

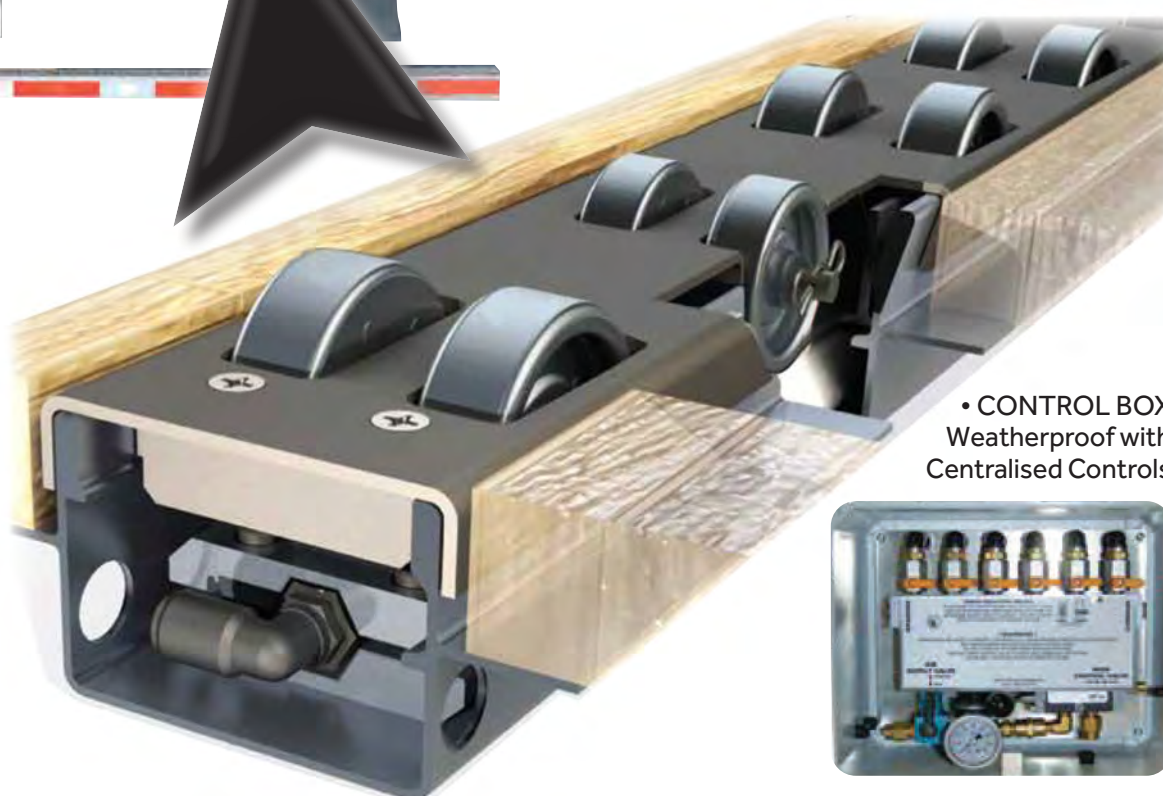
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RETRACT-A-ROLL

RAR-2 & RAR-4

INSTALLATION MANUAL REVISION A 2023



• CONTROL BOX
Weatherproof with
Centralised Controls



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INTRODUCTION

The purpose of this manual is to describe the installation procedures required for Ancra Retract-A-Roll systems. Prior to each use of the Retract-A-Roll system, inspect system components for wear or damage to ensure safe, smooth operation.

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Chapter 1 – BASIC SYSTEM OVERVIEW

1.1 Retract-A-Roll® (RAR) Conveyor Anatomy

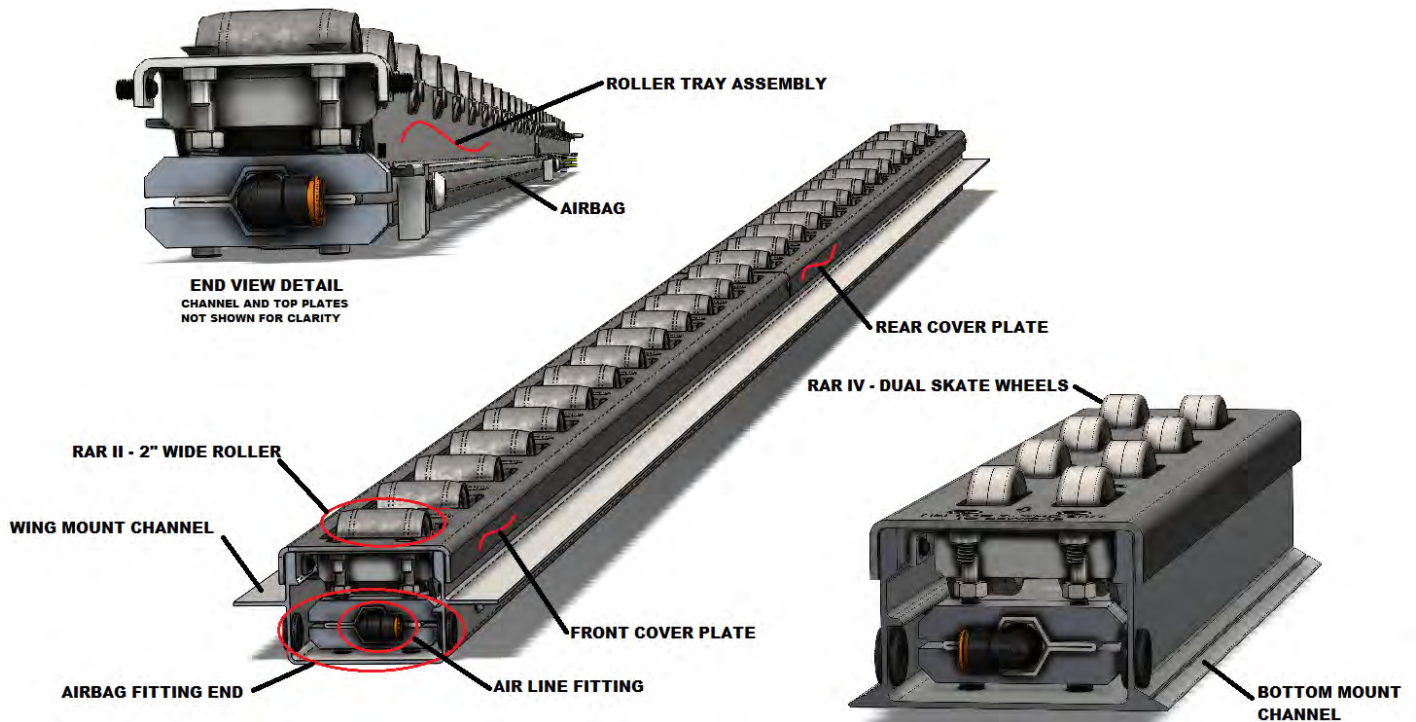


Figure 1.1 Conveyor Anatomy

1.2 Retract-A-Roll® (RAR) General Function

- Airbags raise the rollers or skate wheels above the surface of the trailer floor for easy loading and unloading of cargo without a forklift. (Fig. 1.2)
- The rollers or skate wheels should always be lowered before transport.
- System attaches to the vehicles emergency brake air supply.

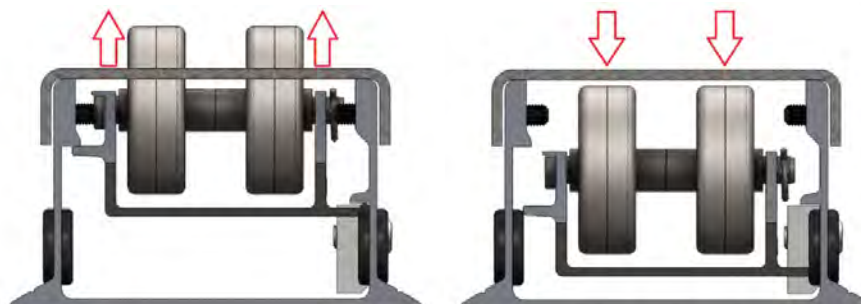


Figure 1-2 - Roller / wheels raised and lowered

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1.3 RAR System Additional Components



62014-10 - RAR control box



61069-10 – Air tank kit



62023 – Fitting kit component examples



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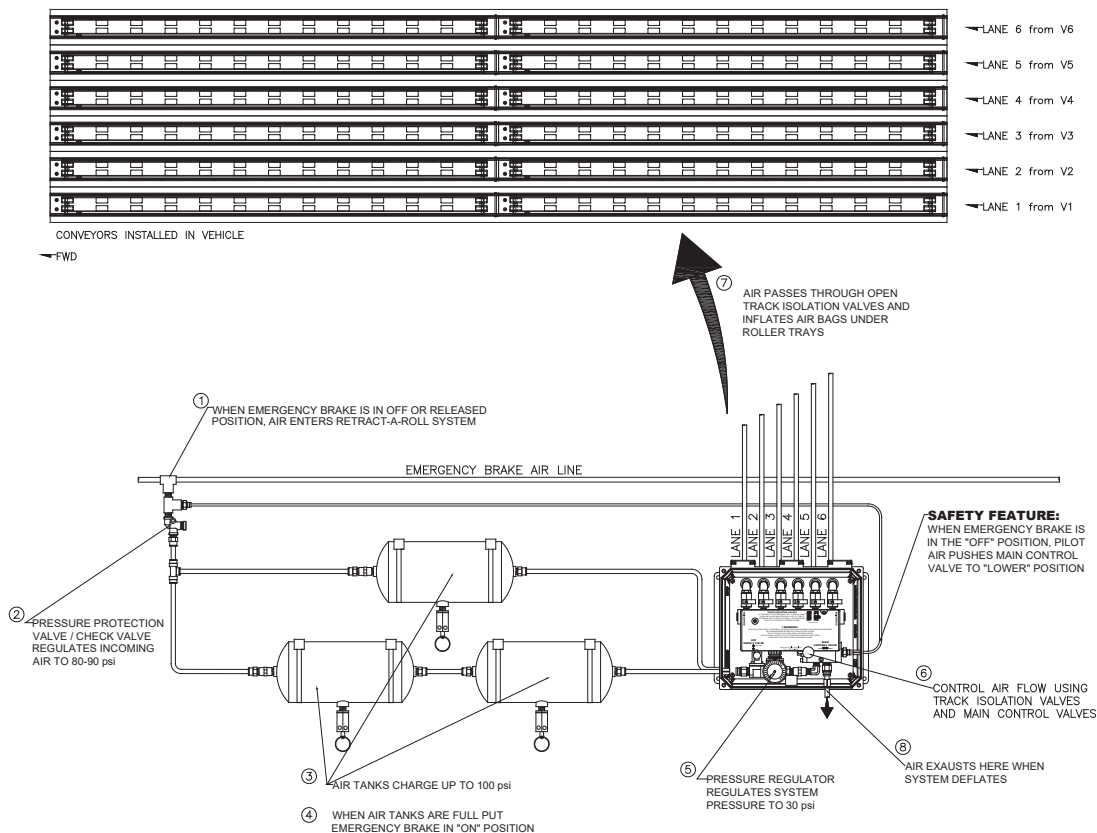
1.4 RAR System Operation

1. When the emergency brake is off or released position, air enters the RAR system.
2. When pressure is built up, the PPV valve allows air to enter the air tanks.
3. The air tanks charge up to 100 ± 5 psi.
4. When the air tanks are full, set the emergency brake in the on position.
5. The pressure gage inside the control box should read 30 ± 5 psi, system is not field adjustable.



WARNING - Retract-A-Roller system pressure above 35 psi can cause system failure and severe personal injury.

6. Begin airflow to operate floor system by using the main control valve inside the control box.
7. Air passes through the open isolation valves and inflates and raises the rollers.
8. When finished, deactivate the system by using the main control valve inside the control box.



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Chapter 2 – PLANNING THE INSTALLATION

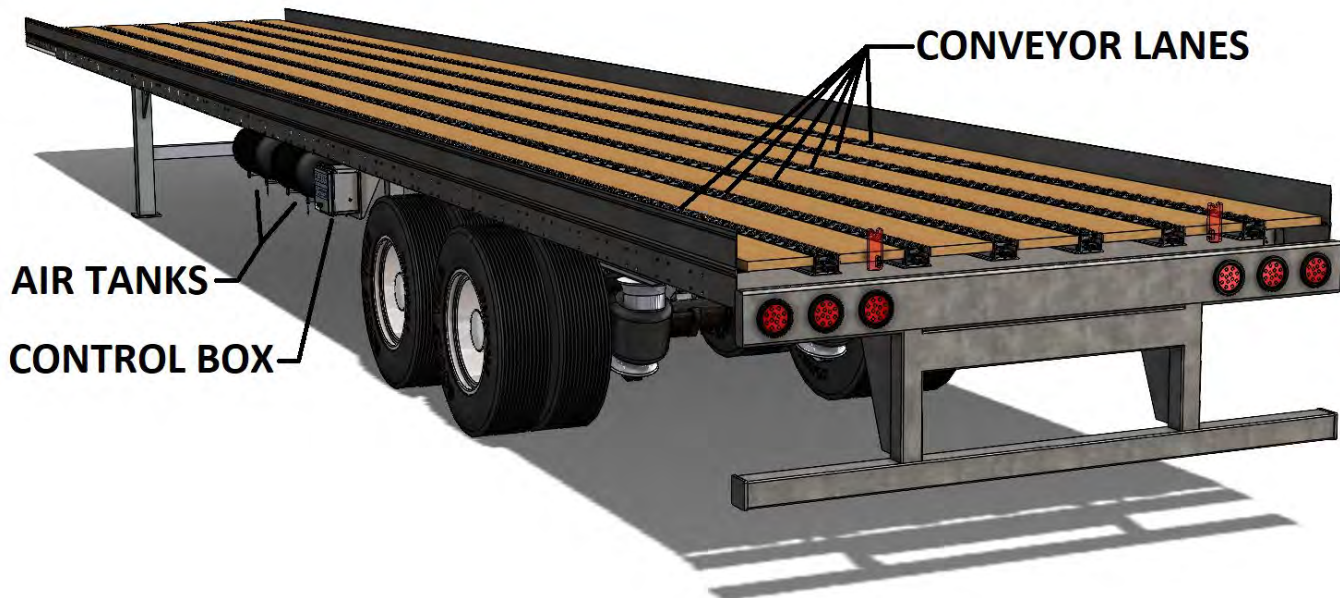


Figure 2.0 Basic Layout Example of Retractable-A-Roll® System

2.1 Suggested Installation Sequence

Most components can be installed at the same time. Tasks are divided into chapters for readability.

- Chapter 3: Installing Conveyors and Decals.
- Chapter 4: Installing System Control Kit, Air Tank Kits, and Fittings Kit.
- Chapter 5: Inspecting for Proper Installation and Operation.

Before starting work, Supervisors should read instructions all the way through and understand requirements.

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2.2 Installer Supplied Equipment

Ensure all installer supplied equipment and supplies are on hand prior to installation.

Checklist For Installer-Supplied Equipment

✓	Description
<input type="checkbox"/>	Drawings Vehicle Floor Assembly Drawing, from Vehicle Manufacturer, shows Retract-A-Roll®II and Installer-supplied parts.
<input type="checkbox"/>	Sub-Floor Bridge plates, track end supports. Steel shims (if floor is not level), Battens (wood beams), step shims (if required).
<input type="checkbox"/>	Fasteners Fasteners (Conveyors to vehicle). Fasteners (Brackets that attach connectors and air lines to vehicle, as required).
<input type="checkbox"/>	Air Supply (2) "T"-Fittings (connecting to vehicle air supply). (1) Adaptor: "T"-Fitting-to-1/4"-tube. (1) Adaptor: "T"-Fitting-to-Pressure Protection Valve (1/4"). (1) Pressure Gauge: 160 psi, 1-psi gradients (Leak Test). Pipe Tape (all connectors). Brackets (connectors and air lines to vehicle, as required).
<input type="checkbox"/>	Pallet Stops Purchase separately from Ancra.
<input type="checkbox"/>	Spacers Run Out Channels.
<input type="checkbox"/>	Shop Tools Including air compressor and pneumatic tools, welding equipment, linear measuring and marking tools, pressure-measuring tools, table saw for floorboards.
<input type="checkbox"/>	Supplies Caulking, Tape, Touch-up paint, Undercoat.
<input type="checkbox"/>	Safety Make sure that all proper safety equipment is provided and safety procedures are followed.

2.3 Inspecting the Vehicle

Before installing a Retract-A-Roll® system, carefully inspect the vehicle and auxiliary systems, and make repairs as required. Road-worthiness is the responsibility of the Owner and Vehicle Manufacturer.

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Chapter 3 – INSTALLING CONVEYORS AND DECALS

CAUTION: Do not remove plastic tape from tops of Conveyors until installation is complete. Tape protects conveyors and roller trays during installation and from installation debris.

RECOMMENDED: Install Mylar tape on the bottom of the main channel to prevent corrosion between the conveyor and the cross members.

3.1 Preparing Vehicle Interior

Ancra recommends that the Installer carefully inspect the vehicle interior. Modifications may be necessary for proper fit and support of Retract-A-Roll®II. Table 3-1 below, lists recommendations, however, it is not designed to be a complete list. Road-worthiness is the responsibility of the Owner and Vehicle Manufacturer.

