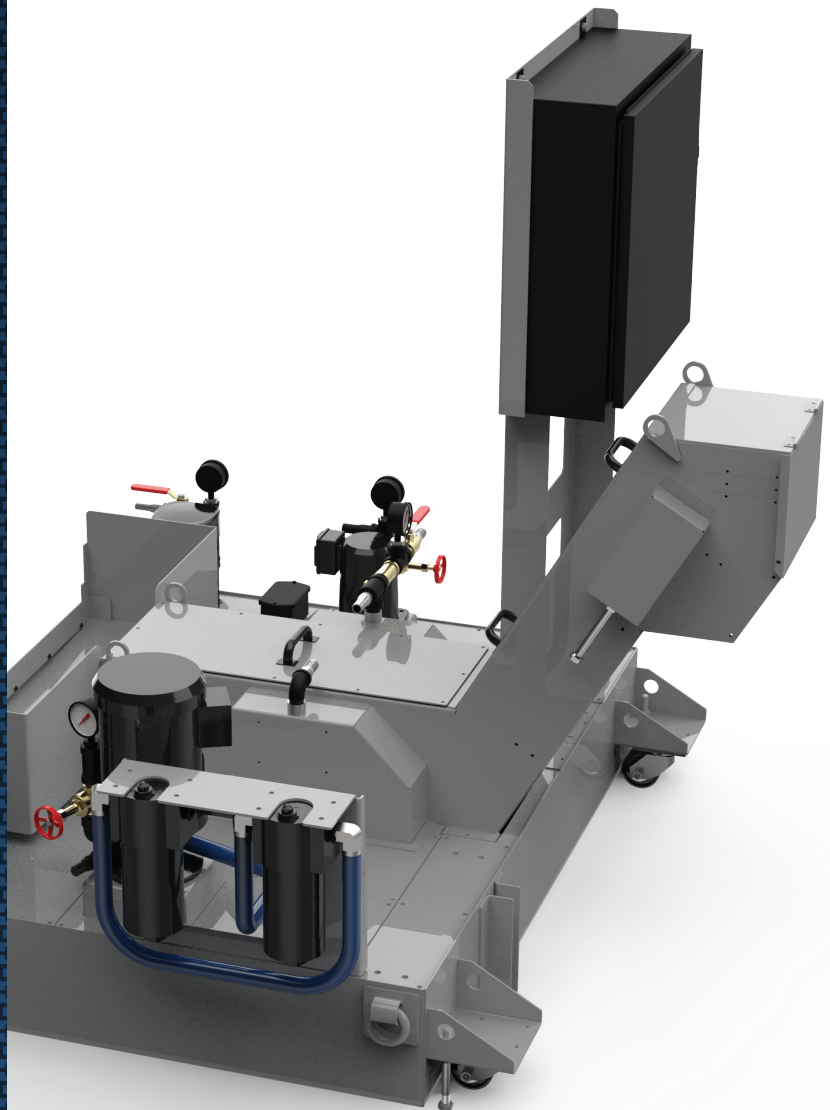


**INSTALLATION & USER GUIDE**

**CHIP-DISC  
FILTRATION  
(CDF)**



# 1. CHIP-DISC FILTRATION BY HENNIG

Thank you for purchasing your Hennig Chip-Disc Filtration (CDF) system. The purpose of this manual is to give information about the installation, operation, and maintenance of your system. This information should be shared with operators and maintenance personnel. For assistance in new applications or questions regarding your system, contact us at: 815-636-9900 or [info@hennig-inc.com](mailto:info@hennig-inc.com).

Our CDF is available in a variety of configurations to be adaptable to a wide array of machine tool applications. It's designed to remove chips and debris from coolant used in machine tool applications. The life of the CDF system can be extended greatly by following the instructions and guidelines in this manual.

**Our CDF systems come in a variety of configurations, and each system is designed specifically for your application. For your system specifications, refer to the spec sheet that was included with your shipment.**

**Your new Hennig system undergoes 100% end-of-line testing and inspection to verify proper function, prior to packing and shipment.**

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## SPARE PARTS ORDERING



Use the QR code to order spare parts for your system.

## 2. SAFETY PRACTICES

### OBSERVE THE FOLLOWING

1. Follow the warnings and instructions of this manual, and your own safety system. This includes using your lock-out tag-out (LOTO) system for electrical work.



2. Provide the proper level of training to operators and maintenance personnel.
3. Do not disable safety devices on your system.
4. Keep away from moving parts and pinch points of the system while it is operating.
5. Electrical work should only be done by authorized personnel, according to your training and safety system.
6. Keep guards/covers in place, except during maintenance.
7. Disconnect power before performing maintenance.

---

### RECOMMENDED PPE

1. Eye Protection
2. Gloves (especially when handling coolant, cutting oils, and metallic chips)



# 3. TRANSPORT & HANDLING

## 3.1 REMOVING FROM THE PALLET

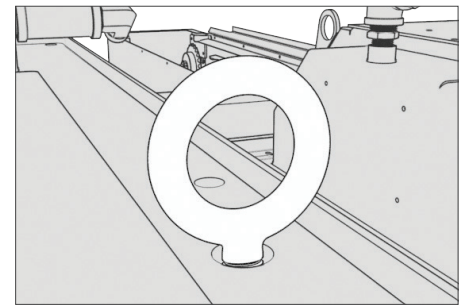
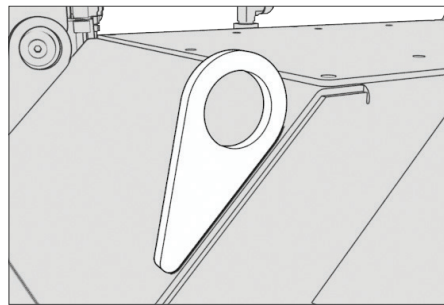
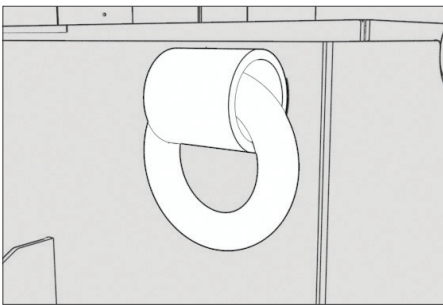
Hennig CDF systems ship on a custom pallet. The system can be moved on/off its pallet with a forklift or an overhead lifting apparatus (crane). Make sure your forklift, straps, and chains meet the weight specifications for the system being lifted or moved.

### Overhead lifting with straps/chains

1. Only use the lifting eyes (shown below) for picking up the system using straps or chains.
2. Keep the system horizontal while moving.

### Lifting with fork truck

1. Position forks under the system for lifting
2. The unit should only be picked up far enough to remove the pallet, then set down on its casters.



Typical lifting points on Hennig CDF systems.

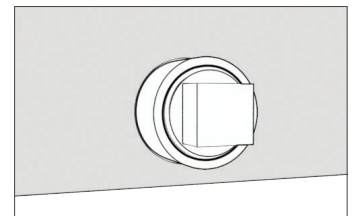
## 3.2 TRANSPORTING (NEW SYSTEM)

The safest method to move the system is by rolling on its casters. If not already on the casters, adjust the leveling screws so that the system rolls on its casters for proper transport. **See Section 4.4 for adjusting the leveling screws.**

## 3.3 TRANSPORTING (AFTER OPERATION)

Drain all coolant and remove all chips before transporting the CDF system. Follow directions above (3.2 Transporting) when moving the system.

**Coolant drains can be found near the bottom of the tank.**



## 3.4 STORAGE

In the event your system needs to be stored or out of service for more than 90 days, take the following steps:

1. Drain all coolant and wipe all surfaces to remove chips, swarf, oil, coolant, etc.
2. Using a shop towel or rag, wipe exposed sheet metal surfaces with a rust preventative.

**Outdoor storage not recommended.**



## 4. INSTALLATION & START-UP

### 4.1 INSPECT YOUR SYSTEM

Check the system for any damage that could have occurred during shipping. If damage is found, contact Hennig at 815-636-9900 or email [info@hennig-inc.com](mailto:info@hennig-inc.com)

---

### 4.2 REMOVE PACKAGING AND DEBRIS

Remove all objects such as shipping papers, crating, etc., that may be present in the system.

---

### 4.3 POSITION THE SYSTEM

If not already removed from the pallet, follow the recommendations under Transport/Handling (Section 3) for safe handling while positioning the CDF's chip chute under the machine's chip/coolant discharge.

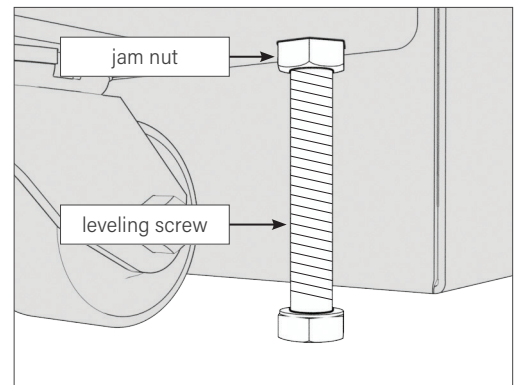
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### 4.4 LEVEL THE SYSTEM

The system should be installed on a flat, level floor. If that is not possible, use the leveling screws to bring the system into a horizontal position.

