Ultra-Track Pan® Composite Model

Part # 7200 - 7235

Installation Instructions

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 (904) 292-1611. Do not attempt to install your Ultra-Track Pan System if any parts are missing or damaged.

All installation personnel should read this document in its entirety BEFORE the installation process begins.

UltraTech International, Inc. has produced a video to help assure that Ultra-Track Pans, Composite Model are installed properly. The installation video is available online at www.trackpans.com. 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 (904) 292-1611 if you have trouble viewing the video. We can also be reached by e-mail at info@trackpans.com.

NOTE: Proper personal protection equipment must be worn while installing Ultra-Track Pans, Composite Model. 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 Ultra-Track Pan installation process.

THE FOLLOWING INSTALLATION INSTRUCTIONS HAVE BEEN PREPARED WITH THE ASSUMPTION THAT A COMPLETE ULTRA-TRACK PAN SYSTEM (I.E., CENTER TRACK PANS WITH GRATES, SIDE TRACK PANS WITH GRATES) IS BEING INSTALLED. IF, AS AN EXAMPLE, YOUR INSTALLATION REQUIRES CENTER TRACK PANS ONLY, DISREGARD ALL REFERENCES TO THE INSTALLATION OF SIDE TRACK PANS.

Required Tools:

1. Metal Rake
2. House Broom
3. Shovels
4. Channel Lock pliers (12 inch), adjustable wrench, or socket set
5. Drill
6. Tape measure
7. Carpenter's yellow marking crayon
8. Adjustable C-clamps
9. ½" Drill Bit Router*
10. ½" carbide roundover bit for router*
11. Chemical resistant nitrile or polyethylene gloves (disposable)
12. Permanent marker

*If installing drains/below-grade piping

Site Preparation:

1. Before installing Ultra-Track Pans, Composite Model, 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 20 feet in length. Multiply 20 feet 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 any ballast, weeds, or other debris that is higher than the top of the ties needs to be removed. Before the Ultra-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.

2. **JOINT BARS:** 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 a 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:** 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. Ultra-Track Pans, Composite Model are designed to accommodate most standard rail anchors, including pandrols. NOTE: Extremely large rail anchors may be a problem and should be checked with a pan placed over the rail anchor prior to moving forward with the install.

4. **RAILROAD SPIKES:** 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 Guidelines:

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 drain manifold and filling of the pipe trenches under the track pans.

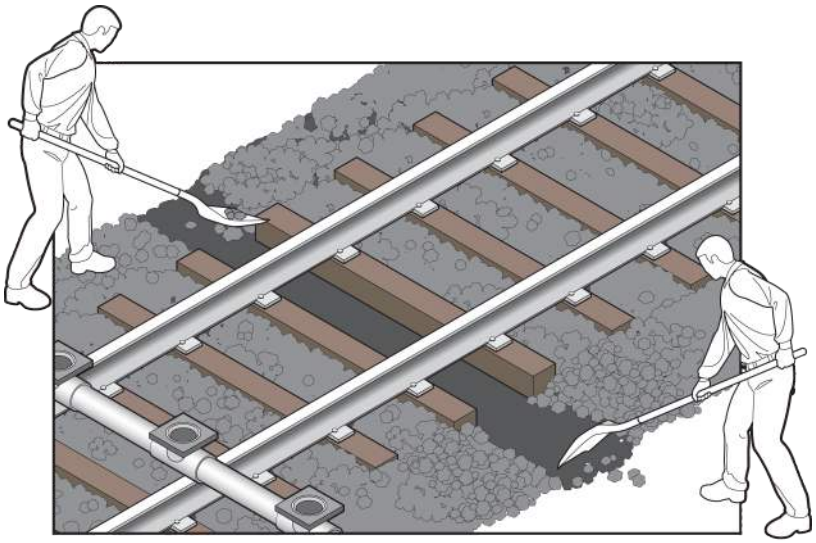
PVC piping is used for the underground Drain Manifolds PVC has adequate strength and the necessary flexibility to give a long-lasting installation. Contact UltraTech for suggested piping layouts or other information.

IMPORTANT: 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.

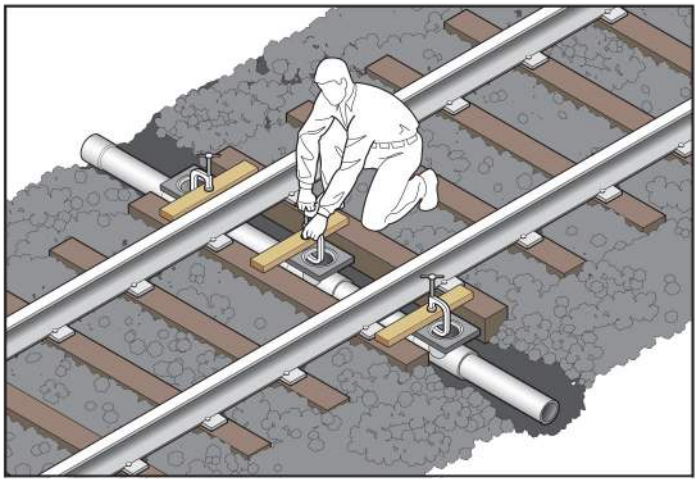
Installation of Manifold:

1. After determining the best location for the manifold remove ballast/dirt from between the railroad ties.

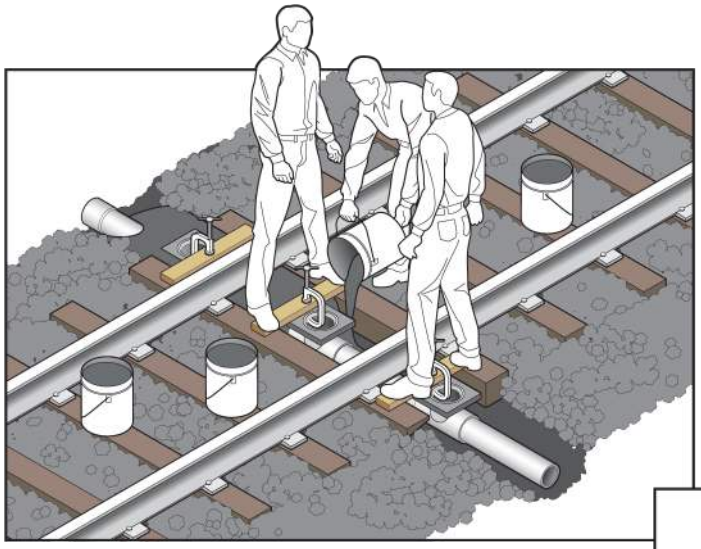
   NOTE: The manifold connects drains from the side and center Ultra-Track Pans at once.

