

Ducted Systems Technical Services: Service Tips Letter

Letter: STC-005-24

Date: July 15, 2024

To: S1 HVAC Branch and Distributor Principal, Sales Manager, Service Manager, Parts Manager, Warranty Manager, Training Manager, Delegated Administrator. Ducted Systems Technical Services, DS Parts/S1, ES Americas, ADTI Channel, Account Representatives, Marketing, Sales, Warranty teams.

Subject: Rooftop Blower Sheave Failures After Product Installation

Product/s: Pro 3-12.5T, Core 3-12.5T, Small Sunline 3-6 Ton Belt Driven Blower Products.

Summary: This document is to provide technical information and reporting process for products that may have encountered premature sheave/pulley failures on rooftop equipment built from 2023 to 2024.

Johnson Controls has received some field reports on blower sheaves arriving loose or coming loose after operating under 90 days. The reported concerns have been infrequently provided, but Technical Services has decided to offer a reporting outlet while we perform an investigation to gather additional field-based data. This investigation will primarily focus on blower sheaves and pulleys that are factory provided and installed have a reported failure within 90 days of power application to the unit.

Technical Services does advise that even though all our equipment is inspected and performs a mandatory operational run test, that the blower section be inspected during installation and start-up. This is to ensure nothing has shifted or come loose during transit to your customer or after setting airflow in accordance with the product's Installation Guide.

In the event a product has a Pulley or Sheave-based failure, please contact Technical Services via JCI connect, 1-877-874-7378, or <u>cg-upgtechsupport@jci.com</u>. With this data, we will be able to better understand the scope and provide an analysis of the products after shipment.

We ask that these formats be used to report, as without a case-based data source this investigation may encounter delays or resolutions that do not meet all regions or customer needs.

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Key Items of Inspection And Information

Johnson Controls blower shafts use a beveled (ramped) keyway on most small tonnage equipment. Because of this, placement is crucial to ensure it maintains its seated proper position during operation.

The below figure is a simplistic view of how a key should sit on blower shafts. It is crucial that the key sit fully on the surface of the keyway to ensure the torque spec is effective.

Johnson Controls Norman Manufacturing has implemented and revised against 100% of our products:

- 1. Laser alignment between pullies/sheaves. (Replaced traditional manual tooling)
- 2. Installation of Loctite 242 (Blue) on all set screws for sheaves and pullies.
- 3. Photographing at end of line prior to shipment.
- 4. Torque adjustment tooling and inspection procedures.
- 5. Belt tension gauge procedures and training.

Key Field Inspection Items

- 1. Motor and blower pulley alignment.
- 2. Loctite 242 (Blue) is present on all set screws.
- 3. Motor and Blower sheave keys are flush with the shaft.
- 4. Set Screw Torque is in accordance with below chart.

5. Provide any photos showing an item is not within specified tolerances or alignment.



Sheave	Fixed	Adjustable	Belt
Product	In lbs		In lbs
Small AHUs	110	110	50
Pro	165	130	A = 40-60 B = 110-130
Core	165 - 180	165 - 180	A = 40-60 B = 110-130
Small Sunline	165	165	A = 40-60 B = 110-130