

Data Sheet

Three-phase Motor Type	5RN 132M06	6pole
Area	Safe area	
Execution	Standard	
Environment Conditions	-20 °C to +40 °C, up to 1000 m above sea level	
Rated Voltage	380V 50Hz	
Output at 50Hz	5.5 kW	
Frame Size	132M	Cast Iron Frame
Speed at 50Hz	950 rpm	
Current at 380V 50Hz	13 A	
Current at 400V 50Hz	12.6 A	
Current at 415V 50Hz	13.1 A	
Power Factor (cos fi)	0.76	
Efficiency Class	(IE1)	
Efficiency at 100% load	83 %	
Efficiency at 75% load	82 %	
Rated Torque	55.30 Nm	
Duty Cycle	S1	
Starting Current Ratio	5	
Starting Torque Ratio	2.3	
Breakdown Torque Ratio	2.6	
Internal Protection/Cooling	IP55 / IC411 (TEFC)	
Insulation Class	F (155 °C) / temperature rise B (80K)	
Acoustic Pressure	63 dB(A) Measured at 50Hz speed	
Mounting	B3	
Weight	68 kg (motor only w/out accessories)	
DE Bearing	6308 2Z C3	
NDE Bearing	6308 2Z C3 Bearing located at NDE	
Lubrication	Esso Unirex N3	

Extras:

Terminal Box on left hand side



ROTEX EUROPE LTD

Name
Function
Location
Date of issue 17th January 2011

Rotex Europe
Drawing Office Manager

David Leech

Signature

Name and position of person binding the manufacturer or authorized representative:

Safety Requirements of the European Machinery Directive.

I declare that the machine described above conforms fully with the Essential Health and

BS EN 60204-1:2006 + A1:2009	Standard Used
BS EN ISO 14121-1:2007	Transposed Harmonized
BS EN ISO 12100-2:2003 + A1:2009	Governance schedule 4 machinery

Applicability of requirements Not applicable

Directives with which 2006/42 EEC
Machine complies 89/392 EEC 98/37 EEC

Is in conformity with the following relevant legislation:

Tariff Code: 84741000

Product Description: Rotex Screen
Model or Type No.: 581 GP
Serial No.: R10698

Declare under our sole responsibility that the following apparatus:
Name of Manufacturer: Rotex Europe
Address: Aston Lane North, Whitehouse Vale, Runcorn
Country: England
Chesterfield WA7 3FA

We the undersigned:

EC DECLARATION OF CONFORMITY

SCREENING - FEEDING - CONVEYING

ROTEX

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INSTALLATION • OPERATION • MAINTENANCE

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- ◆ **How THE MANUAL IS ORGANIZED**
 - Explains the basic requirements for a successful installation, including layout, access clearances, mounting methods, connector alignment, and startup items.
 - Retrieves pre-startup details as well as operating instructions on how to care for your Rotex. Normal adjustment focuses on how to clean mesh balls and connectors, and wear items are covered, as well as recommendations for selecting the proper mesh cleaning balls and slope.
 - Maintenance includes installation and maintenance data for your particular model and serial number. A General Assembly drawing and parts list make it easy to order genuine Rotex parts.
- ◆ **OPERATION**
 - Reviews pre-startup details as well as operating screen reference table and a troubleshooting guide.
 - The three major sections—Installation, Operation and Maintenance—are divided into topics covering the most important points and frequently asked questions. The Appendix sections contain this section covers common adjustments such as screen considerations. Because of the wide variety of applications, focuses on how to care for your Rotex. Normal adjustment includes installation and maintenance data for your particular model and serial number. A General Assembly drawing and parts list make it easy to order genuine Rotex parts.
- ◆ **Maintenance**
 - Focuses on how to care for your Rotex. Normal adjustment includes installation and maintenance data for your particular model and serial number. A General Assembly drawing and parts list make it easy to order genuine Rotex parts.
- ◆ **APPENDIX A**
 - Includes installation and maintenance data for your particular model and serial number. A General Assembly drawing and parts list make it easy to order genuine Rotex parts.
- ◆ **APPENDIX B**
 - Common problems and their solutions are covered in this Troubleshooting Guide.
- ◆ **APPENDIX C**
 - The Screen Opening Reference Table is a list of readily available screens and their openings in relation to standard test sieves.
- ◆ **APPENDIX D**
 - This Glossary deals with common screening terms and those parts specific to Rotex screens.

INTRODUCTION

Welcome to the Rotex Installation, Operation and Maintenance manual. This latest edition is designed to provide quick, complete answers, whether you are new to Rotex screens, want to improve their performance or perform routine maintenance.

The three major sections—Installation, Operation and Maintenance—are divided into topics covering the most important points and frequently asked questions. The Appendix sections contain this section covers common adjustments such as screen considerations. Because of the wide variety of applications, focuses on how to care for your Rotex. Normal adjustment includes installation and maintenance data for your particular model and serial number. A General Assembly drawing and parts list make it easy to order genuine Rotex parts.

Explains the basic requirements for a successful installation, including layout, access clearances, mounting methods, connector alignment, and startup items.

Retrieves pre-startup details as well as operating screen reference table and a troubleshooting guide.

◆ OPERATION

◆ MAINTENANCE

Includes installation and maintenance data for your particular model and serial number. A General Assembly drawing and parts list make it easy to order genuine Rotex parts.

◆ APPENDIX A

Common problems and their solutions are covered in this Troubleshooting Guide.

◆ APPENDIX B

This Glossary deals with common screening terms and those parts specific to Rotex screens.

◆ APPENDIX C

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Cincinnati, OH 45223, USA

1230 Knowlton St.,

Rotex Mailing Address:

Email: web@rotex.com

Fax: (513) 541-4888

Phone: (513) 541-1236

Call and ask for an Application Engineer.

MACHINE INQUIRIES

Contact Rotex if the above information is not available or your product

specifications have changed.

your machine

◆ Screen edge type (plastic, bonded, metal, etc.) if used on

◆ Screen dimensions: width and length

resistant steel, etc.

◆ Screen material, such as 304 SS, 430 SS, polyester, abrasion

◆ Wire diameter, such as 0.080 in. or 2.03 mm

example, 10 mesh or 2.00 mm opening

◆ Number of meshes per inch or opening of the screen; for

To order screens, supply the following:

number 123456 and white neoprene connecting sleeve

◆ Part number and description of the part; for example, part

◆ Serial Number

◆ Model Number

Please have the following information to place an order:

reliable performance of your Rotex screener.

Always use genuine Rotex replacement parts to maintain the efficient,

HOW TO ORDER ROTEX PARTS

After-Hours Emergency Parts Service: (513) 484-7287

Office Hours: Monday-Friday, 7:30 a.m. to 5:00 p.m. (Eastern Time)

Email: web@rotex.com

Fax: (513) 541-4888

Phone: (513) 542-PART (7278)

To order parts contact our Parts Sales and Service Department at:

PARTS INQUIRIES

HOW TO CONTACT ROTEX

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PARTICULAR PURPOSE.
IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A
OF LAW OR OTHERWISE INCURRED BUT NOT LIMITED TO
WARRANTY OF ANY KIND EXPRESSED OR IMPLIED BY OPERATION
be for identification purposes only and SHALL NOT CONSTITUTE A
goods or to any crate, carton or packaging containing the goods will
(D) All labels, tags or other means of identification affixed to the

industry safety standards.
governmental laws, rules and regulations relating to safety standards and all
operator and others from harm, and to comply with all federal, state and local
the particular application or use intended by buyer so as to protect the
buyer's responsibility to provide proper safety devices and equipment for
by buyer hereunder to comply therewith. Buyer acknowledges that it is
fines or assessments resulting from the failure of any goods purchased
buyer's customers, employees or third person for any liability, costs, damages,
local statute or regulation and Rotex disclaims any liability to buyer and/or
of 1970, as such Act may be amended, or any other similar federal, state or
requirements of the Williams-Stegner Occupational Safety and Health Act
PARTICULAR PURPOSE that the equipment sold hereunder meets the
WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A

(C) ROTEX MAKES NO WARRANTIES, WHETHER EXPRESSED

the warranty of their manufacturer.
which goods or material are not actually manufactured by Rotex, and Rotex
assumes no responsibility therefore. Such goods or materials shall carry only
PARTICULAR PURPOSE, as to any goods or material used in any goods
WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A

(B) ROTEX MAKES NO WARRANTIES WHETHER EXPRESSED

PARTICULAR PURPOSE. This warranty does not cover expendable items
subject to normal wear such as screen clothings, connecting sleeves, sealing
strips, etc.
ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN,
OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY IMPLIED
WARRANTIES, EXPRESSED OR IMPLIED BY OPERATION OF LAW OR
WHETHER EXPRESSED OR IMPLIED BY THE WARRANTY SET FORTHEIN,
THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES
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(A) For a period of one year after date of shipment by Rotex, all goods
manufactured by Rotex are warranted to be free from defects in material
and workmanship, and except as provided in subparagraph (B) below, shall
conform to the standards and specifications set forth in Rotex's proposal and/
or any drawings furnished by buyer and/or approved by Rotex.

WARRANTY

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RETURNED MERCHANDISE
Rotex shall not accept returned goods for credit without its prior written
consent.

CANCELLATION
Buyer may not cancel an order after acceptance by Rotex except with Rotex's
consent, and upon terms acceptable to Rotex that will indemnify Rotex
against any loss.

LIMITATION OF LIABILITY
In no event shall Buyer be entitled to recover incidental, consequential,
or special damages of any kind, or any losses, costs, expenses, liabilities
or damages, whether direct or indirect, whether or not resulting from
or subcontractors, which might be claimed as the result of the use or failure
of the goods. In no event shall Rotex's liability for any claim exceed the
purchase price of the goods in question. Rotex shall not be liable for any
action, statement or inaction of any company or person acting as a sales agent
of Rotex unless such action, statement or inaction is affirming by
Rotex.

The warranty does not extend to any goods which have been subject to
misuse, neglect, accident, incorrect wiring, improper installation, or to goods
used in violation of instructions furnished by Rotex, or to goods
been repaired or altered by anyone other than personnel authorized by Rotex.

(iv) an examination by Rotex discloses, in Rotex's judgment, that the goods
are defective.

(iii) said defect occurred within one year for the date of shipment by Rotex;

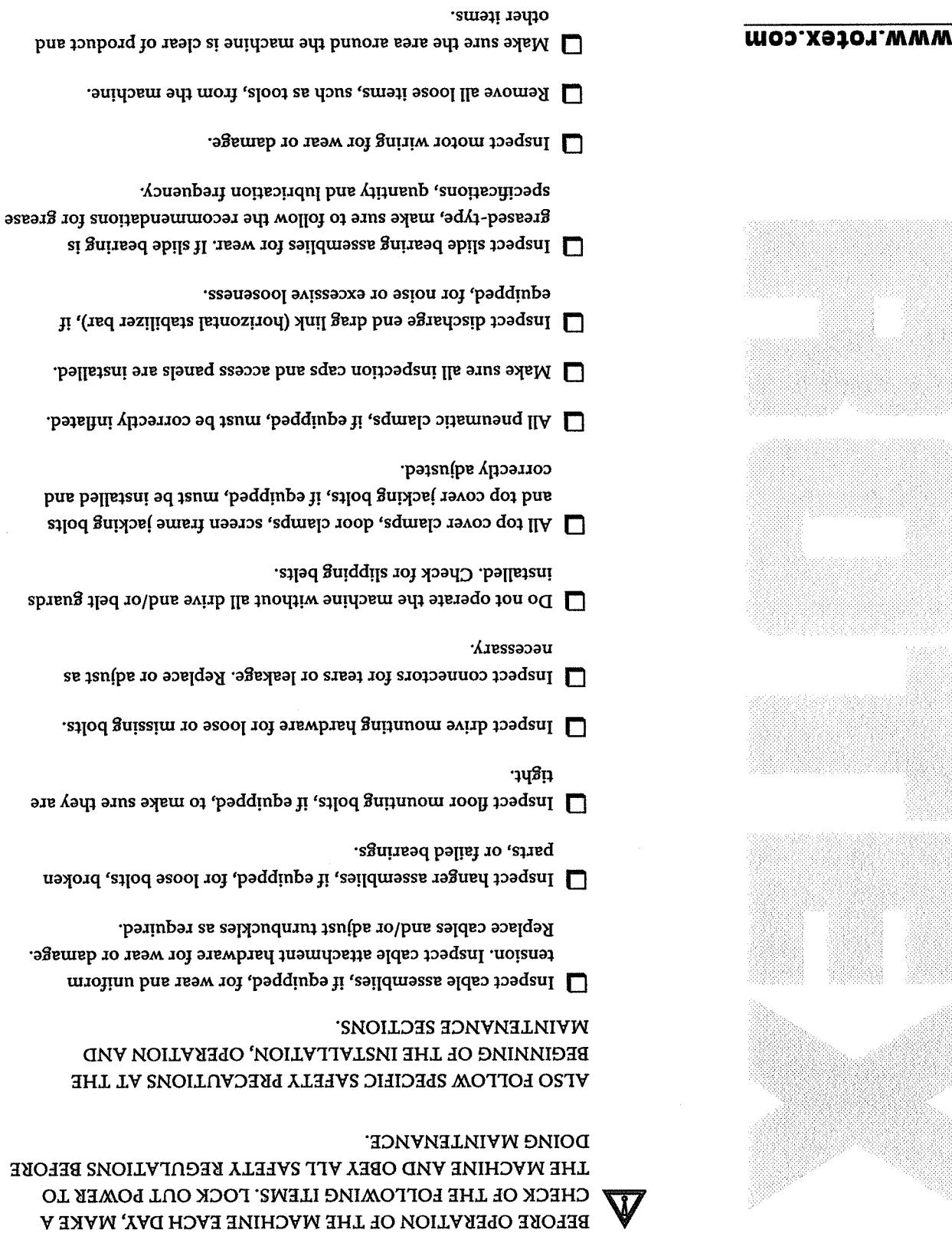
(ii) Rotex has received written notice of the specific defect within ten days of
the appearance and/or occurrence of the defect;

(i) the goods are intact for examination by Rotex;
and
Rotex shall, at its option, either refund the purchase price thereof, or repair
or replace (F.O.B. shipping plant or Ex Works shipping plant for international
trade) the goods, or any part thereof, which under normal installation, use
and service disclosed such defect, provided that:
with the provisions of Warranty Section (A), as Buyer's exclusive remedy,
In the event any of the goods manufactured by Rotex shall fail to comply
with the provisions of Warranty Section (A), as Buyer's exclusive remedy,
Rotex shall, either refund the purchase price thereof, or repair
or replace (F.O.B. shipping plant or Ex Works shipping plant for international
trade) the goods, or any part thereof, which under normal installation, use
and service disclosed such defect, provided that:

Remedies

WARRANTY

- BEFORE OPERATION OF THE MACHINE EACH DAY, MAKE A CHECK OF THE FOLLOWING ITEMS. LOCK OUT POWER TO THE MACHINE AND OBEY ALL SAFETY REGULATIONS BEFORE DOING MAINTENANCE.**
- ALSO FOLLOW SPECIFIC SAFETY PRECAUTIONS AT THE BEGINNING OF THE INSTALLATION, OPERATION AND MAINTENANCE SECTIONS.**
- CHEK OF THE FOLLOWING ITEMS. LOCK OUT POWER TO THE MACHINE AND OBEY ALL SAFETY REGULATIONS BEFORE DOING MAINTENANCE.**
- ALSO FOLLOW SPECIFIC SAFETY PRECAUTIONS AT THE BEGINNING OF THE INSTALLATION, OPERATION AND MAINTENANCE SECTIONS.**
- DO NOT OPERATE THE MACHINE WITHOUT ALL DRIVE AND/OR BELT GUARDS INSTALLED. CHECK FOR SLIPPING BELTS.**
- INSPECT DRIVE MOUNTING HARDWARE FOR LOOSE OR MISSING BOLTS.**
- INSPECT FLOOR MOUNTING BOLTS, IF EQUIPPED, TO MAKE SURE THEY ARE TIGHT.**
- INSPECT HANGER ASSEMBLIES, IF EQUIPPED, FOR LOOSE BOLTS, BROKEN PARTS, OR FAILED BEARINGS.**
- INSPECT CABLE ASSEMBLIES, IF EQUIPPED, FOR WEAR AND UNIFORM TENSION. INSPECT CABLE ATTACHMENT HARDWARE FOR WEAR OR DAMAGE. REPLACE CABLES AND/OR ADJUST TURNBUCKLES AS REQUIRED.**
- INSPECT DRIVE MOUNTING HARDWARE FOR TEARS OR LEAKAGE. REPLACE OR ADJUST AS NECESSARY.**
- ALL TOP COVER CLAMPS, DOOR CLAMPS, SCREEN FRAME JACKING BOLTS AND TOP COVER JACKING BOLTS, IF EQUIPPED, MUST BE INSTALLED AND CORRECTLY ADJUSTED.**
- ALL PNEUMATIC CLAMPS, IF EQUIPPED, MUST BE CORRECTLY INFLATED.**
- MAKE SURE ALL INSPECTION CAPS AND ACCESS PANELS ARE INSTALLED.**
- INSPECT DISCHARGE END DRAG LINK (HORIZONTAL STABILIZER BAR), IF EQUIPPED, FOR NOISE OR EXCESSIVE LOOSENESS.**
- INSPECT SLIDE BEARING ASSEMBLIES FOR WEAR. IF SLIDE BEARING IS GREASED-TYPE, MAKE SURE TO FOLLOW THE RECOMMENDATIONS FOR GREASE SPECIFICATIONS, QUANTITY AND LUBRICATION FREQUENCY.**
- MOVE ALL LOOSE ITEMS, SUCH AS TOOLS, FROM THE MACHINE.**
- INSPECT MOTOR WIRING FOR WEAR OR DAMAGE.**
- MAKE SURE THE AREA AROUND THE MACHINE IS CLEAR OF PRODUCT AND OTHER ITEMS.**

WWW.ROTEX.COM**SAFETY CHECKLIST**

CONSULTATION WITH AND WRITTEN PERMISSION FROM ROTEX.
DO NOT CHANGE THE MACHINE IN ANY WAY WITHOUT

THE MANUAL MUST BE WITH THE MACHINE AT ALL TIMES, IN
THE HOLDER ON THE MACHINE.

THE OPERATOR MUST READ AND UNDERSTAND ALL THE
INSTRUCTIONS AND CAUTIONS BEFORE OPERATING THE
MACHINE.

Operate the machine only in accordance with the instructions in this
Manual. Follow the caution instructions in the Installation, Operation and
Maintenance sections. Follow the caution labels on the machine and do
not remove or cover these labels.

4. Do not climb, sit or stand on the machine.

3. Do not put or leave any loose items, such as tools, on or in the
machine.

2. Do not adjust, clean or maintain the machine until power is
disconnected and locked out.

1. Do not operate the machine until all of the guards are installed, access
doors/lids are closed and safety interlocks operate correctly.

ROTEX Screens are designed to be safe. Follow these precautions during
installation, operation and maintenance.

6. Keep the machine and area around the machine clean.

5. Install safe working platforms around the machine for safe operation
and maintenance.

4. Install the machine with sufficient clearance on all sides for safe
operation.

3. Install connectors, seals and rubber bushings in accordance with the
instructions in this Manual.

2. Use additional safety cables when machines are installed in overhead
installations with cable suspension.

1. Disconnect and lock out all electrical power to the machine before
installation.

CAUTION

Installation Safety Precautions

*before the machine is shipped from the factory
be required. This preparation should be made*

*months, long term storage preparation may
if the screener will be stored for more than six*

NOTE

- ◆ **containing the loose and spare parts.**
- ◆ **There is no damage to the cartons or boxes bearing assembly at the discharge end of the screener.**
- ◆ **There is no rust or corrosion on the slide bearing assembly on the plastic sheeting surfaces.**
- ◆ **There is no rust or corrosion on unpainted surfaces.**
- ◆ **There is no damage to the plastic sheeting surrounding the machine and parts.**
- ◆ **Following conditions:**
 - 6. Inspect the unit after 60 days to check for the following conditions:
 - 5. Do not stack heavy items on top of the machine.
 - 4. Do not store the screener in an area that can become flooded or damage the wood shipping skid.
 - 3. Store the machine and loose parts (connecting sleeves, rings and spares) in a dry protected area, such as a warehouse or under a roof.
 - 2. Apply plastic film sheeting over the entire unit, touch the screen box assembly, bottom pan or top cover, since they can be damaged.
 - 1. Lift and move the screener in a horizontal position using the steel eyebolts located at the four corners of the base. Do not allow sleeves to touch the screen box assembly, Do not allow sleeves to cover, since they can be damaged.

Inspection procedures:
If the screener will not be installed for six months after delivery, use the following storage and

Concealed loss or damage means loss or damage to the carrier's claim investigator within 15 days of damage is seen, send a written request for inspection that is not seen until the merchandise is unpacked. If concealed loss or damage means loss or damage

◆ Concealed Loss or Damage
The carrier will supply the form to file a claim.
cause the carrier to refuse to honor a damage claim.
requires an investigation by the claim investigator, may evidence of loss or damage, and to immediately
agent. Failure to adequately describe such external noted on the freight bill and signed by the carrier's
Any external evidence of loss or damage must be

◆ Visible Loss or Damage
Make claims for loss or damage to the carrier.
safe delivery at the time of shipment from the factory.
shipped. The carrier assumes responsibility for the
Rotex carefully inspects all equipment before
shipping.

Make a careful inspection of the ROTEX Screen to find any damage that may have occurred during
components in a clean, dry space until installation.
Packages listed on the shipping papers. Store these
included in the shipment. Note and identify all of the
hardware. Make sure that these parts have been
connector of connecting sleeves, connecting rings and
Most ROTEX Screens are supplied with a separate

Storage Before Installation

Inspection

A ROTEX Screen has a top cover and screen frame(s) that must be removed from the screen box assembly for regular maintenance. For ease of maintenance, provide enough clearance to remove these items from the sides of the drive box assembly. A hoist is recommended for larger screens.

The screener's drive will also require periodic maintenance, so allow access to all sides of the drive. A 24 in. (61cm) or greater clearance is recommended for maintenance around the screener.

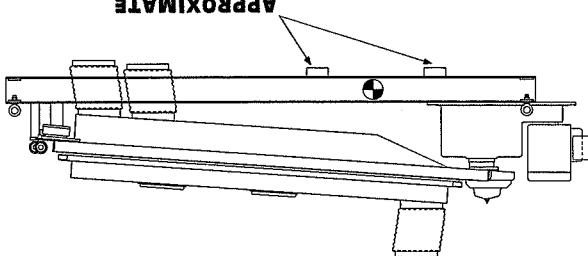
- CLEARANCES**
1. Vibration isolators such as springs or rubber mounts are not acceptable mounting methods. Such isolation systems are not effective at the low operating frequency of Rotex screeners, which is in the range of 3 to 5 Hz (200 to 300 rpm).
 2. The operating frequency generated by the screener must be taken into account when determining the dynamic forces generated by the weight and inertia of the unit.

NOTE

ROTEX Screeners can be installed in three ways: floor mounted, cable suspended or stand mounted. Refer to the Outline Drawing provided with your order for details on the installation method and forces.

Installing the Screen

LIFTING LOCATIONS



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- The forks must support the screener at its center of gravity to prevent the unit from tipping on the forks of the base frame.
- The forks must be long enough to lift both sides of the screener.
- When using a fork truck to move the machine, note the following:

LIFTING WITH A FORK TRUCK

- Lift the screener at the four corners using separate hoists or spreader bars at each end of the screener.
- Lift the screener level to the ground at all times.
- Keep the screener level to the following:

LIFTING WITH STRAPS

- When lifting with straps, note the following:
- Only as shown below.

When lifting the ROTEX Screen into position, attach hoists to the base (see figure I.1). Do NOT connect hoists to the screen box assembly. Lift machine only as shown below.

WARNING

(see Figure I.1).

The ROTEX Screen's center of gravity is located approximately $\frac{1}{3}$ of the distance between the feed end and the discharge end of the screener - NOT in the middle of the screen. The screen box assembly must be removed from the base in order to install the unit.

