



**FCM MCU shock mount assembly / tightening instructions
For 3.25" (stock-style) springs.**

Need help? Call 408-221-8247!



Item	Qty	P/N	Description
1	4	FCM-NUT-SHLDR	M10 or M12 shoulder nut
2	4	FCM-WSHR-SST-M14	M14 ID x 37mm OD washer
3	4	FCM-BUSH-NA-UPR	Upper MCU shock mount bushing
4	4	NC10-28-340C	Mazda 99-05 spring seat/shock mount
5	4	FCM-BUSH-NA-LWR	Lower MCU shock mount bushing
6	4	FCM-WSHR-AL-M10	Lower red M10 Alum washer ** NOTE1
7	4	FCM-BSTOP-36MM-LG	36mm MCU bump stop
8	1	FCM-WIPE-3M	3M cleaning wipe, for shaft threads
9	1	FCM-LOCTITE-242	Removable threadlocker for M10/M12 nut
-	-	Spacers	Not shown, refer to step 2.

NOTE1: For Koni Sport/Race, the lower red washer must be drilled from 10mm to 1/2" (or 12mm). A Unibit works well for this. The Koni Street, Bilstein, Tokico, KYB AGX and OE are all M10.



Tools/references:

Standard metric socket/ratchet sets, low-profile floor jack (in some cases), (4) jack stands, torque wrench. **Impact tools are highly recommended** though Vise Grips may be substituted during the shock mount assembly sequence. Drill and ½” Unibit for Koni Sport/Race (see **Note 1**). **Take care NOT to spin the shock shaft via an impact gun, otherwise the upper rod guide seal may fail.**

NOTE2: Please familiarize yourself with the details of this procedure. While not complicated, the use of a time-sensitive threadlocker (removable Loctite 242 Blue) makes it important to move sequentially through the each step.

Installation of bump stop and spacers (if used), dust boots

1. The plastic spacer is placed on the shock shaft first. In cases with multiple spacers, 1 spacer is placed below the bump, the remainder can go above the bump stop.

Summary (spacers used each corner):

Koni Street – 3 mm spacer (front), 12 mm spacer (rear)

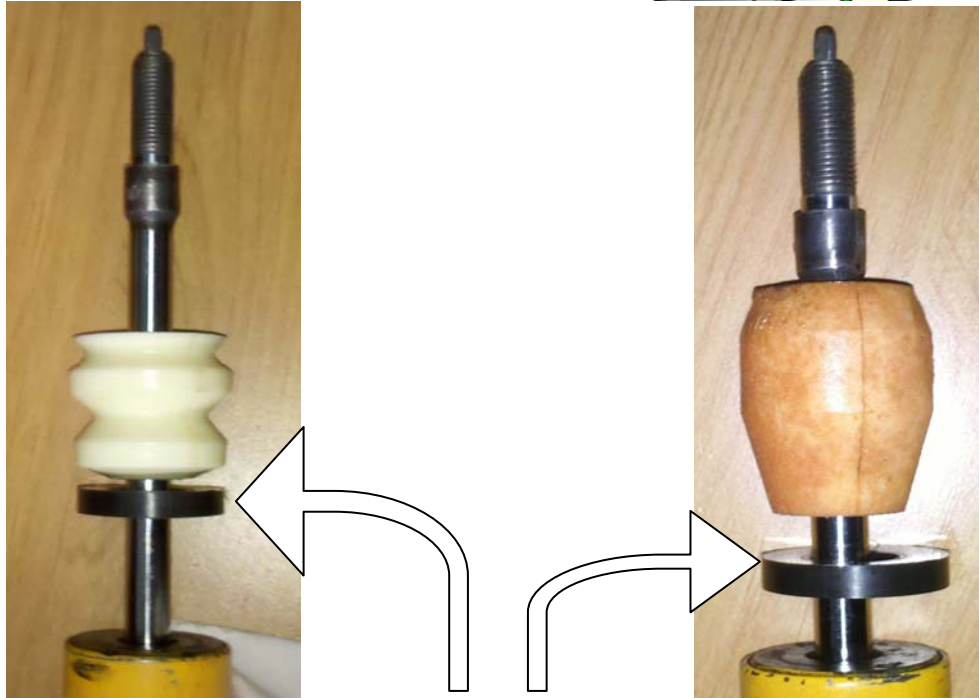
Koni Sport – 9mm spacer (front and rear)

Koni Race – No spacers needed

KYB – No spacers needed

Bilstein – No spacers needed expect 93LE or R-pkg, 6mm spacers (front only)

Tokico Illumina or HP – 3mm spacer (front), 6 mm spacer (rear)



36mm stop with **bump stop spacer / packer** (arrow) 46mm stop with **bump stop spacer / packer** (arrow)

NOTE3: The black or white plastic spacers (made from Delrin) **must be placed below the bump stop** for proper functioning of the FCM shock assembly. See photos and indicator arrows above. Front Koni Sports require a 9mm spacer (from FCM), rear Koni Sports require a 3mm spacer (from Koni) and 9mm spacer from FCM.

