

Add-A-Leaf

Installation Instructions

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

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. 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. Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
4. To properly perform installation, you must use two (2) large C-clamps or a large vise to contain the elastic potential energy stored in a leaf spring when the center bolt is removed.

INSTALLATION INSTRUCTIONS:

1. Raise rear of vehicle and support with jack stands under frame.
2. Remove tires and wheels.
3. Raise the rear axle with a floor jack and support axle with jack stands. Remove shocks.
4. With axle firmly supported by jack stands remove the axle vent hose from the axle housing. Remove the axle u-bolts and spring plates.
5. Lower axle to allow for spring removal. **Caution:** Be careful not to over extend brake lines, etc. Remove spring eye bolt and shackles bolts. Remove springs from the vehicle.

6. Using c-clamps or large bench vise, clamp the spring assembly securely together.
7. If applicable, remove any leaf spring alignment clips. Using vise-grips to hold the head of the center bolt, loosen and remove it. If the center bolt is rusted, a hammer and drift punch may be necessary for removal.
8. Carefully remove c-clamps or loosen bench vise.
9. With a small amount of grease applied to both ends of the add-a-leaf, reassemble leaf pack with new add-a-leaf in place. The leaf pack should be assembled as a pyramid with the longest leaf on top to the shortest leaf on the bottom.
10. Use the c-clamp to compress the pack back together, making sure to align the center pin holes in each leaf. Secure with the supplied center pin nut. **Do not use the center pin to tighten the pack.** Use the c-clamps to compress the pack and then tighten the center pin. Cut off any extra pin above the nut. Install the supplied leaf alignment clamps.
11. Install the springs back in to the vehicle. Reinstall the spring eye bolts and/or shackles according to OE instructions, but **do not tighten at this time.** Use the hydraulic jack to raise or lower the axle to the springs (depending on the vehicle) making sure to align the center pin head in the axle seat. Install the new u-bolts and OE spring plates according to OE instructions and torque u-bolt nuts to factory specs.
12. Reconnect the axle vent hose and install replacement BDS shock absorbers. **Note: Original shocks will probably be too short.**
13. Lower vehicle to the ground. Bounce on the vehicle several times to allow the shackles to swing out to the proper position, then tighten the spring frame mounting bolts and the shackle bolts to OE specification. Inspect for proper clearance. Test drive.

You must tighten the u-bolts again after 100 miles.

Check all fasteners after 500 miles.

Shock Absorber

Installation Instructions



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LIMITED LIFETIME WARRANTY

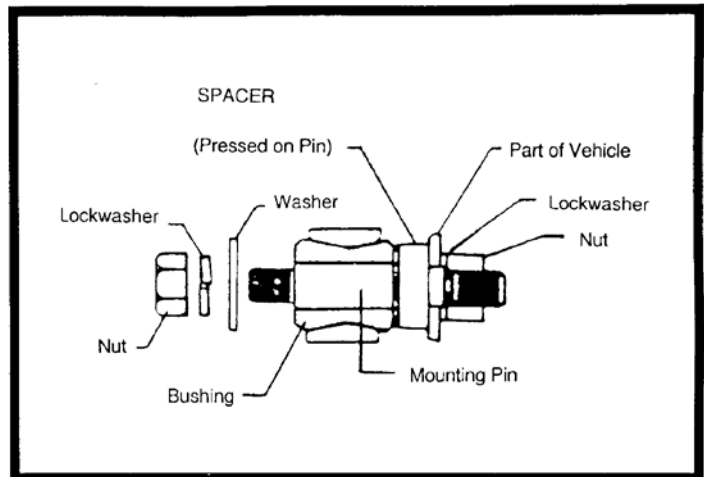
BDS Suspension Co. warrants to the original retail purchaser that its shock and stabilizer cylinders are free from defects in material and workmanship for so long as they own the vehicle. Excluded from this warranty are the finish of the product and mounting bushings. Defects in material and workmanship do not include such things as dented cylinders or bent rods caused by obvious side impact, rust, worn or deformed bushings. A shock absorber is a wear item and over time will experience diminished damping resistance due to normal component wear. This is not a defect in material or workmanship and is therefore not warrantable.

