



D2300 Installation Instructions 2006-2011 Dodge Ram 1500 4WD 2.5" Adventure Series Suspension System

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.

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» TECHNICAL SUPPORT

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Send an e-mail to tech@zoneoffroad.com detailing your issue for a quick response.

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» 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: 4-5 hours

Special Tools Required

Ball Joint Separation Tool

Tire/Wheel Fitment

35x12.50 with 4.75" Backspacing

po-

***Important* Verify you have all of the kit components before beginning installation.**

D2300 Kit Contents

Qty Part

1	Drv Upper Control Arm
1	Pass Upper Control Arm
2	Straight grease fitting
2	Ball joint aluminum slugs
2	2-5/16" Circlip - yellow zinc
2	2-1/4"OD x 3/32 O-ring
4	Upper control arm factory style bushings
2	Upper Control arm ball joints
Diff Drop Kit	
1	Pass - front diff drop brkt
1	Pass - rear diff drop brkt
1	DRV - Frt diff drop brkt
1	DRV - Rear diff drop brkt
2	Rear crossmember drop bracket - Pass side
2	Rear crossmember drop bracket - DRV side
1	Modified 1/2"-13 x 2" carriage bolt
2	Spacer drv rear diff drop

1	Bolt pack #942 - diff drop hardware
1	1/2"-13 nut - yellow zinc (Non-locking)
1	1/2" SAE Thru-hardened washer - yellow zinc
4	12mm-1.75 x 30mm bolt - class 10.9 - clear zinc
4	12mm-1.75 x 60mm bolt - class 10.9 - clear zinc
2	12mm-1.75 x 70mm bolt - class 10.9 - clear zinc
6	12mm-1.75 Prevailing torque nut - clear zinc
16	1/2" USS washer - clear zinc
8	7/16"-14 x 1" bolt - grade 5 - clear zinc
16	7/16" SAE Washer - clear zinc
8	7/16"-14 nylock nuts - clear zinc

Strut Spacer

2	2.5" strut spacer
1	Strut spacer bolt pack
2	Preload spacer
1	Loc-tite
2	Sway bar link spacer

Kit Fitment notes:

1. On 2009 and newer TRX model trucks, do not install the preload spacer inside of the strut, this part can NOT be installed on TRX trucks.
2. Do not use this kit with Bilstein leveling struts, or with any other form of suspension lift.

INSTALLATION INSTRUCTIONS

» DISASSEMBLY

1. The factory service manual specifically states that striking the knuckle to loosen the ball joints or tie rod ends is prohibited. Striking the aluminum knuckle can damage it. A special puller tool #8677 (or equivalent ball joint tool) is recommended to be used to separate these components from the knuckle.
2. Park vehicle on clean flat and level surface. Block rear wheels for safety.
3. Raise front of vehicle and support frame rails with jack stands. Remove the front wheels
4. If equipped, remove differential skid plates. They will not be reinstalled.
5. Remove sway bar nut from the sway bar links at the sway bar, remove bushings and cup washers. Fig 1

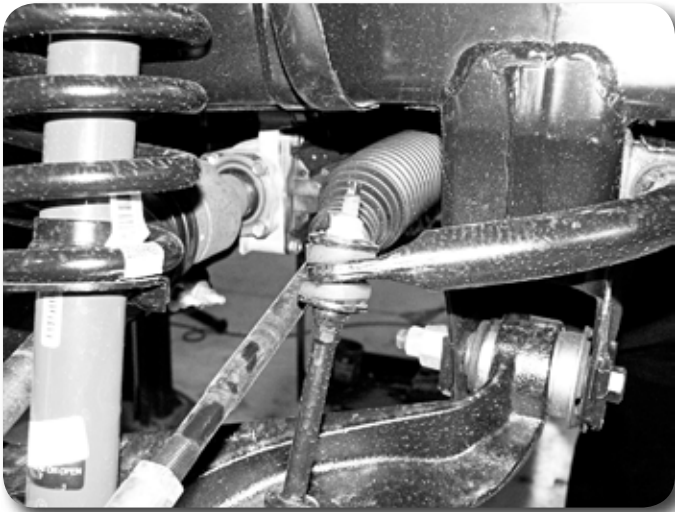


Figure 1

6. Remove the upper ball joint nut and use appropriate puller to disconnect the ball joint from the steering knuckle. Do NOT strike the aluminum knuckle with a hammer! Remove upper control arm from vehicle.
7. Disconnect the tie rod end from the steering knuckle using appropriate puller. Again do NOT strike the aluminum knuckle with a hammer!
8. Disconnect the brake caliper bracket from steering knuckle, hang caliper out of the way, do not allow the caliper to hang from the brakeline. Remove the brake rotors for safety.
9. Disconnect the ABS wire connector at the inner fender well. Remove wire from retaining clips.
10. Remove the lower strut bolt and nut. Fig 2

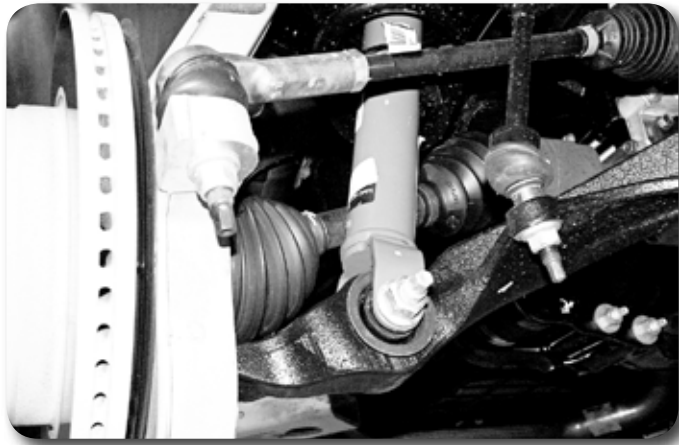


Figure 2

11. Remove upper strut nuts and remove strut assembly from vehicle.
12. Disconnect the inner CV from the differential by striking the CV with a hammer to dislodge the internal retaining clip. Remove the CV shaft from the differential. Swing the lower control arm assembly down and out of the way Fig 3a, 3b.



