

# *kelderman air ride*

*"The difference in the ride is like night and day"*

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## 2003 & Newer Dodge Front 8-10" Lift Kit



### Warranty Disclaimer Notice Read Before Beginning Installation

Some Kelderman Air Ride kits contain both fine thread and course thread fasteners, fittings and air bag mountings. Before attempting to tighten

any threaded portion of the Air Ride, check to be sure the threads are the same size and thread count before attempting to tighten. Damaged or cross-

threaded fasteners, fittings and air bags caused by improper size. Thread count or misalignment are not covered by warranty.



# G3 Dodge

## Tools Required for Installation of the Air Ride Unit

### Tools and equipment required:

(2) Floor Jacks or Hydraulic Jacks

(2) Jack Stands

Wheel Chocks

Combination Wrench Set  
(up to 1 1/2")

Socket Set

Hammer

Torch or Grinder

Welder

Pinion Angle Finder

Before installation of the Air Ride unit, prepare a smooth, flat, hard surface and have all tools and equipment needed for the job. Chock the rear wheels of the truck, to prevent it from rolling forward or rearward.

**\*\*NOTE: Measure pinion angle before beginning installation. (figure A)**



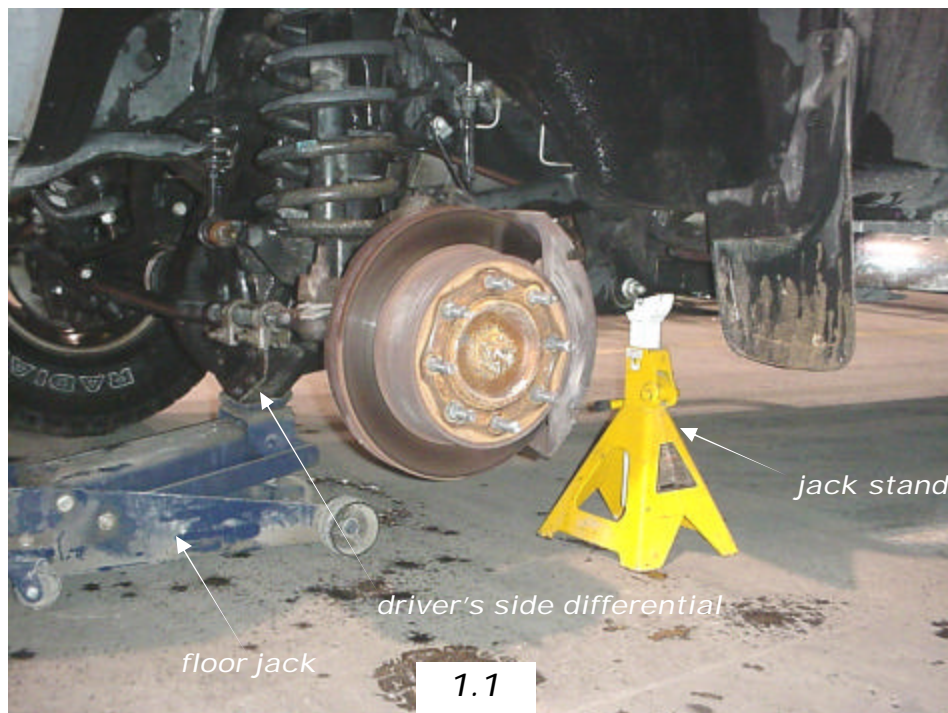
figure A



**DANGER**

**\*\*When raising or lowering the truck, keep jack stands in place to prevent the truck from falling, which could cause severe personal injury or death\*\***

