



DRYER SCREEN CONVEYOR INSTALLATION

DRYER - CONVEYOR INSTALLATION: SCREEN – POLYESTER / PPS / PEEK

Screen Conveyor Installation

Conveyor Installation

Chain Installation

Support Sprocket Installation (if not already installed)

Screen Installation

Fines Drag Installation

Conveyor Tension

Overlap and Sew Seams

Pre-Heat Shrink

Conveyor Tension

Lower Conveyor Side Seals (optional on specific Dryer Models)

WENGER MANUFACTURING, INC.
P.O. Box 130
714 Main Street
Sabetha, Kansas 66534 USA
785-284-2133

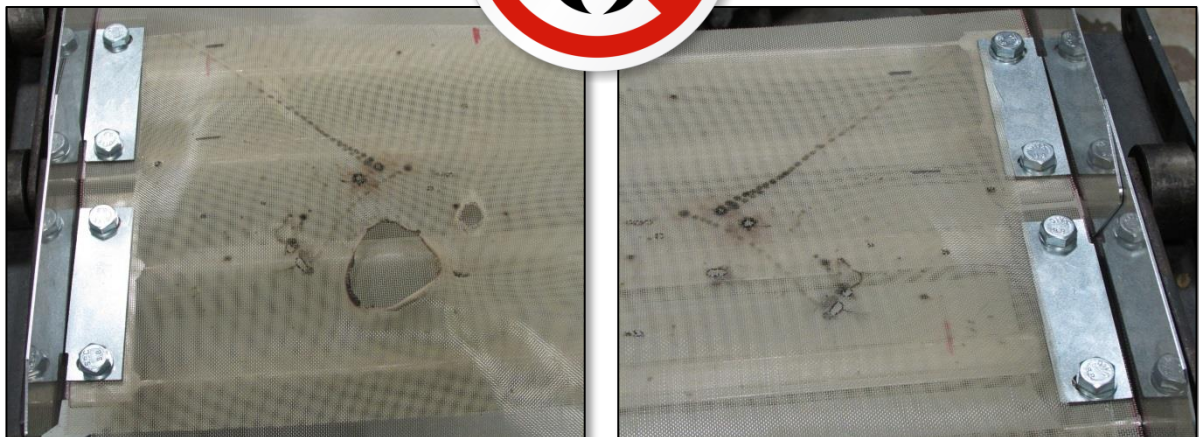
DRYER – SCREEN CONVEYOR INSTALLATION

REVIEW ALL STEPS BEFORE YOU BEGIN and develop an installation plan of action based on the number of workers and work area available to perform the conveyor installation.

Preview Screen Installation Drawing/Diagram in Wenger Manual prior to proceeding.

IMPORTANT NOTE!!!

Conveyor Screen can be severely damaged if exposed to welding or grinding sparks. Install screen after surrounding hot work is completed or cover screen as necessary while performing hot work in the general area of the dryer. The product inlet under the spreader is the most susceptible area of concern.

