

SALEEN
OPERATIONS DESCRIPTION SHEET

SALEEN MANUFACTURING

SALEEN CONFIDENTIAL

Date	#	Change Description:	AP

Model Year: 2005	ODS Release Date:	# of Operators: 1	
Operations Description: S331 Class IV Air Spring Kit Install	Workstation #: TBD	ODS #: 08-ODS5080	Engineer Responsible: AKG

Location	Hardware	Torques	Units

Time required to complete procedure:
 # Hr. # Min.

Tools Required:
 1/4" drive air ratchet
 13 mm socket, 1/4" drive
 3/8" drive ratchet
 17 mm socket, 3/8" drive

Parts	Description	(Qty)
08-1300-B16325*	Air Ride Suspension Kit	1
024-110	Saleen valve stem caps	1

Materials Required:
 Torque seal
 Red Loctite #262

- Lower the spare wheel
 - Use the spare wheel lowering tool, inserted through the hole above and to the right of the tow hitch (Figures 1, 2)
 - Remove the spare wheel and place in the truck bed
- Install the manifold bracket assembly onto the underside of the truck bed, in the orientation shown. (Figures 3, 4, 5)
 - Add a drop of red Loctite #262 to each of the bolts (08-9003-C16452*)
 - Use a 1/4" drive air ratchet with 13 mm socket, install with two bolts
 - Torque bolts to 44 ft-lbs
 - Apply torque seal to each bolt head

