

*Grow Better Margins and Better Plants*



# HydraFiber<sup>®</sup> Processing Unit: Preventative Maintenance Schedule and Quick Guide

## Preventative Maintenance Schedule and Quick Guide

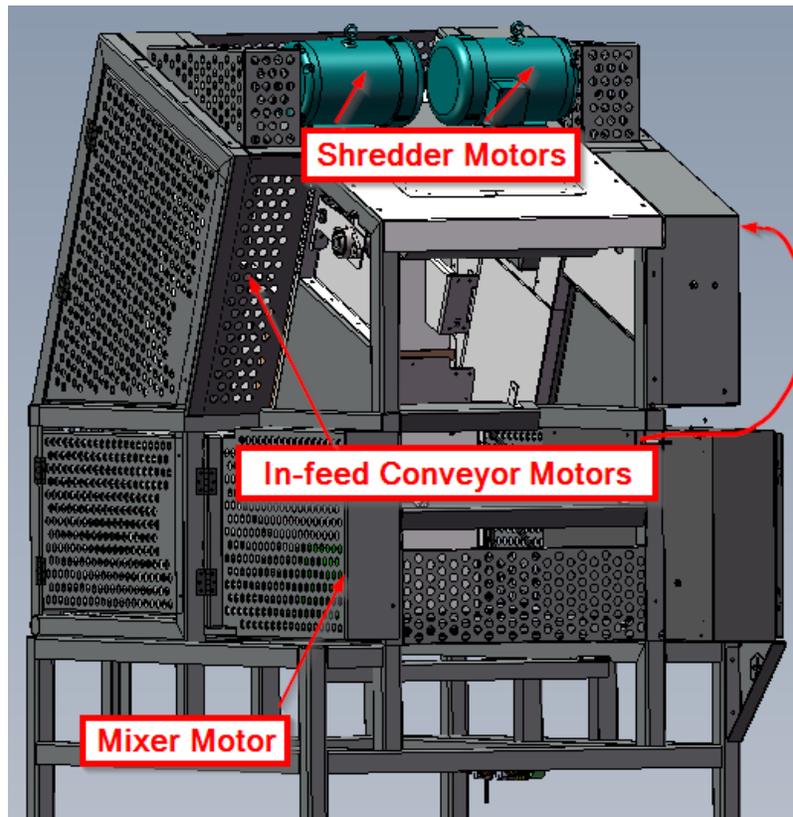
To maintain reliability, proper performance, and overall efficiency, it is strongly advised to do regular preventative maintenance. Please follow this guide and consider these procedures a necessary part of machine operation. Both frequency and procedures are described below.

⚠ **All maintenance must be performed by qualified personnel with proper training. Follow electrical lockout/tagout procedures before initiating maintenance. Rollers utilize very sharp teeth. Carelessness during inspection can cause serious injury! Ensure all tools and parts are clear of belts, conveyors, rollers, and any moving parts before start-up.**

### Daily Maintenance Procedures:

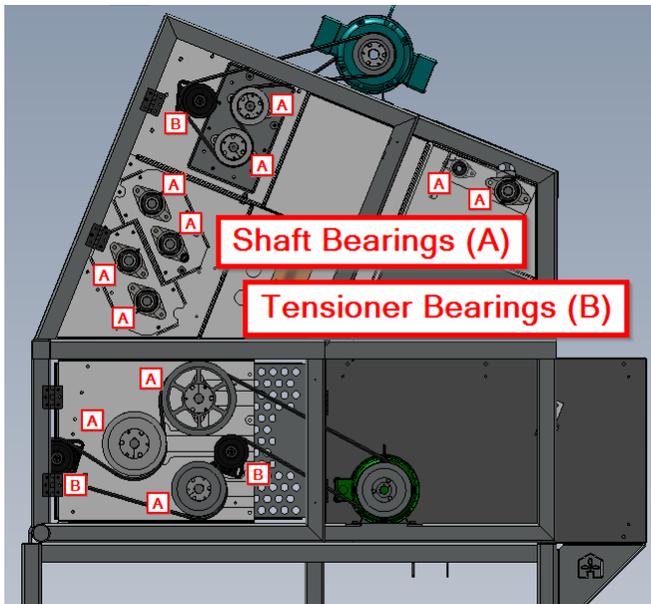
Utilizing an air gun, clean material and dust from:

- the in-feed and out-feed conveyor belts.
- the in-feed and out-feed conveyor drive motor cooling fans.
- the shredder motor cooling fans.
- the mixer motor cooling fans.

