TIMKEN BELTS

FREQUENCY FINDER TOOL REVEALS CAUSE OF COSTLY BELT FAILURES FOR COTTON PRODUCERS

CHALLENGE

A cotton producer in Mexico faced frequent belt failures in their cotton gins, specialized machines that clean raw cotton. Nine synchronous belts, crucial for machine operation, experienced significant wear – including tooth shear – with breakages occurring daily and totaling 20 belt failures. Each replacement resulted in 30 minutes of downtime. With a capacity of 10 tons per hour and a cotton price of ~$900 USD per ton, each half-hour of downtime caused losses of $4,500 USD, leading to a total downtime cost of $90,000 USD over the failure period.

TIMKEN BELTS SOLUTION

Together, the producer and the Timken Belts engineering team reviewed the application and confirmed the compatibilty of the Timken® Panther® synchronous belt with the sprocket design. An on-site visit revealed all nine belts were severely under-tensioned, which compromised the grip and stability of the belts, leading to the degradation of their teeth and eventual breakage. After providing guidance on proper belt tensioning using the Frequency-Finder tool, correct procedures were implemented, restoring reliable cotton gin operation.

RESULTS THAT MATTER

- Proper belt tensioning eliminated frequent failures, reducing costly downtime (previously $4,500 USD per half-hour).
- Engineering guidance enabled sustained performance and efficiency, helping the customer avoid past losses of $90,000 USD.

20 BELTS X $4,500 PER BELT PER DOWNTIME =

RECOVERED SAVINGS: $90K USD

Timken® belts are part of The Timken Company's growing portfolio of engineering bearings and industrial motion products. Timken Belts manufactures premium-performance power transmission belts that help keep industry in motion and the world more productive.

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