General SCREEN Information

Click in the Table of Contents below to obtain additional information on usage & maintenance of your Deister Equipment.
Contents of this section are general in nature. For detailed and specific information please contact Deister Machine directly.

Table of Contents

A. Storage

If possible, store the unit in a building, away from excessive moisture. If the unit is going to be stored for more than two months before start-up, precautions should be taken to prevent rust and pitting from developing on the bearing races and rollers due to condensation. Make sure the unit is sitting level and in a dust-free, clean environment. Remove the sheave and/or counterweights to expose the dirt flinger (see the mechanism drawing). Pull the dirt flingers back and fill the entire groove in the housing caps with grease. Push the flingers back into place and replace the sheave and/or counterweights. Add to the tube five gallons of the oil recommended in the oiling instruction section of this manual. On less than six foot wide units add only three gallons. On double shaft gear type mechanisms, add ten gallons to six foot or wider units and six gallons to less than six foot wide. Once a month, the shaft should be rotated several times to re-lubricate the upper bearing portion. Before start-up, remove all grease from the housing cap groove. Drain the oil and fill the tube to the proper operating level with new oil

Keep records of storage maintenance procedures and dates.

B. Handling

When lifting the unit, be sure to raise it evenly at all four corners to avoid twisting the frame. Attach cable slings via spreader bars to the pick-up lugs provided on the H-beam or channel base. If the unit was supplied without a base, use the 3" dia. pick-up hole in the center trunnion gusset above each spring cluster. Check that your lifting equipment is safely sized for the total weight of the equipment to be lifted

C. Removal From and Re-attachment of Vibrating Frame to Stationary Base or Structure

Should it be necessary to remove the vibrating screen frame from the stationary base in order to facilitate installation, be sure to loosen the snubber check arm bolt. The arm should move freely before continuing.

CAUTION

Failure to loosen bolt may result in breakage to the arm.

After reassembly of the vibrating frame to stationary base, the snubber check arm bolt must be tight enough so that the arm cannot be moved by hand. It should be torqued to 150 ft./lbs.

Failure to tighten snubber check arm bolt will result in excessive vibration during startup and shut down and may result in damage to the screen as well as the support structure.

D. Clearances

Wherever possible, a minimum of 24" side clearance should be provided on each side of the machine. This enables the attendant to adjust screen cloth tension and check the unit's condition and operation.

Allow sufficient clearance in front of the screen at the discharge end, or in the rear at the feed end, for replacing screen sections. A suggested clearance would be at least one foot longer than the longest screen panel.

A minimum vertical clearance of at least five inches should be maintained between the vibrating frame and any stationary structures such as the feed hopper or discharge chutes and bins. Avoid providing places for dust and stones to accumulate and interfere with the movement of the vibrating frame.

CAUTION

During start-up and shut down the frame may experience a brief period of much larger movement as the vibrating frame passes through the resonant frequency of the support springs. The vibrating frame must not contact any stationary object during this time.

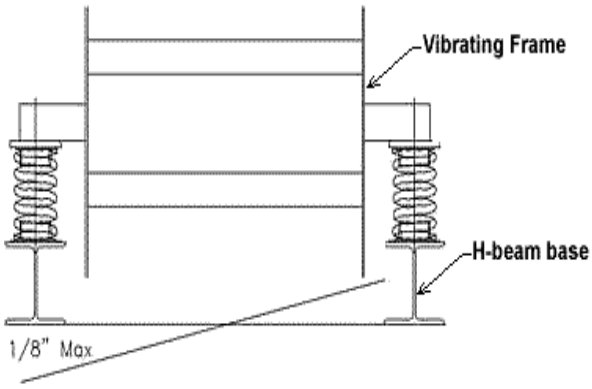
ALL HOLD DOWN BRACKETS AND SHIPPING STRAPS MUST BE REMOVED BEFORE FINAL LEVELING AND BEFORE START-UP.

E. Level and Degree

If the base is provided, the live frame is set level with the base at the factory before shipping. However, it is very important that the sub-structure supporting the base be level or that the spring pad pedestals be level and located according to Deister drawings. The degree of incline of the unit should be within 1/2 degree of the intended degree in order to assure proper oil gauge readings, bearing lubrication and capacity.

CAUTION

The unit must be level transversely within 1/4" for seven foot and wider, and 1/8" for less than seven foot wide. Failure to do so can result in premature bearing failures, metal fatigue and uneven material flow. Level should be checked periodically after startup of a new plant or a portable plant in the event that settling has occurred.