1. Loosen the jam nuts and then adjust the leveling screws until the system is level.
2. Once level, tighten the jam nuts to lock the system in its position.

**There is risk to overfilling and uneven coolant distribution in a system that is not level.**



### 4.5 CONNECT POWER AND CONTROL CABLES TO MACHINE

Install power and auxiliary cables into electrical box or switch. Be sure to use the correct voltage and phase for the system. Refer to the electrical schematic supplied with your system for the correct voltage and phase.

---

### 4.6 INSTALL HOSES & WIRING FOR PUMPS, CHILLERS, BAG FILTERS, ETC.

1. Connect all pumps, chillers, bag filters, oil skimmers, etc. to the machine using the provided hoses and fittings. Please note, tapered thread fittings (such as NPT thread) will require the use of Teflon tape to create a reliable seal. Swivel fittings do not use their threads to make a seal, so no thread sealant should be applied.
2. Install wiring for pumps, chillers, oil skimmers, hi/low float switches, etc. to the machine electrical system if required. Ensure all electrical service meets local codes.

## 4. INSTALLATION & START-UP

### 4.7 FILL THE SYSTEM WITH COOLANT

1. Ensure the system is turned off, then fill the coolant tank to approximately 2" below the tank covers.
  2. Check for any leakage. Contact Hennig immediately if any leakage occurs.
    - If an integral super-clean tank is supplied, be sure to fill it with coolant also.
    - Refer to your machine's specifications for coolant type.
    - Never fill a tank with the pumps running (tank may overflow when coolant returns from the machine due to overflow).
- 

### 4.8 POSITION THE CHIP BIN

For easy chip disposal, place a large metal bin under the discharge head to collect the discharged chips.

---

### 4.9 POWER ON & RUN THE SYSTEM

Start up the CDF system and allow it to run (without the machine in operation) for approximately an hour (without load) to ensure everything is working properly. After the system has run for a while, it may be necessary to top-off the coolant. Top-off at the super-clean tank.

---

### 4.10 YOU'RE ALL SET!

Great job! Your CDF system is ready to start moving chips!

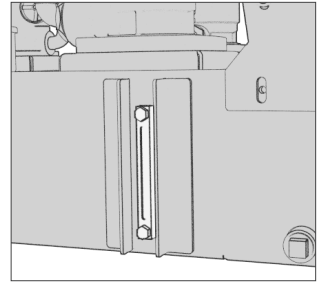
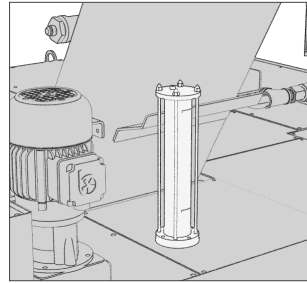
# 5. DAILY MAINTENANCE

## 5.1 CHECK THE MAIN TANK COOLANT LEVEL

Locate your system's sight gauge (one of the two options pictured to the right). Check the coolant level while the system is not running. Fill as needed.

**See Section 4.7 for fill instructions.**

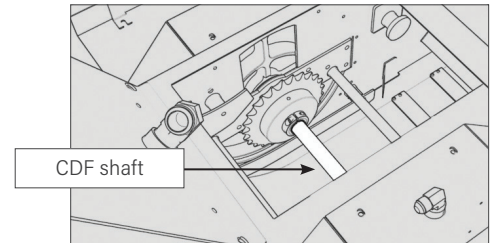
**Do not fill while pumps are in operation - overflow may occur due to coolant settling back out of the plumbing when the system is stopped.**



## 5.2 CHECK THE CONVEYOR COOLANT LEVEL

Remove the cover plate and check the coolant level in the conveyor part of the system. Normal coolant level in the conveyor should remain below the CDF shaft/center of the disc filter assembly. If it is higher than normal, inspect the filter screen for blockage. Clean or replace the filter screen as needed to bring the system back into a normal operating condition.

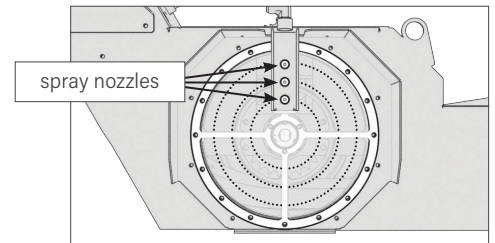
**See Section 6.9 for filter screen maintenance.**



## 5.3 CHECK THE CDF BACKWASH SYSTEM

Check the CDF filtration backwash system for sufficient spray volume. A banding (slight discoloration) of the filter screen that reflects the position of the spray nozzles is normal and shows the nozzles are effectively washing chips off the filter screen.

**Dotted line (.....) represents proper banding pattern on the filter.**  
**See section 7 for removing filter disc cover.**

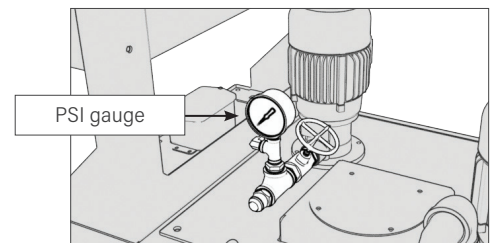


## 5.4 VERIFY BACKWASH PRESSURE

With the system running, verify backwash pressure.  
**Proper pressure is 15 PSI.**

Adjust as needed by turning the handle.

- clockwise to increase pressure
- counter clockwise to decrease the pressure

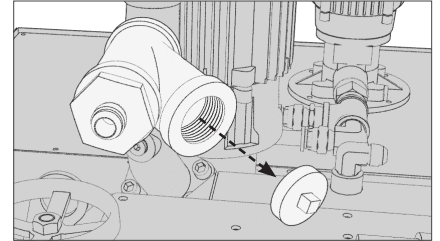


# 5. DAILY MAINTENANCE

Because applications vary significantly, your CDF systems may or may not be equipped with the features below. If your system does have any of these features, follow the steps below to maintain optimal efficiency of your CDF.

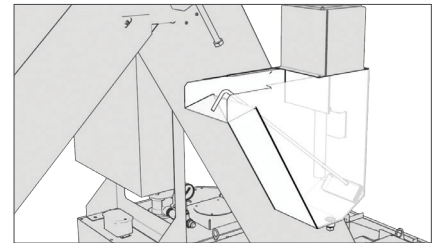
## 5.5 CHECK THE Y-STRAINER

Remove the cap on the Y-strainer and check for chip build up. Clean out as required and reinstall the cap.



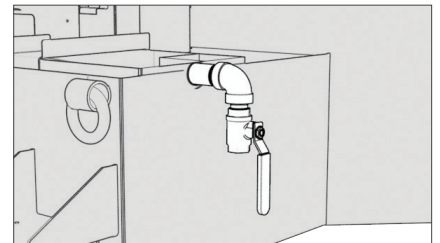
## 5.6 INSPECT / EMPTY SLUDGE POTS

If your system is equipped with a sludge pot, use the scraper that was supplied with the pot to empty the sludge. Sludge collects at the bottom of the pot.



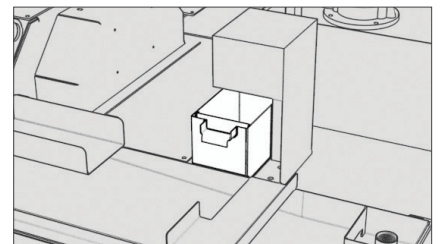
## 5.7 DRAIN THE PASSIVE SKIMMER

If your system is equipped with a passive skimmer, drain off all tramp oil from passive skimmer.



## 5.8 DRAIN THE OIL SKIMMER

If your system is equipped with an oil skimmer, empty the oil skimmer collection cup.



## 5.8 EMPTY THE CHIP BIN

Be careful not to let the bin overflow, otherwise chips can build up at the discharge head and cause a jam.

**Depending on chip flow rate, you may need to empty the chip bin more than once a day.**

# 6. PREVENTATIVE MAINTENANCE

The minimum recommended interval for PM is 1000 hours after initial system startup, and every 1000 hours thereafter. Because different machines have different duty cycles, determine a maintenance interval that works best with your system. The best way to avoid unplanned down-time is to follow the list in this section for system maintenance needs.

**Coolant will need to be drained to enable work on the system. See section 3.3 for draining coolant.**

## 6.1 CHECK/ADJUST BELT TENSION

1. Loosen the jam nut on each side of the conveyor.
2. Check the belt tension.

### SCRAPER BELT

On the bearing side, check the length between the bottom of the bearing hanger (where the jam nut bottoms out) and the inside of the tension screw head. Take the same measurement on the motor side. Compare the two measurements (they must be roughly equal for the belt to run evenly), and check scrapers for alignment (they should be square to the side of the conveyor). Adjust as needed and tighten the jam nuts.

