

More DIY Tech Projects!

# Classic TRUCKS

## Super Suspension *For Cool Commercials*

SPECIAL FEATURE

*Holiday  
Gift Guide!*

+  
Goodguys  
East Coast Nats



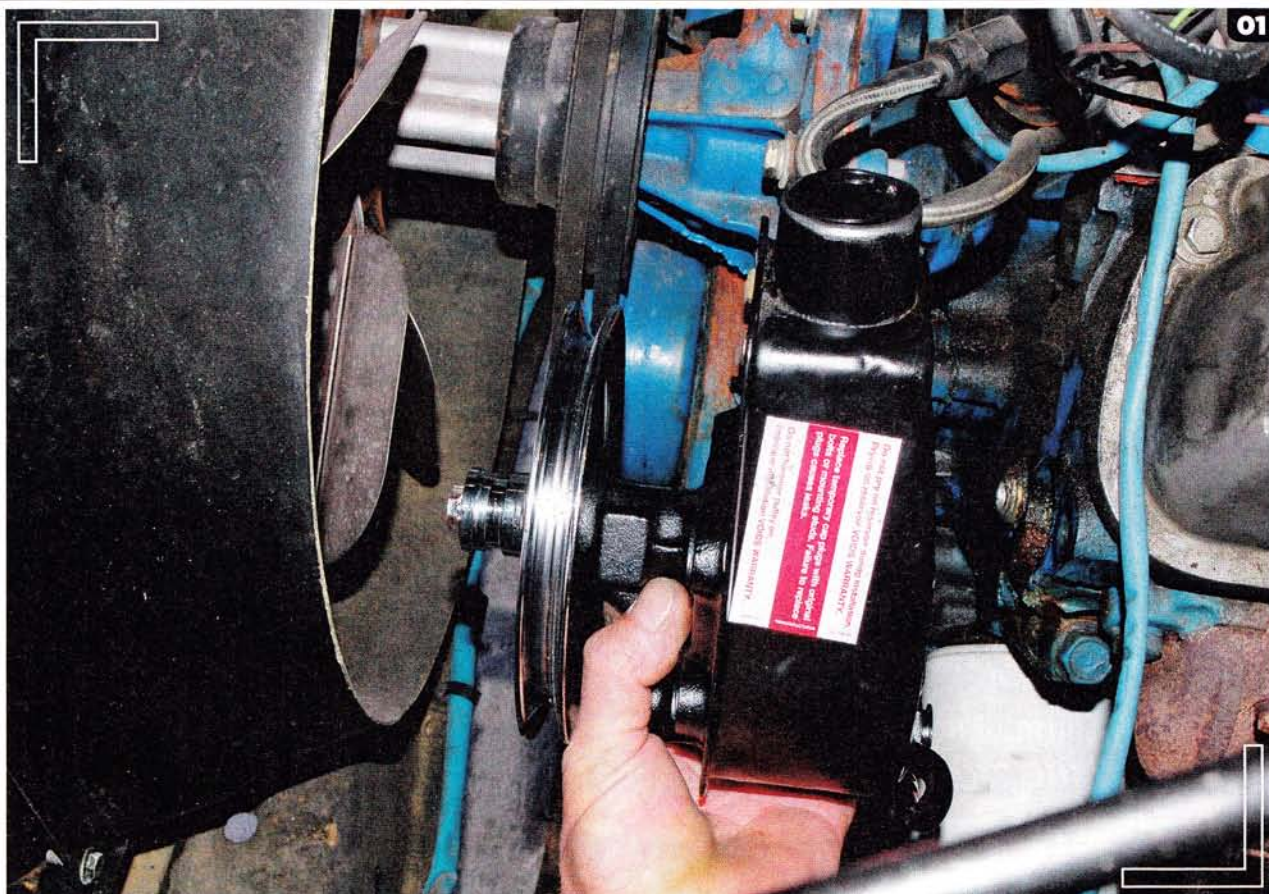
» TKO Tune-Up:  
Making A Slick-S  
Five-Speed

rt2

.com

For more Editorial, Show Coverage, Buyer's Guides, and Product Information





01

# POWER STEERING FOR '53-56 F-100S

Steering Gear Swap For the I-Beam Crowd  
- Part 2

**In this issue** we'll be picking up where we left off last issue. Now that we have the steering box and column mounted, it's time for the real fun part – making the bracket for the power steering pump. In the building of these trucks I really enjoy making the brackets and stuff required to mount all the various things that need mounting. Wiring them is another part I really enjoy.

