# ZONF1351 Installation Instructions
# 2023-2026 Ford Super Duty F250/F350 4WD
# 3.5" Radius Arm Drop Bracket Suspension Lift

## Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

### » Product Safety Warning

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

### » Technical Support

***www.zoneoffroad.com*** may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to ***tech-zone@ridefox.com*** detailing your issue for a quick response.

***888.998.ZONE*** Call to speak directly with Zone tech support.

### Difficulty Level

Easy 1 2 (3) 4 5

Estimated installation: 8 hours

### Tire/Wheel Fitment

**3.5" System:**

- 35 x 12.50 with 20 x 9 and 4.5-5" backspace. Some trimming may be required
- 35 x 12.50 with 18 x 9 and 4.5-5" backspace. Some trimming may be required
- 35 x 12.50 with 17x9 and 4.5-5" backspace. Some trimming may be required.

### » Pre-Installation Notes

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

***Important* Verify you have all of the kit components before beginning installation.**

# Kit Contents

### 3.5" Adventure Series Front Box Kit - ZONF1351

| Qty | Part |
|---|---|
| 1 | Bolt Pack - 5/16" Hardware |
| 1 | Bolt Pack - Coil Spacer and Brake Line Relocation |
| 2 | Track Bar Cam Washer |
| 1 | Bolt Pack - Radius Arm Drop Brackets |
| 2 | Front Bump Stop Extension |
| 2 | Radius Arm Drop Brackets |
| 2 | Coil Spring Spacers |
| 2 | Brake Line Relocation Brackets |
| 1 | Front Track Bar Bracket |

### Front Shock Relocation Brackets - ZONF5351

| Qty | Part |
|---|---|
| 1 | Front Shock Extension Bracket - Driver |
| 1 | Front Shock Extension Bracket - Passenger |
| 2 | Sleeve |
| 1 | Bolt Pack - Front Shock Relocation Brackets |

### Rear Block Kit - ZONF6309

| Qty | Part |
|---|---|
| 8 | 5/8" Nut |
| 8 | 5/8" SAE Flat Washer |
| 2 | 4" Super Duty Rear Block |
| 4 | 5/8" x 3-1/8" x 16" U-Bolts |

# IMPORTANT

It is required that ride height measurements be taken before and after installation. Measure from the **WHEEL AXLE CENTER** up to the **FENDER LIP** of the wheel opening. Do this for all 4 wheels. Record measurements below.**

**BEFORE:**

*LF*_____ *RF*_____ *LR*_____ *RR*_____

**AFTER:**

*LF*_____ *RF*_____ *LR*_____ *RR*_____




***These ride heights will be required if you have any ride height concerns after installation. Please be prepared to provide these to Technical Support.*

## PRE-INSTALLATION NOTES

1. Installation requires a torque wrench capable of 406 ft-lbs.
2. Two piece rear drive shaft? Add a carrier bearing drop kit to reduce post-lift driveline angles and avoid / eliminate driveshaft vibration.
3. Due to taller factory ride height, Tremor models will not net full advertised lift height. Final ride height will be the same as standard models.
4. Larger tires on stock wheel are not recommended due to interference with brake line, radius arm and sway bar. Use recommended specs listed in wheel and tire fitment section.
5. Some 2023 F250/F350 Super Duty trucks from Ford have left rear axle shafts manufactured without proper completion. Refer to Ford Safety Recall 23S49 for details and effected build range.
6. 2023+ F250/F350 Super Duty trucks equipped with Load Scales/Ride Height Sensors will require ZONF5303 to properly remount the sensor linkages.
7. Ford Special Service Tool 211-003 (T64P-3590-F) recommended for seperating the drag link and pitman arm.

## INSTALLATION INSTRUCTIONS

### » Front Installation

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Disconnect the front track bar from the frame mount. Figure 1



Figure 1

3. Raise the front of the vehicle and support under the frame rails with jack stands.
4. Remove the front wheels.
5. Support the front axle with a hydraulic jack.

