

Words & photos: Peter Woodroffe

*With the front wheel arches having SUV-like proportions, it's a question commonly asked by new and existing MX-5 NC owners.*

When I bought mine, it had a look of waving its nose about in the air. The Series 1 NC seems higher.

I spoke with a number of owners and suppliers to see what their thoughts and solutions might be, and searching online forums revealed it as a common question with a multitude of solutions – mostly involving after-market coilovers.

Budgets ranged from \$900 - \$1,100 for no-name solutions, through to *Bilstein*, *Koni* or *Eibach* solutions for \$2600 plus fitting.

**Speaking to specialist suppliers**, the solutions seemed to be \$3000-\$3500 to fit fully-adjustable units to set the car up for road or track. Having only spent \$13,000 on a Limited Edition NC with 70,000km, already fitted with Bilstein shock absorbers, *I wasn't keen to spend another 25% of the value of the car to get the look and feel I wanted.* The car drove well but was not as pointy at the front as I would like and, combined with the aesthetics of the front, I was not happy with the car in that form.

My objectives were to improve the turn-in of the car and improve the look to be more of a sports car. However, I did not want to harden the ride. The car is used for drives and runs and may be used for motorkhanas in the future but is unlikely to see any track time, so variable damper settings were not important to me.

**I have had experience lowering other cars** to get the feel and look that I wanted. But my concern was that the change would negatively affect the current ride and handling. I contacted *King*

*Springs'* technical team to discuss my objectives and concerns with them. I wanted to lower the car 25-30mm but did not want to negatively affect the ride, or compromise the relationship between the springs and the dampers.

Dampers, as the name suggests, dampen the spring movements. If the springs are too strong the dampers don't control the spring movements ... creating a bouncy ride. Firm springs mean a car – particularly light cars – get a harsh ride. The King springs are firmer at the front and linear in their rate, while the rears are firmer but have a variable rate.

Linear springs have the same rate through the range of compression while variable rate springs start soft and stiffen up as the load increases. The ride should not be detrimentally affected – it may improve – but the handling should improve with the firmer rate coming in from a handling perspective.

I didn't want to go to the expense of changing dampers; the Bilsteins worked well. King Springs advised their springs are designed to work with the standard dampers and were confident that the uprated Bilsteins would work well with the springs provided they were in good condition.

**I then checked with my insurance company** as to whether a lowering spring would void my insurance policy. The response was that 30mm or less was acceptable. *I had the modification written into the policy to avoid any interpretation issues later.*

I started looking for a source. I had been monitoring them on Ebay and Google searches from wholesale suspension suppliers.

**Before ...**



All the suppliers said they were made to order by King Springs and I was unlikely to get a set off the shelf. *Supercheap* then had a special of 30% off so with a price of \$318 – I ordered them online, and was contacted to say the lead time would be four to six weeks. This was not an issue as I had spent four months researching – *procrastinating* – so another month wasn't of concern.

**There is plenty of advice on how to fit them** on *YouTube*, but as with all *YouTube* videos you need to find someone who knows what they are doing and the right production values and credibility.

*Flyin' Miata* have a very good video on how to fit replacement springs and coilovers. It lists all the tools and torque settings required and where the secret rear bolts are. I'm reasonably handy with spanners and have all the tools needed, including spring compressors and a torque wrench ... so, armed with the iPad for the *Flyin' Miata* video and a *Haynes workshop manual* I jacked the car up and started the job. Each corner took me around 90 minutes to two hours.

**Removing the old springs** using the spring compressors is always tricky and can be dangerous. Care is required and I also use a ratchet strap around the springs and compressors to act as a safety strap. Removing the old springs was harder than fitting the new harder, but shorter, springs.

**While disassembled I checked the dampers** for any moisture, dents or evidence of damaged seals or mounting rubbers. I cleaned them thoroughly to check the body and shafts for any damage, I also cleaned the control arms and undercarriage; with

shiny new springs dirty dampers and control arms were not going to look good.

**After all of the damper and spring assemblies have been refitted**, loosen – not undo – every bolt in the suspension, then settle the car on the ground or a set of ramps so that the full weight of the car is on the suspension through the wheel. *Failure to do this means the car does not drop to its new ride height because of the tension in the bushes ...* also the tension in the bushes will lead to premature wear. Then torque every nut and bolt to their correct tension.

**Your car will require a wheel alignment.** The rear lower control arm has cam washers to control the camber, but they also influence the toe-in. This lets you get the camber right but, in my case, it gave me an off-centre steering wheel. I had already booked into the local Mazda dealer to get them to set the suspension up to the settings from the *Flyin' Miata* website. I also asked the dealer to check my work and reset all the torque settings on all the suspension points front and rear.

**Did I achieve my objectives?** In a word, yes: the car has a more direct feel in the front end, remains flatter on turn-in and is more stable under initial braking. Aesthetically the car looks better with the front lowered by 30mm and the rear by 25mm. Ride quality has not changed discernibly.

**So, was it worth the cost?** Yes. I have a better-handling car with no negatives to ride quality, it looks better with the lower stance for less than \$400 including the wheel alignment. If you have a mechanic do it for you expect another \$500-\$800 in labour. ■



After ...