


Procedures for Identifying & Resolving Sifter Problems

1. Sifter Leaks
2. Sieve Leaks
 - a. Overs in Thrus
 - b. Thrus in Overs
3. Frequent Choking Up
4. Capacity Issues

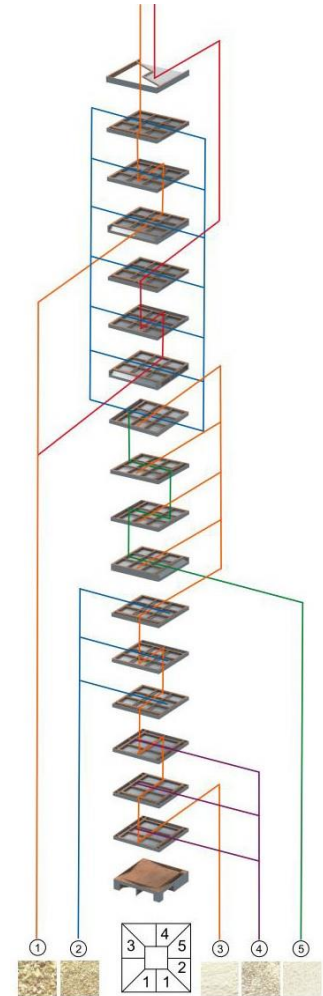


- 
- Before beginning, take a moment and evaluate the section and why you are opening it up. Are there any obvious problems or concerns?
 - Your time is valuable, and down time is limited, make a list to ensure something isn't overlooked.
 - If you come across something you are not familiar with, take pictures, providing the most accurate description of what you see.

Getting Started

Items to have with you as you begin:

- ☐ Flow sheets
- ☐ Notepad
- ☐ Camera
- ☐ Tape measure
- ☐ Brush for cleaning
- ☐ Replacement cleaners



Preparing the Sifter

ALWAYS Consider Safety and Sanitation!



1. Lock out the sifter.
2. Remove and seal the bottom stockings as required.
3. Perform any other “normal” operating procedures as specified by your company.



I. Sifter Leaks

Things to Consider:

Sifter Boxes Out of Square

Sieve Compression System

Press Top

Plush on Press Top

Sifter Channel Blocks

Plush Strips

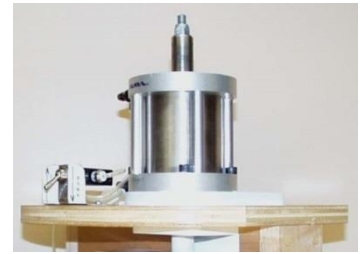
Sifter Boxes Out of Square

- Flour dusting on the outside of a sifter box is an indication that the boxes are out of square and the bolts need to be torqued.



Make sure that all the bolts are torqued properly and that the boxes are square. Failure to do so will result in broken bolts and the sifter boxes separating and/or showing abnormal wear.

Sieve Compression System



- Does the press top stay down securely and uniformly on top of the sieves? If the press tops are loose the sieves will move during operation.
- Check to see that your operators have the tops down instead of up during operation.
- Make sure that the press tops are not binding as they are being lowered.

Most sifter manufactures today recommend that a pneumatic sieve compression system with indicator lights be used if you have a clean, dry air supply in your mill. This is safer, will speed up maintenance time, and will operate better.

Replace old and worn out hold down assemblies.



Press Top Leakage

- Does the press top seal around the top sieve?
- Is your sieve stack height too low, thus causing the press top to extend down too far and cause product to leak around the press top insert?
- Has the press top been notched for a double-throated sieve that is not being used now?

If the stack height is too low, increase the height with a taller sieve or spacer. If you have the wrong press top for the sieve beneath it, repair or replace it.



Plush on Press Top

- Sieves with staple-on clothing – the plush is on the *top* of the sieve.
 - Plush IS NOT required on the bottom of the press top.
- Sieves with glue-on clothing – the plush is on the *bottom* of the sieve.
 - Plush IS required on the bottom of the press top

Replace any worn out plush. Install according to sieve style.



Sifter Channel Blocks

- Are the channel blocks flush with the side of the sifter?
- Does the block seal tightly against the sieves?
- Is the channel block bowed or plush worn out?
- Is the block at the correct height for the cutout on the sieves?

If the channel block is the problem, either move the channel block or if worn, replace it.



Plush Strips – (Often Called Ribs)

- Are the plush strips still tightly secure in the sifter?
- Is the plush on the plush strips worn out?

