# C2320 Installation Instructions
# 2020-21 Chevy/GM 2500/3500 HD 4WD
# 3" 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.

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*** may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to ***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: 3-4 hours

### Special Tools Required

Torsion Bar Tool - GM #CH48809

### Tire/Wheel Fitment

35x12.50 on 17, 18, 20x9 5.5-5.75"BS

295/60 on 20x9 5-5.75" BS

285/65 on 20x9 5-6.18" BS

285/70 on 18x9 5-6.18" BS

285/75 on 17x9 5-6.18" BS

Stock wheels and stock tires can be installed, but are tight to the ball joint cup

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

## C2320 Kit Contents

| *Qty* | *Part* |
|---|---|
| 1 | DRV Arm Assembly |
| 1 | HD Ball Joint |
| 2 | Rubber Bushing |
| 1 | Ball Joint Cap |
| 1 | Grease Zerk |
| 1 | O-ring |
| | |
| 1 | PASS Arm Assembly |
| 1 | HD Ball Joint |
| 2 | Rubber Bushing |
| 1 | Ball Joint Cap |
| 1 | Grease Zerk |
| 1 | O-ring |
| | |
| 2 | 7/8" Differential Spacer Sleeve - Frt |
| 4 | 1/2" Differential Spacer Sleeve - Rear |
| 4 | 1/4" Skid Plate Spacer |
| 2 | Sway Bar Relocation Brackets |
| 2 | Torsion Bar Keys |
| 2 | Torsion Bar Key Keeper |
| 1 | Bolt Pack 679 - Differential Drop |
| | 2 9/16"-12 x 5" bolt |
| | 2 9/16"-12 x 5-1/2" bolt |
| | 8 9/16" SAE thru hardened washer |
| | 4 9/16"-12 prevailing torque nut |
| 1 | Bolt Pack 882 - Sway Bar Relcoation and Skid Plates |
| | 10 10mm-1.50 x 30mm Bolt, Class 10.9, Clear Zinc |
| | 6 3/8" USS Washer, Clear Zinc |
| | 4 3/8"-16 x 1-1/4" Bolt, Grade 8, Yellow Zinc |
| | 4 3/8" SAE Washer, Yellow Zinc |
| | 4 3/8"-16 Prevailing Torque Nut, Yellow Zinc |

## C1207 Rear 2" Block Kit Contents (Non-Overload Equipped Trucks)

| | |
|---|---|
| 2 | 2" Flat Block - 18mm pin |
| 4 | 3/4" x 3-1/4 x 13-1/2 Square U-bolt |
| 8 | 3/4" Serrated Edge Flanged Nut |
| 2 | 11.5" Cable Tie |

## C1208 Rear 2" Block Kit Contents (Overload Equipped Trucks)

| | |
|---|---|
| 2 | 2" Flat Block - 18mm pin |
| 4 | 3/4" x 3-1/4 x 15-1/2 Square U-bolt |
| 8 | 3/4" Serrated Edge Flanged Nut |
| 2 | 11.5" Cable Tie |

## PRE-INSTALLATION NOTES

1. The torsion bars are under extreme pressure and require the use of a Kent Moore #CH48809 torsion bar tool or equivalent for proper unloading/loading. Follow tool manufacturer instructions.
2. Compatible with gas or diesel models as well as standard or AT4 models.

## INSTALLATION INSTRUCTIONS

1. Park vehicle on clean, flat, and level surface. Block the rear wheels for safety.
2. Measure the ride height of the vehicle and record - see side box.
3. Raise the front of the vehicle with a hydraulic jack. Support the frame rails with jackstands. Figure 1

