

# Kelderman Air Ride

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

## Ford Excursion 2-bag Rear System

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**Kelderman Air Ride has just developed its most recent system in a line of quality air ride suspension systems. This system was developed to improve the ride of 1999 & newer Ford Excursions.**



**1999 & Newer Ford Excursion**

**Front systems are available for 4x4s.**



## 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.**



# '99 & Newer Excursion

## Tools Required for Installation of the Air Ride

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 front wheels of the truck, to prevent it from rolling forward or rearward. Place a jack on each side of frame ahead of the rear springs, front bolts. (1.1)

Tools and equipment required:

Cutting Torch, or Grinder

(2) Jacks

(2) Jack Stands

Wheel Chocks

Side Cutters

(2) C-clamps (if truck has overload springs)



1.1



**DANGER**

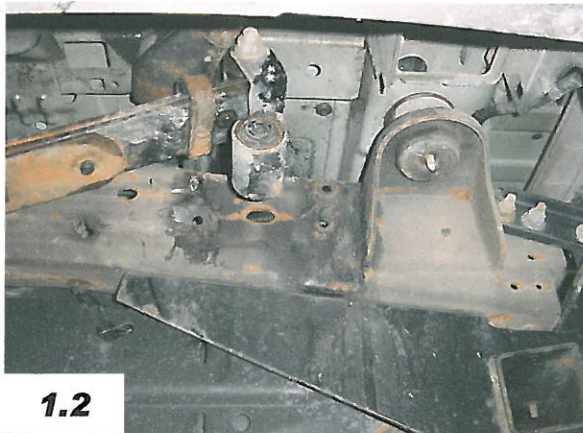
**\*\*When raising or lowering the truck, keep jack stands in place to prevent the truck from falling, which could cause severe personal injury or death\*\***

## Installing the Air Ride

**Step 1. Raise the truck up, enough to allow the rear spring lower shackle bolts to be removed. Remove both shackle bolts. (1.1)**

**Step 2. Using a torch, air hammer or grinder, remove the shackle hanger by cutting the factory rivet heads off. (1.2 & 1.3)**

**Step 3. Trim sheet metal near rear body mount to allow upper air bag framework to slide into place. (1.4 & 1.5)**



1.2



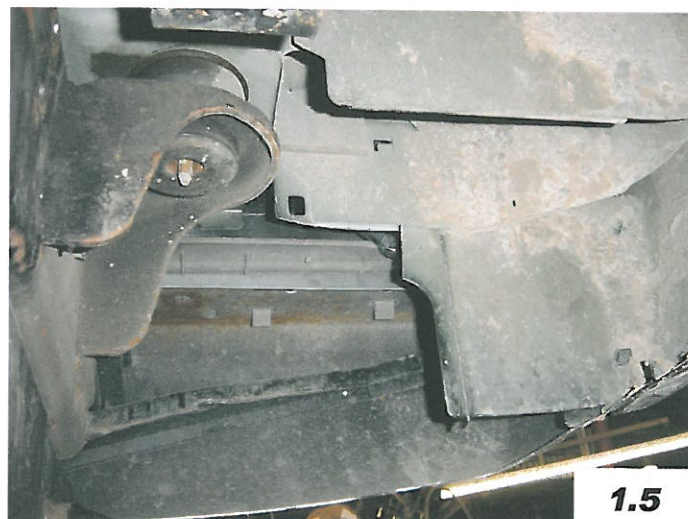
1.3



## ***Installation Instructions (continued)***



1.4



1.5

**Step 4. Locate upper air bag framework. Use the circled hole as a reference point and clamp framework into place. (1.6)**