Figure 3a

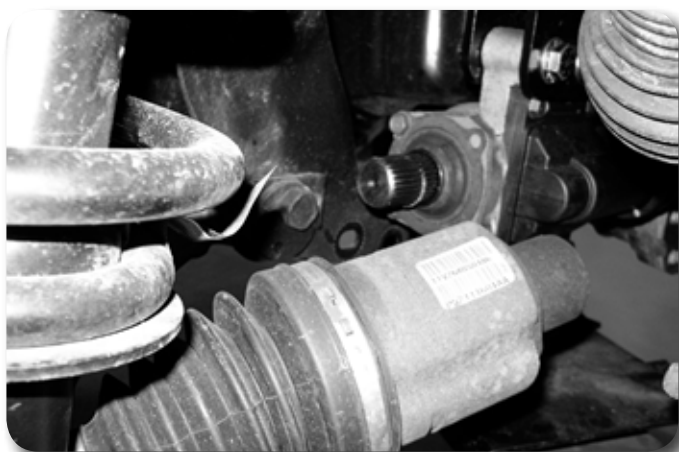


Figure 3b

13. Disconnect the differential breather hose from the differential. Disconnect the differential actuator wiring harness from differential Fig 4. Disconnect the front driveshaft from the differential, hang the driveshaft up out of the way. Do not allow the driveshaft to hang at full droop, the driveshaft boot may become torn.



Figure 4

14. Remove the factory rear crossmember between the lower control arm mounts.
15. Remove the retaining clips that attach the wire loom to the oil pan directly behind the driver's side differential mounts. There is not enough clearance to remove the hardware with these in place, pull the wire down slightly to gain clearance for hardware removal. A good method is to use a set of long needle nose pliers to grab onto the clips and pull down. Fig 5a, 5b



Figure 5a



Figure 5b

16. Support the front differential with an appropriate hydraulic jack (transmission jack is highly recommended or have an assistant help). Remove differential hardware and remove differential from vehicle.
17. Cut 1: Measure "in" $9/16$ " from the hole as shown in the figure (front and rear). Create a cut line that goes all the way around the crossmember. Remove this section from the vehicle. Fig 6a, 6b



Figure 6a

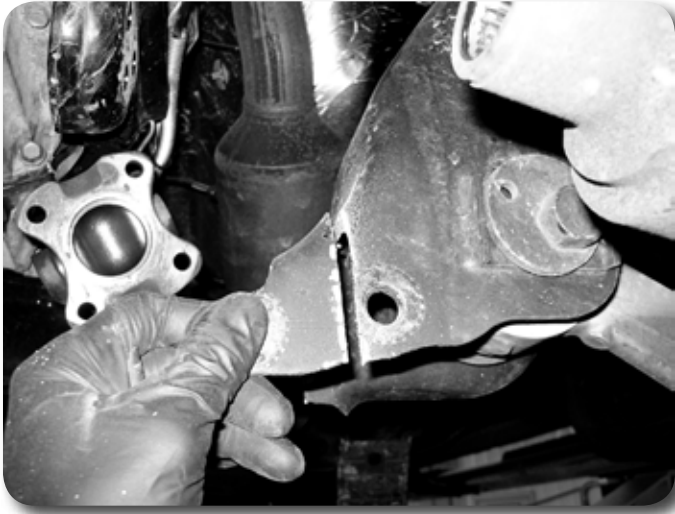


Figure 6b

18. Cut 2: Measure in 1-1/2" from the cam slot edge as shown and up 3/4" from the factory hole. Remove this section all the way to the back face to create enough differential clearance. Fig 7

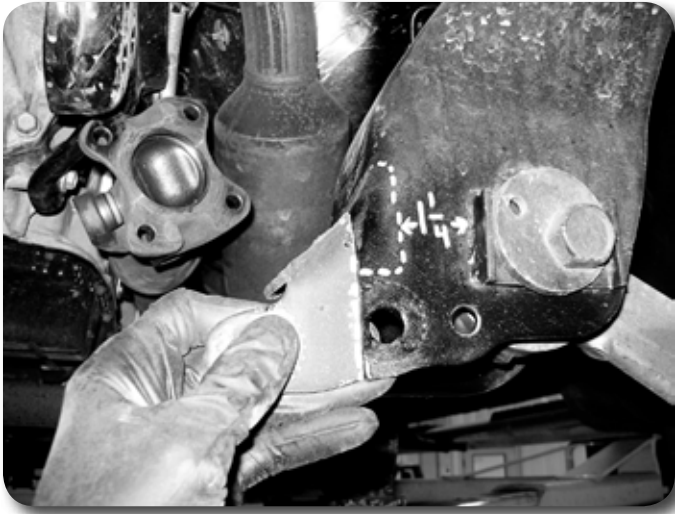


Figure 7

19. Place crossmember drop bracket against the frame as shown. Mark center of hole, and drill to 1/2", repeat on backside. Fig 8

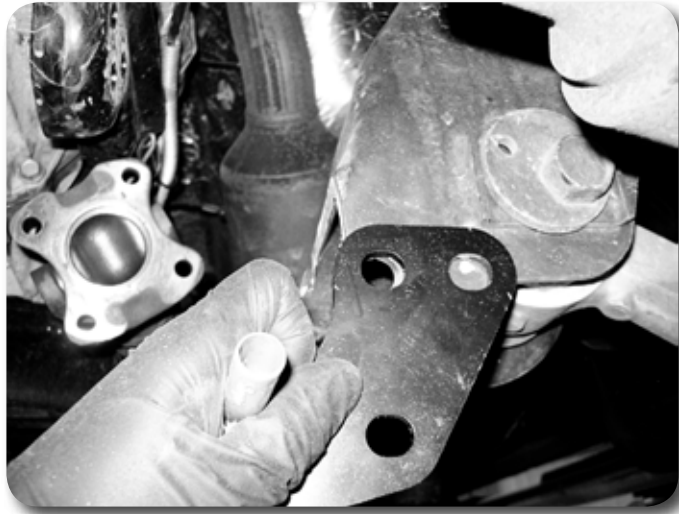


Figure 8

Step 20 Note

12mm hardware is in bolt pack #942. All differential drop hardware is in this pack, 06-07 model year trucks will require the use of factory hardware where non-threaded factory holes are present.