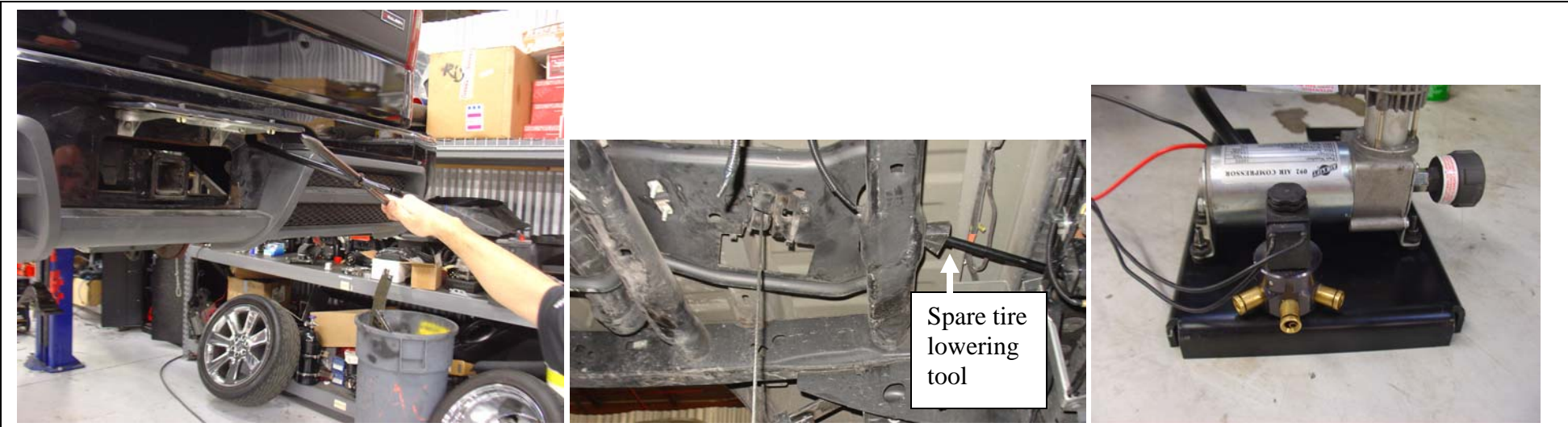


Figure 1

Figure 2

Figure 3