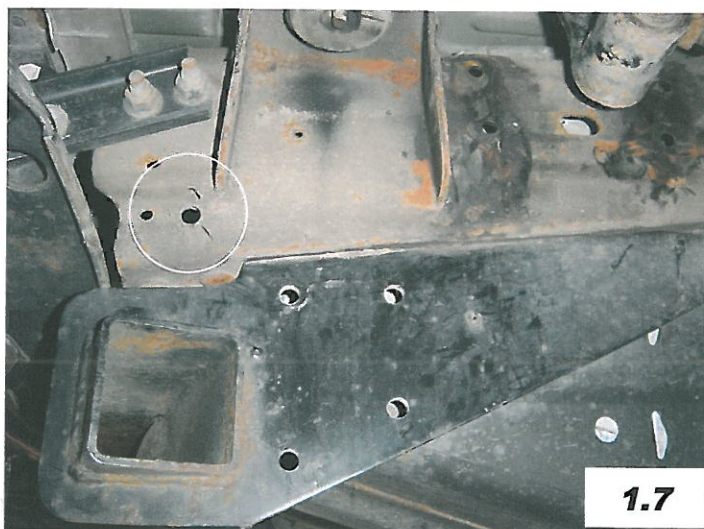
**Step 5. Mark and drill holes so that a 1/2" bolt will fit through. (1.7) Tighten the framework to the side of the hitch and frame using the 1/2" x 2" bolts provided. (1.8)**

**Step 6. Tighten the reference point bolt using the 1/2" nut w/ a rod welded to it.**

**Step 7. Repeat steps 2-6 on other side.**



1.6



1.7



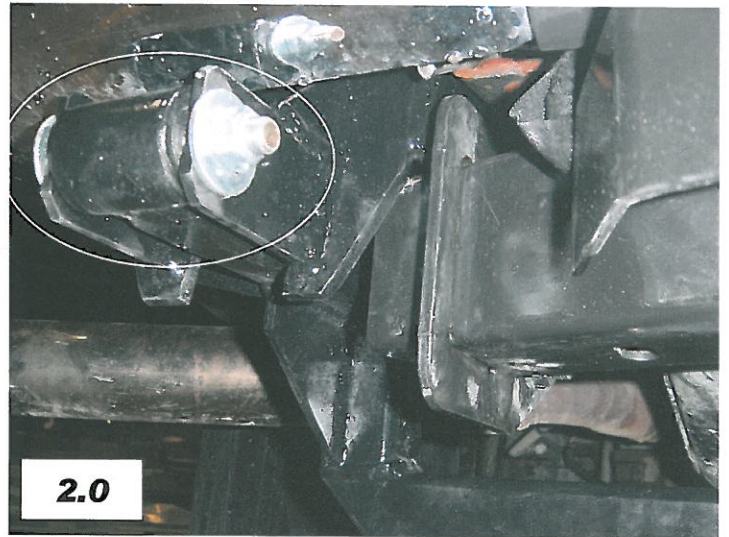
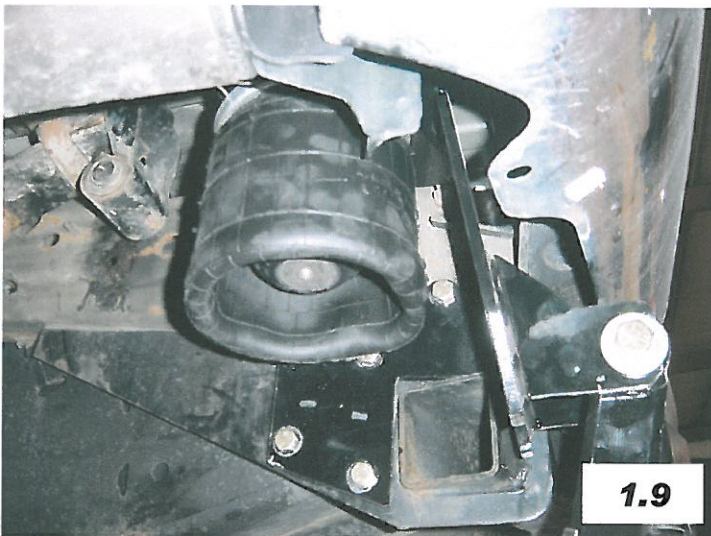
1.8



**Step 8. Locate the air bag and install the air fitting. Slide the air bag up, into the top framework, put on 7/8" lock washer and nut. Next, put on lock washer and nut on the 1/2" stud and tighten. (1.9)**

