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**2014-2018 GM 1500 4wd
CSS-C3-19
4.5" 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 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.

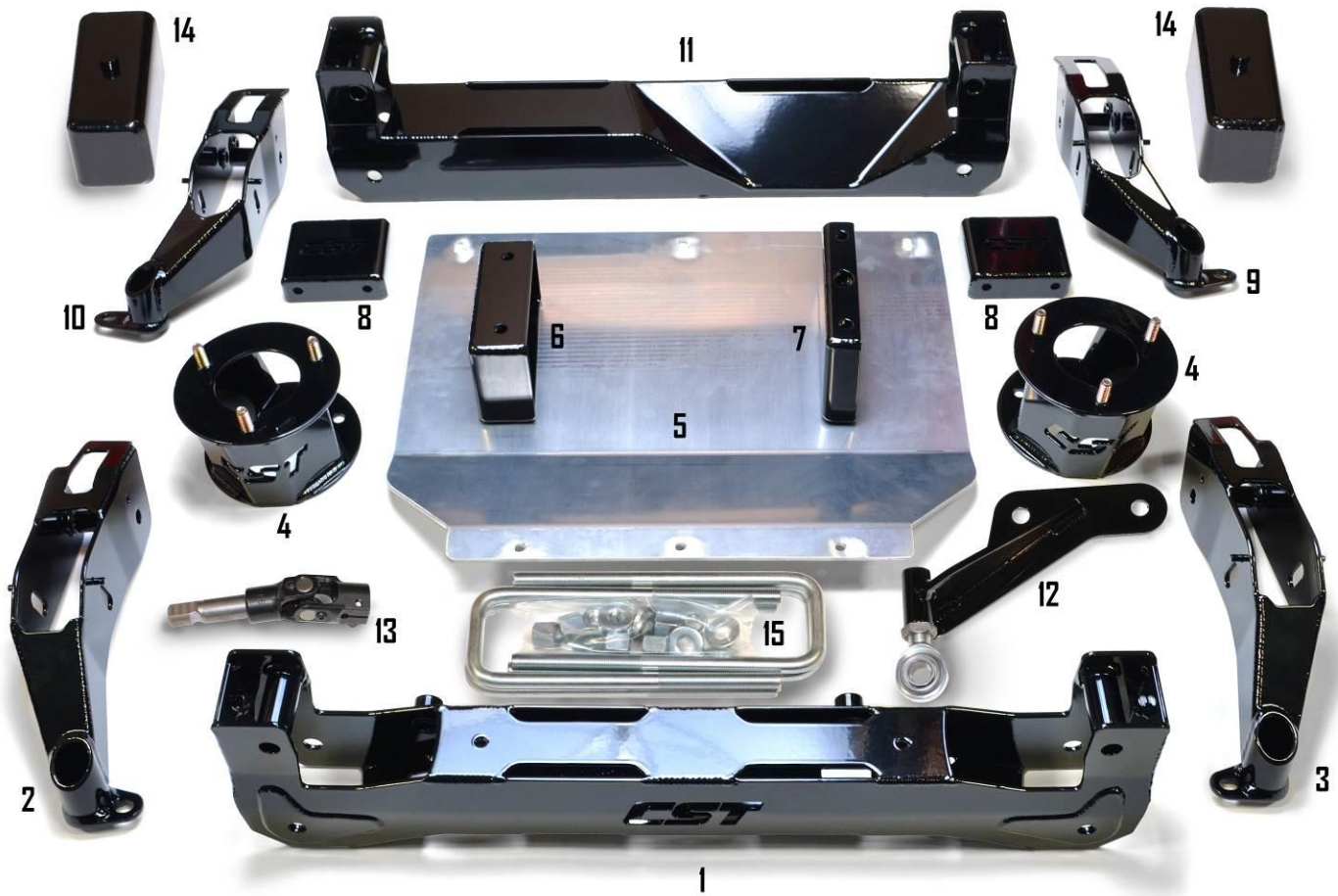
Also, we would love to see your truck completed. If you would like to have you vehicle featured on our social media accounts, please e-mail us at sales@cstsuspension.com with pictures of your vehicle, your account name and we will get you posted. Thank you for supporting CST!!!



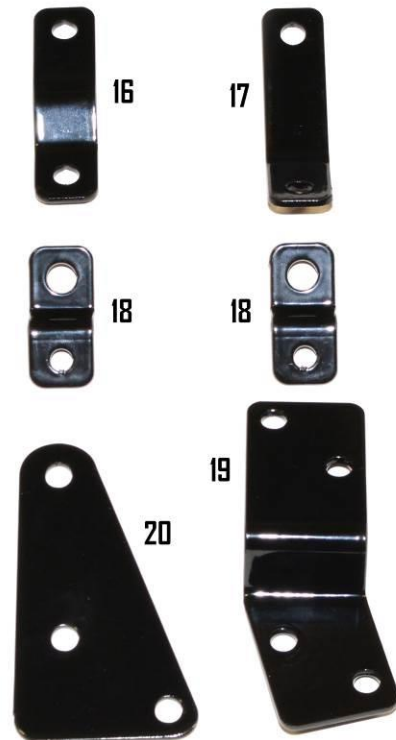
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- 1 - FRONT SUBFRAME
- 2 - PASSENGER FRONT UCA MOUNT
- 3 - DRIVER FRONT UCA MOUNT
- 4 - COILOVER SPACERS
- 5 - LOWER SKIDPLATE
- 6 - PASSENGER SIDE DIFF DROP
- 7 - DRIVER SIDE DIFF DROP
- 8 - SWAYBAR DROP MOUNTS
- 9 - DRIVERS SIDE REAR UCA MOUNT
- 10 - PASSENGER SIDE REAR UCA MOUNT
- 11 - REAR SUBFRAME
- 12 - STEERING SUPPORT BRACKET
- 13 - STEERING EXTENSION
- 14 - REAR LIFT BLOCKS
- 15 - U-BOLTS
- 16 - DRIVER FRONT SKIDPLATE BRACKET
(FOR STOCK UPPER SKIDPLATE ONLY)
- 17 - PASSENGER FRONT SKIDPLATE BRACKET
(FOR STOCK UPPER SKIDPLATE ONLY)
- 18 - FRONT BRAKE LINE BRACKETS
- 19 - REAR BRAKE LINE BRACKET
- 20 - REAR E-BRAKE CABLE BRACKET



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 / lower skid plate.
6. Separate the tie rod end from the spindle; remove the nut, apply light upward pressure on the tie rod end with a pry bar and smack the spindle with a hammer to jar the taper loose. Do not hit the tie rod end. (🔧🔩21mm socket)
7. Separate the antilock wire where it clips together at the frame. Free the wire from the clips on the spindle, the arm, and the frame. (🔧🔩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 lines. (🔧🔩18mm socket)
9. Remove the sway bar links and the sway bar. (🔧🔩15mm socket, 15mm wrench, 10mm socket)
10. Remove the large nut that holds the front axle to the hub. (🔧🔩36mm socket)
11. Mark the hubs, a-arms, front axles and shocks with driver and passenger markings so you can reinstall them on the same side they came off.
12. 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)
13. 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.

