



# HALLCO LIVE FLOORS®

## Trailer System Installation Instructions



**4000  
Series**

**[www.hallcomfg.com](http://www.hallcomfg.com)  
800-542-5526**

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This installation manual is a guide only, compiled from the experiences of numerous installers.

Installing your Hallco Live Floor will require some alterations to your trailers.

Any alterations without approval of the trailer manufacturer may void the trailer warranty. Check with the trailer manufacturer before performing any alterations.

Hallco assumes no liability for damages which may occur as a result of installing any of the live floor systems manufactured by Hallco Manufacturing Company, Incorporated.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

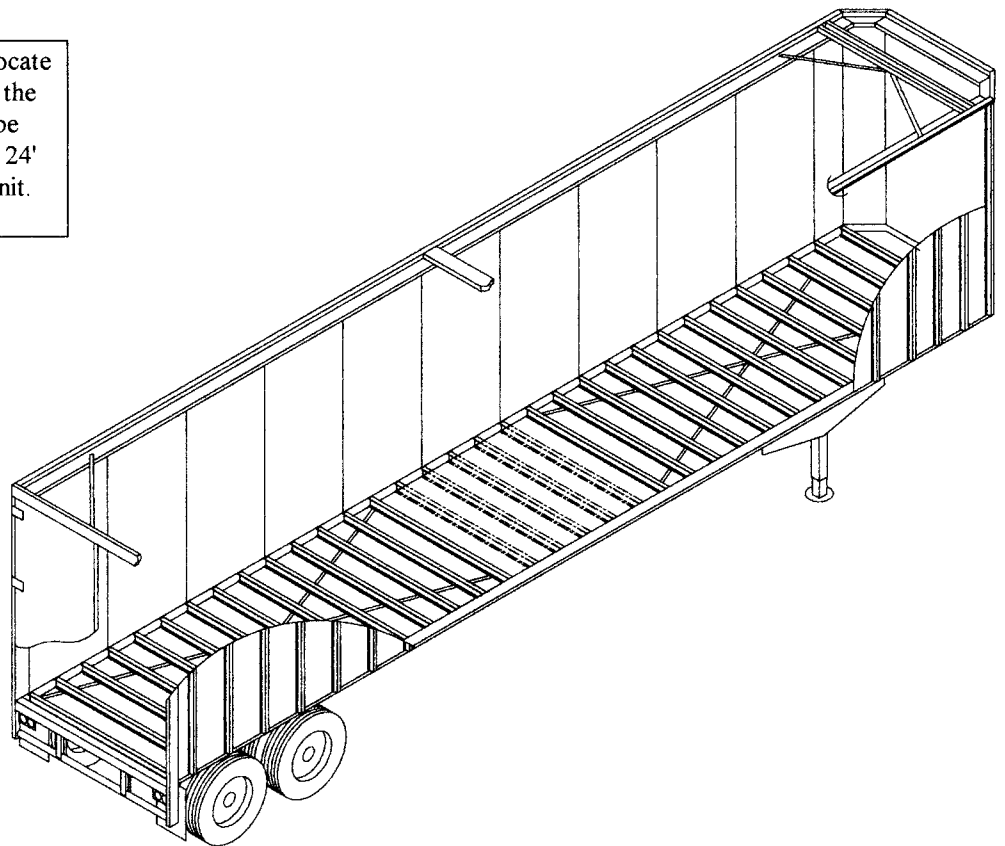
## SECTION 1 PREPARING THE TRAILER

The first step to installing your new Hallco Live Floor is to remove the old floor completely. Everything above the crossmembers and between the side walls. All decking, bolts, clips and any other debris left during deck removal. All mounting surfaces must be clean, smooth and level for proper installation.

**IMPORTANT NOTE:** In many trailers the deck is a structural member providing necessary support and strength to maintain the straightness of the side rails. Therefore if the trailer is straight to begin with it is advisable to crossbrace the trailer to maintain this straightness while installing the new Hallco Live Floor System. In any event, the trailer side rails must be straight within 1/4" from front to rear.

The next step is to decide where you would like the Drive Unit located. The preferred location is near the center of the trailer. (*see Figure 1-1*)

**TIP:** One consideration, is to locate the Drive Unit at a position that the stock lengths of subdeck could be used without cutting. i.e. 20' or 24' from inside front to the Drive Unit.

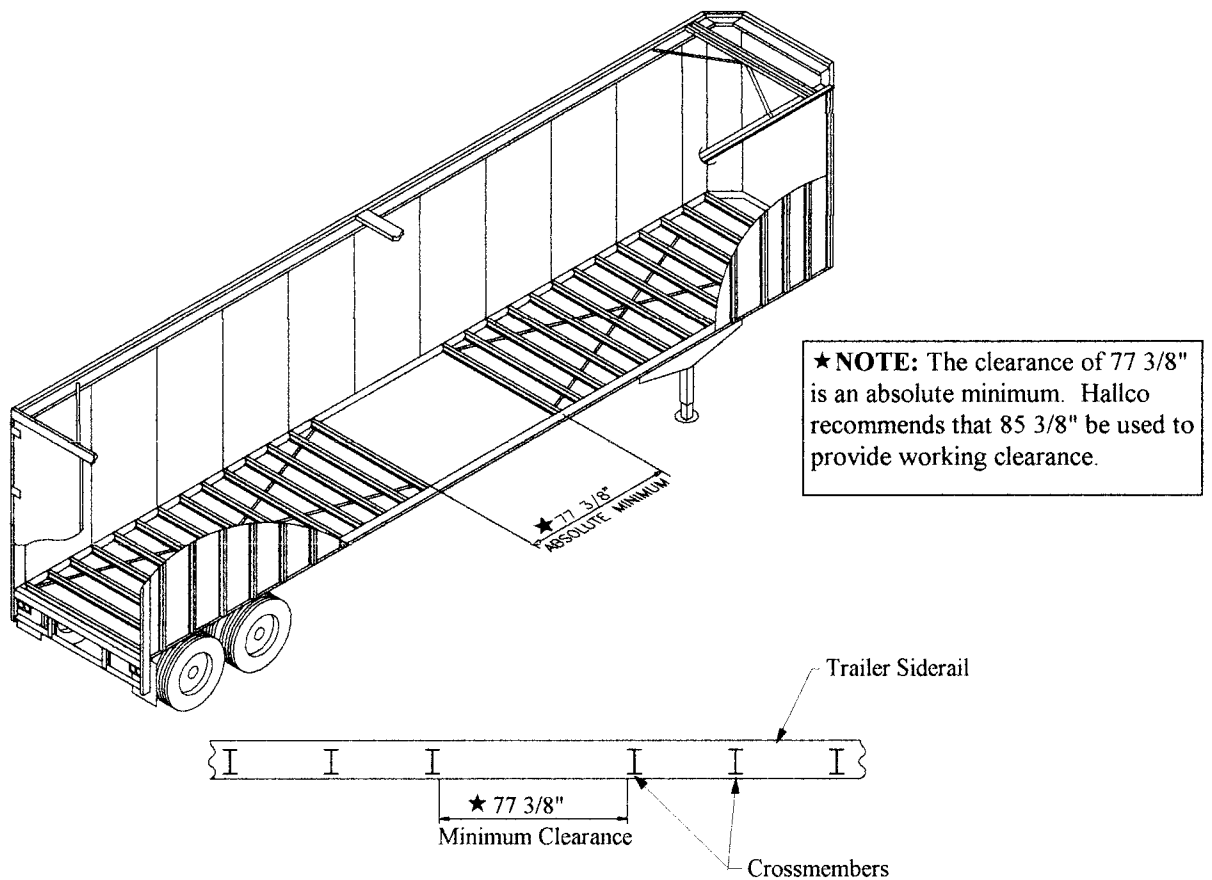


*Figure 1-1*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 1 PREPARING THE TRAILER - CONTINUED

For trailers over 30' long and using the 4000 series drive, you will be providing a minimum clearance of 77 3/8" between the trailer crossmembers. This is the absolute minimum. **Hallco recommends that you provide 85 3/8" as a working clearance.** (See *Figure 1-2*)



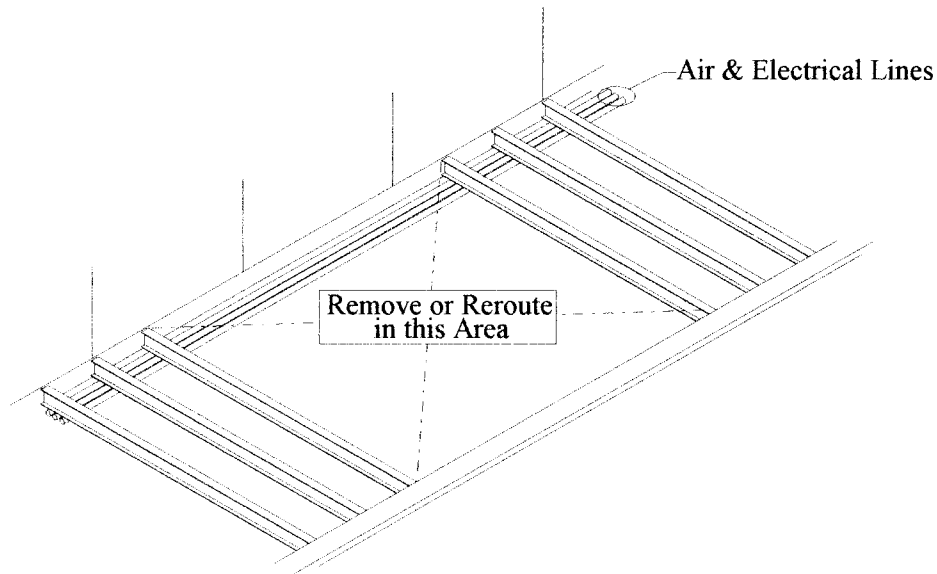
*Figure 1-2*

After you have decided where the Drive Unit will be located, examine existing electric and air lines. These lines may need to be removed and/or rerouted during installation. (see *Figure 1-3 Page 3*)

## SECTION 1

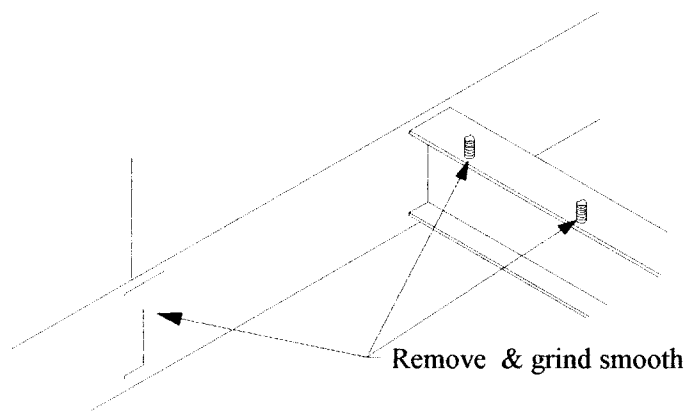
# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## PREPARING THE TRAILER - CONTINUED



*Figure 1-3*

Now that the existing lines have been removed or rerouted, remove the crossmembers in the intended area of the Drive Unit location. When the crossmembers have been removed, clean the side rails in this area. Remove broken bolts and grind smooth any old welds or slag left during crossmember removal. The mounting surface must be clean and smooth for proper installation. (see *Figure 1-4*)



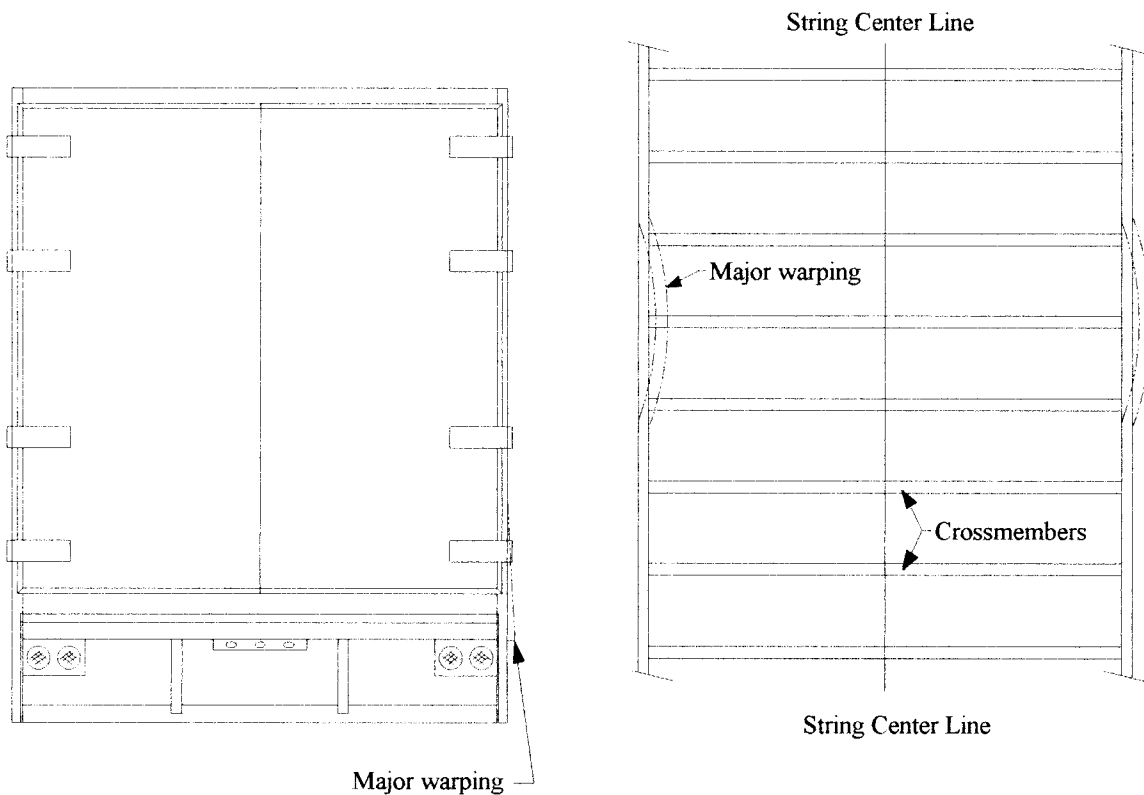
*Figure 1-4*

## SECTION 1 PREPARING THE TRAILER - CONTINUED

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

Checking your trailer for straightness can be done in several ways. A visual sighting of the trailer side rails is a good beginning. You should be able to detect any major warping with a visual check.

The next step is to measure and mark the front crossmember and the rear header. Then stretch a line from the center mark of the rear header to the center mark of the front crossmember. Install center line about 1" above the crossmembers, this allows for better measuring. Next, if need be, you can then use the center line to check and measure the straightness of the siderails. If the siderails are off more than 3/16" of an inch, you will need to straighten the side rails in that area. (see *Figure 1-5*)

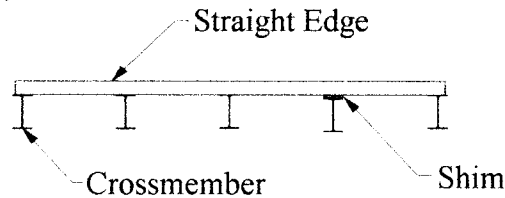


*Figure 1-5*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

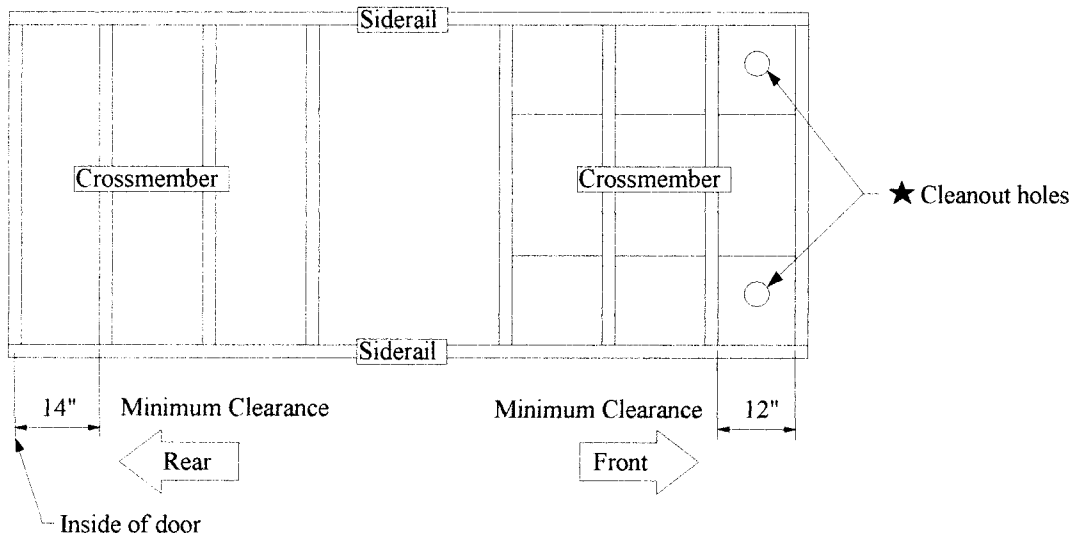
## SECTION 1 PREPARING THE TRAILER - CONTINUED

The crossmembers need to be in good condition. It is important that they be clean, smooth and level. Repair and or replace as needed. Some crossmembers can be shimmed to bring them to the proper level, provided they are reasonably clean and straight. (see *Figure 1-6*)



*Figure 1-6*

Hallco recommends that the rearmost crossmember be installed at a minimum distance from the rear bumper. The same applies to the front crossmember (see *Figure 1-7*). If your trailer does not meet these requirements, you will need to add crossmembers respectively.