## Installing the Front Air Ride



floor jack

jack stand

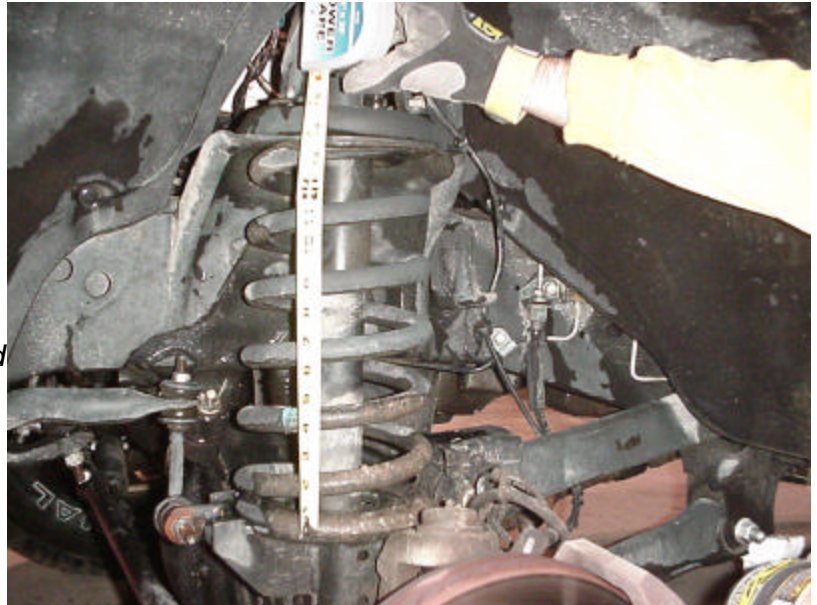
driver's side differential

1.1



## Installation Instructions (continued)

**Step 1.** Before installation, measure coil height and pinion angle. Record these measurements for future use. This will gauge how much air pressure is needed in the bags when installation is complete. It is also acceptable to measure the distance between the bottom of the fender and the ground. Add the amount of inches of the lift kit to this number to arrive at the final truck height. (ie. If the original measurement is 13 1/4" and a 10" lift kit was purchased, the new height will be 23 1/4"). (1.2)

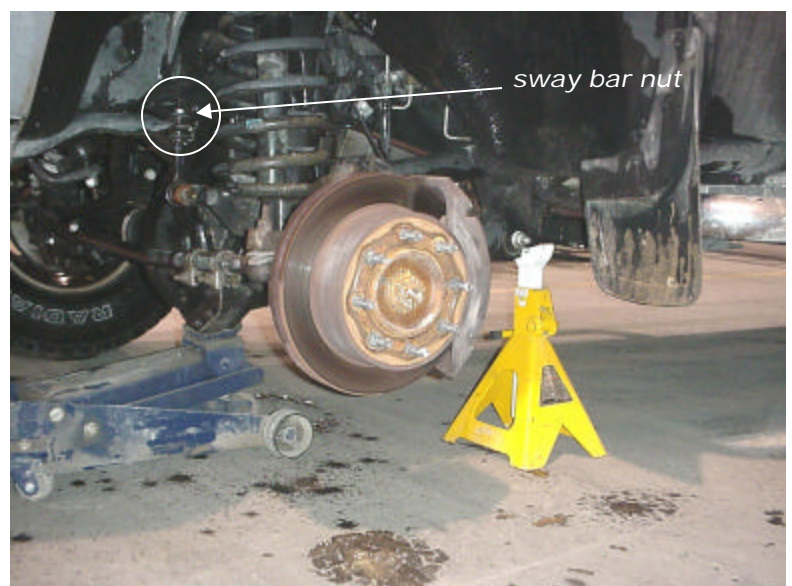


1.2

**Step 2.** After measuring pinion angle (figure A), place a jack under driver's side differential and jack up until the tire is off the ground. Place a jack stand under the frame of the truck. (1.1)

**Step 3.** Remove tires

**Step 4.** Remove top shock nut, bottom shock bolt, shock tower bolts and nut that holds sway bar. (1.3)



1.3

**Step 4.** Remove coil springs, driveshaft, sway bar, and trailing arms. **(1.3)** THE FRONT DRIVESHAFT NEEDS TO BE LENGHTENED 1 1/2". **\*\*NOTE:** The shocks, shock tower, trailing arms and coil springs will not be reused.



1.4



1.5

**Step 5.** Locate the panhard bar relocation bracket. **(1.6)** Use the 1/2" x 5" and 9/16" x 3 1/2" bolts provided to fasten in place and reuse factory bolt in the end of the pitman arm. The 3/8" thick square washer goes on top of the engine cross member. Place a 2" long weld on the inside of the bracket where it fits along the engine cross member as well as on the front gusset. Reattach the panhard bar to the relocation bracket utilizing the factory bolt. **(1.7 & 1.8)**

