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Part#: **012612, 012613**

Product: **6" Suspension System**

Application: **2003-2005 Dodge 2500 4wd**

READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS PRIOR TO INSTALLATION OF SYSTEM AND OPERATION OF VEHICLE.

SAFETY WARNING BDS Suspension Co. 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.

PRODUCT SAFETY WARNING Certain BDS 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. BDS Suspension Co. 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.

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 BDS Suspension components. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, BDS Suspension Co. 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.

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 500 miles. Always inspect fasteners and components during routine servicing.

PARTS LIST

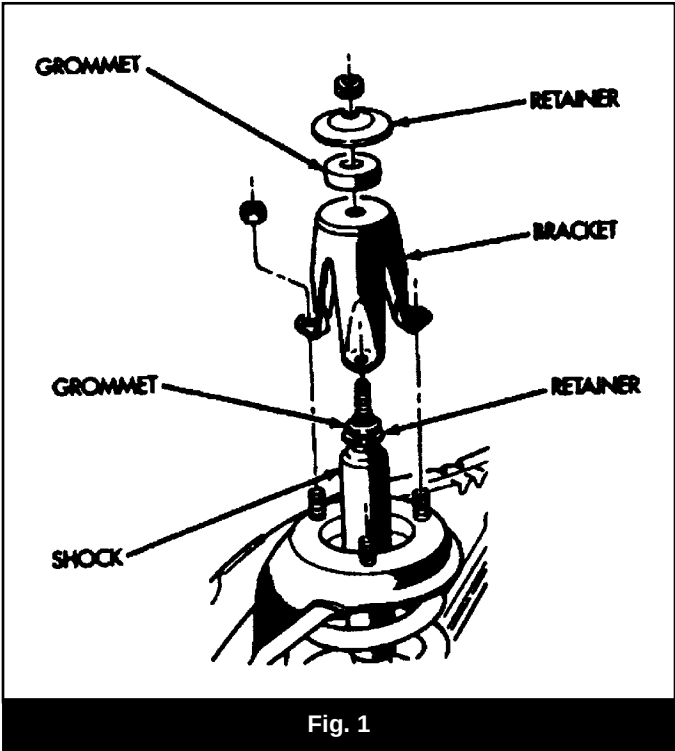
Part #	Qty	Description			
01217-1	2	Long Arm Mount Brackets	609	1	Bolt Pack
01218	2	Lower Control Arm		2	9/16"-12 x 3" bolt
01215	2	Upper Control Arm		4	1/2" USS flat washers
01216	2	Upper Control Arm Relocation Bracket		2	9/16"-12 prevailing torque nut
02322RB	2	Bump Stop	608	1	14mm-2.00x80mm bolt
60107	6	90 Degree Grease Zerk		1	9/16" SAE flat washer
516	2	Grease Zerk		1	Bolt Pack
01249	2	Sway Bar Link Extension		4	9/16"-12 x 5" bolt
082403R	1	Pitman Arm		16	9/16" SAE flat washers
01213-1	1	Track Bar Bracket		4	9/16"-12 prevailing torque nut
BSDG1-78	8	Bushing		2	5/8"-11 x 5" bolt
BSDG2	8	Bushing		4	5/8" SAE flat washers
70-1	2	7/8" x 0.120" x 2.600" Sleeve	614	2	5/8"-11 prevailing torque nut
71-1	4	3/4" x .095" x 2.400" Sleeve		1	Bolt Pack
72-1	2	7/8" x 0.156" x 2.375" Sleeve		2	9/16-12 x 5" bolt
30-1	2	7/8" x 0.156" x 3.000" Sleeve		8	9/16-12 x 1-1/2" bolt
342701	1	Loctite		10	9/16-12 prevailing torque nut
				22	9/16" SAE flat washer
				1	14mm-2.00 x 150mm bolt
				1	14mm-2.00 prevailing torque nut
				2	5/16"-18 x 1-1/4" self-tapping bolt type "f"
				2	5/16" SAE flat washer