The instructions from Mid Fifty said any commonly run pump will work fine. I chose an early '70s GM (Camaro) pump. It has a tapered shaft with a keyway and will accept all the different pulleys available. It's the same pump Bill's Brackets advises to use with his kits – inexpensive, good quality, and readily

available. Don't forget to grab a reservoir cap for the pump as well since they usually don't come with the pump.

Another good choice would have been the GM X-car pump that is commonly used these days. You can use it with its stock plastic reservoir or go with a remote one mounted somewhere.

Mounting the X-car pump is pretty easy too. You can either mount it solid using another accessory A/C compressor or alternator to adjust the belt, or fabricate a mount with an adjustment slot and have it adjust the belt.

For the GM pump I'm using, I basically start by holding it where I want it to

## SOURCES >>>

### CLASSIC PERFORMANCE PRODUCTS

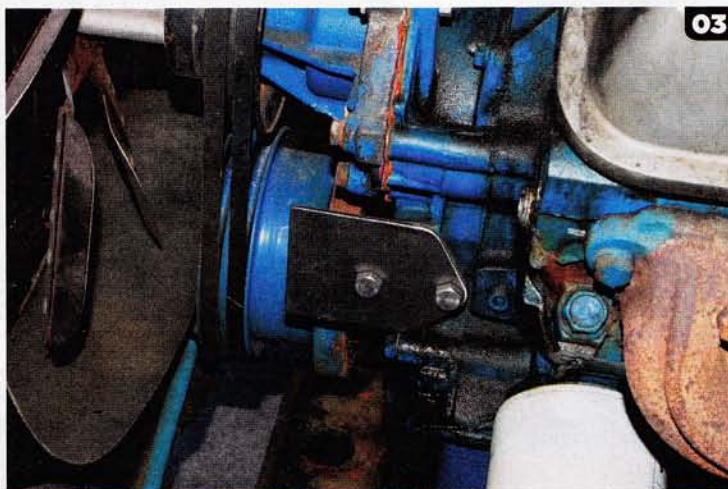
800-522-5004

[www.classicperform.com](http://www.classicperform.com)

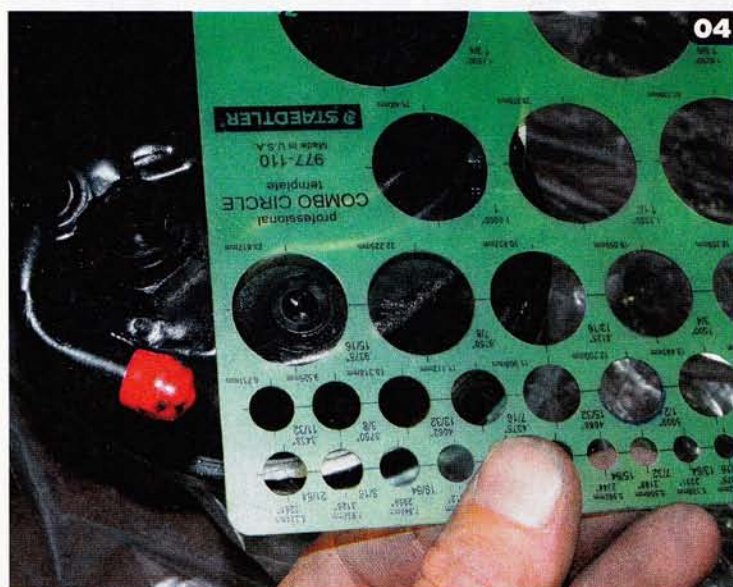




02



03



04

01 I'm going to use an early '70s GM power steering pump. They are readily available, cheap, and easy to mount. I have the whole driver side of the engine open, so obviously that's where it's going to go. I'm going to use the fuel pump boss to mount my lower bracket to. By holding the pump in place I can get some rough measurements to make the pattern to fabricate the bracket from.

