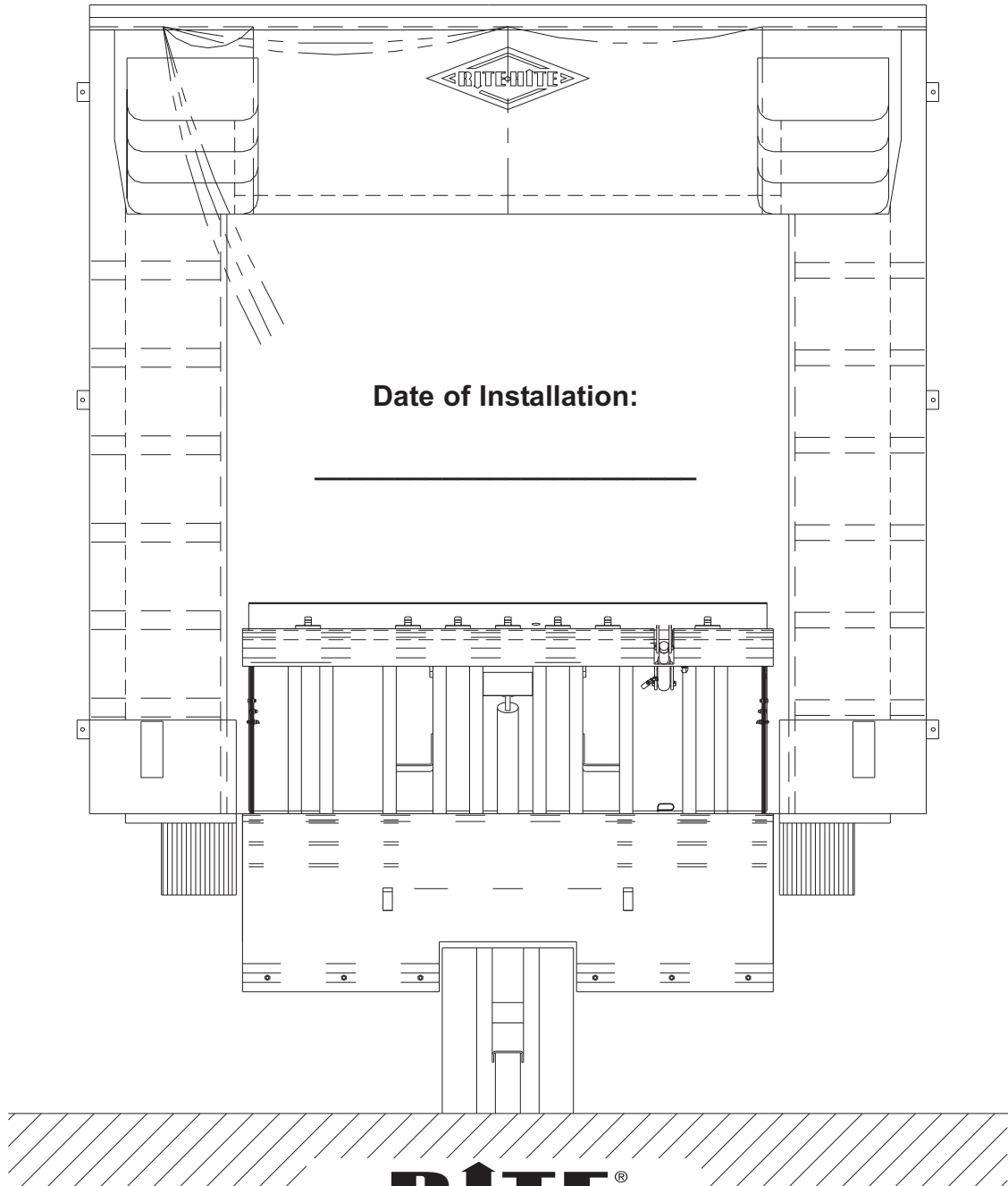


RITE-HITE® PITMASTER™

Under-Leveler Seal Installation Instructions & Owner's Manual



RITE
HITE
ALWAYS LOOKING AHEAD

This Manual Covers All Units Shipped 2/07 to Date

INSTALLATION INSTRUCTIONS

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Introduction

Thank you for purchasing a Rite-Hite® PitMaster Under Leveler Seal. For other applications, please contact your local Rite-Hite® Sales Representative.

General Precautions



! WARNING!!!

Post safety warning and barricade work area, at dock level and ground level to prevent unauthorized use of the dock position while service work is being performed.

Preparation

Illustrations for this document are contained on drawing #PM100007.

Care & Maintenance

Occasional cleaning of the seal is recommended. Use a low pressure hose, or damp cloth to wash fabric, with a mild detergent and water solution.

NOTE: DO NOT LEAVE THE CURTAIN DETACHED FROM THE PIVOT ARMS AND CYCLE THE LEVELER! THE PIVOT ARM ASSEMBLY AND/OR THE LEVELER WILL BE DAMAGED!

SUPPLEMENTAL INSTRUCTIONS

STEP 1:
DETERMINE THE PIVOT ARM PLACEMENT & MARK LOCATIONS FOR THE ANCHORS. LOCATE THE PIVOT ARMS SO THEY AVOID HEADER OBSTACLES, POWER UNITS, ETC., IF NECESSARY.

STEP 2:
DRILL HOLES AND INSTALL THE ANCHORS. LOCATE ANCHORS SO MOST OF THE SLOT ADJUSTMENT GOES TO BACK INTO THE PIT, THEN SECURE PIVOT ARM ASSEMBLY TO PIT FLOOR AT CORRECT FRONT DISTANCE.

STEP 3:
MEASURE THE PIT WIDTH & CUT THE CURTAIN WIDTH TO BE: PIT WIDTH + 1". (1/2" OVER LAP PER SIDE)
TRIM NOTCHES AT VELCRO FLAPS AND SHORTEN RODS IF NECESSARY. TRIM CURTAIN WIDTH FROM BOTH ENDS!

STEP 4:
MEASURE THE PIT DEPTH, THEN PICK A MOUNTING POCKET TO DETERMINE THE MOUNTING POCKET DEPTH. MAKE SURE PIT DEPTH LANDS WITHIN STANDARD TOLERANCES, ADJUST CURTAIN MOUNTING HEIGHT IF NECESSARY.

STEP 5:
CUT OUT FOR THE RESTRAINT (IF PRESENT) AND ANY OTHER OBSTACLE, ETC. DO NOT TRIM OUT FOR LIP KEEPERS AT THIS POINT!

STEP 6:
ATTACH THE CURTAIN TO THE PIT FACE FIRST, BEFORE ATTACHING TO THE PIVOT ARMS.

DRILL HOLES AND INSTALL ANCHORS FOR MOUNTING CURTAIN TO PIT FACE. USE MOUNTING POCKET DEPTH TO DETERMINE DISTANCE DOWN FROM PIT EDGE.

CUT BAR LENGTH TO FIT POCKET, IF NECESSARY, THEN SLIDE INTO POCKET. DO THIS FOR BOTH SIDES.

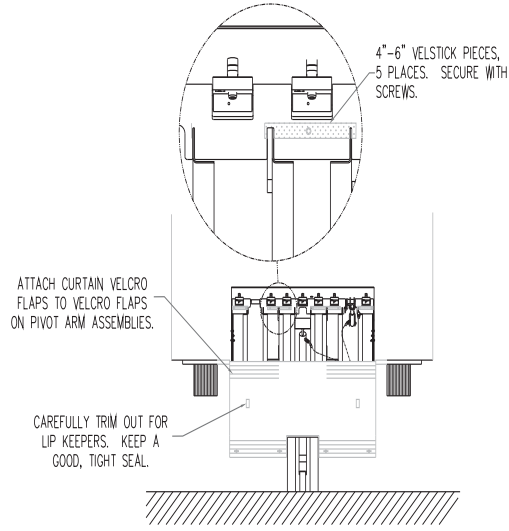
MAKE 1" SLICES ON CURTAIN AT ANCHOR LOCATIONS, SO CURTAIN CAN BE ADJUSTED AT BOTTOM LATER.

SECURE CURTAIN TO PIT FACE WITH WING NUTS ON ANCHOR STUDS.

SUPPLEMENTAL INSTRUCTIONS

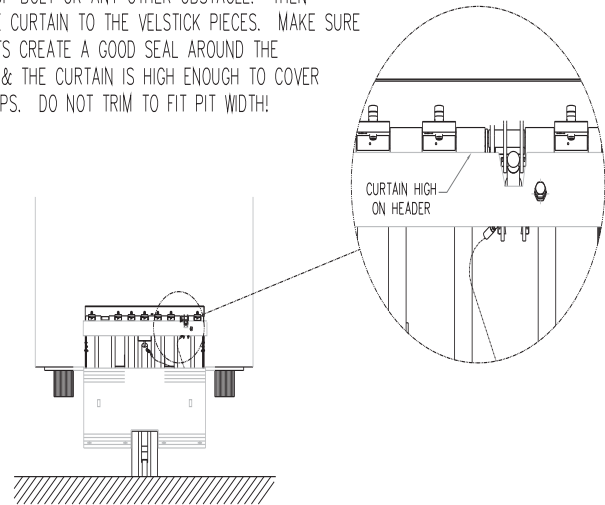
STEP 7:

ATTACH CURTAIN TO PIVOT ARMS, TRIM OUT FOR THE KEEPERS, THEN FINISH ATTACHING CURTAIN TO SPRING STAYS ON PIVOT ARMS. ADD VELSTICK TO HEADER FOR TOP CURTAIN



STEP 8:

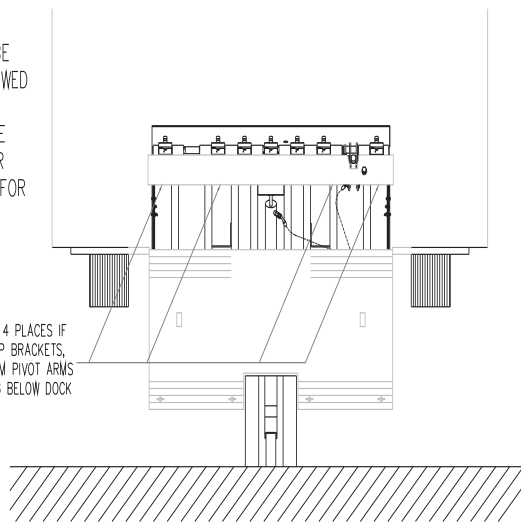
TRIM THE TOP CURTAIN TO GO AROUND THE LIP CYLINDER, THE LIP STOP BOLT OR ANY OTHER OBSTACLE. THEN ATTACH THE CURTAIN TO THE VELSTICK PIECES. MAKE SURE THE CUTOUTS CREATE A GOOD SEAL AROUND THE OBSTACLES & THE CURTAIN IS HIGH ENOUGH TO COVER ALL THE GAPS. DO NOT TRIM TO FIT PIT WIDTH!



STEP 9:

ATTACH LOWER PORTION OF THE TOP CURTAIN TO THE LEVELER. THIS CAN BE DONE USING THE BACK FLAP AND SCREWED TO UNDERSIDE OF DECK STRINGERS OR TOP CURTAIN ROLLED UNDER TO CREATE BULB, THEN SCREWED IN PLACE. REFER TO STANDARD INSTRUCTIONS OR VIDEO FOR MORE DETAILS.

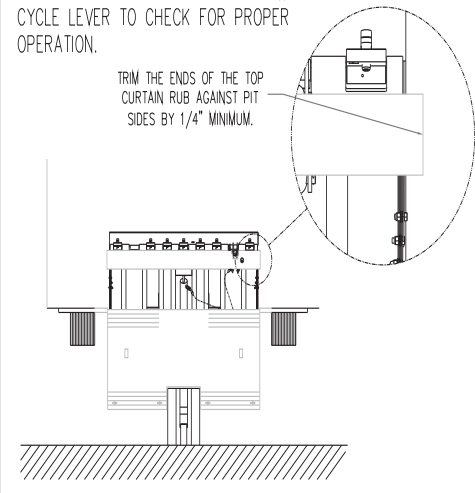
ATTACH IN A MINIMUM OF 4 PLACES IF POSSIBLE. IF ADDING CLIP BRACKETS, KEEP BRACKETS AWAY FROM PIVOT ARMS OR LEVELER FRAME DURING BELOW DOCK CYCLING.



STEP 10:

TRIM THE TOP CURTAIN TO FIT PIT WIDTH. CYCLE LEVER TO CHECK FOR PROPER OPERATION.

TRIM THE ENDS OF THE TOP CURTAIN RUB AGAINST PIT SIDES BY 1/4" MINIMUM.



TIGHT LIP KEEPER ADJUSTMENTS -

These instructions are a supplement to the standard instructions and illustrate how to adjust the lip keepers on specific Rite-Hite model levelers that can cause the lip to pinch the main, lower PitMaster curtain. There are 3 different methods of adjustment, pick the one that best suits your application. Follow the same safety instructions as listed in the leveler manuals before continuing. Make sure the leveler is in good working order and perform any maintenance on the leveler, if required, before proceeding. (See drawings SK-2705, sheets 1-3).

INSTALLATION INSTRUCTIONS

REV	DATE	DESCRIPTION	ECN	APPROVED BY
1	11/18/2010	LAYOUT		M. SVEUM
2	12/07/2010	ADDED SHEET 1 / RENUMBERED SHEETS		

**DETAIL B
SCALE 1:1**

BAR 1/4" x 2" x 4" (1 PER LIP KEEPER)

NOTES:

- 1) VERIFY LIP KEEPERS CAN BE CUT-OFF FROM LEVELER FRAME WITHOUT DAMAGING LIP KEEPERS OR FRONT FRAME ANGLE. IF NOT, SEE SHEET #2.
- 2) VERIFY LEVELER DOOR SEAL CLEARANCE PRIOR TO LIP KEEPER MODIFICATION (VIEW A). IF NOT SEE SHEET #3.
- 3) LOCATE AND INSTALL 2 BARS (1/4" x 2" x 4") BETWEEN LIP KEEPER AND FRONT FRAME ANGLE. SECURELY WELD LIP KEEPERS TO BARS, AND BARS TO FRONT FRAME ANGLE.
- 4) RE-ADJUST LIP STOP BOLT AS REQUIRED TO BIAS LIP AWAY FROM PIT-MASTER MATERIAL.
- 5) VERIFY PIT MASTER CLEARANCE. ADD MORE WELD IF REQUIRED.
- 6) REPAINT WELDED AREAS.

VERIFY DOOR SEAL CAN ACCOMMODATE LEVELER RAISING DUE TO ADDED WELD IN KEEPERS.

CONFIDENTIAL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.

TOLERANCES:
X = ±.120
.XX = ±.060
.XXX = ±.030
ANGLE = ±2.0°

THIRD ANGLE PROJECTION

REFERENCE: ALL SHEETS ARE THE SAME REVISION STATUS. DO NOT SCALE DRAWING.

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FINISH		MATERIAL	
DRAWN BY: R. QUINT		RESPONSIBLE ENGINEER: M. SVEUM	
MANUFACTURING ENGINEER		TITLE: INSTR LP KPR MOD PIT MASTER	
SIZE: B		DWG NO: SK-2705	
SCALE: 1:4		WEIGHT: SHEET 1 OF 3	

INSTALLATION INSTRUCTIONS

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3
4

REVISION HISTORY			
REV	DATE	DESCRIPTION	APPROVED BY
1	11/18/2010	LAYOUT	ECN
2	12/07/2010	ADDED SHEET 1 / RENUMBERED SHEETS	M. SVEUM

VERIFY DOOR SEAL CAN ACCOMMODATE LEVELER RAISING DIAPHRAGM TO ADD WELD IN KEEPERS.

ADD WELD TO PROVIDE 1/4" TO 3/8" LANDING SURFACE.

EXISTING WELD

DETAIL D
SCALE 2:1

NOTES:

- 1) VERIFY LEVELER DOOR SEAL CLEARANCE PRIOR TO LIP KEEPER MODIFICATION (VIEW C). IF NOT SEE SHEET #3.
- 2) ADD WELD TO KEEPER AS SHOWN IN "DETAIL-D" TO OBTAIN 1/4" TO 3/8" HORIZONTAL LANDING SURFACE.
- 3) RE-ADJUST LIP STOP BOLT AS REQUIRED TO BIAS LIP AWAY FROM PIT-MASTER MATERIAL.
- 4) VERIFY PIT MASTER CLEARANCE. ADD MORE WELD IF REQUIRED.
- 5) REPAINT WELDED AREAS.

1
2
3
4

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	THIRD ANGLE PROJECTION 		MANUFACTURING ENGINEER M. SVEUM	TITLE INSTR LP KPR MOD PIT MASTER
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		SCALE 1:4	WEIGHT	SHEET 2 OF 3

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INSTALLATION INSTRUCTIONS

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VERIFY DOOR SEAL CAN ACCOMMODATE THE LEVELER LOWERING DUE TO REMOVING WELD IN KEEPERS.

VIEW E

REMOVE MATERIAL FROM LIP KEEPER SEE NOTE #1

REMOVE MATERIAL FROM LIP KEEPER SEE NOTE #1

EXISTING WELD

SEE NOTE #2

DETAIL F
SCALE 2:1

DETAIL G
SCALE 1:2

NOTES:

- 1) INCREASE LANDING AREA BY USING A 9" GRINDING WHEEL. SEE "DETAIL-F".
- 2) ADD REINFORCEMENT WELD TO FRONT FACE OF KEEPERS IF MATERIAL BREAKS THROUGH DUE TO GRINDING. SEE DETAIL "G".
- 3) RE-ADJUST LIP STOP BOLT AS REQUIRED TO BIAS LIP AWAY FROM PIT-MASTER MATERIAL.
- 4) VERIFY PIT MASTER CLEARANCE; IF REQUIRED REMOVE MORE MATERIAL.
- 5) REPAINT GROUNDED AREAS.

REVISION HISTORY		ECN	APPROVED BY
REV	DATE	DESCRIPTION	
1	11/18/2010	LAYOUT	M. SVEUM
2	12/07/2010	ADDED SHEET 1 / RENUMBERED SHEETS	

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	DO NOT SCALE DRAWING	SCALE 1:4	DWG NO SK-2705
		WEIGHT	SHEET 3 OF 3

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INSTALLATION INSTRUCTIONS

Standard Under-Leveler Seal

These instructions illustrate how to install a PitMaster Under Leveler Seal on a Rite-Hite® model leveler. Review all "Special Instructions" before proceeding to determine which instructions best fit your application and/or model leveler. Most of the instructions in this section are applicable for all situations/models with minor adjustments as listed. (See Figures 35A and 35B for special installation and quick guide notes.)

1. Review the site information and survey. Verify that all the parts are present and made to the correct specifications.
2. Make sure the leveler is in the stored position and that the safety strut(s) are in place. Follow the same safety instructions as listed in the leveler manuals for performing maintenance and installing this seal.
3. Make sure the leveler is in good working order and perform any maintenance on the leveler, if required, before installing the under leveler seal.
4. Measure the pit depth. The pivot arm assemblies come set for a 20" pit depth. For a 24" depth, adjust the assembly height by referencing, "Adjusting for

Pit Depths" instructions on pages 17 and Figure 32 on page 21.) At this point, removal of springs from pivot arm may make installation easier.

