



2265 Crosswind Drive • Prescott, AZ 86301
(928) 636-3175 • www.p-a-g.net

**2003-2006
DODGE RAM 2500/3500
4" SUSPENSION KIT
INSTALLATION INSTRUCTIONS
DIESEL ENG. KIT# D4501SSV*
GAS ENG. KIT# D4502SSV***

***KITS ENDING WITH 'SSV' INCLUDE SHOCKS**

⚠ WARNING

Before you install this kit, read and understand all instructions, warnings, cautions, and notes in this instruction sheet and in the vehicle owner's manual.

⚠ CAUTION

Proper installation of this kit requires knowledge of the factory recommended procedures for removal and installation of original equipment components. We recommend that the factory shop manual and any special tools needed to service your vehicle be on hand during the installation. Installation of this kit without proper knowledge of the factory recommended procedures may affect the performance of these components and the safety of the vehicle. We strongly recommend that a certified mechanic familiar with the installation of similar components install this kit.

⚠ WARNING

This kit should only be installed on a vehicle that is in good working condition. Before you install the kit, thoroughly inspect the vehicle for corrosion or deformation of the sheet metal. If the vehicle is suspected to have been in a collision or misused, do not install this kit. Off-road use of your vehicle with this kit installed may increase the stress applied to the factory components. Failure to observe this warning may result in serious personal injury and/or severe damage to your vehicle.

⚠ WARNING

Many states and municipalities have laws restricting bumper heights and vehicle lifts. Consult state and local laws to determine if the changes you intend to make to the vehicle comply with the law.

⚠ WARNING

The installation of larger tires may reduce the effectiveness of the braking system.

⚠ WARNING

Always wear eye protection when operating power tools.

⚠ WARNING

Before you install this kit, block the vehicle tires to prevent the vehicle from rolling.

⚠ WARNING

We strongly recommend using the Performance Automotive Group shocks that were engineered to be used with this system. If you use other shocks, they must match the full extended and full collapsed lengths of the Performance Automotive Group units exactly. The use of longer or shorter shocks than recommended may cause damage to the vehicle suspension and could result in sudden loss of control of the vehicle and personal injury. Contact Performance Automotive Group for the lengths of the front and rear shocks that must be used with this suspension system.

NOTE

Performance Automotive Group recommends using the Loctite® supplied in the kit on the threads of all kit nuts and bolts unless specified otherwise in these instructions.

NOTE

Installation of a suspension lift will change the driveline angles which may cause a noticeable vibration in the vehicle. See the troubleshooting section at the end of these instructions.

⚠ WARNING

DO NOT combine suspension, body, or other lift devices. Use of vehicle with combined lifts may result in unsafe and/or unexpected handling characteristics.

⚠ WARNING

Installation of a Performance Automotive Group suspension lift kit will change the vehicle's center of gravity and handling characteristics both on- and off-road. You must drive the vehicle safely! Extreme care must be taken to prevent vehicle rollover or loss of control, which could result in serious injury or death. Avoid sudden sharp turns or abrupt maneuvers and always make sure all vehicle occupants have their seat belts fastened.

INSTALLATION WORKSHEET—SAVE WITH VEHICLE RECORDS

Product Information

Part Number:	Date Purchased:	Purchased From:
--------------	-----------------	-----------------

Vehicle Information

Make:	Model:	Year:
VIN:	Mileage:	Engine:

Owner Information

Name:		
Address:		
City:	State:	Zip:

Vehicle Measurements

Axle Center to Fender Lip (on level ground, at ride height):	OE	Kit Installed
Right Front		
Right Rear		
Left Front		
Left Rear		

Bump Stop to Contact Point (on level ground, at ride height):	OE	Kit Installed
Right Front		
Right Rear		
Left Front		
Left Rear		

Tire & Wheel Information

Tire Size:	Tire Brand:	
Actual Tire Diameter (measured):	Wheel Size:	
Wheel Style:	Wheel Brand:	Wheel Backspacing:

Other Equipment and/or Accessories

Installer Information

Shop Name:	Installer:	
Address:		
City:	State:	Zip:
Phone Number:	Fax Number:	

Attach: **Copy of Purchase Receipt**
 Copy of Vehicle Wheel Alignment Results

Before Starting Installation

NOTE

Kit parts are prefaced by the word *kit* and appear in **bold** print.

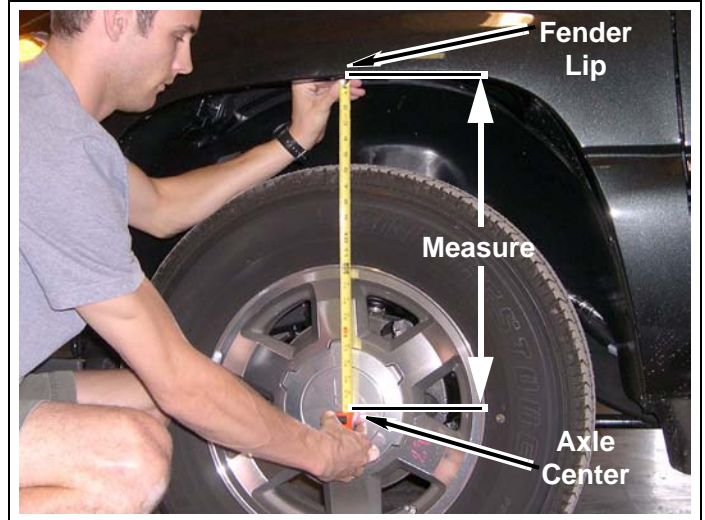
1. Carefully read all warnings and instructions completely before beginning.
2. Verify all parts have been received in this kit by checking the parts list at the end of this document.
3. **Only install this kit on the vehicle for which it is specified.** If anytime during the installation you encounter something different from what is outlined in the instructions, call technical support at (928) 636-3175.
4. Special tools needed:
 - a. Pitman arm puller
 - b. Saws All or plasma torch
 - c. Tie rod puller
 - d. Drill
 - e. Grease gun
5. Park vehicle on a clean, dry, flat, level surface and block tires so vehicle cannot roll in either direction.

NOTE

Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the factory service manual. When re-assembling the vehicle it is recommended by the vehicle manufacturer that certain fasteners are replaced in order to maintain proper retention characteristics. This system may not include all replacement hardware as recommended by the factory service manual. Additional replacement hardware should be obtained prior to installation of this system to meet the requirements of the factory service manual.

Ride Height

1. Measure ride height with the vehicle supporting its own weight on level ground. To settle the suspension, the vehicle should be driven forward at least 10 feet immediately prior to taking these measurements. Ride height is the measurement from the center of the axle straight up (vertical) to the fender lip. Record this measurement for all four wheels.



Wheel & Tire Requirements

The factory wheel and tire combination will fit once this kit is installed. The following are specifications for choosing a proper wheel and tire combination:

Minimum wheel diameter = Stock

Maximum wheel backspacing = Stock

Maximum tire diameter = 35" x 12.50"

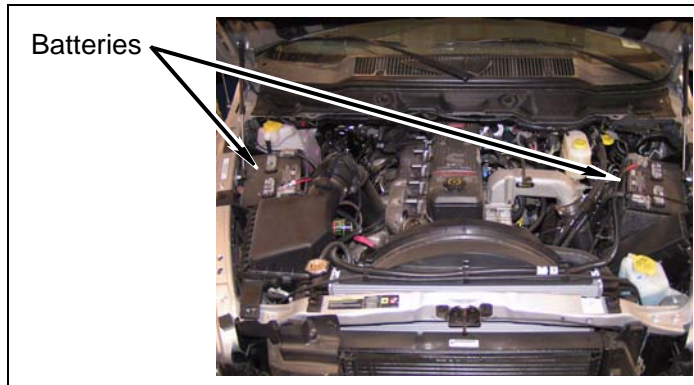
Torque Specifications

1. See factory service manual for torque values when re-using OE fasteners.

Bolt Size	Grade 5 (ft.-lbs.)	Grade 8 (ft.-lbs.)
1/4"-20	10	10
1/4"-28	10	12.5
5/16"-18	17	22.5
5/16"-24	20	25
3/8"-16	30	40
3/8"-24	35	45
7/16"-14	50	65
7/16"-20	55	70
1/2"-13	75	100
1/2"-20	55	70
9/16"-12	105	135
9/16"-18	115	150
5/8"-11	150	195
5/8"-18	160	210
3/4"-16	175	225

Engine Compartment

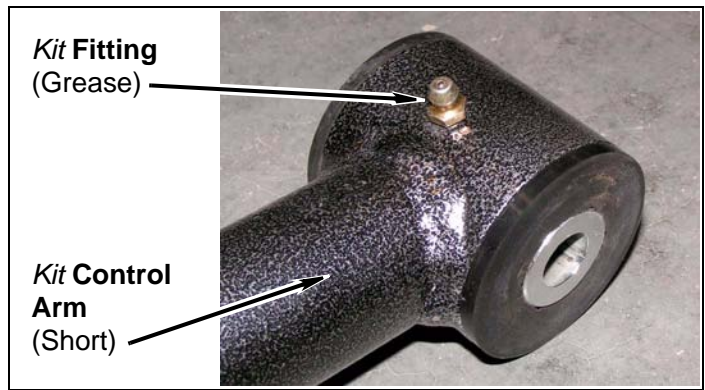
1. Disconnect both battery cables on both batteries. Disconnect negative cable first, then positive cable.