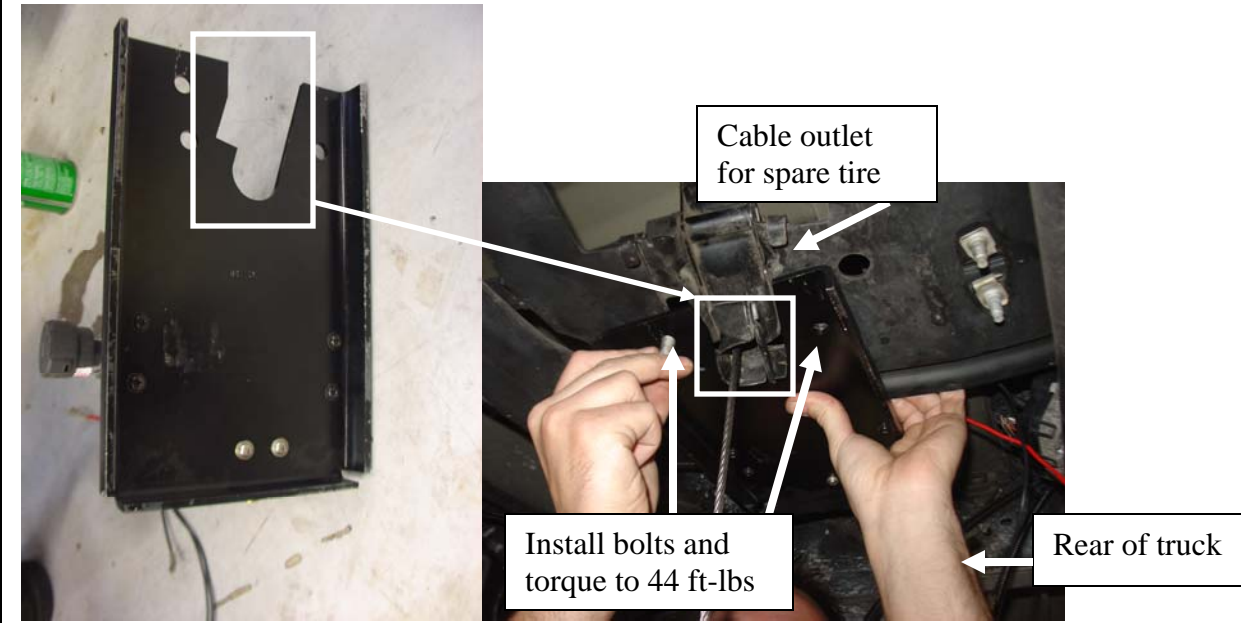
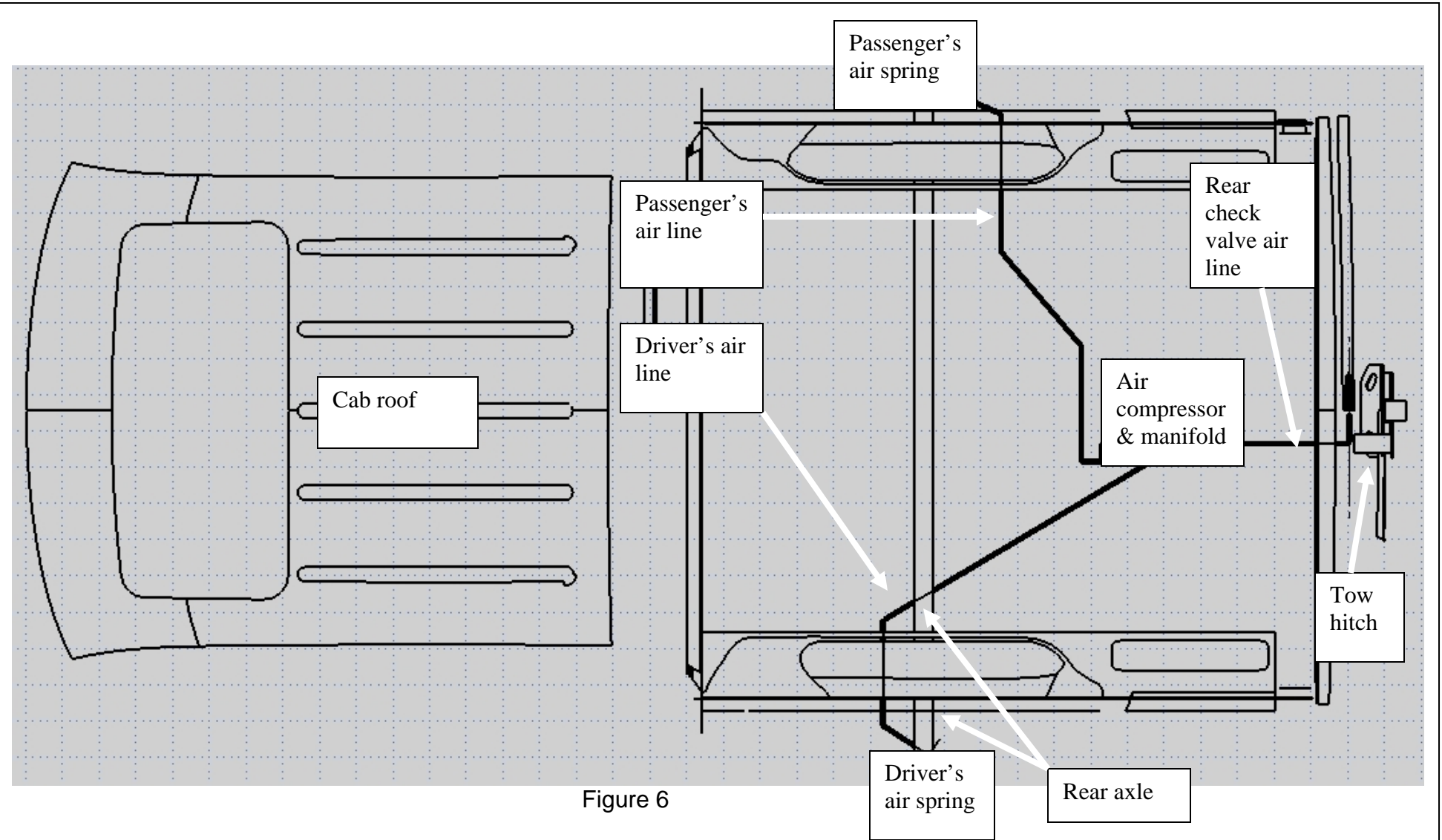