INSTALLATION INSTRUCTIONS

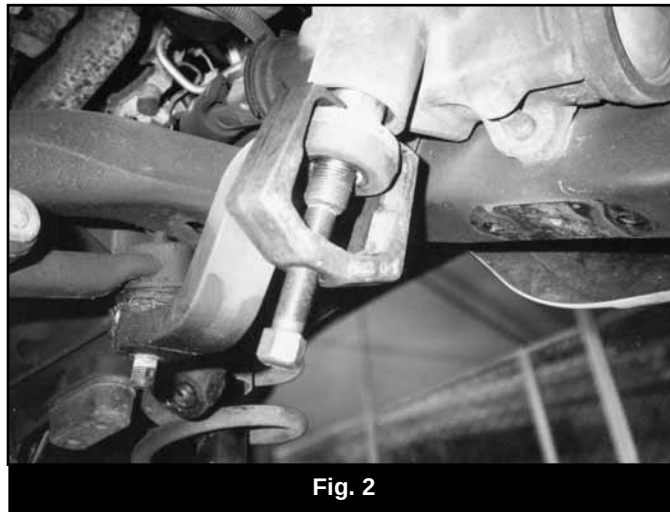
Pre-installation notes: A right angle drill will be helpful but is not necessary for this installation.

FRONT INSTALLATION

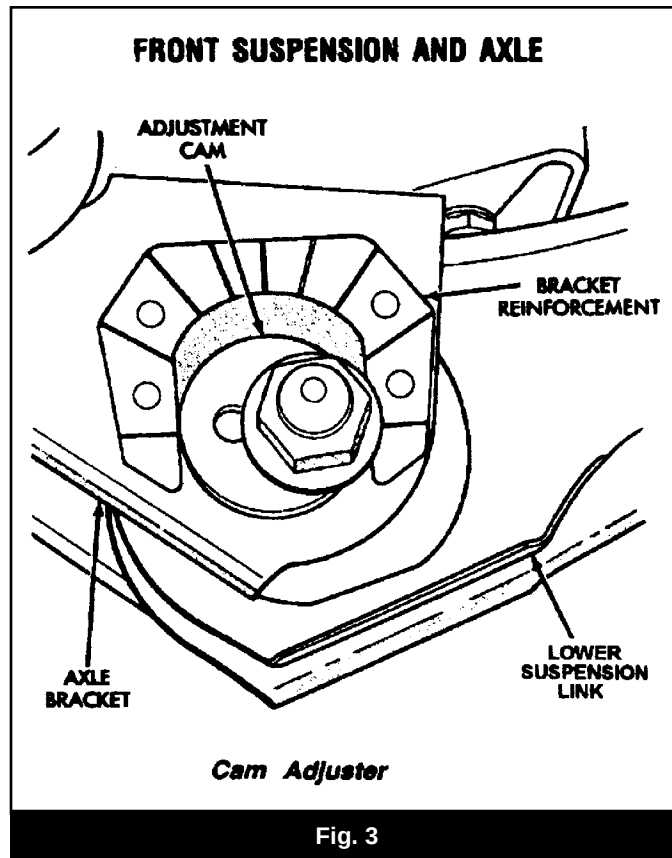
1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Open the hood and remove the upper shock stem nuts. Remove the three nuts mounting each of the shock towers to the frame (Fig 1)



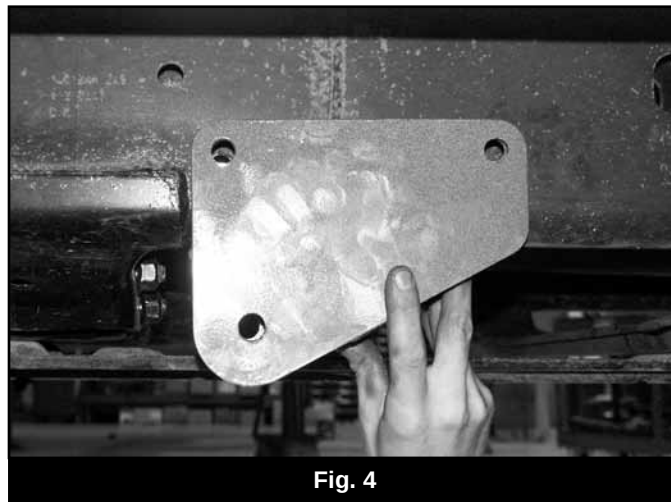
3. Raise the front of the vehicle and support the frame with jack stands.
4. Remove the wheels.
5. Support the front axle with a hydraulic jack.
6. Disconnect the brake lines from the axle brackets.
7. Disconnect the sway bar links from the sway bar. Retain all hardware.
8. Disconnect the shock from the lower mount. The head of the bolt is accessed through a hole in the front of the axle spring perch. Remove the shocks and retain the mounting hardware.
9. Disconnect the track bar from the frame bracket. Retain hardware.
10. Remove the OE bump stops from the frame. Pull them free of the frame mount with channel lock pliers.
11. Disconnect the steering stabilizer from the drag link.
12. Disconnect the drag link from the pitman arm. Retain hardware.
13. Remove the pitman arm nut from the sector shaft. Note the orientation of the pitman arm and remove the arm from the sector shaft using the appropriate puller (Fig 2).



