




## **ORDER OF ASSEMBLY FIBREFLOW 375**

### **- Equipment Requirements:**

Crane  
Lifting Equipment  
Welding Equipment  
Hydraulic Jacks  
Alignment Equipment  
Hand Tools  
Slope Gauge  
Tarp (if sun exposure)  
Scaffolding

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- Equipment Unloading, Handling, and Storage**
  - Foundation Checks, Marking Centers, and Levels**
  - Support Roller Assembly, Axial Roller End**
  - Support Roller Assembly, Discharge End**
  - Bottom Vat Assembly**
  - Drive Assembly**
  - Drum Pulper Section**

- **Drum Inlet Section**
- **Drum Screening Section**
- **Splash Rings**
- **Drum Stop**
- **Hood and Flange Seal**
- **Girth Gear Installation**
- **Girth Gear Guard**
- **Support Roller Alignments**
- **Drive Assembly Alignments**
- **Inlet Chute**
- **Inlet Transition Section**
- **Support Roller Guards**
- **Axial Guide Roller Guard**
- **Drive Equipment Guards**

- **Proximity Switches**
- **Lubrication System Installation**
- **Final Grouting**

## INSTALLATION

### MAJOR ERECTION EQUIPMENT AND TOOLS REQUIRED

1. The FIBREFLOW<sup>®</sup> re-pulping system is a sizeable assembly in terms of both the physical dimensions and the weights of its shippable component parts. The rigging and installation phases require some equipment that might be termed out-of-the-ordinary. The FIBREFLOW<sup>®</sup> 375 EXTENDED DRUM and its various components are shown in drawings 1-01413-51 and 1-RF068-09-1 of Section 3; Drawings
2. Specifically there are needs for:
  - Mobile crane capacity to lift and position large, heavy components. See general information Section 2 for estimated weights of the main components.
  - Suitable welding equipment, principally needed for welding the girth gear to the drum, inlet and screen sections of the drum to the pulping section, and assembly of the bottom vat.

NOTE: Welding is to be conducted by welders that are qualified to welding procedures that are qualified and certified according to ASME Section IX. Weld inspectors and inspection procedures are to be qualified and certified according to ASNT Standards.

- Hydraulic jacking equipment.
- Optical or laser alignment equipment for checking critical foundation base measurements, locating and marking centers, and checking levels and slope. The 1° slope is especially critical to the successful performance of the FIBREFLOW drum; therefore a slope gauge is furnished with the drum. Transit (with adjustable leg tripod) plus accessories (preferred magnification range = 40X. Optical level with sufficient magnification power for reading within 1/32" at distances of up to 300 feet. Optical equipment should be

tested, adjusted and certified as being accurate. See drawing 3-26012-84 in Section 3 for a detail of the slope gage.

- A typical array of hand tools consistent with other installations of this type, size and complexity.
- If the drum is exposed to the sun or a source of heat, a large tented area (entire drum length) should be provided during the welding of the drum sections. Expansion rates (due to sun) may vary from one side of the drum to the opposite side. If the tent is not used the welding of the three drum sections together should be performed during a night shift. Unequal temperature from one side of the drum to the other could cause the drum to distort enough to cause problems with drum section alignments and excessive run-out. Welding should not be performed when surfaces of the joint are wet due to rain. A dam should be installed uphill of the joint to stop the downhill flow of rainwater.

## **UNLOADING, HANDLING AND STORAGE**

1. The major unloading and handling task involves the drum sections. To avoid costly and difficult re-handling, the marshalling area for the component parts should be in close proximity to the actual operating location.

Prior preparation should include:

- Roads, storage areas and on site transport routes prepared for the movement of heavy loads and cranes.
- The marshalling area selected be sufficiently large and cleared of all obstructions and debris.
- Electrical power and water readily available.
- An operational office on site with utilities including phone service.

