

Annual preharvest checklist for reliable dryer operation

Grain dryer safety: Grain dryer accidents often happen due to inadequately maintained or improperly operated equipment. Preparation can help prevent issues such as unscheduled interruptions, breakdowns, or emergency repairs helping to protect your revenues and saving you from costly equipment repairs and lost time.

The following inspection and maintenance items could help you be more prepared for the grain drying season and should be conducted for all dryers on site.



Electrical components

Shut off electrical power to the dryer and follow your “lockout/tagout” procedures before working in and around a grain dryer

Inspect the power box and the control box for moisture, rodent damage, dust and debris

- Inspect for damaged or deteriorating wiring and tighten any loose terminal connections

- Check the connection on the earth ground wire in the power box and the copper ground rod next to the dryer

Inspect and repair all electrical connections, fixtures and runs

Inspect and perform continuity tests on grain level indicators and limit switches, and replace as required

Gas systems (propane or natural gas)

Leak check fittings and connections using approved soap solution

Strainer — Remove the plug and clean the screen
Replace screen if torn or damaged. Strainer shall point in downward position

Pilot Burner Assembly — Inspect pilot assembly for corrosion or deteriorated, clean pilot orifice

Main Burner Assembly — Inspect burner tips to ensure each tip has proper flame. Check orifices and air supply openings for debris, insects and/or dirt. Clean any plugged or obstructed orifices.

Inspect all relief valves on the vaporizer, liquid, and vapor lines for signs of corrosion and rain caps. Replace rain cap if it is damaged or missing.

Vaporizer Cabinet — Inspect the door, inside enclosure, inlet louvers and vent caps for debris and/or combustible material. Clean as needed.

Drip Leg — Open the drain valve to ensure that no water or debris is present. The valve should always be open when the dryer is not in use

Check gas pressure gauges and vents on regulators

Check working condition of safety shut-off valves and gas control valves for damage or corrosion

Physically test the gas control and safety circuit to ensure proper operation.

Always follow manufacturer maintenance guidelines

Contact your LP supplier for installation or repairs on the propane or natural gas system

When servicing a component in the liquid or vapor line, BE SURE that the LP-gas supply is shut off to that component before it is removed or disassembled. The vaporizer must be completely purged before service.

Be sure that ALL sources of ignition are extinguished within 25 feet of the work area.

Internal elements

Complete a visual inspection of the blowers (fans) and housings, bird screens, motors, gearboxes, and metering system

Clean and perform repairs and lubrication as specified in the owner's manual

Inspect blower belts, pulleys and electric motors for proper belt tension and damage; replace belts, tensioners, pulleys, and service motors as required

Inspect the divider floor between the cooling and heating sections to make sure it's clean and properly sealed to the wall

Check the condition of the electrical connections at the flame rod (tube) and igniter, and clean or replace the igniter and flame tube as necessary

Inspect the dryer discharge area to make sure that area is clean of stalks, debris and old grain; the lower slide gates or emergency unload gates should be accessible and slide open freely

Inspect the grain metering system for damage, corrosion, or excessive wear

Lubricate the dryer as specified in the manufacturer's owner's manual

Verify fluid levels in gearboxes and/or change fluid as specified in the manufacturer's owner's manual

External elements

Perform a thorough cleaning of the dryer cooling and heating chamber walls

Climb to the top of the dryer and inspect the outside ladder, ladder rungs, platforms, brackets, and bolts

Inspect the full height of the grain columns, especially the column "turners" to make sure there is no old debris that would prevent smooth grain movement

Check that all entry doors function easily and properly

Inspect the copper tube heat sensor for damage or breaks and replace if necessary

Check any other heat sensors

Open the roof hatch at the top and conduct a good visual inspection of the garner bin, especially at the column wall connection,

This is a high wear point and debris build-up and/or repairs may be needed

Check "bindicators" to be sure they are free of debris and work freely

Complete a good visual inspection of the fill conveyor or spouting to the garner bin fill area for damage, needed maintenance work or debris build-up

Utilize qualified contractors when employees are not qualified to complete maintenance or repairs

Keep invoices for parts and labor

Inspect any repairs or work completed before signing off

Keep common service parts, such as relays, igniter, flame rod, high limit switches and overheat sensors, on hand to ensure that the dryer continues to run during the busy harvest season

Document your complete inspection in writing

Dryer Identification Number: _____

Date of Original Construction: _____

Dryer Make and Model Number: _____

Dryer Capacity in BPH: _____

Work completed by: _____

Date work was completed: _____



For assistance with risk management and safety resources contact us at RMSolutions@nationwide.com or 1-800-260-1356.

NationwideAgribusiness.com

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