Figure 4

Figure 5

The diagram at right shows a plan view (looking down at the truck) of the routing of the three air lines; note how the driver's versus the passenger's side lines are routed with respect to the rear axle.



3. Route the air lines

- Route the passenger side air line through the under-bed cross tube (Figure 7)
- Connect the passenger side line into the fitting on the passenger air spring
- Pull the passenger air line out of the under bed tube near the EVAP canister (Figure 8), route it over the canister and back to the manifold (Figure 9)
- Install the driver's side airline into the driver's air spring, then route the line over the frame rail in front of the air spring
- Make a U-turn with the driver's air line and run it a long the stock harnesses on the inboard side of the frame rail back to the manifold (Figure 10)
- Install the passenger's line in the forward fitting on the manifold (Figure 11)
- Install the driver's air line into the middle fitting of the manifold
- Install the emergency fill valve line into the rear fitting of the manifold
- Install a Saleen valve stem cap (024-110) onto the fill valve
- Route the emergency fill valve line back to the tow hitch and insert into the valve (Figures 12, 13)
- Remove the driver's side bolt from the front of the bracket shown in Figure 12
- Place an adell clamp (179-090) over the bracket, insert the fill valve line into the clamp, then secure with the stock bolt
- Zip tie the rear air line to the factory harness in the three locations indicated in Figures 14 & 15

