



## D2632 Installation Instructions 2019 Ram 1500 4wd 6" Suspension Systems

### Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

#### »» **PRODUCT SAFETY WARNING**

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

#### »» **TECHNICAL SUPPORT**

[www.zoneoffroad.com](http://www.zoneoffroad.com) may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to [tech-zone@ridefox.com](mailto:tech-zone@ridefox.com) detailing your issue for a quick response.

**888.998.ZONE** Call to speak directly with Zone tech support.

#### »» **PRE-INSTALLATION NOTES**

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

#### **Difficulty Level**

easy 1 2 **3** 4 5 difficult

Estimated installation: 8 hours

#### **Tire/Wheel Fitment**

-6" system: 37x12.50x17 w/ 5" Backspacing

-6" system: 37 x 12.50 x 20 w/ 5" Backspacing

-4" system: 35 x 12.50x17 w/ 4-1/2" Backspacing

-4" system: 35 x 12.50 x 18 or 20 w/ 5" Backspacing

-Stock 20 rims can be reinstalled with stock tire size

-Stock 17" rims cannot be reinstalled after installation

#### **Special Tools:**

35mm Axle Nut Socket  
T30 Torx bit



## PRE-INSTALLATION NOTES

1. Will not fit air ride equipped models
2. Ensure you have the proper knuckles before proceeding. Vehicle equipped with 22" wheels from the factory build codes WPM or WPZ have a larger bearing and required D2640 and D2641 knuckle box kits. All others use D2630, D2631 box kits.

## INSTALLATION INSTRUCTIONS

### » FRONT INSTALLATION

3. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
4. Raise the front of the vehicle and support with jack stands under the frame rails.
5. Remove the wheels.
6. Disconnect the front sway bar links from the control arm. **Figure 1.**

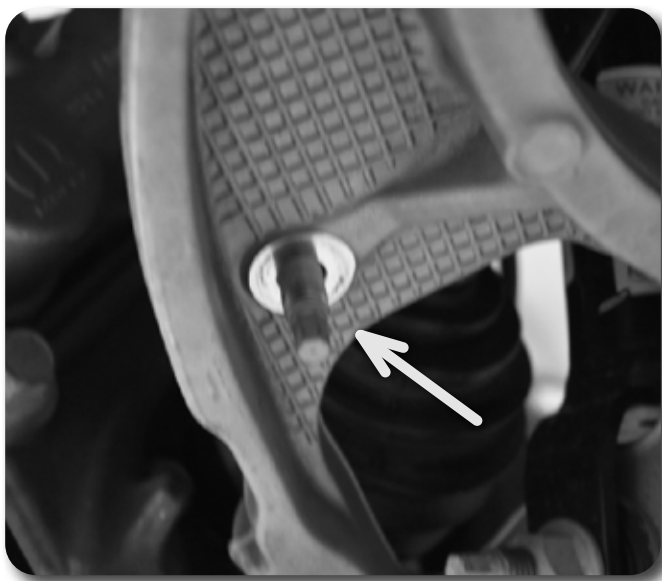


Figure 1

7. Remove and discard the factory front skid plate, if equipped.
8. Disconnect the tie rod ends from the steering knuckles. Remove and retain the mounting nuts. Use the appropriate puller to separate the tie rod end from the steering knuckle. Take care not to damage the tie rod end.
9. Disconnect the ABS brake line at the frame. Remove it from any retaining clips.
10. Disconnect the brakeline hardware from the strut tower and pull the brakeline through the mount. Cut a slot to allow the brakeline to be removed from the frame. If you do not wish to cut on the coil bucket, the line can be disconnected and reconnected after it is removed from the frame. If the line is disconnected the brakes must be bled once the installation is completed. **Figure 2**

### Important—measure before starting!

Measure from the center of the wheel up to the bottom edge of the wheel opening

LF \_\_\_\_\_ RF \_\_\_\_\_

LR \_\_\_\_\_ RR \_\_\_\_\_



Figure 2

### Step 11-12 Note

The brakeline drop hardware is located in bolt packs 500

11. Attach the provided brake line relocation bracket to the frame where the original line mounted. Torque the factory bolt to 10 ft-lbs and the  $\frac{1}{2}$ " bolt to 50 ft-lbs.
12. Carefully reform the hardline to gain additional length. Attach to the relocation bracket with  $\frac{5}{16}$ " x  $\frac{3}{4}$ " bolts, nuts, and washers Figure 3.