2. The bump stop is placed with the conical or tapered side with angle toward the shock body. Typical combinations are 36mm front and 46mm rear or 36mm front and rear. With 58mm stops, the stiffness follows the colors of the American flag **RED** is soft, **WHITE** is medium, **BLUE** is hard. Technically, the undyed MCU material is yellow but we call it 'white'

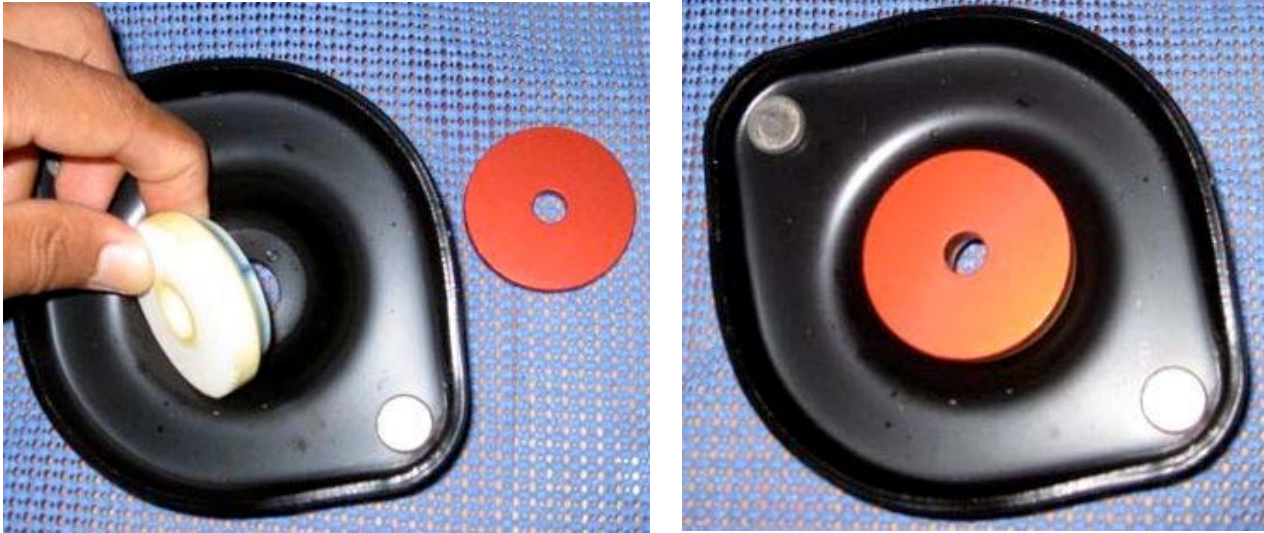
3. If boots were purchased, refer to the FCM bump stop and dust boot install procedure:

http://www.fatcatmotorsports.com/FCM_bump_stop_dust_boot_install.pdf



Lower bushing and M10 washer

4. Place the lower bushing with conical side facing the shock mount, followed by the red anodized washer. Must be drilled to 12mm or 1/2" for Koni Sport/Race