CAUTION: Prior to any welding, protect installed Track and Components from any welding debris that will damage components.

Table 3-1 – Check List for Preparing Vehicle Interior

✓	Recommended Specification *
<input type="checkbox"/>	Structural cross members and shims are level with each other and within manufacturer's specifications.
<input type="checkbox"/>	Floorboards and sub-floor build-up, at each module, will not be lower than 2 3/4" (+3/32") –height of the Conveyors with the rollers in the down position. (see 3.2)
<input type="checkbox"/>	Conveyors are attached a minimum of three times per side (each end and center).
<input type="checkbox"/>	Fitting kit is installed, and air system is working properly (Chapter4).
<input type="checkbox"/>	Vehicle sub-floor is continuous, or, undercoating is used (recommended).
<input type="checkbox"/>	Shims are attached to vehicle cross members.
<input type="checkbox"/>	System arrangement matches drawings.
<input type="checkbox"/>	Clearances around components are consistent with Figure 3-5.
<input type="checkbox"/>	A structural cross member or support plate is under each end of every Conveyor AND structural cross members are spaced under each conveyor at a maximum center-to-center distance of every 12".
<input type="checkbox"/>	Obtain all required approvals.

* The following paragraphs contain details about the checklist.

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3.2 Inspecting Floor Height

The vehicle floor and sub-floor build-up must not be lower than 2 ¾" (+3/32"), measuring from the top of the structural cross member to the top of the rollers in the down position, refer to Figure 3-5. Building the finished floor lower than 2 ¾" will expose the Conveyors to excessive wear and will void the warranty.

3.3 Inspecting for a Level Surface

Conveyors must be installed on a level surface. Make sure that cross members are level with each other and are within manufacturer's specifications. Weld metal shims to the cross members as required to conform to the flatness requirements. Weld in accordance with standard American Welding Society practices and instructions from the Vehicle Manufacturer. Do not attach shims to conveyors.

Depending on the configuration of the trailer, the installation may require Step Shims if the unit has an exposed 5th wheel plate. Refer to Figure 3-4.

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3.4 Installing Step Shims

10. Step Shims range in thickness from 1 ¼" to 1/8" in increments of 1/8".
11. Starting immediately from the back of the raised 5th wheel plate flange, place (4) 1 ¼" thick shims on top of every cross member for the first (4) positions.
12. After the (4) 1 ¼" shims are positioned, place (4) 1 1/8" shims on top of every cross member for the next (4) positions.
13. After the (4) 1 1/8" shims are positioned, place the remaining shims on top of every cross member (by 2's) starting with (2) 1" shims and decreasing to the last (2) 1/8" shims. **DO NOT SKIP ANY CROSS MEMBERS.** Refer to Figure 2-4, for placements.
14. Secure all shims to cross members before proceeding further.
15. Use 3 ½" long floor screws to secure the floorboards starting from the rear of the trailer and working your way towards the front, up to and including the position of the (2) ½" thick shims.
16. Use 5" long floor screws to secure the floorboards starting from and including the position of the (2) 5/8" thick shims and working your way towards the front of the trailer, up to and including over the 5th wheel plate.

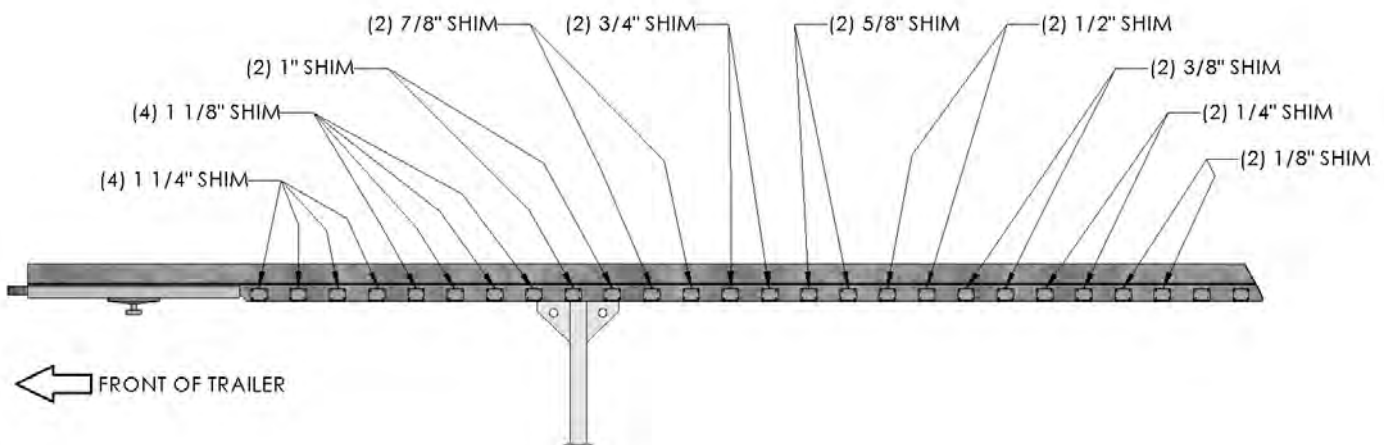


Figure 3-4 STEP SHIM PLACEMENT

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3.5 Configuring Conveyor Lane Spacing

1. Ancra recommends spacing the conveyor lanes to provide even load distribution.
2. To figure the lane spacing, measure the inside width of the vehicle at each end of the vehicle. Measure the inside width of the rear door opening and the inside width at the front bulkhead.
3. Mark the centerline by snapping a chalk line. Using the centerline, measure and mark the centerline of each conveyor.
4. See figure 2.5 for an example of proper lane spacing for a 6-lane system.

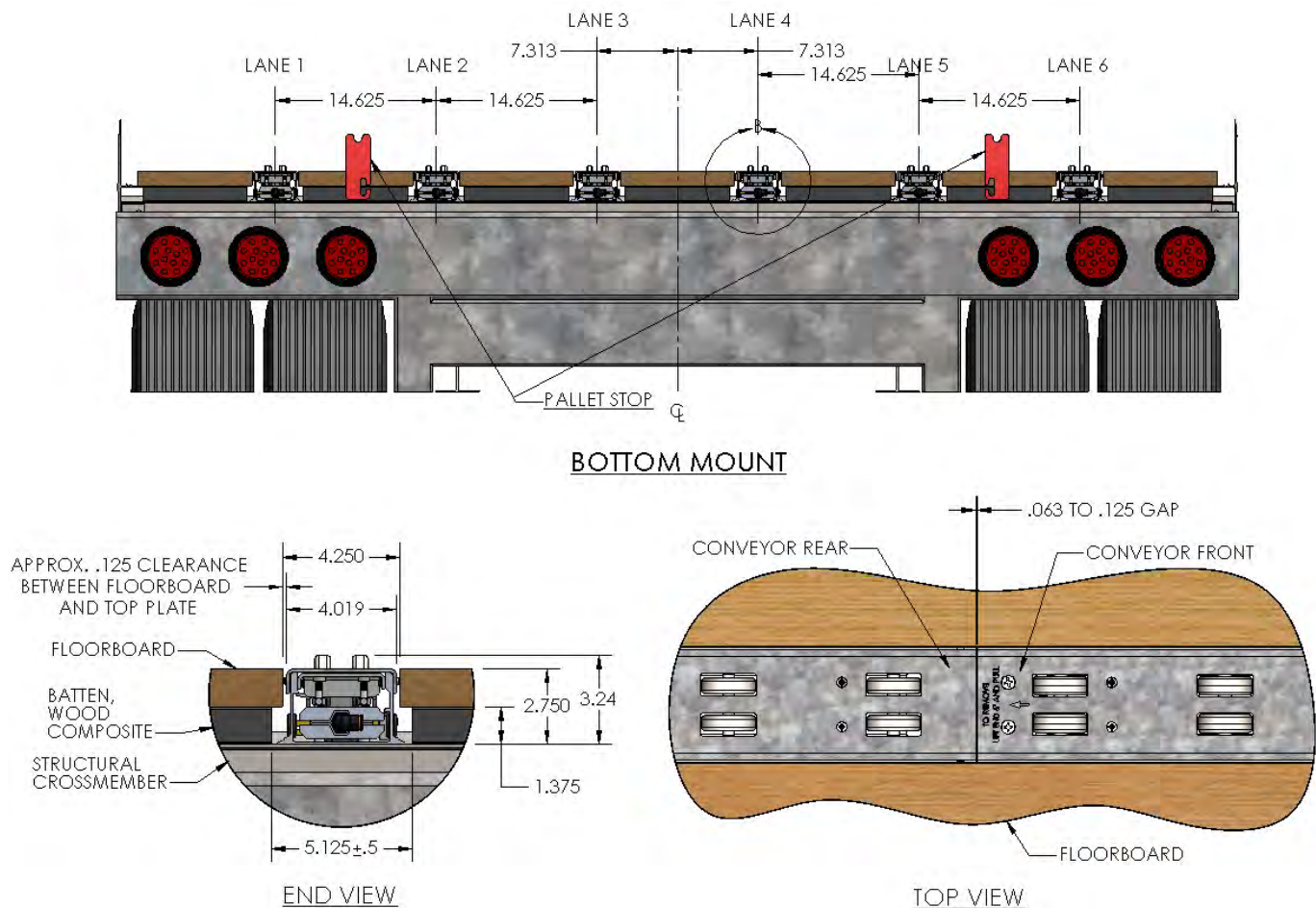


Figure 3-5 Examples of Clearances – 6 Lane Systems

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3.6 Aligning Conveyors

After marking the Conveyor Lanes, place conveyors down the center of each lane. Start with conveyors at the tailgate, or rear, of the vehicle and work forward, towards the front. Place the first conveyor (Combo) a maximum of $\frac{1}{4}$ " from the inside edge of the rear sill. The differences between the conveyor types are shown in Chapter 1. Push conveyors together with a gap of $\frac{1}{16}$ " to $\frac{1}{8}$ " between conveyors. The gap allows the cover plates to pivot in and out of the channel when service components inside the assembly during maintenance. clearances are shown in Figure 3-3. As shown in Figure 3-4, make sure that the conveyors are lined up with connections in the proper direction. The elbow fittings on the air bag assemblies may need to be rotated 180° to allow for proper air connection.

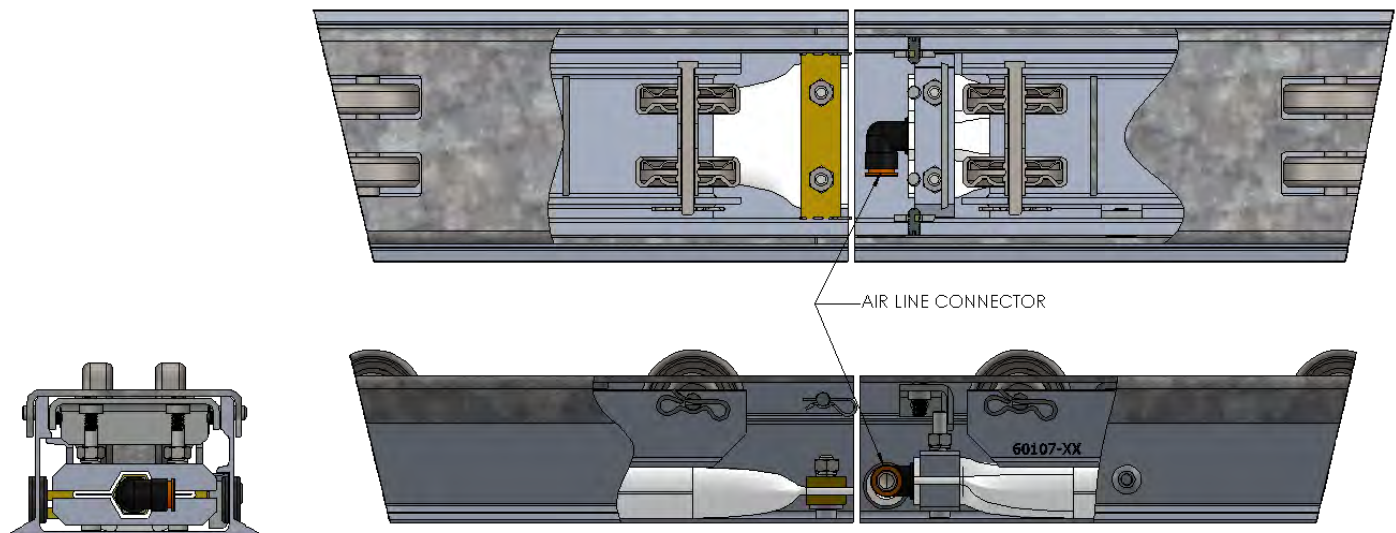


Figure 3-6 Conveyor Alignment Detail

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3.7 Making Run Out Channels

Run Out Channels (Spacers) protect the ends of the Conveyors from dirt and damage at the front of the trailer. Determine the size of Run Out Channel by measuring the distance at the front of each Lane, from the end of each Conveyor to the bulkhead.

DO NOT – Attach Run Out Channels to Conveyors.

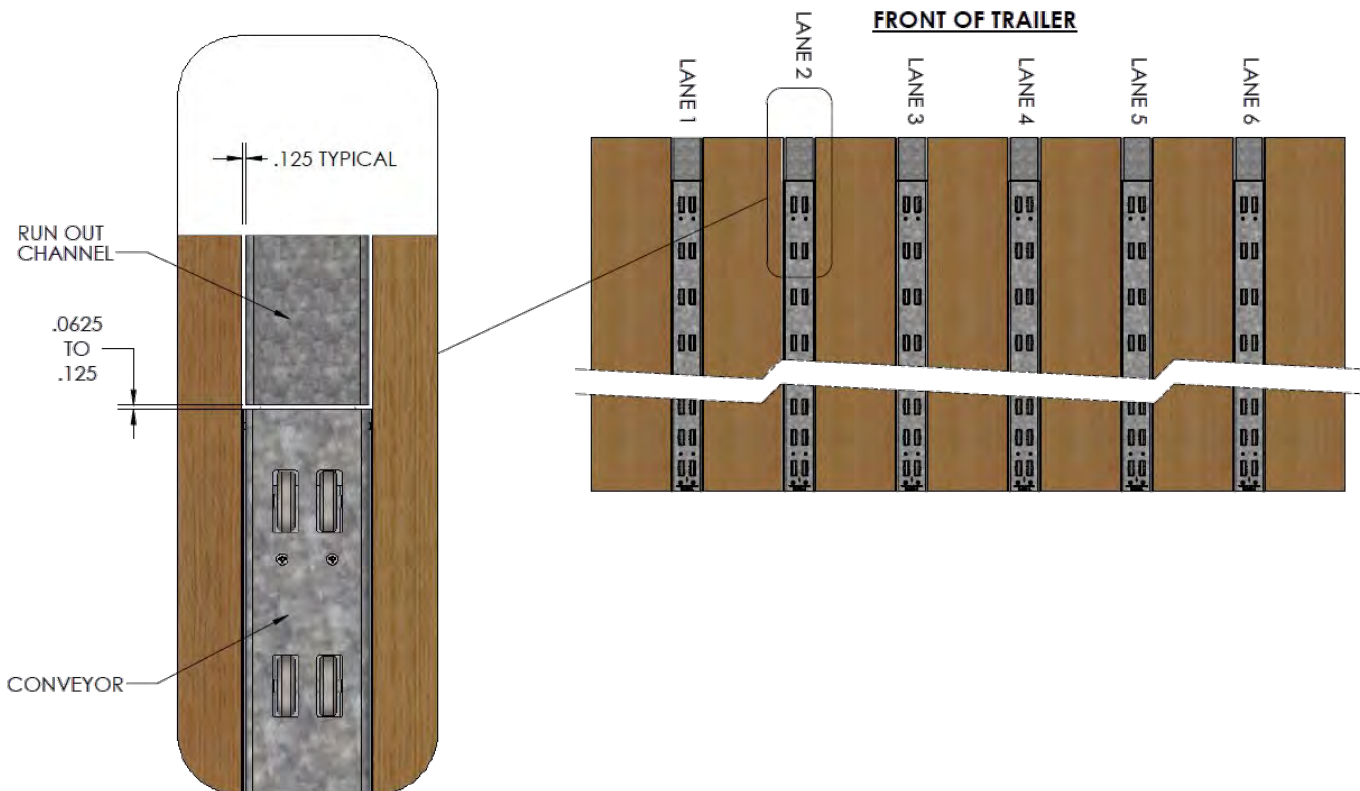


Figure 3-7 Run Out Channel Detail

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3.8 Making and Installing Bridge Plates

There must be a structural member under each end of each Conveyor section, and there must be structural cross members spaced under each conveyor at a maximum center-to-center distance of every 12". If not present, install a steel Bridge Plate or structural cross member under conveyors as required. The Bridge Plate is made from an 11" x 6" piece of 10-gauge steel. The ends must be bent to match up with the bottom side of the trailer cross members top flange so that top of the Bridge Plate is flush with the surrounding structure. Weld Bridge Plates to cross members in accordance with standard American Welding Society practices and instructions from the Vehicle Manufacturer.

DO NOT – Attach Structural Supports to Conveyors.

