



6 STEPS TO GETTING MOTORS UP AND RUNNING SAFELY THIS SPRING

"Spring is the time of plans and projects." — Leo Tolstoy, Anna Karenina:

Spring Motor Start-Up Tips: A Checklist for Farm and Ranch Operators

As our thoughts turn towards warm weather and time spent outside with family and friends, farm operators are heading into a very busy time of year. Whether planning for planting season or the addition of new livestock, or both, there's plenty to do. One important item on the to-do list is taking auger and fan motors out of storage and putting them back into service.

This task is more than just a matter of moving the motors into position and flipping a switch, however. Depending on the conditions in which they were stored, there's always the potential for loose parts, water damage, or dirt and debris intruding into the motor interior. That's why it's critical to take steps to make sure the motors are ready to work for you, whether in grain towers or in livestock houses.

Pre-Season Checklist

Preventative maintenance and cleaning of motors and components should be done before putting a motor back into service as well as on a maintenance schedule and should always be completed before and after operation, especially in dirty environments.

When performing startup maintenance, it is a good idea to always use a checklist. A check list will ensure that you know exactly what needs to be done and allow you to verify that everything has been completed. A checklist can cover a wide array of topics from inspections, cleaning, lubrication, and testing to ensure that the motor and equipment is always in good working condition.

Here's a quick overview of how to successfully place motors back into service.



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Clear Away Dirt and Dust



BEFORE

Just like anything that is not in use for a while, motors and equipment gather dust. Totally enclosed fan-cooled (TEFC) motors are fully sealed to keep contaminants out but can still gather dust, dirt, oil, and debris. Before putting a TEFC motor back into operation, ensure that it is clean inside and out.

These motors vent heat through their external fins and the fan, so if the motor is covered in dust and dirt, it will not cool efficiently because the ability to dissipate heat is reduced. This can lead to internal damage if a motor cannot stay cool, shortening motor life. Additionally, for every 10°C/50° F above the insulation rating, the life of the internal winding insulation is cut in half, which also impacts motor life.



AFTER

Open drip proof (ODP) motors are susceptible to buildup of dirt and debris inside the enclosure as well as on the outside and can be more easily damaged in dusty or dirty environments due to their design and how they vent heat. ODP motors also make an excellent habitat for rodents and birds. Inspect screens and the interior of motors and equipment for bird and rodent nests and remove them.

The exterior and the interior of motors and equipment should be inspected and cleaned. Vents and screens need to be cleaned before start-up and on a regular schedule during operation. One method of doing this is to blow out dirt with no more than 50 pounds of dry compressed air

Examine Electrical Components

Dirt and dust can easily build up on electrical components and connections. Make sure to clean and inspect all wiring and wire connection for cleanliness and for cracking or dry rot and damage from rodents. Be sure to watch for loose or dirty connections.

Check for Loose Components

Although not as common as when caused by vibration, components can become loose and develop rust or corrosion over time when setting idle. Check fittings, mounts, mounting bolts, steel base plates, and other components to ensure that they are secure and in good repair. Also check for loose pins, bolts, or bearings.



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Schedule Vibration Tests

As with belts and pulleys, mounting bolts and other screws and bolts can become damaged by rust and corrosion while idle.

Loose mounting bolts can cause a variety of issues for motors and driven equipment. Mechanical causes are the most common. Be sure to look for anything that might lead to mechanical vibration. Examine mounting bolts, bellybands and belts for proper tension. Also, check the bearings, and make sure the motor and shaft are properly aligned and balanced.

Issues to look for when putting motors back into service

- Dirty screens and vents
- Excessive dirt on the exterior of motors
- Loose, cracked or worn belts
- Worn or misaligned pulleys
- Warped or bent shafts
- Lose mounting fixtures
- Loose electrical connections or damaged wiring
- Check oil and grease levels
- Check pulleys for wear, alignment and lubrication

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