



# Ultra-Track Pan® Installation Instructions

**05.31.11**

Before beginning the installation process, a detailed review of your Ultra-Track Pan order is recommended to make sure that all items have been received and are not damaged. Please refer any questions or problems immediately to your UltraTech Distributor or to UltraTech International, Inc., at (800) 353-1611. Do not attempt to install your Track Pan System if any parts are missing or damaged.

All installation personnel should read this document titled "Ultra-Track Pan Installation Instructions" in its entirety BEFORE the installation process begins.

UltraTech International, Inc. has produced a video to help assure that Ultra-Track Pans are installed properly. The "Ultra-Track Pan Installation Video" is available at no charge. This item is also available as a CD-Rom. We recommend that all installation personnel view the video in its entirety BEFORE the installation process begins. Contact your local distributor or UltraTech International, Inc. at (800) 353-1611 or fax (904) 292-1325 to receive a copy of the free installation video. We can also be reached by e-mail at [info@spillcontainment.com](mailto:info@spillcontainment.com). The installation video is also available online at [www.TrackPans.com](http://www.TrackPans.com)

**NOTE:** Proper personal protection equipment must be worn while installing Ultra-Track Pans. All safeguards must be taken to insure that the area of track where installation is to take place will have no rail traffic or other activity that may present hazards to installation personnel. All applicable OSHA, DOT and other governing regulations must be followed. UltraTech International, Inc. is not responsible in any manner for equipment, property or personnel used in the Track Pan installation process.

**THE FOLLOWING INSTALLATION INSTRUCTIONS HAVE BEEN PREPARED WITH THE ASSUMPTION THAT A COMPLETE TRACK PAN SYSTEM (i.e., Center Track Pans with Grates and Covers, Side Track Pans with Grates and Covers) IS BEING INSTALLED. IF, AS AN EXAMPLE, YOUR INSTALLATION REQUIRES CENTER TRACK PANS ONLY, DISREGARD ALL REFERENCES TO THE INSTALLATION OF SIDE TRACK PANS. LIKewise, IF YOUR INSTALLATION DOES NOT REQUIRE COVERS, DISREGARD ALL REFERENCES TO THOSE ITEMS.**

### **Tools Required to Install Ultra-Track Pans**

1. Metal Rake
2. House Broom
3. Two (2) Shovels (1 Flat, 1 spade)
4. Sledge Hammer (8 pound)
5. Circular Saw (7 1/4 inch)
6. Wood cutting blade for circular saw
7. Metal Cutting (abrasive) blade for the circular saw (May not be needed.)
8. Metal pry bar
9. Channel Lock pliers (12 inch)
10. Drill motor with #2 Phillips bit
11. Tape measure
12. Carpenter's yellow marking crayon
13. Two (2) bar clamps (deep reach with 12" opening) (deep reach bar clamps are available through W.W. Grainger, catalog # 4CN60.)
14. Propane or butane fired torch with a flame head diameter of at least 5/8" (utilize a flame spreader if available).

### **Additional Materials needed for installation:**

1. Two (2) wooden support boards: 1" x 4" x 4'
2. Two (2) pieces of lumber: 2" x 4" x 8'
3. Two (2) "slip sheets": approximately 10" x 60" (Recommended material: reinforced polyethylene sheet; sold as "All Purpose Tarps" in home improvement stores; typically blue in color; very inexpensive.)
4. Fasteners appropriate for fastening 5/4 treated lumber to the ties in your system, for example; 3 inch spiral-shank nails, or 3 inch galvanized deck screws for wood-en ties, or 2 1/2 inch concrete screws for concrete ties, or 1 1/2 inch flat head machine screws for steel ties. **(There will be 2 fasteners used for each length of lumber used under your Track Pan system).**

### **SITE PREPARATION:**

- 1.) Before installing Ultra-Track Pans, minor preparation of the installation area is, in most cases, required. Outline the area in which the Ultra-Track Pans are to be installed. Ultra-Track Pans are approximately 4'6" in length. Multiply 4.5 x the number of center pans in your system and this will give you the approximate length of the system. With an appropriate tape measure and marking crayon, mark the beginning and end of the system on the foot of the rails. Within this area you should be able to place the eight foot 2x4 on its edge and see that it rests on the tops of the railroad ties. If it rests on ballast, weeds, or other debris then whatever is higher than the top of the ties needs to be removed. Before Track Pans are installed the ballast in this area needs to be flush with or lower than the tops of the ties. If your system includes Side Track Pans then the ballast on the field side of the rails will need to be flush with or lower than the tops of the ties and away from the rail three to five feet from the web of the rail depending on the width of the Side Track Pans used in your installation.

- 2.) Joint Bars hold two pieces of rail together. They are typically placed on the gauge side and field side of the rail web and are bolted together with six bolts (three bolts facing in toward the middle of the track and three facing out.) **If possible, remove joint bars and the bolts and weld rails together.** If this is not possible inspect joint bars and the bolts and make sure they are fully tightened using an appropriate wrench. Once they are securely tightened, place the metal cutting blade on the circular saw, and wearing proper hearing and eye protection, cut off the excess threads of these bolts. If your system only contains Center Track Pans then the bolts facing out do not need to be cut off.
- 3.) Rail anchors prevent the rails from moving on the railroad ties as the locomotive pulls or stops the train. You will notice them in the area between the rails. Usually they are opposite one another and against the ties. Depending on your situation these anchors may need to be removed and replaced with a low profile anchor or removed altogether. Contact UltraTech and/or the Railroad for additional guidance.
- 4.) Check all Railroad Spikes to see that they are all driven down tight to the foot of the rail.
- 5.) Remove dirt and other debris that may have collected on the inside and outside web surfaces of both rails.
- 6.) Finally, sweep off the tops of the ties leaving a clean surface on which to install the Ultra-Track Pan System.

**Disclaimer:** UltraTech International, Inc. assumes no liability for damages incurred to Ultra-Track Pans or the Ultra-Track Pan system due to installation on railroad ties that are in poor condition and thus enabling the rail anchors to damage the pans. UltraTech International, Inc. also assumes no liability for damages incurred to the Ultra-Track Pans or the Ultra-Track Pan system or loss of containment by the Ultra-Track Pan system caused by failure to remove and replace track joint bars or splice bars.

## **GENERAL INSTALLATION GUIDELINE**

With **NO** Below Grade Piping:

UltraTech recommends that all Center Track Pans be completely installed BEFORE beginning installation of the Side Track Pans. The installation of the NON-PIPED system will be more efficient as a result.

**WITH** Below Grade Piping:

Center Track Pans and Side Track Pans (if ordered) must be installed concurrently to allow for proper positioning of the piping and filling of the pipe trenches under the Track Pans.

**PVC piping is strongly recommended.** PVC has adequate strength and the necessary flexibility to give a long-lasting installation. Contact UltraTech for suggested piping layouts or other information.



PICTURE B

### **Installation of Treated Lumber for Center Track Pan**

Treated support boards (lumber) of an appropriate length for your Track Pan system will be sent with your order. The boards should be placed with one edge against the tie-plate edges. If there are no tie-plates, install the boards 7 ½ inches from the web of the rails. (The “web” is the recessed, vertical surface located between the base of the rail and the top of the rail). Fasten the treated support boards to the ties, with an appropriate fastener for the type of tie in your system (See suggested fasteners - page 2 - Additional Materials - Item 4), by using one fastener near each end of each treated support board. **See picture B.**