F. Feeding Arrangement

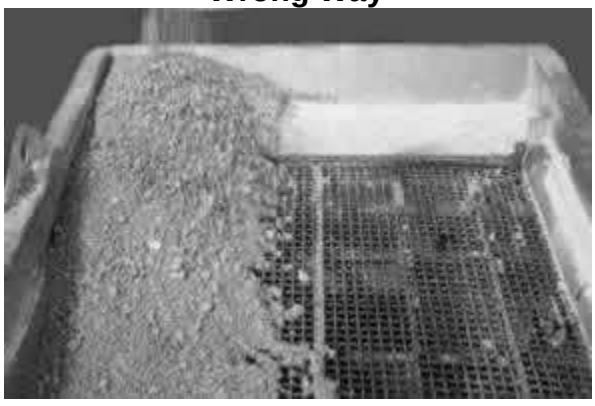
Proper material feed to vibrating equipment is very important in maintaining desired performance and efficiency. Feed chutes should be designed and constructed to result in an even feed across the entire width of the screen. Precautions should be taken to prevent fines and coarse material from segregating to opposite sides of the unit, due to feed chute configuration. Feeding material off center, on a corner, or in a segregated manner can result in undesirable side motion, twisting of the frame and eventual metal fatigue and cracking. It will also mean that each square foot of screening surface is not being used to its best ability. Ideally, all material should be fed so that it is falling straight down from as short a height as possible. Sometimes a small amount of velocity towards the discharge end is desirable.

CAUTION

Excessive side velocity results in the momentum of the material being transferred to the vibrating frame. This may cause side motion, twisting of the frame and eventual metal fatigue and cracking.

Right Way

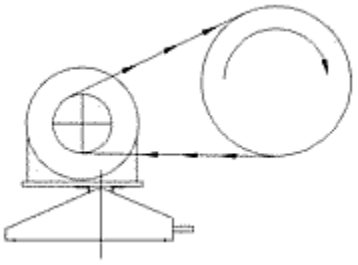
Wrong Way



G. Motor and Drive

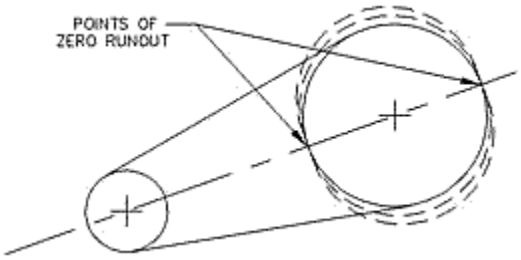
1. Direction of Rotation

The direction of rotation of the motor is important to the operation of this unit and should rotate only as shown on the overall drawing. Reversing the direction will not affect the vibrating mechanism but may affect the material flow on the unit. If a pivot motor base has been supplied, the direction of rotation may affect belt slippage during start-up. The belts usually grip best when the driven sheave rotates Over and Away From the Motor (OAFM).



2. Motor Location

When Deister does not supply the motor support frames, it is very important that the motor be located as shown on the overall (General Arrangement) drawing. All Deister screen sheaves are specially machined so that, when in operation, there is a point of zero sheave run out. In other words, if a line were drawn from the center of the driven sheave through the center of the motor sheave, there would be no movement towards or away from the motor sheave where that line crosses the outer diameter of the screen sheave. This, of course, means that the center distance is remaining constant and the belts are running smoothly. If the motor is located improperly, the line may not cross at the point of zero run out. This results in belt damage, motor bearing wear, pivot motor base damage and excessive plant vibration.



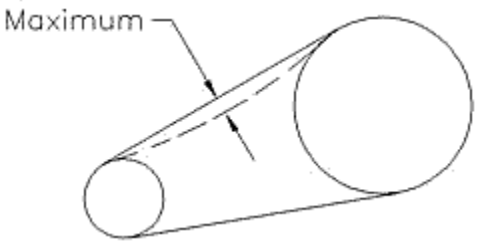
3. Belt Tension and Alignment

Proper belt tension is important to screen performance. Belts that are too loose will slip during start-up and may not be able to start the unit. Belts that squeal during start-up or in operation, or whip excessively, may indicate insufficient belt tension.