2. Drawing SF310168 in Section 3 is included in this manual to show the lifting points, overall size, weight, and center of gravity for each drum section. The drum assemblies are to be lifted and handled according to this drawing and supported using the transport cradles supplied with the drum sections. Failure to adhere to these lifting points may result in damage to the drum sections.
3. Handling and storage of the girth gear segments and pinion gears require special care to avoid damaging the exposed teeth. If the tooth surfaces, bolt holes and connecting flanges are not coated with a rust inhibitor upon arrival to the site, apply a rust inhibitor to these surfaces. Avoid rigging to these surfaces when moving or lifting the pieces.
4. Support roller assemblies and the drive assembly should be protected from dirt and dust to avoid contamination of the bearings and gear teeth surfaces.
5. The remaining components will be adequately skidded, crated, furnished with lifting lugs, etc. for less complex handling.
6. Special precautions should be taken to avoid scraping and scrubbing of painted and stainless steel surfaces while rigging, lifting, and moving the items.
7. If special, unplanned circumstances occur for various reasons beyond normal control, additional storage precautions may be recommended.

## **FOUNDATION CHECKS, MARKING CENTERS, LEVELS**

1. Prior to the arrival of the FIBREFLOW pulper components, the concrete foundations should have been poured and aged per the foundation drawing(s), and consistent with industry practice for equipment of this size, weight, and precision. Locations of anchor bolt holes, and magnitudes & directions of adjustments should be precisely followed. The Foundations and applied loads are shown on drawing 1-RF068-04-01 of Section 3, Drawings.

2. Before beginning to mount any components on the foundations, final measurement checks should be taken using suitable optical or laser measuring devices:
  - All foundation measurements shown on the drawing should be reconfirmed on the actual foundation.
  - All specified levels should be measured and marked.
  - Transverse center lines, cross lines and level marks close to the actual mounting surface areas should be measured, marked, and compared against drawing requirements. The individual surfaces of the foundation blocks should be checked for evenness to provide proper support for the heavy loads to follow.
  - Hole location conforming to specifications must be checked for:
    - the bottom vat
    - the 2 support roller assemblies
    - the drive assembly
    - inlet chute
  - critical levels to be checked:
    - base for inlet chute
    - bases for inlet and discharge end support roller assemblies
    - base for drive assembly
    - base for bottom vat
  - Remember, bases for the support roller assemblies and the drive assemblies are at a 1° slope. Bases for the bottom vat and the inlet chute are level. Each pier uses a 2" grouting allowance.
3. Industry practice in terms of the actual sequence of these checks should be consistent with other major installations of this size and complexity. All necessary drawings are provided. See Section 3, drawings. Any discrepancies will necessitate additional checks for final resolution.

## MOUNTING PROCEDURES

### SUPPORT ROLLER ASSEMBLIES

1. The two (2) support roller assemblies support the entire weight of the FibreFlow<sup>®</sup> drum and its contents. The two are virtually identical except for the axial guide roller Assembly which is found on the inlet end assembly only.
2. Lift the support roller assemblies onto their foundations, placing temporary blocks approximately 4" thick under each end of the roller bases. This clearance will make the installation of the foundation anchor bolts, jacking screws, and backing plates easier. After installing this hardware, remove the temporary blocks.
3. Perform the leveling and elevation checks per the foundation and general arrangement drawings 1-RF068-04-1 and 1-RF068-09-1, see Drawings Section 3. **CAUTION:** when leveling, be aware of the required 1° slope of the FIBREFLOW drum centerline; use the furnished slope gauge (see Drawing 3-26012-84; Section 3, Drawings). The support roller frames have been provided with centerline leveling pads on both ends for use in leveling the base.
4. The support roller assembly, discharge end and the support roller assembly, axial roller, inlet end will be factory marked with their centerlines in both the axial and cross locations.
5. Thread the nuts onto the foundation bolts, and thread all the jacking screws into the base. The jacking screw threads are to be thoroughly greased. A 6" diameter by ½" thick backing plate is to be grouted (1") to the foundation under each jacking screw location to spread the load.
6. Remove the temporary 4" blocks, and lower the support roller assembly until it is resting on its jacking screws.



7. Perform the leveling per the installation drawing. **CAUTION:** When leveling, be aware of the required 1° slope of the FibreFlow drum centerline; use furnished slope gauge.
8. Cross leveling, declination and elevation checks, readjustments and rechecks must follow until all of the drawing conditions are satisfied.
9. The leveling screws and foundation bolts must be kept evenly loaded. This can be accomplished more easily if all the mating pieces are subjected to full thread engagement first, and then thoroughly lubricated before use.
10. After tightening evenly, recheck the declination with the furnished slope gauge. Readjust and recheck as often as necessary to maintain the drawing conditions.
11. Do Not grout the support roller assemblies at this time. Wait until the rest of the FibreFlow drum assembly has been installed in case more adjustments are required.

