

Installation and Operation Manual

HI-LO PULPERS

E. D. JONES CORPORATION
PITTSFIELD, MASSACHUSETTS



Jones

PULP MILL EQUIPMENT AND
STOCK PREPARATION MACHINERY



E. D. JONES CORPORATION, PITTSFIELD, MASS.
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY
MEMBER OF BELOIT GROUP

EDJ-1090

Assembly, Maintenance and
Operation Instructions for
The Jones Hi-Lo Pulper
and Brokemaster

Sheet 1 of 3

SET UP OF STEEL TANKS

The Hi-Lo Pulper is shipped as a group of sub-assemblies because of the bulk of the machine when completely assembled. Please refer to the assembly and sub-assembly drawings furnished with each Hi-Lo Pulper.

A substantial foundation of steel or concrete is essential under the tank foundation pads and the disk drive units. If a steel structure is used, pads may be placed on the foundation - levelled and welded in place prior to setting the bottom and the disk drive units. If placed on concrete piers, leave about 1" for grouting in place after levelling.

The bottom, sides and circle ends are match marked with steel stamps and stencils relative to the bottom openings to suit the mill requirement. Set the bottom in place and carefully level it in both directions. If this is not done, trouble will occur when setting up the disk drive units. Next, the circle ends and straight side sections are set up on the bottom with lead gaskets in all joints. Care should be taken to watch the match marks. Drive the dowel pins before bolting up tight. Install the disk drive units, being careful to level the shafts, before grouting under the unit stands. For easy assembly of the drive units, large clearance holes are provided around the carriage bolts which fasten this unit to the tank side. No gaskets are provided for this joint since any small leak which should occur is quickly sealed with stock. Large diameter, extra heavy washers and "Dualok" double tension locknuts are furnished for these carriage bolts which should be driven home from the inside of the tank when tightening the locknuts.

Install the pulping disks being sure that all the cap screws are drawn up tight. Drive the wooden plugs in the low speed disk until they are flush with the surface. NOTE: One of the low speed disk blades has a 1-1/2" diameter hole for the purpose of attaching a hoist clevis.

Install drives and motors.

The top and cover (when furnished) are simply put in place with a lead gasket in the joint and bolted down. If the cover is cylinder-operated, pipe up in accordance with the drawing furnished.

The discharge valve (when furnished) is bolted in position and piped up.

For minimum operating pressures of the top cover and discharge valve cylinders, please refer to the detail drawings furnished with each pulper.

WARNING: Pressure should never exceed 100 pounds per square inch.

Lubrication

Refer to the bearing lubrication plate and the drive unit assembly drawing. NOTE: On large Hi-Lo Pulpers the low speed disk bearings are grease lubricated while the high speed disk bearings are oil lubricated. On small Hi-Lo Pulpers all the bearings are oil lubricated.

Controls:

When controls are furnished detailed instructions, drawings, wiring diagrams, etc., are supplied with the individual control covering its installation and operation.

Set Up of Tile or Concrete Tanks:

A solid re-inforced concrete foundation and floor slab under the pulper bottom and drive units should be installed in accordance with the drawing furnished. The wall rings and/or the continuous extraction unit should be set up, aligned and temporarily braced. Care must be exercised to see that the face of these units are perpendicular and square with the center line of the disk drive shafts, also that the center of the bolt circle is on the center of the shaft. Grout the unit in place and complete the erection of the tank. The horizontal tank re-inforcing rods should be welded to the wall ring.

After the concrete or tile mortar has well set proceed to install the drive units, etc., as outlined for steel tanks.

Maintenance:

After the pulper has been erected it is well to passivate stainless steel tanks to remove any carbon steel contamination incurred during the erection process. This is done by swabbing the stainless steel with a solution containing 10%-20% of nitric acid (commercial - sp.gr. 1.42) by volume at 130° - 140° F. followed by a thorough rinsing with plenty of clean hot water to remove all traces of acid solution. Future cleaning can be done with one of several stainless steel cleaners such as "Temp" in accordance with the instructions on the label.

The packing boxes should be checked periodically with stock or water in the tank and with the disks not rotating. Since a vacuum is formed between the disk and the tank wall, leaks do not show when the disk is in motion. Tighten the gland only enough to reduce the leak to a small weepage. Over tightening shortens the packing life and causes scoring of the shaft sleeves.

The bearings should be inspected periodically and the lubricant changed in accordance with the lubrication plate attached to the bearing housing.

MAINTENANCE OF HIGH SPEED DISK

Referring to drawing D51-707041 "High Speed Disk, 30" Diameter", which is a typical disk assembly, you will note the direction of rotation relative to the leading edge of the blade insert and the Duroid Wedge. It is important that the Duroid wedge always be on the trailing edge of the blade, otherwise under certain conditions the Duroid wedges can be eroded away and the inserts could fall out. In reversing the blades, or installing new ones, this relationship must be maintained.

To change or reverse the High Speed disk blades please follow the instructions shown on drawing A81-781.

When the blades have been worn enough to impair the pulping efficiency a new set should be installed. The old blades can then be reconditioned by milling back the working faces to produce a new square edge. We have found that a 7/8" diameter carbide bladed end mill, running 286 RPM with a feed of 1-3/8" per minute does a very satisfactory job when operated dry without the use of a coolant. However, if the mill is not equipped to do this, the blades may be returned to the factory for reconditioning at a reasonable cost.