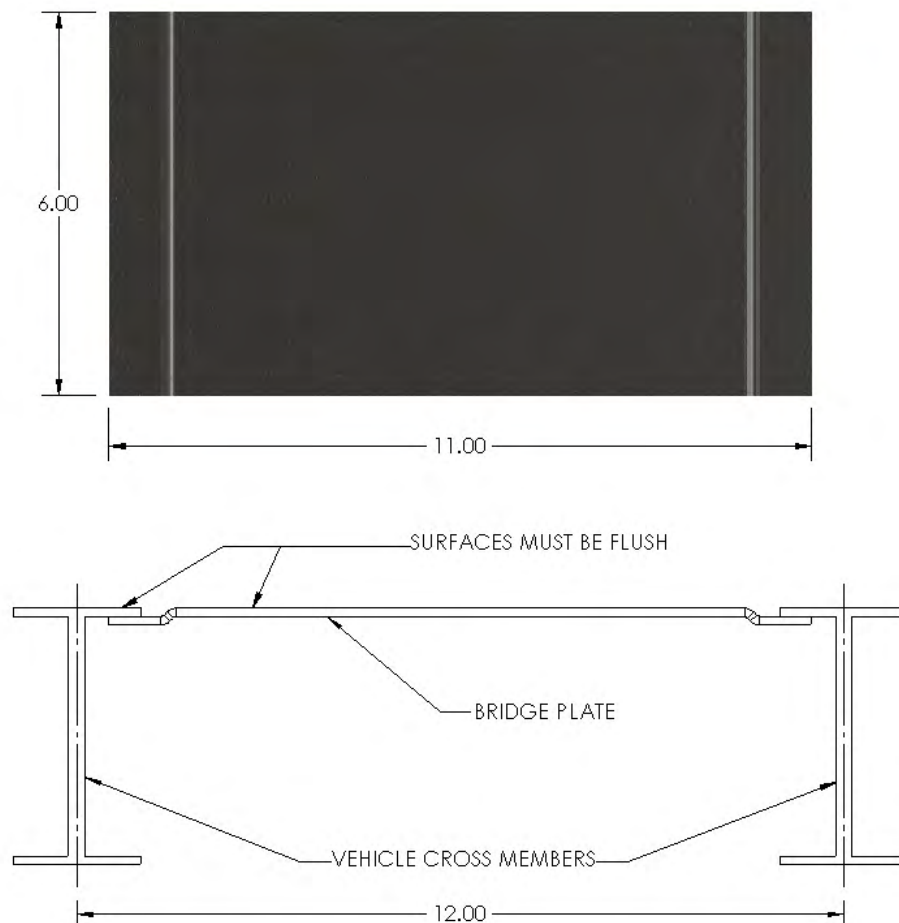


Figure 3-8 Bridge Plate

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3.9 Attaching Conveyors

NOTE: Before attaching the Conveyors, install and inspect the Control Box, Air Tanks, and Connection Kit. Instructions are provided in Chapters 4 and 5.

For Wing Mount Conveyors:

Place the Conveyors and Run Out Channels on the Cross members. Next, cut (6) 1 3/8" thick batten shims per track module to fasten the Conveyors to the cross members. They will be placed one on each end and one at the middle, on both sides of the Conveyor. Fasten the Conveyors a minimum of three times per side, through the floorboard, conveyor wing, batten, and crossmember flange. Fasteners are provided by the Installer, or included in an available installation kit from Ancra Cargo. A tight grip is required between the shims and conveyor wing, and a routed groove .10" deep and 1.25" wide must run the length of each side of the floorboard, to allow clearance for the channel wing. Depending on the plumbing arrangement, a 3/8" gap may be required between the Conveyor body and the battens to run the airlines.

Refer to Figure 3-3 for clearance and Figure 3-4 for alignment of conveyors.

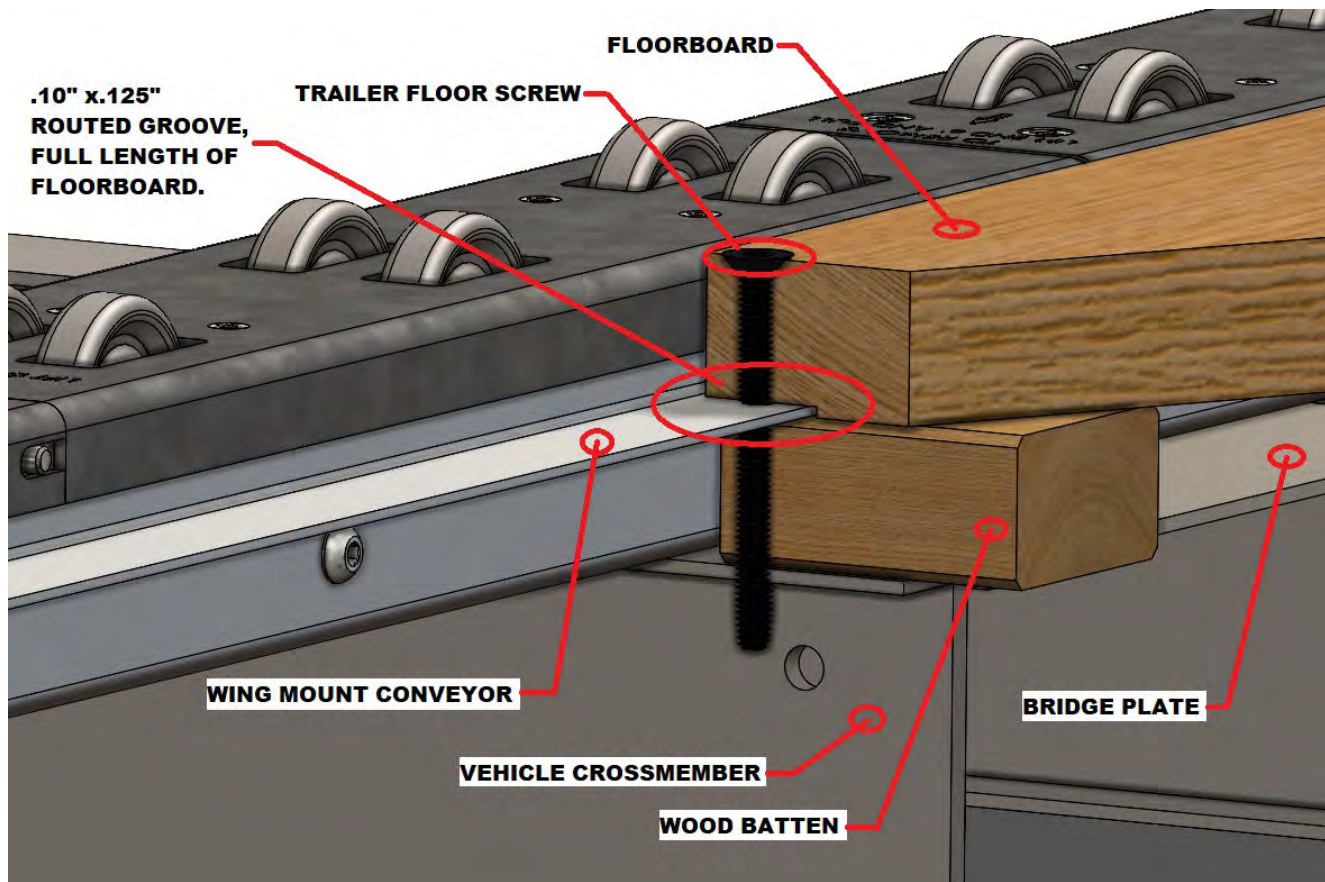


Figure 3-9A Wing-Mounted Conveyor Installation

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For Bottom Mount Conveyors:

Place the Conveyors and Run Out Channels on the Cross members. Next, fasten the Conveyors a minimum of three times per side, through the conveyor bottom flange and the vehicle crossmember flange at a 45° angle. Fasteners are provided by the Installer, or included in an available installation kit from Ancra Cargo. Depending on the plumbing arrangement, a 3/8" gap may be required between the Conveyor body and the battens to run the airlines.

Refer to Figure 3-3 for clearance and Figure 3-4 for alignment of conveyors.

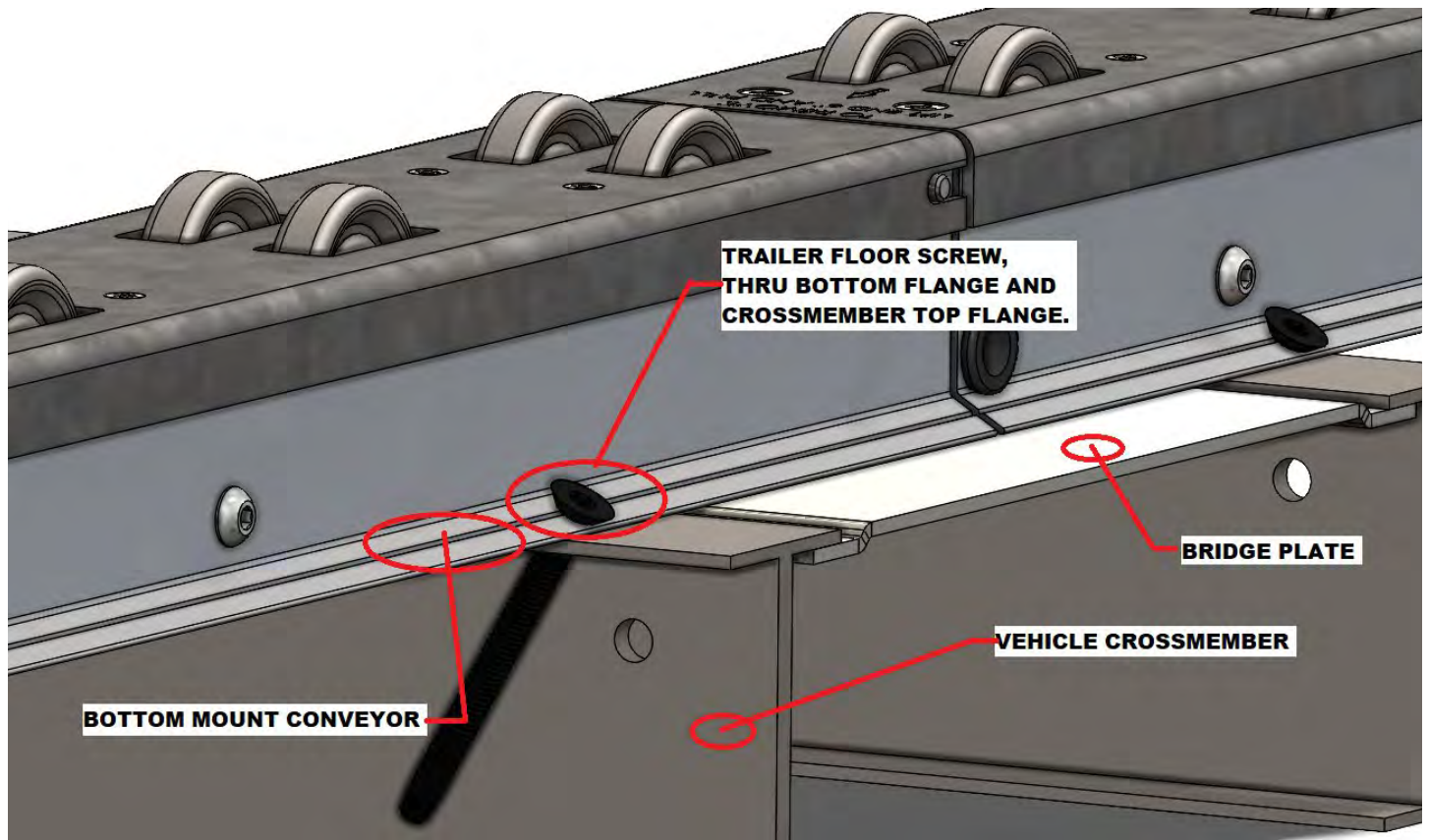
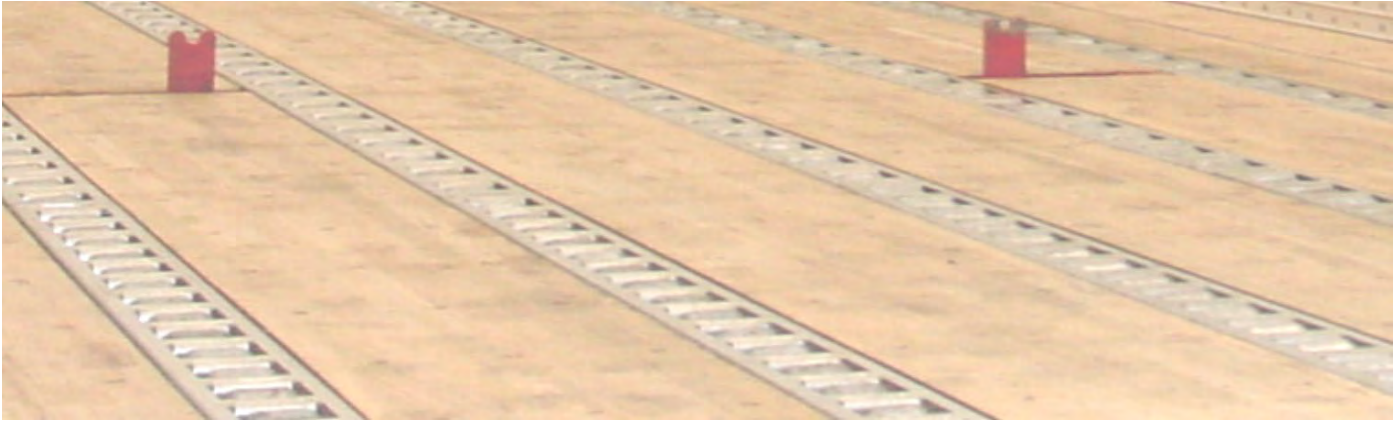


Figure 3-9B Bottom Mount Conveyor Installation

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3.10 Installing Pallet Stops



Pallet stops are sold separately and are available through your Ancra Cargo sales representative. Refer to Figure 3-8, for a guide to spacing the Pallet Stops. Fillet-weld Pallet stops to structural cross members and/or installed Bridge Plates per American Welding Society standards and instructions from the Vehicle Manufacturer.

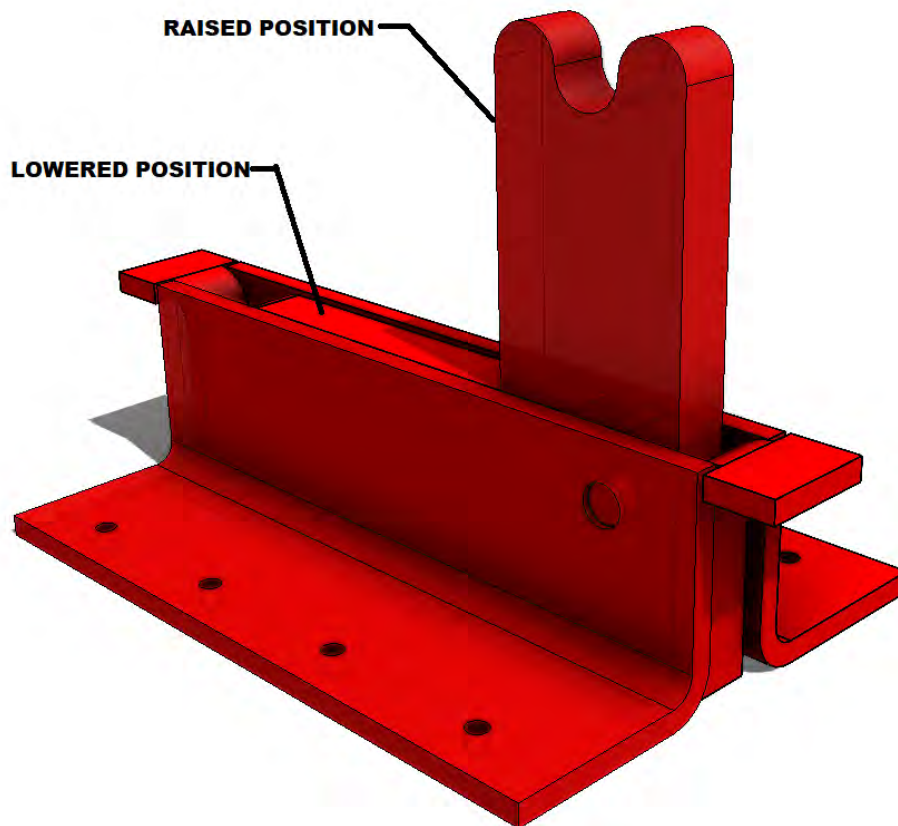
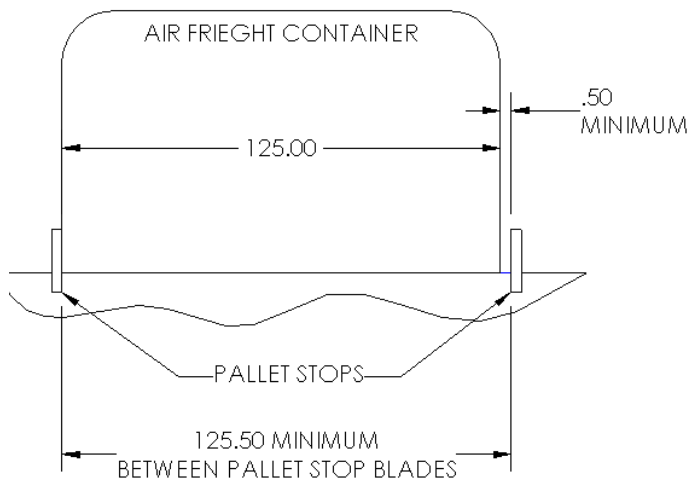
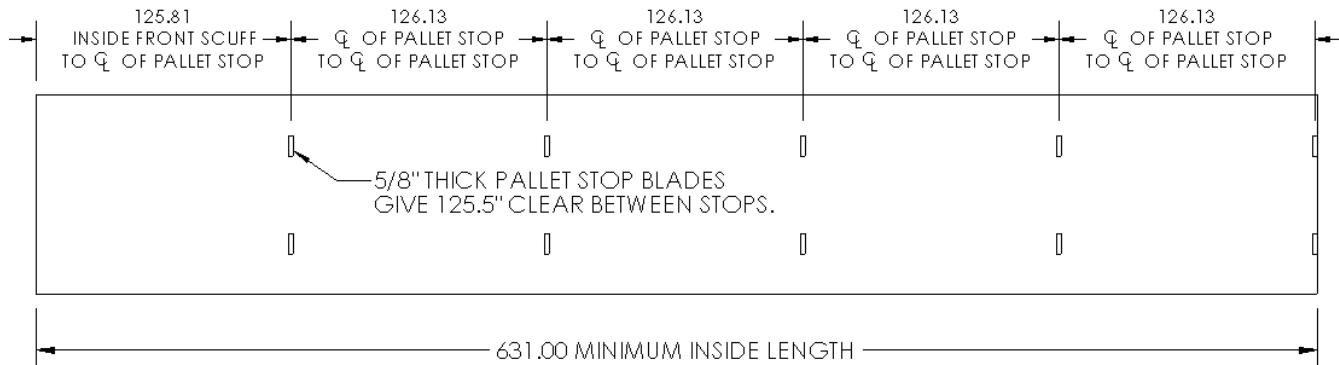