02, 03 Using the block-off plate as a template, I made the mounting tab part first. Bolting it to the block, I again hold the pump in place and get a better measurement for the next pieces of the mount, the two that will come out and catch the bottom bolts of the power steering pump. This will form the pivot of the adjustment.

04 My circle template tells me that a 1-inch circle will be the right size for the end of the bracket. I'm using the usual front and rear  $\frac{3}{8}$ -inch bolts that form the pivot of the pump and weld to the mounting tab I have bolted to the engine.

05 I draw my 1-inch circle and center punch for the  $\frac{3}{8}$ -inch hole to be drilled. My eyeball measurements said I needed the bracket  $2\frac{1}{4}$ -inch long from the center of the  $\frac{3}{8}$ -inch hole. I draw in that vertical line next. Then it's just a matter of drawing in a nice radius to connect the circle to the straight vertical line.



05





go and make some quick reference measurements. Using those I can come up with a pattern and then make the bracket. In this case I am going to use the area where the fuel pump usually mounts. This truck had an electric one so this worked out well. Adjustment will be with a threaded  $\frac{1}{2}$ -inch steel rod with  $\frac{3}{8}$ -inch male Heim joints. The Heims are left- and right-hand thread so you can adjust the belt by turning the bar. The bar attaches to the pump and then to a small bracket at the water pump.

In this case, finding which groove in the pulley to use was easy. The engine already had two belts driving the alternator and only needed one. The outer belt won the honor of still powering the alternator and the inside belt is going to be used to drive the power steering. Installing the hoses was a snap also. I like to use a touch of antiseize on the flare part of the male fitting. Let a little get on the threads too. Then install the hose fitting and tighten. The antiseize will help the flare area seal. Trust me, it works. I always use it when working with aluminum or steel AN fittings.

My hoses fit fine without cutting them so I just made the connections at the pump and tightened everything up. Filled the reservoir with fluid and started her up to check for leaks and see how easy it turned.

It does have a power assisted feel to it and is a whole world better than the stock box. Lock to lock is just over four turns so it still steers like a truck in that aspect, not the two-and-a-half that a Mustang II is, but when driving it you definitely feel the improvement.

All in all, I think it's a great kit. Easy to install, as long as you don't run into clearance problems, and it looks great. It's all quality stuff that should work well until you finally decide to switch to IFS.

Swappers note: the compactness of the Toyota box and the way in which it mounts, it could easily (by fabricating any kind of mounting bracket) find its way into a lot of different applications – trucks being the most common. In fact, any type of front axle using a drag link to activate the steering might be able to use this box.



07

06, 07 I cut them out on the bandsaw then dressed them up on the Apex grinder. They both need to be the same shape so I have them clamped together with the Vise-Grips.