*IMPORTANT! Be sure to measure from the bearing hanger, not the motor cover. A small steel scale is preferred to be able to take the measurement correctly.*

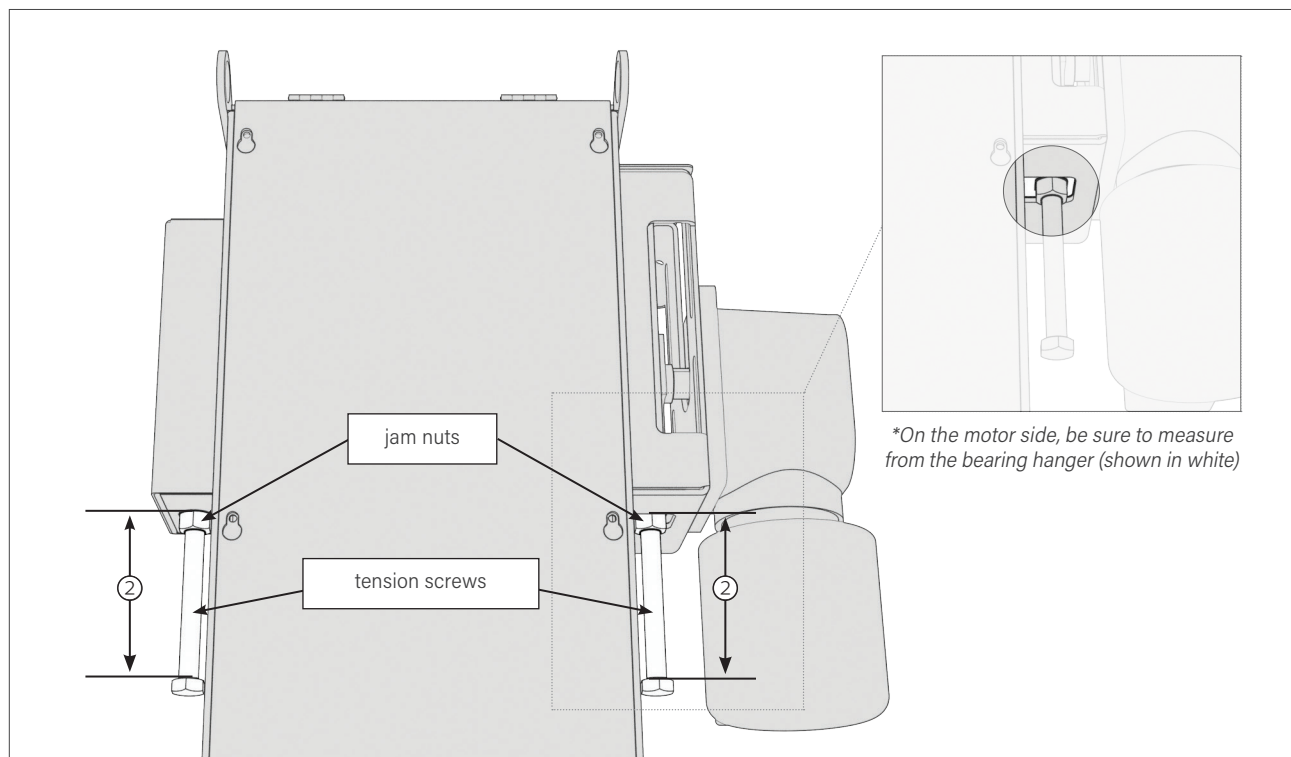
**Proper adjustment is 105 - 110mm on both sides.**

### HINGE BELT

Torque the tension screws (one on bearing side, one on motor side) and tighten the jam nuts.

**Proper tension is 25in-lbs on both sides.**

3. Observe the belt running. Belt jamming (stopping) indicates the tension screws are too tight. Belt jumping out of the sprocket indicates tension screws are too loose or uneven. Adjust as needed and tighten the jam nuts.





# 6. PREVENTATIVE MAINTENANCE

## 6.2 VISUALLY INSPECT BELT FOR DAMAGE

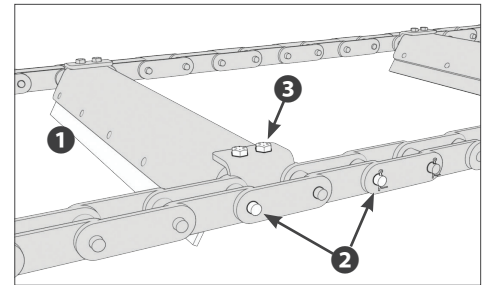
General inspection of either belt type can be accomplished at the discharge opening at the head of the conveyor (by removal of the slide lid, or through openings in the trough). To get a detailed inspection of the belt assembly, a complete removal of the belt from the conveyor body is recommended. This will provide complete access to all the integrated components.

### SCRAPER BELT (see Section 9 for scraper belt removal instructions)

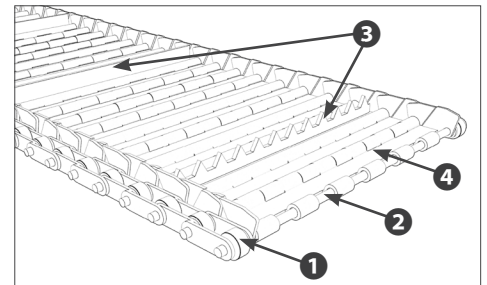
- ❶ The scraper blade attachments should be straight with no cracks.
- ❷ The belt should not be missing links or pins.
- ❸ Check for missing nuts and bolts

### HINGE BELT (see Section 11 for hinge belt removal instructions)

- ❶ Ensure rollers are rotating freely and check for wear.
- ❷ Check belt shafts for wear.
- ❸ Ensure that scrapers and cleats are still effective – replace if necessary. Hinge belts are equipped with plain cleats, serrated cleats, and/or scrapers.
- ❹ Check hinge plates for damage.



Scraper belt



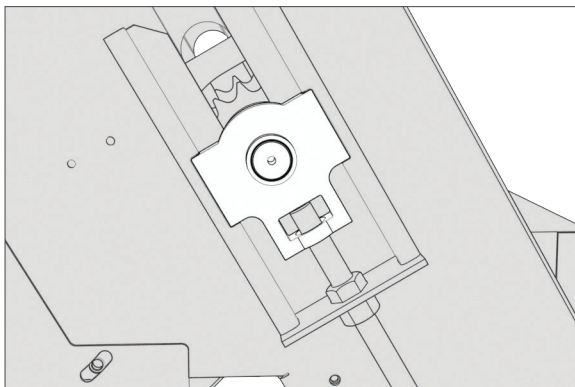
Hinge belt

Use the QR code on page 1 to order spare parts for your system.

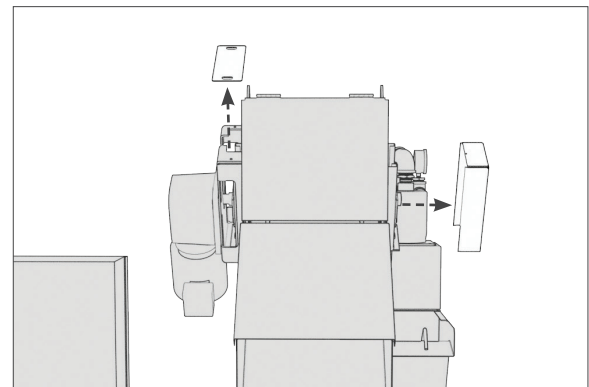
## 6.3 GREASE THE TAKE-UP BEARINGS

Take-up bearings are found on the sides of the discharge head (one on each side of the conveyor). The bearings are accessible by removing a cover or plate. A good, general-purpose grease is recommended.

**Hennig recommends Mobilgrease XHP222. Do not over-grease or bearing seal damage may result.**



Take up bearings are accessible once cover plates are removed.



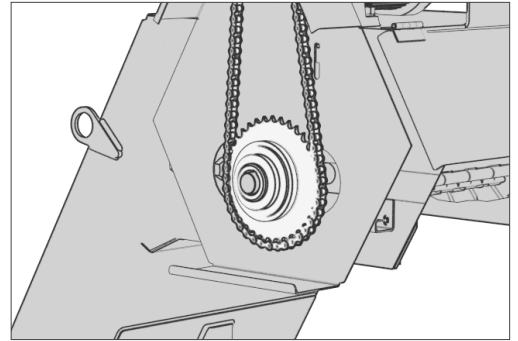
Remove the cover plates on each side for take up bearing access.

# 6. PREVENTATIVE MAINTENANCE

## 6.4 CHECK TORQUE LIMITER (CHAIN DRIVE)

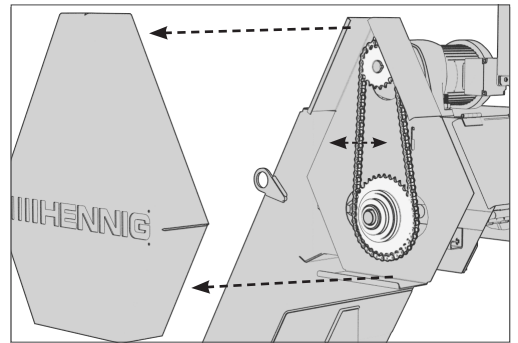
Torque limiters are used with chain driven conveyor systems only. If you have a chain driven system, check the torque limiter's setting by running the conveyor. If the belt is slipping, tighten the torque limiter a quarter turn at a time, checking for belt slippage after each quarter turn, until the belt no longer slips.

**Do not over-tighten the torque limiter as damage may occur in the event of a jam.**



## 6.5 CHECK THE MOTOR DRIVE CHAIN (CHAIN DRIVE)

1. Remove the chain drive cover.
2. Check the tension and alignment of the motor drive chain - there should be approximately 1/2" of slack (side to side) on the chain. Once proper tension is set, lightly oil the chain, being careful not to introduce oil to the torque limiter friction pads.