**Step 1 Tip:**

*As a result of the location of the long radius arm suspension, support locations are limited. Use your best judgment while supporting the vehicle with sufficient strength stands at appropriate locations. The radius arms will need to move freely during this installation.*

6. Disconnect the front brake line brackets from the axle Figure 2. Retain hardware.

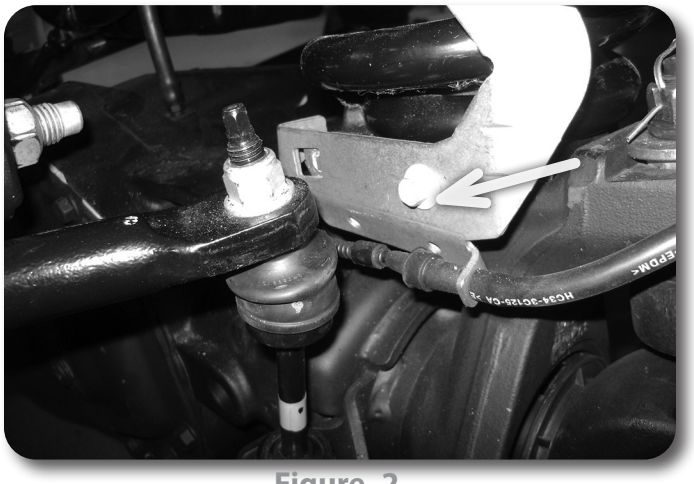

Figure 2

7. With a paint marker, make an indexing mark on the front driveshaft u-joint to the pinion flange. Make another mark on the CV joint-to-transfer case output flange. Marks will be used as reference for mounting during reinstallation. Remove the driveshaft from the vehicle.

8. Remove the bolt holding the front brake line bracket on the frame. Retain hardware for reinstallation Figure 3

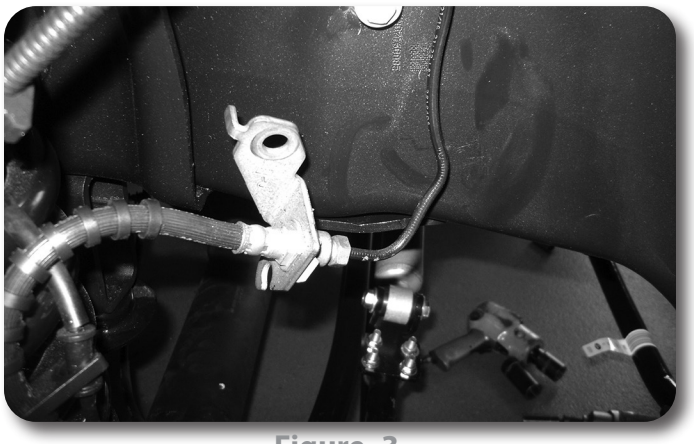

Figure 3

9. Free the hub vacuum lines from the axle to allow for adequate droop Figure 4, 5.



Figure 4



Figure 5

10. Disconnect the sway bar end links from the sway bar.
11. Disconnect the OE steering stabilizer mounting bolt at the frame.
12. Disconnect the drag link to pitman arm nut and separate taper using an appropriate service tool. Remove drag link end from the pitman arm.
13. Trucks equipped with load scales: disconnect the sensor linkages at this time.
14. Remove the lower OE shock hardware at this time (leave upper attached). Retain lower mounting hardware.
15. Lower the axle until the OE coil springs are free and remove the springs from the vehicle. Retain the upper spring isolator for reinstallation. Once springs are removed, reattach the axle to the shocks.

### Step 12 Caution:

Ford Special Service Tool 211-003 (T64P-3590-F) recommended for seperating the drag link and pitman arm.

### Step 13 Caution:

Failure to disconnect load scale linkages before removing the front shocks, may result in overextending and breaking the sensor linkage. Refer to the OE procedure for correct disconnection. ZONF5303 is required to remount and maintain correct sensor linkage position.

### Step 15 Caution:

Do not over extend the brake lines. Once the coil springs are removed, hook the front shocks back up by reinstalling the bolt, do not install the nut. This is a safety measure to hold the axle in place while the replacement radius arm drop brackets are installed.

## » Steering

16. Disconnect the (5) bolts mounting the OE track bar bracket to the frame. Remove bracket.
17. Install the new track bar bracket using OE mounting hardware as the bracket was removed Figure 6. Torque all (5) mounting bolts to 129 ft-lbs. It may be necessary to form the stock hard line slightly to clear the new trackbar bracket.

