Installation Instructions for
Fat Cat Motorsports NB shock mount kit, M10 and M12 thread

M10 shock mount

M12 shock mount

Required tools:
Metric socket and ratchet set
14mm open end wrench (for sway bar)
19mm deep socket (for upper shock nut)
Torque wrench (up to 100ft-lb or 150 ft-lb if removing upper control arm bolt for front shocks)
Spring compressor (if using stock springs)
(2) Vise Grips

Optional (but highly-recommended) tools
Safety goggles
Workshop gloves
Calipers or precision ruler
Impact wrench
"Mazda Miata Performance Projects" by Keith Tanner
Mazda Factory Service Manual for the year of your Miata

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NOTE: All efforts were made in designing this kit to ensure easy and secure installation and long life. However it is intended for installation by those comfortable with working on their cars suspension and is also intended for racing/off-road use. No warranty is expressed or implied. Working on your car is inherently hazardous so be sure you have the proper tools and safety equipment. Since you are changing the ride height with this kit, it is very important that you have a 4-wheel alignment performed as soon as possible!

Instructions:

Front shocks

1. Jack the car up safely and support the front end on jack stands. Remove each front shock assembly from the car per The Miata Enthusiast's Manual (remove upper control arm bolt for front suspension). I recommend following the procedure to the point of disassembling the spring from the shock.

2. Once you have compressed the springs (not necessary for aftermarket threaded coilovers such as TEIN or Ground Control), you can loosen and remove the upper shock nut. This is where an impact gun comes in handy. Once the upper shock nut is free, remove the NA shock mount assembly and nut and put them away. You will not need them again!

3. Remove the springs from the shock. If using adjustable spring perches, you will need to decide where to set them and this may involve trial and error. If using Koni shocks with stock springs, we suggest the middle perch for moderate lowering and the highest perch for approximately stock ride height. The lowest spring perch may lower your car past 12.5” in the front.

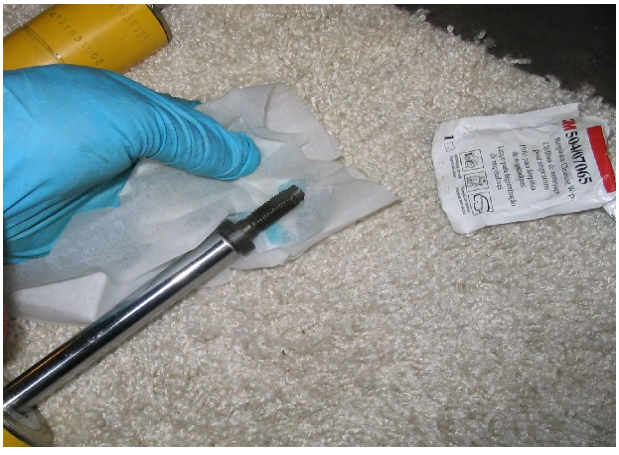

Figure 1

Figure 2

4. Clean the shock threads with the supplied wipe, then dry (Figure 1).

5. For M10 kits, place the bump stop (conical side /smaller diameter facing shock body) onto the shaft, followed by the lower washer (Figure 2).

6. For Koni kits, slip the 3mm slotted spacer over the shaft, followed by the 9mm spacer, the bump stop (conical/smaller diameter facing shock body), the lower washer, and then the supplied M12 internal lock washer on top of the flat washer (Figure 3).

