to do and who not to deal with. It makes me happy to know there are any number of honest and reputable sources for such components putting these bad eggs to shame.



The C-10 steering and suspension is actually quite well done as it stands for a commercial vehicle. Steel bushings, steel coils, and nose-bleed height are common reasons to consider a change.

One such company that held on to its ethics even as it grew into a large player with a lot of employees is Air Ride Technologies. You know how there are some people you feel pretty good to know and associate with? These are the guys who put air suspension on the map and did it with such ingenious developments as the ShockWave – a patented invention of ART.

For those reasons it doesn't surprise me much that they've decided to introduce a series of new tubular A-arms they call StrongArms for a number of popular applications including the C-10's. Oh, you say, just another tube arm. Not so. These are not only designed to work with OEM parts and in stock vehicles, but ART made the effort to correct some nagging problems in the originals.

The first correction is in the bushings used. The originals used a tough steel bushing that worked well and lasted quite well as long as it had grease regularly pumped in and through it. The only real problem is that the steel bushings transfer vibration and have no dampening affect in the suspension. For those of us who build custom trucks, one of the goals is to smooth them out in ways they were really not designed for. We ask for luxurious ride from a commercial vehicle. The rubber bushings adapted from the 1973-87 trucks gives a softer and quieter ride using common parts.

Ever wonder how to break a tie-rod end loose without using a pickle bar and tearing up the dust seals? Pry up with a bar between the tie rod end and steering arm and give the joint area a good whack. Most will pop loose without any damage.





Same trick works for the ball joints. Loosen the ball joint nuts a few turns and then whack the spindle over the joint. It will pop apart but the nut will hold the joint so things don't fly apart.



After breaking apart the joints, take the shock off. The shock served as a secondary means to prevent parts from flying.

The next item is that these A-arms are designed for use with the CoolRide air suspension system. What this means is that rather than adding adapters to and modifying existing components, these are engineered parts specific for the application. In terms of function, the adapter type kits worked and continue to work well and safely. The difference has to do with strength and weight. It's an improvement in quality and adds to traction by reducing further unsprung weight that the change from steel coils to air springs begins. Shocks, springs, and sway bars are accommodated in the engineering.

Another ingenious change is the correction of the ball joint angles to accommodate lowered trucks. Typically when these trucks are lowered, the ball joints tend to go into a bind at some part of the upward A-arm rotation. That's because GM engineered the arms and joint angles to function at much taller suspension heights. ART rotated the outer side of each joint down to eliminate the bind problem and make the front suspension safer and more efficient.



Now it's time to roll a jack under the arm and lift. This will take the pressure off the ball joint nuts so you can remove them. Make sure the truck is solidly on jack stands and the jack is secure under the A-arm.

Lift the upper arm and pull the caliper/rotor/spindle assembly out of the way. Slowly lower the jack and the pressure will be released on the spring. Move slowly. I like to wrap a chain around the spring and lower A-arm to make sure the spring can't pop.

Finally, it's been known for a long time that these suspensions needed a little more caster. Often you'll find it very hard if not impossible to align the suspension properly when they are lowered. ART designed in a 2-degree additional castor angle by engineering it into the relative location of the cross shaft bushings and ball joint centers. The net result is that you can get a real bump in performance handling by getting the geometry right.

Mind you, the C-10 has long been recognized as one of the better suspensions used in either car or truck applications. In strict terms of theoretical geometry, it was designed well and performed well. I personally have

owned one for many years simply because it is such a pleasant truck to drive. It just feels right. The changes made in the new StrongArms are not an effort to change the character or design of the original suspension, but to enhance what's already there.

Greg Schneider, owner of Completion by Greg and long associated with ART, used his own 68 C-10 as the prototype for these arms and if you ever doubt how well a C-10 can handle you need to drive Greg's truck. I did. So have a number of other professional builders and media experts and nowhere is heard a discouraging word.



I probably shouldn't admit this, but my turn in the driver's seat included a very rapid assault on some twisted roads. It was a blast. The truck cut through the corners like it was on rails.

To be fair, the truck has a good front sway bar, four-wheel air suspension (always a boon to both improved ride and handling), good shocks selected specifically for the application, and StrongArms up front. I just don't want to give the impression that just a set of A-arms – no matter how good – can make the truck handle. It is just a part of a well-designed groups of components that work well together. It looks great, slammed into the weeds and all, and as you expect it rides better than any steel spring truck I've ever been in.

Installation is still as uncomplicated as it can get. As far as the StrongArms are concerned, they are a direct and uncomplicated bolt-in proposition. You still have to use your head and jacks stands and a good floor jack to stay safe. I still recommend using a chain around the lower A-arm and coil when removing it to prevent flying steel.

On Greg's truck he hung the spindle/brake assembly from the frame on some steel wire. This protects the brake hose from damage and means you don't have to open the brake lines.



The upper spring mount is designed to be used with several different applications. By doing this, ART can afford to make a better part and still keep the costs down on production.



The mount plate is positioned and clamped to the bottom of the original spring tower. The shape makes it a no-brainer as far as positioning correctly.



Drill each of the four holes one at a time. The clamps will hold the plate where it needs to be.



Because moving the plate even a little can make getting the bolts in later, install and snug each set as each hole is drilled. It will fit much better and make your work easier.

Remove the plate and bolt the air spring to it along with the air fitting. Always use thread sealer or Teflon tape to prevent seepage.



Attach the air line to the fitting before you bolt the spring/mount unit to the frame. You can't get to it after.



Neat and clean. It occupies about the same space as the old spring but is a lot lighter which will enhance handling.



The complete StrongArm and CoolRide kit for one side. ART makes it simple by spending the time to do thorough engineering.



This installation requires some minor modification. You have to drill four holes to install the upper mount to the bottom of the original spring tower. If that's too much to handle you probably shouldn't be working on your own truck. Frankly, I rate this as one of the easiest suspension updates you can do with some of the best results you will find.

Source:
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There is hole in each of the lower A-arm cross shafts that locates on a stud on the crossmember. This keeps the cross shaft from drifting or rotating. Make sure you get tab A into hole B.

Original hardware is used to mount the arms. ART used the later 1973-87 style rubber bushings for their StrongArms to reduce vibration and harshness and because they are readily available in case they ever need replacement.



The upper arm is also a direct bolt-on. It too has the rubber bushings and corrected ball joint angle for lowered trucks. In combination with the lower arm, 2 degrees of caster is added to help alignment.

Move the whole spindle/brake assembly onto the ball joint studs and install the nuts. If you rotate the ball joint cotter pin holes to get access before you put this together it saves time.





A new shock, tuned for use with this specific application is included in the kit. Shocks, like any other suspension part, are not one-size-fits-all.



The completed conversion looks as good as it works. You can SEE this is a strong and lighter suspension that will give you durable service, improved handling, a smooth ride, and a low-down stance.