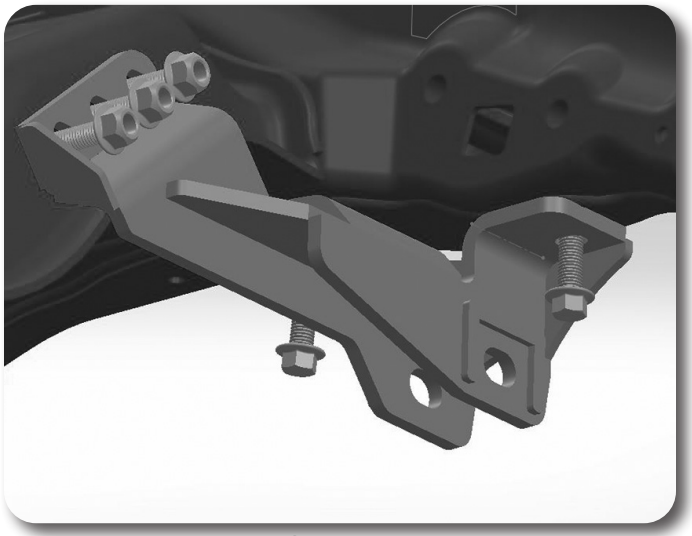

Figure 6

## Bump Stop Modification

18. Pull the OE front bump stops free from the bump stop cups and remove the bolt mounting the cup to the frame. Figure 7



Figure 7

19. Position the cup on the provided bump stop extension, attach with 8mm x 100mm length hardware. The alignment tab on the bump stop cup will fit in the second hole in the extension.

20. Install bracket and bump stop cup with hardware in the original frame hole. Use thread locker on the threads and torque to 20 ft-lbs. Reinstall the factory bump stop into the retainer cup Figure 8.



Figure 8

### Step 19 Note:

8mm bump stop extension hardware is located in Bolt Pack 1045.

Optional: Bolt Pack 606 - 5/16" Hardware can be used in place of 8mm hardware to fasten the bump cup to the extension. The extension/cup then fastens to frame with OE hardware.

## Radius Arm Drop Bracket Installation

21. Starting with the passenger's side, remove the upper radius arm mounting bolt at the axle. It may be necessary to temporarily remove the shock from the axle-mount to remove the bolt. Remove the radius arm bolt at the frame and lower the radius arm from the frame bracket. Save hardware and support radius arm.

### Step 21 Caution:

For load scale equipped trucks, ensure sensor linkage to the radius arm is disconnected. ZONF5303 Sensor Bracket Relocation Kit is required to remount the sensors with new 3.5" Radius Arm Drop Bracket lift.

22. The two upper, forward most OE radius arm pocket holes and rear strap need resized for bracket mounting. Start with 3/8” drill bit, stepping to 1/2" final bit size. Figure 9 and 10, Passenger side shown