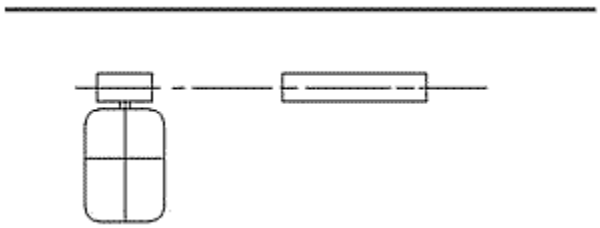
CAUTION

Be careful, however: belts that are tensioned too tightly can cause much more serious damage. As belts are over-tightened, the vibrating frame is pulled out of square with the support frame. Operating in this twisted position introduces stresses that can lead to spring failure, metal fatigue, cracking and broken welds in the vibrating frame.

In addition, the twisting will affect the stroke amplitude and character, thus affecting material flow and screening efficiency. Over-tightened belts put an extra load on the mechanism bearings that is unnecessary and may tear up motors and motor bases. Ideally, the belts should only be tight enough that they do not slip during start-up.



After proper tension has been applied to the V-belts, check that the sheave faces have proper angular and parallel alignment.



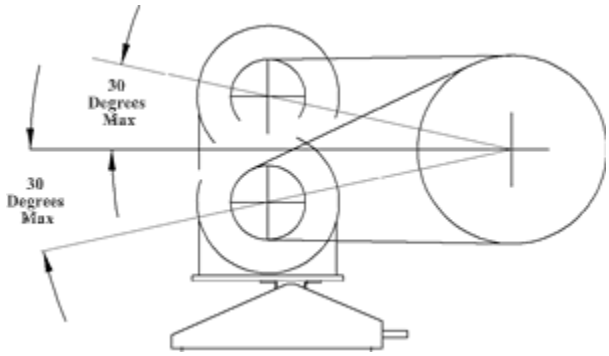
4. a. Torsion Motor Base (If Applicable)

If not properly operated, the torsion motor base cannot perform its job, which is providing uniform belt tension at all times.

CAUTION

The top of the base must be parallel to the bottom of the motor base or the base will not have adequate adjustability.

The center of the motor sheave should be located within 30 degrees up or down from the horizontal center of the screen sheave.



4. b. Pivot Motor Base (If Applicable)

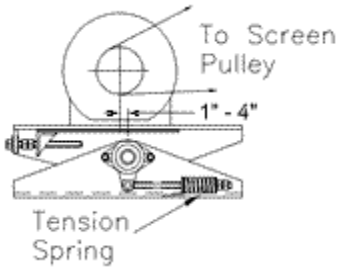
If not properly operated, the pivot motor base cannot perform its job, which is providing uniform belt tension at all times.

CAUTION

The top of the base must be parallel to the bottom of the motor base or the function of the base will be interrupted during start-up and shut down.

The tension spring is always located towards the screen sheave. The location of the motor on the pivot base is very important as well. By locating the center of the motor one to four inches horizontally past the center of the motor base, away from the screen sheave, the weight of the motor actually assists in maintaining belt tension. Final belt tensioning is made by adjusting the compression of the spring in the motor base. Proper spring compression greatly affects belt whip and belt life. The center of the motor sheave should be located within 30 degrees up or down from the horizontal center of the screen sheave.

Never adjust belt tension while the screen or feeder is operating and always replace all guards.



H. Snubber Assemblies

Any vibrating frame that is supported by resilient springs has a resonant or natural frequency at which the frame can jump and lurch very erratically. On Deister equipment, this frequency is normally between 120 and 150 cycles per minute. During start-up and shut down the unit must pass through this phase as quickly and as smoothly as possible. That is why Deister equips each unit with snubbers. The snubbers restrict large movements that could damage the vibrating frame and stationary tower yet do not hamper the normal oscillating motion of the unit. Always smear water resistant grease on each side of the check arm against the brass discs. When tightened to approximately 150 ft.- lbs. the snubber assembly should not be moveable by hand or foot. It should be moveable with a medium length pry bar.

CAUTION

The snubber assemblies should be inspected periodically and worn parts replaced when necessary. See the accompanying drawing.

NOTE: IMPORTANT PARTS TO CHECK FOR WEAR:

Friction Spring, Brass Disc, and Rubber Spindle Bushing.

I. Recommended Nut Torque in FT.- LBS.

BOLT DIAMETER
7/16"
1/2"
5/8"
3/4"
7/8"
GRADE 5 BOLT
45
65
125
220
325
GRADE 8 BOLT
55
100
200
375
475

All bolts should be visually checked for tightness after approximately one day of operation. Periodic inspection for loose bolts should be conducted. Replace loose hardware with the appropriate new hardware.