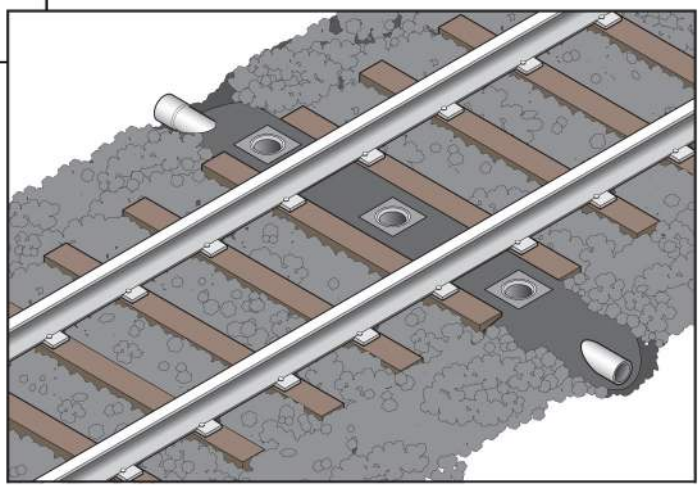


2. The edge of the center drain should be placed at 27.5” from the web of the rail. Insure that the manifold is level witht the rail ties. 1” boards should be clamped to the drain to prevent movement when the void under and around the pipe is backfilled.



3. Backfill the void with “crush and run” sand. If possible, have additional personnel stand on the boards as added support to prevent the manifolds from moving. Pour sand around the manifold until it is just below the top of the tie. It should very gently be tapped into place to make sure it settles nicely under and around the manifold. Avoid getting sand into the drain.

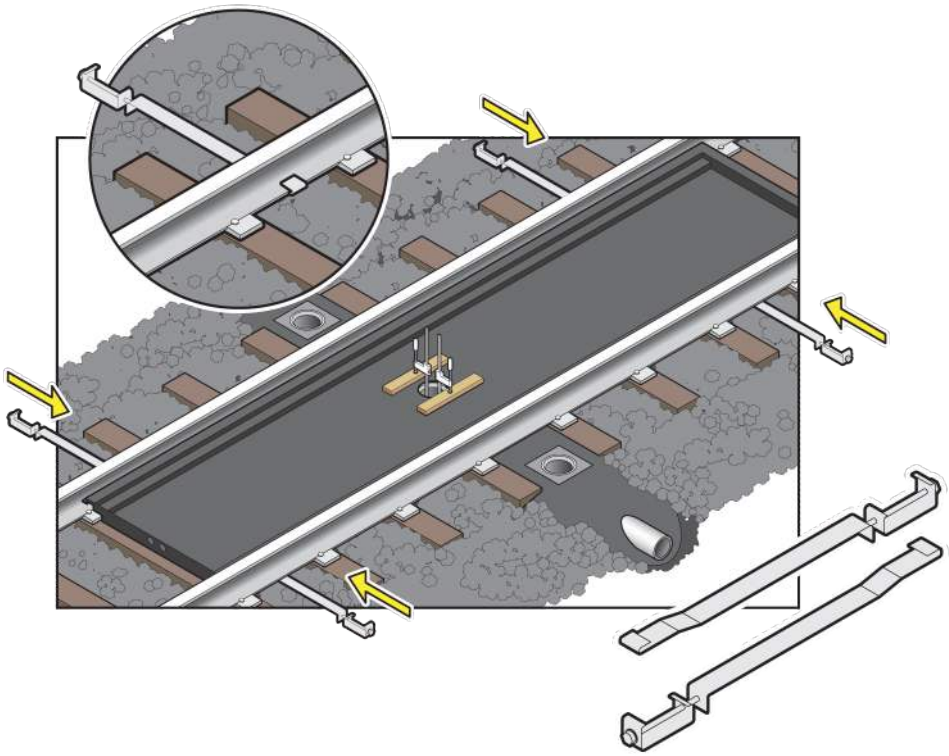




Preparation for Side Track Pans:

NOTE: Although the installation of the Center Pans will come first in the process. This step should be done before starting the Center Pan installation to insure the best/easiest install of the Side Pans later.

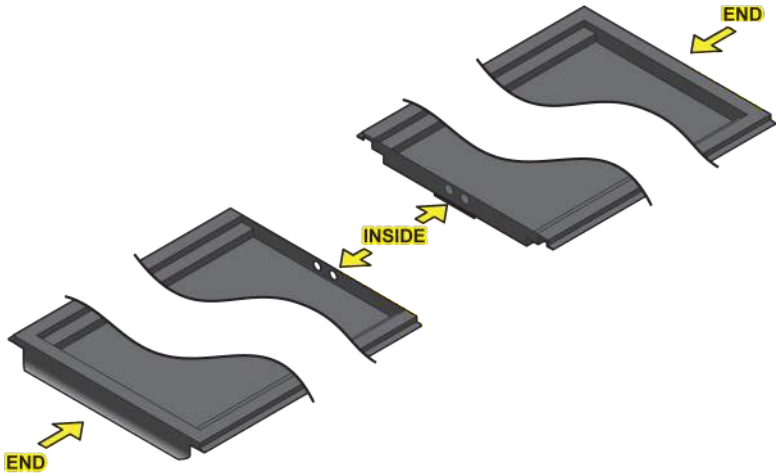
1. Loosen the bolts on two side pan rail clips as far as possible without completely removing it. This will give maximum flexibility during installation of the side pans. You will need to use two side pan rail clips for each side pan.