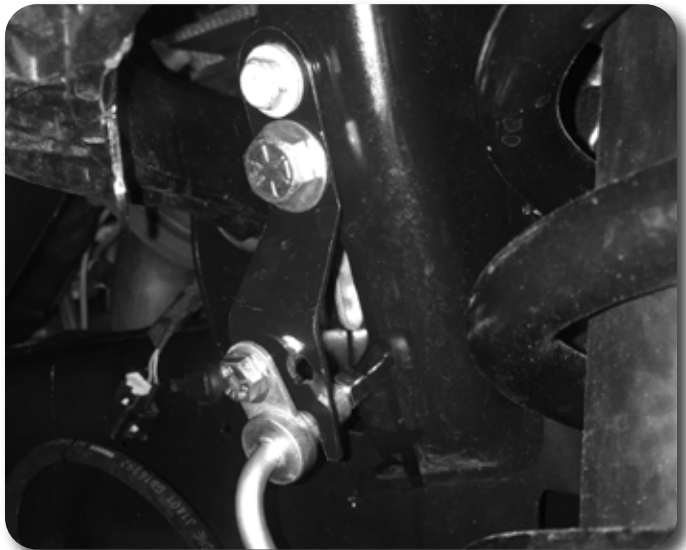


Figure 3

13. Repeat brake line relocation bracket installation on the passenger's side of the vehicle.
14. Remove the brake caliper bracket to knuckle bolts Figure 4 and pull the caliper free from the steering knuckle and rotor. Hang the caliper securely out of the way. Retain caliper mounting hardware. Remove the brake rotor from the hub.

### Step 14 Note

Do not allow the brake caliper to hang from the brake hose.

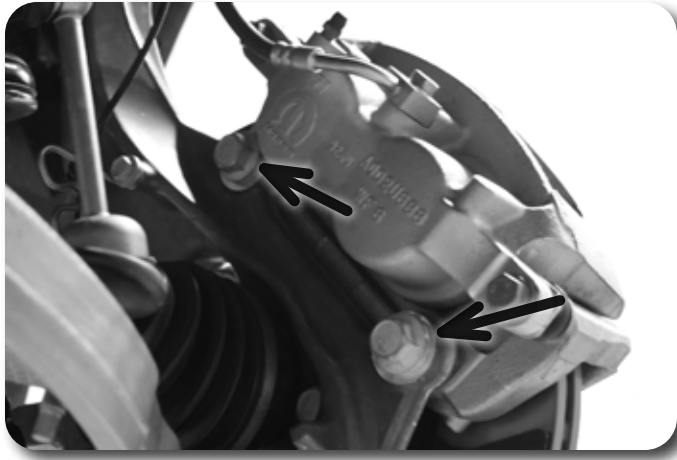


Figure 4

15. Remove the brake rotor torx (T30) screw and rotor from the hub.
16. Remove the hub axle nut (35mm). Retain nut.
17. Remove the ABS sensor from the hub. Route the wires and sensor away from the knuckle.
18. Loosen but do not remove the lower control arm bolts.
19. Disconnect the CV axles from the differential by carefully prying CV out at the differential to disengage the internal retaining clip. Pry the shaft out just enough to release the clip and leave the axle on the differential at this time.
20. Support the lower control arm with a hydraulic jack. Remove the three strut-to-frame mounting nuts **Figure 5**. **DO NOT** loosen the middle strut nut.

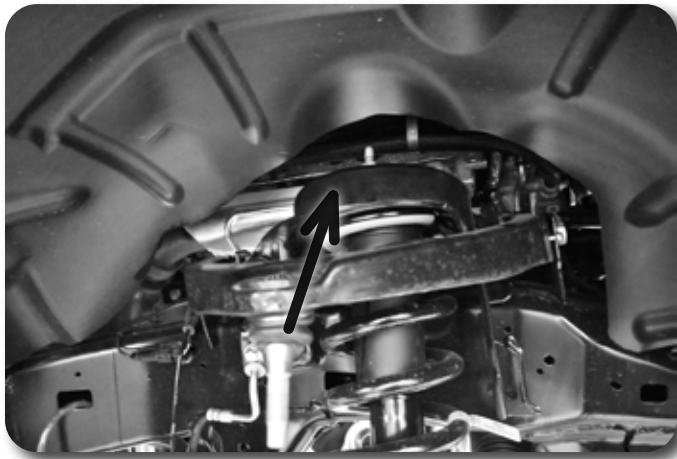


Figure. 5

21. Loosen the strut-to-lower control arm hardware **Figure 6**. Remove the nut from the bolt and leave the bolt in place to temporarily retain the strut to the lower control arm. Retain the nut.



Figure. 6

22. Remove the upper and lower ball joint nuts. Reinstall the nuts a few turns by hand. Separate the upper and lower ball joints from the steering knuckle using the appropriate puller. Take care not to damage the ball joint.
23. Remove the upper ball joint nut. Lower the jack enough to allow removal of the strut. Remove the lower strut bolt and remove the strut from the vehicle. Mark the strut from the appropriate side driver's or passenger's. Retain mounting bolt and upper ball joint nuts.
24. Continue to lower the jack allowing the knuckle/CV axle and lower control arm to swing down. Slide the CV axle off of the differential. Remove the CV axle from hub.
25. Remove the lower ball joint nut and remove the knuckle from the lower control arm. Retain the lower ball joint nut.
26. Remove the three bolts mounting the hub bearing assembly to the steering knuckle. Retain the mounting bolts. Remove the hub assembly and dust shield from the knuckle.
27. Install the hubs in the corresponding new knuckles and fasten with the stock mounting bolts **Figure 7**. Index the hub so that the ABS line runs out the front side of the knuckle toward the steering arm. Use Loctite on the bolt threads and torque to 125 ft-lbs.