J. Screen Cloth Support and Tensioning System

CAUTION

Do not operate vibrating screen with screen cloth or other screen media sections removed. This results in accelerated wear on support frames and longitudinal support bars. Wire cloth and perforated plate sections add rigidity to the vibrating frame. Their removal may result in undesirable side motion and erratic stroke. Place oversized protector cloth or plate on support frame sections when not in use.

Uniform tension must be maintained on the screen surface to prevent whipping and to maintain contact between the screen surface and the bucker-up rubber on the longitudinal support bars. All Deister screen cloth tensioning devices are interchangeable since the holes and castings in the side plates are identically located.

1. Tensioning Systems

a. Rubber Spring and Wedge:

The most common style for fine and medium weight cloth is the rubber spring and tension wedge. This tensioning device has the advantage of quick tightening or easy release, while at the same time providing constant tension through the action of the molded rubber spring. For most applications, the spring should be compressed until there is approximately 7/8" from outside face to face.

b. Automatic Steel Spring:

The other tensioning device for fine and medium weight wire cloth or light weight perforated plate is the automatic steel spring assembly. The powerful coil spring should be compressed until there is approximately 1 7/8" between the spring socket and the spring washer.

c. Heavy Duty:

The swivel washer and hex nut is used for heavy wire cloth or perforated plate with hook strips.

2. Bucker-Up Rubber Wear Strips

The screen section supporting bars, or longitudinals, are covered with rubber wear strips to protect them from abrasion.

CAUTION

The supporting bars must be covered at all times to prevent screen wire breakage. If this covering becomes worn it should be replaced with new rubber. For special applications, such as hot mix asphalt screens, a steel half round is used in place of the rubber wear strip. It should be checked periodically for wear.

See the data sheet for the total length of rubber required for complete replacement on this unit.

3. Screen Section Support Deck Replacement

The screen section support decks, or trays, are constructed of tubular or channel cross members, heavy duty angles and flats ruggedly braced and welded together. These decks are attached to the vibrating frame with grade five bolts, hardened washers, and special locknuts. The cross members may be protected from abrasion by covering them with wear resistant material. Consult DMCo. before attaching any wear surface to cross members.

CAUTION

Due to the abrasive action of the aggregate being screened, the transverse members will eventually wear down to the breaking point. Screen cloth breakage may occur due to the loss of the proper camber of the supporting deck. The worn out decks should be replaced.

When replacing one or more decks, do not loosen or remove more deck bolts than necessary. This will maintain proper alignment of the vibrating screen frame. If necessary to replace all screen section support decks, please consult the factory for installation instructions.

4. Flat Bolt Down Perforated Plate

Always keep the plate bolted down tightly with at least grade five bolts. Position openings such that the cross channel supports are protected from material abrasion.

5. Modular Snap-In Screen Media

For maintenance, consult the manufacturer of the modular system. Panels must always be held firmly in place.

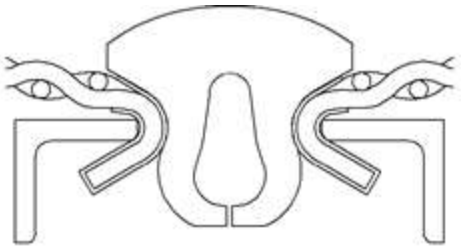
6. Adjustable Angle Screen Section Support Decks

Most Deister inclined screens with the mechanism above the side sheets are equipped with sectioned support decks that enable the sections to be arranged in an arc. This provides maximum efficiency for the particular stroke character generated by top drive screens. To further improve the efficiency, adjustable slope panels are provided at the feed and discharge ends. Most units are shipped with the feed end in the raised position and the discharge end in the lower position.

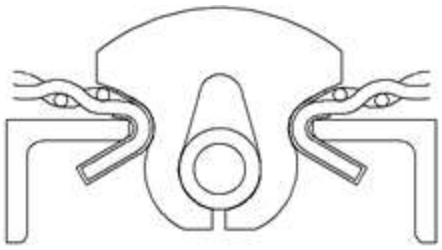
Raising the feed end section will increase the velocity of the feed and thin the depth of bed. Raising the discharge end will decrease the velocity and increase the depth of bed.