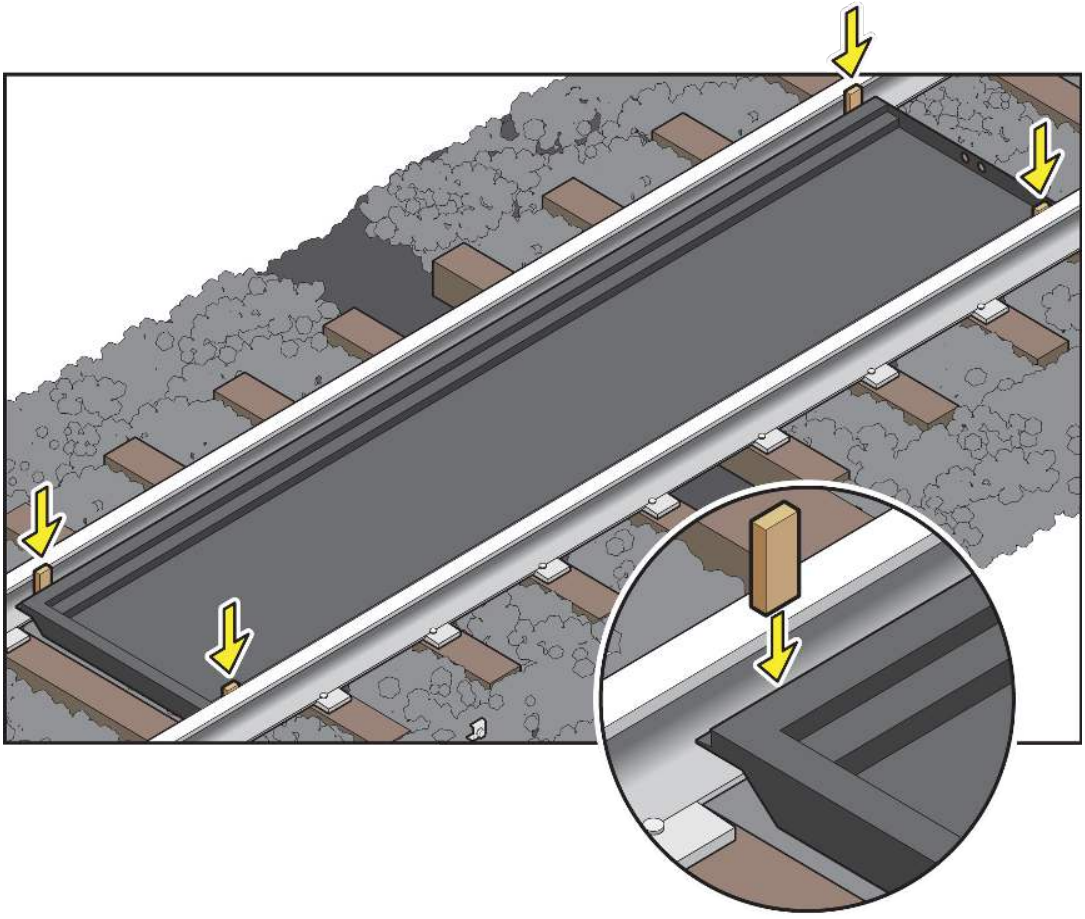
2. Space out the two side pan rail clips evenly throughout the length of the side pan, making sure that the location of each side pan rail clip is between railroad ties.
3. With the “L” portion of the side pan rail clip aligned towards the field side of the rail, slide the other end of the side pan rail clip under the rail and pull back until it is secure against the rail.

Installation of Center Track Pans:

1. The BEGINNING center track pan should be installed with the undrilled, contoured portion of the pan at the STARTING END of the track pan system.

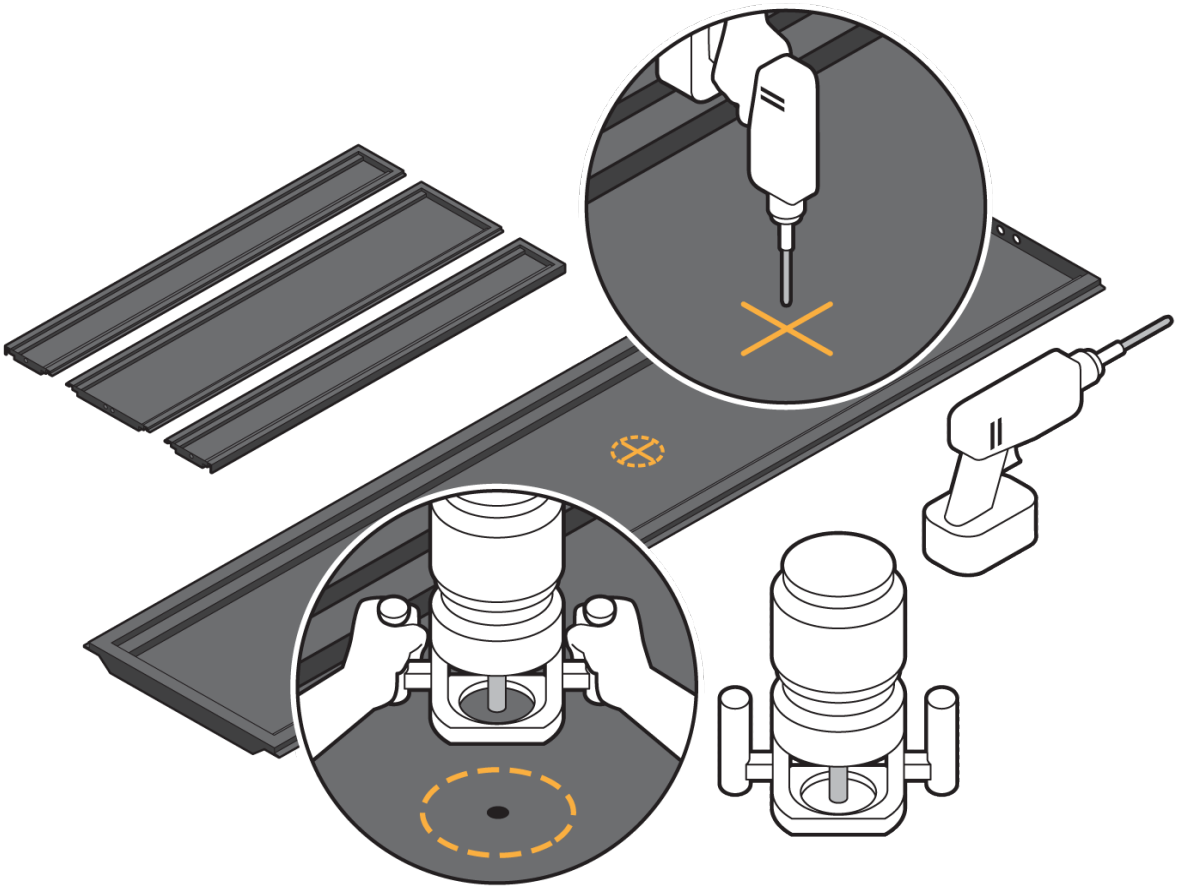


2. It is important to install the center track pans so that they are centered between the two rails. This will facilitate the installation of the center track pan gaskets at the end of this process. In order to keep them centered UltraTech recommends cutting four blocks of quarterboard (5/4) wood 6 inches long. These blocks are to be used as spacers to keep the center track pans centered between the two rails while assembling.