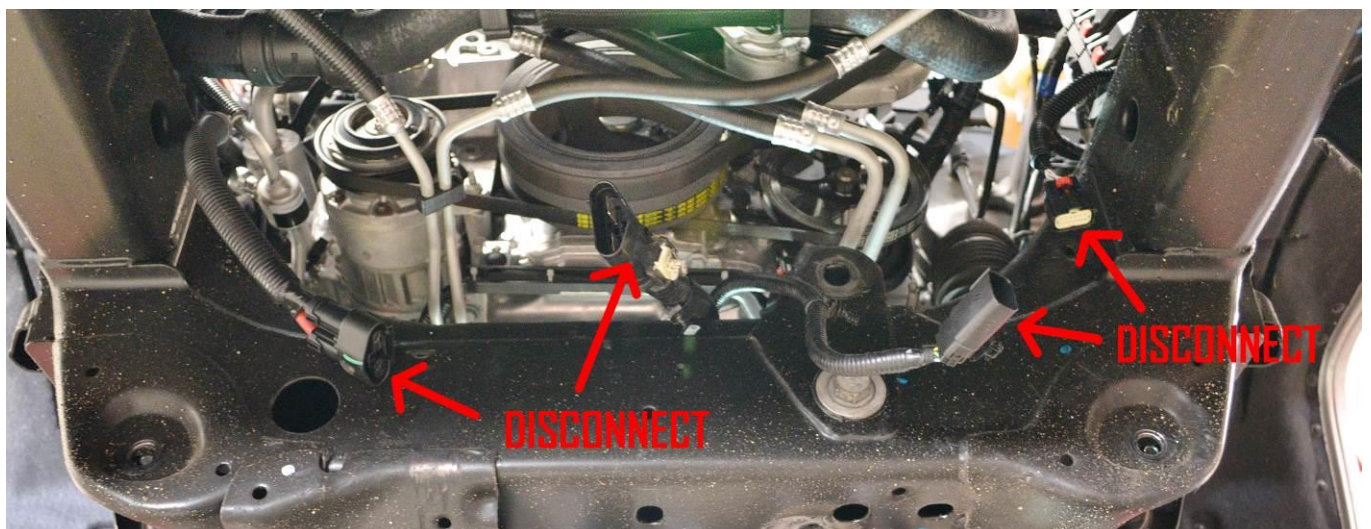


14. Remove the bolts that hold the front axle to the front diff. (🔧🔩 15mm socket)
15. Pull the plastic clips off of the studs on top of the coilovers. Remove the front shocks. Do the bottom first. (🔧🔩15mm socket, 18mm wrench)
16. Remove the nut for the upper ball joint and tip the spindle out. Tap the front axle out of the hub with a rubber mallet. Remove the axles.
17. Remove the nut for the lower ball joint and remove the spindles.
18. Mark the position of the alignment bolts. Remove the upper arms. (🔧🔩21mm wrench, 21mm socket)
19. Remove the lower arms. (🔧🔩18mm wrench, 24mm socket)

20. Remove the cross member that is between the rear side of the lower arms. (🔧18mm wrench, 18mm socket)
21. Unplug the wire from the front diff and pull out the clips that attach the wire to the diff.
22. Separate the vent line from the front diff.
23. Disconnect the driveshaft from the front diff and tie it up out of the way, do not remove the driveshaft from the transfer case. (🔧11mm wrench)
24. Use a paint pen to mark the clocking on the joint where the steering shaft attaches to the rack and pinion. Remove the pinch bolt and slide the steering shaft off the rack. Make sure you do not let the steering wheel rotate when you have the steering separated.

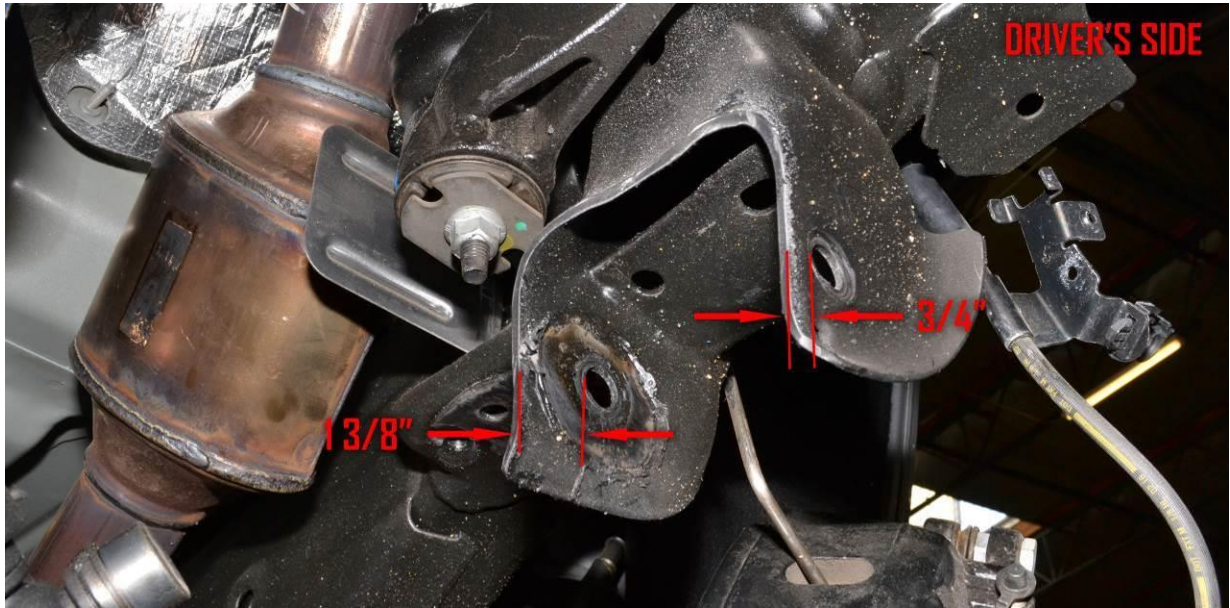


25. Disconnect the 2 main wires for the rack and pinion that are located above the cross-member Use caution when disconnecting these wires, you have to pull the red locking mechanism up and use a small screwdriver to lift the latching mechanism to undo the clips without breaking them.