14. Install the new pitman arm on the shaft by lining up the splines on the pitman arm and sector shaft so that the indexing is correct. Fasten the pitman arm with the stock hardware and torque to 220 ft-lbs.
15. On both sides of the vehicle, make index marks on the alignment eccentrics at the axle (Fig 3). Mark the cams to indicate driver's verses passenger's side.



16. Working on one side of the vehicle at a time, remove the OE lower control arm cam bolt. Disconnect the lower control arm from the frame and remove it from the vehicle. Retain hardware. **Note:** *Ensure that the axle is well supported.*
17. Lower the jack until the spring can be removed from the vehicle. Also, remove the OE upper spring isolator and shock tower stud ring. The isolator and stud ring will be reused.
18. Lightly grease and install the provided 7/8" ID bushings (BSDG1-78) in the new lower control arms (02018). Install a 7/8" x 3.000" sleeve (30-1) in the wider control arm end (at the longer end of the arm). Install a 7/8" x 2.600" sleeve (70-1) in the narrow end (at the shorter end of the arm).
19. Install the provided 90° grease zerks in each end of the control arms.
20. Place the provided lower arm mounting bracket (01217) on the frame just behind the transmission crossmember (Fig 4). Be sure that the mount is flush with the bottom of the frame rail. Measure back 25-5/8" from the center of the outside hole in the original mount to the center of the hole in the new mount (Fig 5). Using the bracket as a template, mark the mounting holes to be drilled on the frame. Note: Bracket positioning is critical for proper vehicle alignment. Be sure to double check that the measurement is a 25-5/8".



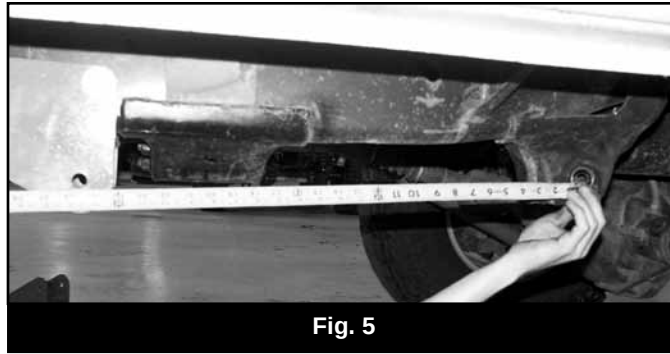


Fig. 5

21. Remove the bracket from the frame and drill 9/16" holes at the marks.
22. Install the bracket on the frame and fasten with 9/16" x 5" bolts, nuts, and 9/16" SAE flat washers (Bolt Pack #608). In addition, place a 9/16" SAE flat washer at each hole (4 in all) between the bracket and frame to act as spacers (to compensate for the bulge in the frame rail). Torque bolts to 75 ft-lbs.
23. Install the new lower control arm in the axle mount with the OE cam bolt and washers. Install the arm so that the short end is to the axle and it offsets toward the inside of the vehicle. Rotate the grease fittings so that they point down for easy access.
24. Attach the arm to the new frame mounting bracket with the provided 5/8" x 5" bolt, nut and 5/8" SAE flat washers from bolt pack #608. Leave hardware loose.
25. Repeat the procedure on the driver's side of the vehicle. Note: The transfer case skid plate can be removed for easier access to the inside of the frame during the installation. If removed, reattach after the procedure is complete and torque the bolts to 20 ft-lbs.
26. Disconnect the OE upper control arms from the frame and the axle. Retain hardware. **Note:** *On some models the upper passenger's side control frame bolt will hit the exhaust. A new bolt is provided for this position so that the bolt head can be cut off and driven out the opposite direction. This will eliminate the need for removing the exhaust to allow removal of the upper control arm.*
27. Position the provided upper control arm relocation bracket (01216) over the original upper control arm axle mount. Align the original control arm mounting hole with the corresponding hole in the new bracket and temporarily install a 9/16" x 5" bolt from bolt pack #614 to hold the bracket in place.
28. Adjust the control arm relocation bracket so the backing plate is parallel to the back edge of the original axle mount and mark the four holes to be drilled (two inner and two outer). Remove the bracket and drill 9/16" holes at the marks. (Fig. 6)

