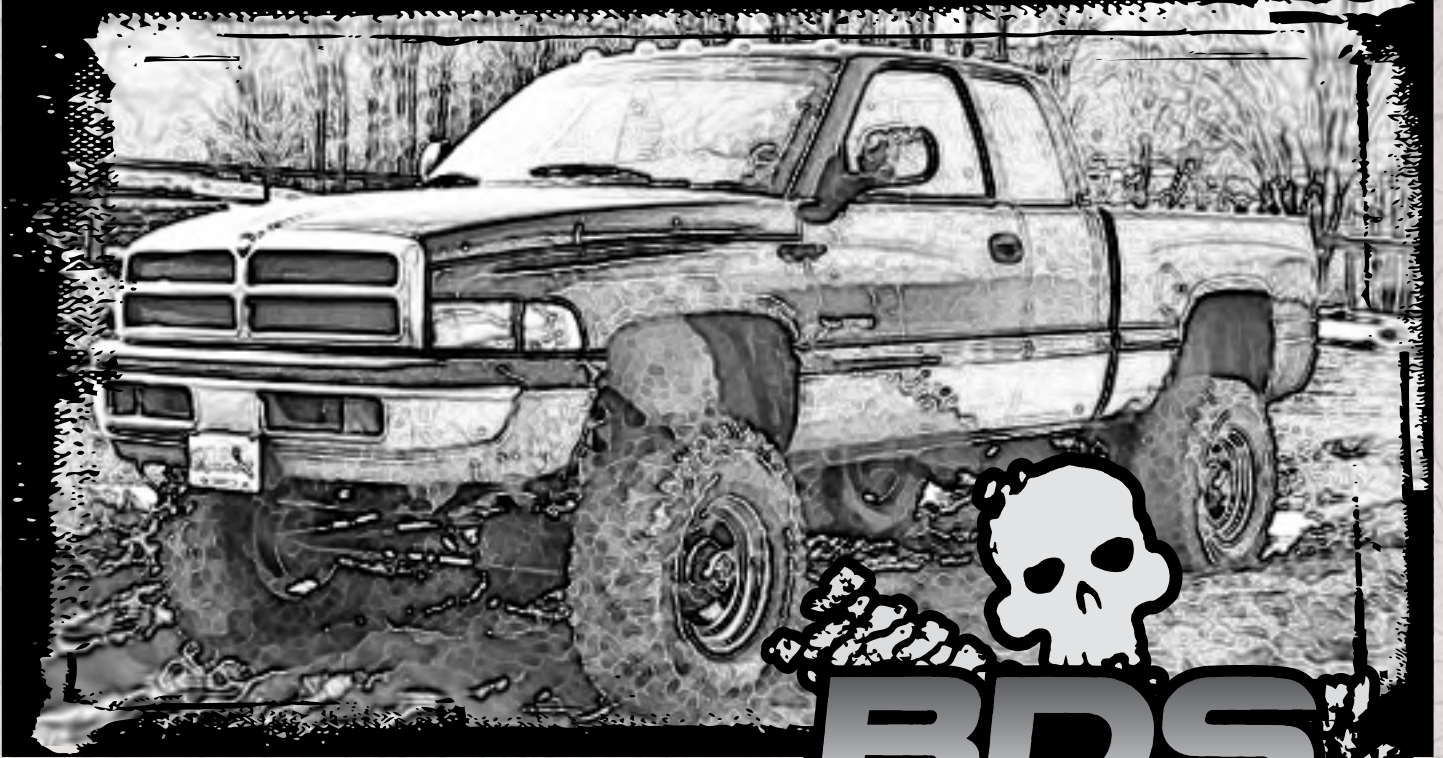


# INSTALLATION GUIDE



Part#: 012511, 012512, 012513

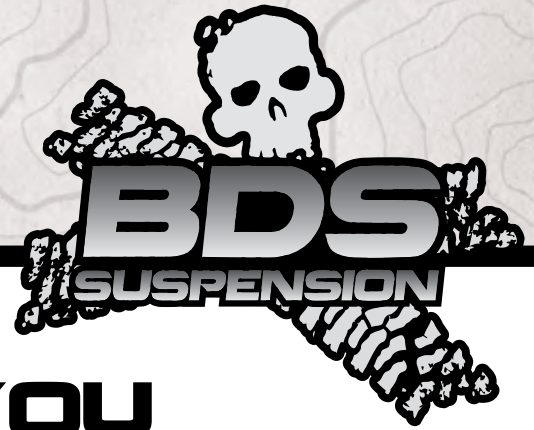


**HARDCORE LIMITED LIFETIME WARRANTY**

## 5" Long Arm Suspension System

Dodge 1500 4WD | 1994-2001  
Dodge 2500 4WD | 1994-2002

# Read And Understand All Instructions And Warnings Prior To Installation Of System And Operation Of Vehicle.



## THANK YOU

Your truck is about to be fitted with the best suspension system on the market today. That means you will be driving the baddest looking truck in the neighborhood, and you'll have the warranty to ensure that it stays that way for years to come.

