

# ***10-The "Hard Way"***

**"10 seconds for 10-Grand; what are the odds"**

## **Step 2- We are still under the car....**

Keepin' it on the straight and narrow.....

In the second of many tech articles to come about the 1984 Firebird we have chosen to be the next DRO Project Car we are going to deal with some front suspension upgrades and how to eliminate one of the alignment problems the '82-'92 Camaro / Firebird have.

First, it was time to get dirty. We removed the front struts, the lower control arms, front springs, all the steering links and tie rod ends. Then we decided to throw away the heavy power steering sector as well. I called a few guys I know that had raced this type of car in Stock and Super-Stock classes. I wanted their opinions on how to upgrade the front suspension and steering and do it right the first time.

They all agreed on three main things:

1. Get rid of the power steering sector and put a Vega steering gear and pitman arm on it. They said it would bolt on and you could find them on E-Bay for about \$125.00.
2. Replace the lower control arm bushings with urethane replacements. This would keep the front aligned better and let the suspension travel easier, which is good for weight transfer.
3. Talk to Ed Quay Race Cars about the "zero bump-steer kit". The idler arms and lower control arms swing from different pivot heights and this causes a lot of tow-in and toe-out changes if the car can pull the front wheels. (Of course it will...that's why I want wheelie bars!)

This month I will deal with the installation of those three items. It took me a couple weeks to get everything ordered and delivered but everything came in and worked fine. It's been a while since I have done suspension work (I guess that's why I have a dragster) and I forgot how much time it takes me to crawl around under a car on jack-stands.

Let's start with the front suspension disassembly. Naturally, support the car on jack-stands and take the wheels off. I took a scraper and blow gun and tried to get all the "road debris" scraped off everything in an attempt to stay a little cleaner. Next up was putting a floor jack under the lower control arm and remove the top strut mounting nut. Next up was to remove the two bolts / nuts that hold the front strut to the spindle. (This is where the ½" air impact wrench got put to use). You will have to remove the front brake line mounting clip but this all went really smoothly.

Next up was the removal of the front coil springs. I did not have a spring compressor so I went to the local O'Reilly's Auto Parts Store and they will loan you one if you buy suspension parts. I needed both lower ball joints so that was handled. I must admit I hadn't used a coil spring compressor for about 20 years but it was pretty easy to use. Once we had the spring compressed we could lower the floor jack under the lower control arm and get the spring out.

Next was the removal of the lower control arms so I could replace the OEM rubber bushings with polyurethane bushings. How to get them out? That was a question I was asking myself. Luckily we had a press in our shop but I think I would have been better off to pay a auto technician for doing that job. It took me about 4 hours and I would guess a guy with those skills could do it in about 30 minutes. Anyway, they are in and we reinstalled the lower control arms, slid the compressed spring back in place and attached the lower control arm to the spindle with our new Moog ball-joint. Loosened the spring compressor and survived with all my fingers and no damages!

Next, we installed the Competition Engineering Front drag race struts. These are specially-valved (90/10) to allow the front to come up easily and then settle slowly. The directions to install them were excellent and they went together exactly like they were supposed to. They do not recommend these for street use.

Now that the suspension was all back together it was time to deal with the steering upgrades.

We removed the power steering sector and the pitman arm that was on it. We also removed the lower section of the steering column so we could use an Ed Quay Customs steering shaft with Borgsen u-joints and a special D-shaped end that slides right into the upper section of the GM steering shaft.. It is lighter, stronger and thinner to allow a little more room for headers.

The Vega steering box came without a pitman arm but Ed Quay Customs stocks them and we got a new one from them. We installed the pitman arm using the new lock washer and nut. When you install the steering box have the steering shaft ready to go and you can slip the splined u-joint on the steering shaft onto the splined-shaft on the steering box and it all goes very smooth. The bolt pattern on the Vega box was a perfect match on the Firebird and we used the OEM attaching bolts.

Now it was time to install the Ed Quay Customs "0 bump-steer" steering linkage kit. It is a simple bolt-on with one little exception, you have to drill the tie-rod hole on the spindle out to 5/8". I went to a local farm store and for \$14.95 I got a 5/8" bit that fit into my trusty 1/2 electric drill. I drilled from the top down and it took about three minutes (Hang on to the drill, it "catches" a little and tries to jerk out of your hands).

Remove the two outside tie-rod ends and adjuster sleeves. The aluminum tie-rod tube you get from Ed Quay Customs has left hand threads on one end and it screws directly onto the factory center drag link, remember to put the LH jam nut on first so you can lock the new aluminum tie rod after you get the front end aligned. There is a high-quality rod end on the other end of the aluminum tie-rod, a 5/8" bolt and steel spacer that all go in from the bottom side of the spindle. The spacer lowers the steering pivot and puts the tie-rod on the same angle as the

control arm. This is the one thing that will drastically improve the handling of your F-Body on the drag strip.

Because the Vega pitman arm on the steering box is different, the last thing you have to do is either send you idler arm in to Ed Quay for modifications or buy a new modified idler arm from Ed Quay Customs that matches the length of the Vega pitman arm. Again, this is an IMPORTANT change. You must change that idler arm if you use the Vega pitman arm!

The front end assembly is complete and when the engine is in the car and we can roll it around the car will go to Gary's Tire in Waverly, IA for a front end alignment.

Thanks to Ed Quay Customs for having the necessary parts to get us going straight and to Moroso Performance/ Competition Engineering for an actual "bolt-in part" that fit the first time, their Drag Racing Struts.

Next up will be the final roll bar installation, fuel cell mounting, battery mounting and some fuel system plumbing. We are still trying to get some parts together for the 400" small block Chevy and as soon as we get what we need the engine articles will also start.