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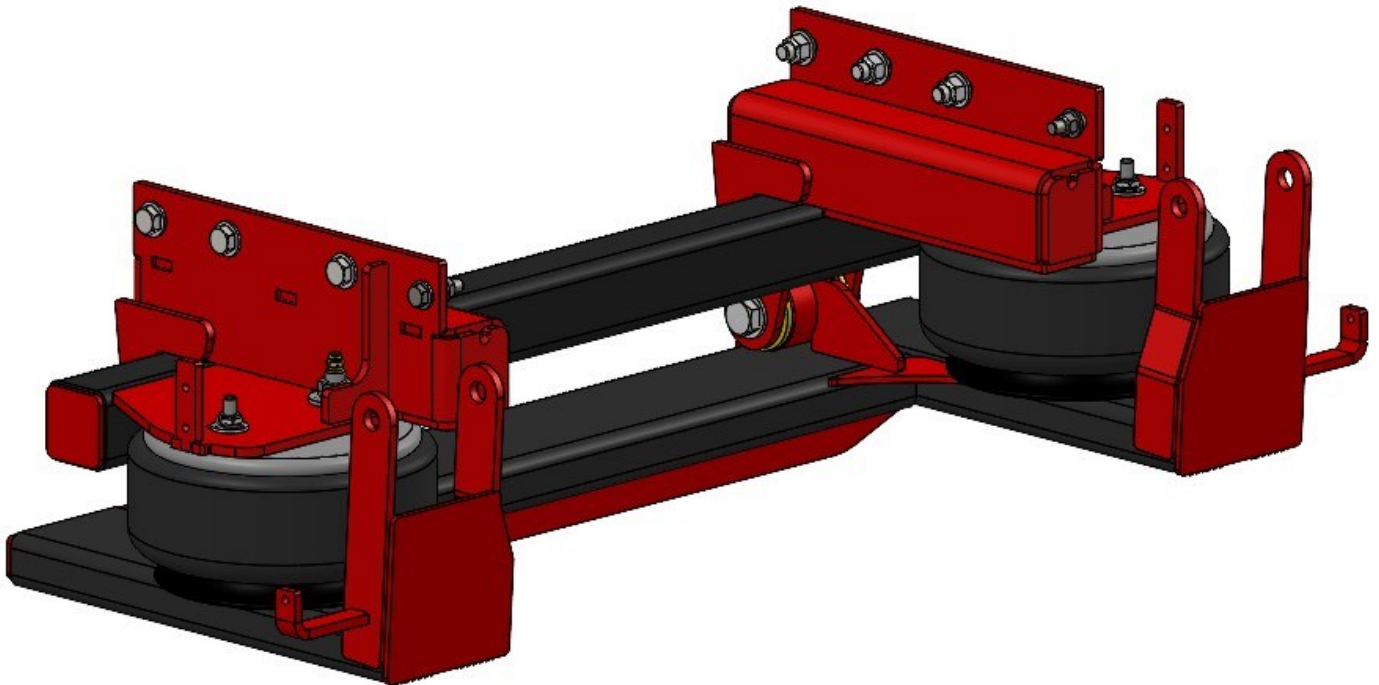
# **1999 & Newer Ford F-53 Chassis Motorcoach Rear Installation Instructions**



# Kit Numbers

This installation manual covers the following air ride kits.

Kit Number	Description
10009448	1999+ Ford F53 2-Stage Rear—Top Hat Style



# Introduction

## Important

It is important that the entire installation instructions be read thoroughly before proceeding with installation.

Before painting open every box and locate all parts. There are several smaller bushing pieces and bolts that are packaged separately inside the main box.

## Product Installer Responsibilities

Installer is responsible for installing this product in accordance with Kelderman Mfg. Inc. specifications and installation instructions.

Installer is responsible for providing proper installation of vehicle components and attachments as well as required or necessary clearance for suspension components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation of this product.