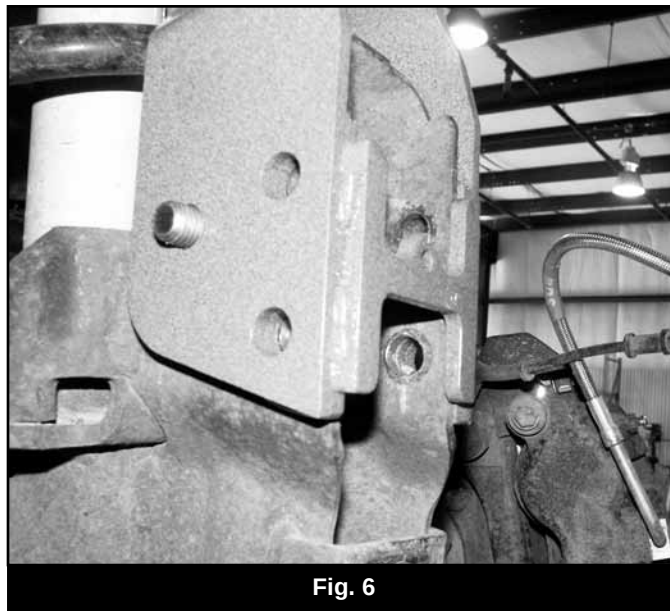


Fig. 6

29. With all of the holes drilled, reattach the bracket to the axle and install the 9/16" x 5" bolt with 9/16" SAE washers and nut (bolt pack #614) in conjunction with the provided 7/8" x 2-3/8" spacer sleeve (72-1) placed in the OE upper control arm mount location. (Fig. 7) Leave hardware loose.

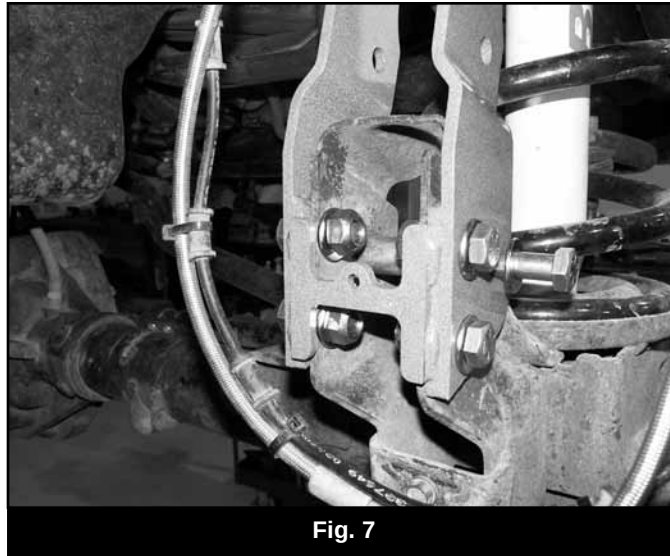


Fig. 7

30. Install 9/16" x 1-1/2" bolts, nuts and 9/16" SAE washers in the four drilled holes. With all of the hardware installed torque bolts to 95 ft-lbs.
 31. Lightly grease and install the provided 3/4" ID bushings (BSDG2) and 3/4" x 2-3/8" sleeves (71-1) in the new upper control arms (01215). Install a 90° grease fitting in the frame end so that the fitting points toward the control arm. Install a straight grease fitting in the axle end of the arm so that it will point out toward the front of the vehicle.
 32. Ensure that the brake line is running above the lower control arm and under the upper control arm. Install the new upper control arms in the OE frame mount and new relocation bracket with the original hardware. Install the arms so that the frame end grease fitting is up.
- Note:** If the passenger's side frame bolt was cut, install the provided 14mm x 150mm bolt, nut and 9/16" SAE washers from the outside of the frame. Leave hardware loose.
33. Install the original spring isolators and stud rings on the top of the new coil springs and install the coil springs in the vehicle. Align the stud ring with the holes in the coil mount and raise the axle to slightly compress the coils.
 34. Position the new shocks down through the spring and attach to the axle with the OE hardware. Torque to 95 ft-lbs. Install the OE shock tower with the original nuts and studs. Torque to 25 ft-lbs.
 35. Install a stem washer and bushing on the shock and extend the shock into the tower. Fasten the top of the shock with a stem bushing, washer and 1/2" nut. Tighten the nut until the bushings begin to swell.
 36. Install the new track bar bracket (01213) to the OE frame mount with the 9/16" x 3" bolt, nut and washers from bolt pack #609. Attach the end of the bracket to the frame crossmember with the 9/16" x 3" bolt, nut and washers from bolt pack #609. (Fig. 8) Torque the 9/16" hardware to 125 ft-lbs.