7. Rubber Center Hold Downs

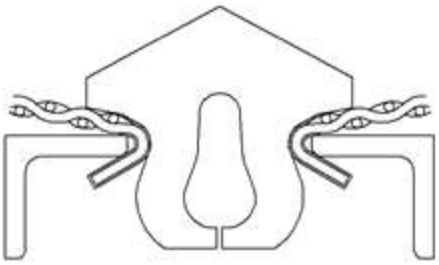
There are six different rubber center hold down combinations available to suit your needs. Contact Deister Machine Company for assistance in proper rubber center hold down selection based on your particular application.



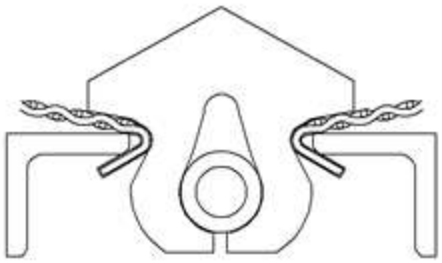
000567 FOR EXTRA
HEAVY WIRE/HOOKS
(TYPICAL)



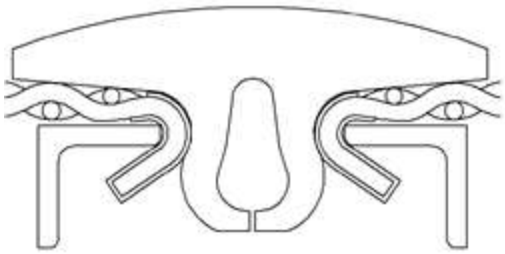
000567 WITH 001684
HOSE INSERT FOR MEDIUM
WIRE/HOOKS
(TYPICAL)



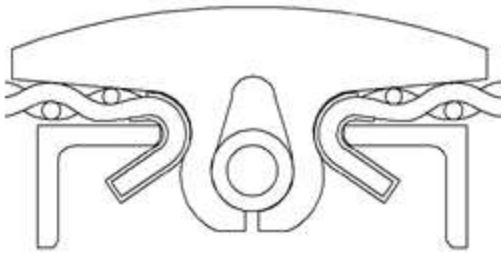
001632 FOR THIN
WIRE/HOOKS
(TYPICAL)



001632 WITH 001684
HOSE INSERT FOR VERY
THIN WIRE/HOOKS
(TYPICAL)



125425 FOR EXTRA
HEAVY WIRE/HOOKS
(ALTERNATIVE)



125425 WITH 001684
HOSE INSERT FOR MEDIUM
WIRE/HOOKS
(ALTERNATIVE)

K. Trunnion Type Support Springs

The quantity and stiffness of the steel coil support springs were selected for your machine's weight and application. The springs are soft enough to minimize the vibration transmitted to the stationary structure but, at the same time, stiff enough to handle moderate feed surges. If the springs are too soft or too stiff, several different stiffness springs are available to fit in the existing spring seats. Consult Deister Machine Company.

If springs are allowed to bottom out, serious damage can be done to the screen frame, tower and springs. Worn paint or bare metal between coils is hard evidence that the spring has been totally collapsed. If this has occurred, an unusually heavy feed surge, plugged chutes, or stalled equipment is most likely to be the cause and should be corrected immediately.

If the vibrating frame is bottomed out on the springs due to the weight of backed up material, shut down the unit immediately. The back-up should be cleared by hand. Attempting to clear the back-up by running the unit will lead to spring and frame breakage. Clear away dust and stones from the base of the springs daily.

Support springs should be closely inspected at least once a month. In extremely corrosive applications, where spring breakage can be more frequent, Deister can supply specialty springs.

L. Feed Box (If Applicable)

Bolted to the feed box pan is an A/R steel or steel backed rubber replaceable liner. DMCo.can supply replacement liners with several different types of wear resistant material. Ideally, all material being fed to the unit should land on the replaceable liner. Failure to do so can result in premature cloth and support panel wear.

M. Spray Equipment (If applicable)

1. Header and Nozzles

The stationary spray headers pass through reinforced openings in both side sheets. The orifices in the header should be centered between the side sheets.

AT NO TIME SHOULD WATER BE SPRAYED AT 90 DEGREES (PERPENDICULAR) TO THE SCREEN SURFACE.

This would result in rapid deterioration of the screening surface. The spray should strike the screening surface at approximately 45 degrees. Nozzles can be positioned to spray against or with the flow of material. This depends upon the desired washing/rinsing efficiency and material properties. For most applications, a pressure of approximately 40 PSI is desired at the nozzles.

2. Spray Seals

There are two interchangeable systems for sealing at the side sheet where the spray header passes through. Contact Deister Machine Company for assistance in proper spray seal selection based on your particular application.

