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## **2011-2019 GM HD 2500/3500 2WD/4WD CSS-C3-15 6"–8" LIFT KIT**

### **READ THE FOLLOWING NOTES PRIOR TO INSTALLATION**

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 INSTRUCTION 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 AND PIVOT POINTS, AS WELL AS GENERALLY INSPECT THE ENTIRE SUSPENSION FRONT TO REAR EVERY 2500 – 5000 MILES FOR WEAR AND REPLACE PARTS AS NEEDED.

Also, we would love to see your truck completed. If you would like to have you vehicle featured on our social media accounts, please e-mail us at [sales@cstsuspension.com](mailto:sales@cstsuspension.com) with pictures of your vehicle, your account name and we will get you posted. Thank you for supporting CST!!!



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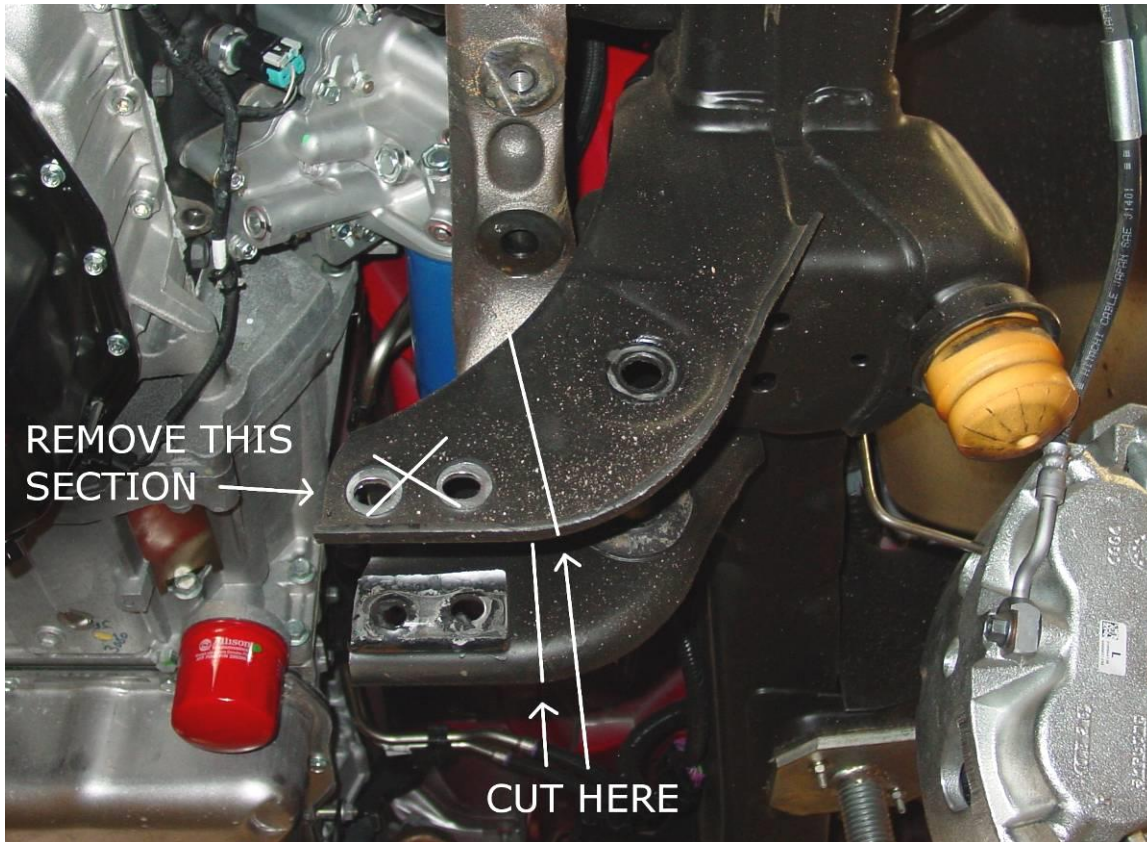


- 1 - Subframe
  - 2 - Passenger side spindle
  - 3 - Drivers side spindle
  - 4 - Steering centerlink
  - 5 - Passenger side diff drop
  - 6 - Drivers side diff drop
  - 7 - Passenger side rear lift block
  - 8 - Drivers side rear lift block
  - 9 - Passenger side bumpstop mount
  - 10 - Drivers side bumpstop mount
  - 11 - Torsion side plates (symmetrical)
  - 12 - Skidplate
  - 13 - U-bolts
  - 14 - Heim links for the steering
  - 15 - Swaybar links
  - 16 - Torsion drop mounts (symmetrical)
- Brakeline brackets and hardware are not pictured