Prepare to Install Front Suspension

1. Control arms
 - a. From **D4501BAG2**: Install eight *kit bushings* (short) into two *kit control arms* (short).
 - b. Install four *kit sleeves* (1" x .219" x 2.32") into two *kit control arms* (short).

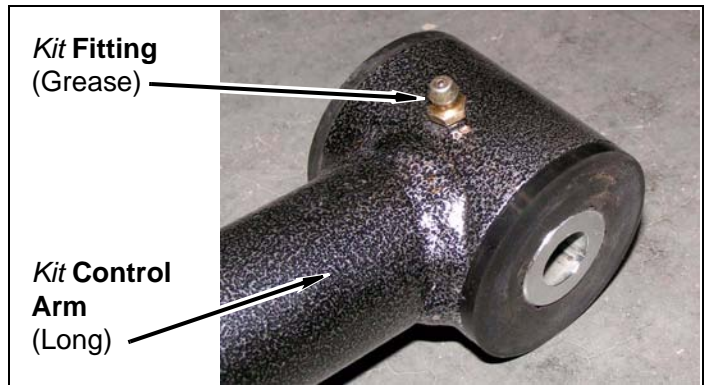
- c. Install four *kit fittings* (grease) into two *kit control arms* (short).



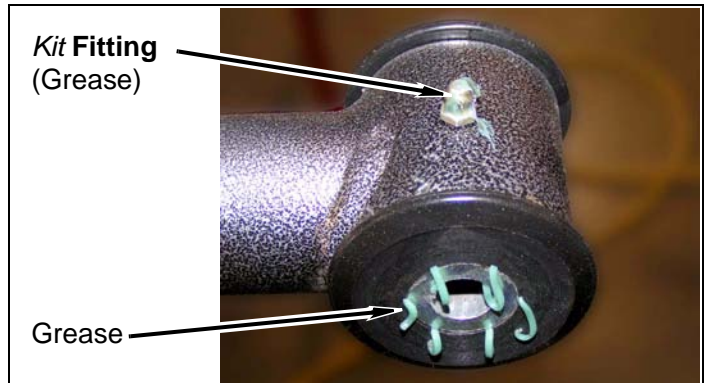
- d. From **D4501BAG3**: Install eight *kit bushings* (long) into two *kit control arms* (long).

- e. Install four *kit sleeves* (1" x .69" x 2.60") into two *kit control arms* (long).

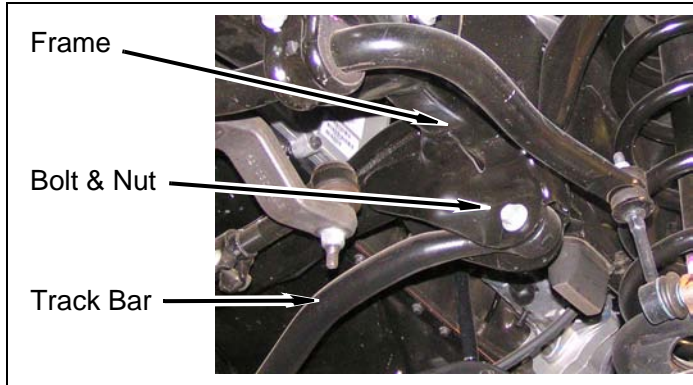
- f. Install four *kit fittings* (grease) into two *kit control arms* (long).



- g. Using grease gun, insert grease into eight *kit fittings* (grease) until grease exits evenly from ends of *kit bushings*.



2. Remove bolt, nut, and track bar from frame.



3. Loosen, but do not remove, lug nuts on each front wheel.

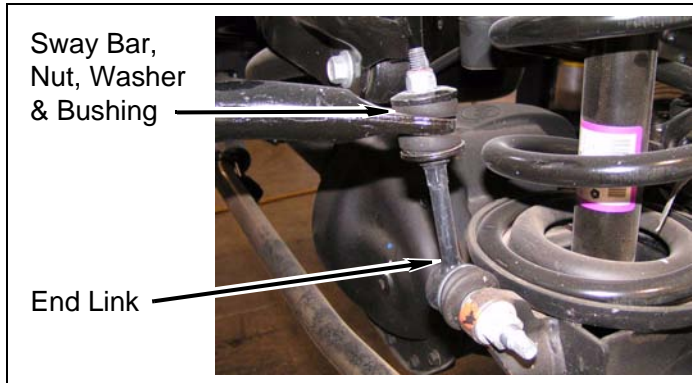
4. Using a hydraulic floor jack, slowly lift front axle until front tires are 3-5" off ground. Position jack stands under frame behind lower control arm perches. Lower vehicle onto jack stands while maintaining hydraulic jack pressure underneath front axle.

⚠ WARNING
 Use extreme caution when lifting vehicle from ground. To prevent serious personal injury, ensure the lifting device is securely placed.

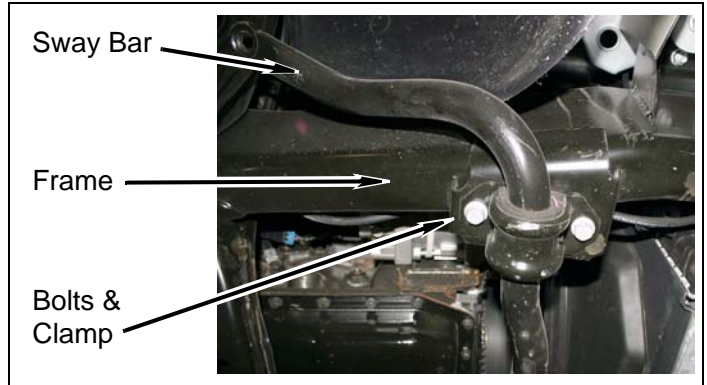
5. Remove lug nuts and front wheels from vehicle.

6. Sway bar

a. Remove two nuts, two washers, two bushings, and sway bar from two sway bar end links.



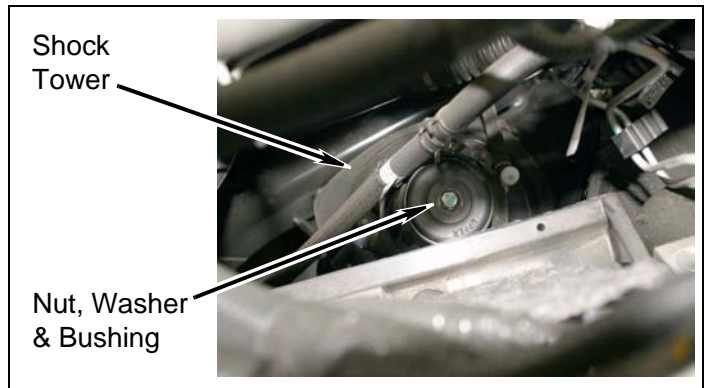
b. Remove four bolts and sway bar from frame.



