



# ICON VEHICLE DYNAMICS

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**Part No. 21-2500**  
**2.5" Suspension System**  
**2003-Present Dodge Ram 2500-3500**

## Enclosed Parts List:

(2) Coil Springs	(2) Snap In Bump Stop
(2) Sway Bar Links	(2) ICON Shocks
(1) Sway Bar Hardware Kit	(1) Rear Block Kit

***READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION! IF THESE INSTRUCTIONS ARE NOT PROPERLY FOLLOWED, SEVERE FRAME, SUSPENSION AND TIRE DAMAGE MAY RESULT TO THE VEHICLE!***

***Warning! Icon Vehicle Dynamics recommends that you exercise extreme caution when working under a vehicle that is supported with jack stands or on a lift.***

## FRONT SUSPENSION INSTALLATION

1. Jack up the front end of the truck and support the frame at the front frame rails with jack stands. Keep vehicle at ride height but allow the frame rails to lay on the jack stands. NEVER WORK UNDER AN UNSUPPORTED VEHICLE.
2. Remove the sway bar links. The link will be replaced with a new billet link with heims.
3. Loosen and remove lower pan hard bar bolt at the axle.
4. Jack up vehicle and remove tires and inner fender liners.
5. Support the axle with a heavy duty floor jack. With the housing supported, loosen the lower shock mount bolts going through the axle housing. THE AXLE HOUSING IS EXTREMELY HEAVY AND IS SUPPORTED BY THE SHOCKS, MAKE SURE THE HOUSING IS SECURELY SUPPORTED BY THE JACK.
6. Remove XXmm upper shock bushing and nut. Proceed to remove the 3 XXmm shock mount bolts and remove the shock mount. The shock can then be guided up through the wheel well and removed. REMOVING THE SHOCKS WILL ALLOW THE AXLE TO FREE FALL. MAKE SURE THE HOUSING IS SECURELY SUPPORTED BY THE JACK AND CAN BE LIFTED AND LOWERED SAFELY.
7. Disconnect the brake line brackets located on each the side of the axle housing in between the control arms.
8. As you continue to slowly lower the axle the coils will unload from the mounts making them easier to remove later on.
9. The OEM upper control arms will bind before the suspension can reach full droop and become completely unloaded. Loosen the front bolt on both of the upper control arms to allow axle to drop far enough to remove the coil spring. REMOVING THE UPPER ARMS WILL ALLOW THE HOUSING TO ROTATE FORWARD AND BACK, PROPERLY SUPPORT THE HOUSING USING (2) JACKS IF NECESSARY.
10. The axle will now only be supported by the lower control arms and jack, the axle is extremely heavy and extreme care must be taken when positioning the axle.
11. With the axle supported by the jack you can begin to loosen the XXmm nut on the upper end of the pan rod bar and remove the pan hard bar. Slowly lower the axle housing making sure not to over extend any hoses or brake lines.
12. Continue to slowly lower the axle, the coils will become fully unloaded from the mount, slowly lower the jack until the coil springs become loose enough to slip them out. Remove the rubber isolator and install it on the new coils. Temporarily place the shock mount stud ring nuts back on the ring, allowing it to hang in place.

13. Replace the factory pan hard bar with the new ICON Adjustable Pan Hard Bar, making sure the side with the rod end is facing the up. Only insert the top bolt (Only remove the pan hard bar if the optional ICON OEM Replacement Pan Hard Bar Kit has been purchased.)
14. Pull the front bump stops out of the bump stop plate. Remove the bolt in the center of the plate. Install the bump stop extender between the plate and the frame with the supplied bolt and snap the bump stop back into place.
15. Install the new coil springs. Make sure the lower end of the spring is seated properly in its seat and the upper has the rubber coil isolator and shock mount stud ring installed.
16. Begin to slowly raise the axle on the jack while guiding the coils in the coil bucket seats. Take care to guide the shock mount stud ring through the holes in the coil bucket.
17. Slide the upper control arms into the axle and re-tighten the hardware on the upper control links.
18. Re-install the optional 2.0" or 2.5" ICON OEM Replacement Shocks through the wheel well and down through the coil spring. The lower shock mount bolt will need to be mounted first with the longer shock spacer facing towards the rear of the truck. Then lightly tighten the lower shock mount bolt.
19. The shock mount can now be guided over the shock and re-attached to the frame with the 3 XXmm nuts that were removed. The pin top mount on the shock can be tightened loosely onto the shock mount. (The axle may need to be lifted slightly to thread shock hardware on. ( The 2.5" Reservoir shocks come with a reservoir mount that attaches to the front shock mount bolts (the middle and front bolts of the 3 shock mount bolts.)
20. Jack the axle up 2-3" from full droop. Make sure not to jack the vehicle off of the stands!!! Install the pan rod bar with the long spacer towards the rear of the vehicle. Adjust the length making sure both threads have equal engagement.
21. Re-mount the brake lines in their factory location.
22. With the suspension in this partially compressed position go back and torque all the partially installed hardware
23. Install sway bar links: Adjust each end in completely, and slowly turn counter-clockwise to extend the eyelets until they are aligned and the newly supplied Icon Billet Sway bar Links can be installed.
24. Re-install the inner fender well, re-install the tires and lower vehicle to the ground.
25. With the vehicle on the ground center the front axle by adjusting the pan rod bar adjusting collar. The bolts can remain in their stock location tightened, and just the adjusting collar can be spun in or out to align the front axle to the chassis. Tighten the adjusting collar pinch bolts, alternating between the two bolts, back and forth 2-3x in order to evenly apply pressure to secure the collar. (*If the OEM pan hard bar is used, there will be no need for adjustments or axle alignment.*)
26. Center the steering wheel. This lift will affect castor and/or steering alignment.
27. Point the tires straight ahead, make sure the steering column is not locked, loosen the clamps on the drag link turn buckle and rotate the turn buckle to center the steering wheel. Without the use of alignment equipment you may need to test drive the vehicle and re center the wheel if it is off slightly.
28. Check the torque on all hardware. Drive the truck 1-2 miles and re-torque all nuts, bolts and lugs. Re-center the steering wheel if necessary.