Figure 3-10 Pallet Stop, 62036-11

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HOW TO CALCULATE PALLET STOP SPACING:

1. MEASURE THE INSIDE OF THE VEHICLE, FROM THE INSIDE OF THE FRONT SCUFF TO THE INSIDE OF THE REAR DOOR. (631" MINIMUM REQUIRED FOR FIVE CONTAINERS AND FIVE PALLET STOPS.
2. 125.0" AIR CONTAINER LENGTH
+ .50" SPACE
+ .625 PALLET STOP BLADE THICKNESS
126.125 EACH
× 5 CONTAINERS
630.625"
+ .375 CLEARANCE BETWEEN REAR EDGE OF REAR STOP AND INSIDE OF THE REAR DOOR.
3. IF THE TRAILER HAS LESS THAN 631" USEABLE INSIDE CLEARANCE, THE DISTANCE BETWEEN CONTAINERS AND PALLET STOPS MAY BE REDUCED FROM 1/2" TO 1/4" IF NECESSARY.

Figure 3-10B Spacing for Pallet Stops

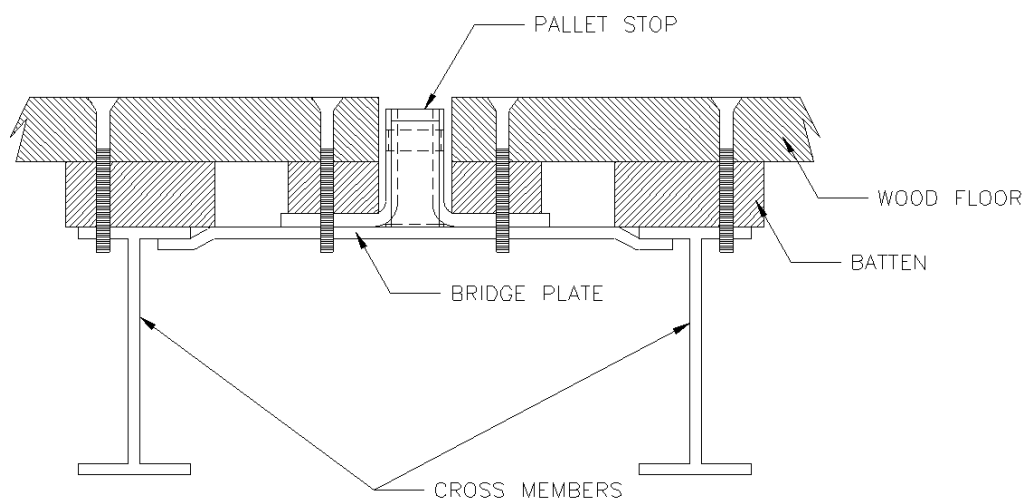


Figure 3-10C Installing Pallet Stops

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3.11 Making and Installing Sill Plate

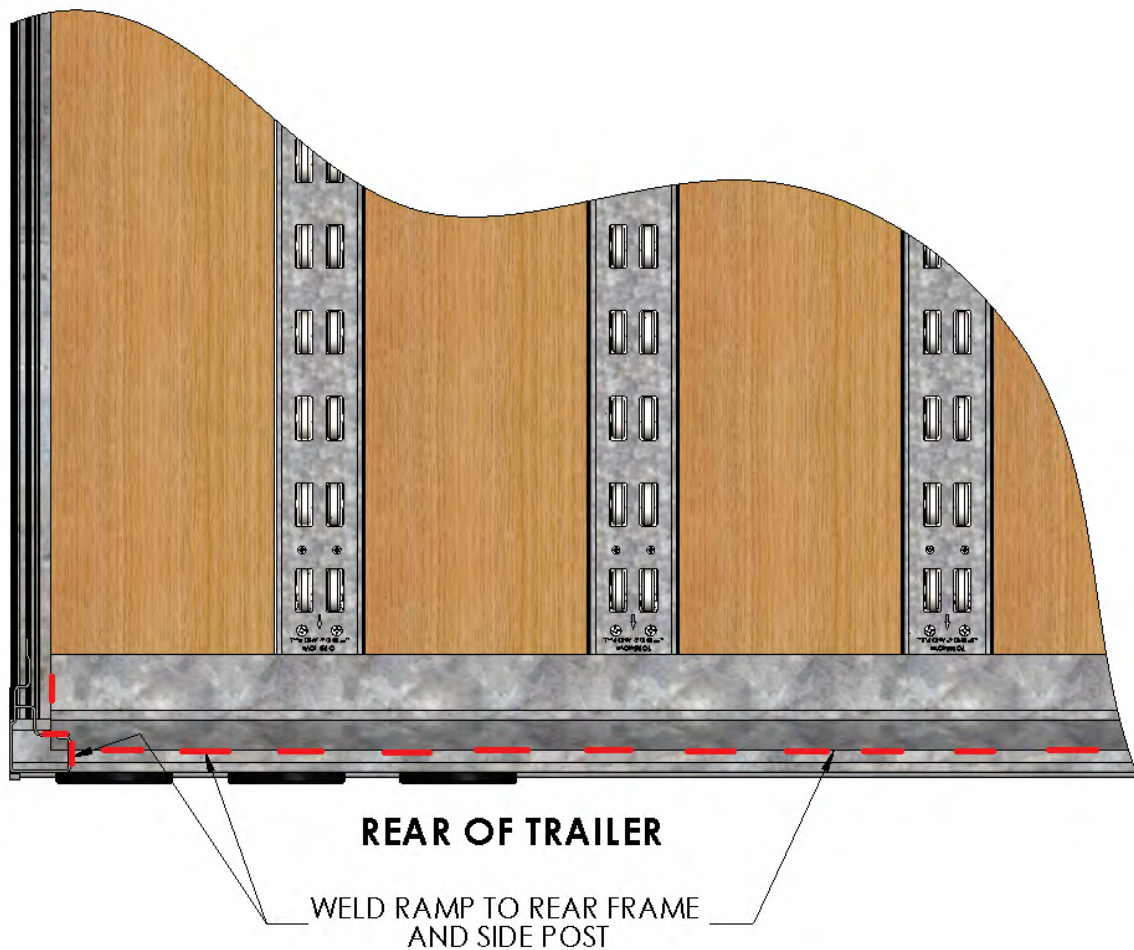
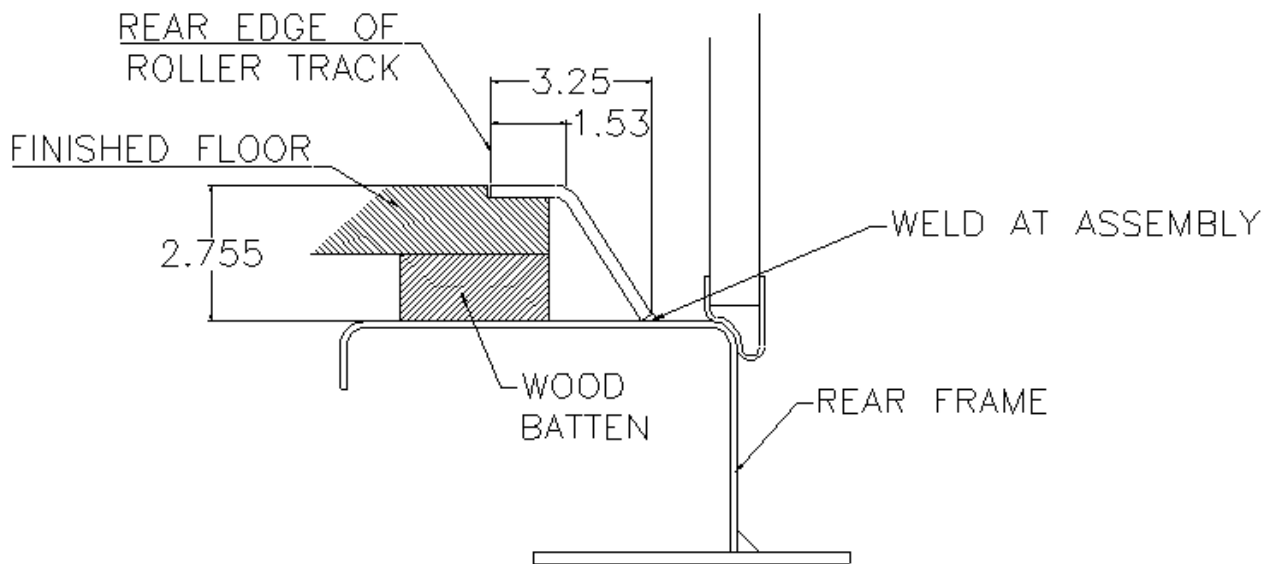


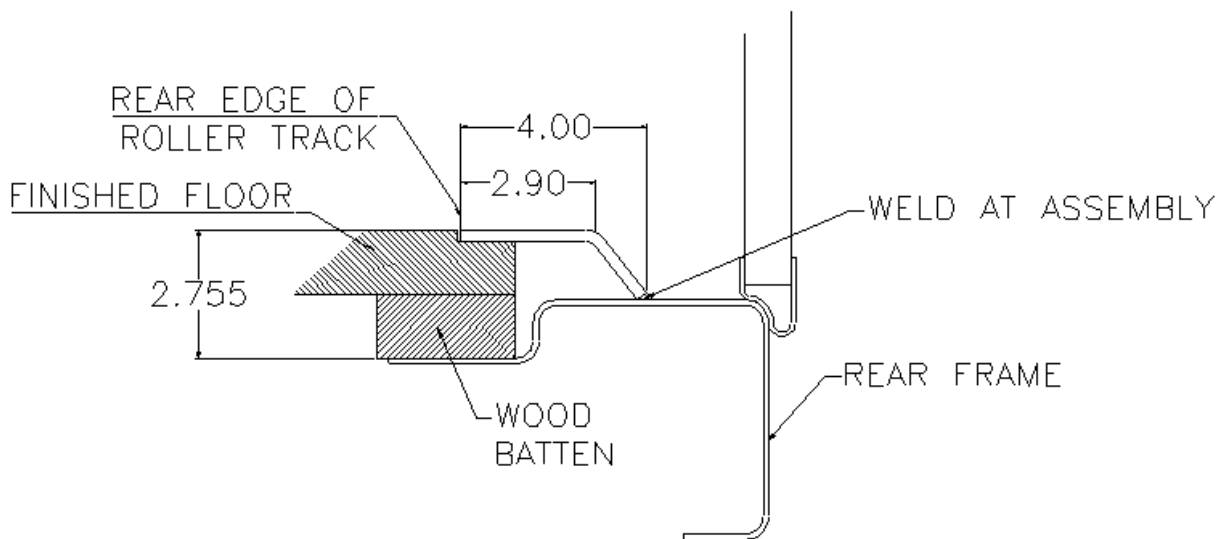
Figure 3-11A Sill Plate Weld Diagram

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FLUSH DOOR SILL



RAISED DOOR SILL

Figure 3-11B Sill plate alignment

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3.12 Attaching Battens

Ancra recommends installing Battens (short pieces of wood or wood composite) on every crossmember to support the floorboards. The length of each Batten will depend on the conveyor lane spacing used and the number of lanes. Measure the distance from conveyor to conveyor (underneath the wing if wing mounted). Take that measurement and subtract 3/8" for the airline tubing (depending on plumbing arrangement) to acquire the proper batten length. Attach the battens to the structural cross members of the vehicle. The battens can be attached by any means so that they do not fall out or spin during the drilling and installation of the floor screws. Screwing or caulking the Battens in place, are some acceptable forms of attachment. Battens and clearances are shown in Figure 3-3. Make sure that the battens will not exceed the floor height requirements in paragraph 3.2. Depending on the configuration of the trailer, the installation may require Step Shims if the unit has an exposed 5th wheel plate. Refer to paragraph 3.3.

3.13 Painting the Vehicle Interior

Before painting the vehicle interior, make sure that the conveyors are completely covered. Paint will damage the rollers and may void warranty.

3.14 Installing Warning Decals

After painting the vehicle interior, install the warning decals on the sidewall near the rear door, approximately 5' up from the vehicle floor, or at eye level. Before installation, make sure that the sidewall is clean and dry. It may be necessary to apply the decals to a thin, clean piece of aluminum and attach it to the sidewall of the trailer. Normal position is on the roadside rear of the vehicle. Make sure that the decals are securely attached.

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Chapter 4 – Installing System Control Box, Air Tank Kits, and Connection Kit

4.1 Recommended Locations

Ancra recommends installing the System Control Kit (Control Box) and Air Tank Kits on the Driver's side of the vehicle, forward of the wheels, at the locations shown in Figure 4-1.

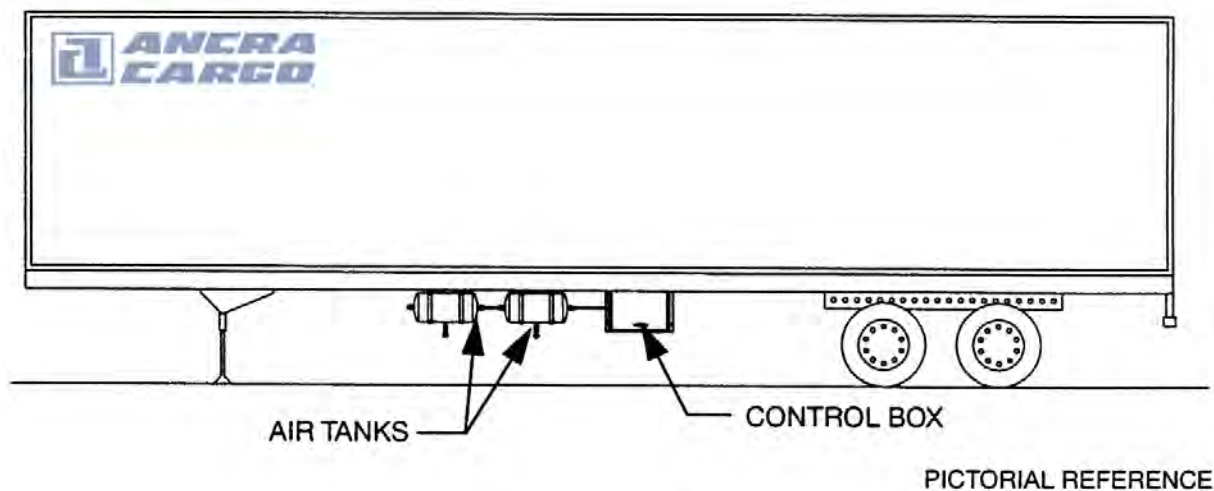


Figure 4-1 Kit Installation Location

Common location of the Control Box and Control Box Mounting Bracket is the first pair of cross members aft of the center side marker light. Common location of the Air Tanks, and Air Tank Kits are the first pair of cross members forward of the center side marker light for the first tank. Skip a pair of cross members, then install the second Air Tank forward of the first tank, as shown in Figure 4-1.

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4.2 Installing System Control Box

The RAR System Control Box attaches to an optional Bracket (62063). The bracket must attach to a minimum of two structural cross members. The bracket should be recessed underneath the trailer approximately 14" from the sidewall to the surface of the bracket, which will help protect the control box from side impact. Ancra suggests that the Installer build protection for the control box from wheel water spray and road debris. Install the mounting bracket assembly to the cross members in accordance with instructions from the Vehicle Manufacturer. Install the Bracket by either utilizing the pinch plates provided as part of the installation kit, or by welding the bracket in place. Weld the bracket assembly to cross members in accordance with American Welding Society standards and instructions from the Trailer Manufacturer. **Make sure that the bracket is securely attached.** Install the Control Box so the lid opens **UPWARD**. Fasteners are provided in the applicable Installation Kit. (62063).