Figure. 7

28. Remove the lower control arms from the frame. Retain hardware.

29. Make indexing marks on the front driveshaft and differential input flange for realignment later. Remove the four bolts and disconnect the drive shaft from the differential. Support the driveshaft to keep the CV boot from binding. Discard mounting bolts.
30. Remove sway bar mounts from frame and remove sway bar assembly. Retain Hardware
31. Remove the four bolts mounting the OE rear crossmember to the frame rails and remove the crossmember from the vehicle. Discard the crossmember and the hardware.

**Step 29 Note**

Failure to support the driveshaft can lead to pinching the rubber boot at the CV joint which can damage the seal causing a leak and premature wear on the joint.



Figure 8

32. Using a jack, support the differential. Loosen and remove the two forward-most differential mounting bolts on the driver's side **Figure 9** you may need to manipulate the wiring harness location in order to give enough clearance for these bolts to come loose.



**Tip** *If using a ratcheting wrench, make sure it is reversible as you may get into a position where it gets stuck on the rib of the differential.*

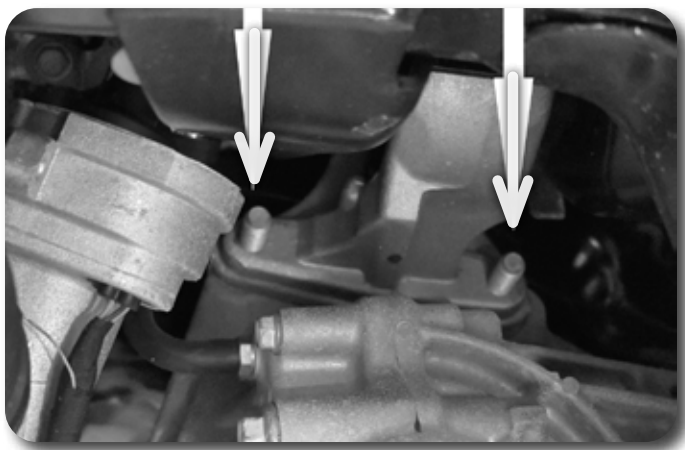


Figure 9

33. Loosen but do not remove the three rear driver's side bolts **Figure 10** and the two passenger's side bolts **Figure 11**. On the passenger's side, if equipped, remove the differential actuator cable bracket, It will not be reused. Disconnect the wiring connector from the differential.

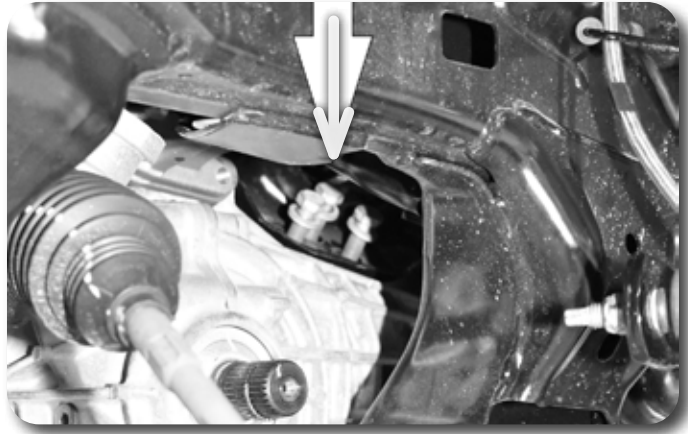


Figure 10

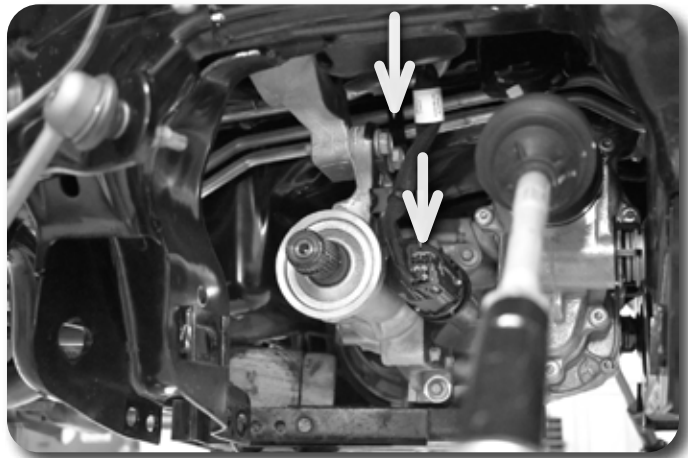


Figure 11

34. With the differential securely supported, remove the remaining bolts and lower the differential from the vehicle.
35. The driver's side rear lower control arm pocket must be trimmed to provide clearance for the differential in its lowered position. Measure inward from the inside edge of the alignment cam slot  $1\text{-}\frac{3}{4}$ " and mark. Repeat on the opposite side of the pocket. Make a continuous line connecting the two marks over the top edge of the pocket. Trim the pocket on the line with a sawzall or cut off wheel. Paint any exposed metal to pre corrosion Figure 12.

