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INSTRUCTION MANUAL

MODELS 40, 40B, 50, 60, 70, 80 & 90

C E N T R I S C R E E N

Engineering Bulletin
20-60
Dated: 6/28/76
Revised: 1/11/88
Sheet 1 of 1

CENTRISCREEN - ABSTRACT

Customer: GEORGIA PACIFIC
GILMAN, VT

Order Date: 4/25/89 S.O. No. C108-1

C.O. No. 62264 Serial: CNS- 1619

Model 6 ☐ 8 ☐ 10 ☐ 14 ☐
40 ☐ 50 ☒ 60 ☐ 70 ☐
31 ☐ 41 ☐

Mat'l of Construction: MEEH ☐ Steel ☐
MEEH Coated ☐ Stnls ☒ 316SS

Hand of Assembly: E-N

Screen Specs: .062 Perf 12 % Open Area
~~cut~~ ~~SPS~~

Foil Speed: 224 RPM

Foil Clr: In .125 Out .187

Motor Supplied: Yes ☐ No ☒

Motor Specs: HP 100 RPM 900 Frame 445T

Location in System:

Tagging:

Application:

Remarks:

Certified By: SAM CERDA Date: JUNE 9, 89

/lb

20-50
1/22/75
Revised 6/16/82
Revised 7/17/85

INSTRUCTIONS

FOR

INSTALLATION, OPERATION, AND MAINTENANCE

OF THE

BIRD CENTRISCREEN® PRESSURE SCREEN

MODELS 40, 40B, 50, 60, 70, 80, 90

LOW PULSE & STANDARD MACHINES

TABLE OF CONTENTS

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FOR

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BIRD CENTRISCREEN® PRESSURE SCREEN

MODELS 40, 40B, 50, 60, 70, 80,90

LOW PULSE & STANDARD MACHINES

INSTALLATION

Shipping:

The Screen is shipped vertical on skids. Models 90,80,70,60 low pulse and 50 low pulse hydrofoil assembly is shipped in a separate box. Models 90,80 and 70 have cover shipped unassembled to machine.

Installation of Machine:

Refer to installation drawing for location of anchor bolts, for Model 40 & 40B.

The Screen Foundation can be made of a concrete pad or structural steel. Provide for drainage from the inside of the base.

The Screen Foundation can be made of concrete or structural steel pedestals, "A" min. height. Motor base can also be made of concrete or structural steel, "B" min. height above "A".

Total static weight of machine filled with stock, including motor, motor bracket, and slide rails, is "W" lbs. (See below)

Model	"A"	"B"	"W"	"N" (Qty.)
40	6"		9,500	3
40B	6"		11,500	3
50	8"	6-1/2"	14,500	4
60	10"	8	16,000	4
70	10"	9-3/4"	30,000	4
80	10"	9-3/4"	32,500	4
90	10"	-	75,000	4

The screen is shipped equipped with "N" lifting eye nuts, equally spaced, on top cover studs for installation purposes. Eye nuts are used to stabilize the machine while it is being lifted by slings or

lower lifting eyes as the machine is being moved. After screen is permanently installed, these lifting eyes should be removed and replaced with standard nuts, separately shipped and tagged.

Caution: Do not use fork lift under base as sheave may be damaged.

Vibrations are not present during operation of the screen except where these may be transmitted from fan pumps or other equipment in the vicinity of the screen. Therefore, it is suggested that a solid and careful anchoring be provided.

Level the screen using a machined surface as the reference surface. Good leveling of the screen will also permit total drainage of water during shutdowns. In order to insure proper alignment of anchor bolts provide 2" pipe sleeves in the concrete motor base and screen pedestals to allow for any inaccuracy in the location of holes on screen base and motor slide rails.

Model 40 and 40B

The screen will be shipped with the motor if so ordered. In cases where the motor is supplied by the customer, the belts and the driving pulley will be shipped in a separate box for assembly by the customer. The motor bracket base is slotted and provided with adjusting screws to allow for belt installation, removal, and take up.

Models 50, 60, 70,80 and 90.

When motor is supplied by either BMCo. or the customer, the belts and drive pulley will be shipped in a separate box for assembly by the customer. Motor bracket and slide rails will also be shipped separately. The motor bracket, which is mounted on motor slide rails, is slotted and provided with adjusting screws to allow for belt installation, removal, and take up.

After the first week or two of operation, check the belts and take up any looseness that may have been created by the running in of the belts. No futher adjustment normally will be necessary. See nameplate on machine for belt tensioning.

Installation of Piping and Valves

The screen will be connected to the system according to the approved piping installation drawings.

The inlet and the discharge pipes should be provided with wafer type stock valves, these valves being used primarily as isolation valves. The discharge valve may be used for throttling, with no throttling being done with the inlet valve.

In multiple installations of two or more screens, inlet and discharge headers should be tapered or stepped to even out the flow distribution and velocity to avoid individual throttling of screens, maximum angle of 45°, measured from centerline of main header, in direction of flow.

Provide diaphragm type gauges or pressure transmitters on the inlet and discharge piping. Inlet and discharge piping should be properly designed to avoid trapping of air. Also, sample valves of a type that will not plug, installed on inlet, accepts, and rejects are desirable.

The tailings line will be connected to the tailings opening on the bottom of the screen, and a regulating valve of the non-plugging "V" notch type should be suitably located. Provide a drain in this tailings line close to the screen to permit gravity drainage of the screen during washup.

Where resetting of the tailings valve opening is undesirable, a gate valve can be included for shutoff purposes.

Refer to installation drawing for line pipe size and recommended valve size.