26. Have a helper support the rack and pinion, and remove the 4 main bolts that hold it in. Do not use an impact gun on the bolts or you could damage the rubber rack mounts. Set the rack aside for now.

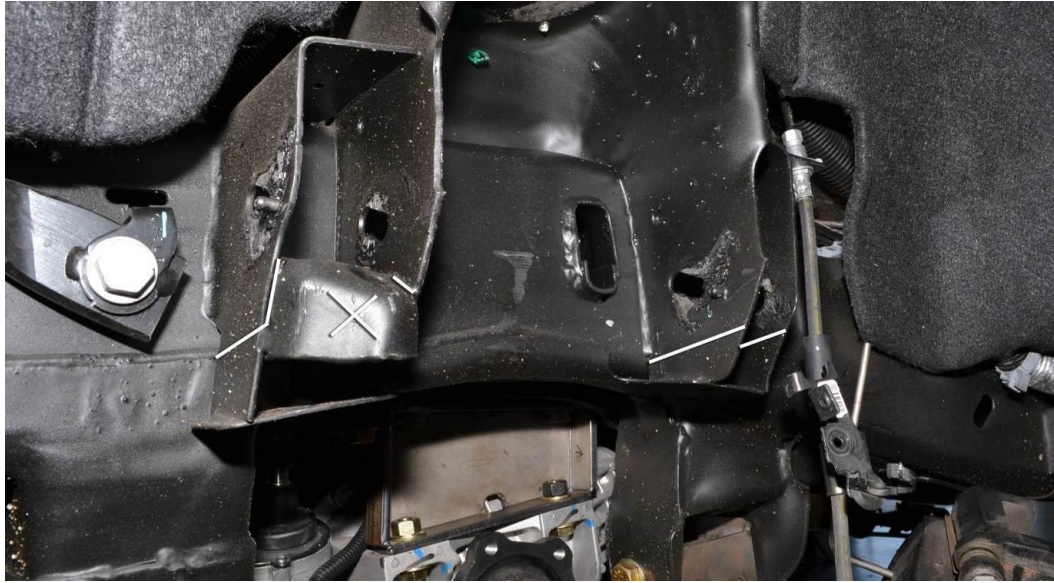
27. Support the front diff and remove the hardware that holds the diff to the diff mounts. Remove the front diff, have someone help you with this step. (🔧18mm wrench, 21mm wrench)
28. Part of the frame on the driver's side where the back side of the lower arm mounted to the frame needs to be cut off. Mark a vertical line on the frame 3/4" in from the inside of the lower arm hole in the front and 1 3/8" in the back; see the picture below for reference. Cut the frame and smooth out any sharp edges. Paint the bare metal to prevent rust.



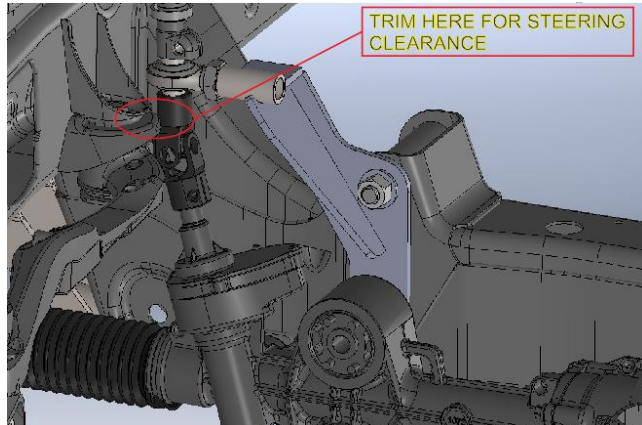
29. Remove the part of the front cross member that hangs down on the passenger side. Use a cut off tool to cut the welds, remove the bracket and clean up the cross member with a grinder. Make sure you do not cut into the cross member. Paint any bare metal to prevent rust. See the photos below