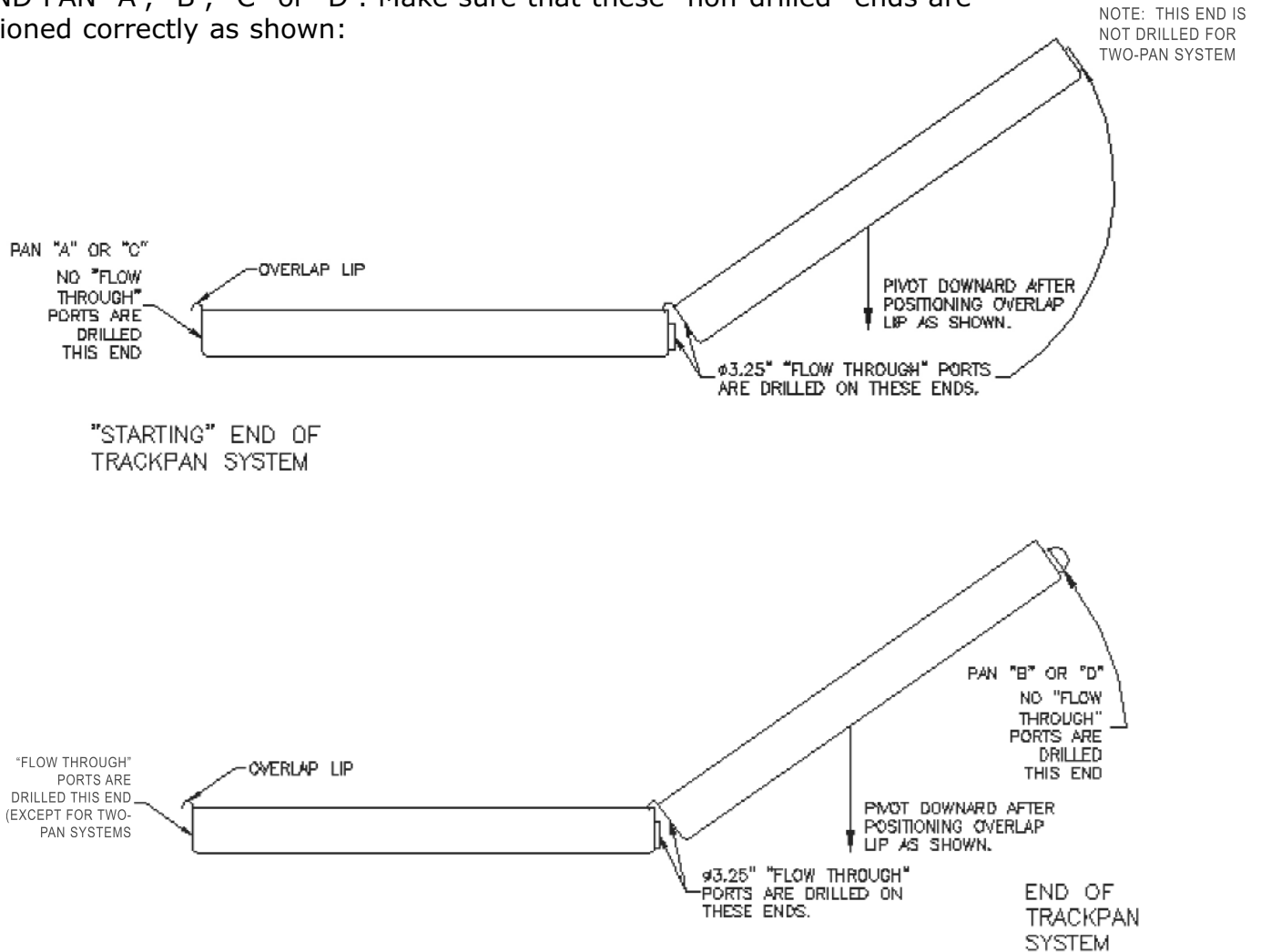
### **Installation of Treated Lumber for Side Track Pan**

Treated support boards of an appropriate length for your Track Pan system will be sent with your order. The boards should be placed with one edge against the tie-plate edges. If there are no tie-plates, install the boards 7 ½ inches from the web of the rails. (The “web” is the recessed, vertical surface located between the base of the rail and the top of the rail) Fasten the treated support boards to the ties, with an appropriate fastener for the type of tie in your system, by using one fastener near each end of each treated support board.

## Helpful Hint for the Installation of the Center or Side Track Pans

It is best to begin the installation process by positioning the Overlap Lip of the initial Track Pan to be installed at the very beginning of the Track Pan System. (See sketch below) Then place the Overlap Lip of the next Track Pan to be installed over the top of the installed Pan. The Lip allows the next Pan to "pivot" downward. Once the second Pan is laying flat on the top of the railroad ties, the "flow-through" male and female ports will be correctly aligned.

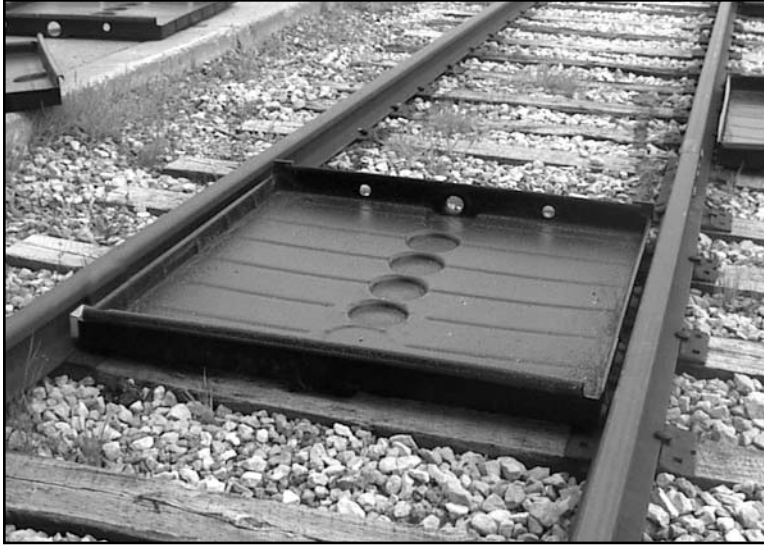
**NOTE:** It is important to note that your Track Pan order has been customized to meet your needs. The Track Pan walls that will be located at the very beginning and the very end of each System have **NOT** been drilled out to allow flow-through. These "non-drilled" parts are in boxes marked as END PAN "A", "B", "C" or "D". Make sure that these "non-drilled" ends are positioned correctly as shown:



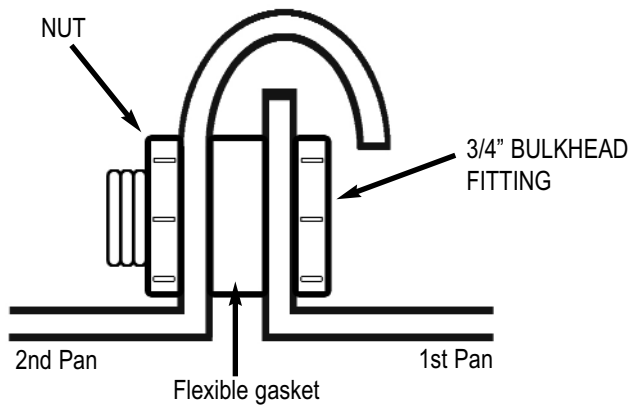
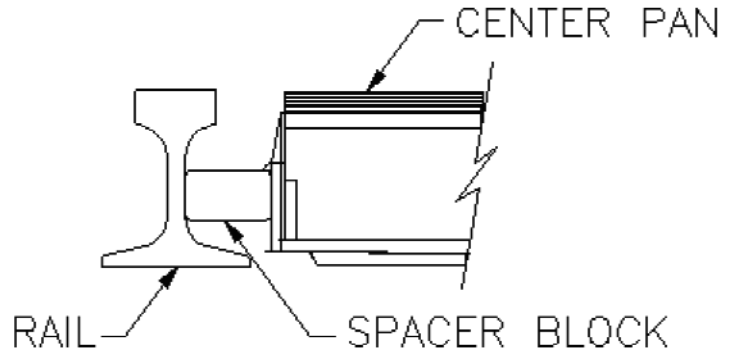
## Installation of Center Track Pans

- 1.) Remove grates from center pans as each is being prepared for installation. Do not remove all grates from all center pans prior to installation. The grates help the Pans resist warping in hot environments.
- 2.) The BEGINNING Center Track Pan should be installed with the "overlap lip" at the STARTING END of the Track pan System. **See picture D.**
- 3.) It is important to install the Center Track Pans so that they are centered between the two rails. This will facilitate the installation of the Center Track Pan gaskets at the end of this process. In order to keep them centered UltraTech recommends cutting two blocks of wood 6 inches long and 2 1/2 inches wide depending on the thickness of the rail web and the spacing of the rails from a piece of 2 x 4. These blocks are to be used as spacers to keep the Center Track Pans centered between the two rails while assembling. **See sketch next to picture D.**

4.) Two (2) 3/4" NPT bulkhead fittings are shipped with each Center Track Pan. Each bulkhead fitting includes one (1) donut-shaped flexible gasket and a rigid washer (Discard the rigid washer). Insert the male portion of the bulkhead fittings through the two smaller holes in the end of the already placed Pan. Place the flexible rubber gasket over the male portion. (The flexible rubber gasket will end up between the two pans) **See picture E.**



PICTURE D



PICTURE E

5.) With the two (2) bulkhead fittings started through the endwall of the first Center Track Pan place the "overlap lip" of the second Center Track Pan on the endwall of the first Center Track Pan. Keep the second Center Track Pan on a 45 degree angle to begin with and slowly lower it down until the bulkhead fittings protrude through the endwall of this second pan. Three installers are best. The two kneeling in the first pan each keep a hand on the bulkhead fittings and prevent them from being dislodged by the second Center Track Pan.