5. Determine the best location of the pivot arm assemblies. The standard "Side Distance" for 7' pit widths is 9" off the pit wall. The arms can be a maximum of 18" off the pit wall and no closer than 6" as a rule. Adjust this location based on space provided, avoiding obstacles. (See Figures 1 & 3) Make sure the aluminum arms are parallel to the pit wall. (Note: See "Getting around Obstacles" on page 14, if the 9" will not work in your application.)
6. The standard "Front distance" for a 20" pit is 32-1/2", for a 24" pit it is 30-1/4". The "front distance" is measured from the front pit edge to the front edge of the mounting bracket on the pivot arm assembly. (See Figure 1) This assumes that the leveler front frame is flush with the front pit edge. Locate the pivot arm assembly and mark the slot location of the mounting brackets onto the pit floor.
7. Install the 3/8" anchors supplied with the unit at the marked slot locations. Locate the anchors 1/2" away from the rear edge of the slot. (See Figure 2) This will allow the pedestal to be able to be adjusted forward or backward.

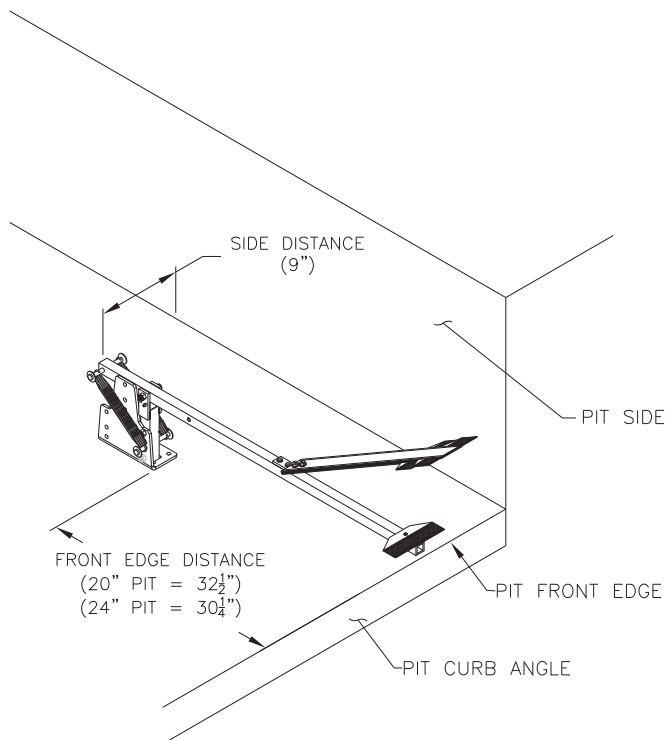
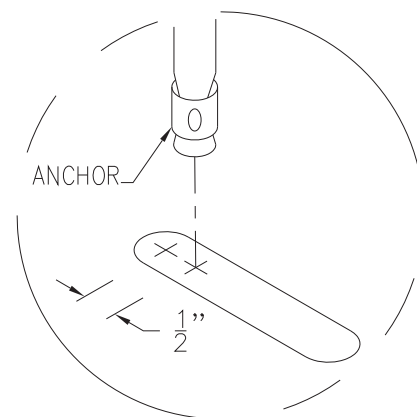


FIGURE 1



SLOTS IN PEDESTAL PLATE.

FIGURE 2

INSTALLATION INSTRUCTIONS

8. Locate the pivot arm assembly over anchors, verify the "Front distance", and tighten in place. (Note: The pivot arm assemblies come as right and lefts. See Figure 1 for orientation.) Check to make sure arms move freely and the safety pin is installed. (See Figure 34) (Note: When properly installed, the aluminum pivot arm, when held in the horizontal position, should be approximately 1/2" back from the front pit edge or front frame of leveler. (See Figure 4.) This is typical for most Rite-Hite® leveler applications, but can vary based on leveler location relative to the pit. The spring stays will protrude past aluminum arm end by approximately 1" on average. When installing in nonstandard applications, the pivot arm "front distance" should be adjusted relative to the leveler location so the spring stays will not touch the backside of the leveler lip. Make adjustments as needed.) The springs can be re-attached at this point.

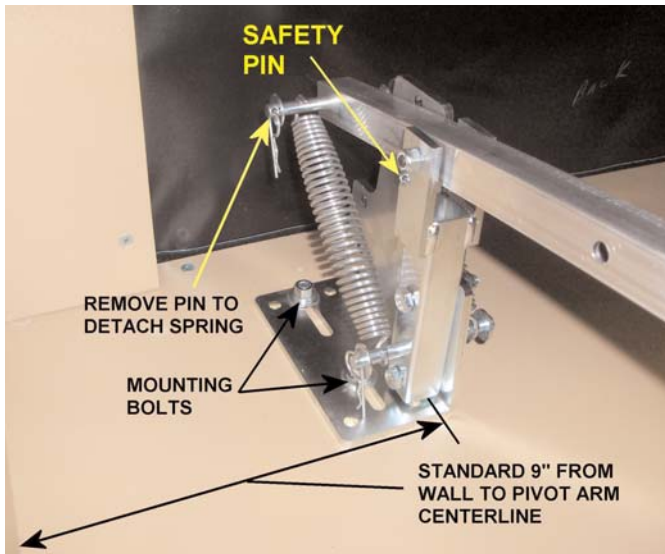


FIGURE 3

9. Measure the pit width. The curtain width comes set for a 85" pit width. (7' leveler width.) Actual curtain width is 86" and maximum pit width applicable is 85 1/2". Adjust the curtain width if necessary, to be the pit width plus 1" by referencing, "Adjusting Curtain Width" instructions on page 12.)
10. Determine which mounting pocket is to be used. (See Figure 6.) Using the pit depth reference marks, measure down from the reference mark to the center of the pocket you plan on using. This measurement is needed for the mounting bar.
11. The curtain has 20" and 24" pit depths marked on the curtain, lower outside edge. (See Figure 6) The 24" mark is the top line of sewing on the bottom side of the curtain with all the horizontal sew lines. The

20" marks are the (2) notches located 4" above the 24" sew line. These reference marks are used to locate curtain at the pit bottom edge. The top of the curtain should then end up about 1/2" from the top pit edge. (Note: If the pit depth is off more than 1/2" from either the 20" or 24" depths, adjust curtain location and create new marks.) Using the marks as a reference, notch the curtain around the restraint and/or any other obstacle. (See Figure 5 and special instructions on "Getting Around Obstacles".)

AT THIS POINT, DO NOT CUT OUT FOR LIP KEEPERS YET!

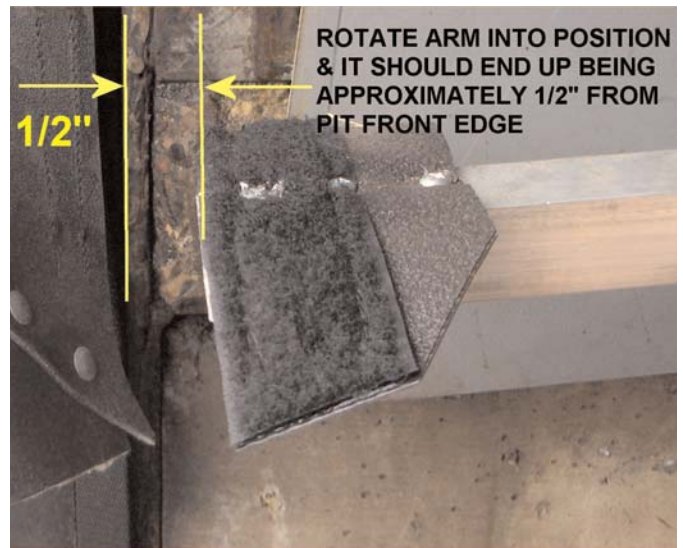


FIGURE 4



FIGURE 5

INSTALLATION INSTRUCTIONS

12. Cut the mounting bar length for each side to match the mounting pockets, minus 1". The curtain overhangs the pit side edges by approximately 1/2". The mounting bar is located in the pocket 1/2" from the curtain edge, so when installed, the bar is flush with the pit edge. (See Figure 6) Using the measurement from Step 10, locate the vertical centerline of the mounting bar from each side, at this distance down from the front pit edge. Mark the location of the holes from the mounting bar onto the dock face. Using the same mounting bars from each side, mark the location of the holes on the bar onto the curtain, centered on the mounting pocket to be used. Remember to keep the bar 1/2" off the curtain edge. Using a knife, slice the curtain at these hole marks, parallel with the pocket. Make a 1-1/2" slice at each mark. Make sure the slice is centered on the pocket and goes through both layers of fabric. These slices allow the curtain to be adjusted once installed. (See Figure 6)

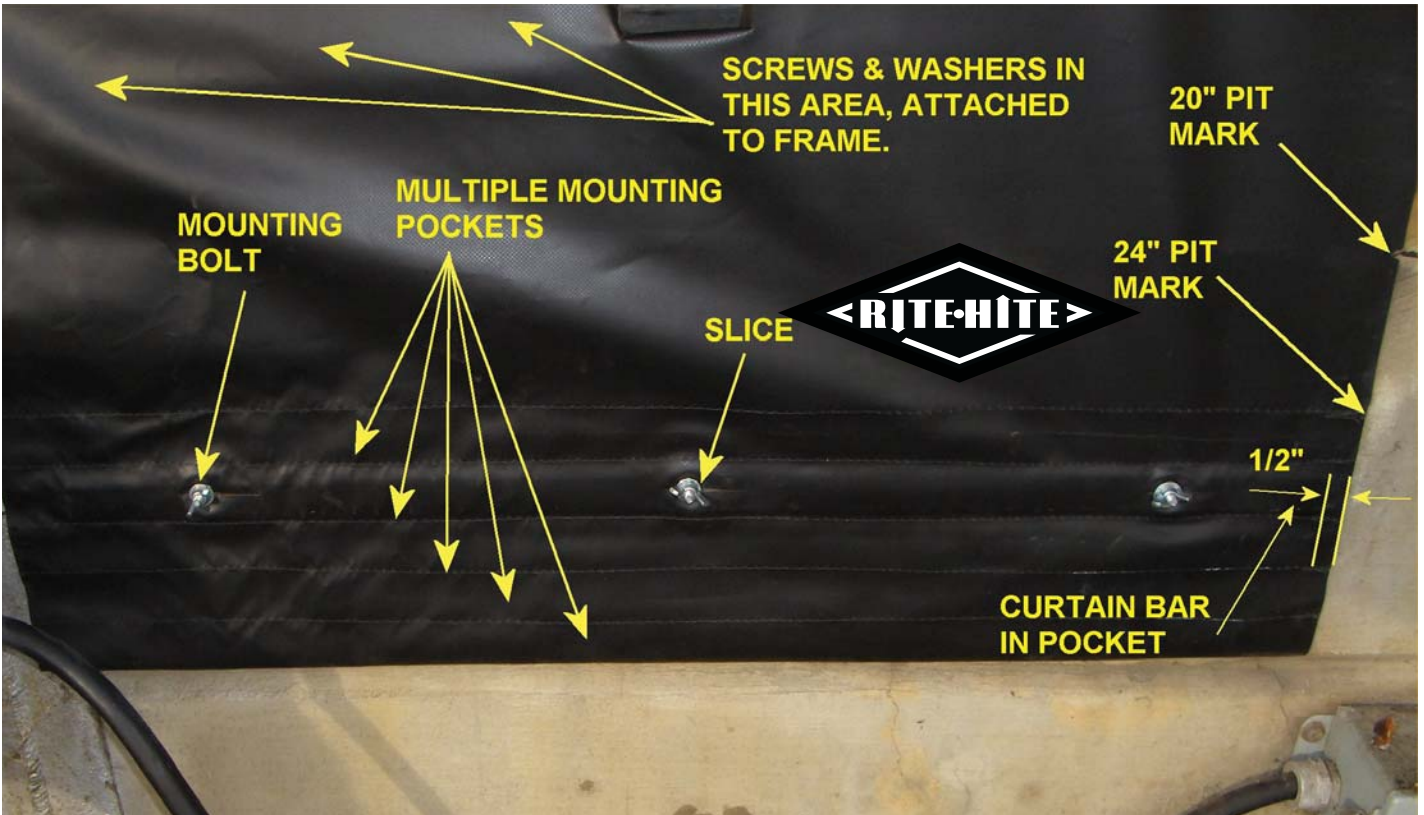


FIGURE 6



FIGURE 7A

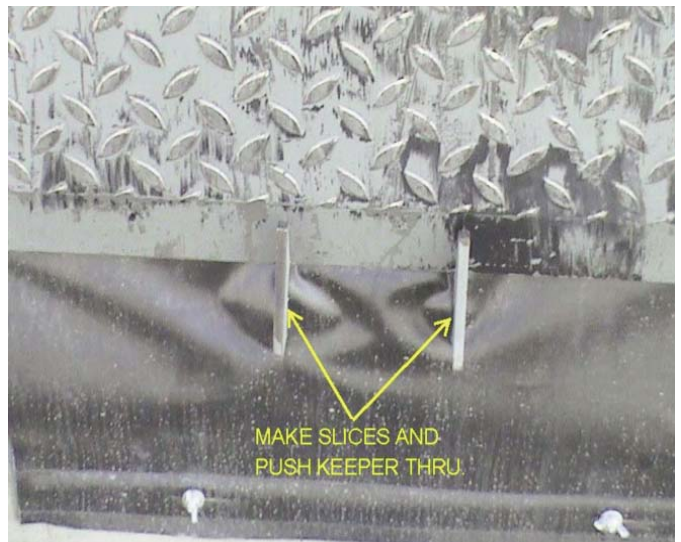


FIGURE 7B

INSTALLATION INSTRUCTIONS

13. Install the appropriate 1/4" wedge anchors at the mounting bar hole locations on the dock face.
14. Insert the mounting bars into the correct pocket. The holes in bar should align on the slices in the curtain pocket.
15. Anchor the curtain to the dock face using the wing nuts. Do not tighten. (See Figure 6)
16. Attach the curtain lowest velcro flaps to the velcro flaps on the aluminum pivot arm assemblies. Make sure the curtain is centered and tension is pulling the curtain outwards equally on both sides and it is not sagging at the middle.
17. Using a utility knife, trim out for the lip keepers. (See Figures 7A & 7B as examples.) Use your hand and make sure the curtain is pulled straight up, because when the curtain is under tension, it can pull from one side to the other. There are multiple lip keeper styles, but typically, "X" cuts for solid keepers (7A) or simple vertical slices for open keepers (7B) is all that is required. Making the cut or slice smaller than what is needed makes for a tight seal around keeper when finished.
18. Attach the remaining top and middle curtain velcro flaps to the pivot arm velcro flaps. Do one side at a time. Do not pull too much tension outward at this point. Repeat with the other side. Now, readjust the attachments, increasing tension making sure it is centered. Try to pull the stays directly sideways as opposed to bending them. Start by attaching the lower, main arms to the lowest velcro flap. (See Figure 8.) Attach both sides first before attaching the upper stays.
19. Test to make sure the curtain moves freely by pushing down on the pivot arm assemblies. (Note: In some cases, the sides of the pit edges do not allow the curtain to fully pull outward. Trimming the curtain further from the standard 1/2" overhang is permissible as long a tight seal is still achieved at the pit edges. (See Figure 25.)
20. Install the safety fastener at this point, if required. (See Figure 29.) The mounting tab on the end of the pivot arm assembly's aluminum arm is installed with (3) fasteners. The center fastener can be removed, and then reinstalled after the curtain velcro tab is attached to the pivot arm. Use the same hole the fastener came out of. This fastener will ensure that the velcro attachment does not come apart under the pressure of being too close to an obstacle.
21. When cycling the leveler for the first time, always check that the spring stays make contact with the header or project past the header, by at least 1/4". (See Figure 27.) The stays cannot be too far forward, or they may contact the backside of the leveler lip and keep it from storing properly. Adjust the pivot arm location as needed.
22. Make sure safety pin is in place. (See figure 34.)

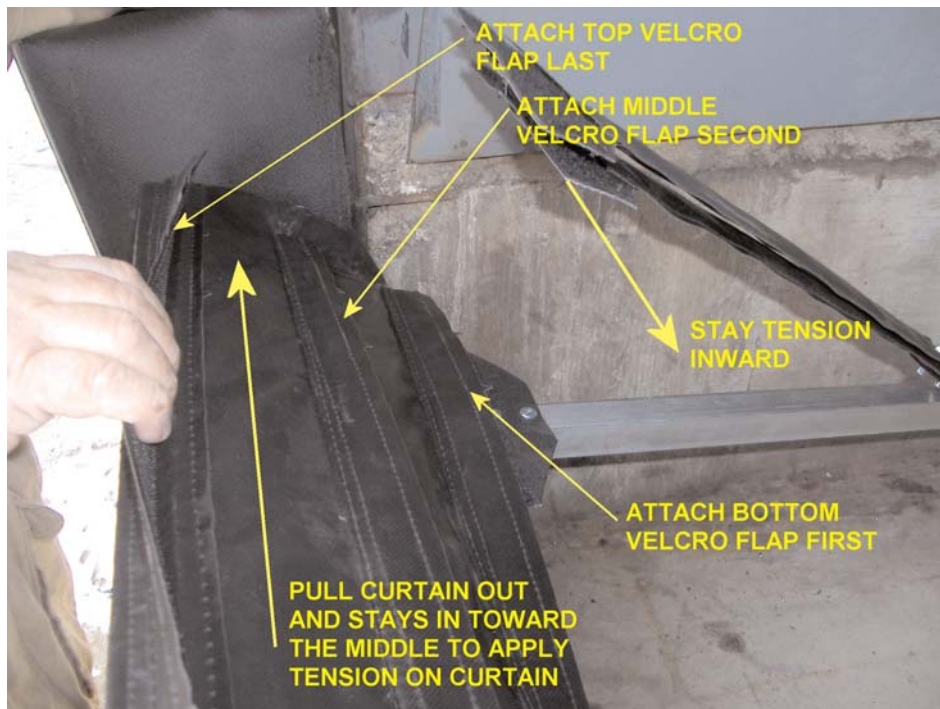


FIGURE 8

INSTALLATION INSTRUCTIONS

Header Curtain

RITE-HITE FORMED HEADERS

The header curtain is designed to help seal the open areas on the RH formed header and the area next to the leveler and pit wall. The header curtain is also designed to aid the interfacing seal between the header area and the top of the main curtain. **(Note: For RH models with Safe-T-Lip® that have extra header plates, see section "RH Safe-T-Lips with Header Plate" for special instructions on header curtain installation.)**

1. Cut (5), 4"-6" pieces of the Velstick with pressure sensitive adhesive from the piece sent with the units.
2. Attach the pieces to the header. (Note: If the header has gussets, attach Velstick to gussets.) The location of the Velstick on the header is as such when the top curtain is attached, the top edge of the curtain is at about the same height of hinge pin or bottom of lip spool, covering most of the header open areas. (See Figures 9 - 14 for the different leveler models.)
3. (2) of the pieces are located on the outside of the

lip cylinder area and the rest get located in the larger space on the other side. Space the pieces accordingly.

4. Secure the Velstick pieces to the header. This keeps the Velstick from coming loose under all temperature conditions.
5. Center the top curtain on the header. (Note: Curtain width will be trimmed in a later operation.) Mark the location of the lip cylinder, lip stop bolt and or any other obstacle. At these locations, the curtain must be notched out to allow the unit to function correctly. A "X" cut can be made for the lip stop bolt, while a notch & slice at the lip extending cylinder is required. (See Figure 10.)