## 6.6 CHECK THE PUMPS, CHILLERS, SKIMMERS, ETC.

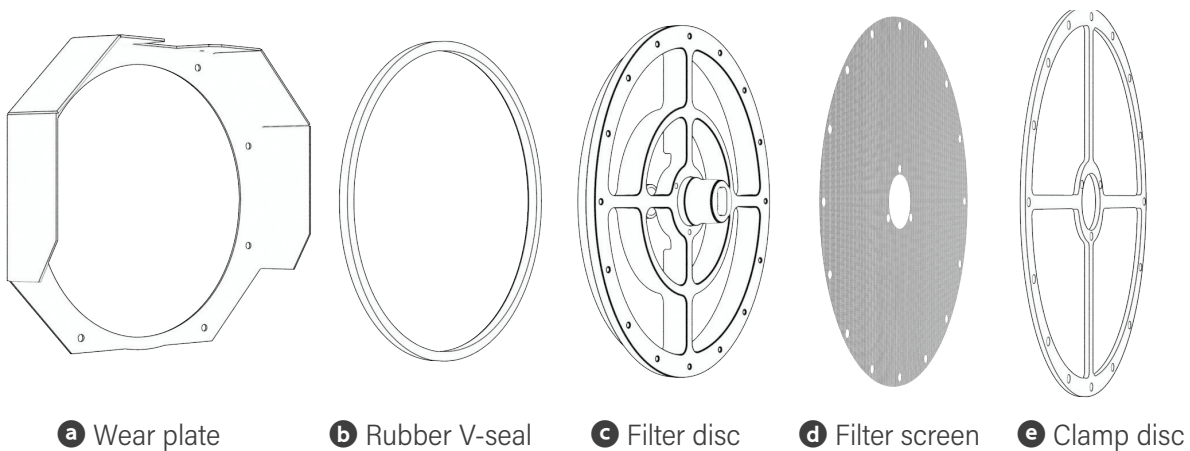
Maintain pumps, chillers, oil skimmers, and other system accessories per the manufacturer's service manuals.

# 6. PREVENTATIVE MAINTENANCE

## 6.7 INSPECT / CLEAN THE FILTER DISC ASSEMBLY

1. Remove the disc assembly. See section 7 for filter disc removal and disassembly.
2. Clean out all chip accumulation in the chip disc filter components (filter disc, filter screen, clamp disc). Regardless of adequate back-wash spray, filter screens over time can become unusable because chips become embedded in the mesh. Replace the screen if the filter screen cannot be properly cleaned or reduced performance has been observed.
3. Inspect the rubber V-seal. It should be free of nicks and cuts, and chips should not be embedded in it. Remove all chips before reassembly. Replace seal if there is substantial damage. Check for tension: v-seal should be tight on the disc and not be able to spin.
4. Inspect the wear plate. There should be no scratches or grooves in it, which could limit its sealing capability. Replace the wear plate if there is substantial wear.
5. Re-assemble and install the chip disc filter assembly when disc assembly components have been cleaned and/or replaced. See Section 8 for filter disc assembly and installation.

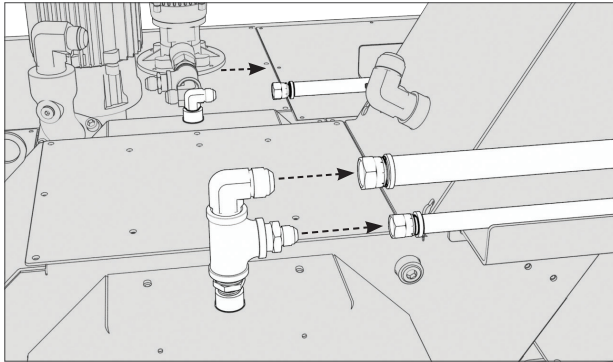
**Use the QR code on page 1 to order spare parts for your system.**



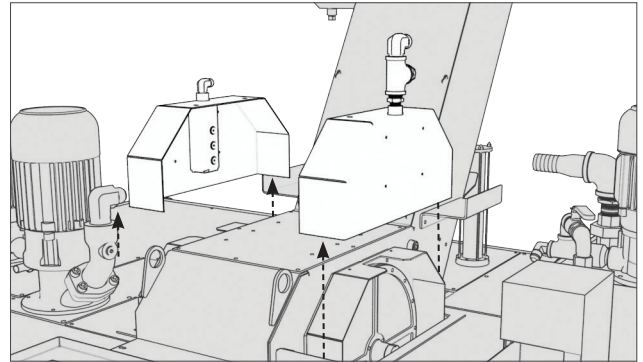
# 7. CHIP DISC FILTER REMOVAL

Images below show a dual CDF setup. Your particular system may have a single or dual disc setup, but the process is the same regardless of number filters included with your CDF.

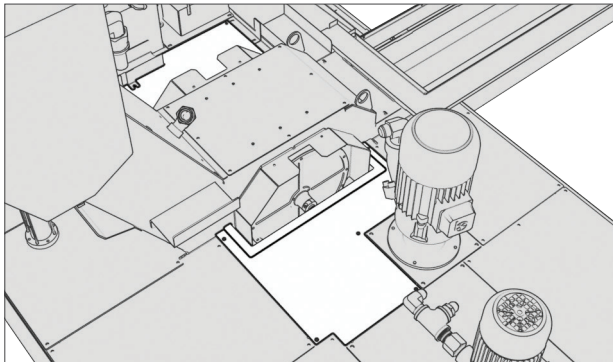
**If coolant is not already drained, drain the coolant. See section 3.3 for draining coolant.**



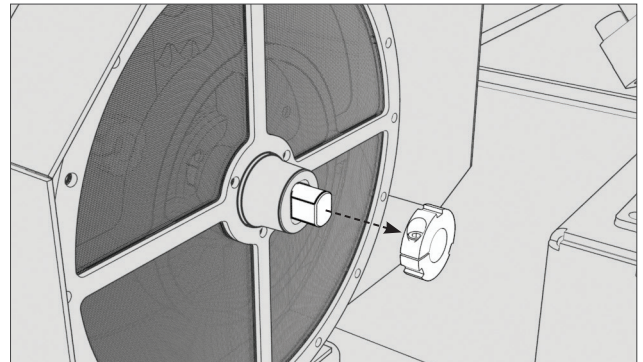
1. Remove the hoses from the CDF sprayers.



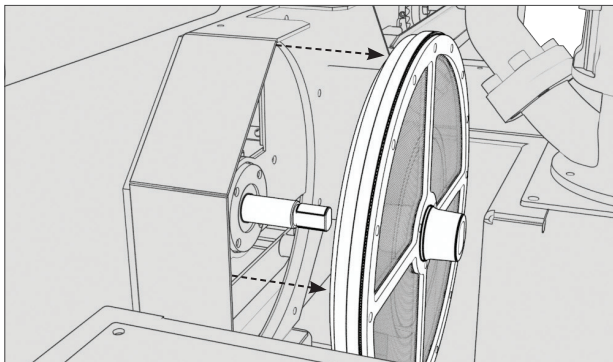
2. Remove CDF cover(s)/sprayer assembly(s) by removing the allen head screws and lifting it out of the system.



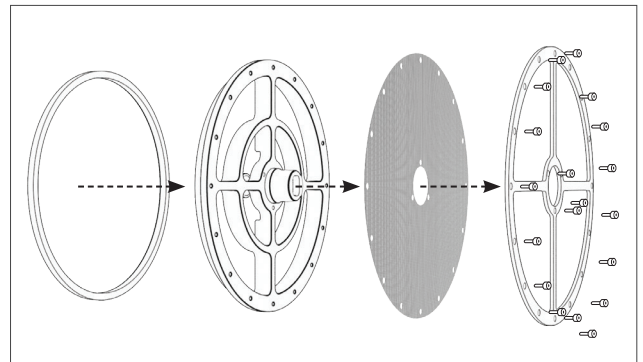
3. Removing the cover plate next to the disc filter may make it easier to slide off the clamp nut and disc assembly, but it is not mandatory.



4. Loosen the clamp nut lock screw and then remove the clamp nut by turning it off the CDF shaft.



5. With the clamp nut removed, now remove the disc assembly by sliding it off the shaft.

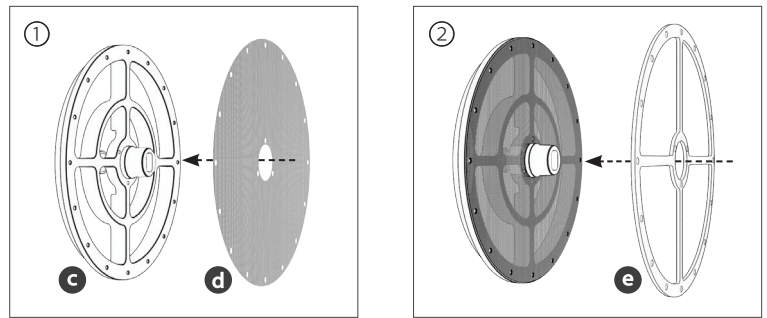


6. Disassemble disc filter assembly (by removing allen head bolts) so components can be properly inspected.

# 8. CHIP DISC FILTER INSTALLATION

## 8.1 ASSEMBLE THE CHIP DISC FILTER

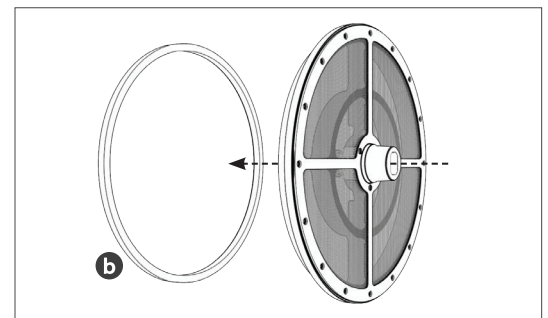
1. Position filter screen (**d**) on filter disc (**c**).
2. Install the clamp disc (**e**) and secure with allen head cap screws.