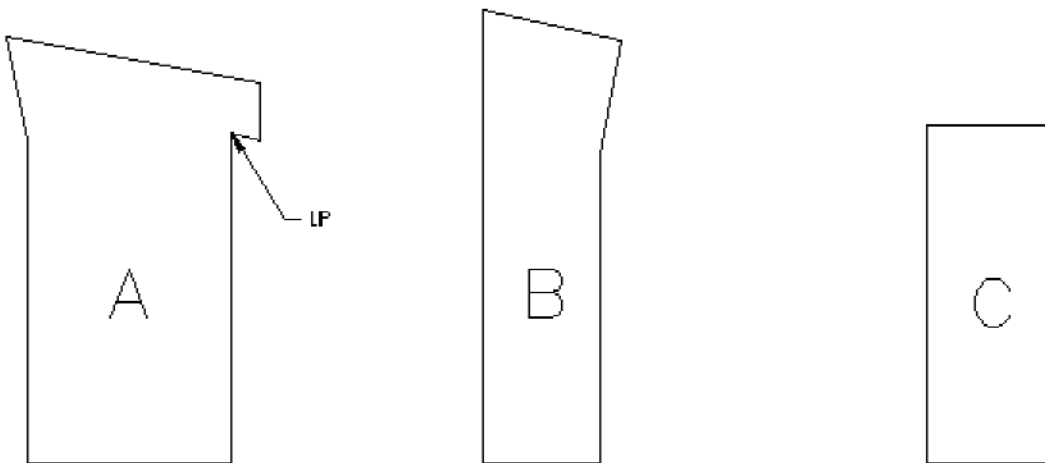
**NOTE THAT THE BULKHEAD FITTINGS ARE REVERSE (LEFT HAND) THREADED WITH A SPECIAL (BUTTRESS) THREAD. THE NUT WILL ONLY TIGHTEN ON THESE FITTINGS IF IT IS PLACED WITH THE WORD "TIGHTEN" FACING OUTWARD AND IS TURNED IN A COUNTER-CLOCKWISE DIRECTION.**

- 6.) Once the second Center Track Pan is fully lowered, tighten the nuts 1/4 turn beyond hand tight using the channel lock pliers. Do not over tighten the nuts. Repeat steps 4-6 until all Center Track Pans are connected together.
- 7.) Two (2) track sealing gaskets without a lip and two (2) track sealing gaskets with a lip are shipped inside the box with each Center Track Pan. One (1) gasket without a lip and one (1) gasket with a lip are considered to be a "set." The following steps will position one gasket set on each side of the Center Track Pan.

**Note:** Larger Track Pan systems do not include individually boxed Track Pans. All components such as the track sealing gaskets are bulk packed.

**Note:** there are many different sizes of rails in use. As a result, UltraTech offers various gasket configurations. Your shipment includes the correct gasket configuration to fit the rail size specified by your personnel at the time your order was placed.

Below are the various track sealing gasket designs available from UltraTech:



All track sizes use this gasket - Part# 9569

*This gasket is ALWAYS used in this position.*

90 lb. track and above, use this gasket - Part# 9568

*This gasket is used to fill the space under the head of the rail so that gasket "A" will fit correctly. This gasket may be installed in ANY position that allows gasket "A" to fit properly.*

Rails that are less than 90 lb. may use this gasket - Part# 9563. Contact UltraTech International, Inc. for guidance.

## **IMPORTANT:**

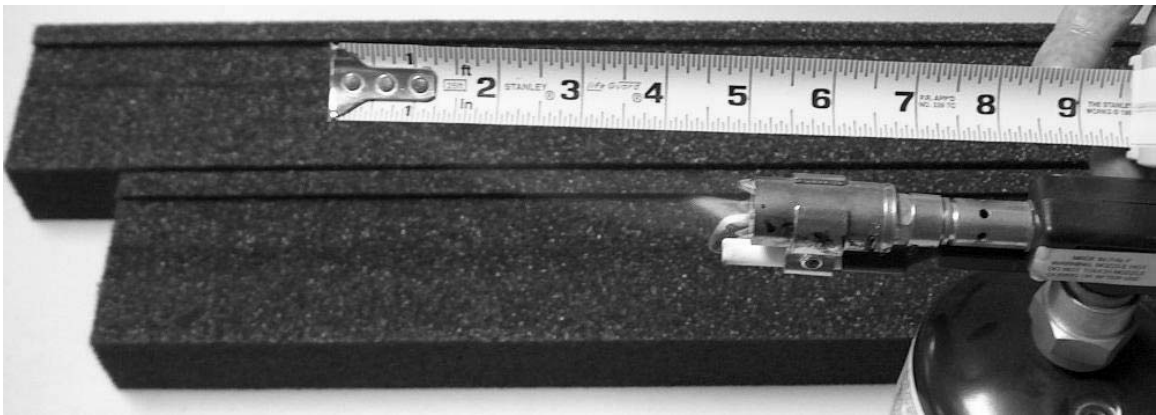
To maximize the seal between the rails and Ultra-Track Pans, all track sealing gaskets should be "welded" together end-to-end. The instructions that follow should be followed in a detailed manner. The track gaskets should be welded end-to-end before they are installed at the track area.

## Flame Welding TrackPan "A" Gaskets End to End

**Note:** A flat working surface at least 8 feet long will improve weld alignment and strength. See picture below.



- 1) Use a propane or butane fired torch with a flame head diameter of at least 5/8 inch (if a flame spreader is available that would be even better).
- 2) Light the torch and adjust it to a medium-low flame. (See below).



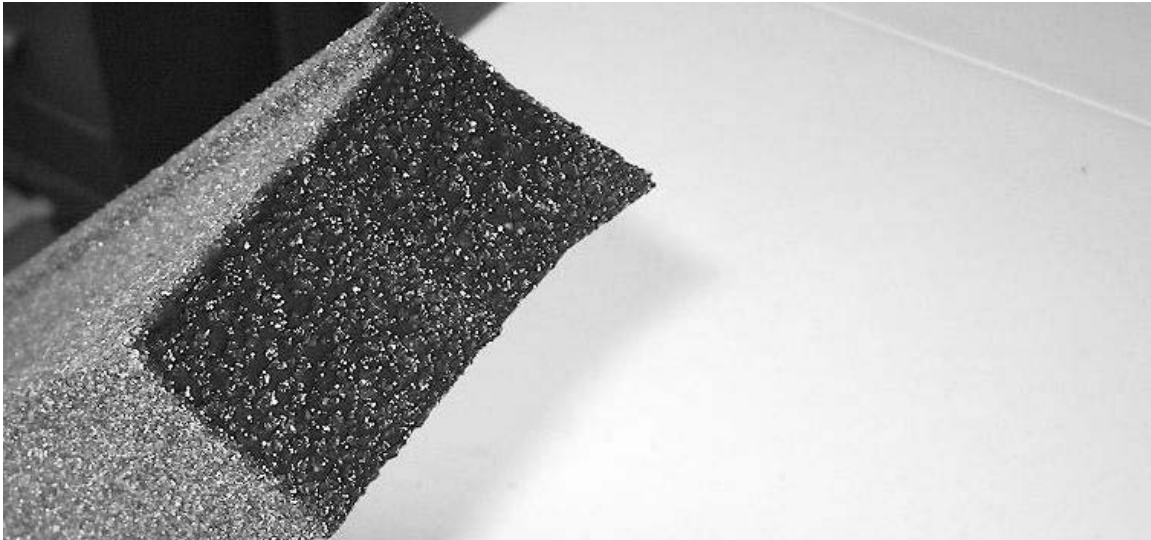
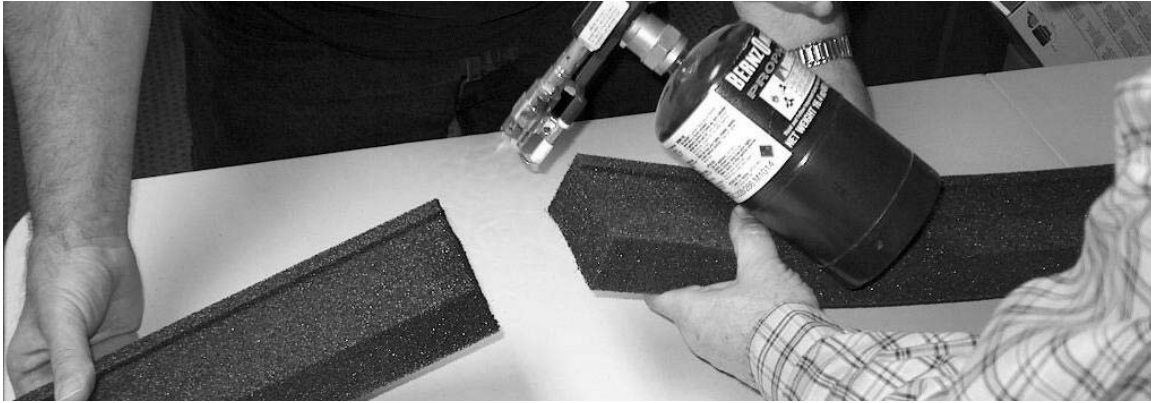
**Caution:** The torch can cause fires and burns. Be aware of the flame reach and the proximity of flammable objects. Be aware of those people around you.



