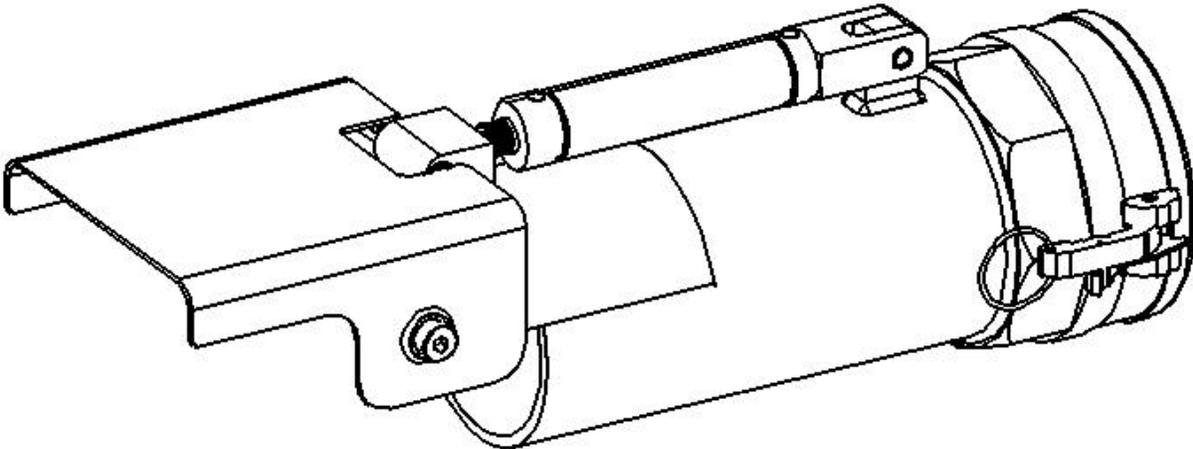


S **SALCO PRODUCTS, INC.**

Load Diverter Manual



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Key Features of the Load Diverter

1. Easy installation
2. All parts included
3. Constructed of smooth-cased aluminum
4. Easy removal for cleaning
5. Can reduce load time by as much as 30%
6. Operator has control of loading
7. Eliminates overloading on drive axles
8. Eliminates “slamming” or load shifting
9. Reduces chance of contaminating the load
10. Saves on fuel costs
11. Saves driver time and reduces stress
12. Reduces blower wear
13. Reduces trailer maintenance
14. Reduces the guess work needed to achieve a perfect load

Recommended Safety Instructions

- Comply with all warnings provided in this manual.
- Read all safety and operating instructions before installing and operating the Load Diverter.
- Retain all safety and operating instructions for future reference.
- DO NOT use attachments NOT recommended by the Load Diverter’s manufacturer, as they may cause hazards.
- DO NOT place the Load Diverter on uneven surfaces. It may fall and be damaged, and personnel could suffer serious injury.
- Always wear proper fall protection when cleaning, installing or servicing the Load Diverter.

Parts List

1. Load Diverter
2. 3 Way Air Switch
3. 1/4" D.O.T. Nylon Tubing
4. 1/4" x 3/4" Hex Bushing
5. 1/4" Male NPT x 1/4" Compression Tube Fitting
6. 1/8" Male NPT x 1/4" Compression Tube Fitting
7. 90° 1/4" Male NPT x 1/4" Compression Tube Fitting
8. Brass Bulkhead Coupling
9. 3/4" SAE Steel Washer
10. 3/4" Rubber Washer
11. 3/4" Brass Jam Nut
12. 1/4" Brass Nipple
13. Female Quick Disconnect Fittings
14. Male Quick Disconnect Fittings
15. Stainless Steel Braided Hose Assemblies
16. Mounting Bracket
17. 1/4" x 1" Stainless Steel Bolts
18. 1/4" Stainless Steel Lock Nuts
19. Nylon Ties
20. Caution Label
21. Air Switch Label

INSTALLATION

The Salco Products Load Diverter is easily install by a certified trailer mechanic in under one hour. The Load Diverter is designed to retrofit any self-loading dry bulk trailer. To assist the mechanic, installation instructions contain illustrations.

When installing the Load Diverter, the mechanic should wear proper fall protection and should follow all installation procedures. This model attaches to a male cam fitting. If your trailer does not have a male cam fitting on the rear loading tube, contact Salco Products.