08 A quick test fit on the pump and it looks like they're fitting pretty well.



08



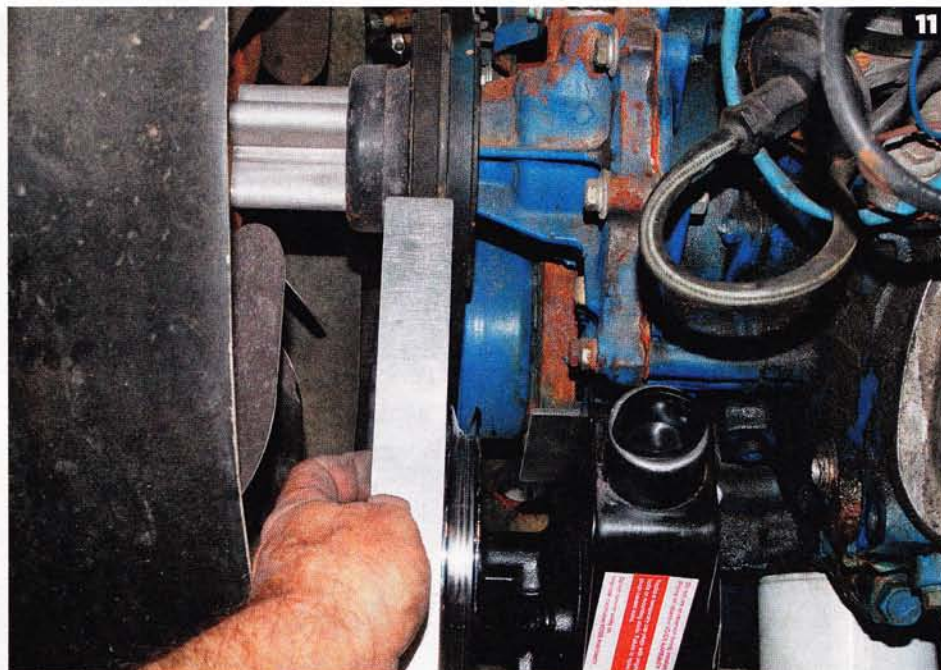
09



10

09, 10 Here's what I have so far. The two tabs will weld to the mounting tab that will bolt to the fuel pump boss. I tacked the rear tab on where I thought it should go and mounted the pump to it. Then back to the engine to check the fan belt alignment by bolting the bracket in place.





11

11 According to this measurement, I only missed by a  $\frac{1}{4}$  inch. Not bad. I took the bracket back off, broke the tack welds loose and moved the bracket  $\frac{1}{4}$  inch forward on the mounting tab. Another couple of tacks and bolted it back on to recheck. Seeing that it was just right, I removed the bracket and welded on the front tab and finish welded the back one. Once it cooled I bolted it all back in place to move on to the upper adjusting rod.

12, 13 Here the bracket pieces are mocked onto the pump to check the fit and tack weld the outer bracket in place. Notice I'm using countersunk bolts for the bracket to pump. The countersink will keep your holes lined up perfectly when tacking or welding. The second image shows the finished-welded bracket ready to be installed.



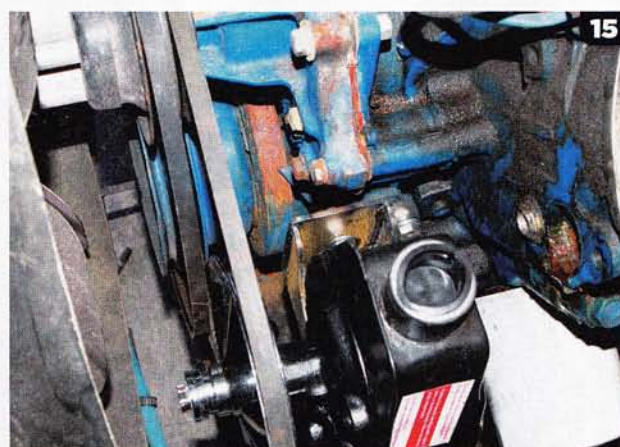
12



13



14



15

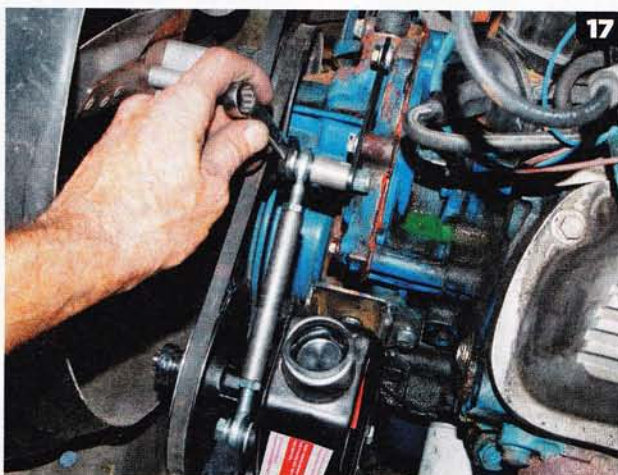
14, 15 With the bracket bolted to the fuel pump boss and the pump bolted to the bracket, I can see my belt alignment is good and the bracket fits good as well.