**Note:** The next 2 steps (steps 3 and 4) happen quickly – approximately 4 to 8 seconds – and must proceed into step 4 as a single smooth and continuous operation.

3) With one person holding the gaskets and a second person using the torch, quickly “brush” the flame across the ends of the gaskets.

**Note:** The result should be the end of the gasket material is molten and shiny but not deformed on the edges. See pictures below.



4) Press the ends of the gaskets firmly together while aligning all the surfaces and pressing gaskets down to the work table. Also be sure to hold the gaskets so that the long axis is straight. Hold the gaskets in this position for about 45 seconds. See picture below.



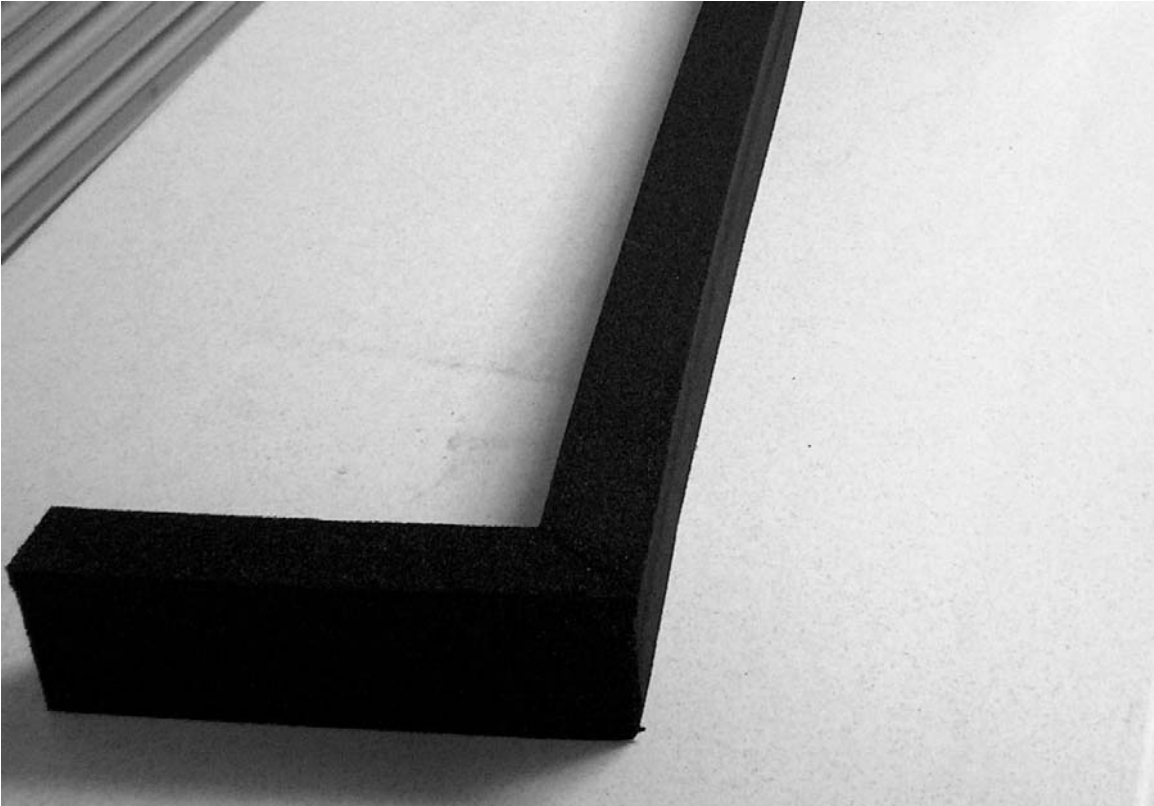
**Note:** The weld that was just completed will not achieve full strength for another 1 to 3 hours (best results are achieved if left overnight). Try not to put much stress on completed welds until they have had time to cool completely.

5) Repeat steps 3 and 4 to produce gaskets of the total desired length.

## Mitered Corners:

**Note:** Mitered corners can be made by applying the modifications shown in the 3 steps below.

A) Cut the gaskets to be welded to the proper mating angle. Check this before heating the ends of the gaskets. Set the gaskets with the miter cuts together to see that they will form the proper angle when they are welded together. See picture below.



B) Weld the corner together by heating the ends as in step 3 above.

C) For step 4 press the heated ends together and stand the gasket in finished position on the work table while aligning all surfaces. See picture below.

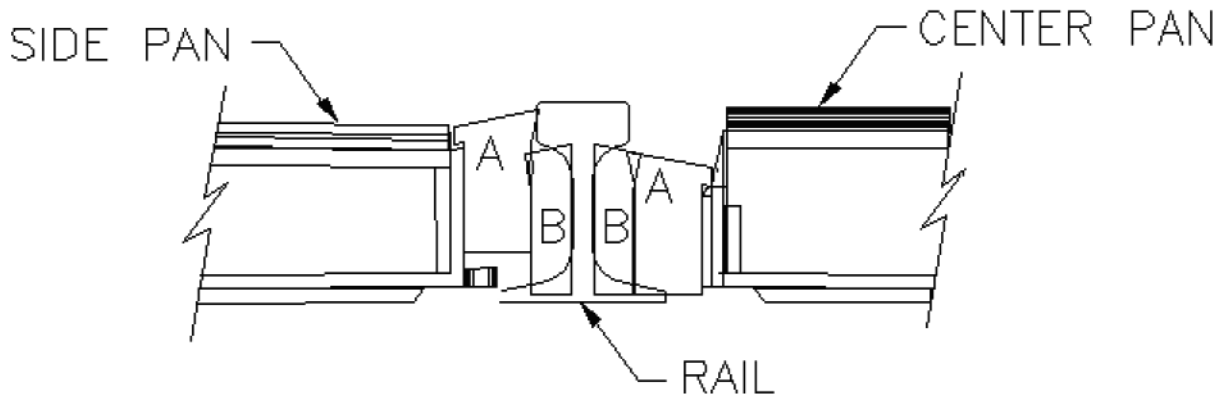


**Note:** When making a mitered corner, always make the corner weld first. To achieve the correct finished length, make your final welds in straight sections of gasket. Do not try to make a mitered weld to give your finished length.