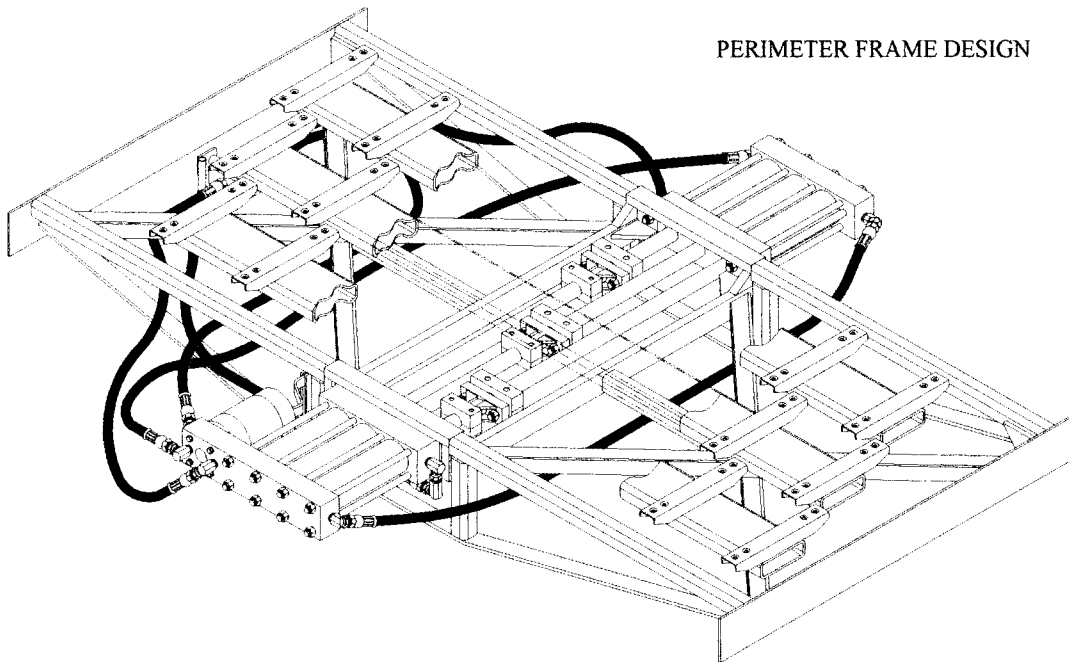
*Figure 1-7*

★ Note: If there are no clean out holes, provide at least two 4" diameter holes or holes at any cavity in the fifth wheel plate.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

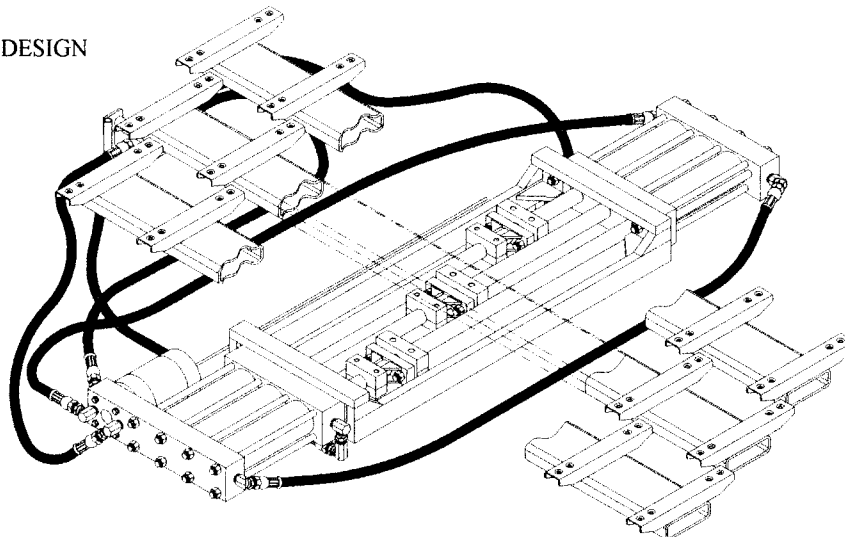
## SECTION 2 INSTALLING THE DRIVE UNIT

Before proceeding with the installation of the Drive Unit, you must determine which type of Drive Unit you have. There is the Drive Unit designed for the perimeter framed trailers and the one designed for the center framed trailer. The figures below show these Drive Units.



PERIMETER FRAME DESIGN

CENTER FRAME DESIGN



If you are installing a Drive Unit in a perimeter framed trailer follow the instructions on the following page. If you are installing a Drive Unit in a center framed trailer follow the instructions in Section 13.

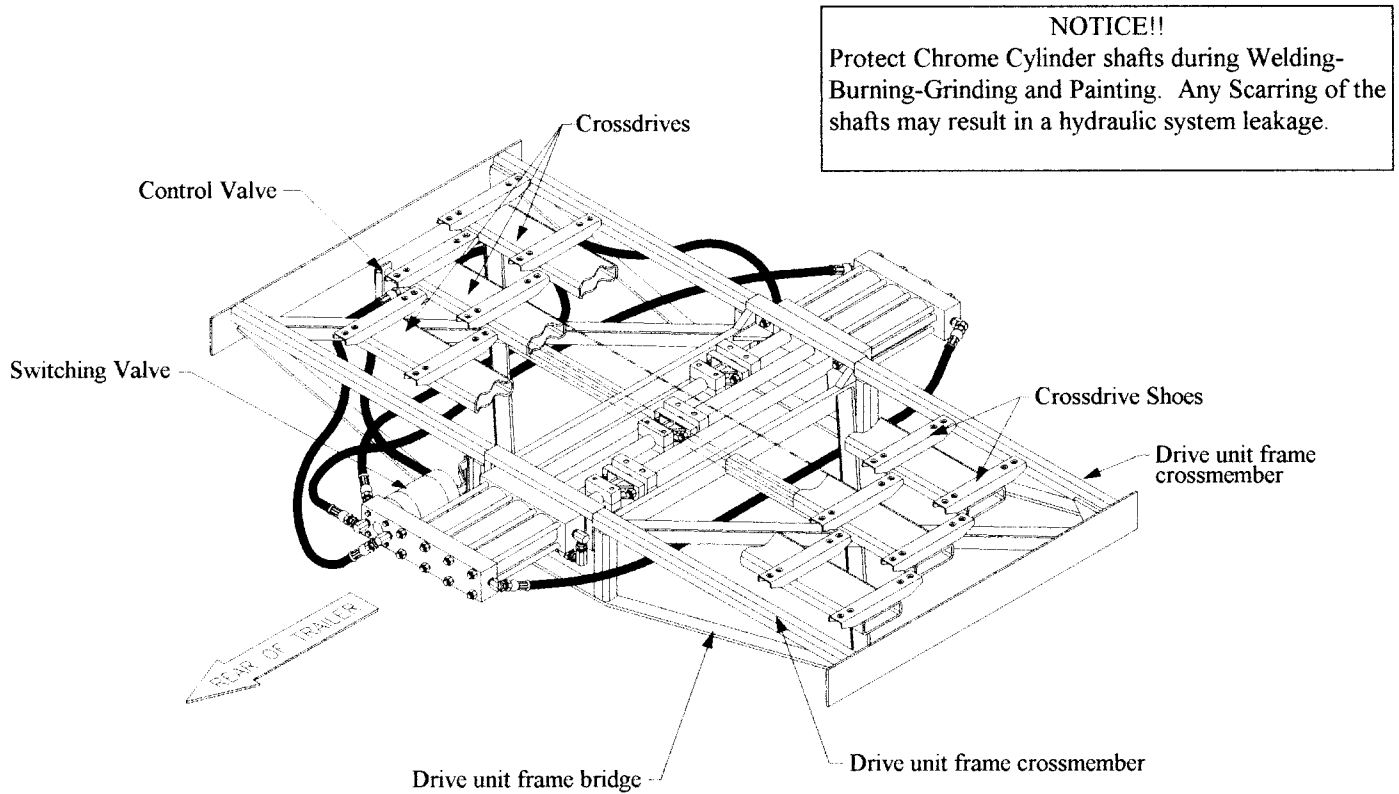
# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 2 INSTALLING THE DRIVE UNIT IN A PERIMETER FRAMED TRAILER

See Section 13, page 35 for Center Frame Installation

**IMPORTANT NOTE:** When handling the Drive Unit, lift only by the Drive Unit frame crossmembers. Never lift by the Drive Unit frame bridge! Lifting in this way may cause distortion of the Drive Unit frame and create problems during Drive Unit installation.

(See *Figure 2-1*)



**Figure 2-1**

If the Drive Unit was custom built to fit your trailer, you should be able to proceed with the installation.

If the Drive Unit was not custom built to fit your trailer, you may need to build a set of Drive Unit Hangers. The first step is to determine the space the Hangers must fill. Measure the trailer crossmembers. Now measure and subtract the width of the Drive Unit. Divide the result by two and you'll have the Hanger size needed. (See example below)

TRAILER CROSSMEMBERS	95"
DRIVE UNIT WIDTH	- 87"
RESULT	8"
DIVIDE BY TWO	4" = Hanger size

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 2 INSTALLING THE DRIVE UNIT IN A PERIMETER FRAMED TRAILER - CONTINUED

The Hanger shown in Figure 2-2 is constructed of two pieces of 4" x 2" x 1/4" wall rectangular tubing welded to the Drive Unit Frame at the Drive Unit Frame Crossmembers, with a 1/4" shear plate positioned between them. If your trailer has an aluminum side rail you will need an additional mounting plate to bolt to the trailer side rail. Note: If bolting use not less than sixteen (16) three eighths (3/8") inch bolts per side. (See Figure 2-2)

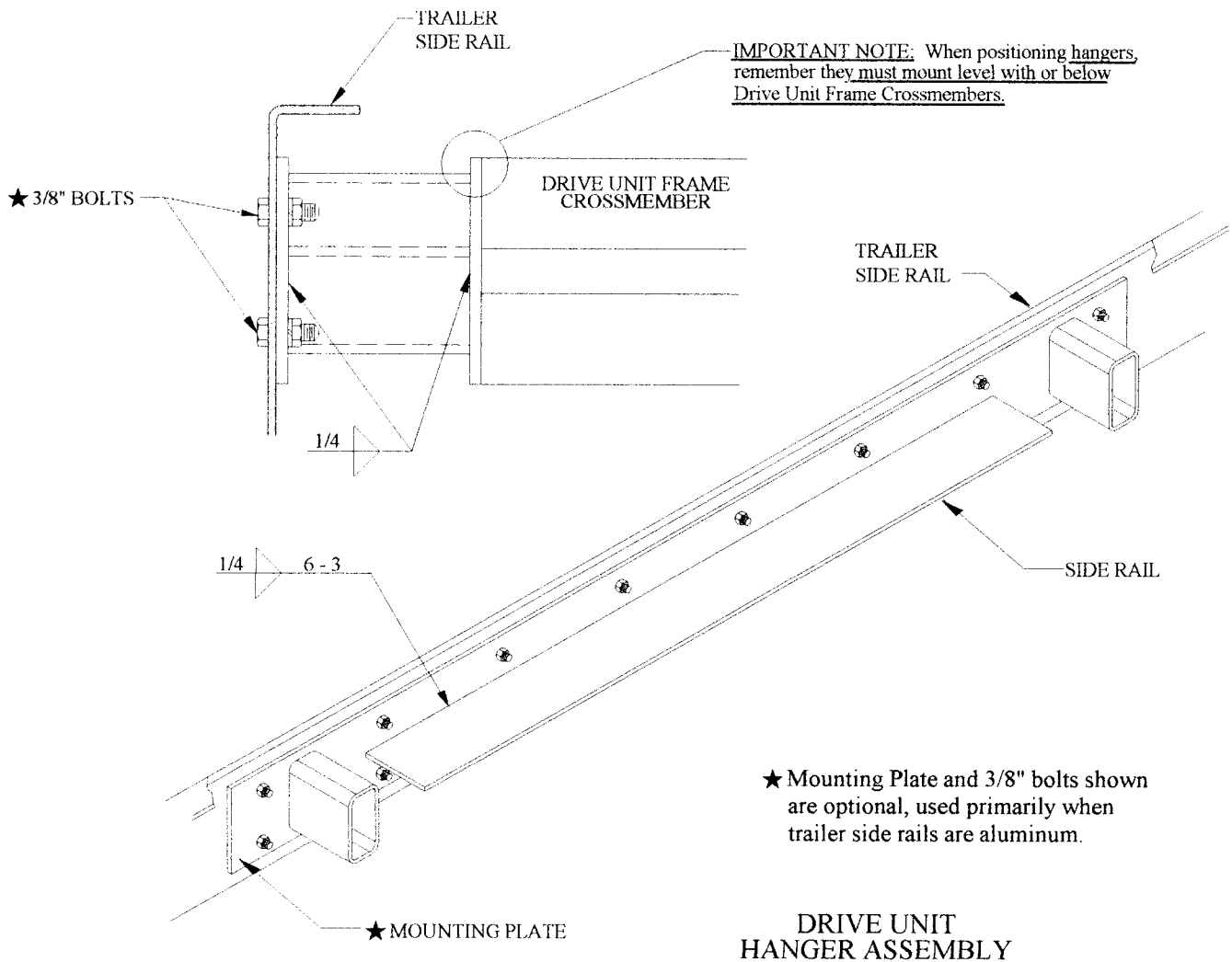
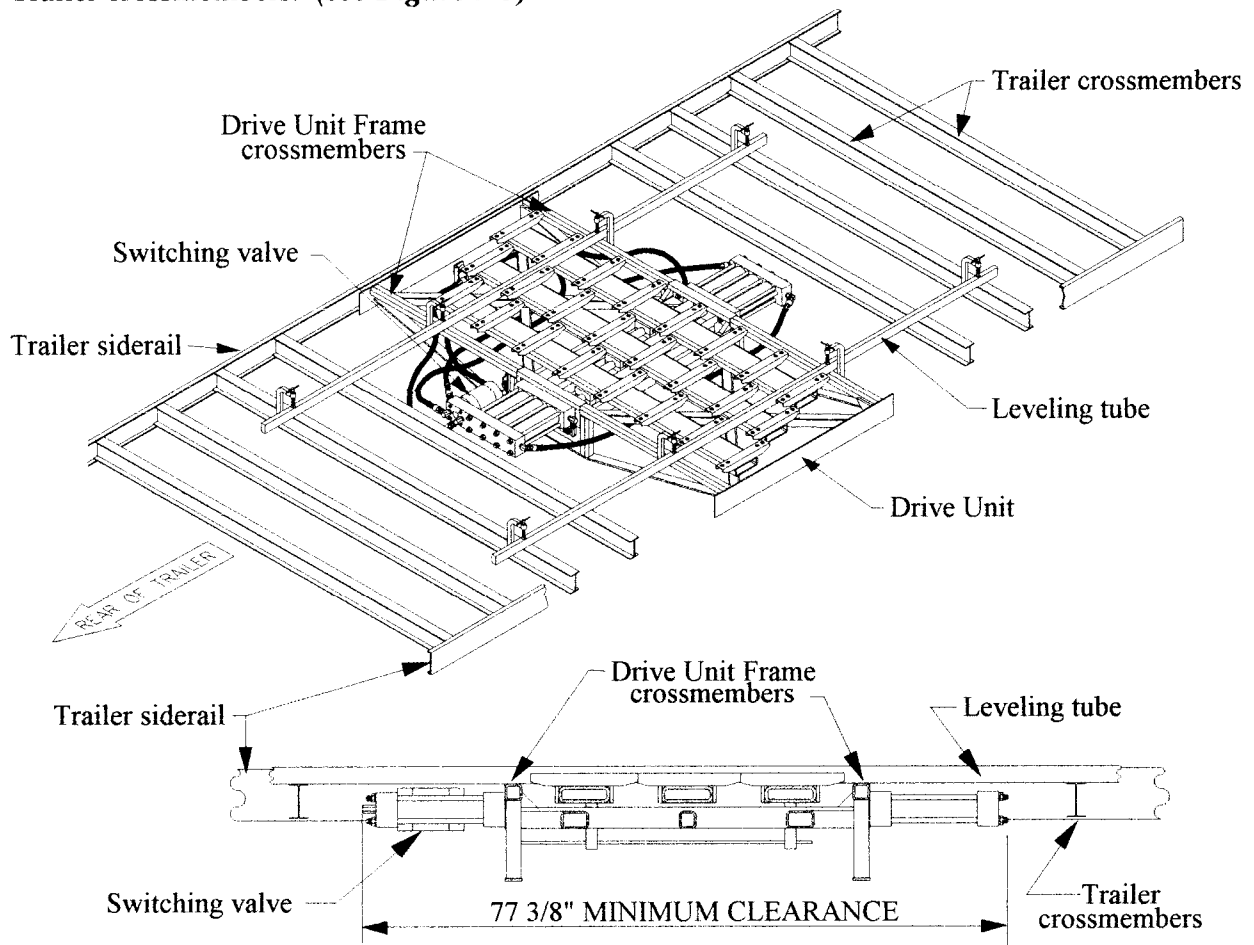