## Definition of Terms

**Warning:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**Caution:** A potential hazardous situation may result in property damage.

**Note:** Provide information or suggestions that help correctly perform a task.

**Torque:** When italicized “*torque*” alerts the installer to tighten fasteners to a specified value.

# Safety

## Your Safety and the Safety of Others is Very Important.

Read and understand all safety precautions and instructions before installing this product.

## CAUTION: Trucks Equipped with Parking Sensors or Other Like Devices.

Relocation of these devices will alter the field of view. It is the responsibility of the owner to understand how these changes affect the operation of these systems.

## WARNING: Components Under Pressure.

Bleed all pressure from the air system before performing any maintenance or service. Serious injury could occur if components are removed while system is pressurized.

## WARNING: Careless Installation Can Result in Serious Injury or Property Damage

Wear eye protection.

Disconnect the battery before doing any work on the vehicle.

Work on flat level ground.

Ensure truck is properly supported by jack stands. Never work under a vehicle supported only by hydraulic jacks.

Take precautions when lifting product. Due to the size and weight of this product two people are recommended for installation.

Never work directly under the product until it has been securely fastened to the vehicle.

Avoid sharp, hot, and moving components when routing electrical cables and air lines.

If drilling inspect both sides of the surface and remove/relocate any objects located in the way.

Ensure all bolts are properly tightened before driving.

# Product Owner Responsibilities

Product owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified by Kelderman Mfg. Inc. Of particular importance is the re-torque of fasteners. This re-torque must be performed within 90 days or 1000 miles of this product being put into service.

The Kelderman Air Suspension is fully automatic in controlling the height of the chassis when properly installed. No Manual Intervention to control air pressure or ride height is needed during the course of normal operation.

The compressor switch must be on for the compressor to operate. With the switch in the on position the compressor will run when the tank pressure drops below 90psi, and continue to run until tank pressure reaches 125psi.

The low pressure warning light indicates a severe drop in tank pressure (*bellow 45psi*) immediate corrective action should be taken to determine the cause of air loss. Compressor switch should be turned off if low pressure warning light remains on even after the compressor has run for a normal period of time. **NOTE:** The low pressure warning light can come on briefly when the “Dump” feature is being used.

During difficult starting circumstances, (*extremely cold weather*) it is recommended to turn the compressor switch off until the vehicle is running, to limit current draw on the battery.

When operating in temperatures below freezing it is important to purge moisture contained within the air tank on a daily basis. This is done by opening the petcock or pulling the lanyard on the air tank. Failure to purge moisture can cause the system to freeze and not operate properly.

Product owner is responsible for “down time” expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.

## Service Intervals

### First 1,000 Miles

- Check Ride Height  $\pm 1/4$ ”
- Check for air leaks around fittings.
- Check for any loose or rubbing hoses and wires.
- Re-torque all hardware.

### Every 30,000 Miles

- Check Ride Height  $\pm 1/4$ ”
- Check for air leaks around fittings.



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# Installation

1. Place the coach on a level concrete surface. Jack the coach up so that the rear tires are just off the ground. Make sure to put jack stands on each side of the frame for safety.

2. Remove the rear shackle hanger bolt that fastens the leaf spring hanger to the shackle. Keep this bolt and nut as it will be reused. **NOTE:** If the coach has a tapered shackle the factory bolts will not be re-used. If the coach has storage compartments that are close to shackle assembly, it may be required to use a hole saw and cut a hole in the compartment to get the bolt out. If this is required, just cut a piece of tin and pop rivet to cover the hole. Use some silicone to seal the hole to prevent leaks.