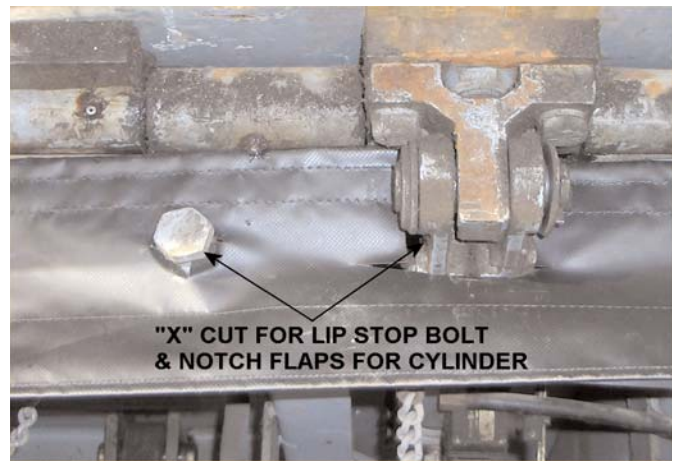


FIGURE 10

On models that have gussets on the header and lip, the top curtain may need to be notched or small slices added at the gussets to provide clearance for the gussets on the lip to clear when the lip rotates. (See Figure 11.)

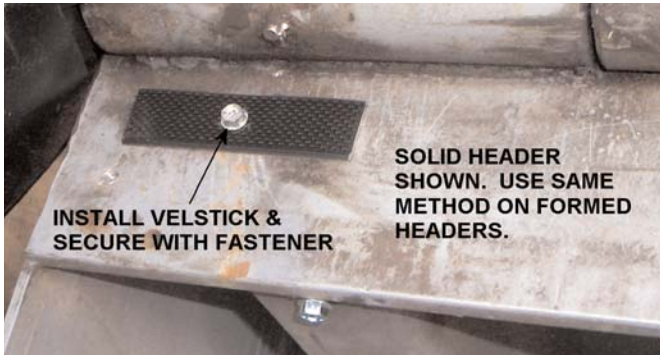


FIGURE 9

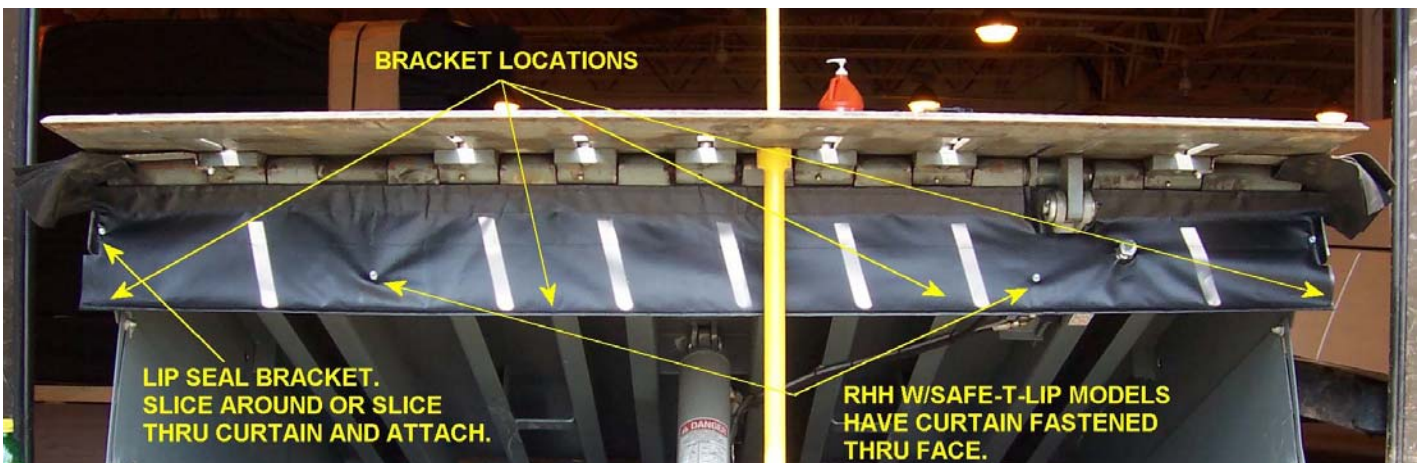


FIGURE 11

INSTALLATION INSTRUCTIONS

6. The lower portion of the top curtain can be attached in two ways, directly to the underside of the deck stringers as shown in Figure 17 or by adding clip brackets to underside of deck stringer as shown in Figures 12-15. Determine the best method for your application and or leveler model, but using the bracket method creates the best seal because the brackets at the outside help the curtain from staying folded when in contact with the lower curtain. Create the new tab as shown in the Figures 12, 13 & 21. Make the tab as long as possible.

as shown in Figure 11 either attached to deck stringer as shown in Figures 12 & 13 or attached to toeguard as shown in Figure 21. In the middle area, there should be enough tab to attach the curtain directly to the deck stringer. Brackets can be added to middle section as long as the tension is not as such to apply too much pressure against the pivot arms. (Note: Make sure that where the brackets are located they do not interfere with leveler operation, are near lip keeper locations and/or get damaged when leveler cycles.)

7. Attach the the top curtain to the brackets mounted to deck stringers. (See Figures 12-17 for different mounting options.) Start in the middle, going outward in both directions, pulling the curtain tight as you go. (Note: In most applications, some portion of the header curtain will hang below, past the bottom edge of the brackets and header.)
8. Finally, trim the ends off of the header curtain. The curtain length comes designed for a 7' wide leveler. For smaller decks, trim the top curtain to pit width plus 1". Adjust as needed.

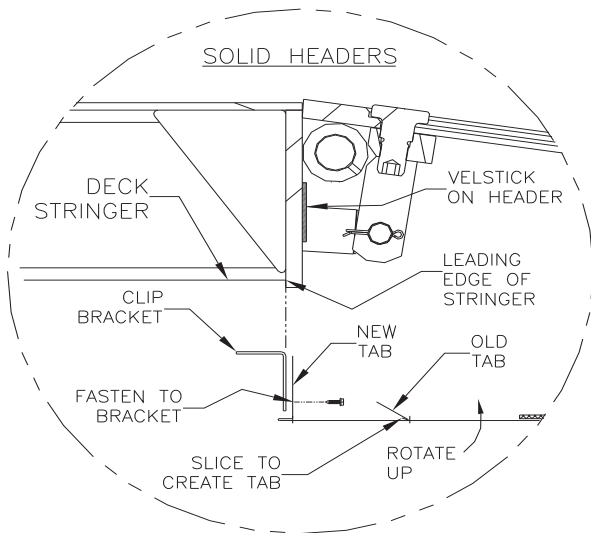


FIGURE 12

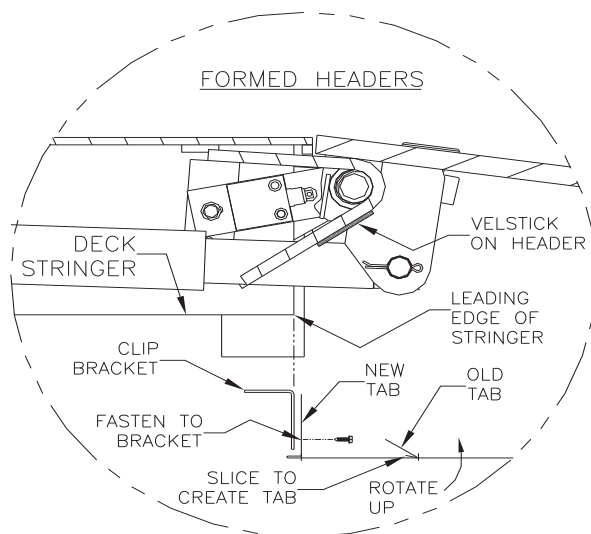


FIGURE 13

Except for on the Genisys models, the top curtain will be longer and when attached, the curtain should create a slight bulb outward. The bulb helps seal the top curtain to lower main curtain. If using the brackets, locate them at each outside location

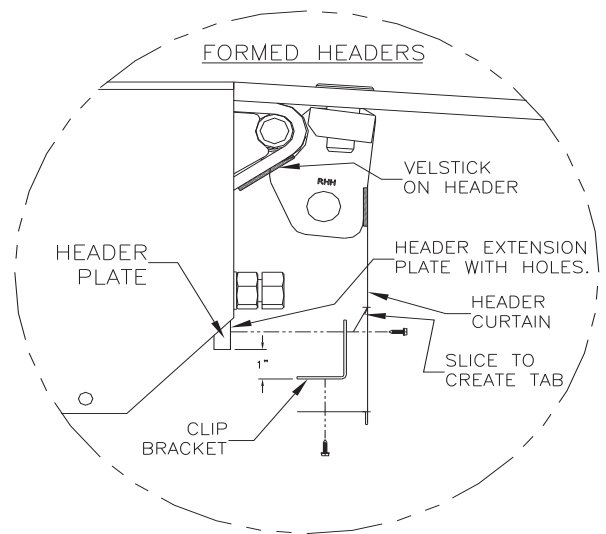


FIGURE 14

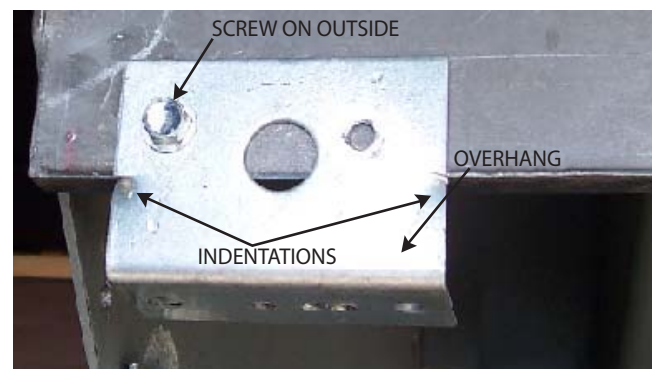


FIGURE 15

INSTALLATION INSTRUCTIONS

Rite-Hite Safe-T-Lips with Header Plates

The header curtain is designed to help seal the open areas on the RH Safe-T-Lip with header plate and the area next to the leveler and pit wall. The header curtain is also designed to aid the interfacing seal between the header area and the top of the main curtain.

1. Follow Steps 1-5 of the "RH Formed Header" instructions.
2. The header plate comes pre-drilled with (4) holes used for installing the header curtain. (2) are located at each lower outside corner, (2) others are located along the same horizontal line towards the inside. (See Figure 11.)
3. Using the long leg of the clip bracket, attach the brackets as shown in Figures 14-15. Install fastener on outside edge of the bracket, with the bracket overhanging the header plate approximately 1"-1 1/4". You will need to pre-drill a hole in the bracket before attaching to header plate. Make sure bracket is horizontal to the header lower edge.
4. Using a peen or screwdriver, indent the bracket at the point the plate goes past the edge of the header plate. (See Figure 15) This will keep the bracket from spinning out of place during operation. Indent both sides of bracket.
5. Attach the header curtain to the bracket by installing a fastener thru the lower flap on the lower, backside of the header curtain. (See Figure 16 and in this case, the flap has to be cut into the header curtain. Reference Figure 21 for creating lower flap.)

SOLID HEADERS

Follow the same basic procedure as used on the formed header instructions above with the exceptions below if required. (See Figure 12 for standard installations)

1. On Solid headers the header curtain will be located just underneath the lip spools. The header curtain will overhang the lower edge of the header and create a better interfacing seal with the main curtain. Use the velstick and screws to secure in place at top and clips brackets to attach to underside of deck stringer. Make sure screw head is not located as to interfere with lip when it rotates. (Note: The header curtain back tab needs to be sliced, but in some situations if desired the original short tab can be used and attached directly to underside of deck stringers if required. (See Figure

17.) A better seal is seen when using clip brackets.)

OPEN HEADERS (GENISYS)

The header curtain is designed to help seal the open areas on the open hinge style levelers and the area next to the leveler and pit wall. The header curtain is also designed to aid the interfacing seal between the header area and the top of the main curtain.

1. (6) "L" shaped clip brackets are supplied in hardware bag with each unit. These clip brackets mount to the underside of the leveler lip between the lip hinge plates. The long side of the bracket gets welded to lip and the short side bent to match the hinge plate angle. (See Figure 18.)
2. 3-4 brackets are mounted on the long side of the lip extending cylinder, another 1-2 on the other side. Adjust the number and location of the bracket based on the available space. In all situations, the curtain must be securely attached to the header on both sides of the lip extending cylinder during operation of the cylinder, so it does not pull the header curtain away from the header.



FIGURE 16

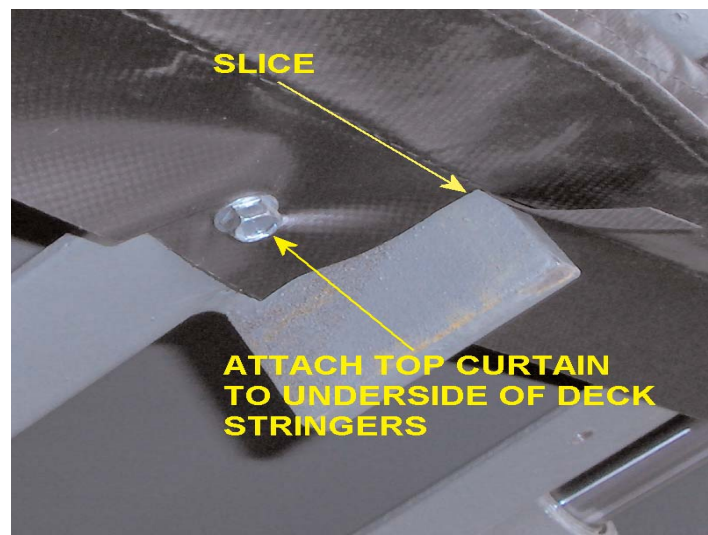


FIGURE 17

INSTALLATION INSTRUCTIONS

BRACKET LOCATIONS

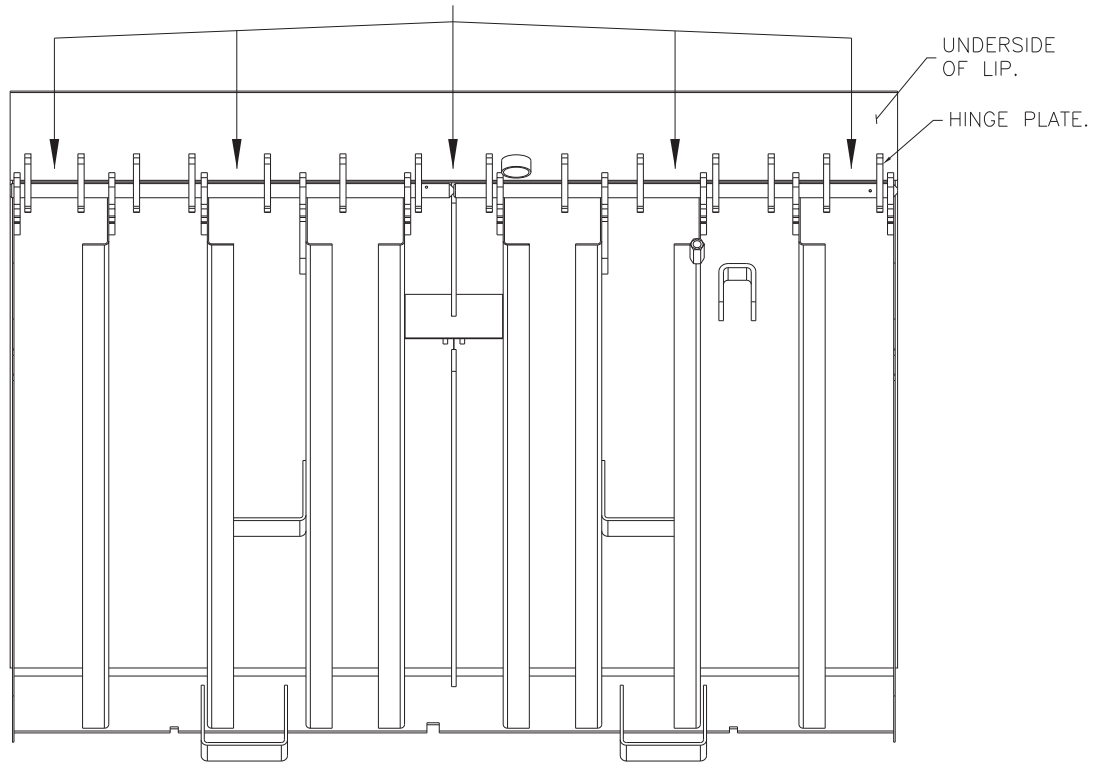


FIGURE 18

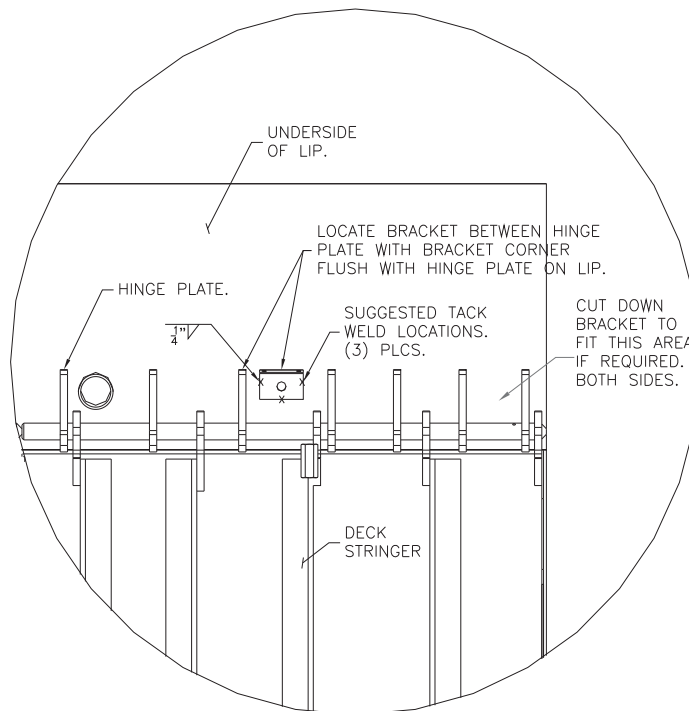


FIGURE 19

INSTALLATION INSTRUCTIONS

3. Locate a bracket at each predetermined location. The bracket's long side should be against the underside of the leveler lip, while the short side points downward. Locate the bracket in the space as such that it will not interfere with the levelers operation. The corner of the bracket should be flush with the outside edge of the hinge plate. (See Figures 19 & 20.)
4. Weld the bracket in 2-3 places. Along each side and along back edge. Small tack welds can be used. The brackets are not under a large stress when used, but must be securely attached so that the short leg can be bent in a later operation. Do this at all the bracket locations.
5. Bend each bracket short leg to approximate the same angle of the hinge bracket. (See Figure 20.)
6. The header curtain can be attach to the header area in two ways: 1) screwed directly thru the header curtain from the outside into the brackets between the hinge plates and deck stringers or 2) utilize the header curtain velcro by attaching the Velstick to brackets, then attach header curtain via the velcro and then attach to deck stringers. (The velcro makes it easier to access the header area, but it is suggested to use the screw method for better attachment strength.)
7. Center the top curtain on the header. (Note: Curtain width will be trimmed in a later operation.) Mark the location of the lip cylinder, lip stop bolt and or any other obstacle. At these locations, the curtain must be notched out to allow the unit to function correctly. A "X" cut can be made for the lip stop bolt, while a notch & slice at the lip extending cylinder is required. (See Figure 10 as a reference.)
8. Create new flap on backside of the top curtain. This is done by slicing the large pocket on the back of the header curtain. (See Figure 21 for details.)
9. Next, make slices in the newly made lower attachment flap at the locations of the safety legs on the leveler. Slice only the flap and not the front of the curtain. (See Figure 17.)
10. Attach the lower attachment flap on the top curtain to the deck stringers. (See Figure 17.) Do not attach the curtain at all locations of the stringers. Attach at each outside edge. Near the lip stop bolts and next to the end load legs.
11. The outside edges of the header curtain are designed go over the toe guards and to rub against the pit edges. Trim around toeguards if necessary. Clip bracket may be required at outside edges on the toeguard to keep curtain in place. (See Figure 21.)
12. Finally, trim the ends off of the header curtain. The curtain length comes designed for a 7' wide leveler. For smaller decks, trim the top curtain to pit width plus 1". Adjust as needed. (See Figure 11.)