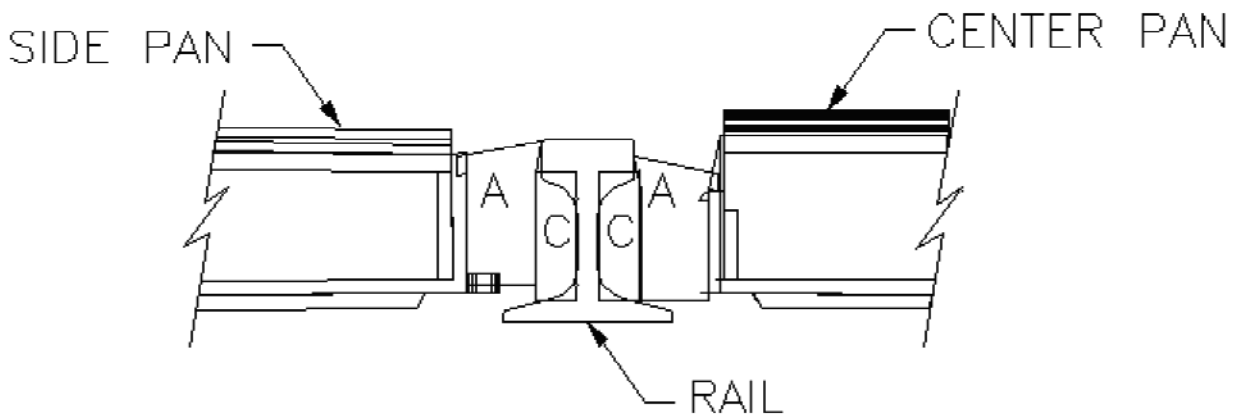
**Important:** Refer to the appropriate sketch below as a guide for proper gasket orientation and installation.

## Ultra-Track Pan Gasket Configurations

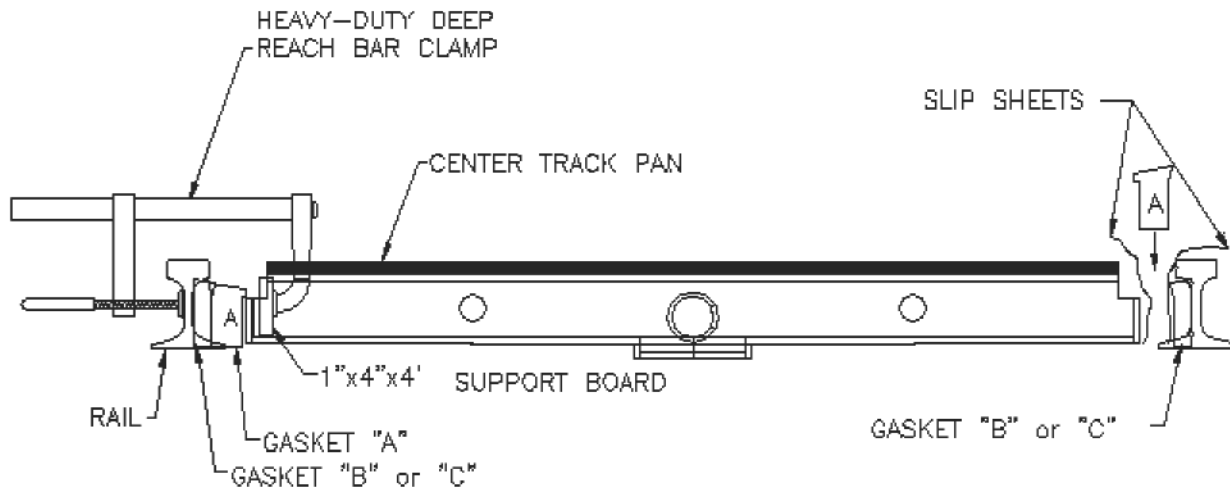
A. 90 lb. rail and larger



B. Rails that are less than 90 lb. - contact UltraTech International, Inc. for guidance.



8. The two (2) track sealing gaskets WITHOUT a lip are to be installed at this time. Each will fit into the rail "web". The "web" is the recessed, vertical surface located between the base of the rail and the top of the rail. There will be plenty of space available between each side of the Center Track Pan and the rails to place these gaskets into their proper position. Make sure to position both gaskets as shown in the appropriate drawing titled "Ultra-Track Pan Gasket Configurations For Center AND Side Track Pans located on page 13. The gaskets MUST be positioned properly to allow spills that may occur on top of or near the tracks to be channeled effectively into the Center Track Pans.
9. The two (2) track sealing gaskets WITH a lip are to be installed at this time. Each will be positioned to fill the gap between the outer side wall of the Center Track Pan and the already-installed gasket. The first gasket is put into place by shifting the Center Track Pan slightly toward the opposite side. Refer to the drawing located on page 8 titled "Ultra-Track Pan Gasket Configurations For Center AND Side Track Pans" for proper position of the gaskets.
10. At this time, the two (2) bar clamps and one (1) support board will be used to temporarily compress the already-installed gasket set allowing more convenient installation of the fourth track sealing gasket. Position the board and clamps as shown below.



**NOTE:** One bar clamp should be positioned approximately 10" from each end of the support board.

- Hand tighten both bar clamps until the combination of the two (2) already-installed gaskets compress by approximately 3/8". The fourth and final gasket for this Center Track Pan will now be installed.
- Position both "slip sheets" as shown in the diagram above.

**NOTE: - VARYING DISTANCE BETWEEN RAILS:** The distance between rails can vary by as much as 1/2". If the distance between the rails you are working on is at the low end of the distance range, the fourth gasket will be an extremely tight fit. Use a block of wood or other blunt (wrapped with several layers of duct tape) device to apply pressure from above to fit the fourth gasket into its correct location.

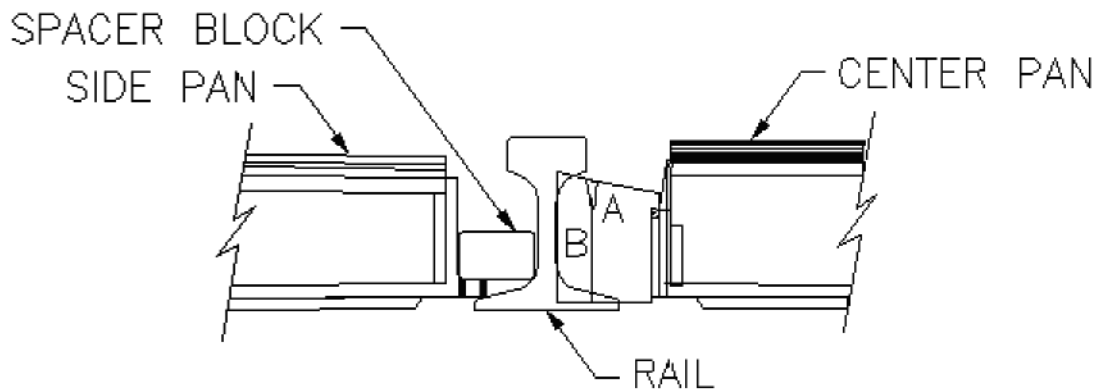
- Press the fourth gasket into place between the "slip sheets" as shown in the diagram above.
- While holding the fourth gasket in its correctly installed position, pull the "slip sheets" out vertically, one at a time.

At this time, remove both bar clamps and the support board.

**NOTE:** Disconnected brake lines or other hoses that hang below the top of the rail will damage the Center Track Pans of a Track Pan system. A metal ramp, asphalt or maintained ballast must be installed against the "starting" and "ending" Center Pans to ramp up from tie level to the top, leading edge of the Center Track Pans.

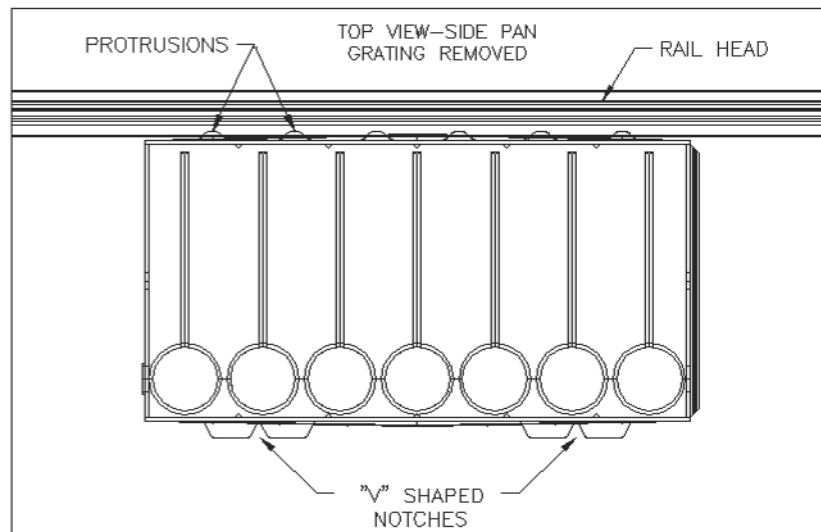
## Installation of Side Track Pans

- 1.) Remove grates from Side Track Pans as each is being prepared for installation. Do not remove all grates from all Side Pans prior to installation. The grates help the Pans resist warping in hot environments.
- 2.) The BEGINNING Side Track Pan should be installed with the "overlap lip" at the STARTING END of the Track pan System.
- 3.) Cut two (2) blocks of wood 6 inches long and 2 1/2 inches wide from a piece of 2 x 4. The 2 1/2 inch dimension is the one needed. Place two (2) of these blocks between the Side Track Pan and the rail effectively creating a space of 2 1/2 inch from outside of rail web to the side of the