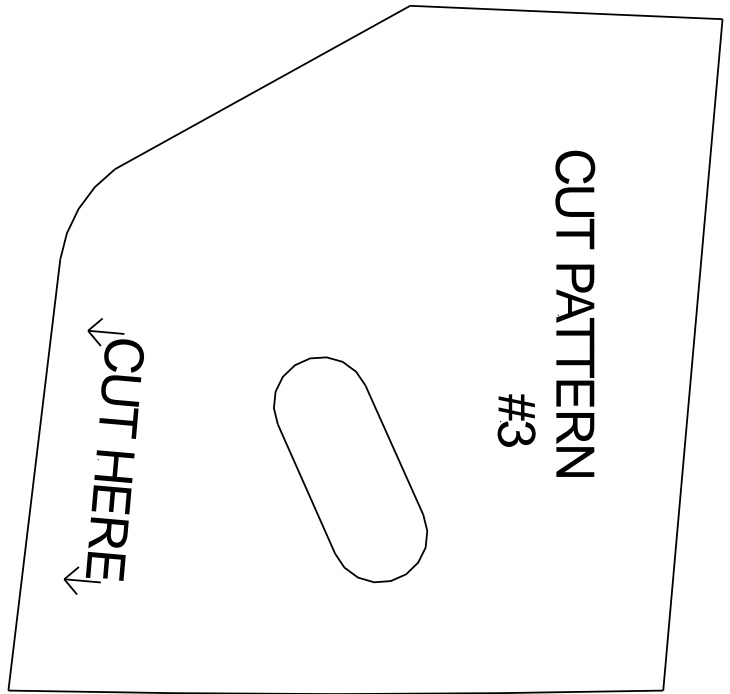
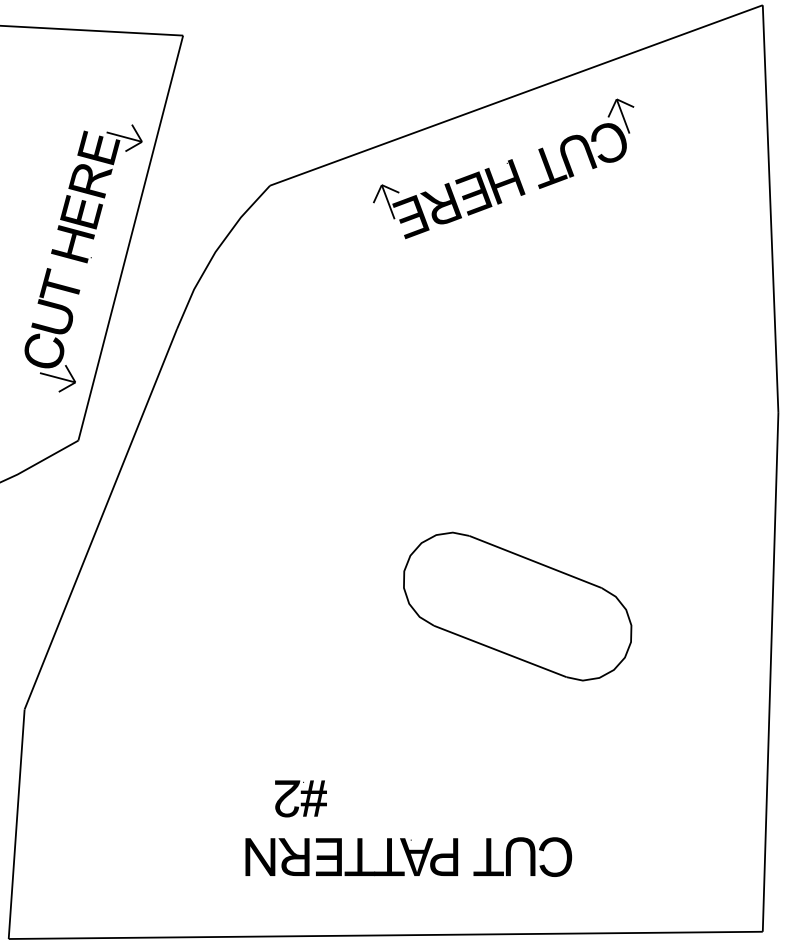
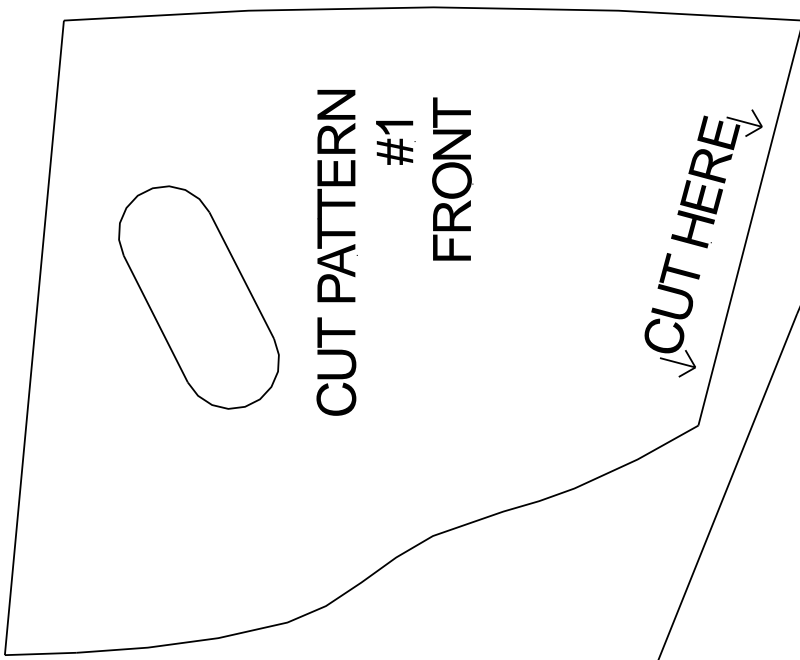


30. Use a hammer to knock the alignment pins out of the frame where the upper arms mount.
31. Trim the upper arm mounts enough to install the upper arm drop brackets. Cut out the paper patterns (from the next page) including the center slots. Place them against the upper arm mounts and mark the bottom side where they need to be cut. They go front to back from #1 to #4. See the before and after pictures below.