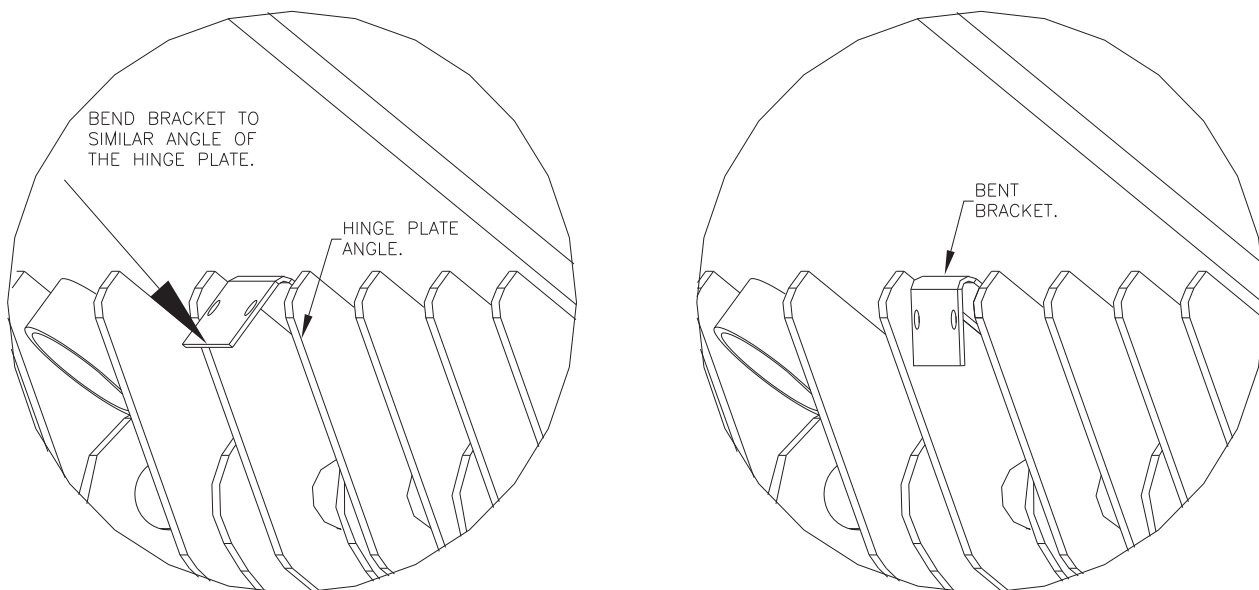


FIGURE 20

SPECIAL INSTRUCTIONS

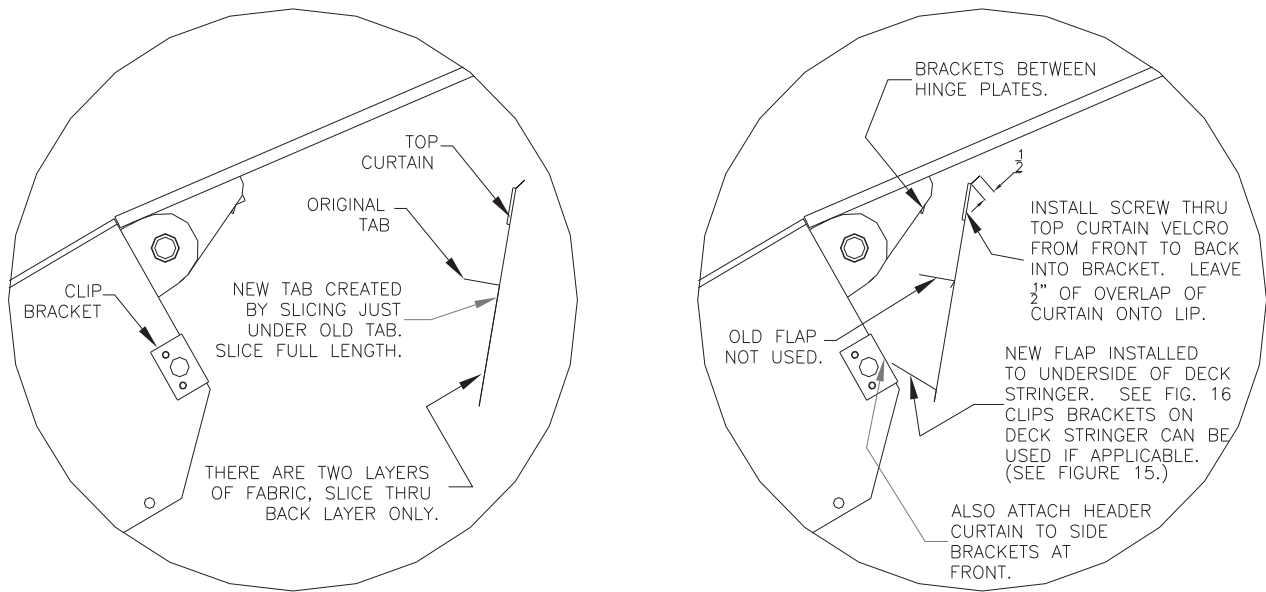


FIGURE 21

Special Instructions:

Adjusting Curtain Width

1. Measure the pit width. The curtain width needs to be the pit width plus 1".
2. Cut the curtain by removing equal amount off each side to obtain the correct curtain width. The curtain is designed to overhang each side BY 1/2". Make adjustments as needed. (Note: in order to trim the curtain, the fiberglass rods inside of the curtain flap need to be pushed inward towards center of the curtain. The rods will protrude from the inside edge of flap until trimmed in a later operation.
3. After cutting the curtain to width, (See Figure 22) the velcro flaps also have to be cut for proper curtain function.
4. Notch out 1-1/2" of the velcro flap starting from the outside edges of the curtain. (See Figure 23) Do not cut the sewn portion of flap from the main curtain. Special back tacking during sewing was done to keep the threads from coming undone and allowing the rest of the flap to release from main curtain. Also, this portion of the flap holds the fiberglass rod in place. Instead, trim off the flap, by trimming the fabric leg coming away from main curtain, that has the velcro sewn to it. If done correctly, the original portion of the flap is still attached to the main curtain.

5. Next, cut the fiberglass rods to fit the new length pocket minus 1-1/2" (See Figure 24) The rods always need to end up being 1-1/2" from the outside edge of the curtain and flush to inside flap/pocket edge. The outside 1-1/2" of the curtain needs to allow free up and down movement of the top portion of the main curtain while still creating a good seal. (See Figure 25.)

Special Instructions:

Toe Guard Interference

For leveler models that have full height toe guards or toe guards that interfere with the lower curtain. Do one of the following:

1. Adjust pivot arm location forward so the toeguard's rotation misses the top edge of the curtain, but make sure the spring stays do not hit the backside of the lip.
2. Adjust the curtain mounting height on the pit face so that the top edge of the curtain is lowered and allows the toeguards to rotate past.
3. Modify the toeguards themselves, so that when the leveler rotates around, the toeguards miss the top edge of the curtain.

SPECIAL INSTRUCTIONS



FIGURE 22

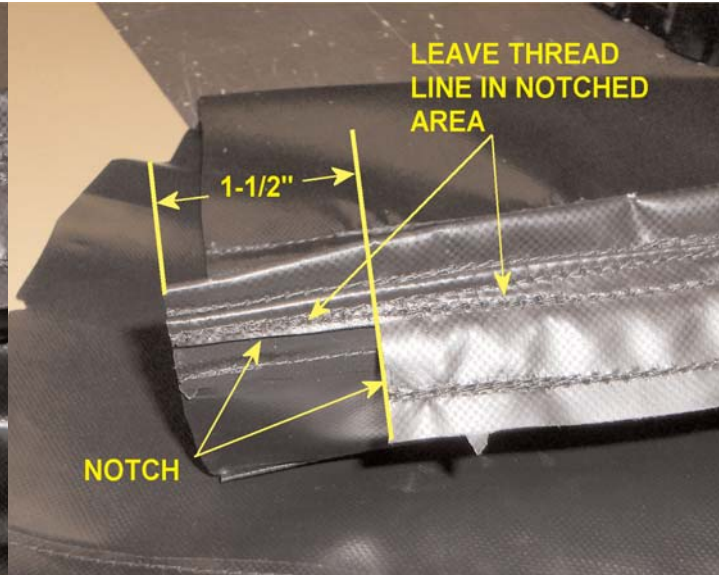


FIGURE 23

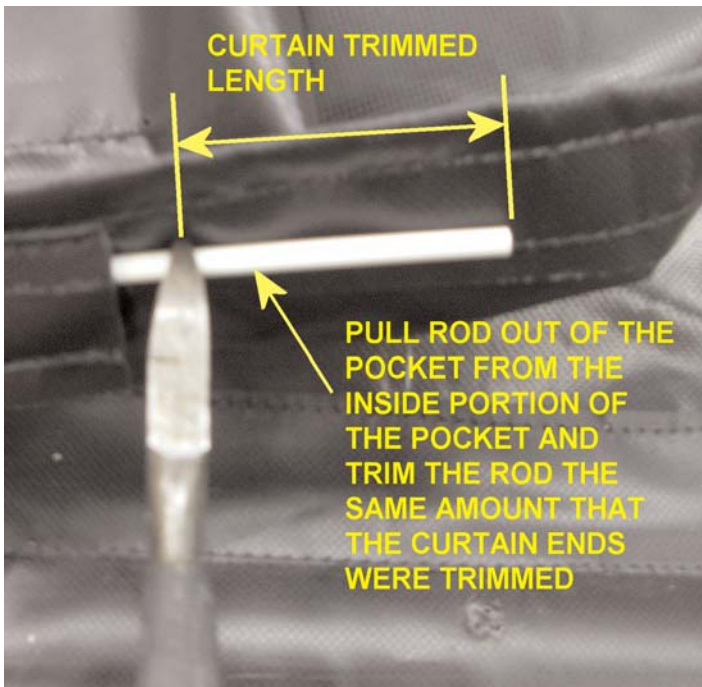


FIGURE 24



FIGURE 25

SPECIAL INSTRUCTIONS

Special Instructions: Getting Around Obstacles

The PitMaster was designed to be universal in that it can be applied without prior site information and that it has the ability to adapt to most site conditions. The following are obstacles adaptable during time of installation:

- Power Conduits, Hydraulic Hoses
- Hydraulic Power Units in the Pit
- Auto retracting Toeguards (competitive models)
- Variable Lip Keeper Locations
- Variable Restraints and Locations
- Variable Leveler Sub frames and Locations
- Nonstandard Leveler Models

(Always reference the "Standard Under Leveler Seal" instructions included in this document.)

Power Conduits, Hydraulic Hoses

Conduit and hoses that enter into the pit can be easily adjusted in the field with the PitMaster. The curtain can be trimmed to fit around the conduit in the location it

enters into the pit. The lower mount loop can be sliced and the mounting bar can be cut in pieces to go around the obstacle. The curtain also has multiple mounting loops at the bottom to allow the installer to relocate the anchors. (See Figure 26) Once the curtain is installed, the area next to the obstacles can be further sealed using caulk or other adhesive if a better seal is desired.

Hydraulic Power Units in the Pit

The location of the pivot arm is normally set to be 9" off the pit wall. (Reference the "Standard Under Leveler Seal" instructions shown above.) This location can be and is recommended to be adjusted if an obstacle is present. In some cases, hydraulic power units are present inside the pit in the location where the pivot arm assembly normally is mounted. The assembly can be located anywhere from 6" to 18" off the pit wall to avoid the obstacle. (See Figure 1) Also, the mounting bracket itself can be adjusted to avoid the obstacle. (Reference "Non-standard Mounting Considerations" instructions listed in this document.) (Note: The pivot arm assembly can be adjusted side to side as specified above, but it cannot be adjusted forward or backward.)