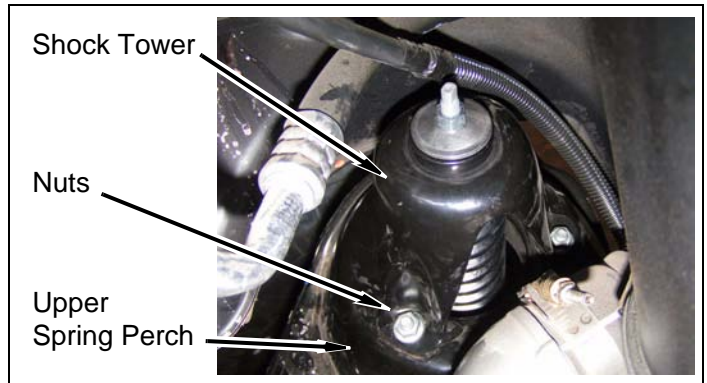
NOTE
 Support front axle with hydraulic floor jack before removing shock absorbers.

7. Driver side shock absorber

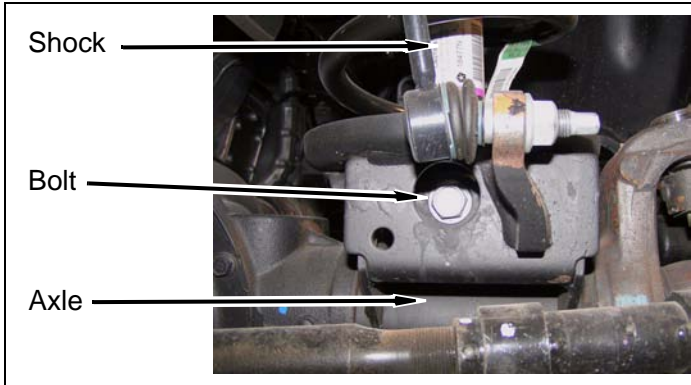
a. Remove nut, washer, and bushing from shock tower.



b. Remove three nuts and shock tower from upper spring perch.



- c. Remove bolt and shock from axle.

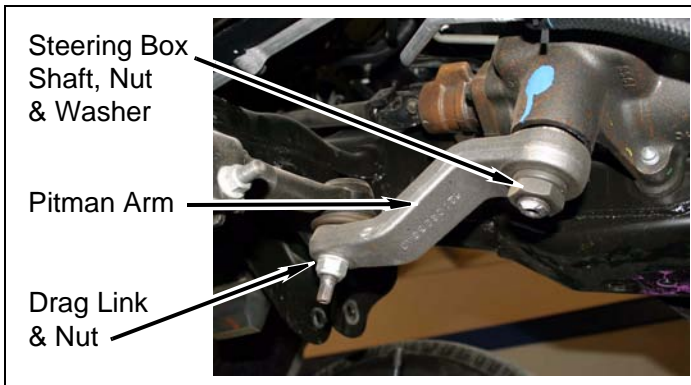


- d. Repeat above steps for passenger side shock absorber.

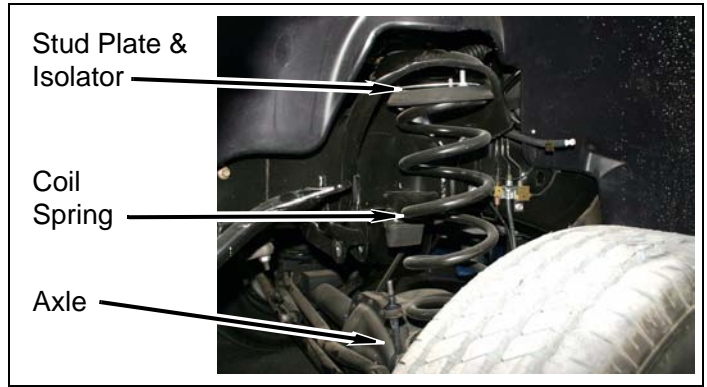
8. Pitman arm

NOTE
Use a tie rod puller to separate drag link ball joint from pitman arm.

- a. Remove nut from ball joint.
- b. Using tie rod puller, remove drag link ball joint from pitman arm.
- c. Remove nut and washer from steering gear box shaft.
- d. Using pitman arm puller, remove pitman arm from steering gear box shaft.



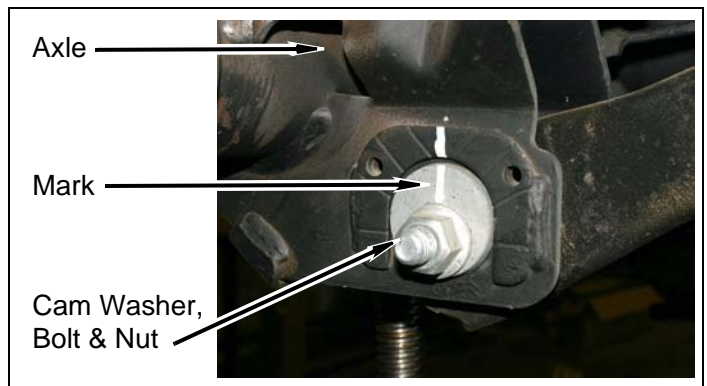
- 9. Using hydraulic floor jack, lower front axle and remove two front coil springs, two spring isolators, and two stud plates.



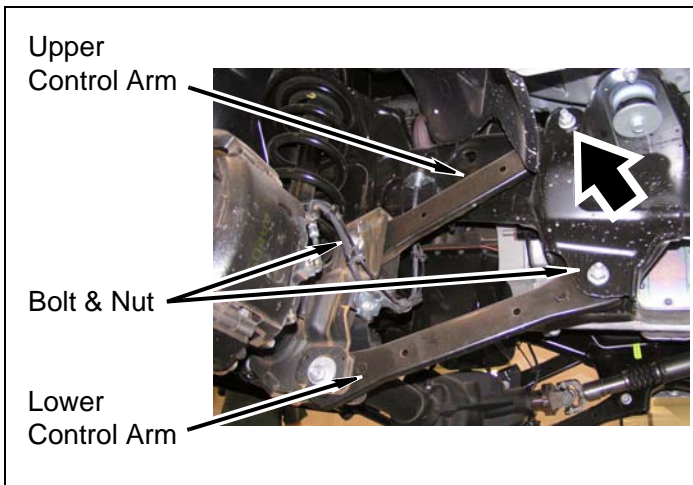
⚠ WARNING
Compressed coil springs can expand violently causing serious personal injury. Before removing the coil springs, lower the axle housing as far as possible to allow the coil springs to expand. Use caution when using coil spring compressors.

Install Front Suspension

- 1. Driver side control arms
 - a. Support driver side axle with hydraulic floor jack.
 - b. Mark two control arm cam ring washers and axle as shown.
 - c. Remove cam ring bolt, nut, two washers, and lower control arm from axle.

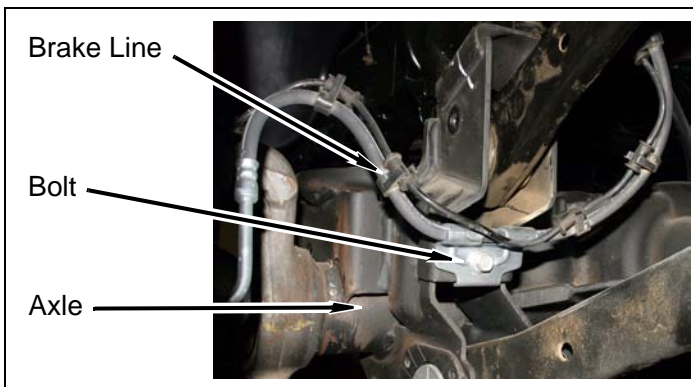


d. Remove bolt, nut, and lower control arm from frame.



e. Install *kit control arm* (long) onto frame with bolt and nut. DO NOT TIGHTEN.

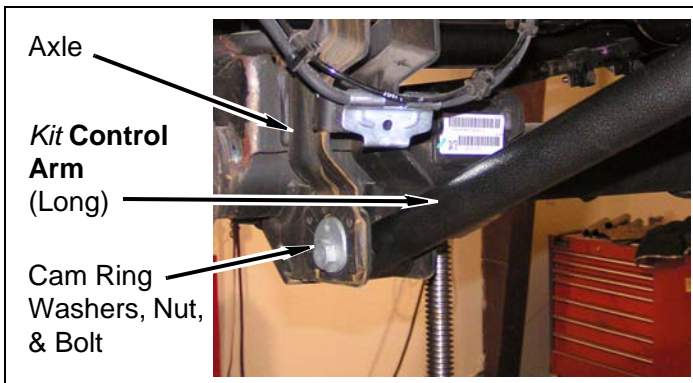
f. Remove bolt and brake line bracket from axle.



