paco moto

ND MIATA LONG TRAVEL COILOVERS KIT

Thanks for your ND Miata suspension kit purchase! We have worked hard to design and develop this kit for an excellent balance of ride quality and performance, on OR offroad! The following set of instructions will help ease the installation process. Please email us if you have installation questions. We are always looking to improve our installation procedures and documents, so feel free to reach out with any suggestions.

contact@pacomotorsports.com

This kit will provide a range of around 1 to 3 inches of lift above stock ride height, and a very comfortable ride quality balance with plenty of capability and performance, on OR offroad. We recommend running stock swaybars to maintain a level of body control while allowing the suspension to work through more of it's range of travel to soak up terrain and maintain a comfortable ride. The swaybars can be disconnected or removed completely for more offroad performace and traction in the really bumpy stuff. This setup can also be adapted to shorter, stiffer springs for lower height range and proven street and track performance, turning your ND into a true dual-sport vehicle.

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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!

Front Torque Specs:

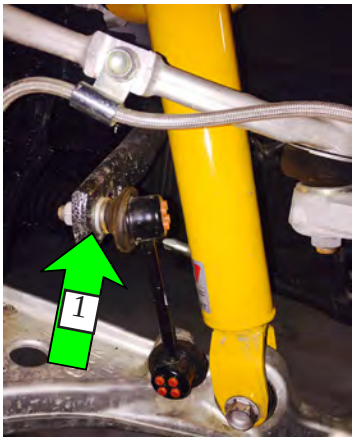
- Upper shock mount 37-43 lb-ft
- Lower shock mount 40-47 lb-ft
- Upper control arm 40-47 lb-ft
- Sway bar endlink 32-38 lb-ft
- Alignment bolts 100-121 lb-ft

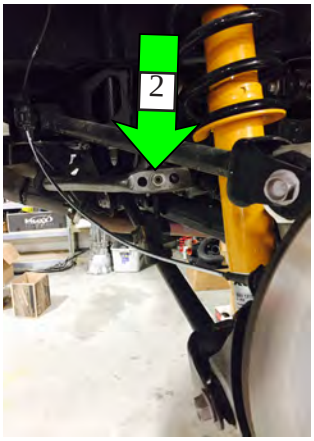
Rear Torque Specs:

- Alignment bolts 63-75 lb-ft
- Upper shock mount 34-40 lb-ft
- Sway bar end link 26-29 lb-ft
- Lower lateral link (arm sway link attaches to) on upright - 48-57 lb-ft
- All others 49-59 lb-ft

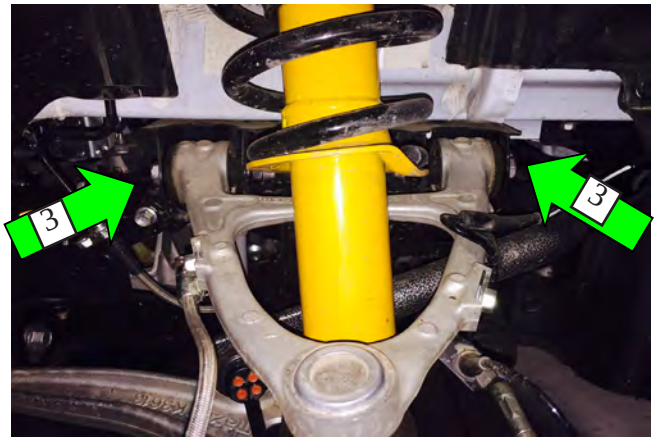
front shock part number- 8241 1304
rear shock part number- 8241 1305

- **Do NOT over tighten the nuts on top of the shock!Install the first nut and torque to 37 lb-ft. Then install the second nut to lock the first in place.**
- You'll only reuse the rear factory tophats. New front tophats and four new bump stops are included with this kit.

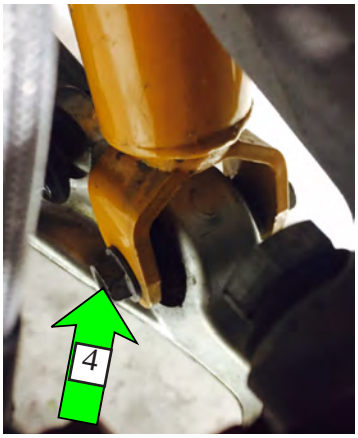




- Unbolt all four end links, front (1) and rear (2), from the control arms or sway bars to allow the control arms to move.



- Unbolt the upper front control arm (3) from the subframe in order to allow easier removal of the shock and spring assembly.
- If your Miata is equipped with a shock tower brace under the hood, remove it to access the upper shock mount nuts.
- Remove the three large nuts holding the shock mount to the chassis. Do NOT remove the center nut yet.