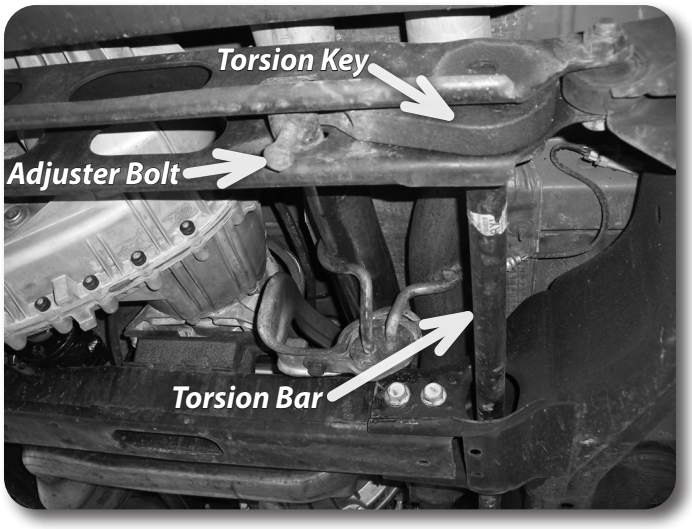


Figure 1

4. Measure the length of the torsion bar adjuster bolts (top of the adjuster bolt head to adjuster) and record - see side box.

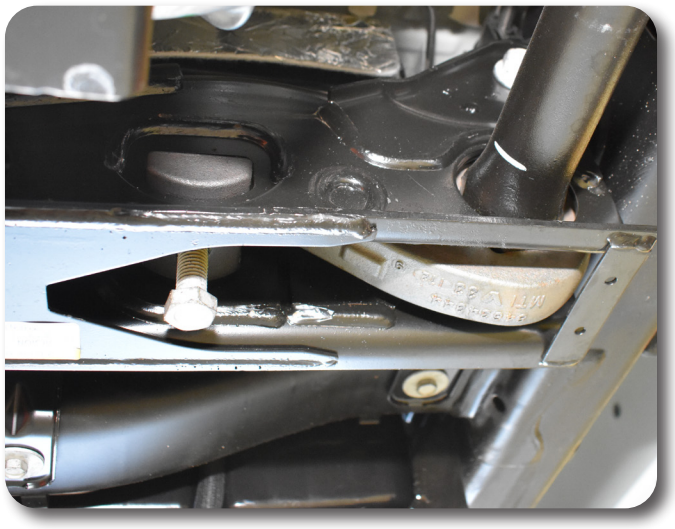

Figure 2

5. Remove the adjuster bolts, keep driver's and pass side bolts separate.
6. Use the torsion bar removal tool to remove the threaded adjuster assembly. Release the pressure from torsion bar with the unloading tool. **Caution: There is an extreme amount of energy stored in the torsion bars. Use extreme care with the proper tools to avoid serious injury or death**.

### Important—measure before starting!

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

LF_____ RF_____

LR_____ RR_____

**Important** - Measure from the exposed length of the torsion bar adjusters before starting:

Drv_____ Pass_____

**Caution**: There is an extreme amount of energy stored in the torsion bars. Use extreme care with the proper tools to avoid serious injury or death.

7. Slide the torsion bars forward to allow the factory keys to be removed. On older vehicles, it may be necessary to use an air hammer to get the bars to break free.

Figure 3

8. Remove the factory front and differential skid plates. Save the skid plates for later installation and discard the hardware.

## Shock and Upper Control Arm Installation

9. Remove the upper shock nuts and lower shock bolt. Remove shocks from vehicle.
10. Remove the upper ball joint nut, reinstall a couple of turns. Hit the side of the knuckle to dislodge the upper ball joint from the steering knuckle.
11. Remove the factory upper control arm from the vehicle. Figure 4a, 4b