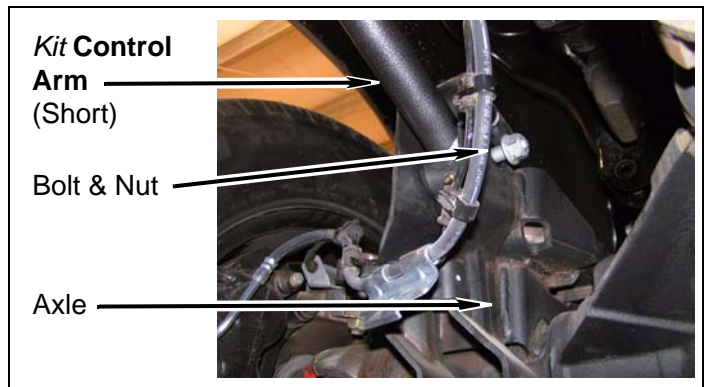
g. Remove bolt, nut, and upper control arm from axle.

h. Remove bolt, nut, and upper control arm from frame.

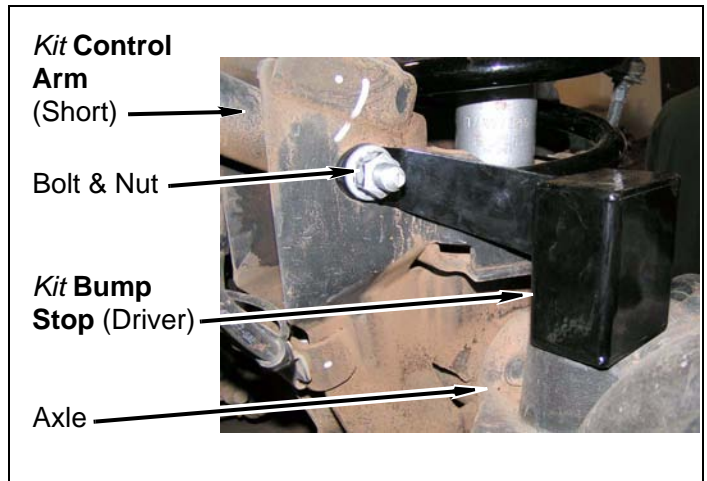
i. Install *kit control arm* (long) onto axle with cam ring bolt, nut, and two washers onto axle. Align marks on cam ring washers and axle. DO NOT TIGHTEN.



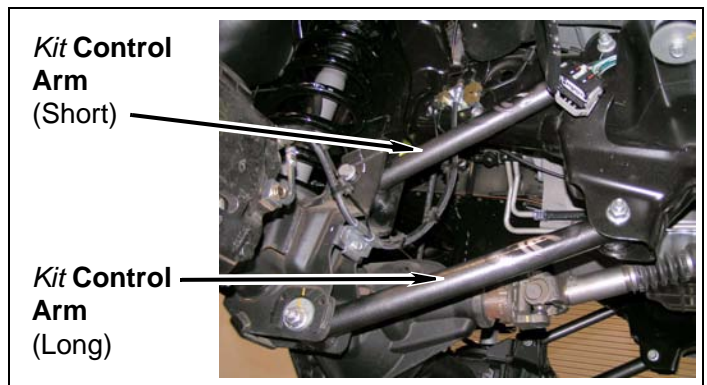
j. Install *kit control arm* (short) onto axle with bolt. DO NOT INSTALL nut.



k. Install *kit bump stop* (driver) onto axle and bolt with nut. DO NOT TIGHTEN.



l. Install *kit control arm* (short) onto frame with bolt and nut. DO NOT TIGHTEN.

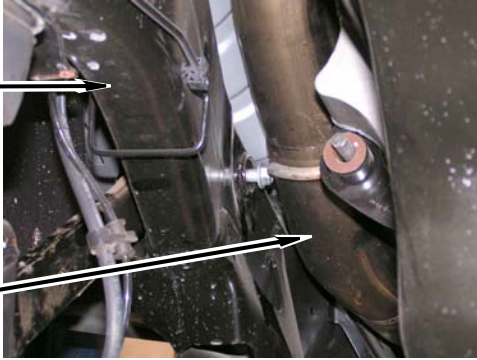


2. Repeat above steps for passenger side lower and upper control arms.

NOTE

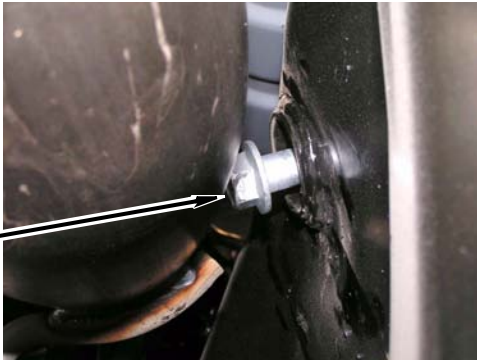
It may be necessary to remove part of the exhaust system near the passenger side upper control arm frame mount in order to remove bolt. Otherwise, the bolt head must be cut to remove bolt from frame. **From D4501BAG2:** This kit is supplied with a *kit bolt* (14mm x 150mm), two *kit washers* (14mm), and *kit nut* (14mm-1.50 stover) to replace this particular bolt. Be sure to install *kit bolt* with head facing outward.

Passenger Frame Rail

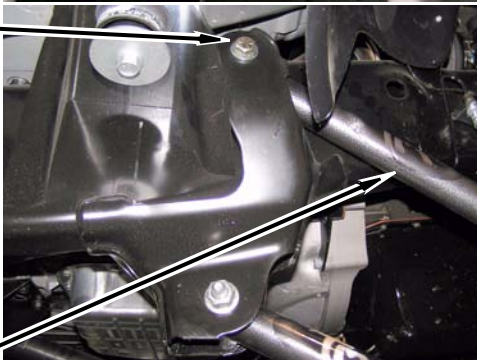


Exhaust

Psgr. Upper Control Arm Bolt



Kit Bolt (14 x 150mm),
Kit Washers (14mm),
Kit Nut (14mm-1.50 Stover)



Kit Control Arm (Short)

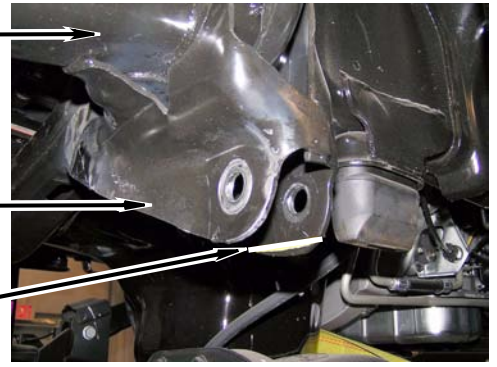


- a. Mark OE track bar frame mount as shown.

Frame

Track Bar Mount

Mark & Cut



- b. Cut OE track bar frame mount along previously made mark.

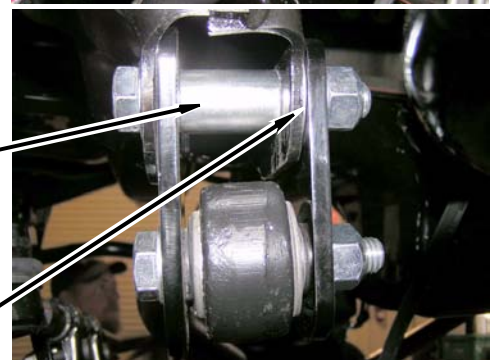
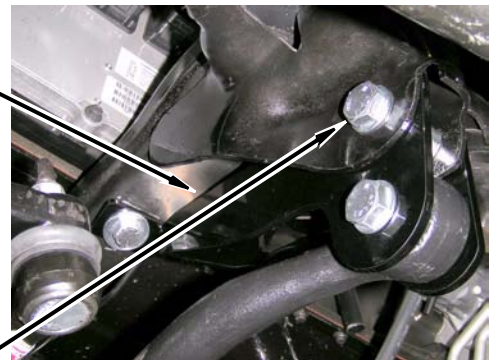
- c. **From D4501BAG4:** Install *kit bracket* (track bar) onto OE track bar frame mount with *kit bolt* (14mm x 80mm), two *kit washers* (14mm), *kit washer* (1/2" USS), *kit sleeve* (1" x .219" x 1.337"), and *kit nut* (14mm-2.0 stover). **DO NOT TIGHTEN.**