On multiple screen installations separate reject lines should be run from each screen to the next item in the tailings system. Reject control valve may be placed either at the screen or at the following item in the system, which would normally be a dilution box.

When Optional Trap is Provided.

The trap discharge, when bled intermittently, as is common on a one (1) screen installation will consist of a 90° elbow connected to the trap flange on one end, and a system of two gate type valves in series on the other end. Lower valve should be positive shut off as leakage would dewater stock and plug line. The two valves should be separated by a length of pipe at least 2 ft. in length with the discharge from the second valve leading to a drain. On multiple screen installations, where it is desirable to bleed the inlet trap or gutter continuously for improved grit cleaning efficiency, the same overall piping arrangement used for rejects may be employed, complete with sight flow indicator, header arrangement, and one control valve at end of header.

A fresh, high pressure water line (refer to seal water information under start up operation) with the following measuring and filtering equipment, supplied by Bird Machine Company, will be connected to the seal water line: -

1) Automatic Flow control (Models 40 & 40B = 1 GPM Model 50 & Larger = 1-1/2 GPM)
2) Pressure Gauge 0-160 PSI range
3) Filter (Spare cartridge supplied by BMCo.)
4) Pressure Gauge 0-160 PSI range
5) Shut Off Valve

A large capacity 40 mesh filter supplied by customer should be placed ahead of this filtering equipment.

The connection will be made in the sequence indicated, starting from the 1/4" IPS coupling protruding from the underside of the screen. The parts will be shipped assembled in a separate box.

The vent opening, on the screen cover, should be connected to a flexible hose where venting may be considered necessary. A shutoff valve on top of the vent connection will permit the use of this vent line occasionally, chiefly on startups and shutdowns. If the venting is done continuously, the other end of the hose should be brought to a line leading to the location designated in the piping installation drawings.

On Models 40 and 40B a 2" pipe and on Model 50 and over a 3" pipe for a fresh water and drain connection is provided under the screen for draining, back flushing, and for filling the screen before start up. The drain line should be extended to the floor to prevent splashing in the vicinity of the drive belts. Inlet side of screen plates may be drained through the reject line.

Installation of Rails and Chain Falls:

In order to provide a suitable arrangement for removing the cover and screen baskets, it is necessary to install "A" size trolley hoist on a channel "B" height above the top of the screen.

Model	Trolley Size "A"	Min. Heights "B"
40	1/2 ton	3 Ft. 3 In.
40B	1/2 ton	3 Ft. 3 In.
50	1/2 ton	4 Ft. 6 In.
60	1/2 ton	5 Ft.
70	1 ton	3 Ft. 6 In.
80	1 ton	4 Ft. 6 In.
90	2 ton	4 Ft. 6 In.

OPERATION

Start Up:

1. On start up of new installation flush out system with fresh water or lean whitewater with screen cylinders out of machine. In order to obtain a successful start up, the screen has to be flooded with fresh water or lean whitewater before the stock reaches the plates.

Use the following start up procedure.

2. Valves open on inlet and discharge.

3. Valves set on reject for desired flow.

4. Seal water on. Seal water supply pressure should be a minimum of 50 PSI above maximum stock inlet pressure to screen. This allows for an initial 15 PSI drop across water seal filter piping assembly plus a potential 35 PSI increase in pressure drop across filter as it becomes clogged. Minimum allowable seal water pressure is 50 PSI. Maximum allowable seal water pressure is 125 PSI. CAUTION: If the gauge after the filter should drop in pressure more than 35 PSI below pressure on inlet gauge to filter, or if it should drop to less than 15 PSI above stock inlet pressure to screen, the filter cartridge should be replaced. DO NOT RUN SCREEN WITH SEAL WATER PRESSURE AFTER FILTER LOWER THAN 15 PSI ABOVE STOCK INLET PRESSURE TO SCREEN.

5. Air bleed top of screen open.

6. Start motor and then start fan pump with white water ONLY.

7. Close air bleed on top after seeing that a continuous stream of water is apparent.

8. Open basis weight value to feed stock to machine circuit.

In cases where a spare screen will be placed in operation without shutting down the machine, the following procedure applies: -

1. It is assumed that the inlet and discharge valves have been closed to isolate the screen.

2. Open seal water line.

3. Open fresh water line to fill the screen, open the vent line to permit the escape of air and also indicate when the screen is filled with water. Close tailing line if it happens to be open to avoid loss of water.

4. Start motor after screen has been filled.

5. Open inlet and discharge valves simultaneously leading with the inlet valve by 10 percent opening and close vent line once the flow has started. Adjust reject line to desired flow.

- The discharge valve will be used to adjust the flow if other regulating valves downstream from the screen are not available.

In order to insure that the screen is operated full at all times, the pressure gauge on the downstram side of the screen should read a positive pressure of 3 PSI minimum.

After starting the fan pump, the vent line on top of the screen may be closed once the flow of stock has been observed. In mills where continuous venting is desirable, the line may be kept open.

Routine Checkup During Operation:

The life of the seals will depend to a large extent on the flow of seal water. In order to insure the presence of seal water, periodically check pressure gauge readings across filter. When gauge readings indicate a pressure differential of 35 PSI, replace filter cartridge. A differential pressure switch can be provided to warn when this condition exists.

If optional trap has been provided to eliminate any heavy particles trapped in the inlet chamber, dump the trap a minimum once per 8 hour shift.