**Step 6.** Remove the factory pitman arm. Install the new drop pitman arm. Reattach the steering linkage. It will be required to turn the ball joint over 180 degrees. **(1.8)** **The tow-in will have to be adjusted once the install is complete.** Use the factory nut and torque the pitman arm to 250 lb/ft. It will be required to cut about 3/8" off the bottom of the passenger side sway bar end link mount otherwise the steering linkage will catch on the mount and not let the truck turn all the way. **(1.9)**

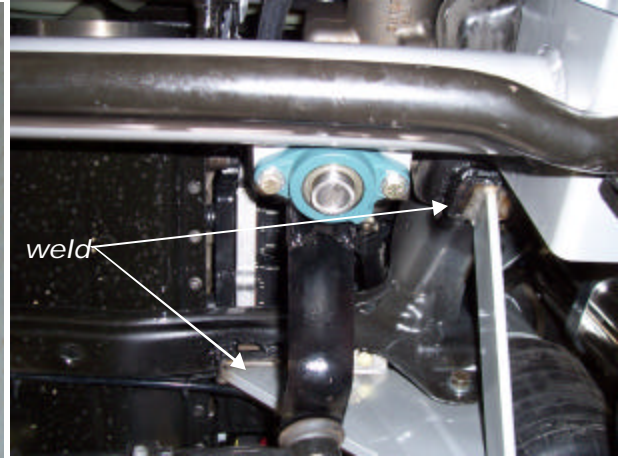
**Step 7.** Place a jack under the transmission transfer case. Remove the skid plate. It will not be used. Remove the 14mm bolts that hold the factory transmission cross member in place, remove the nuts holding the transmission and take out the cross member. Locate the new cross member and fasten into place using the 9/16" x 7 1/2" bolts and flat washers. Insert the bolts from the rear forward but do not put the nuts on yet. Use the factory bolts to fasten the transmission to the new cross member. **(2.0 & 2.1)**



# G3 Dodge



1.6



1.7



1.8



1.9



2.0



2.1

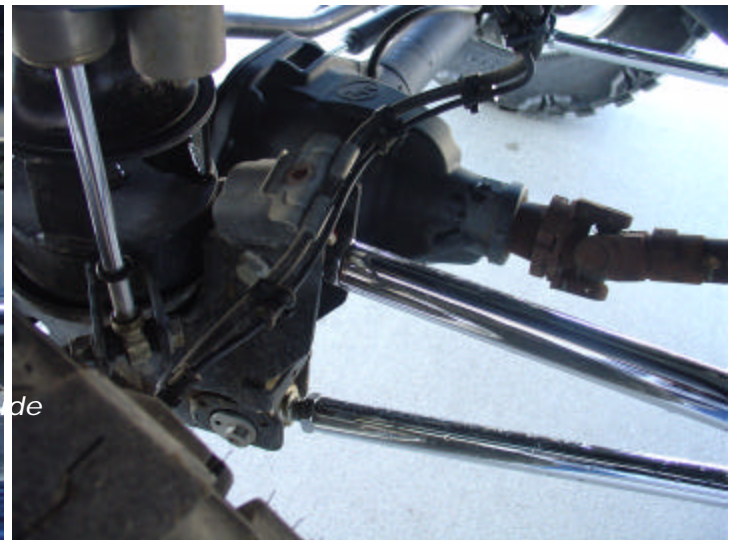
**Step 8.** Locate the upper trailing arm mounts. Look for the oblong hole in the bottom of the frame just forward of the transmission cross member. Slide the brackets over the frame and insert the 5/8" x 9" bolt up from the bottom up. Locate the gusset brackets that fasten between the cross member mounting bolts (9/16" x 7 1/2") and the upper trailing arm bracket. **(2.1 & 2.2)**

**Step 9.** Remove the bolt that holds the brake lines under the lower trailing arms. Reroute the brake lines so that they will be on top of the upper trailing arm mount. Either weld or bolt the bracket on the top side of the axle. Locate the upper trailing arms. One knuckle of the trailing arm is 3/8" narrower than the other knuckle. The narrow knuckle goes into the axle. Mount in place using the factory bolt in the axle and use the 5/8" x 5" bolt on the relocation bracket and support gusset. **(2.1 & 2.2)** Once the trailing arm is installed and tightened, use a welder to put a 2" weld on the inside of the trailing arm bracket and frame.

