



*kelderman*®

**AIR SUSPENSION SYSTEMS**

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# **1999 - 2005 Ford F-53 Chassis Motorcoach Front Installation Instructions**

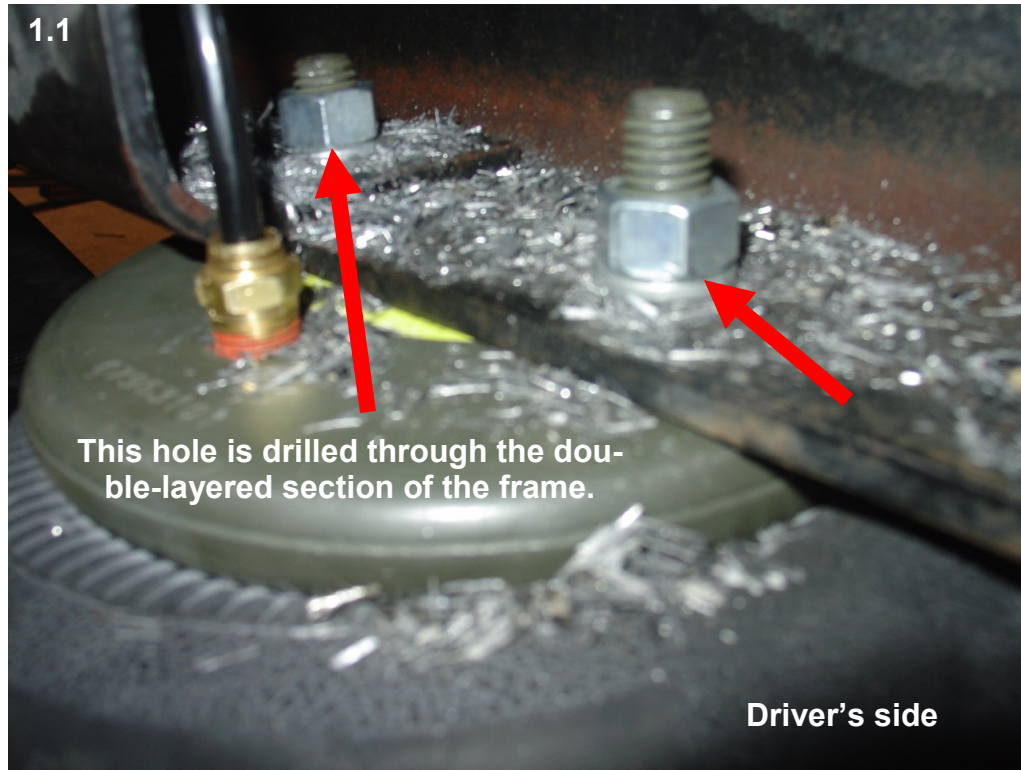


## Installation

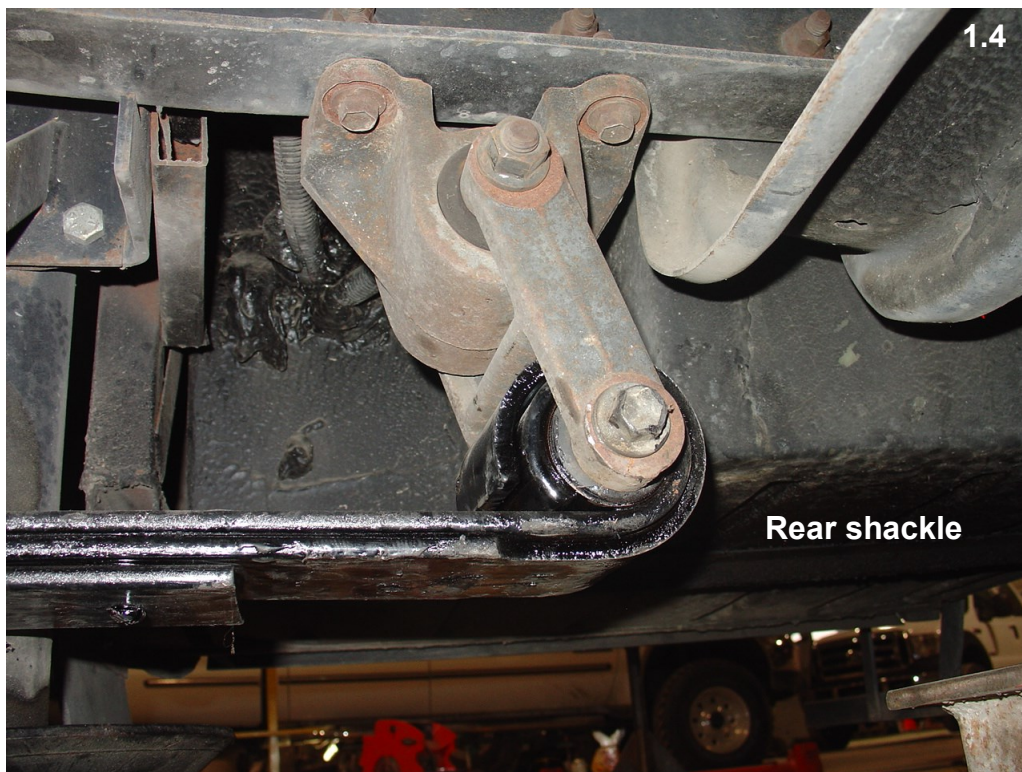
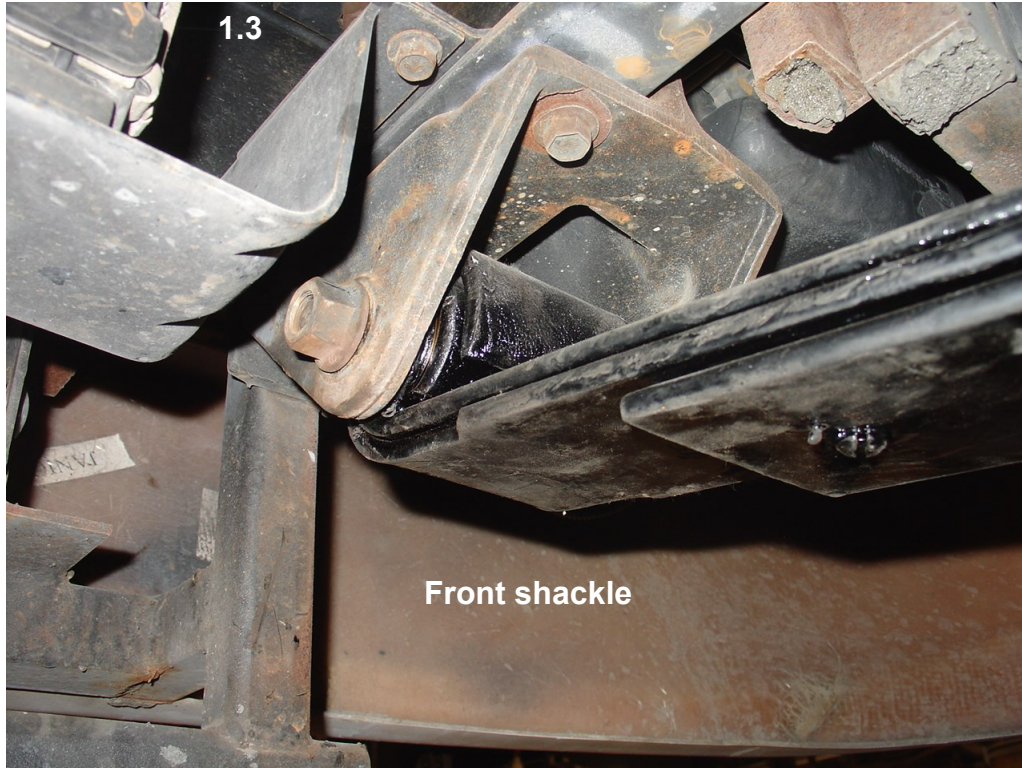
1. Place the coach on a level concrete surface. Measure each side of the coach from the front wheel well to the ground. Record these measurements as you will need them in Step 9.
2. Place a jack under each side of the frame just behind the leaf spring shackles. Jack the coach up high enough so that the tires are just off the ground. Place a jack stand next to the jacks to prevent the coach from falling off the jacks.
3. It works best to install one side at a time. Remove the lower shock bolt. Remove the leaf spring. Keep track of the U-bolts that hold the front of the leaf in place as well as the bolt that connects the rear of the leaf spring to the shackle. **NOTE: If you have Banks headers installed, refer to page 6 and 7 regarding installation of the passengers side.**



- Two holes (between 1/2" - 5/8") need to be drilled in the bottom of the frame. These holes are what the air bag studs fit into. Locate the bolt in the bottom of the frame that is about 4 1/2" forward of the double wall frame. Measure and center punch 4" back and 7 1/2" back, centering the location in the center of the frame (1.1 & 1.2).