N. Enclosure (If Applicable)

Sheet steel enclosure doors, covers and quick release enclosure door clamps can be replaced by contacting D.M.Co

O. Preventative Maintenance

1. Maintenance Checks

Daily Checks

a. Oil level (for one week after oil change)

b. Clear away stones and dust build-up from any moving parts.

Weekly Checks

a. Screen cloth tension

b. Wear on screen media and tension plates

c. Oil level

d. Even material feed and distribution

e. Loose bolts

Monthly Checks

a. Wear on bucker-up rubber wear strips at screen cloth changes

b. Wear on snubber assemblies

c. Drive belt tension

d. Support springs

Semi-Annual Checks

a. Wear on V-belts and sheaves

b. Type of oil being used

c. Wear on cloth support decks

d. Wear on feed and discharge wear plates (if applicable)

e. Test oil samples at oil change intervals

2. Housekeeping Practices

CAUTION

Accumulation of dust and stone around moving parts is one of the largest single causes of part failures. Pivot motor bases, support springs and the vibrating frame are especially susceptible to poor housekeeping. Any sustained impact between the vibrating frame and accumulated material will lead to side sheet and support deck cracking, in addition to tower vibrations. Sheaves and belts are susceptible to material jumping over the side sheets and causing damage. Where possible, stationary skirt plates or rubber flaps should be used to deflect airborne material back onto the machine. Regular housekeeping practices will greatly reduce parts cost and down time.

P. Troubleshooting Guide

PROBLEM	CAUSE	CORRECTION
Material carry-over or screening inefficiency	Excess tonnage creating too deep of a bed of material	Reduce tonnage fed to screen
	Not enough open area in screen media	Increase % open area
	Not enough screen action	Increase the machine stroke
	Material flowing too fast	Reduce machine speed
	Screen cloth plugged	Increase the machine stroke Change style of cloth
	Screen cloth blinded	Increase the machine speed Change style of cloth
	Cloth opening too small to pass near size material	Increase size of cloth opening
Material flows to one side	Uneven material distribution	Center the feed
	Screen running crooked in base due to too much belt tension	Adjust belt tension
	Machine out of level	Level the machine in the base
	Operating at critical speed	Change speed slightly
Breaking support springs	Spring bottoming due to feed tonnage or load exceeding the spring rating	Change to heavier springs
	Uneven material distribution	Center the feed
	Material buildup around spring	Install spring covers or deflect material. Keep area around springs clean
	Harsh or corrosive environment	Install premium springs
	Machine running crooked in the base due to too much belt tension	Adjust belt tension
	Different rated springs on one side of screen than on opposite side	Install proper springs per operating manual

PROBLEM	CAUSE	CORRECTION
Breaking support arms or Breaking spacer tubes (If Applicable)	Arms hitting in the base due to:	. . .
	Incorrect support arm adjustment	Raise or lower support arm by adjusting 1¼" hex nut
	Broken spring	Replace the spring

	Feed tonnage or load exceeding the spring rating	Change to heavier springs
	Broken or inoperative snubber assemblies	Repair or replace snubber assemblies
	Spacer tube or side sheet or support arm hitting on material buildup	Prevent material buildup
	Spacer tube rubber is worn off, resulting in wear on tube	Replace spacer tube rubber
Side sheets or support panels cracking	Machine running crooked in the base due to too much belt tension causing side motion	Adjust belt tension
	Machine running with side motion due to natural frequency of plant structure	Adjust speed of machine or reinforce structure
	Vibrating frame hitting on stationary plant structure	Allow adequate clearance
	Running with broken spacer tube	Replace the spacer tube
	Running with broken spring	Replace the spring
	Running ar screen natural frequency	Adjust speed of machine or change machine natural frequency (Contact Deister)
	Additional causes may include some of the same as those in the "Breaking support arms" section	
Breaking screen cloth	Inside bend width dimension of cloth incorrect	Replace with correct cloth
	Bucker bars are worn and do not provide smooth arc	Replace deck frame
	Tension assembly too loose	Adjust tension on cloth
	Clamp plates worn or improper type	Replace clamp plates
	Bucker-up rubber is worn	Replace bucker-up rubber
	Steel half round is worn (If Applicable)	Replace steel half round

PROBLEM	CAUSE	CORRECTION
Breaking spray pipes	Machine sitting too high or low in the base, causing pipes to hit framed openings in side sheets	Adjust spray pipes to center of opening or adjust machine up or down by adjusting 1¼" hex nut on support arms (If Applicable)