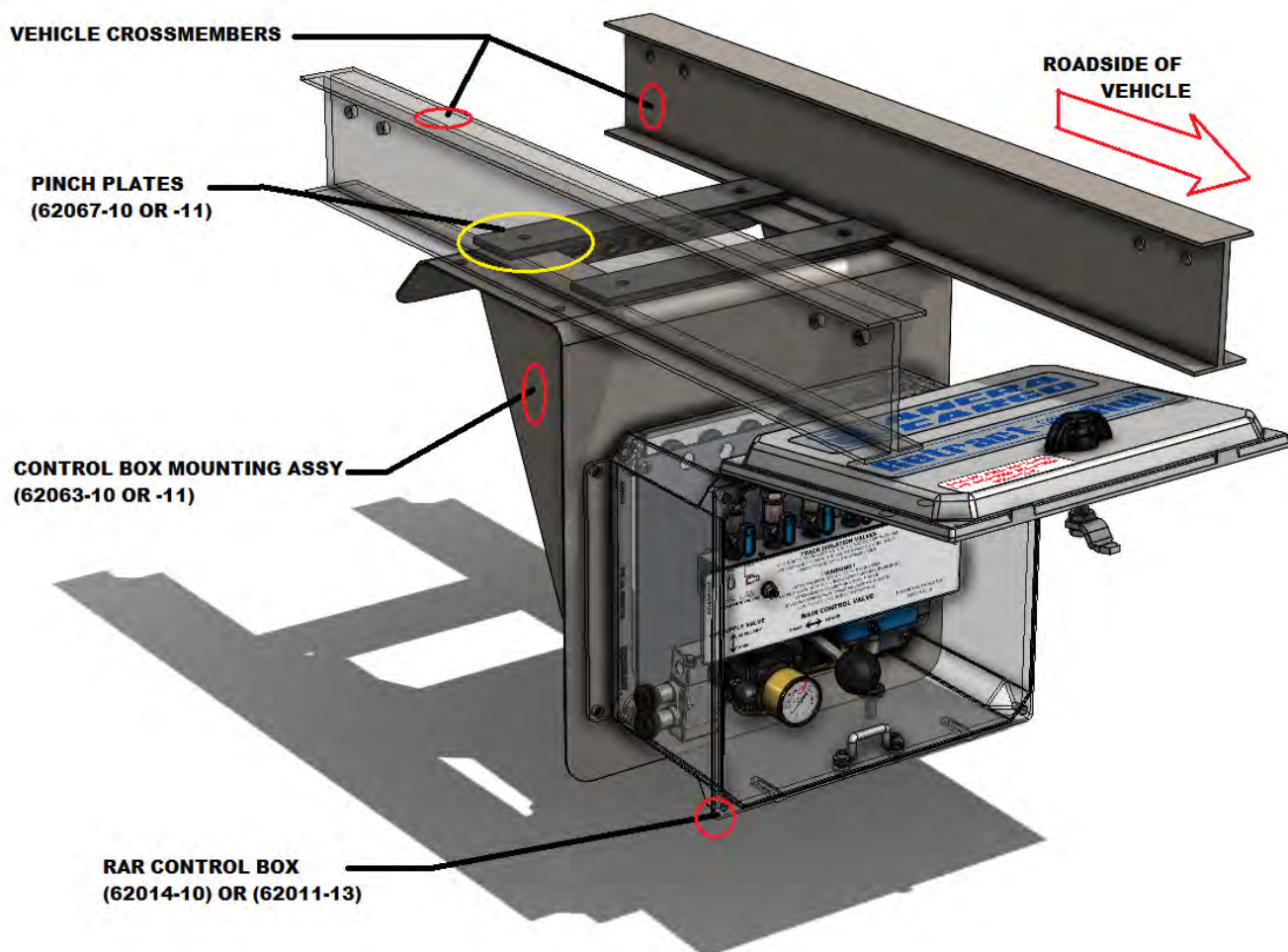


Figure 4-2 – Control Box Bracket Installation

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4.3 Installing Air Tank Kits

Using hardware provided with the Air Tank Kits, fasten the Air Tanks to a minimum of two structural cross members as show in Figure 4-3. The air tank drain should be facing down to allow proper operation and maintenance of the system. Make sure that the tanks are securely attached.

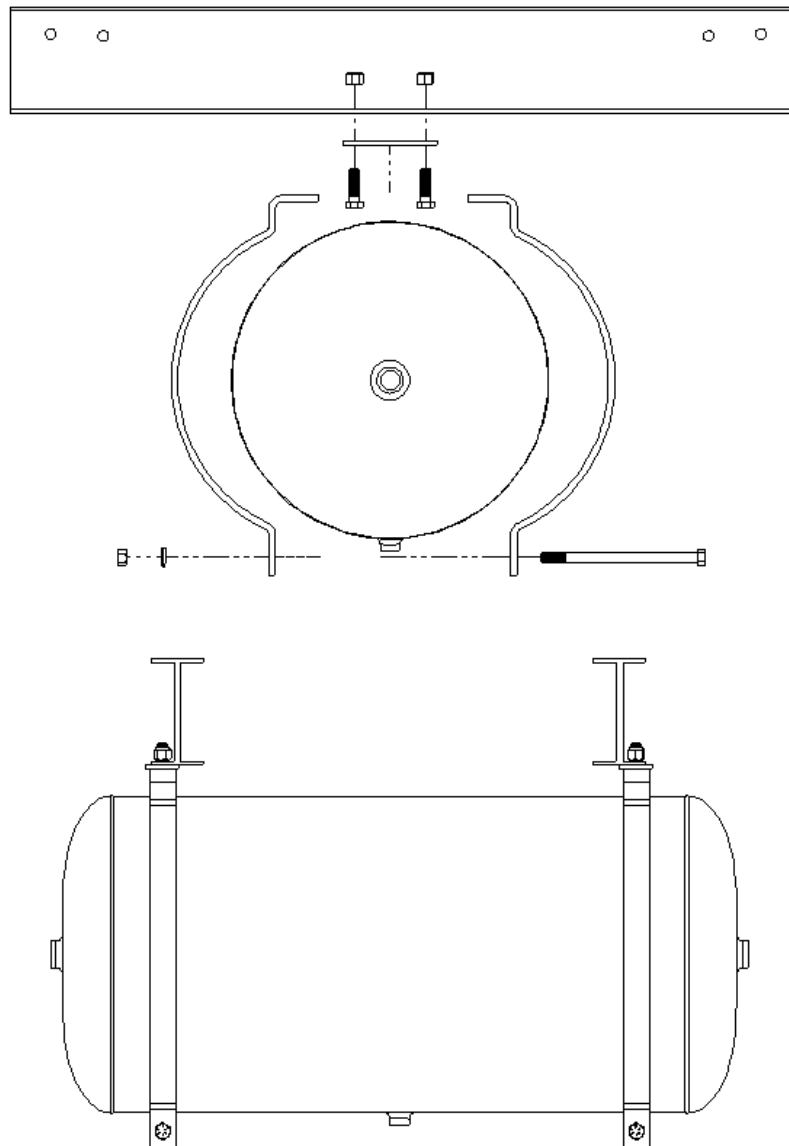


Figure 4-3 Air Tank Installation

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4.4 Connecting Air Lines

Route all air tubing from the Conveyors back to the Control Box. Before attaching, make sure that each track isolation valve in the Control Box will connect to the proper Conveyor Lane. Normal assignments are from left to right for both the Control Box isolation valves and Conveyor Lanes, from left to right 1, 2, 3, 4, 5, and 6. The recommended arrangement is shown in Figure 4-4.

NOTE: Make sure the conveyors are positioned with the connector facing the proper direction.

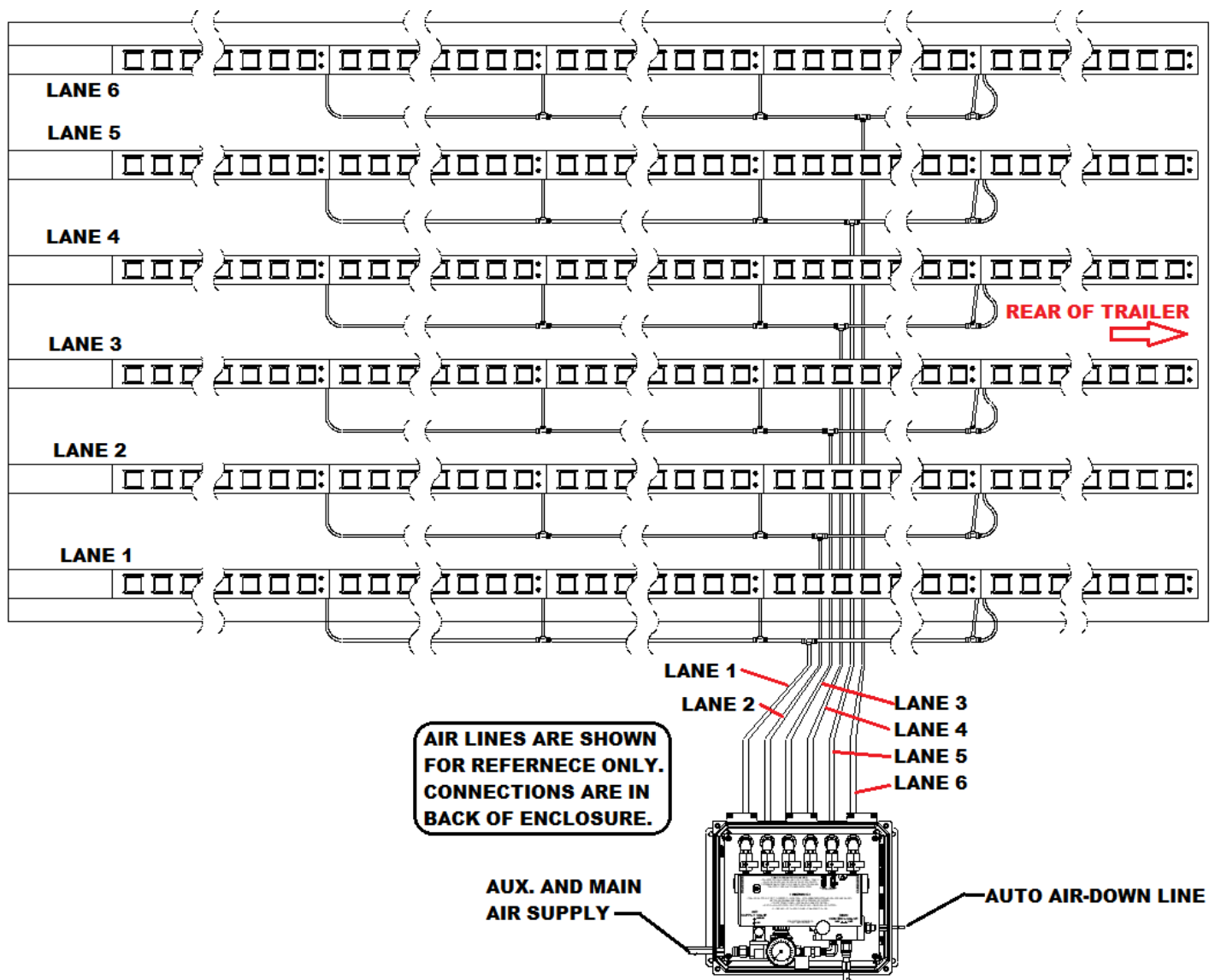


Figure 4-4 Configuration of Valves and Lanes

RETRACT-A-ROLL RAR-2 & RAR-4

INSTALLATION MANUAL REVISION A

4.5 Control Box Connections

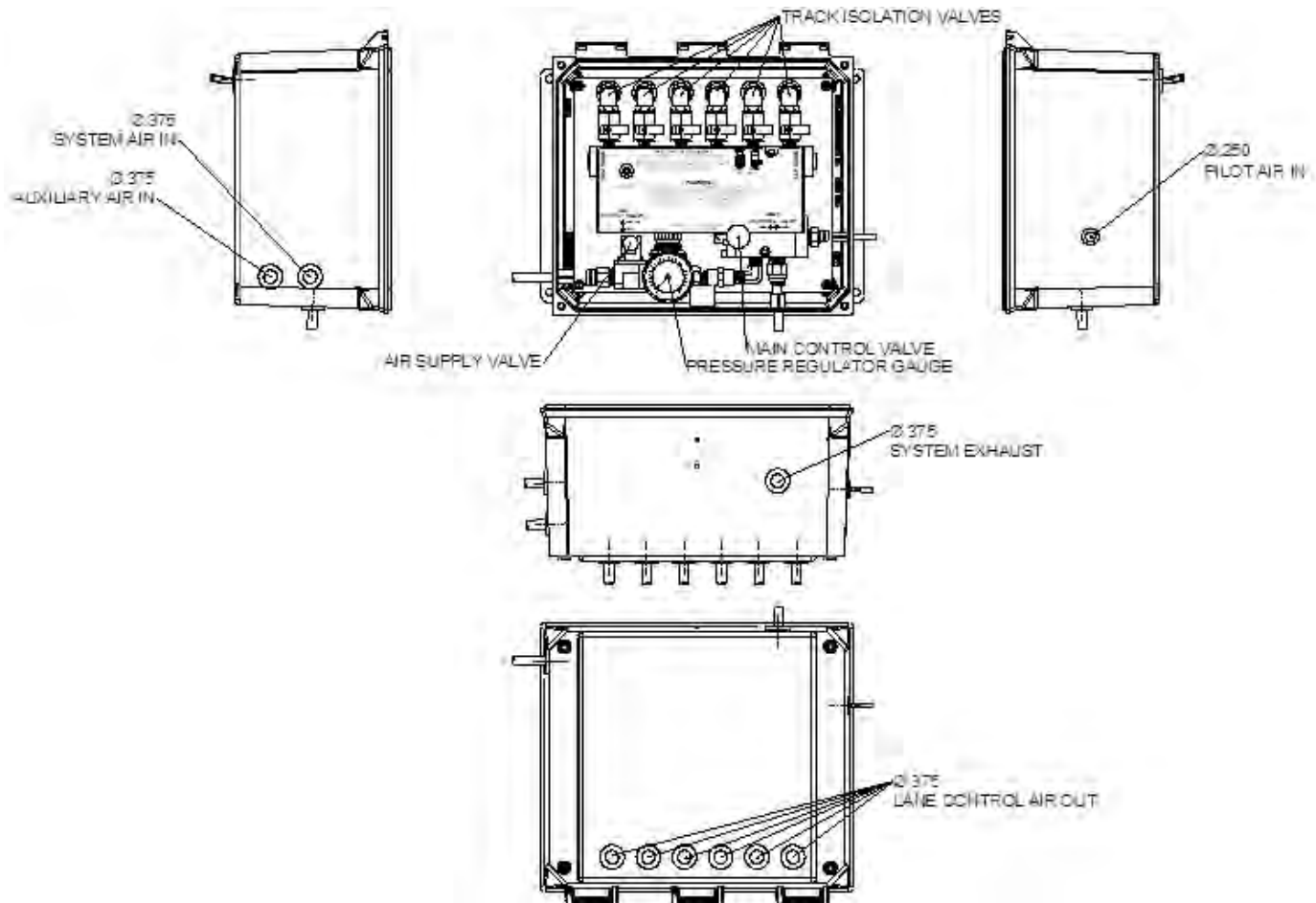


Figure 4-5 Control Box Connections

- Before installing, make sure that tubing and fittings have nothing inside them.
- To prevent leaks, use a tube cutter to make a clean, square cut. **DO NOT USE** a razor blade or straight edge knife. A tube cutter is provided in the fittings kit, refer to fig. 4-7.
- To prevent leaks, make sure that all tubing is fully installed into fittings. Refer to fig. 4-8.
- All tubing must be secured to vehicle. Do not let it droop, hang, or swing under vehicle. Clips and fasteners are to be provided by the installer.
- Make sure that all connections are secure. Use pipe tape to seal threaded pneumatic fittings, pipe tape is to be provided by the installer.
- To prevent leaks or slow operation of the system, **DO NOT ALLOW KINKS OR SHARP BEND IN TUBING.**

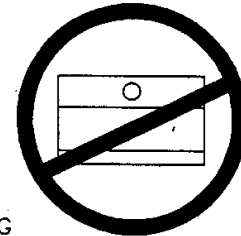
RETRACT-A-ROLL RAR-2 & RAR-4

INSTALLATION MANUAL REVISION A

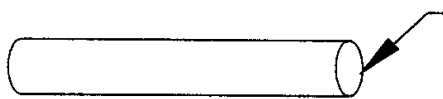
4.6 Using Tubing Cutter

USE TUBE CUTTER ONLY

CRITICAL
TO
PREVENT
LEAKS



DO NOT USE STRAIGHT EDGE BLADE TO CUT TUBING



TUBE MUST HAVE SQUARE EDGE.
NO BEVELS, CHIPS, OR SCARS.