## BOTTOM VAT MOUNTING

1. Refer to bottom vat drawings 1-26009-15 sheets 1 thru 3 Section 3, Drawings, when assembling the bottom vat. The drawing shows the proper orientation and positioning of the bottom vat. The drawing also shows the required field welds if the vat is fabricated in two sections. The vat will be fabricated in one piece when possible (fabrication shop close to mill) including as well the center divider wall, internal tension rods, and overflow nozzle, various internal filler plates, and grout hole covers.
2. Place 2" high spacer blocks at a large number of places on the vat foundations to support the vat. Place the spacers so that they do not block the flow passage of grout under the vat bottom. The grout will be fed in from the holes in the bottom vat floor. (It is important to have good spacer support at the seam in the floor of vat if the floor halves will be welded together before grouting.)

3. The bottom vat should be positioned as close as possible to its final location according to the foundation and general arrangement drawings. Final adjustments may need to be made after the drum assembly is set so that proper clearances are met
4. If required, the walls and floor of the vat may be welded at this time. Refer to the drawing for weld sizes and locations. These welds are to be full seal welds to prevent vat contents from leaking.
5. If required, the three internal pipe supports (stiffeners) may now be positioned and welded in place, as well as the center internal rib (divider wall) and corner filler pieces that fit over the floor seam. These are also to be seal welded connections.
6. The bottom vat is not to be final grouted until after the drum assembly has been set and clearances and elevations are checked and confirmed.
7. Eight grout holes are located in the floor of the bottom vat. Cover plates are provided to cover these holes once the grouting process is completed. The cover plates will also be seal welded.

## **DRIVE ASSEMBLY**

1. The drive assembly is expected to be shipped unassembled. All Manufacturer's drive equipment installation procedures are presented in manual main Section 7.
2. For drive equipment locations and mounting hardware refer to drawing 1-26009-16; Section 3, Drawings.
3. For information on drive equipment outlines, dimensions, instructions, and lubrication specification refer to Section 7, Drive Equipment, Sub-Section 1 thru 5.
4. Recheck the position of the anchor bolts for the drive support frame assembly. Refer to drawing 1-RF068-04-1 in Section 3, Drawings.

5. Recheck the position of each support rail under the drive support frame to determine if movement occurred during shipping. The slotted holes in the support rails are to be centered with the circular holes in the drive frame.
6. Lift the drive support assembly onto its foundation base, setting it down on temporary blocks approximately 4" thick.
7. Thread the nuts onto the foundation bolts, and thread all the jacking screws into the base. The jacking screw threads are to be thoroughly greased. A 6" diameter by ½" thick backing plate is to be grouted (1") to the foundation under each jacking screw location to spread the load.
8. Remove the temporary 4" blocks, and lower the drive support assembly until it is resting on its jacking screws.
9. The drive support frame has been provided with 1/16" deep "V" notch scribes on bearing pad centerlines in both directions.
10. The drive assembly should be installed low enough to allow for adjusting pinion and girth gear later. The adjusting process will initially involve raising and moving the drive assembly in towards the drum.
11. Install the drive coupling hub on the pinion gear shaft (heat shrink fit).
12. Install the other half hub of the drive coupling onto the main speed reducer. Also install the driven half of the magnetic coupling onto the input shaft of the main speed reducer.
13. Install the main speed reducer onto the drive frame and align the speed reducer with the pinion shaft.
14. Install the driver half of the magnetic coupling on to the drive motor shaft.
15. Install the spare drive motor (900 HP) onto the drive frame and align the motor with the main speed reducer. The frame will have to be drilled and tapped for the mounting bolts.

16. Remove the Spare 900 HP motor and remove the driver half of the magnetic coupling.
17. Install the driver half of the magnetic coupling on to the 1000 HP operations motor.
18. Install the 1000 HP motor on to the drive frame using Mill supplied adapter frame and align the motor with the main speed reducer input shaft.
19. After the girth gear is installed, align the drive assembly with the girth gear.

