

MAINTENANCE CONSIDERATIONS

Avoid misusing conveyors.

Monitor belt tracking closely.

Know how to properly lubricate bearings.

Proper installation is a must.

Clean and check photo eyes.

Avoid under sizing pneumatic controlled devices.

Avoid water build-up in air lines.

Make sure conveyor systems are properly grounded.

Check chain and belt tension regularly.

10. Avoid Misuse of Conveyors

The misuse of a conveyor is a common cause of reducing the life of a conveyor system. Placing heavier and larger objects on a lighter duty conveyor system will add stress and wear to not only the chain and wear strips, but also the motors and reducers — which will eventually result in a breakdown. When repurposing conveyors, take the conveyor's belt pull rating and horsepower requirements into consideration before increasing its workload.



9. Provide Proper Tracking for Belt Conveyors

Belt conveyors have unique maintenance issues. One of the most overlooked items that lead to premature wear and replacement is the lack of attention to improper tracking. Belt conveyors should be visually inspected at minimum every shift. Often times there are many environmental issues as well as product issues that have the potential for adversely affecting the tracking of belts and potentially leading to unnecessary down time and repair or replacement costs.

Kenny Boles, Nercon Services, has been maintenance service technician and conveyor technology trainer for Nercon Eng. & Mfg., Inc. for nearly 30 years. Kenny Boles comments,

“I have seen many belt conveyors that desperately needed attention though they were still conveying. The old saying, ‘If it ain’t broke, don’t fix it,’ only leads to worse and more expensive problems in the case of belt conveyors. An ounce of prevention is definitely worth a pound of cure.”



8. Bearings must be Properly Lubricated

Proper lubrication of bearings is another preventative maintenance issue that is quite prevalent in many conveyor systems. The proper type of lubricant and the proper amount are equally important maintenance issues. Many times Nercon service technicians see conveyors with bearings that are either over or under lubricated, neither of which is good for the bearing. Following the manufacturers recommended guidelines is important to achieve the proper operation and lifespan of bearings.

7. Make sure the System is Properly Installed

Improper installation is probably the leading cause of operational issues and poor overall performance of the conveyor system. Proper installation is the best assurance of long term performance and reliability of the conveying system. Misalignment of conveyors, interference with other equipment or devices, and incorrect placement of secondary devices that interfere with conveyor belt operation are all examples of poor installation.

6. Give attention to Photo Eye Cleaning and Electrical Components

Another preventative maintenance issue that is often overlooked is proper and timely cleaning of photo electric controls, targets and other electrical control components on the conveying line. Routine visual inspections can identify issues before they lead to damage, down time and unnecessary replacement requirements.

5. Check Pressure on Pneumatic Systems

Many conveying systems have pneumatically controlled devices. The proper regulator pressure adjustments along with flow control adjustments are critical to the function and longevity of these devices and the overall production of the conveying system. Frequent inspection of the regulators and their proper adjustment is important. Air line pressure to components should never be set higher than is required to perform the necessary operation in the time required. Excessive pressure is not only costly to produce, it has an unnecessary adverse affect on the life span of the components.

Make certain that plant pneumatic systems where conveying systems are installed, are not undersized and are devoid of water build up in the lines, which has a very detrimental effect on the operation of pneumatic devices. Proper installation of air driers and inspection of their proper operation is essential to assure that quality air is being supplied to the devices in the system. Component failure, improper operation and reduced life span can be avoided with the proper installation and maintenance procedures.



4. Be sure to Ground Conveyor Systems Properly

Proper and assured grounding of the conveying system and all of the components is critically important to the proper operation and longevity of the conveyor system. Many



times our services team see instances of stray and induced voltages that are guilty of causing numerous functional and operational issues in installed conveyor systems. These are most often noticeable in frequency controllers and PLC's but not limited to them as other individual devices can be affected as well. Proper inspection and testing as part of a Preventative Maintenance (PM) program is important to confirm and assure the systems continued grounding integrity.

3. Monitor Chain Tension

Inaccurate chain and belt tension is one of the top reasons for performance and wear related issues for conveyor belting, plastic chain and wear strips. It can be directly related to excessive wear and premature replacement of conveyor belting and chain. It is important to understand and implement the correct chain length and monitor the chain for any unusual wear patterns. In some instances it is necessary to lubricate chains in order to achieve satisfactory operation. Routine inspection is a must to assure performance and longevity of the conveying surface.

2. Clean Conveyors Regularly

The proper cleaning of conveyors and belts in a timely manner is important to the longevity of the belts and wear-strips. Regular cleaning maintenance procedures can also prevent product conveying issues. Lack of proper

cleaning has been the most contributing factor in Nercon service calls to determine conveying issues and performance.

1. Follow a Comprehensive Maintenance Plan

A comprehensive Preventative Maintenance Plan will convert to the highest possible levels of up-time for your packaging line. Initiate check lists and have the discipline for all maintenance personnel to use them. Train your maintenance personnel on what the sounds and sights are for strained components, as well as how to properly test components. Record equipment deterioration so parts can be replaced or repaired before they cause system failure. Schedule regular maintenance and plan for outages when necessary. In a 24/7/365 factory, it may be necessary to plan weekly walk-arounds, with an outage scheduled every two months for stripping out the conveyor for cleaning and giving more thorough checks to the conveyor drives.



Above *Kenny Boless with Nercon Services, consulting technical expert for this article.*



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