Worn plush strips allow the sieves to move and thus wear out the sieve plush causing leakage. If you are wearing out the plush consistently on your sieves check your plush strips. If they are worn, replace them.



2. Sieve Leaks – Overs in Thrus

Things to Consider:

- Rounded Sieve Corners
- Worn Plush
- Improperly Stacked Sieves
- Tray Leakage
- Incorrect Clothing
- Clothing Leaks
- Dry Bolting
- Distributor Bottom

Sieve Corners Rounded

- Prevent sieves from sealing into plush strips.
- Sieves can move or turn, causing leakage.

Replace sieves as needed.



Plush Leakage

- Is the plush worn on sieves?
- Dead channels have product?
- Is the stainless steel in the door and sifter shiny instead of dusty (in places where the product does not flow over it)?

Replace plush or sieve as needed.



Improperly Stacked Sieves

- Are any of the sieves turned 90° or 180°?
- Has a two-channel sieve been used where a single-channel is specified?
- Is a no-hand sieve in the place of a left-hand or right-hand sieve?
- Do you have a “thrus” channel that should be blocked?



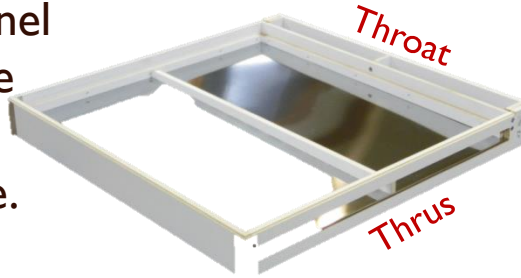
As each sieve is removed, double check it against the flow. If you find an incorrect sieve, replace it.

After you have correctly stacked sieves, paint a diagonal stripe on the door side of your sieves to help mill personnel quickly identify if a sieve is installed incorrectly. Make sure any flow changes are noted on the flow.

Determining Right, Left and No Hand

- Hold the sieve so that the throat is away from you.

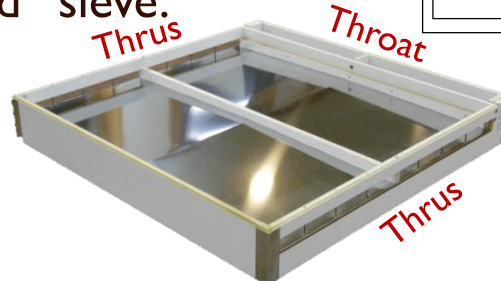
- If the “thrus” channel is on the Right-side then the sieve is a “Right-Hand” sieve.



- If the “thrus” channel is on the Left-side then the sieve is a “Left-Hand” sieve.



- If the “thrus” channel is on both sides then the sieves is a “No-Hand” sieve.



Tray Leakage

- Does the tray (insert) seal tightly into the sieve or does the tray allow product to leak around it?
- Make sure that the tray is not warped, bowed, or worn.
- All trays need to have a seal to prevent leakage.



Replace any trays and/or sieves that are not properly sealing.

Incorrect Clothing

- Is there a 30-mesh on a sieve that requires a 54-mesh screen?
- Has a 8xx been used for a 8mf?
- Is the percent of open area correct?

Opening		Synthetic Monofilament Screen Cloth										
Microns	Inches	Nylon										
		Double XX	Leno Weave	Milling Forte	Triple XXX	ASTM	Nylon GG	Mesh per inch	% Open Area	Diameter (Warp)	Diameter (Weft)	Designation
250	0.0098											
250	0.0098	PA-5XX						69.9/73.7	51	100+2x60	90	3-250/51
250	0.0098			PA-5MF				72.5	52	100	100	3-250/52
250	0.0098					PA-5HD		58.4	34	180	180	6-250/34

Check your sieves against your flow sheet and replace any screens that are incorrect.

Make sure any changes are noted on the flow.

Clothing Leaks

- Is there a hole in a screen?
- Is the clothing secured correctly?
- Are the stapled edges bowed up, causing product to leak under the screen?



If you find any of these problems, either replace the old screen or properly secure the existing screen.

Dry Bolting – Too Much Clothing Area

- Do you have too much clothing area for the product that you are sifting?
- “Dry bolting” is when a long thin particles stand up and fall thru the mesh.
- Visualize a manhole cover. Manhole covers are round because if they were square the covers would drop through the hole if stood up and dropped diagonally.



If dry bolting is your problem, you can reduce the area by turning a sieve or two to line up the throats.