BDS Suspension's obligation under all warranties is limited to the repair or replacement, at BDS's option, of the defective material. Any cost of removal, installation or reinstallation, freight charges, incidental or consequential damages are expressly excluded from these warranties.

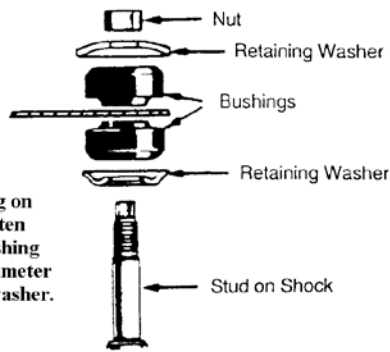
INSTALLATION INSTRUCTIONS

1. **Note: Please read instructions thoroughly before installing shock absorber.**
2. Remove old shock absorber from vehicle. Note any spacers, washers, sleeves or other hardware and note their location. Compare the existing hardware with the supplied hardware. Always use new hardware wherever possible. Due to the variety of applications, you may not use any or all of the hardware supplied. You may need to use some of the original hardware. If any of the original hardware is damaged, corroded, bent or broken it must be replaced.

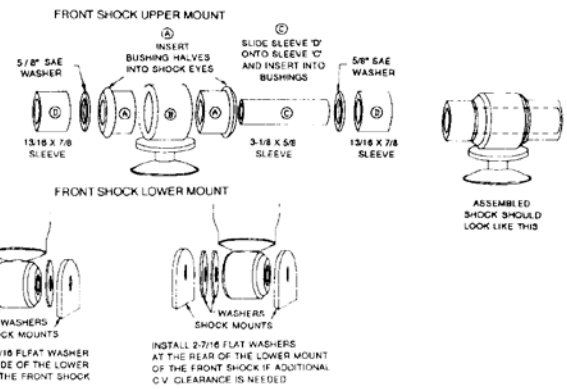
3. If installing dust boot, do so at this time. **Note: The use of a lubricant like dish soap on the inside of the boot will ease installation.** Make sure the washer at the top of the shock is fully seated in the boot all the way around. Secure the bottom of the boot to the cylinder with a plastic tie strap.
4. Install any required bushings and sleeves in to the shock eyes at this time. Install the shock absorber on the vehicle. Use the appropriate illustration as a frame of reference. Due to the different shock mounts within a vehicle model range, the shock eyes must be built to match the shocks that you removed by using the universal hardware kit included. Choose the sleeve with an I.D. closest to the O.D. of the mounting stud or bolt without binding. Some applications will require some extra effort to install.
5. Check all fasteners for tightness before driving and inspect periodically.



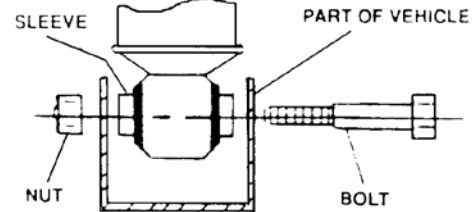
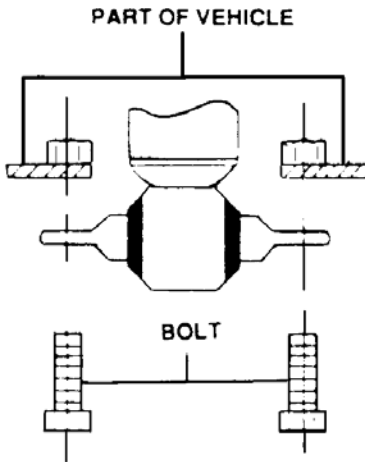
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Note: Caution
When installing bushing on stem type shocks. Tighten only enough so that bushing are expanded to the diameter of the outer retaining washer.



CHEV. S-SERIES W/LIFT



INSTALLING BUSHINGS, SLEEVE AND BARPINS

Some shock absorbers require multiple barpins, sleeves, and bushings to be included in the kit due to vehicle years and model changes. After choosing the correct bushing, sleeve, and or barpin for your application, install it in the shock eye. For best results, begin by installing the bushing in the shock eye. Lubricant will ease this process. Next, lubricate the inside of the bushing and install the sleeve or barpin using a bench vise. Use care not to scratch or dent the shock body.

