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MM IRS Coil-Over Kit - Koni Shocks (MMCO-7)

Read all of the instructions before beginning work. Following the instructions in the proper sequence will ensure the best and easiest installation.

Thank you for purchasing Maximum Motorsports' ultimate IRS coil-over conversion kit. This kit is manufactured specifically for Mustang Cobra IRS Koni shocks. There are many features you will find that set our coil-over kit apart from the rest. Starting at the top:

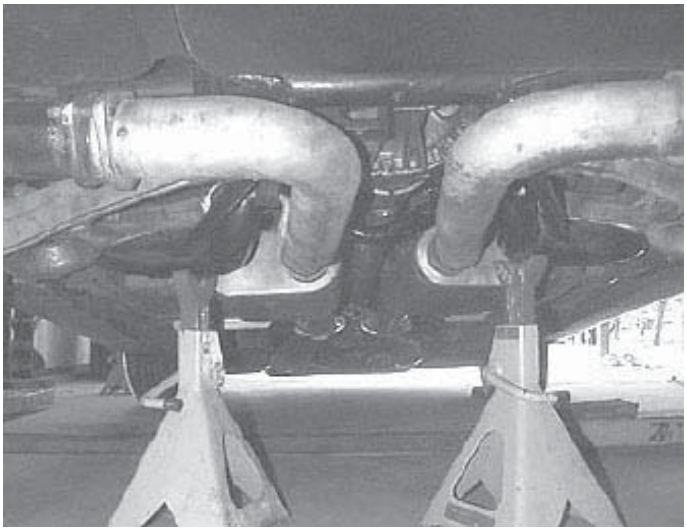
- We maximize bump travel by providing a Delrin pivot-ball and aluminum socket joint that does not reduce bump travel from that of a stock Mustang. Some of our competitor's coil-over kits reduce bump travel by as much as 1-1/4".
- The Delrin pivot-ball and aluminum pivot socket also provide a smooth, fluid motion that does not overstress the shock shaft.
- Our upper spring perch assembly has been fully engineered for optimum strength, clearance, and bump travel--it is shaped far better than any other.
- The lower spring perch is drilled for easy adjustment with a MM Spanner Wrench, if pre-loading the spring is necessary. A set screw ensures that the lower spring perch will not rotate unintentionally on the threaded sleeve.
- While other companies simply anodize their aluminum parts for appearance, we have critical components *hard* anodized for maximum life.
- Suspension loads are fed into the upper shoulder of the threaded sleeve, which provides a contact area able to support 4,000 lbs.
- The threaded sleeve is designed to attach securely to the shock absorber body *without* the need for circlip machining.
- Overlooked by other companies, our threaded sleeve assembly is designed to fit the shock snugly. A tight fit keeps the threaded sleeve from rattling on the shock. More importantly, the lower spring perch is kept square to the shock, preventing the spring from arcing and rubbing on the threaded sleeve.

Finishing off the kit, we recommend using only top-quality springs such as Hypercoil and Eibach. We back them with our extensive technical knowledge of rates, free lengths, and proper spring travel all to ensure that your car will perform to its maximum potential.

1. Measure the ride height of the rear of the car from the ground to the top of the wheel well opening. Record this dimension, it will be needed later.

2 Loosen, but do not remove, the lug nuts on the rear wheels.

3. Block the front wheels and jack up the rear of the car. Position the jack under either the torque box or under a subframe connector. Once raised, support the rear of the car with jack stands under the IRS subframe jacking pads.



4. Remove the rear wheels.

5. Using an internal-mounted coil spring compressor, compress and remove each rear coil spring. Most auto parts and equipment rental stores rent these types of spring compressors.

6. From inside the car, remove the nut, thrust washer and upper rubber isolator from the top of each shock shaft. Save these three components, as they will be re-used later in the coil-over installation.

   NOTE: If you are installing new Koni shocks in place of your existing shocks, use the nuts, thrust washers and the isolators provided in the Koni hardware kit rather than the components that you removed in step 6.

7. Remove the bottom shock bolts from the lower control arms and remove the shocks from the car. Save the OEM 14mm bolts and the special nuts from the backside of the control arm. Discard any washers that were on the 14mm bolt.

8. Remove and discard any other Ford factory hardware. Only the 14mm bolt and nut are re-used.

9. In a vise or press, remove the metal crush sleeve from each shock eyelet. Select a socket that is large enough t o accept the crush sleeve into it's center. Select a deep socket that is small enough to push the crush sleeve out through the rubber.

10. Use a similar process to remove the rubber bushings from each shock eyelet. Select a socket that is large enough to accept the rubber bushing into it's center, but will still support the steel eye of the lower shock mount. Then select a smaller deep socket that will be able to push the rubber bushing out of the steel eye.

    NOTE: It can help to cut the lip off one side of the rubber bushing if you have trouble getting the socket to rest on the rim of the eyelet.

11. If each of your shocks have had the metal dust boot machined off the shock, proceed to step 13. If not, send the two shocks to Maximum Motorsports for removal. We have a two day turn-around on this process, plus shipping time.

CAUTION: If your shocks are machined incorrectly by someone other than MM, the shock may be damaged and could fail.