SIDE PAN SPACER BLOCK

**NOTE: IT IS IMPORTANT TO NOTE THAT THERE ARE SIGNIFICANT DESIGN DIFFERENCES ON THE OUTSIDE SURFACE OF THE LONG SIDES OF THE SIDE TRACK PANS. ONE (1) SIDE HAS SIX (6) EQUALLYSPACED PROTRUSIONS NEAR THE BOTTOM EDGE. THIS IS THE SIDE THAT MUST BE POSITIONED TOWARD THE RAIL WEB. SEE DIAGRAM BELOW.**



**NOTE:** The long side of the Side Track Pan that is farthest from the rails has two (2) molded, "V-shaped" notches, spaced approximately 19" apart. These molded, "V-shaped" notches will be used to fasten each Side Track Pan in place. These notches make the Side Track Pans run opposite directions on the two sides of the track. One set of Side Track Pans will start with a BEGINNING pan and the other set will start with an ENDING pan.

4.) Place the first Side Track Pan directly on the treated lumber. With two (2) 2 1/2" spacer blocks in place apply pressure with the foot by pressing the Side Track Pan up against the spacer blocks and the web of the rail. While wearing safety equipment, hammer two (2) rebar fasteners in place. The rebar should be positioned as tightly against the "V-shaped" notch as possible. It is important to apply constant pressure on the rebar against the "V-shaped" notch as it is being driven into the ballast. The rebar should be driven in so that the top of the rebar leans slightly toward the center of the track and the top of the rebar should be at the same height as the sidewall of the Side Track Pan. Protective caps must be placed on the exposed ends of the rebar for safety reasons. See Picture G.

Move the spacer blocks to be ready for the next Side Track Pan.

If this rail system is built on other surfaces such as concrete, appropriate fasteners will need to be specified to secure the Side Track Pans in place (see page 2). Please contact UltraTech International, Inc. with any questions or needs related to proper fastening of Side Track Pans.



PICTURE G



**NOTE:** Most tracks are secured to wooden railroad ties. The ties typically rest on ballast (rocks) to provide secure footing. The soil below the ballast is engineered to withstand the dynamics associated with rail activity. UltraTech recommends using 24" long rebar pieces to secure Side Track Pans in place. Protective Caps must be placed on the exposed ends of the rebar for safety reasons. (These items are available from your UltraTech distributor. Part # 9584 is comprised of 20 rebar pieces and 20 protective caps.)

**WARNING:** BEFORE penetrating the soil or any other material found below grade near the rails, you must verify that the subsurface is free and clear of any obstructions that may present a hazard. It is important to review the area thoroughly to establish that no steam lines, gas lines, electrical, plumbing or other items are located in the pathway of the rebar fasteners or any other fasteners used to complete the installation of the Ultra-Track Pans.

4.) One (1) 3/4" NPT bulkhead fitting is shipped with each Side Track Pan. The bulkhead fitting includes one (1) donut-shaped flexible gasket and a rigid washer (Discard the rigid washer). Insert the male portion of the bulkhead fittings through the hole in the end of the already placed Pan. Place the flexible rubber gasket over the male portion. (The flexible rubber gasket will end up between the two pans)

5.) With the bulkhead fitting started through the endwall of the first Side Track Pan place the "overlap lip" of the second Side Track Pan on the endwall of the first Side Track Pan. Keep the second Side Track Pan on a 45 degree angle to begin with and slowly lower it down until the bulkhead fitting protrudes through the endwall of this second Pan. Two installers are best. One kneeling in the first pan to keep a hand on the bulkhead fitting and prevent it from being dislodged by the second Side Track Pan.

**NOTE THAT THE BULKHEAD FITTINGS ARE REVERSE (LEFT HAND) THREADED WITH A SPECIAL (BUTTRESS) THREAD. THE NUT WILL ONLY TIGHTEN ON THESE FITTINGS IF IT IS PLACED WITH THE WORD "TIGHTEN" FACING OUTWARD AND IS TURNED IN A COUNTER-CLOCKWISE DIRECTION.**



Repeat SIDE TRACK PAN INSTALLATION STEPS 1 - 5 to install all remaining Side Track Pans required to complete this side of the Track Pan System.

6.) Once the second Side Track Pan is fully lowered, tighten the nut 1/4 turn beyond hand tight using the channel lock pliers. Do not over tighten the nut. Repeat steps 4-6 until all Side Track Pans are connected together.

NOTE: If the system being installed has piping (drains), the Side Pans should be installed at the same time as the Center Pans

7.) One (1) gasket without a lip and one (1) gasket with a lip are shipped inside the box with each Side Track Pan. One (1) gasket without a lip and one (1) gasket with a lip are considered to be a "set." The following steps will position one gasket set between the rail and its adjacent Side Track Pan side.

8.) For 90 lb. rails and larger place gasket "B" against the web of the rail. The "B" gasket can fit into the web area in four different ways. Use the placement that makes the "B" gasket upper edge come flush with the side of the head of the rail. Butt the ends of all gasket "B" pieces together at the joints where the pans meet. For 75 lb. rails and smaller use gasket "C." Both of these gaskets are without a lip. Each will fit against the rail "web." The "web" is the recessed, vertical surface located between the base of the rail and the top of the rail. There will be plenty of space available between the side of the Side Track Pan and the rail to place these gaskets into their proper position. Make sure to position both gaskets as shown in the appropriate drawing titled Ultra-Track Pan Gasket Configurations found on page 13. The gaskets MUST be positioned properly to allow spills that may occur on top of or near the tracks to be channeled effectively into the Side Track Pans.

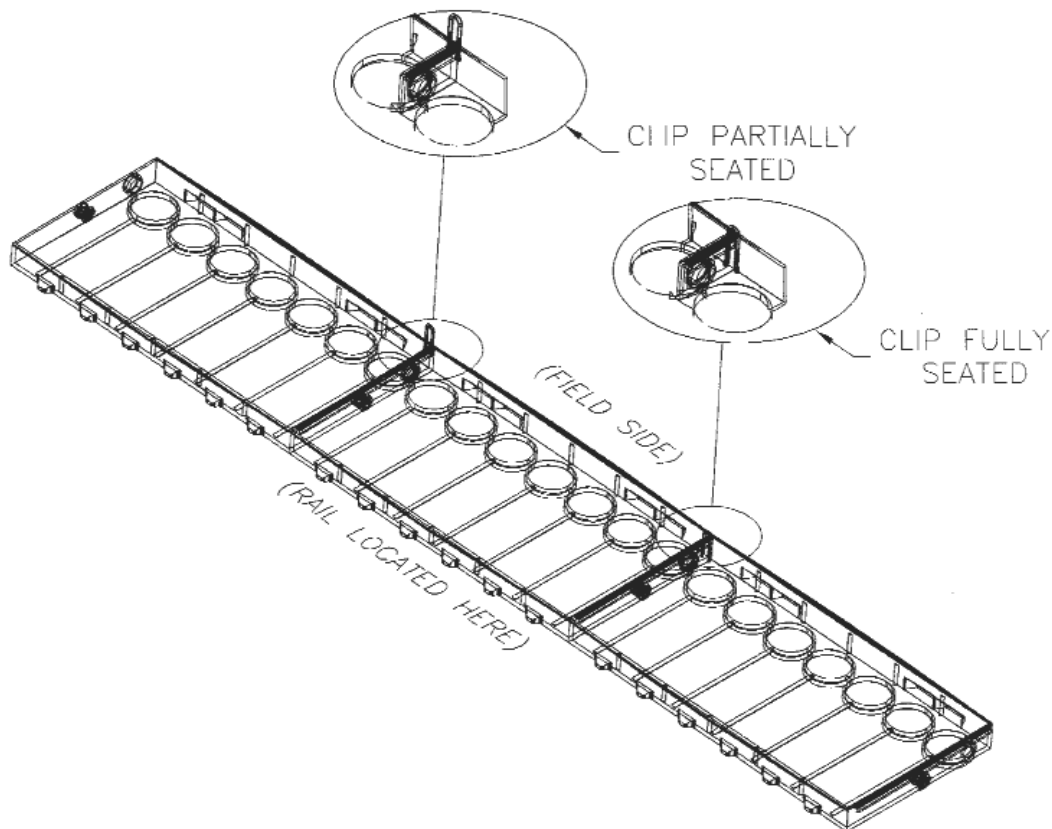
9.) Place the two polyethylene slip sheets in between the gasket and the sidewall of the Side Track pan. Insert the gasket with the lip in between the two slip sheets. The lip should be facing out away from the rail to allow liquids to flow into the Side Track Pans. Make certain to start in the middle of the Side Track Pan and work toward each end. Apply downward pressure utilizing a 2 foot piece of 2x4 with one end wrapped with several layers of duct tape. The tape will dull the sharp edges of the end of the 2x4 and prevent tearing the gasket material. **See Picture I.**

10.) While holding the gasket in its correct position, pull the "slip sheets" out vertically, one at a time.