Figure 2-2

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 2 INSTALLING THE DRIVE UNIT IN A PERIMETER FRAMED TRAILER - CONTINUED

The next step is to position the Drive Unit with the switching valve to the rear of the trailer and the crossdrive shoes up. (see *Figure 2-1, page 7*) Next, raise or lower the Drive Unit into the opening provided earlier. It is important that the Drive Unit be centered between the trailer side rails. The Drive Frame crossmembers must also be level with the trailer crossmembers. Use at least two leveling tubes when positioning the Drive Unit. Two or three lengths of subdeck on edge clamped to the Drive Frame will work as leveling tubes. Note: The leveling tubes alone may not be enough to support the Drive Unit. When the Drive Unit is centered and level, clamp the leveling tubes to the Trailer crossmembers. (see *Figure 2-3*)

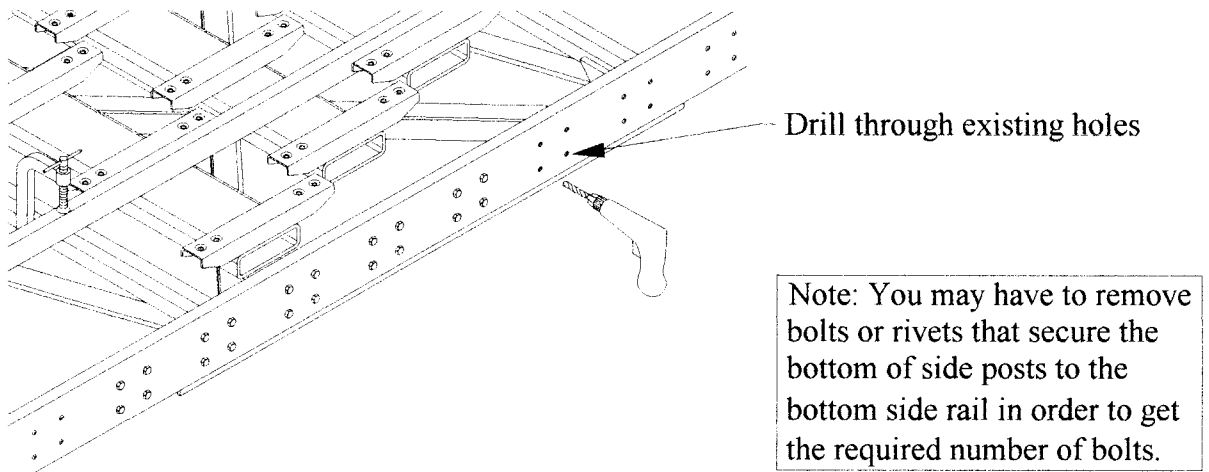


*Figure 2-3*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

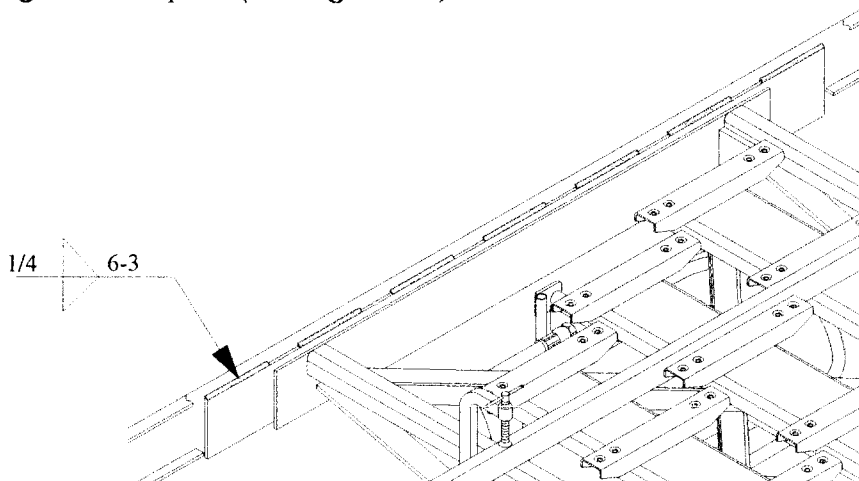
## SECTION 2 INSTALLING THE DRIVE UNIT IN A PERIMETER FRAMED TRAILER - CONTINUED

With the Drive Unit in position weld or bolt in place. If you are bolting the Drive Unit in place, use not less than sixteen (16) three eighths inch (3/8") bolts per side. Drill through bolt holes that were left from the crossmembers that were removed to make the Drive Unit opening. (see *Figure 2-4*)



*Figure 2-4*

If welding the Drive Unit in place, Hallco recommends skip welding using 1/4" fillet welds 6" long with a 3" pitch. (see *Figure 2-5*)



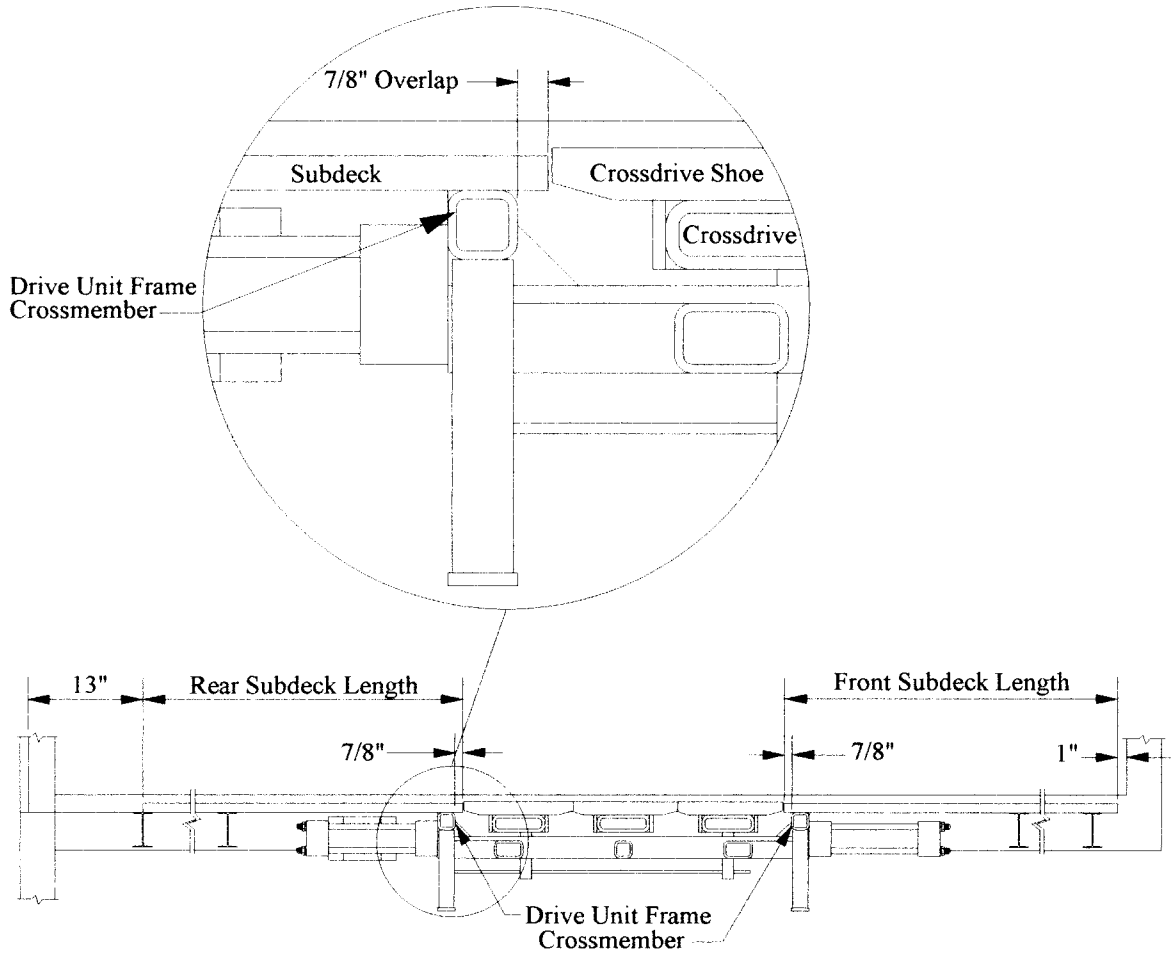
*Figure 2-5*

## SECTION 3

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## INSTALLING THE SUBDECK

Assuming everything is ready, measure and cut the subdeck to the proper length. Starting  $7/8$ " inside the drive frame crossmember to 1" from the front of the trailer and 13" from the rear door. (*see Figure 3-1*) Cut the subdeck to these measurements. REMEMBER! Check the condition of the crossmembers. Be sure the top surface is clean and free of broken bolts extending above the mounting surface. Mounting surfaces must be clean, smooth and level for proper installation.

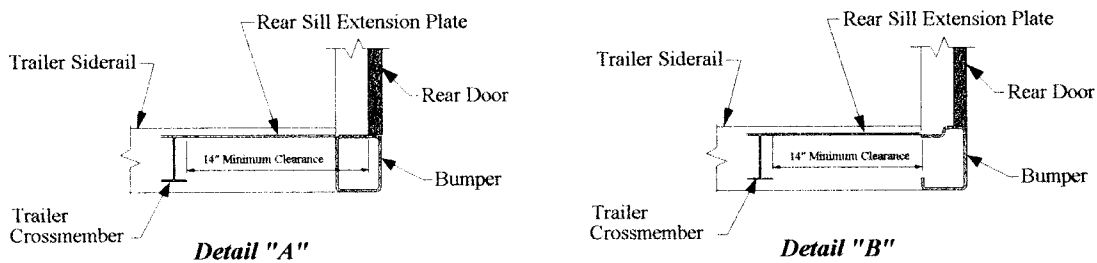
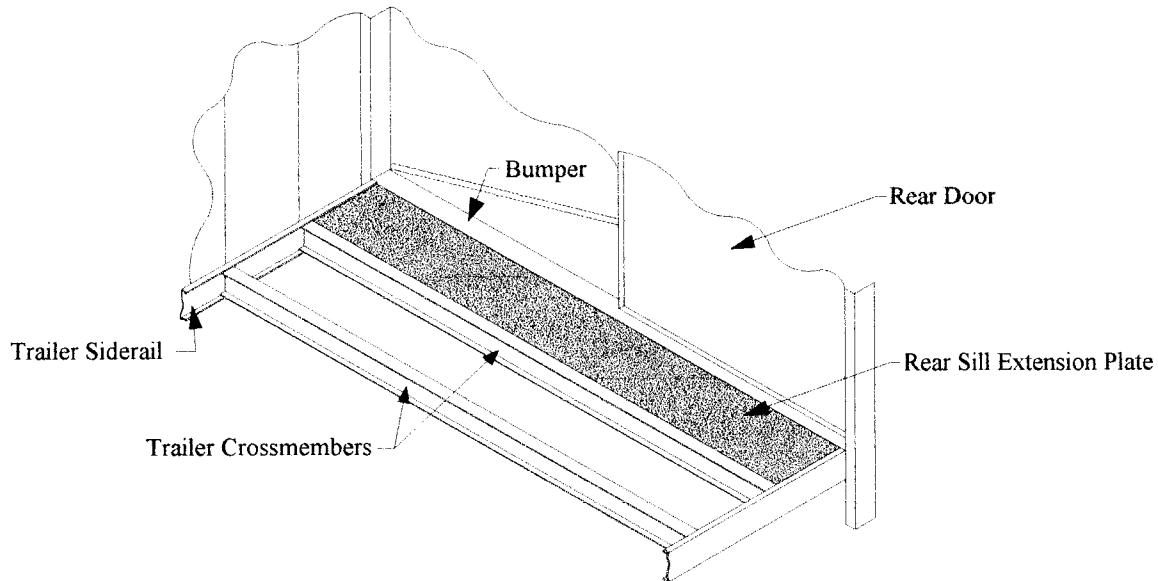


*Figure 3-1*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 3 INSTALLING THE SUBDECK - CONTINUED

Next, install the rear sill extension plate. The extension plate is attached to the rear bumper, the trailer side rails and the crossmember. (see *Figure 3-2*) Later the extension plate will be welded or bolted to the subdeck.



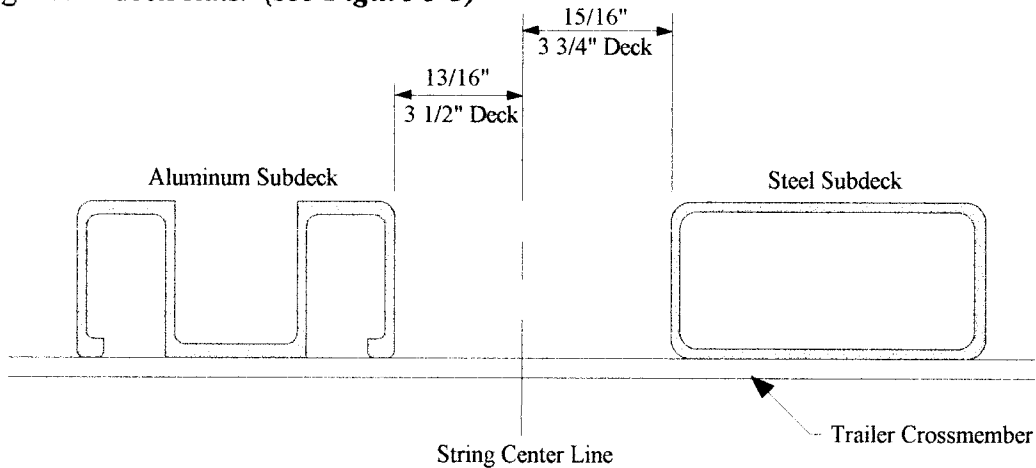
*Figure 3-2*

**NOTE:** When the bumper design extends above the top of the trailer crossmembers, a length of flat bar should be attached to the bumper and the extension plate. The flat bar should fit from side rail to side rail. The minimum clearance would then be measured as shown in *Detail "B" Figure 3-2*.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

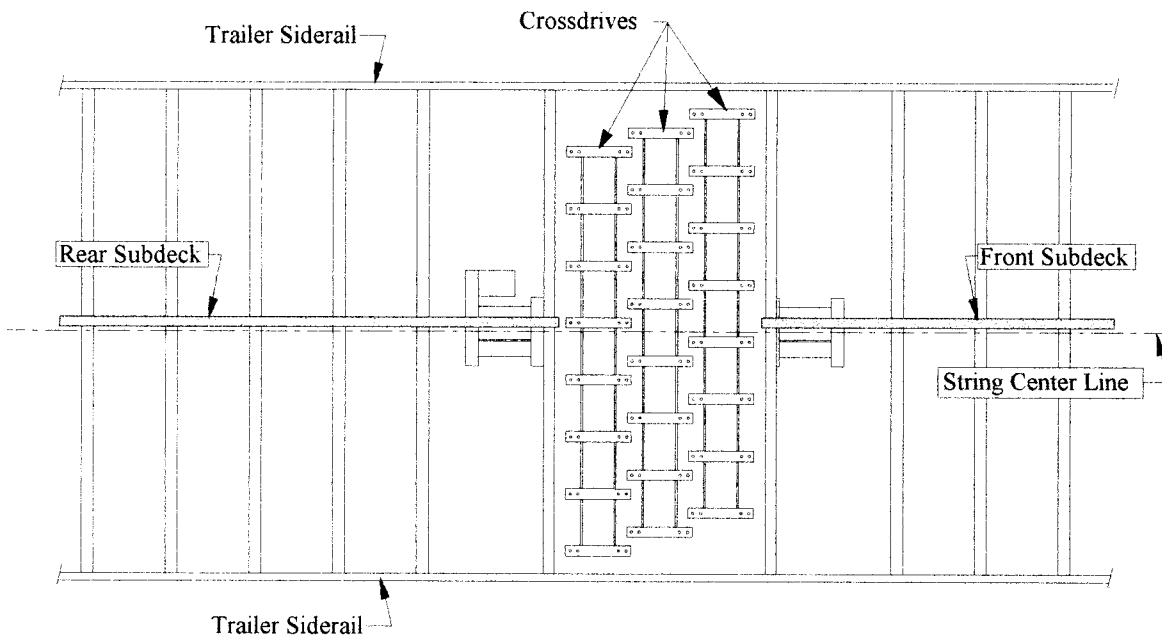
## SECTION 3 INSTALLING THE SUBDECK - CONTINUED