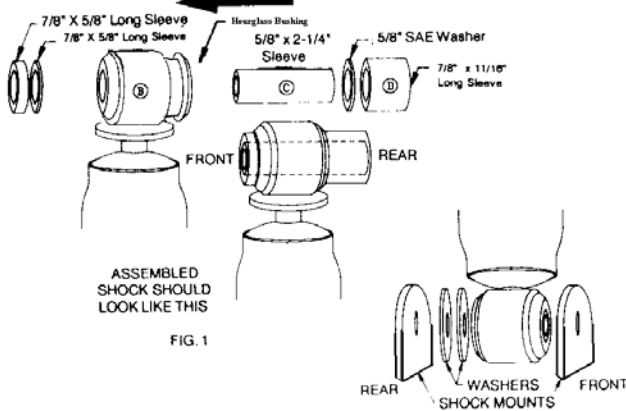
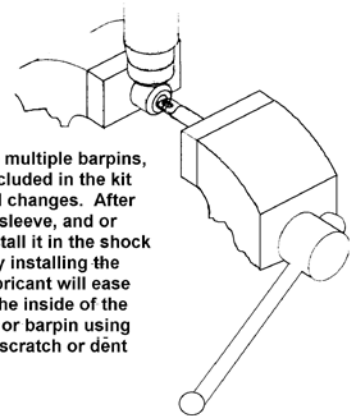


FIG. 1

INSTALL 2-7/16 FLAT WASHERS AT THE REAR OF THE LOWER MOUNT OF THE FRONT SHOCK AS IN FIGURE.

FIG. 2

FULL-SIZE CHEV. W/LIFT 88-UP MODELS

GM Leaf Spring

2", 4", 6", 8" Suspension Systems



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.

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Front Box Kit Bill of Materials

Part #	Discription	011001	011002	011003
12-1	5/8" x .083 x 3.50" Sleeve	2	2	
13-1	3/4" x .083 x 3.50" Sleeve	2	2	4
BSCVFB	GM Front Bushing	4	4	4
BSCVRB	GM Front Bushing	4	4	
BSCV2	GM Rear Bushing			4
B381G2	3/8" x 1" Bolt	2	2	2
LW38	3/8" Lock Washer	2	2	2
N38SS	3/8" Nut	2	2	2
B56.75G2	5/16" x 3/4" Bolt	1	1	1
LW56	5/16" Lock Washer	1	1	1
N56SS	5/16" Nut	1	1	1
90BA	90 Degree Brake Bracket	2	2	2
SBLA	Z Brake Bracket	1	1	1
582340800R	5/8" x 2-3/4" x 8" Round U-bolt		3	
583000800R	5/8" x 3" x 8" Round U-bolt	3		3
583581000R	5/8" x 3-5/8" x 10" Round U-bolt	1	1	1
N58FH	5/8" Fine High Nuts	8	8	8
W58S	5/8" SAE Flat Washer	8	8	8

Rear Box Kit Bill of Materials

Part #	Discription	011009	011208	011209	011307	011308	011309	011407	011408	011409
2KB-W96	2" Lift Blocks		2	2						
3KB-W96	3" Lift Blocks				2	2	2			
4KB-W96	4" Lift Blocks							2	2	2
582961200Q	5/8" x 2-9/16" x 12" Square U-bolts				4			4		
583000800R	5/8" x 3" x 8" Round U-bolts	4								
583001000R	5/8" x 3" x 10" Round U-bolts			4						
583001200R	5/8" x 3 x 12" Round U-bolts						4			4
583581000R	5/8" x 3 5/8" x 10 Round U-bolt		4							
583581200R	5/8" x 3-5/8" x 12" Round U-bolt					4			4	
W58S	5/8" SAE Washer	8	8	8	8	8	8	8	8	8
N58FH	5/8" Fine High Nuts	8	8	8	8	8	8	8	8	8
15-1	3/4" x .083 x 2.950 Sleeve	4								
3624RB	Spring Eye Bushings	8								

