

## Machine Condition Report

Report Date: 06-Nov-2002

**Location:** BUILDING 121 AIR COMPRESSORS  
**Equipment:** COM1/121 COMPRESSOR #1, BLDG121

Problem Severity:  
**Significant**

**Diagnosis:** Misaligned across coupling

**Initial Report:** 17-Mar-1998

**Explanation & Recommended Action:** 3-17-98 This is the first measurement since the compressor and motor were moved to this building. The axial vibration amplitude on the motor has increased. The oil sample from the drive end motor sleeve bearing has a large number of fine non-ferrous particles (see microscope photo).

**Status:** Closed

**Analyst:** Tom Spettel

**Date Closed:** 06-Nov-2002

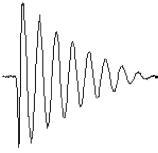
Recommend checking coupling alignment (hot) and inspecting the motor bearing.

4-14-98 Hot alignment was checked with a laser alignment system. Alignment readings indicated that the motor was setting approximately .030" high at the drive end and .045" high at the non-drive end. Soft foot was found between the skid and concrete floor at the Southwest corner and both mid-span supports. No soft foot was found on the motor feet.

The axial float in the coupling was insufficient to set the motor on magnetic center. This indicates that the coupling was installed without setting the motor rotor on magnet center. Inspection of the drive end motor bearing indicated significant wear on the thrust surface (see photo). This was caused by the improper coupling axial position.

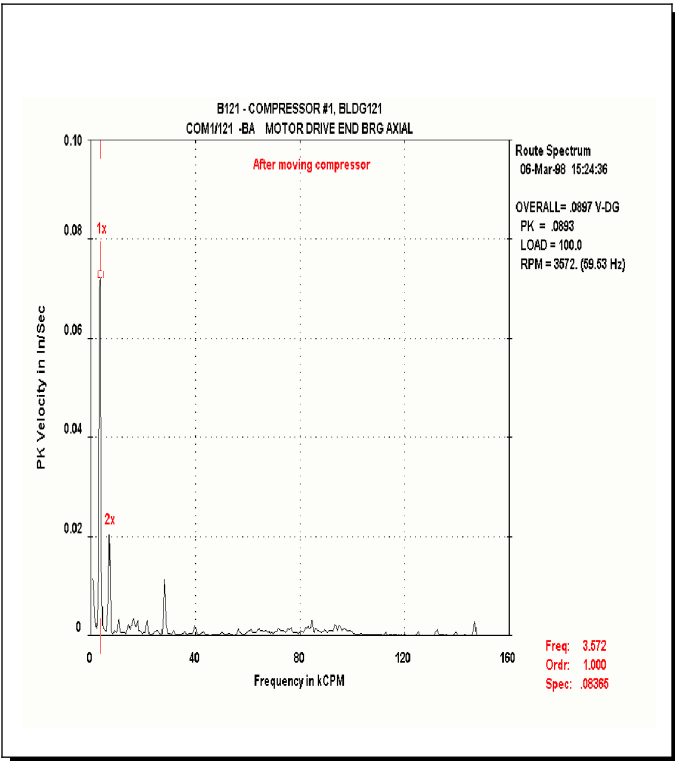
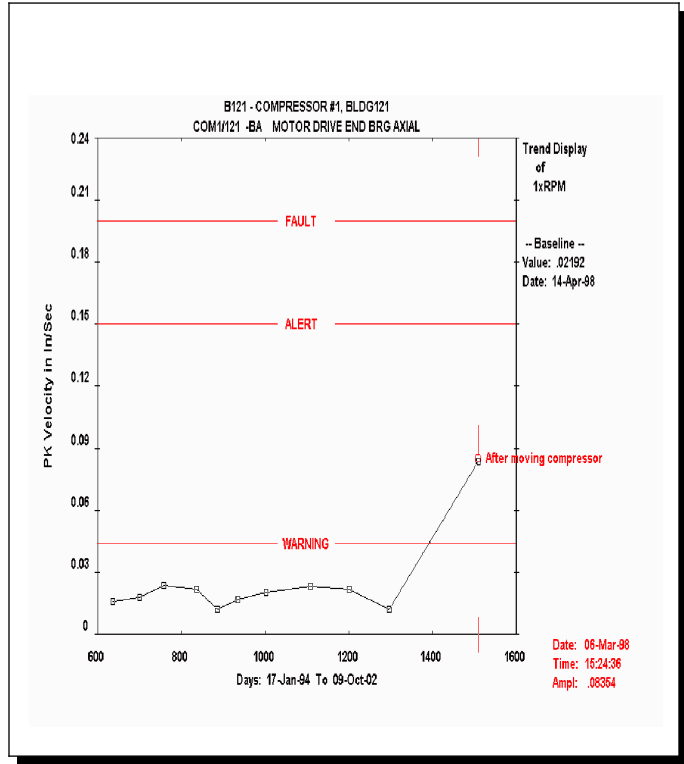
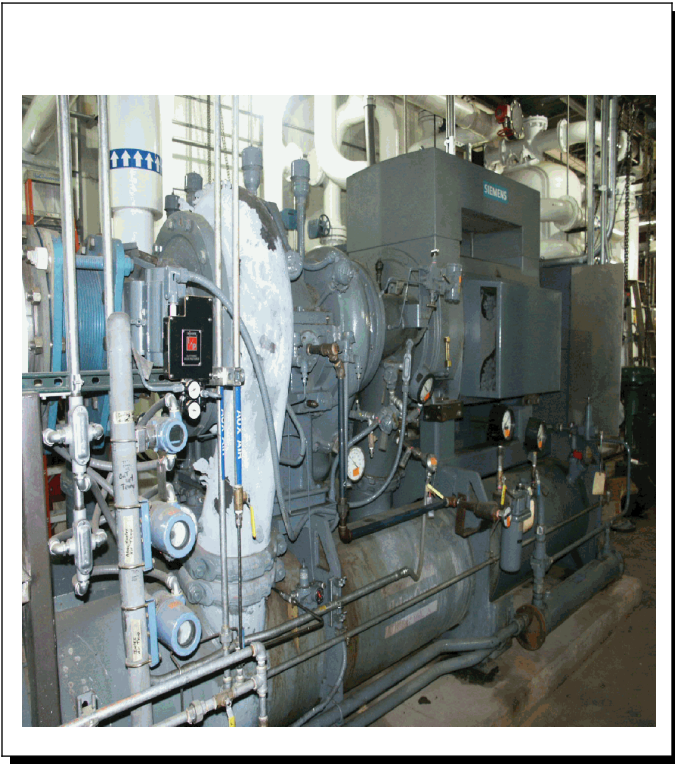
The motor bearing was replaced (on-site) since no shaft damage had occurred. The compressor skid was shimmed to the floor to remove the soft foot. The coupling was centered in the axial float with the motor on magnet center and the vertical alignment was adjusted for the measured thermal rise.

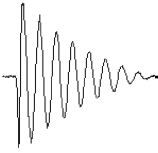
The vibration amplitudes returned to normal. (Report closed)



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