



OBS Ford D60 Coilover Kit Installation Instructions

*****Thoroughly read all of the instructions BEFORE beginning installation*****

Section 1: Removing your factory front suspension. This section is written for trucks that are already equipped with a Dana 60 front axle but mostly still applies to TTB D50 trucks as well.

1. Park truck on flat, solid ground.
2. Disconnect the batteries.
3. Remove the front bumper.
4. Chalk the rear tires.
5. Now it is time to lift the truck so that the frame can be supported by jack stands.
 - a. If you are using floor jacks and jack stands:
 - i. Lift the truck up by placing the floor jack under the axle. Jack it up far enough to be able to let the suspension fully droop with the wheels off.
 - ii. Place two large jack stands under the frame rails roughly 2" back from the front of the frame.
 - iii. Remove the wheels and tires
 - iv. Lower the jack back down so that the axle is hanging from the suspension and not touching the ground.
 - b. Using a two post lift:
 - i. Lift the truck off of the ground until the tires are about 4" off the ground.
 - ii. Place two large jack stands under the frame rails, roughly 2" back from the front of the frame.
 - iii. Remove wheels and tires.
6. Remove the steering linkage.
 - a. Start by removing the cotter pins from the tie rod ends at the pitman arm and both knuckles.
 - b. Loosen the castle nuts on those tie rod ends but do not fully remove the castle nuts.
 - c. There are a few ways to get the tie rod ends out of their bores but the way that we have found works best is to hit the end of the knuckles or pitman arm with a large ball peen hammer. The vibration from hitting these with a hammer will usually cause the tie rod end to fall out. This will take a few firm hits to accomplish. If the tie rod ends do not come out, you can get a tie rod end removal tool to use in conjunction with the method above.
 - d. Once the tie rod ends break free you can fully remove the castle nuts and remove the steering linkage.



e.

7. Disconnect the track bar from the axle and the engine crossmember and remove the track bar bracket from the engine crossmember.
8. Disconnect the sway bar end links from the frame.
9. Disconnect both brake lines from the brake calipers.
 - a. If you do not already have extended brake lines, disconnect the brake lines where the soft line connects to the hard line of the frame.
10. Unbolt the shocks from the axle and shock towers and remove them.
11. Now it is time to remove the u-bolts that hold the axle onto the leaf springs.
 - a. Make sure that the axle is supported and that you will be able to lower it onto something that will allow you to roll the axle out from underneath the truck.
12. Roll the axle out of the way.
13. Remove both leaf springs and the front shackles.
14. Remove the shock towers from both sides of the truck. There are four bolts holding each shock tower on.

This next step involves removing the factory rivets from the frame. This is not always an easy job, but here are some different methods that work for us.

- First method: Using a cutoff wheel, cut three vertical lines in the rivet and three horizontal lines in the rivet. Then take an air hammer with a chisel bit and hammer off the top of the rivet. Use a flap disc (sanding disc) on a grinder to grind the rivet smooth. Then use a punch bit on the air hammer to push the rivet out.
 - Second method: Use a plasma torch or oxy/acetylene torch to burn the rivets out, being careful not to remove the frame material.
 - Third method: Use a sharp punch to make a dimple in the center of the rivet and then drill the rivet out with a drill bit.
15. Remove the rear leaf spring hangers from both sides of the frame.
 16. Remove the sway bar end link brackets from both sides of the frame.
 17. Remove the factory bump stops.
 18. Use a ½" drill bit to drill out the two rear holes that the original leaf spring hanger was riveted to.
 19. Using these holes, bolt your new radius arm brackets to frame. Mark the frame where the rest of the holes in the radius arm brackets are.
 20. Remove the radius arm brackets and drill the holes you marked with a ½" drill bit

Section 2: Installing the frame side brackets. Congratulations! The hard part of the frame side of the job is done and now it's time to install the frame brackets.