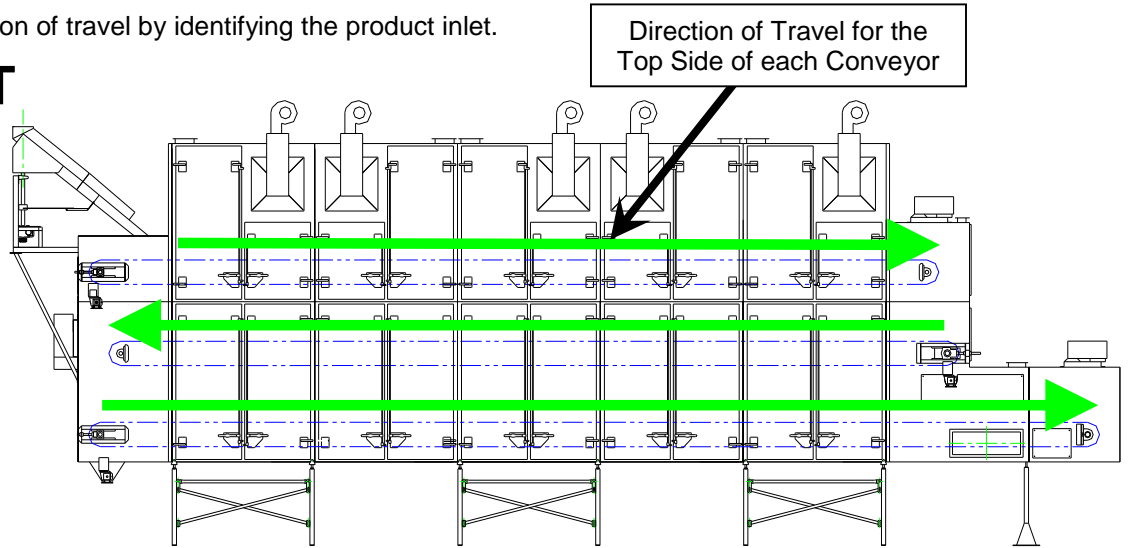


1. Screen Conveyor Installation

Determine Direction of Travel

Determine direction of travel by identifying the product inlet.

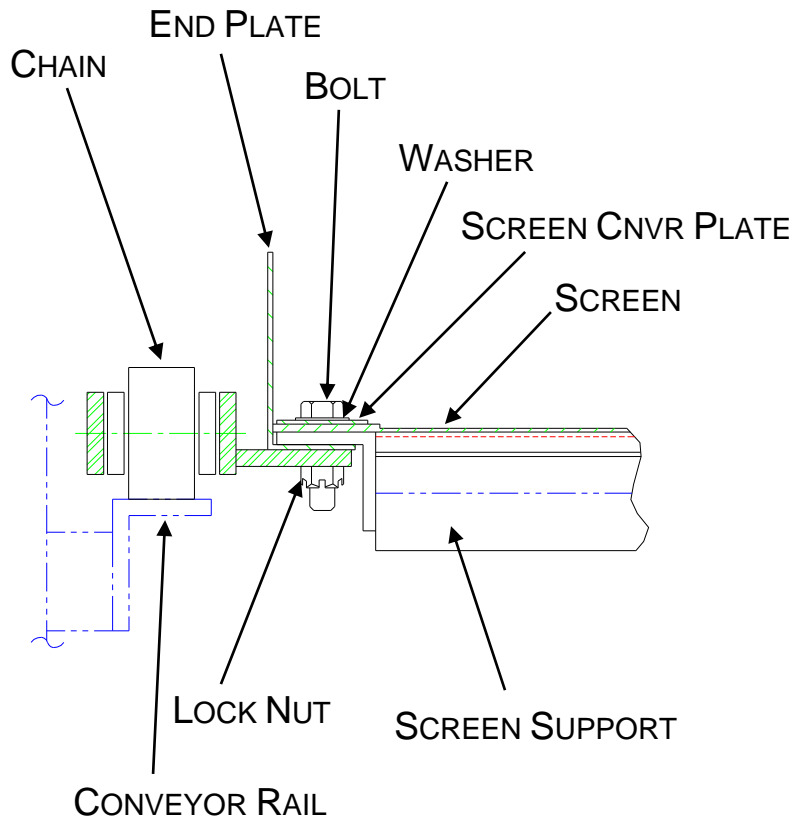
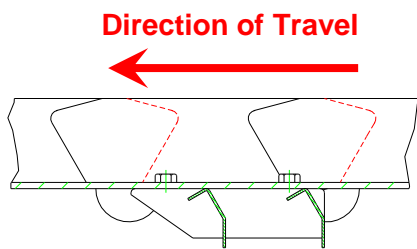
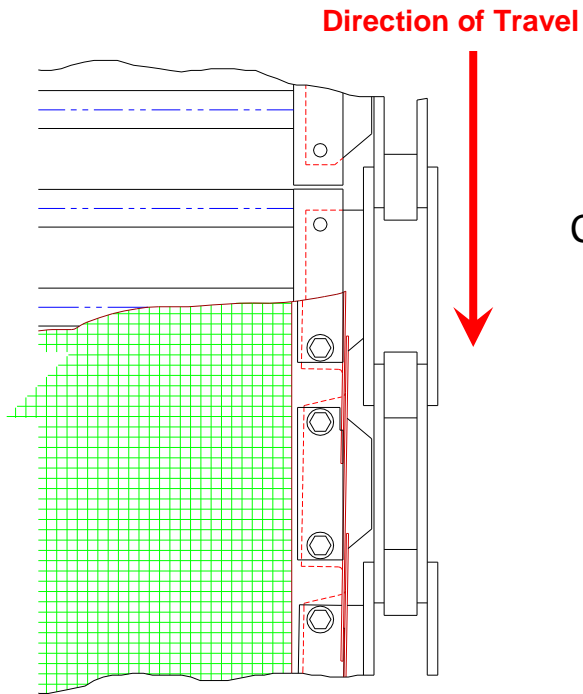
INLET