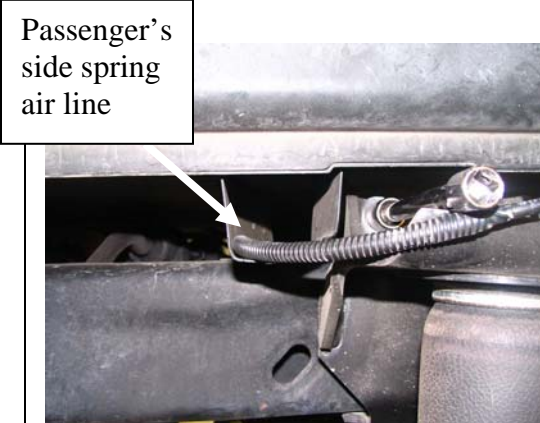


Figure 7

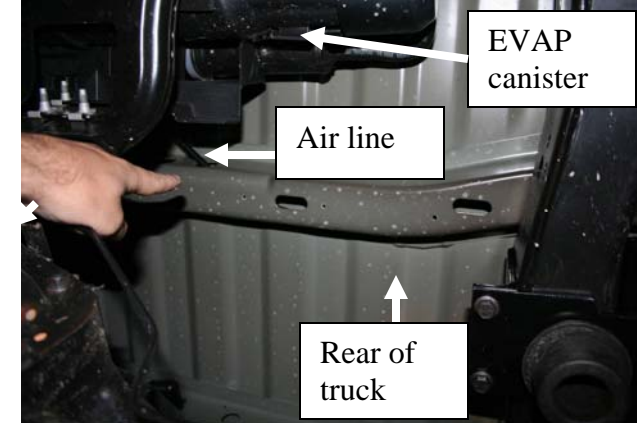


Figure 8



Figure 9



Figure 10

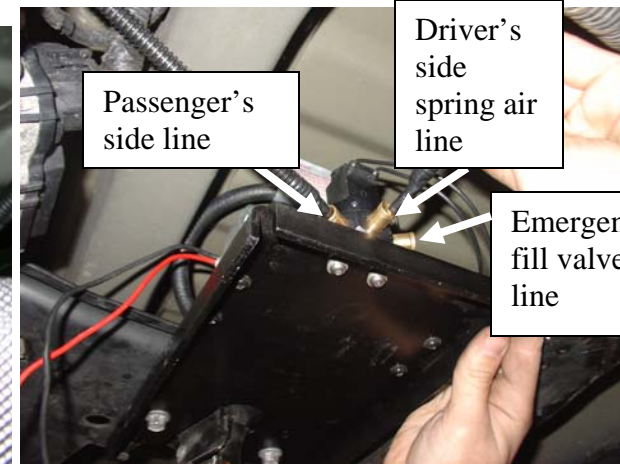


Figure 11

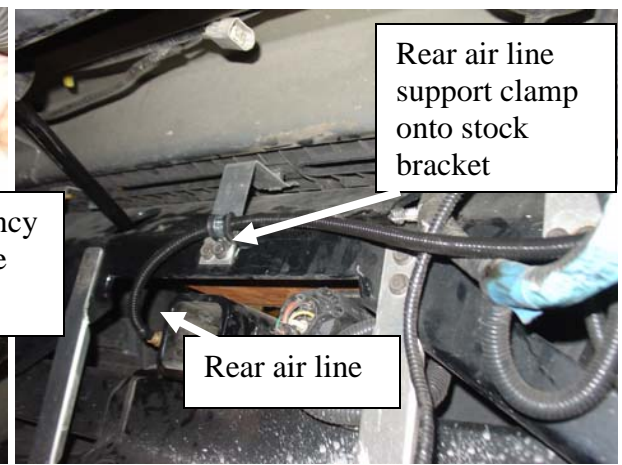


Figure 12

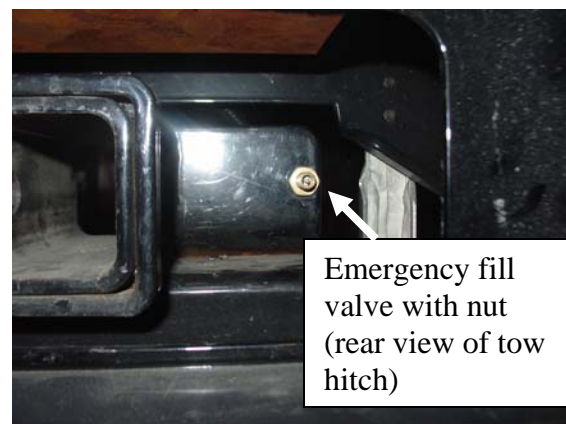


Figure 13

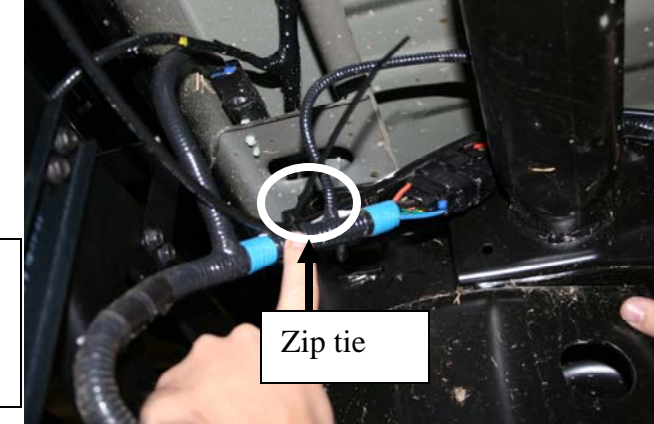


Figure 14

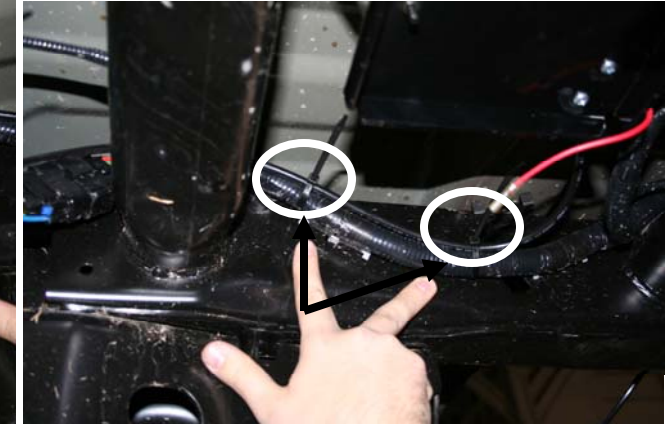


Figure 15

4. Install the upper and lower brackets onto each air spring; note the orientation of the flanges on each bracket in Figures 16 & 17.

- Tighten the upper nut to **4 lb-ft**
- Leave the bottom nut loose so the air spring can spin freely

4. Remove the bump stops.

5. Put the inboard and outboard air spring mounting brackets into place on each frame rail. (Figures 16 - 18)

- Note orientation of the flange on the outboard bracket (Figures 16, 17)
- Place a drop of red Loctite onto each of the longer bump stop bolts
- Place the rubber bump stop into place and start the longer bump stop bolt through the bracket to the chassis rail by hand (Figure 18)
- Snug but do not tighten the bolt through the bump stop using a 17 mm socket on 3/8" drive ratchet
- Place a drop of red Loctite onto each of the bolts (08-9001-C16462*) that will secure the upper and lower frame rail brackets
- Install the lower (Figure 19) and upper (Figure 20) bolts, and snug but do not tighten
- Tighten all bolts gradually, all of them to snug then torque all to **45 lb-ft**
- Apply torque seal to the nuts
- The air spring must be loose between the top of the spring and the upper/outboard bracket
- The air spring must be perpendicular to the brackets

6. Install the air line fitting onto each air spring

- The driver's side fitting points to the front of the truck
- The passenger's side fitting points to the rear of the truck

7. Add 5 psi air pressure to the system, then adjust each air spring so it is perpendicular to both the upper & lower brackets. Tighten the nut at the bottom of the air spring.