Using the string center line you laid when preparing the Trailer, position the center-most pieces of subdeck 13/16" from the center mark if using 3-1/2" deck slats or 15/16" if using 3-3/4" deck slats. (see *Figure 3-3*)



**Figure 3-3**

Starting with one of the center-most pieces of subdeck, weld or bolt this one piece of subdeck to each crossmember checking to insure the subdeck tube is straight and that proper alignment with the corresponding drive shoe is maintained. (see *Figure 3-4*)



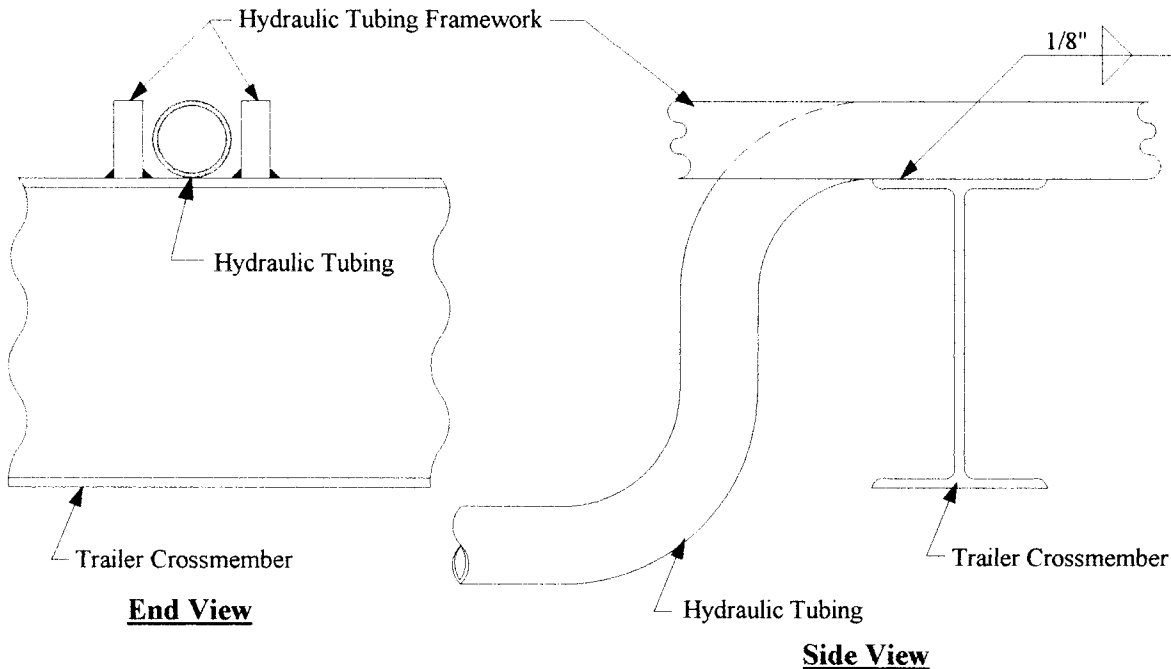
**Figure 3-4**

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 3 INSTALLING THE SUBDECK - CONTINUED

Next you must decide where the hydraulic tubing will be mounted. If you have decided to run it on top of the trailer crossmembers, you must position it at this time. Hallico also recommends preparing the trailer, at this time, if you plan to run the hydraulic lines through the Trailer crossmembers.

Top Mount Hydraulic tubes require a special framework. This framework will act as subdeck, so alignment with the corresponding Drive Shoe is important. The framework for top mount Hydraulic tubes can be constructed in any manner which provides the appropriate size, strength and alignment so as to act as subdeck. The framework is shown in **Figure 3-5**. It is constructed of 3/8" x 1" flat bar. The length of the framework is equal to the length of the front subdeck. Just after the landing gear, the hydraulic tubing is bent down and runs below the trailer crossmembers (*see Figure 3-5*)



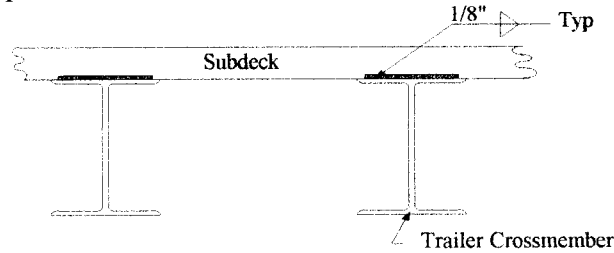
**Figure 3-5**

**IMPORTANT NOTE:** When bending hydraulic tubing, use a tubing bender. DO NOT USE HEAT AND DO NOT allow tubing to be crimped. Crimped tubing will cause a flow restriction.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

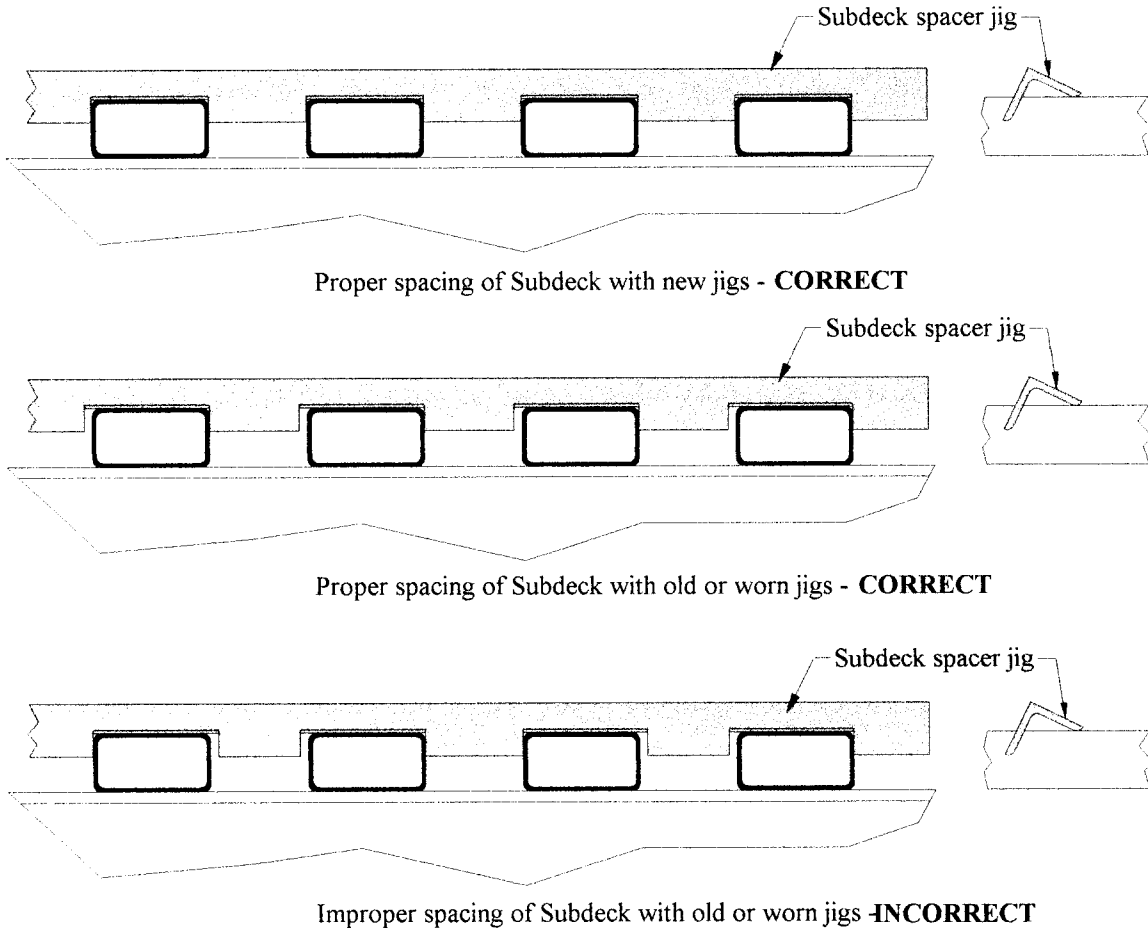
## SECTION 3 INSTALLING THE SUBDECK - CONTINUED

By taking great care with the installation of this piece of subdeck you will make the rest of the subdeck installation as trouble free as possible. If welding, Hallco recommends using 1/8" fillet welds to avoid interference with the bearings. (*see Figure 3-6*) Note! secure subdeck to Drive Unit Frame Crossmember. If steel, then weld. If aluminum, use a 1/4" Daisy or equivalent.



**Figure 3-6**

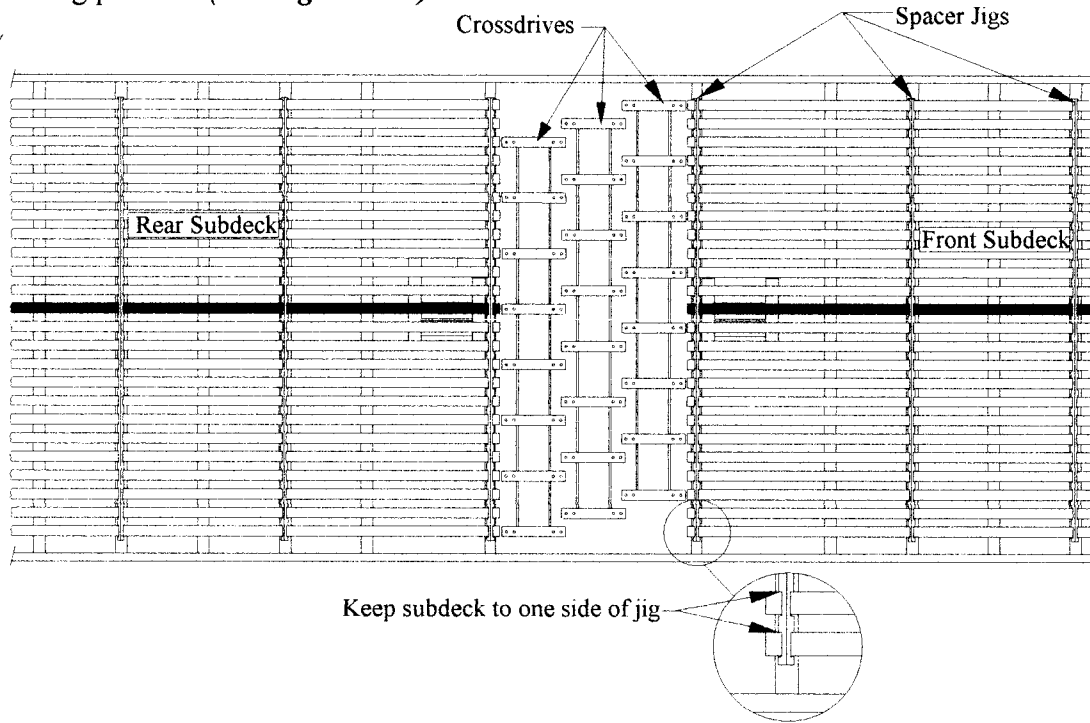
Now position the spacer jigs and clamp in place, checking to be sure everything is lining up correctly. (*see Figure. 3-7*)



**Figure. 3-7**

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

Starting at one end of the trailer weld or bolt each piece of subdeck to the crossmember. Next move the spacing jig to the next crossmember and weld or bolt each piece in place. Repeat this process until all subdeck pieces have been attached to each crossmember. **REMEMBER!** It is important that the subdeck spacer jigs be used on each crossmember to insure proper spacing. Periodically check alignment of the subdeck throughout the mounting process. (see *Figure. 3-8*)



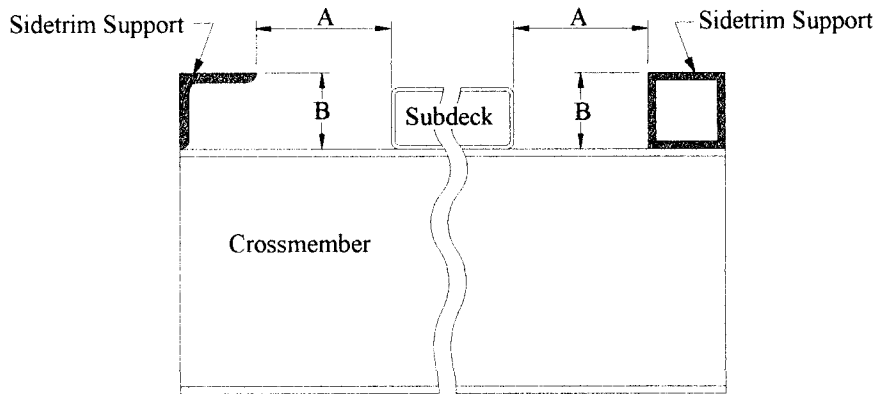
*Figure. 3-8*

**SPECIAL NOTE!!** In some instances, hooking up the system at this time is advised. If this is your choice refer to "Section 9", Hooking up the System.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 4 INSTALLING THE SIDE TRIM SUPPORT

The support for the side trim should be ★1-1/4" above the crossmembers, and meet the sidewall. It should come no closer to the subdeck than 1-1/2" when using 3-1/2" deck, or 1-3/8" when using 3-3/4" deck. The support may be a length of 1-1/4" angle bolted or riveted to the sidewall or a length of 1-1/4" tube fastened into the corner. Any other fabricated metal support will work which may be secured to the sidewall and will support the trim at the correct elevation. (see *Figure 4-1*)



**Figure 4-1**

★The above elevation of 1-1/4" is correct for 1/8" thick deck. See the chart below for a complete mounting height breakdown.

DECK TYPE	DECK WIDTH		DIMENSION A		DECK THICKNESS		DIMENSION B	
	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
35-2	3 1/2	88.900	1 1/2	38.100	1/8	3.175	1 1/4	31.750
35-3					3/16	4.700	1 5/16	33.337
35-4					1/4	6.350	1 3/8	34.925
35-6					3/8	9.525	1 1/2	38.100
37-2	3 3/4	95.250	1 3/8	31.925	1/8	3.175	1 1/4	31.750
37-3					3/16	4.700	1 5/16	33.337
37-4					1/4	6.350	1 3/8	34.925
37-6					3/8	9.525	1 1/2	38.100

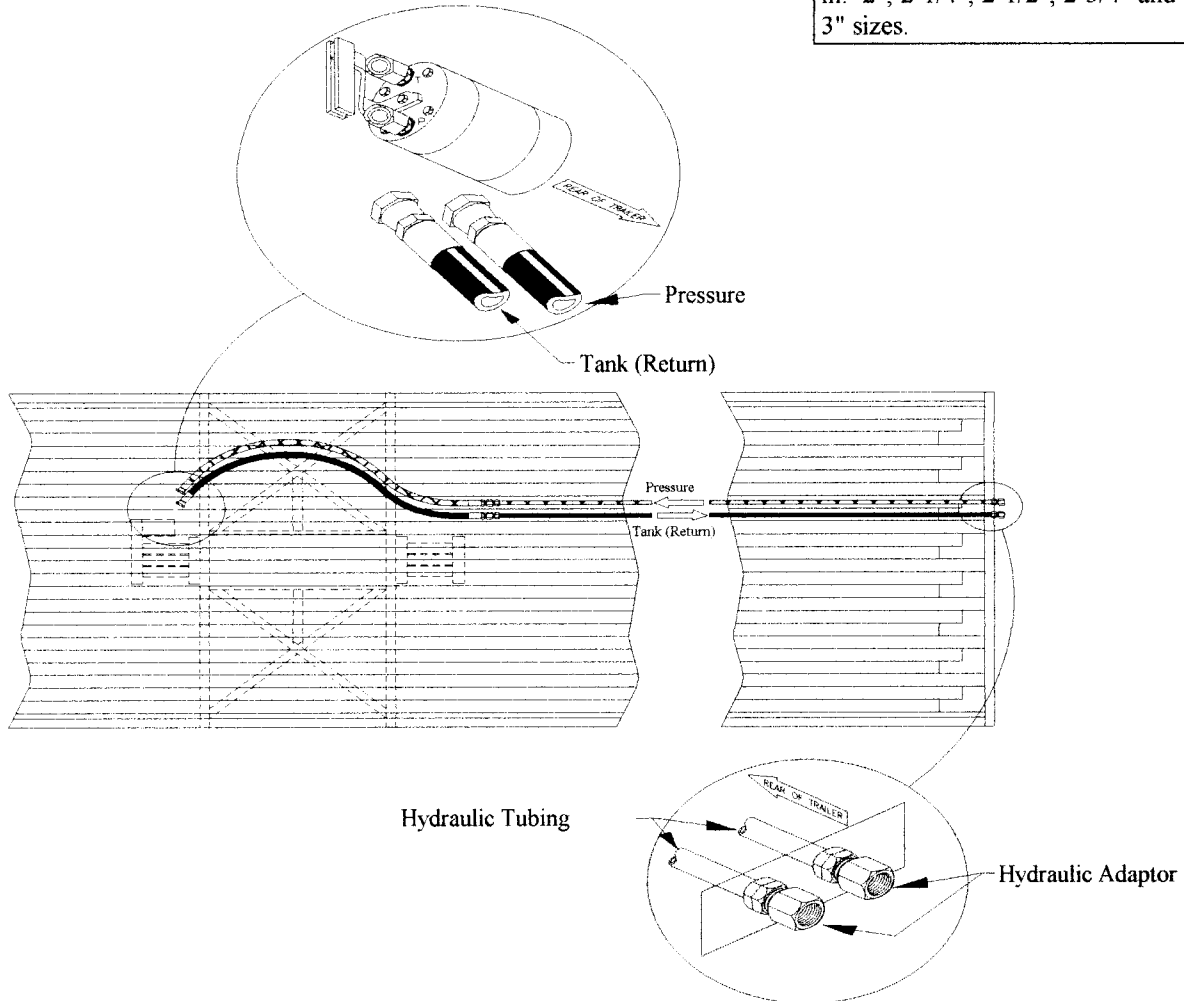
## SECTION 5

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## INSTALLING THE BEARINGS

The Plastic bearings are snapped over the subdeck. They are placed at each trailer crossmember straddling the Flange and at the Drive Unit straddling the Drive Unit Frame Crossmembers. (See *Figure 5-1*)

The Hallco bearings are available in: 2", 2-1/4", 2-1/2", 2-3/4" and 3" sizes.