A. Conveyor Installation

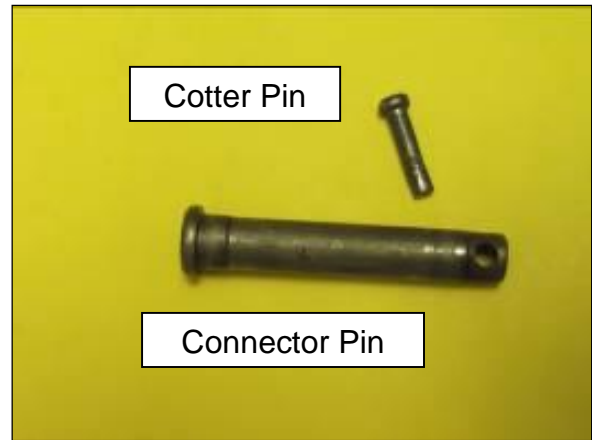
Components

Bolt, GR8.8, M10-.50X30MM
 Flat Washer M10
 Screen Cnvr Plate
 Screen
 Screen Support
 End Plate (RH and LH)
 Conveyor Chain
 Self-Locking Nut M10-1.50



1) Chain Installation

Connect roller chains between sections using the pins from the connector links. Photos of the items needed follow:



The connector pin is a compression type pin that requires pressure to install it. Place the connector pin in the chain opposite the chain tabs with the cotter pin hole perpendicular to the chain tab before hammering (**cotter pin hole must be vertical to allow space to insert the cotter pin**). Hammer the connector pin completely through the chain and roller (may need to have support on the opposite side of the chain while hammering to allow the connector pin to completely expose the cotter pin hole). The connector pin head should be completely flush with the side of chain allowing the installation of the cotter pin. Use the small Vice-Grips to bend the cotter pin enough to keep the pin from falling out.

After cotter pin installation, hammer the connector pin back opposite of the installation direction if the chain joint is not loose. If the joint is not loose, poor conveyor tracking can result.



2) Support Sprocket Installation

(for 2.4 and 3.0 meter wide conveyors only)

Note: The Support Sprocket may already be installed, but it is critical that the Support Sprocket is aligned with the Screen Supports. If not aligned properly, all Screen Supports can be damaged (bent).

The Support Sprocket is to be installed on all conveyor shafts. These supports will prevent long term damage to the Screen Supports. The Support Sprocket is not designed to be a drive mechanism.

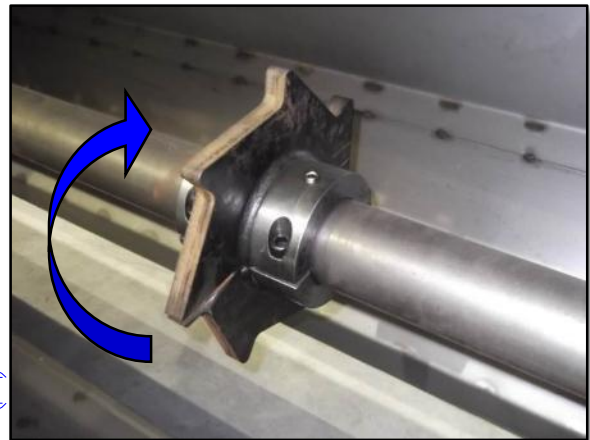
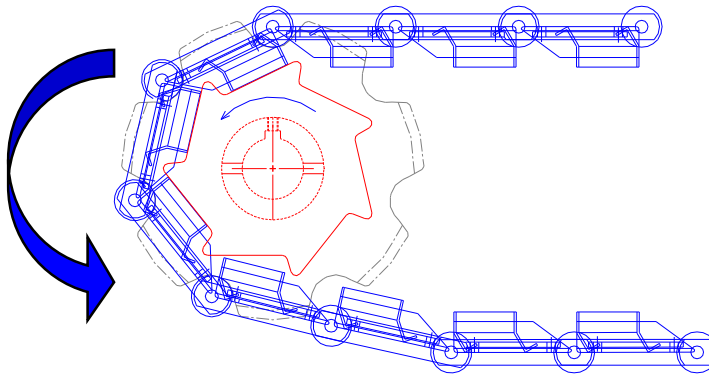
The Support Sprocket is easier to install with Screen Supports removed in the shaft area. Removing the Screen Supports prior to installation will allow access to the conveyor shaft without needing to crawl inside the conveyor.