Installation Instructions Front

1. Raise vehicle and place jack stands under frame approximately 3" behind front spring shackles. Remove front wheels and shocks.
2. Remove one rivet from the outside of the frame at the engine crossmember closest to the OE hose to steel line connection. Attach the 90 degree brake line extension brackets using the 3/8" x 1" bolts, nuts, and lock washers.
3. Disconnect front brake line at frame and reroute through extension brackets and secure. **CAUTION: Careful attention must be exercised in rerouting.** Do not kink, pinch or stretch lines! When both sides have been completed, bleed the brakes. Refill the master cylinder with Dot approved fluid.
4. Place hydraulic floor jack under front differential and rise to support differential.
5. Remove cotter pin and nut securing the drag link to stock steering arm. Use pickle fork to de-seat tapered stud from arm. (Fig. 1)

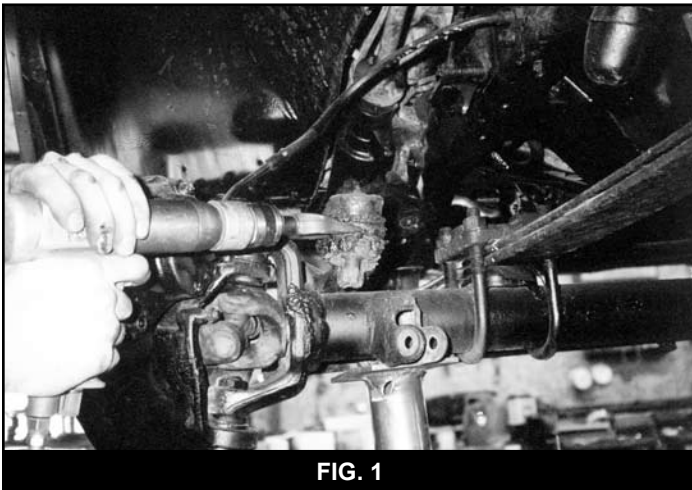


FIG. 1

6. Remove front spring to axle u-bolts. (Fig. 2) Remove spring to front hanger bolts, and shackle bolts. (Fig. 3) Save all hardware for reinstall. Remove front springs. 6" and up lift kits, remove sway bar to frame bushing bolts, save all hardware for reinstall. Support sway bar with strap to frame, or with jack stand.

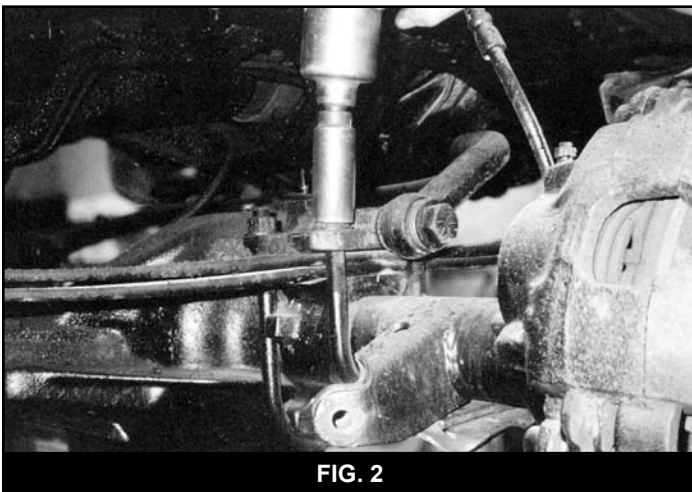


FIG. 2

7. Lubricate spring bushings and install into front lift springs. Large bushing and 3/4" steel sleeve into front eyes. Small bushing and 1/2" steel sleeve into rear eyes.