Distributor Bottom Leakage

- Does the bottom seal properly over the outlets?
- Are there holes in the distributor bottom caused by wear?
- Is the distributor bottom turned incorrectly?
- Check to see that the bottom of the sifter is not bowed.

Turn the distributor bottom, repair, or replace it.

If the bottom of the sifter is bowed, the bottom panel will need to be replaced.





2. Sieve Leaks – Thrus in Overs

Things to Consider:

Thrus Channel Leakage

Not Enough Pan Fall

Failure of Cloth Cleaners

Not Enough Clothing Area

Mill Balance



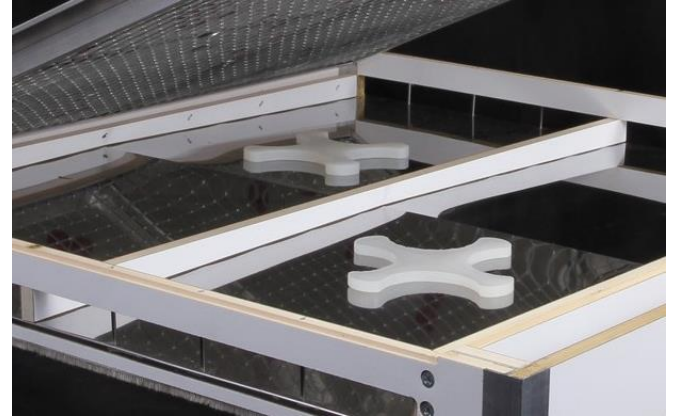
Thrus Channel Leakage

- Worn plush on sieve
- Sieves have incorrect blocking
- Channel blocks leaking

Make changes to the plush or sieve as necessary.

Not Enough Pan Fall

- Product is sifting faster than it can get out of the sieve
- Side opening is not large enough



Replace with sieves with larger pan fall which would result in a larger side opening

Failure of Cloth Cleaners

- Screens blinded over
- Product build-up on the pan
- Inadequate amount of balls or cubes
- Worn out cleaners
- Backwire blinded over
- Sieve pan bowing up and stopping cleaners from moving (on sieves without backwire)



Add sieves with more pan fall, change out the cleaners, or add spacers beneath the sieve. If needed, clean the backwire with a **NYLON** brush.



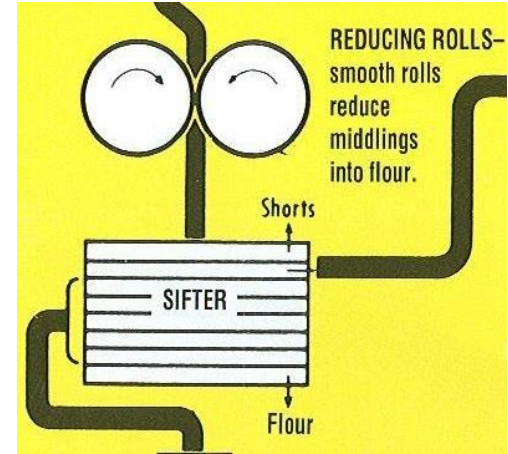
Not Enough Clothing Area

- Section not properly sifting load

Examine your flow to see if you can either add sieves or change to single-channel or full-cloth sieves to increase clothing area. More on this is addressed under Capacity Issues.

Mill Balance

- Recently changed rolls (Improper roll corrugation)
- Increased load to mill
- Added new equipment



If your mill balance is off this can cause additional thrus being sent into the sifter. You will have more product feeding into the sifter than it can handle. Check your rolls and resolve the problem before it gets to the sifter.



3. Frequent Choking Up

When possible, stop the sifter when it is under a load. Pull the sieves out and examine where the problem disappears. Where the problem disappears is where the problem begins.

Things to Consider:

- Sifter Press Top
- Improperly Stacked Sieves
- Too Many Sieves in Section
- Not Enough Pan Fall
- Sieve Pans
- Sifter Outlets & Spouting
- Circle Size



Sifter Press Top

- Do you have a press top for two-channel sieves improperly blocking over a full-cloth sieve?
- Does the press top come down far enough to give the product enough clearance to get around the press top insert?

If the press top is incorrect, modify or replace it.

If the press top does not come down far enough, shorten the sieve stack beneath it.



Improperly Stacked Sieves

- Are the sieves stacked correctly in the sifter as per the flow sheet?

Examine the actual flow to see if one of the sieves is turned 90° or 180° - or even upside down.