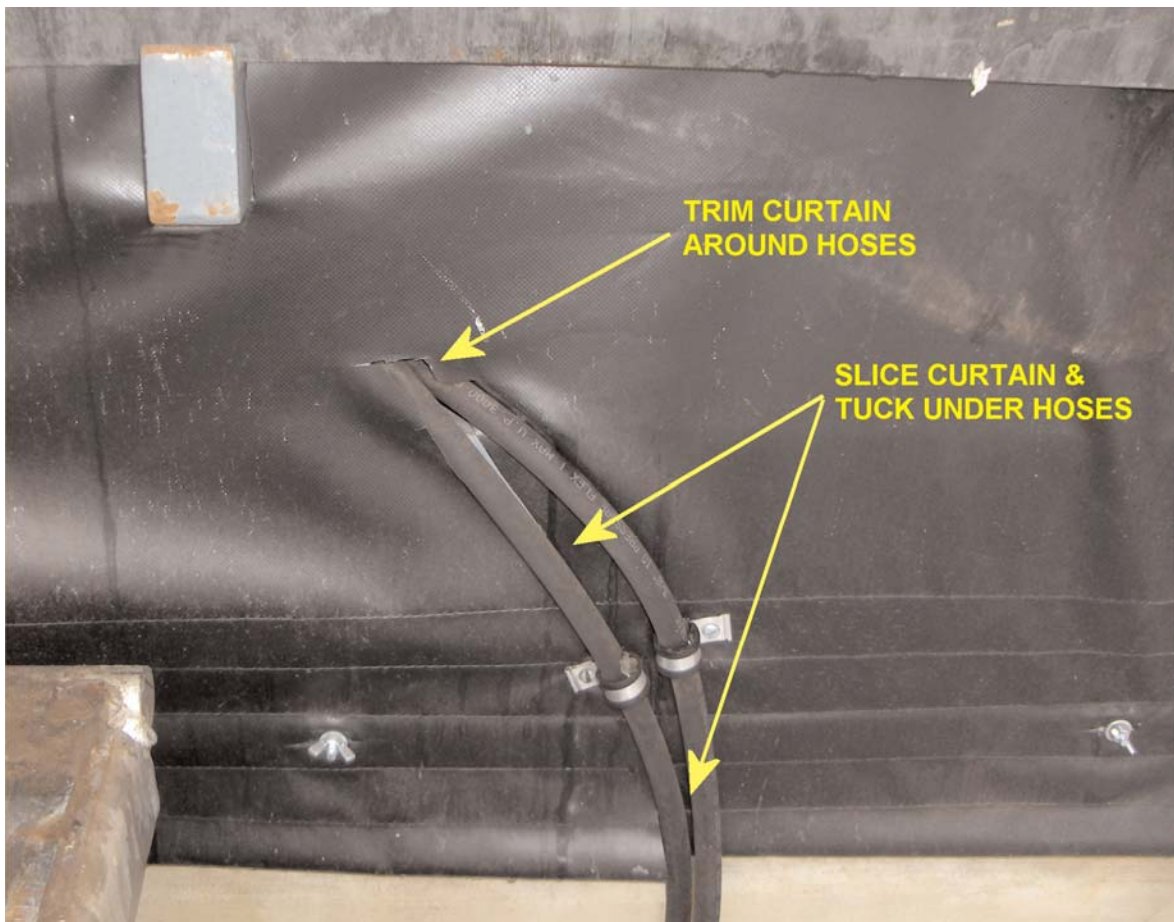


FIGURE 26

INSTALLATION INSTRUCTIONS

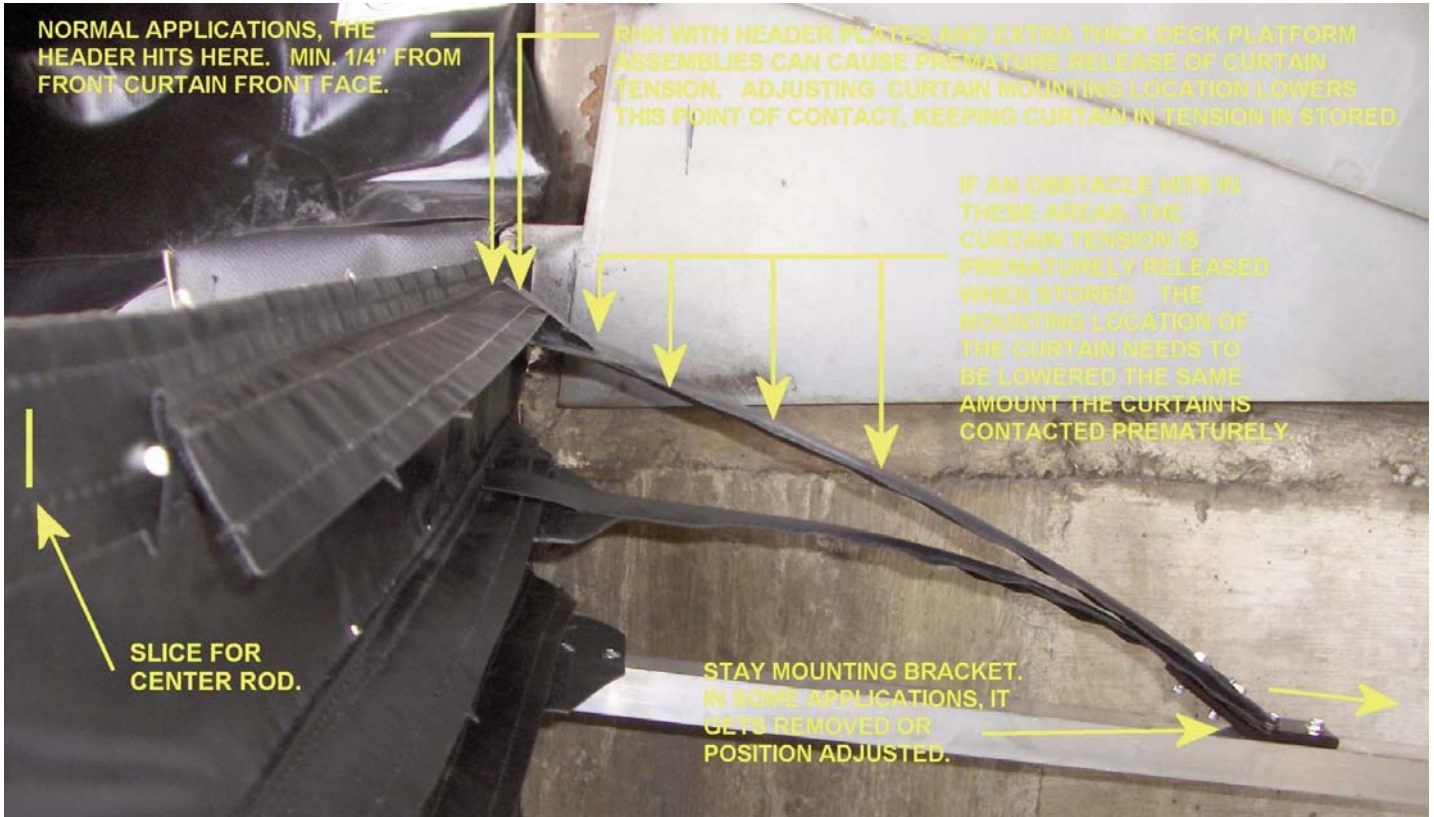


FIGURE 27

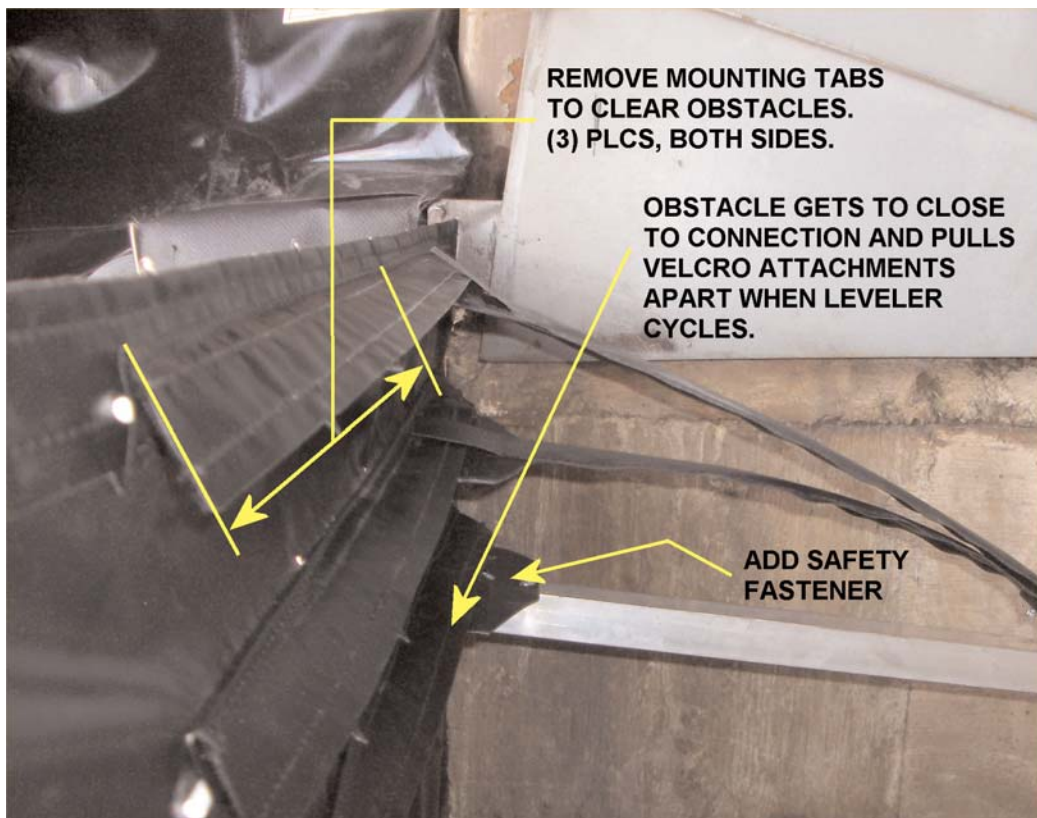


FIGURE 28

INSTALLATION INSTRUCTIONS

Auto Retracting Toeguards

Some competitive leveler models incorporate auto retracting toeguards. The PitMaster cannot be applied to units with this design. (Consult Applications for any questions)

Variable Lip Keeper Locations

Since the curtain does not move, lip keepers, etc., can easily be trimmed around. There is no clearance required when trimming around these obstacles. Simple slices, "X" cuts or small cutouts, press fit around the obstacles are acceptable. Some wear will be seen during normal operation of the leveler when creating such a tight seal, but this wear will be limited and minimized during the break in period of the curtain. When adjusting the pivot arm assembly, the location of the pivot arm relative to the lip keepers location is important. Make sure that the pivot arm is at least 4" away from any lip keeper if possible. This will decrease the chance the lip keeper will cause a problem of putting too much pressure on the velcro attachments from the pivot arm to the main curtain itself. If too close, the attachments could pull apart, disengaging the spring arm from the curtain. (See Figure 28.) To avoid this problem, the following procedures can be done:

1. Make sure the pivot arm assembly is at least 4" away from any lip keeper.
2. Trim the velcro attachment flap. Trimming the attachment flap will decrease the chance the curtain will hang up or run against the lip keeper or other obstacle. Trim just short of the lip keeper or obstacle. (See Figure 28)
3. Shorten the fiberglass rod length just short of the obstacle. This is effective, because the rod keeps the curtain rigid, and shortening it will allow the

curtain to be more flexible. This should always be done when in a non standard mounting location. (See Figures 27 & 28.)

4. Install the safety fastener. (See Figure 29.) The mounting tab on the end of the pivot arm assembly's aluminum arm is installed with (3) fasteners. The center fastener can be removed, and then reinstalled after the curtain velcro tab is attached to the pivot arm. Use the same hole the fastener came out of. This fastener will ensure that the velcro attachment does not come apart under the pressure of being too close to an obstacle. This can be done in every situation if desired, but not necessary for standard configurations.

Variable Restraints and Locations

The main curtain and mounting loops allow for multiple mounting locations. The sewn pockets at the bottom of the main curtain are designed so the installer is not restricted in an exact location down on pit face in where to mount the curtain. (Note: The installer is still required to locate the curtain based on the marks on the main curtain for pit depths.) The curtain itself can be trimmed to any width between 6' and 7' along with around any width restraint as long as there still is sufficient amount of curtain left on the sides of the curtain where the mounting loops are.

Variable Leveler Sub frames and Locations

Reference the section on "Hydraulic Power Units in the Pit" in this section for further information.

Nonstandard Leveler Models

Review all the instructions included in this document. Use these as a reference when applying the PitMaster under leveler seal to a nonstandard leveler model.



FIGURE 29

SPECIAL INSTRUCTIONS

Special Instructions:

Adjusting for Pit Details

The pivot arm assemblies come set for a 20" pit depth. The assemblies are designed to be adjusted and adapt to a 24" pit depth. (See Figure 32.) Both depths have a working tolerance of +/- 1/2". If the pit depths are outside of the ranges of 19-1/2" through 20-1/2" and or 23-1/2" through 24-1/2", adjusting for the pit depth will not be the only adjustment required. Pit depths lower than 19-1/2" will need to have the curtain mounted lower on the pit face. In some cases with short pits, the pivot arm assembly may interfere with underside of leveler. (See instructions on "RHH Safety Leg Adjustments" included with these instructions.) Pit depths between 20-1/2" and 23-1/2" will need to be shimmed. (shim not included) Pit depths of over 25" are not recommended

because of the rotation of the pivot arms. All adjustments outside of the original tolerances need to be evaluated and adjusted on site for complete applicability and functionality. Warranty will also be void.

1. Remove the springs and pins from the pivot arm assemblies shipped with unit. (See Figure 3) (Note location of all pins before removing.)
2. Loosen and remove the nylock nuts on the (2) bolts that hold the pivot arm assembly to pit floor mounting bracket.
3. Remove bolts and pivot arm assembly from mounting bracket.
4. Reinstall the pivot arm assembly with bolts into the new mounting hole location as shown in drawing.
5. Attach and tighten nylock nuts to bolts. Do not over tighten!
6. Reinstall springs and all pins. Make sure the washers are on the outside of the springs. One pin goes into hole at end of aluminum arm, the other pin goes into the hole between the (2) bolts. If properly installed, there should be no tension on the springs after hooked on pins. (Make sure safety pin is installed.) See Figure 34.

Special Instructions:

Mechanical Levelers Adjustments

Supplied in the PitMaster hardware bag is 11' of nylon rope and self drilling/tapping screws. The rope threads through the long fabric loop located in the center, lower, backside of the curtain. This loop & rope are one means

used to eliminate the affects of the "blowout" created from mechanical levelers. Mechanical levelers when stored, accelerate fast downward. The air within the pit area cannot escape fast enough because of the curtain. The fast, rushing air blows out the curtain to the point in which the curtain can get caught in the lip keepers when storing. The rope when threaded through the loop and tied off, keeps the curtain from "bellowing" out. Therefore, keeping the curtain from getting caught. The rope can be tied off anywhere in the pit area, as long as it is out of the way of the operation of the curtain and the leveler itself. The rope does not have to be tied off under tension, just enough to take up the slack. The rope is only required on mechanical levelers. The other methods to eliminate the curtain blowout is using the supplied screws. Install the screws through the main curtain at the center into the leveler frame. (if present) (See Figure 6) The screws will be located just below the plane of the lip keepers, and between them. The screws will basically hold the curtain from bellowing out at this point, effectively keeping the curtain out of the lip keepers.

Special Instructions:

RHH Safe-T-Lip w/header plate, RHH Safety Leg & Thick Dec Platform Adjustments

When applying the PitMaster under leveler seal to a RHH leveler that has either the Safe-T-Lip with special header plates, the Safety Leg option and/or a thicker than normal deck platform assembly (high capacity levelers), the location on the pit face where the lower part of the curtain mounts, needs to be adjusted. All these special situations interfere with the spring stays on the pivot arm assembly by pushing down on the spring stays prematurely when storing, releasing the tension in the curtain. The PitMaster design allows for an average of 6" deck platform assembly thickness of the leveler being applied to for the pivot arms to operate properly. Thicker deck, tall front header plates and obstacles underneath deck stringer all act the same an prematurely contact the spring arms. The curtain must stay in tension when leveler is stored in order to create an effective seal. Adjusting the curtain mounting location lowers the point in which the leveler and spring stays on pivot arm come in contact.

1. Starting on Step 11 in the "Standard Under Leveler Seal" instructions, use the same reference marks on the curtain for a 20" and 24" pit depths, but decrease the location by 2". (Note: The 2" adjustment is only used in these situations, other

SPECIAL INSTRUCTIONS

amount of adjustment. If adjustments are larger than 2", the location where the pivot arms mount from the front edge of the pit may also need adjustment because of the rotation of the pivot arm. Reference special instructions "Rigidly Mounted Safety Legs" for further notes on this type of adjustment.) This will effectively lower the top edge of the curtain. Normally, the curtain top will be basically flush with the top of the pit, in this situation, the top will be 2" below. This lowers the attachment points of the pivot arm assembly to the main curtain. This would normally make the leveler have to cycle lower before it touches the spring stays, but since the safety leg rods are present, they make contact.

2. Next, adjust the location of the spring stays on the pivot arm assembly. There are actually three holes on the aluminum pivot arm. The front two are normally used to hold the mounting bracket in place. Remove the fasteners. Shift the bracket back to utilize the back two holes and reinsert the fasteners. (See Figure 27) (Note: In some instances, more adjustments of the pivot arm assembly mounting bracket attached to pit floor is required.) (Reference sections "Adjusting Above and Below Dock Coverage" and "Getting Around Obstacles" for more details on how the spring arm assemblies are affected in nonstandard situations.)
3. If everything was done properly, you should be ready to proceed with Step 12 in the "Standard Under Leveler Seal" instructions, but using the adjusted mounting height.

Special Instructions:

Rigidly Mounted Safety Legs

On Rite-Hite® models that have rigidly attached safety legs, the rotation of the leveler with the legs being attached close to the front of the header causes hang ups of the legs on the main curtain when cycling. Review this situation before proceeding. If the legs are fastened behind the header by at least 3/4", then legs will clear the main curtain. Standard installation of the PitMaster curtain can be performed. If not, follow the below instructions.

1. Remove the spring stays from the aluminum pivot arm by removing spring stay bracket. (See Figure 27.)
2. Installed the pivot arms as specified in the "Standard Under Leveler Seal" instructions with the exception of moving the mounting location 1/2" closer to the front pit edge. (32" instead of 32-1/2")

(See Figure 33 for all change details.)

3. Install the curtain as specified in the "Standard Under Leveler Seal" instructions with the exception that the reference mark will be moved up 7". Measuring from the top of the pit to the top of the curtain, should be 7" (normally the curtain top is flush with the top of the pit)
4. When attaching the main curtain to the pivot arm assembly, since there are no spring stays, the aluminum arm attaches to the top attachment flap on the main curtain.
5. Mount top curtain per Figure 33.

Special Instructions: Adjusting Above & Below Dock Coverage

The PitMaster comes set with a 3" minimum above dock coverage. Increases to this coverage cannot be achieved just by adjustments because of varying obstacles, temperature and model of leveler being applied. The system comes set with a 1/2" below dock coverage. This is not to say the leveler will not go below dock, just that the sealing efficiency decreases because of the curtain tension release when going below dock with the standard installed configuration. This below dock coverage can be increased, if desired, at time of installation. Increasing the below dock coverage has a direct relationship to a decrease to the above coverage. To increase the below dock coverage, (2) adjustments have to be made: 1) the mounting location of the curtain on the pit face need to be lowered and 2) the spring stays on the pit arm assembly needs to be adjusted backward to next set of holes.

1. Referencing Steps 11 to 17 in the "Standard Under Leveler Seal" instructions, decrease the reference mark from the standard 20" pit mark an amount of which the below dock coverage is to be increased. Again, this effectively just lowers where the curtain is mounted in the pit.
2. Next, adjust the location of the spring stays on the pivot arm assembly. There are actually three holes on the aluminum pivot arm. The front two are normally used to hold the mounting bracket in place. Remove the fasteners. Shift the bracket back to utilize the back two holes and reinsert the fasteners. Check to make sure spring stays do not touch the backside of the leveler lip. (See Figure 27) (Note: In some instances, more adjustments of the pivot arm assembly mounting bracket attached

SPECIAL INSTRUCTIONS

to pit floor are required.) (Reference sections "Getting Around Obstacles" for more details on how the spring arms assemblies are affected nonstandard situations.) This adjustment normally will give a functional result. If functional results are not achieved, adjust stay position as needed by drill more 1/8" holes in the aluminum arm and reposition the arms as needed.

3. If everything was done properly, you should be ready to proceed with Step 19 in the "Standard Under Leveler Seal" instructions.

Special Instructions:

Clip "Skid" Brackets

The pivot arm assembly is designed so the spring stays are pushed down by the header of the leveler. On the RH model and other formed or open header designs, where the header is not present or allowed to strike the pivot arm assembly, the curtain can span across the deck stringers instead, providing a solid support. In all cases, the spring stays or curtain need to land on or span some kind of support for proper function. The pivot arm assembly cannot be allowed to get behind the header or the unit will be damaged. The pivot arm assembly can be adjusted so that the header strikes them when coming down. Here, adjustments can be made at the pedestal slot to move the assembly forwards and backwards, but the stay cannot hit the back of the lip. If it does, another adjustment needs to be done. There will be situations, even mounted correctly, where the pivot arm assembly still does not reach or land on some support. For those cases, a support needs to be added to the leveler. Clip brackets, provided in the hardware bag, need to be attached to the header. (See Figures 30 & 31.) The clip bracket creates a skid plate for the stays to slide on.

1. Location of the brackets can be determined by either visually inspecting where the leveler would contact the spring stays or cycle the leveler down part way and determine where it makes contact with the spring stays. **(NOTE: DO NOT LEAVE THE CURTAIN DETACHED FROM THE PIVOT ARMS AND CYCLE THE LEVELER! THE PIVOT ARM ASSEMBLY AND/OR THE LEVELER WILL BE DAMAGED!)** (When cycling the leveler, always check the stays to make sure they are contacted by at least 1/2" of the header or project at least 1/2" past. If the stays are too far forward, they may contact the leveler lip and keep it from storing properly. Make appropriate adjustments.)

2. Once the location of the bracket is determined, attach the bracket with fasteners provided in the hardware bag. (See Figures 30 & 31.)

Special Instructions:

Lips Stored Behind Front Frame

Consult Application for all cases where the leveler lip stores behind the front frame on the leveler.

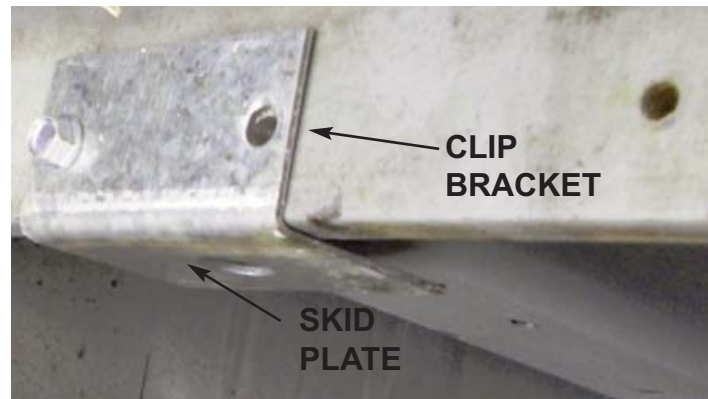


FIGURE 30

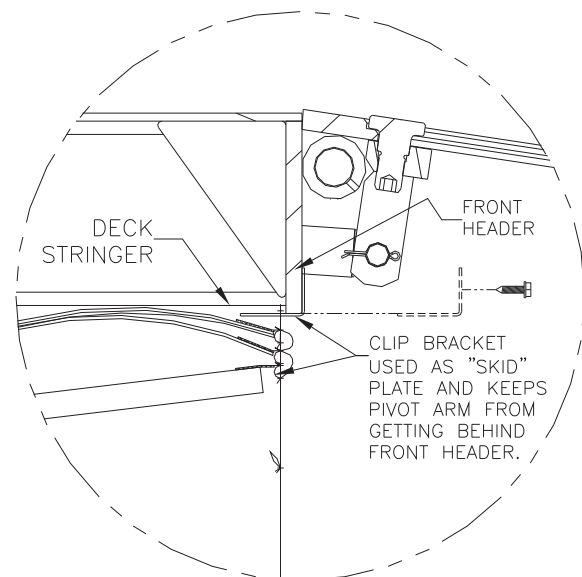


FIGURE 31

SPECIAL INSTRUCTIONS

Special Instructions:

Safe-T-Lip Slot Covers

RH levelers with the Safe-T-Lip installed also have the option to install the slot covers. If installing the PitMaster, these slot covers must be as flat as possible and close as possible to the backside of the lip, especially on the outside edges. If the covers are not flat, they will interfere with the top curtain and push the curtain down when storing the leveler and remove the tension in the spring arms. This causes the curtain to "sag" and possibly allow the curtain edges to lose contact with the pit edges. This only happens when the leveler gets stored. Straightening the slot covers will correct this problem.

Special Instructions:

Cantilever Docks & Self Standing Frames

The PitMaster can be adapted to some cantilever docks and self standing frame applications. These situations require that the sides and the bottom areas of the leveler, extending past the pit edge, need to be filled in and provide a sealing surface for the PitMaster main and header curtains. The extra materials required to seal these areas are not supplied with the standard configuration of the PitMaster. Consult Applications before proceeding to make sure your application is adaptable.