## Instructions:

- 1. Measure the ride height and document it, do all 4 corners, measure from the fender well to the center of the hub.**
- 2. Lift the truck up and support it under the frame with jack stands. Do not work under an unsupported vehicle.**
- 3. Remove the front wheels. (🔧 22mm socket)**
- 4. Measure the torsion bar adjusters and document their setting. Mark the back side of the torsion bars driver and passenger so you can reinstall them the same way during reassembly.**
- 5. Remove the torsion adjustment bolts. (🔧 21mm socket)**
- 6. Use a torsion key tool to hold the torsion key up and slide the torsion adjuster block out of the torsion cross member.**
- 7. Slide the torsion bars forward and remove the keys.**
- 8. Remove the torsion cross member. (🔧 21mm socket)**
- 9. Remove the lower skid plate. (🔧 15mm socket)**
- 10. Separate the tie rods from the spindles. (🔧 21mm socket)**
- 11. There is a bracket that holds the brakeline to the inside of the spindle, bend the bracket open to free the rubber hose from the bracket. Free the antilock wire from the inside of the spindle. Disconnect the antilock wire at the frame. Do not separate the brake line from the caliper. (🔧 channel lock pliers)**
- 12. Remove the bolt that holds the brakeline bracket to the frame. (🔧 13mm socket)**
- 13. Remove the bolts that hold the brake calipers to the spindles and hang the calipers out of the way, do not let them hang on the brake lines. (🔧 21mm socket)**
- 14. Remove the small bolt that holds the rotor on the hub and slide the rotor off the hub. Mark the hubs and rotors driver and passenger so you can put them on the correct side during reassembly. (🔧 t30 torx)**
- 15. Pull the dust cap off the hub and remove the nut that holds the axle into the hub. (🔧 34mm socket)**
- 16. Separate the upper and lower ball joints from the spindles and remove the spindles. (🔧 18mm wrench, 24mm socket)**
- 17. Remove the sway bar links (🔧 15mm socket)**
- 18. Separate the bottom of the front shocks from the lower arms. (🔧 21mm socket, 21mm wrench)**
- 19. Remove the axles. (🔧 15mm socket)**
- 20. Remove the lower control arms. (🔧 21mm socket, 24mm wrench)**
- 21. Separate the inner tie rod ends from the factory steering center link. (🔧 40mm or 1 9/16 wrench)**
- 22. Remove the steering centerlink. (🔧 24mm socket, 2 jaw puller)**
- 23. Remove the rear bumpstops. (🔧 flat head screwdriver)**
- 24. Remove the rear cross member under the front differential. (🔧 18mm socket, 18mm wrench)**
- 25. Separate the front driveshaft from the differential. Use a tie down to hold it up out of the way for now. (🔧 11mm socket)**
- 26. Unplug the wire that plugs into the differential, free the wire completely from the differential and tuck it up out of the way for now. Disconnect the vent line.**

- 27.** Support the front differential and remove all the bolts that hold the front differential to the diff mounts, do not remove the rubber mounted diff mounts. Remove the differential. Use caution, it is heavy. (🔧 21mm socket, 18mm socket, 18mm wrench, 15mm socket)
- 28.** Wrap the included paper pattern around the driver's side rear lower arm mount. Line it up and mark the mount with a paint pen. Cut the marked section off using a Sawzall or a die grinder cut off wheel. Note that the front side gets more material cut off than the rear. Clean up any sharp edges and paint any bare metal to prevent rust.



- 29.** Open parts bag # 1.
- 30.** Bolt the drivers side diff drop to the upper diff mount using the supplied hardware. Use locktite on the metric bolts. The CST should be facing the outside of the truck. If there is any slack in the holes push the bracket toward the passenger side before tightening. (🔧 19mm socket, 3/4 socket, 3/4 wrench)
- 31.** Bolt the passenger side diff drop to the upper diff mount in the truck. Use the stock nuts and locktite. (🔧 21mm socket)
- 32.** Open parts bag # 2.
- 33.** Install the front differential using the supplied hardware. Once you have all the bolts in you can tighten everything up, if there is any play side to side, push the front diff towards the passenger side before tightening. Make sure the differential does not hit the frame where you cut it, remove more frame material if necessary. (🔧 19mm socket, 19mm wrench 3/4 socket, 3/4 wrench, 13/16 socket, 7/8 wrench)
- 34.** Attach the drive shaft to the differential using the stock hardware and locktite. (🔧 11mm socket)
- 35.** Plug the wire into the diff, use the supplied zip tie to attach the wire to the top of the diff. Install the vent line extension.



