

Zoomm's Modifications on a 1993 Miata

By Don G. - December 20, 2010

It all started out innocently enough. "Honey, we need new shocks on the miata." She said, "You are kind of busy right now. Why don't you call around and get a price on having it done?" So after numerous phone calls and way too many stories of why it would be so expensive I thought how hard can it be to work on this little car? (All of my prior experience modifying cars had to do with more horsepower, front to rear weight transfer, lower E.T.'s, and oh yea trying to stop. This right turn, left turn stuff was sort of new to me.)

The first thing on my to do list was to find all the books and manuals on Miata's I could find and start reading directions. Yea, you read that correctly, a man reading directions. (Gloria actually wanted to take my temp) It was decided after much reading to start with a shock / spring combination that lowered the car 1 inch along with performance sway bars and adjustable end links. The idea was to be able to try different settings on the sway bars and set the end links so there was no pre-load on the bars. Not knowing where to start I originally set both bars on the softest setting. After the installation it was off to the alignment shop to have the car re-aligned. Naturally after picking the car up it was time to go play with the new toys. Woo Hoo! Did I just go through that set of corners that quickly?

The next thing on the list (After talking with other club members) was to install the lower front control arm brace (Lacking on the "93") and a 3- point shock tower brace because it would help with steering response and it looked cool. It was during this stage of my modification journey that I started paying attention to all the talk about precision alignments. Off I went to read more directions. After much discussion with other miata people I put a plan together for the new alignment. The alignment shop set the car up to the specs I wanted so it was now time to go play with this latest modification. This made zoomm feel like a different car. Right turn, left, tuuuuurn. Oh great the tires aren't sticking.

During my search for better tires two things happened. I found a set of 15"x7" wheels with tires a former club member had for sale and, I met a person who had a purpose built autocross car. (It was as if the miata gods were watching out for me.) With his help I was able to sort out how to setup the sway bars for better cornering. He would always say, "after all it's all about the cornering." The front bar is set stiff and the rear bar is set soft. Personally I like the way the car reacts and feels when being tossed around. All this zipping around corners was great but poor zoomm was running out of breath between corners. Hum, it looks like it is time to investigate more air.

The first thing on the agenda was to do a compression test to ensure everything was up to par. Since zoomm had been fed a steady diet of synthetic oil from the very first oil change I was pleasantly but not too surprised that the compression test showed everything was well within spec. After looking at what was available in the

aftermarket for a 1.6 I decided that for me the best bang for the buck and drivability was the complete intercooler/turbocharger kit from Flyin' Miata. Then it was on to look at a better clutch assembly and a more free flowing exhaust system. After all if you mash more air and fuel into the engine it has to be able to get back out.

The big day finally arrived when the man in the big brown truck started to deliver rather large boxes. The exhaust showed up first then the turbo kit followed by the clutch assembly. I felt like a little kid at Christmas. Woo Hoo, look at all this cool stuff and look at all these instructions. Well zoomm it looks like you are going to be spending the next week up in the air. I must say at this point that the directions and technical support from the guys at F.M. is second to none. I felt the build was real straightforward and actually quite fun to do. Now that zoomm is back on the ground it was time to take that slow easy ride to the dyno shop.

Once I got to the dyno shop I felt like the automotive version of "David and Goliath" without the sling as the dyno technician moved a ground shaking 440 wedge 2 four-barrel nitrous powered monster Dodge Charger off the dyno and put little zoomm in it's place. After the second run on the dyno the technician said to me "Wow, this little critter loves boost. I am going to let everything cool down and then see if I can get a little more power out of it, if that's ok with you." All I could say was "Ahh, ok, go for it". The ride home was more like the launch home. So that is what hitting the rev limiter feels like.

Things have settled down and I no longer feel the need to drive like a teenager. (Well not all the time) With direction, I am getting better at driving zoomm faster which means it is time to learn how to drive slower faster. So it is back to the books again to look at a brake upgrade. Considering that I only go play on a racetrack a few times a year I can't justify the cost of a big brake kit. However, I know that braided stainless steel brake line, and better pads will be on the winter to do list.

Zoomm is 18 years old and the rubber in the suspension and the motor mounts have seen better days. So, the project for this winter is:

Install new poly-flex bushings in the entire suspension and differential mounts

Install new motor mounts

Install braided stainless steel brake lines

Install a set of Hawk HPS pads and get a set of HP plus pads for playtime

Zoomm started life as a 1993 C pkg 5 speed with an lsd. The following is a list of modifications by spring of 2011.

Eagle 5 spoke 15x7 polished aluminum wheels with Dunlop 195/50/15 tires

American racing cross-drilled rotors

Braided stainless steel brake lines

Hawk HP street pads and Hawk HP plus for play

Racing Beat:

Solid adjustable sway bars 22mm front/16 mm rear with adjustable end links

Poly-flex suspension bushings

Competition engine mounts

High flow cat

Power Pulse exhaust system

Cobalt:

3-point shock tower brace

Lower control arm brace

Tokico Advanced Handling kit (Springs & shocks)

Grip-force stage 2 clutch assembly

Flyin' Miata Intercooled V00D002 turbocharger setup.



Me and zoommm at play

Zoomm's alignment specs

Front:

Caster: positive 4.5 degrees

Camber: negative 1 degree

Toe: 0 to toe out

Rear:

Camber: negative 1.5 degrees

Toe: 0 to toe in