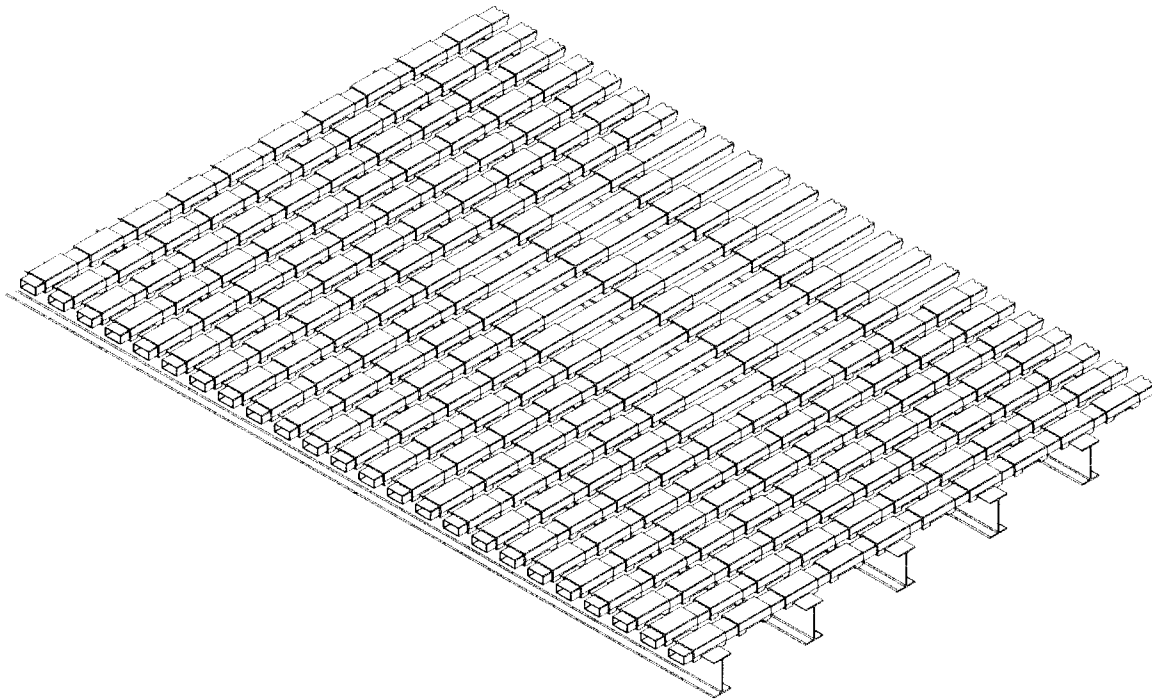
*Figure 5-1*

**NOTE:** The Bearings that mount over the Drive Unit Frame Crossmembers are 2" bearings. These bearings are packed separate from the regular bearings and should be mounted only in this area.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 5 INSTALLING THE BEARINGS - CONTINUED

Hallco supplies enough bearings to allow the placing of extra bearings between the rearmost two trailer crossmembers, between one trailer crossmember in front of and at the rear of the Drive Unit and on the outside seven pieces of sub-deck on each side of the trailer. These bearings are placed in the last 10' to 15' of the trailer or as needed to protect the deck from debris thrown up by the tires. These additional bearings also add support to the rear deck where forklifts may be used. (*see Figure 5-2*) Additional bearings should also be placed on the outside seven pieces of sub-deck in the front of the trailer to protect the floor from the debris thrown up by the tractor tires.

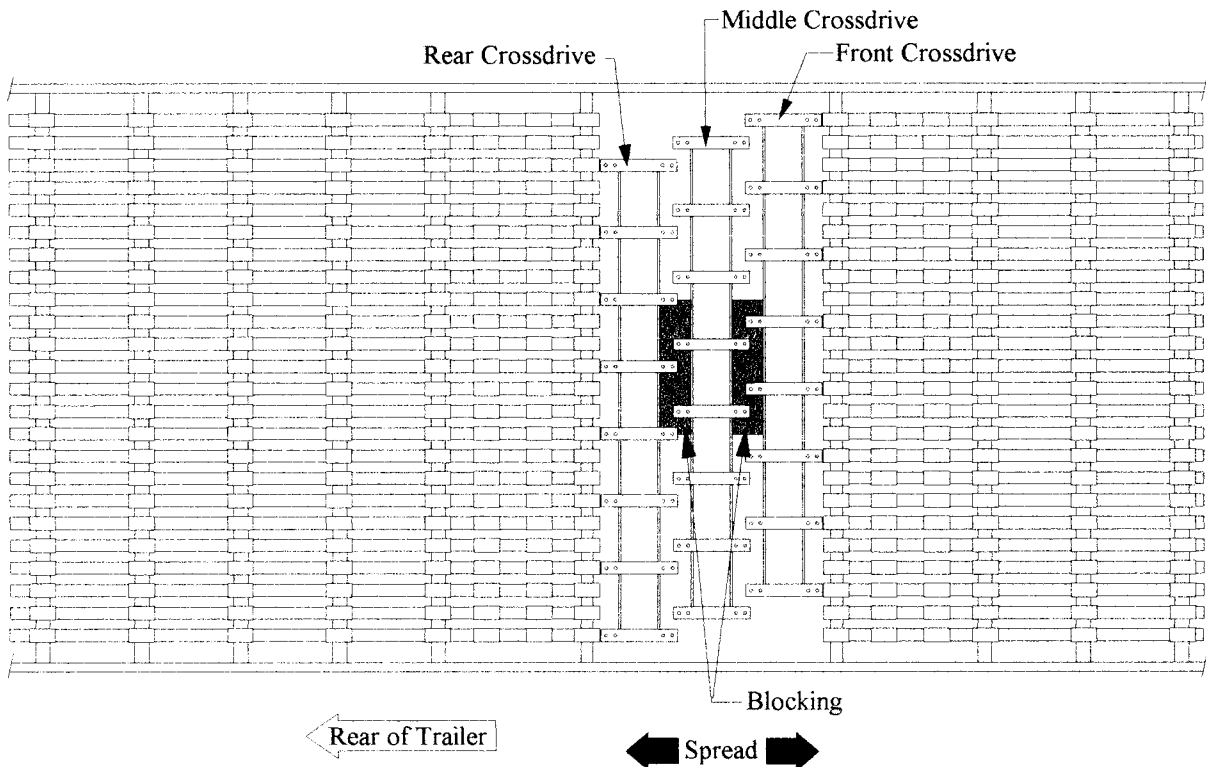


*Figure 5-2*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 6 INSTALLING THE DECK

First and possibly the most important part of the deck installation is the positioning of the cross-drives on the Drive Unit. Push the rear cross-drive to the rear as far as it will go. Then push the front cross-drive forward as far as possible. Position the center cross-drive between the other two cross-drives. There should be approximately a 5" space between the cross-drives. (On other than 10" stroke Drive Units this space will vary.) Secure the cross-drives in this position by blocking each side of the center cross-drive close to the cylinder shafts. This will help keep the cross-drives square while installing the deck. (see *Figure 6-1*)

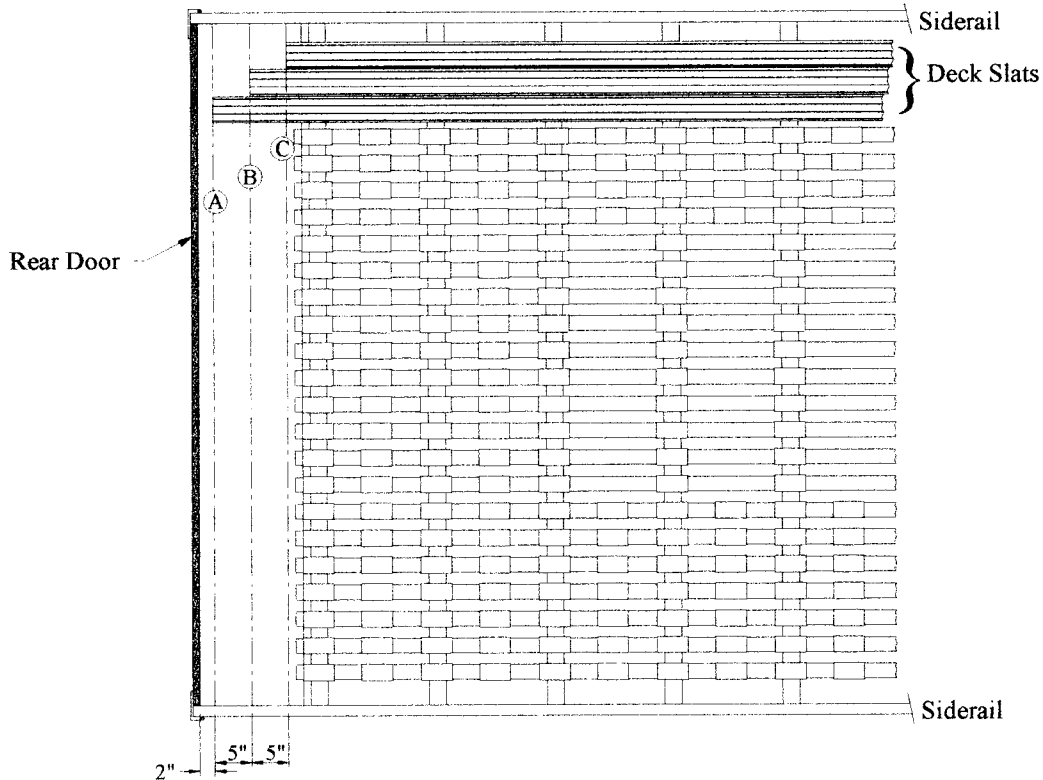


*Figure 6-1*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

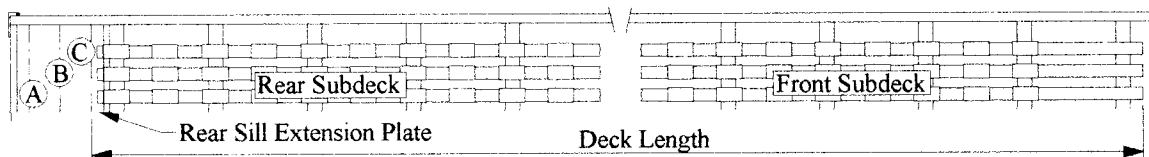
## SECTION 6 INSTALLING THE DECK - CONTINUED

Next close the rear door. On the bumper make a mark full width of the trailer where the inside of the door hits. Measure into the trailer 2" and make another mark full width of the trailer. Identify this line with the letter "A". From line "A" measure in 5" and draw another line full width. Identify this line with the letter "B". Repeat for "C". These are the spacing marks for the deck slats. (see *Figure 6-2*)



**Figure 6-2**

Measure from the front sub-deck to line "C". This measurement is the longest the deck slats may be. You may need to cut your deck slats to this length. (see *Figure 6-3*)

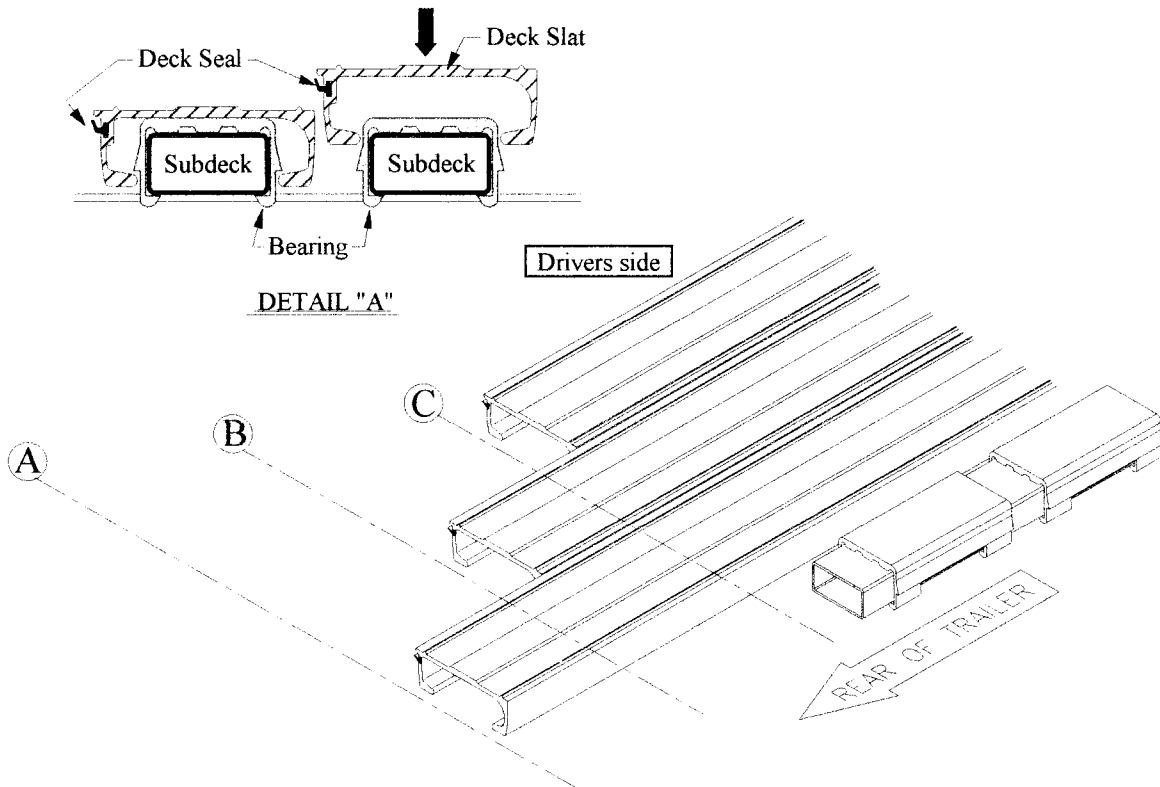


**Figure 6-3**

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 6 INSTALLING THE DECK - CONTINUED

Starting at the drivers side (left) of the trailer, lay the first deck slat in position with the seal toward the drivers side (left) of the trailer, 1/2" to the rear of line "C". Standing on the deck slat, and using a short length of 4 x 4 lumber to bump the top of the deck, snap the deck slat in place over the plastic bearings. Do this at each crossmember, full length of the slat. You may now bump this slat forward to match line "C". Now, lay the second deck slat in place 1/2" to the rear of line "B". Remember the seal should be toward the drivers side (left) side of the trailer (*See detail "A" Figure 6-4*). Snap this deck slat in place over the bearings. Bump this slat forward to line "B". Lay the third deck slat, again with the seal toward the drivers side (left) and 1/2" to the rear of line "A". Snap this slat in place over the bearings as before. Bump the deck slat forward to line "A".