Figure 4a

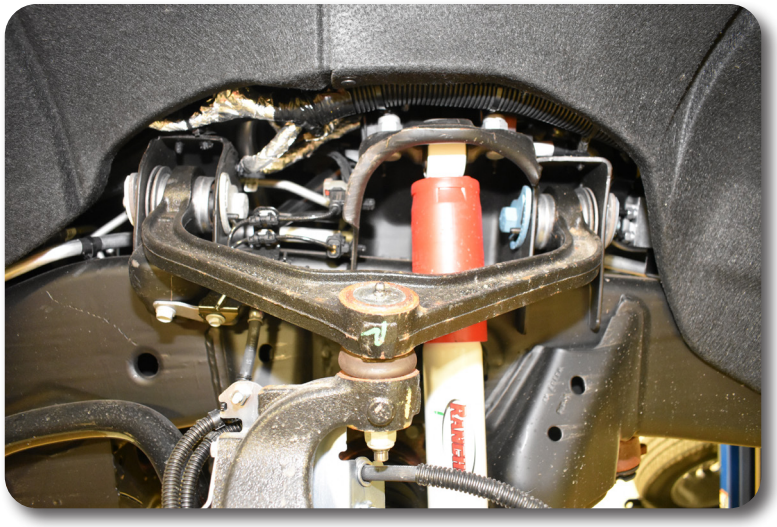

Figure 4b

Install new upper control arm assembly with factory cam bolts. Arms are side specific. Snug, but do not tighten at this time. Attach the upper ball joint to the steering knuckle with provided nut, washer, and cotter pin. Tighten the upper ball joint nut to 37 ft-lbs on the first pass and a final pass of 90-110 degrees. Install the cotter pin (do not loosen the nut to line up the cotter pin hole). Figure 5

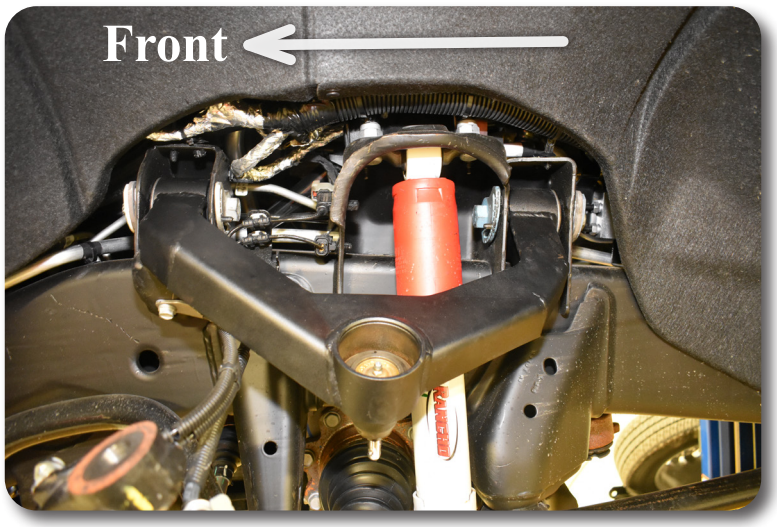


Figure 5 Driver Side Shown

12. Install the provided front shocks. On Fox shocks the barpin will need to be installed into the upper eye with the included bushing.
13. Attach the lower shock mount to the lower control arm with factory bolt and nut. Leave lower shock bolt loose. This will be tightened with the weight of the vehicle.

## Step 12 Note

The new upper control arms will have additional clearance to the droop limiter on the front control arm pocket. Verify the correct UCA is installed on the correct side by the raised area around the droop limiter. See Figure 5

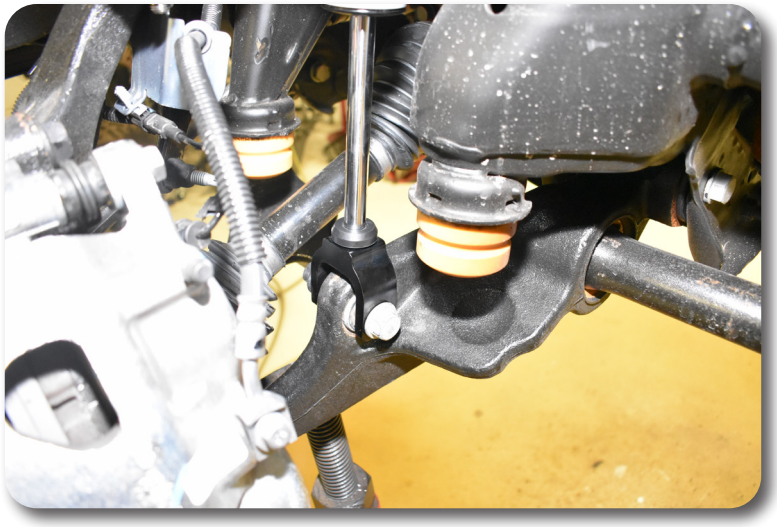

Figure 6

14. Attach the upper shock mount with the provided 1/2" hardware for the Fox shocks or install the studs into the factory mount using the factory nuts if using the Zone shocks.