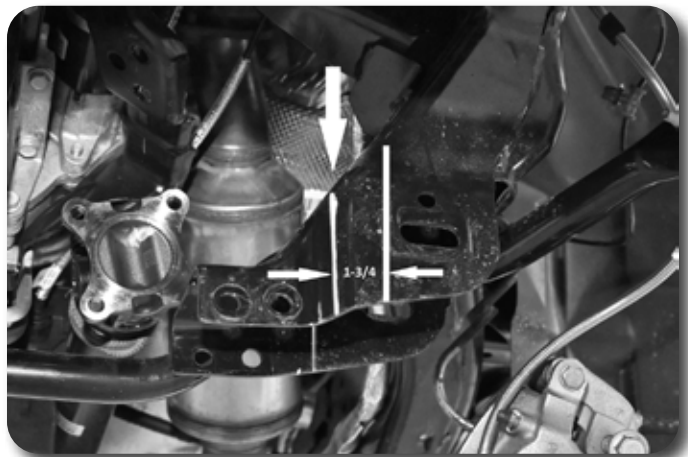


Figure 12



36. Install the provided passenger's side differential drop bracket to the original frame mount with OE hardware. The brackets should be installed offset forward as shown Fig 13. Leave hardware loose.



Figure 13

37. Install the two driver's side front differential drop brackets so that the bracket without the lower cutout is toward the outside of the vehicle offsetting out and the one with the cutout is on the inside offsetting in. Fasten the brackets to the frame with OE bolts with loctite into the factory threaded holes. Leave hardware loose. Fig. 14



Figure 14

38. Install the driver's side rear differential drop bracket to the OE mount location with three 1/2" x 1-1/2" bolts and 1/2" SAE washers. Figure 15 The bracket will have the gusset plate towards the front of the vehicle. Leave hardware loose.

### Step 39, 41 Note

Hardware for the differential drop brackets is located in bolt pack 480.

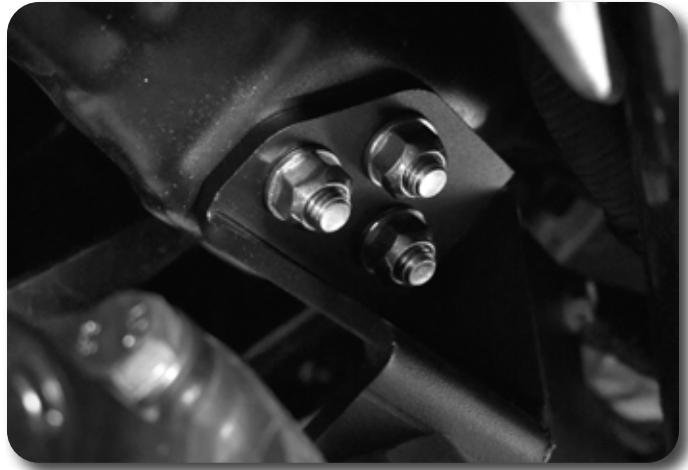


Figure 15

39. Using a jack and an assistant to aid in balancing raise the differential up to the new brackets.
40. Attach the differential to the driver's side front bracket and passenger's side bracket with 12mm x 60mm bolts, nuts and washers. Use the 1/4" thick washers on BOTH sides of the differential and between the front diff brackets.

Figure 16 & 17

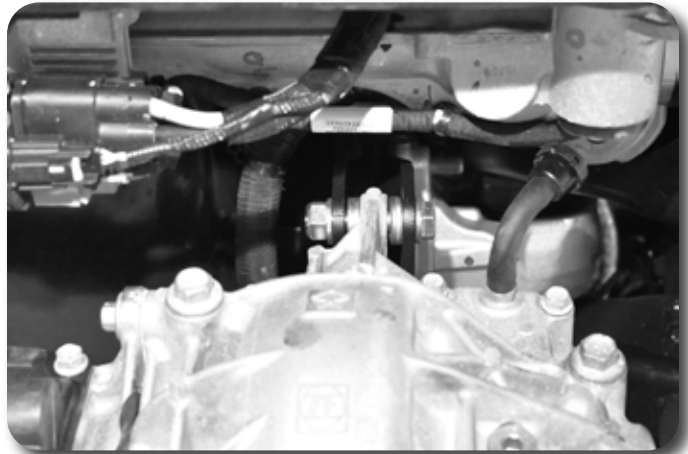


Figure 16

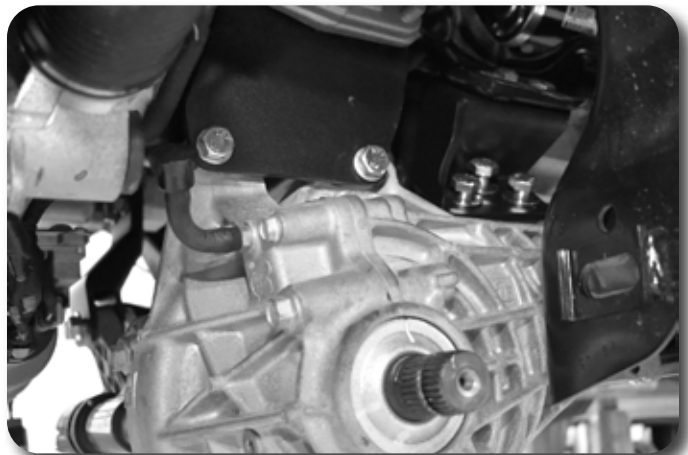


Figure 17

41. Attach the drivers side rear bracket to the differential with 12mm x 40mm bolts and washers BP #480. Leave all differential hardware loose. **Figure 18**