Thank you for choosing BDS Suspension!

### BEFORE YOU START

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.

### FOR YOUR SAFETY

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.

### BEFORE INSTALLATION

- Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
- 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.
- 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.
- Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
- If installation is to be performed without a hoist, BDS Suspension Co. recommends rear alterations first.
- 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.



### TIRES AND WHEELS

35x12.50 Tire  
16x8 with 4" Max. Backspace Wheel



### BEFORE YOU DRIVE

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.

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.

Perform head light check and adjustment.

Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.



# CONTENTS OF YOUR KIT

## Box Kit 012511

Part #	Qty	Description
02322BK	2	Bump Stop
01222B	2	Lower Control Arm
01223B	2	Upper Control Arm
01045B	1	Sway Bar Drop Bracket (PS)
01044B	1	Sway Bar Drop Bracket (DS)

## Box Kit 012512, 012513

Part #	Qty	Description
082402R	1	00-01 Pitman Arm (012512 only)
082401R	1	94-99 Pitman Arm (012513 only)
01220B	1	Long Arm Bracket Dodge DS
01221B	1	Long Arm Bracket Dodge PS
02585B	1	Track Bar Bracket
01251B	1	UCA Relocation Bracket - PS
01252B	1	UCA Relocation Bracket - DS
3521BK	8	7/8" ID LCA Bushing
3522BK	8	UCA Bushing
516	2	1/4"-28 Grease Zerk
60107	6	90° 1/4-28 Grease Zerk
01257	1	5 Dodge Flat Brake Line Drop
01258	2	Brake Line Drop with Tab
01259	1	Brake Line U Drop Bracket
01262	1	Dodge 5 Track Bar Washer
342701	1	Loctite
17	2	3/4" x .120" x 2-3/8" Sleeve
24	4	7/8" x .120" x 2-1/2" Sleeve
23	4	3/4" x .095" x 2-1/4" Sleeve (012612 only)
18	4	3/4" x .134" x 2-1/4" Sleeve (012613 only)
42	2	7/8" x .156" x 2-1/2" Sleeve (012613 only)

## Box Kit 012512, 012513 (cont.)

Part #	Qty	Description
610	1	Bolt Pack
	4	1/2" USS washer
	16	1/2" SAE washer
	8	12mm - 1.75mm x 40mm bolt
	2	12mm - 1.75mm x 110mm bolt
	10	12mm - 1.75mm prevailing torque nut
611	1	Bolt Pack
	1	18mm-2.5x70mm bolt
	1	18mm washer
	1	18mm-2.5 torque nut
	1	1/8" x 2" cotter pin
	1	1/2"-13x2-1/2" bolt
	1	1/2" USS washer
	1	1/2" SAE washer
	1	1/2"-13 torque nut
613	1	Bolt Pack (012613 only)
	6	9/16" - 12 x 1-1/2" bolt
	12	9/16" SAE flat washer thru-hardened
	6	9/16" - 12 prevailing torque nut
620	1	Bolt Pack (012513 only)
	2	5/8"-11 x 4-1/2" bolt
	4	5/8" SAE flat washer
	2	5/8"-11 prevailing torque nut
	6	9/16"-12 x 1-1/2" bolt
	12	9/16" SAE flat washer
	6	9/16"-12 prevailing torque nut
	2	1/2"-13 x 1-3/4" bolt
	4	1/2" SAE flat washer
	2	1/2"-13 prevailing torque nut
BP123406	1	Bolt Pack
	8	1/4" USS washer
	4	1/4" - 20 x 1" bolt
	4	1/4" - prevailing torque nut
BP123401	1	Bolt Pack Ford Sway Bar Ext
	4	3/8" - 16 x 1-1/4" bolt
	4	3/8" - 16 prevailing torque nut
	8	3/8" USS thru hardened washer

## TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

1. For models built after February 9, 1994 due to track bar stud size
2. May require exhaust modification

**TECH  
TIPS**



## INSTALLATION INSTRUCTIONS

### INSTALLATION INSTRUCTIONS

1. Park vehicle on a clean, flat surface and block the rear wheels for safety.
2. Open hood, remove the upper shock nuts and retainers. Remove the three nuts retaining the upper shock tower and remove the brackets.
3. Raise the front of the vehicle and install jack stands under the frame behind the lower link rear brackets. Support the front axle with a hydraulic jack.
4. Remove the tires. Remove the brakeline anchor bracket between the upper and lower links behind the coil spring. Retain mounting bolt.
5. Disconnect the original steering stabilizer from the steering link. Disconnect the track bar from the frame end and lower down.
6. Disconnect the sway bar at the frame side and lower out of the way. Disconnect the drag link from the pitman arm (Fig. 1)