Moving the Screen

INSTALLATION

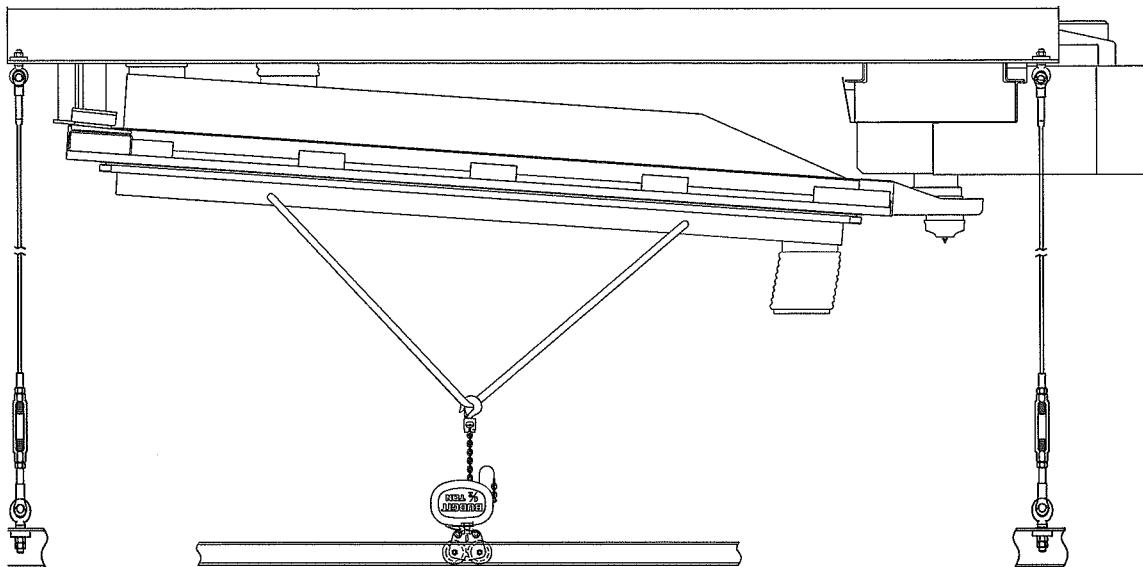
NOTE

Contact Rotex for special instructions if the screen box assembly must be removed from the base in order to install the unit.

Caution

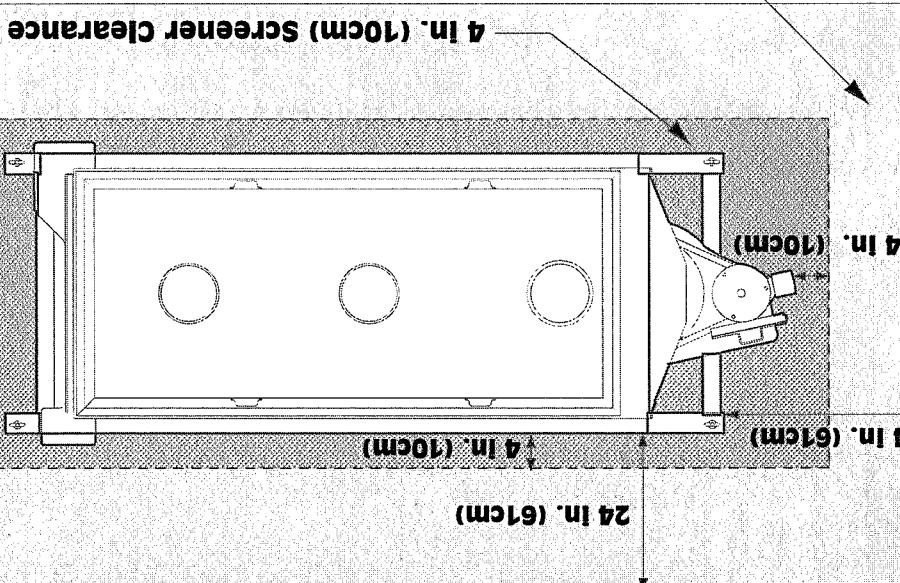


1.3. Hoist Installation above Screen



1.2. Installation Clearances

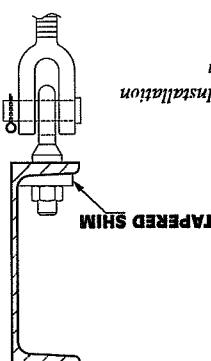
24 in. (61cm) Maintenance Clearance



NOTE
Cable suspended screens can move up to 4 in.
(10cm) during start-up. Provide clearance of not
less than 4 in. (10cm) on all sides



- ◆ Otherwise specify on the outline drawing.
 - ◆ The Rotex base must be level unless otherwise specified on the outline drawing.
 - ◆ The recommended cable length is 5-10 ft. (1.5m). Corner support strands are 3 ft. (1.1m). With a minimum length of 3 ft. (1.5m), it is recommended if no overhead structure is available.
 - ◆ The recommended cable length is 5-10 ft. (1.5m), with a minimum length of 3 ft. (1.1m). Corner support strands are 3 ft. (1.5m). If no overhead structure is available.
 - ◆ Cables must be installed at a 90-degree angle to the floor in both directions. Cables that are not installed vertically will not provide sufficient isolation of transmitted forces.
 - ◆ Turbuckles must be placed at the top of the assembly to prevent a pinch point between the cable assembly and moving parts of the screener (see figure 1.3).
 - ◆ Turbuckles must be placed at the top of the screener (see figure 1.3).
 - ◆ Eyebolts or u-bolts must be connected to a flat surface. A tapered slim must be used to create a flat surface.
 - ◆ Flat and level surface on the overhead support structure. Eyebolts or u-bolts must be connected to a flat surface. A tapered slim must be used to create a flat surface.
 - ◆ Use only cables with Rotex's quality and design standards (see table 1.7) for specific applications.
 - ◆ Because the base will move, provide not less than 4 inches (10cm) clearance around the entire screener base.
 - ◆ Note the following installation points:
- Connect cables from the top flange of the base of the screener to the overhead structure. Because the base will move, provide not less than 4 inches (10cm) clearance around the entire screener base.



Installing cable suspended screens

If the base is converted to cable suspension, or if existing eyebolts are relocated, contact Rotex.

NOTE



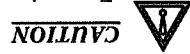
Refer to the Outline Drawing provided with your static and dynamic forces and frequency of these forces.

All Rotex Screeners can be designed for cable suspension. This installation method isolates the support structure from transmission of lateral and longitudinal shear forces generated by the screener.

CABLE SUSPENSION

A ROTEX Screener may be equipped with integral legs by bolting them to the floor using permanent legs to raise the screener above the floor. Attach the legs by bolting them to the floor. Attach the legs by bolting them to the floor using permanent anchor bolts.

Because they can come loose while the screener is in operation, expansion anchors are not recommended because they can come loose while the screener is in operation.



All Rotex Screeners equipped with Dynamic absorber drive heads must be cable suspended and are identified by a "D" or "S" in the model number.



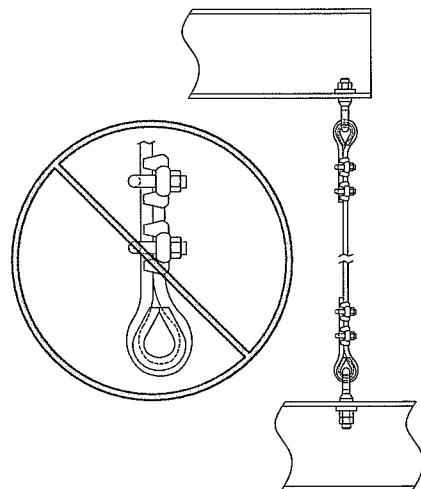
Bolt the screener to the floor using permanent anchor bolts. Bolt the screener to the floor using dynamic forces your machine for the static and dynamic forces. Refer to the Rotex Outline Drawing provided with the assembled and can be installed on any level surface. Floor mounted ROTEX Screeners come completely assembled and can be installed on any level surface.

FLOOR MOUNTING



1.6. Unacceptable Cable Fittings

FIRST NUMBER	MACHINE NUMBER	MINIMUM WIRE DIAMETER	PROOF TEST
1	10	3/8 in. (9.5mm)	4800 lb (18682 N)
2	20	3/8 in. (9.5mm)	4800 lb (18682 N)
3	30	3/8 in. (9.5mm)	4800 lb (18682 N)
4	40	3/8 in. (9.5mm)	4800 lb (18682 N)
5	50	5/8 in. (13mm)	8160 lb (36296 N)
6	60	5/8 in. (16mm)	12560 lb (55867 N)
7	70	3/4 in. (19mm)	19840 lb (88248 N)

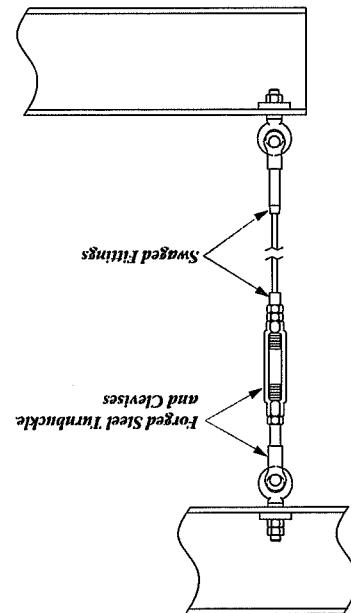


follows:

- ◆ Assembly to be proof tested and certified as follows:
- ◆ Swaged forged steel fittings
- ◆ Independent Wire Rope Core (IWRC), 6 x 19 class
- ◆ Type 304 SS wire rope, Improved Plow Steel
- ◆ Following specifications are recommended:
If Rotex did not supply cables, cables with the following specifications are recommended:

Cable Specifications

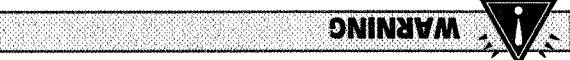
1.5. Acceptable Fittings



Chains and fixed rods are not suitable for suspending the screener.



If the screener will be installed in an overhead location, use a secondary means of support to prevent the machine from falling if a cable breaks.



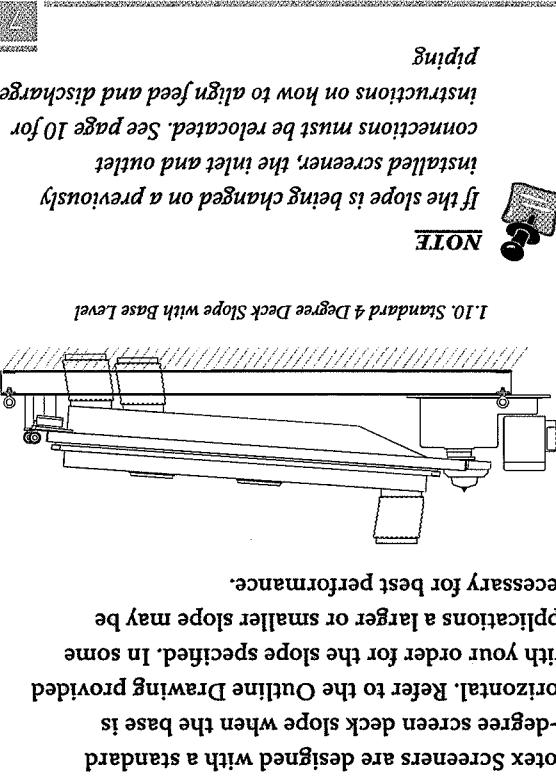
Thimbles and looped ends are not acceptable fittings.



1.7. Cable Specifications

INSTALLATION

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The slope of the base must not be more than 4 degrees.

NOTE

Static and dynamic forces must be used to design the elevated stand. Refer to the Outline Drawing provided with the order for static and dynamic forces.

NOTE

Attach the legs by bolting them to the floor using permanent anchor bolts.

minimize vibrations (See Figure 1.9.)

The stand must be designed with stiff diagonals of the braces must be connected near the floor to bracing on not less than three sides. The lower ends with your order for the slope specified. In some applications a larger or smaller slope may be necessary for best performance.

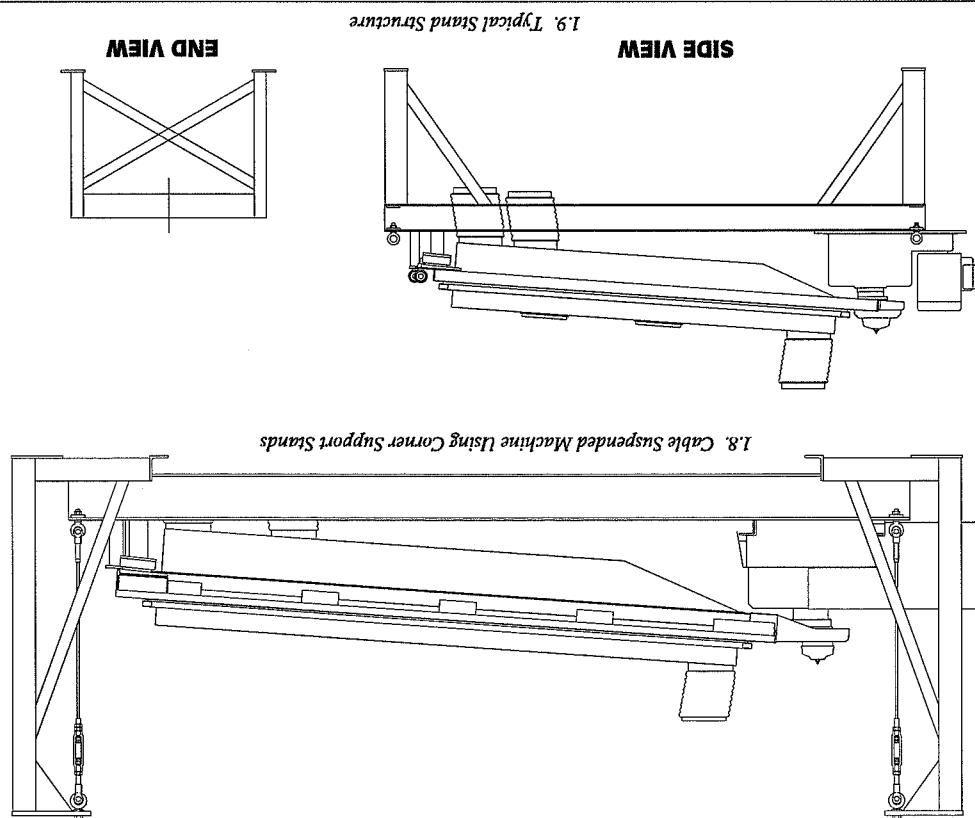
NOTE

Rotex Screeners are designed with a standard 4-degree slope when the base is horizontal. Refer to the Outline Drawing provided with your order for the slope specified. In some applications a larger or smaller slope may be necessary for best performance.

A Rotex Screener designed for floor mounting may also be mounted on a support stand.

SLOPE

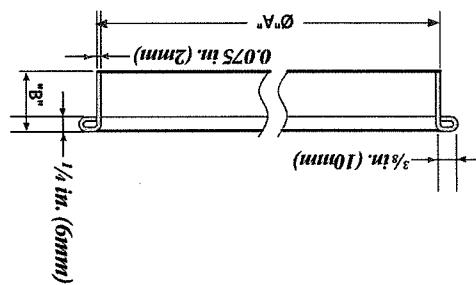
STAND MOUNTING



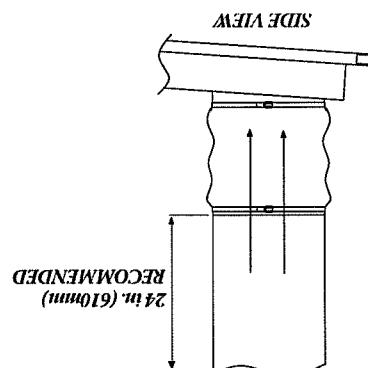
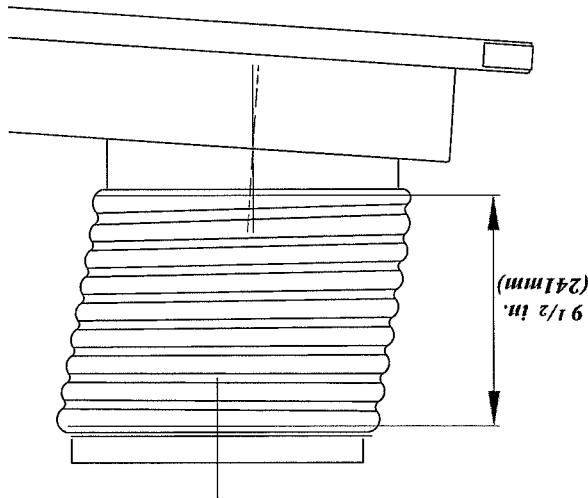
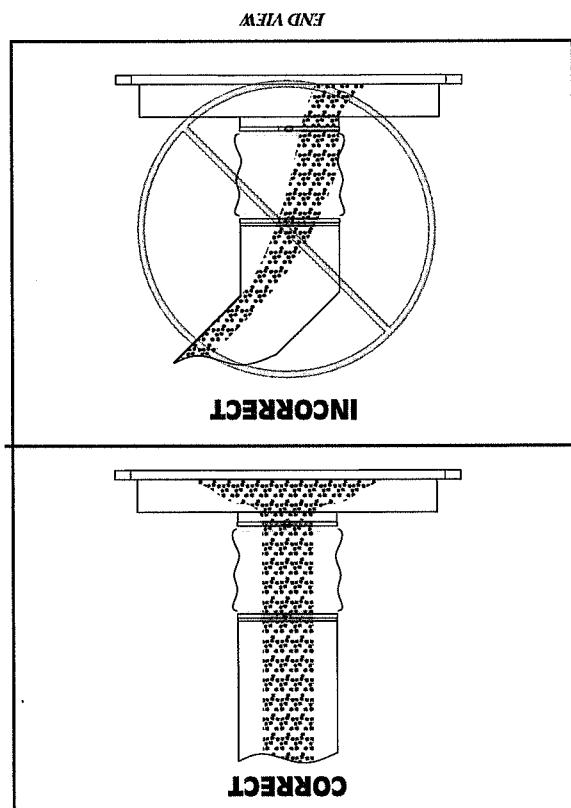


1.13. Rolled Ring Dimensions

NOMINAL RING SIZE	A. OUTSIDE DIAMETER	B. HEIGHT
6 in. (152mm)	5 $\frac{1}{16}$ in. (148mm)	1 in. (25mm)
8 in. (203mm)	7 $\frac{3}{4}$ in. (197mm)	1 $\frac{1}{4}$ in. (38mm)
10 in. (254mm)	9 $\frac{3}{4}$ in. (248mm)	1 $\frac{1}{2}$ in. (305mm)
12 in. (305mm)	12 in. (305mm)	1 $\frac{3}{4}$ in. (356mm)
14 in. (356mm)	14 in. (356mm)	1 $\frac{1}{4}$ in. (38mm)
16 in. (406mm)	16 in. (406mm)	1 $\frac{1}{2}$ in. (38mm)



1.12. Ring C-Sleeve Spacing with Molded Connecting Sleeve



1.14. Feeding Considerations

NOTE: Screeners perform best when the feed rate is constant. Therefore, use feeding devices such as rotary or stationary steel connecting rings for each inlet and outlet. These rings provide the proper connection for the stationary end of the flexible connecting sleeves. Refer to the Utline Drawing provided with your order for details on the connecting rings.

they do not cause surface irregularities. The feed material should enter the screener vertically and be centered in the inlet. To minimize flushing or liquidization of the product, the vertical fall into the screener must be less than 24 in. (610mm).

they do not cause surface irregularities. The feed material should enter the screener vertically and be centered in the inlet. To minimize flushing or liquidization of the product, the vertical fall into the screener must be less than 24 in. (610mm).

CONNECTING RINGS AND SLEEVES

FEEDING CONSIDERATIONS



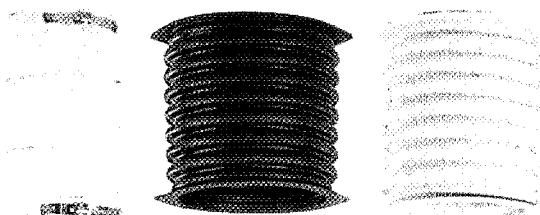
NOTE
Install fabric connecting sleeves with part number tag at the top.

NOTE
Fabric connecting sleeves are supplied with a band clamp to hold the sleeve on the ring.

Fabric connecting sleeves are provided with a stainless steel band clamp to hold the sleeve on the ring. Band clamps should be installed within the hem on both ends of the sleeve. Always refer to the Outline Drawing supplied with your order. The recommended bead-to-bead distance may NOT be 9 $\frac{1}{8}$ in. (241mm) if fabric connectors are supplied.

If using a molded connecting sleeve such as rubber or neoprene, stretch the sleeve over the bead on the ring. Band clamps are not required.

1.16 Connecting Sleeves



Molded sleeves are available in approximate 4 in., 6 in., 8 in., and 10 in. diameters (102, 152, 203, 254mm) and are designed to stretch fit over rings that have a $\frac{1}{4}$ in. (6mm) bead for a 9 $\frac{1}{8}$ in. (241mm) bead-to-bead distance. Molded sleeves are available in approximate 4 in., 6 in., 8 in., and 10 in. diameters (102, 152, 203, 254mm) and are available in the standard 4 in., 6 in., 8 in. and 10 in. sizes and can also be made in other diameters and lengths.

Fabric connecting sleeves are available in the standard 4 in., 6 in., 8 in. and 10 in. sizes and can also be made in other diameters and lengths.

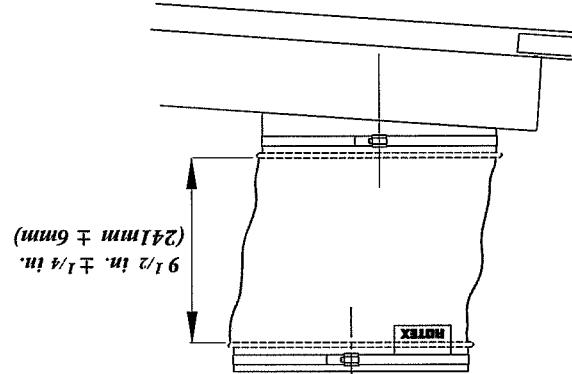
Fabric connecting sleeves are available in approximate 4 in., 6 in., 8 in., and 10 in. diameters (102, 152, 203, 254mm) and are designed to stretch fit over rings that have a $\frac{1}{4}$ in. (6mm) bead for a 9 $\frac{1}{8}$ in. (241mm) bead-to-bead distance.

ROTEX Screens are also supplied with flexible connecting sleeves for each inlet and outlet. These sleeves are either molded or fabric. Refer to the general assembly drawing and spare parts list in the Appendix for the description of the sleeves supplied on your order.

SLEEVES & CONNECTORS

NOTE
Always refer to the Outline Drawing supplied with your order. The recommended bead-to-bead distance may NOT be 9 $\frac{1}{8}$ in. (241mm) if fabric connectors are supplied.

1.15 Bead to Bead Distance

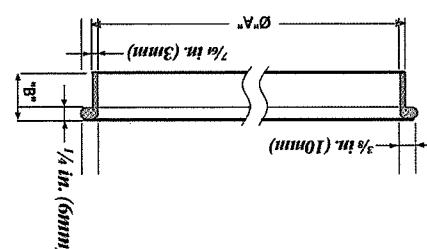


(241mm ± 6mm)

After the inlet and outlet pipes have been aligned so that the distance from the loose ring to the pipe (per pages 10 and 11), weld the loose ring to the pipe the bead on the Rotex ring is 9 $\frac{1}{8}$ in. ± $\frac{1}{4}$ in.

1.14 Machined Connecting Ring Dimensions

NOMINAL RING SIZE	A. OUTSIDE DIAMETER	B. HEIGHT
4 in. (102mm)	9 $\frac{3}{4}$ in. (95mm)	1 in. (25mm)
6 in. (152mm)	5 $\frac{7}{8}$ in. (149mm)	1 in. (25mm)
8 in. (203mm)	7 $\frac{13}{16}$ in. (198mm)	1 in. (25mm)
10 in. (254mm)	9 $\frac{13}{16}$ in. (249mm)	1 in. (25mm)



INSTALLATION



1.19. Stroke and Offset Dimension Table

First Number	Machine Model	Stroke Series	Diameter	Printing Offset Distance
1	10	2 in. (51mm)	1 in. (25mm)	1 1/4 in. (32mm)
2	20	2 1/4 in. (64mm)	1 1/4 in. (32mm)	1 1/4 in. (32mm)
3	30	2 1/2 in. (64mm)	1 1/4 in. (32mm)	1 1/4 in. (32mm)
4	40	2 1/2 in. (64mm)	1 3/4 in. (44mm)	1 3/4 in. (44mm)
5	50	3 1/4 in. (89mm)	1 3/4 in. (44mm)	1 3/4 in. (44mm)
6	60	3 1/2 in. (90mm)	1 3/4 in. (44mm)	1 3/4 in. (44mm)
7	70	3 1/2 in. (90mm)	1 3/4 in. (44mm)	1 3/4 in. (44mm)

screner.

3. When viewing machine from position A, the feed and discharge piping should be aligned along the same centerline as the inlet and outlets on the screener.

2. Install feed and outlet piping using the offset dimensions in the table below.

1. Move the screen box assembly to 180° position (see Figure 1.20).

ALTERNATIVE ALIGNMENT METHOD

5. Repeat above steps, viewing from positions A and C at discharge end of screener.
4. Move to the side of the screener to position B. Install the feed pipe so that the feed pipe and inlet are aligned as viewed from position B (see Figure 1.21).
3. Rotate the drive to the 90° or 270° position.

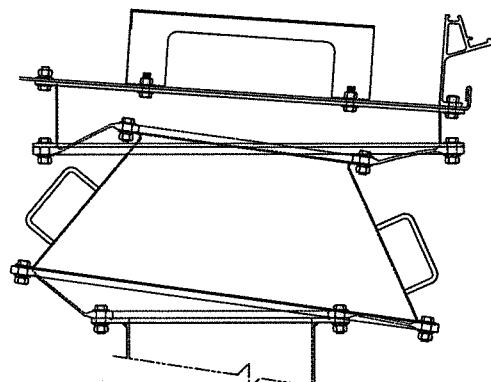
2. Adjust the position of the inlet pipe so it is centred over the screener inlet as viewed from the feed end (position A).