Correct the stack and, as discussed earlier, paint a diagonal stripe on the door side of your sieves.



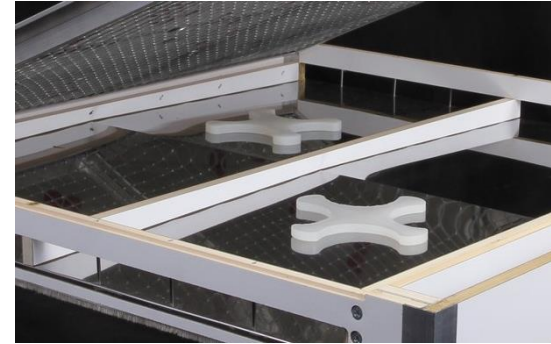
Too Many Sieves in Section

- Sometimes using more sieves in a section is not the answer to a problem but the cause of the problem.
- In high capacity/high volume situations using taller sieves with bigger throats is better than using short sieves with standard size throats.
- Examine the bottom of the sieve pans. If they are shiny, then there is product building up.

To resolve the problem, add a space or a taller sieve with a larger throat.

Not Enough Pan Fall

- You need to have pitch on the pans to get the product off the pan quickly as your product sifts through.
- Otherwise it will build up and choke up the section.



Change the sieves having inadequate pan fall with sieves that have the correct pan fall.



Sieve Pans

- A choke up will cause a pan to blow out.

Check the sieve pans. If a sieve pan is damaged either staple or screw it back into place or replace the sieve.

Sifter Outlets & Spouting

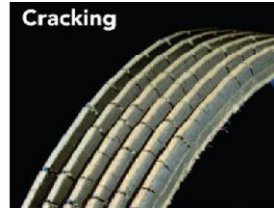
- If the choke up is at the bottom outlet discharge, then the problem may be **beneath the sifter**.
- Verify that spouting or outlet is large enough to adequately handle the volume passing through it.
- Spouting Angle of Repose – Is your spouting too flat?

If necessary, change your spouting.



Circle Size

- Have you switched from sieves with backwire to sieves without backwire?
- Has your product changed?
- Double check recommended circle and RPM for product.
- Sheaves or belts worn out.



Please contact your sifter manufacturer if you are experiencing this problem.



4. Capacity Issues

Things to Consider:

Utilizing Sieve Depths

Inadequate Clothing Area

Properly Tensioned Screens

Utilizing Sieve Depths

- Shiny versus Dusty areas
- Check for a flour line
- Stop the sifter under a load. Carefully lift each sieve and measure the amount of product on the screen of the sieve beneath.



Take detailed notes or pictures. This data can be crucial when evaluating capacity.



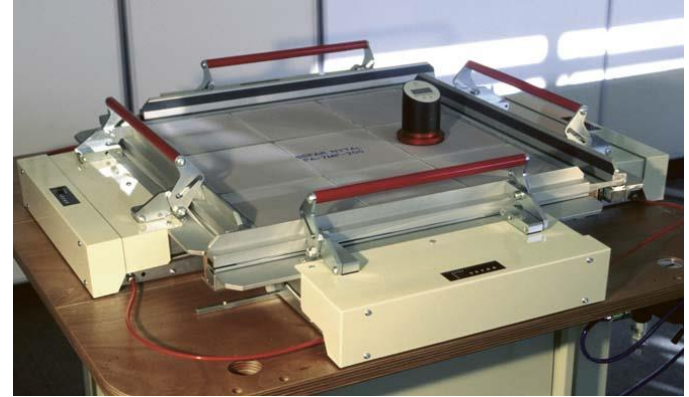
Inadequate Clothing Area

- Are you using your sifter section to its fullest capacity?
- Switching from a two-channel to a full cloth can increase your capacity 23%

Please contact your sifter/sieve manufacturer if you are interested in maximizing your clothing area.

Properly Tensioned Screens

- Loose screens will not sift as efficient as tight screens.
- Slug bolting can cause a surge in the overs.
- Staple-On versus Glue-on



If your screens are not properly tensioned, remove them and reapply them correctly.

Screens mechanically stretched and glued onto the trays will give you a greater sifting efficiency.

Review



- Be sure you have all the necessary equipment before beginning.
- Your time is valuable, and down time is limited, make a list to ensure something isn't overlooked.
- If you come across something you are not familiar with, take pictures, providing the most accurate description of what you see.
- When in doubt, call your sifter/sieve manufacturer with any questions.

ALWAYS Consider Safety & Sanitation