

# Pre-season grain dryer inspection and maintenance checklist

**Grain dryer safety:** Grain dryer accidents often happen due to inadequately maintained or improperly operated equipment. But preparation can help prevent issues such as unscheduled interruptions, protecting your revenues and saving your farm or ranch from costly equipment repairs and lost time. The following inspection and maintenance items will help you make sure you're prepared for grain season.



## Electrical and gas 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 test on grain level indicators and limit switches, and replace as required

Inspect and clean the gas train

- Open the drain valve to ensure that no water is present
- The valve should always be open when the dryer is not in use
- Perform simple leak checks
- Check gas pressure gauges and vents on regulators
- Check the interior of Maxon valves for corrosion and clean as needed

Physically test the gas control and safety circuit to ensure proper operation; consult with the manufacturer for the correct test procedure

## 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 owners manual

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

Remove the burner cover and closely inspect, clean and service the burner

- Requires a close inspection of the burner ports and air mixing plates
- Look closely for cracks in the burners
- Repair or replace the mixing plates and clear the burner ports
- In some instances, it may be necessary to drill out burner ports

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 slide and open freely

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

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

Verify fluid levels in gearboxes

## External elements

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

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

- Inspect the full height of the grain columns, especially the column turners to make sure there is no old debris
- 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, for debris, maintenance needs or physical damage
- 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, maintenance work and debris

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