1. Stand at the feed end of the screener, rotate the drive so the screen box assembly is located at the 0° or 180° position (see Figure 1.20). Follow these steps for correct installation of inlet and outlet piping.

The inlet and outlet piping must be carefully aligned with the centerline of the screener to ensure maximum sleeve life. If the piping is not correctly installed, premature sleeve failure can occur.

INLET/OUTLET ALIGNMENT

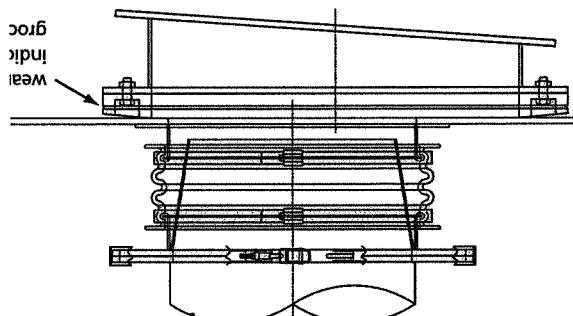
1.18. Nutating Inlet Connector



If your screener is supplied with a Nutating Inlet connector, refer to the Appendix for installation and alignment instructions.

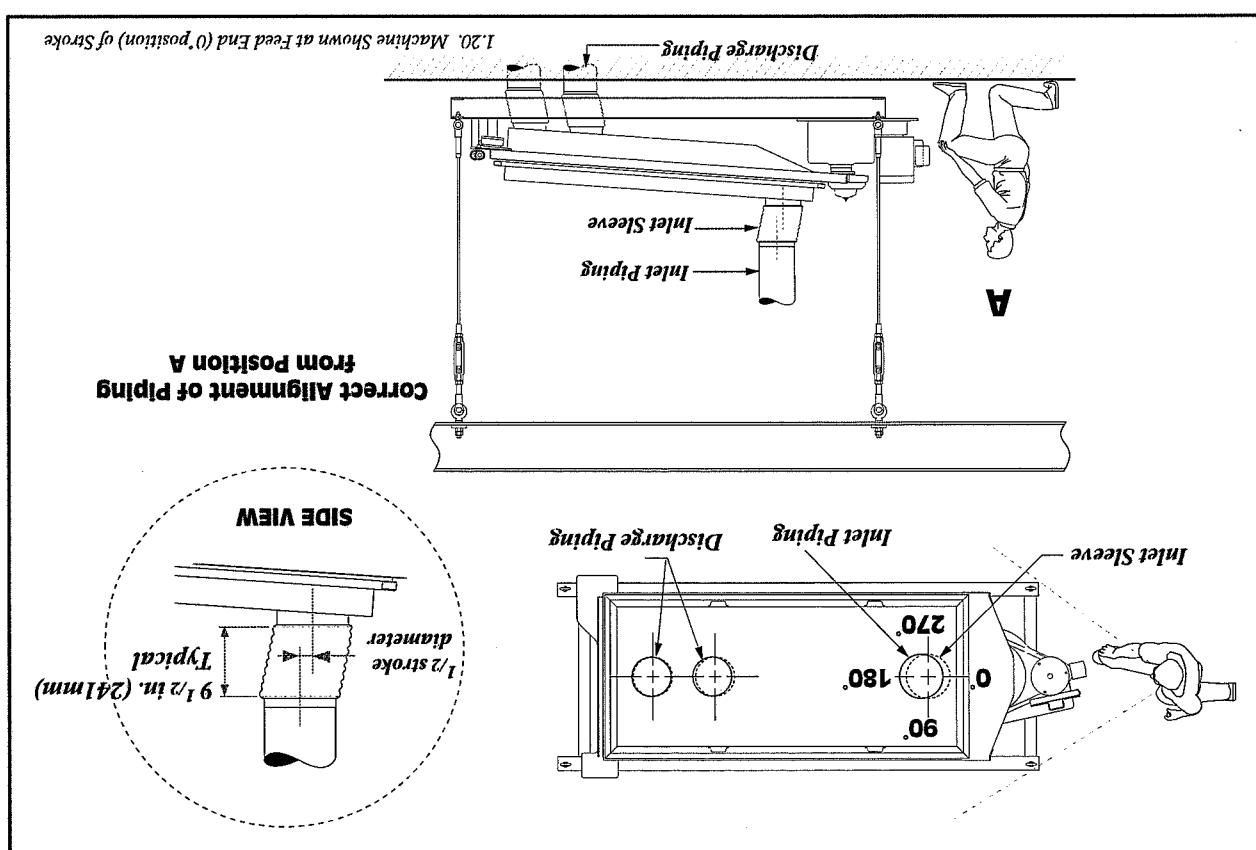
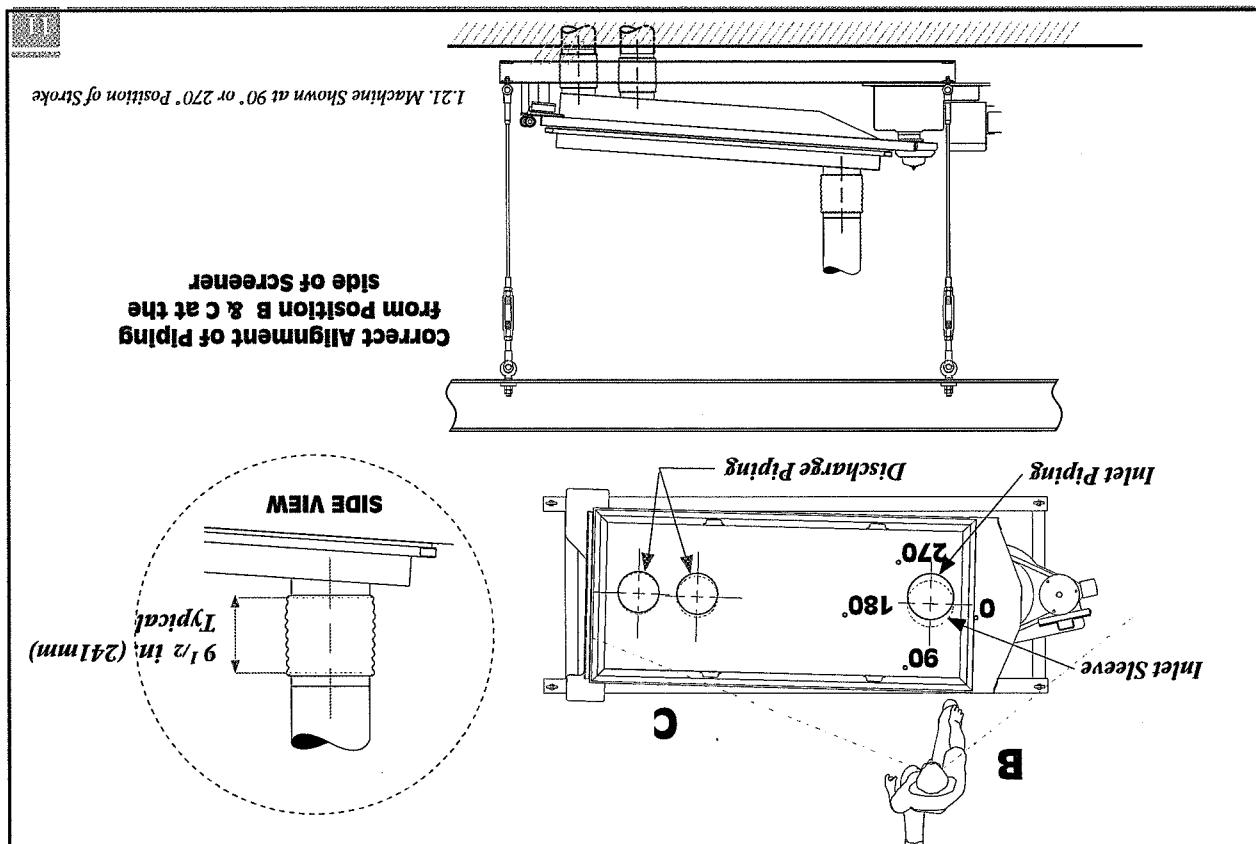
NUTATING INLET CONNECTOR

1.17. Sliding Inlet Connector

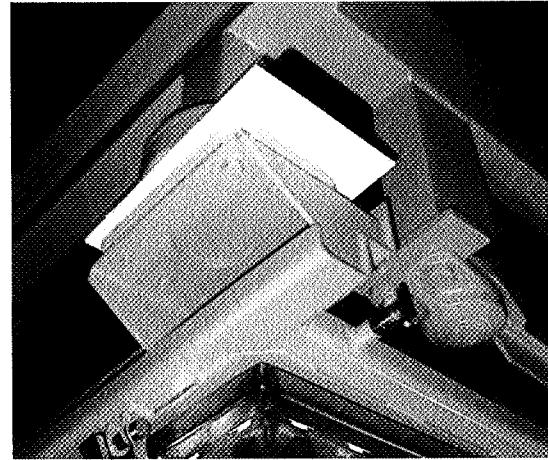


If your screener is supplied with a Sliding Inlet or Outlet connector, refer to the Appendix for installation and alignment instructions.

SLIDING INLET AND OUTLET CONNECTORS



1.23. Slide Bearing Protection Sheets

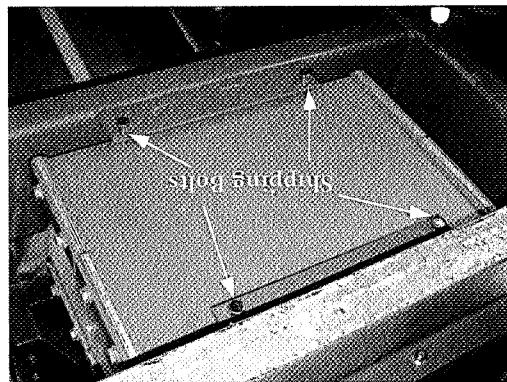


- 2 For all screener types, remove the two corrugated plastic protection sheets from the slide bearing assemblies.

Failure to remove shippng bolts can damage the screener and cause excessive base motion.

C A U T I O N

1.22. Location of Dynamic Absorber Drive Shippng Bolts



1. For screeners with Dynamic Absorber drives, remove the four shippng bolts installed on the bottom of drive.

To prepare the ROTEX Screener for operation, remove the hardware installed to protect the machine during shipment.

R E M O V I N G S H I P P I N G H A R D W A R E

W I R I N G T H E M O T O R

- Lubricate the machine as instructed in this Manual. Contact ROTEX with questions about lubrication.
7. Keep the machine and area around the machine clean.
 6. Do not change the machine in any way without consultation with and written permission from ROTEX.
 5. Do not climb, sit or stand on the machine.
 4. Do not put or leave any loose items, such as tools, on or in the machine.
 3. Do not operate the machine until all top cover clamps are installed and correctly adjusted.
 2. Do not adjust, clean or maintain the machine until power is disconnected and locked out.
 1. Do not operate the machine until all of the guards are installed, access doors/lids are closed and safety interlocks operate correctly.

CAUTION



OPERATION SAFETY PRECAUTIONS

OPERATION



Excessive positive or negative pressure can cause machine failure and injury to personnel.

C A U T I O N

If ambient temperatures are below 40°F or

N O T E

Pressure - Standard Rotex Screeners are designed for maximum 3 in. water column (0.75 kPa) pressure.

Automatic-Tensioning Screeners can operate with material temperature not more than 250°F (121°C) when equipped with proper connectors, mesh cleaning balls, screen edgeing, seals and lubricants

Temperature Considerations - Standard screen cleaning and cause premature wear of screen clothings. Do not operate the machine for more than 10 minutes without the mesh cleaning balls. Do not damage the screen without material can damage the feed.

Operating Empty Screen - Operating the screener with material can damage the screen clothings and cause premature wear of the mesh cleaning balls. Do not operate the machine for more than 10 minutes without the mesh cleaning balls. Do not damage the screen without material can damage the feed.

Direction of Rotation - Rotex Screeners can operate in either direction.

Screen Clearances - Start the screener briefly to confirm there is sufficient clearance around the base and rotatting screen box assembly. Do not restart machine until it comes to a complete stop.

Screen Clearances - Start the screener

the motor is flexible enough to allow for 4 in. suspended, make sure that the power cable to the machine is cable

without all drive and/or belt guards in place. Safety Guards - Do not operate machine

Top Cover Jacking Bolts - If the screener is equipped with top cover jacking bolts, make sure that they are tight against the top cover and that lock nuts are tight.

Top Cover Clamps - With all clamps attached, make sure that each clamp is properly tightened. The indicator tab on the handle, rotate the handle clockwise to increase the force or counter-clockwise to decrease the tab is aligned with the green section. Reclamp the handle and make sure that the label. If it is not aligned, reclamp the clamp must be aligned with the green section on the label. If it is not aligned, reclamp the handle, rotate the handle clockwise to increase the force. Reclamp the handle and make sure that the label is aligned with the green section.

Mounting Bolts or Cable Assemblies - Make sure all mounting or anchor bolts are securely tightened. Cable assemblies must be checked to confirm that turbulent lock nuts are tight and there is uniform tension on the cables.

Lubrication - If your Rotex is equipped with a "gear drive", make sure that the drive head is filled with the proper quantity and type of oil. Refer to the lubrication recommendations in the Appendix.

Sleeve Alignment - To maximize the service life of inlet and outlet connections on page 11 in the installation section, confirm that the feed and discharge piping has been aligned according to the instructions on page 11 in the installation section.

Before operating the screen, review the following

Power MUST be locked out before any work is done to the screen. Confirm that the screen has no power before performing these steps.

C A U T I O N

P R E O P E R A T I O N C H E C K L I S T

O P E R A T I O N



CAUTION

Do not add to or remove weight from the screen box assembly without first contacting Rotex for instructions on how to adjust the drive head counterbalancing. Weight changes can damage the screen box assembly, reduce performance and transmit higher forces into the support structure.



The screener has been carefully counterbalanced based on the speed and weight of the moving screen box assembly.

WEIGHTS AND COUNTER BALANCING

NOTE

Special designs are available for operation with material hotter than 250°F (121°C). Consult Rotex before operating a screener at an elevated temperature.



Standard Automatic-Tensioning Screeners can operate with material temperature not more than 250°F (121°C) when equipped with the proper connectors, mesh cleaning balls, screen edging, seals and lubricants.

TEMPERATURE

PRESSURE

Standard Rotex screeners are designed for maximum pressure of 3 in. water column (0.75 kPa) pressure.

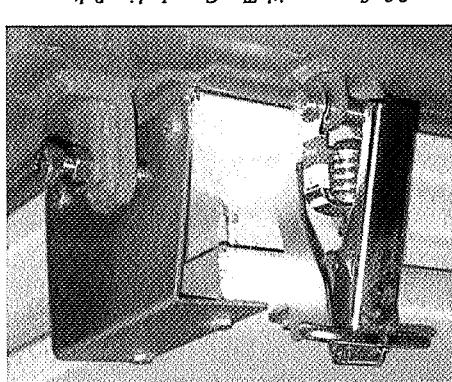
Do not operate the screener without material for more than 10 minutes, since the action of the mesh cleaning balls can damage the screen clothings.

OPERATING EMPTY SCREENER

OPERATIONAL CONSIDERATIONS

- For cable suspended screeners, there must be a base movement around the base that is less than 4 in. (10cm) of clearance around the base. Base movement should be less than 1 in. (25mm) in diameter during operation.
- Special compensating designs are available for operation with materials above 250°F (121°C). Consult Rotex before operating any materials above 250°F (121°C).
- Specified compensation designs are available at operating speeds.
- If the motion is large, make sure that the cables are taut and that the base is level across the long and short dimensions. Greater movement in the screener base may occur during startup or shutdown, but will decrease after the screener is at operating speed.
- Machine at elevated temperatures.

NOTE



2.2. Screen with Top Cover Jacking Bolts



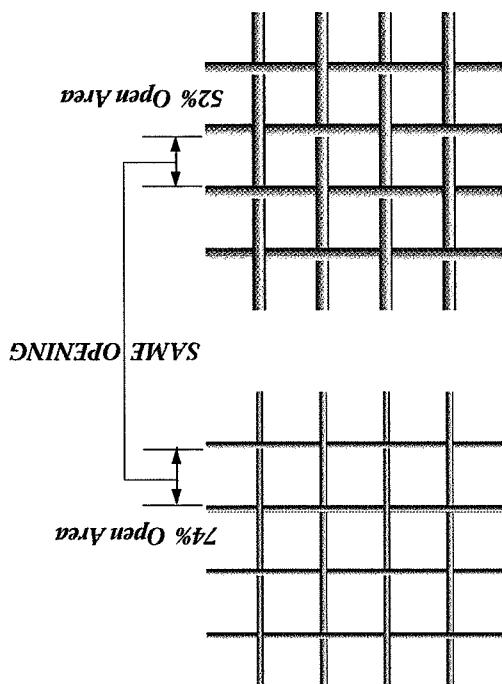
Screens are available in a variety of materials, including carbon steel, stainlesss steel (304, 316 and 430), abrasion-resistant steel and synthetics (nylon and polyester). Contact Rotex for recommendations.

Materials of Construction

Metallic screens are recommended for all applications and when the product temperatures are more than 200°F (93°C). Synthetic screens (nylon and polyester) are recommended for temperatures not more than 200°F (93°C). Synthetic screens are more than twice as strong as polyesters or nylons.

Temperature

23. Illustration comparing screens with large and small wire diameters.



Screens with the same size opening may have different wire diameters. The selection of longer-lasting screens with larger wires must be compared with their reduced performance caused by blinding.

Durability

Samples of material can be tested in the Rotex Materials Testing Lab to determine the best balance between wire diameter and capacity.

Selecting the proper screen is often a compromise between screen life and capacity/performance. Thinner wire screens allow greater throughput than heavier screens, but often do not have a long life.

Capacity

Synthetic screens such as polyester or nylon may be specified if stainlesss steel is not acceptable.

Screen with a smaller wire diameter may be necessary if screening blinding is a problem. The smaller wire presents less area in which material can become trapped.

Screen Blinding

Screens greatly influence the operation and performance of a screen. The wrong screen can reduce capacity, cause out-of-spec products and increase screen replacement costs. Consider the following factors for the application.

SCREEN SELECTION

The following review covers the more common factors before making any changes.

The screener has been designed to the specifications provided at time of order. The speed, slope, mesh cleaning balls, screen & etc., have been specified for your particular application. Therefore, adjustments may be necessary if product or capacity requirements change.

OPERATION

MAKING CHANGES TO THE SCREENER



Although there is no limit to speed reduction, performance will be affected because convey ing rate and ball mesh cleaning action are reduced.

NOTE



Contact Rotex before changing the screener speed.

NOTE



The first digit of the Rotex model number indicates the drive series. The letter D following the model number indicates the machine is equipped with a Dynamic Absorber drive head. For example, a Model 3201 has a 30 series drive; a Model 81D has an 80 series Dynamic Absorber drive head.

- The standard operating speeds for each model are shown on the following page.
- Because of the requirements for a particular application.

- The speed of the screener affects conveying rate and product stratification as well as agitation of the mesh cleaning balls.

SPEED

2.4 Screen / Ball Size Table

REPLACEMENT MESH / SCREEN MESH /	SCREEN OPENING	NEW BALL SIZE	REPLACEMENT (WORN) SIZE
4 mesh	2 in. (50mm)	1 3/8 in. (35mm)	4.75mm and larger)
4 mesh - 18 mesh	1 5/8 in. (41mm)	1 1/8 in. (41mm)	(4.75mm - 1.00mm)
18 mesh - 80 mesh	1 3/8 in. (35mm)	1.00mm - 180μm	18 mesh - 80 mesh
80 - 400 mesh	1 1/8 in. (35mm)	(1.00mm - 180μm)	(180 - 38μm)
1 in. (25mm)			1/4 in. (19mm)

Balls come in various sizes: 1 1/8 in., 1 3/8 in., 1 5/8 in. and 2 in. diameters (29mm, 35mm, 41mm and 50mm) and in a variety of compounds. Refer to the following table for guidelines on selecting the proper ball size and when to replace worn balls. Contact Rotex for recommendations for a specific application.

Size of Mesh Cleaning Balls

In most scalping applications, use only one or two balls per pocket at the discharge end of the frame. Excessive ball action at the discharge end can cause screen failure.

NOTE



The size and number of mesh cleaning balls specified in each pocket may change, depending on the section of the frame and the level of blinding. Balls may be removed in applications where screening is not affected by blinding. Balls may be removed in applications where screening is not affected by blinding. Two balls per pocket at the discharge end of the frame cause screen failure.

Because this quantity will prevent the free movement of the balls and can decrease the mesh cleaning performance, do not use more than six balls per pocket.

For screen frames not more than 40 in. (1m) wide, use four balls per screen frame pocket. For screen frames more than 40 in. (1m) wide, use three balls per screen frame pocket.

Use the minimum number of balls per screen frame pocket to control blinding.

Number of Mesh Cleaning Balls

Rotex Screeners use resilient balls in the "pockets" of the screen frame(s) to keep the screen surface free from blinding or pegging and to help particle stratification. Factors that affect mesh cleaning are as follows.

BALL MESH CLEANING SYSTEM

OPERATION



- To increase the conveying rate, the screening slope can be increased by inclining the base of the screener not more than 4 degrees. The slope of the screener can be increased by installing shims under the base or changing the length of the supporting cables.
- To decrease the slope, install shims under the discharage end of the screener base or change the length of the supporting cables.

DIRECTION OF ROTATION

ROTEX Screeners may operate in either direction (clockwise or counter-clockwise). If the feed to the screener is greater to one side of the deck, reversing the direction of rotation may improve the separation.

ROTEX Screeners can be equipped with a vent for connection to a dust collection system. 200 to 300 cfm (5.7 - 8.5 cubic meters/minute) is generally recommended for dust control.

- The slope of the screening surface controls the product conveying rate. Convexing rate determines retention time and bed depth, which directly affects the performance of the screen.
- The slope of the screening surface controls the product conveying rate. Convexing rate determines retention time and bed depth, which directly affects the performance of the screen.

SLOPE

- Internal pressure must not be higher than 3 in. water column (0.75 kPa).

CAUTION



Excessive airflow through the screen can reduce screening performance because material is lifted from the screen surface. This problem is more common with fines removal and grading applications.

structure.

the screen box assembly, reduce performance counterbalancing. Weight changes can damage screen box assembly without contacting Rotex screen box assembly. Instructions on how to adjust drive head Do not add to or remove weight from the

CAUTION

box assembly.

The screener has been carefully counterbalanced based on the speed and weight of the moving screen

WEIGHT AND COUNTERBALANCING

25. Standard Operating Speeds

DRIVE HEAD SERIES	DRIVE TYPE	PINION SHAFTE SPEED (RPM)	STANDARD SCREEN Box SPEED (RPM)	SHAFTE SPEED (RPM)	DRIVE HEAD SERIES
70D	Gear	598	200	197	50S
70	Gear	609	203	197	50D
70D	Belt	n.a.	203	197	80D
80D	Belt	n.a.	218	218	80S
80	Gear	915	216	216	50
40	Gear	915	243	243	80D
30	Belt	n.a.	252	252	80S
20	Gear	n.a.	294	294	50S
10	Belt	n.a.	294	294	70
					70D

- To increase the conveying rate, the screening slope can be increased by inclining the base of the screener not more than 4 degrees. The slope of the screener can be increased by installing shims under the base or changing the length of the supporting cables.
- To decrease the slope, install shims under the discharage end of the screener base or change the length of the supporting cables.

ROTEX Screeners may operate in either direction (clockwise or counter-clockwise). If the feed to the screener is greater to one side of the deck, reversing the direction of rotation may improve the separation.

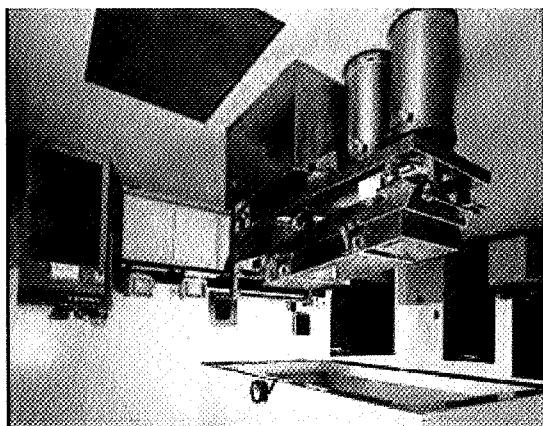
ROTEX Screeners can be equipped with a vent for connection to a dust collection system. 200 to 300 cfm (5.7 - 8.5 cubic meters/minute) is generally recommended for dust control.

Excessive airflow through the screen can reduce screening performance because material is lifted from the screen surface. This problem is more common with fines removal and grading applications.

- To increase the conveying rate, the screening slope can be increased by inclining the base of the screener not more than 4 degrees. The slope of the screener can be increased by installing shims under the base or changing the length of the supporting cables.
- To decrease the slope, install shims under the discharage end of the screener base or change the length of the supporting cables.