36. Install the steering centerlink using the stock hardware. The side with the tabs sticking out goes toward the front of the truck. (🔧 24mm socket)
37. Open parts bag # 3.
38. **Assemble the heim links and adjust them to a length of 6.187 center to center.** Run the jam nuts against the threaded bung hand tight, it will be fully tightened later. Make sure there is an equal amount of threads showing on each heim.
39. Bolt the links to the subframe using the included 5/8 fine thread bolts. Be careful that you do not cross thread these bolts. Use locktite and tighten. (🔧 15/16 socket)
40. Install the sub-frame using the stock bolts and locktite on the main holes. Use the included 1/2" bolts on the passenger rear smaller holes. (🔧 21mm socket, 24mm wrench, 3/4 socket, 3/4 wrench)
41. Attach the heim links to the steering centerlink in-between the tabs and install the supplied 5/8 bolts. If you can't get the holes to line up, you can adjust the length of the heim links a little bit. (🔧 15/16 socket, 15/16 wrench)
42. Tighten up the heim links, make sure the heims line up with each other when tight ( rotate them until they stop, tighten one jam nut, then rotate the other way and tighten the other jam nut ) (🔧 15/16 wrench )
43. Open bag #4.
44. Install the supplied bumpstop into the side of the bumpstop bracket with the 3/8-hole use washers. (🔧 9/16 wrench)
45. Attach the bumpstop to the subframe using the supplied 3/8 bolts. The stock bumpstop goes to the bottom and the supplied bumpstop fits into the pocket where the stock bumpstop used to go. Use washers on the outside. (🔧 9/16 socket, 9/16 wrench)
46. Install the stock bumpstop into the other side of the bumpstop bracket. Slide it in as much as you can then use a flat head screwdriver to pry it in the rest of the way. (🔧 flat head screwdriver)
47. Install the tie rod ends into the steering centerlink using red locktite. (🔧 40mm or 1 9/16 wrench)
48. Bolt the axles to the front differential using the stock bolts. (🔧 15mm socket)
49. Open parts bag # 5.
50. Install the lower arms using the supplied bolts. Install the front bolts with the nut side to the rear. And the opposite for the rear bolts. Do not tighten these bolts at this time; you need to do this at ride height to lessen wear on the rubber bushings.
51. Set the stock spindles on the table with the hub side down. Remove the hub bolts and remove the stock spindle from the hub. Remove the dust shield. (🔧 21mm socket)
52. Trim the dust shield as shown in the picture and place it back onto the hub. It is approximately a 2" x 2" cut. Once the dust shield is cut place it back on the hub the same way it came off. (🔧 cut off wheel)



53. Set the new spindle on to the hub and dust shield. Make sure the antilock wire is routed in the correct position through the opening towards the front of the spindle. Bolt the spindle to the hub using the stock bolts and locktite. You must reuse the dust shields. (🔧 21mm socket)
54. Install the spindles onto the truck using the stock hardware. Feed the axle into the hub as you put the spindle onto the lower taper. Tighten the tapers. (🔧 24mm socket, 18mm wrench)
55. Install the axle nut and washer. Tap the dust cover back on. (🔧 34mm socket, rubber mallet)
56. Install the rotors (🔧 t30 torx)
57. Install the brake calipers using the stock bolts and red locktite. Make sure the brake line is behind the spindle. (🔧 22mm socket)
58. Open bag # 6.
59. Install the brake line bracket using the stock bolt and gently bend the brake line down to match up to the bracket. Bolt the stock bracket to the supplied one using the supplied bolt. Use the picture below for reference. (🔧 13mm socket, 1/2 socket, 1/2 wrench)
60. Attach the brake line to the small tab on the back of the spindle using the supplied adel clamp and hardware. (🔧 1/2 socket, 1/2 wrench)
61. Route the antilock wire up the spindle and attach it using the supplied zip ties. Reconnect the antilock wire plug. Remove the plastic clip that is pushed into the frame and attach the antilock wire to the frame using the supplied zip ties. Locate it so you gain as much slack as possible for the suspension.