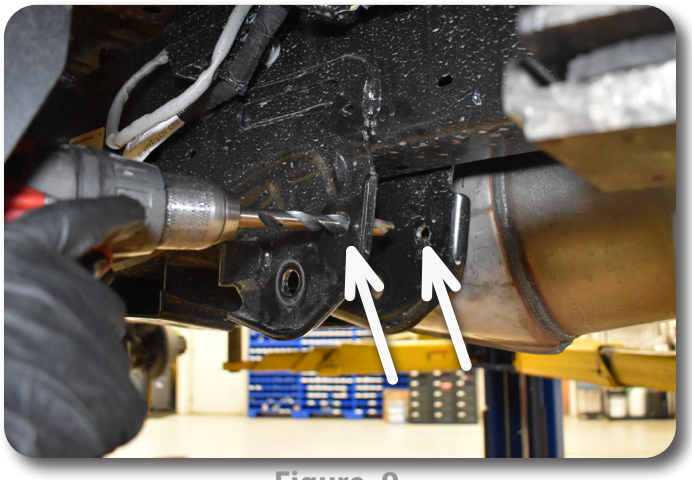

Figure 9

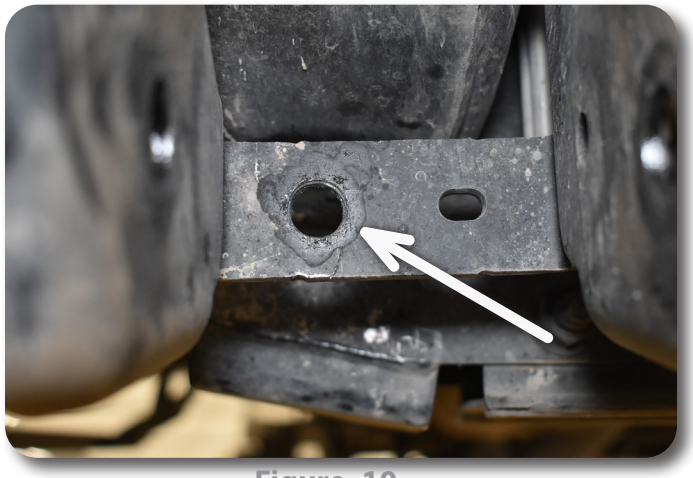

Figure 10

23. Install the radius arm drop bracket using a 3/4” x 5” bolt, 3/4" washers, and nut Figure 11. Install two front most, one rear strap 7/16” x 1-1/2” bolts, 7/16" washers, and nuts into the resized OE radius arm pocket holes. Figure 11 and 12. Hand tighten hardware, do not torque at this time.

**Step 23 Note:**

All radius arm drop bracket hardware is located in Bolt Pack 1104.




Figure 11



Figure 12

24. Torque the drop bracket hardware in the following order: first, the rear most strap 7/16" bolt to 70 ft-lbs, next the forward most 7/16" bolts to 70 ft-lbs, and finally, the 3/4" bracket mounting bolt hardware to 250 ft-lbs.
25. Swing the passenger's side radius arm up into the new drop bracket and fasten with factory hardware. Do not torque at this time.
26. Repeat Steps 21-25 for the opposite side of the vehicle.
27. With both drop brackets installed, reattach the upper radius arm mount to the axle with the factory hardware. Leave hardware loose. All radius arm hardware will be tightened with the weight of the vehicle on the suspension.

## » Coil Spring Spacer Installation

28. Ensure the front axle is fully supported. Remove the lower coil spring perch from its mount at the knuckle. Figure 13



Figure 13

29. Install the OE coil spring perch onto the provided coil spring spacer in the factory location with provided 14mm x 140mm length bolt Figure 14. Stamped FRT lettering on the OE coil perch faces towards the front of the truck Figure 15. Torque bolt to 150 ft-lbs.

**Step 29 Note:**

Coil spring spacer hardware is located in Bolt Pack 1063..



Figure 14

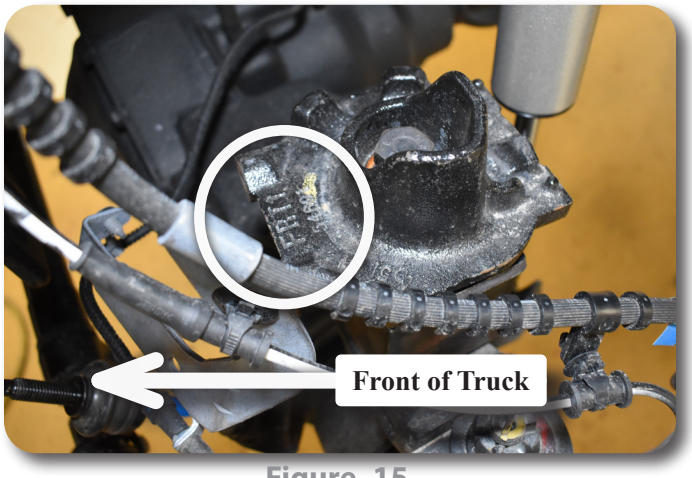


Figure 15

30. Repeat Steps 28 and 29 on the opposite side of the vehicle.

31. Lower the axle enough to allow the coils to be reinstalled. Do not over extend the brake lines. Check ABS, brake, and vacuum lines to ensure they are not overstretched.

32. Reinstall OE coil springs with factory isolators. Raise the axle to seat the springs, rotating the springs so that they seat in the bottom coil perch correctly.

## » Front Shock Installation

33. If purchased, grease and install sleeves and bushings into the kit included shocks. Kits utilizing shock extension brackets with the OE shocks, skip to Step 36.