16

16 I'm going to use a piece of  $\frac{1}{2}$ -inch steel rod, drill, and tap it for  $\frac{3}{8}$ -inch Heim joints and use it as my belt tensioner. Since the water pump bolts are all  $\frac{5}{16}$ -inch, the upper Heim joint needed to mount to a small bracket mounted to the water pump with a  $\frac{3}{8}$ -inch hole - nothing special, just a tab to bolt the Heim to.



17



18



19



20

17, 18 With the rod installed, I tried screwing it out to tighten the belt. It worked out pretty well too. In the next image you can see how everything mounts and lines up. The  $\frac{1}{2}$ -inch rod is tapped for  $\frac{3}{8}$ x24 left and right-hand Heim joints that allows you to screw it in and out for adjustment.

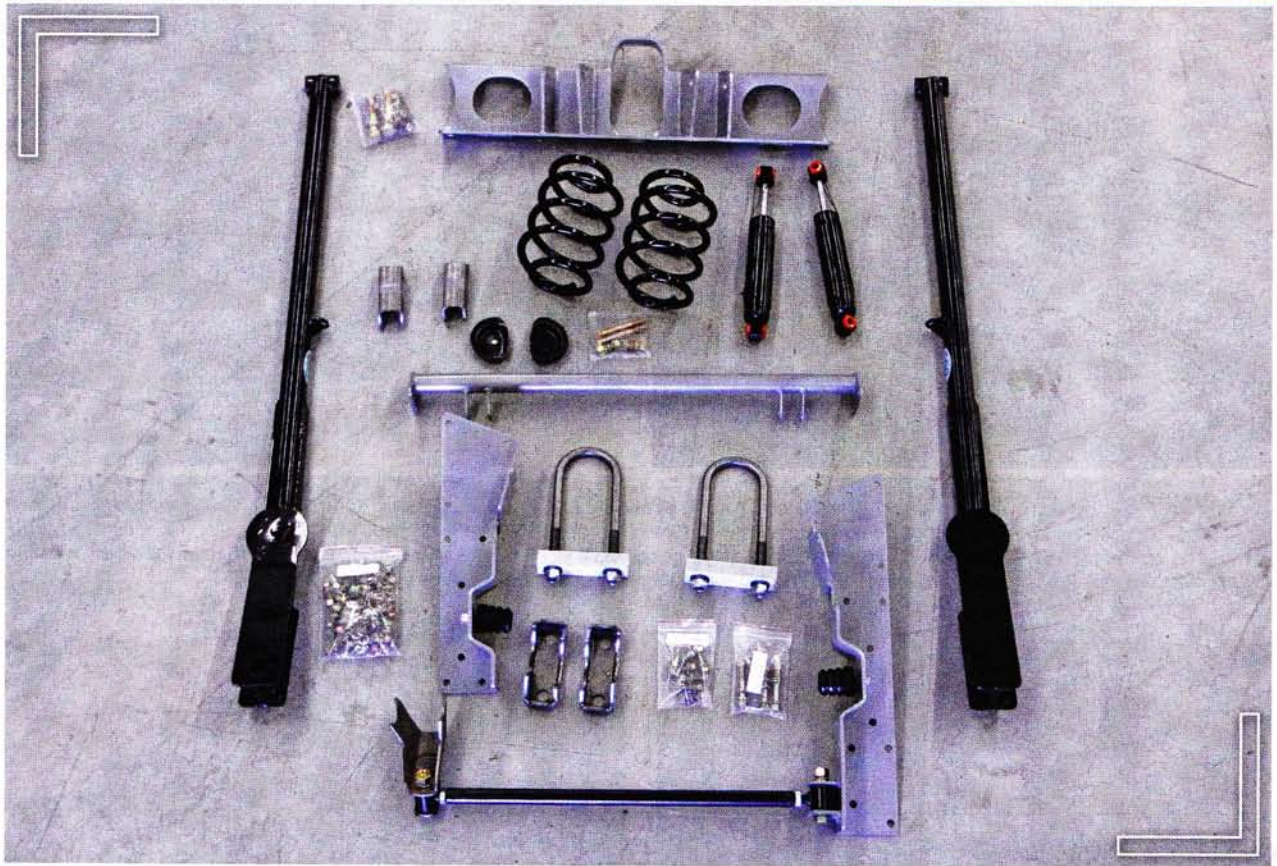
19, 20 Here's another view of how the bracket bolts to the fuel pump boss. The other two holes pick up the normal boltholes used on the pump as a pivot. The brackets were made out of  $\frac{1}{8}$ -inch plate and the spacer is a short piece of  $\frac{5}{8}$ -inch aluminum rod drilled  $\frac{3}{8}$ -inch for the bolt. The adjuster rod is  $\frac{1}{2}$ -inch steel rod, but aluminum could also be used. The Heim joints were purchased at a local hardware supply store. A little bit of paint and the parts will be ready for final install.





