



# ICON VEHICLE DYNAMICS

1580 Commerce St. Corona, CA 92880  
ph. 951.272.ICON fx. 951.272.4IVD

***Instruction Sheet:***

**Part No. 6-7000**

**7" Suspension System**

**2005-2007 Ford F250/F350 4WD**

**Enclosed Parts List:**

(2) Coil Springs	(1) Sway Bar Link
(1) Pan Rod Drop Bracket	Bushing Kit
(2) Radius Arm Drop Bracket	(1) Brake Line Hardware Kit
(2) Sway Bar Links	(2) Bump Stop Spacers
(1) Frame Bracket Hardware Kit	(4) DR Signature Series Shocks

***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. NEVER WORK UNDER AN UNSUPPORTED VEHICLE. Remove front tires.
2. Remove the sway bar links. The bottom bushing will be reinstalled on the new links
3. Pop the ABS wire connector out of the plastic inner fender liner at the rear of the fender. Measure the hole spacing and drill 2 new holes (3/16 and 1/4) 2" down in the plastic and insert the clip.



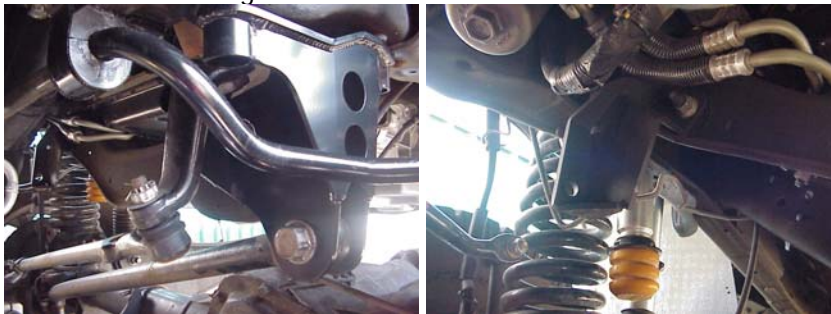
4. Disconnect the upper and lower brake line brackets.



5. Support the axle housing with a floor jack and remove the front shocks. The shocks are limiting droop so **MAKE SURE THE AXLE IS SUPPORTED OR THE AXLE WILL FALL** when the shocks are removed. You can now lower the axle to gain access to the pan rod bar and bracket.
6. As you continue to slowly lower the axle the coils will unload from the mounts and you can remove them. Remove the rubber isolator from the stock coil and install it on the new coils.
7. Remove the nut and the upper pan rod bar bolt (30mm) and remove the end of the bar from the cast bracket.
8. Remove the stock pan rod bracket: Remove the 2 bolts up into the frame and the 3 bolts to the cross member.



9. Remove the pitman arm: Remove the tie rod from the arm first. Loosen the nut and strike the end of the pitman arm with a large hammer to dislodge the taper. Remove the large 46mm nut from the pitman arm. Using a pitman arm puller remove the arm.
10. Remove the steering stabilizer bracket located on the passenger side of the engine cross member: Remove the stud end of the stabilizer from the bracket; note the bushing and washer orientation. Remove the 2 nuts and bolt plate securing it to the cross member. Install the new drop bracket; the bolt plate will need to be installed from the opposite side. Torque to 58 ft\*lb. Reinstall the stabilizer and bushings in the same order as removed.



11. Install the new pitman arm, note the key spline location. Use red loctite and torque the nut to 250 ft\*lb. Reinstall the tie rod to the new pitman arm, torque to 52 ft\* lb. Install the new pan rod bracket. Torque the 3 cross member bolts to 92 ft\*lb, 2 frame bolts to 58 ft\*lb

12. reinstall the pan rod bar into the new bracket you may have to jack the axle up or down to help line up the holes, do not fully tighten yet.



13. Remove the pivot bolts on rear of the radius arm. At this point there is nothing else holding the heavy front axle and radius arms to the vehicle. It helps to have an extra floor jack and an extra hand to maneuver the cumbersome front end.

14. Lower the rear of the radius arms out of the frame brackets to allow room for the new brackets.

15. Install the new radius arm drop brackets using new (2)  $\frac{3}{4}$ " bolts and (2)  $\frac{7}{16}$ " bolts per side. Reinstall the radius arm into the new bracket using the factory bolt. Do not fully tighten this



hardware yet.

16. 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.



