

Siemens Energy Inc, 4654 W. Junction Street, Springfield, MO, USA

Mr. Jody Hooks  
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Report for SC50 blower League City, TX

Dear Mr. Hooks,

Thank you for the opportunity to help you with the repair services for the SC50 blower SN 8749 at our factory service center.

The core was disassembled in order to inspect the status of the inside components and to perform the scope of work agreed on which included the change of bearings.

During the inspection of the inside components, we found additional parts that need to be replaced that include:

- Labyrinth sealing ring
- Thrust bearing
- Counter bearing
- Two (2) PT-100 sensors
- Rotor assembly
- Bushings

For pictures please see attached file "Fact finding SC50 #8749.pdf".

#### Bearing damage analysis

We suspect that the damage is due to the corrosion of the internal core parts.

Air foil bearings are sensitive to particles either from corrosion or from dust in the surrounding air. When particles are sucked in under the air foils, and the unit is started, these particles will eventually wear off the Teflon® surface inside the bearings, causing a total breakdown of the bearing.

When one of the main supporting bearings for the rotor is damaged, the rotor becomes out of balance and the movement of the rotor is no longer in a controlled position. The movement of the rotor in many cases can cause damage to the impeller and other bearings in the unit.

During the inspection a noticeable corrosion layer on metal surfaces and on air foils was observed.

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**Recommendations:**

Replace additional parts listed above.

Modify the maintenance schedule to include a regular monitoring of air filters and bearing fan filters, and the change of these at least once a year.

Avoid leaving the units idle for long periods of time. Shortening the sequencing of the units may be necessary in order to avoid idle periods for more than one week.

Continue to monitor the coolant liquid (50% water / 50% glycol) on a regular basis.

For the additional parts that are recommended to be replaced, please see the attached quotation.

— Please let us know if you have questions. We will wait for your approval feedback prior to continuing the service of this blower core.

With kind regards,

Emile Fakhoury  
Project Management  
Siemens Energy Inc.