Kit Bracket (Track Bar)

Kit Bolt (14 x 80mm),
Kit Washers (14mm),
Kit Nut (14mm-2.0 Stover)

Kit Sleeve (1" x .219" x 1.337")

Kit Washer (1/2" USS)

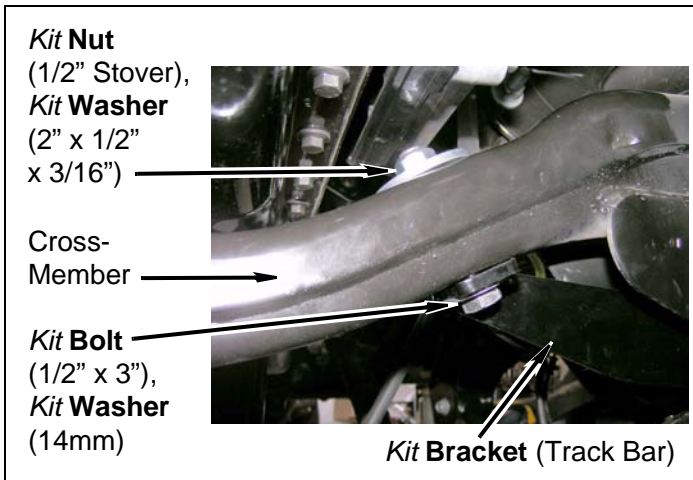


NOTE

Install *kit washer* (1/2" USS) between back of OE track bar frame mount and *kit bracket* (track bar).

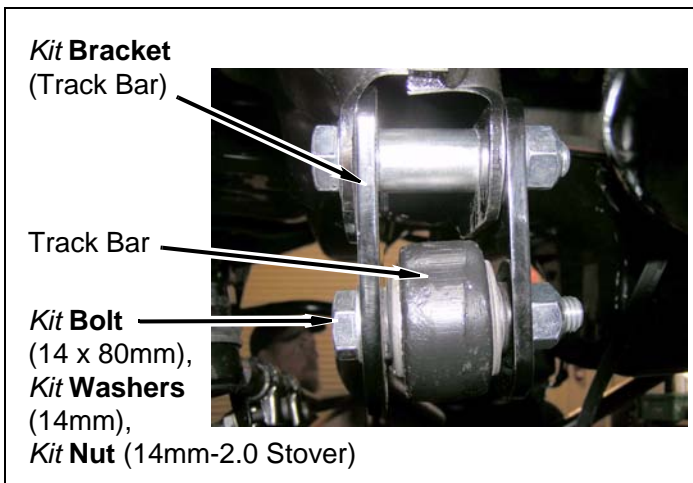
3. Track bar bracket

- d. Install **kit bracket** onto crossmember with **kit bolt** (1/2" x 3"), **kit washer** (14mm), **kit washer** (2" x 1/2" x 3/16"), and **kit nut** (1/2" stover).



NOTE
Install **kit washer** (2" x 1/2" x 3/16") on top of cross-member.

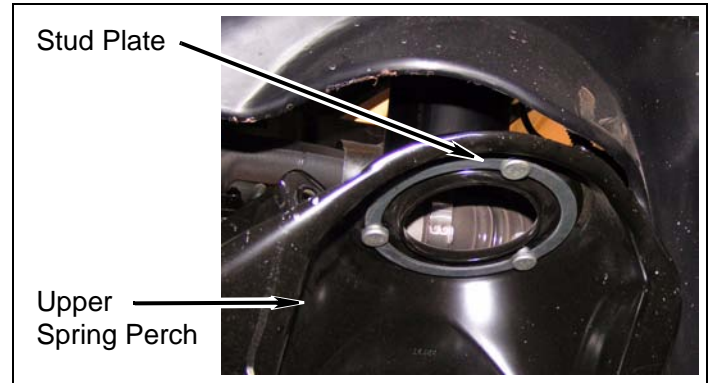
- e. Install track bar onto **kit bracket** (track bar) with **kit bolt** (14mm x 80mm), two **kit washers** (14mm), and **kit nut** (14mm stover). **DO NOT TIGHTEN.**



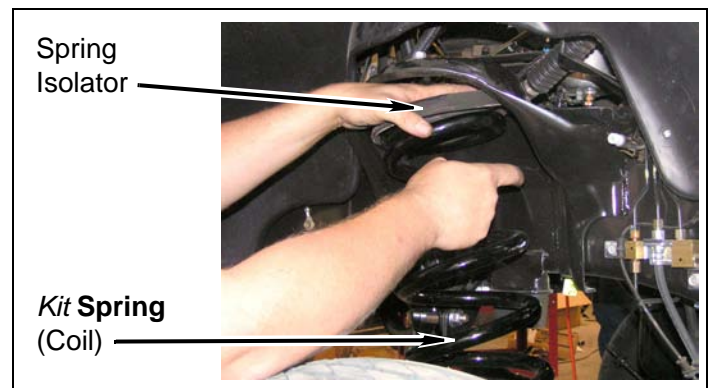
NOTE
Kit bolt (14mm x 80mm) & track bar will be tightened after front of vehicle has been lowered onto ground.

4. Driver side coil spring

- a. Install spring isolator and stud plate onto top of **kit spring** (coil).



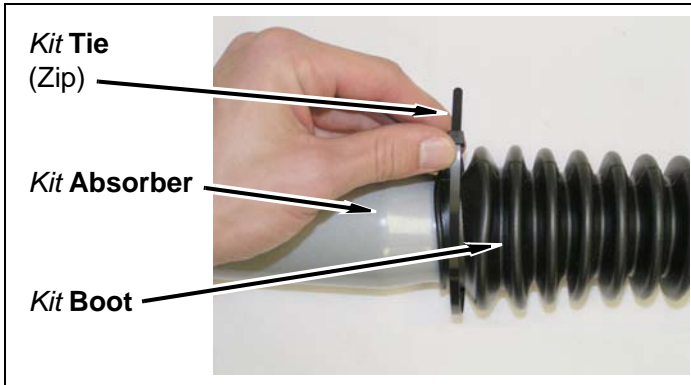
- b. Install **kit spring** (coil) onto vehicle and align spring isolator with upper spring perch.



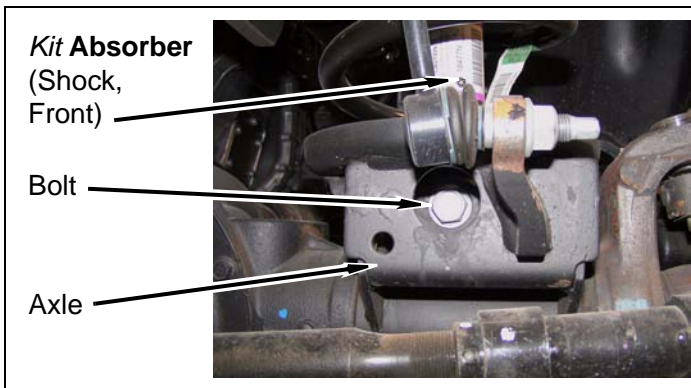
- c. Repeat above steps for passenger side coil spring.

5. Driver side shock absorber

- a. Install *kit boot* onto *kit absorber* (shock, front) with *kit tie* (zip).

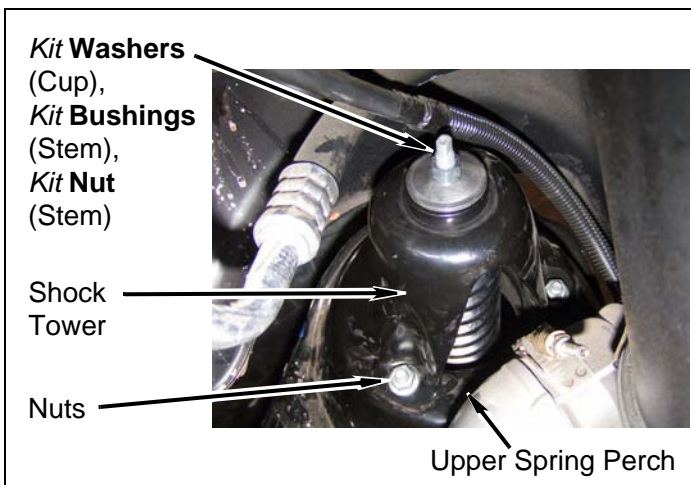


- b. Install *kit absorber* (shock, front) onto axle with bolt.