Connecting Track Pan to Manifold

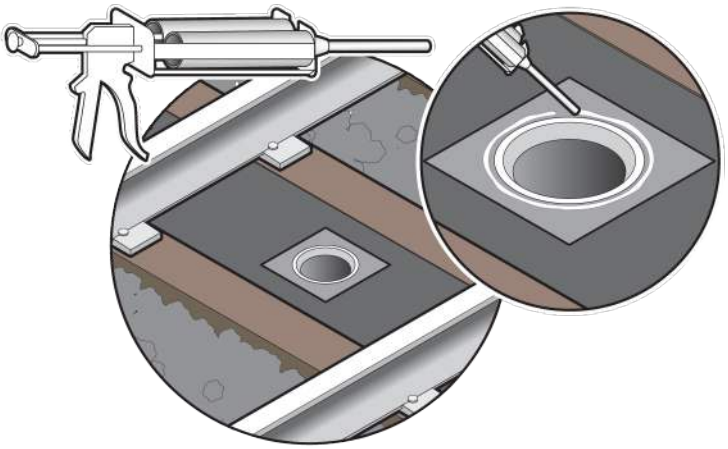
1. Measure to find the center of the track pan (The total length is 20 feet) and make sure that part of the pan is above the drain.
2. Drill a “starter” hole using a 1/2” drill bit.
3. Using a router and a 1/2” carbide roundover bit, cut a hole in the track pan using the manifold piping underneath as a guide for the roundover bit.
4. Remove any dust/shavings from the cutting area.



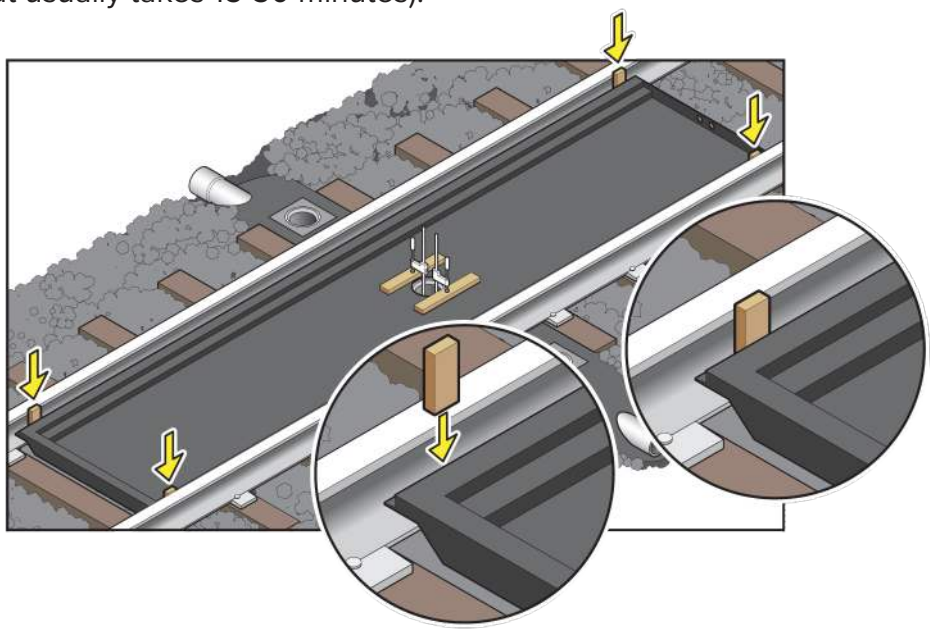
Connecting Track Pan to Manifold (continued)

5. BEFORE OPENING THE ADHESIVE, it is good practice to mark one side of the adhesive cartridge and the corresponding side of the gray cap that keeps the adhesive closed (think of the adhesive as Side A and Side B). This will be helpful when closing the adhesive between uses and ensure that the cap is placed back in the adhesive so that Side A material does not mix with the Side B material, which will create a permanent bond and render the remaining adhesive unusable. Wearing chemical resistant nitrile or polyethylene gloves, open the adhesive tube and attach one static mixer to the end of the adhesive.

   Using the adhesive dispenser, apply adhesive to the drain.



6. Carefully place center pan making sure to line up the drain with the hole in the pan. Re-insert spacers and clamp the pan to the drain. Allow adhesive to completely dry (drying time is dependent on temperature but usually takes 15-30 minutes).