## 8.2 AFFIX THE RUBBER SEAL

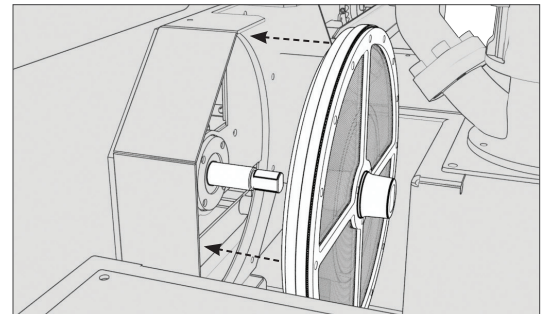
Coat the seal lip with a generous amount of white lithium grease and press rubber V-seal (**b**) on filter disc. Bearing or axle grease may also be used.

**V-seal should not turn on the filter disc. If it does turn freely, replace the seal.**



## 8.3 INSTALL THE CHIP DISC ASSEMBLY

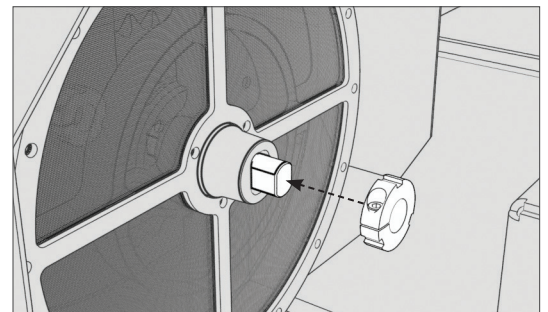
Slide disc filter assembly on the CDF shaft, but do not press it against the wear plate yet.



## 8.4 INSTALL THE CLAMP NUT

Thread the clamp nut on the CDF shaft.

**Do not tighten the clamp nut yet.**





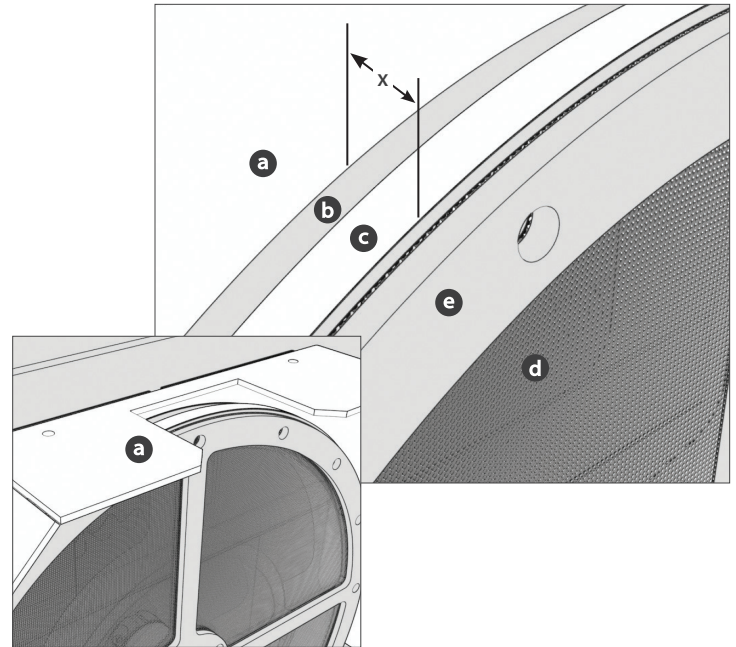
# 8. CHIP DISC FILTER INSTALLATION

## 8.5 CHECK DISC FILTER POSITION

1. Keep threading the clamp nut in (which pushes and positions the disc assembly), until the distance (x) from the CDF wear plate (a) to the edge of the filter disc (c) is 21-23 mm. Check distance every 90°. Make sure you're measuring at the edge of the filter disc. Do not measure to the edge of the filter screen clamp.

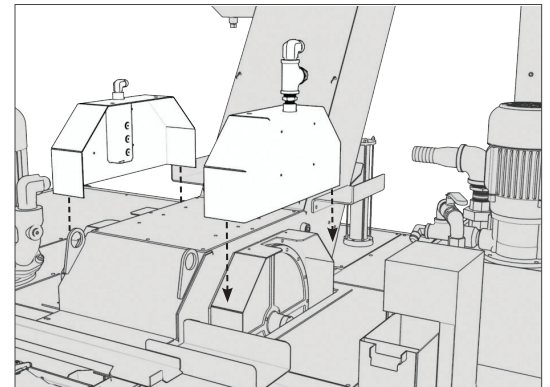
- a Wear plate
- b Rubber V-seal
- c Filter disc
- d Filter screen
- e Clamp disc

2. Tighten the allen head cap screw on the clamp nut to secure the CDF assembly.



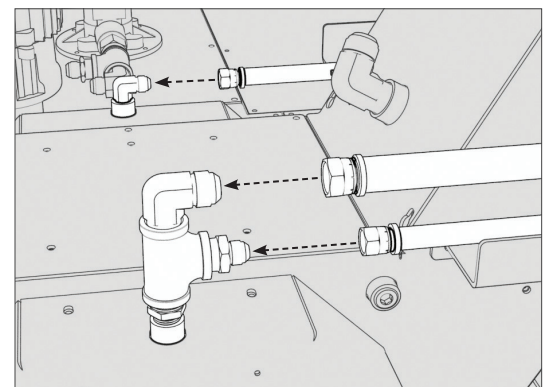
## 8.6 INSTALL CDF COVER / SPRAYER ASSEMBLY

Place the CDF cover(s) and sprayer assembly(s) and secure with allen head cap screws and washers.



## 8.7 INSTALL HOSES & FITTINGS

Install all hoses and fittings to the coolant pump and CDF sprayer.



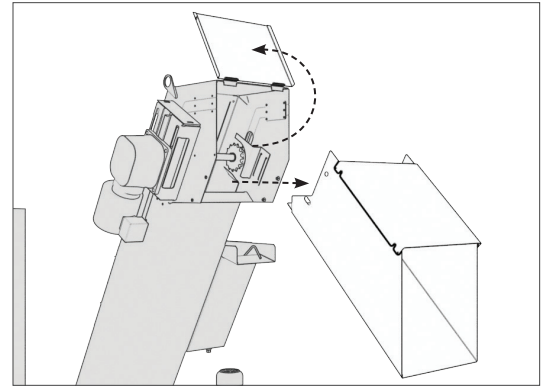
## 9. SCRAPER BELT REMOVAL

When the scraper belt is inspected and found to be damaged, due to either damaged scraper blades (bent, twisted) or broken chain, use the following procedure to remove a damaged belt and install a new belt.

**If coolant is not already drained, drain the coolant. See section 3.3 for draining coolant.**

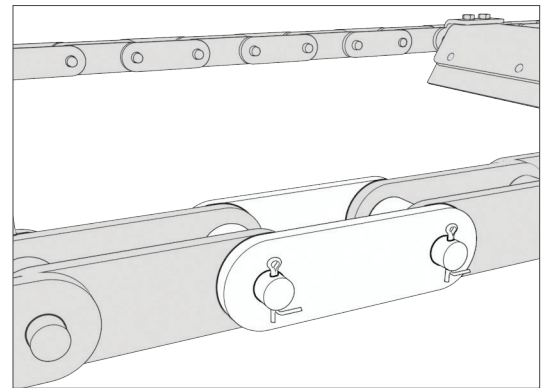
### 9.1 REMOVE THE DISCHARGE GUARDS

Remove discharge guards and flip the “flip lid” up, exposing the drive shaft and scraper chain so they are visible at the top of the discharge chute.



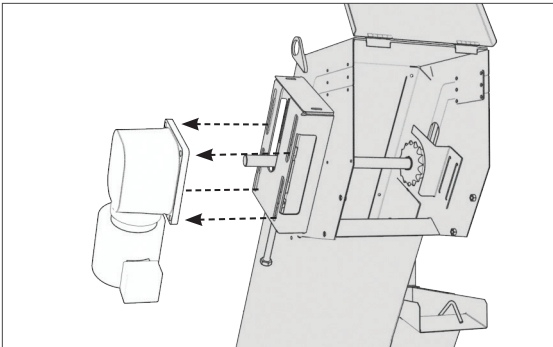
### 9.2 LOCATE AND REMOVE THE MASTER LINKS

1. Run the conveyor until the master links (the links with cotter pins) are visible at the top of the discharge chute.
2. Turn off the system and disconnect the power cable.
3. Remove the cotter pins and then the master link on each side of the belt.