- c. Install shock tower onto upper spring perch with three nuts.

- d. Install *kit absorber* (shock, front) onto shock tower with two *kit washers* (cup), two *kit bushings* (stem), and *kit nut* (stem).



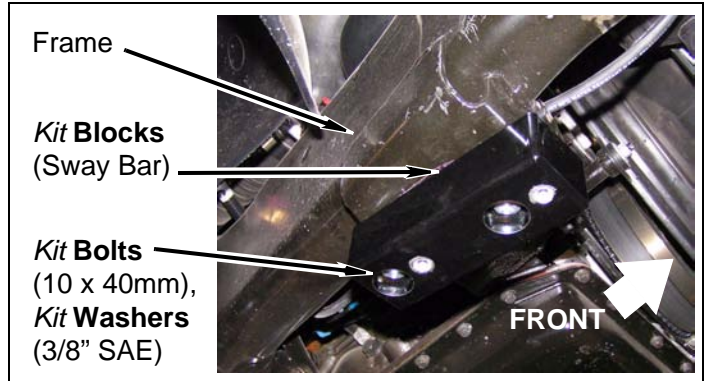
- e. Repeat above steps for passenger side shock absorber.

6. Sway bar

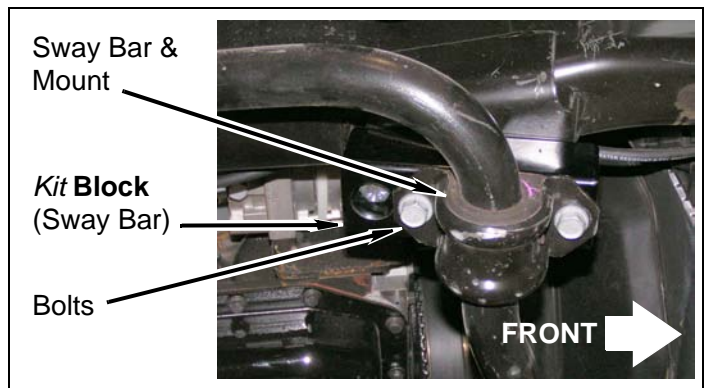
NOTE

Install *kit blocks* (sway bar) with threaded holes forward.

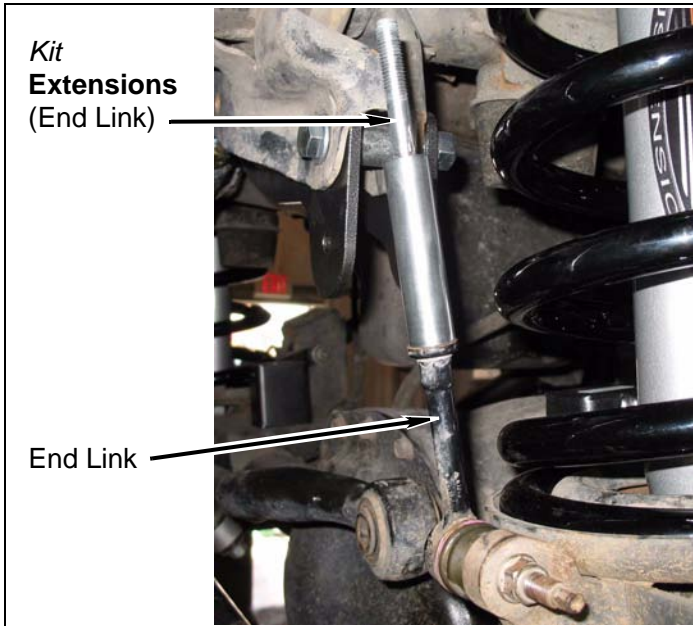
- a. **From D4501BAG4:** Install two *kit blocks* (sway bar) onto frame with four *kit bolts* (10mm x 40mm) and four *kit washers* (3/8" SAE).



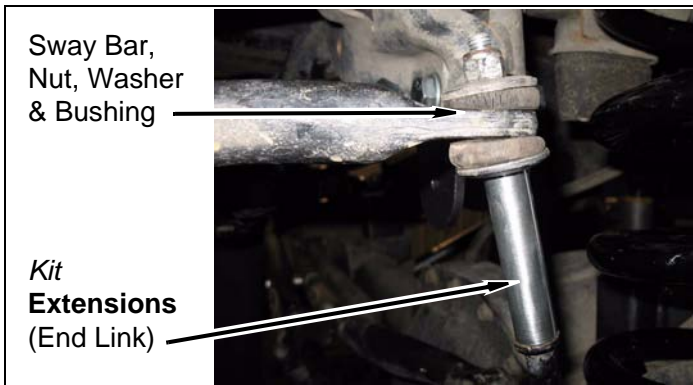
- b. **From D4501BAG4:** Install sway bar and two mounts onto two *kit blocks* (sway bar) with four bolts.



- c. Apply a small amount of *kit* **Loctite®** (6ml bottle) onto threads of two sway bar end links and install two *kit* **extensions** (end link) onto two sway bar end links.

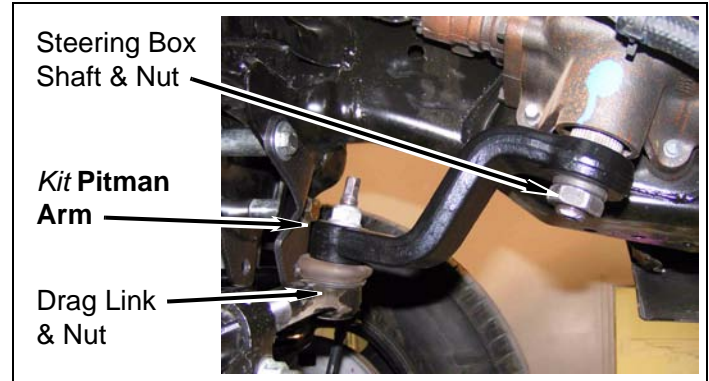


- d. Install sway bar onto two *kit* **extensions** (end link) with two bushings, two washers, and two nuts.



7. Pitman arm

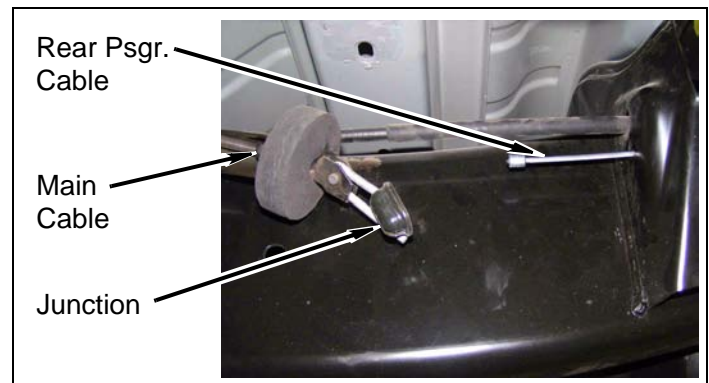
- a. Install *kit* **pitman arm** onto steering box shaft with nut. TORQUE to specification.
- b. Install steering drag link onto *kit* **pitman arm** with nut. TORQUE to specification.



- 8. Install wheels onto vehicle with lug nuts. Snug lug nuts, but DO NOT TORQUE.
- 9. Using hydraulic floor jack, raise front of vehicle and remove jack stands.
- 10. Lower vehicle onto ground.

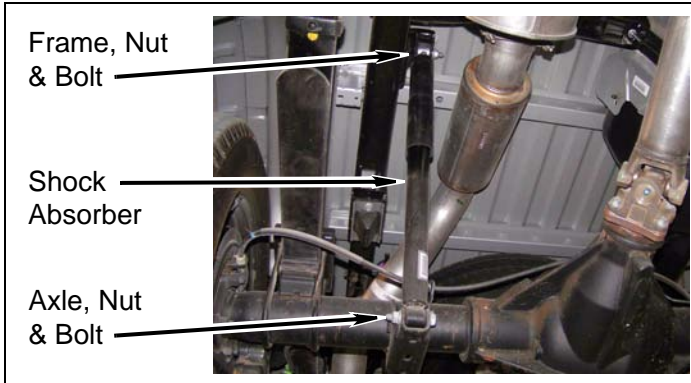
Prepare to Install Rear Suspension

- 1. Loosen, but do not remove, lug nuts on each two rear wheels.
- 2. Using a hydraulic floor jack under rear differential, slowly lift rear axle until rear tires are 3-5" off ground. Position jack stands under frame. Lower vehicle onto jack stands while maintaining hydraulic jack pressure underneath rear axle.
- 3. Remove lug nuts and rear wheels.
- 4. Disconnect rear passenger parking brake cable from main parking brake cable at junction.