Note: *If your trailer is equipped with two loading lines always use the rear line. The cam fitting must be located in the rear of the hopper and must be installed prior to the installation of the Load Diverter.*

1. **Disconnect the air supply and drain all air tanks on trailer!** Check all air tanks to ensure that the air is completely drained before going to Step 2. **Note:** It is recommended that all threaded parts be secured with Teflon tape.
2. Remove the reserve plug from the air tank. Insert the hex busing [#4, Figure 1] into the air tank and tighten. Insert the 1/4" male NPT x 1/4" compression tube fitting [#5, Figure 1] into the hex bushing. Attach 1/4" nylon tubing [#3, Figure 1] into the compression fitting [#5, Figure 1] and tighten.
3. Place the air switch in an easily accessible area on the rear of the trailer. This placement should allow the operator to use the air switch without obstruction. If needed, a mounting bracket with nuts and bolts is provided.
4. Secure nylon tubing from the air tank to the 3 way air switch. Use nylon ties to secure the air tubing to the frame of trailer. **Note:** Cut air tubing to the desired length.
5. Insert the all three 1/8" male NPT x 1/4" compression tube fittings [#6, Figure 1] into the 3 way switch [#2, Figures 1] and tighten. Then insert the 1/4" tubing from the air tank into the compression tube fitting.
6. Attach the Load Diverter to the cam fitting on the loading line.
7. Before drilling holes for the bulkhead fittings, determine where they will be placed. The holes can be drilled in the cover or in the roof of the trailer near the ring. Find an area that will not interfere with the operation and locking mechanism of the domelid cover. **DO NOT** create a trip hazard.
8. Drill two 3/4" holes about 3" apart. When drilling holes in the cover, ensure that the holes are not drilled into the ribs on the underside of the cover and that there is enough room for tightening both brass jam nuts [#11, Figure 2].
9. Assemble the fittings according to Figure 2. Ensure that the rubber washer [#10, Figure 2] is compressed between the steel washer [#9, Figure 2] and the hatch cover or roof. Ensure that one female quick disconnect [#13, Figure 2] and one male quick disconnect [#14, Figure 2] are connected to the 1/4" brass nipples [#12, Figure 2].
10. Thread the 1/8" end of the braided steel hoses [#15, Figure 2] into the cylinder on the Load Diverter. Assemble the other female disconnect [#13, Figure 2] and male disconnect [#14, Figure 2] on the other end. Insert male disconnects into female disconnects

11. Using the best possible route to the 3 way air switch, secure the air tubing to the exterior of the trailer using cable ties. [Figure 3]. Cut and secure tubing to the two remaining male fitting 1/8" male NPT x 1/4" compression tube fittings [#6, Figure 1].
12. Attach air supply and regenerate air tanks. Check all fittings and hoses for air leaks.
13. Move air switch up and down (or side to side, depending on the installation) checking the operation of the Load Diverter. Check the Load Diverter's movement and place the air switch label "**REAR**←→**FRONT**" on the face of the 3 way air switch.
14. To prevent the air switch label from being placed upside down, place the switch in the middle (neutral) position and swap the two tubing connections on top of the 3 way air switch.
15. Place the caution label in a visible area on or near the domelid where the Load Diverter is located.
16. Wash the trailer after installation and before loading.