Figure 7

15. Torque the upper shock hardware to 60 ft-lbs.

## Differential Drop Installation

16. Work on one side of the vehicle at a time. Remove the hardware that attaches the differential mounts to the frame. Figure 8

Figure 8

17. Lower the differential and install the spacers between the frame mounting points and the factory brackets. Use the short 1/2" tall spacer at the rear mount with 9/16" x 5" hardware. Use the tall 7/8" spacer at the front mount with 9/16" x 5-1/2" hardware. Figure 9 Torque the 9/16" hardware to 118 ft-lbs.

**Step 18 Note**

Differential Drop Hardware is in Bolt Pack 679

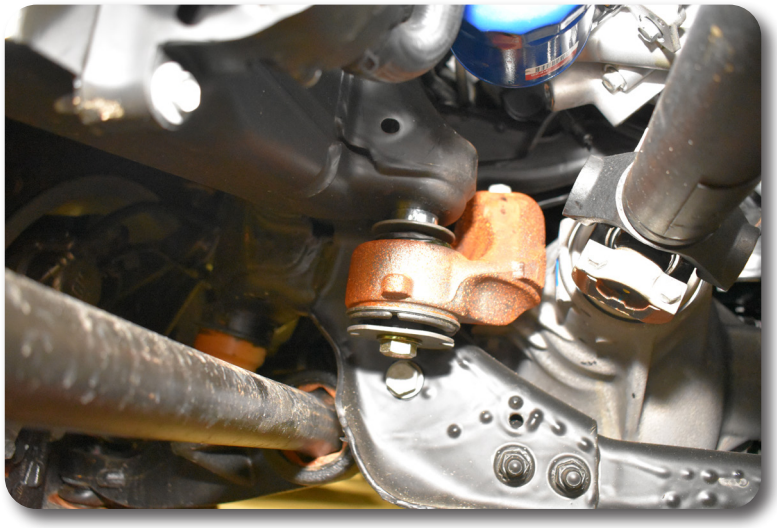

Figure 9 Rear Driver Mount Shown

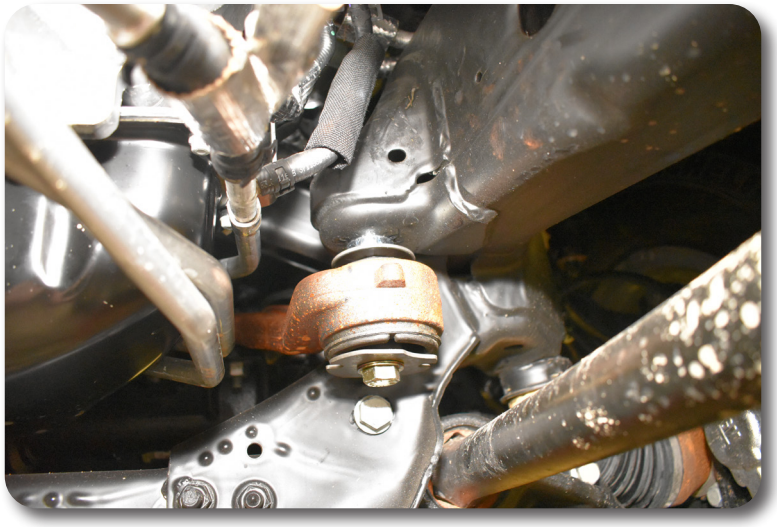

Figure 10 Rear Passenger Mount Shown

## Sway Bar Offset Bracket

**Step 19 Note**

Leave the sway bar links attached the lower control arms.

18. Remove the four bolts attaching the sway bar to the frame and discard factory hardware. Allow the sway bar to swing out of the way.
19. Install two of the 3/8" x 1-1/4" bolts into a sway bar relocation bracket. The 3/8" bolts will install with no washer into the slots in the sway bar relocation bracket to lock the rotation of the bolts.

**Step 20 Note**

Sway Bar Relocation Hardware is in Bolt Pack 882

20. Attach the sway bar relocation to the frame using the provided 10mm x 30mm bolts and thread locker, do not use a washer. The relocation needs to offset the sway bar forward in the vehicle, see Figure 11. Torque 10mm hardware to 37ft-lbs.
21. Attach the sway bar to the relocation brackets with the 3/8" nuts and 3/8" SAE washers. Torque 3/8" hardware to 37 ft-lbs.