Special Instructions:

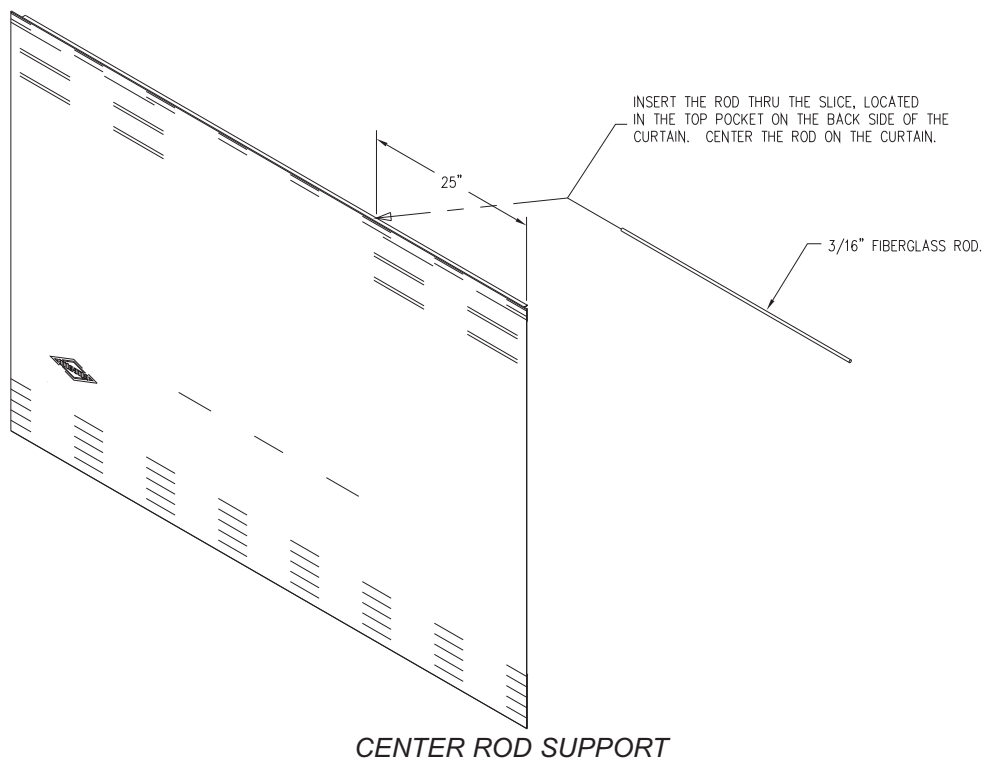
Center Rod Support

These instructions illustrate how to install a Center Rod Support. The center rod adds an additional support to the top, center area of the Pitmaster lower, main curtain. The rod fits into the top pocket of the curtain and keeps it more rigid during normal operation. Some leveler models have obstacles that may shear the support in two when the leveler is cycled. Install rod as needed based on conditions at site.

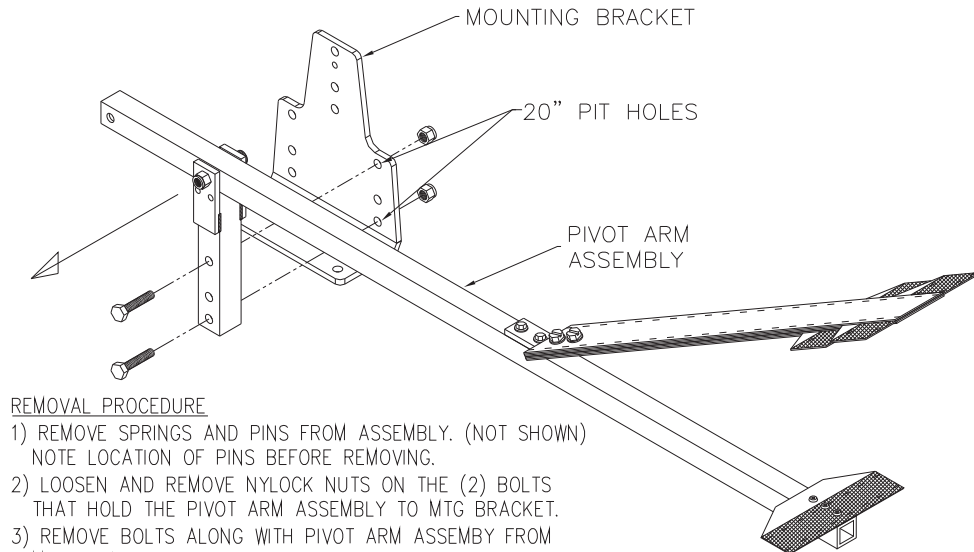
Special Instructions:

Installing Lip Corner Seals

When Lip Corner Seals are installed with the PitMaster™, the curtain may need to be adjusted to allow the top portion of the curtain not to interfere with the corner seals. The corner seals can push down on the top portion of the curtain and release the tension slightly when the leveler is stored. Adjusting the spring arm assembly mounting brackets backwards in the pit will allow the top portion of the curtain to slide behind the lip corner seals. The lip corner seals are tapered to allow this. **DO NOT ADJUST CURTAIN BACK TOO FAR THAT ALLOWS SPRING ARM ASSEMBLY TO GET BEHIND HEADER. INSTALL CLIP "SKID" BRACKETS IF NECESSARY!**

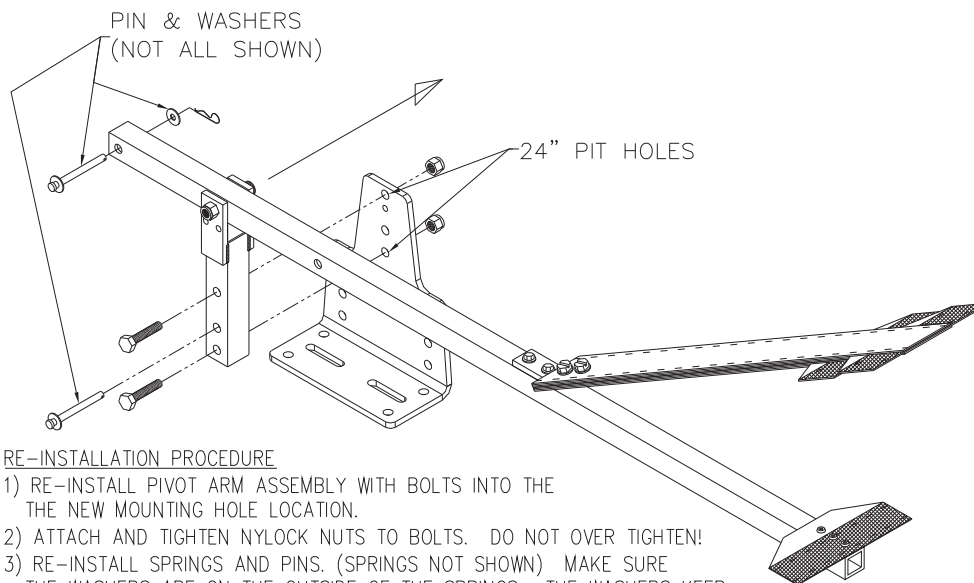


INSTALLATION INSTRUCTIONS



REMOVAL PROCEDURE

- 1) REMOVE SPRINGS AND PINS FROM ASSEMBLY. (NOT SHOWN)
NOTE LOCATION OF PINS BEFORE REMOVING.
- 2) LOOSEN AND REMOVE NYLOCK NUTS ON THE (2) BOLTS THAT HOLD THE PIVOT ARM ASSEMBLY TO MTG BRACKET.
- 3) REMOVE BOLTS ALONG WITH PIVOT ARM ASSEMBLY FROM MTG. BRACKET.

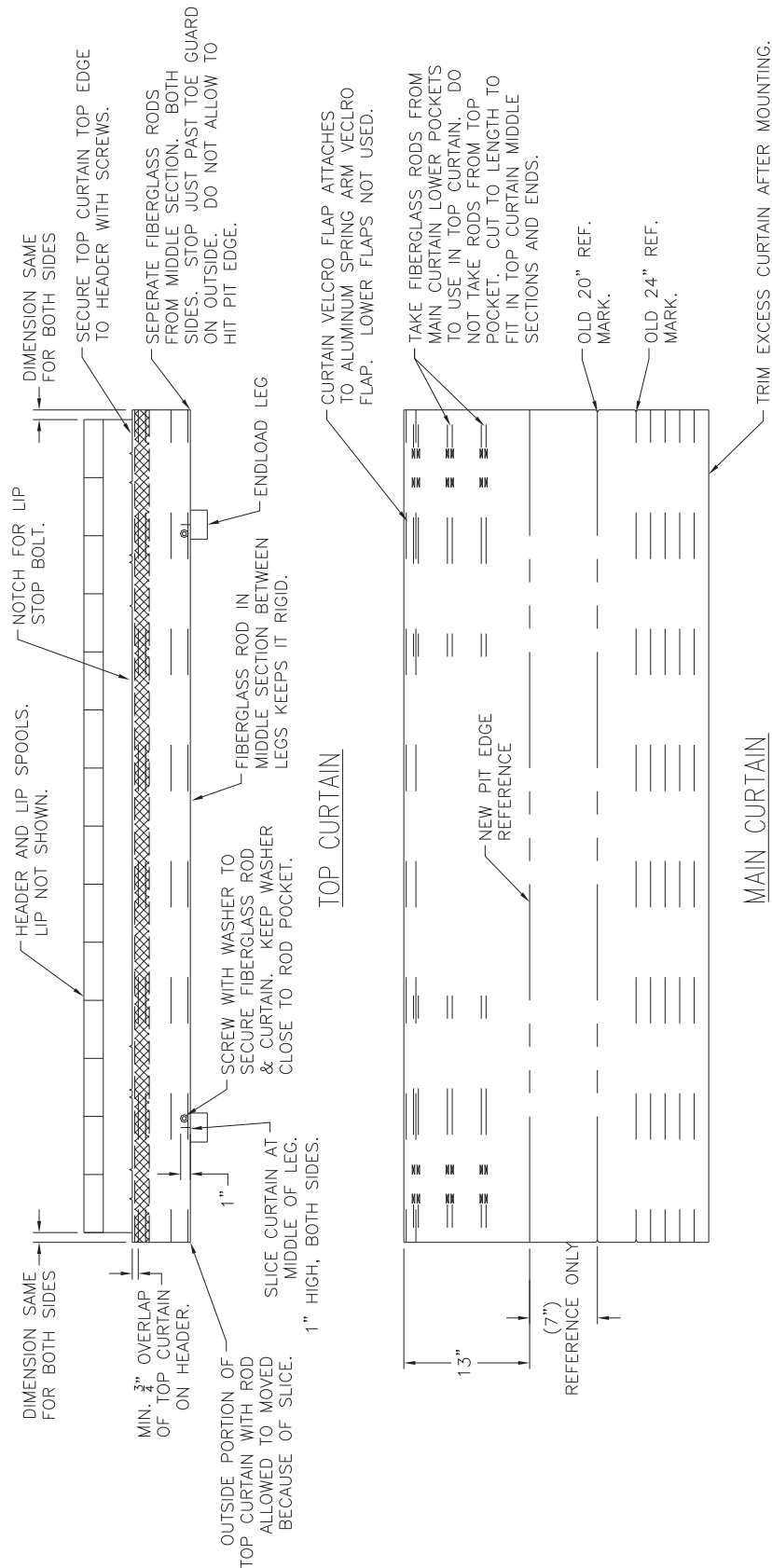


RE-INSTALLATION PROCEDURE

- 1) RE-INSTALL PIVOT ARM ASSEMBLY WITH BOLTS INTO THE THE NEW MOUNTING HOLE LOCATION.
- 2) ATTACH AND TIGHTEN NYLOCK NUTS TO BOLTS. DO NOT OVER TIGHTEN!
- 3) RE-INSTALL SPRINGS AND PINS. (SPRINGS NOT SHOWN) MAKE SURE THE WASHERS ARE ON THE OUTSIDE OF THE SPRINGS. THE WASHERS KEEP THE SPRINGS FROM SLIDING OFF PINS DURING OPERATION. ONE PIN GOES INTO HOLE AT END OF ALUMINUM ARM, THE OTHER PIN GOES INTO THE HOLE BETWEEN THE (2) BOLTS. IF PROPERLY INSTALLED, THERE SHOULD BE NO TENSION ON THE SPRINGS AFTER HOOKED ON PINS.
- 4) RE-INSTALL SAFETY PIN. (NOT SHOWN)

FIGURE 32

INSTALLATION INSTRUCTIONS



- NOTES:
- MOUNT PIVOT ARM 32" FROM FRONT PIT EDGE TO FRONT OF BRACKET. ADJUST AS NEEDED.
 - DRAWING SHOWN FOR 20" PIT. 13" WILL BE 17" FOR 24" PIT.