» DIFFERENTIAL DROP BRACKET INSTALLATION:

20. Install differential drop brackets on the passenger's side There are small recesses cut in the bracket. These go at the top factory mount. Attach with 12mm x 30mm hardware with 1/2" USS washers, leave slightly loose at this time. Fig 9a, 9b



Figure 9a



Figure 9b

21. Install driver's side front differential drop bracket. Attach with 12mm x 30mm hardware with 1/2" USS washers, to the frame leave slightly loose. Fig 10

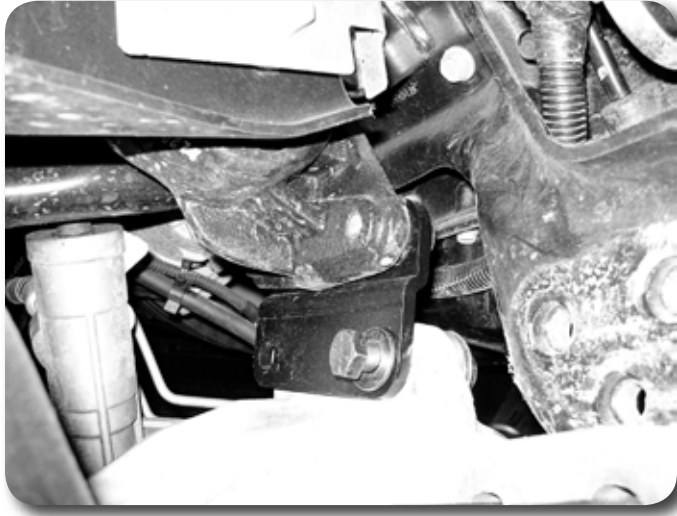


Figure 10

22. Attach the driver's side rear bracket with spacer sleeves and factory hardware into factory threaded nuts. Do not tighten at this time. Fig 11a, 11b



Figure 11a

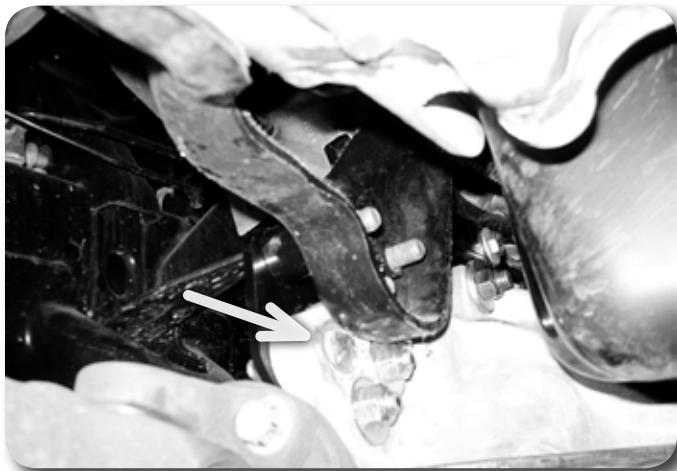


Figure 11b

Fig 11b Note

Machined carriage bolt location shown

23. Install differential into drop brackets. Attach as follows:
24. Driver Front 12mm x 60mm Pass 12mm x 70mm Driver rear ½" modified carriage bolt with non-locking yellow zinc nut at rear most upper, 12mm x 60mm at other 2 places.
25. Tighten all differential hardware to 65 ft-lbs.
26. Reinstall front driveshaft with factory hardware with loc-tite on threads. Tighten to 65 ft-lbs.

» **STRUT MODIFICATION:**

27. Mark the strut assembly for correct orientation. Fig 12, Fig 13

**Strut Modification
Note:**

Do not install this preload spacer with 2009 and newer TRX model year trucks



Figure 12

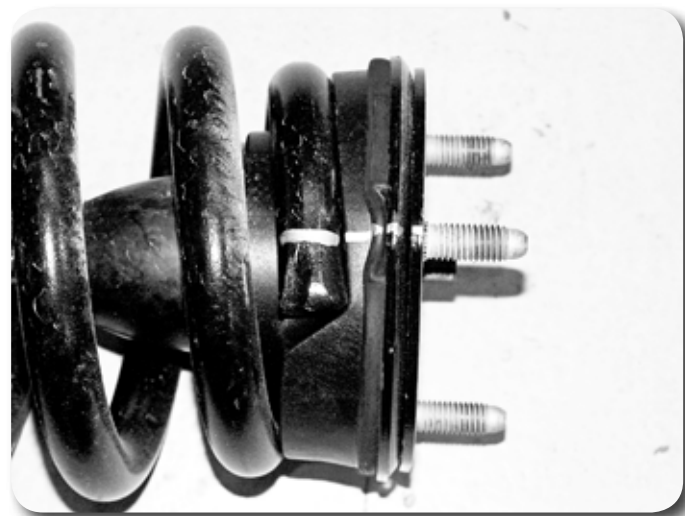


Figure 13

28. Using an appropriate strut compressor, compress the coil spring and remove the upper strut nut Fig 14.

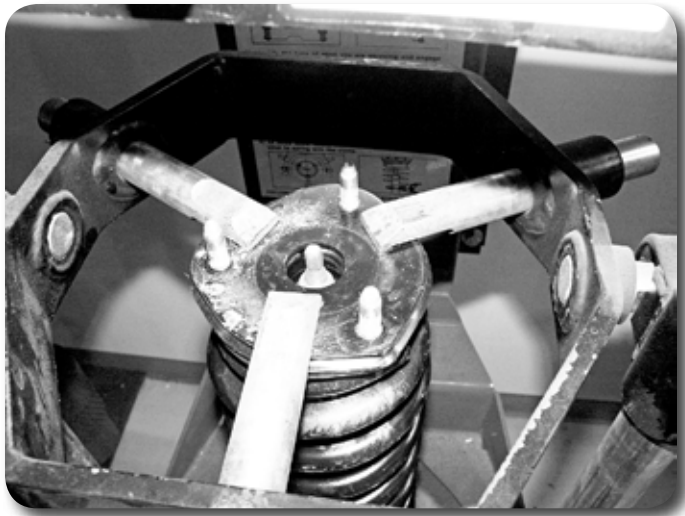


Figure 14

29. Remove the strut, strut cap, and upper coil seat from the coil spring.
30. Remove the rubber isolator from the strut cap. Fig 15



Figure 15

31. Install the preload spacer and reassemble the strut with factory nut. Make sure the alignment marks are still in the correct orientation. Fig 16