Install the Support Sprocket offset 5 inches (12.5 cm) from the center of the conveyor shaft.

Install two (2) Screen Supports to correctly align the Support Sprocket with the Screen Supports. (Reference photo that follows)

Tighten all set screws and cap screws to lock support in place. Torque cap screws to 100 foot pounds (135 newton meters).

The drawing below illustrates the sprocket after installed. Confirm screen supports align correctly with support.



3) Screen Installation

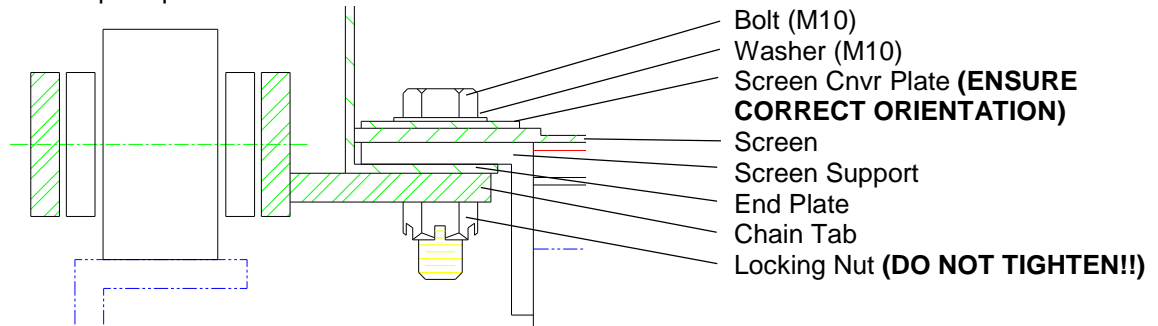
IMPORTANT NOTE!!!

LEAVE LOCK NUTS LOOSE UNTIL ALL COMPONENTS ARE INSTALLED AND THE CONVEYOR IS RUN FOR 1-2 HOURS.

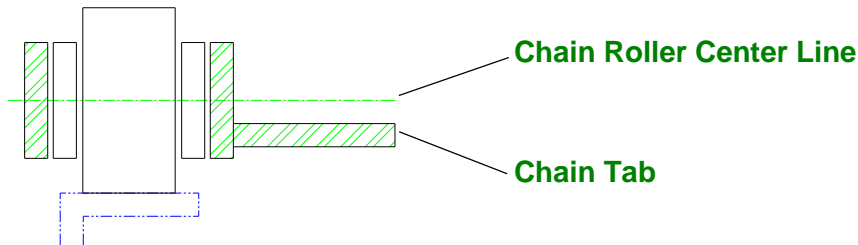


Leaving the fasteners loose when first running the conveyor allows the chain and components to align properly. This step is required before tightening fasteners, or damage can occur due to stress on conveyor components or poor tracking of the conveyor.

Installation Stack Up Sequence:



Chain Tabs should be below the center line of the chain rollers on the top side of each conveyor.



Leading edge (longer tab) of the End Plates lap on the inside of the conveyor. There is one Right Hand End Plate and one Left Hand End Plate for each Screen Support.

