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19-20 GM 1500 4WD

CSS-C3-25

4.5" 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
6. Remove oem lower skid plate, then re-install the lower bolts that hold the front splash guard on. (🔧13mm socket)
7. Remove tie rod ends at knuckle (21mm socket)
8. Remove antilock wire and antilock wire brackets from the spindle. Separate antilock wires from the upper control arm. (🔧10mm socket)
9. 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)
10. Remove the sway bar links and the sway bar. (18mm socket, 10mm socket)
11. 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)
12. Break the upper and lower ball joints loose using a removal tool. Do not remove spindle at this time.
13. 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)
14. Remove front rotors (Torq T30)
15. 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.
16. 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.
17. Remove the lower arms. (15mm socket, 1 1/16 wrench & socket)
18. Remove the oem front struts. (18mm wrench)
19. 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)
20. Disconnect wires from front diff (be careful and release red safety clip to disconnect plug).
21. Disconnect vent line from front diff.
22. 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)

23. 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).
24. 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)
25. 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. If you ever want to put the truck back to stock, keep this part.



26. Open Parts Bag #1

27. 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 looking forward (do not tighten at this time).



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

29. Open Parts Bag #2 & #3

30. Install the front diff. Attach front diff using supplied hardware (do not tighten at this time)



31. 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 above for reference. Do not tighten at this time.



32. Open Parts Bag #4

33. 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).

34. 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.



35. 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)
36. Route front diff wires and plug back in. Make sure to engage red safety clip once plugged back in.



37. Connect front diff vent line. Factory line has enough slack to reattach.
38. 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).
39. If using a replacement coilover, refer to those instructions now.
40. If using the front strut spacer follow these instructions. Slide the upper CST spacer over the studs on the top of the OEM coilover using the oem nuts. Tighten at this time.
41. Open Parts Bag #5
42. Once the spacer is installed onto the oem strut, install it into the top mount using supplied nuts and thick washers. Do not tighten at this time.
43. With the oem strut or coilover mounted into place, raise the lower control arm and attach it to the bottom of the oem strut or CST coilover shocks with the oem bolts. Now tighten the upper strut mount nuts.

44. If installing CST CSS-C2-18 Uni Ball Upper Control Arms, refer to those instructions now.
45. Remove the factory hub bearings and oem dust covers front 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. (18mm socket).
46. 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 axel 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.
47. Tighten upper and lower ball joints at this time (24mm, 18mm sockets).
48. Install front rotors and oem axle nut (36mm socket, Torq T30)
49. Install brake caliper to CST knuckle using the OEM bolts and Loctite (18mm socket).
50. Open Parts Bag #6
51. Install CST sway bar drop brackets to the frame where the oem sway bar mounts using 4 flange bolts supplied in Parts Bag #5. (16mm socket or wrench)
52. 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)



53. Open Parts Bag #7

54. 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.