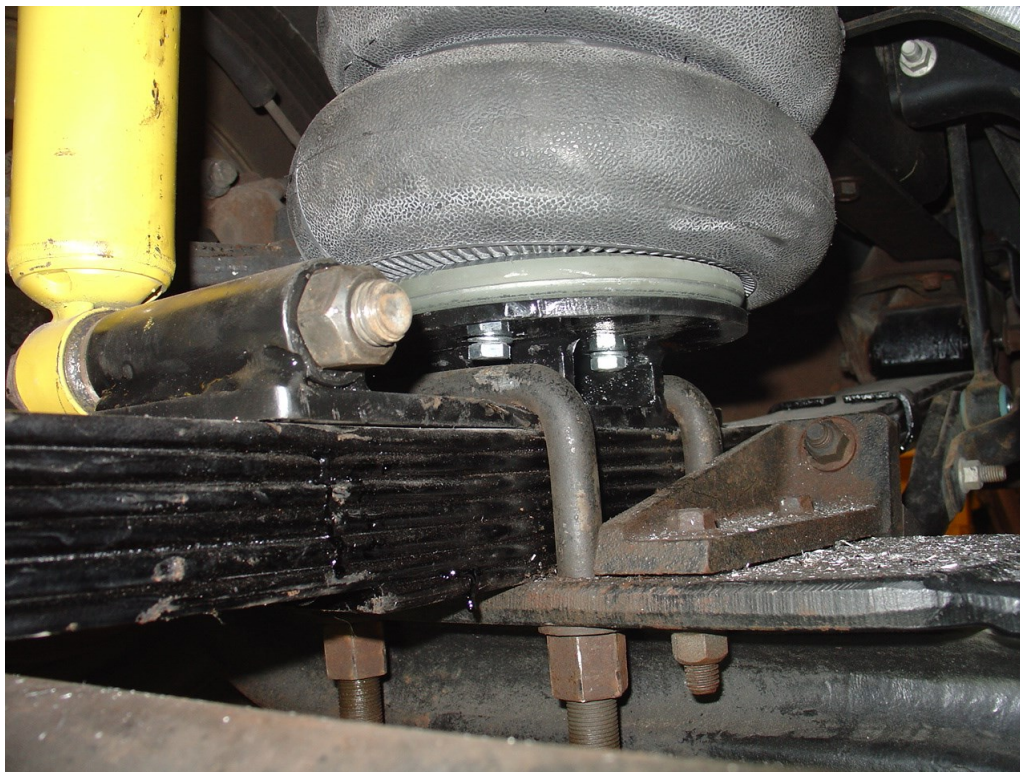


5. Once the old leaf spring is removed, locate the new leaf spring and connect the front end into the factory location and connect rear end to the shackle (1.3 & 1.4). Locate the air bag and insert the brass air line fitting in the top of the bag. Next, locate the lower air bag mount and fasten the air bag to the bracket using the 3/8" x 1" bolts. Center up the bolt in the slot. Make sure the air inlet of the air bag goes towards the inside of the vehicle and the shock mount goes towards the rear of the vehicle.



6.) Place the lower air bag mount on the top of the leaf spring (the shock mount goes towards the rear of the coach). Slide the U-bolts under the lower air bag plate and fasten assembly back in place. Go ahead and torque the nuts on the U-bolts to 150 lb / ft. Reattach the bottom shock bolt (1.5).

1.5



7.) Weld the supplied brace in between the shock mount and the bag. (1.6).



8.) Repeat Steps 3-5 on the opposite side.

9.) Remove the jack stands and lower the coach 3-4" so that the air bag studs go up through the holes that were drilled. Use the 1/2" nuts and washers to fasten the top of the bag in place. Torque the nuts to 25 lb / ft.

10.) If you are running the system as a manual fill, mount the Schrader valve in a convenient location under the hood. Run an airline between the Schrader valve and the air bag making sure to keep the line away from the exhaust and sharp objects. Use some zip ties to fasten the air line away from any sharp components and anything that gets hot. If you are using in-cab controls, use the instructions provided with the kit to plumb up the system.