21. Using (6) M12-1.75 x 35mm bolts and locking nuts to mount each radius arm bracket to the frame. Torque these bolts to **87ft/lb**.
22. Install the passenger side shock tower first using (7) M12-1.75 x 35mm bolts and locking nuts. Torque these bolts to **87ft/lb**.
23. Install the drivers side shock tower using (4) M12-1.75 x 35mm bolts and locking nuts on the side of the frame.
 - a. On a 7.3 truck, remove the lower bolts and nuts on the motor mount bushing on the engine crossmember and replace them with (2) M12-1.75 x 40mm bolts and locking nuts.

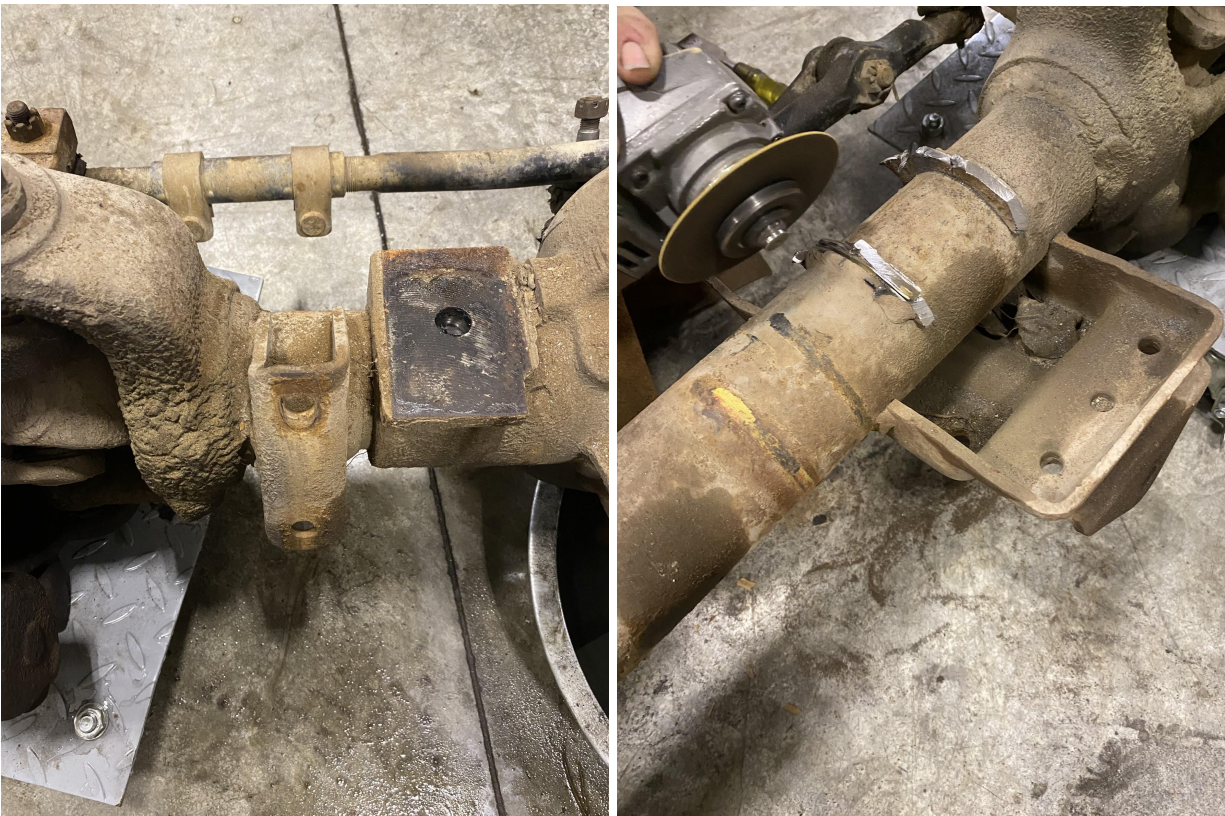


- b.
- c. On a 460 truck these holes are still in the engine crossmember but are not used by the motor mount.
- d. Take the track bar bracket and mount the crossmember side with the two new bolts you replaced on the motor mount bushing.
- e. Use (2) M12-1.75 x 40mm bolts and locking nuts to mount the other side of the track bar bracket and underside of the shock tower to the frame.
- f. Torque all of these bolts to **87ft/lb**.