MAINTENANCE

Cleanup During Operation:

For short interval wash up during production, clean up as follows: -

1. Close basis weight valve.

2. Open air bleed on top of cover.

3. Open fresh water valve to screen.

4. Shut off fan pump.

5. Run fresh water until clear water appears on reject opening and make sure air bleed is discharging water to insure thorough wash.

6. Shut off water line.

7. The screen motor may remain running if water is always discharging out of the air bleed on top; otherwise, shut motor down.

Clean Up After Shutdown:

Use the same procedure as "Cleanup During Operation" except as follows: -

8. Stop screen motor. (Any time screen worked on, tag and lock out power to screen motor drive.)

9. Drain screen.

10. Shut off seal water.

In mills where the slime condition is very high, the screen should be opened and the baskets removed (see paragraph on disassembly of screen), and the inner chambers thoroughly washed with high pressure hoses.

Where arrangements exist to recirculate a hot caustic solution through the fan pump and piping and headbox, it will not be necessary to open the screen. The solution of hot caustic will be recirculated with the screen motor running and the tailings line closed. After the recirculation of hot caustic, thoroughly rinse the screen with water.

The isolation valves will permit an application of hot caustic exclusively to the screen if this is desired. To fill up the screen, any connection for drain or vent can be used.

In mills where thorough cleaning is not done within a reasonable period of time, it is good practice to fill the screen with water to prevent hardening of fillers, slime, or other additives during shutdowns.

Disassembly of Screen for Cleanup Purposes:

Refer to the assembly and parts catalog drawing.

Shut off motor and tag and lock out power to screen motor. Disconnect hose from vent line. Open all drains.

1. Remove bolts and nuts on cover and remove cover.

2. Remove socket head cap screws fastening hydrofoil spider to hydrofoil drive hub. Does not apply to Model 70. See steps 1 and 2 under seal inspection and maintenance.

3. Remove hydrofoil assembly by attaching two eye bolts to the spider. Lightly tap with wooden block to release fit and use the two tapped jackscrew holes if necessary. Model 70 spider is removed directly from shaft.

4. Remove clamps between clamp rings and screen plates.

5. Remove socket head cap screws fastening inner and outer cylinder clamp rings. Place two eye bolts on each of the screen cylinders. Pull out screen cylinders together with clamp rings. Suggest that spreader bar be used to keep from bending or breaking eye bolts.

The screen chambers will now be free for washing and inspection.

When rebolting the screen cylinder clamp rings, be sure that it is pulled down evenly so that the vertical dimension between the top of the screen cylinder and the top surface of the clamp ring is uniform.

Be sure that inner and outer clamps are reassembled connecting from inner and outer cylinder clamp rings to screen cylinders. These clamps are necessary in order to provide a safeguard against screen cylinders turning in gutter fits during operation. Model 70 has only outer cylinder clamps. There should always be a gap left between screen clamp rings and clamping surface after tightening clamp rings.

Mechanical Inspection and Maintenance:

The screen, if maintained according to instructions, will require very little attention from the operating personnel except for regular lubrication and occassional bearing and seal inspection.

Seal Inspection and Maintenance:

Refer to Assembly and Parts Catalog drawing.

Once a week use 1/2 oz. of waterproof grease (suitable for use with Neoprene) in fitting provided on screen base.

To remove seal assembly, use the following procedure. (See Page 12)

1. Lock out motor switch and disconnect hose from vent line.

2. Remove cover.

4. Loosen and remove locknut and lockwasher from end of shaft.

5. Two threaded holes are provided on top of hydrofoil drive hub. Using a strong back, jack the drive hub loose from the shaft. Lift drive hub and hydrofoil assembly from screen with two eye bolts.

6. Remove spacer and gasket from shaft (does not apply to Models 40 and 40B).

7. Remove cap screws connecting case stuffing box to bearing case pedestal.

8. Remove two cap screws holding case stuffing box gland to case stuffing box. This will provide two tapped holes to place two eye bolts for lifting the case stuffing box complete with seals out of the screen.

9. Lift case stuffing box carefully.

10. Disconnect seal water hose from the stuffing box.

11. Disconnect seal grease hose from the stuffing box.

The inspection and replacement of the seals, also the shaft seal sleeve is now possible. The shaft seal sleeve and flinger can be pulled out for replacement.

If the sleeve is worn, it should be reversed end for end. This allows seals to contact sleeve at different positions. (If sleeve is worn, it would be practical to reorder at this time.) Consult parts list drawing for seals and sleeve part numbers.

Use a thin film of while lead or never seize on mating metal surface and a grease film on the seals.

When replacing seals, be sure there are no burrs or sharp edges on shaft seal sleeve which could damage lip of seals as they slide over sleeve.

Tighten locknut on end of shaft securely.

Hydrofoils:

The hydrofoils are statically balanced in sets and should be replaced in sets of inner and outer hydrofoils. The inside and outside foils are not interchangeable. If it should be necessary to reduce the clearance between the foils and screen plate to increase the pulse effect, remove either set, shim and replace before loosening the other set.

On low pulse machines the hydrofoil assembly is dynamically

HYDROFOIL SETTING: CAUTION: Do not shim low-pulse assemblies

The following procedure should be used to check and shim hydrofoils to correct setting:

1. Lock-out motor switch to be certain that screen will not be accidentally turned on.

2. Remove Cover.

3. Rotate hydrofoil assembly by hand checking an outside hydrofoil with shim stock and locate the tightest spot on the screen cylinder. The tight spot on the screen cylinder and loosest spot on cylinder should not exceed ± .015" from recommended hydrofoil clearance.

4. With shim stock determine and record hydrofoil clearance at the cylinder tight spot on all outside hydrofoils at both top and bottom boss.