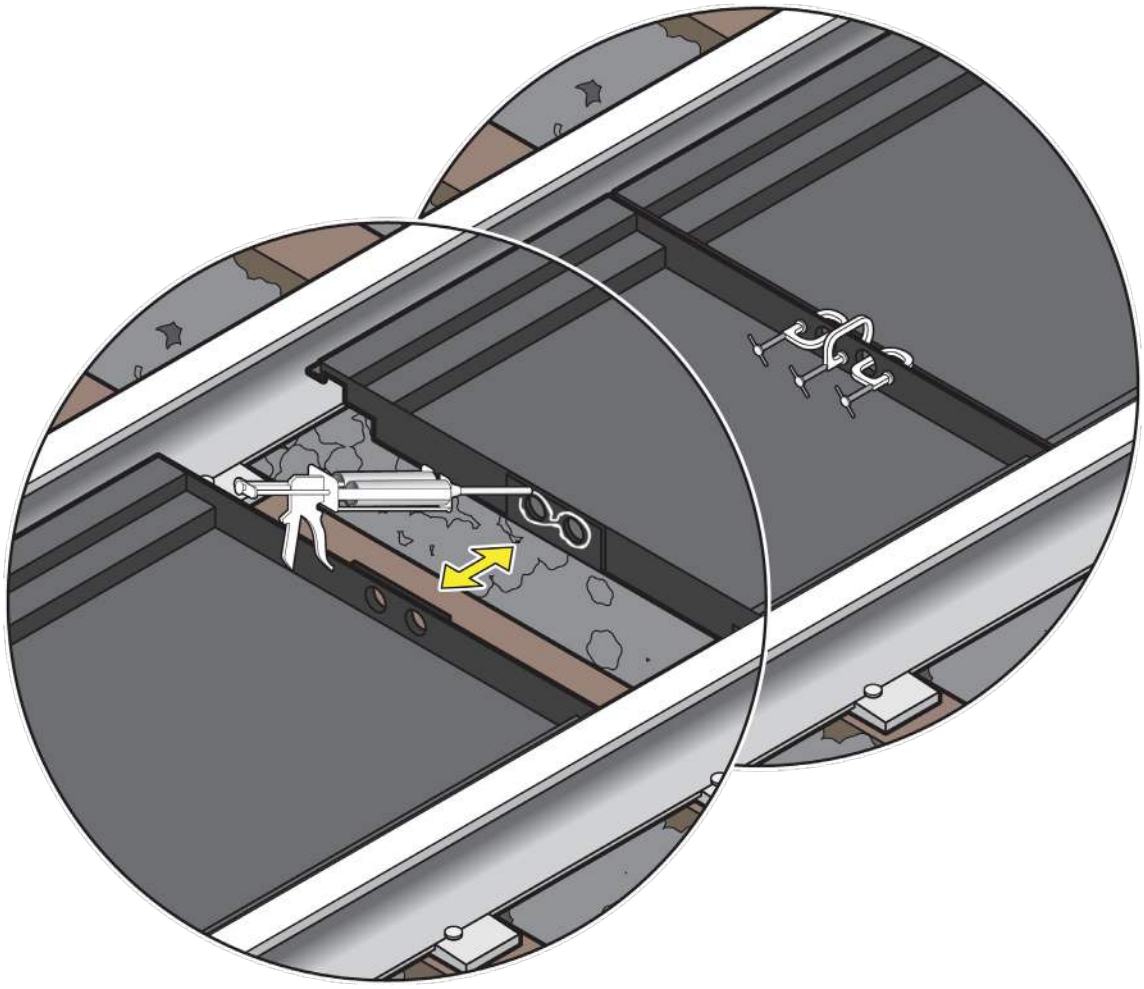


IMPORTANT: BEGINNING WITH THE SECOND PAN, GLUING THE CENTER TRACK PAN TO THE MANIFOLD AND GLUING THE CENTER TRACK PAN TO THE NEXT CENTER TRACK PAN IN THE SYSTEM MUST BE DONE CONCURRENTLY TO INSURE PROPER PLACEMENT.

3. **If the next center pan also has a drain in it, please repeat the steps above.**
4. Line up the drilled holes on the endwall of the BEGINNING center pan with the drilled holes on one endwall of the second center track pan. Pull back the second center track pan enough to be able to apply the adhesive to the outside of the endwalls that will be attached together. Three installers are best.
5. Using the adhesive dispenser, apply adhesive to each side of the endwall of each pan. If a drain is installed, adhesive should also be applied to the drain.

   Push the second pan into the first pan, while keeping the first pan in place, carefully aligning the flowthrough holes in each endwall. If a drain is installed, the hole in the center track pan should be lined up with the drain at the same time aligning the holes in the end walls. Once the two pans are together, use C-clamps to tighten the two pans together between the two flow through holes and on the outside of each flow through hole. C-clamps should also be used for the drain area if one is installed.

   While still wearing chemical resistant gloves, wipe the excess off of the inside of each flow through hole and any excess that has come up over the endwalls.

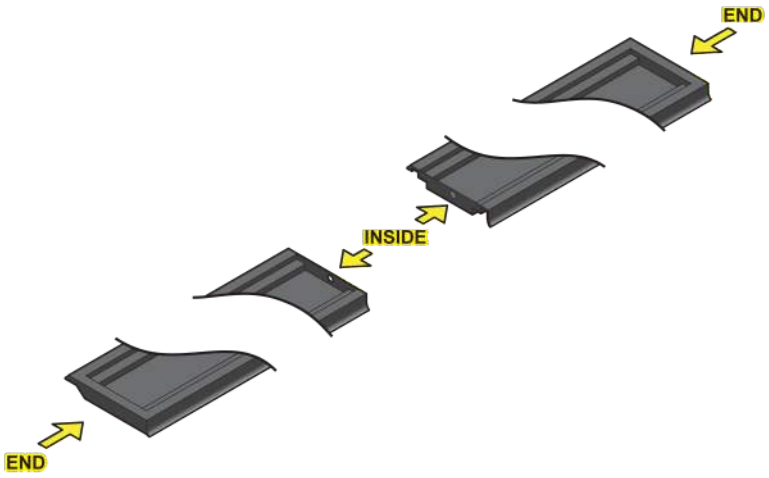


6. Unless you are immediately ready to dispense the adhesive again, remove the static mixer and dispose of it. Clean any excess off the adhesive tube (without getting side A into Side B) and then replace the adhesive cap (with the proper side in the associated half of the adhesive) and store the adhesive out of direct sunlight in as cool a place as possible. This will extend the life of the adhesive and ensure that the adhesive will be able to be used as long as possible on the job. The adhesive will set in roughly 15-30 minutes, depending on the temperature at the time of install.
7. Once the first two center track pans are complete installed, the next step is to install the corresponding side track pans.

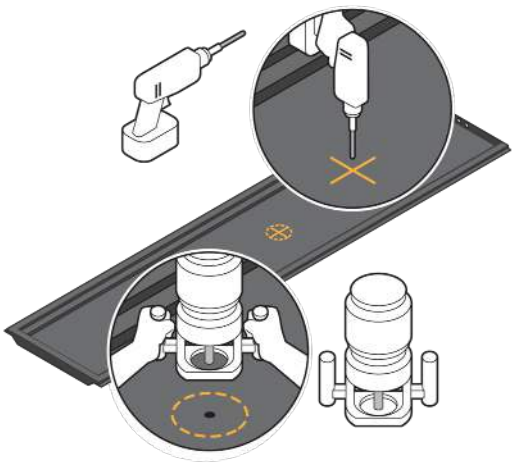
Installation of Side Track Pans

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 CONTOURS ALL THE WAY TO THE GROUND. THIS IS THE SIDE THAT MUST BE POSITIONED ON THE FIELD SIDE, AWAY FROM THE RAIL WEB.

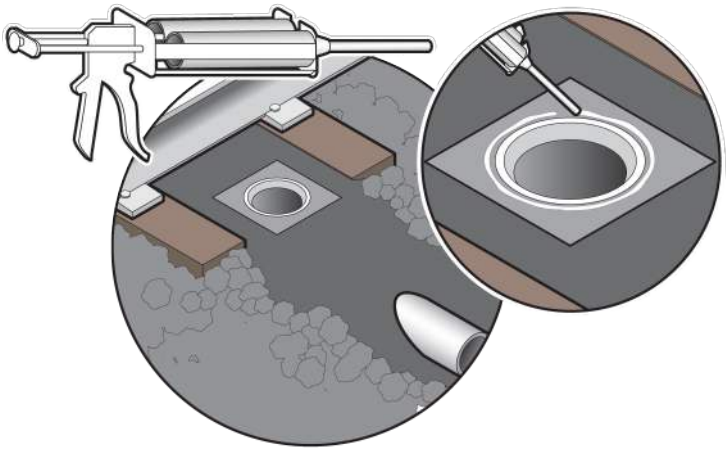
1. The BEGINNING side track pan should be installed with the undrilled, contoured portion of the pan at the STARTING END of the Track pan System.