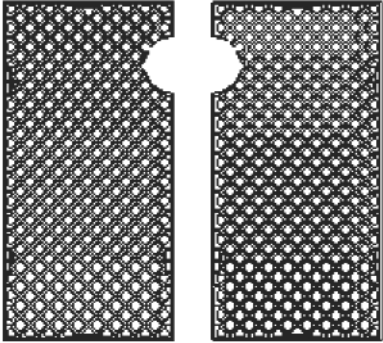
PICTURE I

- 10 a.) System with NO below grade piping. If your Track Pan System requires Side Track Pans on both sides of the rails, return to step 1 of Side Track Pan Installation and begin to install the other Side Track Pans at the opposite end of the system from where you began the first Side Track Pans.
- 10 b.) System WITH below grade piping. If your Track Pan system requires Side Track Pans on both sides of the rails, return to step 1 of Side Track Pan Installation and begin to install the other Side Track Pan at the same end of the system from where you began the first Side Track Pans. Notice that this set of pans will be installed with the overlap lip facing in the opposite direction as the first set. As a result, the "back" end of each successive pan will need to be lifted into position under the overlap lip of the previously installed pan. In systems with piping it is best to install the Center Pans and Side Pans concurrently along the system.
- 11.) Once the Side Track Pans have been completely installed, the last step is to install the Side Track Pan Clips. These are heavy-gauge, steel clips that are formed in the shape of a "U." Using a rubber mallet, the clips should be installed as shown below and driven on until fully seated.



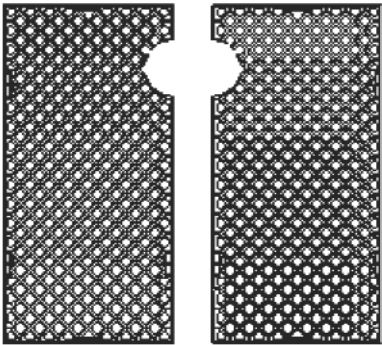
## PUT GRATES BACK INTO ALL TRACK PANS

**Note:** All Center Track Pan Grates for use with systems with the stormwater feature have a semi-circular cutout on one side. A Right and a Left Center Track Pan Grate make up a set. See diagram below. Place one (1) Center Track Pan Grate Set into each Center Track Pan. The cutouts will surround the "Stormwater Feature" when properly positioned. The Stormwater Feature is the raised, conical-shaped protrusion located in the bottom of each Center Track Pan.

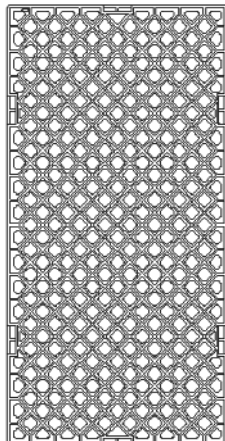


Set of Center Track Pan Grates for use with Center Track Pans that are molded with the Stormwater Feature.

**Note:** If your order specified that the "Stormwater Feature should NOT be molded into the Center Track Pans", the grates provided with the Center Track Pans will NOT have a semi-circular cutout. See diagram below.



Set of Center Track Pan Grates for use with Center Track Pans that are molded without the Stormwater Feature.



Side Track Pan Grate

## GASKET REVIEW

After all Track Pan modules have been installed, a visual inspection of all Center Track Pan track sealing gaskets and Side Track Pan track sealing gaskets is required.

Please refer any related questions or problems to UltraTech International, Inc.

## INSTALL TRACK PAN COVERS

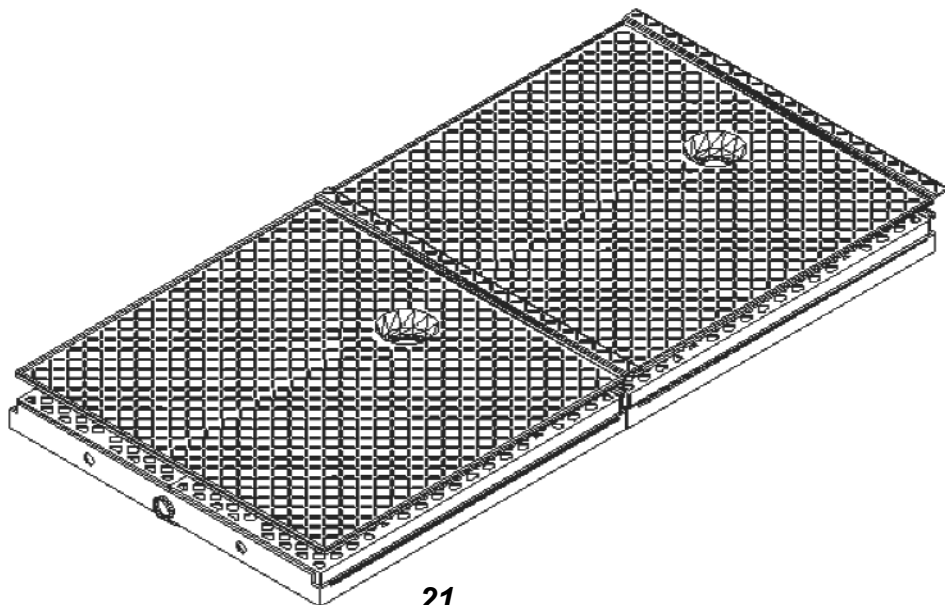
**NOTE:** COVERS FOR CENTER AND SIDE TRACK PANS CAN BE USED ONLY WITH GRATES INSTALLED INSIDE THE TRACK PANS. THE GRATES PROVIDE STRUCTURAL SUPPORT FOR THE COVERS. THEY ALSO PROVIDE A MEANS TO FRICTION-FIT THE COVERS IN PLACE TO REDUCE THE POTENTIAL FOR WIND BLOWING THE COVERS OFF.

### CENTER TRACK PAN COVERS

The Center Track Pan Covers measure 55"L x 52 1/2"W. An "overlap lip" is molded into one (1) end of the Cover, along the 52 1/2" dimension. Each Center Track Pan Cover has four (4) molded-in "securing pegs" located on its underside. One (1) of the "pegs" is larger in diameter than the other three (3) pegs. The larger diameter peg is designed to provide a "friction-fit" inside the hole in the Center Track Pan grate that is located directly below the peg.

**NOTE:** Each Center Track Pan has one (1) "Stormwater Feature" that is molded into its bottom. The Stormwater Feature is conical-shaped and protrudes upward from the Center Track Pan bottom. It is approximately 4" tall, with an approximate 4 1/2" diameter. THE STORMWATER FEATURE IS LOCATED IN A POSITION THAT IS OFFSET TOWARD THE END ON THE CENTER TRACK PAN WITH THE OVERLAP LIP. Each Cover for the Center Track Pans has a molded-in "spout" that seals off around the Stormwater Feature when it is put in place.

You will observe that all installed Center Track Pans face the same direction, with their respective Stormwater Features in the same position. (See diagram below.)



Starting at the end of the Center Track Pan System that has the Stormwater Feature closest to the end, place one (1) Center Track Pan Cover on top of the grates. Make sure that the "securing pegs" are facing down. Center the Cover on top of the Center Track Pan grates. The large "spout" in the Cover will be positioned directly above the Stormwater Feature. Once centered, the "pegs" will be correctly located above their corresponding grate holes. Apply a modest amount of hand or foot pressure to friction-fit the large diameter peg into its grate hole, and to seal the "spout" gasket over top of the Stormwater Feature. The "spout" gasket should be seated just below the drain holes that are located near the top of the Stormwater Feature. The non-slip, top surface of the Center Track Pan Covers will be the exposed surface when the Covers are installed properly.