21, 22 At this point all that was left was to install the hoses and fittings. The pressure side is the one next to the framerail and is always 16mm. The return side is 14mm on the 1979 and '80 boxes. These boxes have the straight splined input shafts - the return side on the 1980 to '85 boxes is 17mm and the input shaft is splined, but also has a groove machined in it for a lock bolt. By the way, Classic Performance Products can provide all the fittings you might need to complete the hose install.





# PROJECT SQUARE BODY

## Gets Trailing Arms

**Last issue we** showed you a budgeted way on how to rebuild the front end of a square-body Chevy truck. The budget turned from replacing the front control arm bushings and other parts to completely replacing the front end. We had no idea that the front control arms were that damaged until we stated taking them apart.

One might think that since we are trying to stay on a budget of \$15,000-20,000 that we are going to cheap out on the rear suspension. My answer to that and my personal opinion is that 99 percent of you readers already know how to flip leaf springs and or put lowering blocks on. So what could we install that would make the truck ride like a dream and still remain relatively cost effective? The answer was a

Classic Performance Products trailing arm conversion that took the stock leaf springs and converted them into the earlier '63-72 Chevy trailing arms.

The difficulty of this CPP kit is not really that hard because most of the parts bolt on, but plasma cutting, drilling, and welding are required. This kit is not going to be a simple pull it apart and slam it together in 20 or 30 minutes, but rather something that you take your time with

and measure twice. And trust me when I say it rides great because if you've ever been in a truck with trailing arms versus leaf springs your kidneys know the difference and so will your wife. How do trailing arms handle once installed? A simple answer to that is NASCAR uses them today as rear suspension on the cars and they handle very good. So now that I've gone over some of the questions about trailing arms let's get into the install!

## SOURCES >>>

### CLASSIC PERFORMANCE PARTS

800-522-5004  
www.classicperform.com





01

01 We first supported the truck on a rack and making sure it was safe to work under. Next we removed the rear axle and leaf springs, but I won't bore you guys with those details.



02



03

02 The centerline and or wheelbase for the rearend placement was established by measuring the frame and or seeing where the stock bumpstops are placed. Each frame is slightly different so your frame may vary.



04



05

03 Next the passenger and driver side C-notch were used as templates to measure where the stock frame needed to be cut.



06

04 A large air hammer was used to remove the rivets holding the stock bumpstop on. Make sure to use ear protection and safety glasses.