## **PULPER SECTION INSTALLATION**

1. The drum is supplied in three main sections, the inlet section, the pulper section, and the screening section (discharge section). The support rings have been installed on the drum at the factory. The two splash seal rings (labyrinth) are supplied loose in sections for welding to the drum screening section after the pulper section and screening section have been welded together. Refer to drawing 1-RF068-09-4; Section 3, Drawings, for assembly details.
2. Confirm that the two support roller assemblies are installed, aligned, and leveled before moving the drum pulper section. Refer to drawing SF310168; Section 3, Drawings, for the proper lifting points. The steel cradles will have to be removed or they will interfere with the bearing housing on the support rollers. The cradles should be stored for future use if the drum needs to be removed.
3. Verify that the upper walls of the bottom vat assembly have been removed to allow assembly of the drum sections.
4. The pulper section of the drum assembly has been factory stamped with a 0° mark. The 0° mark is to be in the up position when setting the pulper section on the support roller assemblies.

5. With the two support rings sitting on the support rollers, check that there is complete contact between the rolling surfaces. This can be accomplished by using a .002" feeler gauge and attempting to slide it between the support ring and each roller, and by also shining a flash light between the rollers and the support ring and looking to see if any light shines through. If a clearance can be detected, this means that the rollers are not sitting true to the support rings and are likely cocked slightly. To remedy this, take the weight of the drum off the roller by jacking against the thickened portion of the shell adjacent to the support ring. DO NOT jack on the support ring itself, since this may cause an indentation in the rolling surface. Loosen the roller's bearing hold-down bolts and position the roller so that it is true to the support ring by utilizing the adjusting screws. Slowly lower the drum back onto the roller and recheck. Continue until contact is made with all rollers. If correct contact cannot be achieved, recheck the support roller base 1° slope and correct if required.

## INLET SECTION INSTALLATION

1. The inlet section of the drum assembly has been factory marked with a 0° mark. The 0° mark will be in the up position to match the 0° mark on the pulper section. Drawing 1-26009-17; Section 3, Drawings, shows the orientation of the baffles in the drum. Verify that the inlet section and pulper section baffles are oriented properly with each other
2. The 6 clamps and adjusting screws are to be installed per the drawing for both radial and axial adjustment of the inlet section to the pulper section. See drawing 1-RF068-09-4; Section 3, Drawings.
3. Disconnect the cradle lashing straps and lift the inlet section into position. Refer to drawing 310168; Section 3, Drawings, for the proper lifting points. The lifters that extend outside the inlet shell will act as pilot bars to help position the inlet section into the pulper section.
4. Using the adjusting screws position the inlet section up to the pulper section then align the longitudinal centerline of the inlet section with the longitudinal centerline of the pulper section.

5. Several 1/8" thick spacer plates are to be positioned between the factory provided weld preps on the adjoining end faces of the pulper section and the inlet section. The spacers establish the proper 1/8" weld gap. As welding progresses the spacers can be removed.
6. NOTE: Unequal temperatures of even a few degrees could cause drum distortion resulting in false alignment readings. Adjacent heat sources should be shut down when making the final adjustment. If the work is outside, it should be performed in a tented area or performed on a cloudy day or night so that the shell is not heated unequally by the sun or other outside heat source.
7. NOTE: Typical wind conditions during day and night time welding periods can blow the shielding gas away from the arc and the molted metal so that deposited weld metal is defective.
8. The contractor should be aware not to plan for deposit of heavy single pass welds. Plan instead for multi-pass deposits to fill joint levels plus "cap" or reinforcing weld beads. All weld beads should be cleaned for removal of slag, loose deposit and defects before starting next deposit.
9. NOTE: Welding is to be conducted by welders That are qualified to welding procedures that are qualified and certified according to ASME Section IX. Weld inspectors and inspection procedures are to be qualified and certified according to ASNT Standards.
10. NOTE: The support ring areas (2 areas) located on both ends of the pulper section, are thick carbon steel. The inside of the carbon steel is overlayed with SIS 2343 Stainless Steel (316L stainless steel).
11. Mating ends of all three sections should be measured at twelve points around the circumference to insure that the ends are not out of round
12. The axis of the Inlet Section shall be contained within a cylindrical zone of 5mm diameter, coaxial with the datum axis of A & B.

