



Shown with optional Bypass Shock and Gold Coilover Plates for presentation

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Ford King Coilover 2.5: 4.5" Lift System

Installation Instructions

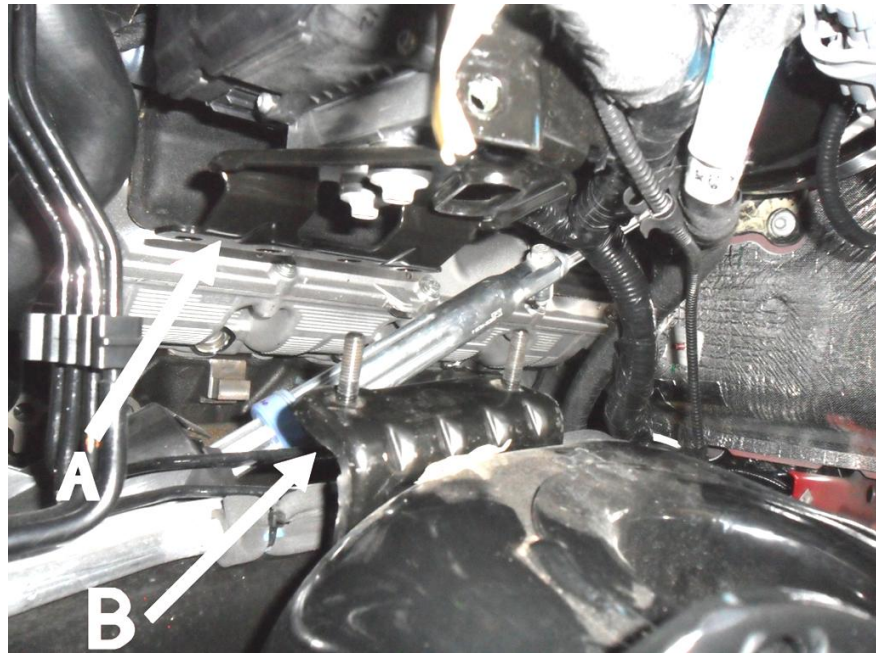
Note: Prior to installation, carefully inspect the vehicles steering and drive train components. Be sure to check all front end components. Everything must be tight and in good working condition prior to installation of a Lift system.

- *We recommend installation be done by a trained professional.
- *Read instructions carefully before attempting installation.
- *Secure and properly block vehicle prior to installation.
- *Front end alignment is necessary upon completion of install.
- *Re-torque all nuts and bolts Front and Rear after 500 miles to ensure tightness.

1. Set emergency brake and block rear wheels, in front and behind tires.
2. Lift truck to extend suspension 3 to 4 inches. Do not lift truck all the way.
3. Remove factory transfer case skid plate and hardware.
4. With a jack supporting radius arms, remove rear bolts from radius arms and lower radius arms.
5. Install new radius arm drop brackets using supplied $\frac{3}{4}$ " and $\frac{3}{8}$ " hardware. Do not tighten at this time.
NOTE: 2011+ vehicles may require drilling two $\frac{3}{8}$ " holes on the bottom of the passenger side frame rail where the drop bracket meets the frame.
6. Raise radius arms up into drop brackets and re-install rear bolt using factory hardware. Do not tighten at this time.
7. Set truck on the ground.
8. Torque radius arms drop bracket hardware.
Torque $\frac{3}{4}$ " hardware to 350 ft/lbs. and $\frac{3}{8}$ " hardware to 47 ft/lbs.
9. Torque rear radius arm bolts to factory spec.
10. Install new transfer case skid plate using supplied $\frac{3}{8}$ " hardware. Torque to 47 ft/lbs.
11. Jack up the front end and properly support the frame on jack stands that are rated for the weight of the vehicle. Set emergency brake and block rear wheels, in front and behind tires.
12. Disconnect sway bar end links from sway bar and axle, then remove.
13. Disconnect brake lines and ABS wires from lower factory spring mount (disconnect 4wd vacuum lines as necessary).
14. Remove upper track bar bolt.
15. Remove factory shocks.
16. Fully extend front suspension and remove factory coils
17. Remove Fender Liners
18. Remove factory bump stops. Do not discard these will be used later.
19. Remove pan rod bar bracket. Do not discard this will be used later.
20. Remove bolt on backside of driver's side spring/shock mount that holds wiring loom bracket.
21. Remove factory spring/shock bucket by removing 7 rivets that retain it to the frame.