Trailing Edge

Lap outside conveyor

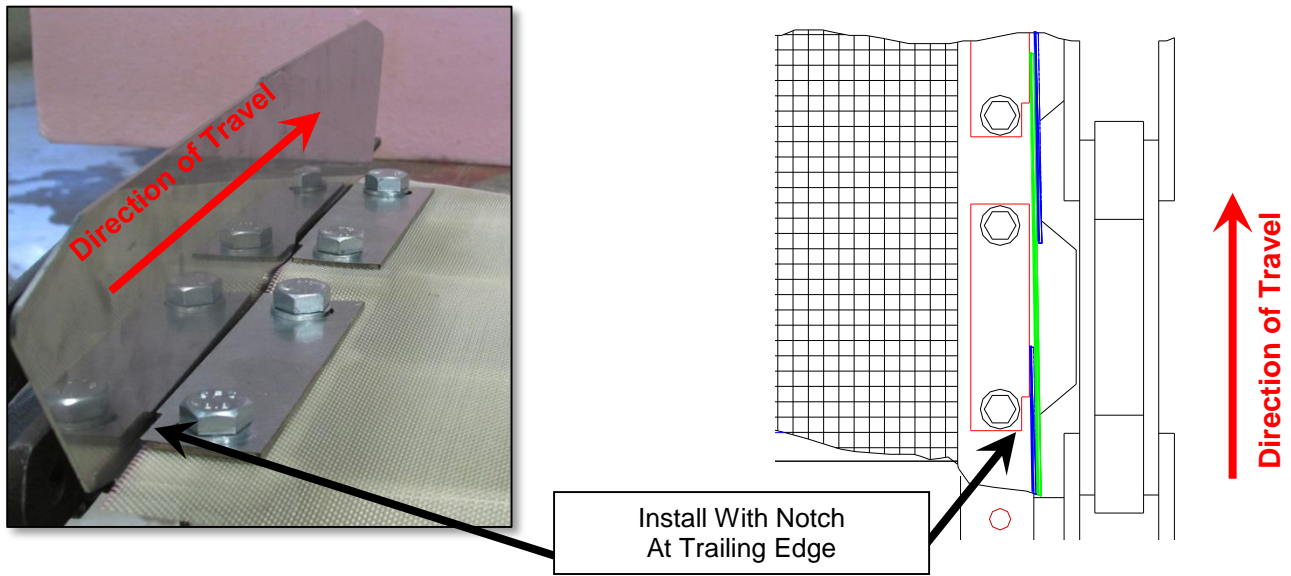
Leading Edge

Lap inside conveyor

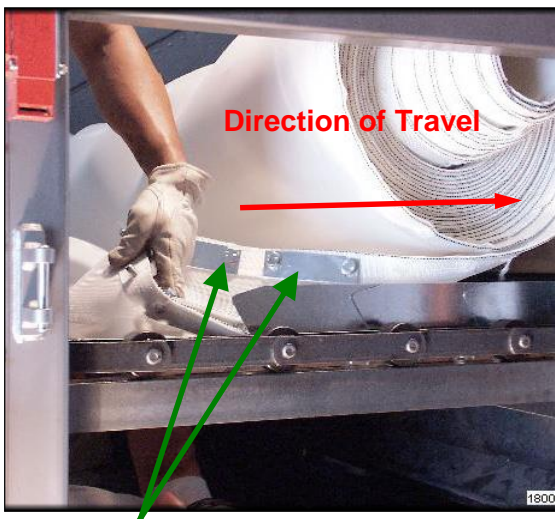
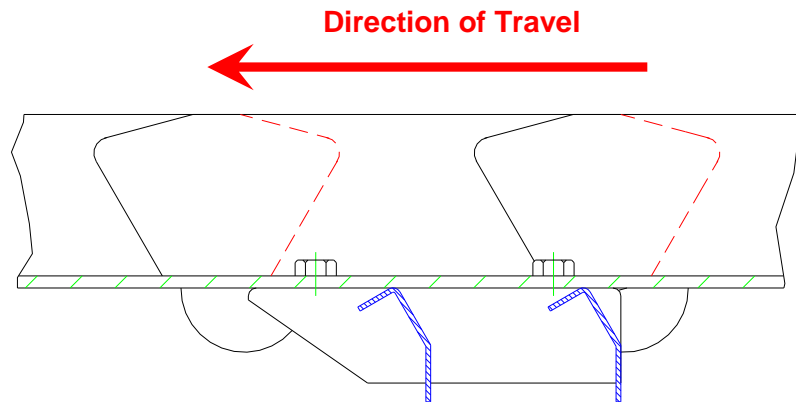