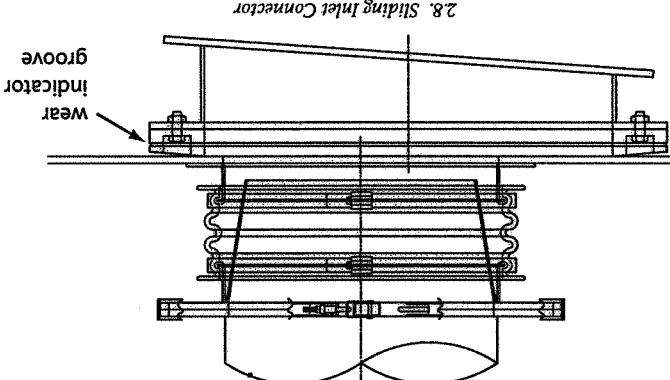


29. ROTEX Lab



To check the performance of a ROTEX Screen, testing must be conducted on a representative sample of the product using a testing device such as a GRADEX Particle Size Analyzer or a manual sieve shaker. Contact Rotex for help in evaluating the analysis results.

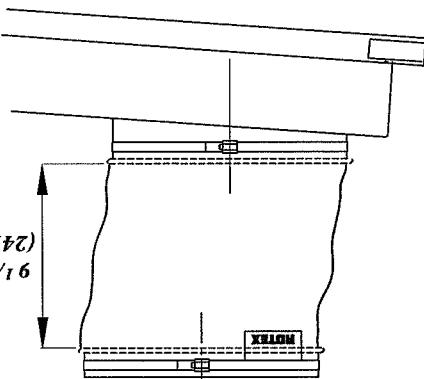
EVALUATING PERFORMANCE



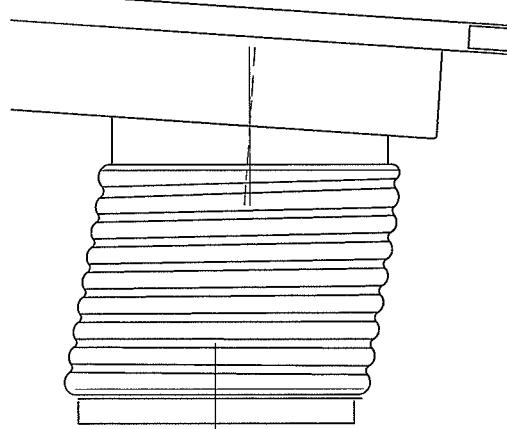
28. Sliding Inlet Connector

- Standard ROTEX Screens are shipped with flexible connecting sleeves for each inlet and outlet.
- Molded connecting sleeves are available in nominal 4 in., 6 in., 8 in. and 10 in. (102, 152mm, 203mm and 254mm) diameters and 14 in. (203mm, 254mm, 305mm and 356mm) sizes for new and retrofit installations. Other sizes are available on special order.
- Fabric sleeves are used in large volume applications and when special sizes, shapes or lengths are required.
- Slider inlet and outlet connectors are available in standard 8 in., 10 in., 12 in. and 14 in. (203mm, 254mm, 305mm and 356mm) sizes for new and retrofit installations. Other sizes are available on special order.

27. Fabric Sleeve



26. Molded Connecting Sleeve



- Standard ROTEX Screens are shipped with flexible connecting sleeves for each inlet and outlet.
- Molded connecting sleeves are available in nominal 4 in., 6 in., 8 in. and 10 in. (102, 152mm, 203mm and 254mm) diameters and 14 in. (203mm, 254mm, 305mm and 356mm) sizes for new and retrofit installations. Other sizes are available on special order.
- Fabric sleeves are used in large volume applications and when special sizes, shapes or lengths are required.
- Slider inlet and outlet connectors are available in standard 8 in., 10 in., 12 in. and 14 in. (203mm, 254mm, 305mm and 356mm) sizes for new and retrofit installations. Other sizes are available on special order.

INLET/OUTLET CONNECTORS





1. Do not adjust, clean or maintain the machine until power is disconnected and locked out.
2. Do not operate the machine until all of the guards are installed, access doors/lids are closed and safety interlocks operate correctly.
3. Do not put or leave any loose items, such as tools, on or in the machine.
4. Do not change the machine in any way without consultation with and written permission from ROTEX.
5. Check mechanical fasteners every week to make sure they are tight. Tighten any loose fasteners and use the torque specifications in this Manual. Use a locking agent, such as Loctite®, where specified.
6. Inspect support cable assemblies and hardware for wear every week.
7. Inspect hunger assemblies, if equipped, for loose bolts, broken parts, or failed bearings.
8. Do not climb, sit or stand on the machine.
9. Keep the machine and area around the machine clean.
10. Lubricate the machine as instructed in this Manual. Contact ROTEX with questions about lubrication.
11. Do not clean aluminum parts with alkaline materials.

C A U T I O N



Maintenance Safety Precautions



MAINTEANCE

C A U T I O N

ROTEX Screens have been carefully designed to require a minimum of maintenance. Regular checks of the following components will ensure safe operation, maximum performance and extend the life of the screen.

There are two basic designs of ROTEX Screens—Automatic-Tensioning and General-Purpose. There are two basic designs of ROTEX Screens—has no power before beginning any maintenance. Power MUST be locked out before any work is done to the screen. Confirm that the screen is properly tensioned before beginning any maintenance.

PRE-MAINTENANCE CHECKLIST

- Motor — If the motor will be replaced, confirm that the motor voltage is correct for the motor installed on the machine. The voltage rating is on the motor nameplate. Also confirm that is on the motor enclosure and type is correct for the motor installed on the machine.
- Drive Belt Tension — If the screener is equipped with linked drive belts cannot be measured using a conventional belt tension gauge.
- Direction of Rotation — ROTEX Screeners can operate in either direction (clockwise or counter-clockwise).
- Connections Sleeves — Check all connectors for tears and holes. For long life of inlet and outlet connectors, confirm that the feed and discharge piping has been aligned according to the instructions on page 11 in the Installation section.
- Sliding Connectors or Nutating Inlet Maintenance — Refer to the Appendix for details.

NOTE

The tension of linked drive belts cannot be measured using a conventional belt tension gauge.

Drive Head Section in the Appendix for the proper installation procedure.

Drive Head Section in the Appendix for the proper installation procedure.

Screen frames on multiple deck machines have an integrated spacer to separate the decks.

Screen frame(s) and top cover are equipped with easily replaced, resilient seals, such as neoprene, silicone or EPM rubber.

Carbon steel or aluminum top cover.

Wood screen frames

Screen attached to screen frames using staples.

Multiple screen frames on each deck of larger machines.

Felt seals on wood screen and spacer frames;

Sponge seals on top cover

The following sections cover disassembly and reassembly.

NOTE

If ambient temperatures are below 40°F or above 140°F (4°-60°C), consult Rotex for lubrication recommendations.

Lubrication — If your Rotex is equipped with a "gear drive," make sure that the drive head is filled with the proper quantity and type of oil. Gear-type drive heads can be identified by the horizontal shaft on the side of the gearbox, and use a motor with a vertical shaft.

- Separate wood spacers on multiple deck machines
- Screen attached to screen frames using staples
- Multiple screen frames on each deck of larger machines.
- Carbon steel or aluminum top cover
- Wood screen frames

G E N E R A L - P U R P O S E D E S I G N

- Sanitary designs are available.
- Silicone or EPDM rubber easily replaced, resilient seals, such as neoprene, silicone or EPM rubber.
- Screen frames on multiple deck machines have an integrated spacer to separate the decks.
- Screen frame(s) and top cover are equipped with easily replaced, resilient seals, such as neoprene, silicone or EPM rubber.
- Carbon steel or aluminum top cover.
- Wood screen frames

A U T O M A T I C - T E N S I O N I N G D E S I G N

NOTE

Review before performing maintenance:

Drive Belt Tension — If the screener is equipped with linked drive belts cannot be measured using a conventional belt tension gauge.

Drive Head Section in the Appendix for the proper installation procedure.

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Automatic-Tensioning and General-Purpose.

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Multiple screen frames on each deck of larger machines.

Felt seals on wood screen and spacer frames;

Sponge seals on top cover

The following sections cover disassembly and reassembly.

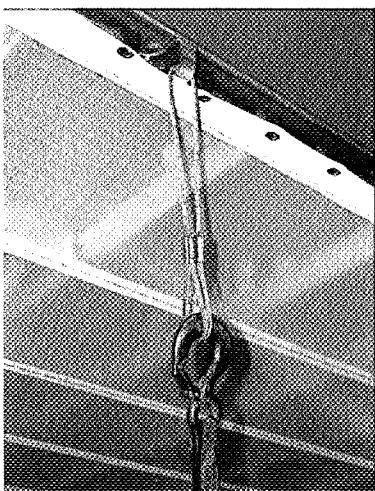
MAINTENANCE

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- Mounting Bolts or Cable Assemblies - Make sure all mounting or anchor bolts are securely tightened. Cable assemblies must be checked to make sure that the wire rope portion is not tight and that the wire turbulent lock nuts are to proper clearance between the Slide Plate and Socket on carbon-type and greased slide bearings. Refer to the Slide Bearing Section in the Appendix for maintenance and lubrication recommendations.
- Operating Empty Screen - Operate the screener without material can damage the screen cloth. Wear of the mesh cleaning balls. Do not operate the machine for more than 10 minutes without feeding.
- Noise - The screener should operate smoothly and quietly with no sharp knocking noises.
- Top Cover Clamps - With all clamps attached, make sure that each clamp is properly tightened. The indicator tab on the OK section on the label. If it is not aligned, clamp must be aligned with the green or OK section. Clamp must be aligned with the handle and confirm that the tab is aligned with the handle and clockwise to decrease the force. Re-clamp the handle and tighten the top cover jacking bolts, make sure they are tight against the top cover and that lock nuts are tight.
- Safety Guards - Do not operate machine without all drive and/or belt guards in place.
- Power Cable - If the machine is cable suspended, make sure that the power cable to the motor is in good condition. The power cable must be flexible enough to allow for 4 in. (10cm) of motion.
- Maintenance Tools and Hardware - Before starting the machine until it comes to a complete stop.
- Clearances - Start the screener briefly to confirm there is sufficient clearance around the base and rotating screen box assembly. Do not start machine until it comes to a complete stop.



3.3. Screen frame removal using lifting hooks and overhead hoist



Please refer to the following illustrations to determine what is supplied on your screener and follow the specific assembly procedures.

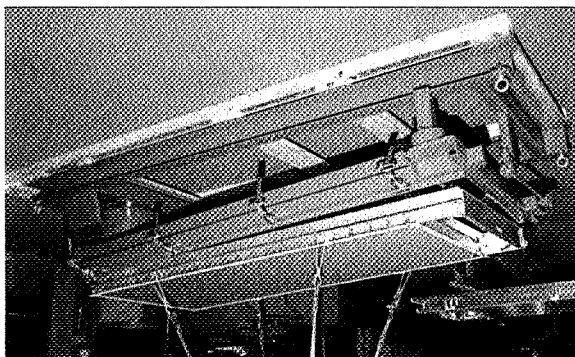
C. Frames that use external screen frame jacks located at either end of the box frame

B. Frames that use roller jacks located at the discharge end of the screen frame

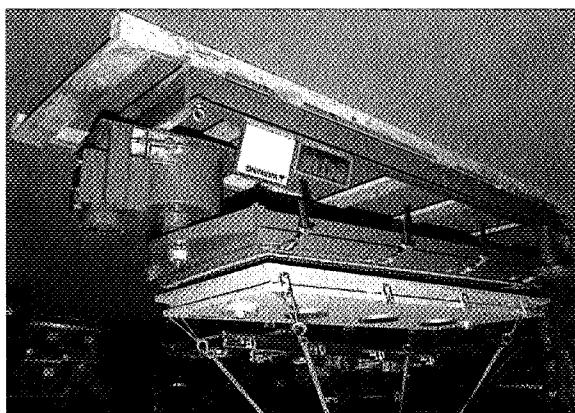
A. Plain frames that use no screen frame jacks or roller jacks

Note that there are three different screen frame designs, depending on machine size and number of decks.

3.2. Lifting the Screen Frame



3.1. Top cover removal using lifting hooks and overhead hoist



7. Inspect all seals for wear and damage. Good seals will be soft with no gaps between sections or at corners where leakage can occur.

6. Remove screen frame from the screen box assembly by lifting first at the discharge end.

5. Remove top cover.

4. Unclamp top cover clamps.

3. Loosen screen frame jacks and top cover jacking bolts, if supplied with the machine.

2. Remove the inlet connector.

1. Shut off feed to screener and allow the machine to run empty for five minutes to clear material from the deck(s).

Mech cleaning balls, screen clothings and seals are critical components of screen frame assemblies. All can be visually inspected after the screen frames are removed.

DISASSEMBLY

MAINTENANCE

AUTOMATIC-TENSIONING SCREENERS



MAINTEANCE

A. Plain Frames

Make sure that only the rollers touch the discharge end of the screen box. Refer to the instructions in the appendix for adjusting the bolts and rollers.



NOTE

8. Tighten all screen frame jacks one half turn and tighten lock nuts.

7. Re-tighten the top cover jacking bolts, if provided, and tighten the lock nuts.

6. Clamp the clamp handles and check to make sure the indicator tab is in the green or OK zone. If required, loosen the top cover jacking bolts one half turn so the top cover is free to move down. Adjust the clamps by rotating the handle on the threaded rod and re-checking the compression. Half turn so the top cover is free to move down. Re-tighten the top cover jacks one half turn so the indicator tab is in the green or OK zone. If required, loosen the top cover jacking bolts one half turn so the top cover is free to move down. Adjust the clamps by rotating the handle on the threaded rod and re-checking the compression.

5. Install the top cover but do not clamp. If applicable, use the jacking bolts to move the top cover against the stop plates.

4. Repeat for all decks by tightening the jacks to move the frames into position and then loosening them.

3. Loosen the screen frame jack approximately one half turn so the screen frame is free to move down and fully contact the screen box assembly below.

2. Push the screen frame to the discharge end of the screen box assembly.

1. Lower the feed end of the bottom screen frame into the screen box assembly.

C. Frames with Screen Frame Jacks



3.4. Roller Jack Frame

1. Lower the screen frame into the screen box assembly and push it toward the discharge end of the screen box assembly.
2. Install the top cover but do not clamp. Use the jacking bolts to move the top cover against the stop plates if the screener is equipped with them.
3. Clamp the clamp handles and check to make sure the indicator tab is in the green or OK zone. If required, loosen the top cover jacking bolts one half turn so the top cover is free to move down. Adjust the clamps by rotating the handle on the threaded rod and re-checking the compression.
4. Re-tighten the top cover jacking bolts, if applicable, and tighten the lock nuts.

1. Lower the screen frame into the screen box assembly so the urethane bolt heads touch at the feed end.

2. Push the screen frame into the screen box assembly at the discharge end. The frame will require approximately 50 lb (23 kg) of force to install it correctly, and the rollers will be compressed.
3. Install the top cover but do not clamp. If applicable, use the jacking bolts to move the top cover against the stop plates.

5. Re-tighten the top cover jacking bolts and tighten the lock nuts.

4. Clamp the clamp handles and check to make sure the indicator tab is in the green or OK zone. If required, loosen the top cover jacking bolts one half turn so the top cover is free to move down. Adjust the clamps by rotating the handle on the threaded rod and re-checking the compression.
5. Re-tighten the top cover jacking bolts, if applicable, and re-tighten the lock nuts.

Make sure that only the rollers touch the discharge end of the screen box. Refer to the instructions in the appendix for adjusting the bolts and rollers.



INSTALLATION

1. After removing old screen, check all screen frame pockets for proper quantity and size of mesh cleaning balls.
2. Gently unpack the new screen to avoid bending or crimping. Sharp bends or crimps will cause premature failure.

SCREEN STORAGE AND CLEANING

1. If the screen is removed from the frame, roll it smoothly onto the original shipping tube and store horizontally to avoid bending.
2. Screens should be gently cleaned with an appropriate nylon or steel brush if required.
3. If screens are washed, use temperatures less than 140°F (60°C) to prevent damage to the edge.
4. Hang screen to dry.

SCREENS

Do not over-tighten the locking bolts. Excessive pressure can distort the screen frames, causing sagging. Screens are attached to frames with metal clips. For maximum life and performance, the screen must be installed so it is taut and flat with no depressions or sagging.

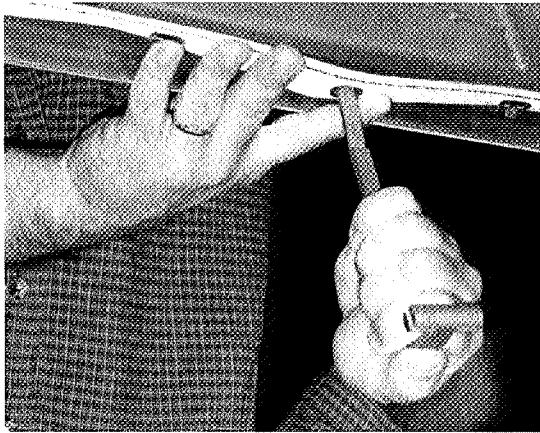
3.6. Discharge End of Screen Frame with Edging Pulled Down on Clips



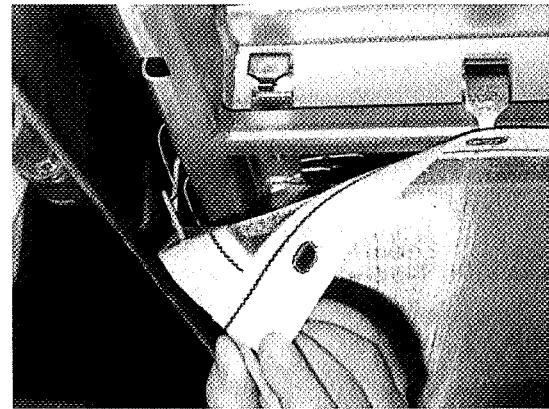
CALUTION

3.5. Screen Frame Jacks at Feed End of Screen Box Assembly

Maintenance



3.9.b. Clip Installation



3.9.a. Clip Installation

3.8. Screen Tension Clip Tool



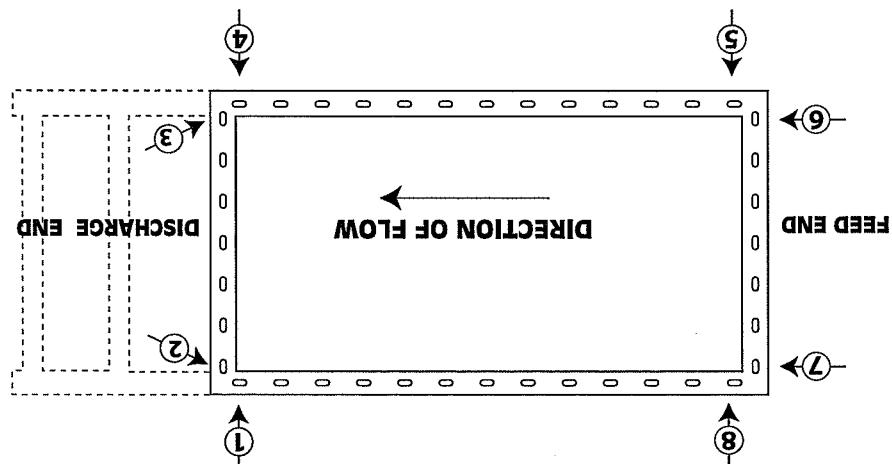
1. Push tool through the grommet and over the tip of the screen tension clip. The tip of the clip should be held in the rectangular slot at the end of the tool.
2. Push down on the edge and pull the tool up and toward the outside of the screen box assembly.
3. The clip will move up through the grommet and snap into position.

The screen tension clip tool makes installation easier and faster. In most cases, screens may be replaced on one-deck machines without removing the screen frame from the screen box assembly.

INSTALLATION

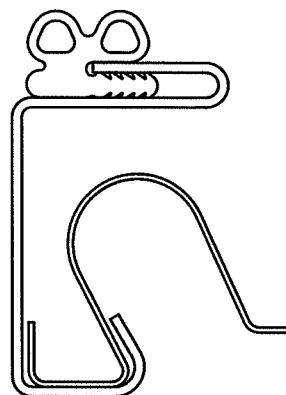
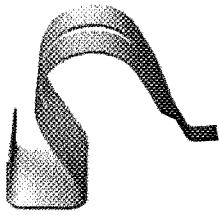
SCREEN TENSION CLIP TOOL

3.7. Clip Installation Sequence

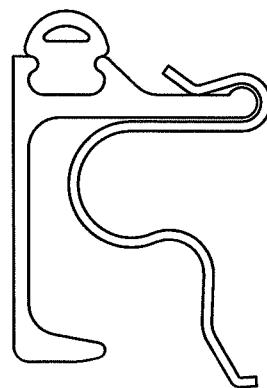
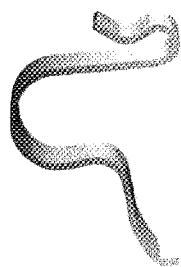




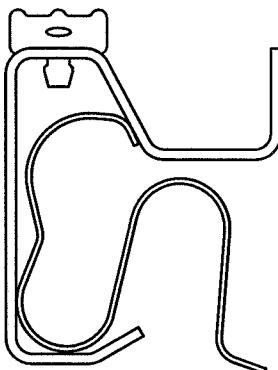
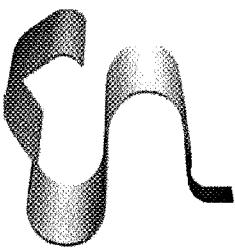
3.13. Type-T Tension Clip for
Carbon Steel / Stainless Steel
Frames



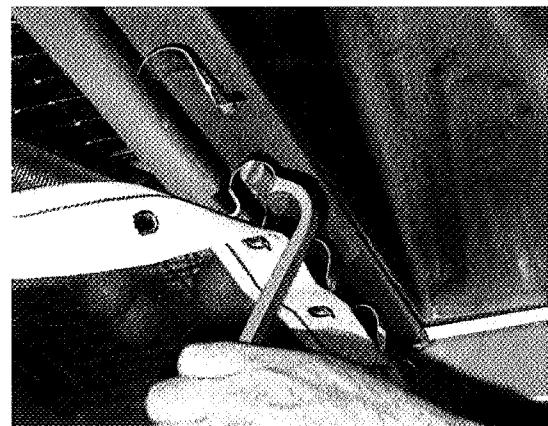
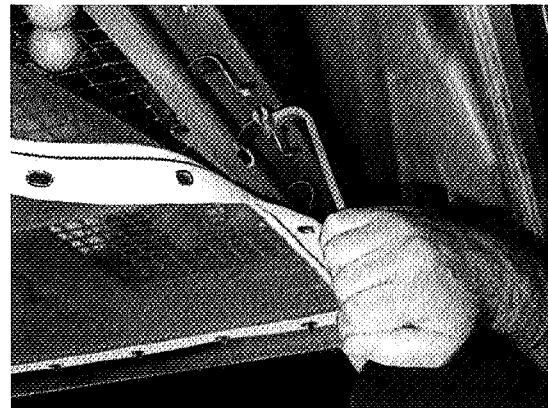
3.12. Tension Clip for
Aluminum Screen Frames



3.11. Tension Clip for
Carbon Steel / Stainless
Steel Frames



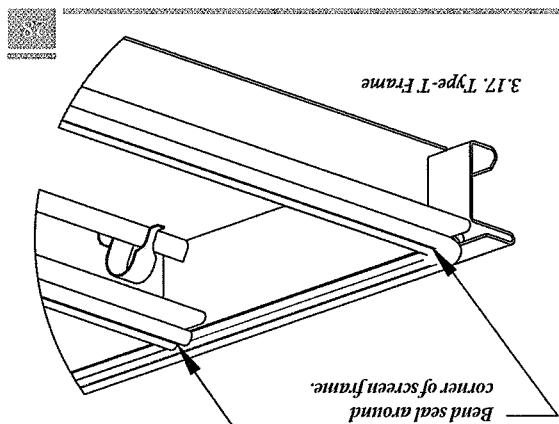
Clips are available with a range of tensions. Clips are selected based on the screen wire diameter, screen material and size of the screen frame. Contact Rotex for information on clip selection.



3.10. Clip Removal

1. Slide the slot on the curved end of the tool over the screen tension clip.
2. Push the tool toward the center of the screen to release clip pressure.
3. Pull the grommet and edgeing off the clip.

SCREEN TENSION CLIPS



3.17. Type-T Frame

- Do not stretch seals during installation, because shrinkage will cause gaps and product leakage.

- Confirm there are no gaps between seal sections or at corners.

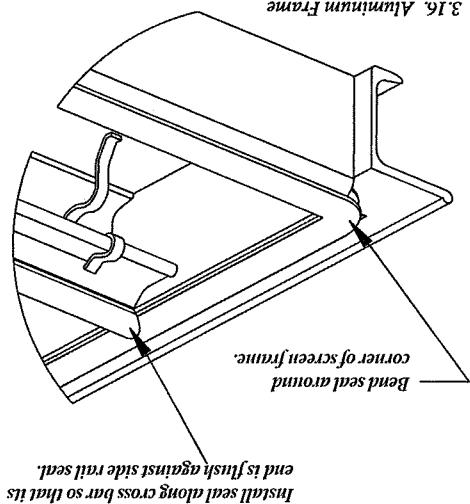
- Make sure seals are tight in the top cover and screen frame seal holders.