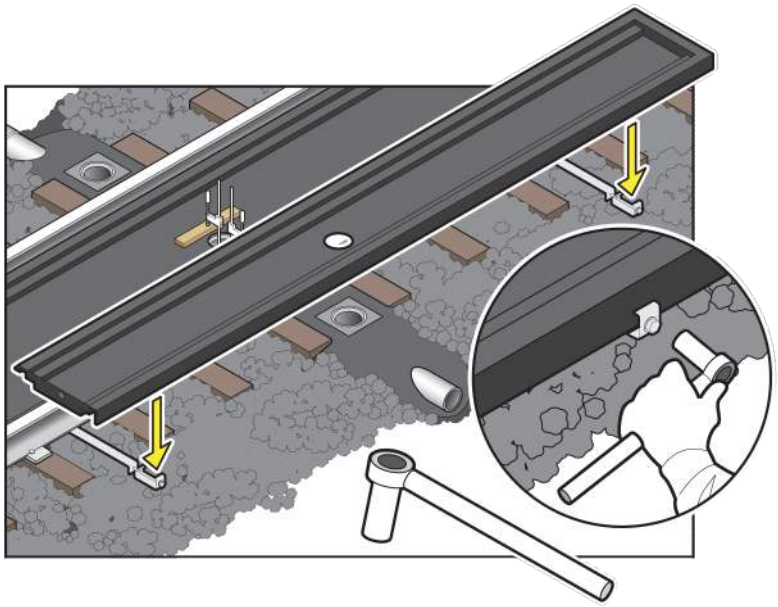
2. If any of the side pans will be connected to the drain manifolds, follow the same steps that were used for the center pans to cut holes [Please refer to steps 1-6 on pages 7-8].



3. If a drain will be used for this pan, apply adhesive (as done with the center track pans).



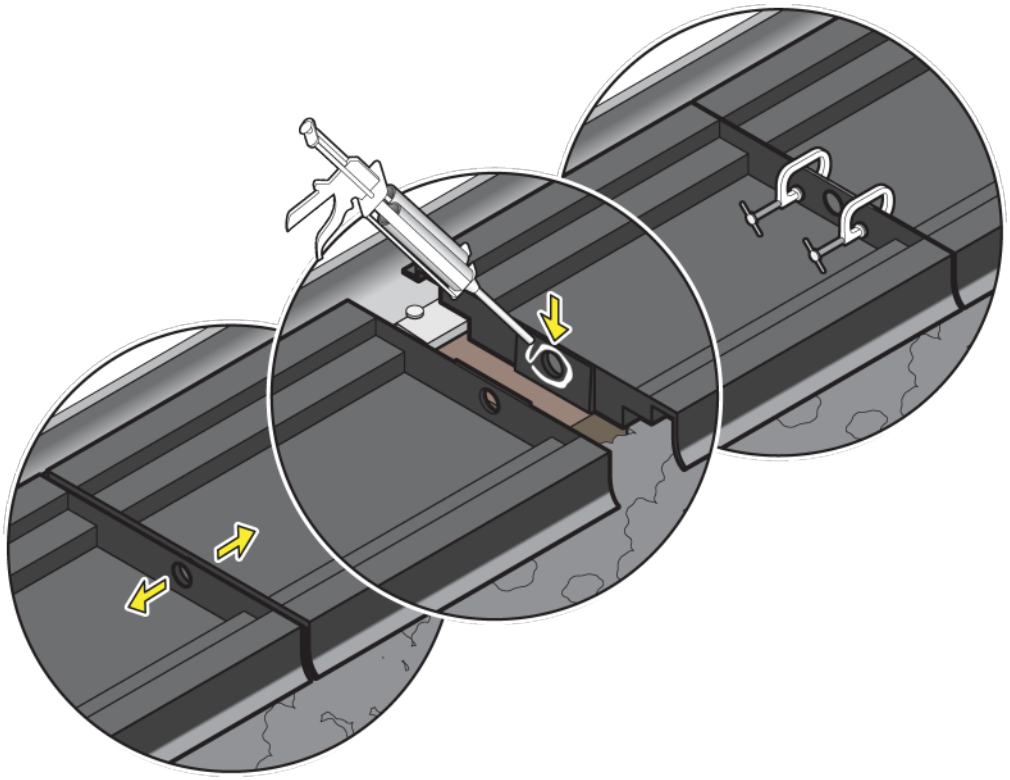
4. Stand the contoured, field-side of the side pan into the notches on the two “L” portions of the side pan rail clips. These “L”s will support the outside grating structure of the side pan and help prevent sagging and cracking over time on the field side of the side pan.



5. Insuring the hole in the pan is lined up with the drain manifold, slowly lower the side pan towards the rail until it is sitting flat on the railroad ties. Insert the two 5/4 board shims between the rail and the edge of the side pan.
6. With the shims in place, tighten the bolts of the side pan rail clips until the clips are holding the side pan against the shims. DO NOT OVERTIGHTEN the bolts, as it may cause the resin of the side pan to crack.
7. If a drain is to be installed in the second side pan please refer to steps 1-6 on pages 7-8.

IMPORTANT: BEGINNING WITH THE SECOND PAN, GLUING THE TRACK PAN TO THE MANIFOLD AND GLUING THE TRACK PAN TO THE NEXT TRACK PAN IN THE SYSTEM MUST BE DONE CONCURRENTLY TO INSURE PROPER PLACEMENT.

8. After lining up the drilled holes on the endwall of the BEGINNING side pan with the drilled holes on one endwall of the second side track pan. Pull back the second side track pan enough to be able to apply the adhesive to the outside of the endwalls that will be attached together. Three installers are best.
9. Wearing chemical resistant nitrile or polyethylene gloves, open the adhesive tube and attach one static mixer to the end of the adhesive. Using the adhesive dispenser, apply adhesive to each side of the endwall of each pan.
10. Push the second pan into the first pan, while keeping the first pan in place, carefully aligning the flow through hole in each pan. Once the two pans are together, use C-clamps to tighten the two pans together outside of the flow through hole. While still wearing chemical resistant gloves, wipe the excess off of the inside of the flow through hole and any excess that has come up over the endwalls.
11. With the shims in place, tighten the bolts of the side pan rail clips until the clips are holding the side pan against the shims. DO NOT OVERTIGHTEN the bolts, as it may cause the resin of the side pan to crack.



12. Unless you are immediately ready to dispense the adhesive again, remove the static mixer and dispose of it. Clean any excess off the adhesive tube (without getting side A into Side B) and then replace the adhesive cap (with the proper side in the associated half of the adhesive) and store the adhesive out of direct sunlight in as cool a place as possible. This will extend the life of the adhesive and ensure that the adhesive will be able to be used as long as possible on the job. The adhesive will set in roughly 15-30 minutes, depending on the temperature at the time of install.
13. Repeats steps 1-12 for opposite side.
14. Continue with this process until all of the Ultra-Track Pans have been installed and glued together.