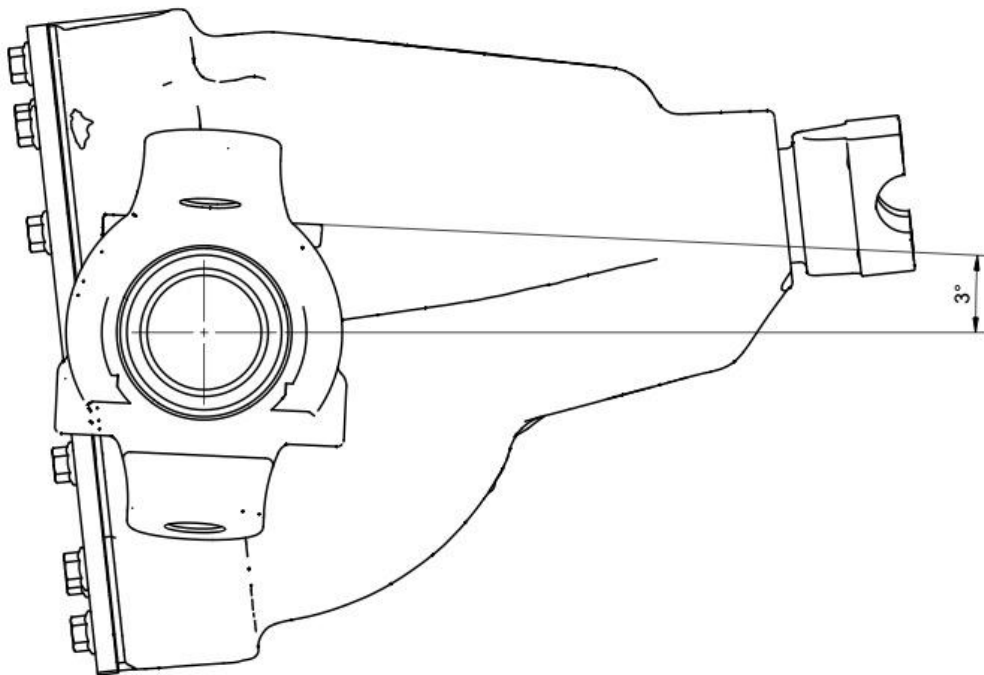
Section 3: The Axle. Now that all of the frame side part of the job is finished, it's time to start on the axle. While it is not always necessary, we recommend taking the opportunity to refresh your axle with new ball joints, u-joints, axle seals, brakes, wheel bearings, etc. while you have it out.

Welding the axle brackets onto the axle must only be done by a professional welder!! Failure to weld these brackets on properly is a life safety issue for the driver, passenger and everyone else on the road!!

1. Unbolt your sway bar and remove it. You will not be using it with our suspension.
2. Being extremely careful to not cut into the axle tube, cut off the leaf spring perch on the passenger side, the sway bar brackets on both sides, and the track bar bracket.
3. Grind these areas down so that there is nothing left of the original brackets or welds.



4. Using the supplied axle brackets, place them on the axle, up against the axle "C's", mark around them and clean the areas so that they are completely bare, shiny metal.
5. Prep the axle brackets so that they are shiny, clean, bare metal that is ready to weld.
6. Place the axle on stands so that it is level.
7. Put an angle finder on the flat spot where the upper ball joint nut sits and tilt the axle 3° down. Meaning tilt the axle so that the yoke on the differential goes down.