62. Open parts bag # 7.
63. Install the sway bar links. Use the stock rubber bushings, and the supplied bolts and washers. Use locktite. Do not over tighten; just compress the rubber bushings slightly, see above pic. (🔧 9/16 socket, 9/16 wrench)
64. Open parts bag # 8.
65. If you are installing aftermarket shocks do so now, if you are using the stock shocks bolt the shock extensions to the shocks. Use the supplied 9/16 bolt and crush sleeve to attach the bracket to the shock. Then drill the 3/8 holes in the bottom of the shock. Install the 3/8 bolts and tighten. (🔧 13/16 wrench, 7/8 socket, 9/16 socket, 9/16 wrench)
66. Install the shock using the stock hardware and locktite. Rotate the bottom of the shock bracket so the open side is toward the rear. (🔧 18mm wrench, 18mm socket)
67. Attach the tie rod ends to the spindle using the stock hardware. (🔧 21mm socket)

68. Install the skid plate using the supplied hardware. (🔧 9/16 socket, 9/16 wrench)
69. Slide the torsion bars into the lower arms the same way they came out. Push them forward into the arms past where they normally sit, let them hang for now.
70. Open parts bag # 9.
71. Set the torsion cross member on the bench and install the torsion drop mounts. Use the stock main bolts and the supplied 3/8 x 1" bolts for the smaller holes. Try to get the mount straight up and tighten everything. Use locktite on the stock bolts. (🔧 21mm socket, 9/16 socket, 9/16 wrench)
72. Install the torsion cross member with the mounts on it into the truck onto the stock mounts. Use the supplied 9/16 bolts. Push the plastic clip for the o2 sensor wire into the hole on the torsion drop mount. Push the clip that is closest to the sensor into the hole in the top of the cross member, use a 1/4" washer on the bottom side to secure it to the cross member. Make sure the wire is not sitting against the exhaust. Make sure the side plates are parallel with the frame and tighten the bolts for the crossmember drop brackets. (🔧 13/16 socket, 7/8 wrench )



73. Use a large drill bit to put a recess in the torsion key where the adjuster bolt sits against the key. Center it in the key. Use a drill bit between the sizes of 3/4 and 1" and drill it 3/16" deep at the deepest part of the hole. When you are finished it should look like the key in the picture below.





74. Hold the torsion keys in place and slide the torsion bars back into the keys. Use a torsion key tool to hold the keys up and install the adjusters. Adjust the keys back to their stock position to get 6" of lift. (🔧 21mm socket, torsion key tool)
75. Install the torsion side plates using the supplied 3/8 x 3/4" bolts and washers, make sure they are parallel to the frame. The 2 upper holes on the side plates do not get used. (🔧 9/16 wrench)
76. Install the front wheels (🔧 22mm socket)
77. Rear lift:
78. Remove the rear wheels. (🔧 22mm socket)
79. Remove the small brass clips that hold the rotors on and discard them. (you can leave them on if you plan on running the stock wheels, but they will interfere with most aftermarket wheels)
80. Free the antilock wires from the clips in the frame.
81. Disconnect the antilock wires at the frame and let them hang.
82. Remove the bolt that holds the upper brake line bracket to the frame on the driver's side (🔧 13mm socket)
83. Remove the upper center bolt on the diff cover that holds the bracket for the emergency brake cable. (🔧 13mm socket)
84. Remove the bolts that hold the brake line brackets to the axle housing near the back of the bumpstop pad. (🔧 13mm socket)
85. Remove the front emergency brake cable bracket on the driver's side near the front of the leaf spring. (🔧 13mm socket)
86. Support the rear axle with a jack and remove the shocks. (🔧 21mm socket, 21mm wrench)
87. Use caution when installing the lift blocks, it is a good idea to put a couple straps under the rear axle and the pinion for safety. Do the blocks one side at a time. Make sure you do not over stretch any lines during installation. Double check the blocks. They will be marked driver and passenger. The block has a taper built into it. The short side of the block goes toward the front of the truck, the pin goes down and the bump stop pad goes to the inside of the truck.
88. With the jack under one side of the rear axle remove the u-bolts on that side. Lower it down and install the lift block. Install the supplied u-bolts and snug them up a little. Then repeat for the other side of the truck. Once both sides are in tighten the u-bolts. (🔧 28mm or 1 1/16 socket)
89. Jack the rear end up a little and install the new rear shocks using the stock hardware and locktite. (🔧 21mm socket, 21mm wrench)
90. Reinstall the bracket that holds the e-brake cables in place but leave the drivers side cable out of the bracket. (🔧 13mm socket)
91. Open bag # 10.
92. Attach the upper brake line bracket to the frame using the stock bolt and locktite. Bolt the stock bracket to the new drop bracket using the supplied bolt. (🔧 13mm socket, 1/2 socket, 1/2 wrench)