**Step 9. Locate the two 5/8" x 4 1/2" locking nuts. Using the 5/8" x 4 1/2" bolts, attach Air Ride swing arm to the rear pivot brackets on the top frame. Insert the bolts through the bracket on the top frame and the bushing on the lower frame so that the locking nut is facing the inside of the truck. Place a 5/8" washer on the bolt and put on the lock nut. Do not tighten this bolt until after Step 11. (2.0)**

**Step 10. Swing the lower section up to the air bags and install the 1/2" x 3 1/2" bolt with lock washer and flat through the lower section swing arm and into the hole in the bottom of each air bag and tighten. Repeat for other side. (2.1 & 2.2)**



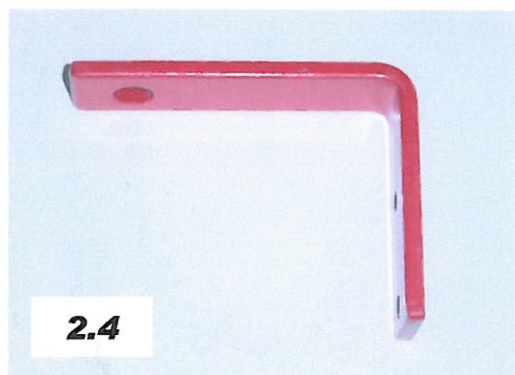


## '99 & Newer Excursion

**Step 11. Raise the truck frame high enough so that the spring shackles can be bolted to the front arms of the lower Air Ride section. (Use the original shackle bolt and nut that was removed in Step 1). (2.3)**



**Step 12. Locate height-control valve and height-control valve mounting bracket. Fasten height-control valve to bracket using the 1/4" bolts provided. Slide bracket over 1/2" air bag stud and tighten. (2.4 & 2.5)**



**\*Adjust linkage arm so that the height-control valve arm is parallel with the bottom swing arm which in turn is parallel with the ground when inflated. (2.5)**

**Step 13. If the system is using an air compressor or self-leveling kit, use instructions supplied. For the manual fill system, it is now time to decide on a location for the fill valve (the only factor for determining this location is convenience. Normally, it is installed on the left side of the rear bumper near the license plate, or in one of the holes in the license plate). Drill a 5/16" hole in the desired location using caution not to damage wiring or other components of the truck. Insert the fill valve through drilled hole.**



**Step 14.** Cut one 6" piece of air line and insert into fill valve. Insert the other end into airline tee. From the remaining two open ends on the tee, run a section of air line to each bag and assemble in the same manner as on the fill valve. Check the routing of the air lines to be sure they are not exposed to anything which could burn, cut or otherwise damage them. Be sure the air lines are properly secured.

**Step 15.** Carefully remove the jacks and the jack stands. Inflate the air bags to approximately 25-30 psi and use soapy water or a leak detector to check all air line fittings for leaks.