TUBE CUTTER PROVIDED
IN CONNECTION KIT

Figure 4-6 Using Tube Cutter

4.7 Installing Tubing into Fittings

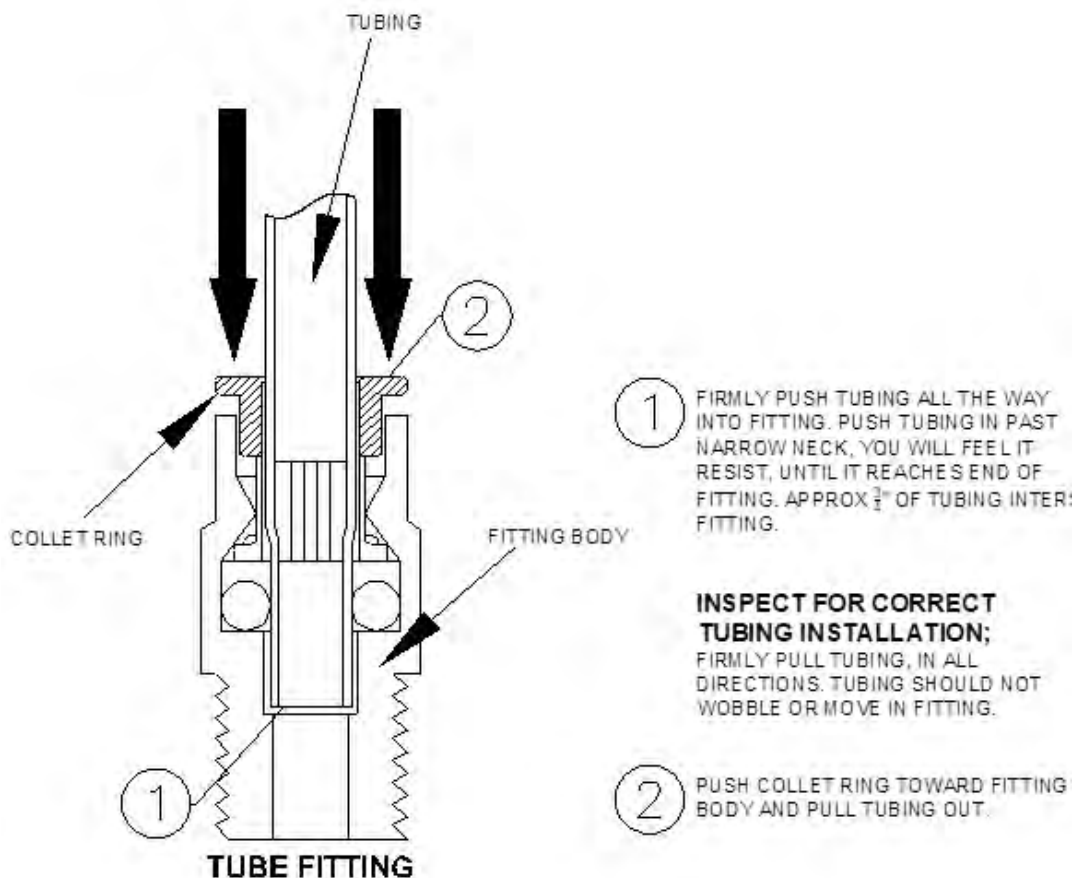


Figure 4.7 Installing Tubing Into Fittings.

RETRACT-A-ROLL RAR-2 & RAR-4

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4.8 System Plumbing Diagram

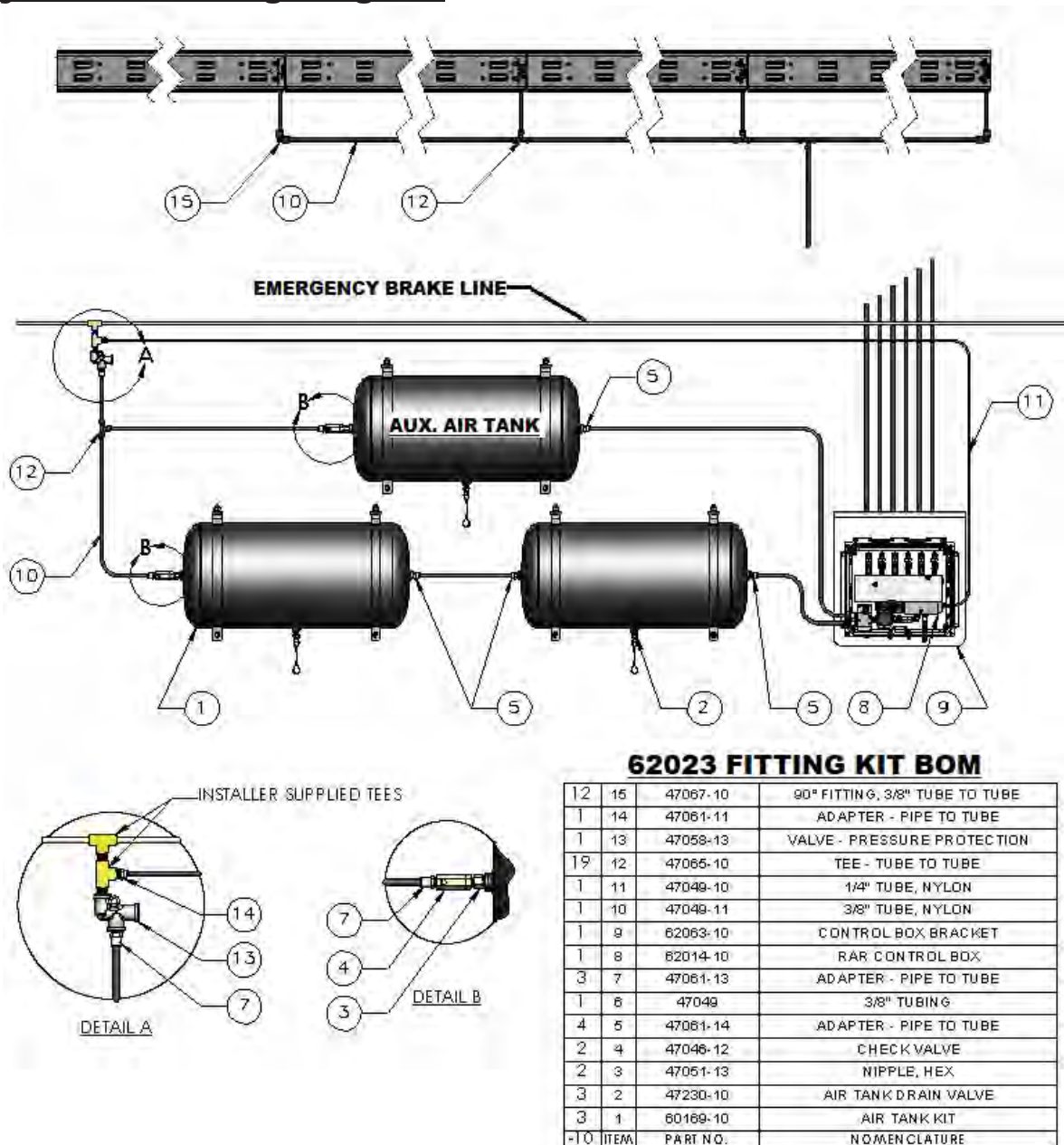


Figure 4.8 Plumbing Diagram

RETRACT-A-ROLL RAR-2 & RAR-4

INSTALLATION MANUAL REVISION A

4.9 Connecting RAR System to Vehicle's Air Supply



WARNING

Before starting work, make sure that the Emergency Brake System is disconnected.



WARNING

Perform work in accordance with all local, state, and Federal regulations.
Road-worthiness is the responsibility of the Owner / Operator.

Connect the RAR system to the Emergency Brake Line using the fittings provided by the Installer. Attach the appropriate "T"-connectors and an adaptor attaching the T-connector to the pressure protection valve. Installation locations are shown on figure 4-8.

4.10 Inspecting the System

Before installing the floorboards, Ancra recommends inspecting the RAR system. Perform the inspections in Chapter 5.

4.11 Applying Caulking and Undercoating

Ancra recommends applying caulking and undercoating to the RAR system. Make sure that the bottom of the floorboards, battens, and shims are all undercoated. Installer supplies all caulking, undercoating, and touch-up paint. Apply a 3/16" bead of caulking along the wing or flange of the conveyors from front to rear then lay the floorboard down. Also apply caulking around the Pallet Stops and Run Out Channels to prevent corrosion.

DO NOT - Apply caulking to the top plates. See Figure 4-11.

After the floorboards are in place and screwed down to each cross member, apply undercoating to the entire bottom of the vehicle. Provide protection to the Control Box and Air Tanks prior to undercoating application.

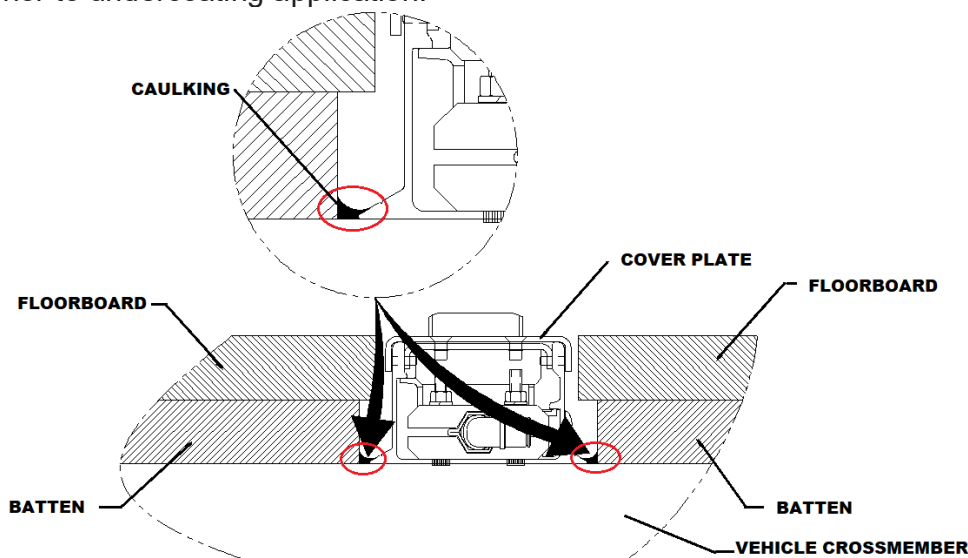


Figure 4.11 Caulking Application

RETRACT-A-ROLL RAR-2 & RAR-4

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Chapter 5 – Inspecting For Proper Installation and Operation

5.1 Recommended Inspections

This chapter contains inspections for leaks, lane control, clearances, and attachment. To protect coverage under the Warranty, consult Ancra Customer Service before repairing or replacing a defective component.

5.2 Warnings

The following Warnings apply when operating the Retract-A-Roll®II system:



Set parking brake before actuating system



Do not walk on rollers when in the raised position.



Vehicle must be level to prevent uncontrolled cargo movement when rollers are raised.



Use only main control valve (joystick) to raise and lower roller system.



Do not drive or operate forklift or similar equipment on rollers in the raised position



Lower rollers before moving vehicle.



Close and secure lid of Control Box before moving vehicle.

5.3 Inspecting For Leaks

Ancra requires the Installer to perform a Leak Test. An example is provided below. Begin with the Supply system Leak Check.

5.3.1 SUPPLY SYSTEM LEAK CHECK

Before Tractor/Vehicle hook up:

1. Make sure that the main control valve on the Control Panel is to the **RIGHT SIDE** or lowered (off) position. See Figure 5-3A.
2. Make sure that the track isolation valves are **OPEN** per Figure 5-3A.
3. Attach air compressor to the auxiliary air inlet on the Control Panel. Fill air tanks to 100±5psi.
4. Attach a hand-held gauge to the auxiliary air inlet on the control panel. The gauge must be rated to at least 160 psi with gradients of 1 psi. The installer provides the gauge.
5. A pressure differential of 10% or less in a 12-hour period is acceptable, check block in Ancra Warranty Registration and proceed to RAR system leak check.
6. If greater than 10% factor, isolate, fix leak, and repeat supply system leak check.

RETRACT-A-ROLL RAR-2 & RAR-4

INSTALLATION MANUAL REVISION A

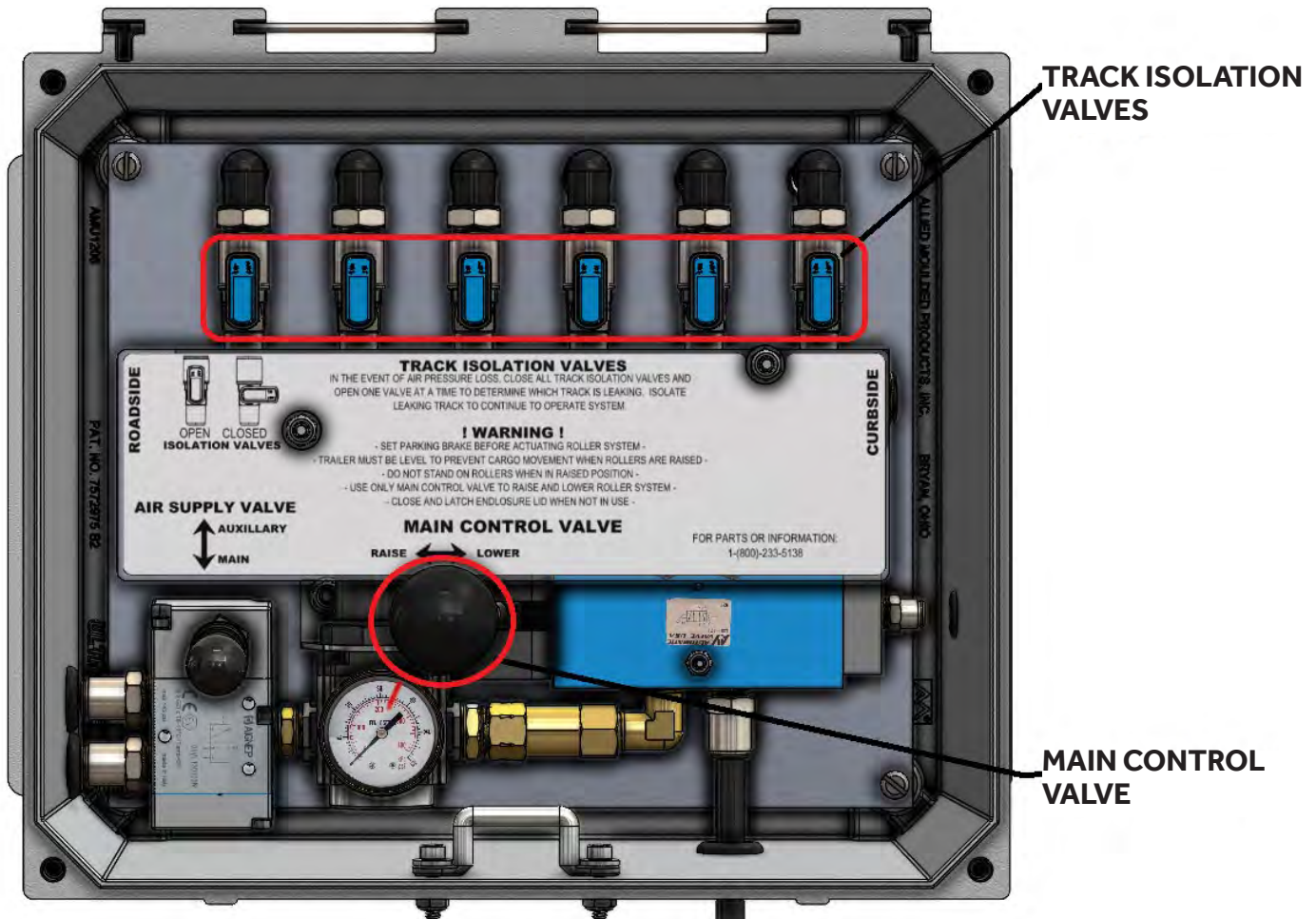


Figure 5-3A Control Valve detail

NOTE: The subject duration of the test is solely dependent on the accuracy of the test equipment. The pressure loss must be equivalent of a 10% loss or less over a 12-hour period. For example, a 1-hour test at 30 psi would require a loss of .25 psi or less.

5.3.2 RAR SYSTEM LEAK CHECK

1. Inflate roller system by moving the main control valve to the **LEFT SIDE** or raised (on) position.
2. Look inside vehicle. Inspect that all rollers raised to approximately $\frac{1}{2}$ " above the top plates / floor.
3. Drain both air tanks by pulling drain valves at the bottom of the Air Tanks.
4. Check that pressure gauge within the Control Panel reads 30 ± 5 psi. Monitor the pressure gauge at 12-hours and note any pressure drop.
5. For a pressure drop less than 10%, perform Emergency System Shutoff Check.

RETRACT-A-ROLL RAR-2 & RAR-4

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6. For a pressure drop greater than 10%, perform Conveyor Lane Leak Check.

5.3.3 CONVEYOR LANE LEAK CHECK

1. Make sure that all track isolation valves are **OPEN**.
2. Hook up the Tractor air brake system to the Vehicle. Allow the Air Tanks to fill.
3. Set the parking brake within the tractor cab to simulate that the vehicle is parked.
4. On the Control Panel, move the main control valve to the **LEFT SIDE** or raised (on) position.
5. Look inside the vehicle. Inspect that all rollers rise to approximately ½" above the floor.
6. Release the parking brake within the vehicle cab to simulate that the vehicle is moving.
7. Look inside the vehicle. Inspect that all rollers retract below the floor.