12. Remove the bump stop from each shock. Save the bump stops; you will need these later.

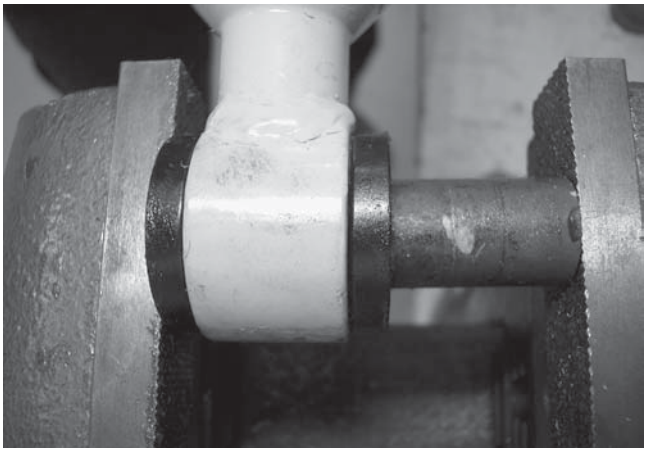
13. Thread one of the lower spring perches onto a threaded sleeve.

14. Install the threaded sleeve onto the shock absorber body by sliding the sleeve down from the top (piston rod) end of the shock, with the flanged lip of the sleeve towards the stud. Slide the sleeve downward until the lip of the threaded sleeve firmly contacts the upper portion of the shock body. Reinstall the bump stop shim so that it seats squarely against the top of the shock.

15. Place one of the bumpstops into position on the shock shaft.

16. Lube two of the MM lower shock mount urethane bushings, inside and out, with the supplied grease. Completely coat the bare metal surfaces inside the shock eyelet with grease. Then, push the greased urethane bushings into the eyelet of the shock.

17. Completely coat the outside of a supplied crush sleeve with the supplied grease. Insert the crush sleeve into the urethane bushings. To do so, it will be necessary to use a vice or large set of pliers to press in the crush sleeve.



18. Place one of the coil-over springs onto the lower spring perch. Position the lower spring perch so the top of the spring is well below the top of the step in the shock shaft. This will make the installation of the remaining parts easier.

19. Place the upper spring perch on the spring.

20. Place one of the aluminum pivot sockets over the piston rod (with the cup facing upward) until it seats against the welded isolator bung located near the top of the shock piston rod.

21. Completely coat the inside of the pivot socket with the supplied grease.

22. Place one of the Delrin pivot balls on the shock shaft with the curved side facing down toward the aluminum pivot socket.

You have now completed assembling one coil-over assembly. Repeat steps 13-22 for the second shock.

23. On the passenger side of the car, position the shock shaft of one of the completed coil-over assemblies through the hole in the shock tower.

24. Completely coat the exposed faces of the urethane with the supplied grease.

25. Place a 1/2" ID Eyelet Bushing Thrust Washer under the head of the OEM 14mm bolt. Then, insert the 14mm bolt into the shock eye crush sleeve. Place

another Thrust Washer over the end of the bolt, and insert the bolt into the hole in the control arm.

26. Thread the OEM 14mm bolt into the OEM special nut on the back side of the control arm. Torque the OEM 14mm lower shock bolt to 98ft-lb.

27. Using a jack, raise the passenger side lower control arm to seat the Delrin pivot-ball against the bottom side of the shock tower. Keep the Delrin pivot-ball centered in the mounting hole of the shock tower as the pivot-ball engages the bottom side of the shock tower. The raised boss on the top of the pivot ball should be centered in the hole in the shock tower. Incorrect installation will casue premature wear and failure of the pivot ball.

28. From inside the car, on top of the shock tower, place a Koni rubber isolator, thrust washer, and nut on top of the shock shaft. Using a 9mm wrench to keep the shock piston rod from turning, tighten the nut until the thrust washer just begins to drag on the rubber isolator, and then tighten the nut 4 more turns.

29. Raise the lower spring perch until the spring is just contacting the upper and lower spring perches.

    Repeat steps 23 through 29 to install the other coil-over assembly into the driver side of the car.

30. Reinstall the wheels and torque the lug nuts to factory specs.

31. Remove the jack stands and lower the car.

32. Roll the car back and forth to settle the suspension.

33. Check the ride height (recorded in step 1) to determine if the car needs to be raised or lowered. Support the car on jack stands to get the weight off the springs, and adjust the spring perches. Hold the threaded sleeve with one hand and turn the lower spring perch with your other hand. (up, to raise the car, and down, to lower the car) NOTE: If you need to preload the spring, use MM's spanner wrench to help rotate the lower spring perch.

34. Lower the car and repeat steps 32 - 33 until the desired ride height is achieved. Adjusting the ride height on one side of the car will have a slight effect on the ride height of the other side. When finished, the spring perches may be at slightly different positions on the threaded sleeves. The difference will be slight. If they differ by more than 3/4" recheck the installation, as there may be a problem.

35. Once the ride height is correct, use the supplied 5/32" hex key to snug the nylon tipped set screw in the

lower spring perch. This will hold the spring perch in position. Tighten only enough to prevent the lower spring perch from rotating on the threaded sleeve. Overtightening may damage the the set screw, the threaded sleeve, or the lower spring perch.

36. Test drive and enjoy. Re-torque all bolts after 1000 miles.

This kit includes the following:

2 Threaded sleeves
2 Lower spring perches
2 Upper spring perches
2 Delrin pivot-balls
2 Aluminum pivot sockets
2 Set screws
4 Urethane bushings
1 5/32" Hex key
1 Prothane Grease Packet
4 1/2" ID Eyelet Bushing Thrust Washers

Available for your Rear Coil-over Kit

MMSM-5 Racing Rear Upper Shock Mount.

This racing duty upper shock mount uses a spherical bearing (just like the MM Caster/Camber plates) to positively locate the upper end of the rear shock. It eliminates the last little bit of potential binding that may come from the rubber still used at the very top of the shock mount. The machined aluminum block sandwiches the rear shock tower with a doubler plate.