	Pipes not stiff enough, resulting in whipping	Weld 2" x 2" x ¼" angle to top of pipe for stiffness
	Snubber assemblies broken or inoperative	Repair or replace snubber assemblies
Excessive plant vibration	Machine running erratically due to natural frequency of plant structure	Adjust speed of machine
	Drive belts too tight	Adjust belt tension
	Isolator rubbers have hardened and taken a permanent "set"	Replace isolator rubbers (if applicable)
	Broken support spring	Replace broken spring
	Support springs are too stiff	Replace with softer springs
	Insufficient X-bracing in the plant	Add bracing in plant
Drive belts slipping, flopping or coming off	Improper sheave alignment	Adjust alignment
	Improper belt tension	Adjust belt tension
	If pivot motor base, direction of rotation incorrect	Reverse rotation. Top of belt should go toward screen sheave
	Grooves in sheave worn	Replace sheave
	Screen sheave installed backward	Reverse sheave. Side with recessed hub is toward outside
	Belts oily or dirty	Clean off belts and sheaves
	Motor located in wrong position resulting in excessive runnout (See Section G.2)	Relocate motor per overall General Assembly drawing or order new eccentric bushing

PROBLEM	CAUSE	CORRECTION
Mechanism leaking oil	Too much oil in tube	Install correct amount of oil Refer to operating manual
	Machine out of level causing oil to flow to low side of machine	Level the machine
	Housing bolts or bolts around housing cap have become loose	Tighten bolts with Loctite
	Housing cracked	Replace housing
	Machined surfaces between housing and housing cap flared or have burrs	Smooth burrs or replace parts
	Housing cap bolts bottomed out in tapped	Use shorter housing

	hole	cap bolts
	Bad or missing housing cap gasket	Install new gasket
	Crack in tube assembly	Consult Deister Machine Co.
Oil in mechanism excessively hot	Too much oil in tube	Install correct amount of oil Refer to operating manual
	Machine out of level, causing oil to flow to low side of machine	Level the machine
	Improper type of oil	Install recommended type of oil Refer to operators manual
	Bearing failing	Replace all bearings sharing the same oil bath

PROBLEM	CAUSE	CORRECTION
Short bearing life	Contamination in oil	Change oil, making sure oil in storage is clean, and clean containers used to transport oil
	Infrequent oil changes	Change oil more frequently Refer to operating manual
	Improper type of oil	Install recommended type of oil Refer to operating manual
	Improper shaft end play	Should have 3/64" to 1/16" shaft travel side-to-side. Rebuild mechanism. Consult D.M.Co if assistance is needed.
	Machine out of level causing oil to flow to low side of machine	Level the machine
	Thrust load on bearings	Correct cause of side motion in vibrating frame
	Improper type of bearing	Replace with proper bearing
	Machine running too fast	Change sheave ratio or motor speed
	Machine impacting on stationary structure or built-up material	Eliminate hitting

	Additional causes may include some of the same as those in the "Breaking support arms" section	

DEISTER MACHINE COMPANY

Q. Screen Cloth Recommendations

Standard Screen Cloth opening and recommended wire diameters for normal applications on Asphalt Type Deister Vibrating Screens. The suggested openings apply where specifications allow 0-5% of oversize in the undersize.

To Make	Use Scr. Ope.	Wire Dia.	Mesh	% Open
#10 (.078)	.107"	.047"	6½	48.4
	.113	.054	6	46.0
	.120*	.047*	6	51.8
# 8 (.093)	.137	.063	5	46.9
# 6 (.131)**	.159	.063	4 ½	51.2
# 4 (.185)	.250	.092		53.4
1/4	5/16	.092		59.6
3/8	7/16	.135		58.4
1/2	9/16	.162		60.0
1/2	.588	.162 3/4" c to c of wire		61.4

Above 1/2" ope. increase aperture area 20-25%

	3/4"	.192		63.4
	7/8	.207		65.3
	1	.225		66.6
	1" 1-1/8	.225		69.4
	1-1/4	.250		69.4
	1-3/8	.3125		66.4
	1-1/2	.3125		68.5
	1-3/4	.375		67.8
	2	.375		70.9

* Used where 10% oversize allowed in #1 Bin. Stainless steel wire recommended.
** 5 mesh, .146 ope., .054 wire makes 100% passing #6 sieve on horizontal screens.