Figure 18

42. Attach the Passenger side differential to the bracket using 12mm x 60mm bolts and washers. **Figure 19**

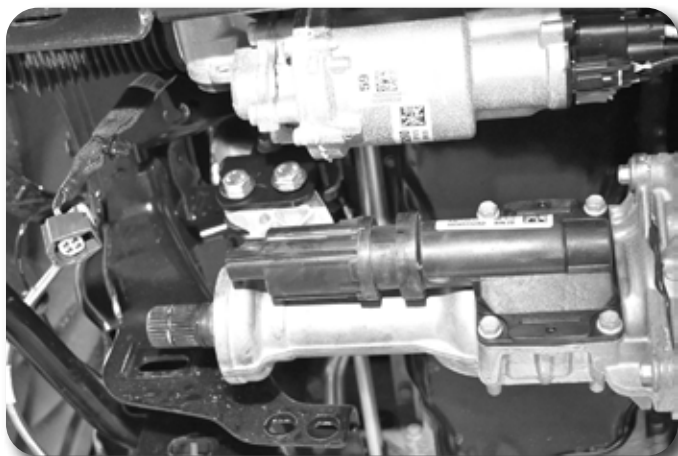


Figure 19

43. Torque all 14 differential mounting bolts. Torque the ½” hardware to 65 ft-lbs and the 12mm hardware to 50 ft-lbs.
44. Locate the front differential wiring harness. Remove from factory clips to give enough slack to reach the differential. Reattach to differential and tie up extra slack with provided zip ties.
45. Install the new front crossmember in the OE front lower control arm pockets and loosely fasten with the provided 18mm x 150mm bolts, nuts in conjunction with the provided rectangle cam slot washers.  
*Note: The offset in the crossmember goes to the front, bolts run from front to rear.*
46. The kit includes a stainless Zone logo plate that can either be painted or installed as is using the provided rivets or screw/nuts.
47. Install Sway Bar drop Brackets using OE hardware in the upper sway bar mounts 03659/03660 Lower tabs on Sway bar mount brackets must go in the rear OE cam slots **Figure 20**.

### Step 42-43 Note

Hardware for the differential drop brackets is located in bolt pack 480.



Figure 20

48. Install the new rear crossmember in the OE rear lower control arm pockets and loosely fasten with the provided 18mm x 150mm bolts, nuts in conjunction with the provided rectangle cam slot washers 01264. Run the bolts from front to rear and leave loose at this time. Figure 21



Figure 21

49. Install the new differential skid plate to the front crossmember with  $\frac{1}{2}$ " x 1-1/4" bolts and  $\frac{1}{2}$ " SAE washers BP #480 into the welded nuts in the crossmember. Install the back of the skid plate to the rear crossmember with  $\frac{1}{2}$ " x 1-1/4" bolts and  $\frac{1}{2}$ " SAE washers BP #480 into the welded nuts in the crossmember. Leave hardware loose. Figure 22

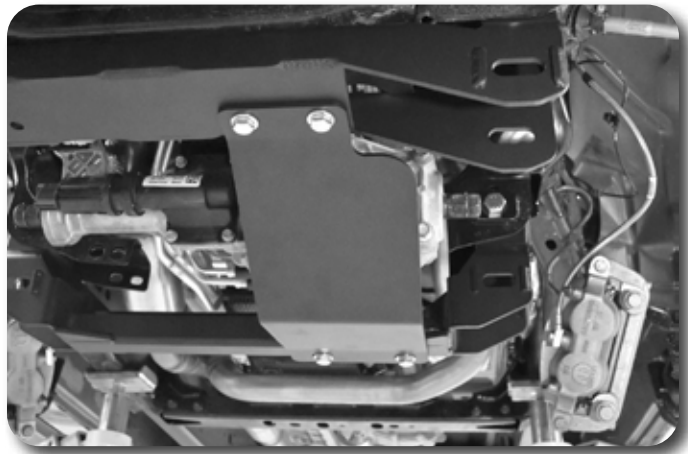


Figure 22

50. Install the lower control arms in the front and rear crossmembers. Attach the control arms to the crossmembers with the OE cam bolts, washers and nuts running from front to rear. Leave hardware loose. **Figure 23**



Figure 23

51. With the lower control arms installed, torque the 18mm crossmember mounting bolts to 220 ft-lbs. Torque the ½” differential skid plate hardware to 65 ft-lbs.
52. Install the provided drive shaft spacer on the differential input flange. Attach the front driveshaft to the differential by aligning the marks made earlier. Fasten the driveshaft and spacer to the differential flange with 12mm x 55mm bolts and 12mm washers BP #478. Use loctite on the bolt threads and torque to 55 ft-lbs.