34. Non-Fox replacement shocks will require the lower mount to be modified. The sharp, non-formed edge will need to be ground to match the formed profile. Grind this and coat with paint. Figure 16A, 16B



Figure 16A

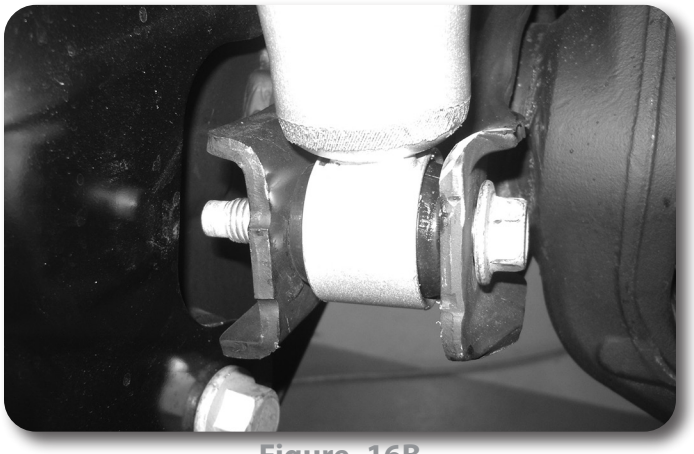

Figure 16B

35. Compress the coils slightly by using a hydraulic jack on the axle. Install new shocks with factory lower hardware and stem washers, bushings, and 1/2" fine thread nut on the upper mount. Tighten the upper mount until the bushings begin to swell. Tighten lower bolt and flag nut to 111 ft-lbs.

## » Shock Relocation Bracket Installation

36. Install the provided shock extension brackets into the stock shock locations with OE mounting bolt and kit provided sleeve. The center strap of the bracket faces forwards, step in the bracket faces outboard Figure 17, Driver Side Shown. Finger tighten bolt and flag nut.

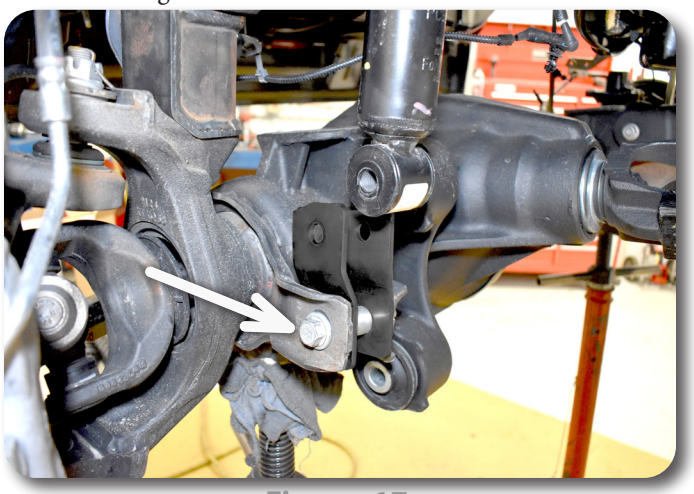

Figure 17

**Step 37 Note:**

Shock extension bracket hardware is located in Bolt Pack 1064..

**Step 38 Note:**

Brake line relocation bracket hardware is located in Bolt Pack 1063.

37. Compress the coils slightly by using a hydraulic jack on the axle. Reconnect the OE shocks with provided 14mm x 80mm bolts, washers, and lock nuts to the extension brackets. Tighten the upper mounts until the bushings begin to swell. Tighten lower 14mm bolts and nut to 128 ft-lbs.

## » Brake Line Relocation Bracket / ABS / Vacuum

38. Mount the brake line relocation brackets to the OE coil seat using two provided 8mm x 18mm length bolts and washers Figure 18A. Align the OE brake line bracket tab to the relocation bracket and mount with one 8mm x 18mm bolt, washers, and nut. Figure 18B