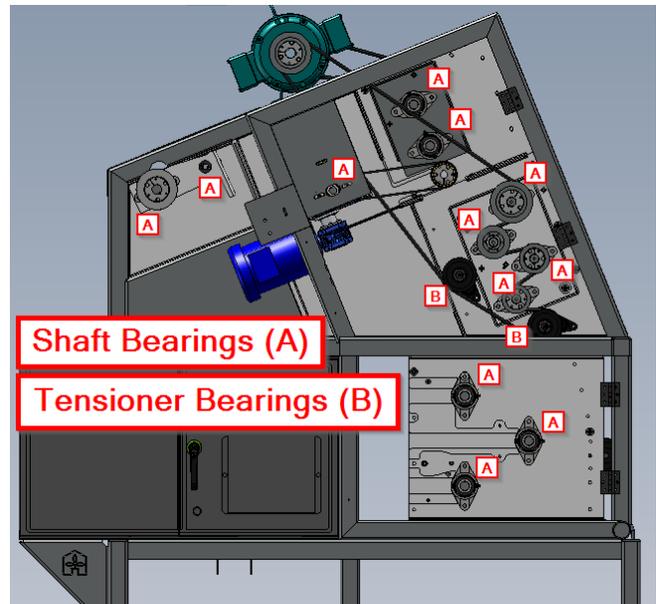


## Weekly Maintenance Procedures:

- Grease all shafts (A) and tensioner bearings (B) using “HI-TEMP” grease (500°F min.), 1-2 pumps recommended.
- Inspect both the in-feed and out-feed conveyor belts for proper tracking, proper tensioning, and for damage to the belt and lacing.
- Inspect the condition of the side seals and mounting hardware on both sides of the in-feed and out-feed conveyor belts.
- Inspect all drive belts for proper alignment, tensioning, and wear.
- Utilizing an air gun, clean material and dust from behind guarded areas, specific to pulleys, belts, chains, and sprockets.
- Inspect shredder and mixer chambers for excessive soil caking and build-up. Remove material if necessary.



Left Side



Right Side

## Monthly Maintenance Procedures:

- Inspect chain and sprockets on the in-feed conveyor drive for proper alignment, tensioning, and wear.
- Inspect condition of tensioner pulleys (B).
- Check and tighten shaft bearing mounting bolts (A), 75 ft/lbs recommended.

- Check and tighten shaft bearing set-screws (A) and tensioner collar set-screws (B), 80 in/lbs recommended.
- Check and tighten sheave taper-lock bushings. The final torque of  $\frac{7}{16}$ " head is 108 in/lbs and the  $\frac{1}{2}$ " head is 180 in/lbs.
- Inspect the overall structural condition and proper mounting of ALL guards, including doors, hinges, clamps, hardware, and fasteners. Look for damage-including holes, punctures, openings, or cracks. Ensure that ALL of the guards are safe and will prohibit injury.
- Check and tighten shredder/mixer motor mounting bolts, 25 ft/lbs recommended.
- Inspect all sensors for proper mounting and proper operation.
- Ensure power is OFF to the machine. Utilizing an air gun, clean inside electrical panel, disconnects, and junction boxes.
- Switch power ON and test E-Stops for proper operation.

### **Annual Maintenance Procedures:**

- Grease head and tail pulley bearings on conveyors.
- Grease shredder motor bearings (see page 7 for condition-specific intervals).
- Inspect the shredder rollers for excessive wear to teeth.
- Inspect the shredder rollers for damage to teeth and cylinders.
- Inspect the mixers rollers for damage to bars and cylinders.