### **REAR SUSPENSION INSTALLATION**

***Kits are configured with either rear blocks or rear leaf spring expansion pack; follow appropriate instructions for your configuration***

1. Lift rear of vehicle and support on jack stands. Remove rear wheels.
2. Remove the rear shocks.
3. With a floor jack under the rear end loosen and remove the U-bolts. Make sure the axle is well supported or it could fall when the U-bolts are removed
4. Slowly and carefully lower the axle away from the springs and remove the stock lift blocks.

### **BLOCK INSTALLATION**

1. Place the new lift block between the axle and spring, make sure the bump stop wing is pointing toward the center of the vehicle. Jack up the axle and guide the spring center pin in to the hole on the top of the block.
2. Install new u-bolts, washers and nuts, tighten to 185 ft-lb

3. Install new shocks boot down. Apply grease to the upper bushing; the lower does not require grease. Torque to 76 ft-lb
4. Reinstall wheels and lower to the ground. Re check U-bolt torque.

**LEAF SPRING EXPANSION PACK INSTALLATION INSTRUCTIONS:**

1. *ENSURE TRUCK IS IN GEAR OR IN PARK, SET PARKING BRAKE, TURN OFF ENGINE AND CHOCK REAR TIRES!*
2. Jack up the rear of the vehicle at the Dodge approved jacking points. Support the vehicle using jack stands.
3. Remove the rear shock lower bolts.
4. With a floor jack under the rear end loosen and remove the U-bolts. Make sure the axle is well supported or it could fall when the U-bolts are removed
5. Slowly and carefully lower the axle away from the springs and remove the factory centering pin and factory over-load spring. Installer may want to c-clamp factory spring together before removing center pin. This will make it easier to install the new spring pack.
6. Place the new add a spring pack between the axle and spring, make sure the mini spring pack is unbolted. Slide new center pin through factory leaf spring and reinstall the supplied nut. Jack up the axle and guide the spring center pin in to the hole on the top of the axle.
7. Install new u-bolts (long u-bolts on driver side), washers and nuts, tighten to Dodge Chrysler spec.
8. Install shocks onto lower factory mount: Compress shock and insert bolt into the factory shock mount.
9. Repeat steps 3-8 for the other side of the vehicle.
10. Reinstall wheels and lower to the ground. Re check U-bolt torque. Consult vehicle owner's manual.

**RE-TORQUE ALL NUTS, BOLTS AND LUGS AFTER 100 MILES AND PERIODICALLY THEREAFTER.**

**For Technical Assistance Call: 951.689.ICON**

***Icon Vehicle Dynamics* LIMITED LIFETIME WARRANTY**

*Icon Vehicle Dynamics* warrants to the original retail purchaser who owns the vehicle on which the product was originally installed. *Icon Vehicle Dynamics* does not warrant the product for finish, alterations, modifications and/or installation contrary to *Icon Vehicle Dynamics* instructions. *Icon Vehicle Dynamics* products are not designed, nor are they intended to be installed on vehicles used in race applications, for racing purposes or for similar activities. (A "race" is defined as any contest between two or more vehicles, or a contest of one or more vehicles against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America and Canada.

*Icon Vehicle Dynamics* obligation under this warranty is limited to the repair or replacement, at *Icon Vehicle Dynamics'* discretion, of the defective product. Any and all costs of removal, installation or re-installation, freight charges and incidental or consequential damages are expressly excluded from this warranty.

Items that are subject to wear are not considered defective when worn and are not covered.

Coil over take-apart shocks are considered a serviceable shock with a one year warranty on leakage only. Service seal kits are available separately for future maintenance. We do not warranty any other product not directly manufactured by *Icon Vehicle Dynamics*.

*Icon Vehicle Dynamics* components must be installed as a complete kit as shown in our current application guide. Any substitutions or exemptions of required components will immediately void the warranty.

Some finish damage may happen to parts during shipping and is not covered under warranty.

This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been improperly installed, modified or customized subject to accident, negligence, abuse or misuse.