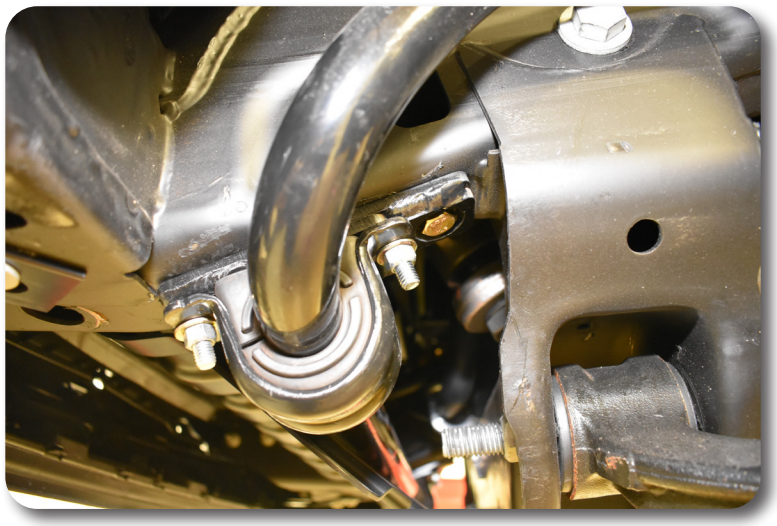

Figure 11

## Skid Plate Installation

**Step 23 Note**

Skid Plate Hardware is in Bolt Pack 882

22. Install the 1/4" spacer washers between the front skid plate and frame and attach using two of the 10mm x 30mm bolts and 3/8" USS Washers. Torque hardware to 15 ft-lbs.

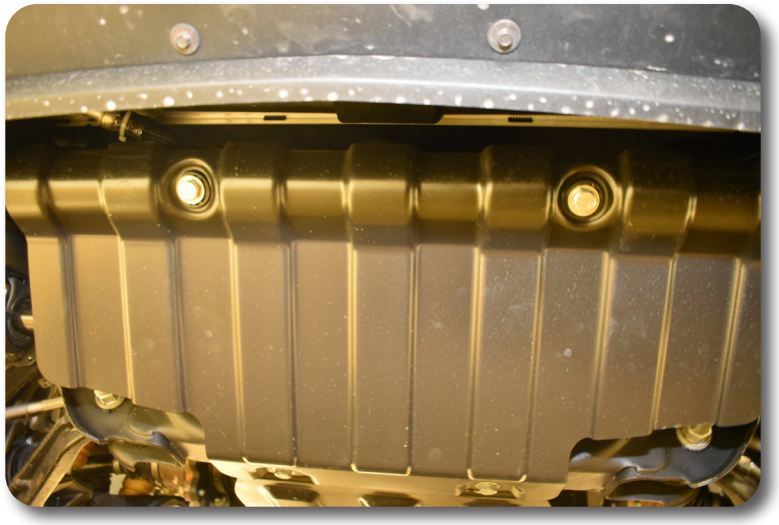

Figure 12

23. Install the 1/4" spacer washers between the front & differential skid plate and front frame cross member and attach using two of the 10mm x 30mm bolts and 3/8" USS Washers. Torque hardware to 15 ft-lbs.

Figure 13

24. Install the 1/2" spacer washers between the differential skid plate and rear frame cross member and attach using two of the 10mm x 30mm bolts and 3/8" USS Washers. Torque hardware to 15 ft-lbs.

Figure 14

## Torsion Key Installation

25. Install the torsion bar adjusting bolt retainer onto the end of the torsion key. This will keep the bolt centered on the torsion key when loaded. (Fig 15)

### Step 26 Note

It may be necessary to grind the flashing on the parting line of the key casting to get the bolt retainer to stay in place or the retainer can be tapped onto the key with a hammer. The retainer should be centered on the arched area of the torsion key.