- Seals must be smooth, flat and resilient to control leakage.

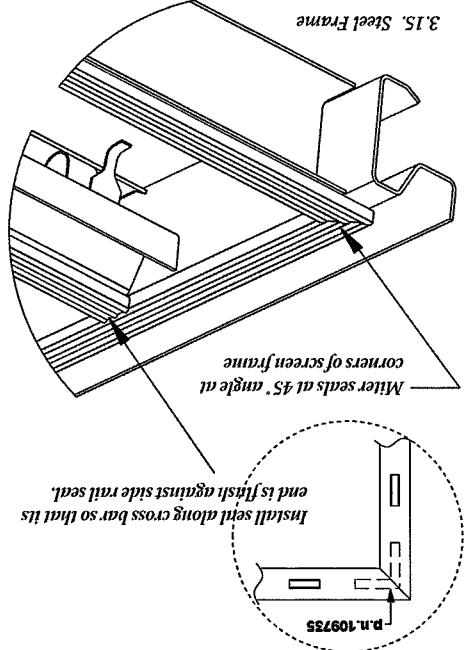
- Disassemble for screen changes or other maintenance.

- Inspect seals any time the screen is assembled.

Seals must be properly maintained to control leakage between the top cover, screen frame(s) and screen box assembly.

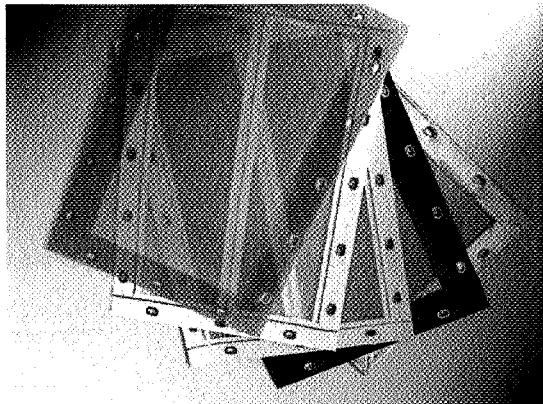


3.16. Aluminum Frame



3.15. Steel Frame

3.14. Screen Edging

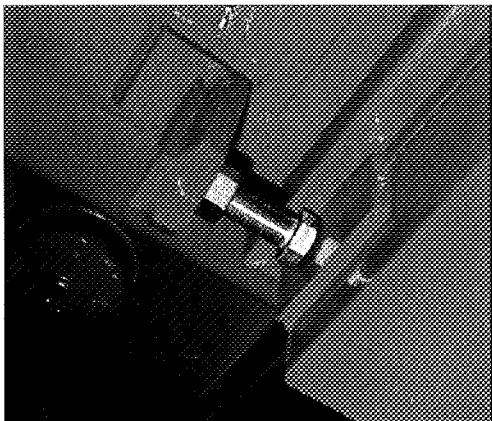


SCREEN EDGING

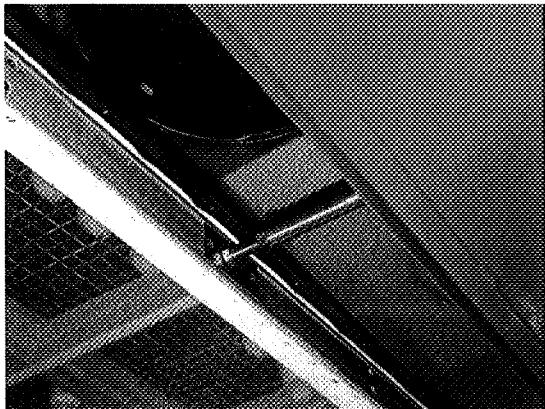
Screen edging is available in several materials, widths and designs, depending on the application, temperature and wire screen diameter. Contact Rotex for information on the proper edging for your application.



3.19. Top Cover Jack Bolt



3.18. Screen Frame Jack Bolt



9. Tighten top cover jack bolts and tighten lock nuts.
8. Clamp the clamp handles.
7. Install the top cover. If applicable, use the jack bolts to move the top cover against the stop plates.
6. Repeat for all remaining decks, tightening the jack bolts to move the frame(s) and spacer(s) into position. Tighten the lock nuts.
5. Tighten the spacer frame jack bolts to push the spacer and screen frame(s) to the opposite end of the screen box assembly.
4. On multiple deck machines, install the spacer frame(s) and screen frame(s).

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GENERAL PURPOSE SCREENERS

MAINTENANCE

1. Make sure all seals are in good condition and that there are no gaps where leakage can occur.
2. Lower the bottom screen frame(s) and screen across the edge of the screen frame. Tighten the lock nuts.
3. Tighten the bottom deck screen frame jack bolts to push the screen frame(s) into the box frame. Make sure the seals are not removed or damaged if they slide frame separator(s) into the box frame. Make sure the seals are not removed or damaged if they slide frame separator(s) into the box frame. Tighten the lock nuts.
4. Unclamp top cover clamps.
5. Remove top cover.
6. Remove screen frame(s) and spacer frame(s) from the screen box assembly by lifting first at the discharge end.
7. Remove screen frame separators, if supplied, and inspect for wear.
8. Inspect all seals for wear and damage. Good seals will be soft with no gaps between sections or at corners where leakage can occur.
9. Make sure all seals are in good condition and that there are no gaps where leakage can occur.

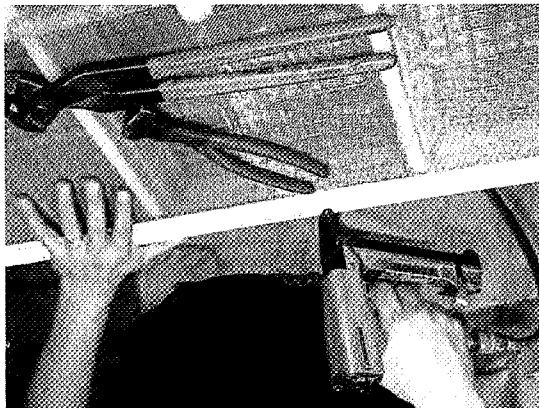
DISASSEMBLY

1. Shut off feed to screener and allow the machine to run empty for five minutes to clear material from the deck(s).
2. Remove the inlet connector.
3. Loosen screen frame jacks and top cover locking bolts, if supplied with the machine.
4. Remove top cover clamps.
5. Remove top cover.
6. Remove screen frame(s) and spacer frame(s) from the screen box assembly.
7. Install the top cover. If applicable, use the jack bolts to move the top cover against the stop plates.
8. Clamp the clamp handles.
9. Tighten top cover jack bolts and tighten lock nuts.





3.20. Screen Installation on General-Purpose Screen Frame



Sharp Wire Screen. Wear Protective Gloves.

C A U T I O N

16. Cut screen without edging so it is flush with the edge of the frame. Tap wires down with a hammer to prevent injury. Screen with edging should be tapped down over the edge of the frame to make installation easier.

15. Inspect all staples for tightness and tap any loose staples with a hammer.
14. Screens with wire diameters greater than 0.063 in. (1.6 mm) must be stapled to the longitudinal members every 3 in. to 4 in. (7.5 to 10 cm).

13. Staple along edge D from corner 3 to corner 4. Pull the screen as in step 12 above.

12. Staple along edge C from corner 2 to corner 3. Pull the screen every 1 in. (2.5 cm) before stapling to provide the best tension.
11. Pull and tension the screen at corner 3 and install three staples.

10. Go back to corner 1 and install staples along edge B to corner 2. Install staples every 1 in. (2.5 cm).
9. Start at corner 1 and staple toward corner 4 along edge A every 1 in. (2.5 cm). Install staples approximately 45° to the edge so the screen will not loosen.

5. Check edges C and D to make sure there is correct tensioning. Additional screen, which will be used later for staple corner 1 using three staples. Staples should be installed with an air operated (pneumatic) staple gun. See the following table for staple recommendations.
6. Staple corner 1 using three staples. Staples should be tensioned with corner 4 and stapling with three staples.
7. Pull and tension the screen in direction A by pulling at corner 4 and stapling with three staples.
8. Pull and tension the screen in direction B by pulling at corner 2 and stapling with three staples.

4. Place the screen on the frame and align it along edges A and B as shown on the following illustration.

3. Gently unpack the new screen to avoid bending or crimping. Sharp bends or crimps will cause premature failure.

2. Check all screen frame pockets for proper quantity and size of mesh cleaning balls. Because the ball mesh cleaning action will be reduced. Also check the horizontal surface because the ball mesh cleaning action will be because strips are worn to less than a 20° angle, frame for wear. Replace any frames where the wood is soft or has too many holes.

1. After removing old screen, inspect the screen around the outside since staples can loosen if the

I N S T A L L A T I O N

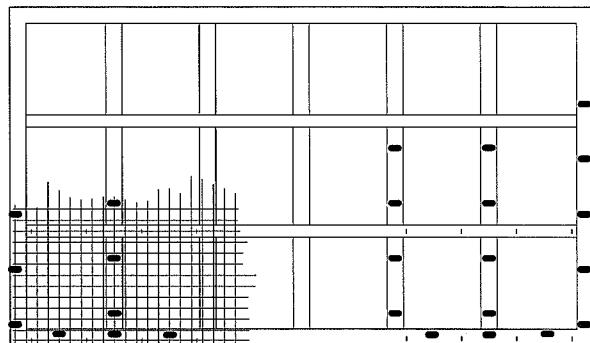
Eye injury risk. Wear approved safety glasses.

W A R N I N G

- Screens and ball support screens are attached to frames with staples. For maximum screen life and performance, screens must be installed so they are tight and flat.

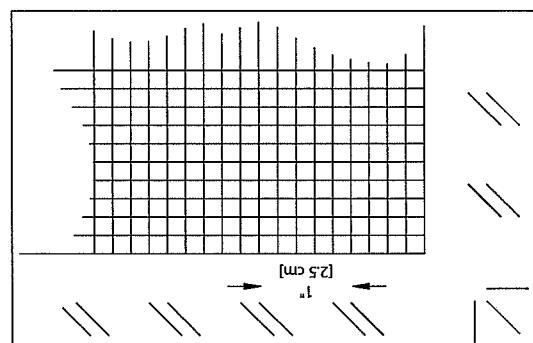
S C R E E N S

M A I N T E N A N C E



3.22 Ball Support Staple Location

3.23 Staple Location, Installation & Spacing on General-Purpose Screen Frame



loose or bent.

Apply felt seal every 3-4 in. (8-10cm). Tap all staples to be sure they are tight and remove any that are

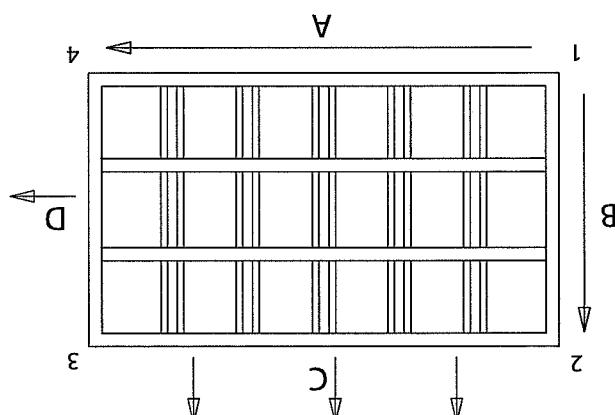
Tap all staples with a hammer to be sure they are tight.

In the center of the frame, apply two staples per pocket along the longitudinal members. Apply three staples to the bevels across each pocket.

Begin at the outside of the frame and apply staples at all four corners. Continue to apply staples every 4-5 in. (10-13cm) and move from one end to the other so no areas are missed.

Place the pre-trimmed ball support screen on the frame and align it along the edges. If there is excess material, trim the screen with hot cutters or a grinder before beginning the installation.

3.21 Installation & Tensioning Sequence on General-Purpose Screen Frame



Ball Support Installation



3.24. Staple Chart

WOOD FRAMES			WOOD FRAMES WITH PLASTIC INSERT			MEGATEX / HI-CAP FRAMES		
Staple Size (Part No.)	Precaution Screens Material No.	Screen	Ball Support	Ball Screen	Ball Supporter	Ball Screen	Ball Support	
% in. x $\frac{1}{8}$ in. (9.5 x 13mm) Part no. 102462	SLS - 20 M	A. All polyester and nylon B. All tensile bolting cloth (TBC)	N/A	A. All polyester and nylon B. All tensile bolting cloth (TBC)	N/A	A. All polyester and nylon B. All tensile bolting cloth (TBC)	N/A	
$\frac{1}{16}$ in. x $\frac{1}{8}$ in. (4.8 x 19mm) Part no. 102460	SLS - 20 L	C. Mill or Market grade screens with wire diameter less than or equal to 0.025 in. (0.64mm) Mill or market grade screens with wire diameter more than 0.025 in. (0.64mm)	% in. (19mm) opening, 0.105 in. (2.7mm) diameter	C. Mill or Market grade screens with wire diameter less than or equal to 0.025 in. (0.64mm) Mill or market grade screens with wire diameter more than 0.025 in. (0.64mm)	N/A	C. Mill or Market grades with wire diameter less than or equal to 0.025 in. (0.64mm) NOTE: Brittle abrasion resistant steel and stainless steel screens with wire diameter less than 0.041 in. (1.04mm) may require $\frac{1}{8}$ in. x $\frac{1}{8}$ in. (9.5 x 13 mm) staples to prevent screen breakage	N/A	N/A
$\frac{1}{16}$ in. x 1 in. (4.8 x 25mm) Part no. 102461	SLS - 20 L	N/A	N/A	% in. x 1 in. (4.8mm x 25mm) driven through plastic insert into wood sub-frame	N/A	Mill and Market grade screens with wire diameter more than 0.025 in. (0.64mm)	All ball support screen	

MAINTENANCE

Product leakage.

- Do not stretch seals during installation, because shrinkage will cause gaps and

- Confirm there are no gaps between seal sections or at corners.

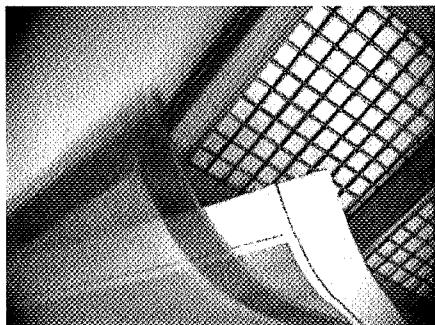
- Seals must be smooth, flat and resilient to control leakage.

- Inspect seals any time the screen is disassembled for screen changes or other maintenance.

- Seals must be properly maintained to control leakage between the top cover, screen frame(s), spacer frame(s) and screen box assembly.

Seals

3.25. Screen Edging



application.

Rotex for information on the proper edging for your temperature and wire screen diameter. Contact and widths, depending on the application, screen edging is available in several materials and widths, depending on the application.

Screen Edging

Hang screen to dry.

If screens are washed, use temperatures less than 140°F (60°C) to prevent damage to the edging.

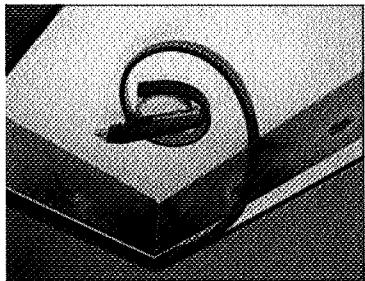
2. Screens should be gently cleaned with an appropriate nylon or steel brush if required.

1. If the screen is removed from the frame, roll it smoothly onto the original shipping tube and store horizontally to avoid crimping or bending.

- Remove any damaged staples.
- Tap all staples to be sure they are firmly attached.
- Staple seal every 3-4 in. (8-10cm) and at corners to prevent leakage.
- Use $\frac{3}{8}$ x $\frac{1}{4}$ in. (9.5 x 13mm) staples.
- Felt seals are used on wood screen frames and spacer frames.

Felt Seals

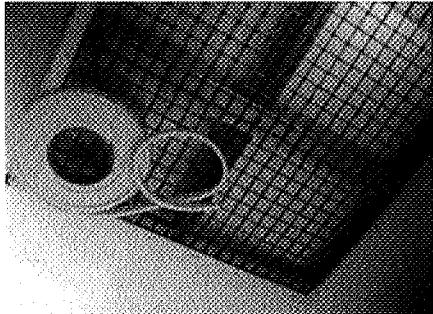
3.27. Installation of Top Cover Seal



- Do not stretch seals during installation since shrinkage can cause leakage.
- Thoroughly clean surfaces before installing new seals.
- Remove all old seals and check seal surfaces for flatness.
- Urethane sponge or rubber seals are normally used on mild steel or aluminum top covers.

Rubber Seals

3.26. Felt Seal



- Remove any damaged staples.
- Tap all staples to be sure they are firmly attached.
- Staple seal every 3-4 in. (8-10cm) and at corners to prevent leakage.
- Use $\frac{3}{8}$ x $\frac{1}{4}$ in. (9.5 x 13mm) staples.
- Felt seals are used on wood screen frames and spacer frames.

Cleaning Storage and

MAINTENANCE



3.3a Mesh Cleaning Ball Table

Material	(inch and mm)	Size	ABRASTION RANGE (F AND C)	FDA APPROVAL	ANIMAL VEGETABLE	OIL RESISTANCE									
						TEMPERATURE DETERIORATION	RESISTANCE TO ABRASION	COLOR	RESISTANCE TO OIL	OPERATION SECTION	ROTEX SECTION	ROTEX SECTION	ROTEX SECTION	ROTEX SECTION	
Rubber	1 1/8 in., 1 3/8 in., 1 5/8 in., 2 in.	White	Excellent	Yes	Good	-20° to 150°F -29 to 66°C	+10° to 180°F +12° to 82°C	Good	Fair	Poor	Good	Good	Good	Good	
Neoprene	1 3/8 in., 2 in.	White	Excellent	Yes	Good	-20° to 150°F -29 to 66°C	+10° to 180°F +12° to 121°C	Good	No	Good	Good	Good	Good	Good	
EPM	1 3/8 in., 1 5/8 in., 2 in.	Black	Good	Yes	White	35, 41, 50mm +10° to 250°F +12° to 121°C	+10° to 250°F +12° to 121°C	Good	Yes	Excellent	35, 41, 50mm +40 to 400°F +40 to 204°C	2 in.	35, 41, 50mm +40 to 400°F +40 to 204°C	2 in.	1 3/8 in., 1 5/8 in., 2 in.
EPM	1 3/8 in., 1 5/8 in., 2 in.	White	Good	Yes	White	35, 41, 50mm +10° to 250°F +12° to 121°C	+10° to 250°F +12° to 121°C	Good	Yes	Excellent	35, 41, 50mm +40 to 400°F +40 to 204°C	2 in.	35, 41, 50mm +40 to 400°F +40 to 204°C	2 in.	1 3/8 in., 1 5/8 in., 2 in.
Silicone	1 3/8 in., 1 5/8 in., 2 in.	White	Good	Yes	White	35, 41, 50mm +10° to 250°F +12° to 121°C	+10° to 250°F +12° to 121°C	Good	Fair	Excellent	35, 41, 50mm +40 to 400°F +40 to 204°C	2 in.	35, 41, 50mm +40 to 400°F +40 to 204°C	2 in.	1 3/8 in., 1 5/8 in., 2 in.
Polyurethane	1 3/8 in., 1 5/8 in., 2 in.	White	Good	Yes	Translucent	32° to 170°F 0° to 77°C	32° to 170°F 0° to 77°C	Excellent	Yes	Good	35, 41, 50mm	Good	35, 41, 50mm	Good	1 3/8 in., 1 5/8 in., 2 in.

Refer to page 17 in Operation Section

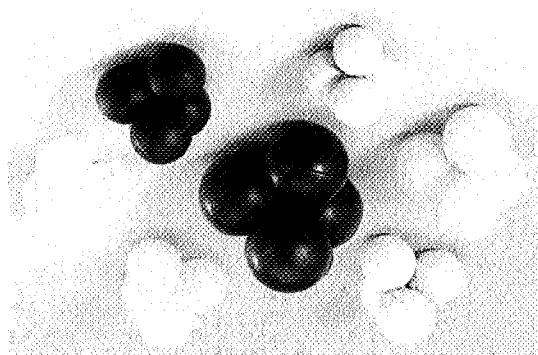
When replacing worn balls, use balls of the same size and material as specified on the spare parts list. If the product or application has changed, contact Rotex for advice and contact Rotex.

NUMBER OF MESH CLEANING BALLS

Mesh cleaning balls are important to the operation of the screen. They control screen binding and sumigung of the screen. Oils, solvents and sumigung agent chemicals can cause balls to swell or become excessively soft. To select the correct ball for these applications, refer to the following table or contact Rotex.



3.28. Mesh cleaning balls



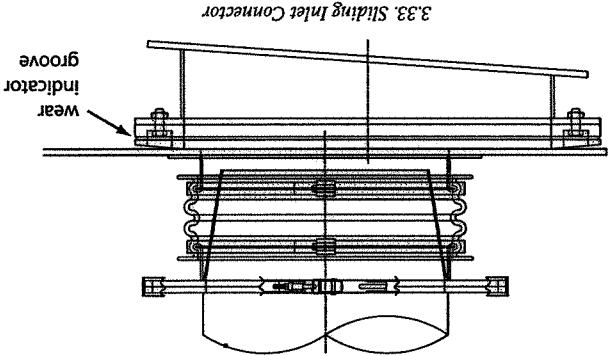
3.29. Ball Wear Table

New Ball Size	REPLACEMENT (WORN) SIZE	2 in. (50mm)	1 3/8 in. (35mm)	1 5/8 in. (41mm)	2 in. (50mm)	1 3/8 in. (35mm)	1 5/8 in. (41mm)	1 in. (25mm)	1 3/8 in. (35mm)	1 5/8 in. (41mm)	1 in. (25mm)	1 3/8 in. (35mm)	1 5/8 in. (41mm)	1 in. (25mm)
1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)	1 1/8 in. (29mm)

To replace balls, remove the screen frame from the screen box assembly.

To help in selecting the proper ball size and material, help in replacing the proper ball size and material.

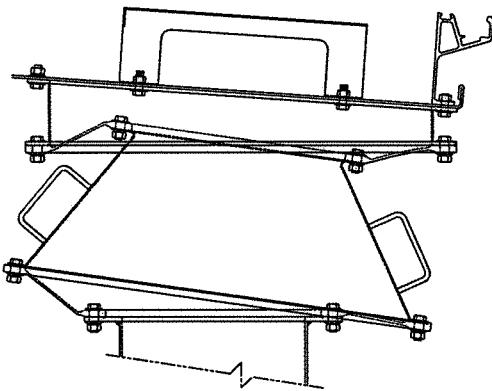
MESH CLEANING BALLS



Inspect the wear ring weekly for wear. Replace the UHMW or Teflon® wear ring when it has worn to the horizontal groove on the side.

SLIDING INLET/OUTLETS

3.32. Nutating inlet



Periodically inspect top and bottom diaphragms for cracks. Premature failure is most often caused by improper installation. Refer to appendix for installation instructions.

NUTATING INLETS

Misalignment is the most common reason for premature failure of a connecting sleeve. Refer to page 10, in the Installation section for alignment instructions.

NOTE

Extremely high or low temperatures will accelerate aging of sleeves, causing a loss of resilience and premature failure. Refer to the following chart for sleeve material recommendations.

NOTE

Replace sleeves by following the procedures on page 9 in the Installation section.

Excessive temperatures or solvent action can cause sleeves to harden or become swollen and sticky. Oil or chemicals attack will also cause early failure. Contact Rotex for help in selecting the proper sleeve material.

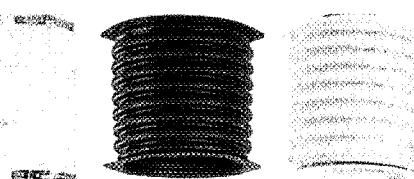
Sleeves that are worn or that have accumulated material as originally specified on the spare parts list must be replaced. Use the same size and material as original.

- Stiffness or cracking of fabric sleeves
- Swelling or stickiness of molded sleeves
- Touches the beaded ring
- Accumulated material where the sleeve touches the beaded ring
- Excessive wear or abrasion
- Tears

Inspect connecting sleeves for the following problems:

MOLDED AND FABRIC SLEEVES

3.31. Molded and fabric sleeves

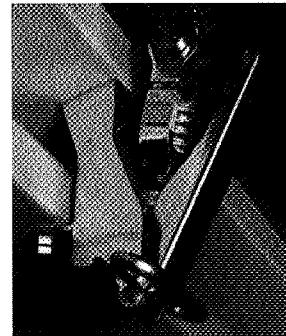


CONNECTORS

MAINTENANCE



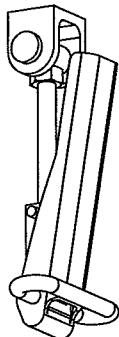
335. Compensating Clamp



C A U T I O N

Excessive pressure is not required to clamp the top cover securely. Never use a prybar to force the handles tight.