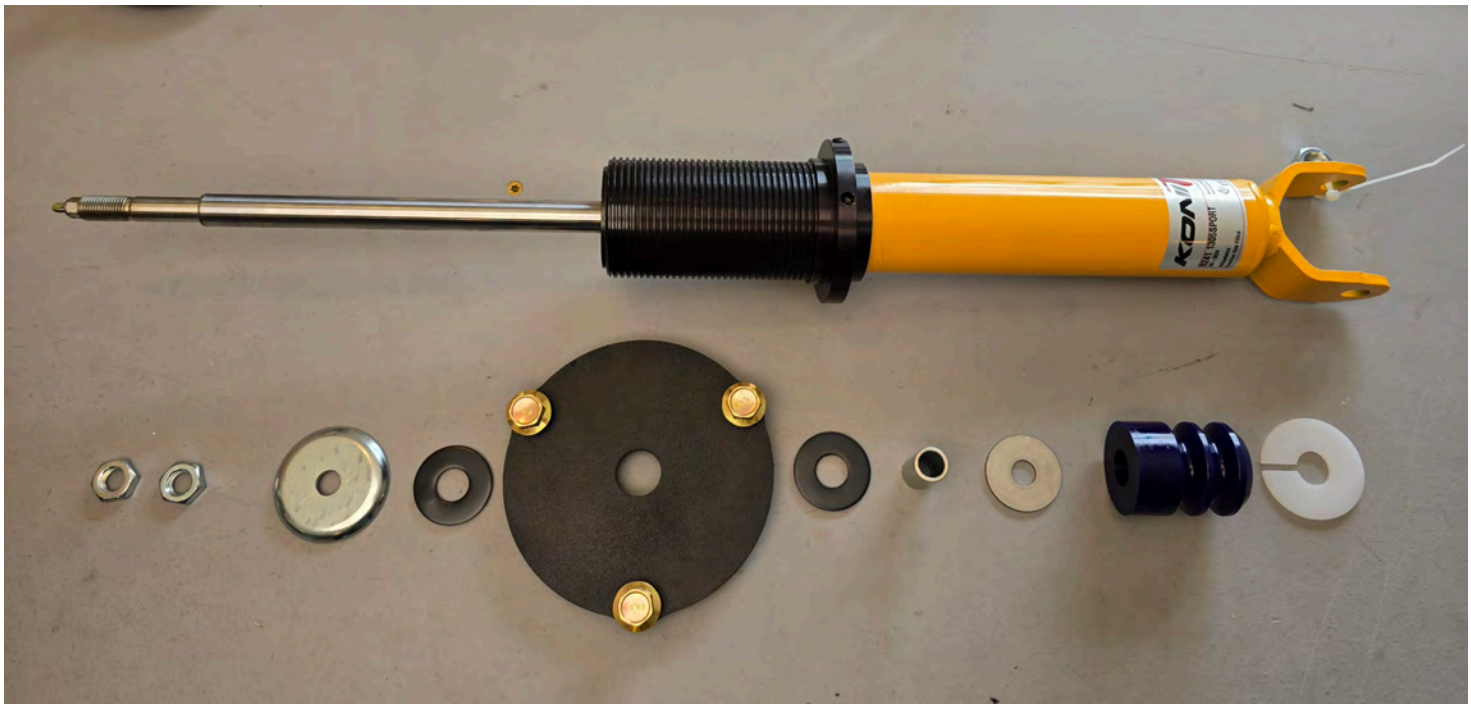
- Unbolt the lower shock mounts from the lower control arm on the front (4) and the upright on the rear (5). The rear factory shocks use captive nuts, we include new nuts to use with the Koni shocks.

- Access the rear upper shock mounts by removing the felt trunk liner. There are several plastic clips holding the liner in place. Remove them by first pulling up the center section to release the clip. Then gently remove them by pulling on the outer section. Again, remove the two large nuts holding the mount in place, **NOT** the center nut.

Left Side

Right Side

  - Do not remove the shock mount from the shock without a spring compressor. There's a lot of potential energy here, improper disassembly is a recipe for injury and damaged parts.



This picture shows the order of installation of parts onto the front shock. The two black washers shows represent the factory rubbers of similar size you'll reuse from the factory tophat. Missing from this pic are the coil spring and polyurethane spring isolator, which go on just before the new tophat does. You will reuse the factory tophat and pair of rubbers in the rear, which is assembled the same as shown here.

Once you have the new coilovers installed, use the included extended swaybar links in the rear. The rear factory links are too short and will limit wheel travel, degrading offroad performance and traction. The front factory swaybar links are long enough to use with the car lifted.