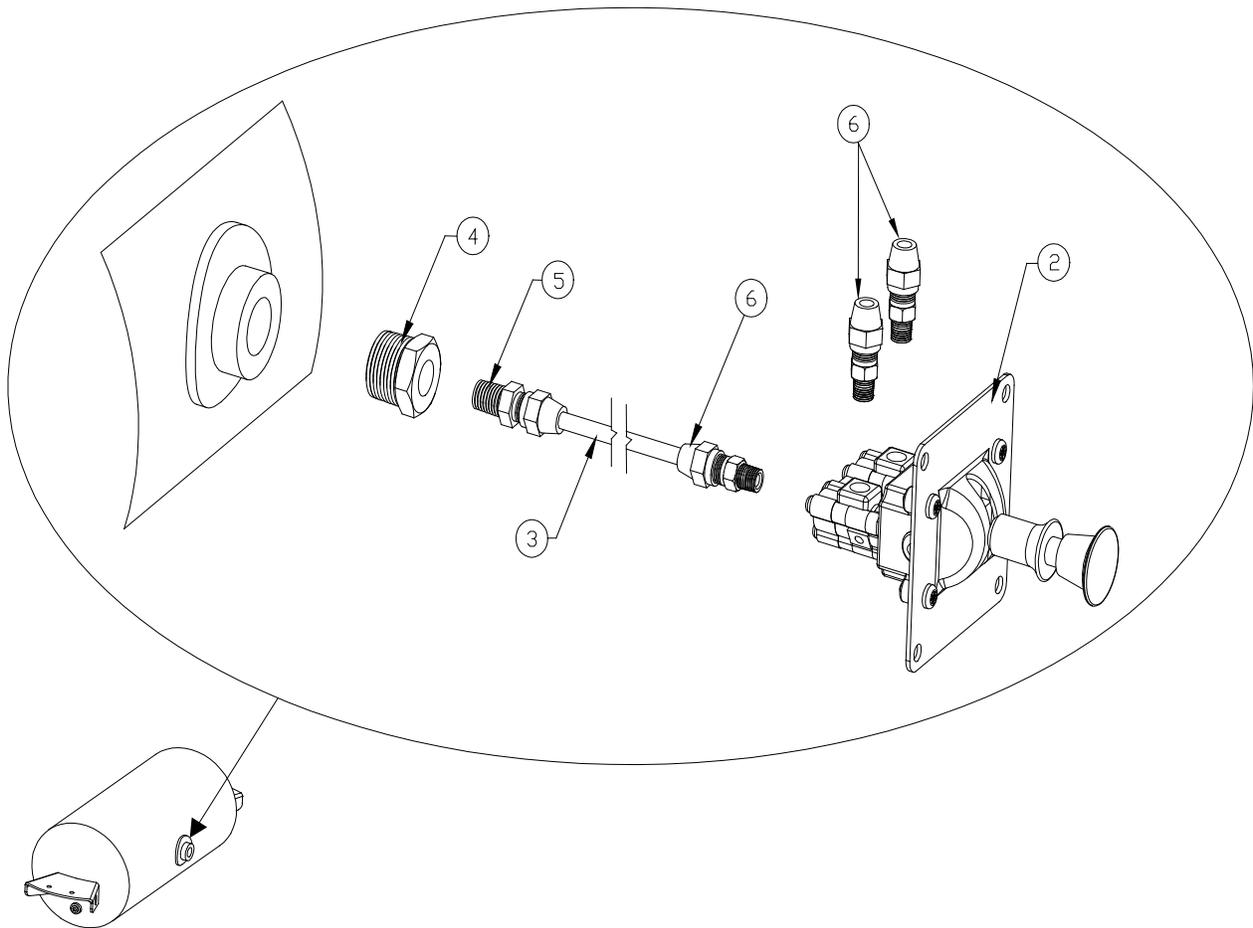


Figure 1

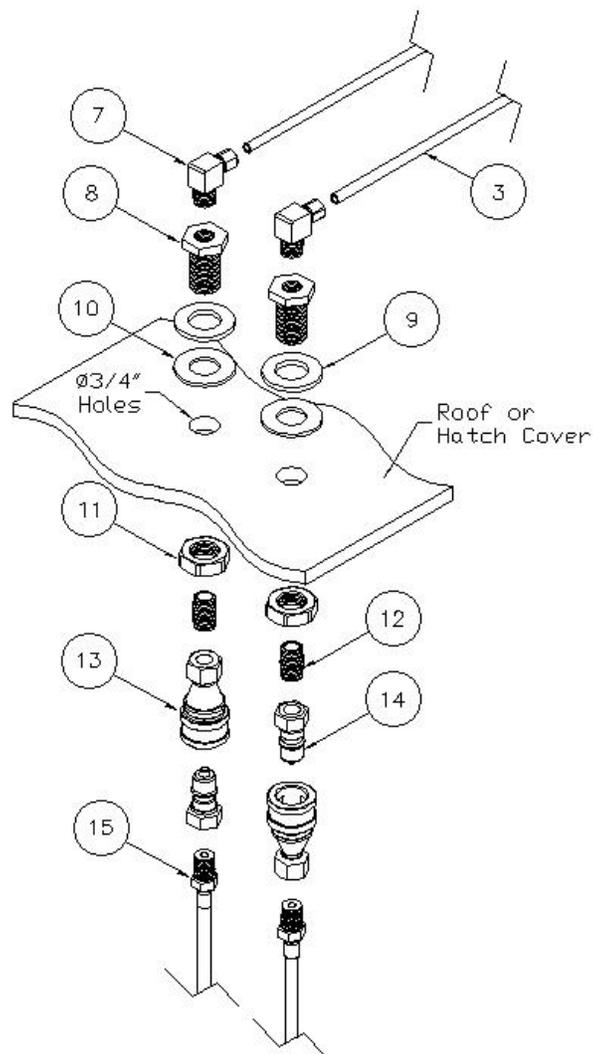


Figure 2

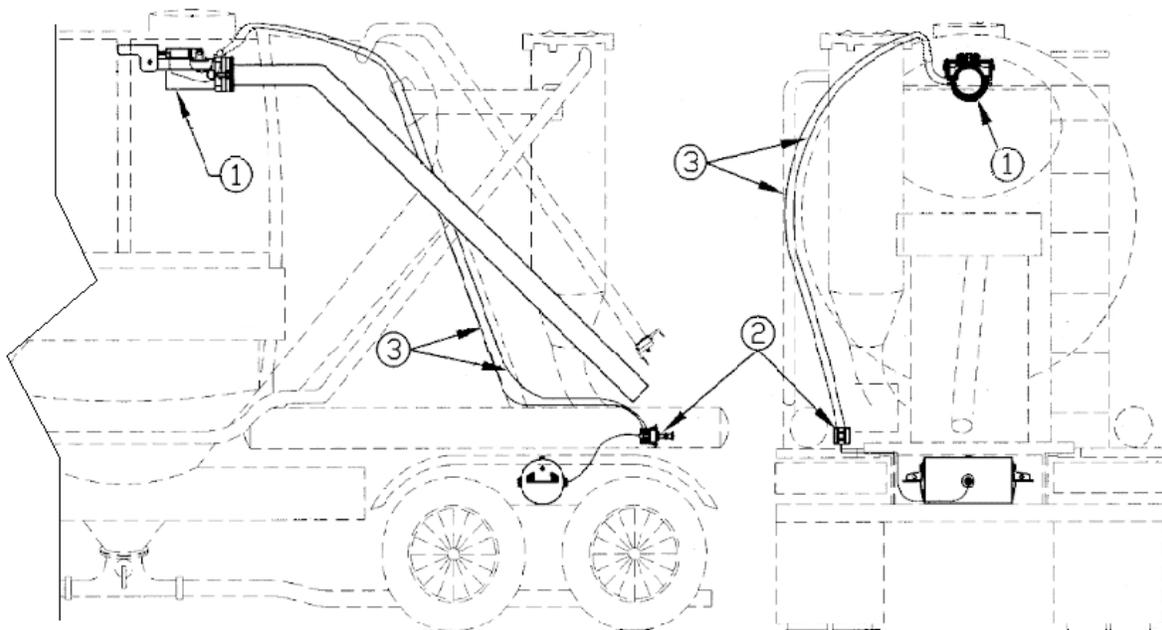


Figure 3

Operation

The Salco Load Diverter is operator friendly. By following the operation instructions and using driver experience, this is a natural fit to your trans-loading operation. In this section of the manual we will cover the proper way to vacuum load using the Diverter. Factors to consider when loading include suspension weights, weights of products and attaining maximum vacuum.

1. Before loading, evaluate the desired load. This is accomplished by determining the weight of the load, type of product, and rail car compartments to be off-loaded. We recommend loading partial rail car compartments first. Compartments with a weight of under 7000 lb should be loaded to rear of the trailer first. This allows for the drop in vacuum that occurs when emptying the partial compartments. We do not recommend changing standard loading practice, but we do recommend maintaining highest possible vacuum rate. When loading from the far side of the railcar the drop in vacuum may not allow lighter products to reach the front of the trailer. When possible, vacuum product from the near side of compartment to achieve optimal loading results.
2. Before starting the blower, make sure the air switch (#2) is in the proper position. When loading a partial rail car compartment (loading to the rear of a trailer) the air switch (#2) should be in the “REAR” position. When starting a new compartment always have the air switch (#2) in the “FRONT” position and the rail car valve fully open. This creates the maximum vacuum needed to place the product on the front of the trailer.
3. As loading begins, monitor the vacuum and suspension gages. The vacuum gage should reach and maintain maximum vacuum. All products being loaded react differently, creating different pressures from product to product. Tractor suspension gages also vary with equipment. The driver will know his proper drive weight by monitoring his tractor suspension gage. The suspension gage displays the air pressure in the tractors air ride suspension. This is also viewed as a scale to achieve proper drive weight. When the Load Diverter is activated, it will not allow product to the front of the trailer. It must be understood that loading the rear of the trailer will add weight to the front. The Load Diverter should be activated at about 10% under the maximum drive weight.

Example: If the maximum drive weight on the gage is 57 psi = 34,000 lb, divert or switch to the rear at 50 to 52 psi. The lower the psi, the lower the drive weight. 50 to 52 psi is at approximately 10% under the ideal drive weight.