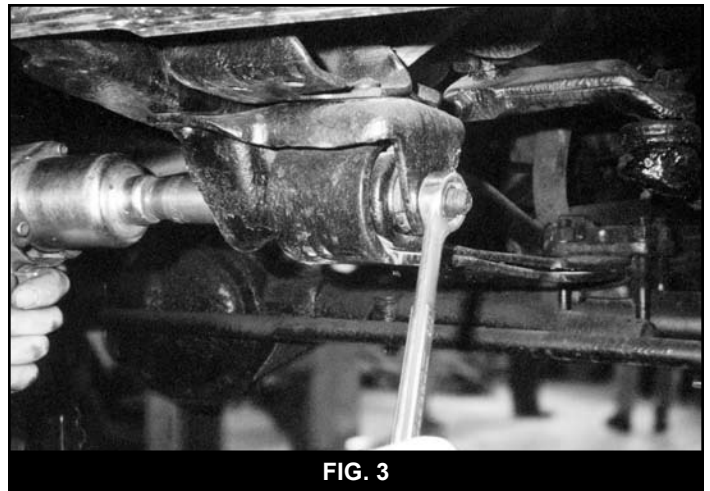


FIG. 3

8. Install front springs assemblies into vehicle using OEM fasteners removed in step 5. If new hardware is needed it is available from BDS #121004 for 1973-87 trucks or #121005 for 1988-91 trucks. Leave spring eye bolts hand tight to be tightened with truck on the ground.
9. Fully seat spring center pins into axle spring seat and secure springs to axle using the longer u-bolts, nuts, and washers supplied. (Fig 4.) Do not Torque hardware at this time. 6" and up lift kits Install sway bar drop kit #121451 per instructions at this time.

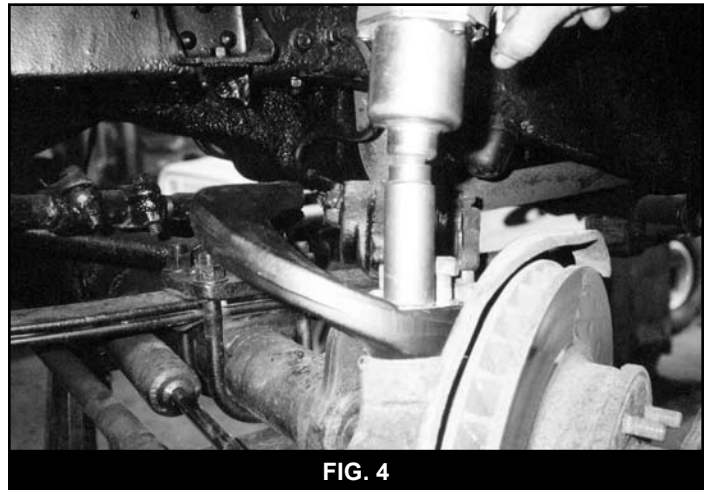


FIG. 4

Steering Arm Installation (if applicable) BDS # 081401

10. Clean and oil studs before removing nuts.
11. Remove nuts and tapered sleeves. Retain for reinstallation. Remove Arm.
12. Clean axle pad and studs, inspect for damage or penetrating rust. Consult the OEM service manual for stud replacement. Install new arm and torque fasteners to 175 ft.lbs. (Fig. 5)