Figure 15

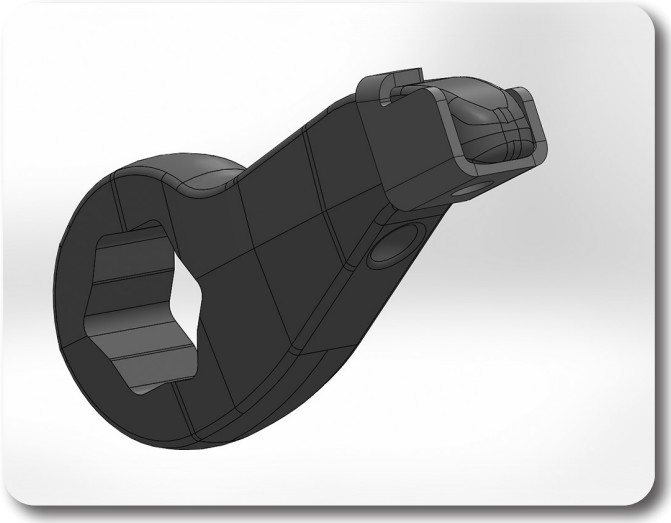

Figure 16

26. Apply a small amount of grease to the hex on each end of the torsion bar. Install the new torsion keys. When installed the keys should be nearly horizontal and pointing toward each other. Because of slight differences in hex shape, the factory and Zone keys will appear to have very similar indexing.

27. Install the torsion bar adjuster assembly with torsion bar tool. Make sure the bolt goes into the torsion bar bolt retainer installed previously.

28. Set the overall length of the exposed thread and bolt head to the original measurement. The minimum recommended length is 3/4". This may need to be adjusted if heavy accessories are added to the front of the vehicle.

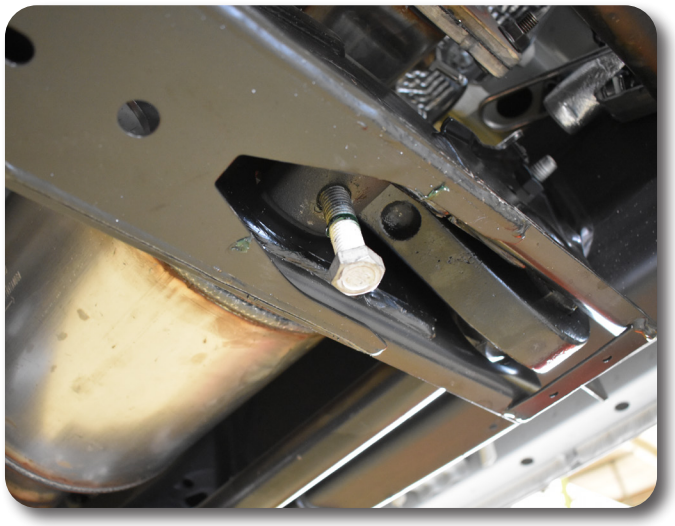

Figure 17

29. Reinstall the wheels and lower the vehicle to the ground. Torque lug nuts to 140 ft-lbs in a crossing pattern

30. Roll the vehicle forward and back to settle the suspension.

31. Check the final ride height measurement. This should not be more than 27-1/2". If it is greater than this, the torsion bar adjusters need to be lowered.

32. Torque the lower shock mount bolt to 89 ft-lbs.

33. Center the upper control arm cams. Tighten the cam bolts to 192 ft-lbs.

34. Check all hardware for proper torque.

35. A front end alignment must now be performed.

36. Check hardware after 500 miles. Adjust headlights.

## Rear Installation

1. Block the front wheels for safety. Raise the rear of the vehicle and support with jack stands under the frame rails, just ahead of the front leaf spring hangers.

2. Remove the wheels.

3. Raise rear of vehicle and support frame with jackstands.

4. Support the rear axle with a hydraulic jack.

5. Disconnect the rear shocks from the axle and frame end. Discard the rear shocks. Save hardware.

6. With the axle well supported, remove the passenger's side u-bolts and lower u-bolt plate. Check slack on any brake lines or ABS lines.

### Step 6 Note

In order to aid in installation of the block on the other side of the vehicle, loosen, but do not remove the u-bolt hardware on the driver's side. This will allow the axle to move more easily and aid in installation.

## 2" Lift Block Installation

7. Install the new blocks between the axle and the leaf spring. Align the pins/holes and raise the axle to seat the assembly. Install the new provided u-bolts with the factory u-bolt plate. Figure 18 Fasten with the provided locking flange nuts. Snug hardware. Final torque will be down with the vehicle on the ground.