Direction of Travel

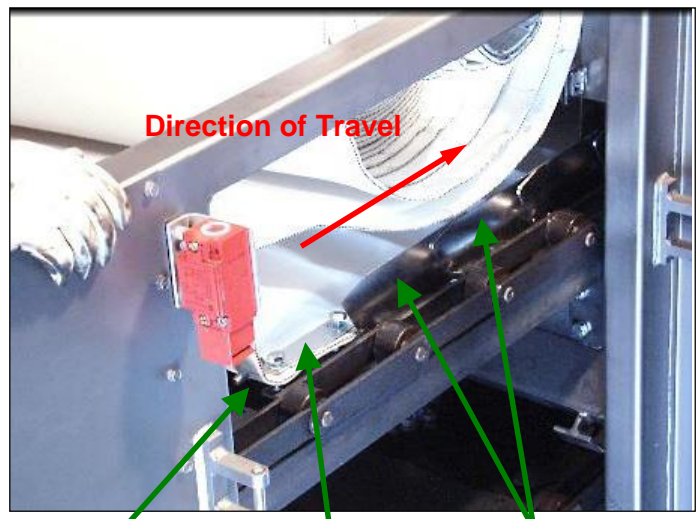
The Screen Cnvr Plates should be positioned with the cut out as the trailing edge and positioned facing the Conveyor Chain (see screen cnvr plates in diagram on right).



Orientation of the Screen Supports are shown below in blue. Shown from inside conveyor facing out.



Screen Cnvr Plates



Chain Tab Screen Cnvr Plate End Plates

B. Fines Drag Installation

Preview Drag Installation Drawing/Diagram in Wenger Manual prior to proceeding.

Fines Drags are installed on top of the new screen.

Determine the Drag locations throughout the dryer. Reference the note in the Dryer installation section of the shop order.

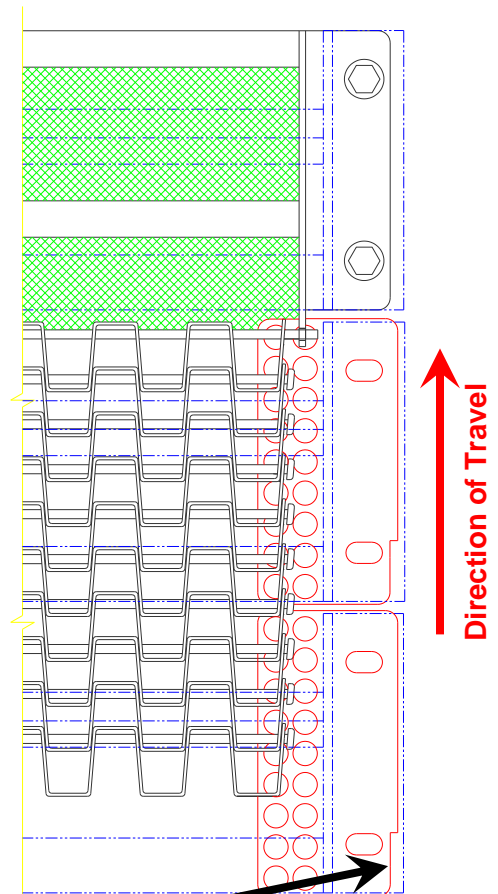
Note the direction that the conveyor will travel below.

If bolts are already installed, remove Bolts from the Screen Support in the location of the Fines Drag to be installed.

Remove the screen cnvr plate and install Drag Support on top of the screen. The Screen Cnvr Plates are not used where the drag supports are installed.

Remove the Bolts and Screen Cnvr Plates from the two, three, or four Screen Supports following the Fines Drag (depending on length of the drag). Install the Drag Cnvr Plates on top of the Screen and replace Bolts. The Drag Cnvr Plates should be positioned with the cut out as the trailing edge and positioned facing the Conveyor Chain (see drag cnvr plates in diagram on right).