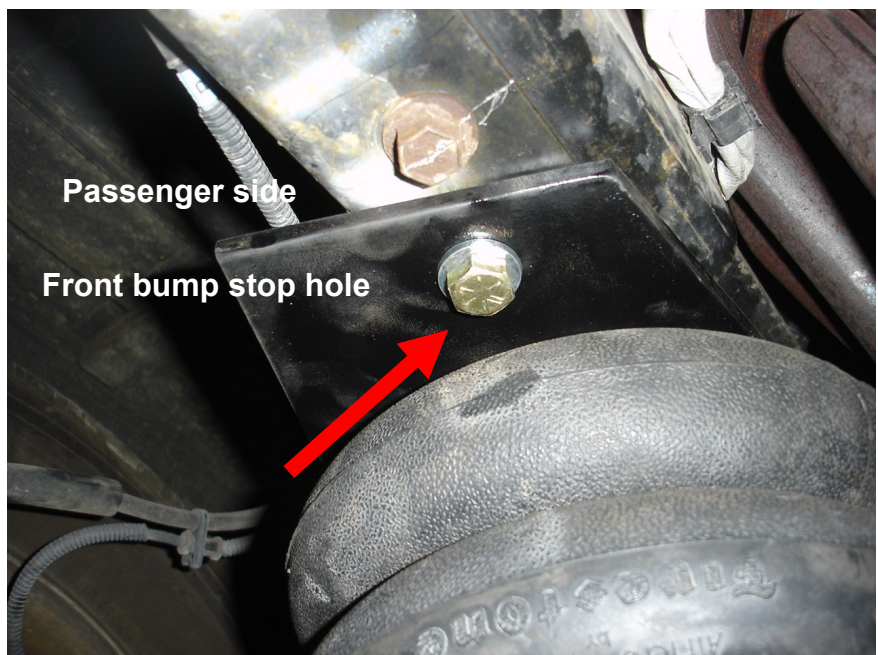
11.) Inflate each bag. When inflating, alternate inflating the right bag to the left bag until you get the coach to the measurement you recorded in Step 1. If you don't have this measurement, a good starting point is to inflate the air bag to 7".

12.) Record the air pressure measurements and write them down. One side will usually record a higher pressure than the other. This is because one side of the coach is heavier than the other. If one side of the coach was leaning, you will be able to level up the coach by increasing the pressure in the side that was leaning.

13.) The best ride of coach will be running the bags at 7" tall. Once the kit is installed and aired up to the ride height desired, measure the bags to see that you are in the 7" range. You can get by running the bag as low as 6 1/2" and as high as 8", but if you go lower or higher than these recommendations, the ride will not be as smooth.

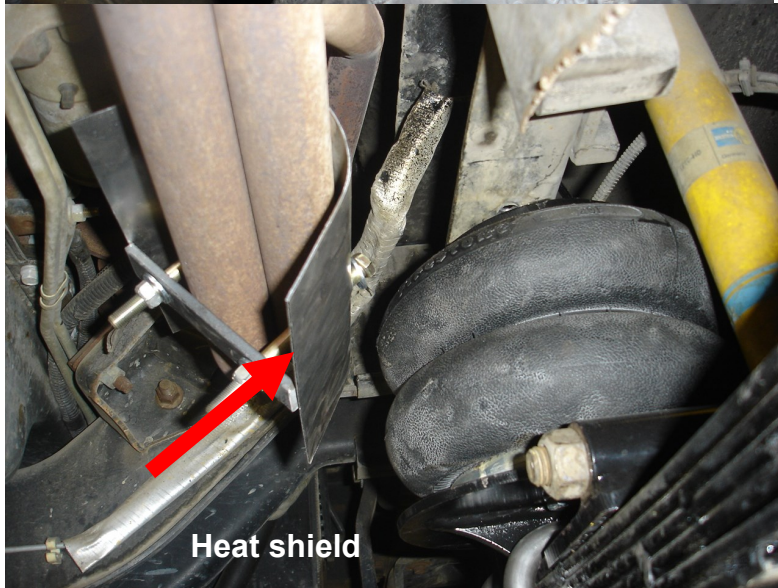
### **BANKS HEADER ADAPTOR Passenger side only**

If you have a banks header package installed, you will need to use the adaptor plate to get the air bag away from the header. Locate the front bump stop hole and drill it out for a 1/2" bolt.