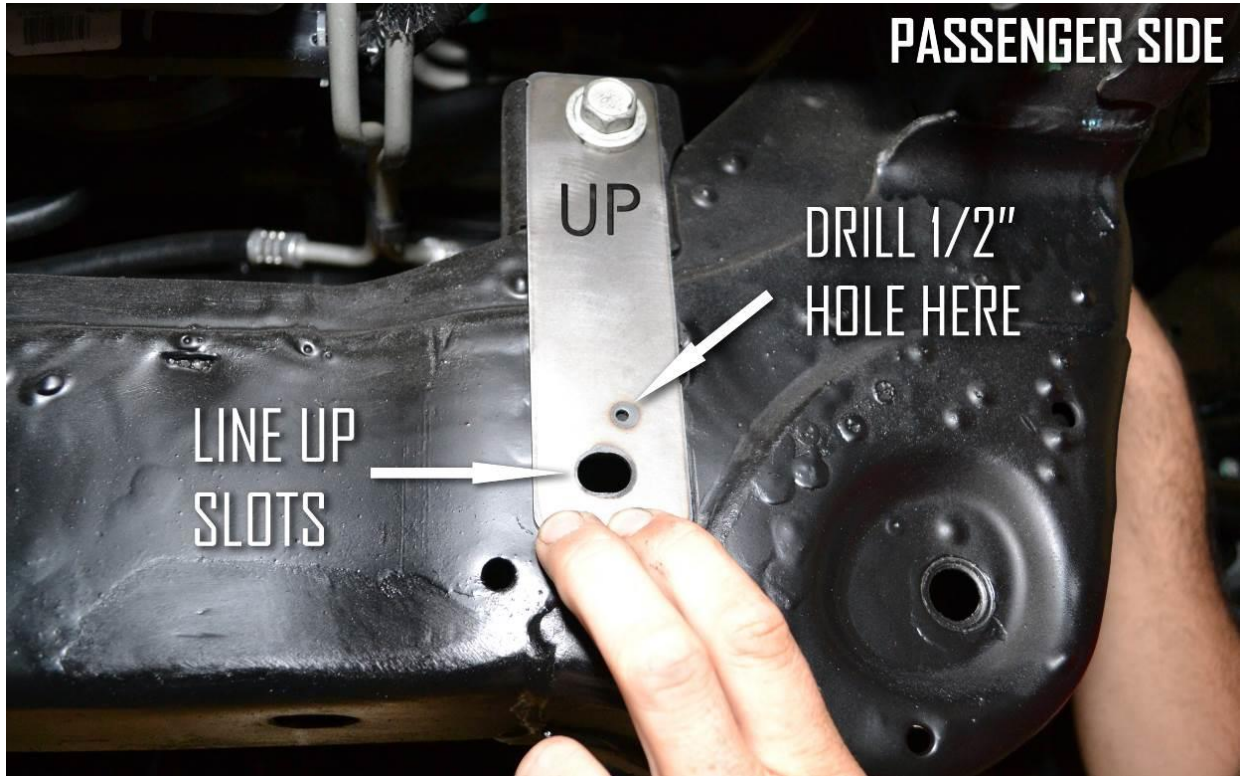


32. The below pics show where you need to trim the factory diff mount for steering clearance. The new joint supplied by CST is over sized and may come in contact with the factory diff mount. The first picture is looking straight down with the hood open. The white line shows where you should trim the diff mount. Only about 1/8" of trimming is needed. Second picture just gives you a general idea what you are looking at.

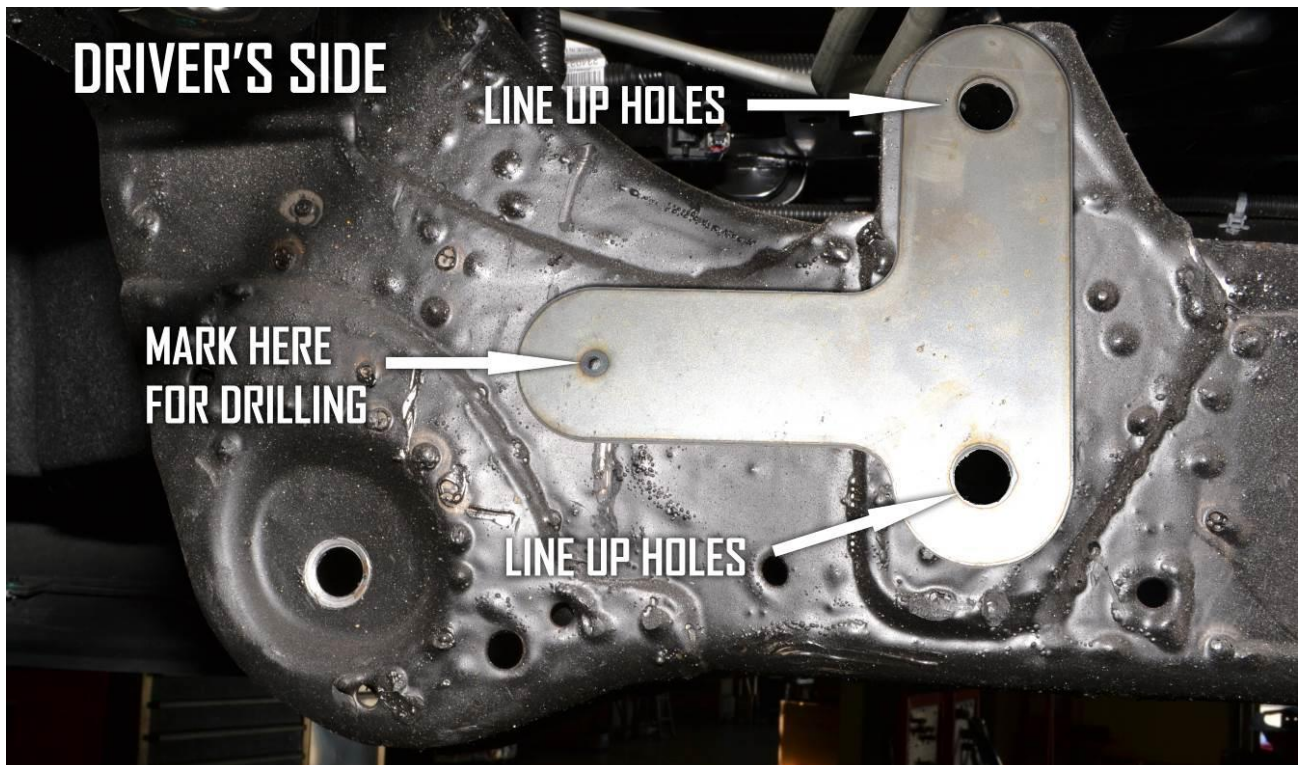




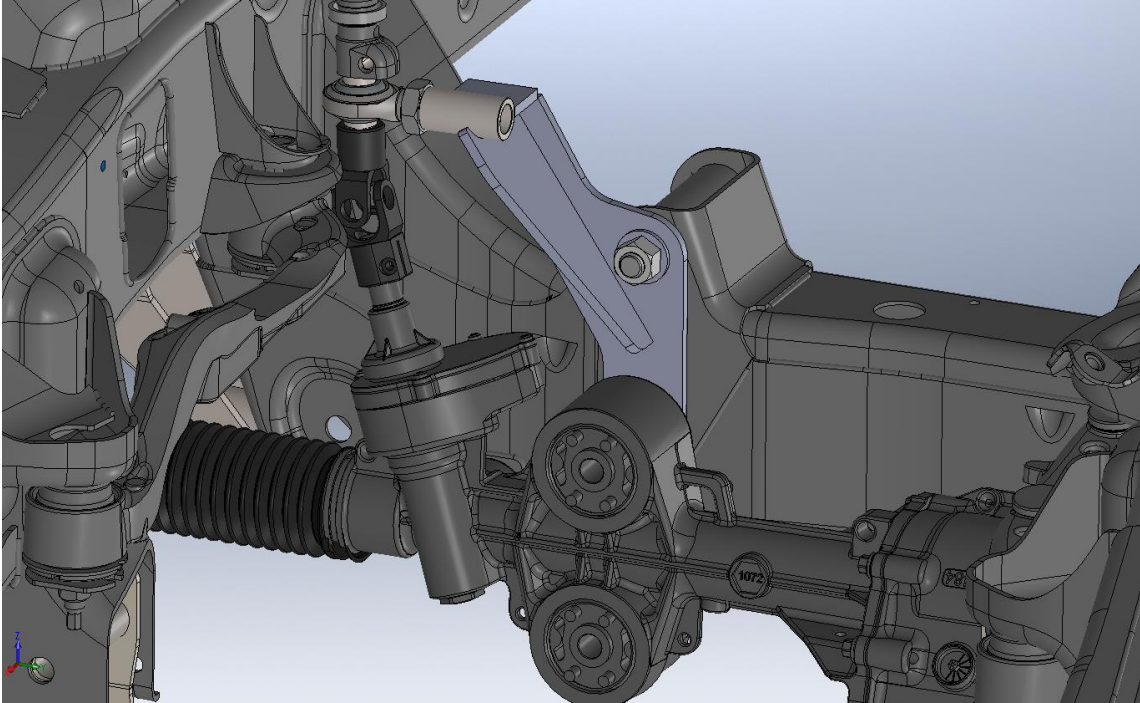
33. Drill a 1/2" hole in the frame on the passenger side of the frame where the steering is going to be relocated to; hold the included steel template up against the frame, line up the slots and mark the location of the new hole with a snap punch. Remove the plate and drill the hole. Use the picture below for reference.