13.
  - a) Place a metal bar across inside of the drum pulping section at support ring "A".
  - b) Mark the average center point of the drum on the bar and drill a small hole.
  - c) Repeat this for support ring "B". ( A laser beam will be shot through these two holes to represent the centerline of the drum - *see f below*)
  - d) Place a bar across the inlet end of the inlet section.
  - e) Find the average diameter of the inlet end and mark the point of centerline on the bar. Draw a 5mm diameter circle around the center point.
  - f) When the laser beam is shot from the outlet end of the pulping section through the holes in the metal bars at the "A" and "B" locations, a spot will be seen at the bar in the inlet end of the inlet section. This spot must always remain within the 5mm diameter circle.
  - g) Record the distance of the spot from the center point as the drum is rotated during welding.
14. Weld filler metal for the inside of the drum joint weld shall be 309MoL stainless steel with a 1/8" 316L overlay.
15. Two welders on opposite sides of the inside of the drum can begin the initial stitch welding. The stitch welding is to be staggered around the drum in a criss-cross pattern.
16. If required, additional temporary stiffener bars can be utilized across the weld joint seam to maintain the alignment tolerances during welding.
17. After the initial stitch weld is completed, measurements will have to be taken and recorded to determine if the inlet section centerline is coaxial with the pulping section centerline. It is necessary that the coaxial run out be within the 5mm requirement. Refer to drawing 1-RF068-09-4; Section 3, Drawings, for drum acceptable tolerances. If the tolerances can not be met, consult with Andritz-Ahlstrom for corrective action.
18. Another pass of stitch welding is now placed equally around the inside circumference of the drum.

19. After the second pass of stitch welding is completed, measurements will again have to be taken and recorded to determine if the drum alignment tolerances are being maintained.
20. Two welders on both sides of the interior of the drum should start the welding. Both welders will weld a short weld and then the drum is to be turned 90°. Both welders will weld a short weld and the drum will be turned again. Continue to monitor the alignment. The circumference shell welds are to be complete penetration (CP) welds
21. After the inside joint weld is complete, the outside of the shell joint weld is to be back gouged (air arc and grind), cleaned, and inspected with liquid penetrant. There shall be no cracks or lack of fusion allowed. All defective areas are to be ground out and rewelded; taking care not to effect drum run out.
22. Weld filler metal for the outside joint weld shall be 309Mo L Stainless steel.
23. Two welders on both sides of the exterior of the drum should start the welding. Both welders will weld a short weld and then the drum is to be turned 90°. Both welders will weld a short weld and the drum will be turned again. Continue to monitor the run out during the welding. The circumference shell welds are complete penetration (CP) welds. Refer to drawing 1-RF068-09-4; Section 3, Drawings for detail of the joint weld.
24. The lifters are factory supplied with round cut-outs provided so that welding can be performed under the lifters. Refer to drawing 1-RF068-09-4, Detail 2, Section 3, Drawings.
25. After the exterior joint weld is complete, the entire joint is to be ultrasonically tested for defects.
  - No Cracks allowed.
  - No lack of fusion allowed
  - Slag inclusions shall be less than 1/3 the weld thickness.
  - Gas pores and clusters shall be less than 1/3 the weld thickness



26. Grind out and reweld all defects. Inspect all repaired defects.
27. When joint weld is complete, The lifter filler plates, lifters and lifter backing plates are to be welded in position as shown on drawing 1-RF068-09-4, Detail B-B, Section 3, Drawings. Take care that this welding does not effect run out.
28. Two welders on both sides of the interior of the drum should weld a cut-out filler plate to a lifter plate and then start welding the lifter plate to the drum shell. The welds are to be seal welds to prevent liquids from entering behind the lifters. Then the drum is to be turned 90°. Both welders will weld another lifter and then the drum will be turned again to stagger the opposed welding until all lifters are welded to the drum shell. Continue to monitor the run out during the welding. Record the coaxial run out readings after all lifter plates are welded to the drum shell.
29. When the lifter plate welds are complete and it is determined that the drum alignment is within tolerance limits, weld the backing plates to the lifters and to the drum shell using the same staggered sequence as used for the lifter to shell welds. Continue to monitor the dial indicator for run out during the welding. Record the coaxial run out readings after all backing plates are welded to the lifter plates.
30. Lastly, weld the lifter plates and lifter backing plates to the baffle by the same staggered sequence as used for welding the lifters to the shell. Continue to monitor the dial indicator for run out during the welding. Record the coaxial run out readings after all lifter plates are welded to the drum shell.