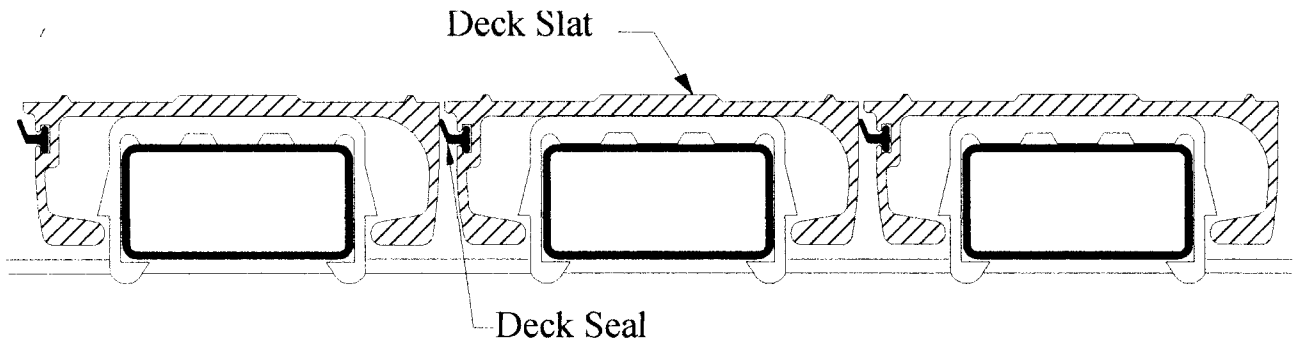
*Figure 6-4*

Repeat this process until all deck slats are in place. At this time make sure that the deck slats are fully mounted over the bearings. (*see Figure 6-5 Page 23*)

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

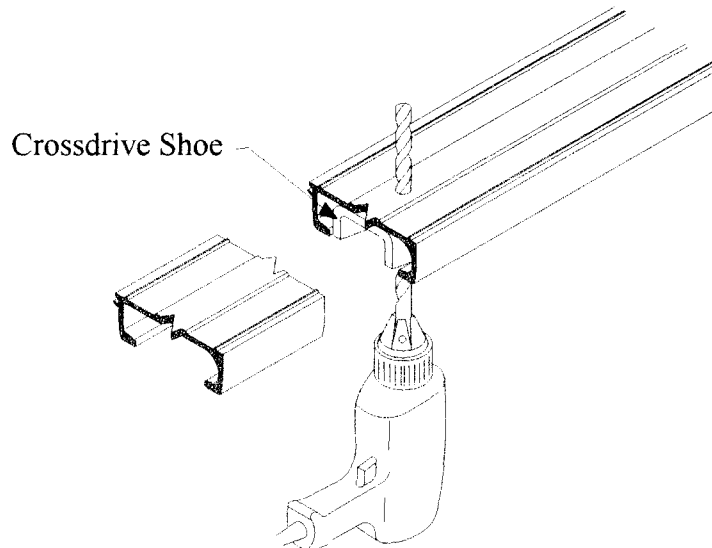
## SECTION 6 INSTALLING THE DECK - CONTINUED

If a plastic seal is used, inspect it to insure the seal has not been rolled out of shape. There should be no seal showing above the deck. (see *Figure 6-5*)



*Figure 6-5*

Now that the deck slats are all in the correct position and are fully mounted over the bearings, you are ready to start drilling the deck slats. This drilling is done from the underside of the deck through the bolting holes in the drive shoes. Drill 3/8" holes. To begin with, drill only one hole in each of the outside three drive shoes, on each side of the Drive Unit. Use a 1/4" x 1-1/2" bolt (not provided) to temporarily pull the shoes up to the deck and to stabilize the cross drives while drilling through the other shoes. (see *Figure 6-6*)

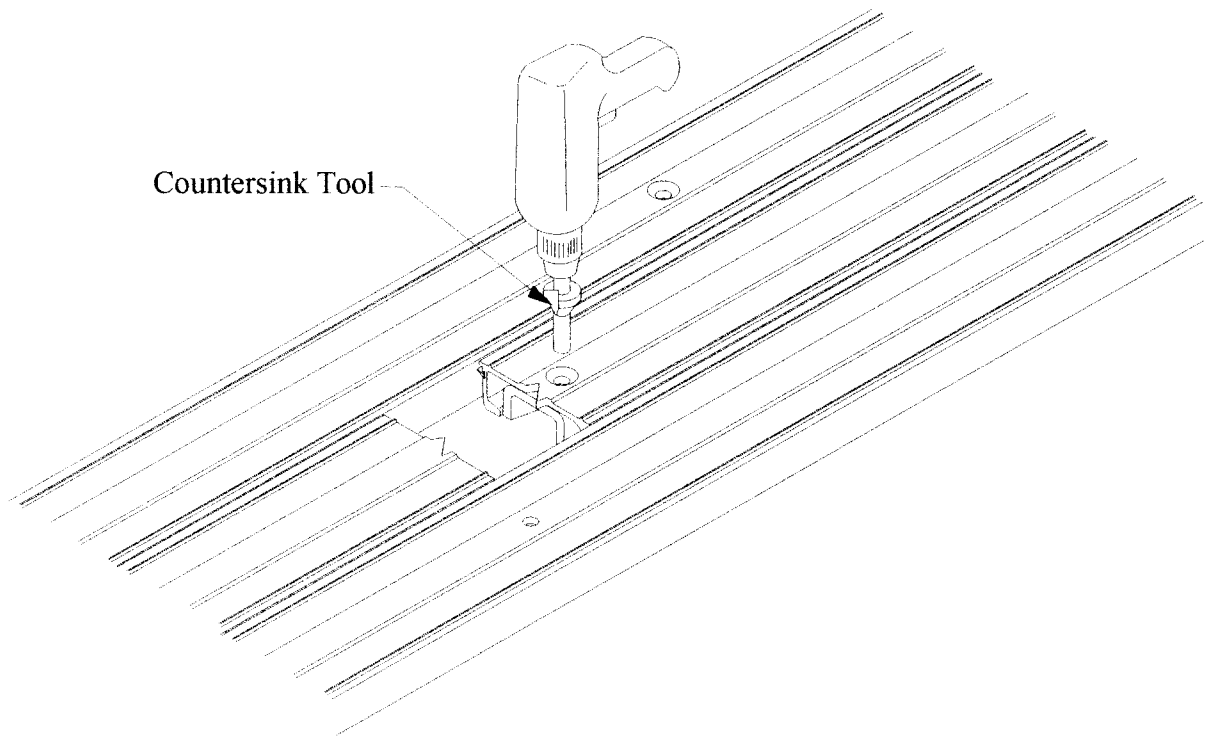


*Figure 6-6*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 6 INSTALLING THE DECK - CONTINUED

Drill one hole only through as many of the shoes as possible. If it was impossible to drill all the holes from the underside, drill the remaining holes from the top at this time. Countersink all the holes with the tool provided with your kit, do not over countersink. After countersinking, clean all the debris from between the deck and the drive shoes. Install the bolts and nuts and torque to 35 foot pounds. The balance of the holes may then be drilled, countersunk and bolted. (*see Figure 6-7*)



**Figure 6-7**

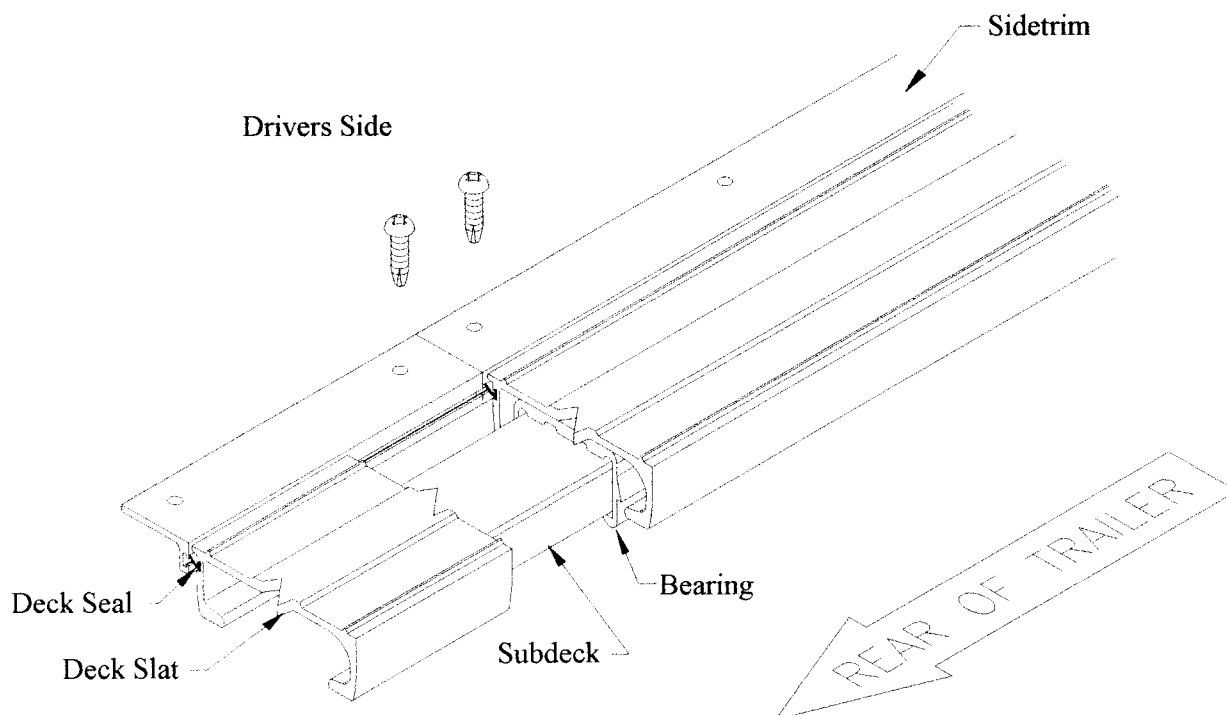
Before moving on to the next step, check to be sure each and every nut has been torqued to 35 foot pounds. Now that the decking is all installed, remove the blocking from the cross-drives.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 7 INSTALLING THE SIDE TRIM

The side trim comes in 20' and 24' lengths. Hallco will provide you with the appropriate lengths to fit your trailer. Looking at the drivers side, the deck should have a seal facing the side wall. Therefore this side will need the trim without the seal installed. Lay out the trim so that the seal meets the deck and the ends of the trim are together.

(see *Figure 7-1*)



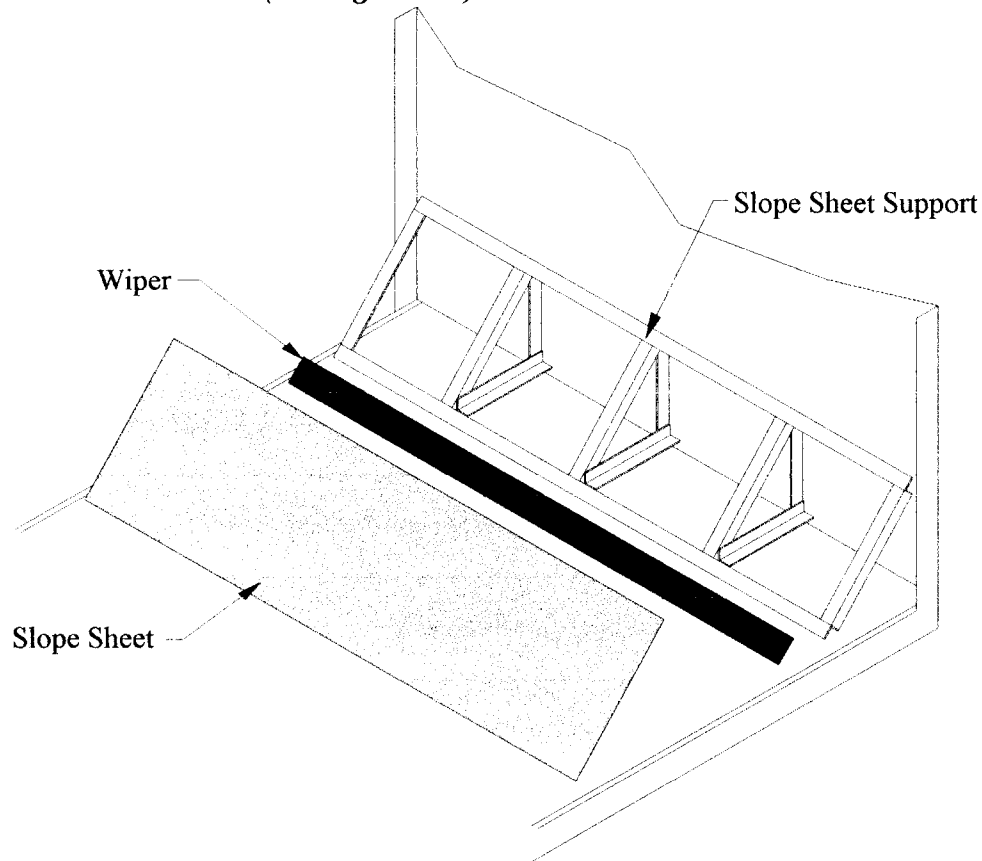
*Figure 7-1*

The trim can be attached with either pop rivets or by self tapping screws every 12 to 16 inches. Install the curb side trim in the same manner as you did the other side. (Curb side trim will have the seal in place.)

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 8 INSTALLING THE SLOPE SHEET

The slope sheet prevents material from entering the forward working area of the deck. The usual manner of construction is to provide a frame fastened to the forward wall which will support a plastic wiper in contact with the deck, and a steel or aluminum plate in contact with the walls. (see *Figure 8-1*)



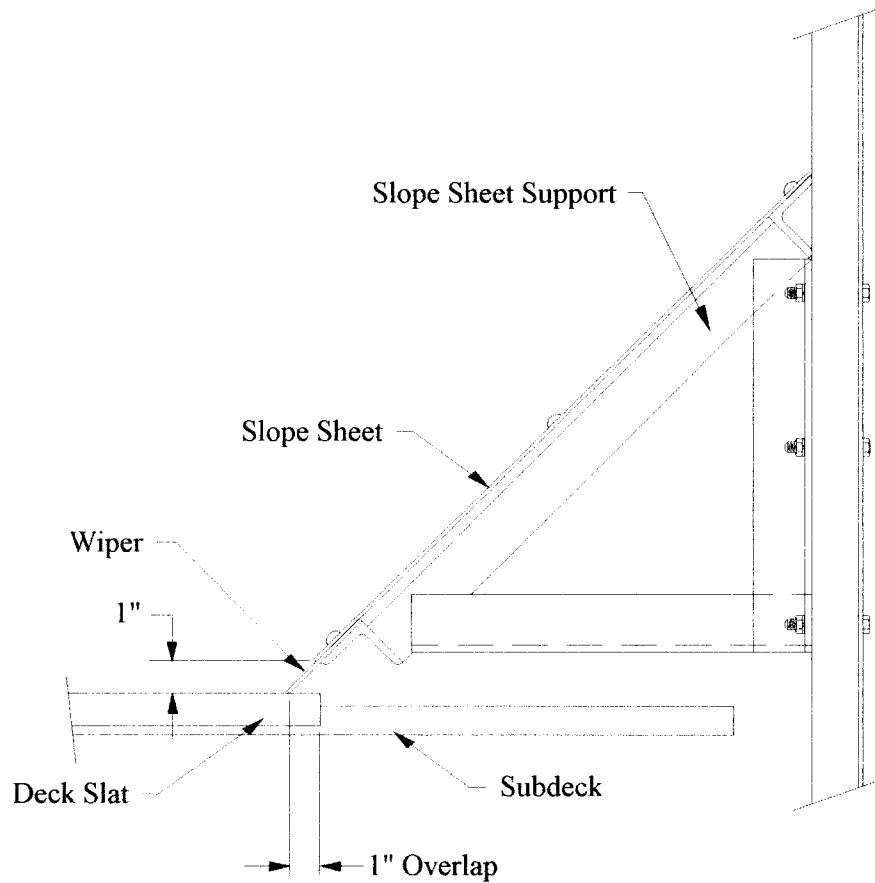
*Figure 8-1*

The trailer front wall construction will determine the finish design of the slope sheet. There are some critical points to its construction however. The first and most important of these is that the slope sheet braces be strong enough to support the load and maintain a minimum clearance of 1" between the slope sheet plate and the aluminum deck. If the design is too weak and the plate comes in contact with the deck, severe damage may occur when the floor is placed in motion.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 8 INSTALLING THE SLOPE SHEET - CONTINUED

Next, the slope sheet must overlap the end of the deck by a minimum of 1" with the deck in it's rearmost position. (see *Figure 8-2*)