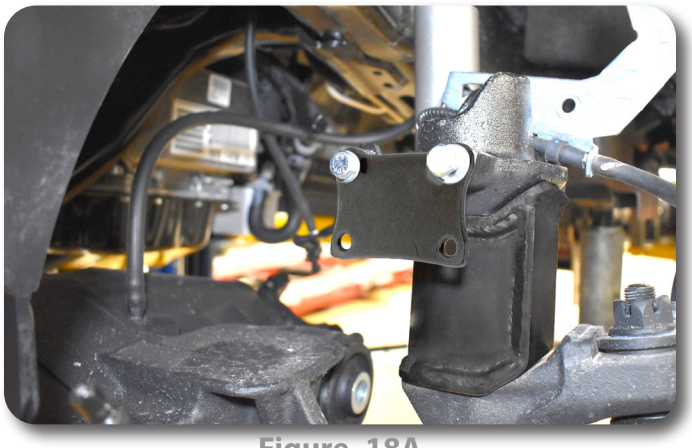

Figure 18A

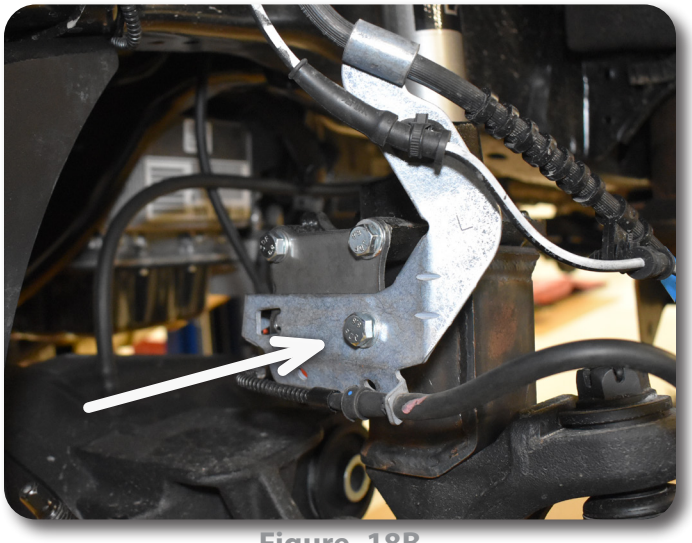

Figure 18B

39. Reattach the front brake line bracket at the frame. It may be necessary to slightly twist the hard brakeline to get adequate clearance to the frame / wheel and tire. Torque OE bolts to 30 ft-lbs.

40. Secure ABS and vacuum lines. Cycle suspension and steering to ensure adequate slack and clearances.

## » Final Front Installation

41. Reinstall the drag link to the pitman arm. Torque OE nut to 129 ft-lbs.

42. Reinstall the OE steering stabilizer mounting bolt at the frame. Torque OE bolt to 51 ft-lbs.

43. Install the sway bar link ends to the sway bar and secure with the OE hardware. Torque to 59 ft-lbs.

44. Reattach the front drive shaft to the front differential with factory hardware. Realign the indexing marks from disassembly. Tighten driveshaft hardware at the axle to 26 ft-lbs. Tighten driveshaft hardware at the transfer case to 92 ft-lbs.

45. Install the wheels and lower the vehicle to the ground.

46. Attach the track bar to the new bracket with OE hardware. Turn the steering wheels to aid in aligning the track bar in the bracket. Install the provided cam washers between the alignment tabs on the bracket. Position the cam washers so that the hole is closer to the driver's side Figure 19 for 3.5" kits. Torque hardware to 406 ft-lbs.

47. Bounce the front of the vehicle to settle the suspension. Torque the OE radius arm pivot bolt and upper bolt at the axle to 221 ft-lbs.

**Step 46 Tip:**

Due to variations in trucks, it may be necessary to rotate the cams 180 degrees to have the axle more centered. Verify axle offset after alignment is complete.




Figure 19

## » Rear Installation

48. Raise the rear of the vehicle and support with jack stands under the frame rails just ahead of the spring hangers.

49. Remove the wheels.

50. Support the axle with a hydraulic jack.

51. Remove the OE shocks. Retain all mounting hardware.

52. Support the rear axle with a hydraulic jack. Disconnect the passenger's side spring u-bolts. Loosen the driver's side to allow the axle to droop out.

53. Lower the axle and remove the factory lift block. It will not be reused.

54. Lower the axle enough to place the provided lift block between the axle and the leaf spring. Position the block so the bump stop wing faces inward, and the small side of the block faces forward. Figure 20

**Step 52 Caution:**

Monitor rear brake line, electrical parking brake harness, and vent tube slack when drooping the rear axle. Loosen mounting brackets as necessary to provide adequate slack.