**Figure 24**



Figure 24

### **Step 52 Note**

Hardware for the front driveshaft spacer is located in bolt pack 478

53. On some new vehicles it is necessary to trim a splash guard located on the transmission shift linkage to clear the drive shaft. **Figure 25**



Figure 25

54. Torque all 14 differential mounting bolts. Torque the ½" hardware to 65 ft-lbs and the 12mm hardware to 50 ft-lbs.
55. Attach the factory wiring harness to the differential.
56. Place indexing marks on the strut body, strut cap and upper coil seat **Figure 26A,B** for realignment of the components when the strut is reassembled.

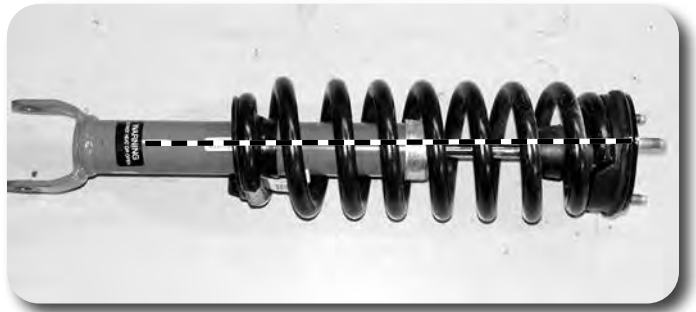


Figure 26A



Figure 26B

### Step 58 Caution

Coil spring is under extreme pressure. Improper removal/installation of coil spring could result in serious injury or death. Use only a high-quality spring compressor and carefully read and follow the manufacturer's instructions.

57. Using an appropriate strut compressor, compress the coil spring and remove the upper strut nut **Figure 27**. Remove the strut, strut cap and upper coil seat from the coil spring.



Figure 27

58. Place the provided preload spacer between the plastic coil seat and the rubber isolator Figure 28.



Figure 28

59. Reassemble the strut as it was taken apart by aligning the index marks made earlier. Fasten the assembly with the OE strut nut. Torque nut to 50 ft-lbs.
60. Install the provided strut spacers on the struts with the original strut mounting hardware. Torque nuts to 30 ft-lbs.



Figure 29

## Step 62 Note

Strut spacer 10mm nuts and washers are located in bolt pack #481

61. Loosely install the strut assemblies on the appropriate sides of the truck with the provided 10mm nuts and washers on the strut spacer studs.
62. Install the new driver's side steering knuckle to the driver's side lower control arm ball joint and loosely attach with the original nut. Install the driver's side CV axle in the hub and loosely fasten with the original axle nut. Swing the knuckle/CV assembly up while aligning the axle with the differential output shaft. Loosely attach the strut to the lower control arm with the factory hardware. Push the CV axle all the way onto the differential output to seat the internal retaining clip.
63. Support the lower control arm with a hydraulic jack and attach the knuckle to the upper ball joint with the factory nut.
64. Torque the upper ball joint nut to 55 ft-lbs and the lower ball joint nut to 60 ft-lbs. Torque the axle nut to 185 ft-lbs. Torque the upper strut-to-frame nuts to 30 ft-lbs.
65. Repeat knuckle/CV installation on passenger's side.
66. Route ABS line on back side of knuckle, through brake dust shield and into hub. Fasten with stock hardware and locktite.
67. Install the brake rotor and caliper on the knuckle/hub. Torque the OE caliper bolts to 130 ft-lbs. Use loctite on the caliper bolts.
68. Attach sway bar to the new sway bar mounts using 3/8-16" x 1-1/4" bolts, washers and prevailing torque nuts insert sway bar link into lower control arms and fasten using OE hardware.
69. Remove stock tie rod ends and replace with provided replacement tie rod end. Attach the tie rod ends to the new steering knuckles with the included nut. Torque to 55 ft-lbs. Securely lock off the jam nut. It is recommended to have approximately 2 threads left exposed past the jam nut for ease of alignment adjustment.
70. Reconnect the ABS wires at the frame.
71. Reinstall front wheels. Torque to factory specifications, see owner's manual. Aftermarket alloy rims will require more frequent attention. Check lug nuts for proper torque frequently.
72. Lower the vehicle to the ground and bounce the front to settle the suspension.
73. Torque lower control arm hardware to 125 ft-lbs. Torque the strut-to-lower control arm bolt to 125 ft-lbs.