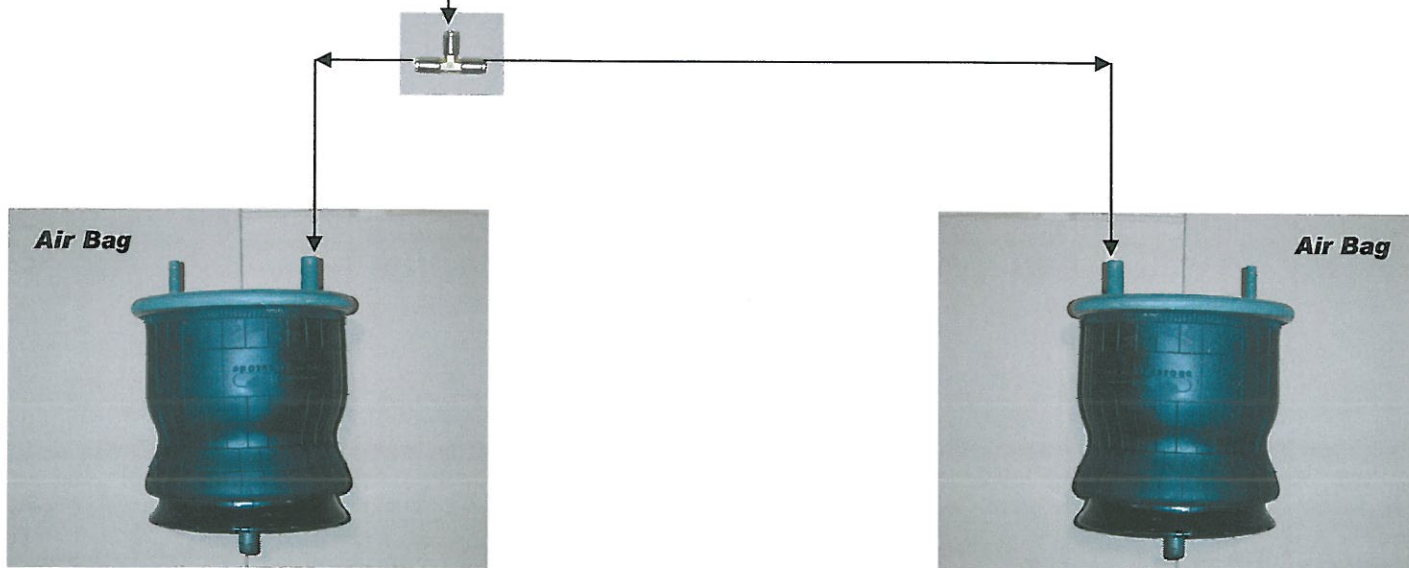
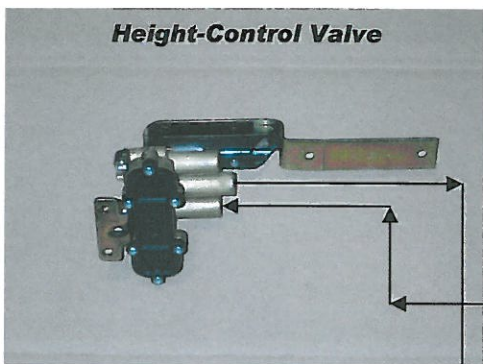
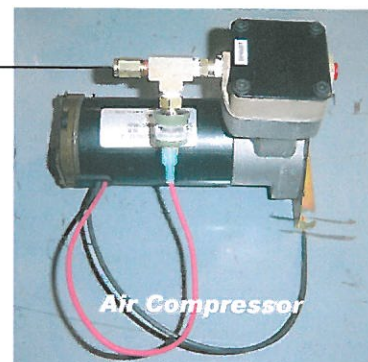
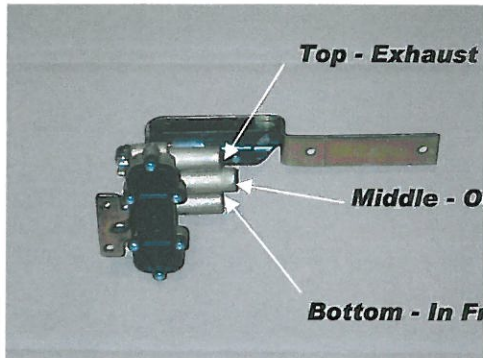
**Step 16.** Check clearance for exhaust with bottom swing arm. If it rubs, the exhaust will need to be bent forward slightly. For best results, insert a long bar into the exhaust pipe, heat at the bend and pull forward.

**Step 17.** Check all fasteners to be sure they are tightened properly.

**Step 18.** Run bottom of Air Ride (swing arm) reasonably level with ground at all times. (2.5)



# Self-Leveling Kit





## ***Parts List***

**A) RH upper framework, LH upper framework and swing arm w/ height-control linkage bracket welded on (self-leveling kit option).**