## **SCREENING SECTION INSTALLATON**

1. The screening section of the drum assembly has been factory marked with a 0° mark. The 0° mark be positioned to match the 0° mark on the pulper section. Drawing 1-26009-17; Section 3, Drawings, shows the orientation of the baffles in the drum. Verify that the screening section and pulper section baffles are oriented properly with each other

2. Disconnect the cradle lashing straps and lift the screen section into position. Refer to drawing 310168; Section 3, Drawings, for the proper lifting points. The lifters that extend outside the screen shell will act as pilot bars to help position the screen section into the pulper section
3. The six clamps and adjusting screws are to be installed per drawing for both the radial and axial adjustment of the screening section. Refer to drawing 1-RF068-09-4; Section 3, Drawings.
4. Using the adjusting screws, position the screening section up to the pulper section, then align the longitudinal centerline of the screening section with the longitudinal centerline of the pulper section.
5. Several small 1/8" thick spacer plates are to be positioned between the factory provided weld prep on the adjoining end faces of the pulper section and the screening section. After the proper gap (1/8") has been attained using the adjusting screws, then the spacer plate can be removed as welding progresses.
6. From this point on the procedures for welding the screen section to the pulping section are the same as described for welding the inlet section to the pulping section.

## INSTALLATION OF SPLASH RINGS

1. There are two splash rings; inlet splash ring and outlet splash ring. The 2 splash rings are supplied in 4 sections each and are shipped inside of the drum. The splash rings are to be installed on the outside of the drum shell and must fit evenly into the bottom vat's labyrinth seal chambers. These splash rings should be positioned approximately in the center of labyrinth opening of the vat.
2. Lift the vat top halves into position and bolt them to the vat lower halves.
3. Measure the clearance between the outside of the drum shell to the inside radius of the bottom vat opening. The clearance should be 1" on the inlet end and 15/16" on the outlet end with good consistency around the perimeter. Adjust the relative

positions of the drum and vat to achieve a uniform clearance. The clearance should not be less than ½” at any one point.

4. Position the splash ring segments to the drum and tack weld them into position on the drum. Rotate the drum and make sure that the vat to drum clearance remains uniform and that the splash rings do not contact the vat or hood labyrinth seal chamber walls. If contact does occur, rework the splash ring so that it does not make contact.
5. A 3/16” continuous fillet seal weld is to be used between the splash rings and the drum shell. Refer to drawing 1-RF068-09-4; Section 3, Drawings.
6. Weld the overflow pipe to the assembled vat if it has not already been shop welded. These are also to be seal welds.

## DRUM STOP

Install the drum stop on the inlet side of the inlet support roller frame.

## HOOD INSTALLATION

1. The hood attaches to the top of the bottom vat to provide a covering for the drum and an access for the screen dilution water. Refer to the general arrangement drawing 1-RF068-09-1 for the proper orientation of the hood. Refer to Section 3, Drawings.
2. Install the “Goretex tape gaskets” on both top flanges of the bottom vat.
3. Install the hood over the drum and attach it to the bottom vat with the provided hardware.
4. Check the hood for uniform clearance between the outside of the drum and the inside of the hood opening. Also, rotate the drum and make sure that the

clearance remains uniform and that the splash rings do not contact the vat or hood labyrinth seal chamber walls.

5. Check the tightness of the connection between the hood and the bottom vat.

## **GIRTH GEAR INSTALLATION**

1. Refer to manual main Section 7, Drive Equipment, Sub-Sections 5, Girth & Pinion Gear for installation instructions for girth gear to drum.

## **SUPPORT ROLLER ALIGNMENTS**

1. The support rollers are to be checked to verify that they are square with the support rings. See drawing 2-26009-04; Section 3, Drawings for tolerances
2. A long straight edge can be used on the sides of each support roller to check the parallelism of the support roller sides with the side of the support ring.
3. Make the parallelism check on all support rollers.

## **DRIVE ASSEMBLY ALIGNMENT**

1. Raise the Drive Assembly into the final position, using the furnished 1° slope gauge, and referring to the dimensions to determine the proper level position.
2. Adjust the frame position of both drives so that the pinion gear on the drives is properly aligned with the girth gear to the Manufacturer's Specifications. Refer to manual main Section 7, Drive Equipment, Sub-Section 5, Girth and Pinion Gear, for alignment instructions for the pinion gear.