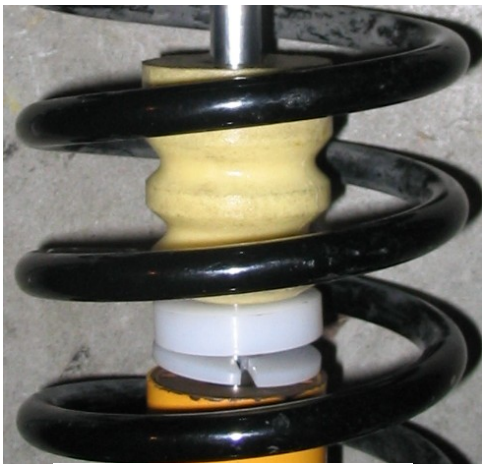

Figure 3-Spacers and Bump stop

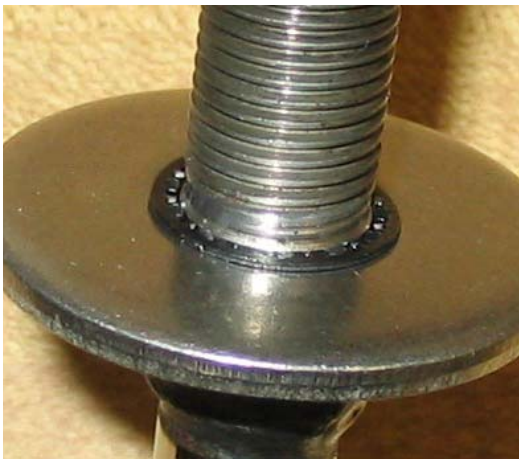

Figure 3-Lock washer

7. Place a few drops of the supplied threadlocker on the bottom half of the threads (Figure 4).

Figure 4-M12

Figure 4–M10

8. If using a Ground Control kit, place the adjustable collars on the shock body, followed by the spring and the upper rubber isolator (Figures 5 and 6).

Figures 5 and 6

9. If using standard springs, place the spring cup on the shock body followed by the spring - which should be compressed from when you previously removed it (Figure 7).

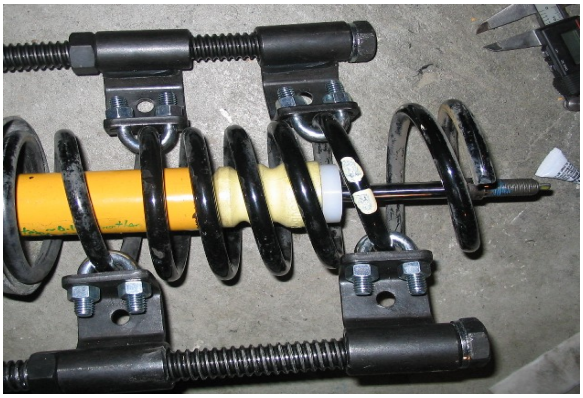

Figure 7

10. If using airtools, skip to the next step. Otherwise, you'll need 2 vise grips (not supplied). Set the gap to ~5/16" (8-9mm). Clamp them 180 degrees apart onto the FCM mount assembly (Figure 8). This is to pre-compress the upper shock mount bushing and allow you to thread the long custom nut down until its bottom section meets the lower washer.

Figure 8

9. Thread the FCM mount onto the shaft until you feel resistance (Figure 9). If using air tools, ratchet the nut down until you hear/feel the ratchet resist. Torque is 25-30 lb-ft. If not using air tools, carefully release the vise grips (they'll spring back with some force!).

Figure 9

Figure 10

10. For M10 kits, use a 5mm or 3/16" hex wrench, thread the set screw in until it engages the top of the shaft. Fasten finger tight (Figure 10).

11. If you used spring compressors, it is now safe to remove them.

Figure 11

12. Place the clear Teflon gasket on the shock mount and reinstall the shock/spring assembly (Figure 11). If removed, torque the upper control arm bolt to 100 lb-ft.

13. Repeat the steps above to this point for the other side.

14. Re-install the wheels and prepare to lower the front of the car. If using shorter springs than stock), be sure the spring remains centered in the shock mount as the suspension is loaded (Figure 12).

15. If so equipped, set the adjustable end-links to remove preload from the sway bar (especially up front!).

Figure 12

NOTE: To prevent the suspension from binding in an unloaded state, do not tighten the bottom shock bolt or the sway bar bolts to final torque until the car is down on the ground.

Rear shocks

16. The rear shocks are easier to remove and replace since there is room to compress the control arm downward to free the shock from the chassis, without partial disassembly of the control arm or ball joint. Follow the instructions in manual to get the shock assembly free.

17. Once you have compressed the springs, the instructions for the front shocks still apply. For setting ride height with Koni shocks and stock springs, we recommend using the upper perch for stock ride height.

18. Snug up the lower shock nut and sway bar end links (if present).

19. Reinstall the wheels, ensure the springs remain seated in the mount while the car is lowered, rest the car on the ground, torque the sway bar end links and lower shock bolt, and make sure you haven't forgotten any tools in the engine bay. We recommend getting an alignment before doing any test driving, or at least driving the car gingerly while you further tune the ride height.

NOTE: It often takes several days for the ride height to settle. Keep this in mind before making further spring perch adjustments.

ENJOY YOUR NEW
FAT CAT MOTORSPORTS SHOCK MOUNTS AND BUMP STOPS!

Torque specs

Lower shock bolt	62 lb-ft
Upper shock nut	30 lb-ft
Upper mount nuts	25 lb-ft
End link bolts	37 lb-ft
Upper control arm bolt	100 lb-ft