SKF Y-TECH bearing units boost uptime and cut maintenance for CNH grape harvester

Relubrication-free, corrosion-resistant bearing solution helps CNH increase machine reliability while reducing machine weight and operating costs.

A challenging application

Throughout roughly month-long harvest seasons, grape harvester machines must endure up to 12 hours a day in the vineyard. During these intensive work periods, machine components are constantly exposed to grape deposits, making daily washdowns a necessity.

For several bearing positions within a CNH line of grape harvesters, the combined exposure to grapes and high-flow washdowns proved very problematic. Four bearing units in the harvester's fruit picking separator – a key application that extracts grapes from the stems – were prone to premature failure before reaching their predicted service life.

An analysis of the problem revealed that water, detergents and grape materials were breaching the bearing seals, eventually leading to premature bearing failures and costly unplanned downtime and repairs.

SKF

For grape growers, production stoppages during the short harvest season are simply unacceptable, so CNH looked to SKF for help. As a longtime supplier and solutions provider, SKF was familiar with the particular application challenges, and suggested a solution that could handle the corrosive conditions: the Y-TECH bearing unit.

A proven SKF solution

Designed for applications that must operate reliably for long periods without maintenance, the Y-TECH housing, unlike the cast iron it would replace, is fabricated from a lightweight, glass fibre-reinforced polyamide material and features a steel wire support structure. The materials and design provide robust resistance to a range of chemicals and acids. Inside the housing, an SKF Y-bearing for agricultural applications features a five-lip seal design and zinc-coated rings for further corrosion resistance.

In previous SKF field and lab trials, Y-bearings with five-lip seals lasted 30-50% longer compared to conventional agricultural competitor bearings.* CNH liked this robust performance record, but was equally intrigued by the Y-TECH unit's lighter weight and competitive cost vs. the problematic bearing. The manufacturer soon subjected the SKF solution to a series of tests in the application.

Results from the field

The Y-TECH bearing units performed as well as advertised, prompting CNH to make them a standard component of the fruit picking separator for the company's entire line of grape harvester modules.

For the grape growers relying on the CNH harvesters, the Y-TECH units are increasing productivity while reducing unplanned downtime and machine lubrication demands. For CNH, the SKF solution is helping to extend bearing service life and reduce machine weight even as it reduces total ownership costs. And while the lower weight Y-TECH units are contributing to marginal fuel savings today, they are also helping to limit the total weight increases of future functionality upgrades.

* All figures and graphs are rounded off and based on SKF testing against conventional bearings. Savings and results will vary in specific applications.

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