336. Old Style Clamp Handle



Clamp Handles - used before 1999

To ensure proper sealing and prevent warping of the top cover and screen frames, make sure that all compensating clamps are installed and the indicator tab is in the green or OK zone when clamped. If the indicator tab is in a red zone, unclamp the assembly to adjust it. Rotate the handle clockwise to tighten or counter-clockwise to loosen. Do not adjust the clamp with the lock nuts.

tab is in the green or OK zone when clamped. To ensure proper sealing and prevent warping of the top cover and screen frames, make sure that all compensating clamps are installed and the indicator tab is in the green or OK zone when clamped. If the indicator tab is in a red zone, unclamp the assembly to adjust it. Rotate the handle clockwise to tighten or counter-clockwise to loosen. Do not adjust the clamp with the lock nuts.

COMPENSATING CLAMPS

Top cover clamps hold the top cover in place and provide uniform sealing pressure on the screen frames. For screeners manufactured before 1999, refer to Appendix for clamp handle installation and adjustment procedures.

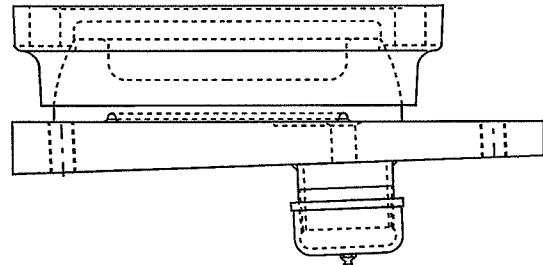
TOP COVER CLAMPS

334. Flexible Connector Table

MATERIAL	COLOR	ABRASION RESISTANCE	TEMPERATURE LIMIT (F AND C)	FDA APPROVAL	ANIMAL	VEGETABLE	FABRIC	
							ANTIWRINKLE	MOLDED
Rubber	Black	Good	150° F 66°C	No	Good	Poor	Nylon, Type C	White
Neoprene	White	Good	180° F 82°C	Yes	Fair	Fair	Nylon, Type D	White
EPM	Black	Good	250° F 121°C	No	Good	Fair	150° F 66°C	66°C
Silicone	Translucent	Poor	400° F 204°C	Yes	Excellent	Excellent	150° F 66°C	66°C
Nylon, Type C	White	Fair	150° F 66°C	No	Good	Good	Nylon, Type C	White
Nylon, Type D	White	Fair	150° F 66°C	No	Good	Good	150° F 66°C	66°C
			400° F 204°C	No	Good	Good	400° F 204°C	66°C
			400° F 204°C	No	Good	Good	400° F 204°C	66°C



3.38. Typical Grease Lubricated Slide Bearing

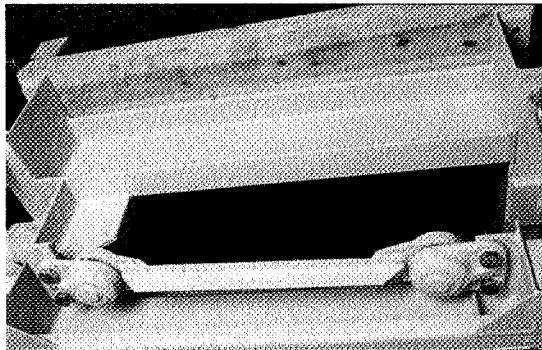


Refer to Appendix for installation and lubrication instructions.

Inspect the underside of the slide plate for scratches and gouges. If the slide plate is damaged, both the slide plate or slide ball will cause faster wear on the other part.

Slide ball and slide plate must be replaced. A damaged slide plate or slide ball will cause faster wear on the slide plate or slide ball.

3.39. Drag Link Assembly

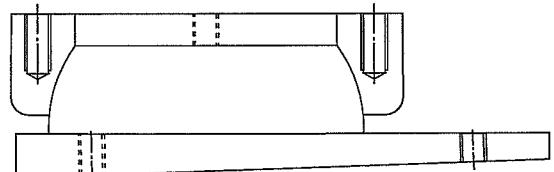


Refer to Appendix for installation and adjustment instructions.

The drag link maintains alignment of the screen box assembly on the feed end to linear motion at the discharge end.

Make sure that the gap between the slide bearings and changes the gyrotory motion at the feed end to linear motion at the discharge end.

3.37. Typical Carbon Slide Bearing



Refer to Appendix for installation instructions.

If the gap is less, replace the carbon slide ball. Make sure that the gap between the slide plate and the slide ball socket is not less than $\frac{1}{8}$ in. (3mm).

Drag Link

Slide Bearings

Maintenance

CARBON BEARINGS

MAINTENANCE



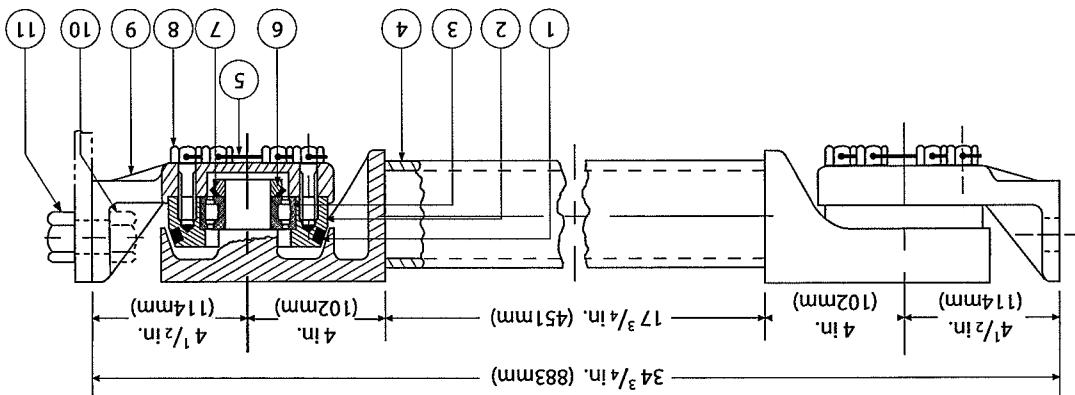
DISASSEMBLY

1. Disconnect and lock out power to the machine.
2. Remove the drag link assembly from the box frame and base.
3. Pack the connecting arm cavity with NLGI No. 2 extreme pressure multipurpose grease.
4. Push bearing and housing housing onto bearing spindle in connecting arm.
5. Install lock washer and lock nut on bearing spindle and tighten. Bend up lock washer tabs.
6. Attach bearing housing retainer.
7. Install brass lock wire in drilled holes in cap screws.
8. Remove the bearing housing and bearing from the spindle.
9. Remove the lock nut and lock washer from the bearing spindle in the connecting arm.
10. Remove the cap screw to release the bearing housing retainer from the connecting arm assembly.
11. Place the assembly in a vice so the cap screws are up. Push bearing and housing housing onto bearing spindle and tighten.
12. Install felt seal in the groove in the bearing housing.
13. Remove the drag link assembly from the box frame and base.
14. Remove the cap screw to release the bearing housing retainer from the connecting arm assembly.
15. Push bearing and housing housing onto bearing spindle in connecting arm.
16. Install lock washer and lock nut on bearing spindle and tighten. Bend up lock washer tabs.
17. Install brass lock wire in drilled holes in cap screws.
18. Push the bearing from the housing.

MAINTENANCE INSTRUCTIONS

ITEM	PART NO.	QTY.	DESCRIPTION
1	3919	2	Felt Seal
2	24167	2	Bearing Housing
3	24133	2	Bearing
4	71172	1	Connecting Arm Assembly
5	6408	2ft. (60cm)	Brass Lock Wire
6	5973	2	Lock Nut
7	5974	2	Lock Washer
8	101202	12	Cap Screw - H/DH - $\frac{3}{8}$ in. NF x $1\frac{1}{4}$ in.
9	71176	2	Bearing Housing Retainer
10	61728	4	Cap Screw - HH - $\frac{7}{16}$ in. NF x $2\frac{1}{4}$ in.
11	35676	4	Lock Nut - $\frac{7}{16}$ in. NF

DRAG LINK ASSEMBLY 77777 (50 SERIES)

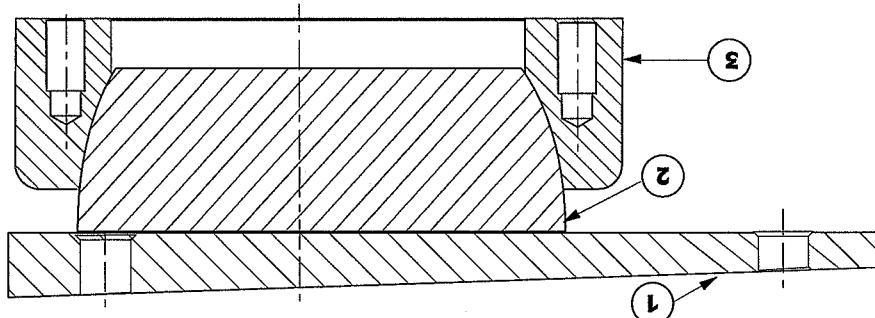


APPENDIX

SLIDE BEARING ASSEMBLY - 18629 (50 SERIES)

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ITEM	PART NO.	QUANTITY	DESCRIPTION
1	17155	1	Slide Plate
2	27153	1	Carbon Slide Ball
3	27184	1	Ball Socket



1. Disconnect and lock out power to the machine.
 2. Make sure all parts are clean and rust free, including the interior and mounting surface of the slide ball socket. Inspect all surfaces of the slide ball and both sides of the slide plate.
 3. Make sure there are no scratches on the ball socket, top surface of the slide ball or bottom surface of the slide plate.
 4. Inspect the slide plate mounting surface on the base frame and the ball socket mounting surface on the base. Both surfaces must be clean and flat to prevent distortion and allow the slide ball to move.
 5. If shims were used under the slide plate or slide ball socket, reinstall the same thickness and quantity in the same position.
 6. Mount socket on base and install ball. The ball should move freely in all directions.
7. Install slide plate. Make sure the cap screws do not extend below the bottom surface.
 8. If the slide plates are tapered, make sure both sides are oriented in the same direction.
 9. Lower the screen box assembly onto the slide ball and check to be sure there is approximately $\frac{1}{16}$ in. (1.6mm) clearance between the slide plate mounting surface and the ball.
 10. Move the screen box assembly through its entire stroke to make sure the slide balls are completely covered by the slide plates. If the slide balls are exposed, adjust the drag link assembly.

MAINTENANCE INSTRUCTIONS

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ROTEX

ROTEX INC.

- (33) in the box frame.
Loosen and remove the sleeve from the crankpin housing provided in the clamping sleeve (31). Use these screws to install three of the removed cap screws in the tapped holes (33) in the box frame.
4. Remove the lock wire (26) and six cap screws (25) from the clamping sleeve (31).
3. Remove the lock wire (26) and six cap screws (25) from the crankpin assembly.
2. Remove crankpin cover bolt (28) and cover (27) from top of screen box
Refer to Drive Head Assembly Drawing on Page 4

1. Remove the discharge-end horizontal drag link from the

MOVING DRIVE HEAD SUB-ASSEMBLY

- 1/2 in.-13 NC forged steel eyebolts for use in lifting drive weight installation of crankpin bearing into crankpin housing (144 mm o.d. x 125 mm i.d. x 127 mm long) steel tube for 5-1/16 in. o.d. x 4-15/16 in. i.d. x 5 in. long
- Plate for installation of bottom bearing into drive weight 7-1/4 in. o.d. x 3/8 in. thick (184 mm o.d. x 10 mm thick) steel installation of top bearing into drive weight
- (146 mm o.d. x 76 mm i.d. x 10 mm thick) steel plate for 5-3/4 in. o.d. x 3 in. i.d. x 3/8 in. thick
- Torque wrench with capacity of 150 ft lb (203 Nm)
- Hydraulic press with capacity of 5000 lb (2272 kg)
- Hoist with capacity of 4,000 lb (1818 kg)

50S drive head:

We recommend the following tools for rebuilding a

Recommended Tools

- Repair the drive in a clean area. When making a complete overhaul, it is good practice to replace all bearings. The ROTEX® 50S drive head has been carefully designed to mount on anti-friction bearings, and parts subject to wear require minimum maintenance. All revolving parts are designed to be replaceable.

DO NOT CHANGE SPEED OF MACHINE WITHOUT

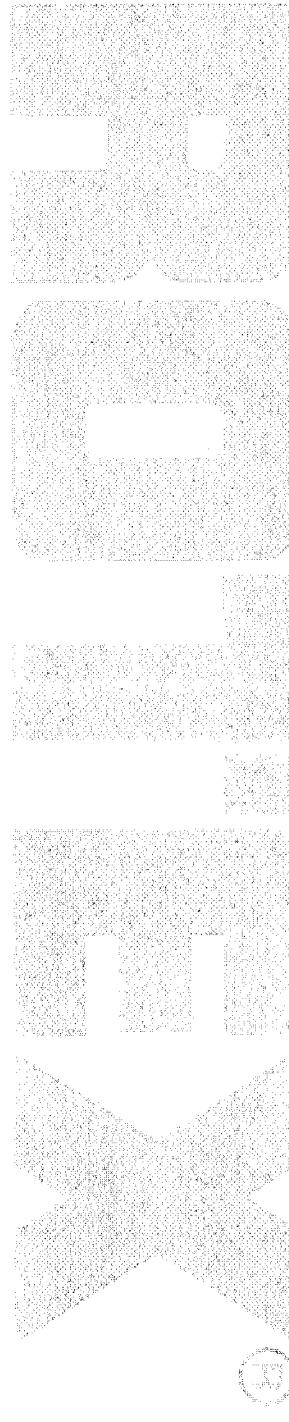
CONTACTING ROTEX INC.

CAUTION -
THIS DRIVE CAN BE USED ONLY ON CABLE SUSPENDED MACHINES.

Maintenance Instructions

50S DRIVE HEAD ASSEMBLY
NO. 175618

ROTEX®
SCREENERS





- REFER TO DRIVE HEAD ASSEMBLY DRAWING**
- Bolt the drive head sub-assembly to the drive mounting plate (18) with eight cap screws (19), conical washers (20) and Loc-tite® 242. Torque the bolts to 130 ft lb (176 Nm).
 - If the drive weight is new, install the plates from the original weight.
 - Install the bottom guards. Carefully hand-rotate the drive head to ensure that there is no interference between the guards and the drive head.
 - Install the sheave and bushing on the motor shaft if they have been removed. Make sure that the belt grooves in the drive weight and on the motor sheave are aligned to each other within 1/16 in. (1.5 mm).
 - Install the three drive belts.
- NOTE: IF YOUR MACHINE IS EQUIPPED WITH LINKED DRIVE BELTS, REFER TO THE SPECIAL MEASURING AND INSTALLATION INSTRUCTIONS ON PAGES 9 AND 10. THESE BELTS CANNOT BE PROPERLY ADJUSTED BY MOVING THE MOTOR BRACKET.**



C A U T I O N : M A K E S U R E T H E R E I S A P P R O X I M A T E L Y 3 / 1 6 " (5 M M) C L E A R A N C E B E T W E E N T H E U N D E R S I D E O F T H E C L A M P I N G S L E E V E (3 1) A N D C R A N K P I N H O U S I N G (3 3) O N T H E B O X F R A M E . W I L L B E T O O L O W A N D C A U S E D A M A G E T O T H E C R A N K P I N I F T H E R E I S N O T S U F F I C I E N T C L E A R A N C E . T H E C L A M P I N G F O R C E W I L L B E T O O L O W A N D C A U S E D A M A G E T O T H E C R A N K P I N H O U S I N G .

- Lower the screen box (34) onto the crankpin housing (33).
- Check to make sure that the belt seal (32) is installed in the crankpin housing (33) in the box frame.
- Lower the screen box (34) onto the box frame.
- Inspect the crankpin and clamping sleeve to make sure the surfaces are in good condition to insure a tight fit.
- Bolt the clamping sleeve (31) to the crankpin housing (33) with six cap screws (25).
- Check to make sure that the drive head to ensure that there is no interference between the guards and the drive head.
- Remove the belt/drive guards as shown on pages 7 and 8.

NOTICE: IF YOUR MACHINE IS EQUIPPED WITH LINKED DRIVE BELTS, REFER TO THE SPECIAL MEASURING AND INSTALLATION INSTRUCTIONS ON PAGES 9 AND 10. THESE BELTS CANNOT BE PROPERLY ADJUSTED BY MOVING THE MOTOR BRACKET.

- Apply Loc-tite® 242 to set screw (15) and install in the centre hole of the crankpin bearing housing (7) to prevent oil leak into the drive weight.
- Coat the bearing surface of the crankpin (37) with oil.
- Hand pack the crankpin bearing (35) with grease.
- Press the crankpin bearing (37) into the crankpin bearing housing (7) using a 5-11/16 in. o.d. x 4-15/16 in. i.d. x 5 in. housing (7) using a 5-11/16 in. o.d. x 125 mm i.d. x 127 mm long steel tube.
- Attach snap ring (36) to the crankpin (37).
- Press the crankpin bearing (37) into the crankpin bearing housing (7) using (14) mm o.d. x 125 mm i.d. x 127 mm long steel tube.
- Install the crankpin bearing assembly to the drive weight using ten button head screws (8) and Loc-tite 242 (14). The crankpin should be offset directly opposite to the cavity until it fills the space beneath the bearing in the crankpin unit until it fits the crankpin cover bolt (30). Pump grease through the fitting (29) in the crankpin cover bolt (30) and grease the drive weight.
- Temporarily install the crankpin cover bolt (30) and grease screen box.
- Install the crankpin bearing assembly to the drive weight using ten button head screws (8) and Loc-tite 242 (14). The crankpin bearing comes out through the top of the bearing.

NOT THE CRANKPIN.

NOTE: APPLY PRESSURE TO THE OUTER RACE OF THE BEARING,

- Press the crankpin bearing (35) into the crankpin bearing housing (7) using (14) mm o.d. x 125 mm i.d. x 127 mm long steel tube.
- Coat the bearing surface of the crankpin (37) with oil.
- Hand pack the crankpin bearing (35) with grease.
- Press the crankpin bearing (37) into the crankpin bearing housing (7) using a 5-11/16 in. o.d. x 125 mm i.d. x 127 mm long steel tube.
- Attach snap ring (36) to the crankpin (37).
- Press the crankpin bearing (37) into the crankpin bearing housing (7) using (14) mm o.d. x 125 mm i.d. x 127 mm long steel tube.
- The outer race of the bearing will stop on the shoulder of the housing.

CRANKPIN ASSEMBLY

- Apply Loc-tite® 242 to set screw (15) and install in the centre hole of the crankpin bearing housing (7) to prevent oil leak into the drive weight.
- Coat the bearing surface of the crankpin bearing (35) with oil.
- Hand pack the top bearing in the bore of the spindle.
- Press the top bearing (5) onto the spindle (2) and into the bore of the drive weight (1).
- Press the top bearing (5) onto the spindle (2) and into the bore of the drive weight (1).
- Attach the snap ring (6) to the spindle.
- Pump grease into the top bearing and make sure that a 1/2 in. (13 mm) thick layer of grease comes out and covers the top of the bearing (5).

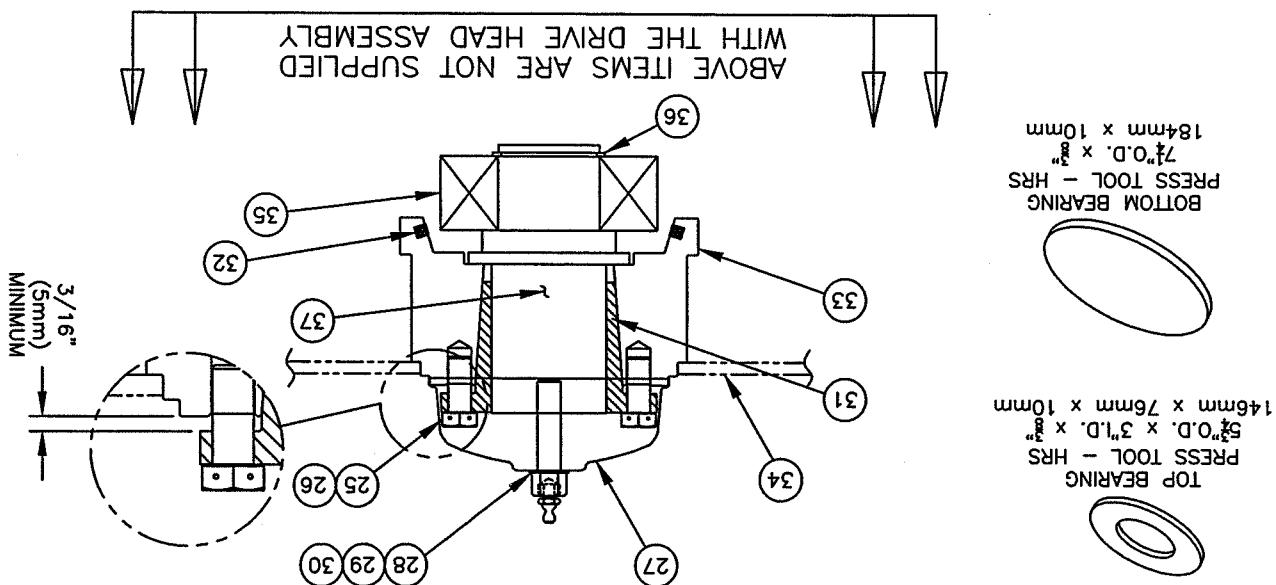
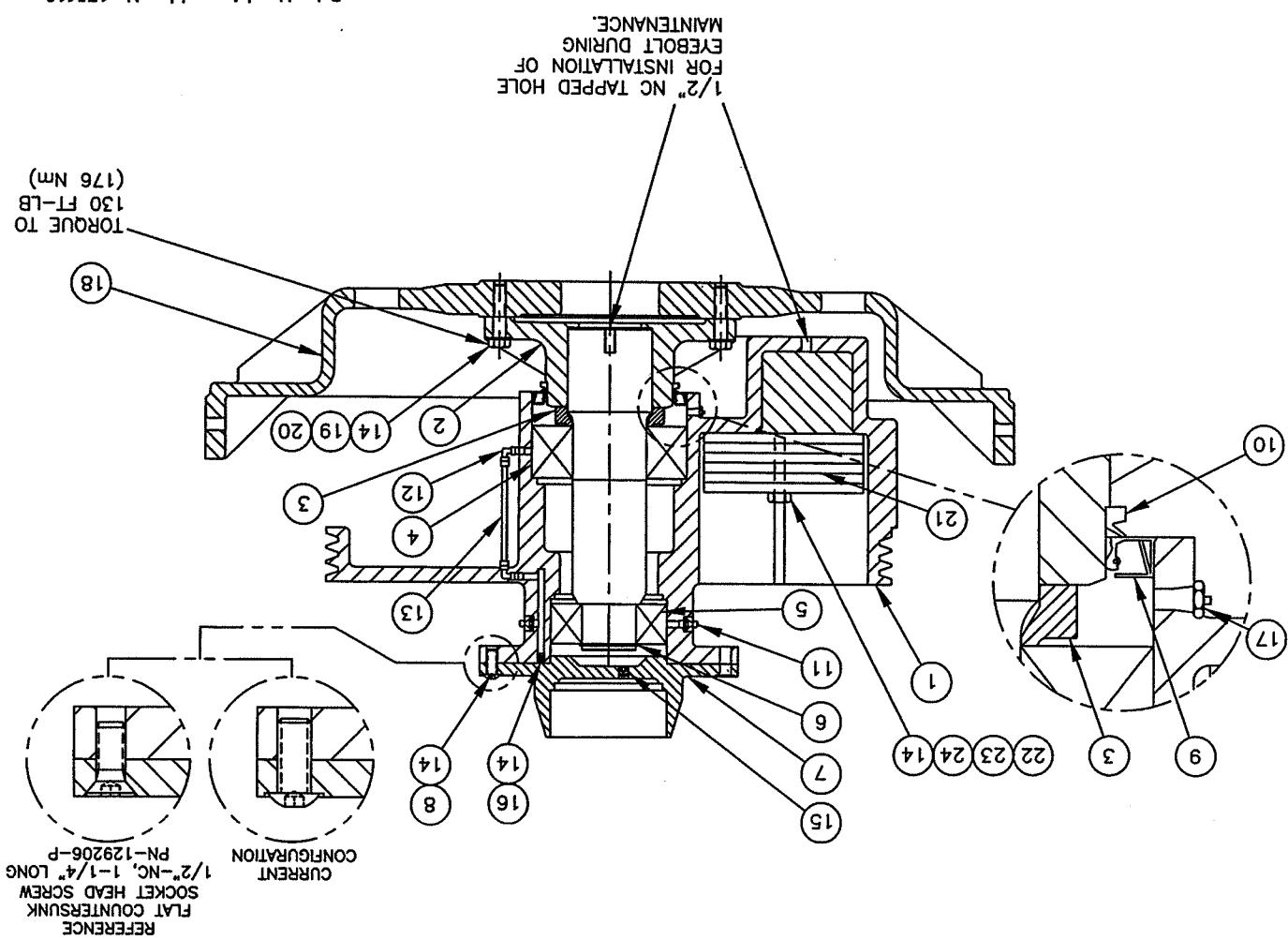
- Press the top bearing (5) onto the spindle (2) and into the bore of the drive weight (1).
- Hand pack the top bearing (5) with grease.
- Press the top bearing (5) onto the spindle (2) and into the bore of the drive weight (1).
- Apply oil to the top bearing surface in the bore of the spindle (2) and into the bore of the drive weight (1).