17. Install the new coil springs. Make sure the pig tail lower end of the spring is seated properly in its seat by rotating clockwise until the end of the spring hits the stop in the seat

18. Slowly jack up the axle making sure the coils align in the upper and lower seats. Jack up just far enough to install the new front shocks. Do not full tighten the lower shock bolt.



19. Installing sway bar links: Grease the bushings and install in the eyelet end of the new link. Grease the sleeve and install in bushings. Install the factory lower stem bushings on the new link. Install on the vehicle, make sure the short step end of the sleeve fits in the end of the sway bar install new  $\frac{1}{2}$ " x 3" bolt and tighten 78 ft\*lb. Make sure the notched tab fits in the alignment hole in lower spring pad.



20. Install the upper and lower brake line brackets. The upper bracket uses the factory bolt on the top and a supplied  $\frac{5}{16}$ " bolt on the bottom. Carefully reroute the hard line. The lower bracket goes behind the stock brake line bracket and rotates the bracket out toward the wheel and away from the longer sway bar link eyelet.



21. Jack up the axle 2-3" from droop. With the suspension in this partially compressed position go back and torque all the partially installed hardware. Radius arm bracket:  $\frac{3}{4}$ " and factory bolt 260ft-lb,  $\frac{7}{16}$  bolts 54 ft\*lb. Lower shock bolt: 76 ft\*lb. pan rod bar: 369 ft\*lb.
22. Remove stock alignment cams: Remove cotter pin and nut from upper ball joint. With a brass hammer, strike the ball joint stud to dislodge taper. Be careful not to damage threads. Remove stock alignment cam.
23. Install new alignment cam: Make sure arrow is pointing toward the front of the truck and the flat end of the cam is aligned with the flat end of the knuckle. Use the old sleeve to tap the new one down onto the taper. Install nut and torque to 69 ft\*lb. Install cotter pin.
24. Reinstall tires and lower vehicle to the ground.
25. Center the steering wheel. This lift does not affect castor, camber or toe-in, this is the only alignment that is needed. 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.

26. 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 springs; 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 tang is pointing toward the center of the vehicle. Jack up the axle and guide the spring center pin in to the hole



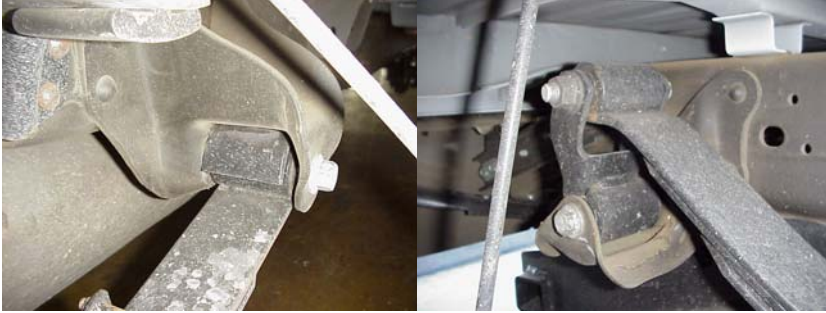
on the top of the block.

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 INSTALLATION**

1. Remove front spring bolt and rear lower shackle bolt and remove the spring from the vehicle. Be careful they are heavy and cumbersome.
2. Note the spring direction; the front of the spring is double wrapped around the eyelet. Remove the shackle from the stock spring and install on the rear (small eyelet) of the new spring, do not fully tighten.

3. Install the new spring in the vehicle. Install the front spring bolt and rear shackle bolt. Do not fully tighten.



4. Jack up the axle and guide the spring center pin into the hole in the axle pad.



5. Install new u-bolts, washers and nuts, tighten to 185 ft\*lb.
6. Install new shocks boot down. Apply grease to the upper bushing; the lower does not require grease. Torque to 76 ft\*lb
7. Reinstall wheels and lower to the ground. Re check U-bolt torque.
8. With the vehicle sitting on the ground go back and torque the spring hanger and shackle bolts. Front spring bolt: 185 ft\*lb. rear shackle bolts: 185 ft\*lb

**RETORQUE ALL NUTS, BOLTS AND LUGS AFTER 100 MILES AND PERIODICALLY THEREAFTER.**

**For technical assistance or suggestions on how to make our product better call (951) 272-ICON Monday-Friday between the hours of 8am-12pm and 1pm-5pm Pacific-standard time, certain holidays excluded.**

#### ***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.