Figure 16

Step 32 Note

Strut spacer hardware is in bolt pack #943

32. Install the new top spacer with factory nuts onto the strut assembly. Tighten to 40 ft-lbs.
33. Attach the strut assembly to the frame with new 3/8" nuts with washers. Leave hardware slightly loose.
34. Swing the lower control arm up and attach the CV shaft to the differential. Seat the CV's onto the differential shaft.
35. Attach the lower control arm to the strut with factory hardware, do not tighten at this time.
36. Install new upper control arms with factory hardware. The arms will offset the ball joint to the rear of the vehicle. Leave loose at this time.
37. Attach steering knuckle to new upper control arm with new crown nut and cotter pin. Tighten to 65 ft-lbs, do not loosen to get cotter pin to align.
38. Install o-ring, aluminum cap, and circlip into control arms. Thread grease zerk into aluminum cap. Grease the assembly. Fig 17

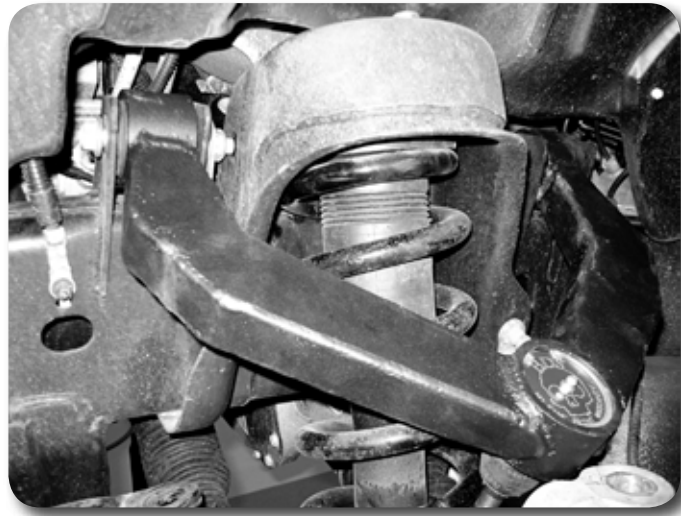


Figure 17

39. Reinstall brake rotors and calipers with factory hardware. Tighten to 130 ft-lbs
40. Attach tie rod to steering knuckle, tighten to 45 ft-lbs then an additional 90 degrees
41. Reconnect the ABS wire, secure with included zip ties.
42. Tighten upper strut hardware to 40 ft-lbs.
43. Install spacer sleeve on sway bar link, reassemble with factory bushings, cup washers, and nut. Use loc-tite on the nut. Do NOT over tighten the nut, tighten until the bushings begin to swell. It may be necessary to compress the suspension slightly to get the bushings at an appropriate angle to allow for assembly. The nylock portion should be just engaged into the threads. Fig 18a, 18b

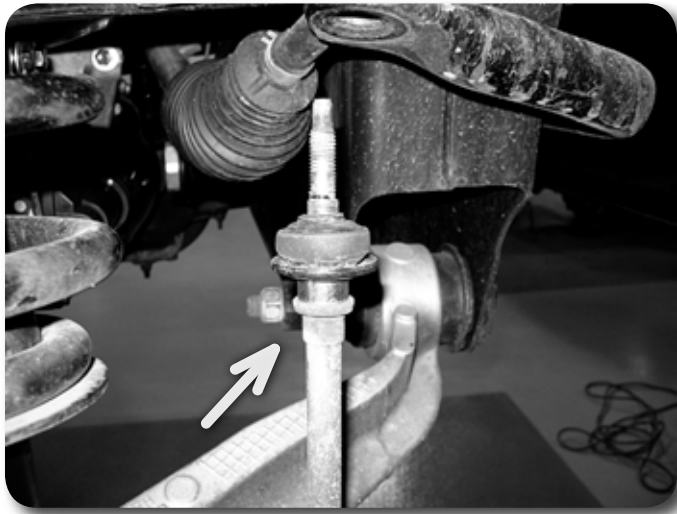


Figure 18a



Figure 18b

44. Install rear crossmember drop down brackets with 7/16" hardware to the front side of the vehicle. Reinstall crossmember with factory hardware. Tighten to 45 ft-lbs Fig 19a pass side, 19b driver's side, both shown from the back of the vehicle



Figure 19a



Figure 19b

45. Reinstall wheels, tighten to factory specifications
46. Lower vehicle to the ground. Tighten lower strut hardware to: 155 ft-lbs Upper control arm hardware to: 130 ft-lbs
47. Recheck all hardware for proper torque, check again after 500 miles and at regularly scheduled maintenance intervals.
48. A front end alignment must be performed.



D2301 Installation Instructions 2006-2014 Dodge Ram 1500 4WD Replacement Upper Control Arm

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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.

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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: 1 hours

Special Tools Required

Ball Joint Separation Tool

Tire/Wheel Fitment

Stock

***Important* Verify you have all of the kit components before beginning installation.**

D2300 Kit Contents

Qty Part

1	Drv Upper Control Arm
1	Pass Upper Control Arm
2	Straight grease fitting
2	Ball joint aluminum slugs
2	2-5/16" Circlip - yellow zinc
2	2-1/4"OD x 3/32 O-ring
4	Upper control arm factory style bushings
2	Upper Control arm ball joints

INSTALLATION INSTRUCTIONS

» DISASSEMBLY

1. The factory service manual specifically states that striking the knuckle to loosen the ball joints or tie rod ends is prohibited. Striking the aluminum knuckle can damage it. A special puller tool #8677 (or equivalent ball joint tool) is recommended to be used to separate these components from the knuckle.
2. Park vehicle on clean flat and level surface. Block rear wheels for safety.
3. Raise front of vehicle and support frame rails with jack stands. Remove the front wheels
4. Remove the upper ball joint nut and use appropriate puller to disconnect the ball joint from the steering knuckle. Do NOT strike the aluminum knuckle with a hammer! Disconnect hardware and remove upper control arm from vehicle. Do NOT allow the knuckle assembly to hang by the brake line / ABS wire
5. Install new control arm, the arms are side specific and will offset the ball joint to the rear of the vehicle. Attach with factory control arm bolts. Attach ball joint to steering knuckle with included castellated nut. (Fig 1)