- Grease the bottom bearing (4) to make sure that a 1/2 in. (13 mm) thick layer of grease comes out and covers the top of the bearing (4).
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- Grease the bottom bearing (4) to make sure that a 1/2 in. (13 mm) thick layer of grease comes out and covers the top of the bearing (4).
- Carefully rotate the drive weight (1) and spindle assembly so that it sits down on the base of spindle. Use external supports, such as wood wedges, under the drive weight to center the weight on the spindle assembly.
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- Carefully rotate the drive weight (1) and spindle assembly so that it sits down on the base of spindle. Use external supports, such as wood wedges, under the drive weight to center the weight on the spindle assembly.
- Press the spindle assembly (2) into the tapped hole in the bottom of the bearing. The spindle (2) can be lifted upside down by using a 1/2 in.-13 NC eye bolt in the tapped hole in the bottom of the bearing. The spindle (2) will stop on the spacer (3) and bottom bearing (4). It will stop on the inner race of the bottom bearing (4) to make sure that a 1/2 in. (13 mm) thick layer of grease comes out and covers the top of the bearing (4).

Drive Head Assembly - No. 175618



13934-1
Drive Head Subassembly

Item	Part No.	Qty	Description
1	14238-D	1	Drive Weight Assembly
2	152322-C	1	Spinidle Assembly
3	139364-B	1	Spacer Ring
4	139369-P	1	Bottom Bearing
5	24437-P	1	Top Bearing
6	133492-P	1	Snarp Ring
7	134034-D	1	Crankpin Bearing Housing - Machined
8	159327-P	10	Screw, But-Soc/Hd — 1/2" NC MS 1-1/4" lg.
9	142155-P	1	LIP Seal
10	128880-P	1	V-Ring Seal
11	8784-P	2	Grease Fitting
12	67436-P	2	Ebowl, 1/4" Tubing to 1/8" NPT
13	137882-X	1	Tubing, Copper — 1/4" X 6-1/4" lg.
14	75357-P	Var.	Locite® 242 or Equivalent
15	9797-P	1	Screw, Set — 1/2" NC MS X 1/2" lg.
16	2296-P	1	Screw, Set — 3/8" NC, Ptd. MS X 3/8" lg.
17	134511-P	1	Relief Fitting
18	142207-E	1	Drive Mounting Plate
19	94463-P	8	Screw, Cap HH — 5/8" NC MS, 2-1/2" lg.
20	120630-P	8	Washer, Conical — 5/8"
21	127637-T	Var.	Plate, Drive Weight — 1/2" thick MS
22	2307-P	2	Washer, Flat — 1/2"
23	4038-P	2	Washer, Lock — Sh Pr — 1/2"
24	4557-P	2	Nut, Hex — 1/2" NC Ptd. MS

The following items may be ordered individually or as a complete crankpin bearing assembly 131410-C	34	—	Head End Sheet — Screen Box Assembly
14	75357-P	Var.	Locite® 242 or Equivalent
15	9797-P	1	Screw, Set — 1/2" NC MS X 1/2" lg.
16	2296-P	1	Screw, Set — 3/8" NC, Ptd. MS X 3/8" lg.
17	134511-P	1	Relief Fitting
18	142207-E	1	Drive Mounting Plate
19	94463-P	8	Screw, Cap HH — 5/8" NC MS, 2-1/2" lg.
20	120630-P	8	Washer, Conical — 5/8"
21	127637-T	Var.	Plate, Drive Weight — 1/2" thick MS
22	2307-P	2	Washer, Flat — 1/2"
23	4038-P	2	Washer, Lock — Sh Pr — 1/2"
24	4557-P	2	Nut, Hex — 1/2" NC Ptd. MS

Assembly No. 175618

505 DRIVE HEAD ASSEMBLY PARTS LIST

LUBRICATION - CRANKPIN BEARING

Grease: Extreme pressure multipurpose type with NLGI No. 2 rating (Nominal base oil viscosity: 166 CST @ 40°C; 875 SUS @ 100°F, with a minimum viscosity index of 95).

Location: Grease at single fitting located on top of crankpin.

Grease: Start up the machine at full operating speed, but be prepared to shut it off quickly if there is noise, check the guards to make sure they are not interfering with the rotating drive weight.

Note: Allow the machine to operate for two or three minutes, then observe the motion of the base relative to the floor. Typically feed-end base motion is elliptical and less than 1 in. (25 mm). Typical discharge end motion is less than 7/8 in. (22 mm). Motion indicates an out-of-balance screen box assembly or the normal machine operation can be identified.

Grease: Every 1000 operating hours.

Note: THE GREASE AND SERVICE INTERVALS SPECIFIED ARE FOR NORMAL OPERATION IN AREAS BETWEEN 40° F AND 140° F (4°-60°C). UNDER SEVERE OPERATING CONDITIONS, OR IF BEARING TEMPERATURES ARE MORE THAN 140°F (60°C), CONSULT ROTEX INC.

Grease: Every 1000 operating hours.

Note: THE GREASE AND SERVICE INTERVALS SPECIFIED ARE FOR NORMAL OPERATION IN AREAS BETWEEN 40° F AND 140° F (4°-60°C). UNDER SEVERE OPERATING CONDITIONS, OR IF BEARING TEMPERATURES ARE MORE THAN 140°F (60°C), CONSULT ROTEX INC.

Start-up of machine at full operating speed, but be prepared to shut it off quickly if there is noise, check the guards to make sure they are not interfering with the rotating drive weight.

External structures, if there is noise, check the guards to make sure they are not interfering with the rotating drive weight.

Allow the machine to operate for two or three minutes, then observe the motion of the base relative to the floor. Typically feed-end base motion is elliptical and less than 1 in. (25 mm). Typical discharge end motion is less than 7/8 in. (22 mm). Motion indicates an out-of-balance screen box assembly or the normal machine operation can be identified.

Grease: The largest base motion occurs during shutdown. Therefore, intermediate problems that may not be seen during start-up or bearing if the seal (32) in the crankpin housing is too tight, shut off the machine and check the area around the crankpin bearing. If the seal (32) in the crankpin housing is too tight, the temperature will be higher than the surrounding area.

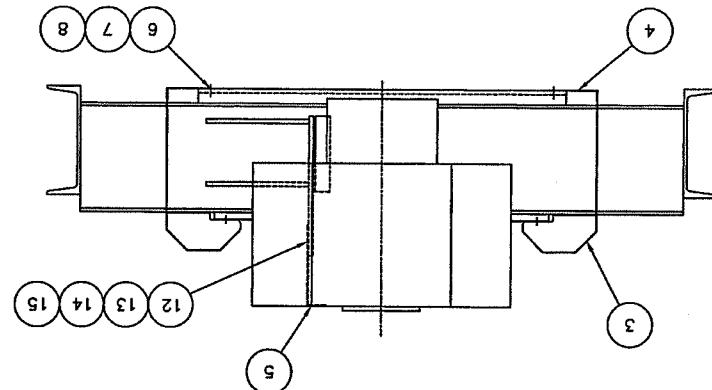
Grease: Grease at two fittings located on the drive weight above the drive guard.

Grease: Extreme pressure multipurpose type with NLGI No. 2 rating (Nominal base oil viscosity: 166 CST @ 40°C; 875 SUS @ 100°F, with a minimum viscosity index of 95).

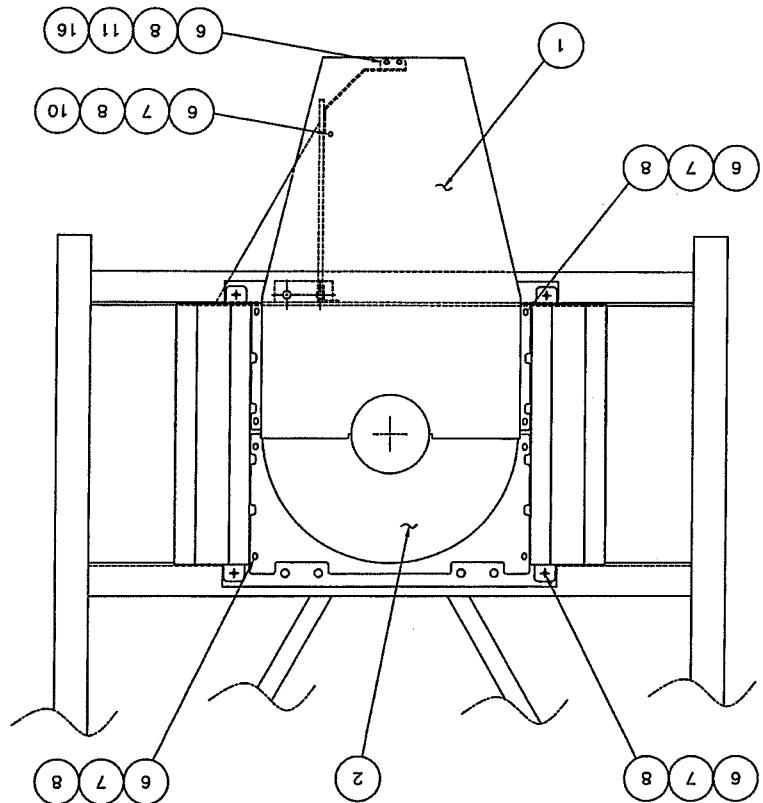
Note: FOR BEARING OPERATING TEMPERATURES MORE THAN 140°F (60°C) THE BASE OIL VISCOSITY MUST NOT BE LESS THAN 40 CST AT THE BEARING OPERATING TEMPERATURE.

Quantity: 13 grams per bearing or approximately 13 pumps from a standard lever-type grease gun.

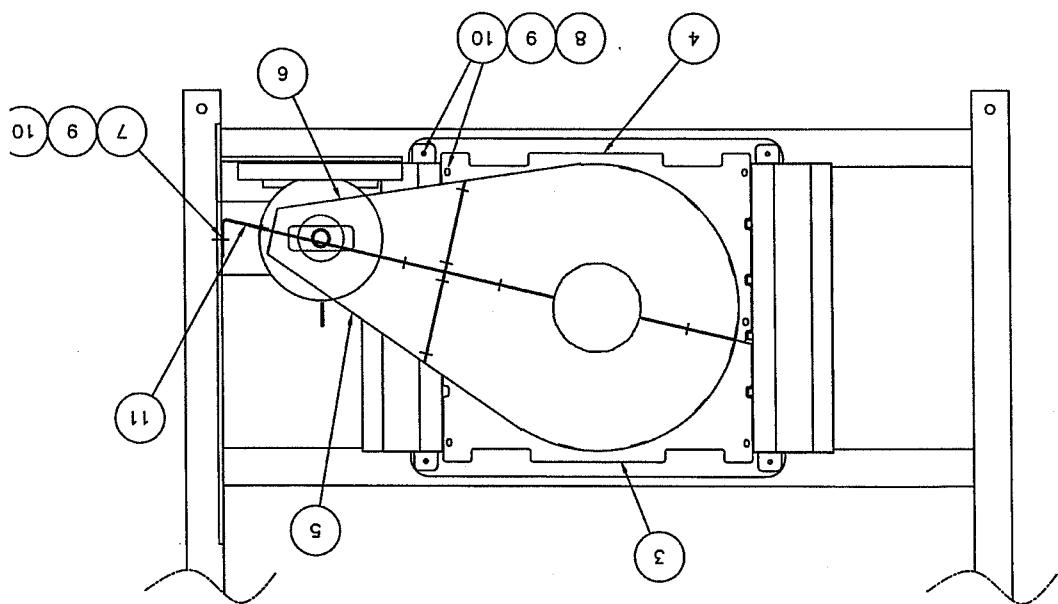
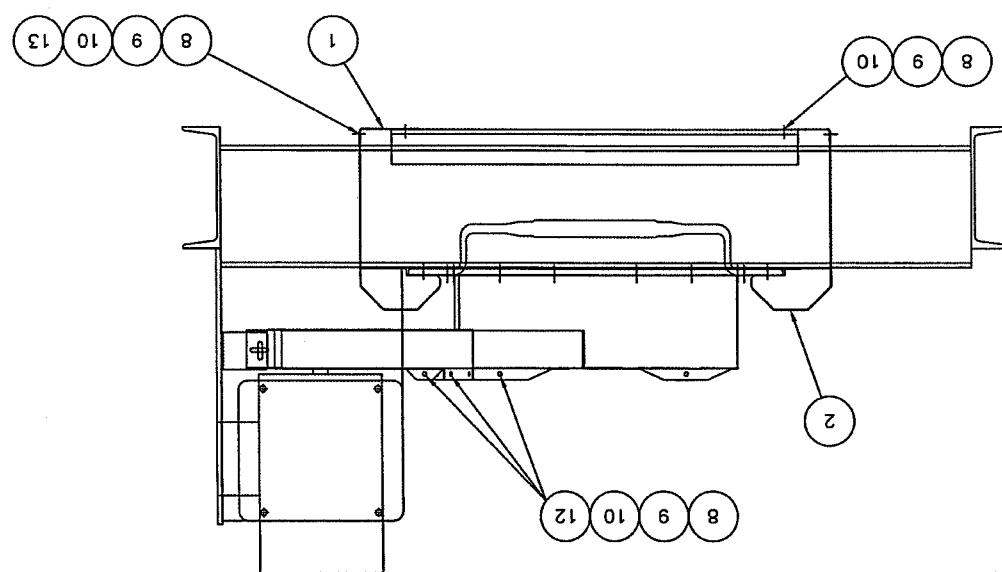
Interval: Every 1000 operating hours.



Item	Part No.	Qty	Description
1	146994-D	1	Front Guard
2	146997-C	1	Rear Guard
3	148960-D	2	Spring Guard
4	148959-C	2	Mass Guard
5	148958-C	1	Bracket
6	26625-P	23	Screw, Cap - 3/8" NC X 3/4" lg.
7	3600-P	21	Washer, Lock - 3/8"
8	7020-P	23	Washer, Flat - 3/8"
9	153739-P	4	Nut, Clip - 3/8" NC for 16 ga. MS
10	91528-P	1	Nut, Clip - 3/8" NC for 10 ga. MS
11	160946-B	1	Guard Brace
12	91470-P	Ref.	Screw, Cap HH - 5/8" NC X 1-1/2" lg.
13	6406-P	Ref.	Washer, Lock - Sh Pr - 5/8"
14	26496-P	Ref.	Nut, Hex - 5/8" NC
15	75357-P	Var	LocTite® 242 or Equivalent
16	12539-P	2	Nut, Hex - 3/8" NC



Assembly No. 175596



Item	Part No.	Qty	Description
1	168344-C	2	Mass Guard
2	168345-D	2	Spring Guard
3	175598-T	1	Guard Weldment - Rear per 175597-D
4	175597-D	1	Guard Weldment - Front
5	175600-D	1	Belt Guard Assy - Rear
6	175599-D	1	Belt Guard Assy - Front
7	91444-P	2	Screw, Cap HH - 3/8" NC X 1-1/4" lg.

13	91528-P	4	Nut, Clip - 3/8" NC
12	12539-P	10	Nut, Hex - 3/8" NC
11	175607-B	1	Formed Angle, 3/16"
10	3600-P	30	Washer, Lock - SH Pr - 3/8"
9	7020-P	30	Washer, Flat - 3/8"
3	175598-T	1	Guard Weldment - Rear per 175597-D
4	175597-D	1	Guard Weldment - Front
5	175600-D	1	Belt Guard Assy - Rear
6	175599-D	1	Belt Guard Assy - Front
7	91444-P	2	Screw, Cap HH - 3/8" NC X 1-1/4" lg.

1. Set motor to middle position of adjustment range and mark the position.
2. Calculate the belt length following the MEASURING instructions.
3. Push motor to minimum center distance by moving it toward the drive head.
4. Install belts following the INSTALLATION instructions.
- Pull motor back to the previously marked middle position.

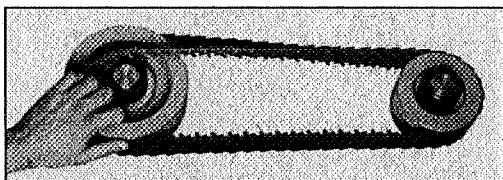
ALTERNATIVE INSTALLATION METHOD

- Check belt tension every 4000 hours and adjust as necessary.
- Check drive tension after the first 24 hours of operation. The belts can stretch and may need to be retensioned.
- Linked belts must be correctly tensioned to operate efficiently.

Maintenance

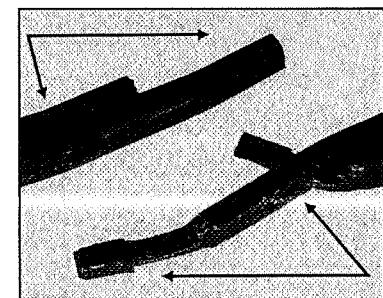
1. Turn belt so tabs are facing to the inside.
2. Fit belt in upper groove of motor sheave.
3. Roll belt onto drive head while turning the drive weight slowly. The belt may seem very tight - this is normal. DO NOT jog the motor.
4. Work belts from groove to groove. It may also be easier to install belts from both the top and bottom of the sheaves.
5. Check to make sure that all tabs are still in correct position and are not twisted out of alignment.

INSTALLATION



LINKED DRIVE BELTS

Number of Links	Number Of Links To Remove After Trial Fitting	Indicated with an arrow.
24 - 35	1	Note: Every tenth link is
36 - 59	2	overlapped the last two holes in matching links as
60 - 83	3	shown. Count the number of links and remove one link for every
84 - 107	4	pull belt tight around sheaves to check "hand-tight" length, and
108 - 131	5	24 (see chart below).
132 - 155	6	Work belts from groove to groove. It may also be easier to
156 - 179	7	install belts from both the top and bottom of the sheaves.
180 - 203	8	Check drive tension after the first 24 hours of operation. The
204 - 227	9	belts can stretch and may need to be retensioned.
228 - 251	10	Check belt tension every 4000 hours and adjust as necessary.



Pull belt tight around sheaves to check "hand-tight" length, and overlap the last two holes in matching links as shown. Count the number of links and remove one link for every pull belt tight around sheaves to check "hand-tight" length, and overlap the last two holes in matching links as shown. Count the number of links and remove one link for every

MEASURING

Caution: Linked belts are not static conducting and caution must be used when operating these belts in hazardous environments.

Installation instructions to install the new belts.

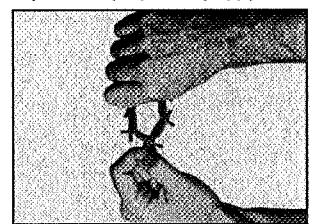
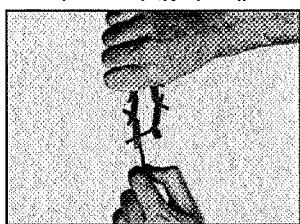
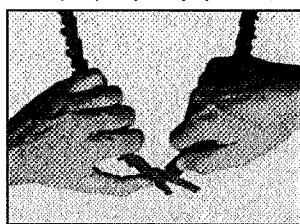
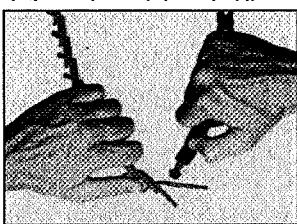
Note: When replacing linked belts, it is not necessary to loosen the motor. Cut off the old belts and follow the

PowerTwist Plus belts, available for Rotex® Screens, are high performance urethane elastomer, reinforced with multiple plies of polyester fabric. They are high strength with low stretch and offer superior resistance to hostile environments.



Hold the belt with one hand and twist one tab 90 degrees so it is parallel with the slot.

1. Hold belt upside down and bend it back as far as possible.
2. Pull end of link over tab.
3. Rotate belt end with tab 90 degrees.
4. Pull belt end through two links.

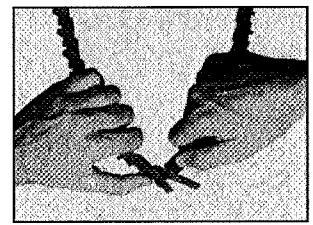
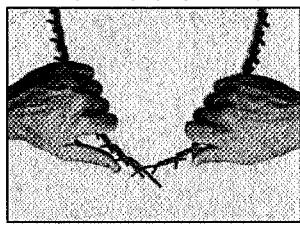
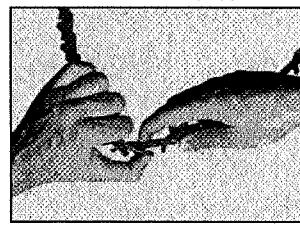
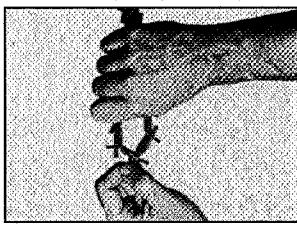


DISASSEMBLY



4. Make sure the tab returns to its correct flat position across the belt. Reverse belt so tabs are on the inside.

1. Hold belt with tabs pointing outward.
2. Place end tab through second tab so the end link by twisting tab with thumb.
3. Bend belt end and insert two links.
4. Make sure the tab returns to its correct flat position across the belt. Reverse belt so tabs are on the inside.



ASSEMBLY



POSSIBLE CAUSE	CORRECTIVE ACTION
Seal strips not installed correctly	Check to make sure there are no gaps along sides or at the corners.
Warped or distorted top cover	Check to make sure seal holder on top cover is flat and in good condition.
Top cover clamps missing or not installed correctly	Make sure all cover clamps are installed and adjusted.
Excessive pressure	Make sure pressure is not higher than 3 in. water column (0.75 kPa) for standard design machine.
	Add vent connection to top cover.
	Install secondary seal on top cover.

PROBLEM: Dust or Product Leakage Around Top Cover:

POSSIBLE CAUSE	CORRECTIVE ACTION
Incorrect or damaged connecting ring	Check to make sure connecting ring is Rotex design and is in good condition.
Chemical or solvent action such as softening or crumbling	Substitute another material. Contact Rotex for recommendations.
Abrasion wear	Retrofit to Rotex Slider Inlet or Nutating Inlet.
Temperature - either too high or too low	Check to make sure sleeve material is acceptable for the product temperature. Refer to connector chart in the Maintenance section.
Misalignment - either horizontal or vertical	Adjust piping alignment per instructions in installation section.
	Use coned inlet/outlet rings. Contact Rotex for availability.
	Retrofit to Rotex Slider Inlet or Nutating Inlet.
	Substitute another material. Contact Rotex for availability.
	Check to make sure connecting ring is Rotex design and is in good condition.

PROBLEM: Connecting Sleeve Failure:

POSSIBLE CAUSE	CORRECTIVE ACTION
Screener operating empty	Stop machine within 10 minutes after feed has stopped.
Excessive speed	Make sure screen speed is correct. Refer to Standard Operating Speed table in Operation section.
Screen clothining not installed	Make sure screen is installed (centered) so the edging projects the screen from direct contact with the screen frame. Refer to Screen Installation in Maintenance Section.
Lose screen clothining	Replace screen tension clips on Automatic-Tensioning screeners. Replace screen with higher tension clips. Contact Rotex for recommendation.
Bent or crimped screen	Carefully handle and store screen on a tube or flat to prevent damage.
Incorrect selection of screen and/or screen edging	Contact Rotex for screen and edging recommendations.
Screen not made to specification	Check to make sure screen is from Rotex.
Incorrect cleaning	Use nylon bristle brush on fine synthetic and stainless steel screens. Wash screen with water temperature less than 100°F (38°C) to prevent damage to edging.
Chemical damage	Use different stainless steel alloy (316 SS) or synthetic screen when premature failure is suspected.

PROBLEM: Screen Failure - General



POSSIBLE CAUSE	CORRECTIVE ACTION
Screener operating empty	Stop machine within 10 minutes after feed has stopped.
Abrasion wear caused by Contact Rotex for recommendation on screen with larger wire diameter.	Use longitudinal center strips and/or lateral strips to reduce wear between screen and screen frame.
Impact damage that causes large installed and in good condition. Check to make sure that spreader under the inlet is rugged holes, often at the feed end of the screener	Use nylon bristle brush on fine synthetic and stainles steel screens.
Chemical damage	Use different stainless steel alloy or synthetic screen when premature or crumbling failure is seen.
Bent or crimped screen	Carefully handle and store screen on a tube or flat to prevent damage.

PROBLEM: Screen Clotting Failure - In Center of Screen



POSSIBLE CAUSE	CORRECTIVE ACTION
Excessive action of mesh Reduce the number of mesh cleaning balls, especially at the discharge end of the screen frame. Use only the minimum number of balls to control screen blinding.	Check to make sure hardness of mesh cleaning balls is in durometer range of 40 to 60A. Use wider edge (2 in. [50mm]) with screen having wire diameter of less than 0.010 in. (0.25mm). Contact Rotex for recommendation on ball size and number of balls per screen frame pocket.
Cleaning balls that causes flexing and fatigue failure	Stop machine within 10 minutes after feed has stopped.
Screener operating empty for long period of time	Stop machine within 10 minutes after feed has stopped.