## » REAR INSTALLATION

1. Park the vehicle on clean, flat, and level surface. Block the front wheels for safety.
2. Disconnect the rear trackbar from the axle, retain hardware.
3. Raise the rear of the vehicle and support the frame rails with jackstands.
4. Remove the wheels.
5. Support the axle with a hydraulic jack.
6. Remove frontmost inner fender.
7. Remove the OE shocks. Retain the mounting hardware.
8. Disconnect brake line brackets from the outside of the frame rails. Remove the ABS wires from the retaining clips. **Figure 1 & 2**

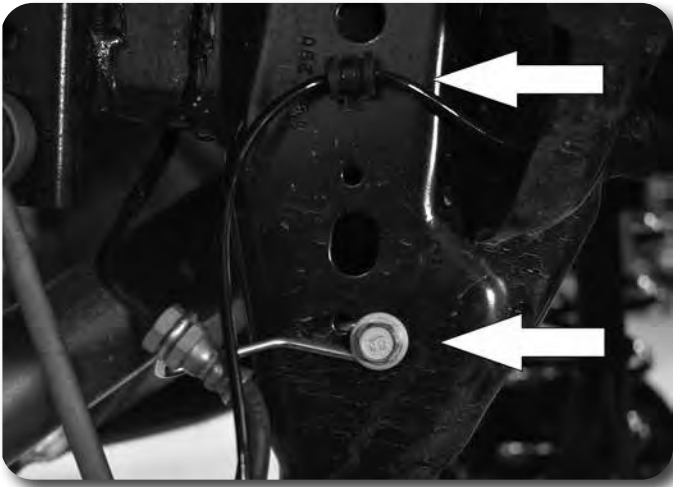


Figure 1

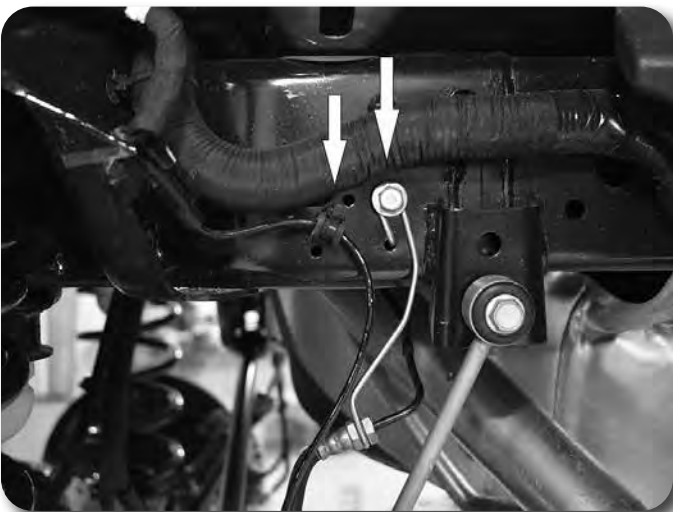


Figure 2

9. Remove rear sway bar links, retain hardware.
10. Lower the rear axle and remove the coils, retain the rubber isolators.
11. Disconnect the upper control arm from the axle. Loosen the upper control arm bolt at the frame rail, but do not remove. **Figure 3** Retain hardware.



Figure 3

### Step 12 Note

Rear control arm bracket hardware is located in bolt pack 483

12. Place the upper control arm relocation bracket over the pocket. The bracket will offset towards the inside of the vehicle from the factory control arm mount. Use the 5/8"-11 x 4-1/2" bolt, lock nuts, flat washers, and 1" x 2-3/8" long sleeve 110 between bracket tabs at stock control arm mount location. Use the 3/8-16 x 1-1/4" bolts to attach the bracket to the top of the axle. Use 1" x 2-3/8" long sleeve between bracket tabs at stock mounting location. See Figure 4 and 5.

*NOTE: Due to some axle variances, it may be necessary to slot the factory holes on the top of the axle in order to install 3/8" hardware. To do so, hold the bracket in place and mark the center of the slots of the bracket onto the top axle mount. Use a die grinder to open up existing holes or drill new holes in the axle mount to 7/16".*



Figure 4



Figure 5

13. Install the upper arm with the OE bolt. Leave control arm hardware loose at this time. Tighten 3/8" hardware to 35 ft-lbs, and 5/8" hardware to 95 ft-lbs.
14. Slowly lower the axle. It may be necessary to unclip the hard brakline mounts as well as the wiring harness clips on the rear diff. As you lower the axle ensure that all wiring/hoses have adequate slack and are not at risk of breaking. Install the new coil spring with the OE rubber isolator.

*Note: If equipped, transfer the stock coil spring wrap onto the upper coil windings.*



Figure 6

15. Install the new rear shocks. Tighten upper hardware so the bushing starts to swell. Tighten lower shock hardware to 75 ft-lbs.
16. Refer to the OE track bar bracket, Remove the ABS clip as shown in Figure 7 and drill hole so that it fits a 3/8" bolt,

Note: Due to OEM ABS clip hole variation, drilled hole may need to be filed out into a slot in order to align with bracket.