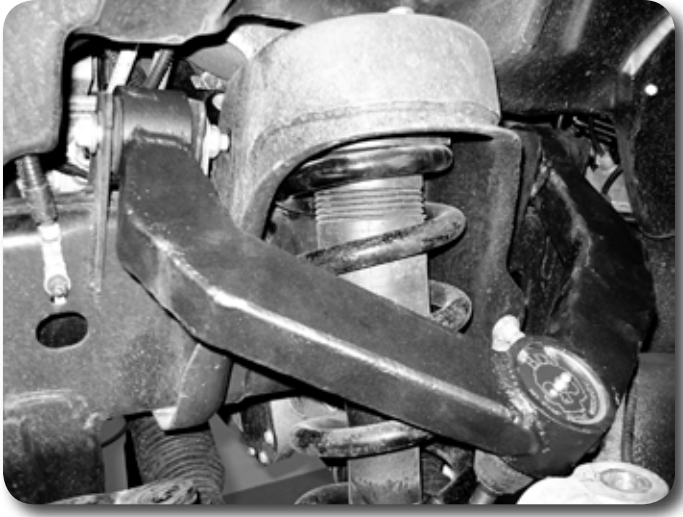


Figure 1

6. Tighten ball joint nut to 55 ft-lbs, align castellated nut with hole in the ball joint and install cotter pin. Do NOT loosen the nut to get the cotter pin to align.
7. Grease the upper control arm assembly once installed.
8. Reinstall wheels, tighten to factory specifications
9. Lower vehicle to the ground. Tighten Upper control arm hardware to: 130 ft-lbs. Do NOT tighten the upper control arms when the vehicle is hanging in the air, the bushings will bind and cause premature wear.
10. Recheck all hardware for proper torque, check again after 500 miles and at regularly scheduled maintenance intervals.
11. A front end alignment must be performed.



D9150 Installation Instructions

09+ Dodge 1500

1.5" Body Lift

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Difficulty Level

easy 1 (2) 3 4 5 difficult

Estimated installation: 3-5 hours

Special Tools Required

» 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.

rev081414

***Important* Verify you have all of the kit components before beginning installation.**

Kit Contents

Qty	Part	Qty	Part
14	3" OD x 1.5" x 9/16" ID blocks	1	Rear bumper step spacer
4	1.5" square crush tube	1	Rear bumper center bracket
2	1/2" washer (0.11"-0.14" thick)	2	Rear bumper outside bracket
1	Ground strap extension	2	Spare tire spacer sleeve
2	Front bumper bracket	1	Loctite
4	Ribbed shank rivet (plastic)	1	Rear bolt pack
1	Body mount bolt pack	2	8mm-1.25 x 65mm bolt
8	12mm-1.75 x 150mm bolt	2	8mm flat washer
6	12mm-1.75 x 75mm bolt	8	10mm-1.50 x 40mm bolt
8	12mm flat washer	12	10mm flat washer
2	1/4" external tooth serrated edge washer	4	10mm-1.50 prevailing torque nut
1	1/4"-20 nylock nut	2	1/2"-13 x 1-1/4" flat head allen bolt
		2	1/2"-13 serrated edge flange nut

Installation Instructions

» FRONT DISASSEMBLY

1. Park vehicle on clean, flat, and level surface. Block the wheels to prevent the vehicle from rolling.
2. Disconnect the battery.
3. Disconnect the ground strap from the inside of the driver's side wheel well.

Figure 1



Figure 1

4. Engine mounted cooling fans: Remove the lower radiator shroud cover, it will not be reinstalled. Models with electric fans will not require the removal or modification of the factory shroud. Figure 2



Figure 2

5. Remove the upper radiator cover. Figure 3



Figure 3

6. Remove the grill; disconnect the 4 bolts that attach the grill to the body. Figure 4
Pull the lower portion of the grill straight out and slightly up.

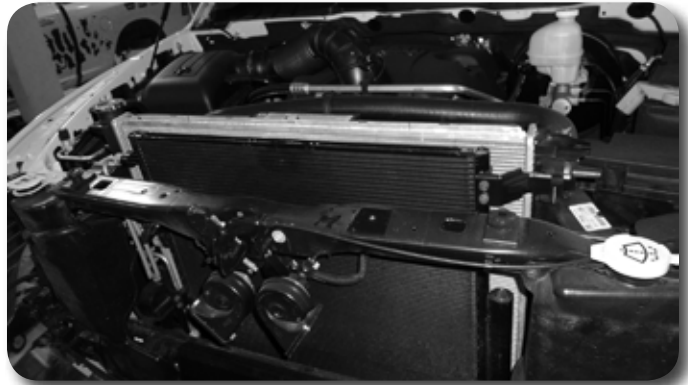


Figure 4

7. Remove the 2 bolts that attach the headlights to the body. Figure 5

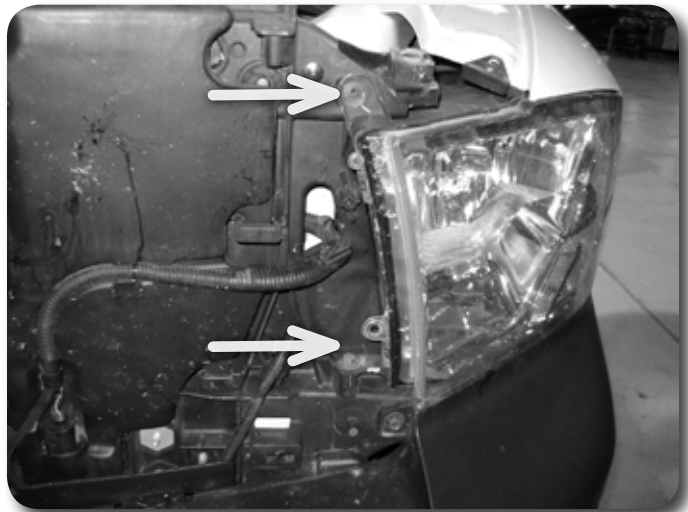


Figure 5

8. Lower the flap inside the wheel well to access the headlights. Raise the plastic retaining clip up to allow the headlight to be removed. Pull out on the headlight to dislodge it. **Figure 6a, 6b** Disconnect the wiring harness, and set headlights aside.



Figure 6a



Figure 6b

9. Remove the bolt that attaches the inner fenderwell to the front bumper **Figure 7a**. Sport models need to have additional bolts removed. **Figure 7b**



Figure 7a

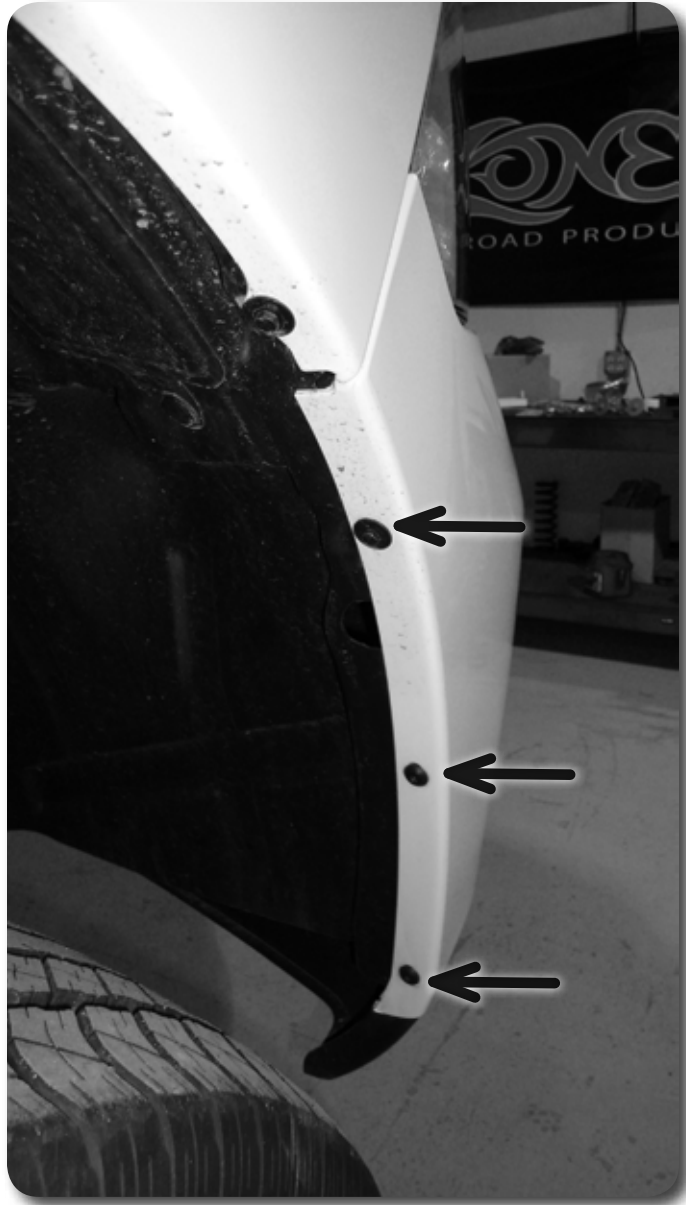


Figure 7b

- 10. Remove the top cover bolt that is run from the inside of the fender. Figure 8



Figure 8

11. Sport models these steps are not required, skip to step #13. Remove the upper bumper cover from the vehicle.
12. Loosen the 4 bolts (2 per each side) that attach the upper cover support bracket to allow it to move out of the way for removal of the bumper. **Figure 9**

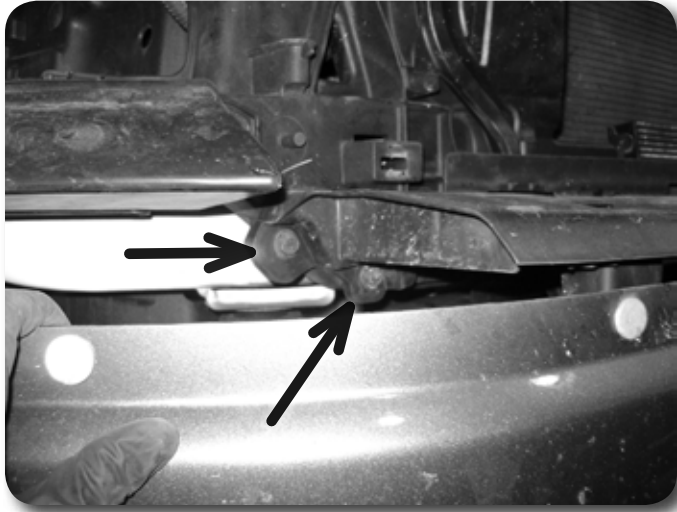


Figure 9

13. Remove the 6 nuts (3 per side) that attach the bumper to the frame. Remove the bumper from the vehicle. **Figure 10**

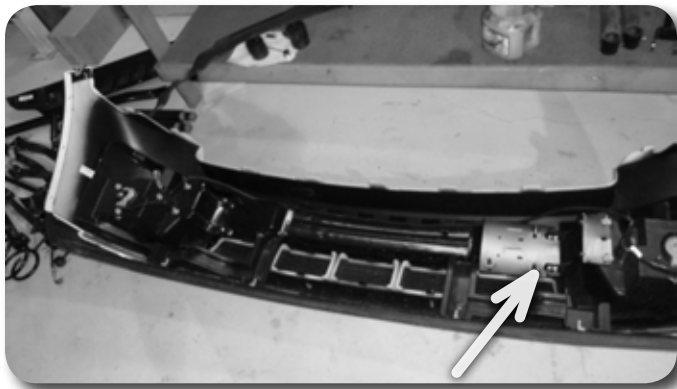


Figure 10

» **CAB AND BED LIFT PROCEDURE**

14. Remove the cab mounting bolts (4 per side) from the passenger's side only. Loosen the bolts on the driver's side.
15. Remove the washers from the factory bolts. **Figure 11**



Figure 11

Step 16 Note

Body mount hardware is located in bolt pack 279.