5. Repeat both steps 3 and 4 above for inside hydrofoils.

6. Remove hydrofoil assembly from screen and add or remove shims from under hydrofoil bosses as necessary to give correct settings. Shims may be purchased from Bird Machine Company.

7. Reassemble hydrofoil assembly into screen and check clearance.

Bearing Maintenance and Inspection:

The screen is provided with two identical roller bearings. Refer to assembly and parts catalog drawing. Grease gun connections to the bearing are provided in the lower section of the screen. Bearings are greased by Bird Machine Company with Mobilux No. 2.

The following is a list of equivalent greases: -

Esso Standard Oil Co.----------Nebula EPI
Gulf Oil Co.----------Gulfcrown No. 2
Keystone Lubrication Co.----------Keystone No. 3 Velox
The Texas Co.----------Multifab No. 2
Tide Water Assoc. Oil Co.----------Alitho No. 20
Alemite Co.----------Cup Grease No. 33

Once a month, use 1/2 oz. of grease.

For a once a year inspection purpose, remove case stuffing box as described in the "Seal Inspection" paragraph. Use a stethoscope, or similar device, to listen to bearing with motor running.

If removal and replacement of bearings becomes necessary, follow procedure under section " Seal Inspection and Maintenance" for removal of seals and shaft seal sleeve. Remove driven pulley taper lock hub and drip guard from bottom bearing housing. In addition, disconnect grease connection to bottom bearing cap. Disconnect top bearing grease hose at manifold on base. Remove socket head cap screws holding bearing housings to bearing pedestals.

The shaft and bearing assemblies can then be pulled from top of screen and disassembled on a bench.

Refer to pages 17 & 18 for recommended method of removing bottom bearing and housing.

TYPE A MACHINES (EXAMPLE MODEL 40A)

The A designation stands for dilution connections provided so dilution water can be introduced into the reject gutter. For Type A Screens for the section labeled The Tailings Line on page 3 should read as follows:

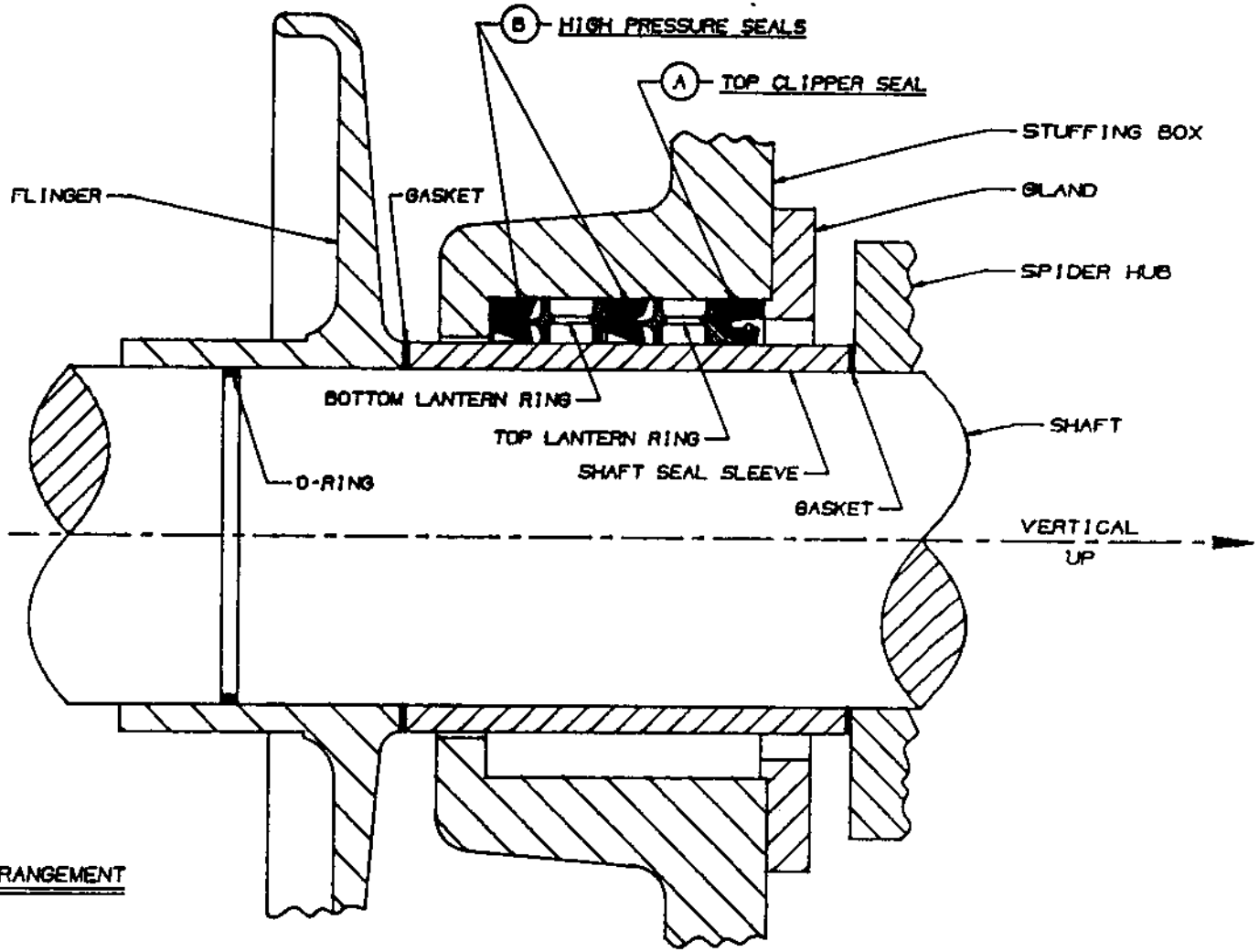
The tailings lines, of which there are two (2), 180° apart will be connected to the tailings openings on the bottom of the screen and manifolded to a common header, size of which will be determined by quantity of flow in GPM. A regulating valve of the nonplugging Vee-point design should be suitable located, preferably at a point in the header nearest the point of discharge. Provide a drain in the header line close to the screen to permit gravity drainage of the screen during washup. Whether the installation is one or multiple, a sight flow indicator is to be installed in each of the tailings lines.

