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19-23 GM 1500 4WD

CSS-C3-22

7" LIFT KIT

READ THE FOLLOWING NOTES PRIOR TO INSTALLATION

This kit requires 20" wheel or larger with no more than 5" of backspacing. 35" requires no trimming. Larger tire may be used but will require trimming.

Do not alter the finish of any components. Changing the finish such as chroming, zinc-plating, or any type of painting, can cause structural fatigue of components.

Prior to installation, compare the parts list with the components received in the kit. If any pieces are missing, please contact your local retailer or CST Performance Suspension at 951-571-0212, and you will be taken care of in a timely manner.

Read all instructions from start to finish before beginning installation. If these instructions are not properly followed, severe frame, tire, or suspension damage may result to the vehicle. If you incur a problem during the installation of this kit, first be sure you have followed the instructions from start to finish accurately and if so please call 951-571-0212; we will do our best over the phone to assist you with your problem or direct you accordingly.

Vehicles that receive over sized tires should check ball joints, tie rod ends, bushings, and steering components, as well as generally inspect the entire suspension front to rear every 2500 – 5000 miles for wear and replace as needed.



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Before and after measurements

We suggest you measure from the center of wheel hub to bottom of fender

BEFORE: DF _____ PF _____ DR _____ PR _____

AFTER: DF _____ PF _____ DR _____ PR _____

Instructions:

1. Place the vehicle on a flat concrete or asphalt surface. Make sure the steering wheel is straight.
2. Disconnect the negative battery cable from the battery.
3. Jack up the vehicle and support it with 4 jack stands under the frame, never work under a vehicle that is not properly supported.
4. Remove the front wheels. (22mm socket)
5. Remove the front inner fender wells and oem skid plate. (🔧15mm socket)
6. Remove tie rod ends at knuckle (21mm socket)
7. Remove antilock wire brackets from the spindle and separate antilock wires from the upper control arm. (🔧10mm socket)
8. Remove the two bolts that hold the brake caliper to the spindle, and the bolt that holds the brake line to the upper arm. Hang the calipers out of the way with brake caliper hooks; do not let them hang on the brake lines. (🔧18mm socket)
9. Remove the sway bar links and the sway bar. (18mm socket, 10mm socket)
10. Loosen the nuts on the upper and lower ball joints. Leave the nuts on the ball joints about 1/2" to catch the spindle when you break the tapers loose. (🔧18mm wrench, 24mm socket)
11. Break the upper ball joint loose, apply light upward pressure on the arm with a pry bar and hit the spindle near the upper taper with a hammer to break the taper loose. Do the same for the lower tapers. Do not hit the threads of the ball joint. If you don't want to damage your stock spindles, you can use a removal tool.
12. Remove the large nut that holds the front axle to the hub and the bolts that hold the front axle to the front diff. (36mm socket)
13. Remove front rotors (Torq T30)
14. Remove the nut for the upper ball joint and tip the spindle out. When tipping the spindle out, be careful make sure the front axle does not get hung up on the hub. You do not want to pull the axle apart from the front differential.
15. Remove the nut for the lower ball joint and remove the spindles. You will not remove the front axles from the truck. Leave them connected to the front diff. Make sure to tie strap the axles up so they do not pull out of the front diff.
16. Remove the lower arms. (15mm socket, 1 1/16 wrench & socket)
17. Remove the oem front struts. (18mm wrench)
18. Mark the rotation of the front driveshaft to the front diff. Disconnect the driveshaft from the front diff and tie it up out of the way, do not remove the driveshaft from the transfer case. (🔧10mm wrench)
19. Disconnect wires from front diff (be careful and release red safety clip to disconnect plug).
20. Disconnect vent line from front diff.
21. Support the front diff. Remove rear diff mount bolt at rear crossmember. Then remove rear crossmember from vehicle. (🔧21mm wrench, 18 mm socket, 15 mm socket)
22. Remove passenger side diff bolt (🔧21mm wrench). Note: May need to loosen accessory water pump to get the diff mounting bolt out (10 mm socket).

23. Support the front diff and remove the hardware that holds the diff to the diff mounts. Remove the front diff from the vehicle, have someone help you with this step. (🔧18mm wrench, 21mm wrench)
24. Part of the frame on the driver's side where the lower arm was needs to be cut off to make clearance for the front diff to be lowered. See the pictures for reference. From end of frame to cut mark is 2.25". Cut the frame and smooth out any sharp edges. Paint the bare metal to prevent rust.



25. Open Parts Bag #1

26. Install new CST passenger side upper diff drop using supplied 9/16x5" bolt and the large washer. The large washer (circled below) covers the large hole in the back of the factory mount. Use pic below for reference. Pic is looking from rear of truck forward (do not tighten at this time).