34. The driver's side needs a hole to provide clearance for the steering rack. Use the supplied steel template and a snap punch to mark the frame. Drill the frame with a 1/4" drill bit and then open up the hole to 1 1/4" with a hole saw. Try not to let the piece of metal fall into the frame. If it does fall in, use an extendable magnet to retrieve it.



35. Install the steering support bracket with the supplied upper 5/8" bolt. Run the bolt up close to the bracket but do not tighten it at this time.
36. Install the steering extension with the universal joint on to the rack and secure it with the included pinch bolt. Use blue locktite and torque the pinch bolt to 35 ft.lbs. Do not let the steering shaft or the rack turn while they are disconnected, or they could get out of sync.
37. Install the steering rack using the stock bolts. Slide the extended steering shaft up into the heim joint on the steering support bracket. The driver's side of the rack sits on top of the steering support bracket, and the passenger side uses the large 1/4" thick washer included between the rack and the frame. Do not tighten at this time.

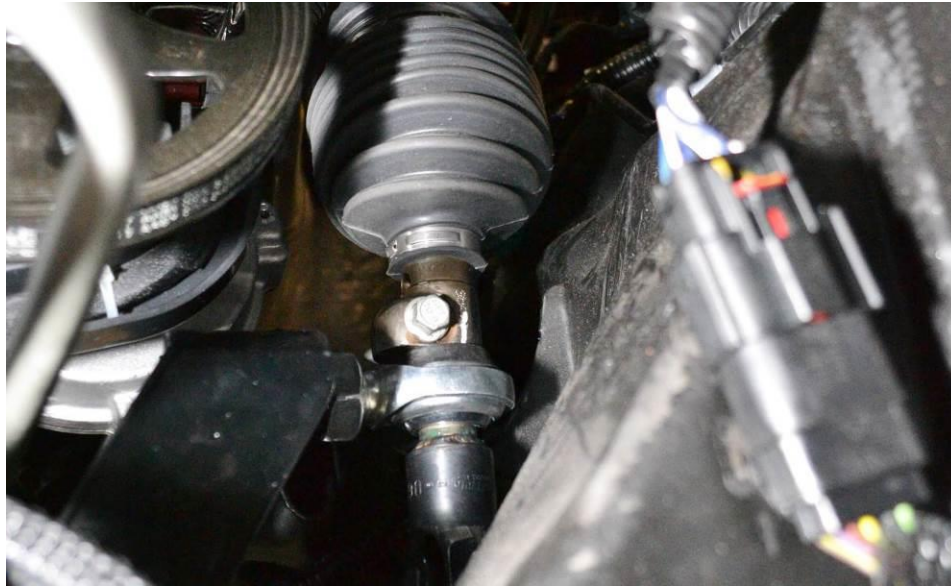


38. Slide the rubber heim joint seal onto the steering extension above the heim joint (steel side up) and reattach the stock steering shaft, use locktite on the stock pinch bolt and tighten.
39. Reattach the wires for the rack and pinion and make sure the wires are secured in their original locations.
40. If you are going to reuse your stock upper skid plate, bolt the 2 skid plate brackets to the top of the front subframe using the 3/8" bolts. Make sure you put the nut side up.



41. Install the front subframe using the 5/8 x 4 1/2" bolts. Install the bolts pointing front to rear. Do not tighten at this time.
42. Bolt the bottom of the rack to the back side of the subframe using the supplied 16mm bolt on the driver's side and the stock bolt on the passenger side. Use blue locktite.

43. Tighten all the bolts that are holding the rack, the steering support bracket and the front subframe in place. The steering support bracket has some slop around the bolt holes. Before tightening the bolts, make sure the heim joint is not sitting against the weld on the bottom or hitting the stock piece on the top. Move it so it is approximately in the middle of the shaft extension and tighten the bolts.



44. Install the driver's side diff drop using the stock hardware and locktite, install with the open side to the outside of the truck. The short side goes to the rear. (🔧=🔧18mm wrench)
45. Install the passenger side diff drop using the stock hardware and locktite. Install with the open side in. The short side goes to the rear. (🔧=🔧21mm wrench)
46. Install the diff using the supplied $\frac{1}{2}$ x 2" bolts on the driver's side and the supplied $\frac{5}{8}$ " x $1\frac{1}{2}$ " bolts on the passenger side. Have someone help you with this step. Use locktite on the passenger side bolts. (🔧=🔧 $\frac{3}{4}$ wrench, $\frac{3}{4}$ socket, $\frac{15}{16}$ wrench, $\frac{15}{16}$ socket)
47. Reattach the wires for the diff and install the vent line extension.
48. Attach the front driveshaft to the front diff using the stock bolts and blue locktite.
49. Install the rear subframe using the $\frac{5}{8}$ x 5 12" bolts. Do not tighten at this time. Install the bolts pointing front to rear.
50. Install the lower arms using the stock bolts. Snug the bolts up to take up any slop around the arms. Install the bolts pointing front to rear.
51. Install the upper arm drop mounts. The mounts slide over the back side of the stock mounts. Orient the upper $\frac{9}{16}$ " x 4" bolts so the nuts are pointing out away from the center. Attach the bottom of the upper arm mounts to the subframes using (8) $\frac{7}{16}$ " x 1" bolts. Do not tighten bolts at this time. Use the picture for reference.



