

ND Suspension Upgrades

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I purchased my new 2016 Grand Touring ND on January 31, 2017 from Maita Mazda. The entire purchase process went extremely well. I told them what discount I wanted, what I wanted for my trade-in (my 2012 NC), and that I planned to install aftermarket wheels and tires immediately. In fact, they were on order from Tire Rack as soon as Maita verbally approved my offer, and they even bought the factory wheels and tires back from me. So my suspension upgrades actually began before I drove off the dealer's lot.

Although the ND platform has received many rave reviews about the stock handling, many others (myself included) feel there is room for improvement. Especially for those of us who often enjoy driving at 7/10 or 8/10 on back roads. And the aftermarket definitely agrees, as there are multiple choices in springs, shock absorbers, coilovers, swaybars, braces, etc. from a multitude of vendors. And of course wheels and tires. Let's start there.

Wheels & Tires

The stock ND wheels for the Club and GT edition models are 17x7 +45 offset (the Sport model has 16 inch wheels), and weigh about 17.5 pounds. They are not bad wheels at all, and can accommodate tires up to a 215 section width. However many handling gurus recommend a wider platform for 215/45/17 tires readily available in many brands and performance ratings. They suggest, and I agree, that a wheel equal in width with a tires section width is more effective and provides a stable platform to maintain better contact with the road. So I chose a 17x8 +45 wheel, the TRMotorsports C4, in black, and Bridgestone RE-71R extreme performance rated summer tires in 215/45/17. The wheels are the TireRack house brand and a knockoff of the Volk Racing TE37. The tires are the closest thing to a racing compound for the street.



Springs and Shock Absorbers

Next...on to springs and shock absorbers. This is an area that plays soooo subjectively for most Miata owners. There is no right or wrong answer here – well maybe a few wrong answers as some products just aren't worthy of consideration. But those from most reputable and Miata.net sponsoring vendors are worth consideration. The Miata Forum is an excellent tool in exploring many of these options. The ND has been on the market for nearly 2 years now, so what is good and what is not has received much press already. I immediately dismissed from consideration the purchase of separate springs and shocks, as I wanted the adjustability (both ride height and shock compression/rebound) of coilovers. Price is a consideration here, as well as spring rates, spring preload, spring travel, damping characteristics, vendor reputation, service, and quality. After many hours of Forum reading and



emails to vendors and other purchasers, I chose the [MeisterR ZetaCRD](#) coilovers for the ND. Jerrick at MeisterR answered all of my questions, and for a price of \$995 delivered I purchased a set. The coilovers are a work of art, and preassembled at the factory with the correct amount of spring preload and ride height for our cars (after settling my height is 13.375" rear and 13.25" front, measured from the center of the hub to the fender). The only height adjustment I have made since was to raise the right rear ¼" after my alignment to level the car.

Many of you may know that my laboratory for testing my Miatas has always been SR128/SR121 between Winters and Napa. Because I have driven this stretch at least 200 times in the last 6-7 years I can readily assess changes that I make to my cars' handling and settings. I drove this route on Super Bowl Sunday in my ND's first outing, with the upgraded wheels and tires but on the stock suspension. I was immediately impressed with the ND platform that Sunday, right out of the box. It was better stock for stock than my NB and my NC, and nearly on par with my former S2000. So that was a good sign. But after I installed the MeisterRs and received a performance alignment at [Radial Tire Service](#), Fulton Avenue at Cottage Way in Sacramento (-1.8 camber all around, .15° total toe front and rear, 8.0° front caster – YMMV) I went out for a shakedown between February rain storms. And I was very impressed with the improvement. First of all, the ride was nearly as compliant as stock (the coilovers have 24 clicks from full hard to full soft – I set mine in the middle). And even with stock swaybars much of the body roll was eliminated. I was driving 128/121 at about the same pace as my NC, which had Tein coilovers, RB swaybars and a slew of underbody braces), but with better compliance and more control over rough pavement. And if I wasn't me I could probably stop right here.

Swaybar Upgrade

And there is much disagreement as to whether stiffer swaybars are needed for this car. One subjective yet common argument against is that some body roll is good, that the ND bars are sufficient, and eliminating roll makes many drivers slower. I'm not sure I understand this rationale, but it is out there. My opinion is that excessive roll results in diminishing the contact patch and resists camber changes in high G corners. Yes, uneven pavement may present a marginally harsher ride with stiffer sways, but IMHO the tradeoff is more than justified if improved handling is your goal.



So without much further ado I ordered up a set of the [Progress swaybars](#) from Good-Win Racing. Last Sunday (April 9th) I headed back to Napa on the usual route. OMG what a difference. With the bars set to the middle setting front and the soft setting in the rear, turn-in was immediate and there was little detectable roll. I also noticed no discernable difference in ride quality on the few sections of pavement that were not butter smooth (80% of this 100 mile route has been repaved over the last 3 years). Handling with this setup is fairly neutral, with mild understeer near the cornering limits (which I did not reach). I suspect I was driving at 75 to 80% and going faster than I ever did before.

Installation and Learning New Swear Words

The wheels and tires obviously presented no problems. Just raise the car, remove the old and bolt up and torque the new. The coilovers also presented very few issues. The whole process took me about 3 hours for all 4 corners. In fact, with the ND, the alignment is not affected as no alignment bolts are loosened during the process. However, even if one does not do a suspension upgrade, it makes very good sense to have the car aligned by an independent shop to your written settings. This is because the factory alignment standards encompass such a wide range that one could have each corner with a different camber and/or toe setting. It is extremely important that your alignment be the same or nearly so on each side of the same axle. A good performance alignment will cost between \$75 - \$90, and you will thank yourself after your first drive.

Sway bars – specifically the front sway bar... This is where your vocabulary will grow. I am a decent wrench, and it still took me about 5 hours to install the front bar. It requires either unbolting and lowering the steering rack (and risking a crooked steering wheel if reinstalled even slightly turned) or removing the fan shroud assembly behind the radiator. Both methods also require removal of the fender splash panels and the undercar panel. The latter method also requires removal of the battery, batter box, and the air box. Plus all electrical connections (about 7) to the fan. I guess we have become spoiled by the relative simplicity of the NA, NB and NC installs. At least the rear bar was simple, and only took about ½ hour.

Nevertheless, I ended up with no extra parts when I was finally finished, and everything worked as before. I'm sure I am not the only SAMOA member who has installed springs or sways, so there is probably a growing body of experts to assist if you decide to follow what I have done.

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