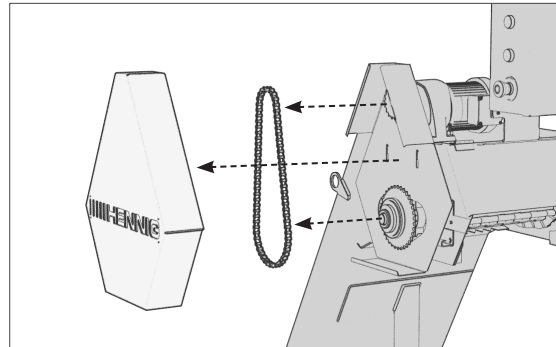
# 9. SCRAPER BELT REMOVAL

## 9.3 REMOVE THE MOTOR/DRIVE CHAIN



### DIRECT DRIVE

Remove the motor by removing the (4) fastener sets and pulling it off the drive shaft. This will allow the drive shaft to freewheel so the hinge belt may be easily removed.



### CHAIN DRIVE

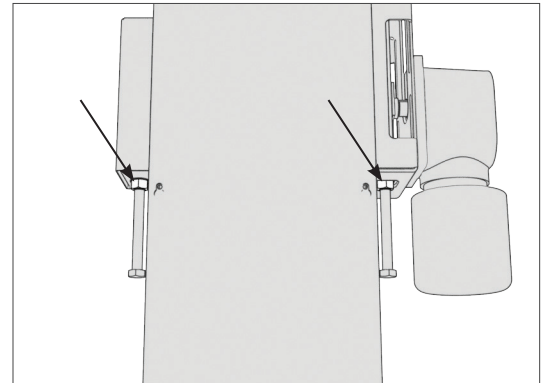
Remove the drive chain cover, then remove the chain from the gear motor by reducing tension and removing the chain master link.

---

## 9.4 LOOSEN THE JAM NUTS / TENSION SCREWS

Loosen the jam nuts and tension screws to remove pressure on the drive shaft.

**See Section 6.1 for loosening the jam nuts and tension screws.**

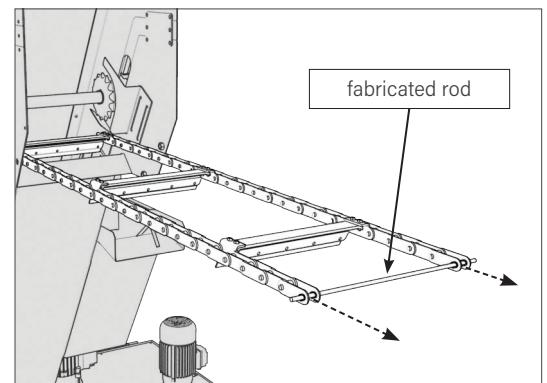


---

## 9.5 REMOVE THE BELT

1. Pull the scraper belt out of the lower side of the discharge chute. Having a pallet or bin to receive the belt helps with transporting it later.
2. Fold the belt on itself to make a neat pile.

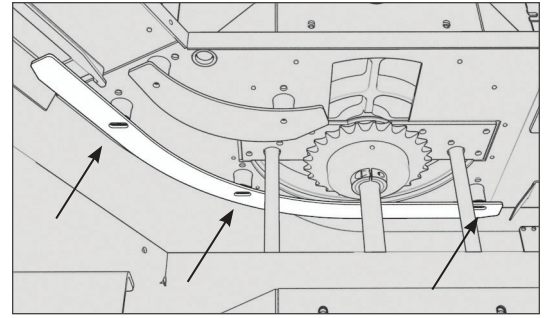
**It is a good idea to fabricate a rod that can be used as a pulling handle to remove the scraper belt evenly.**



# 10. SCRAPER BELT INSTALLATION

## 10.1 PREP THE ANGLED BELT GUIDES

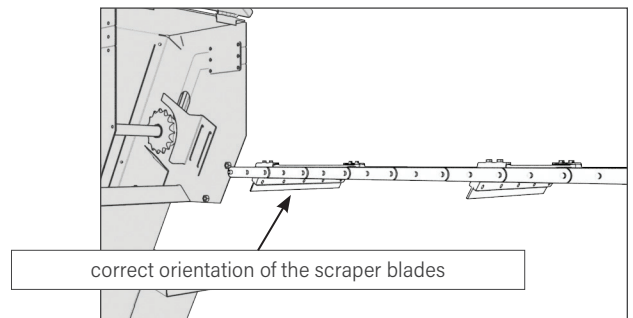
Before feeding the belt into the discharge chute, loosen the allen screws (but do not remove) on the angled belt guides on both sides of the infeed. This allows an easier pull through the machine.



## 10.2 POSITION THE SCRAPER BELT

Position the belt so the scraper blade faces the way it would run up the incline, with the bolt heads facing up and the scraper edge facing the infeed side of the conveyor.

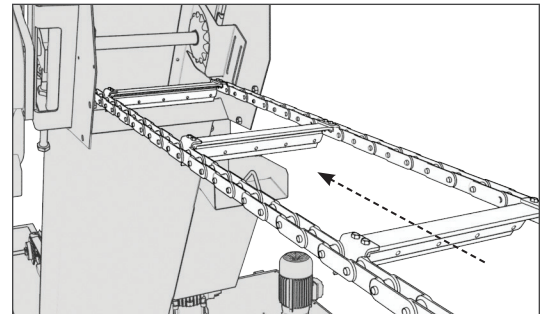
**The scraper blade fasteners on a new belt are loose to help with belt installation and alignment. Do not tighten the fasteners until the directions say to do so.**



## 10.3 FEED BELT INTO THE SYSTEM

Feed the belt down the lower side of the discharge chute, with the scraper blades touching the sheet metal incline.

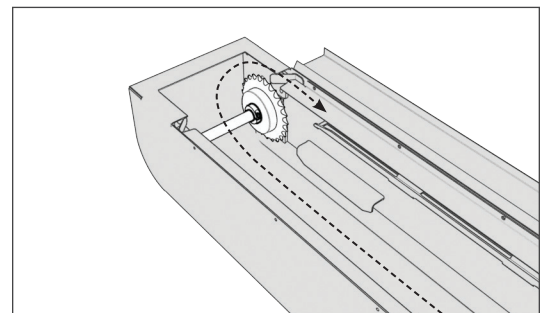
**Be sure the scraper blades are square and the chain links are even when feeding the belt.**



## 10.4 FEED BELT AROUND IDLER SPROCKETS

Continue feeding the belt along the infeed and around the idler sprockets, which are typically located towards the back end of the conveyor.

**Be sure the scraper blades are square and the chain links are even when feeding the belt.**

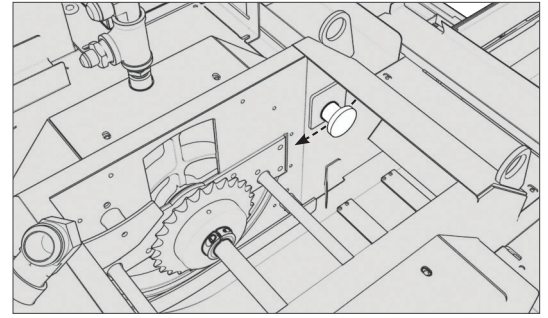


# 10. SCRAPER BELT INSTALLATION

## 10.5 FEED BELT UNDER THE RAIL KNOBS

Looking down the infeed, be sure the belt chain is centered on the rail knobs. Feed belt under the rail knobs.

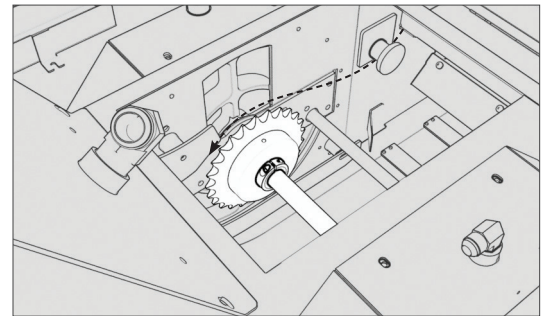
**Be sure the scraper blades are square and the chain links are even when feeding the belt.**



## 10.6 FEED BELT OVER CDF SHAFT SPROCKETS

Feed the scraper belt over the CDF sprockets.

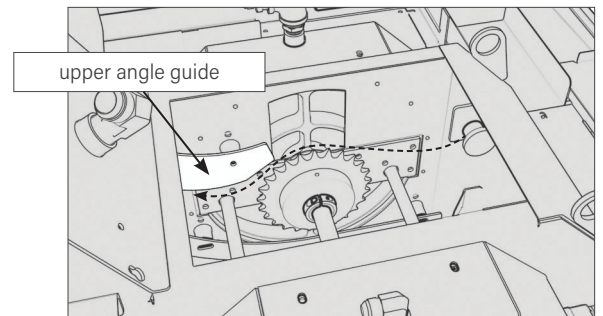
**Be sure the scraper blades are square and the chain links are even when feeding the belt.**



## 10.7 FEED BELT BETWEEN ANGLED BELT GUIDES

1. Feed the belt under the upper angled belt guides.
2. Continue feeding the belt between the angle guides and up the conveyor incline until the belt ends connect.

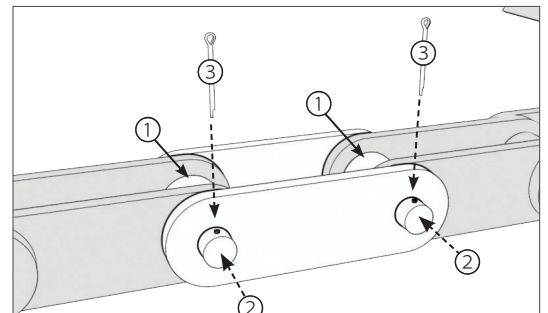
**Be sure the scraper blades are square and the chain links are even when feeding the belt.**



## 10.8 CONNECT THE BELT ENDS

Install the master links on each side of the scraper belt.

1. Insert the roller bearing and chain link into place.
2. Slide the connecting pin through the chain link and bearing.
3. Secure the master link with the cotter pins.

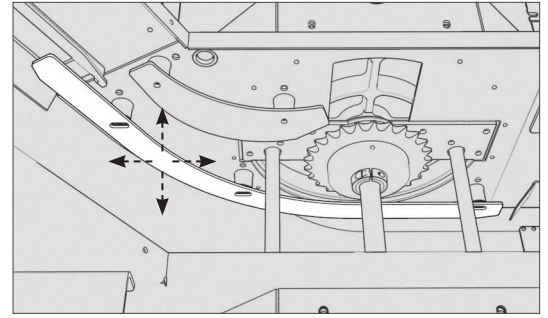




# 10. SCRAPER BELT INSTALLATION

## 10.9 SET THE LOWER BELT GUIDES

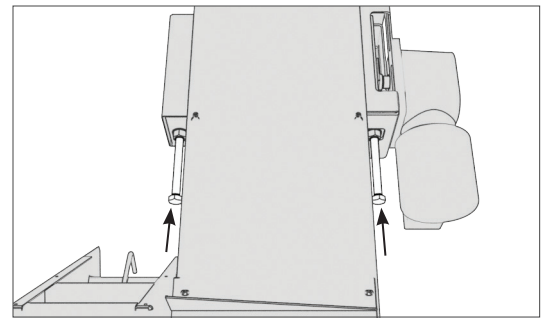
1. Adjust the lower angled belt guides (by sliding up/down or left/right) so the scraper blades are just touching the bottom of the conveyor body.
2. Tighten the allen head screws on the guides when the belt is properly adjusted.



## 10.10 ADJUST BELT TENSION

Run the tension screws in until most of the slack is removed from the scraper belt.

**Do not yet set the final belt tension. The motor needs to be installed first.**



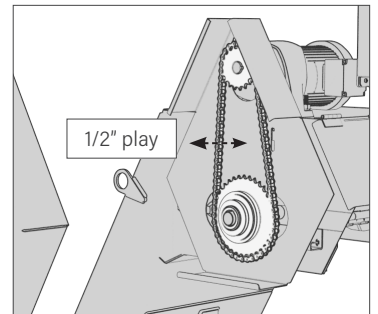
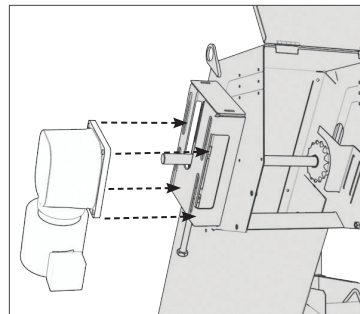
## 10.11 INSTALL MOTOR/DRIVE CHAIN

### DIRECT DRIVE (LEFT)

Install the motor and key on the drive shaft. Secure the motor with (4) fastener sets.

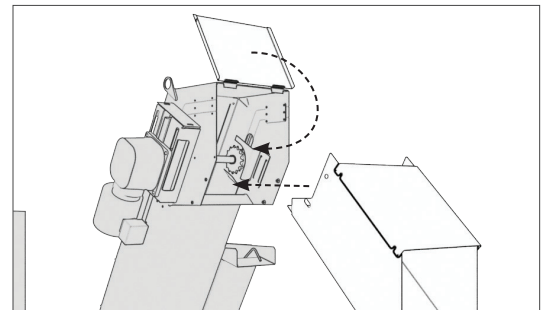
### CHAIN DRIVE (RIGHT)

Install the motor drive chain and adjust tension until there is 1/2" of play side to side.



## 10.12 RE-INSTALL DISCHARGE GUARDS/COVERS

Reinstall the guards at the discharge end, and close the flip lid.



# 10. SCRAPER BELT INSTALLATION

## 10.13 SET THE BELT TENSION

Once the motor is installed, set the final tension of the scraper belt. **See Section 6.1 for adjusting belt tension.**

---

## 10.14 FILL WITH COOLANT

Fill the system with coolant. **See Section 4.7 for instructions.**

---

## 10.15 POWER UP THE SYSTEM

Provide power to the motor by attaching power cables and connectors to the motor and turn the system on.

---

## 10.16 RUN / MONITOR THE SYSTEM

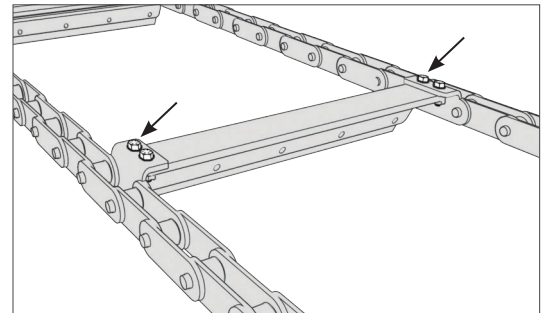
Run the belt forward and backward for a few minutes, completing 5 to 10 belt revolutions each way. Monitor the scraper belt to look for even, smooth movement.

---

## 10.17 TIGHTEN THE SCRAPER BLADES

Once the system is operating normally, tighten the (4) fastener sets on each scraper blade.

**It is easiest if you run the system between tightening each blade, so the blade is easily accessible at the open discharge end.**



## 10.18 VERIFY BELT TENSION

Verify scraper belt tension (per Section 6.4). Adjust as needed.

---

## 10.19 YOU'RE ALL SET!

Great job! Your CDF system is ready to start moving chips again!

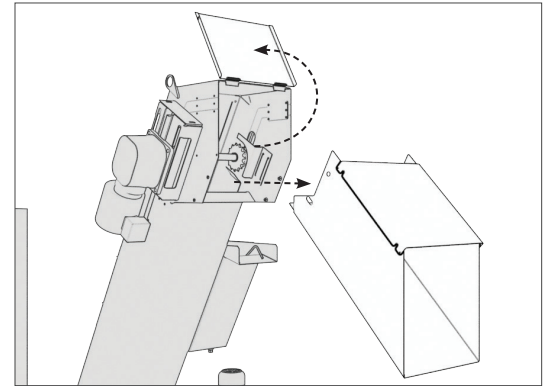
# 11. HINGE BELT REMOVAL

Detailed inspection of a hinge belt requires complete removal of the belt from the conveyor body to provide complete access to all the integrated components.

**If coolant is not already drained, drain the coolant. See section 3.3 for draining coolant.**

## 11.1 REMOVE THE DISCHARGE GUARDS

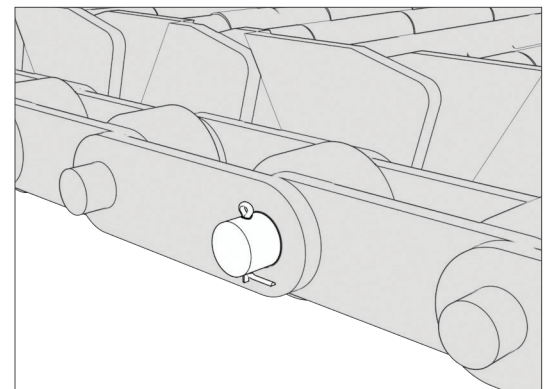
Remove discharge guards and flip the “flip lid” up, exposing the drive shaft and scraper chain so they are visible at the top of the discharge chute.



## 11.2 LOCATE THE MASTER SHAFT

1. Run the conveyor until the master shaft (identified as shaft with cotter pins and washers) is visible at the top of the discharge chute.
2. Turn off the system and disconnect the power cable.

**If the conveyor is jammed and the master shaft cannot be moved to the discharge end, any other shaft can be removed by grinding the crimp from the end of the shaft. If this is the case, do not perform this task until the directions say to do so.**



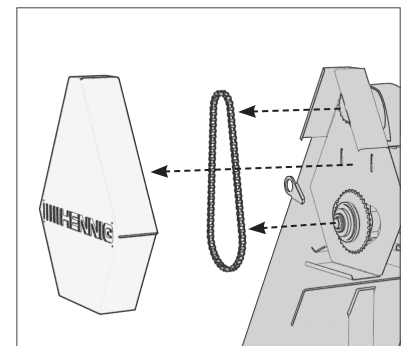
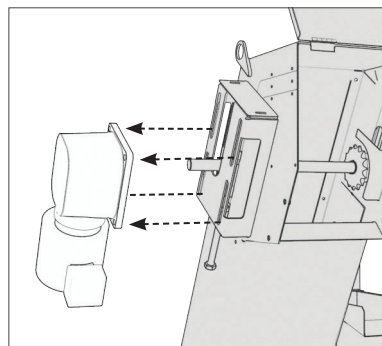
## 11.3 REMOVE MOTOR/DRIVE CHAIN

### DIRECT DRIVE (LEFT)

Remove the motor by removing the (4) fastener sets and pulling it off the drive shaft. This will allow the drive shaft to freewheel so the hinge belt may be easily removed.

### CHAIN DRIVE (RIGHT)

Remove the drive chain cover, then remove the chain from the gear motor by reducing tension and removing the chain master link.

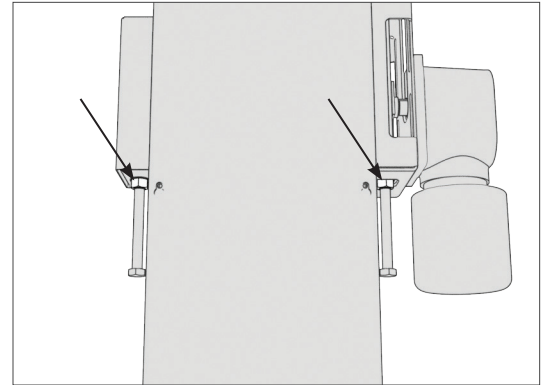


# 11. HINGE BELT REMOVAL

## 11.4 LOOSEN THE JAM NUTS / TENSION SCREWS

Loosen the jam nuts and tension screws to remove pressure on the drive shaft.

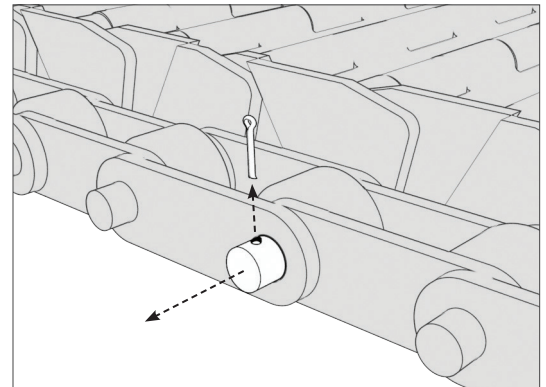
See Section 6.1 for instructions on loosening the jam nuts and tension screws.



## 11.5 REMOVE THE MASTER SHAFT

Remove the cotter pin from the master shaft and slide the shaft out of the belt assembly (see right).

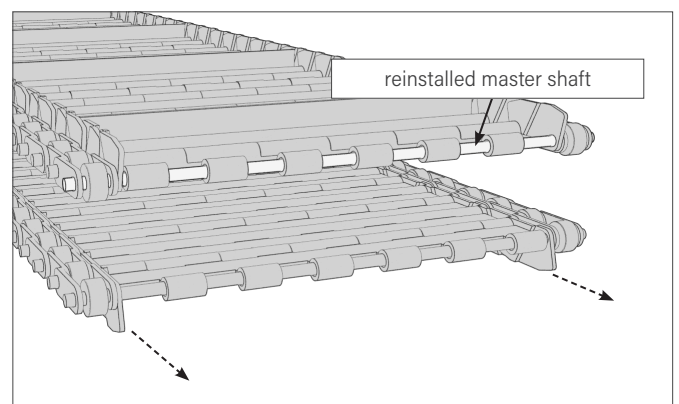
**If the master cannot be removed, grind the crimp off of the shaft closest to the discharge end and slide out the shaft.**



## 11.6 REMOVE THE BELT

**Re-install the master shaft into the top section of the belt only (trailing end) to ensure easy belt removal.**

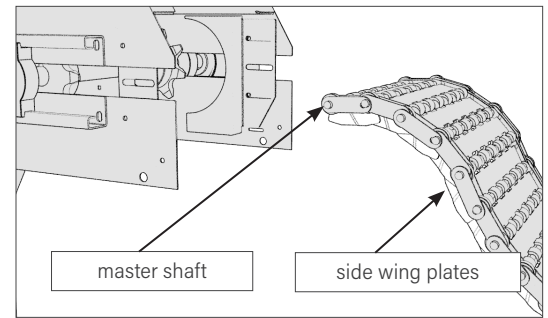
1. Pull the hinge belt out lower side of the discharge chute (the master shaft should trail the belt assembly as it comes out). Having a pallet or bin to receive the belt helps with transporting it later.
2. Fold the belt on itself to make a neat pile.



# 12. HINGE BELT INSTALLATION

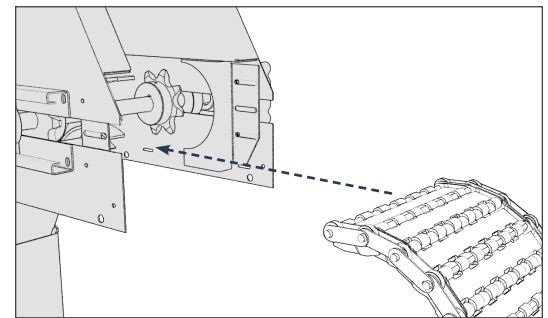
## 12.1 PREP THE HINGE BELT

1. Make sure the master shaft is in place.  
**Do not install the washer or cotter pin yet.**
2. Position the belt so the side wing plates are facing down towards the bottom of the infeed, and the master shaft is at the end of the belt being fed into the system.



## 12.2 FEED HINGE BELT INTO THE SYSTEM

1. Feed the hinge belt down the lower rail system.
2. Continue feeding the belt through until both ends meet back up at the discharge of the CDF conveyor.



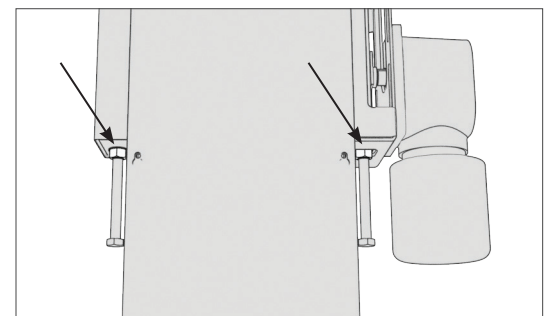
## 12.3 CONNECT THE BELT ENDS

1. Remove the master shaft and mesh the two ends of the belt assembly together.
2. Slide the master shaft through the mating parts of the belt assembly.
3. Install washers and cotter pin on each side of the master shaft.

## 12.4 SET THE BELT TENSION

Set the final tension of the hinge belt by adjusting the tension screws on each side of the belt. Torque the tension screws to 25 in-lbs for proper belt tension.

**See Section 6.1 for adjusting belt tension.**





# 12. HINGE BELT INSTALLATION

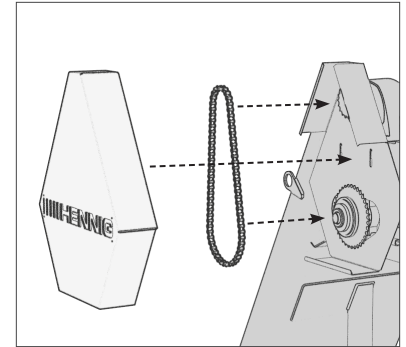
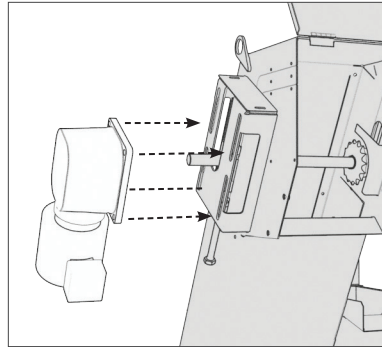
## 12.5 INSTALL MOTOR/DRIVE CHAIN

### DIRECT DRIVE (LEFT)

Install the motor and key on the drive shaft.  
Secure the motor with (4) fastener sets.

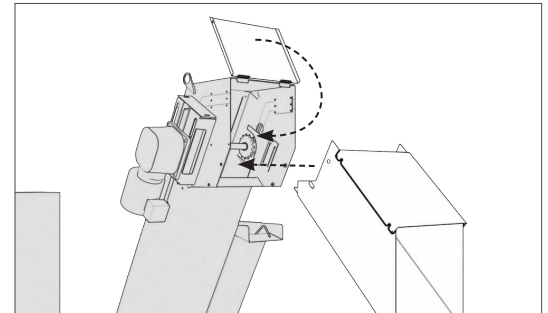
### CHAIN DRIVE (RIGHT)

Install the motor drive chain and adjust tension until there is 1/2" of play side to side.



## 12.6 REINSTALL DISCHARGE COVERS/GUARDS

If your CDF system is equipped with discharge guards or covers, reinstall them now.



## 12.7 FILL THE SYSTEM WITH COOLANT

Fill the system. **See Section 4.7 for instructions.**

## 12.8 POWER UP THE SYSTEM

Provide power to the motor by attaching power cables and connectors to the motor. Turn the system on.

## 12.9 RUN/MONITOR THE SYSTEM

Using the manual provided for the VFD/control box, run the belt forward and backward for a few minutes, completing 5 to 10 belt revolutions each way. Monitor the hinge belt to look for even, smooth movement.

## 12.10 YOU'RE ALL SET

Great job! Your CDF system is ready to start moving chips again!

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