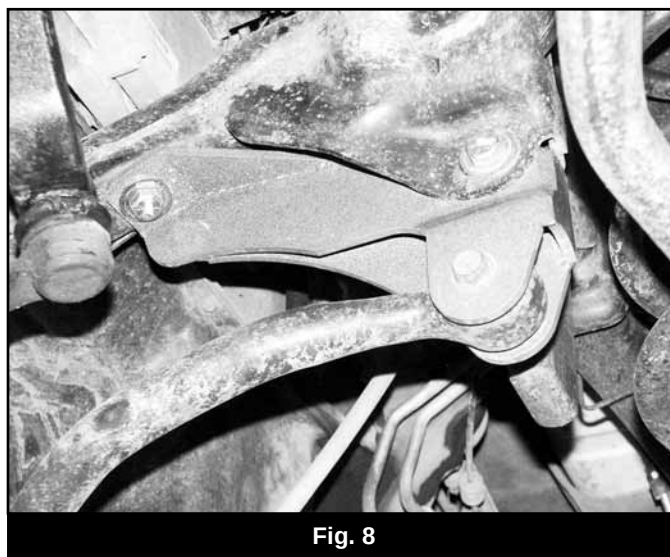
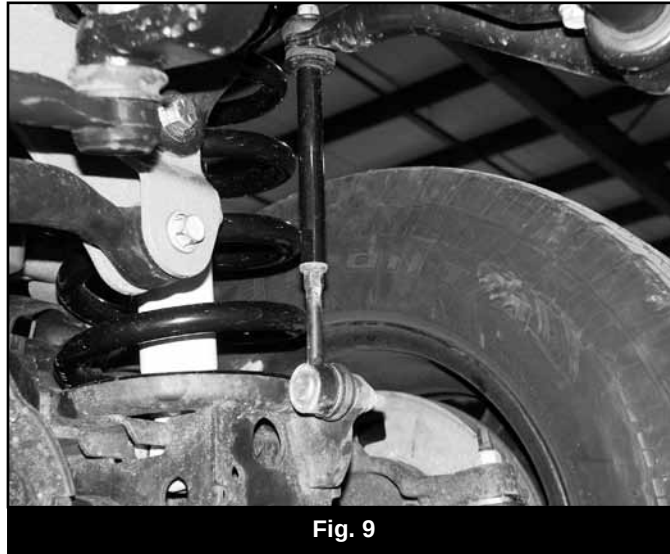


Fig. 8

37. Apply loctite to the threads on the OE sway bar links. Thread the provided link extension (01249) on the OE links and tighten securely. Attach the extension to the sway bar with the OE washers, bushings and nuts. Tighten the nut until the bushings begin to swell. (Fig. 9)



38. Attach the drag link to the new pitman arm with the OE hardware. Torque the nut to 45 ft-lbs and install the cotter pin. Do not loosen the nut to align the cotter pin hole.
39. Attach the brake line to the hole in the upper control arm relocation bracket with a 5/16" x 1-1/4" self-tapping bolt. Torque to 15 ft-lbs. (Fig. 10)

Note: If installing BDS extended brakelines, they can be attached to the original brakeline axle mount.