16. Raise the passenger's side of the cab and install the body lift blocks. Apply loctite and install the 12mm x 150mm bolts with the factory washers. The rear cab mount will get the large factory block with a new 12mm washer. Do not tighten bolts at this time.
17. Repeat installation on driver's side. Tighten all body mount bolts to 65 ft-lbs.
18. Locate the spare tire removal tool from under the passenger side seat and lower the spare tire and remove. See owner's manual.
19. Remove the 3 passenger's side bed bolts. Loosen the driver's side bed bolts.
20. Lift the passenger's side of the bed and install the lift blocks. Apply loctite to the 12mm x 75mm bolts and install them at the bed mounts with the provided washers. Do not tighten. Remove the rubber bed supports. Transfer them to the new bed spacer blocks. Install them with the plastic push tree pins. **Figure 12**



Figure 12

21. Repeat block installation on driver's side. Tighten all hardware to 65 ft-lbs.

» FRONT BUMPER INSTALLATION

22. Bend the factory tab back flush with the bracket. Place the front bumper brackets over the front of the frame horn. Mark the center of the holes to be drilled. Drill holes to 1/2". **Figure 13**



Figure 13

23. Reinstall the front bumper by attaching the two lower studs into the drilled holes directly against the frame rail. Place the thick washer over the top stud of the bumper. Install the relocation brackets. Tighten assembly with factory nuts.

Figure 14

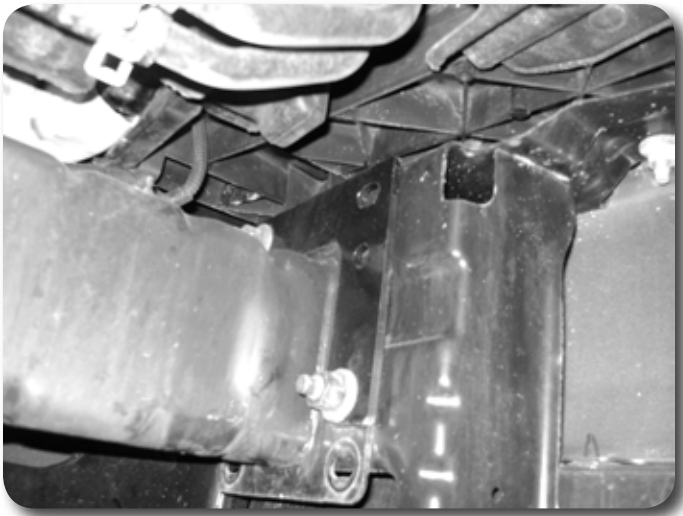


Figure 14

24. Tighten the upper bumper cover support (2 per side).
25. Reinstall upper bumper cover.
26. Reinstall headlights, grill, and upper radiator cover.
27. Install the ground strap extension in the driver's side inner fenderwell. Use serrated edge washer between the strap and wire. Use serrated edge washer between the strap and frame. Attach with 1/4" nylock nut. Figure 15

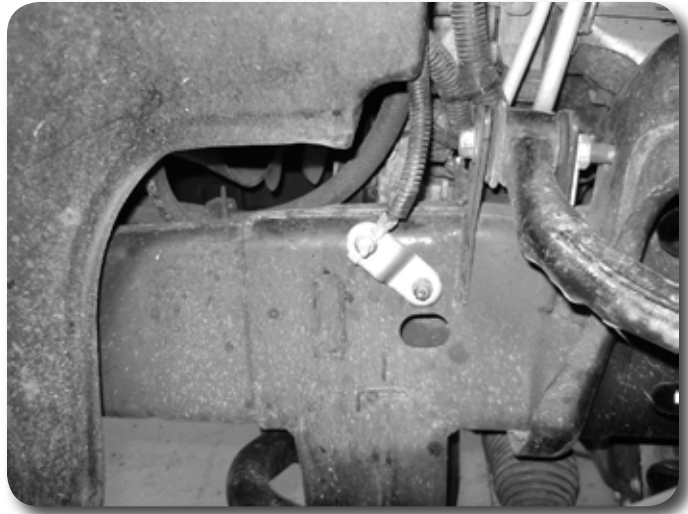


Figure 15

28. Adjust bumper to be even side to side. Tighten bumper bolts to 65 ft-lbs.
29. Recheck all hardware for proper torque.

» **REAR BUMPER & SPARE TIRE WINCH INSTALLATION**

30. Disconnect the trailer harness and 2 license plate lights.
31. Remove the license plate to reveal the 2 center bumper bolts.
32. Remove the bumper by removing the 6 bumper bracket bolts - 2 on each side and 2 in the center. **Figure 16**

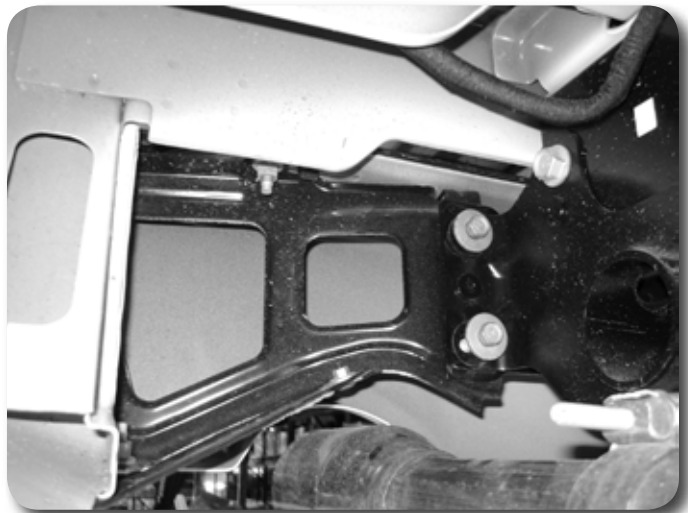


Figure 16

33. The alignment pins at each bumper mount location will need to be removed. Using a cut off wheel, cut the heads of the studs off behind the mount as shown. **Figure 17**



Figure 17

34. Drill the holes where the studs were located to 1/2"
35. Remove the two bolts that hold the spare tire winch to the frame. Locate the provided 1.5" spacers and supplied 8mm x 60mm bolts and washers. Install the spacers between the spare tire winch and frame and tighten bolts to 18 ft-lbs.