6. Install the ECU (there is only one per vehicle) onto the upper air spring bracket on the driver's side of the vehicle as shown in Figure 21

- Remove the sticker from the ECU, and replace with the Saleen sticker (08-9101-C16491A)
- Ensure the dotted line on the sticker is level with the two mounting bolts for the ECU

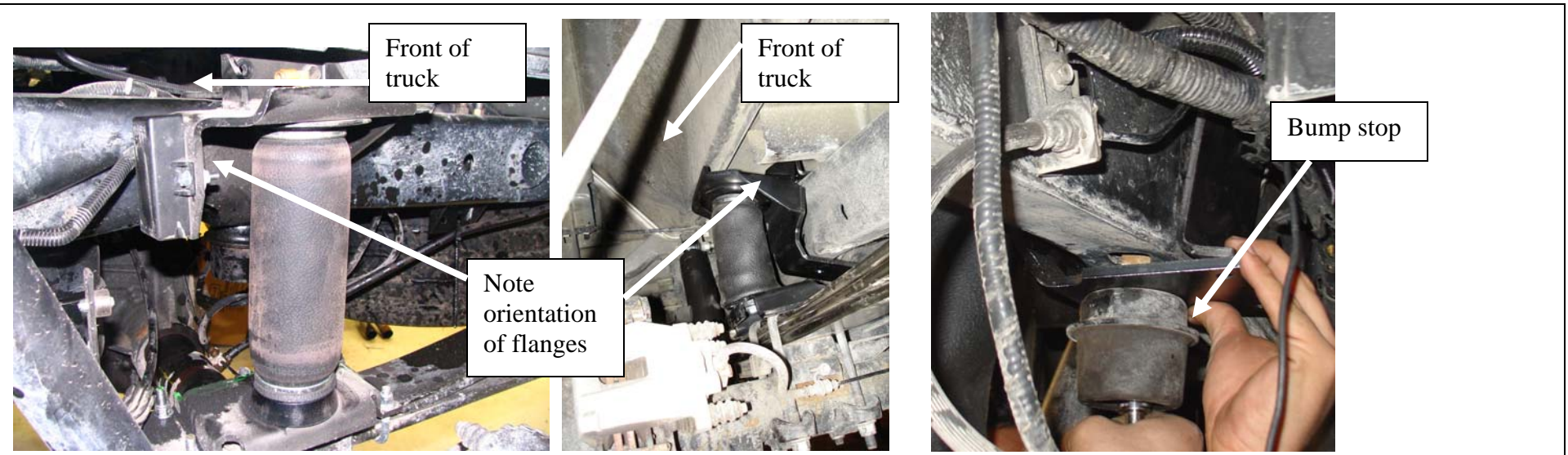


Figure 16

Figure 17

Figure 18



Figure 19

Figure 20

Figure 21

7. Install U-bolts for lower air spring bracket around leaf spring. (Figures 22, 23)
 - Install the mounting bracket for the stationary magnet over the forward U-bolt and under the nuts (Figure 23).
 - Place a drop of red Loctite over the top threads on both threaded ends of each U-bolt (08-9001-C16408A)
 - Snug the nuts evenly over the U-bolts and **torque to 16 lb-ft** (Figure 22)
 - Apply torque seal to all the nuts
8. Remove the Class III towing sticker from the back of the tow hitch and replace with the Class IV sticker. (Figure 24)