52. Attach the brake line bracket to the back of the rear uca with the 7/16" x 1 1/4" bolts, point the bracket out.
53. Install the upper arms and set the cams to the middle. Tighten the alignment cams. Push the front upper control arm brackets all the way in against the frame. Tighten all of the hardware holding the upper arm drop mounts in place.
54. Tighten all of the bolts holding the subframes to the frame.
55. Install the spindle / hub assembly onto the lower arms and tighten the lower ball joint nuts.
56. Slide the axles into the hubs. Make sure you keep the driver / passenger axles on the correct side of the truck.
57. Lift the lower arm / spindle up and attach it to the upper arm. Do not tighten at this time.
58. Attach the axles to the front diff using the stock bolts and locktite. Reinstall the large axle nut and washer on the outside of the axles.
59. Attach the coilover spacers to the coilovers using the stock nuts and locktite.



60. Install the coilover using the 7/16" nuts and washers on the top and the stock hardware and locktite on the bottom.
61. Tighten the nuts for the upper ball joint tapers.
62. Install the brake calipers using the stock nuts and locktite.
63. Install the sway bar drop mounts using the stock bolts and locktite on the top, and the supplied 3/8" bolts on the bottom. Attach the sway bar to the lower arms using the stock sway bar links.



64. Stock upper skid plate only - Cut the stock plastic skid plate on the lines shown in the photo below. If you are installing the optional aluminum front skid plate you can discard the stock plastic skid plate and bolt the new one on instead.



65. Stock upper skid plate only - Bolt the skid plate to the stock location on the top using the stock hardware. Use a paint pen to mark the skid plate so you can drill some holes for the lower brackets. Take the skid plate off and drill 3/8\" data-bbox="55 557 938 628"/>

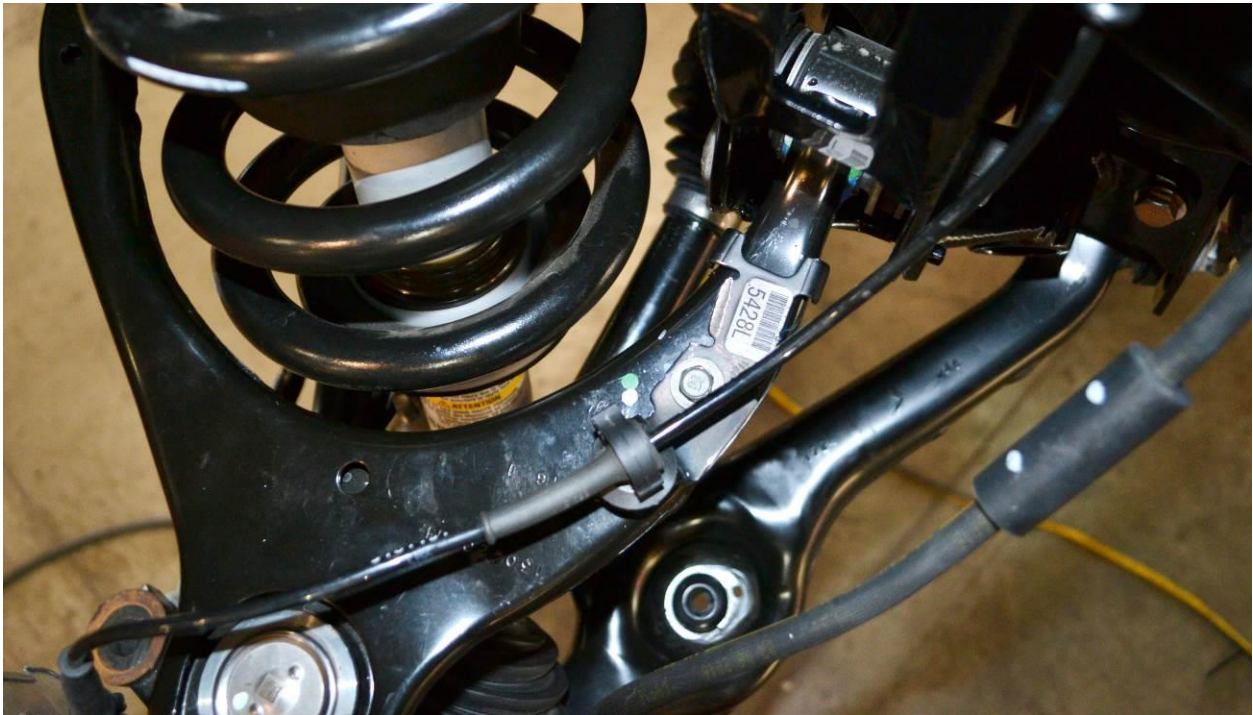
66. If you are installing the upper aluminum skid plate use the stock bolts on top and attach it to the top of the subframe using 3/8\" data-bbox="55 634 923 670"/>