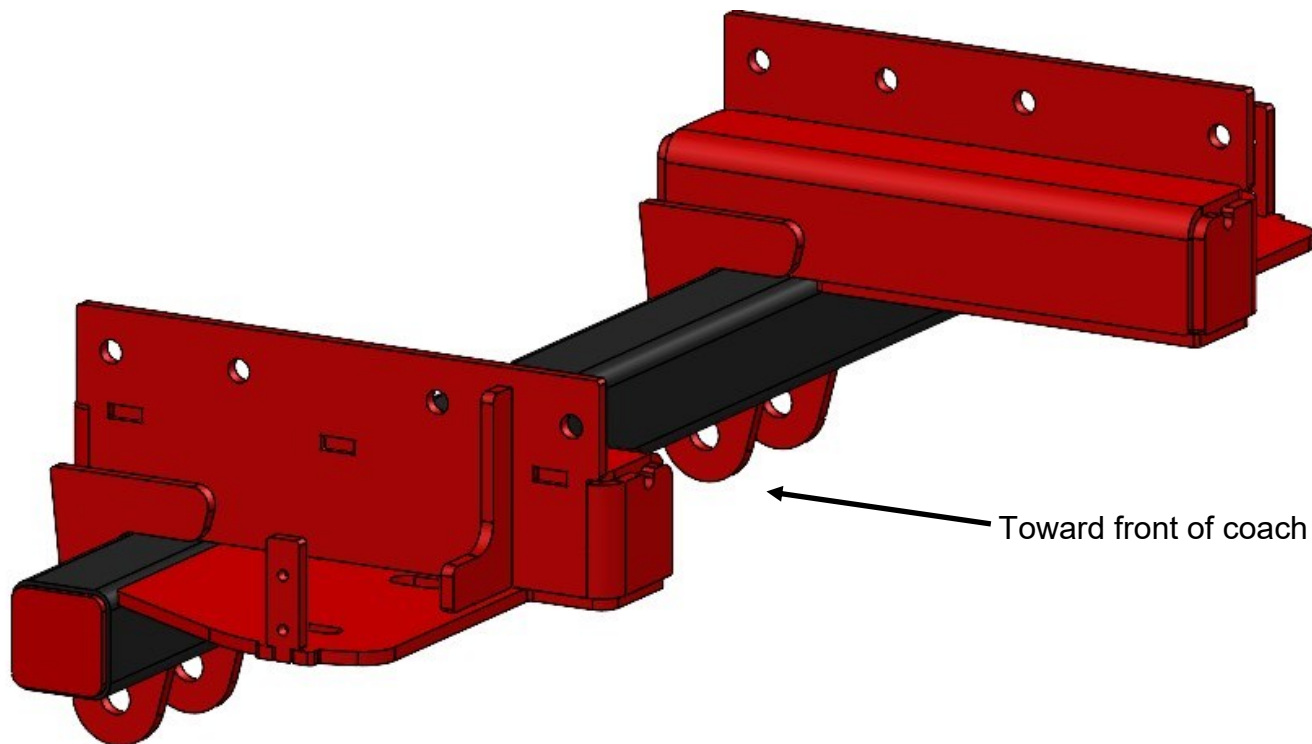


3. Remove the six bolts that hold the shackle hanger in place. Keep these bolts and nuts as they will be reused.

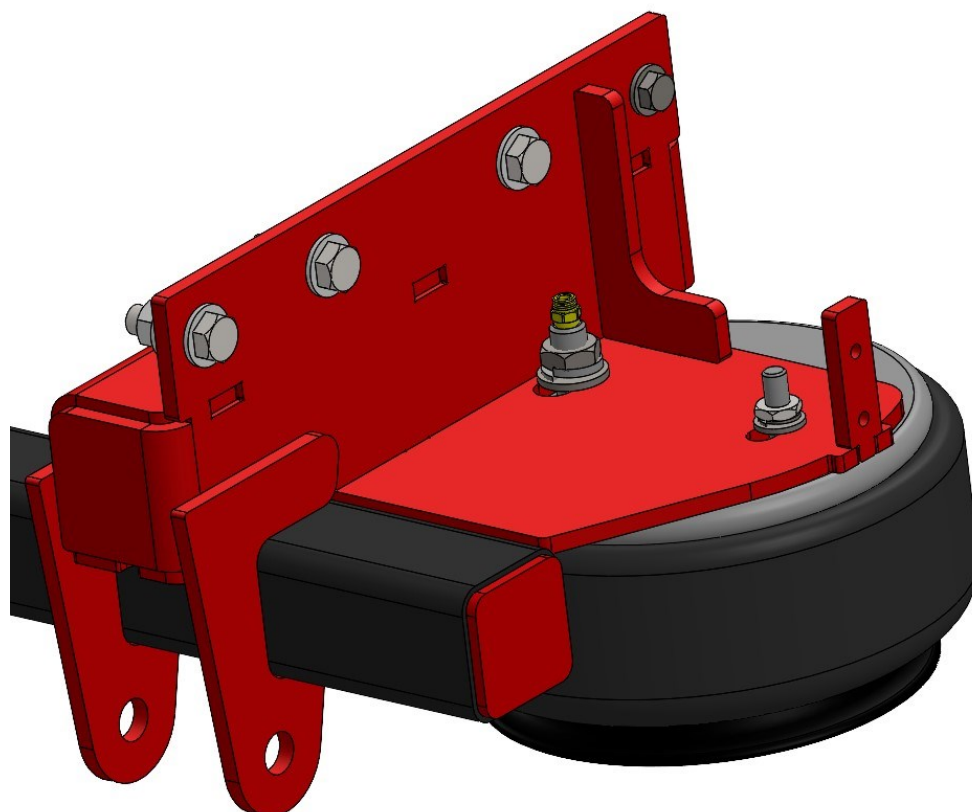
4. Remove the front fuel tank strap. This will not be reused.



5. This step will take at least two people. Locate the upper framework. The ears that are welded on the framework go towards the front of the coach. Lift the framework up into position and fasten the upper framework to the frame with the bolts that held the shackle hangers in place. The holes in the upper framework will match up to the holes in the frame. Locate the bolts that you took out in Step 3 and tighten all the bolts.



6. Next, locate the air bags. Insert the fitting and tighten. Slide the bag up in the framework and fasten in place using the 1/2" and 3/4" lock washers and nuts.



7. Locate the lower swing arm. Slide the swing arm up in place using the 7/8" x 5" bolts and lock nuts. You may want to get a long slide clamp or a strap to help hold up the swing arm once you get the 7/8" bolt in place. Use the 3/4" nuts and lock washers to fasten the bottom of the air bag to the swing arm. Next, locate the bolt that originally held the leaf spring shackle to the shackle hanger. Use this bolt to fasten the shackle to the swing arm. **If coach has tapered shackle then you will use a 5/8"-18 x 7" bolt, (2) spacers and (2) Hat Bushings on each of the outer side of the shackle.**



Spacers and Hat Bushings stacked on outer side of tapered shackle



8. Locate the air line and “T” fitting and connect the two bags together. If you are doing a manual fill, locate where you want to mount the Schrader valve. Mount the valve and run an air line from the valve to the “T.” If you are doing the height control valve, use the supplied brackets to mount the valve on the driver’s side of the air ride assembly.

9. Inflate the bags so that the lower swing arm is level with the ground. Depending on how heavy your coach is, it may be up to 80-100 psi.

10. Go back and recheck all the bolts for tightness. It is recommended to check the bolts for tightness at regular service intervals.

11. If you are running the system as a manual fill, mount the Schrader valve in a convenient location under the hood. Run an air line 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.

12. 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”.

13. 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.

14. The best ride of the coach will be running the bags at 7” tall. Once the kit is installed and aired up, the ride height desired, measure the bags to see that you are in the 7” range. You can get it 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.