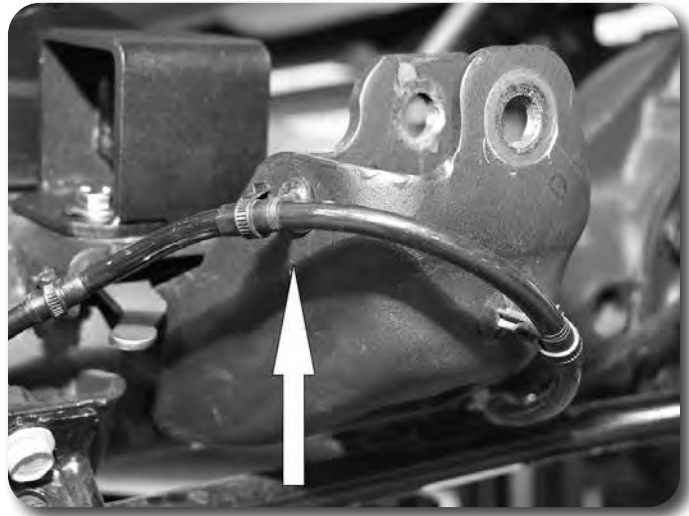


Figure 7

### Step 17 Note

Hardware for the rear track bar bracket is located in bolt pack 483.

17. Install the track bar bracket back on the factory mount. Fasten with the provided 9/16" hardware through the original track bar hole. Place the provided crush sleeve in the factory bracket when installing the hardware. Attach bracket with 3/8" x 1-1/4" bolt, nuts and washers through the hole drilled in the previous step. Tighten 3/8" hardware to 35 ft-lbs and 9/16" to 95 ft-lbs. **Figure 8**



Figure 8

### Step 18 Note

Hardware for the bump stop extensions is located in bolt pack 479.

18. Attach bump stop extensions to driver's and passenger's side with 5/16" x 7/8" bolts with prevailing torque nuts and washers. For the driver's side, slide the nut tab provided in the kit behind the OE track bar bracket hardware, under the bump stop plate. **Figure 9** Both bump stop extensions are positioned towards the driver's side of the vehicle with the two holes in the bottom plate facing the passenger side. Tighten to 18 ft-lbs.

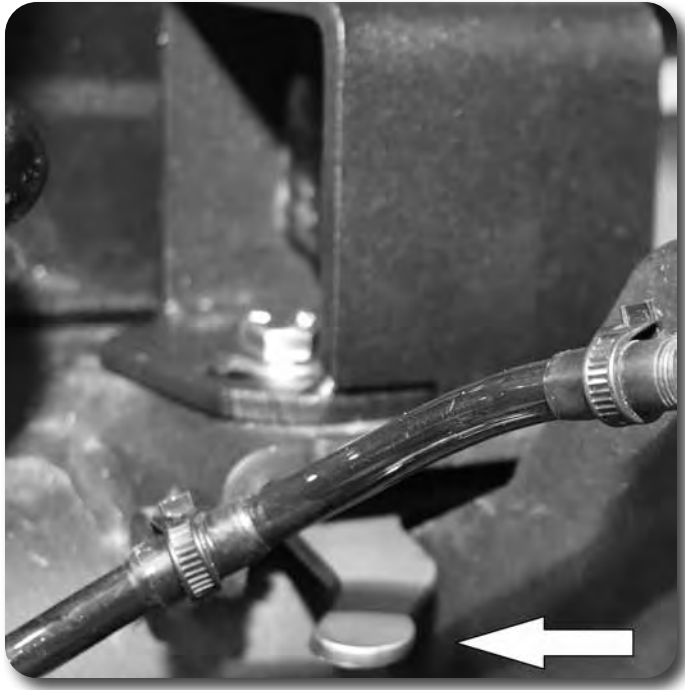


Figure 9

19. Install hourglass bushings into sway bar links. Install one 12mm ID sleeve into on end of the sway bar and one 10mm ID sleeve into the other end.
20. Install sway bar links putting the 10mm ID sleeves to the top mount, fasten using OE hardware and and 3/8" washers. Attach lower sway bar link to sway bar using 12mm bolt, prevailing torque nut and washers. Tighten to 55 ft-lbs. **Figure 10** Sway bar links mount to the inside of the bracket, same as the factory sway bar links.



Figure 10

## Step 20 Note

Hardware for the rear sway bar links is located in bolt pack 482.

## Post-Installation Warnings

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.
3. Perform head light check and adjustment.
4. Re-torque all fasteners after 100 miles. Always inspect fasteners and components during routine servicing.

21. Install brakeline drop brackets on the side of the frame rail using OE hardware. Attach brakeline to bracket with  $\frac{1}{4}$ " x  $\frac{3}{4}$ " bolt, washers, and nut. Tighten to 20 ft-lbs. **Figure 11** you will need to reform stock brake line wire mounts to allow adequate slack at full droop.



Figure 11

22. Reattach ABS wire to clips on brakeline.
23. Install wheels and lower vehicle to the ground.
24. Tighten upper control arm hardware to 120 ft-lbs.
25. Install rear trackbar into relocation bracket in the uppermost hole with OE bolt and nut. Tighten to 95 ft-lbs.

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## »» FINAL INSTALLATION STEPS

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- »» The brakes must be bled before driving the vehicle if the lines were disconnected in the installation. Follow the directions in the factory service manual. Also do a final check to ensure the brake lines will not contact the tire or other moving components.
26. A complete front end alignment is required.
  27. Recheck all fasteners for proper torque. Check again after 500 miles and at regularly scheduled intervals.