**(10) 1/2" x 2" grade 8 bolts / lock washers**

**(8) 1/2" nuts**

**(2) 1/2" nuts w/ welded rods**

**(2) 5/8" x 4 1/2" bolts**

**(4) 5/8" flat washers**

**(2) 5/8" lock nuts**

**B) (2) 5323 air bags**

**(4) 1/2" lock washers**

**(2) 1/2" x 3 1/2" bolts / nuts / flat washers**

**(2) Straight 1/4" air line fittings**

**\*Self-leveling kit**

**Air Compressor w/ pressure switch, wires, fuse**

**(3) 1/4" x 1 1/2" bolts / lock washers / nuts**

**Tank w/ fittings**

**(4) 3/8" x 1 1/2" bolts / lock washers / nuts**

**Height-control valve**

**Height-control valve bracket**

**(2) 1/4" x 1" bolts / lock washers / nuts**

**Height-control valve linkage w/ bolts**

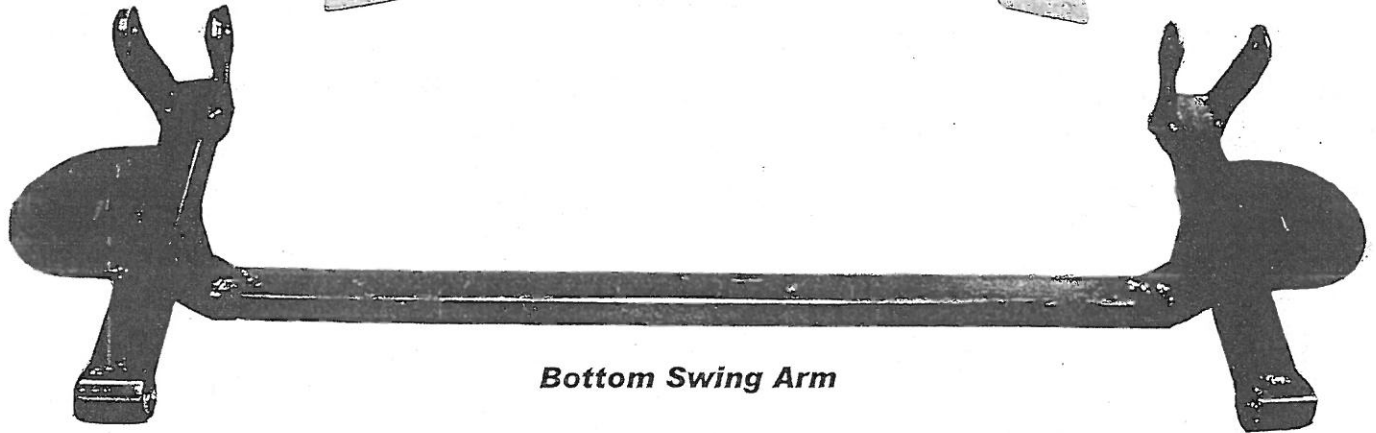
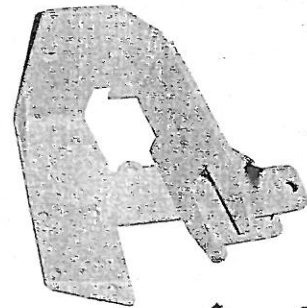