FIGURE 33

INSTALLATION INSTRUCTIONS

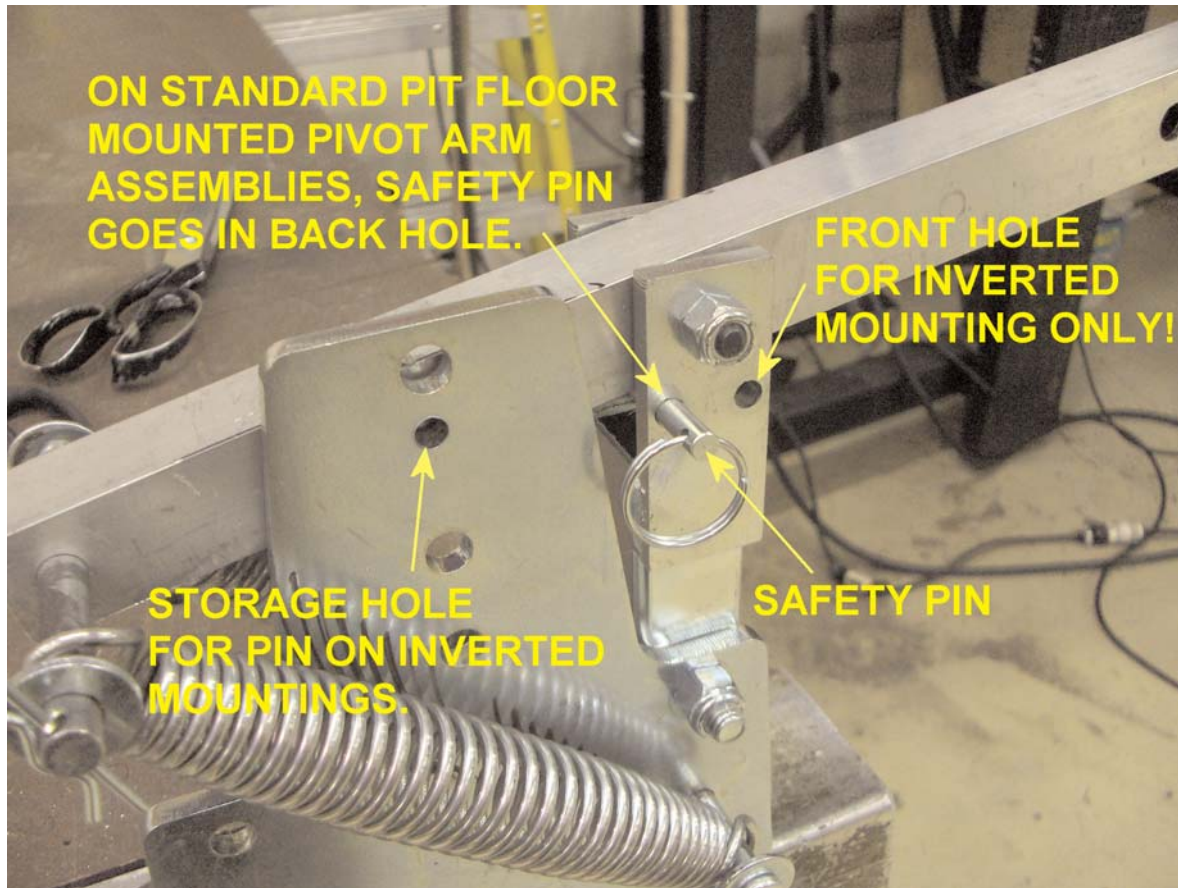


FIGURE 34

INSTALLATION QUICK GUIDE

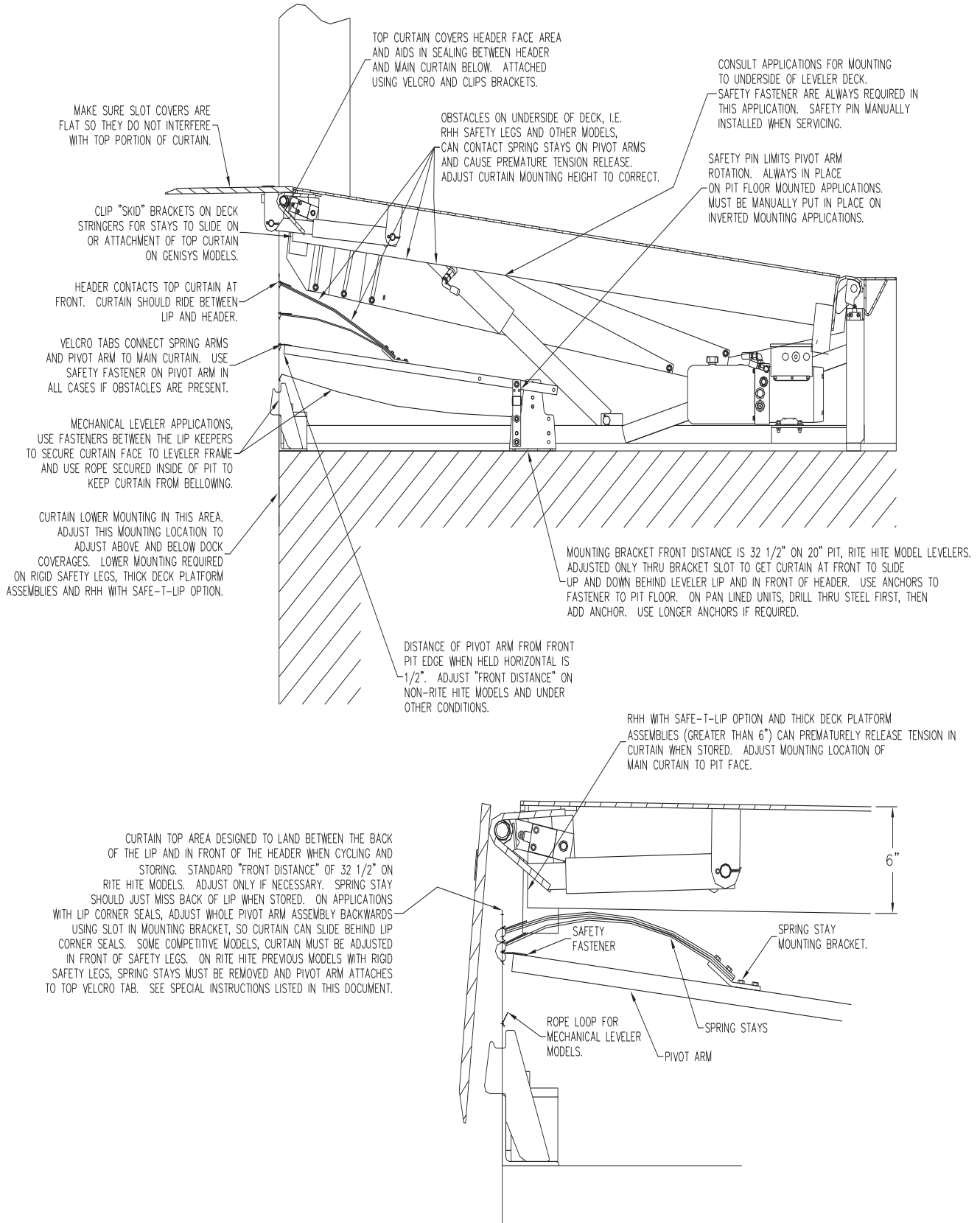
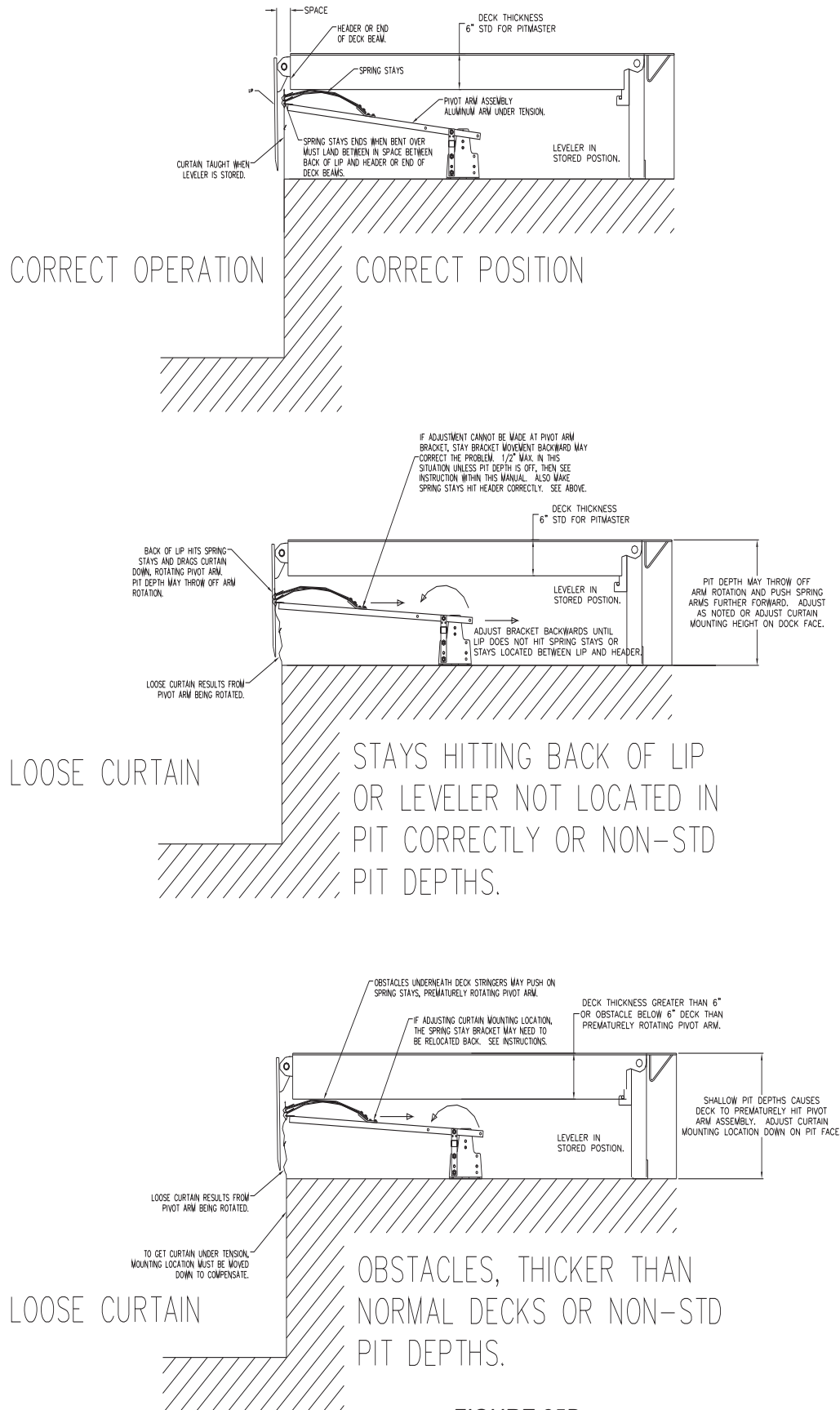


FIGURE 35A

INSTALLATION QUICK GUIDE



TROUBLE SHOOTING Q & A GUIDE

Making any adjustments outside of the normal installation may cause other problems during the installation. Make sure you understand your situation fully and determine the best course of action. Read the installation instructions fully for more details not outlined in this document.

Problem/Question 1:

The curtain sags, loses tension and/or falls into the lip keepers after the leveler has stored.

Possible Cause(s):

- a. An obstacle on the underside of the deck that prematurely contacts the pivot arms instead of the header plate or stringers, releasing the tension in the pivot arms. (The RHH with safety legs option has the safety leg connecting rod mounted 2" down in the area of the pivot arm placement. This bar hits the spring arms prematurely, releasing the tension.)
- b. Wrong pit depth for the pivot arm pit depth setting. (Pit depths different from the standard 20" or 24")
- c. Curtain drags on backside of lip. (For whatever reason, the leveler is not in the correct position within the pit and may be too far back in the pit and the standard front distance was used to mount the pivot arms. Also, if the pit depth is wrong for the pivot arm pit depth setting, the rotation of the arm could cause it to hit the back of the lip.)
- d. Thick decks. (The PitMaster is set up to use a deck thickness of 6". Thicker decks must have the curtain mounting height lowered. Thinner decks require no action.)

Solution/Answer(s):

- a. Adjust the curtain mounting height down on the pit face the same amount the obstacle prematurely contacts the pivot arms.

Note: This will change the above dock coverage the same amount the curtain was lowered. (See pages 17 & 18 for examples in the installation instructions.)

- b. Either shim the pivot arm assembly height from the 20" pit setting to the height it needs to be or adjust the curtain mounting height on the pit face. Note: Adjusting the curtain mounting height will affect the above dock coverage range. (See "Adjusting for Pit Depths" on page 17 of the installation instructions for all the details.)
- c. Adjust the pivot arm assembly forward or backward within the mounting bracket slot until the leading edge of spring stays land in the "space" between the back of the lip and the front of the header. (See standard installation instructions and Figure 35B on page 25.)

- d. Adjust the curtain mounting height down on the pit face the same amount the deck is different than the standard of 6".

Note: This will change the dock coverages. (See pages 17 & 18 for examples in the installation instructions.)

Note: In all situations where either the curtain mounting height on dock face is changed or the pivot arm pit depth is changed from the standard 20" or 24" settings, the spring stays and bracket may have to be adjusted on the aluminum pivot arm. The adjustment amount will always be backwards. There is a second pre-drilled hole on the aluminum arm and, as a general rule, this should be the only adjustment amount that will be needed. See also "Problem/Question 12" on how to use the Top Curtain to compensate for the above-dock coverage lost from lowering the curtain.

Problem/Question 2:

The curtain sags at the middle either before the leveler is stored or after the leveler goes through a cycle and comes back up.

Possible Cause(s):

- a. The curtain pivot arm assemblies are not properly tensioned to pull the middle area out.
- b. The curtain overhangs the pit sides too much and is pushing back towards the middle.
- c. If the curtain width was cut down for a specific pit width, the velcro flaps on the sides may have not been notched. This would cause the curtain to be too stiff at the ends and push inwards.
- d. There is an obstacle in the middle area of the header and it is hitting the curtain, releasing the tension.
- e. The curtain mounting bars at the bottom are not parallel with the top edge of the curtain. This would put "waves" in the curtain and could cause middle to sag.
- f. The cutouts around the lip keepers are not correct and they keep the curtain loose between them.
- g. The cutout around the restraint is too tight and they are hitting one side or the other.

Solution/Answer(s):

- a. Re-tension the spring stays and aluminum arms. Do this by pulling the curtain outward while pulling the stays or arms inward. This will keep constant tension on the pivot arms and stays wanting to pull the curtain out from the middle area. (See Figure 8 in installation instructions.)

TROUBLE SHOOTING Q & A GUIDE

- b. Make sure the curtain is trimmed properly, but not trimmed less than a 1/4" overhang on each side. (See "Adjusting Curtain Width", pages 12 & 13 in installation instructions.)
- c. Notch the velcro flaps. (See "Adjusting Curtain Width", pages 12 & 13 in installation instructions.)
- d. If this happens constantly, the curtain mounting height may have to be lowered the same amount the obstacle comes down on the underside of the deck. Note: This will change the above dock coverage the same amount the curtain was lowered. See pages 17 & 18 for examples in the installation instructions.)
- e. Adjust the curtain mounting bars. This can be done easily by just taking a hammer and tapping the anchors up or down.
- f. Trim lip keepers a little more, but do not remove the material. This will allow the curtain to move side to side and relieve the sag at the middle when tensioning at the pivot arms. Note: Take care, too much trimming may cause a gap at the keepers.
- g. Trim around the restraint so there is a clearance. This is not as critical as trimming around the lip keepers. As long as the restraint is below the pit edge, a 1/2" clearance along the sides is acceptable.

Note: In all situations make sure the "Center Rod Support" is installed. When used with an obstacle, the center rod may cause a decreased seal between the top curtain and lower main curtain and/or get damaged.

Problem/Question 3:

What is the actual width of the curtain shipped?

Solution/Answer(s):

The actual width is supposed to be 86", -1/4" tolerance. This will seal up to an 85 1/2" pit width without a problem. Typically, when you trim a curtain to width, we like to use the 1/2" overlap per side, but it can be a minimum of 1/4" overhang per side. This way there is always some curtain left over. You can trim it further, but you cannot add it back in.

Problem/Question 4:

The curtain is not sealing the pit edges very well.

Solution/Answer(s):

- a. Measure the curtain width and compare it to the pit width. The curtain width should be the "pit width + 1", or a minimum of 1/4" larger. (See "Adjusting Curtain Width", pages 12 & 13 in installation instructions and Problems 1 & 2, above.)
- b. Make sure the curtain is pulled all the way out at the bottom mounting bars, then reattach the spring arms to curtain.

Problem/Question 5:

The lower curtain was cut to the wrong width and I have gaps along the pit sides. What do I do?

Solution/Answer(s):

If the curtain width is not within the minimum 1/4", do one of the following:

- If the curtain width is all that has been done, you can keep that curtain for another situation of a pit width that is narrower. All the curtains come to the same initial width and another curtain from another carton can be used.
- Another lower main curtain must be purchased through Aftermarket sales.

Problem/Question 6:

The pit depth is different from the normal 20" or 24" depths.

Solution/Answer(s):

If the pit depth is between 20" and 24", the pivot arm assembly will need to be shimmed and the curtain mounting height will have to be adjusted to match. (See "Adjusting for Pit Depths" on page 17 of the installation instructions for all the details.)

Problem/Question 7:

I have no room to mount the pivot arm assemblies. Is there anything I can do?

Solution/Answer(s):

If there are obstacles that are keeping the pivot arms from being mounted within the 6" - 18" (+/- 1") side to side distance or within the two pit depth specific front distances, the PitMaster is not applicable. The front distances can be changed only if a cantilever or recessed leveler application exists. (See #9 below.)

TROUBLE SHOOTING Q & A GUIDE

Problem/Question 8:

The toe guards, safety legs or other obstacle hits the top of the curtain when leveler is coming down.

Solution/Answer(s):

Try one of the following:

- a. Adjust the pivot arm assembly forward or backward within the mounting bracket slot until the curtain clears. (See standard instructions.)
- b. Adjust the curtain mounting height down on the pit face. This will lower the curtain contact point and allow the obstacle to rotate past. Note: This will change the above-dock coverage the same amount the curtain was lowered. (See pages 17 & 18 for examples in the installation instructions.)
- c. With rigid or welded-on safety legs, see "Rigidly Mounted Safety Legs" instructions on page 18 and Figure 33.
- d. With the toe guard, modify the toe guard, if possible, without changing its intended safety use until it will clear the curtain when the leveler rotates around. (See page 12 in installation instructions.)

Note: See also "Problem/Question 12 on how to use the Top Curtain to compensate for the above dock coverage lost from lowering the curtain.

Problem/Question 9:

Can I apply the PitMaster to cantilever levelers, recessed levelers or self standing frame applications?

Solution/Answer(s):

Yes. The PitMaster installation assumes that the front frame angle of the leveler is flush with the pit front edge or curb angle. When the leveler is out of position due to cantilevers or recessed levelers, the pivot arms' front distance has to be adjusted relative to the leveler front frame rather than the pit edge or curb angle. The PitMaster can be adapted to some cantilever docks and self standing frame applications. These situations require that the sides and the bottom areas of the leveler, extending past the pit edge, need to be filled in and provide a sealing surface for the PitMaster main and header curtains. The extra materials required to seal these areas are not supplied with the standard configuration of the PitMaster. Consult Applications before proceeding to make sure your application is adaptable.

Problem/Question 10:

Can I apply the PitMaster to levelers with the lip storing behind the front frame?

Solution/Answer(s):

Consult Applications for all cases where the leveler lip stores behind the front frame on the leveler.

Problem/Question 11:

If I do not have an open header, why do I need to use the top curtain?

Solution/Answer(s):

The top curtain is not only used to close off the open headers, but also to close off the open gaps around the lip cylinders and notched headers. Since the lower curtain stops at the bottom of the header, the top curtain also provides a seal on the sides, against the pit edges at the header height. Also, with the top curtain in place, the seal between the header and the lower curtain is greatly improved.

Problem/Question 12:

How can I use the top curtain to compensate for the above dock coverage?

Solution/Answer(s):

If the lower curtain has to be moved down, the top curtain can be used to help compensate for the above dock coverage lost from lowering the curtain. See Figures 12-13. These figures show how "clip" brackets can be mounted to the underside of the deck stringers at the leading edge, then the face curtain attached to these brackets. Depending on how the "clip" brackets are orientated, they can add 2 - 3". The top curtain essentially makes the header taller. Note: Do not use the "clip" brackets to increase above dock coverage unless the lower curtain was moved down. Only increase the header height by the amount the lower curtain was moved, otherwise the lower curtain will sag after the leveler is stored.

TROUBLE SHOOTING Q & A GUIDE

Problem/Question 13:

What is the 36" fiberglass rod for?

Solution/Answer(s):

This is the "Center Rod Support" and it adds additional support to the top, center area of the curtain. It keeps it more rigid during normal operation. In some instances the rod may degrade the seal between the top curtain and lower curtain and it could get sheared in two if a header obstacle is present. (See "Center Rod Support" instructions.)

Problem/Question 14:

Why can't there be a full width rod to support the middle area?

Solution/Answer(s):

The rod is intentionally not made full width because of the potential of the rod to be sheared during normal operation on all types of levelers. That is why the current design uses shorter rods on the ends only. The "Center Rod Support" now adds an additional support in the middle area at the same time lowering the chance of the rod being damaged.

Problem/Question 15:

I have a "lip stored switch" located in the header area of the leveler. What do I do?

Solution/Answer(s):

Depending on where on the header the switch is located, if you cannot trim the top curtain around or cannot guarantee lower curtain interference, the switch will have to be moved to the lower frame. Notch the lower curtain appropriately.

Problem/Question 16:

What is the rope for?

Solution/Answer(s):

The rope is used on mechanical leveler applications. Mechanical levelers come down much faster than the controlled descent of a hydraulic leveler. This increased speed creates a rush of air that wants to escape through the pit and with the curtain there, it cannot, and the curtain "bellows" out. This "bellowing" pulls the curtain away from the lip keepers and in some cases, gets the curtain trapped between the lip and the keeper. The rope constrains the curtain from bellowing. Screws through the face of the curtain into the frame at the lip keeper area can sometimes do the same thing, but the rope controls the curtain better.

Problem/Question 17:

What is the safety pin for?

Solution/Answer(s):

The safety pin keeps the pivot arms from fully rotating upward and causing injury, in case the curtain velcro tabs are accidentally disconnected from the pivot arm velcro tabs.

Problem/Question 18:

I am installing Lip Corner Seals, but I have either hinge gussets present or I have a leveler with flat hinge plates instead of lip spools on an open header design. (Kelley models, Genisys models and some high capacity RH levelers.) What do I do?

Solution/Answer(s):

The PitMaster X version of the lip corner seal was designed to mount either on the flat hinge plate or on the side of the gussets and should be used in these situations.

Problem/Question 19:

I have a competitive leveler. Can I apply the PitMaster Under-leveler Seal to it?

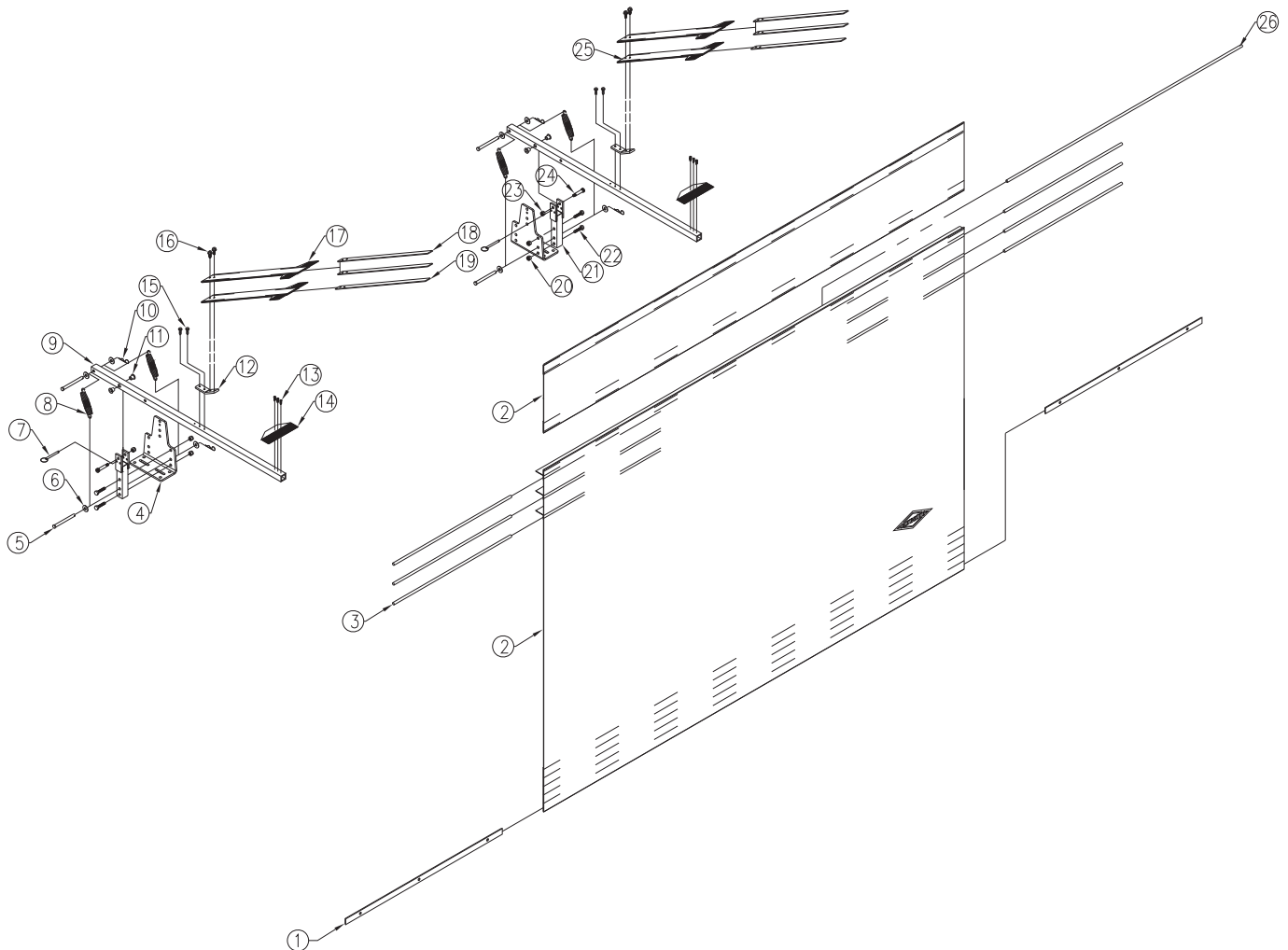
Solution/Answer(s):

Competitive leveler applications are required to Consult Applications for feasibility before the units are sold.