## **Use Specific Maintenance Procedures:**

- It is recommended that an initial inspection of new shredder rollers be instituted at 75 tons (3000 bales or 3300 cu.yds.) of HydraFiber material processed. Inspect for excessive wear to teeth. A weekly inspection should follow until rollers are serviced.
- It is recommended that shredder rollers be re-wired or replaced at intervals consistent with 100-150 tons (4000-6000 bales or 4400 cu.yds.-6600 cu.yds.) of HydraFiber material processed.

*All intervals are based on actual machine usage, assuming a one shift per day operation (8 hours per day, 5-day production week). The daily preventative maintenance should be performed each day that the machine has been run, regardless of the length of the production run. A maintenance schedule is attached. Duplicate as necessary.*

*This guide is specific to the basic shredder machine only. Preventative maintenance procedures and schedule may vary for ancillary equipment. Refer to applicable documentation accordingly.*

## HydraFiber® Processing Unit Preventative Maintenance Schedule

<b>Daily</b>	M	T	W	Th	F								
Clean Motors and Conveyors													
<b>Weekly</b>	Wk1	Wk2	Wk3	Wk4	Wk5								
Grease Shafts and Tensioners													
Inspect Conveyors and Seals													
Inspect Drive Belts													
Inspect Shredder Chambers													
Clean Dust with Air Gun													
<b>Monthly</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Inspect Chain and Sprockets													
Inspect All Drive Belts													
Inspect Tensioner Pulleys													
Tighten Bearing Flanges													
Tighten Bearing Set-Screws													
Inspect Guards and Hardware													
Inspect Sensors													
Clean Electrical Panel													
Test E-Stops													
<b>Yearly</b>													
Grease Conveyors													
Grease Motors													
Inspect Shredder Rollers													
Inspect Mixer Rollers													
<b>Use Specific</b>													
Shredder Roller Inspection													
Shredder Roller Replacement													

# Lubrication Instructions For Ball Bearing Motors

## Lubrication

This motor is supplied with pre-lubrication ball bearings. No lubrication required before start up.

## Relubrication Intervals

The following intervals are suggested as a guide:

SUGGESTED RELUBRICATION INTERVALS		
HOURS OF SERVICE PER YEAR	H.P. RANGE	RELUBE INTERVAL
5,000	Sub Fractional to 7 1/2 10 to 40 50-200	5 Years 3 Years 1 Year
Continuous Normal Applications	Sub Fractional to 7 1/2 10 to 40 50 to 200	2 Years 1 Year 9 Months
Season Service Motor Idle 6 Months or More	All	1 Year (Beginning of Season)
Continuous High Ambients Dirty or Moist Locations High Vibrations Where Shaft End is Hot (Pumps-Fans)	Sub Fractional to 40 50 to 200	6 Months 3 Months

## Lubrication

Use high quality ball bearing lubricant. Use consistency of lubricant suitable for class of insulation stamped on nameplate as follows:

LUBRICATION CONSISTENCY				
INSULATION CLASS	CONSISTENCY	TYPE	TYPICAL LUBRICATION	FRAME TYPE
B & F F & H	Medium	Polyurea	Shell Dolium R and/or Chevron SR1 2	Sub Fractional to 447T All

## Procedure

If motor is equipped with Alemite fitting, clean tip of fitting and apply grease gun. Use 1 to 2 full strokes on motors in NEMA 215T frame and smaller. Use 2 to 3 strokes on NEMA 254T thru NEMA 365 T frame. Use 3 to 4 strokes on NEMA 404T frames and larger. On motors having drain plugs, remove drain plug and operate motor for 20 minutes before replacing drain plug.

On motors equipped with slotted head grease screw, remove screw and apply grease tube to hole. Insert 2 to 3 inch length of grease string into each hole on motors in NEMA 215T frame and smaller. Insert 3 to 5 inch length on larger motors. For motors having drain plug and operate motor for 20 minutes before replacing drain plug.

**CAUTION:** Keep lubricant clean. Lubricate motors at standstill. remove and replace drain plugs at standstill. Do not mix petroleum lubricant and silicone lubricant in motor bearings.



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