**Step 10.** Locate the lower trailing arms. Fasten into place using the factory bolt on the axle end and use the 5/8" x 5" bolts on the cross member end. **(2.1 & 2.2)**



2.1

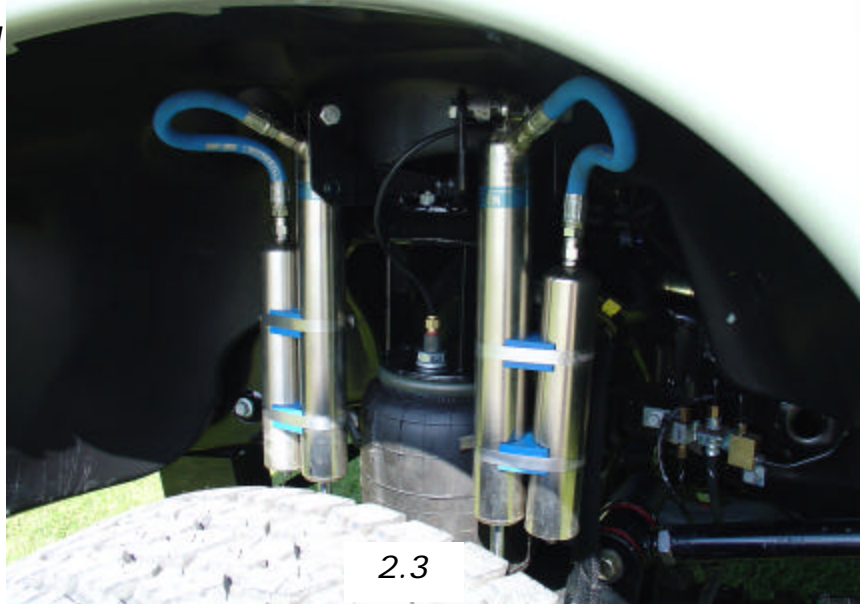


2.2



# G3 Dodge

**Step 11.** Locate the 8979 airbag, upper 6" tower, lower 3" spacer and the bottom airbag mount. Fasten the upper bag spacer to the top of the airbag with the 1/2" and 3/4" lock washers and nuts. Fasten the lower 3" bag spacer to the bottom of the air bag with the 1/2" x 4 1/2" bolt, flat washer and lock washer. Next, fasten the lower bag plate to the 3" spacer with the 1/2" x 1 1/2" bolt. Make sure to have the top tower bolts and the bottom air bag mounting points compatible with the factory mounting points. On the passenger's side, slide the bottom 3" spacer out so it lines up with the outside of the bottom mount.(2.3)



**\*\*NOTE:** The air inlet should face the front of the truck. (2.3) When assembling unit, it is critical that the outside bolts on top of unit are parallel with the bottom tabs. Use the factory holes in the original upper spring perch as a reference point so that the lower bag tabs will fit into the axle.

**Step 12.** Use the factory lower shock bolt to fasten the bottom bracket into the axle. Use the 3/8" nuts and lock washers to fasten the upper air bag spacer into the factory coil perch as well as the upper shock mount on top of the coil perch.

**Step 13.** Locate the shocks. Use the 1/2" x 4 1/2" bolts on the upper bracket with the supplied spacers to center up the shock in the bracket. Use the 1/2" x 3" bolts on the bottom shock mounts. Just like the top, use the supplied shorter spacers to center the shock in the bottom mounts. **It will be necessary to grind on the factory coil mount on each side just behind the front shock. Make sure you have about 1/4" between the shock body and the frame. (2.4)**

**Step 14.** Indexing ring installation. When lifting the G3 Dodge trucks it is required to index the transfer case. Failure to do so will result in premature driveshaft failure and driveline vibration. (The Dodge front driveshaft turns all the time). Use the supplied instructions for the indexing ring.)

**Step 15.** Locate the sway bar drop bracket. This bracket also serves as the steering box stabilizer system. Use the factory bolts to mount the top of the bracket into the frame. Use the 3/8" x 1 1/2" bolts to fasten the sway bar mounting brackets to the sway bar drop bracket. Do not install the machined nut and pillow block bearing on the steering box until the truck is driven and the pitman arm is fully seated. **See page 9 for further instructions.**

**Step 16.** Alignment to run the kit as a 10" lift, inflate the bags to 12". Measure the bag from between the air bag mounting brackets. Go back to page 3 and compare this to your measurement. You should be around 23" of overall height in between the factory spring buckets. Once you are at ride height, place a jack stand under the front frame rails. Let all the air out of the bags. Go back to step one and find your original pinion angle. Keep this angle in mind while adjusting the upper and lower trailing arms. Center up the axle in the wheel well. Once you think the axle is centered, take a measurement from the front axle to the rear axle. This measurement should be within 1/8". If you set the pinion angle back to original and the axles are parallel with each other, you will not have to take the truck to an alignment shop. Double check to make sure all the bolts are tight. Loosen the steering wheel adjustment lock on the steering arm coming off the pitman arm. Try and get the steering wheel straight. It will have to be fine tuned after a test drive. You will also need to check the tow in on the tires.