07

05 A plasma cutter was used to make room for the C-notch kit. CPP uses the C-notch to locate a Panhard bar and also to increase the overall travel of the kit.



08

06 Keep the air hammer out because you will have to remove several more rivets that are in the way of the kit.

07 After a simple test fit and a trim or two with the plasma cutter the C-notch is ready to clamp on the frame.

08 Using several large clamps to hold the C-notch up, I was able to drill the holes needed to bolt the notch in. To get the holes started a sharp pointed punch was used to center the drill bit. You can start with a smaller drill bit and work up to the larger bit to make drilling easier on you.

09 With the holes drilled on both sides, the next step was to install the upper shock crossbar from one end to the other. It is also a good time to install the soft rubber bumpstops for the rearend. The bar hanging down on the left is the Panhard bar; this will mount on the rearend via a welded on bracket.



09





10

10 The CPP crossmember was slid into place and measured side to side and also front to rear to make sure it was square.



12

11 You can reuse the 12-bolt rear truck axle, but in some cases like ours the axle was bent and was not cost effective for us to reuse. Instead of trying to modify a 12-bolt we called Currie Enterprises to make a replacement housing, but in the Ford 9-inch style. Starting with a bare Currie housing we were able to center it in the frame by measuring side to side and front to back.

12 Now that we established where the rearend was sitting, the front crossmember was adjusted to be center with the rearend. I like using Sharpie silver or black pens to mark the holes on the frame; this way I can see where I need to drill my holes.



14

13 The beefy CPP trailing arms were installed on the crossmember side and hand-tightened so they would move easily for mockup.

14, 15 Measure from the CPP trailing arm mounts to the end of the housing on each side. Also measure from the frame to the end of the housing on both sides to make sure the housing is in the frame squarely before tacking the bracket on.



16

16 The CPP lower shock mounts were welded on the Currie rearend. Before welding I checked that the shock had clearance and that the shock didn't bottom out before the axle hit the bumpstop. CPP recommends that the shock not bottom out before full upward suspension travel.

17, 18 The CPP Panhard is adjustable on both ends using left- and right-hand rod ends. The CPP Panhard bracket is mounted on the Currie 9-inch housing by placing the axle at ride height and centering the axle to the frame. Then I tacked the CPP Panhard bar mount to the housing and moved the rearend up and down to check for binding. Make sure the Panhard bar and rod ends are parallel with each other so they travel on the same plain.



11



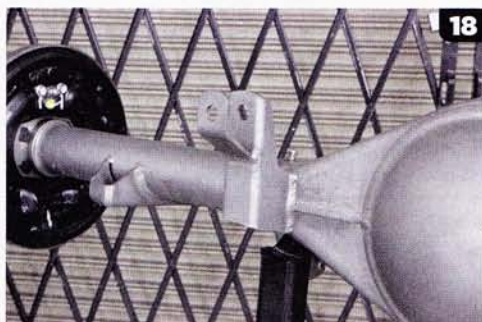
13



15



17

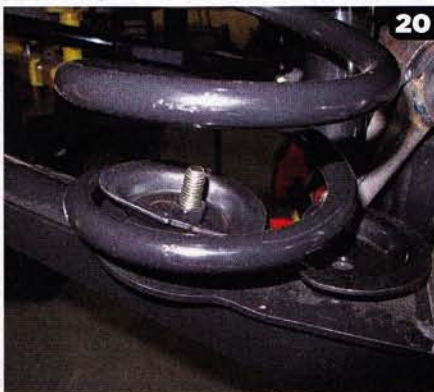


18





19



20

19, 20 The springs can be attached and are held on by plates that go in between the spring. Shown are the upper and lower spring mounts.



21



22

22, 23 We have been waiting for a while to install the 20-inch chrome Rocket Racing Wheels 20x8.5 Booster wrapped with Nitto NT 420s 245/45/R20.

24 With the engine not in the truck, our '79 square-body sits really good. We can't wait to get this thing on the road



23



24