*Figure 8-2*

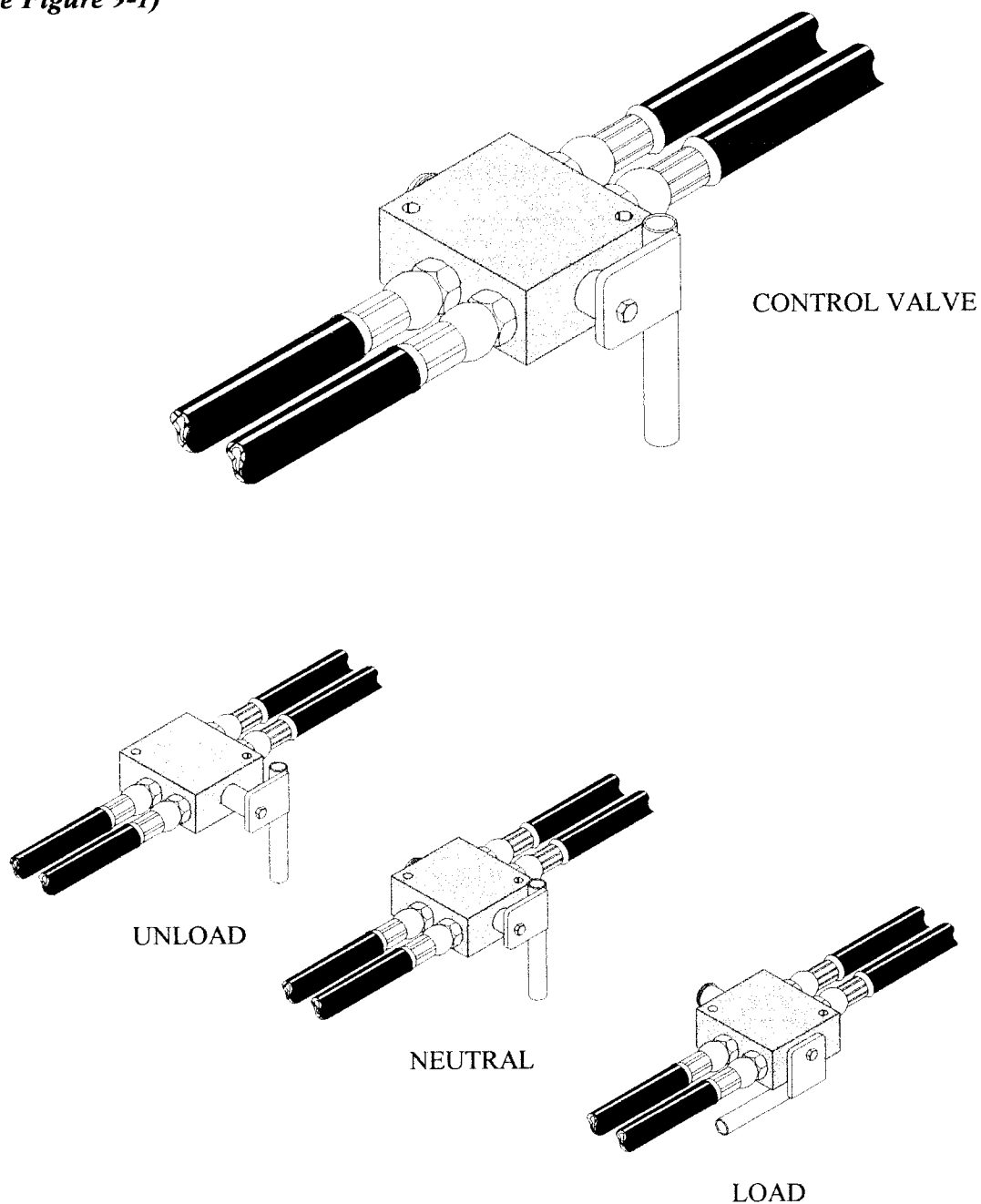
### PLEASE NOTE:

Some material will filter past the slope sheet and build into a restriction when the deck moves forward. For this reason, you must provide adequate clean-out holes below the slope sheet.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 9 HOOKING UP THE SYSTEM

First, re-install the electrical and air lines that you removed at the beginning of the installation process. Install the control valve on the drivers side of the trailer. The control valve shown in Figure 9-1 is in the neutral position. To unload the trailer pull the handle toward you. To load the trailer, turn the handle forward and push all the way in. (see *Figure 9-1*)

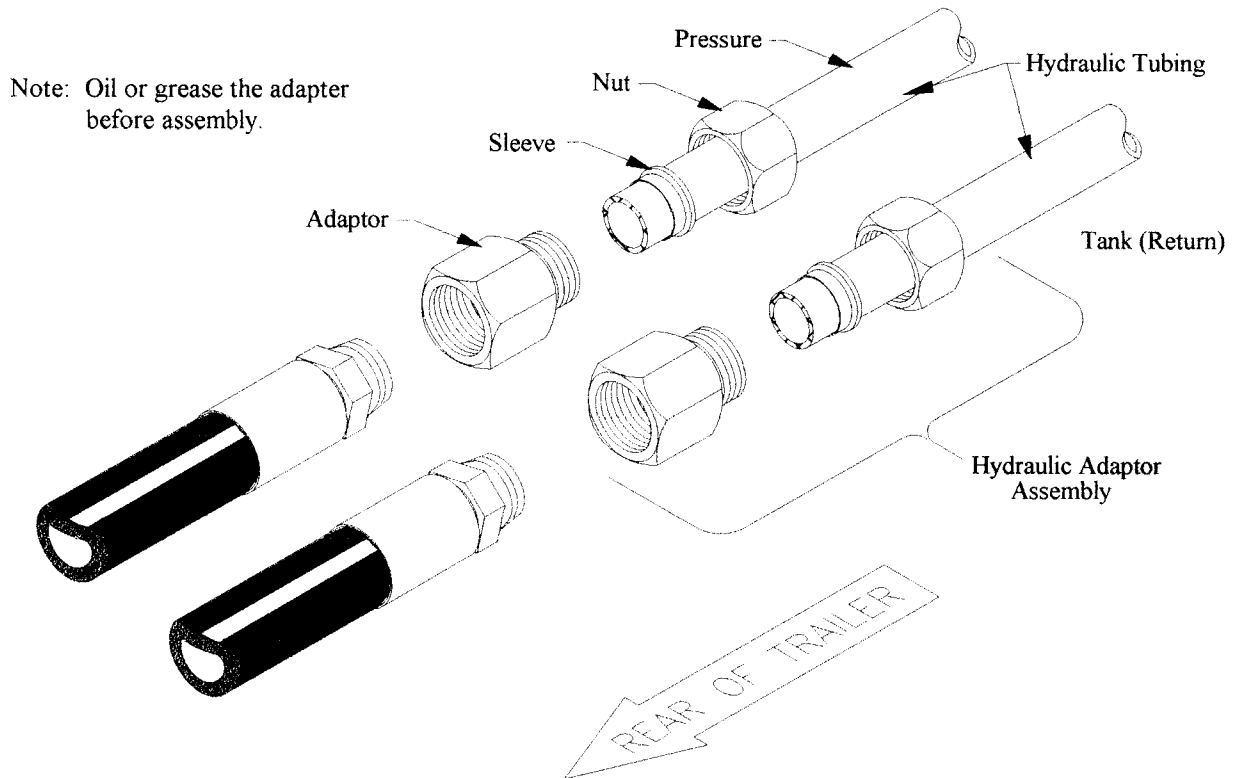


*Figure 9-1*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 9 HOOKING UP THE SYSTEM - CONTINUED

Next locate the switching valve. The bottom port and fitting are marked with a "P" for pressure and the other port and fitting have been marked with a "T" for Tank. The kit also comes complete with two 5' x 1" hydraulic hoses. These hoses will be used to connect the Drive Unit to the hydraulic tubes, running through or above the crossmembers. (see *Figure 9-3*) If you have not already attached the hydraulic adapters to these tubes, do so at this time. (see *Figure 9-2*) Note: secure hydraulic tubing at both ends to prevent vibration at the ends of the lines.

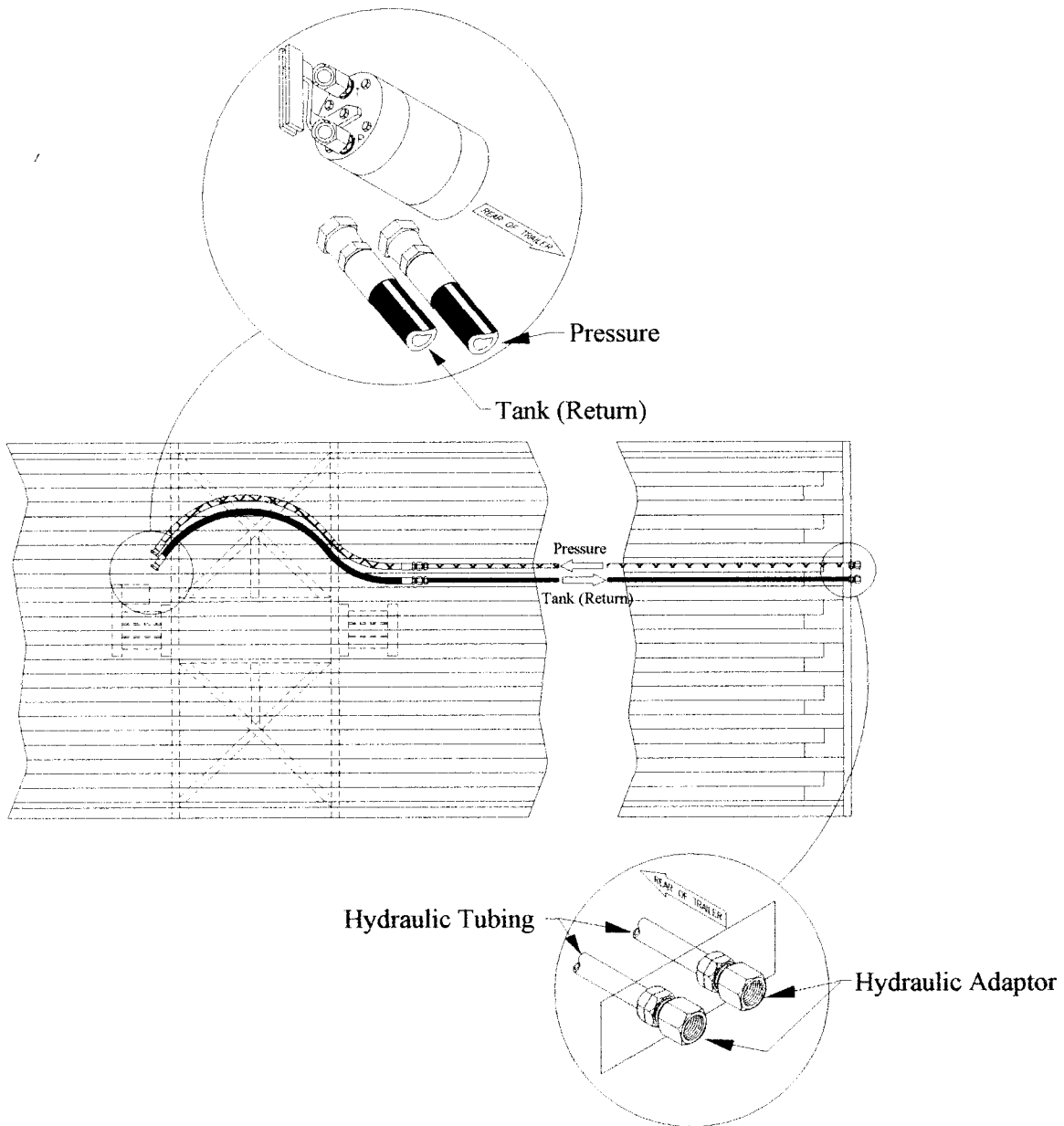


**Figure 9-2**

Note: When attaching the hydraulic adapters, make sure the sleeve is installed with the ridge toward the nut. (see *Figure 9-2*)

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## HOOKING UP THE SYSTEM - CONTINUED



*Figure 9-3*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## HOOKING UP THE SYSTEM - CONTINUED

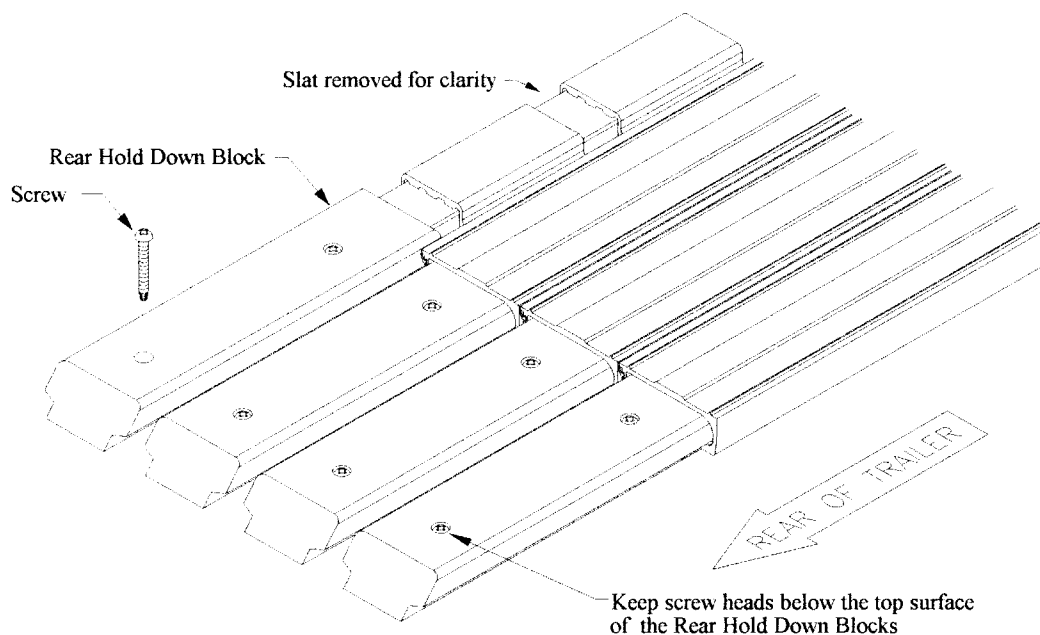
Now attach the hoses to the tubes, you should now designate the tube nearest the driver's side as the PRESSURE LINE so the hose attached to this tube should be attached to the "P" port and fitting on the switching valve (this should be the bottom fitting). Now attach the other hose to the remaining tube. This will be the TANK or RETURN line and the hose will be attached to the "T" port and fitting on the switching valve.

*(see Figure 9-3 Page 30)*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 10 INSTALLING REAR HOLD DOWN BLOCKS

To install Rear Hold Down Blocks, move slats to their forward most position. Insert blocks so that at least 1" of the block remains under the slat. Lay a line 1 1/2" from the slat and from the edge of the block across all of the blocks. Secure blocks with at least two 1/4" x 2" long self tapping screws. After the screws next to the slats are in place, run the floor so that all of the slats move toward the rear about 5" - 6". This keeps the blocks square with the slats. Install the rest of the screws. Make sure screw heads remain below the top surface of the blocks. (see *Figure 10-1*)



**Figure 10-1**

**Note:**

To avoid possible injury from moving components, fill the recessed bolting area of the rear Hold Down Block with epoxy or an equivalent filler, after the blocks have been installed.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## "WET KIT REQUIREMENTS"

HALLCO RECOMMENDS CONSULTING A HYDRAULIC SPECIALIST TO MATCH THE "PTO" AND PUMP TO YOUR TRACTORS TRANSMISSION.

IT IS ESSENTIAL THAT THE WET KIT PROVIDE NOT LESS THAN 2800 PSI AT IDLE. THE FLOW RATE SHOULD MATCH THE JOB.

### **HYDRAULIC RESERVOIR:**

#### 30 GALLON MINIMUM CAPACITY

The Hydraulic reservoir should have facilities to mount the relief valve and a return line filter. Both of these items must dump the oil into the reservoir below the low level line. The pump supply oil should be taken from 1" to 2" above the bottom of the reservoir. A sight gauge or other means for visually checking the oil level should be installed.

### **FILLER CAP:**

#### BREATHER TYPE, WITH FILTER

### **HYDRAULIC PUMP:**

#### 30 GPM AT 1200 RPM

An industrial quality hydraulic pump is recommended. The supply line from the reservoir should be 1-1/2" ID minimum. The pressure line from the pump should be no smaller than 1" two wire type (Example Weatherhead 425-12).

### **PTO:**

#### 110% OUTPUT WITH CAB MOUNTED AIR OR CABLE SHIFT

The PTO should be able to direct mount the pump therefore, a Bottom Mount will be necessary in most cases. Control of the PTO from the cab can be either a cable or air shift. A dash mounted indicator light is also needed.

### **RELIEF VALVE:**

#### EXTERNAL, TANK MOUNTED, SET AT 2800 PSI

The relief valve needs to be able to handle the system oil flow. System pressure should be set at 2800 PSI.

### **FILTER:**

#### RETURN LINE, 25 MICRON, RATED AT 30-40 GPM MINIMUM

A return line oil filter with a nominal rating of 45 to 50 GPM and a paper element of 25 micron or finer is needed to assure clean oil and a long system life.

### **QUICK CONNECTS:**

#### CAPABLE OF HANDLING SYSTEM OIL FLOW (30-40 GPM)

### **PRESSURE GAUGE:**

#### 0 to 5000 PSI GLYCERIN FILLED

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## SECTION 12 FINAL CHECK LIST

These next steps are important and should be done before putting any load on the floor.

1. Check the entire trailer, make sure all the bearings and floor decking are seated properly.
2. Check the front and rear of the trailer and make sure there are proper Deck clearances.
3. Make sure all hydraulic fittings are tight.
4. Make sure the control rod on the switching valve is straight and the limit stops are locked tight.
5. Check and make sure the pressure and return lines on the trailer are matched to those on the truck.