22. 2011/12 Vehicles require the ABS pump to be unbolted and re-attached to the new Coil Over Mount with the supplied ABS Bracket. You will re-use the stock ABS Coil bucket bracket (Arrow "B") and bolt it onto the Carli Upper Coil Over Mount. Un-clip the Brake Lines that run behind the coil bucket before removing OEM Coil Bucket. Remove the 3 bolts and the rubber grommets on the ABS Bracket (Arrow "A"). Re-Install rubber grommets into the supplied Carli ABS Bracket into the same holes as the original bracket. Attach bracket onto ABS pump with the 3 bolts. This bracket will then install onto the OEM Bracket that you attached to the Carli Coil Over Mount.



23. Drill out factory rivet holes to 1/2"

24. Remove factory lower spring mount.

25. Replace factory brake line with supplied steel braided brake lines

26. Bleed to factory spec.

27. Install new lower coilover mount with supplied bolt and washer.

28. Install coilover in upper coilover mount with supplied 5/8" hardware

29. Torque to 130 ft/lbs.

30. Install upper coilover mount with supplied 1/2" hardware and torque to 119 ft/lbs. (Note: 2011 Vehicles will require the ABS pump to be bolted onto the Coil Over Mount at this time. Be sure to attach the Brake Lines back into their clips behind the Coil Over Mount.

31. Mount previously disconnected wiring loom bracket to new upper coilover mount with supplied 5/16" hardware.

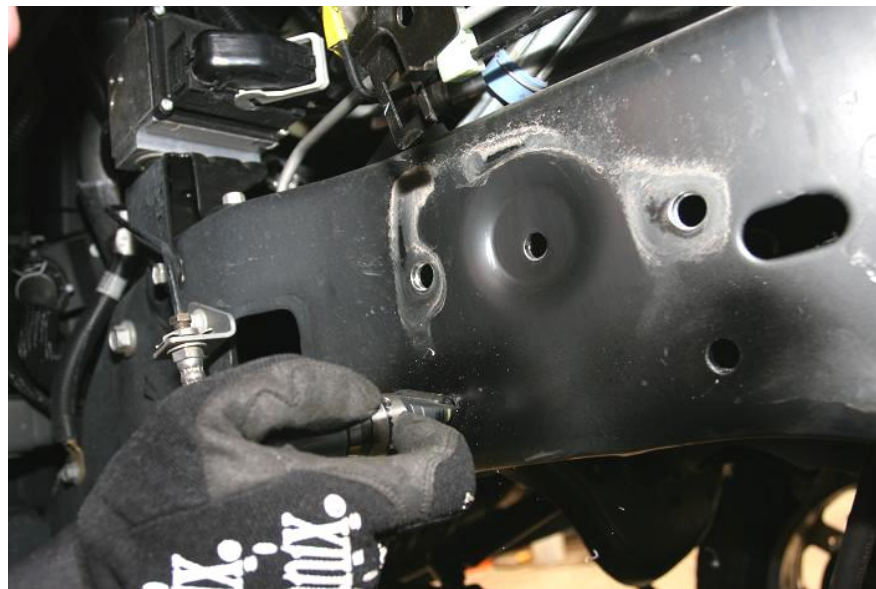
32. Mount factory pan rod bar bracket using factory hardware and torque to 400 lbs/ft.

33. Connect coilovers to lower coilover mount using supplied 1/2" hardware

34. Torque to 119 ft/lbs.

35. Connect new brake lines and factory ABS wires to lower coilover mount using supplied 1/4" hardware.

36. Mount coilover reservoir to the side of the front section of the frame using supplied reservoir mounts and self tapping screws as shown in image below. (Show with optional Bypasses)



37. Install factory fender liners using factory hardware.

FOR 2005-2010 VEHICLES

38. Adjust supplied Carli sway bar end links to 7.25" eye to eye if 2008-10. If 2005-07. Adjust the end link so the pin is perpendicular to the mounting bracket at ride height (in the middle of travel)

39. Install supplied Carli end links in the factory location using O.E.M mounting hardware. Tighten all sway bar hardware including jam nuts.



FOR 2011-12 VEHICLES ONLY:

40. Disconnect factory Sway Bar from the frame and install supplied Drop Brackets to the frame mount with OEM Hardware. Make sure the Drop Brackets angle forward so that it pushes the sway bar away from Coils.

41. Reinstall Sway Bar onto Drop Bracket with supplied 3/8"x1.25" hardware.

42. Disconnect the lower retaining nuts on the sway bar end links from the axle bracket (both sides).

43. Push up on the passenger side of the sway bar to remove the lower pin-mount on the end link from the axle bracket.

44. Slide the provided gold spacer onto the lower end link stud and push the sway bar back into position guiding the end link back into the axle mount.

45. Re-secure the end link to the lower axle mount with the factory nut with the spacer sandwiched between the end link and axle mount as pictured below. Do this hand tight until the Driver's side spacer is in place as well.