The dilution lines, of which there are (2), 180° apart, will be connected to the dilution openings on the bottom of the screen and are used for the addition of either process or fresh water to the bottom portion of screening chamber through two (2) dilution nozzles. Inlet pressure to be a minimum of 25 PSI above the primary inlet stock pressure to screen. The same piping arrangement as for tailings may be employed with the exception of slight flow indicators. Flow measurement or indication to be done by flow meter or orifice type meter.

Also for Type A Screens the section labeled MAINTENANCE on page 6 should read as follows:

4. should read, shut off dilution water.

5. shut off fan pump.



GH PRESSURE SEAL ARRANGEMENT

MODEL	(A) TOP CLIPPER SEAL	(B) HIGH PRESSURE SEAL
40, 40B, 14, 14B	H330-045-00001-025 (S-17675)	H330-045-00002-025 (S-16054)
50, 60, 18, 24	H330-044-00001-025 (S-10332)	H330-044-00002-025 (S-15897)
70, 80	H330-055-00028-025 (S-18043)	H330-055-00004-025 (S-18048)
90	H330-080-00006-025 (19346)	H330-080-00007-025 (17772 HP)

CENTRISCREEN TROUBLESHOOTING

In general, the Centriscreen Pressure Screen is a troublefree machine which, when operating in a properly sized installation, will require little maintenance and will give stable operation throughout a relatively wide range of operating conditions.

However, should difficulties be encountered, a review of the following possible trouble areas may prove beneficial.

Plugging and/or Stringing (Increase in pressure drop indication or possible plugging or stringing condition.)

Causes:

1. Too low a cleaning pulse generated by the hydrofoils.
2. Too low reject flow rate.
3. Excessive flow through the screen.
4. Operating inlet consistency too high.
5. Incorrect choice of screen plate open area or hole size.
6. Loose belts.

Solutions:

1. If the cleaning pulse is insufficient, it is a relatively simple matter to shim the hydrofoils closer to the screen plates. See section labeled HYDROFOIL SETTING page 10 for correct procedure for shiming hydrofoils. These clearances are set at the factory to a tolerance of .015" at both top and bottom hydrofoil rings and in four places 90° apart around the screen plates. A decrease in these clearances in 1/32" increments will eliminate most plugging and/or stringing problems.
2. Open reject valve and check flow.
3. In some cases, throughput may have increased over the initial

this excess capacity requirement may be met by shimming the hydrofoils closer to increase the cleaning effect. An increase in reject flow will also help the situation. If there is a recycle line in the headbox system, it may be possible to relocate this ahead of the screen and thereby eliminate some of the capacity problems.

4. Most inlet consistencies will be held under 1% since the major use of this type of screen is in headbox systems. However, there have been requirements for consistencies up to 2%. When operating in those areas, there is the possibility of some plugging or stringing. Once again, hydrofoil shimming and increased reject flow is helpful.
5. Increasing the hole size will also help a plugging situation but should only be tried when the above solutions have been unsuccessful. If extremely long fibers are being handled as in a reject screen installation, there is the possibility utilizing a lower "open area" screen plate. This reduced the possibility of a staple type of plugging or stringing.
6. Check belt tension and compare with Belt Tensioning information given on nameplate on machine. Adjust if necessary.

If problems persist, call local Bird Machine Sales Office.

Excessive Power Consumption

Causes:

1. Low flow through the screen.
2. Air in furnish.
3. Incorrect rotation.
4. Foreign material.
5. High consistency in the reject gutter.

Solutions:

1. With the screen filled with water but no flow, power consumption could be as high as 10% over normal motor load. This is because the inlet flow is in the direction of rotation and actually lowers power consumption as the flow increases. Flow can be increased by recycling after the screen.
2. If excessive entrained air is found in the furnish, it will cause increased power consumption. This air should be bled from the cover of the screen through the vent line and also entire screening system should be checked for excessive quantities of air.
3. Rotation of the screen should be clockwise when viewed from the top of the rotating assembly. If the screen is rotating backwards, power consumption can increase as must as 50%.
4. Foreign material wedged between the hydrofoils or dragging in the reject gutter will also increase power. The screen cover should be removed and the machine drained so the screening compartment may be checked for any material dragging on the rotating components.
5. When the screen inlet consistency increases above 1%, especially with long fibered furnish, there is a possibility that the consistency in the reject gutter will become a problem. If this gets too high, there is an excessive drag on the hydrofoils and a corresponding increase in power consumption. This can be reduced by increasing in the reject flow or decreasing the inlet consistency.