Risers, Loctite, adding lower bushing/shock mount to shock shaft

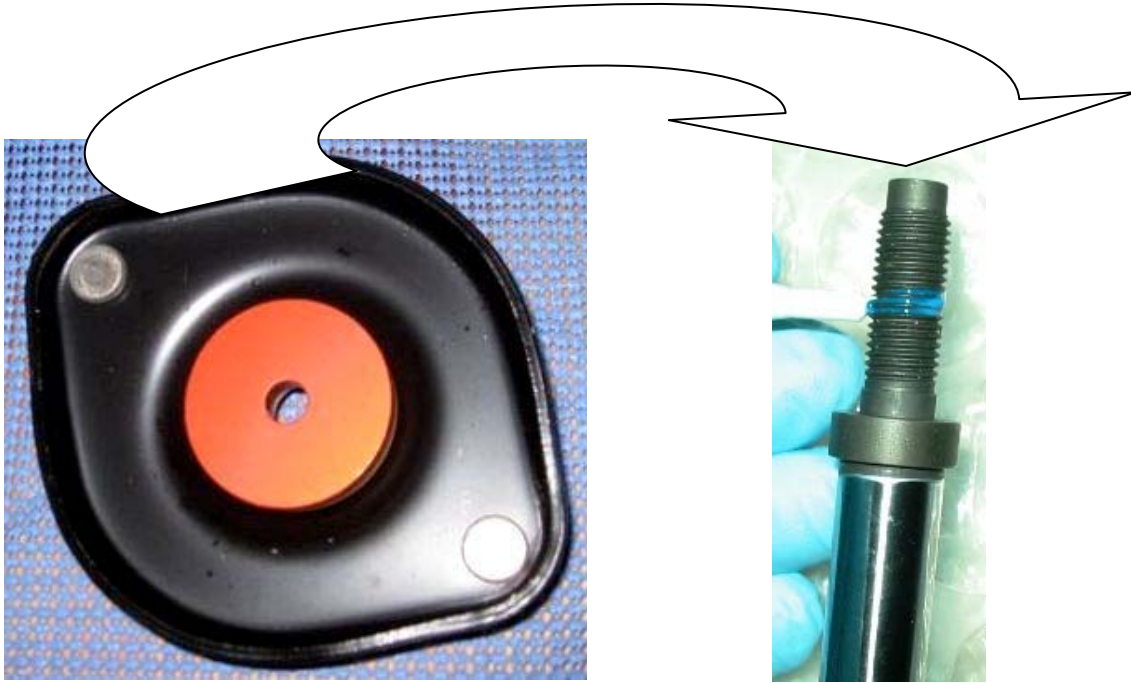
NOTE4: Shake the Loctite bottle vigorously as the solution may settle and get too watery to be effective. Loctite 242 (removable) cures in about 20 minutes. Do not apply until you are ready to torque the mounts.

5. If risers were purchased, place them on the shock mount now.





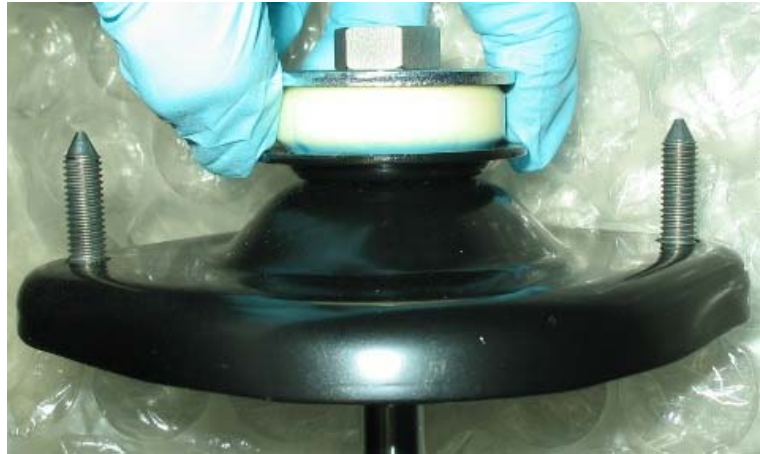
6. Apply Loctite 242 (supplied) to the middle 2 or 3 threads of the shock. Place the lower bushing+shock mount on the shaft.



Installation of upper bushing, bushing centering during tightening

NOTE5: The MCU bushings partially self-center, but by design they need be guided in place during final tightening. The lower bushing (essentially symmetric on both sides) is aided via the shock mount and red anodized washer but the upper bushing may need to be reset by hand.

6. Add the upper bushing, M14 fender washer and M10 or M12 custom nut.



Tightening the M10 or M12 shoulder nut.

With impact wrench: Lower the adjustable spring perch as far as necessary to get access to the shock shaft. We have found it useful to hold the shaft in a gloved hand and use an impact wrench/19mm socket to secure the custom nut, although the bottom of a mouse pad will help grip the chromed shaft without slipping. Take care to set the torque to not more than 30 ft-lb.

No impact wrench: You will need two Vise Grips (set gap to about 1/4"), placed 180 degrees apart, to clamp between M14 washer and lip on shock mount. This compresses the bushings so the nut can be spun down and tightened (photo below).

NOTE6: We have found that CLEAN gloved hands on a CLEAN shaft can provide good resistance to prevent the shaft from turning. A strap wrench works well, as does a mouse pad or other thick, high-friction material held inside pliers, etc. Whatever your approach, be sure the shaft does not spin excessively during tightening, as this may damage internal seals.





7. Once the upper bushings are centered and tightened, torque the upper nut to approximately 20-25 lb-ft. As long as Loctite 242 has been used, the exact torque isn't critical. A few hits with an impact on low torque setting gives added insurance.



Checking for proper installation/torque



8. Ensure the gap is about 1/4" and the bushings are still centered in the shock mount. This verifies the bushings have been properly compressed.

NOTE7: It is very important that the bushings are fully tightened to ensure proper functioning of the assembly. If the upper bushing shifts or a ~1/4" gap is not achieved, loosen the nut, re-center the bushing(s), and re-tighten as needed. This is where having an impact makes it very easy. Vice grips are next best.

Enjoy your new FCM suspension!