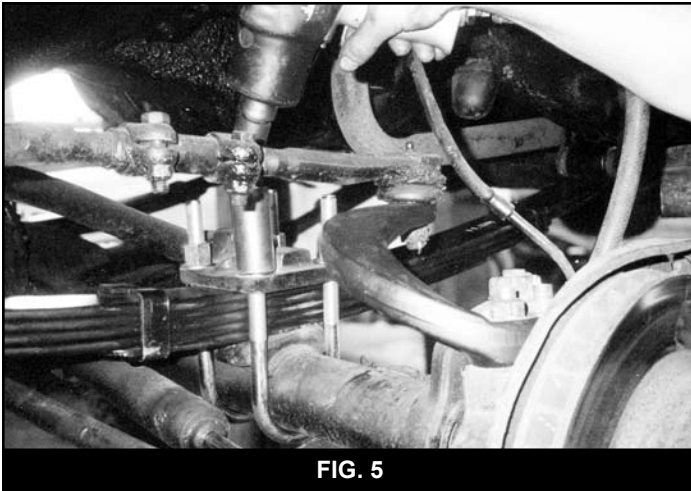


FIG. 5

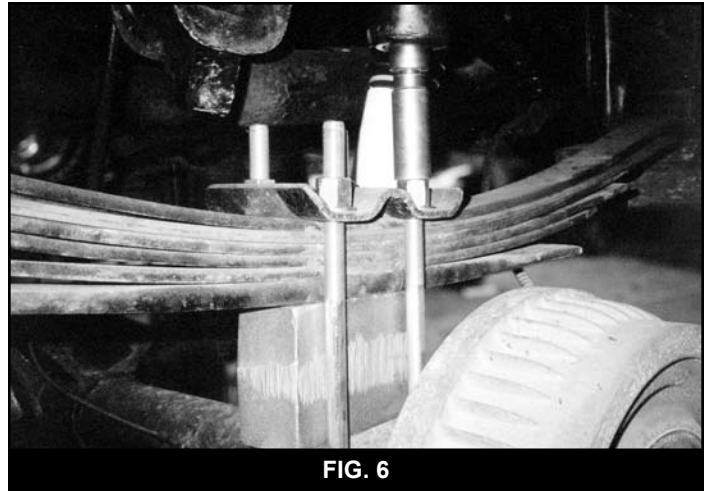


FIG. 6

13. Re-secure drag link to new steering arm and lock with cotter pins.
14. Install recommended replacement BDS shocks and reinstall front wheels and tires. Remove jack stands and lower the front to the ground.
15. With the vehicle on the ground, go back and torque spring eye bolts to $9/16"$ = 130 ft. lbs and $7/16"$ = 60 ft. lbs. Do not over tighten. Over tightening the shackle bolts will restrict movement. Torque u-bolts to 130-150 ft. lbs.
16. 6" lifts and up Install transercase lowering kit # 121000 per there instructions at this time.

Rear Block Kits

Note: Steps 2-4 apply to 4" & 6" lifts only.

1. Raise rear of vehicle and support with jack stands under frame in front of the front spring hanger.
2. With axle supported with a floor jack, remove the brake line clip attaching the line to frame bracket. Pull the line through bracket approximately 4". **Caution: Careful attention must be exercised when re-routing brake line.** Do not kink, pinch or stretch brake lines!
3. Using hack saw, cut a slot through to the hole, bend bracket open to remove brake line. Bend bracket back into position.
4. Secure rear brake line extension 'Z' bracket to frame bracket using $5/16"$ bolt, washers and lock-nut. Reroute line through extension bracket and secure with clip.
5. Remove rear shocks, retain all hardware for reinstall.
6. Remove rear u-bolts and lower axle away from spring assemblies.
7. If installing an add-a-leaf 119157 or 119158 do so now per their instructions.
8. Place lift blocks on top of axle spring seat, tapered end forward and secure with supplied u-bolts. Torque u-bolts to 130-150 ft. lbs. (Fig.6)
9. Install recommended BDS shocks with reused hardware. Reinstall wheels and tires.
10. Double check all hardware torque.
11. Adjust headlights
12. Check all moving parts for clearance.
13. A front end alignment should be performed.
14. Recheck all fasteners after 500 miles

Rear Spring Kits

1. Raise rear of vehicle and support with jack stands under frame in front of the front spring hanger.
2. With axle supported with a floor jack, remove the brake line clip attaching the line to frame bracket. Pull the line through bracket approximately 4". **Caution: Careful attention must be exercised when re-routing brake line.** Do not kink, pinch or stretch brake lines!
3. Using hack saw, cut a slot through to the hole, bend bracket open to remove brake line. Bend bracket back into position.
4. Secure rear brake line extension 'Z' bracket to frame bracket using $5/16"$ bolt, washers and lock-nut. Reroute line through extension bracket and secure with clip.
5. Remove rear shocks, retain all hardware for reinstall.
6. Remove rear u-bolts and lower axle away from spring assemblies.
7. Remove spring to front hanger bolts, and shackle bolts. Save all hardware for reinstall. Remove rear springs.
8. Lubricate spring bushings and install into rear lift springs.
9. Install rear springs assemblies into vehicle using OEM fasteners removed in step 7
10. If new hardware is needed it is available from BDS #121009 for 1973-91 trucks
11. Fully seat spring center pins into axle spring seat and secure springs to axle using
12. the longer u-bolts, nut, and washers supplied. Do not torque hardware at this time.
13. Install recommended replacement BDS shocks and reinstall rear wheels and tires. Remove jack stands and lower the rear to the ground.
14. Torque u-bolts to 130-150 ft. lbs. torque spring eye bolts to $9/16"$ = 130 ft. lbs and $7/16"$ = 60 ft. lbs. Do not over tighten. Over tightening the shackle bolts will restrict movement.
15. Double check all hardware torque.
16. Adjust headlights.
17. Check all moving parts for clearance.
18. A front end alignment should be preformed.
19. Recheck all fasteners after 500 miles.