Noise or Vibration

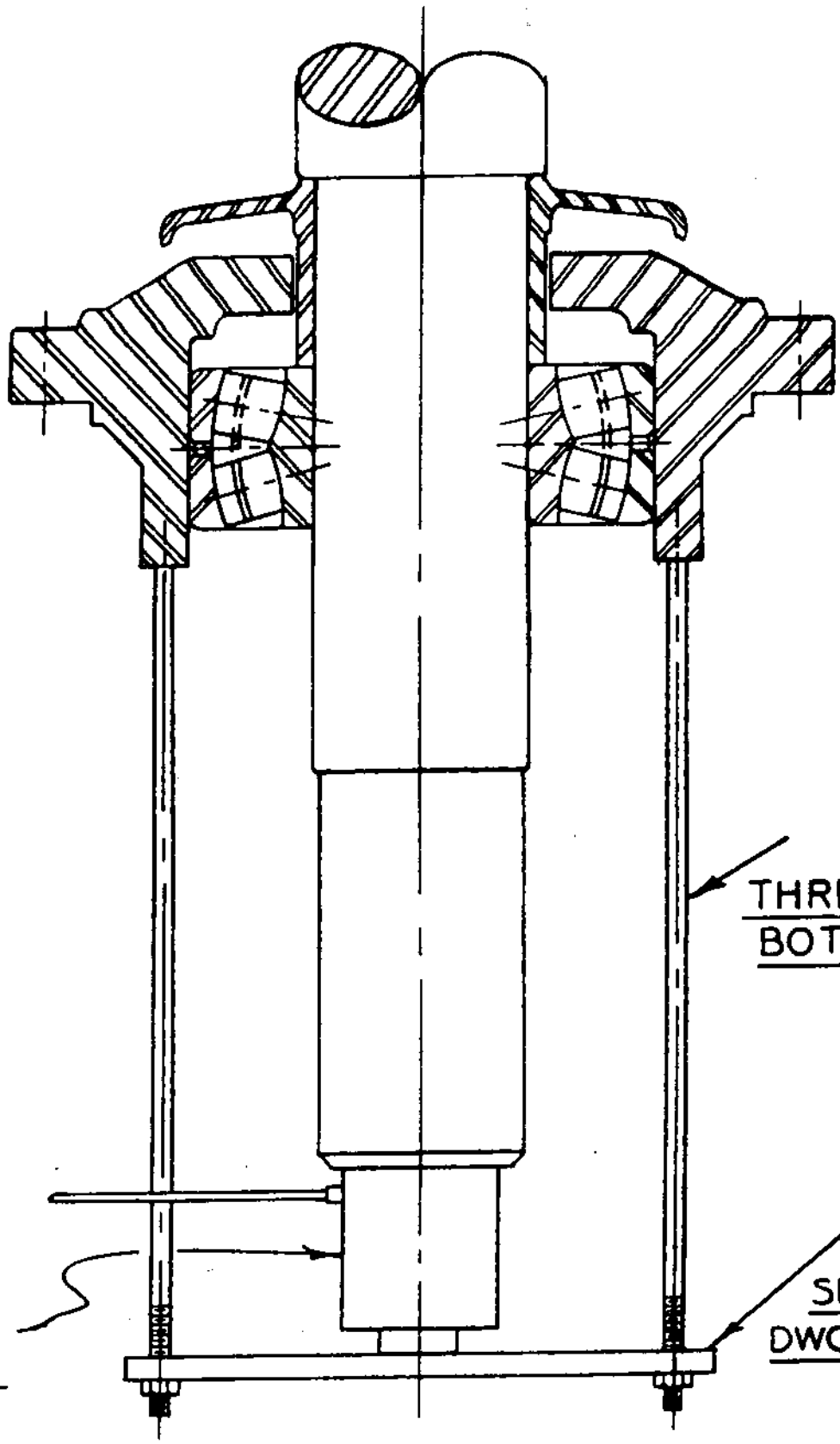
Causes:

1. Excessive entrained air in the stock.
2. Foreign material caught in the rotating assembly.
3. Hydrofoils set too close to the screen plates.

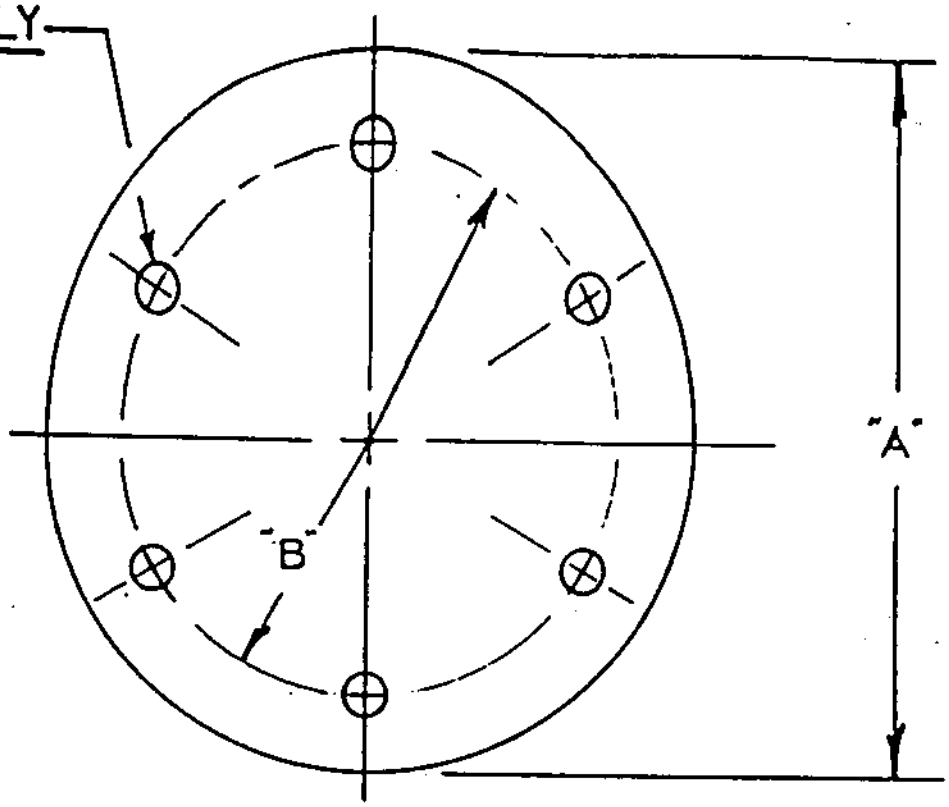
Solutions:

1. Excessive air in the screen can cause vibration and poor hydrofoil operation. The vent line on the top of the screen may be used to relieve this situation. If necessary, this may be run on a continuous basis and recycled. The entire screening system should also be checked for excessive air entrainment.
2. The screen should be checked for foreign material caught between the hydrofoils and screen plates. Once again, simply remove the cover of the screen and drain the screening compartment for a visual check.
3. Rotating assembly should be checked to determine whether or not the hydrofoils are actually contacting the screen plates in some area. Visual inspection of this and also a check of the hydrofoil clearances will remedy this situation.

N. R. Chute:jai


RODS
THREADED
BOTH ENDS
HYD.
JACK
SEE PLATE
DWG. ON PAGE 18

HOLES EQUALLY SPACED.



MAT'L.
3/4" THK. PLATE

CN MODEL	NO. OF HOLES	SIZE OF HOLES	"B" B.C.	"A" O.D.
40-40B	6	7/16	8	9 1/2
50-60	6	9/16	9 1/2	11"
70-80	6	9/16	11 1/4	13"
90	8	9/16	13 3/4	15

BIRD

BIRD MACHINE COMPANY, INC.

PRODUCT STANDARD

Engineering Bulletin 20-68
Dated: 3-20-79
Revised: 10-30-81

CENTRISCREEN MAINTENANCE OF CAP SCREWS

Purpose - Centriscreen maintenance of cap screws holding hydrofoils and screen cylinder clamp rings.

A. The torque on these screws should be checked twice yearly.

B. Torque values in foot pounds are listed as follows for various models of centriscreens:

	HYDROFOILS				SCREEN CYLINDER CLAMP RINGS			
MODEL	SIZE CAP SCREW		TORQUE FT. POUNDS		SIZE CAP SCREW		TORQUE FT. POUNDS	
	INSIDE	OUTSIDE	INSIDE	OUTSIDE	INSIDE	OUTSIDE	INSIDE	OUTSIDE
** 8	1/2"	1/2"	75	75	3/8"	3/8"	30	30
* 10-10B	5/8"	5/8"	125	125	1/2"	1/2"	30	30
40-40B	1/2"	1/2"	75	75	1/2"	1/2"	30	30
50-60	5/8"	5/8"	125	125	1/2"	5/8"	30	45
70-80	5/8"	5/8"	125	125	5/8"	5/8"	45	45

C. When cap screws are replaced for holding on hydrofoils or screen cylinder clamp rings, they should be purchased from BMCO.

D. The cap screws supplied by Bird are of high quality (316 stainless steel) material having forged heads for the best possible metal grain characteristics. The screws have a controlled radius under the head to prevent stress concentration and a controlled depth of hex broaching for high head strength. They are supplied with a Locwel strip to prevent loosening.

E. Use Loctite #262 when installing these screws.

F. Check mounting holes (inside C'Bore) for c'sink, c'sink if necessary per E.B. 44-65. Applies to c'bore holes on bottom ring, on hydrofoils, (Model 70 & 80 only) and on spider/top ring (Models 40, 50 &