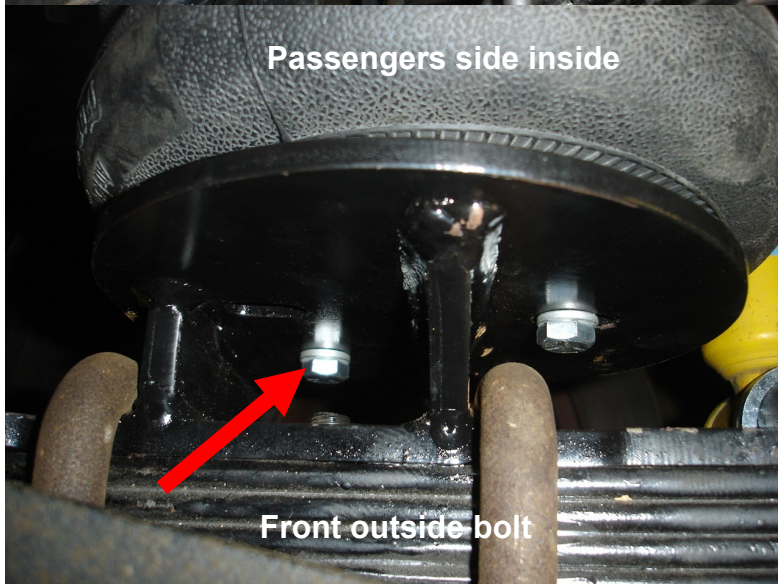




Place the air bag adaptor against the frame with the front hole lined up with the hole you just drilled. Use a center punch to locate where to drill the back hole. Drill this hole out for a 1/2" bolt. Fasten the bracket in place with the 1/2x2" bolts. The bottom of the air bag will fasten to the lower air bag bracket with the 3/8" bolts. You will use the rear hole and the front right hole to fasten the bottom of the rear bag.



Heat shield



Passengers side inside

Front outside bolt

## **OWNER GUIDELINES**

The Kelderman suspension needs no lubrication and little maintenance. However immediate corrective action should be taken if a serious malfunction occurs.

**CAUTION!** If maintenance or service is to be done on the air system be sure to drain all air from the system. Serious injury could occur if components are removed while the system is full of air.

### **PRODUCT OWNER RESPONSIBILITIES**

- Owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified in the particular Kelderman Mfg. instructions available by product model, except as specified in this warranty, and for maintenance of other vehicle components. Of particular importance is the re-torque of fasteners including axle bolts, four link bolts, and pan hard bar bolts. This re-torque must be performed within 90 days of the suspension being put into service.
- Owner is responsible for “down time” expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.
- The Kelderman Air Suspension is fully automatic in controlling the height of the chassis. No manual intervention to control air pressure is needed during the course of operation.
- On a mechanical control system the compressor switch must be on for the compressor to operate. During the starting circumstances, (i.e. extremely cold weather) it is recommended to turn the compressor switch off until the vehicle is running so it will not draw current from the battery. The compressor is controlled by the pressure switch located in the air control box. This switch automatically turns the compressor on when the tank pressure falls below the preset low point of the pressure switch and turns the compressor off when the tank pressure reaches the preset high point of the pressure switch.
- On a mechanical control system the low pressure warning light indicates a severe drop in the tank pressure (below 45 PSI). Immediate corrective action should be taken to determine the cause of air loss. Compressor switch should be turned off if low pressure warning light is on and remains on even after the compressor has run for a normal period of time. **NOTE: The low pressure warning light could come on briefly when the “dump” feature is being used.**
- It is important to release any moisture contained within the air tank on a regular basis. This is done by pulling on the attached release cable for approximately 5 seconds. Not releasing the moisture on a regular basis could cause the system to operate improperly.
- On an electronic control system it is vital that you remove the main fuse located by the battery during any jump starting of the battery or replacement of parts.

### **CHECK AT EVERY VEHICLE SERVICE INTERVAL:**

Check ride height to ensure that it is within 1/4”.

Check for air leaks around fittings.

### **CHECK AFTER THE FIRST 1000 MILES:**

Recheck and tighten any loose fasteners.

Check for any loose or worn components.