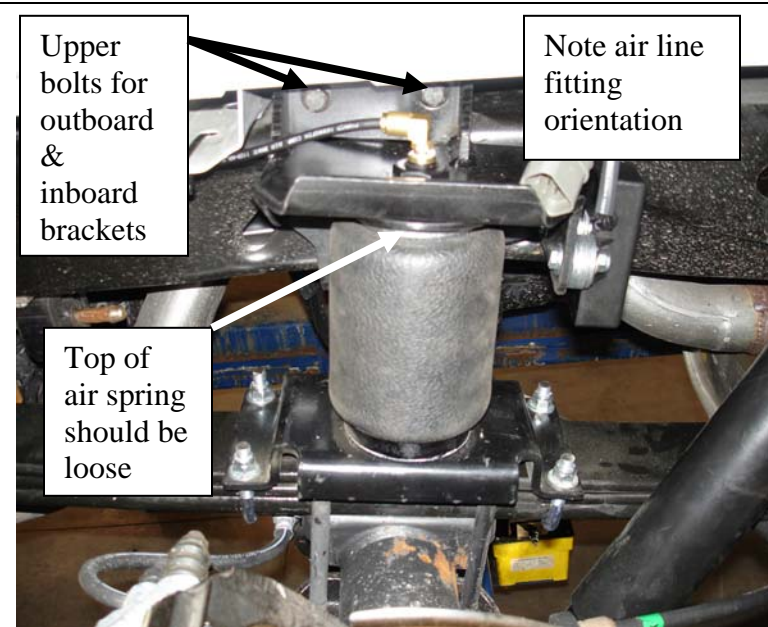


Figure 22

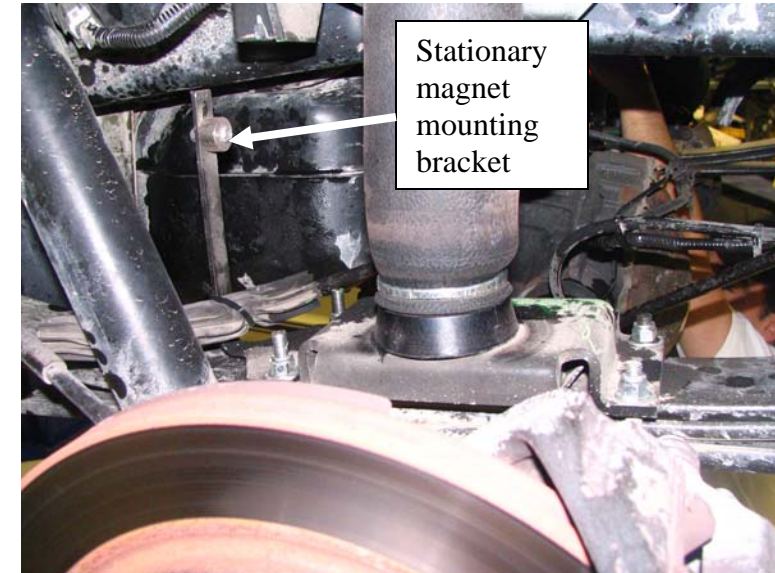


Figure 23



Figure 24

COMPLETE WIRING HARNESS INSTALLATION PER 08-ODS5084 BEFORE PROCEEDING

9. Check that the system is still pressurized to 5 psi, and check for leaks by spraying soapy water at all air line junctions
 - Check pressure at the emergency fill valve with a tire pressure gauge
10. Ensure the stationary magnet is level with the center line of the two bolts holding the ECU onto the air spring bracket (dotted line on ECU sticker, Figure 21)
10. Ensure that the leveling system is operating properly
 - Turn the key on but leave the engine off
 - Let the truck level out
 - Have someone stand on the rear bumper, then check that the compressor engages and the system levels out
 - Unload the bed, and verify once again that the system levels out
11. Perform the test drive.
12. The air pressure in the springs should be 3-6 psi when the truck is unloaded with no driver. Check air pressure with air pressure gauge at the valve on the tow hitch.
 - If the pressure in the springs after the test drive is <3psi, move the magnet up on the bracket and let the truck level out
 - If >6psi, move the magnet down on the bracket and let the truck level out
 - Repeat until air pressure unloaded is between 3 and 6 psi