PREPARED BY: _____ Standards — 12/28/79 Date

APPROVED BY: _____ Engineering — 12/28/79 Date

_____ Manufacturing — 1/7/80 Date

_____ Quality — 1/7/80 Date

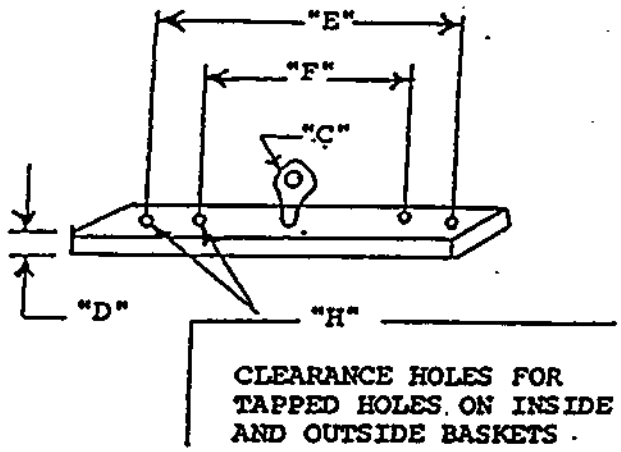
VMolloy:kam

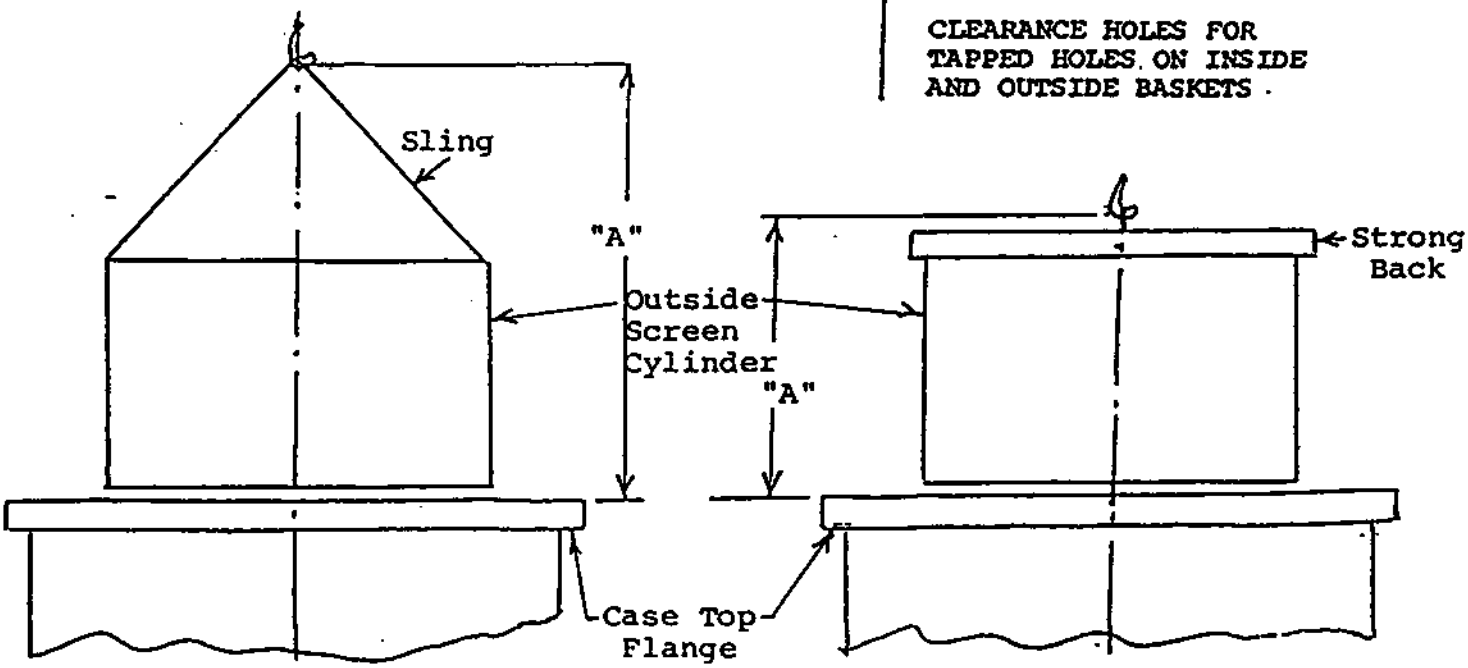
DIST. E_4, M

*Revised per NRChute, 12-28-79.
*Revised per RRussell, 10-30-81.

CENTRISCREEN HEADROOM REQUIREMENTS

MODEL CN	"A" DIM. (IN.) WITH SLING	"A" DIM. (IN.) WITH STRONG BACK (MIN.)	STRONG BACK DIMS. (IN.) SHANK DIA	C	D	E	F	H
31	49.5	38.0	.500	1.5	27.37	N/A	.50	
41	61.0	46.5	.500	1.5	33.37	N/A	.50	
50	55.0	36.0	.500	2.0	42.72	27.28	.50	
60	65.0	45.0	.500	2.0	42.72	27.28	.50	
70	68.5	41.0	.625	2.5	60.70	39.30	.50	
80	80.0	53.5	.750	3.0	60.70	39.30	.50	
90	92.0	55.0	1.00	3.0	84.87	59.12	.50	





NEW DESIGN
RECOMMENDED SPARE PARTS
MODEL 50 & 60 CENTRISCREEN
(WATER INJECTED MECHANICAL SEAL)

QTY	PART NUMBER	NAME & MATERIAL	*ASSY	ITEM	PRICE UNIT	PRICE TOTAL
1	WAAO-350-00050-YQC	O-RING (COVER)	1	5		
1	TCN5-161-00040-YKC	GASKET (ROTOR)	1	7		
1	TCN5-161-00060-YKC	GASKET (STUFF BOX)	1	13		
2	H030-200-00018-998	BELT DRIVE (5V-2000)	1	39		
1	H330-045-00033-298	SEAL (ROTARY)	2	2		
1	H330-045-00034-298	SEAL (STATIONARY)	2	3		
1	H330-045-00038-025	SEAL	2	6		
1	WCN5-381-00030-GNF	SLEEVE	3	4		
1	H280-037-00020-YAC	O-RING	3	5		
2	H012-393-00003-998	BEARING ROLLER	3	8		
1	H330-037-00001-998	SEAL	3	17		
1	H330-046-00002-025	SEAL	3	20		
2	VCN5-161-00030-XJM	GASKET (SLEEVE)	3	21		
1	TCN5-161-00050-XJM	GASKET (DRIVE HUB)	3	22		
1	H180-003-00002-998	FILTER CARTRIDGE	N/A	N/A		

*ASSEMBLY PART NUMBERS:

1-ZCN0-908-00020 ASSEMBLY - PARTS LIST (MODEL 50)
ZCN0-908-00030 ASSEMBLY - PARTS LIST (MODEL 60)
2-XCN0-916-00100 ASSEMBLY, SEAL (MODEL 50 & 60)
XCN0-916-00150 ASSEMBLY, SEAL (MODEL 50 & 60)
3-XCN0-941-00100 SHAFT ASSEMBLY (MODEL 50 & 60)

NOTE: WHEN ORDERING PARTS, REFER TO SERIAL NO. OF MACHINE, ASSEMBLY NO. AND ITEM NO.