Figure 18



Figure 18

36. Remove the factory U-Nuts from the center bracket and install them in the large holes of the center relocation bracket. Install the center relocation bracket using the 1/2" flat head bolts, and serrated edge nuts. Figure 19

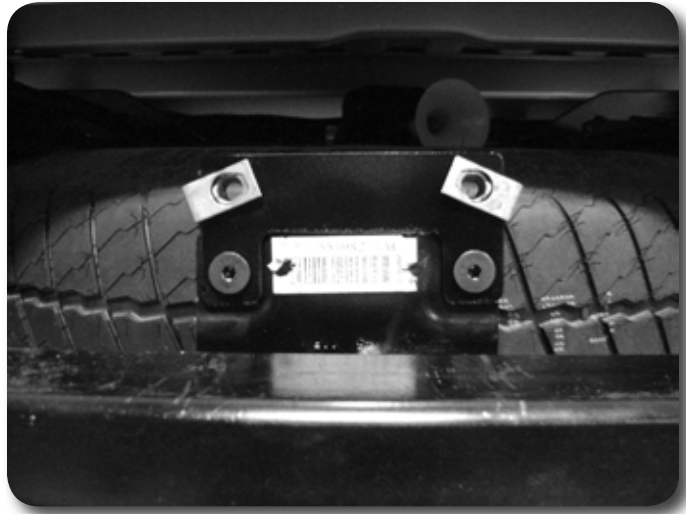


Figure 19

37. Install the provided bumper step spacer with the 10mm x 40mm bolts nuts and washers through the existing holes in the bumper mount.
38. The bottom of the bumper will have to be slightly trimmed. Measure over 3/4" and cut out the sections as shown in Figure 20a & 20b.

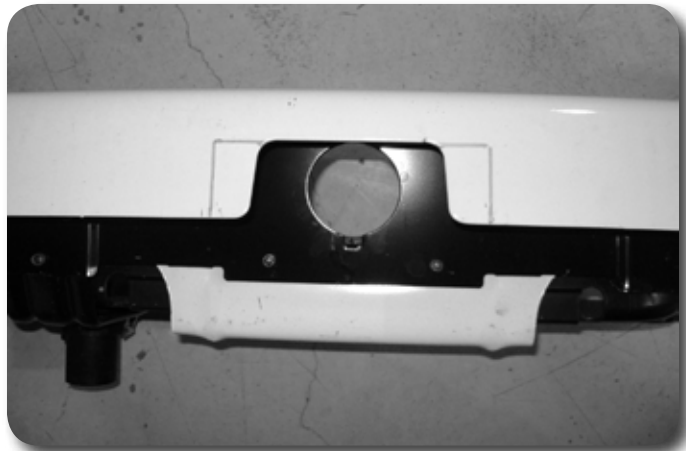


Figure 20a

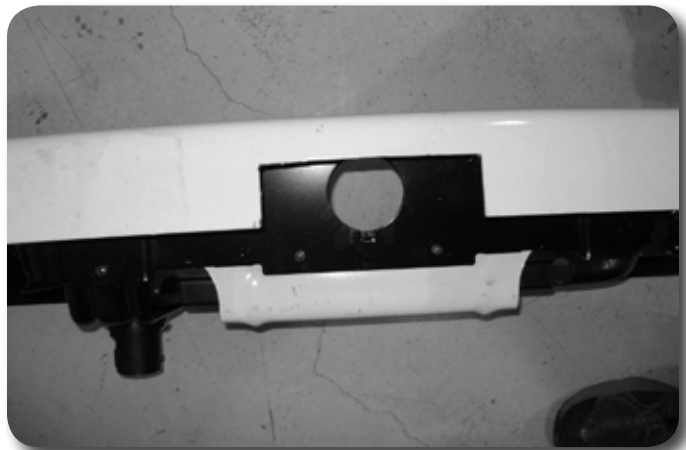


Figure 20b

39. There is a slot and hole between the factory mounting holes on the bumper. Drill out the factory hole to 1/2" and do the same in the center of the slot using a drill or rotary grinder. Figures 21a & 21b

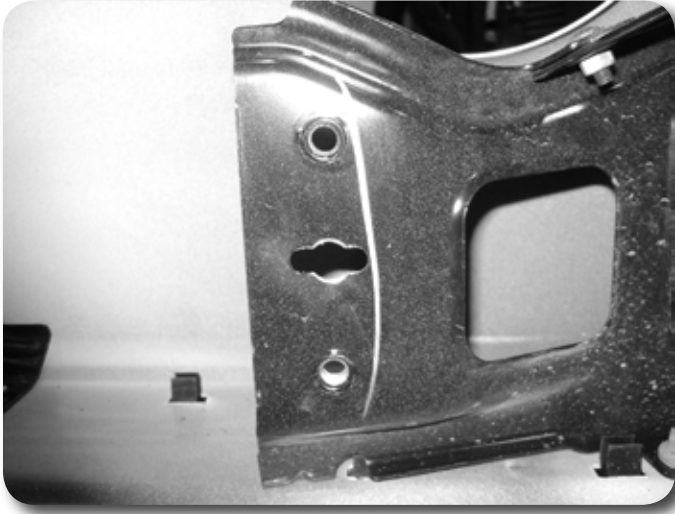


Figure 21a

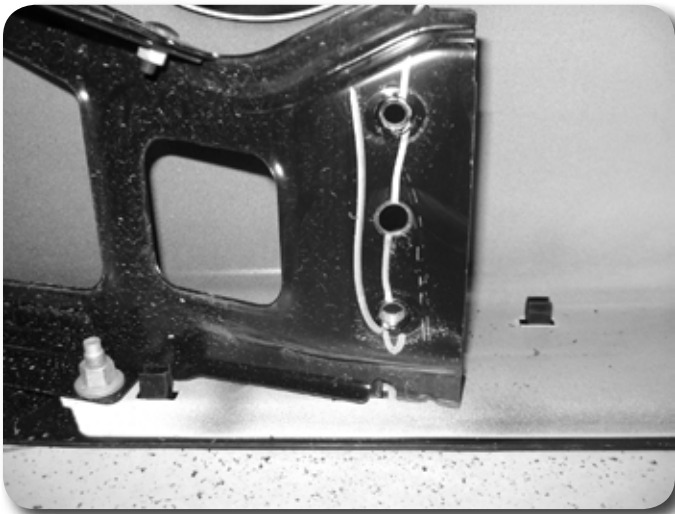


Figure 21b

40. Install bumper back on the vehicle by letting it rest on the new step spacer. Loosely fasten the center bracket with the factory hardware.
41. Locate the provided side bumper brackets. These will sandwich between the bumper and frame bracket. Insert the bracket so cutout is at the top and install using supplied 10mm x 40mm bolts and washers. The center bolts will require the additional nuts and washers.
42. Reconnect the trailer and license plate light harnesses and re-install the license plate.
43. Re-install spare tire.
44. Check all hardware for proper torque.

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.