40. Install the new extended bump stops in the original frame mounts. Grease the mounting surfaces to ease installation. (Fig. 11)

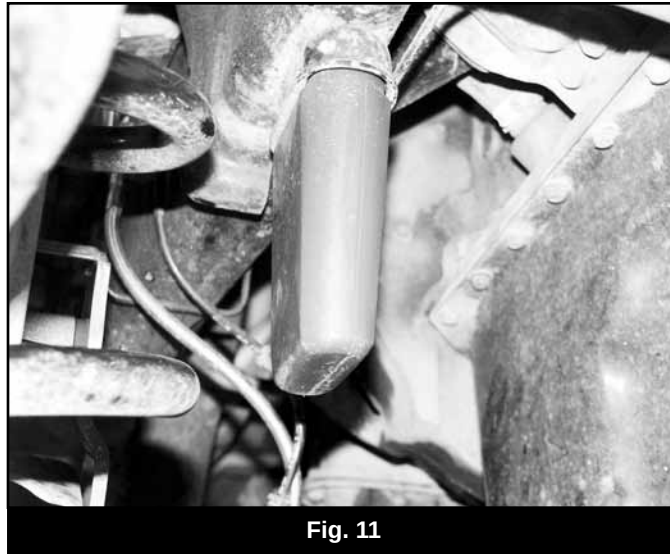


Fig. 11

41. Install the wheels and lower the vehicle to the ground.
42. Install the track bar in the new bracket with the 14mm x 80mm bolt and 9/16" SAE washer from bolt pack #609 along with the OE nut tab. Torque hardware to 125 ft-lbs. Note: Turn the steering wheel to aid in installation of the track bar.
43. Position the lower control arm eccentric to the marks made at the beginning of the installation. Torque the lower control arm bolts to 125 ft-lbs. Torque the upper control arm bolts to 95 ft-lbs.
44. Mark the original lower control arm frame brackets to be trimmed as shown (Fig 12). Cut the brackets off the frame with a sawzall, cut-off wheel, or plasma cutter. Paint all bare metal to prevent corrosion.

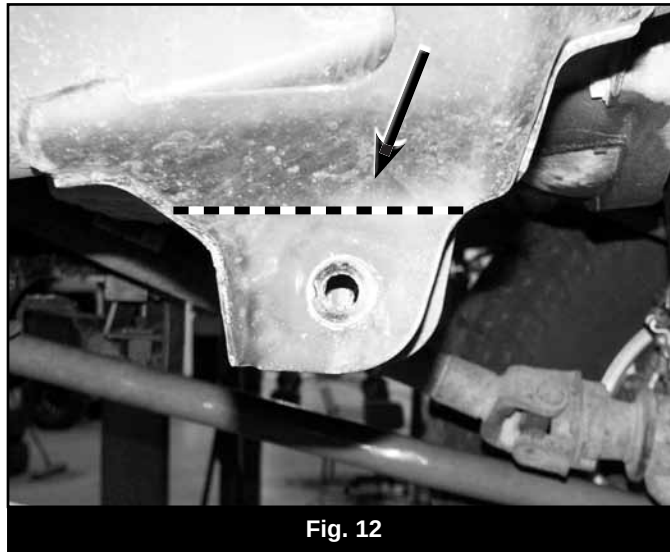


Fig. 12

45. Check all hardware for proper torque.
46. Perform a steering sweep to check for proper clearance of all components.
47. Grease the new control arm pivot points.
48. Perform a complete front end alignment.
49. Check all hardware after 500 miles.

REAR INSTALLATION

50. Block the front wheels for safety. Raise the rear of the vehicle and support the frame with jack stands.
51. Remove the wheels.
52. Remove the OE shocks. Retain hardware.

53. Support the axle with a hydraulic jack.
54. Remove the passenger's side u-bolts and lower the axle from the spring enough to install the 4" lift block.
55. Remove the middle plastic center pin from the leave pack with pliers. Install the provided press-in steel center pin in place of the plastic one.
56. Install the 4" block so that the short end of the taper is to the front.
57. Raise the axle to seat the block, leaf spring and axle assembly together by aligning the center pins.
58. Fasten the assembly with the new u-bolts with the provided washers and high nuts. Snug but do not tighten at this time.
59. Repeat the procedure for the driver's side. Take care not to over extend the brake line.
60. Install the new BDS shock with the OE hardware. Use the provided $\frac{3}{4}$ " spacer washers at the axle mount.
61. Install the wheels.
62. Lower the vehicle to the ground.
63. Torque the u-bolts to 100-120 ft-lbs.
64. Check all hardware for proper torque.
65. Check hardware after 500 miles.

NOTICE TO DEALER/INSTALLER

These instructions, the warning card, and included decals must be given to the owner of this BDS Suspension product.

For questions, technical support and warranty issues relating to this BDS Suspension product, please contact your distributor/installer before contacting BDS Suspension directly.

Sold/Installed by: