

VYLEATER DAILY HOUSEKEEPING & PREVENTATIVE MAINTENANCE PROCEDURES

! WARNING !

Failure to follow these procedures may cause an overload condition that could result in the Vyleater becoming severely damaged.

Follow these procedures to keep your Vyleater running smoothly.

Daily Maintenance Procedures

- ✓ Run the Vyleater another 5 to 10 minutes after the last load of the day
- ✓ Remove and clean the Top separating screen before each use
- ✓ Always replace the Screen Access Panel

Weekly Maintenance Procedures

- ✓ Remove and clean both separating Screens
- ✓ Check both Screens for holes or tears
- ✓ Check and replace Screen Spring Clips as necessary
- ✓ Check and clean the inside of the Conveyor Enclosure

Monthly Maintenance Procedures

- ✓ Timing Belt Drive Inspection

Yearly Maintenance Procedures

- ✓ Grease Crusher Bearings
- ✓ Lubricate Drive Chain

As Required Maintenance Procedures

- ✓ Blower Drive Belt Replacement
- ✓ Conveyor Drive Belt Replacement
- ✓ Hopper/Hopper Cover Removal
- ✓ Crusher Maintenance
 - Roll Removal
 - Crusher Seal Replacement
 - Roll Replacement

Full explanations of each step follow below.

Daily Maintenance Procedures

Run the Vyleater another 5 to 10 minutes after the last load of the day

Once the vials are done crushing they are still making their way down the vibratory screen. Allowing a few extra minutes helps move this material off the screen. Some vial pieces will likely be left behind – this is normal as vibratory conveyors like these won't always completely clean itself of material.

Remove and clean the Top separating screen before use

Access to the screens is gained as described in “Operational Instructions for the Vyleater”.

Keeping the screen clean increases the volume of liquid that can be reclaimed. It also results in less material being left behind on the screen and prevents backups.

- ***Tip: It is usually easier to clean the screens*** after the waste fluid has dried. Clean the screens after it has sat idle for an extended period or pull the screens after the last run and allow them to air-dry overnight.

Exception: If the waste fluid tends to coagulate and harden, it is best to clean the screens after the last use.

- **Top Screen Removal**

Always remove the top screen first and then the bottom screen. Clean as much loose material from the top of the screens as possible. Grip the Top Screen frame with both hands so that it slides out of the guide tracks evenly.

Tip the Screen over a box, garbage can or in a plastic garbage bag to collect the vial remnants. Use a stiff brush (a plastic scrub brush or wire brush works well) to remove most of the material imbedded in the screen mesh. Pull out pieces that are stuck in the mesh – being careful not to distort the mesh opening.

If the screen mesh is clogged with dried fluid, use water and detergent or other appropriate cleaning agent to scrub this clean.

Always replace the Screen Access Panel

While the screen clips will usually keep the screen secure, the screens may vibrate out of the conveyor when the panel is removed. This can cause crushed pieces to fall into the drain pan – and create liquid drain clogs.

Tip: If the screens stick out too far to properly replace the Panel, the conveyor u-channels (on the sides and the far end) must be cleaned of debris.

Weekly Maintenance Procedures

Remove and clean both separating Screens before use

Access to the screens is gained as described in “Operational Instructions for the Vyleater”.

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If the screen mesh is clogged with dried fluid, use water and detergent or other appropriate cleaning agent to scrub this clean.

- **Bottom Screen**

Pull carefully so as to prevent crushed pieces from falling into the drain pan area below the screens Pull the bottom screen out trying to avoid dropping any debris into the lower drain pan portion of the Conveyor housing. Clean as described above.

Tip: You may consider purchasing a second Primary (top) Screen to allow the operator to swap out screens and begin processing vials immediately. The dirty screens can then be cleaned at a more convenient time.

Another Secondary (bottom) Screen can also be purchased, although this usually doesn't require as much time to clean.

Part No. 30900-12 Primary (top) Screen
Part No. 30900-30 Secondary (bottom) Screen

Check both Screens for holes or tears

The screen mesh must be under tension to function properly. If there are any holes, tears or separations from the frame, the entire screen must be replaced.

Check and replace Screen Spring Clips as necessary

If either Screen rattles inside the conveyor enclosure, the shaking efficiency is dramatically decreased leading to material slowdowns or a material back-up.

Tip: Pull the Screen Clips down to increase the holding tension of the clips.

Replacement Screen Clips and rivets are available if any are missing or badly corroded.

Part No. 39012 Screen Spring Clips (10/screen)
Part No. 39012-R Stainless Steel Pop Rivets (10/screen)

Check and clean the inside of the Conveyor Enclosure

Crushed material that falls off the screens can lead to a clog of the liquid drain hose.

- ✓ Inspect the bottom drain pan area of the Conveyor housing for debris or accumulations of fine shards. At a minimum, remove any large pieces to prevent a drain clog.
- ✓ Keep the screen u-channels free of vial remnants to allow the screens to seat properly inside the conveyor enclosure. A wet-dry vacuum works well for this procedure.
- ✓ If a clog is suspected, access the drain from the Cleanout Panel on the crusher end of the conveyor. (Opposite end from the screen access.)

For access to the inlet end of the conveyor (the liquid drain end), a removable Clean-out Panel is located on the left-hand end of the conveyor. (Refer to Dwg #VL-90200, item 22.) Loosen the quick-release thumbscrews on the left exterior end panel (refer to Dwg #VL-90200, item 25) and swing down to open. The Cleanout Panel inside is secured with 2 or 4 thumbscrews (Refer to Dwg #VL-90200, item 23.) Loosen these and remove the panel. Replace the panel before running any vials through the Vyleater.

- ✓ Inspect the discharge chute leading down from the crusher and into the conveyor. Remove any debris that has built up around this opening. Remove any pieces that may have fallen into the Pan area before replacing the screens.

Each screen is replaced (first the **BOTTOM** & then the **TOP** screen) by feeding them into their respective guide tracks (refer to Dwg #VL-90200, item 19) using even pressure on both sides of the frame.

Monthly Maintenance Procedures

Timing Belt Inspection (disconnect & lock-out power before replacing belts)

Accessing the Belt Drives

- Access to the two Belt Drives is obtained from the right hand end of the Vyleater.
- Loosen the three thumbscrews on the Screen Access Skin Panel and swing down.
- Remove the 1/8-inch hex Allen head screws holding the fixed skin panel above the right hand end access door. Remove the panel.
- The Blower Belt drive runs from the motor to the Blower shaft. The Conveyor Drive Belt runs from the motor to the eccentric shaft.
- Optional: Disconnect the Blower Hose by loosening the radiator hose clamp at the blower outlet flange using a flathead screwdriver or 5/16-nut driver wrench and slide it off the blower flange.
- To remove the Hose entirely loosen the clamp on the opposite end of the hose at the internal flange just underneath the top skin panel of the Vyleater.



Inspection of the intact Drive Belts

- ✓ Turn over each belt and look at the rectangular ridges on the belt. These should be squared off and well defined.
- ✓ Check the sides of each belt to see if it is frayed.
- ✓ Check that everything is square and that the pulleys are aligned with one another.
- ✓ Check belt tension so that there is no more than a 1/16-inch deflection when gently pressed with a finger.

Inspection of the Four Drive Sheaves

Inspect each of the four Drive Sheaves.

Confirm each sheave is tight on the shaft. If required, tighten the socket-head setscrews using the appropriate sized allen-wrench key.

If replacement is required

If either belt requires replacement, follow the procedures found under *AS Required Maintenance* in the following section.

If any of the four drive sheaves seems wobbly or badly worn, replacements can be obtained from S&G.

Yearly Maintenance Procedures

Grease Crusher Bearings

The crusher unit has 4 bearings that should be checked and lubricated every 100 hours or once a year with *one* shot of industrial grease.

To gain access to the bearings, remove the rear panel by loosening the screws with an 1/8-inch Allen socket wrench. The crusher is located underneath the loading hopper. All other bearings on the Vyleater are grease-less.

! CAUTION!

DO NOT OVER-GREASE

Lubricate Drive Chain

The crusher drive chain should be lubricated with a lightweight chain lubricant every 100 hours of operation.

TENSION: Do not tension the chain unless an obvious rattling is present. Loosen the drive by loosening the outside jam nut on the spring side of the mounting assembly. Tighten the jam nut that is butted up against the spring, compressing the spring and tightening the chain. Retighten the second jam nut to lock the setting in place.

NOTICE

This should be done with the rolls in the CLOSED position.

As Required Maintenance Procedures

Blower Drive Belt Replacement (disconnect & lock-out power before replacing belts)

Replacement belts can be obtained from S&G Enterprises.

Part No. 33925 Blower Drive Timing Belt (250XL)

- **Remove the Blower Assembly**

- Disconnect the Blower Hose by loosening the radiator hose clamp at the blower outlet flange using a flathead screwdriver or 5/16-nut driver wrench and slide it off the blower flange.

To remove the Hose entirely, loosen the clamp on the opposite end of the hose at the internal flange just underneath the top skin panel of the Vyleater.

- Remove the two hex nuts (9/16-wrench) holding the Blower mount u-bracket to the top of the machine frame.
 - Set the Blower Assembly on a table and remove the two hex nuts and bolts (9/16-wrench) holding the **outside** bearing to the u-bracket.
 - Loosen the socket-head setscrew (allen-wrench key required) in the collar of this outside bearing. This setscrew secures the bearing to blower drive shaft.
 - Slide the bearing off the shaft to expose the oversize hole in the side of the u-bracket.
 - Insert the new belt through the hole, looping it over the end of the shaft.
 - Replace the bearing and re-tighten the collar setscrew.
- **Replacement of the Blower Assembly**
 - Replace the Blower Assembly and loosely tighten the two nuts that fasten the u-bracket to the machine frame.
 - Slide the blower belt over both drive sheaves. Push the Blower Assembly back to tighten the belt.
 - Confirm the Assembly is square in relation to the belt and tighten down the two bracket mounting nuts. The belt should be centrally located on each sheave.
 - Check belt tension so that there is no more than a 1/16-inch deflection when gently pressed with a finger.
 - **Tip:** Run the Vyleater (**being careful not to get too close to the Belt drives**) and confirm Blower Belt is riding down the center of both drive sheaves. If not, turn off the Vyleater and re-align the Blower Assembly as required.

Conveyor Drive Belt Replacement (disconnect & lock-out power before replacing belts)

Replacement belts can be obtained from S&G Enterprises.

Part No. 39046 Conveyor Drive Timing Belt (230XL)

- o Loop the new Drive Belt over the small sheave located on the motor shaft.
- o Slide the new belt over the large drive sheave on the conveyor drive shaft. Rotate the motor shaft to help pull the belt onto the sheave.
- o Check belt tension so that there is no more than a 1/16-inch deflection when gently pressed with a finger.
- o **Tip:** If necessary, the motor mount can be loosened to make it easier to install the new Belt. However, after doing so, re-tension the Blower Belt as explained in the previous section.
- o **Tip:** Run the Vyleater (being careful not to get too close to the Belt drives) and confirm Conveyor Belt is riding down the center of both drive sheaves. If not, turn off the Vyleater and re-align the Motor and/or Blower Assembly as required.

Hopper/Hopper Cover Removal

! WARNING !

*Under no conditions should the Hopper be removed without first disconnecting & locking out electrical power!
Full access will be gained to the Crushing Rolls when the Hopper Cover is removed and any accidental operation of the Crusher could be extremely hazardous or fatal!*

- o On top of the Vyleater (left end) remove the screws located at the outside edge of the stainless steel flange that surrounds three sides of the hopper. Do not remove the screws located closest to the vertical Hopper walls.
- o Once the screws have been removed, the Hopper Cover may be swung up and to the right on a built in hinge.
 - ✓ **Inspect** – the interior of the Hopper for accumulations of material, cracks or damage.
 - ✓ **Inspect** – the Hopper wash jet (if provided.) Clean as needed.
 - ✓ **Inspect** – the interior of the Crusher. Remove accumulations of residue. Examine the crushing rolls for visible signs of damage.
 - ✓ **Inspect** – the foam Gasket. Gently clean the surface to remove any vial remnants or dirt. Replacement gasket material is available from S&G.
- o Swing the Hopper Cover back down over the crusher, replace and tighten all the screws removed earlier.