Figure 20

55. Raise the axle to engage the block spring alignment pins. Fasten the entire assembly with the provided u-bolts, washers, and nuts. Snug but do not torque the u-bolts at this time. Figure 21



Figure 21

**Figure 21 Tip:**

Ensure all u-bolts have equal thread exposed below the nut.

56. Repeat block installation of the driver's side. Take care not to over extend the brake lines.

57. Install the new shocks with the OE mounting hardware. Torque the upper shock nut to 52 ft-lbs and the lower shock nut to 111 ft-lbs.

58. Retain ABS wires and vacuum lines with included zip ties. Ensure there is adequate slack at droop and no interference.

59. Install wheels, cycle steering to check for brake line, ABS wire, ETC to tire clearance. With clearance verified lower the vehicle to the ground.

60. With the weight of the vehicle on the axle, torque the u-bolts to 130-150 ft-lbs.

## » POST INSTALLATION STEPS

61. Check all hardware for proper torque.

62. Cycle steering to check for brake line, ABS wire, ETC to tire clearance, rotate the driver's side brake line on the hard line if necessary.

63. Adjust steering wheel with adjustment on the drag link, do NOT drive the vehicle with the steering wheel off-center or adverse traction control affects may arise. Rotate the clamps once the steering wheel is straight as shown. Figure 22 - incorrect, clamps will interfere with sway bar, Figure 23 - correct clearance)

64. An alignment is recommended, but not necessary.

65. Adjust headlights

66. Check hardware after 500 miles.



Figure 22 *INCORRECT

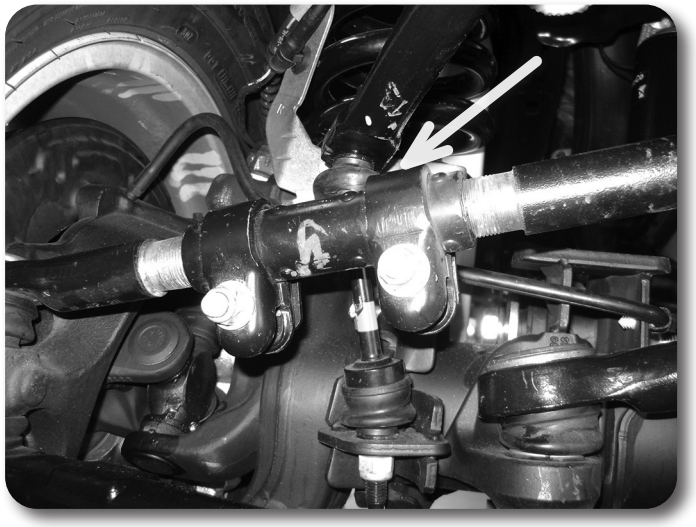

Figure 23 *CORRECT

## Post-Installation Warnings

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.

2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.

3. Perform head light check and adjustment.

4. Re-torque all fasteners after 100 miles. Always inspect fasteners and components during routine servicing.

| Component | Torque (FT-LBS) |
|---|---|
| *(5) Factory Track Bar Bracket Bolts* | *129* |
| *8mm Bump Stop Spacer Bolts* | *20* |
| *3/4" Radius Arm Drop Hardware* | *250* |
| *7/16" Radius Arm Drop Hardware* | *70* |
| *OE Radius Arm Bolts* | *221* |
| *Front Upper Shock Hardware* | *Bushings Deform* |
| *Front Lower Shock Hardware* | *111* |
| *Sway Bar Link to Sway Bar* | *59* |
| *ABS Clamp Hardware* | *101 In-lbs* |
| *Front Brake Line Bracket to Frame* | *30* |
| *Drag Link to Pitman Arm Nut* | *129* |
| *Steering Damper to Frame* | *51* |
| *Front Driveshaft U-joint Hardware at the Axle* | *26* |
| *Front Driveshaft Hardware at the Transfer Case* | *92* |
| *OE Lug Nuts* | *150* |
| *Track Bar Ball Joint Nut at Axle* | *184* |
| *Track Bar-to-Frame (Drop Bracket) Nut and Bolt* | *406* |
| *Rear Upper Shock Hardware* | *52* |
| *Rear Lower Shock Hardware* | *111* |
| *U-Bolts* | *130-150* |
| *Drag Link Adjuster* | *41* |