4. Moving the air switch (#2) into the “REAR” position drops the Load Diverter door to a 90° position. With the door in a 90° position, product is placed to the rear of the trailer. The trailer rear suspension gage displays the pressure in the trailer’s air ride suspension. When this gage reaches its maximum pressure, shut down loading. Most trailers have pressure markings in the gage box or notes near the rear of the trailer that provides a visual record of weight based on experience. All trailers that have a diverter installed must also have the rear axle pressure/weight conversion (34,000 lbs. = XX psi) written near the suspension gage.

These instructions can be modified for different suspension weights, weights of products, and to maintain maximum vacuum. You will find the more you use the Load Diverter, the more it will be used as a loading tool. How does the product load? For light, medium and heavy products, make minor adjustments to your switch weight. The combination of loading experience and these instructions will save significant time and assist the driver to obtain an optimally loaded trailer.

CLEANING AND CARE

The Salco Load Diverter is a low maintenance unit. Its operation is pneumatic and mechanical. The Load Diverter is designed to be removed from the trailer during washing without disconnecting the air lines that may be under pressure.

1. Thoroughly wash the Load Diverter with water, checking housing exterior and interior. Remove the gasket in cam fitting. Be sure to rinse gasket and gasket seat.
2. Inspect the Load Diverter for cleanliness
3. Check the operation of the Load Diverter after every wash.
4. Using a 5/16" hex allen wrench and rotating in a clockwise direction, check each of the two shoulder bolts for hand tightness. If the shoulder bolts are found to be loose: a) Remove the shoulder bolts and clean any oil, Loctite or other residue out of the threaded holes and bolt threads. b) Inspect the shoulder bolt plastic clip bearings and replace them if needed. c) Apply 3 - 6 drops of Loctite® 263 Threadlocker to shoulder bolt threads. d) Re-apply the shoulder bolts and torque them back down to 30 ft-lbs. Allow the Loctite® to cure for at least 90 minutes before putting into service and at least 24 hours before washing.
5. Do not kink or twist hoses, as it may result in damage to the hoses.
6. Do not let the Load Diverter tip over when setting it on the ground. This could cause damage to the unit or cause serious injury to personnel.
7. After washing and inspecting the Load Diverter, place it back onto the load line. Make sure that the locking arms are fully engaged.
8. Never hold the Load Diverter door or try to move the door when under pressure. Holding the diverter door or preventing movement of the door could cause injury and damage the Load Diverter.

REPLACING THE CYLINDER

1. Remove the hose fittings from the cylinder.
2. Remove the cylinder from the Load Diverter. Both ends of the cylinder are threaded and locked with Loctite®.
3. Clean as much of the remaining Loctite® from the threads as possible. Chasing the threads with a tap can clean the threads. The threads in the door and cylinder swivels are 7/16"-20 UNF and 3/4"-10 UNF, respectively.
4. Put 3 - 6 drops of Loctite® 263 Threadlocker on the threads of the tapped hole in the cylinder swivel and thread the swivel onto the back of the cylinder hand tight.
5. Put 3 - 6 drops of Loctite® 263 Threadlocker on the threads of the tapped hole in the door swivel and thread the cylinder rod into the door swivel.
6. Adjust the depth of the cylinder rod into the door swivel so that the door is at 180° when the door is fully open, as shown in Figure 4.
7. Reinstall the hose fittings into the cylinder using PTFE tape.
8. Allow the Loctite® to cure at least 90 minutes before putting into service and at least 24 hours before washing.

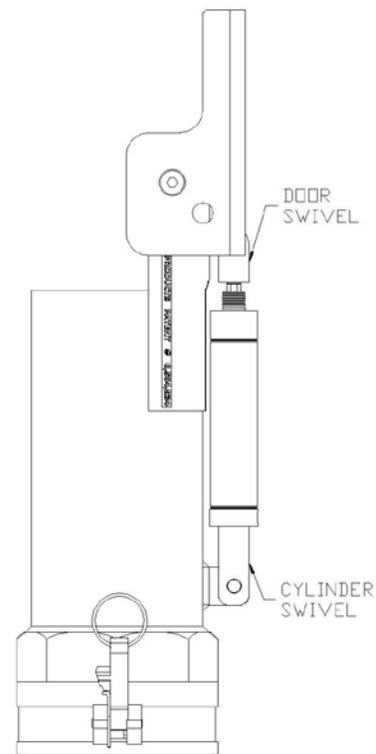


Figure 4

