



## Pre-Season Inspection

As Shivers is a service-oriented company, we strongly suggest that a pre-season inspection be performed on your drying unit. This inspection sheet was designed to prevent most of the common problems encountered in using a Shivers grain dryer. It will help identify the areas which may cause a breakdown during the drying season, and give you enough time to order any replacement parts needed. It is recommended to hire a trained Shivers dealer to do the inspection.

Before starting the mechanical inspection be sure to TURN OFF THE POWER- then LOCK OFF at the MAIN POWER PANEL. This is for YOUR PROTECTION! **DO NOT** assume that the power is off! Keep all power locked off unless checking motors and voltages from a safe distance.

## MECHANICAL INSPECTION



**MAKE SURE THAT THE POWER TO THE ENTIRE DRYING SYSTEM IS DISCONNECTED AND LOCKED OUT. LOCK OUT TAG OUT!**

This check sheet is provided as a place to start when inspecting the mechanical components of the system, and may require some judgment calls. The amount of grain put through the dryer in any given year will have a large bearing on what parts to replace and when.

Locating and correcting potential problems due to normal wear and tear may very well prevent costly and inconvenient down time during the busy drying season.

- SHUT OFF POWER! - Then LOCK OFF at the main switch panel. Never enter a bin unless all the power has been LOCKED OFF!
- Check for safety and warning decals at each of the bin openings. Shivers will provide these at no charge. See P-10001 Operators Safety Manual for details.
- Check tapered sweep auger for wear. Things to look for include but are not limited to; razor sharp flite, flite gone at outside end, no taper over any 18" section, flippers worn down, wheel wear.
- Check for flex in tapered sweep auger coupling. Make sure that flex is consistent around the bin. There should be a minimum of 6" of free travel when end is lifted off the floor. Unbolt sweep and clean coupler if required. Replace worn bolts and locknuts.
- Check for play in Gearbox shafts. If there is any movement between shaft & side cap, gearbox will need to be rebuilt.

- Lubricate standard gearboxes (painted blue or black) using only Moly-Lithium Extreme Pressure No. 2 grease. (Napa-Valvoline #633) Lubricate high temp gearboxes (painted silver, red, copper, white and orange) with Chevron Ulti-Plex Synthetic. There should be 11 grease zerks on silver and black, 12 zerks on blue, red, copper, and 14 on white, and orange.
- Check pickup finger clearance. Should be 3/8" to 5/8" above spider wheel and 1/2" to 1" clearance between cone.
- Check coupler on bottom of pickup finger for flex and wear (rounding out or cracks at corners). Check for full engagement to gearbox top shaft.
- Check cone for wearing through. Replace cone if worn through. Do not patch!
- Lubricate bearing at top of Center Vertical. If Circu-Lator Jr. check gears for wear and alignment. If Dri-Flo, lubricate bearings on bonnet.
- Open inspection hole on Continuous flow boot; inspect continuous flow fliting for wear. If flite is razor sharp you may want to replace it. Clean out grain in bottom of boot.
- Inspect Center Vertical fliting for wear through inspection hole on lowest Continuous flow boot and where moisture sensor is mounted.
- Lubricate bearing and flite assembly of Horizontal Unload auger. Grease zerks are located at flipper end near discharge chute of auger and by chain coupler on newer units.
- Check tightness of set screws in bearings and drive pulleys. Also inspect Jaw Clutch and pulley coupling for wear.
- Lubricate gearbox and bearing on vertical unload auger (if installed).
- Lubricate bearing on continuous flo drive head and check set screws.
- Inspect all drive belts for tension and wear.
- Clean fines and other trash from above and below drying floor.
- Make sure all safety guards are in place.

## ELECTRICAL INSPECTION



**SURE NO ONE IS IN THE BIN OR NEAR THE DRIVE MECHANISM BEFORE ENGAGING THE POWER!**

- Check safety and warning decals on each of the bin openings. Shivers will provide these at NO Charge. See P-10001, Operators Safety Manual for more details.
- MAKE CERTAIN THAT NO ONE IS INSIDE THE BIN OR NEAR MOTOR AND DRIVE BELTS
- MAKE CERTAIN THAT UNIT IS FREE TO TURN AND NOTHING IS JAMMED IN IT
- Unlock power and turn it on. Make sure that any individual circuit breakers are turned on.
- Turn grain level indicator or low grain shut off to the on or bypass position. Turn control panel power on.
- Check contactors and motors for Circu-Lator and Continuous flo augers by turning the switches for each to the on position.
- Check all automatic controls for proper operation. There shouldn't be any error codes. (See controller manual for more details.)

## FAN AND HEATER INSPECTION

- Clear area of fan intake burner and transition of all weeds and other trash that could be ignited.
- Start fan motor. Units with multiple or high horsepower fans should be tested separately or with some grain left in the bin. High airflow rates can cause the floor to lift, or can knock over some floor support systems. If unit is equipped with clean out doors open them. Make sure roof vents are open
- Open main gas valve at supply
- Turn burner switch on
- Check for gas leaks with soapy water
- Check hi-lo fire after unit has ignited and warmed.
- Shut main gas valve off at supply and allow line to burn out.
- Check no flame lock out for proper operation after flame goes out.
- Reset no flame lock out relay and shut fan down.
- TURN POWER OFF AND LOCK OUT AT MAIN POWER BOX.