8. Place our axle brackets on the axle and use an angle finder on top of the brackets so that the brackets are at 0°. INSERT DIAGRAM
 - a. You may need to grind small parts of the brackets so that they sit flat on the axle and flush up against the axle “C’s”
9. Double check that you have tilted the axle back 3° and the brackets are set at 0° and tack weld the brackets in place.
 - a. It is IMPERATIVE that the both axle brackets are welded on in the same position. Failure to do this will cause a difference in wheel base from one side to the other.
10. With the two main brackets tacked in place, take the brace plates and tack them in place as well.
 - a. Both sides have a brace plate that is for the lower link tabs. The passenger side bracket also has a small brace plate for the trackbar tabs.
11. Now that you have both brackets in place and have confirmed that they are both mounted at the same angle, we recommend that you tack weld the brackets every 1-1.5” all the way around each bracket. This will minimize the potential for the brackets to warp or shift.
 - a. We also recommend that you use a spacer of some sort between the link tabs to keep them from warping in while the brackets get fully welded.
12. The passenger side axle bracket is now completely ready to be welded. The “C’s” are cast steel and do not need to be preheated prior to welding.
 - a. Reference Pictures:



13. **Welding cast iron is tricky but doable.** You will need to preheat the differential housing around the area where the bracket is getting welded on to at least 500°F, finish welding the bracket on while making sure that the differential housing is maintaining 500°F, and then wrap the axle housing in an insulating welding blanket so that the axle cools slowly.
 - a. It is very important that the cast iron differential housing and the welded axle bracket cool slowly and at the same rate so that the welds stay strong and do not crack.
 - b. Leave the differential housing and bracket wrapped in the insulating welding

blanket for a few hours.

- c. Once the axle has completely cooled, remove the blanket and inspect the welds on the differential housing to make sure there are no cracks in the welds.

14. Now that both brackets are welded to the axle it is time to coat the axle in the product of your choice (paint, powder coat, etc.)

Congratulations! All of the hard things are done and you are on the home stretch! It's time to get the axle bolted into the truck.

15. Position the axle back under the truck so that you have the ability to move it side to side and front to back.

16. Install the lower links to the frame side radius arm brackets and hand tighten the bolts.

17. Install the lower links to the axle brackets and hand tighten the bolts.

18. Thread the jam nuts onto the Johnny Joints and thread the Johnny Joints into the upper link tubes.

- a. Thread both joints in about half way, making sure that they are threaded in equally on both ends.

19. Install the upper links to the brackets on the lower links and then to the brackets on the axle and hand tighten the bolts.

20. Install the limit straps to the axle. These will use the same bolt as the upper link.

21. Install the track bar to the frame side bracket first and then the axle bracket.

22. Install the coilovers to the shock towers first and then connect them to the axle.

23. Install shock reservoir brackets to the shock tower using the supplied M8 bolts and nuts.

24. Mount the reservoirs to the brackets using the supplied hose clamps.

Now it is time to torque all of the link bolts and shock bolts to spec. Torque specs are as follows:

- Lower link bolts (M18): **215 ft/lbs**
- Upper link bolts (9/16"): **110 ft/lbs**
- Track bar bolts (M18): **215 ft/lbs**
- Shock bolts (5/8"): **125 ft/lbs**

25. Install bolt the bump stop brackets to the shock tower.

- a. These are slotted so that you can align them over the top of the upper link bracket.

26. Bolt the bump stop the mounting plate and then bolt this assembly to the bump stop bracket.

27. Install your steering linkage.

28. This kit needs extended brake lines due to the increased travel of your front suspension. Install the supplied extended brake lines or reconnect your existing extended brake lines.

29. Take the frame of the truck off of jack stands and lower the truck down so that it is sitting on its own weight with the axle still on jack stands.

30. Bleed the front brakes starting with the passenger side first and then the drivers side.

31. Install your wheels and tires and torque them to spec.

32. Now you can take the truck completely off the jack stands and see how it sits.

A final congratulations is in order! Your truck is officially sitting on its new coilover front suspension!

33. Check the ride height. If you need to adjust the height of the front suspension you will need to take the weight off the springs again and turn the adjusters on the shock body to increase or decrease the ride height.

34. Do a final check to make sure ALL HARDWARE is tight and torqued to spec!!!

35. Last but not least, take it for a test drive.

Now that you have completed the install of your new coilover kit you need to have an alignment done. Here are the alignment specs that we recommend for the best handling:

- Camber: 0*
- Caster: 3-6*
- Toe: $\frac{1}{8}$ " Total toe in

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