27. Install new CST driver side upper diff drop using the oem bolt (do not tighten at this time).

28. Open Parts Bag #3

29. Install the new CST rear crossmember using the supplied 18mm bolts. These bolts attach the new CST crossmember to where the factory LCA's use to mount. On the passenger side you will also install 4 - 1/2" supplied bolts. These bolts go into the factory holes in the frame. When installing the supplied 4 - 1/2" bolts, you need to make sure they go through the new CST crossmember, new CST passenger side upper diff mount and into the factory frame. See pic below for reference. Do not tighten at this time.



30. Open Parts Bag #2

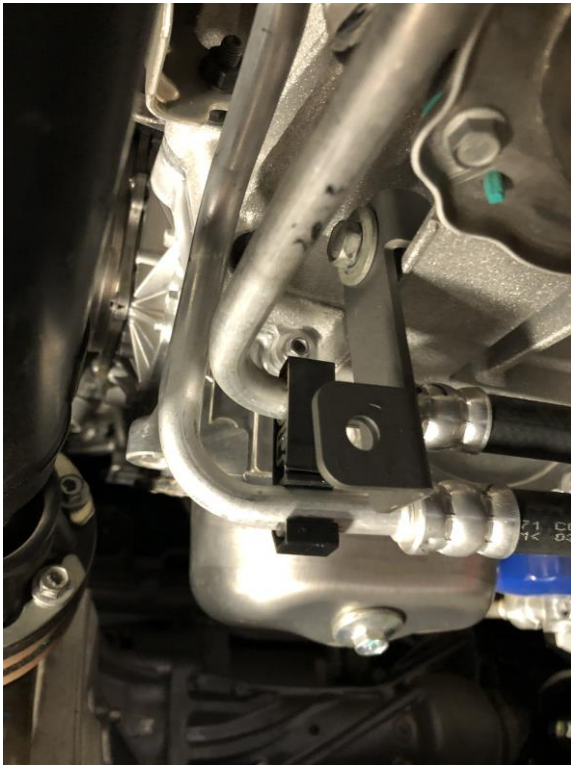
31. With remaining hardware from parts bag #1 & #3 and all the hardware from bag #2, install the front diff. Attach front diff using supplied hardware (do not tighten at this time)



32. If you are installing this kit on a vehicle equipped with the Duramax diesel motor, open parts Bag #4
33. Unbolt the DEF lines from the transmission housing on the driver's side where the lines are routed underneath the transmission. (10mm)
34. Cut the mounting tab off of the lines. **BE CAREFUL** not to cut too close to the lines or to damage the lines.

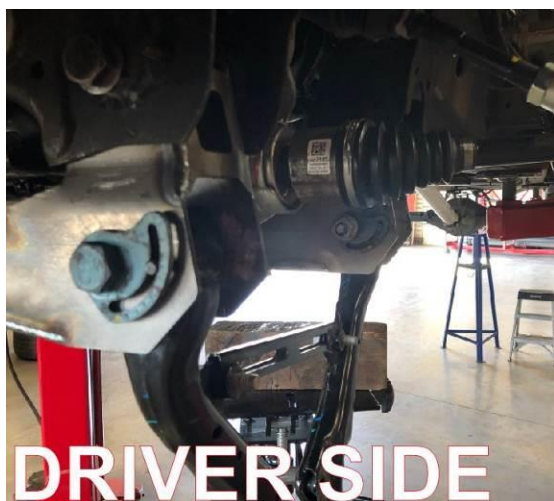


35. Install the provided re-location bracket into the OEM location and then attach the DEF lines to the new bracket using the supplied adel clamp, 1/4" bolt, washers, and nut. See picture for reference.



36. Attach the front driveshaft to the front differential using oem bolts. Make sure you line the driveshaft up the same exact way it came off. Use Loctite and tighten all the oem bolts (10mm socket).

37. Open parts Bag #5, Install the new CST front crossmember using the supplied 18mm bolts. The supplied 18mm bolts go through factory LCA mounts into the new CST crossmember (do not tighten at this time).
38. Install factory lower control arms using oem hardware. See pics below for direction of bolts (DRIVER SIDE: FRONT BOLT, NUT FACES REAR. REAR BOLT, NUT FACES FRONT, PASS SIDE: FRONT BOLT, NUT FACES FRONT. REAR BOLT, NUT FACES REAR). Snug these bolts up, but do not tighten these until truck is on the ground.



39. At this time, you can tighten all subframe hardware and diff mounting hardware (do not tighten lower control arms). (1 1/16" wrench, 3/4" wrench, 7/8" wrench, 13/16" wrench)
40. Route front diff wires and plug back in. Make sure to engage red safety clip once plugged back in.



41. Connect front diff vent line. Factory line has enough slack to reattach.
42. Attach the front driveshaft to the front differential using oem bolts. Make sure you line the driveshaft up the same exact way it came off. Use Loctite and tighten all the oem bolts (10mm socket).
43. Remove the factory hub bearings and oem dust covers from the factory knuckles. Install dust shields and hubs onto the new CST knuckles the same way they came off of the oem knuckles. Use oem hardware with Loctite and tighten.
44. If installing CST CSS-C2-18 Uni Ball Upper Control Arms, refer to those instructions now.
45. Install the new CST knuckles with dust shields and hubs installed onto the truck by sliding the lower ball joint into the taper as you slide the axle into the hub hole. Attach the oem lower ball joint nut, leaving it loose. Then pivot the knuckle up and attach to the upper control arm. Attach the upper ball joint nut leaving it loose until after installing the oem front struts or new CST coilovers.