3. Tighten all drive support frame bolts to the proper torque. Tighten all bearing housing mounting bolts. Also tighten all backing nuts on the pinion bearing jacking bolts.
4. Check alignment of all shaft couplings and realign as necessary. Refer to manual main Section 7, Drive Equipment, Sub-Sections 1 thru 5 for alignment instructions.

## **INLET CHUTE MOUNTING**

1. The chute seal ring is shipped with the FibreFlow drum. Install the seal ring onto the inlet chute. Center the seal ring with the chute bolt circle. Tighten the bolts securely.
2. Lift the inlet chute into place with ¼" spacer shims between the chute and drum seal surfaces. The legs of the supporting structure should be hanging loose with the base plates hooked over their foundation anchor bolts. Adjust the position of the inlet chute to provide proper radial and face alignments of the drum and chute seal rings Refer to drawing 1-RF068-09-1 Section 3, Drawings.
3. Check all measurements, adjust as necessary, and tighten anchor bolts.
4. Remove the ¼" spacers, and proceed with final assembly of the seal assembly.
5. Install the seal gap protector to the chute.
6. Install the seal assembly parts: pulley bracket, tension plate, pulleys, teflon seal {rope}, u-bolts, backing plates, pivot pin, weight hanger rod, weights, and weight guard as shown on the assembly drawing.
7. Install the drip pan for the seal. The drip pan has flush water connections on each side. Connect a flush water supply to each of the two 1" NPT fittings. Connect a drain pipe to the nozzle on the bottom of the drip pan.

8. The inlet transition section is a separate unit from the support structure and lower inlet chute.
9. The inlet transition section is to be lifted into place and bolted to the lower inlet chute. Be sure that the correct orientation is chosen to allow entry of the customer supplied feed conveyor.
10. After the customer supplied feed conveyor and hood are installed, a flat rubber seal is to be installed to the transition chute. This flat seal prevents paper from escaping out of the expansion gap between the conveyor hood and chute transition.

## **SUPPORT ROLLER GUARD MOUNTING**

1. Only one spray nozzle is to be used for each support ring. Each support roller guard has a grease spray nozzle bracket
2. Install the grease hoses and air hoses on the guard brackets. See spray lubrication drawing. Adjust the nozzles to that the grease sprays at the support rings. Refer to drawing 1-RF068-09-2 section 3 drawings for the spray lubrication system.
3. Position the roller guards over the rollers. Adjust their position and height so that the guards do not contact the rollers or support ring.

## **GUIDE ROLLER GUARD MOUNTING**

1. Bolt the guard half with the grease line passage hole to the support roller frame. Connect the grease line to the guide roller bearing housing. Bolt the other half of the guard to the first half and to the support roller frame.
2. Install the grease hose and air hose. Adjust the nozzle so that it will spray on the tapered side of the support ring.

## DRIVE EQUIPMENT GUARD MOUNTING

1. Install the magnetic coupling guard.
2. Install the drive pinion shaft coupling guard.

## PROXIMITY SWITCH MOUNTING

1. Mounting the inlet side proximity switches (2) in its bracket on the inlet support roller frame. Adjust the switch to indicate when the drum has moved 3/16" toward inlet end.
2. **WARNING:** It is recommended that a locking device be installed on the disengagement coupling of the pony drive to prevent the engagement of the coupling while the main drive motor is in operation.

## LUBRICATION SYSTEM MOUNTING

1. Install the spray Lubrication System according to the instructions on the drawings. Refer to drawing 1-RF068-09-2 section 3 drawings.
2. Install the grease lubrication system according to the instructions of the drawing. Refer to drawing 1-RF068-09-3 section 3 drawings.

## FINAL GROUTING

1. Once it has been satisfied that all drawing conditions and clearances have been met, the support roller bases, bottom vat and the inlet chute can be final grouted. Remember to place a 1/4" fillet seal weld on the grout hole cover plates on the floor of the bottom vat. A high quality grout with a minimum compressive

strength of 4000 psi should be used. Refer to the foundation drawing 1-RF068-04-1 and general arrangement drawing 1-RF068-09-1 for confirmation that conditions have been met.