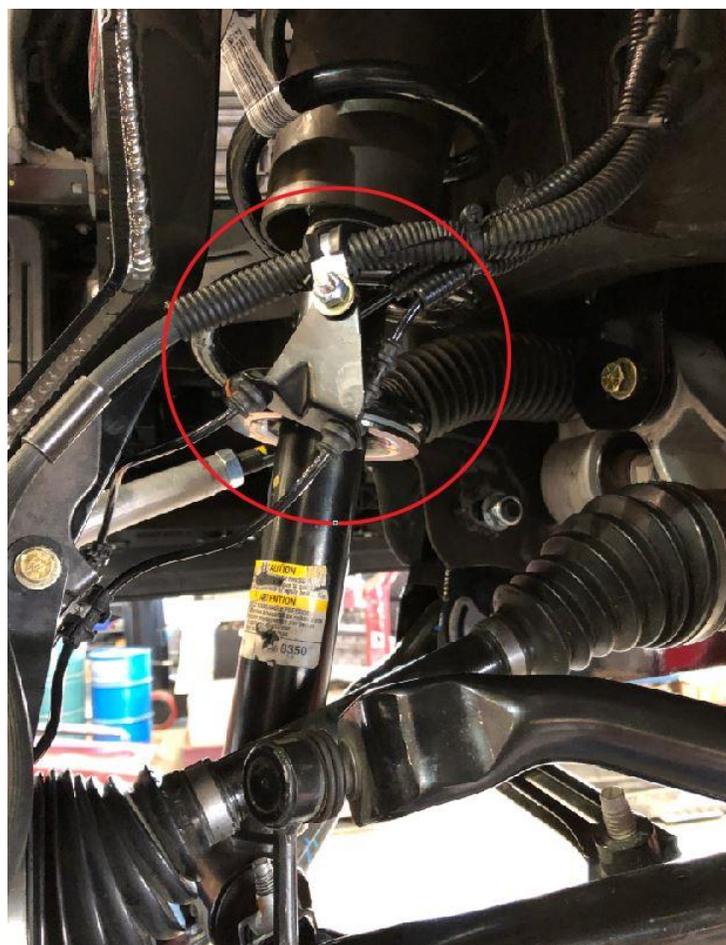
55. Attach the brake line bracket to the passenger rear of the spindle using supplied 1/4" x 1" hardware. Circled in below pic. Then zip tie the ABS to the brake line in a safe location, so it does not get pinched or pulled too tight. See pics below for reference.



56. On the driver side, 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 1/4" x 1" bolt (7/16 wrench). Clip the ABS wire into new CST bracket. See pic for reference.



57. Also on the drivers side, you will need to use the supplied adel clamp and 1/4" X 3/4" bolt to attach the oem speed sensor and ABS wire bracket to the brake line. This bracket with the 2 lines will float. See pic below for reference.



58. Open Parts Bag # 8

59. 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).

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

REAR INSTALLATION:

61. Remove the 2 bolts that hold the rear brake lines to the frame (13mm socket).

62. Remove rear shocks (21mm).

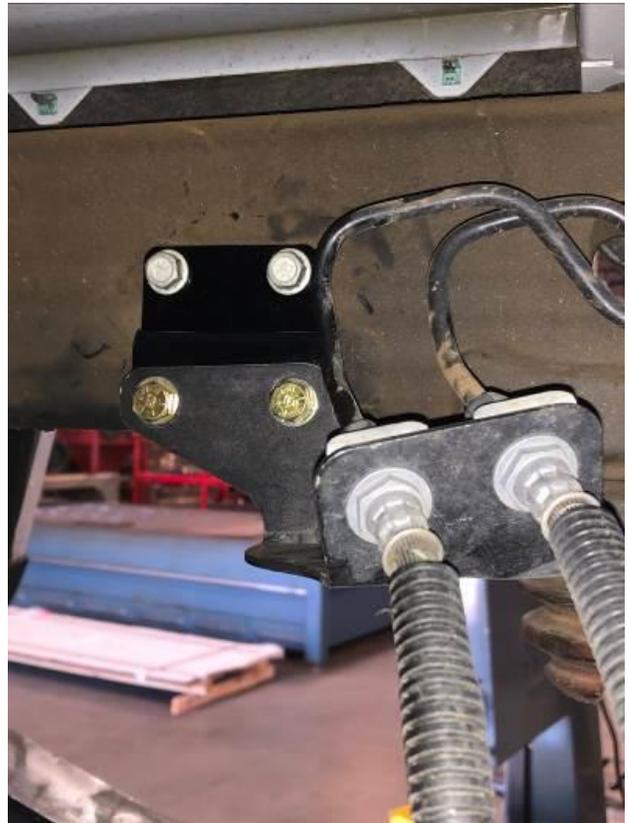
63. Support rear axle with a jack. Remove rear u-bolts one side at a time. Install new block and u-bolt kit. You may need to loosen the other side u-bolts to get block and u-bolt in. Be careful not to overextend brake lines or wires. Torq rear u-bolts to 85 ft lbs.

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

65. Open Parts Bag #9

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

67. 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).



68. Install wheels and tires. Torque to spec.

69. Make sure to tighten the lower control arms now that truck is on the ground.
70. ***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.***
71. Have the truck professionally aligned.
72. 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