



TURBINE TIPS

Turbine Tips provided by Pond and Lucier, LLC. ®

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Subject: NY Airbrake Fuel Pump Failures

Applies to: GE Gas Turbine MS5001N gas turbines (circa 1970-71)

The NY Airbrake fuel pumps used in the early 1970s on GE gas turbines (MS5001N) can fail if overloaded or if not properly lubricated. The lubricity of the fuel (typically #2 distillate) is used to lubricate the internal components. These include axial pistons and bearings. Failures have occurred on these pumps as shown in subsequent photos herein. The good news is that most of the replacement parts can be obtained and typically no additional machining is required.



Fig. 1: NY Airbrake Fuel Pump showing fuel flow

Gas turbine owners have noticed problems with these pumps after as few as 1000 operating hours. An owner in the Bahamas noticed that there was an increase in lube oil consumption (from the turbine system) at approximately one barrel per day (**that's 55 gallons per day!**) due to internal seal failures

of the *NY Airbrake* pump. **Note:** This pump is not supposed to be ingesting any oil from the turbine's lube oil system.

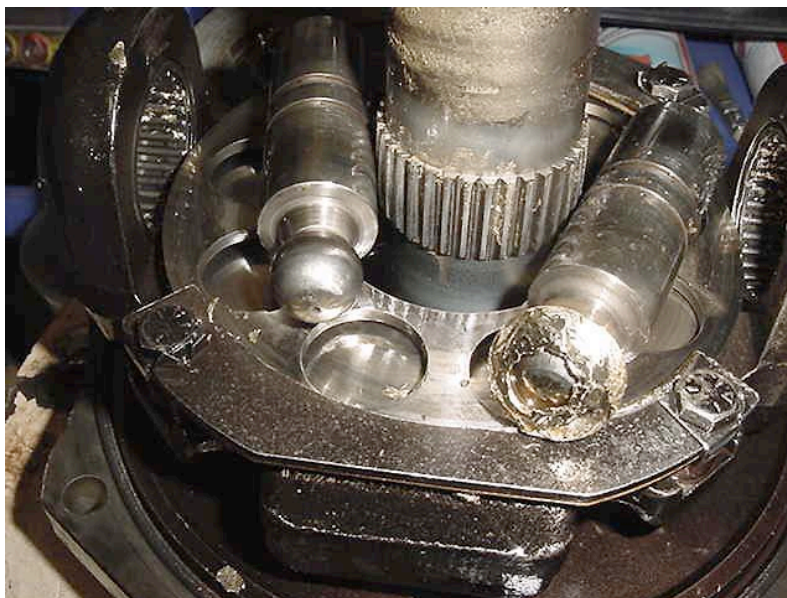


Fig. 2: Failed NY Airbrake Axial-piston Fuel Pump

The failed pump shown herein was serviced and saved, even though the photos suggest a catastrophic loss. *Pond And Lucier, LLC* was able to purchase the replacement parts, clean the remainder of components and reassemble it in approximately two weeks.



Fig. 3: Failed NY Airbrake Fuel Pump with copper debris

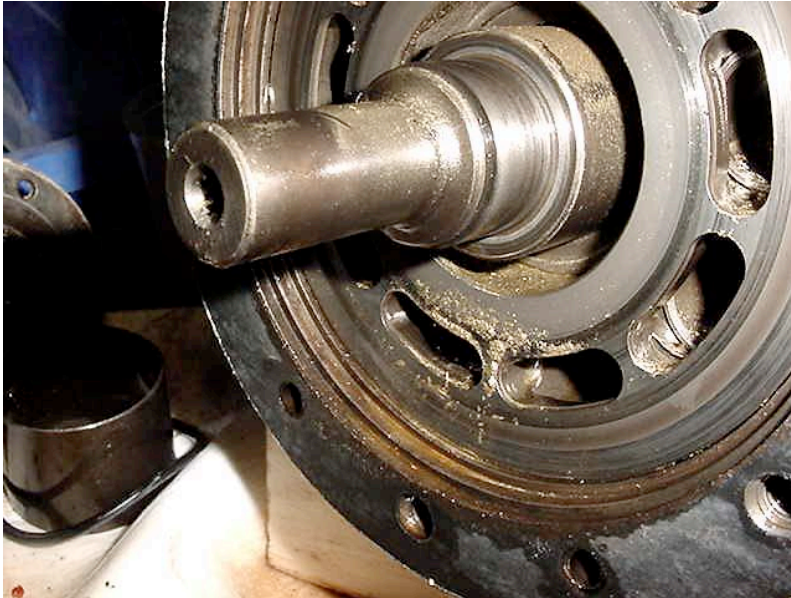


Fig. 4: Failed NY Airbrake Fuel Pump with copper debris

If you have a failed *NY Airbrake* pump, consider sending it to *Pond And Lucier, LLC* for reconditioning. We have done many for a client in Brooklyn, NY and have the parts and expertise to do the job at our hydraulics lab in Amsterdam, NY. Contact Dave Lucier at dave@pondlucier.com or cellular phone: 518-330-4801. In this website, www.pondlucier.com, open the tab called **reconditioning** on the left side of the home page for pricing overhauls, or contact our office.

Related Topics: January 2004 and April 2003