5.3.4 EMERGENCY SYSTEM SHUTOFF CHECK

8. Make sure that all track isolation valves are **OPEN**.
9. Hook up the Tractor air brake system to the Vehicle. Allow the Air Tanks to fill.
10. Set the parking brake within the tractor cab to simulate that the vehicle is parked.
11. On the Control Panel, move the main control valve to the **LEFT SIDE** or raised (on) position.
12. Look inside the vehicle. Inspect that all rollers rise to approximately ½" above the floor.
13. Release the parking brake within the vehicle cab to simulate that the vehicle is moving.
14. Look inside the vehicle. Inspect that all rollers retract below the floor.

5.4 Inspecting Lane Control

This inspection makes sure that each track isolation valve on the Control Panel is attached to the proper Conveyor Lane inside the vehicle. Proper lane control is shown in Figure 4-4. Remember that normal assignments are from left to right for both the Control Box isolation valves and Conveyor Lanes, from left to right 1, 2, 3, 4, 5, and 6.

Perform the Leak Test before performing this test. (5.3.1, 5.3.2, and 5.3.3)

1. Turn Lane 1 track isolation valve to the **OPEN** position, all others **CLOSED**.
2. Move the main control valve to the **LEFT SIDE** or raised (on) position.
3. Inspect to make sure that Lane 1 is inflated. Continue with Lanes 2 through 6.

RETRACT-A-ROLL RAR-2 & RAR-4

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5.5 Cover Plate Removal

Should the need arise to remove the Cover Plates to verify the air bag connection, please refer to Figure 5-2 for the proper instructions. Damage may occur by too much lift.

1. Remove two (2) flat head screws from the screw end Cover Plate. (Fig. 5-5 Top)
2. Lift screw end Cover Plate (**Approx. 3"**) and pull back to free it from the retaining pin at the middle of the conveyor assembly. (Fig. 5-5 Center)
3. Lift tab end Cover Plate (**Approx. 3"**) and pull back to free it from the retaining pin at the far end of the conveyor assembly. (Fig. 5-5 Bottom)

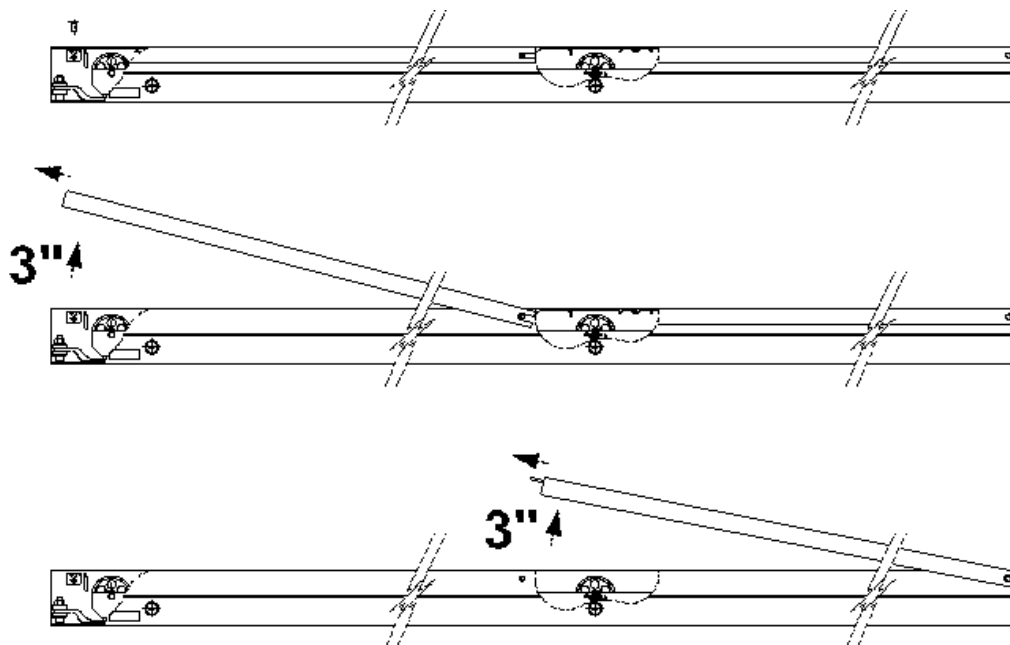


Figure 5-5 Cover Plate Removal Process

5.6 Cover Plates Reinstall

Reverse the removal process. Make sure each top plate is properly seated on retaining pins, and make sure tab end on rear plate is under the front plate after installation. Tighten the Cover Plate screws to 50-70 in/lbs.

NOTE: The Cover Plates have a slight camber to improve installed strength. It may be necessary to depress the top surface during installation.

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5.7 Inspecting System Clearances

Make sure that the conveyors are installed within the proper clearances. The following table covers the areas to inspect. Refer to details in Figure 3-3, Figure 3-5, and Figure 3-7. Refer also to instructions in Chapters 3 and 4.

✓	Recommended Areas to Inspect
<input type="checkbox"/>	Floor is level.
<input type="checkbox"/>	Floorboards and sub-floor build-up are not lower than 2 3/4" (+ 3/32"), measuring from top of structural cross member to top of roller in the down position.
<input type="checkbox"/>	Conveyor Lanes are properly spaced. Center of each lane is aligned with vehicle centerline.
<input type="checkbox"/>	Proper clearances are present around Run Out Channels.
<input type="checkbox"/>	Proper clearances are around edges of Conveyors allowing cover plates to pivot and floorboards to flex.
<input type="checkbox"/>	Air tubing and fittings are not so tightly pulled that connectors may disconnect. No kinks or sharp bends are present in the tubing.
<input type="checkbox"/>	Long segments of tubing are bracketed to vehicle.

5.8 Inspecting System Attachment

✓	Recommended Areas to Inspect
<input type="checkbox"/>	Conveyors are attached (3) times per side (each end and center).
<input type="checkbox"/>	Both ends of every Conveyor have bridge plates or structural support.
<input type="checkbox"/>	Maximum of 12" between structural cross members, center-to-center.
<input type="checkbox"/>	Control Box and Air Tanks are securely attached to vehicle cross members.
<input type="checkbox"/>	All visible valves, fittings, and air tubing are in order.
<input type="checkbox"/>	System is securely attached to the Vehicle's air supply.
<input type="checkbox"/>	Warning Decals (47082-10 and -11) are securely installed on the sidewall near the tailgate, approximately 5' above the vehicle floor.



Your Retract-A-Roll® system is installed. Please complete and return the Warranty Registration Form immediately.

Refer to the Operations and Maintenance Manual for tips on usage and maintenance.

RETRACT-A-ROLL RAR-2 & RAR-4

INSTALLATION MANUAL REVISION A

Chapter 6 Illustrated Parts List for Installation

NOTE: The parts lists in this Installation Guide cover only the information required to install components. If you require detailed parts, refer to the Operations and Maintenance Manual.

NOTE: Parts lists are provided for part identification and system arrangement only.

Identify the item number assigned to the illustrated part. Locate the item number in the parts list for descriptions.

Quantities specified in the quantity column are the total number of each part required in the assembly defined in that parts list only.

For example, the quantities in the Air Tank parts list (Figure 6-3) are for one Air Tank Kit. The Retract-A-Roll System layout (Figure 6-2) references the system parts list (Table 6-2). The system parts list requires two (2) Air Tanks.

Parenthesis note quantities if system is supplied with one air tank in lieu of two.

The Conveyor Channel Assemblies and System Control Kit are provided without attaching fasteners; therefore, they are not listed separately, installer provides attaching fasteners.

Turn to the installation instructions in Chapters 3 and 4 for more information.

RETRACT-A-ROLL RAR-2 & RAR-4

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6.1 RAR II (62022) and RAR IV (65022) Conveyor Assembly Parts

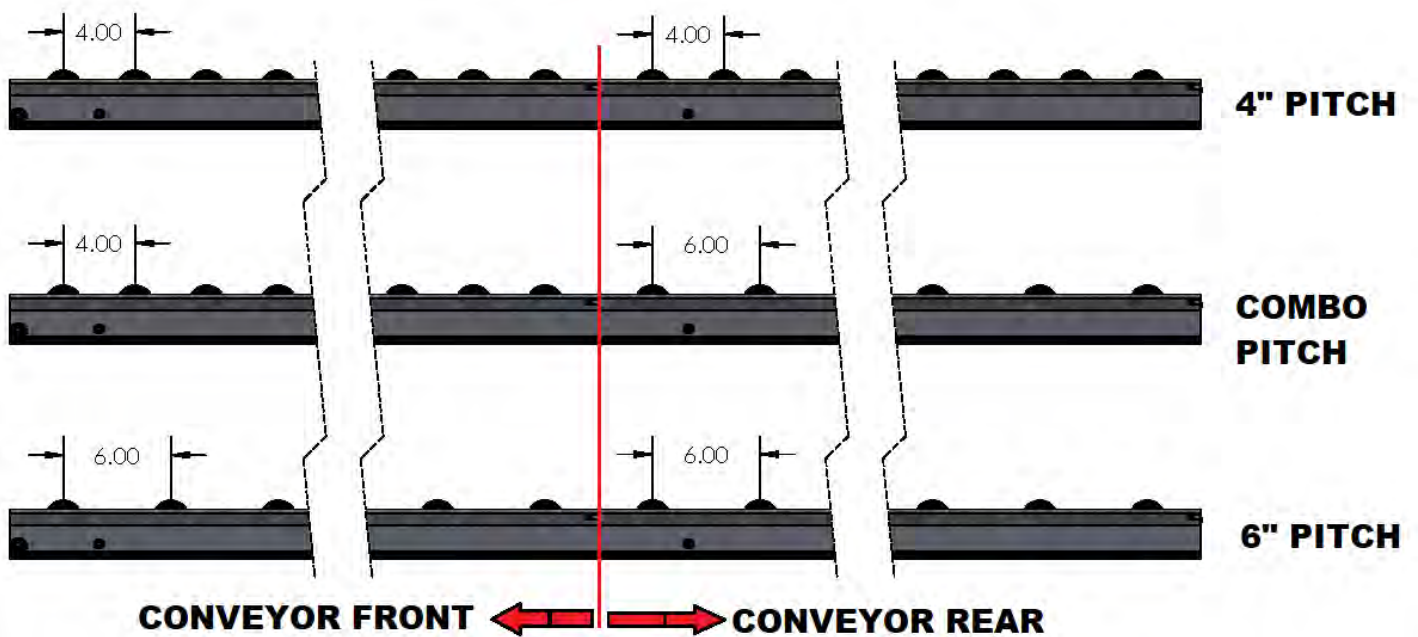
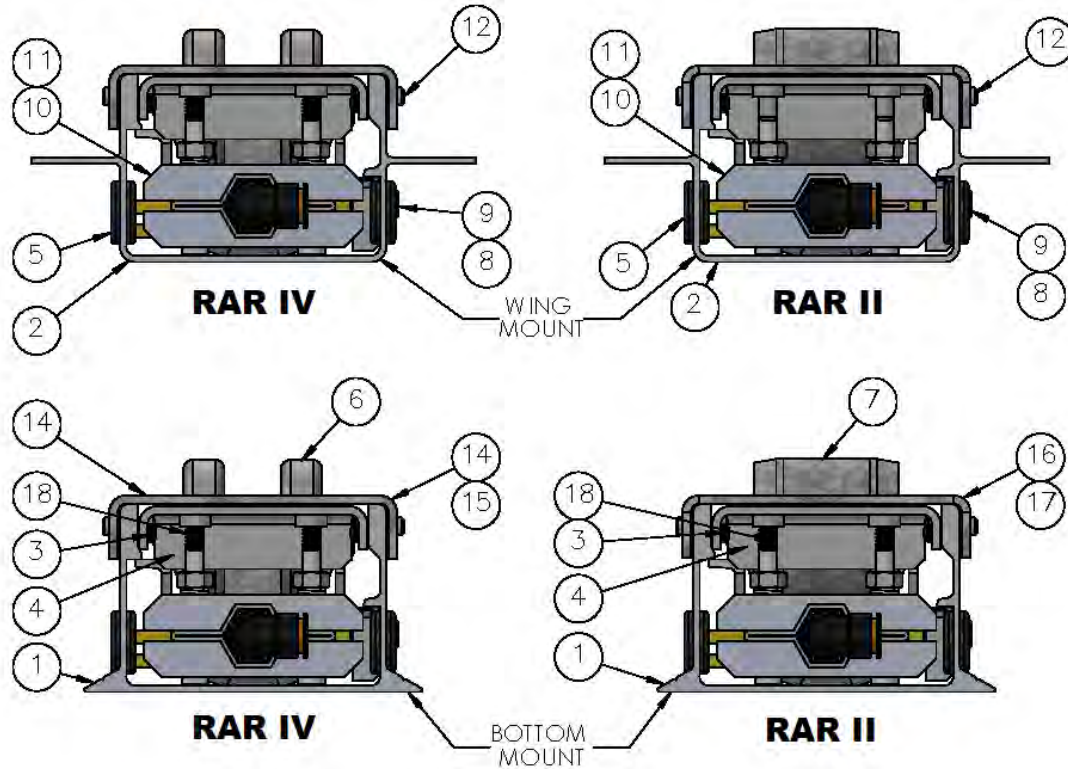


Figure 6-1A Conveyor Parts Diagram

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RAR CONVEYOR ASSEMBLY BILL OF MATERIAL

18	60467-12	SCREW, FLAT HEAD, COVER PLATE	1/4-20 X .75" LONG
17	62017-10	REAR COVER PLATE, RAR II	11 GA. (.1196)
16	62017-11	FRONT COVER PLATE, RAR II	11 GA. (.1196)
15	65017-11	REAR COVER PLATE ASSEMBLY RAR IV	VARIES
14	65017-10	FRONT COVER PLATE ASSEMBLY RAR IV	VARIES
13	HAIR-2	HITCH PIN	Ø.054
12	62020-10	PIN, COVER PLATE RETAINER	Ø.250 x .42" LONG
11	65034-10	AIRBAG ASSEMBLY, RAR II & IV, GEN .II	VARIES
10	62021-10	AIRBAG ASSEMBLY RAR II & IV, GEN. I	VARIES
9	60466-10	SCREW, SELF LOCKING, BUTTON HEAD SOCKET CAP	5/16-18 x .50"
8	47410-11	STOP - ROLLER TRAY	3/8" X 3/4"
7	60108-37	ROLLER TRAY ASSEMBLY, RAR II	2" ROLLER
6	65018-14	ROLLER TRAY ASSEMBLY, RAR IV	HD SKATE WHEEL
5	452	BLACK RUBBER GROMMET, 1/2" I.D., 7/8" O.D.	3/32" THICK
4	62019-14	CHANNEL END BLOCK ASSEMBLY	
3	91385A355	THREAD-LOCKING CUP POINT SET SCREW	1/4-28 x .1/2"
2	62018-10	CHANNEL, RAR II & IV, WING MOUNT	VARIES
1	62018-20	CHANNEL, RAR II & IV, BOTTOM MOUNT	VARIES
ITEM	PART NO.	NOMENCLATURE	STOCK SIZE

① PART NUMBER VARIES BY LENGTH AND CONFIGURATION.

62022 AND 65022 CONVEYOR CONFIGURATIONS

DASH #	LENGTH (FT)	MOUNT STYLE	ROLLER PITCH
-20	13'	WING	6"
-21	13'	WING	COMBO
-22	8'	WING	6"
-23	10'	WING	6"
-24	13'	WING	4"
-25	8'	WING	4"
-26	10'	WING	4"
-120	13'	BOTTOM	6"
-121	13'	BOTTOM	COMBO
-122	8'	BOTTOM	6"
-123	10'	BOTTOM	6"
-124	13'	BOTTOM	4"
-125	8'	BOTTOM	4"
-126	10'	BOTTOM	4"
-210	13'	WING	COMBO
-211	13'	BOTTOM	COMBO

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6.2 Fittings Kit Parts List, 62023



Figure 6-2 Fittings Kit Components. See p.39 for BOM

*Not shown, 3/8" and 1/4" tubing, and tubing cutter.