46. Repeat spacer installation on Driver's side.
47. It may be necessary to remove the thin metal "bridge" that binds the clamps on the drag-link adjustment collar to ensure full clearance of the drag link and sway bar.
48. Tighten all hardware to factory spec

ALL YEARS:

49. Remove O.E.M. track bar from the axle with a ball joint puller.
50. Adjust the supplied Carli Track Bar to 38" center eye of bearing to center eye of the tapered end.
51. Apply thread locker to threads and torque Jam nut to 150 lb./ft.
52. Install Carli track bar onto factory axle mount using the factory nut.
53. Torque to 150 lbs/ft.
54. Install factory fender liners using factory hardware.
55. Set truck on ground.
(If front tires were removed, reinstall and only slightly tighten until the truck is lowered onto the ground, then set torque.)
56. Install frame end of track bar into the factory mount.
NOTE: Have someone turn the steering wheel to help line up the rod-end to the mount.
57. Install upper factory bolt. Torque to 406 Ft Lbs (factory torque).
58. Reconnect factory ABS lines and vent tubes. Mount new brake line tabs in factory mounting locations.

Rear Installation – Add-a-Pack (Full Spring Pack, Reference Instructions in U-Bolt Box)

59. Raise the rear of the truck and place floor jacks underneath rear axle. Place safety jack stands under the frame to support the truck and lower the truck onto jack stands.
60. Remove rear wheels.
61. Use a floor jack to raise the rear axle just enough to take tension from the shocks and remove them.
62. Remove rear U-bolts attaching rear axle to driver side leaf spring.
63. Carefully lower rear axle.
64. DO NOT ALLOW AXLE TO HANG FROM ANY HOSES OR CABLES
65. Secure main spring assembly together with 2 C-clamps on outer edges of lower leaf. Do not include the lower overload (thick leaf on the very bottom). If your truck has Upper Overload (Helper Springs), you can reuse them, but longer U-Bolts (NOT INCLUDED) will be required to keep the Helper Springs. We STRONGLY recommend you remove them for rear suspension performance.
66. Remove the leaf spring center pin(s) and lower overload spring. Discard the factory overload as the add-a-pack will replace it.
67. Install 6 leaf Add-A-Pack using supplied new center pin.
68. (Order of assembly = New center pin- 6 leaf add-a-pack- remaining leaves on the truck.)
69. Note: You may have to slightly loosen U-bolts on opposite side of the truck to droop axle enough for install of Add-A-Pack.
70. CAREFULLY tighten center pin to bring the leaves together. It might be required to compress them together with a C-Clamp to get the center pin to fully tighten.
71. Once tight, set F350 Blocks on the axle mount with the bump-stop tang facing inward.
72. Raise axle until the block meets the add-a-pack spring and the center pin indexes into the hole on the top of the block.
73. Drill out factory spring retainer plate in order to accommodate new, larger center-pin nuts. We use a step-chamfer bit for this.
74. Set the retainer plate on top of the leaves and install U-bolts to secure the assembly.
75. Torque U-bolt nuts to 110 ft.-lbs in a cross pattern.
76. Repeat installation on passenger side.



Completing Installation:

77. Install rear wheels
78. Lower truck onto the ground
79. Torque wheels and suspension components to OEM specs once the truck is on the ground.
80. Mount the REAR Piggyback shocks body up, shaft down. Both Reservoirs should face AWAY from the axle. Driver's side reservoir points rearward and Passenger reservoir points forward.

81. Torque shock bolts to 35 ft lbs upper and lower.
82. Place Carli Sticker (from hardware kit) onto the shock reservoir facing rearward.
83. Take truck for an alignment.
84. Re-torque after 1000 Miles.

Operational Inspection and Settings

Please note, the shocks included with this system are nitrogen charged, they require specific nitrogen pressure to operate correctly. Ensure the vehicle is supported properly and that the axle is at full droop when verifying nitrogen pressure. Many gauges will release nitrogen in the process of checking the pressure; ensure your gauge will maintain shock pressure during verification (Lock out Gauge) to avoid loss of nitrogen. If you're unsure, many suspension shops, welding supplies, tire shops, or motorcycle repair shops will be able to check or refill your nitrogen charged shocks.

Without the proper nitrogen pressure, Carli Suspension's shocks will not operate properly and will be more susceptible to damage to the seals and internals of the shock. No shocks will be replaced under warranty if the shocks were not properly charged before installation. Shock should ship charged but should be verified prior to installation. **ONLY USE NITROGEN TO CHARGE THE SHOCKS.**

Nitrogen Pressures:

King 2.5: 225 psi