**Kelderman Manufacturing**  
**Warranty Policy**  
**2021**



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**Kelderman Manufacturing Product Warranties, Disclaimers, and Warnings.**

Kelderman Manufacturing, Kelderman Air Suspension (Warrantor), offers a product warranty to the original retail purchaser, with which whom owns vehicle on which the unit was installed, and with Commercial wholesale purchasers. Please see below for warranty terms.

It is the **Installer** and **Sellers** responsibility to review these warranties, warnings, and disclaimers with the consumer prior to installation.

**Retail Customers:**

3-year limited warranty from original invoice date for defects in materials and workmanship related to fabricated parts, i.e., upper or lower bag mounts or pan hard bar.

1-year limited warranty from original invoice date for defects on purchased parts, i.e., compressors, air bags, or a part that comes from an outside supplier.

Some products may come with their own warranties supplied by their manufacturer. If so, that warranty is passed onto you as the consumer. Please keep your original invoice as it will be needed for that warranty.

Warrantor reserves the right to request any product to be returned for further review/inspection before approving claims. In the case of a requested return, Warrantor shall provide shipping instructions.

**Commercial Customers:**

3-year/100,000-mile limited warranty from the date the unit was put into service for defects in materials and workmanship related to fabricated parts, i.e., upper or lower bag mounts or pan hard bar.

1-year/50,000-mile limited warranty from the date the unit was put into service for defects on purchased parts, i.e., compressors, air bags, or a part that comes from an outside supplier.

Labor will also be covered for commercial customers only. Labor is only a coverable expense, as long as part is covered under warranty program. Labor Rate is payable for \$75/hr, and an invoice must be supplied in order to be paid.

Warrantor must be contacted for warranty authorization before any diagnostic work or repairs are performed. At that time, Warrantor will provide diagnostic assistance and authorization for the repairs if warrantable. Any unauthorized diagnostic work performed before contacting Warrantor will not be covered under the warranty program, if deemed unreasonable. Defective parts must be returned to Kelderman Manufacturing as per warranty program, unless otherwise stated.

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**Kelderman Technical Line 641-673-5396 x130**



**Kelderman Warranty Line 641-673-5396 x135**

**Monday – Friday 7:00 am to 4:00 pm CST**

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**Warranty Policy**  
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**Warranty Terminations**

The following actions or events will result in the automatic termination of this warranty and relieve Kelderman Manufacturing from any and all obligations under this warranty:

- Attempting to repair or alter the product in any way after purchase.
- Misuse or neglect of the product including accidents, improper installation, or application.
- Failure to operate or abuse vehicle in anyway, as determined by Warrantor.
- Vehicle being operated outside the recommended ride height as predetermined by Kelderman Manufacturing and set forth clearly by installation instructions.
- Vehicle has combination and/or substitution of other suspension systems in lieu of Kelderman products.

**Warranty Does Not Cover**

The following are items Warrantor will not cover in case of warrantable part.

- Finish of part, i.e., powder coat, paint, or plating.
- Warrantor is not obligated to cover any "down time" for vehicles to due warranty parts and/or availability of warranty parts.
- Damages to vehicle related/non-related to the installed Kelderman Air Suspension.
- Excessive freight charges, i.e., Next Day Air. As seen to be determined by Warrantor.

**Warning**

Kelderman Air Suspension Systems are designed to be installed, and run at the recommend ride heights provided by Kelderman Manufacturing. Failure to do so may cause premature wear and inhibit the suspension system from operating as designed. This may cause a vehicular accident leading to severe injury or death.

**Disclaimer**

Kelderman Manufacturing reserves the right to supersede, discontinue, re-design parts and/or applications and finishes of powder coat or paint as deemed necessary without written notice.

- Kelderman Manufacturing tries to ensure that suspension parts you receive fit the vehicle they were designed for, however due to unknown vehicle manufacturer's production changes and/or inconsistencies, We cannot be responsible for 100% fitment.
- All products not specifically called out can be referenced by call the warranty line listed at the bottom of the page.

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