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62023 FITTINGS KIT BILL OF MATERIAL

1	1	1	1	1	1	1	1	1	1	26	47082-12	WARNING DECAL, NO FORKS	
12	12	12	12	12	8	12	8	12	12	25	47067-10	90 DEG. ELBOW TUBE	3/8 TUBE
1	-	-	-	-	-	-	-	-	-	24	47049-10	TUBING	1/4 X 30 FT
3	3	2	1	3	2	2	1	1	2	23	60169-10	AIR TANK KIT	
1	1	1	1	1	1	1	1	1	1	21	47061-12	ADAPTER, PIPE TO TUBE	3/8 NPT X 1/4 TUBE
1	1	1	1	1	1	1	1	1	1	20	47082-11	WARNING DECAL, NO DRIVE	
1	1	1	1	1	1	1	1	1	1	19	47082-10	WARNING DECAL, NO STEP	
2	-	2	2	-	-	-	-	-	-	17	47051-13	NIPPLE, HEX	1/4 NPT TO 3/8 NPT
2	2	-	-	2	-	-	-	-	-	16	47046-12	VALVE, CHECK	
4	4	4	4	4	4	4	2	2	4	15	47061-14	ADAPTER, PIPE TO TUBE	3/8 NPT TO 3/8 TUBE
1	-	-	-	-	-	-	-	-	-	13	47049-11	TUBING	Ø3/8 X 300 FT
-	-	1	1	1	-	1	-	-	-	12	47049-11	TUBING	Ø3/8 X 220 FT
1	1	1	1	1	1	1	1	1	1	11	47056-10	TUBE CUTTER	
1	1	1	1	1	1	1	1	1	1	10	62034-11	FITTING, TUBE TO TUBE, 1/4	
-	-	2	2	-	1	1	1	1	1	9	62034-10	FITTING, TUBE TO TUBE, 3/8	
-	-	-	-	-	1	-	-	-	-	8	47049-11	TUBING	Ø3/8 X 200 FT
3	3	3	3	3	1	1	1	1	1	7	47061-13	ADAPTER, PIPE TO TUBE	1/4 NPT TO 3/8 TUBE
3	3	2	1	3	-	-	-	-	-	6	47230-10	VALVE, DRAIN AIR TANK	
1	1	1	1	1	1	1	1	1	1	5	47058-13	VALVE, PRES. PROTECTION	
-	-	-	-	-	-	-	-	-	-	4	47049-11	TUBING	Ø3/8 X 185 FT
20	19	19	19	19	12	18	4	6	6	3	47065-10	FITTING, TEE TUBE	
-	1	1	1	1	1	1	1	1	1	2	47049-10	TUBING	Ø1/4 X 5FT
-	-	-	-	-	-	-	1	1	1	1	47049-11	TUBING	Ø3/8 X 100 FT
- 52	- 50	- 49	- 48	- 46	- 42	- 41	- 14	- 13	- 10	ITEM	PART NO.	NOMENCLATURE	STOCK SIZE

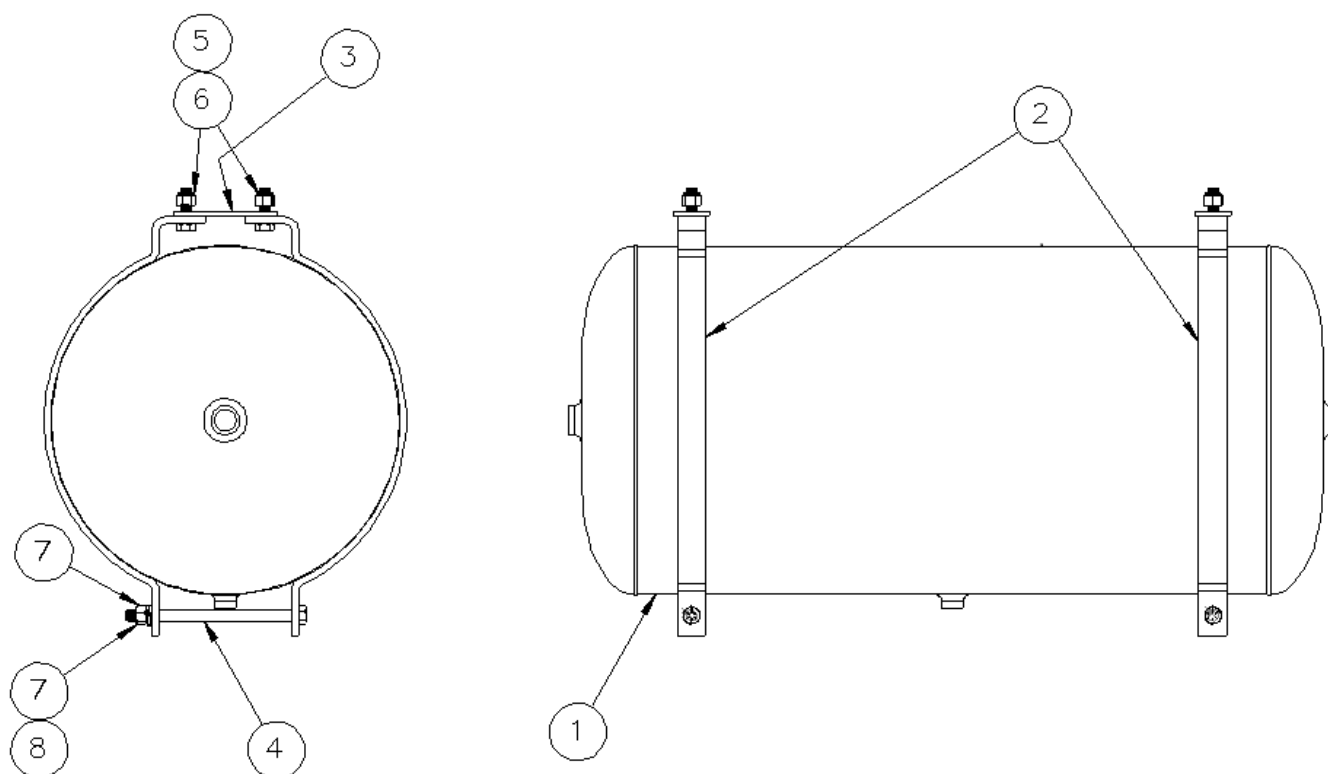
62023 FITTINGS KIT DESCRIPTIONS

DASH NUMBER	AIR TANK KITS	NUMBER OF LANES	CONVEYORS/LANE	FEET OF 3/8" TUBING
-10	2	6	2	100
-13	1	6	2	100
-14	1	4	2	100
-41	2	6	4	220
-42	2	4	4	200
-46	3	6	4	220
-48	1	6	4	220
-49	2	6	4	220
-50	3	6	4	NONE
-52	3	6	4	300

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6.3 Air Tank With Mounting Kit Parts List, 60169-10



2	8	1415FAC1200	LOCK WASHER	3/8"
2	7	1343BAC1200	HEX NUT	3/8-16 UNC
4	6	1351BAC12SL	HEX NUT, SELF-LOCKING-UNC	3/8-16
4	5	1118AAC1220	BOLT, HEXHEAD - UNC	3/8-16 X 1 1/4" LONG
2	4	1118AAC1296	BOLT, HEX HEAD - UNC	3/8-16 X 6.00"LONG
2	3	60341-10	RUBBER ISOLATION PAD	.19" x 1.25" x 3.38"
4	2	60342-11	TANK MOUNTING BRACKET	
1	1	47048-12	AIR TANK	12 GAL. CAP.
-10	ITEM	PART NO.	NOMENCLATURE	STOCK SIZE

Figure 6-3 Air Tank With Mounting Kit, 60169-10

RETRACT-A-ROLL RAR-2 & RAR-4

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6.4 RAR Control Box, Gen II 62014-10

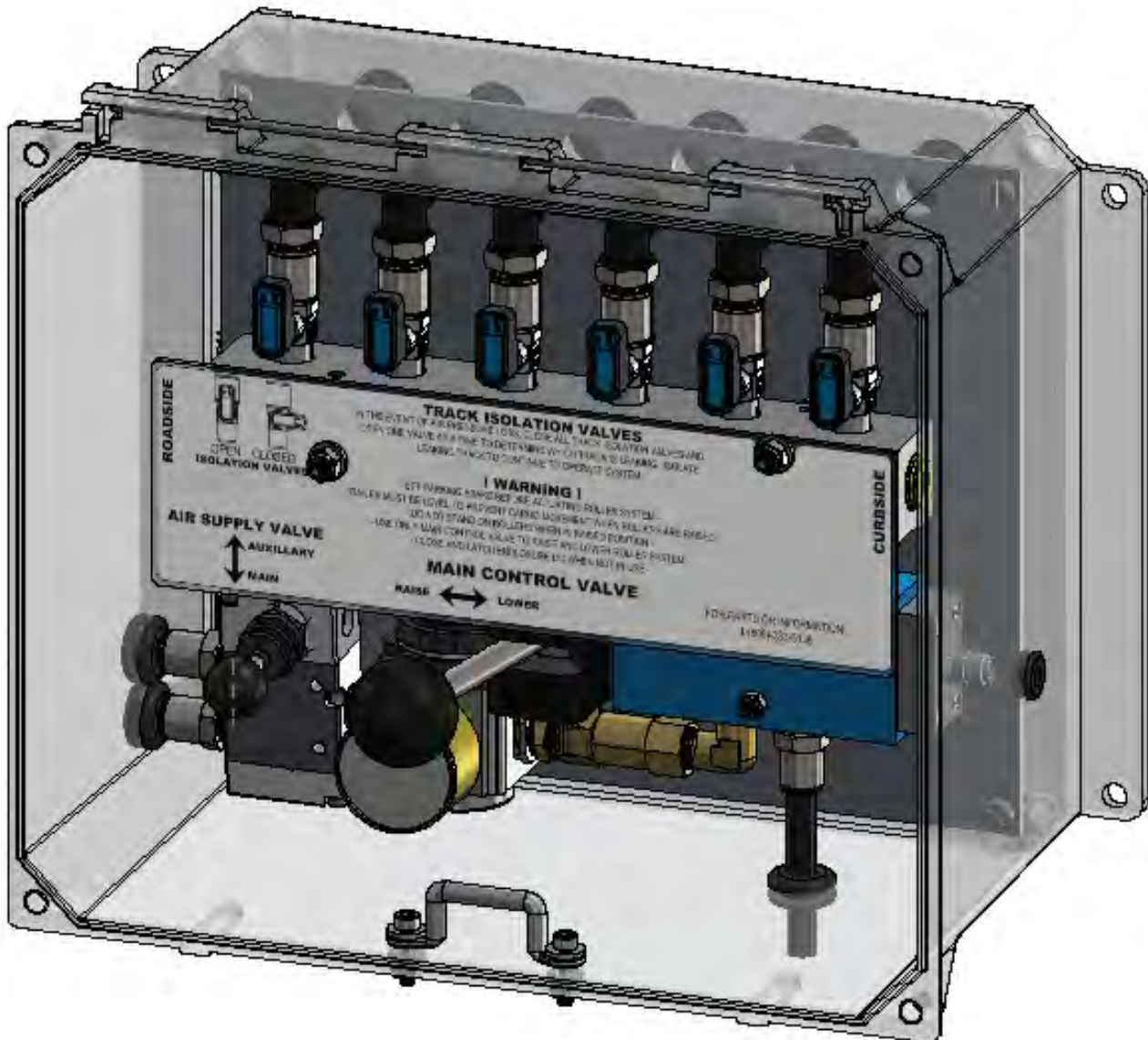


Figure 6-4A RAR Control Box (Lid Not Shown for Clarity)

RETRACT-A-ROLL RAR-2 & RAR-4

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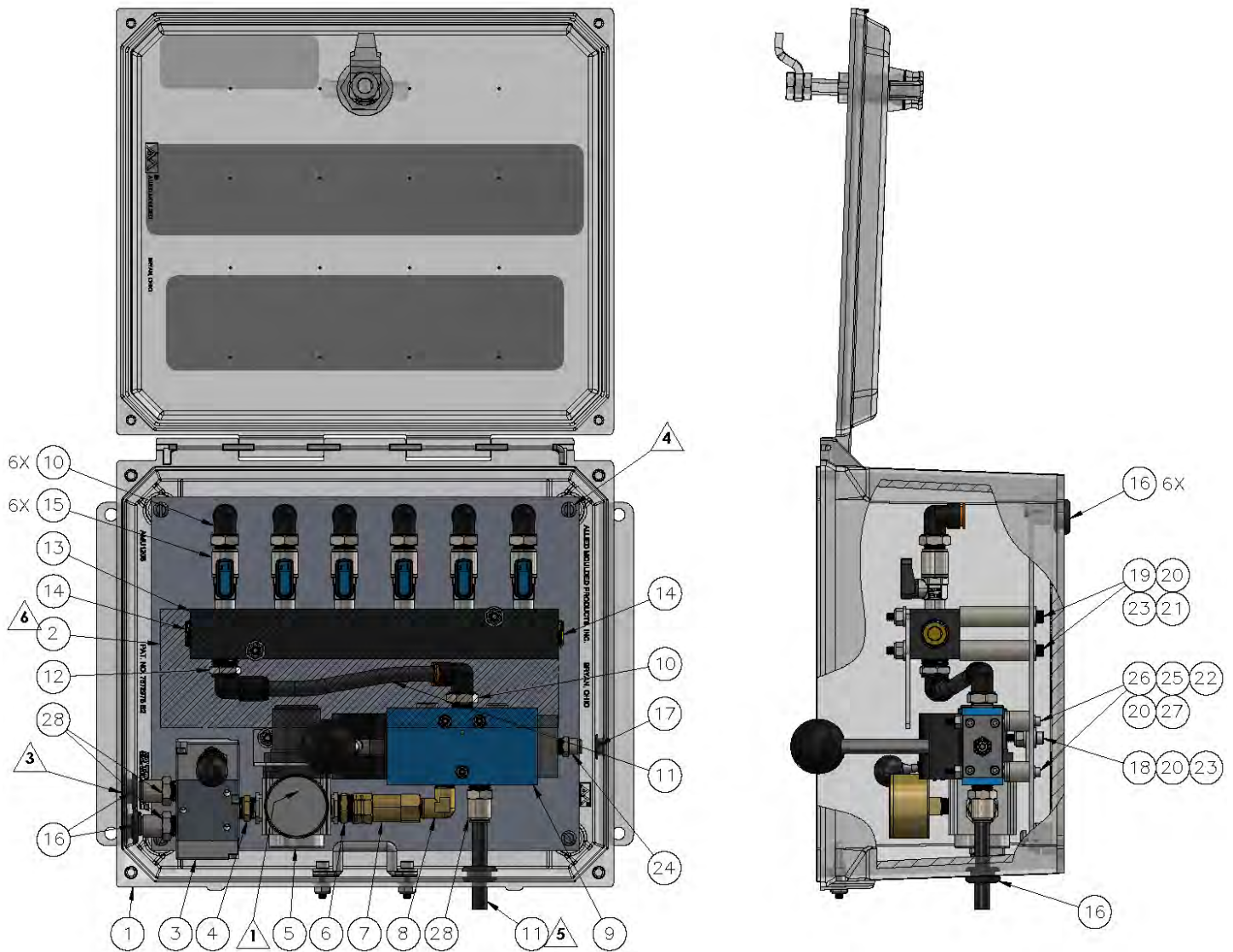


Figure 6-4B RAR Control Box Component Diagram

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RAR CONTROL BOX, GEN II, 62014-10 BILL OF MATERIAL

3	28	47061-13	ADAPTER - PIPE TO TUBE	3/8" TUBE x 1/4" PIPE
3	27	1351BAC04SL	6-32 HEX NUT, SELF LOCKING	6-32 UNC
3	26	1252CAC0436	6-32 x 2.25" SHCS, UNC	6-32 x 2.25"
6	25	1412EAC0400	WASHER, FLAT SAE	#6 SAE
1	24	47061-10	ADAPTER - PIPE TO TUBE	3/8" TUBE x 3/8" PIPE
4	23	1351BAC06SL	HEX NUT, SELF LOCKING UNC	24-Oct
3	22	62040-10	#10 x 0.5" LG. SPACER	.5" O.D. x .19" I.D.
2	21	62040-60	#10 x 1.75" BUSHING	.5" O.D. x .19" I.D.
14	20	1412EAC0600	FLAT WASHER, SAE	#10 WASHER
2	19	1252CAC0660	#10-24 x 3.75" SHCS, UNC	10-24 x 3.75"
2	18	1252CAC0612	10-24 x .75" SHCS, UNC	10-24 x 3/4" LG.
1	17	62045-11	GROMMET, TUBE	1/4" TUBE
9	16	62045-10	GROMMET, TUBE	3/8" TUBE
6	15	62027-11	VALVE, 1/4 TURN, BLUE LEVER	1/4" NPT
2	14	62041-10	HEX PLUG, 3/8 NPT	5/16" HEX, 3/8 NPT
1	13	47231-10	MANIFOLD	1.25" SQ. BAR
1	12	47062-16	90° SWIVEL PIPE TO TUBE	3/8 NPT x 3/8" TUBE
1	11	3/8" TUBING	3/8" OD AIR TUBING	3/8" OD
7	10	47062-10	90° SWIVEL PIPE TO TUBE	1/4 NPT x 3/8" TUBE
1	9	62042-10	CONTROL VALVE, 3-WAY	1/4 NPT
1	8	62033-12	ELBOW, 90°	1/4 NPT
1	7	47046-13	CHECK VALVE	1/4 NPT
1	6	47051-11	NIPPLE, HEX	1/4 NPT TO 3/8 NPT
1	5	62029-11	REGULATOR, 0-60psi GAUGE	
1	4	47051-10	NIPPLE, HEX	1/4" NPT
1	3	62046-10	SUPPLY VALVE, 3-WAY	1/4 NPT
1	2	62000-06	FRONT PANEL	10"x3" PLATE
1	1	62000-10	RAR CONTROL ENCLOSURE	12" x 10" x 6"
-10	ITEM	PART NO.	NOMENCLATURE	STOCK SIZE

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Notes:

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Notes:

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Additional Information Resources

- Vehicle/Trailer Floor Assembly Drawings (from vehicle/trailer manufacturer)
- Ancra International Customer Service:
 - Toll-free (800) 233-5138
 - Local (859) 371-7272
 - FAX (800) 347-2627
- Retract-A-Roll® II Warranty Registration (62081-10) – Ancra website
- Ancra Operations and Maintenance Manual (Doc #310) – Ancra website

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