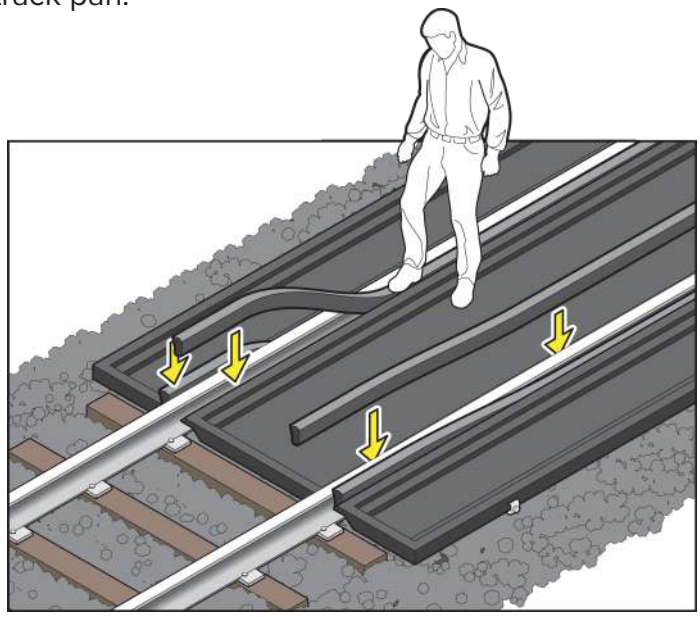
The basic order of installation should be:

1. Center pan (1) to drain/manifold*
2. Center pan (2) to center pan (1) AND drain/manifold*
3. Side pan (1A) to drain/manifold*
4. Side pan (2A) to side pan (1A) AND drain/manifold*
5. Side pan (1B) to drain/manifold*
6. Side pan (2B) to side pan (1B) AND drain/manifold*
7. Center pan (3) to center pan (2) AND drain/manifold*
8. Side pan 3A to side pan (2A) AND drain/manifold*
9. Side pan 3B to side pan (2B) AND drain/manifold*
10. And so on, until the system is complete.

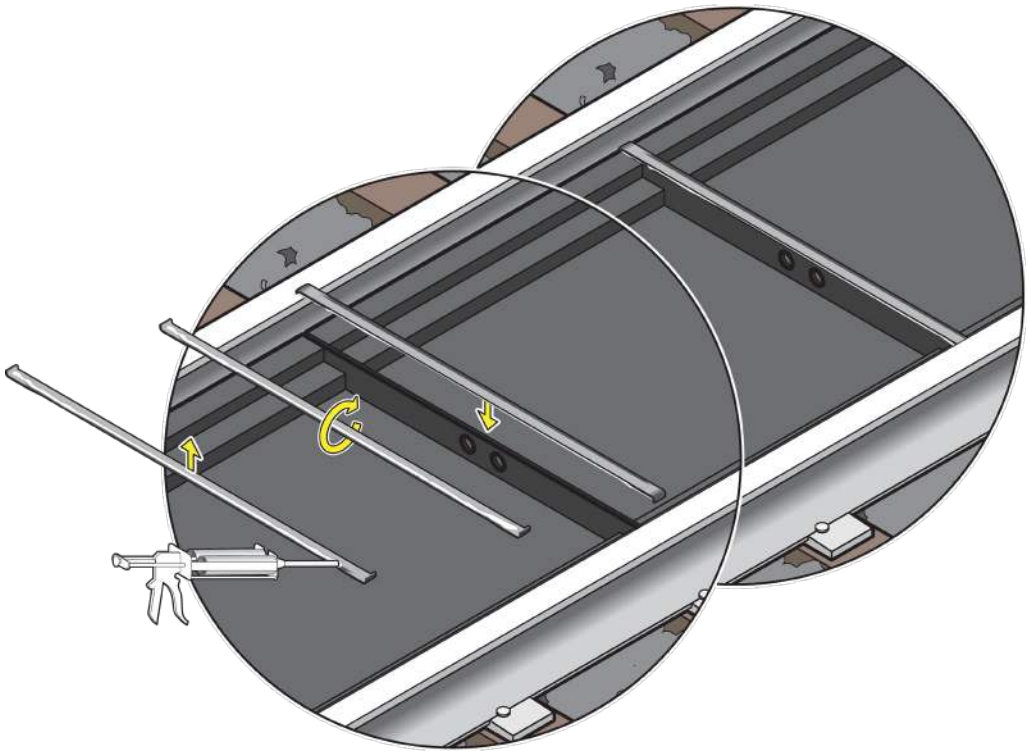
**If drain/manifold is installed.*

Installing Gaskets and seam covers

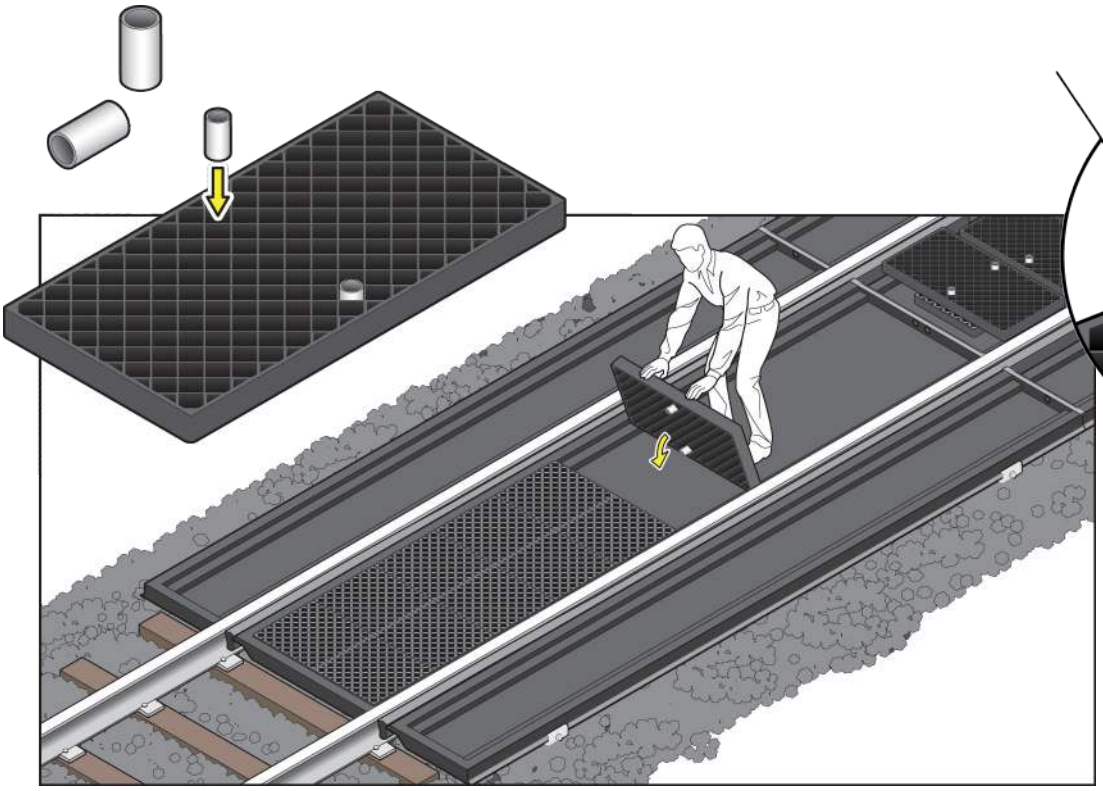
1. If using gaskets to seal the Ultra-Track Pans, Composite Model to the rails, position one gasket on each side of the center track pan.