Crusher Maintenance

• **Roll Removal**

The heart of the Vyleater Vial Crusher is the roller mill mechanism located on the left-hand end, below the hopper and behind the loading track assembly.

The mill is made up of two case hardened, tool steel rolls, machined with a course V-shaped corrugation pattern along the surface.

One roll serves as the main drive, coupling with the 3-hp motor and 20:1 gearbox. The other is adjustable, capable of moving from a virtual closed setting with the drive roll, to as much as 3/4 inch gap for crushing larger glass containers.

Occasionally, the rolls or the crusher seals may need replacing due to wear. These operations are done with only partial disassembly of the equipment being necessary.

! WARNING !

***DISCONNECT POWER TO THE VYLEATER
TO PREVENT ACCIDENTAL STARTUP OF THE MACHINE.***

To prevent injury, thoroughly clean out the interior of the crusher housing of any vial remnants.

- Open the roll spacing to an approximate 1/4-inch gap.
- Making note of the approximate spring tension, loosen the chain tensioner by loosening the two hex nuts on the eyebolt where the die spring is located. Remove the drive chain.
- Loosen the setscrew on both sprockets and pull the sprockets off the shafts.
- Loosen and remove the eccentric locking collars located on the outside of both glide bearings and on fixed flange bearings.
- Mounted on the machine frame behind the crusher is an aluminum rod. This is a handle intended to make removing the rolls easier. Loosen and remove the handle and screws.
- Rotate the roll until two threaded holes come into view. Clean out the holes and thread the two handle bolts into the roll. Rotate again until the handle is resting on top of the crusher frame.
- Loosen counter-clockwise and remove the large hex bolt located on the end of the adjustable roll shaft. Prevent the roll from rotating by bracing it with the handle against the crusher frame.
- Having one person hold the roll handle perpendicular to the crusher frame, pull both shafts straight out to disengage the shafts from the roll itself. Lift the roll out. Repeat the above steps for the second stationary roll. The drive coupling on the stationary roll may have to be slid back out of the way.

- **Crusher Seal Replacement.** If not replacing the seals, skip this section and refer to ROLL REPLACEMENT.

- Remove the roll shafts by sliding them into the crusher frame. Removal of the drive coupling on the stationary roll will be necessary. Note the exact shaft locations for replacement.
 - **Stationary Roll Seals:** Remove the plates (2) screwed into the inside frame wall on both sides of the crusher.
 - **Adjustable Roll Seals:** On the outside of the crusher frame, located behind both take-up bearings is a formed wire clip. Pull this clip back towards the backside of the machine and remove. This will disengage the (2) seal housings.

The complete replacement assemblies include:

QTY	PART No.	ITEM
4	10005	Crusher Viton Wiper Seal
2	10025	Stationary Roll Viton O-ring
2	10026	Adjustment Roll Viton O-ring
2	16404	Stationary Roll TFE Bushing
2	16405	Adjustment Roll TFE Bushing

- Replace the seal housings and the four shafts.

- **Roll Replacement**

- Using the handle again, lower either roll back into place and push the shafts back into the roll. Rethread the large hex bolt and tighten down firmly.
- Center the roll in the crusher frame and reset the eccentric locking collars.
- Repeat the above steps for the second remaining roll.
- Replace the sprockets (file any high spots on the shafts) making sure they line up with the two idler sprockets and replace the drive chain. Tension the chain by tightening the die spring to the same location as noted before. If excessive chain jumping results with pliable plastic vials, tighten the spring until this is minimized.
- Flip the Hopper/Hopper Cover down and refasten the screws. Engage the agitator drive bar.