**Step 17.** Test Drive. Take the truck out on a test drive. Try and find a smooth road with no ruts and minimal wind. You should be able to take your hands off the wheel at 60-70 mph and the truck should drive straight. If the truck pulls to one side, you will want to lengthen the front bars on the side that pulls. When you adjust, just do 1/4 turn at a time. Re-torque the pitman arm. It will need to be re-torqued about 2-3 times until the pitman arm finally bottoms out on the splines. Once the pitman arm seats, remove the factory lock washer and nut and install the machined nut and pillow block bearing on the steering box stabilizer kit.

## 2.4

Make sure you have at least 1/4" between shock and OEM spring tower.



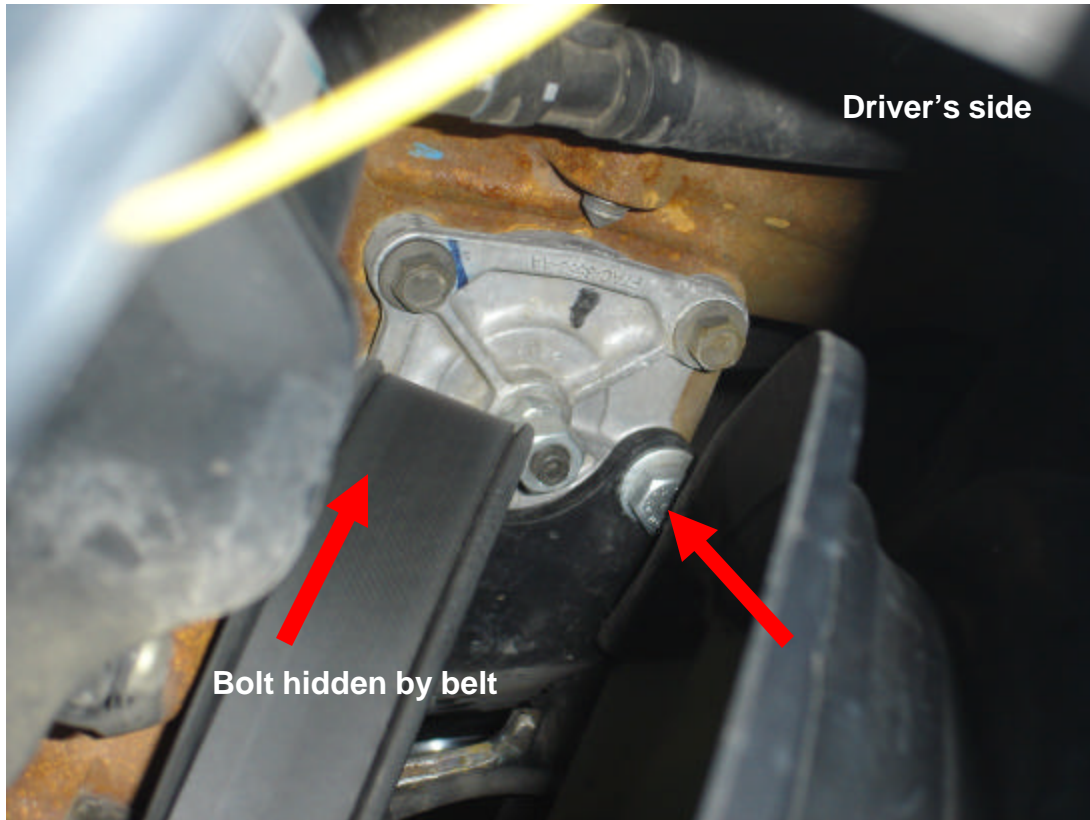


## Steering box stabilizer kit installation instructions

1. If a Kelderman 10" kit is already installed, remove the sway bar lowering blocks.
2. Remove the nut and lock washer from the pitman arm.
3. Fasten the new sway bar lowering block/stabilizer kit in place.
4. Using the machined nut, apply red loctite to the threads, put on the flat washer and then tighten the machine nut to at least 150 lb/ft.
5. Slide the pillow block bearing over the 1" shaft and fasten into place with the 7/16" bolts and lock nuts.
6. Locate the upper steering box brace. Remove the two bolts on the left side of the steering box and fasten the steering box brace to the steering box with the provided 10mm bolts. Do not tighten yet. Next, fasten the steering box brace to the tab that is welded to the tube using the 1/2" x 1 1/2" bolts provided. Go ahead and tighten all 4 bolts.

NOTE: If the truck is 2005 & newer, it will be required to modify the radiator fan shroud mounting bracket on the driver's side. Remove the 4 bolts that hold the mounting shroud (2 bolts are on the engine and the other 2 are on the plastic fan shroud). First, cut the stud off that went through the fan shroud on the driver's side. Next, measure 3 1/4" from the bend and cut off the remaining material. Now, reinstall the bracket to the engine block and to the passenger's side fan shroud. Take the stud that was cut off and fasten to the driver's side fan shroud. Lastly, use the provided bracket to weld the original bracket and stud together. See picture below.