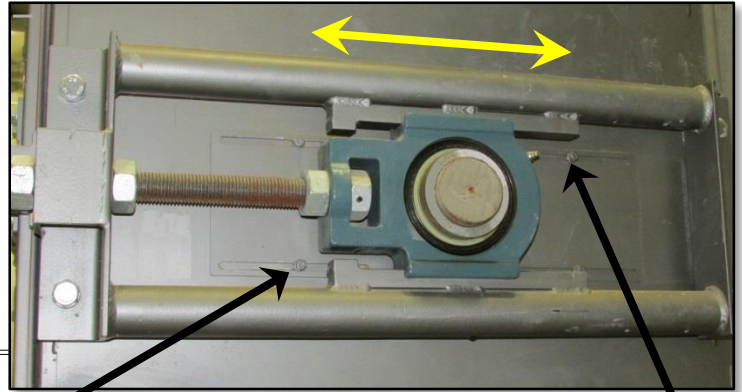
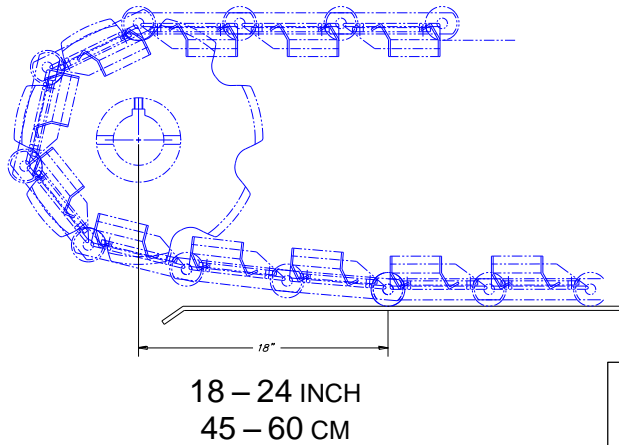
Note: Drag Cnvr Plates protect the Screen from wear due to abrasion from Chain Drag.



Install With Notch
At Trailing Edge

C. Conveyor Tension

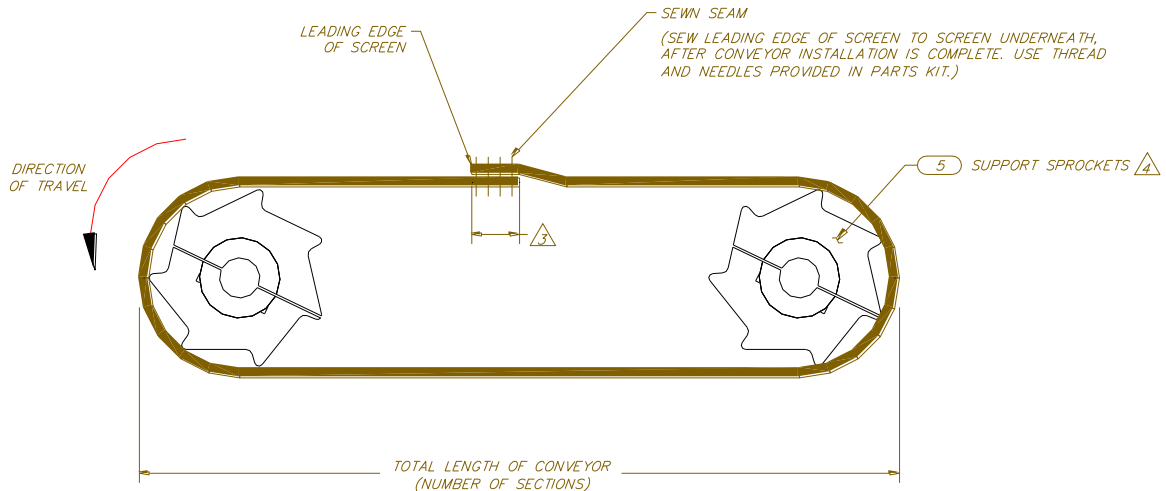
The correct tension for the conveyors can be checked by measuring where the chain rollers first contact the conveyor rail after traveling around the drive shaft sprockets (drive end). This measurement is taken from the center of the conveyor shaft to the first point the chain rollers contact the rail (shown below). Both sides of the conveyor must be equally tensioned to prevent tracking issues.