- **Do NOT over tighten the nuts on top of the shock! Install the first nut and torque to 37 lb-ft. Then install the second nut to lock the first in place.**

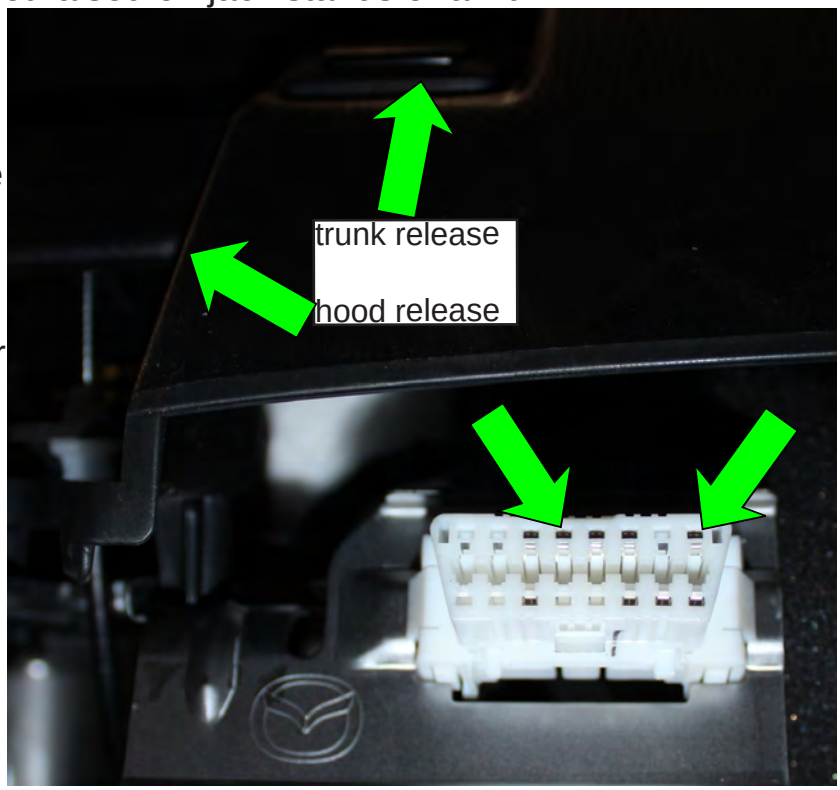
- **Do NOT tighten any of the rubber bushings (lower shock bolt, upper inner control arm bushings, etc) until the car is on the ground, with its weight on its wheels, and has been rolled a few feet.** The bushings must be in their static positions when you tighten them, **otherwise the ride height will be incorrect and your bushings will fail.** Along those lines, loosen and re-tighten **ALL** of the rubber bushings once the car is back on its wheels. Our hub stands make this job much easier.

- The shocks should arrive with the damping set to full soft. We like to start here and go stiffer if need be later on. If you have a shock tower brace, you can leave it off for easier access until you are satisfied with the damping adjustment.

Headlight Leveling Procedure

- 2016-2018 Miatas can use the procedure below or they can use a headlight levelizer. A levelizer is a mechanical item that bolts on and is adjustable, the procedure below is more of a programming thing. You must do one or the other or your headlights will point down dramatically. 2019+ Miatas (any Miata or Fiat 124 without a mechanical sensor on the left (driver's side) rear suspension) do not have the option of the levelizer and must use the programming procedure below. If you're unsure, look up our "Levelizer" online and check its instructions to see if you have that part.

1. Be sure the car is on its wheels, not raised on jack stands or a lift.
2. Get two scrap pieces of wire and strip both ends of both wires.
3. Find the OBD-II plug - it's in the driver's footwell, to the right of the hood release and just behind the lower edge of the dash plastic.
4. Insert one piece of wire into the terminal that's closest to the lower edge of the dash and all the way to the right (towards the center console). The other wire should be inserted into the fifth terminal from the right and in the same row (closest to the lower edge of the dash). Be sure these two wires aren't touching. ***BE ABSOLUTELY SURE ABOUT YOUR WIRE CONNECTIONS, INCORRECT CONNECTIONS CAN CAUSE DAMAGE.***



5. Turn the ignition on. This requires two pushes of the start-stop button *without* the clutch (or brake in an auto) pedal depressed. The engine can be running, but there's no reason for it to be. ***This procedure must be performed within 30 seconds of turning the ignition on.***
6. Connect the two wires to each other three times, holding the connection for roughly .5 seconds then leaving the connection open for roughly .5 seconds each time. It's picky about timing, so if you don't find success try holding the connection longer or shorter until it works.
7. Check the gauge cluster. The LED headlight warning light should illuminate three times every .25 seconds then turn off. You should also be able to hear the headlight motors (if it's quiet enough). If the light doesn't turn off on its own, the procedure may have been performed incorrectly. Check your connections and repeat step five.
8. Once the light turns itself off, remove the wires. You're done!

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