Figure 18

8. Repeat block installation of the driver's side.
9. Check all cables for adequate slack at full droop, make adjustments if necessary.

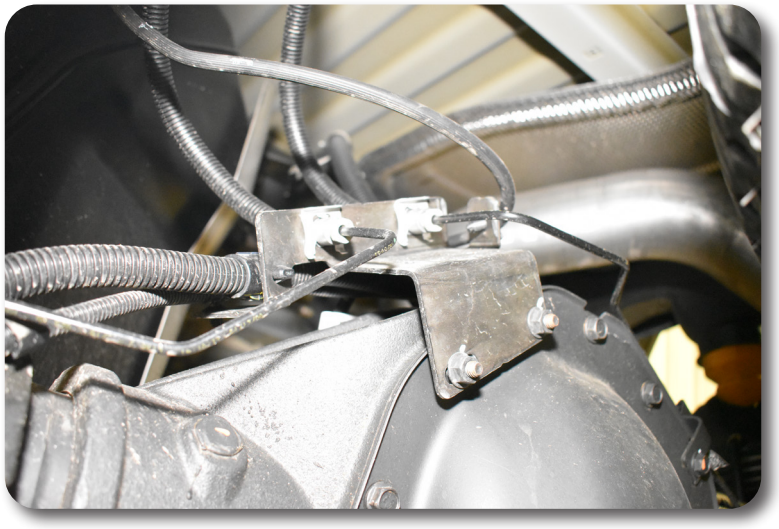

Figure 19

10. INSTALLING NEW ZONE SHOCKS ONLY (Not Fox Shocks): The passenger's side bump stop bracket on the axle must be trimmed slightly to add clearance for the new larger rear shocks. Grind the inside front corner to gain approximately 1/4" of clearance. Figure 20 Paint bare metal to prevent rust.

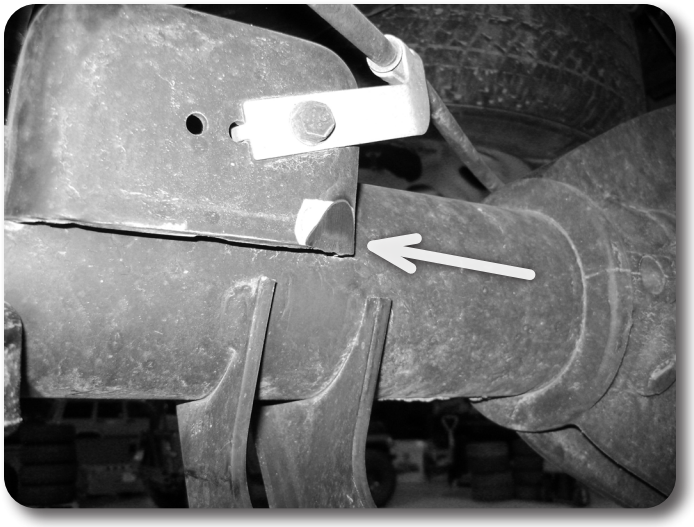

Figure 20

11. Reattach shocks to the axle and frame with factory hardware. Torque hardware to 85 ft-lbs.

Figure 21

12. If installed remove clips on wheels **Figure 22**. Reinstall wheels and lower vehicle to the ground.

## 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.

3. Perform head light check and adjustment.

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

Figure 22

13. Reinstall the wheels and lower the vehicle to the ground. Torque lug nuts to 140 ft-lbs in a crossing pattern
14. Roll the vehicle forward and back to settle the suspension.
15. Torque u-bolts to 150 ft-lbs.

## Post-Installation

16. Check all hardware for proper torque.
17. Reconnect the positive and negative battery cables.
18. The vehicle will need a complete front end alignment.
19. Check all hardware after 500 miles.
20. Adjust headlights.

| Component | Torque (FT-LBS) |
|---|---|
| Upper Front Shock Hardware | 60 |
| Upper Ball Joint Nut | 50 |
| 9/16" Differential Drop Hardware | 118 |
| 3/8" / 10,mm Swayy Bar Hardware | 37 |
| Skid Plate Spacer Hardware | 15 |
| Upper Control Arm Hardware | 192 |
| Lower Front Shock Hardware | 89 |
| Rear Shock Hardware | 85 |
| U-Bolt Nuts | 150 |