### SPECIAL TOOLS

Pitman arm puller  
Cutoff wheel

**FIGURE 1**



7. Use a pitman arm puller to remove the pitman arm from the steering sector. Install new BDS drop pitman arm and retain with original fasteners. Torque to 185 ft-lbs. Do not attach drag link to the pitman arm at this time. (Fig. 2)

**FIGURE 2**



8. Remove lower shock bolts and pull shocks up through the coil spring. Lower the front axle to remove the coil spring, rubber isolator and 3-bolt shock tower ring.
9. Remove the front bump stops from their pocket by working them back and forth with a large set of channel locks.
10. Mark the lower link adjustment cams and the surrounding reinforcement bracket so you can realign the cams after installation.
11. Remove the OE lower control arms from both sides. (Fig. 3)

**FIGURE 3**

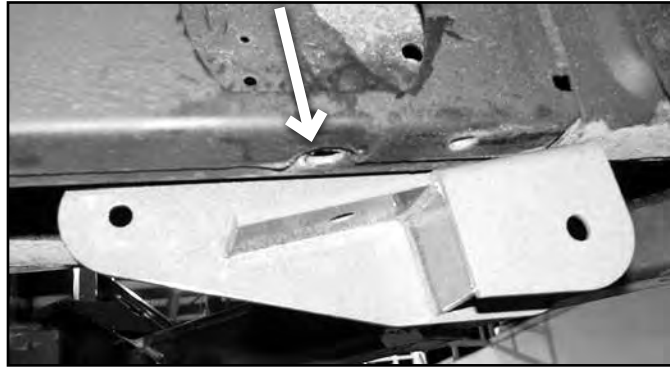


12. Remove transfer case skid plate and retain front mounting hardware and rear spacer washers.
13. Place new bracket (01220) on driver's frame rail with the rear hole aligned with transfer case skid plate bracket mounting hole (Fig. 4). Place transfer case skid plate washer between new bracket and frame rail.



**Tip** 25-7/8" center to center distance (old mounting point to new mounting point).

**FIGURE 4**



14. Clamp bracket in place. Ensure that the outside plate is flush against frame rail.
15. Move lines inside frame rail to a position where they will not be damaged when drilling holes.
16. Drill 9/16" holes at bracket mounting points, except skid plate mounting hole.

**! Caution** *Only drill through the outside portion of the frame rail.*

17. Install 9/16"x1-1/2" bolts, washers, and nuts in holes that have just been drilled. Do not crush lines inside of frame. Torque hardware to 110 ft-lbs.
18. Repeat for passenger's side (01221). (Fig. 5)

**FIGURE 5**



19. Mark a line parallel with the bottom of the frame on the lower control arm pockets and cut old pockets off. (Fig. 6)

**FIGURE 6**



20. Reinstall transfer case skid plate with OE hardware at front mounting location and 1/2" x 1-3/4" hardware at frame mounting points. Minor grinding required to enlarge hole diameter. Torque hardware to 65 ft-lbs. (Fig. 7)

**FIGURE 7**



21. Grease and install bushings (BSDG1-78) into new control arms.
22. Follow appropriate step depending on model year:  
*94-99: Grease and install 24-1 sleeves into non-pitched end, and 42-1 sleeves into pitched end.*  
*00-01: Grease and install sleeves 24-1 into both ends of control arms.*
23. Install 90 degree grease zerk into both ends of control arms.
24. Install new long arm with 'pitched' end located in axle pocket, grease zerks facing down. Follow appropriate step depending on model year: (Fig. 8)  
*94-99: Use new 5/8" x 4-1/2" bolts, washers, and nuts (#620) in new mounting bracket and OE hardware at axle pocket*  
*00-01: Use all OE hardware.*

**FIGURE 8**



25. Repeat for driver's side.
26. Remove the OE upper control arms.
27. Prior to installing the upper link relocation brackets, check the holes on each side of the upper link axle mounts to ensure that a 12mm bolt fits through them. If not, drill out the holes to 1/2". (Fig. 9 & 10)

**FIGURE 9****FIGURE 10**

28. Install relocation bracket over the original mount (note there is a left/right hand).



**Tip** *The longer lower leg goes toward the outside of the vehicle. Install a 12mm x 110mm (4-1/2") bolt using the 3/4 x 2.375" sleeve inside the original axle mount to maintain spacing.*