# Parts List (continued)

**RH Upper Framework**  
(passenger's side)



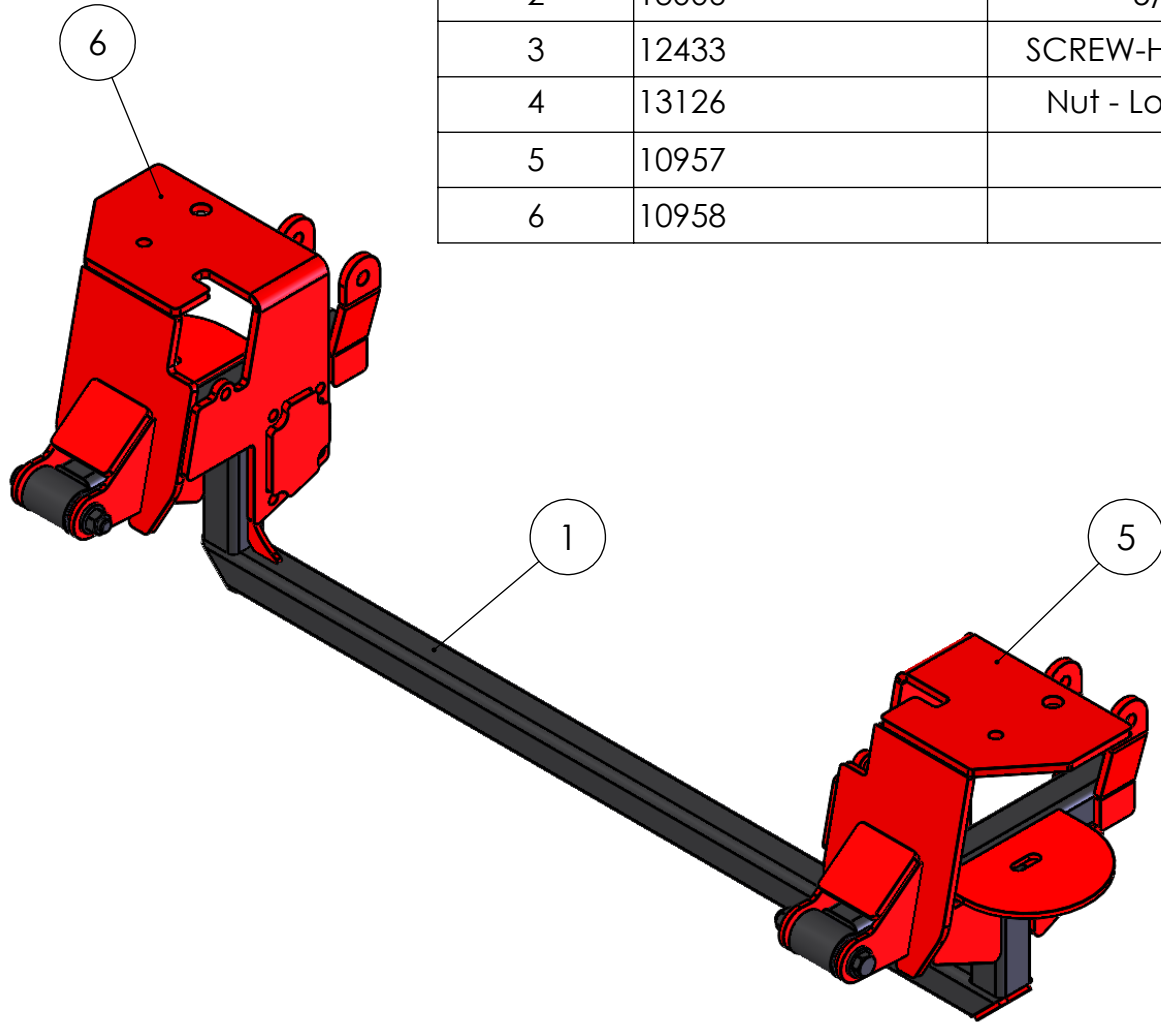
**LH Upper Framework**  
(driver's side)



**Bottom Swing Arm**



ITEM NO.	PART NUMBER	DESCRIPTION	Default(PM)/QTY.
1	10944	Swing Arm	1
2	13006	5/8" FLAT WASHER	4
3	12433	SCREW-HCS-.63-18X4.75-GR8-YZ	2
4	13126	Nut - Locking - 5/8" - 18 - GR8	2
5	10957	FRAME - PS	1
6	10958	FRAME - DS	1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/32"$ ANGULAR: MACH $\pm 1$ BEND $\pm 1$ TWO PLACE DECIMAL $\pm .030$ THREE PLACE DECIMAL $\pm .010$	Design By:	Zach Beltz 2014	Project:	
	Shelf # / Qty		Excursion - 2-Bag Rear	
	Inventory		Description:	
	Run Qty:		Kit	
MATERIAL	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KELDERMAN MFG. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KELDERMAN MFG. INC. IS PROHIBITED.		SIZE	DWG. NO.
FINISH			<b>A</b>	<b>10941</b>
WEIGHT	108.92		SCALE: 1:16	SHEET 1 OF 3