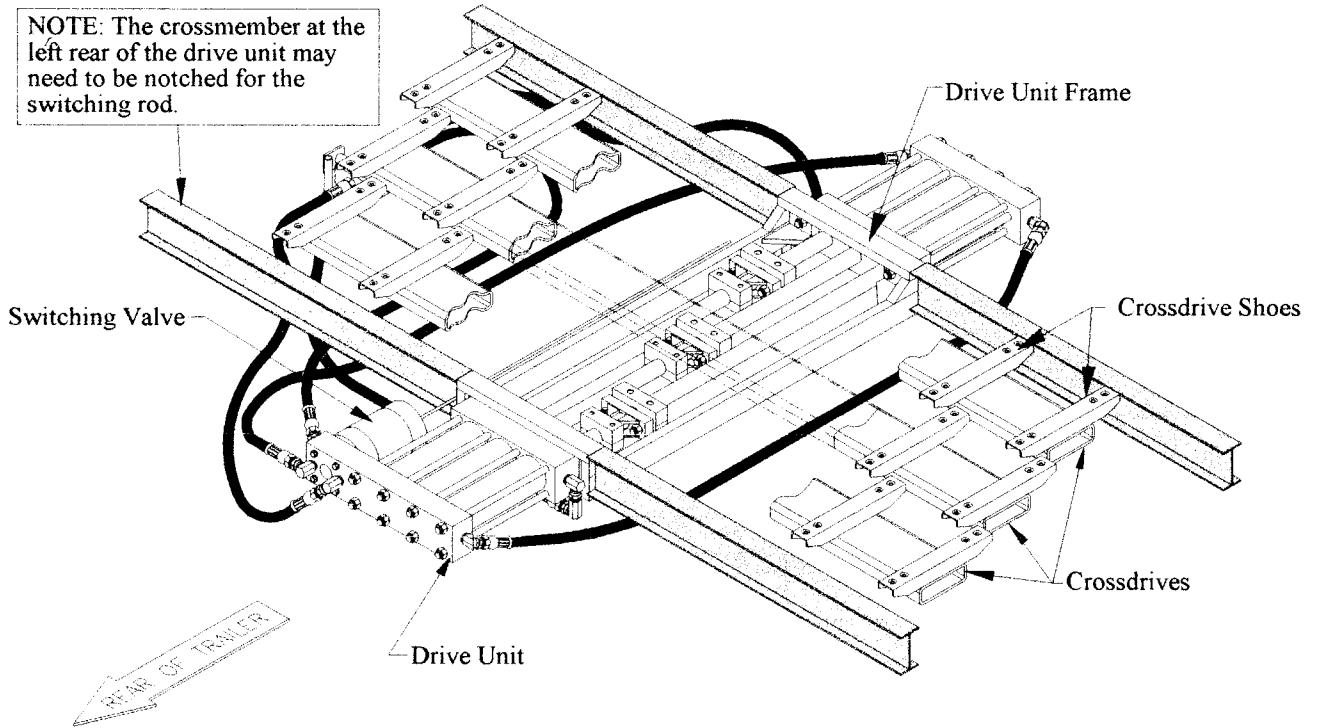
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## SECTION 13

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

## PREPARING THE CENTER FRAMED TRAILER

To install the Drive Unit in a center framed trailer, you must cut four crossmembers to size. These crossmembers will be welded to the frame of the trailer and not the frame of the Drive Unit. (see *Figure 13-1*)



*Figure 13-1*

The drive frame width measures 16 3/4". Therefore to obtain the correct crossmember length: Measure one of the trailer crossmembers, subtract 16 3/4" from that dimension and divide the result by two. this will give you the length the four crossmembers must be. See example below.

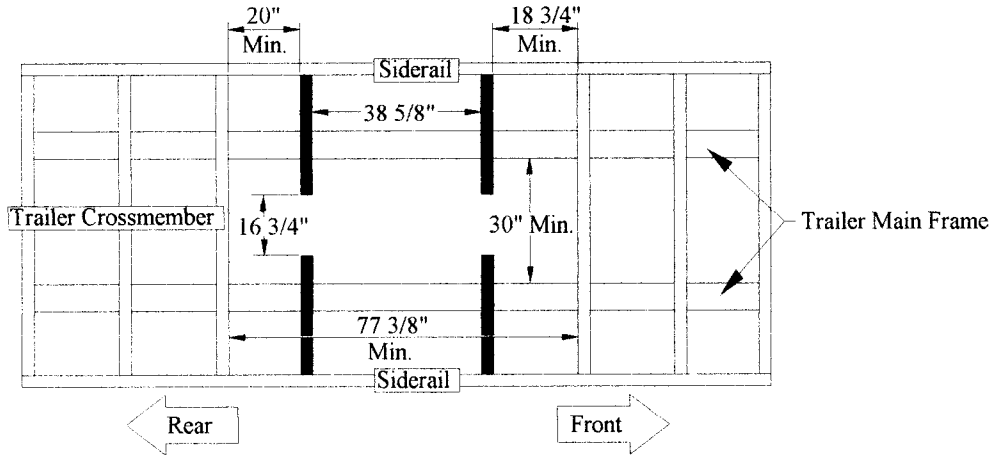
TRAILER CROSSMEMBER	95"
DRIVE FRAME WIDTH	-16 3/4"
RESULT	78 1/4"
DIVIDE BY TWO	39 1/8" = Crossmember length

**IMPORTANT NOTE:** Protect chrome cylinder shafts during welding-burning-grinding and painting. Any scarring of the shafts could result in a hydraulic system leakage.

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

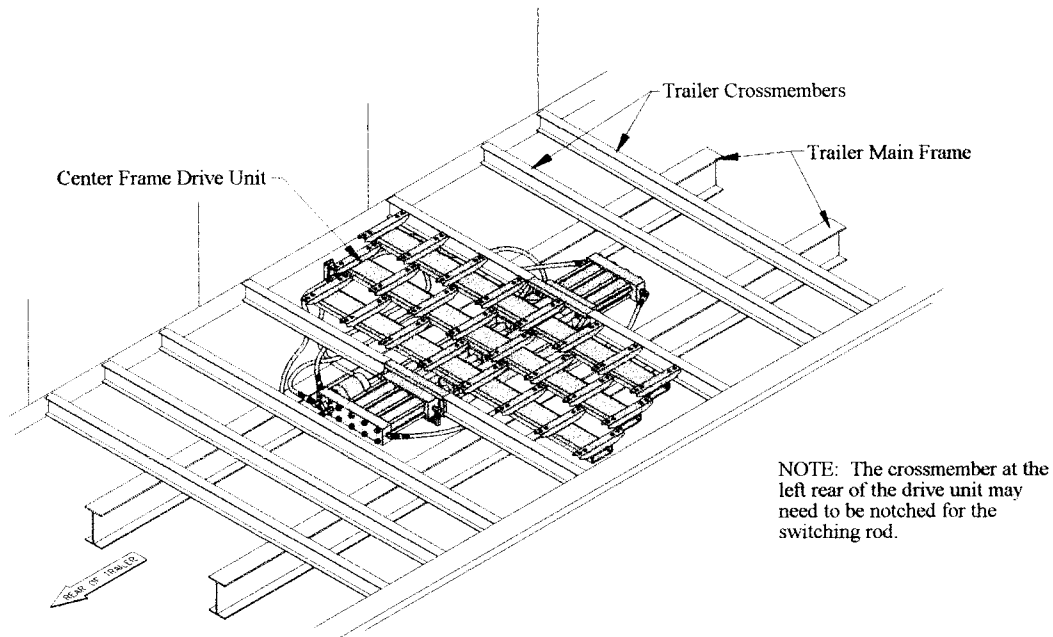
## PREPARING THE CENTER FRAMED TRAILER

The next step is to position Drive Unit, with the switching valve to the rear of the trailer, into the space provided earlier. Do this before the short crossmembers are set into place as it is easier to set the Drive Unit and then place the crossmembers. (See *Figure 13-2*)



*Figure 13-2*

The next step is to position the Drive Unit so that it is level with the trailer crossmembers and in the center of the trailer. Use the center line marks, that are provided on the head manifolds to align the Drive Unit. Next, raise or lower the Drive Unit into the opening provided earlier. (see *Figure 13-3*) Make sure the Drive Unit is centered in the trailer.

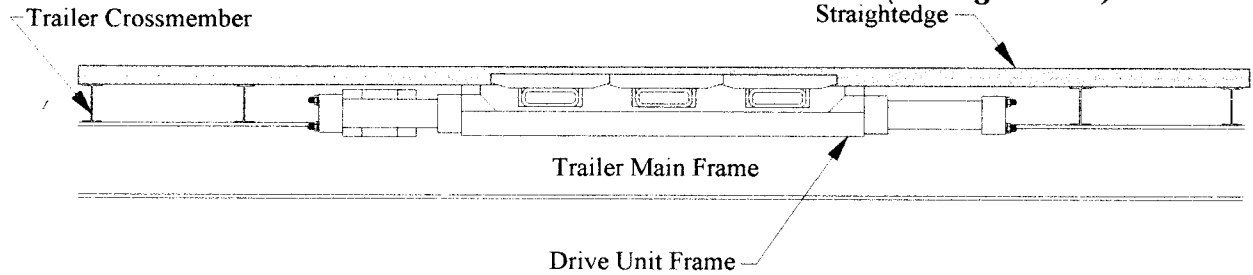


*Figure 13-3*

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

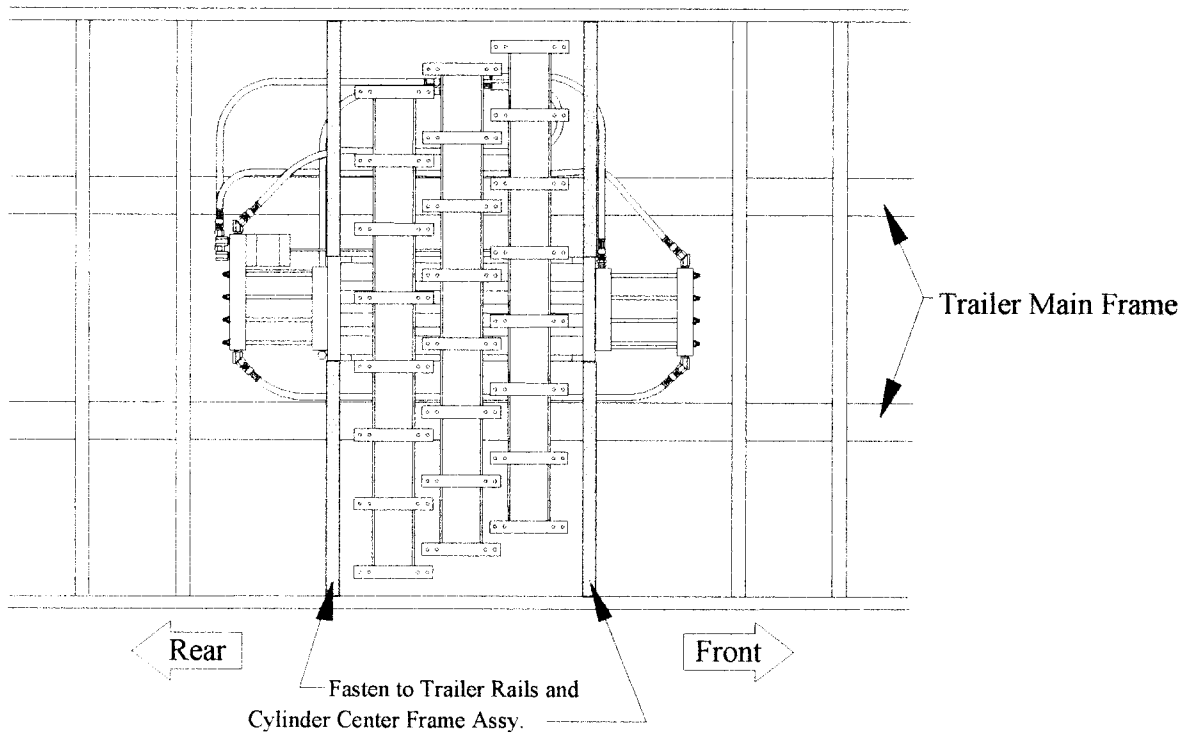
## SECTION 13 PREPARING THE CENTER FRAMED TRAILER

The Drive Unit frame must be level with the trailer crossmembers. (see *Figure 13-4*)



*Figure 13-4*

When the Drive Unit is centered and the drive frame is level with the trailer crossmembers, weld the four crossmembers to the trailer main frame, making sure that these crossmembers mount flush with the inside edge of the Drive Unit frame. (see *Figure 13-5*)

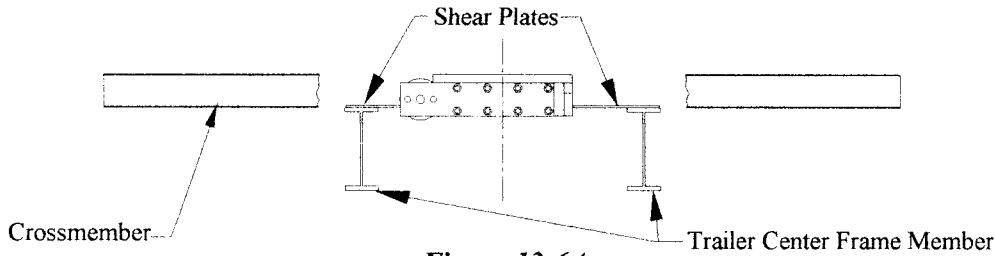


*Figure 13-5*

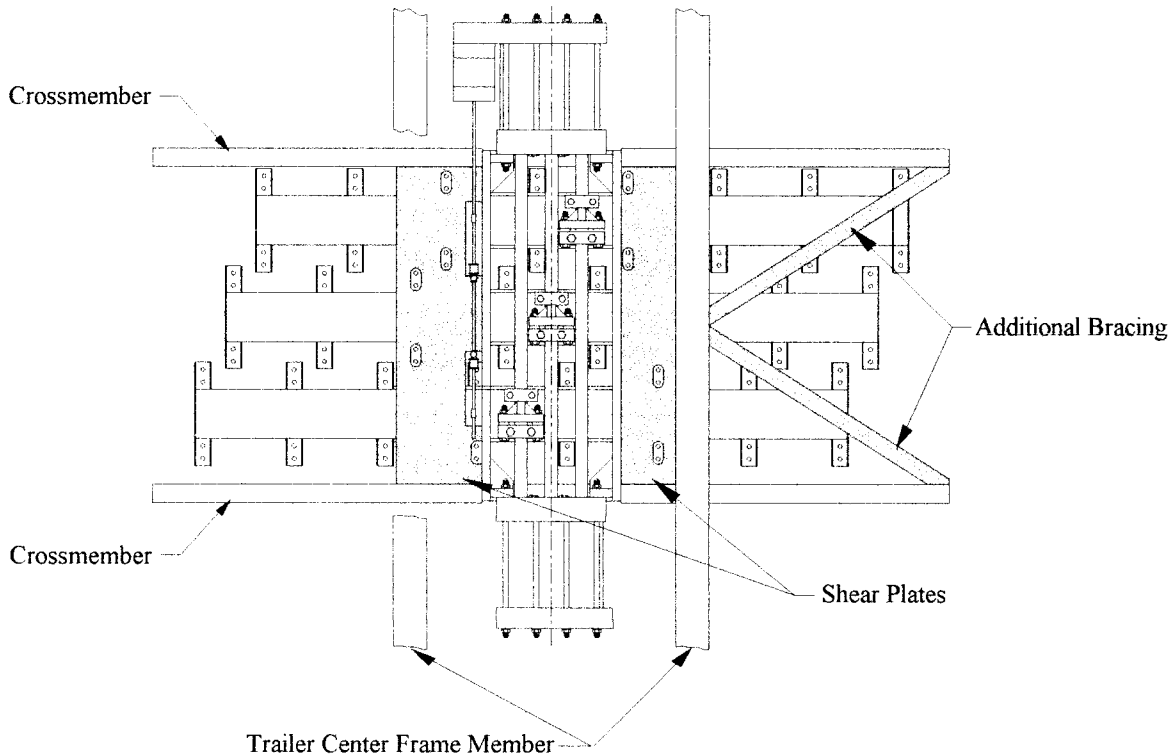
## SECTION 13 PREPARING THE CENTER FRAMED TRAILER

# 4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS

If factory installed shear plates have not been provided, you must add such shear bracing at this time. Hallco recommends the use of the full length design shear plates as shown in *Figure 13-6*. The shear plates should be welded to the drive frame so that they lay flat on the top of the trailer center frame member. (*see Figure 13-6A*) The shear plates can be bolted or welded to the top flange of the trailer center frame member. Additional bracing of the trailer side rails may be necessary. This bracing is to brace the trailer side walls against the movement of the load, both forward and rearward. (*see Figure 13-6B*)



**Figure 13-6A**  
End View

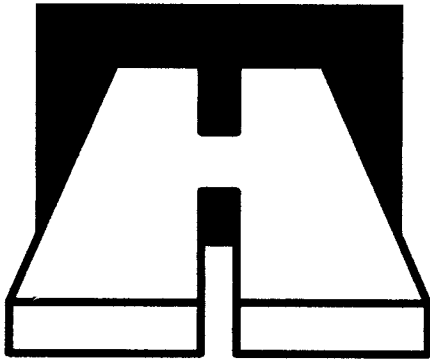


**Figure 13-6B**  
Bottom View

Continue on at Section 3 - Installing the Subdeck, page 11

# **4000 SERIES LIVE FLOOR TRAILER SYSTEM INSTALLATION INSTRUCTIONS**

## **NOTES**



HALLCO  
FLOOR  
SYSTEM

ALWAYS TAKING THE FIRST STEP™

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