

PRODUCT: **BCI BUS IDLER PULLEY**

**IMPROVING
RELIABILITY IN
CHALLENGING
ENVIRONMENTS**

Choose Ferrum Engineering for reliable, safe, and efficient solutions that are specifically designed to meet the demanding requirements of your bus system.



BCI BUS IDLER PULLEY **PN-#220102**



DESIGNED FOR

Our idler pulleys are engineered for seamless integration, suited to specific bus system environmental conditions.



SAVE TIME

Our like-for-like fitment eliminates the need for special tools, significantly reducing maintenance time and frequency.

INCREASE RELIABILITY

High-quality materials enhance reliability, decrease maintenance needs, and extend component lifespans, lowering long-term costs.



WORK SAFER

Ferrum Engineering enhances safety by reducing frequent maintenance, creating a safer environment for maintenance personnel.



CASE ANALYSIS- BCI BUS IDLER PULLEY



THE PROBLEM

The Light Vehicle Maintenance Department encountered persistent failures with the OEM idler pulleys on the air conditioning compressor drive belts.

These pulleys, typically lasting only 4 to 8 weeks, were not meeting operational standards, which necessitated an investigative intervention by Ferrum Engineering.

A detailed failure analysis revealed that adverse operating conditions—specifically, the combination of high dust levels and elevated temperatures—were contributing to accelerated wear and material softening, precipitating the premature failures.



THE SOLUTION

Leveraging advanced computer-aided drafting (CAD) technology, Ferrum Engineering designed a robust replacement pulley that seamlessly integrates without adverse effects on adjacent systems.

The redesigned pulley, crafted from billet aluminium and closely matching the weight of the original by a margin of 1.8%, is tailored to endure the rigorous environmental conditions faced by the fleet.

Additionally, the pulley's design now includes easily replaceable, high-quality Japanese bearings to enhance both durability and longevity. Subsequent to extensive performance testing, these pulleys have demonstrated an impressive average lifespan of 10 months—marking a 166% increase in durability over the OEM parts.

At Ferrum Engineering, our commitment is to provide innovative, reliable solutions that significantly reduce downtime and operational disruptions in demanding environments.