Continue installing Center Track Pan Covers following the same steps used to install the first Center Track Pan Cover. Each "overlap lip" will overlap its adjacent Center Track Pan Cover by approximately 1".

## SIDE TRACK PAN COVERS

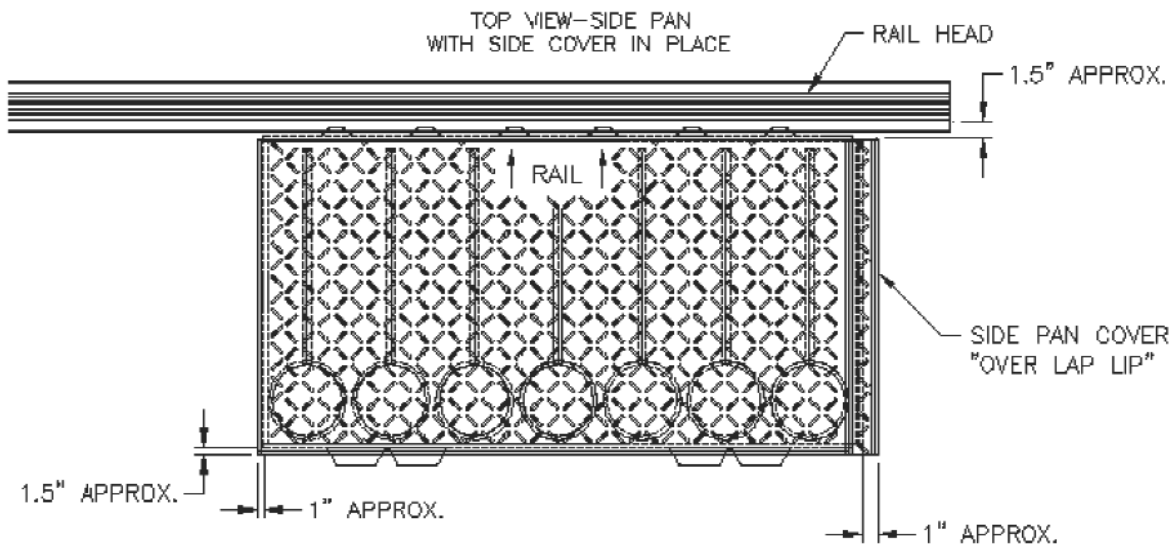
The Side Track Pan Covers measure 55"L x 28 1/4"W. An "overlap lip" is molded into one (1) end of the Cover, along the 25 1/4" dimension. Each Side Track Pan Cover has two (2) molded-in "securing pegs" located on its underside, one (1) peg with a larger diameter than the other. The large peg is designed to friction-fit inside a hole in the Side Track Pan grate.

Each Cover for the Side Track Pans has "↑ **RAIL** ↑" molded into its upper surface. To position Side Covers properly, THE ARROWS MUST POINT TOWARD THE RAILS.

While standing off to the side of the Track Pan System, install the first Side Track Pan Cover on the Side Track Pan located at the far right hand end of the System. Apply a modest amount of hand or foot pressure to friction-fit the large securing peg into its grate hole.

Continue installing Side Track Pan Covers following the same steps used to install the first Side Track Pan Cover. MAKE SURE THAT ALL "OVERLAP LIPS" ARE FACING THE SAME DIRECTION.

Please refer to the diagram below to assure proper installation of the Side Track Pan Covers:



Side Track Pan Covers should be positioned as follows:

- Cover should be located approximately 1.5" from the outside edge of the rail head.
- The Side Track Pan Cover "overlap lip" will overhang the end of its Side Track Pan by approximately 1".
- The end of the Side Track Pan Cover that is opposite the "overlap lip" will overhang the end of its Side Track Pan by approximately 1".
- The outer edge of the Side Track Pan Cover will overhang the outer side wall of the Side Track Pan by approximately 1.5".

Ultra-Track Pan installation steps are now completed (see below if installing below grade piping).

For future reference, refer to Appendix A (next page) for a complete list of Ultra-Track Pan Replacement Parts and Accessories.

Please refer any questions or needs to your UltraTech Distributor or contact UltraTech International for additional information.

## **Notes on installing below grade piping for Ultra-Track Pan Systems**

If below grade piping is going to be installed, it is strongly suggested that it be PVC or CPVC. UltraTech has drawings showing suggested piping arrangements for the installation of drain piping under the pans. The installation will be more stable for the long term if these suggestions are incorporated into your installation. Some of the key reasons for the details of these recommendations are:

1. The 3-inch piping is used to avoid trenching below the bottom of the ties adjacent to the piping. Trenching lower than the tie bottom will reduce the stability of the ballast and allow a "SOFT" spot to develop in the track system.
2. The 4 x 3 reducer ells are used to create a "slip" fit connection between the drain bulkhead fitting and the pipe and to allow for slight misalignment. The "slip" fit allows the pans to be installed and removed without having to get underneath to tighten/loosen the connections to the piping.
3. The molding process used to make the Ultra-Track Pans uses only an external mold. The part once molded shrinks freely inside the mold. Shrinking freely is part of what gives the plastic its chemical resistance. The drawback is that the pans are not all the same length. On a long system the misalignment from one side to the other of a system can become significant. Installation will be easier by NOT manifolding the pans across a system into a single pipe. The pans also vary in lateral placement due to gauge variation, joint bars, and flexing, making a single manifold length impractical.
4. The use of the flexible couplings is also important for the longevity of the system. The flexible couplings allow for differential "pumping" between the center portion of the pipes and the outer portions without causing breakage at the joints or "jacking" of the pan connections out of the fittings. The flexible couplings also allow for the slight bends that allow the far side pipe to come through the same trench with the center-pan pipe.
5. In almost all cases the PVC or CPVC will be adequate chemically because in a properly designed system the piping will only be exposed to the chemicals for a short period during an "event" then will dry out.

### **IF THIS SYSTEM WILL HAVE "DRIVE ON/OVER" TRAFFIC**

**The Ultra-Track Pans can only be driven on/over if they are installed on a bedding of adequate strength for the drive-over traffic and the bedding fully supports the underside of the pans.**

The Ultra-Track Pans can only be driven on if installed as above and **only if the vehicle has rubber tires.** Any form of hard wheel will damage the grating.

The Ultra-Track Pans can only be driven on if installed as above and the drive over is in a relatively straight line. The anti-slip that is molded into the upper surface of the grating is very aggressive and **will be damaged by sharp turning of tires while a vehicle is on the grating.**

The Ultra-Track Pans can only be driven on if installed as above and any starts or stops of a vehicle while on the grating is done slowly. The anti-slip that is molded into the upper surface of the grating is very aggressive and **will be damaged by rapid starting or stopping while a vehicle is on the grating.**

The Ultra-Track Pans can only be driven on if installed as above and a “ramp” of adequate capacity (asphalt, concrete or other) is provided to raise the vehicle tires to the level of the upper surface of the grating. **This “ramp-up” is required to avoid damage** to the sides of the pans and grates.

## Appendix A

### Ultra-Track Pan Replacement Parts and Accessories

Description	Qty.	Part #
1. Gasket "A"	1 ea.	9569
2. Gasket "B"	1 ea.	9568
3. Gasket "C"	1 ea.	9563
4. 3/4" NPT Bulkhead Fitting Ass'y (includes nut, donut-shaped gasket and rigid washer)	1 ea.	1073
5. Threaded Plug for Bulkhead Fitting	1 ea.	9960
6. Center Track Pan Grate (right), with cutout	1 ea.	9572
7. Center Track Pan Grate (left), with cutout	1 ea.	9571
8. Side Track Pan Grate, also Center Track Pan Grate without cutout	1 ea.	9573
9. 24" Rebar with Protective Cap	20-pack	9584
10. Wrench for Bulkhead Fittings	1 ea.	0464
11. 3 1/4" diameter gasket to seal off large "flow throughs" in Center and Side Track Pans.	1 ea.	9557
12. 3" NPT Bulkhead Fitting Ass'y (includes nut, donut-shaped gasket and rigid washer)	1 ea.	9559



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