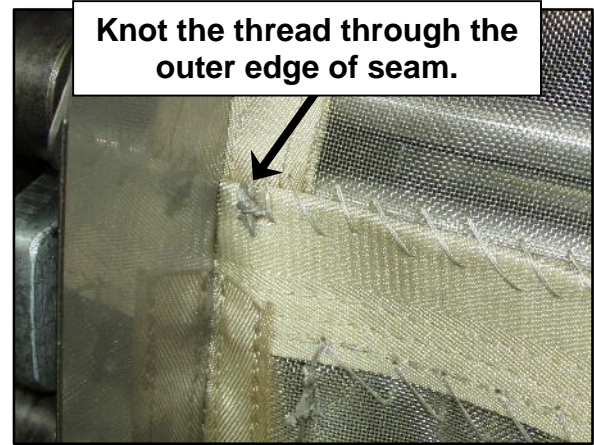
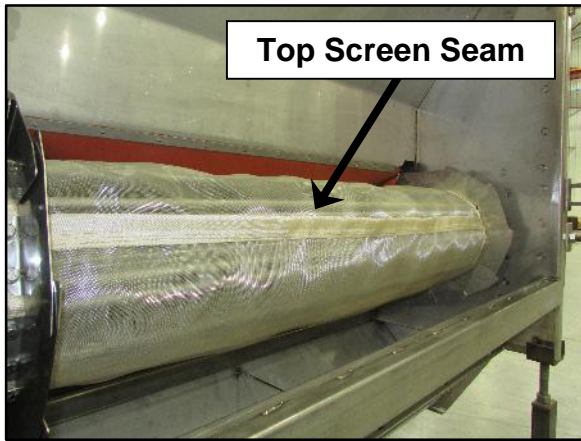


Note: If applicable, loosen cover plate fasteners before adjustment. After adjustment retighten fasteners.

D. Overlap and Sew Seams

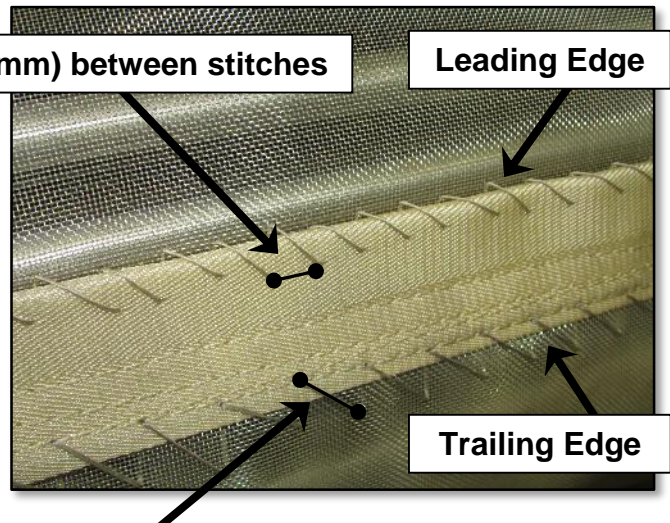
Follow the illustration below to overlap the remaining Screen. Sew the leading and trailing edge of the top screen seam to secure in place. Sew through both layers of screen to ensure the top screen is secured to the bottom screen. Sew with hook needle and thread provided in the parts kit.





3/8 inch (10 mm) between stitches

Leading Edge



Trailing Edge

5/8 inch (15 mm) long stitches

Sew the seam straight across the dryer. Follow a screen support to ensure the seam is straight. Do not worry about slack in the screen when sewing.

Sew thread lengths of approximately 40 inches (100 cm) at one time. Several lengths of thread with knots will be needed throughout the sewing process. This will increase the strength and durability of the sewn seam.

CRITICAL INSTALLATION STEP!!!

After installation of all screen components (with fasteners loose), run the conveyor for a minimum of 60 minutes to allow all components to align properly. This is a critical step to ensure each conveyor is tracking straight and to prevent damage to components that may get locked in place prior to proper alignment.

After running the conveyor with the lock nuts loose, tighten all lock nuts with an impact drill. Wenger recommends using M10 crimped steel-type lock nuts, torqued to 27 N-m or 20 lb-ft. Run the conveyors a second time to ensure conveyors operate smoothly. Then proceed to step E.



E. Pre-Heat Shrink

After all screen is installed and sewn, turn on the dryer and set the zone temperatures to the Pre-Heat temperatures shown in the following table. Operate the dryer at this temperature for a minimum of 60 minutes. Contact Wenger Manufacturing for screen specifications if needed.

Material	Pre Heat Temperature	
	Pre Heat Temperature	
	°C	°F
Polyester, PPS, PEEK	125	260

F. Conveyor Tension

Complete previous Step C again. This will ensure correct conveyor tension prior to proceeding with production.

G. Lower Conveyor Side Seals (If Applicable)

The final step to complete the conveyor installation is to lower the conveyor side seals. Loosen all the nuts/bolts per section of side flashing, allow Nomex to lower onto the end plates, then tighten all fasteners. This will prevent any product spillage or air leakage through the edges of the conveyor during the drying process. The Nomex (felt) material should be contacting the top edge of the conveyor End Plates