29. Install the shorter bushings and sleeves into the upper links. Install the upper link by sliding them through the relocation bracket to the original frame mount. Install original bolts, but do not tighten at this time.
30. Remove the screw retaining the steel vacuum lines to the passenger's side of the frame at the drop point going to the vacuum actuator valve. Install the furnished drop bracket (1" wide x 4" long) using the original screw at the frame. Use the supplied 1/4 x 1" bolt, nut and washer to attach the vacuum line to the new drop bracket.
31. Unplug the electrical line at valve and release the plastic clip at the bracket. If additional slack is needed, remove wire from top of crossmember and route it under the crossmember.
32. Begin installing track bar drop bracket by first removing the brakeline clamp screw from the crossmember. This is located next to the original frame mount for the track bar. After removing the screw push the brakeline up approximately 2" for clearance.
33. First, check the track bar frame mount to ensure that it is a smooth surface. Some models have a reinforcement gusset on the edge of the mounting point. This must be ground off to make a flat mounting point for the new bracket. It is vital that the new bracket mounts to a flat smooth surface.
34. Apply loctite to end of 18mm bolt. Hold new drop bracket up to OE mount. Insert 18mm bolt through the original mount and the drop bracket and start the nut with washer. Tighten the nut until it is snug.
35. Twist the drop bracket until the extension brace hits the back of the crossmember. The brace should sit flat against the crossmember.
36. Use a 1/2" drill and start through the hole in the supplied brace and drill through the crossmember being sure to come out just below the weld mount on the front side of the crossmember. It may help to drill a smaller pilot hole and then open to 1/2". (Fig. 11)

**FIGURE 11**



37. Install a 1/2 x 2-1/2" bolt with washer through the brace and crossmember. On the front side of the crossmember install the step washer over the weld mount to create a flat surface. Install the nut and torque to 70-75 ft-lbs. Be sure not to crush the crossmember. Then torque the 18mm bolt to 200 ft-lbs. (Fig. 12)

**FIGURE 12**



38. Move the brake line clamp back down and drill a new 19/64" hole.
39. Install new poly bumpstops in the original pockets. A jack may be used to force the bumpstops into the original pocket or use a wood block and a 2x4 for leverage.
40. Insert 3-bolt shock tower ring inside the top of the coil tower. Start a couple of nuts on the ring to hold it up in place. See dual shock instructions if installing.
41. Install coil springs and place rubber isolators on the tops of the coils. Turn the coils so the end of the bottom wraps is toward the center of the vehicle. Lift up on jack under the differential to place a small load on the coils to hold them in place.
42. Remove the nuts that you previously installed on the 3-bolt ring. Install new shocks down through the coils springs and install bolt at the bottom. Install original shock tower bracket over the 3-bolts of the ring. Install nuts on the 3 bolts and tighten. Install shock to the top of the tower with the shock fasteners per their instructions. (If installing dual shocks, refer to those instructions at this time.)
43. Install the supplied brake line relocation brackets at this time. The brackets are the two with a small 90 degree bend. Install the bracket with the small leg at the bottom facing toward the front of the vehicle. Install original metric bolt in the bottom hole on the bracket and tighten. Attach the original brake line anchor bracket to the top hole of the new bracket with the supplied 1/4 x 1" bolt, nut, and washer supplied and tighten. (Fig. 13)

**FIGURE 13**



44. Loosen the turn buckle clamps on the drag link and rotate 180 degrees. This will allow the drag link to be connected with the new pitman arm. Install drag link into pitman arm and Torque OE nut to 80 ft.lbs. Be sure to use a new cotter pin. Rotate the turn buckle clamps to the top side of the drag link to gain clearance for the steering stabilizer. Tighten turn buckle clamps to 45ft.lbs.
45. Install new BDS steering stabilizer at this time.
46. Swing sway bar back up to the frame mounts. Install sway bar drop brackets between the sway bar and the frame with the supplied 3/8 x 1" bolts, nuts, and washers. The solid side of the bracket should be facing out and should slope toward the bumper. Torque bolts to 35ft.lbs.

47. Install tires and lower vehicle to the ground.
48. Attach the track bar to the track bar relocation bracket with the original fasteners and tighten to the following specifications. Install new cotter pin. Tighten track bar at axle end.  
*Ball Stud Nut.....70 ft. lbs.*  
*Axle Bracket Bolt.....130 ft. lbs.*
49. Tighten upper and lower link bolts making sure the alignment cams are in line with the original marks.  
**Lower Arm:**  
*Axle Nut.....140 ft. lbs.*  
*Frame Nut.....140 ft. lbs.*  
**Upper Arm:**  
*Axle Nut.....120 ft. lbs.*  
*Frame Nut.....120 ft. lbs.*
50. Complete a full steering cycle to ensure that nothing is hitting. Check the clearance between the sway bar end links and the drag link tie rod assembly. It may be necessary to trim/grind for needed clearance.

## **Thank you for choosing BDS Suspension.**

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