67. Install the lower aluminum skid plate using the supplied 3/8\" data-bbox="55 676 800 695"/>

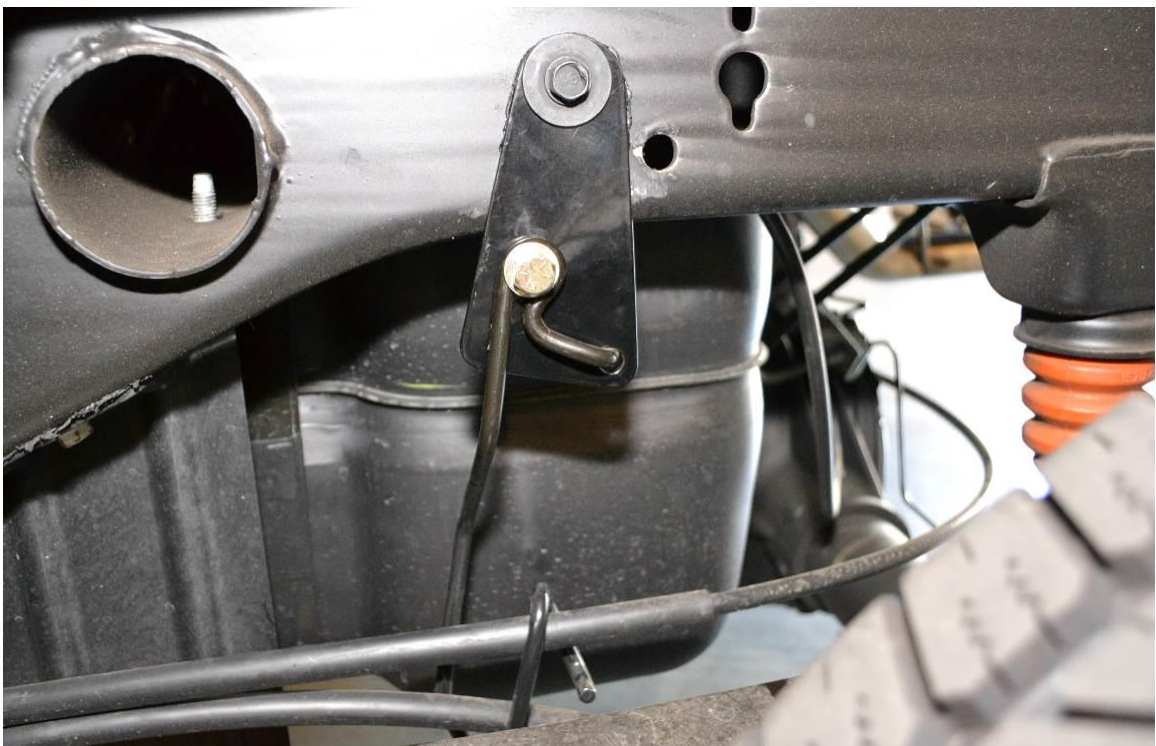
68. Attach the stock brake line bracket to the CST brake line bracket with the 5/16\" data-bbox="55 700 871 719"/>



69. Cut the bracket that holds the antilock wire to remove the portion that holds the brake line.
Remove the rest of the bracket from the brake line, use caution not to damage the brake line.
Use the photo below for reference.



70. Attach the abs wire to the stock location on the spindle and on the arm. Zip tie it to the brake line bracket at the plug.
71. Attach the tie rod to the spindle with the stock nut.
72. REAR LIFT:
73. Remove the 2 bolts that hold the rear upper brake line to the top of the frame on the driver's side.
74. Remove the bolts that hold the shocks.
75. Install the new emergency brake cable drop bracket to the driver's side of the frame using the stock bolt. Attach the stock bracket to the new bracket using the supplied 3/8" x 1 bolts.



76. Pull the plastic clips out of the frame where the ABS wires are held to the frame.
 77. Support one side of the rear axle with a floor jack and remove the u-bolts.
 78. Let the axle down a little bit and remove the stock block. Install the new block with the short side to the front. Be careful not to over stretch any brake lines or antilock wires.
 79. Install the new u-bolts.
 80. Repeat for the other side of the truck.
 81. Torque the u-bolts to 100 ft.lbs.
 82. Reattach the shocks to the axles.
 83. Install the rear upper brake line drop bracket on to the top of the driver's side frame rail using the stock bolts and locktite. Caution - make sure you do not pinch the ABS wire when installing this bracket! Orient the bracket so it drops the lines down 1" and rotates them forward a little.
 84. Bolt the factory brake line bracket to the bottom of the new bracket using the supplied 5/16" x 3/4" bolts.
 85. Re-install the plastic clips for the ABS wires to their original location on the bottom of the frame.
 86. Install the wheels and torque to 100 ft.lbs. If you are installing aftermarket wheels, remove the brass clips that are on the rear lug studs.
 87. If needed, adjust the camber and the toe to get them approximately straight. (🔧16mm wrench, 24mm wrench, 21mm socket, 21mm wrench)
 88. Tighten the bolts for the lower control arms with the truck sitting on the ground at ride height.
 89. Do a final inspection of every part you installed and make sure all the bolts are tight.
 90. Reattach the battery cable.
 91. Have the truck professionally aligned.
 92. Adjust the headlights to compensate for the changed stance / additional height.
- 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

PARTS BAG # 1

1	Heim Joint Seal For 3/4 Heim Joint
1	Steering Joint w/ Welded Shaft Extension
1	Pinch Bolt For Steering Joint
1	5/8-11 x 5 1/2" Bolts
2	5/8" Washers
1	5/8-11 Lock Nuts
1	2" OD x 1/2" ID x 1/4" Thick Washers

PARTS BAG # 2

2	5/8-11 x 4 1/4" Bolts
2	5/8-11 Lock Nuts
4	5/8" Washers
1	16mm (2.0) x 60mm Bolts
1	9/16" Washers
4	3/8-16 x 3/4" Bolts
4	3/8-16 Lock Nuts
8	3/8" Washers
1	Driver Front Skid plate Bracket
1	Passenger Front Skid plate Bracket

PARTS BAG # 3

2 1/2-13 x 1 3/4" Bolts
2 1/2-13 Lock Nuts
4 1/2" Washers
2 5/8-11 x 1 3/4" Bolts
2 5/8-11 Lock Nuts
4 5/8" Washers
1 6" Vent Line Extension w/ Fitting

PARTS BAG # 4

2 5/8-11 x 5 1/4" Bolts
2 5/8-11 Lock Nuts
4 5/8" Washers

PARTS BAG # 5

4 9/16-12 x 4" Bolts
8 9/16" Washers
4 9/16-12 Lock Nuts
8 7/16-14 x 1" Bolts
2 7/16-14 x 1 1/4" Bolts
12 7/16" Washers
2 7/16-14 Lock Nuts
2 Front Brake Line Bracket

PARTS BAG # 6

6 7/16" Washers
6 7/16-14 Lock Nuts
4 3/8-16 x 2" Bolts
4 3/8-16 Lock Nuts
8 3/8" Washers

PARTS BAG # 7

2 5/16-18 x 3/4" Bolts
4 5/16" Washers
2 5/16-18 Lock Nuts
2 Black Nylon Zip Ties
6 3/8-16 x 1" Bolts
6 3/8" Washers

PARTS BAG # 8

1 Rear Brake Line Bracket
1 E-Brake Cable Bracket
1 3/8-16 x 1" Bolts
1 3/8-16 Lock Nuts
2 3/8" Washers
2 5/16-18 x 3/4" Bolts
2 5/16-18 Lock Nuts
4 5/16" Washers