7. If you are installing the pitman arm for the first time do the following step before the sway bar lowering block/steering stabilizer kit is installed. Use the factory nut and lock washer to seat the pitman arm on the steering shaft. It will require upward of 300 lb/ft of torque to do this. Once the pitman arm is installed, start the truck and turn the wheel back and forth, lock to lock. This will help seat the pitman arm. It will take 3 or 4 times doing this to get the pitman arm to fully seat up on the steering shaft. Once the pitman arm is seated, then install the sway bar lowering block/steering stabilizer kit, machined nut and pillow block. See following page for additional pictures.

#### Parts list

Sway bar lowering block/steering stabilizer mount

Pillow block bearing

Machined nut

7/8" Flat washer

2) 7/16" x 2" bolts with lock nuts

2) m10 x 1.5 x 30 bolts with flat washers

2) 1/2" x 1 1/2" bolts with flat washers and lock nuts





## Parts List

- A) (1) *Steering box stabilizer kit w/ 4 3/8" x 1 1/2" bolts, lock washers and nuts*  
*Pillow block bearing with 7/16" x 2" bolt with flat washers and lock nuts*  
*Machined nut with 7/8" flat washer*
- B) (1) *Panhard bar relocation bracket*  
*1) 1/2" x 5" bolt with flat washers, lock nut and 3/8" block*  
*1) 9/16" x 3 1/2" bolt with flat washers and lock nut*
- C) (2) *Lower airbag mounts (R and L Side)*  
*(4) 1/2" x 3" bolts*  
*(2) 1/2" x 1 1/2" bolts with lock washers, flat washers and nuts*
- D) (2) *Upper shock mounts*  
*(4) 1/2" x 4 1/2" bolts with flat washers, lock washer and nuts*
- E) (2) *Upper bag mounts (6" risers)*  
*(6) 3/8" nuts and lock washers*
- F) (1) *Transmission cross member*  
*(4) 9/16" x 7 1/2" bolts with flat washers and lock nuts*  
*(2) 5/8" x 5" bolts with flat washers and lock nuts*
- G) (2) *Upper trailing arm brackets (R and L side)*  
*(2) 5/8" x 4" bolts with flat washers and lock nuts*  
*(2) 5/8" x 9" bolts with flat washer, lock washer and nut*
- H) (2) *Upper trailing arms 20" (one narrow knuckle, one wide knuckle)*
- I) (2) *Lower trailing arms 33 1/4" (both wide knuckles)*



## *Parts List (Continued)*

*J) (2) Gusset brackets (R and L) goes between upper trailing arm mount and cross member*

*K) (2) 3" risers (bottom air bag spacer)*

*L) (2) 8979 air bags*

*(2) 1/2" x 4 1/2" bolts with flat washer and lock nut*

*(2) 1/2 lock washers and nuts*

*(2) 3/4 lock washers and nuts*

*M) (8) Upper shock bushings*

*7100's use 1 1/8" spacers*

*5150's use 3/4" spacers*

*N) Indexing ring kit*