EXPLODED VIEW

This exploded view represents a standard configuration of the PitMaster. The shipped unit may have configurations not shown in this exploded view, depending on options chosen and application of unit.

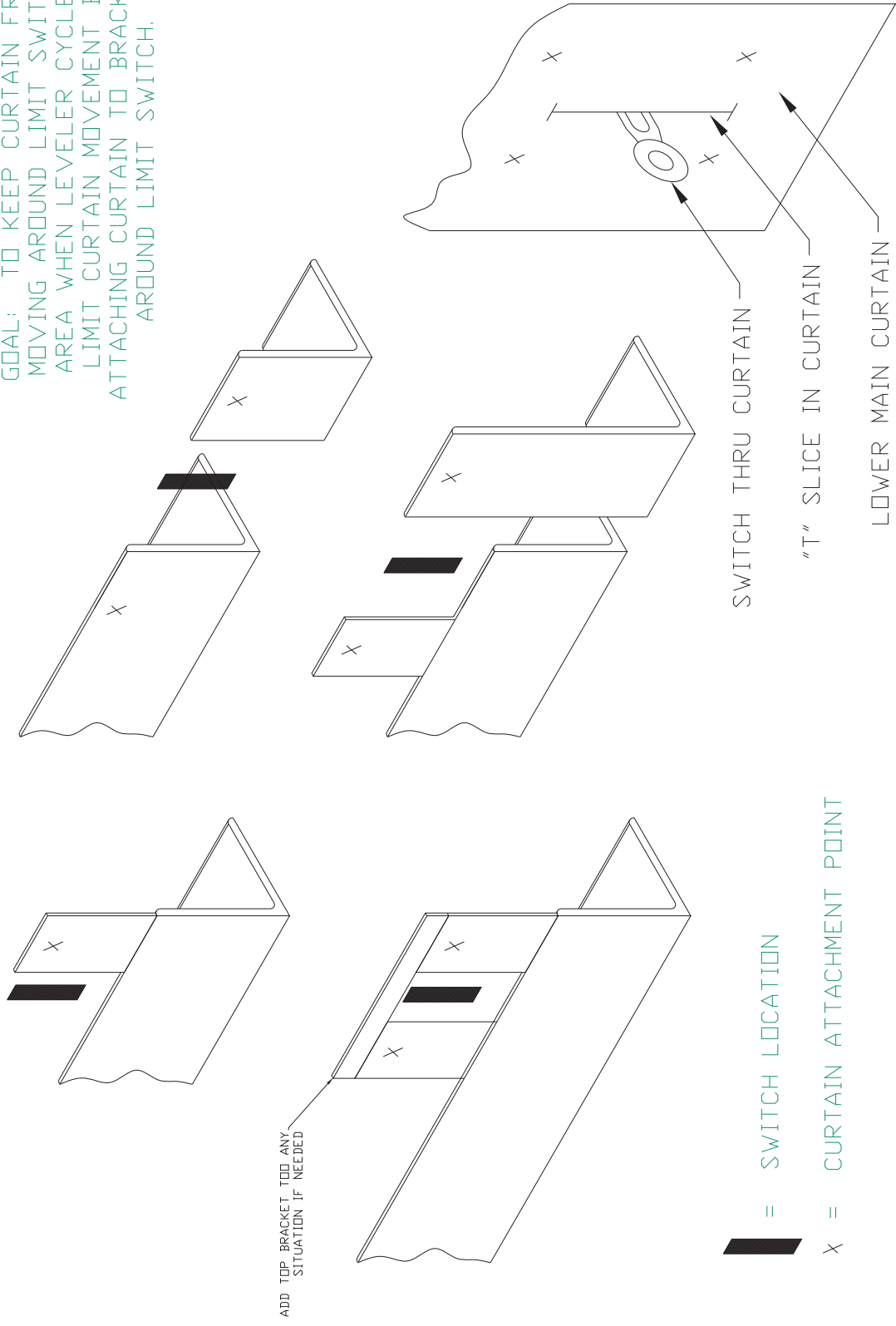
- | | |
|------------------------------------------------|----------------------------------------|
| 1. Curtain Mounting Bar | 14. Mounting Tab |
| 2. Top Curtain | 15. Screw, INDNTD,HWH,#12x3/4, Znc Prc |
| 3. Fiberglass Rod, .187" x 24" | 16. Screw, HWH, TH CT,1/4-20x3/4 |
| 4. Universal Mounting Bracket | 17. Stay Cover, 17" |
| 5. Clevis Pin, 3/8x4, Znc | 18. Stay, 17" |
| 6. Washer, Flat, 5/16", Znc | 19. Stay, 16" |
| 7. Safety Pin | 20. Nut,HEX,NYLLOCK,3/8-16,ZNC |
| 8. Spring, 4.156L x 1.14OD x .127WR | 21. Universal Post Assembly |
| 9. Pivot Arm | 22. Screw,HHMS,3/8-16 x 2-1/4,ZNC |
| 10. Clip, Bridgepin, 3/8-7/16 x .0915W | 23. Nut,HEX,NYL LOCK,5/16-18,ZNC |
| 11. Bearing, Flange, 3/8ID x 1/2OD x 3/8L, NYL | 24. Bolt,SHLDR,SCKT,3/8UNCx1-1/2 |
| 12. Stay Mounting Bracket | 25. Stay Cover, 16" |
| 13. Screw,Phlp,DR/TP,#8 x 1/2" | 26. Fiberglass Rod, .187" x 36" |
| | Hardware Bag (not shown) |



SUBFRAME LIMIT SWITCH LOCATION

LIMIT SWITCH LOCATION, SUBFRAME ONLY

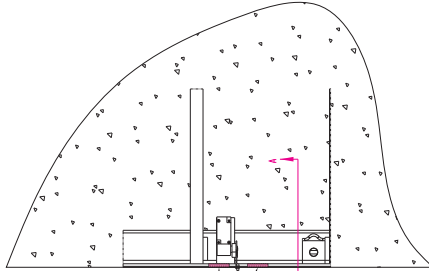
GOAL: TO KEEP CURTAIN FROM MOVING AROUND LIMIT SWITCH AREA WHEN LEVELER CYCLES. LIMIT CURTAIN MOVEMENT BY ATTACHING CURTAIN TO BRACKETS AROUND LIMIT SWITCH.



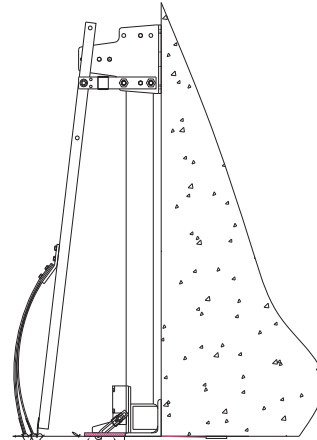
ADD TOP BRACKET TO ANY SITUATION IF NEEDED

-  = SWITCH LOCATION
- X = CURTAIN ATTACHMENT POINT

LIMIT SWITCH



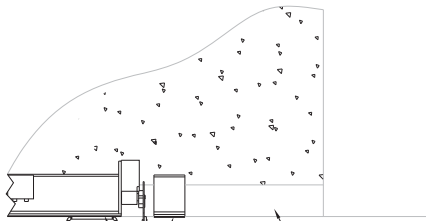
FLAT SWITCH BRACKETS. KEEP CLOSE TO SWITCH ARM. IN THIS SITUATION, PUT A BRACKET ON BOTH SIDES OF SWITCH.



FASTEN CURTAIN TO BOTH BRACKETS AT A LOCATION ABOVE THE SWITCH ARM'S HIGHEST POINT.

SWITCH BRACKET. ALWAYS TALLER THAN SWITCH ARM'S HIGHEST POINT. IN THIS SITUATION, USE FLAT BRACKETS, WELDED TO TOP EDGE OF SUBFRAME.

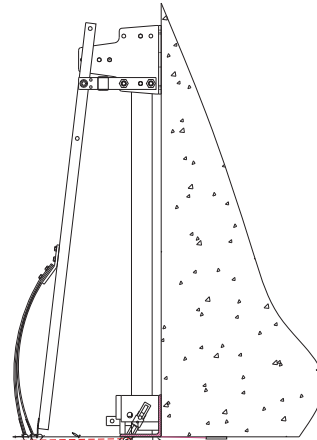
RITE-HITE
RXH W/STL



SWITCH BRACKET. KEEP CLOSE TO SWITCH ARM. ATTACH CURTAIN TO BRACKET AND TO SUBFRAME (IF POSSIBLE). IF NOT TO SUBFRAME, ADD SECOND FLAT BRACKET.

CURB ANGLE

LIP

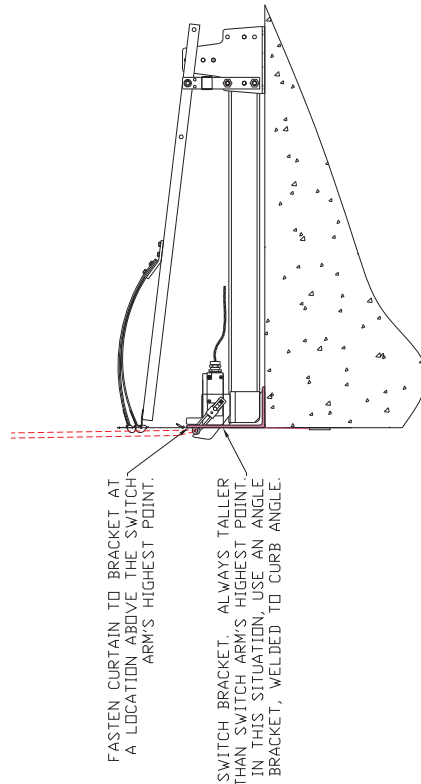
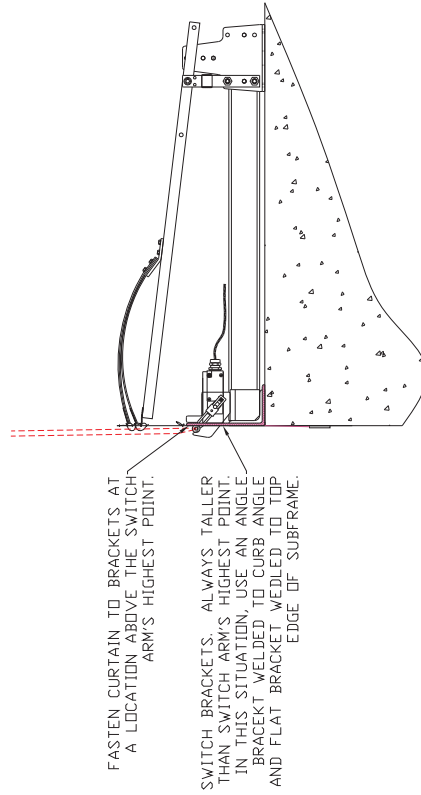
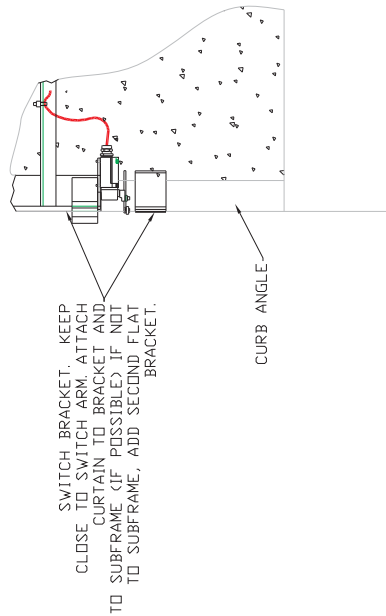
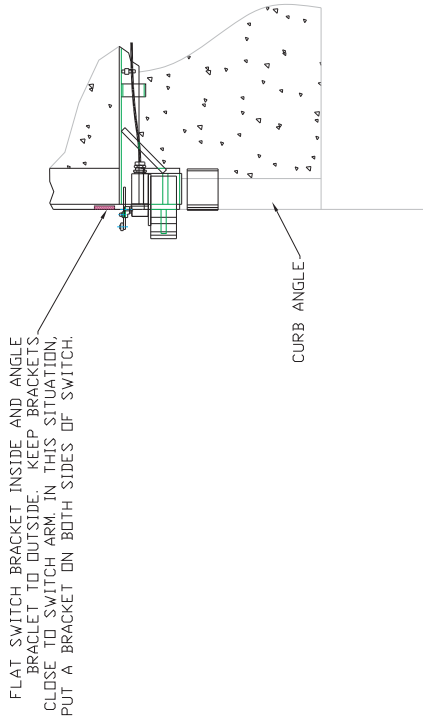


FASTEN CURTAIN TO BRACKET AT A LOCATION ABOVE THE SWITCH ARM'S HIGHEST POINT.

SWITCH BRACKET. ALWAYS TALLER THAN SWITCH ARM'S HIGHEST POINT. IN THIS SITUATION, USE AN ANGLE BRACKET, WELDED TO CURB ANGLE.

RITE-HITE
RXH W/FIXED LIP
GENISYS

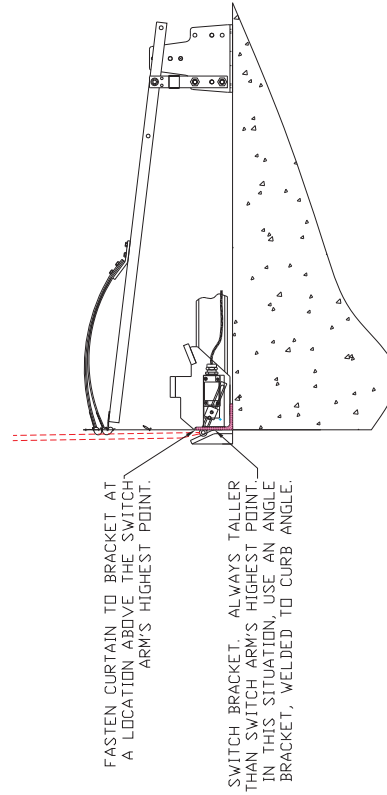
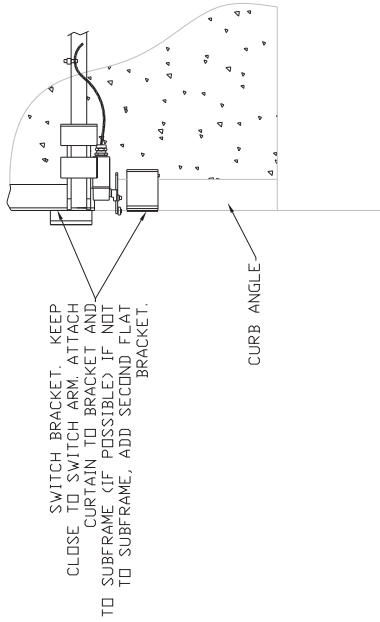
LIMIT SWITCH



RITE-HITE
HD-3XXX "L"
MECHANICAL LEVELERS

RITE-HITE
HD-3XXX
MECHANICAL LEVELERS

LIMIT SWITCH



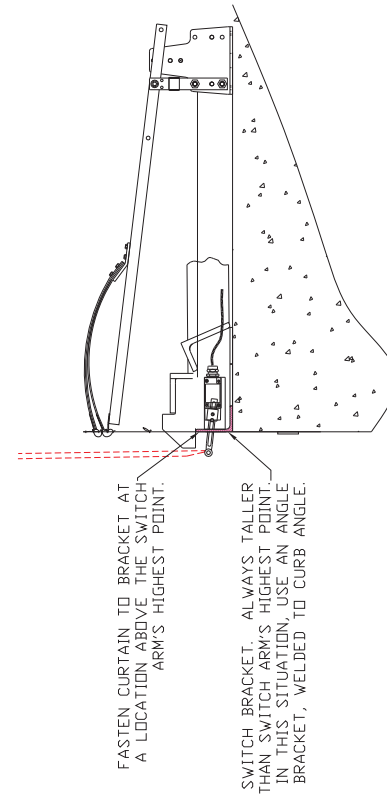
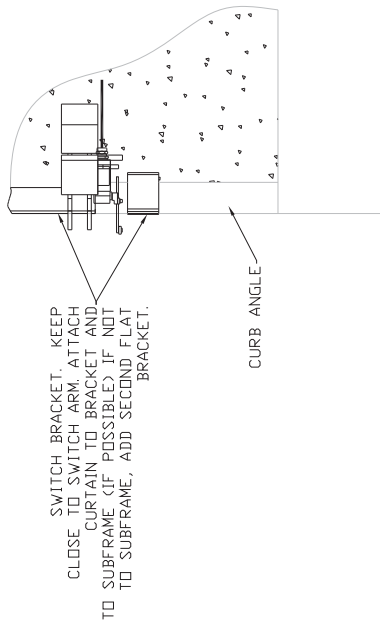
RITE-HITE

RH-XXXX

ST-XXXX

CY-XXXX

HD-2XXX (NOT SHOWN)
MECHANICAL LEVELERS



RITE-HITE

MQ-XXXX

MECHANICAL LEVELERS

WARRANTY POLICY

Rite-Hite warrants that a **Pitmaster Under-Leveler Seal** will be free of defects in design, materials and workmanship for a period of 365 days from the date of shipment. All claims for breach of this warranty must be made within 30 days after the defect is or can, with reasonable care, be detected and in no event more than 395 days after shipment. In order to be entitled to the benefits of this warranty, the products must have been properly installed, maintained, operated within their rated capacities, and not otherwise abused.

Rite-Hite expressly disclaims all implied warranties including the implied warranties of merchantability and fitness.

In the event of any defects covered by this warranty, Rite-Hite will remedy such defects by repairing or replacing any defective parts, bearing only the cost of the parts and transportation of those parts. This shall be the exclusive remedy for all claims whether based on contracts, negligence, or strict liability.

Rite-Hite shall not in any event be liable for any loss of use of any equipment or incidental or consequential damages of any kind.

“Our mission is to improve industrial safety, security and productivity worldwide through quality and innovation.”



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