PROBLEM: Screen Failure - Along Edging



POSSIBLE CAUSE	CORRECTIVE ACTION	POSSIBLE CAUSE	CORRECTIVE ACTION
Wire diameter of screen is too large for effective cleaning by percentage of open area.	Select screen with smaller wire diameter and increased maintenance section.	Mesh cleaning balls worn, not replaced balls. Refer to Screen / Ball Size table in Operation Manual.	Replace mesh cleaning balls worn, not replaced balls. Refer to Screen / Ball Size table in Operation Manual.
Wire diameter of screen is too crumple.	Check to make sure the ball material is acceptable for the product temperature. Refer to the ball chart in the Temperature table.	Mesh cleaning balls worn, not replaced balls.	Replace mesh cleaning balls worn, not replaced balls. Refer to Screen / Ball Size table in Operation Manual.
Wire diameter of screen is too small. Refer to Screen / Ball Size table in Operation Manual.	Select screen with smaller wire diameter and increased maintenance section.	Replace screen tension clips on Automatic-Tensioning frame.	Install higher tension clips. Contact Rotex for recommendations.
Low screen tension that allows the screen to sag on the screen frame.	Replace screen tension clips on Automatic-Tensioning frame.	Replace screen with missing or loose grommets.	Retension clothring on General-Purpose machines.
Worn screen frame	Check condition of screen frame. Worn or flat bevels will reduce action of the ball mesh cleaning system.	Feed rate too high for effective ball mesh cleaning application.	Contact Rotex for recommendation on your specific application.
Change in particle characteristics, including:	Change screen opening, wire diameter or material.	Change number and/or size of mesh cleaning balls.	Contact Rotex for recommendations on your specific application.
Change screen opening, wire diameter or material.	Change screen speed.	"near size" material especially size distribution,	◆ static charge ◆ oil content ◆ moisture ◆ shape ◆ density

PROBLEM: Screen Blinding or Peggling

POSSIBLE CAUSE	CORRECTIVE ACTION	POSSIBLE CAUSE	CORRECTIVE ACTION
Temperature too high or low that causes balls to harden and the product temperature. Refer to the ball chart in the Temperature table.	Check to make sure the ball material is acceptable for the product temperature. Refer to the ball chart in the Temperature table.	Chemical, oil or solvent exposure that causes crumpling, softening or swelling.	Substitute another material. Contact Rotex for recommendations.
Wire diameter of screen is too crumple.	Check to make sure the ball material is acceptable for the product temperature. Refer to the ball chart in the Temperature table.	Exposure that causes crumpling, softening or swelling.	Replace screen tension clips on Automatic-Tensioning frame.
Wire diameter of screen is too small. Refer to Screen / Ball Size table in Operation Manual.	Select screen with smaller wire diameter and increased maintenance section.	Screeners so screen is flat.	Install higher tension clips. Contact Rotex for recommendations.

PROBLEM: Mesh Cleaning Ball Wear

TROUBLESHOOTING GUIDE

POSSIBLE CAUSE	CORRECTIVE ACTION
Poor product distribution on screening deck	Check to make sure feed is centred in inlet and velocity is low enough to allow adequate product retention on the deck.
Reverse direction of rotation.	Check condition of spreader beneath inlet.
Reduce action of mesh cleaning balls when deck is fed with small quantity of material.	Install center baffle on top cover to retain material on each side.

Product "Tricking"

Overfeeding because of change in particle size	Reduce feed rate.
Poor product distribution on screening deck	Check to make sure feed is centred in inlet and velocity is low enough to allow adequate product retention on the deck.
Excessive vent volume	Reduce vent volume to 200-300 cfm (5.7-8.5 m ³ /min) to control product fluidization.
Worn screen frame(s)	Replace screen frame(s).
Worn screen frame(s) and Maintenance sections.	Replace screen tension clips on Automatic-Tensioning machines or re-tension screen on General-Purpose units. Select higher tension clips. Contact Rotex for recommendation.
Low screen tension that allows the screen to sag on the screen frame.	Replace screen tension clips on Automatic-Tensioning machines or re-tension screen on General-Purpose units. Select higher tension clips. Contact Rotex for recommendation.
Wrong screen frame(s)	Replace screen frame(s).
Worn mesh cleaning balls	Replace mesh cleaning balls. Refer to Screen / Ball Size table in Operation and Maintenance sections.
Change in particle characteristics, including:	Change number and/or size of mesh cleaning balls. Contact Rotex for recommendation on your specific application.
Change in screen opening, wire diameter or material.	Contact Rotex for recommendation on your specific "near size" material.
Change in particle size distribution,	especially an increase in "near size" material.
Change speed.	Change speed.
• density	• density
• shape	• shape
• moisture	• moisture
• oil content	• oil content
• static charge	• static charge

Problem: Low Screening Efficiency or Product Yield



POSSIBLE CAUSE	CORRECTIVE ACTION
Check ball socket mounting surface on base for flatness with a machinist straightedge or steel rule. A warped socket can cause the ball to lock. Install shims as necessary.	Check ball socket mounting surface on base for flatness with a machinist straightedge or steel rule. A warped socket can cause the ball to lock. Install shims as necessary.
Ball not free to move in slide ball socket	Apply grease to ball and socket per slide bearing installation instructions in Appendix.
Rough slide plate caused by rust or contact with slide ball socket.	Replace slide plate. Replace slide plate.
Smooth. Replace if necessary.	Inspect interior of slide ball socket to make sure it is smooth. Replace if necessary.

PROBLEM: *Slide Ball Wear - Carbon Type*

POSSIBLE CAUSE	CORRECTIVE ACTION
Worn or damaged seal surfaces	Check flatness of seal surfaces, including hopper partitions, using a square and straight steel bar. Repair or replace.
Worn or damaged screen assembly	Check flat portion of hopper partition(s) to make sure seal makes complete contact.
Gap between screen edge and discharge end	Check screen tension clips to make sure grommets are not rising on tip of clips. Replace or slightly bend tip of clip so grommet is pulled down.
Screen frame jacks are too tight	Add extension or flap to edge.
Per instructions in Maintenance section.	If machine is equipped with screen frame jacks, adjust jacks

PROBLEM: *Product Contamination or Leakage*



POSSIBLE CAUSE	CORRECTIVE ACTION
Clamps not correctly adjusted	Adjust compensation clamps so indicator tab is in green zone.
Not all clamps are installed	Make sure all clamps are installed, since operating with fewer clamps increases the load on remaining clamps.
Top cover moves because it is not correctly jacked	Make sure jack bolts are installed and tightened against jack plates on top cover.

PROBLEMS: Clamp Breakage

POSSIBLE CAUSE	CORRECTIVE ACTION
Worn Slide Ball	Replace Slide Ball
Not sufficient lubrication	Refer to Slide Ball Wear above.
Rough slide plate	Ball not free to move in socket

PROBLEMS: Hot Slide Bearing - Greased Metal & Carbon Types

POSSIBLE CAUSE	CORRECTIVE ACTION
Ball not free to move in slide	Apply grease to ball and socket per slide bearing installation instructions in Appendix.
Rough slide plate caused by rust or contact with slide ball socket.	Replace slide plate.
Incorrect lubricant	Lubricate weekly with EP 2 grease containing molybdenum anti-wear additive. Refer to grease specification in slide bearing installation instructions in Appendix.
Not sufficient lubrication or incorrect lubricant	Lubricate weekly with EP 2 grease containing molybdenum anti-wear additive. Refer to grease specification in slide bearing installation instructions in Appendix.

PROBLEMS: Slide Ball Wear - Greased Metal Type

TROUBLESHOOTING GUIDE	
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POSSIBLE CAUSE	CORRECTIVE ACTION
Too much oil in gear type drive head, with leakage usually around the pinion shaft.	Check and adjust oil level. Refer to Lubrication recommendations in Appendix.

PROBLEM: Oil Leakage.

POSSIBLE CAUSE	CORRECTIVE ACTION
Cable assemblies too long or not correctly tensioned	Make sure cable assemblies are not longer than 120 in. (3m) to prevent excessive motion or "whipping". Adjust turnbuckles so all cables have the same tension.
Broken spring pack assemblies failed.	Replace all spring pack assemblies when one assembly has failed.
Drive head counterweights not equipped with gear-type drive head	Refer to Appendix for timing instructions for your specific drive head.
Excessive speed	Make sure screener speed is correct. Refer to Standard Operating Speed table in Operation section.
Product buildup in bottom pan	Clean bottom pan.
Product buildup in screen assembly	Contact Rotex for recommendations.
Product buildup in screen box	Confirm outlets are correctly sized for the volume.
Incorrect drive head counterweights	Install correct counterweights after weight of screen box is determined.
Unbalanced screen box assembly	Contact Rotex to determine correct weight for use with specific drive head.
PROBLEM: Excessive Vibration or Base Motion.	Copyright © 2004, Rotex, Inc.

TROUBLESHOOTING GUIDE





POSSIBLE CAUSE	CORRECTIVE ACTION
Loose drag link assembly	Repair or replace.
Excessive speed	Make sure screen speed is correct. Refer to Standard operating Speed table in Operation section.
Loose bumper bolts on screen frames if machine is equipped with roller jacks.	Adjust bumper bolts on screen frames if machine is equipped with them.
Make sure screen frame jacks are tight if screener is top cover jack plates. Tighten lock nuts.	Make sure all top cover clamps are firmly installed against top cover jack plates. Tighten lock nuts.
Loose top cover, screen frame(s) or spacer frame adjusted.	Make sure all top cover clamps are installed and correctly adjusted.

PROBLEM: *Noisy machine*



POSSIBLE CAUSE	CORRECTIVE ACTION
Incorrect spacing between ring and cone assembly and inlet receiver.	Adjust spacing per installation instructions in Appendix.

PROBLEM: *Slider Sleeve Failure.*



POSSIBLE CAUSE	CORRECTIVE ACTION
Incorrect vertical spacing between ring and cone assembly and inlet receiver.	Adjust vertical spacing between the two assemblies so the connecting sleeve is compressed to the specified dimension. Refer to installation instructions in Appendix.
Incorrectly installed inlet receiver or ring and cone assembly.	Make sure ring and cone assembly and inlet receiver are installed horizontal.
Too much pressure inside machine.	Reduce internal pressure to not more than 3 in. water column (0.75 kPa).
Worn or warped slider ring	Check slider ring for rough surface and flatness. Replace if necessary.
Worn wear ring	Replace wear ring when it is worn to horizontal groove.

PROBLEM: *Slider Inlet Leakage*





Box Frame: The structural assembly of the screen that is attached to the drive head and holds the screen frame(s). When the bottom pan is attached to the box frame, these two components become a screen box assembly.

Bottom Pan: Mild steel or stainless steel hoppers under the screen media through which screened materials are discharged.

Bondrite Edging: A woven fabric tape folded over the perimeter of the screen cloth binding the longitudinal or lateral screen frame members and attached with an adhesive. It also may be applied as protective strips located over the longituinal or lateral screen frame members.

Boltling Cloth: See Tensile Boltling Cloth

Blinding: Any condition that prevents the passage of undersize material and reduces the open area of the screen medium. Common reasons are nearsize particles and adhesion caused by moisture, static, particle shape and oil or fat content. Also see Pegging.

Belt Guard: A protective enclosure around the drive system.

Bed Depth: The thickness of material on the screen media.

Base: The structural support members of the screen that are rigidly attached to the plant's foundation or suspended by cables from an overhead structure.

Ball Support: A wire screen or perforated plate on the bottom of the screen frame that retains mesh cleaning balls below screen media.

Balls: Resilient balls in the screen frame that bounce against the underside of the screen media to control blinding. (Also see Slide Balls.)

Aperture: The size of the individual openings in screen media, defined in inches or microns, through which material can pass.

Angle of Repose: The angle of material on a normal freely formed pile.

Amplitude: See Stroke.

Accuracy of Separation: One of the principal considerations for evaluating screen performance. To determine the accuracy of separation, a particle size analysis of a screen fraction is conducted to determine the amount of oversize material within the screen fraction. This analysis is usually presented as a percentage of oversize in the fraction.

Abrasion Resistance Lining: Replaceable wear panels, including ultra high molecular weight (UHMW) polyethylene, urethane or mild steel/stainless steel. Generally used in chutes and discharge hoppers.

GLOSSARY OF SCREENING TERMS





allow for cable suspension.

Corner Support Stand: Floor mounted structures located at each corner of a screen to

equipped with a bead on one end for attachment of connecting sleeves.

Connecting Ring: A mild steel or stainless steel ring welded to the screen or piping and

gauge to indicate when the clamping force is correct.

Compensating Clamps: A spring loaded, self-adjusting top cover clamp equipped with a

each other and cause the opening to become blinded.

because of static, moisture, oil or other attraction. Such particles usually build up on coating. A blinding condition where undersize particles cling to the screen clothing

Clothing: Woven wire screening media with square or rectangular openings.

(Syn.: Aperture)

Clear Opening: The distance between the inside edges of two parallel wires of a screen.

screener. (Also see Compensating Clamps.)

Clamp Handles: Toggle type clamps that secure the top cover to the box frame of the

against wear along the longitudinal members of the screen frame.

Center Strips: Bondite or plastic strips often applied to finer screen clothing to protect

Slide Balls, Slipper Balls)

the screen box assembly at the discharge end of the screener. (Syn.: Slide Balls, Carbon Carbon Slide Bearings (Balls): The hemispherical carbon-graphite bearing that supports

product rate produced by the machine.

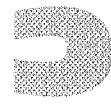
material. Note that capacity is always stated as the feed rate to the screener, not the to screening efficiency, accuracy of separation and particle size distribution of the feed specified, steady state conditions. Capacity statements cannot be made unless related

Capacity: The volume or mass flow of material that a screener can handle under

horizontal out-of-balance forces.

Cable Suspension: An installation method using wire rope cable assemblies to suspend a screener from overhead supports. Cable suspension isolates or reduces transmission of

Cable Assembly: Forged steel and stainless steel wire rope support stand.



GLOSSARY OF SCREENING TERMS





the total feed rate to the screener.

Note: Yield is the amount of material separated as product, and is expressed as a percentage

$$\text{Product Recovery Efficiency} = \frac{\text{Percent on-size available in feed}}{\text{Percent on-size in product} \times \text{Percent product yield}}$$

Product recovery efficiency will be less than raw efficiency. More representative because it factors in the percentage of on-size material. Therefore, to the amount of undersize material available in the feed. Product recovery efficiency is efficiency: In basic terms, efficiency is the ratio of material passing through the screen

Edging and Metal Edging. Edging: Fabric, plastic or metal material attached to the perimeter of screen clothings to allow mounting on a screen frame. (Also see: Bondite Edging, High-Temperature Edging)



Drives must be cable suspended. Drives suspended by the machine's natural base motion. Screens with Dynamic Absorber sides of the drive. The drive is not motor driven, rather it absorbs energy when set in motion by the machine's natural base motion.

Dynamic Absorber Drive: A patented drive based on the construction of a single weight drive, combined with a dynamic absorber that is harmonically tuned to the operating frequency of the screen.

Motion using an offset crankpin.

Drive Head: The mechanical drive on a Rotex screener that generates the gyratory

Rotex base at the discharge end. Sometimes referred to as a stabilizer bar. Drag Link: The horizontal arm that connects the moving screen box assembly to the

Discharge End: The discharge end of the machine.

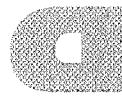
Discharge Chute: A sloped chute to convey material out of the machine at the discharge end. Chutes may discharge to the side or parallel to the screen deck.

itself.

Degradation: The breakage of material caused by handling, sometimes in the screener machine, such as a single deck, double deck or two-deck, etc., machine.

Deck: The screening surface. Often used to describe the number of surfaces within a machine, such as a single deck, double deck or two-deck, etc., machine.

DX Drive: See Dynamic Absorber Drive.



GLOSSARY OF SCREENING TERMS



Hopper: The mild steel or stainless steel collection chamber on the bottom of the screener for discharging separated material. (Also see: Bottom Pan.)



Gyratory Motion: The long stroke circular motion on Rotex and Megatek screens. Is particularly effective at spreading and stratifying material to produce efficient separations. This high force motion also contributes to effective ball mesh cleaning of separations.

Grommets: Round or oval metal eyelets applied to the screen edge on Automatic-

Grading: The separation of material on single or multiple screen surfaces to produce particle size distribution of the feed, the separation(s) to be made, and the product grades with distinct particle size limits. Capacities will vary depending on the size classifications.

Grader Chip Classifier: A patented wood chip analyzer for automated thickness and chip size classification in a woodroom or chip production facility.

Grade 2000: A patented sieve analyzer using a PC control to automate weighing, calculation and cleaning processes.

Gear Drive: A Rotex drive head using gears to rotate the internal counterweights.

Gauge: The thickness of metal, or less common, the specification for wire diameter number." Metric and decimal specifications for wire thickness are preferred over "gauge number."



Frequency: Number of times a peak-to-peak amplitude occurs per unit of time, usually stated as RPM or CPM.

Fines Removal: The removal of a low percentage (typically less than 10%) of material that is considerably smaller than the average particle size of the feed.

Fines: Particles smaller in size than the screen clothings openings. Also called throughs and undersize.

Feed Rate: The amount of material entering the screener.

Feed End: The inlet end of the screener where material enters.



GLOSSARY OF SCREENING TERMS



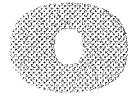


$$\text{Percent Open Area} = \left(\frac{\text{opening}}{\text{opening} + \text{wire diameter}} \right)^2 \times 100$$

For screens not specified by mesh, open area is calculated as:

$$\text{Percent open area} = (\text{opening} \times \text{mesh count})^2 \times 100$$

Open Area: The ratio of the area of the screen openings to the total area of the screen and stated as a percent. For screens specified by mesh, open area is calculated as:



Nutating Inlet: An inlet connector consisting of a mild steel or stainless steel cone longer life than conventional molded or fabric connecting sleeves, suspended between two flexible rubber diaphragms. The unique patented design offers



Near Size: Particles that are very close to the screen opening, generally within a ±25%

Mill Grade: A group of screens having the same mesh count. Mill grade screens offer a good balance of open area and wear life in the 425 to 5500 micron range (4 to 40 U.S. mesh).

Metal Edging: Mild steel or stainless steel edging on wire screens where the wire diameter, opening or temperature does not allow the use of bonding or plastic edging.



Mesh Cleaning Balls: See Balls

Mesh: Screening media with uniform size and shape fabricated of woven or perforated material. Also the number of openings, or fractional openings, per linear inch, as measured from the center of one wire to a point one inch away.



Market Grade: A group of screens with larger wire diameters than Mill Grade and Tensile Bolting Cloth grades with the same mesh count. As a result, market grade screens have a lower percentage of open area.



Inspection Port: Access openings on the top cover for inspection of the screen surface. Generally 10 in. (25cm) diameter and equipped with a stainless steel cap and resilient insert to provide a tight fit.

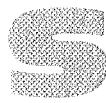


Inlet: The entry location on the top cover of the screen.

GLOSSARY OF SCREENING TERMS

Scalping: The removal of a low percentage of oversize (typically less than 5%) from feed containing more than 50% fines less than half the size of the screen opening.

SGN: See Size Guide Number.



Ring: A mild steel or stainless steel ring, welded to the screen surface, with a bead on one end for attachment of connecting sleeves. (Also see Connecting Ring.)

Retention Time: The time the material remains on the screen surface.

Refects: Undesirable material, either oversize or undersize.



Rate of Travel: The conveying rate of material over the screen surface, usually expressed in feet or meters per minute.

Product: The desired material produced by the screener.

Plug-in Seal: A resilient seal used on Rotex and Megatek screens that is held in place by friction in a seal holder. Various compounds are available depending on the application, temperature, and design of the top cover and screen frame(s).

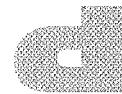
Plugging: The wedging or jamming of particles in screen media that prevents the passage of undersize material. (Also see Blinding, Coating and Pegging.)

Plastic edging: Clear flexible edging around the perimeter of a wire screen.

Plain Wave: Wire cloth in which each warp and weft (shout) wire passes over one and under the next adjacent wire in both directions.

Perforated Plate: Mild steel, stainless steel or plastic screen media with punched holes.

Pegging: See Blinding.



Particle Distribution: The size range of a material, stated as percentages retained on specific testing sieve openings.

Overs: Material that has passed over the screen. (Also see Tallying.)

Outlet: The exit location on the bottom pan for the separated material.



GLOSSARY OF SCREENING TERMS

**Slide Ball, Slipper Ball**

construction is available, depending on application and machine design. (Syn.: Carbon discharge end of the screen box assembly. Self-lubricating carbon or greasable cast iron slide ball: The part of the slide bearing assembly under the slide plate that supports the

Sleeve: A molded or flexible fabric connector.

160 to 280. Also see Uniformity Index (UI).

through computer-aided curve fitting. Fertilizer particles have SGNs in the range of is determined, then multiplied by 100. Determined graphically by interpolation or To calculate SGN, the opening in millimetres that would pass or retain 50% by weight Size Guide Number (SGN): A measure of product quality used by the fertilizer industry.

Sieve Series: Slives are used interchangeably.

series idenitites sieves by the number of meshes (openings) per inch. U.S. and Tyler and German scales are identified with openings in millimetres and microns. The Tyler Sieve Series: A standardized testing sieve scale. U.S., ISO, Canadian, British, French and German scales are identical with openings in millimetres and microns. The Tyler

Sieve Jack: See Screen Frame Jack.

retained on standard test sieves.

Sieve Analysis: A statement of particle size distribution of a representative sample of material. It is expressed as percentages of particle size grouping passing through or

Sieve: See Test Sieve.**Sharpness of Separation: See Accuracy of Separation.**

motion within the screen box assembly.

Screen Frame Jack: A threaded assembly, often with a tee handle, to prevent screen frame

the ball support, either wire screen or perforated plate.

Screen Frame: The structure that supports the screening medium and normally includes

Screen Edging: See Edging.**Screen Clothing: See Clothining.**

hoppers is attached with rivets.

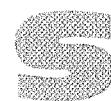
Screen Box Assembly (inert type): A box frame to which a bottom pan with discharge

mild steel or stainless steel, that forms the discharge hoppers.

Screen Box Assembly (integral type): A box frame with a one piece internal liner, either

per linear inch or "mesh", and wire diameter.

Screen: A woven wire mesh for separating material by particle size. Screens may be specified when any two of the following are known: opening size, number of openings





Top Cover: The fabricated metal cover over the screen decks through which material is fed. Clamped to the screen box assembly and equipped with resilient seals.

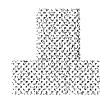
Throughs: See *Fines*.

Governmental and research institutions.

Test Sieve: Stainless steel, brass or plastic frames with precision woven wire cloth in standard openings for a specific sieve series. Used for testing in industrial,

TBC Cloth (TBC): A group of family of stainlesss steel wire screens woven in a plain square mesh pattern. Wire diameters are smaller than mill or market grades, so TBC screens have the highest percent open area of commercially available screens.

Tailings: See *Overs*.



TBC: See *Tensile Bolting Cloth*.

Synthetic Screen: Screens primarily produced in nylon and polyester.

Stroke: The peak-to-peak distance travelled by the screen deck during one cycle. On

Stratification: The process during screening where larger particles rise to the top of the bed of material and smaller particles sift through the voids to the bottom of the bed.

Stabilizer Bar: See *Drag Link*

Spreader: A metal plate located under the inlet to improve spreading of material and reduce direct impact on the screen deck surface.

Square Mesh: A screen with equal dimensions on each side of an opening.

Purpose screens.

Spacer Frame: A wood or metal structure that separates the screen decks on General-

Sliding Inlet/Outlet: A sliding connector consisting of a metal disc in contact with an ultra high molecular weight polyethylene (UHMW) or Teflon® wear ring.

Slide Plate: The steel plate attached to the screen box assembly that moves back and forth on the slide ball.

Slide Bearings: The discarge end support bearings for the screen box assembly. May be self-lubricating carbon or greasable, depending on application and machine design.

GLOSSARY OF SCREENING TERMS



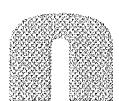
Vent: A connection on the top cover, normally located at the discharge end for aspiration of nuisance dust.



Lingforslty Index (UL): A measure of quality used by the fertilizer industry and closely related to Size Guide Number (SGN). The UL is easiest to determine graphically.

Lindnerize: See Fines.

U.S. Sieve Series: The current series (ASTM Specification E-11-95 and adopted by ISO) uses 1.00 m (18 mesh) as the base, with openings increasing or decreasing in the ratio of the fourth root of 2 or 1.189. U. S. and Tyler series are used interchangeably.



Tyler Sieve Series: An early sieve series introduced in 1910 by W.S. Tyler, Inc. This screen scale is based on an opening of 0.0029 inches (200 mesh), with openings increasing or decreasing in the ratio of the square root of 2 or 1.414. Intermediate sieves for closer sizing increase in the ratio of the fourth root of 2 or 1.189.

GLOSSARY OF SCREENING TERMS