No other maintenance should be required other than the drives which will vary with the type used and in each case the maintenance instructions furnished by the drive manufacturer should be followed.

OPERATION - BATCH UNITS

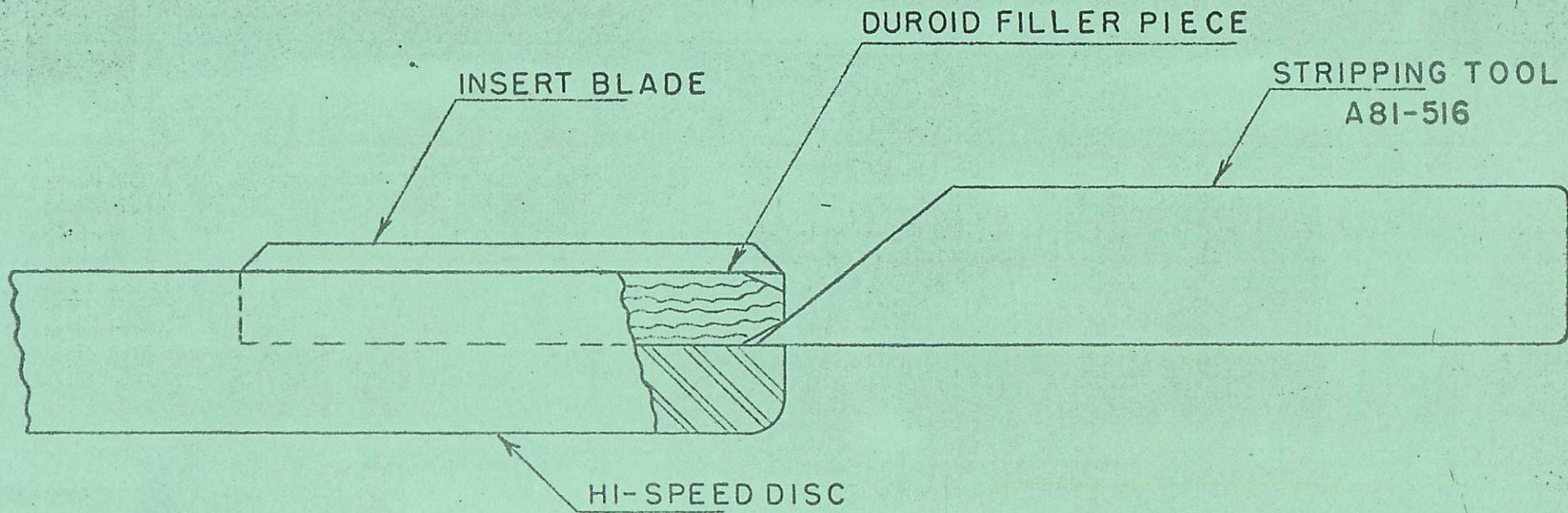
The normal operation consistency on batch type Hi-Lo Pulpers is 6-1/2%. All the water for the batch should be put in the pulper and the disks set in motion before adding the pulp or broke. This method will insure uniform consistencies (if the pulp and broke are weighed) and reduce high impacts on the drives and motors which could occur if the furnish was made before starting the disks to rotate. The maximum operating level is an inch or two below the vertical deflector over the low speed disk near the top of the tank. If the stock level is raised above this deflector, the circulation is reduced.

OPERATION - CONTINUOUS UNITS

The normal maximum operating consistency for continuous Hi-Lo Pulpers and Brokemasters is 4%. Before starting to operate on a continuous basis, the automatic controls (if used) should be carefully checked for sequence of operation, and the pulper should be primed with pulp or broke to approximately the correct consistency. The maximum operating level is the same as for the batch unit while the low level can be as much as 18" below the vertical deflector over the low speed disk. Thus an operating band of 12" to 18" can readily be had with automatic control. When the pulper level is governed by weir in a control tower, the weir should be adjusted so that the level of the stock at full production is approximately six inches below the low speed disk deflector.

The preceding operating instructions are based on average conditions. However, it is desirable, when the mill has become familiar with the pulper, to study various consistencies relative to the various furnishes they may have in order to produce the greatest number of pounds of acceptable stock per day.

June 26, 1956
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san/Retyped/9/14/61



1. Chip out the 3/16" Duroid filler between the blade and the slot side. Use stripping tool A81-516 or equivalent. The Duroid filler has a bevel on its bottom edge to allow the stripping tool easy access.
2. Tap the blade slightly and lift out.
3. Clean out the slots thoroughly.
4. Install the new blade in the slot or reverse the old blade so that sharp edge is in proper position.
5. Press in the Duroid filler piece. Use a 1/8" bar and hammer. Be sure bevel on bottom edge of Duroid is at outer end of disk in order to facilitate future stripping.

**METHOD OF REMOVING
INSERT BLADES
HI-LO PULPER**

SCALE 12 IN. = 1 FT. DATE 6-18-56

E. D. JONES & SONS CO.
PITTSFIELD, MASS.

ALTERATIONS	DATE	BY
SUPERSEDES	SUPERSEDED BY	

CH. APPROV'D 10-1-781
F.M.