5. Driver side shock absorber

- a. Remove nut, bolt, and shock absorber from frame.
- b. Remove nut, bolt, and shock absorber from axle.

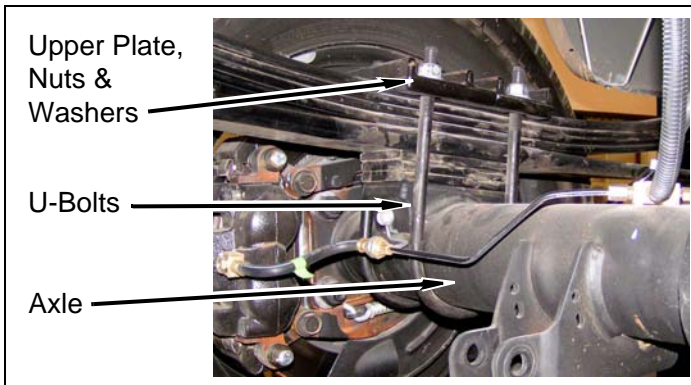


- c. Repeat above steps for passenger side shock absorber.

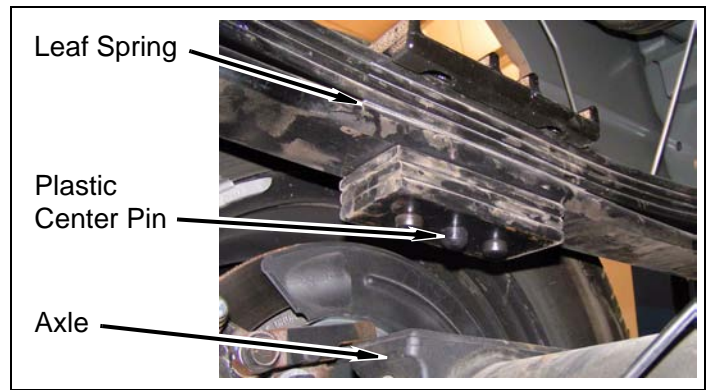
Install Rear Suspension

1. Driver side block

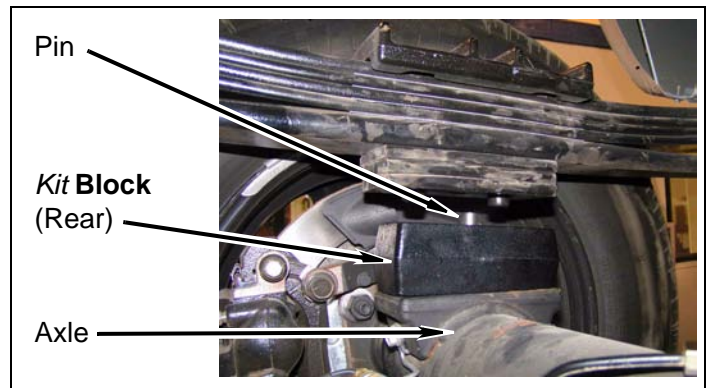
- a. Using hydraulic floor jack, support driver side axle.
- b. Remove four nuts, four washers, and upper plate from leaf spring and axle.



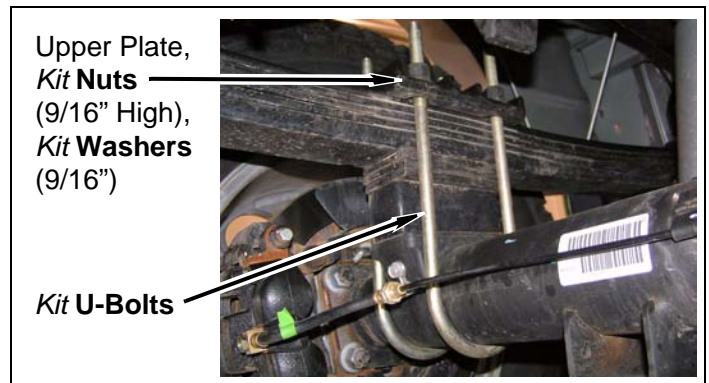
- c. Lower driver side axle and remove plastic centering pin from bottom of leaf spring.



- d. Install *kit block* (rear) onto axle with short side forward.
- e. Align pins on leaf spring and *kit block* (rear) and raise driver side axle.



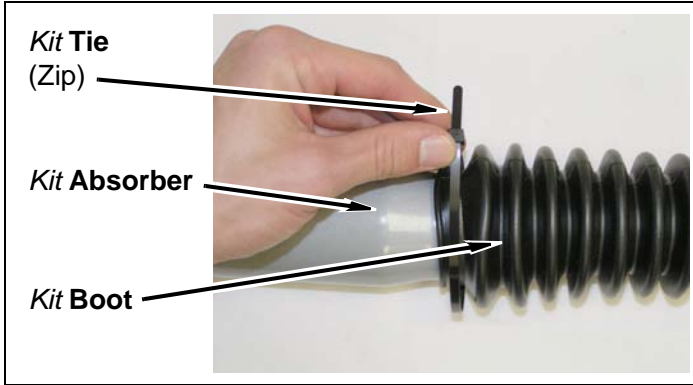
- f. **From 96UBBAG:** Install axle and *kit block* (rear) onto leaf spring with two *kit u-bolts*, four *kit washers* (9/16"), four *kit nuts* (9/16" high), and upper plate. **DO NOT TORQUE.**



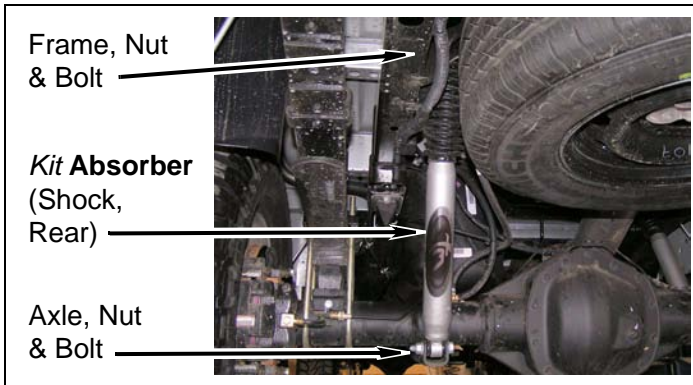
- g. Repeat above steps for passenger side block.

2. Driver side shock absorber

- a. Install *kit boot* onto *kit absorber* (shock, rear) with *kit tie* (zip).



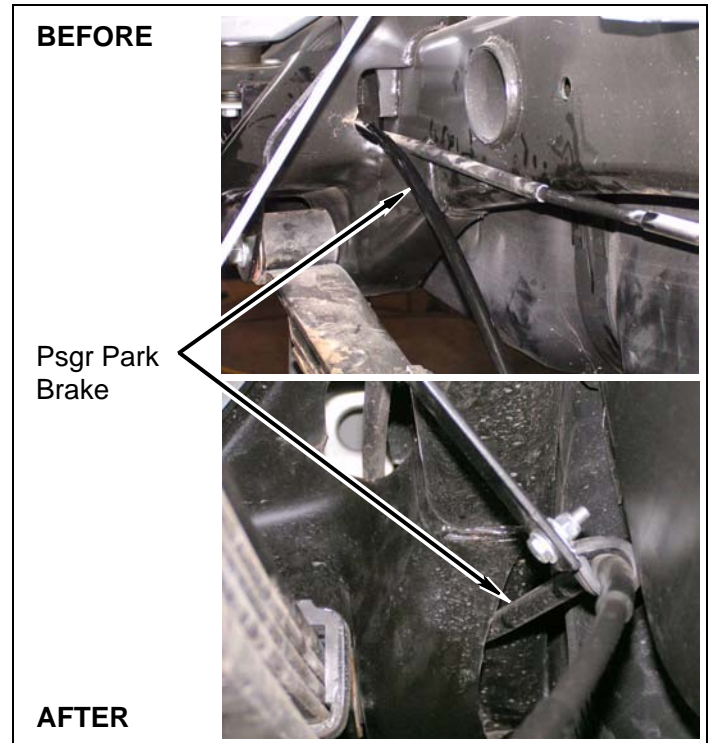
- b. Install *kit absorber* (shock, rear) onto frame with bolt and nut.
- c. Install *kit absorber* (shock, rear) onto axle with bolt and nut.