93. Install the brake line lift brackets for the rear end using the stock bolts and locktite. Attach the stock bracket to the new rear end lift bracket using the supplied bolts. (🔧 13mm socket, 1/2 socket, 1/2 wrench)
94. Install the lift bracket for the e-brake cable in the center of the diff using the stock bolt and locktite. Remove the stock bracket from the cable. Use the included adel clamp and 1/4" bolt to attach the cable to the new bracket. (🔧 13mm socket, 1/2 socket, 1/2 wrench)
95. Reattach the antilock wires into the clips on the bottom of the frame.
96. Install the rear wheels and torque the lugs to 100 ft. Lbs. (🔧 22mm socket)
97. Set the truck on the ground and tighten the u-bolts to 100 ft lbs. (🔧 1 1/16 socket)
98. Tighten the bolts for the front lower arms. (🔧 24mm socket, 24mm wrench)
99. Make sure the ride height in the front is the same from side to side; adjust the torsion bars as necessary. (🔧 21mm socket)
100. You can crank the torsion keys up more if you want more lift, but you should make sure you leave at least 1" of droop travel for a comfortable and safe ride. You can check this when you are finished by letting the truck sit on the ground, measure from the top of the tire to the fender well, then jack the truck up and re-measure. It should be at least 1" different.
101. Turn the steering all the way from side to side and make sure the brake lines and antilock wires are in a safe location and do not rub the wheels or get pinched between any suspension parts.
102. Visually inspect the suspension and make sure all the bolts are tight, and that everything is finished.
103. Have the truck professionally aligned.
104. Visually inspect the suspension and re-torque the u-bolts after 200 miles.

<b>PARTS BAG # 1</b>	4 5/8-18 RH JAM NUTS	2 1/4 LOCKNUTS
2 1/2 x 1 1/2 BOLTS	2 5/8 THREADED SLEEVES	6 PLASTIC ZIP TIES
3 1/2 LOCKNUTS		1 DRIVERS BRAKE LINE BRACKET
9 1/2 WASHERS	<b>PARTS BAG #3</b>	1 PASS BRAKE LINE BRACKET
1 6" VENT LINE EXTENSION	8 3/8 x 1 BOLTS	
2 12-1.75 x 35 BOLTS	8 3/8 LOCKNUTS	<b>PARTS BAG #6</b>
2 1/2 x 3 1/2 BOLTS	10 3/8 WASHERS	2 THREADED SWAYBAR LINKS
1 9/16 x 3 1/2 BOLTS	2 6052 BUMPSTOPS	4 3/8 x 2 1/2 BOLTS
1 9/16 LOCKNUT	2 3/8 NY-LOCK NUTS	8 15.03.01.39 WASHERS
2 9/16 WASHERS		
1 ZIP TIE	<b>PARTS BAG #4</b>	<b>PARTS BAG #7</b>
	2 18-2.5 x 120 BOLTS	2 9/16 x 3 1/2 BOLTS
<b>PARTS BAG #2</b>	2 18-2.5 x 140 BOLTS	4 9/16 WASHERS
2 5/8 x 2 BOLTS	8 18MM WASHERS	2 9/16 LOCKNUTS
2 5/8 LOCKNUTS	4 18-2.5 LOCKNUTS	8 3/8 x 1 BOLTS
4 1/2 x 1 1/4 BOLTS	<b>PARTS BAG #5</b>	8 3/8 WAHSERS
4 1/2 LOCKNUTS	2 5/16 x 3/4 BOLTS	8 3/8 LOCKNUTS
8 1/2 WASHERS	2 5/16 LOCKNUTS	2 SHOCK EXT. CRUSH SLEEVE
2 5/8-18 x 1 1/2 BOLTS	2 1/2" ADEL CLAMPS	
4 5/8 RH HEIM JOINTS	2 1/4 x 3/4 BOLTS	

**PARTS BAG #8**  
2 9/16 x 4 BOLTS  
2 9/16 LOCKNUTS  
4 9/16 WASHERS  
1 1/4" WASHER  
4 3/8 x 3/4 BOLTS  
4 3/8 x 1 BOLTS

4 3/8 LOCKNUTS  
8 3/8 WASHERS  
**PARTS BAG #9**  
3 5/16 x 3/4 BOLTS  
3 5/16 LOCKNUTS  
1 1/4 X 3/4 BOLT

1 1/4 LOCKNUT  
1 1/2 ADEL CLAMP  
2 REAR LOWER BRAKE LINE BRACKETS  
1 REAR UPPER BRAKE LINE BRACKET  
1 E-BRAKE CABLE BRACKET

**For technical assistance call CST at 951-571-0212**  
**Or e-mail us at [sales@cstsuspension.com](mailto:sales@cstsuspension.com)**

**Thank you for buying CST Performance Suspension!**