46. If you are using the factory front strut you will need to use part # CSS-C16-11. Follow instructions in step 47. Or if using a replacement coilover, refer to those instructions now.
47. With the OEM strut removed from the vehicle, you will need to disassembly the strut. Use extreme caution. Compress the coil with a pair of coil compressors. Remove the nut that holds the coil onto the shock.
48. Remove the upper shock parts, the coil and the lower coil mount. You need to tap the silver part off the end of the strut to get the lower coil mount to slide off of the strut body.
49. Add the spacer to the top of the strut spacer, reinstall the lower coil mount and tap the silver end back onto the strut body.
50. Reassemble the OEM strut.
51. Slide the upper CST spacer over the studs on the top of the OEM coilover and reinstall into truck
52. Tighten upper and lower ball joints at this time (24mm, 18mm sockets).
53. Install front rotors and oem axle nut (36mm socket, Torq T30)
54. Install brake caliper to CST knuckle (18mm socket).
55. Install CST sway bar drop brackets to the frame where the oem sway bar mounts using factory hardware (do not tighten yet).
56. Open Parts Bag #6
57. Install the oem sway bar to the CST drop brackets using the supplied 3/8" hardware. Install the oem sway bar end links. Tighten all sway bar hardware at this time. (18mm socket, 9/16 socket)



58. Open Parts Bag #9

59. On the passenger side, unhook the upper clip that attaches the ABS wire to the plastic wire loom. Bolt in the ABS sensors to both driver and passenger side knuckles using the oem hardware and blue Loctite. (10mm socket) See pic below.



60. Carefully remove the OEM brake line bracket from the brake line on both the driver and passenger side using pliers and a screwdriver to pry it open. See pic below.



61. Attach the brake line to the passenger rear of the spindle using supplied $\frac{1}{4}$ " x 1" hardware and $\frac{1}{2}$ " adel clamp. Then zip tie the ABS to the brake line in a safe location, so it does not get pinched or pulled too tight. See pics below for reference.



62. On the driver side, remove the ABS wire and speed sensor wire from the OEM clip on the upper arm. Attach driver side oem brake line and front ABS relocation bracket to the rear of the knuckle with the ABS bracket pointed downwards using the supplied $\frac{1}{4}$ " x 1" bolt and supplied adel clamp (7/16 wrench). Clip the ABS wire into new CST bracket. Then zip tie the ABS and speed sensor wire to the brake line in a safe location, so it does not get pinched or pulled too tight. See pic for reference.



63. Reinstall the oem front skid plate/splash guard using the oem hardware (13mm socket).

64. Open Parts Bag # 7

65. Slide the nut plate into each side of the new CST front crossmember. Line up the nut plates with the large holes in the bottom of the front crossmember. Nut should be facing up. Install the oem lower skid plate to the front and rear crossmembers using the supplied 1/2" hardware (3/4 socket).

66. Attach tie rods to the knuckles (21mm socket)

REAR INSTALLATION:

67. Remove the 2 bolts that hold the rear brake lines to the frame. Use pic at step 72 for reference (13mm socket).

68. Remove the 3 bolts that hold the brake lines and wiring to the top of the rear diff. Use pic at step 75 for reference (13mm).

69. Remove rear shocks (21mm).

70. Support rear axle with a jack. Remove rear u-bolts one side at a time. Install new block and u-bolt kit. You may need to loosen the other side u-bolts to get block and u-bolt in. Be careful not to overextend brake lines or wires. Torq rear u-bolts to 85 ft lbs.

71. Once both blocks and u-bolts are installed, install new rear shocks (21mm).

72. Install the new upper CST brake line bracket to the frame using oem hardware. The bracket should be installed so that it moves the brake lines forward and down. Make sure to use Loctite. See pic below (13mm socket).



73. Open Parts Bag #8

74. Attach the oem upper brake line bracket to the new CST bracket using supplied 5/16" hardware (1/2" socket).

75. Using the supplied ½" spacers and three 8mm bolts, put the spacers between the top of the rear diff and the brake line/wire harness bracket and bolt together using Loctite. See pic below (13mm socket).



76. Install wheels and tires. Torque to spec.

77. Make sure to tighten front upper and lower control arms now that truck is on the ground.

78. ***IMPORTANT: Double check all hardware and make sure that all brake lines and wiring has correct clearance. Turn front wheels and check brake line and ABS wire clearance. Also check for tire rub when turning.***

79. Have the truck professionally aligned.

80. Be sure to perform a suspension/wheel re-torque between 300-500 miles of initial use.

For technical assistance call CST at 951-571-0212

sales@cstsuspension.com