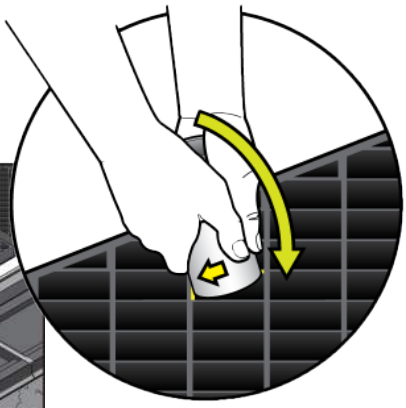


2. After all of the center pans gaskets are in place, it is necessary to install the center pan seam covers at each pan-to-pan connection. Using the same adhesive for attaching the center pans together, run a bead of adhesive over the edge where the pans connect and another bead of adhesive on the underside of the seam cover. Flip over the seam cover and position it on the edge where the pans attach. Using weighted objects, if necessary, ensure that seam cover remains in place until the adhesive cures.



3. If using grates as a walking surface for the Ultra-Track Pans, Composite Model, prepare ten grates for each center pan by inserting two grating pedestals into the diamond on the underside of each grate. These pedestals will prevent the grates from sagging over time.



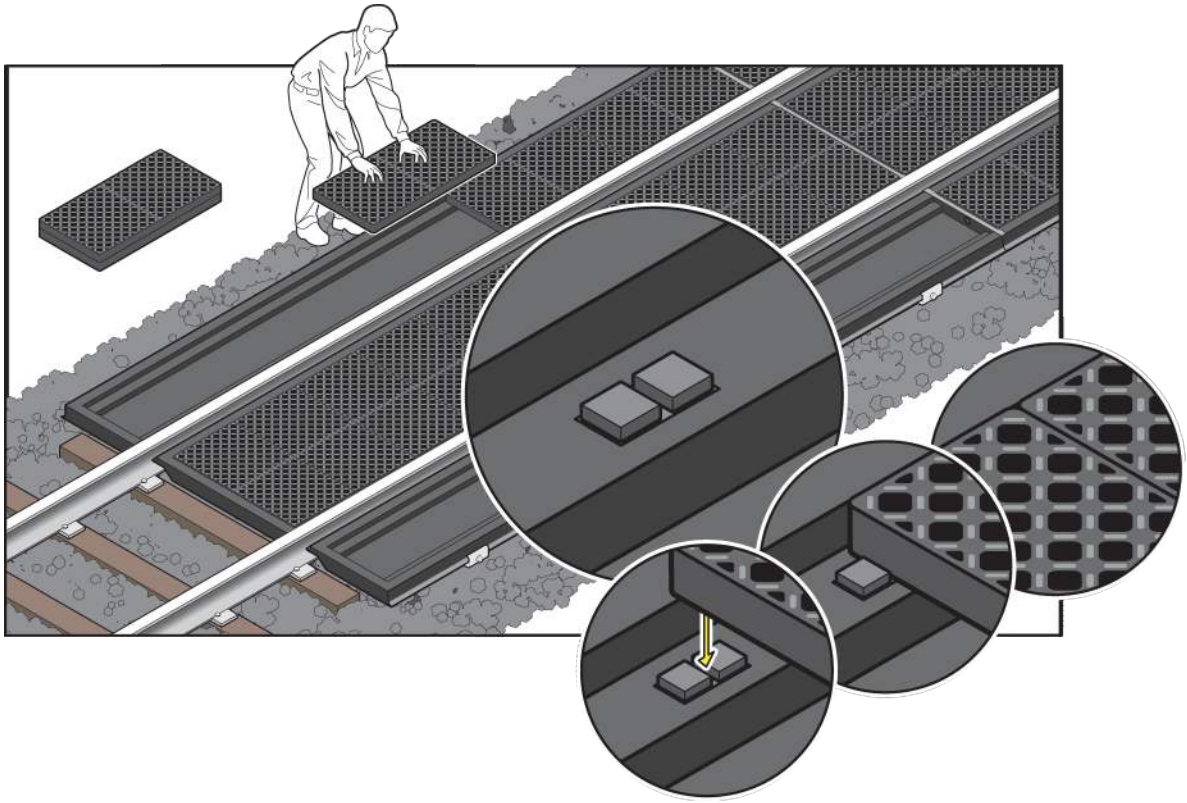


TIP: If it is difficult to insert the grating pedestals. Squeeze them and insert them into the grating at an angle.

4. Positon ten grates in each center pan, using the grating locator positions on the pans.

5. If using gaskets to seal the Ultra-Track Pans, Composite Model to the rails, position one gasket on rail side of the side track pan.
6. After all of the side pans gaskets are in place, it is necessary to install the side pan seam covers at each pan-to-pan connection. Using the same adhesive for attaching the pans together, run a bead of adhesive over the edge where the pans connect and another bead of adhesive on the underside of the seam cover. Flip over the seam cover and position it on the edge where the pans attach. Using weighted objects, if necessary, ensure that seam cover remains in place until the adhesive cures.

7. If using grates as a walking surface for the Ultra-Track Pans, Composite Model, positon five grates in each side pan, using the grating locator positions on the pans.



Your Track Pan system should now be ready and fully operational. If you have any questions, please call us at 904-292-1611. You can also email us at info@trackpans.com

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