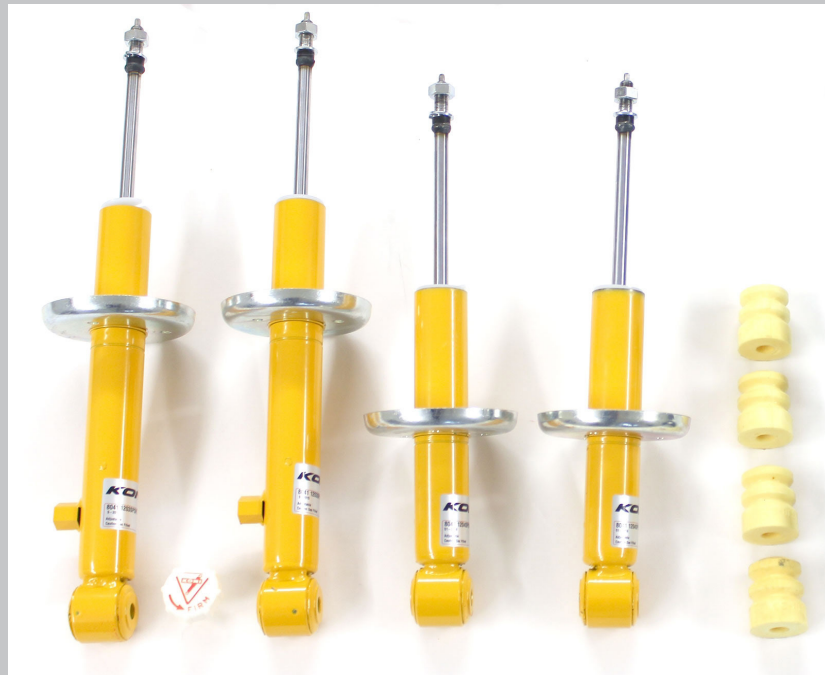


NA KONI SUSPENSION KIT INSTALL TIPS 13-57018 & 13-163X0



Thank you for purchasing our Flyin' Miata suspension kit for your 1990-97 Miata! These directions are not intended to replace a shop manual and don't attempt to cover the whole installation. They will, hopefully, give you a few pointers specific to our setup. If you have any questions during installation or suggestions for improvement to the product or the instructions - please don't hesitate to call or email.

WARNING: Not everyone can perform every installation. It is critical that you be honest with yourself in regards to your ability. We're more than happy to help, but there are only so many things we can do from the other end of a phone / computer. If in doubt, discuss the install with us before you dive in. Improper installation could cause injury and / or death!

First you need to remove the stock shocks and springs (as an assembly) from your car. Disconnecting the sway bar end links will make this process much easier, as will removing the bolt holding the upper front control arm to the subframe. Use a lever to move the rear control arms down.

Once the assemblies are out, you'll need to remove the shock mounts / top hats. Be sure to use a spring compressor (carefully!) to safely do this. If you've purchased our 2.5 kit, you can set the rears aside, you won't reuse any parts from them.

You'll need to drill the hole in the shock mount out to 12mm / 15/32". This isn't necessary for the rear shocks with our purple shock mounts in the 2.5 kit.

The Konis have adjustable spring perches. With our springs, we've found it's best to put both spring perches on the highest (farthest from the lower mounting hole) setting. For all other springs, start with the recommended settings provided on the paper that came with the Koni shocks and adjust as needed.

After installing the perches, install the top seal vent. This part can vary in appearance, but is typically a plastic cap or split washer that slides down the shock shaft and rests on top of the shock body.

Our springs are labeled clearly front and rear. Install them as labeled. While there isn't necessarily a top and bottom to the springs, they should be mounted with the "dead" coils - the ones that are close together - at the top. This isn't critical, but (if you want to get picky) it's better to have that dead weight as sprung weight, as opposed to unsprung weight. Some spring compressors won't work with the springs like that, it's fine to put the dead coils down if need be. Our bump stops do have a top and a bottom. Be sure the tapered end points down.

We recommend that the damping be set 3/4 of a turn from full soft. In other words, using the included white plastic adjuster, spin the knob in the opposite direction of the "firm" arrow, without forcing anything, then turn it 3/4 of a turn back. Please note that these are not pre-set.

The ride height of the springs has been chosen to allow a good combination of looks, low center of gravity and suspension travel. They should end up with the front wheels about 12.5" in the front and 13" in the rear, when measured from the center of the wheel to the fender lip. If you'd prefer a lower car, cutting one of the dead coils off will lower the car about 1" without affecting the rate.

Be very careful tightening the nut on the top of the shock shaft! Since the shaft is hollow, it's possible to over-tighten this nut. Be sure the threads are clean and lift the lower control arm with a jack. Tighten the nut to 37 ft-lbs and do NOT over-torque. A broken shaft (much like a scratched shaft) is not a warranty, and you'll have to purchase another shock. Be sure to install the supplied lock washer before you install the nut.

Tip: It is common to have the shock shaft rotate while trying to torque the nut at the top of the shock shaft. If this happens to you, we recommend installing the shock assembly into the car and setting the car onto its wheels so that the suspension is loaded. This usually is enough to allow the top nut to be tightened to spec.

Once the springs have been installed, crack all of the bushings loose (aside from those that are already loose). Specifically, the bottom of shock, all control arm bushings, end links - anything that twists the rubber bushing. This will ensure proper ride height and undamaged bushings. Instead, loosely install the bolts, put the wheels on, roll the car back and forth a few feet, then tighten the bolts. Make sure that the car is on its wheels when you tighten the bolts. Or, if you have our hub stands, use those - they'll make your life much easier.

You will need a four-wheel alignment after installing these springs, as they will add negative camber. Our recommendations are below / on the backside of this page. Negative toe (toe-out) in front will give a slightly faster turn-in, may make the car a little darty for daily use and will wear tires faster. For a street car I would stick to a little positive toe (toe-in).

Front

Caster: 5.0 degrees
Camber: 1.0 degrees negative
Toe-in: 1/16" total (1/32" per side)

Koni part numbers:

- NA front shocks - 8041 1203SPORT
- NA rear shocks - 8041 1204SPORT

Rear

Camber: 1.5 degrees negative
Toe-in: 1/16" total (1/32" per side)

Conversions:

1/16" toe = 0.15° = 9 arcminutes

Torque Specs:

Upper shock nut: 37 lb-ft
End links: 27-40 lb-ft
Lower shock bolt: 54-69 lb-ft
Upper shock mount nuts: 22-27 lb-ft
Front upper inner control arm bolt: 87-101 lb-ft
Front lower inner control arm bolts: 69-83 lb-ft
Rear upper control arm bolts: 34-49 lb-ft
Rear lower inner control arm bolts: 54-70 lb-ft
Rear lower outer control arm bolt: 47-54 lb-ft