SIZE OF COARSE AGGREGATE
(AASHO M 43)

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SIZE No.	NOMINAL SIZE SQUARE OPENINGS (1)	AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS) . PRECENTAGE BY WEIGHT														
		4	3 1/2	3	3 1/2	2 1/2	1 1/2	1	3/4	1/2	3/8	No. 4	No. 8	No. 16	No. 50	No. 100
1	3 1/2 to 1 1/2	100	90 to 100	.....	25 to 60	.....	0 to 15	.....	0 to 5	.....	.....	.....	.....	.....	.....	.....
2	2 1/2 to 1 1/2	.....	.....	100	90 to 100	35 to 70	0 to 15	.....	0 to 5	.....	.....	.....	.....	.....	.....	.....
24	2 1/2 to No.4	.....	.....	100	90 to 100	.....	25 to 60	.....	0 to 10	0 to 5	.....	.....	.....	.....	.....	.....
3	2 to 1	.....	.....	.....	100	90 to 100	35 to 70	0 to 15	.....	0 to 5	.....	.....	.....	.....	.....	.....
357	2 to No.4	.....	.....	.....	100	95 to 100	.....	35 to 70	.....	10 to 30	.....	0 to 5	.....	.....	.....	.....
4	1 1/2 to 3/4	.....	.....	.....	.....	100	90 to 100	20 to 55	0 to 15	.....	0 to 5	.....	.....	.....	.....	.....
467	1 1/2 to No.4	.....	.....	.....	.....	100	95 to 100	.....	35 to 70	.....	10 to 30	0 to 5	.....	.....	.....	.....
5	1 to 1/2	.....	.....	.....	.....	.....	100	90 to 100	20 to 55	0 to 10	0 to 5	.....	.....	.....	.....	.....
56	1 to 3/8	.....	.....	.....	.....	.....	100	90 to 100	40 to 75	15 to 35	0 to 15	0 to 5	.....	.....	.....	.....
57	1 to No.4	.....	.....	.....	.....	.....	100	95 to 100	.....	25 to 60	.....	0 to 10	0 to 5	.....	.....	.....
6	3/4 to 3/8	.....	.....	.....	.....	.....	.....	100	90 to 100	22 to 55	0 to 15	0 to 5	.....	.....	.....	.....
67	3/4 to No.4	.....	.....	.....	.....	.....	.....	100	90 to 100	.....	20 to 55	0 to 10	0 to 5	.....	.....	.....
68	3/4 to No.8	.....	.....	.....	.....	.....	.....	100	90 to 100	.....	30 to 65	5 to 25	0 to 10	0 to 5	.....	.....
7	1/2 to No.4	.....	.....	.....	.....	.....	.....	.....	100	90 to 100	40 to 70	0 to 15	0 to 5	.....	.....	.....
78	1/2 to No.8	.....	.....	.....	.....	.....	.....	.....	100	90 to 100	40 to 75	5 to 25	0 to 10	0 to 5	.....	.....
8	3/8 to No.8	.....	.....	.....	.....	.....	.....	.....	.....	100	85 to 100	10 to 30	0 to 10	0 to 5	.....	.....
89	3/8 to No.16	.....	.....	.....	.....	.....	.....	.....	.....	100	90 to 100	20 to 55	5 to 30	0 to 10	0 to 5	.....
9	No.4 to No.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	85 to 100	10 to 40	0 to 10	0 to 5	.....
10	No.4 to 0 (2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	85 to 100	.....	.....	.....	10 to 30

(1) IN INCHES, EXCEPT WHERE OTHERWISE INDICATED. NUMBERED SIEVES ARE THOSE OF THE UNITED STATES SIEVE SERIES.

(2) SCREENINGS

(3) WHERE STANDARD SIZES OF COARSE AGGREGATE DESIGNATED BY TWO OR THREE DIGIT NUMBERS ARE SPECIFIED GRADATION MAY BE OBTAINED BY COMBINING THE APPROPRIATE SINGLE DIGIT STANDARD SIZE AGGREGATE BY A SUITABLE PROPORTIONING DEVICE WHICH HAS A SEPRATE COMPARTMENT FOR EACH COARSE AGGREGATE COMBINED. THE BLENDING SHALL BE DONE AS DIRECTIDE BY THE LABORATORY.

OSHA HAZARD COMMUNICATION/STATE RIGHT-TO-KNOW

Please contact Deister Machine directly for the latest MSDS
Material Safety Data Sheets and safety information