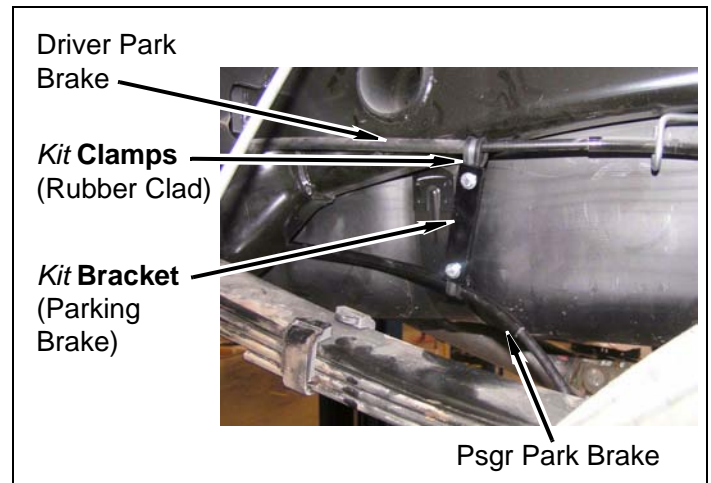
- d. Repeat above steps for passenger side shock absorber.

3. Parking brake cable

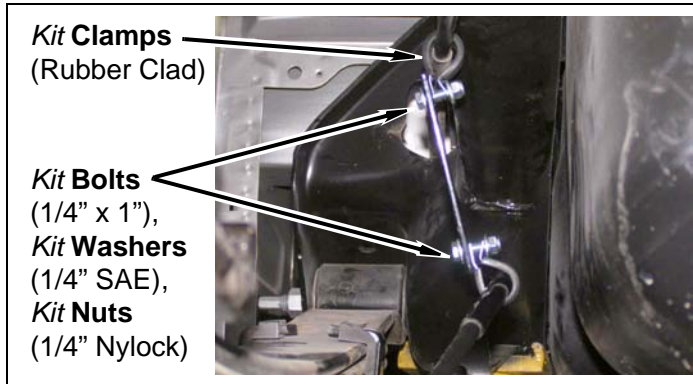
- a. Route passenger parking brake cable as shown.



- b. Connect main and passenger parking brake cables at junction.
- c. **From D4501BAG1:** Install two *kit clamps* (rubber clad) onto passenger parking brake cable and driver parking brake cable.



- d. Install *kit bracket* (parking brake) onto two *kit clamps* (rubber clad) with two *kit bolts* (1/4" x 1"), four *kit washers* (1/4" SAE), and two *kit nuts* (1/4" Nylock). DO NOT TIGHTEN.



- e. Adjust *kit bracket* (parking brake) as necessary. TIGHTEN all hardware.

4. Carrier bearing (if equipped)
 - a. Remove 2 bolts holding carrier bearing to underside of vehicle body.
 - b. Re-install OE Carrier bearing unit placing two *kit spacers* (.875OD x .620 Long) between the bearing and the body. Secure using two *kit bolts* (10mm x 50mm) with two *kit washers* (10mm flat).

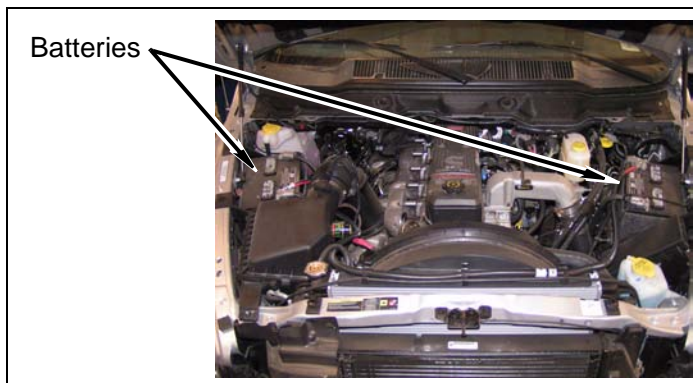
After Completing Installation

Front Suspension

1. TORQUE *kit bolt* (14mm x 80mm) and track bar to specification.
2. TORQUE three (or four) control arm bolts and *kit bolt* (14mm x 150mm) to specification.

Engine Compartment

1. Connect both battery cables. Connect positive cable first, then negative cable.



Rear Suspension

1. TORQUE *kit u-bolts* to specification.

Miscellaneous

1. Apply *kit label* (warning) onto dashboard in plain sight of all vehicle occupants.
2. Adjust headlights.
3. Check all fasteners to ensure they are tight.
4. Ensure all wires, hoses, cables, etc. are properly connected and there is ample slack.
5. Align vehicle to OE specifications. Retain alignment results with worksheet in front of instruction.

Dynamic Vehicle Check

1. Check steering and suspension in all positions to ensure that there is no bind and adequate clearance between all moving, fixed, and heated members. Check operation of clutch, brake system, and parking brake. Check operation of transmission and transfer case. Ensure there is full engagement in all gears and 4WD ranges. Check battery connections and electrical component operations. Test-drive vehicle.

⚠WARNING

Retorque all fasteners after 500 miles and after off road use. All suspension lift components should be visually inspected and fasteners retorqued during routine vehicle servicing.

⚠CAUTION

Performance Automotive Group does not recommend any particular wheel and tire combinations for use with its suspension lifts and cannot assume responsibility for the customer's choice of wheels and tires. Refer to your owner's manual for recommended tire sizes and warnings related to the use of oversized tires. Larger wheel and tire combinations increase stress and wear on steering and suspension components, which leads to increased maintenance and higher risk for component failure. Larger wheel and tire combinations also alter speedometer calibration, braking effectiveness, center of gravity, and handling characteristics. Consult an experienced local off road shop to find what wheel and tire combinations work best with your vehicle.

NOTE

All warranty information, instruction sheets, and other documents regarding the installation of this product must be retained by the vehicle owner. Information contained in the instructions and on the warranty card will be required for any warranty claims. The vehicle owner needs to understand the modifications made to the vehicle and how they affect vehicle handling and performance. Failure to provide the customer with this information can result in damage to the vehicle and severe personal injury.

Kit Parts List**Qty. Description**

2	Absorber (shock, front, 72710)
2	Absorber (shock, rear, 72730)
2	Block (rear)
2	Block (sway bar)
1	Bracket (trackbar)
1	Bump stop (driver)
1	Bump stop (passenger)
2	Control arm (short)
2	Control arm (long)
2	Extension (end link)
1	Pitman arm
2	Spring (coil)
4	U-Bolt
1	96UBBAG (U-bolt Hardware Bag)
8	Nut (9/16" high)
8	Washer (9/16")
1	D4501BAG1 (Parking Brake Hardware Bag)
2	Bolt (1/4" x 1")
1	Bracket (parking brake)
2	Clamp (rubber clad)
2	Nut (1/4" Nylock)
4	Washer (1/4" SAE)
1	D4501BAG2 (Upper Control Arm Hardware Bag)
1	Bolt (14mm x 150mm)
8	Bushing (short)
4	Fitting (grease)
1	Nut (14mm-1.50 stover)
4	Sleeve (1" x .219" x 2.32")
2	Washer (14mm)

Qty. Description

1	D4501BAG3 (Lower Control Arm Hardware Bag)
8	Bushing (long)
4	Fitting (grease)
4	Sleeve (1" x .69" x 2.60")
1	D4501BAG4 (Hardware Bag)
4	Bolt (10mm x 40mm)
2	Bolt (10mm x 50mm)
1	Bolt (1/2" x 3")
2	Bolt (14mm x 80mm)
1	Nut (1/2" stover)
2	Nut (14mm-2.0 stover)
4	Sleeve (1" x .219" x 1.337")
2	Sleeve (.875" x .188" x .620")
4	Washer (3/8" SAE)
1	Washer (1/2" USS)
2	Washer (10mm)
5	Washer (14mm)
1	Washer (2" x 1/2" x 3/16")

NOTE

Depending on the vehicle configuration (automatic or manual transmission, 2WD or 4WD, cab length, bed length, etc.), some parts may not be used.