



Pump Vibration Report

**Jobsite: Anne Arundel
Location: Annapolis, MD.**

Unit Tested

Tag# P-1 MN SN

Prepared For

Gaghan Mechanical Inc.

January 12, 2008

Pro-Vibe Pump Report

Jobsite: Anne Arundel

Location: Annapolis, MD.

Report Date: January 12, 2008

Pump Type: Coupled

Operating RPM: 1775

Run Hours:

Starts:

Load: 100%



Pump Condition:


Attached alignment results. The concern is the vibration reading levels prior to the alignment and then after. It indicates that the alignment did not significantly reduce the vibration levels when pump is run at full speed. The sweep performed on P1 indicates that the vibration levels are acceptable until the drive frequency is over 50 Hz. We also noted that when the coupling was rotated it did affect the amplitude, but did not completely reduce the amplitude to acceptable levels at full speed. Also noted on the P1 sweep was a possible resonance when pump is running at 28.5 Hz. Levels at 40 Hz on VFD drive are acceptable. Likely this pump also is good until the Freq drive is above 50 Hz.

Recommendation:

I recommend replacement of coupling insert as a beginning and if that does not significantly improve levels then replace with a Lovejoy type coupling with the black insert.

Continue data collection on a scheduled basis to monitor for any changes vibration amplitude or content on this unit.

Status:  **Serious**

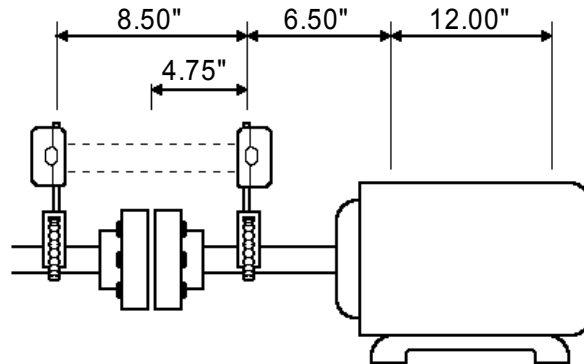
 **Extreme:** Pump should not be operated; one or more significant faults were noted in vibration readings.

 **Serious:** Pump has significant energy that appears to have faults that are continuing to increase. Take readings more often so faults levels can be monitored closely.

 **Moderate:** Pump has levels that are high enough that additional readings should be collected to understand the nature of the present levels.

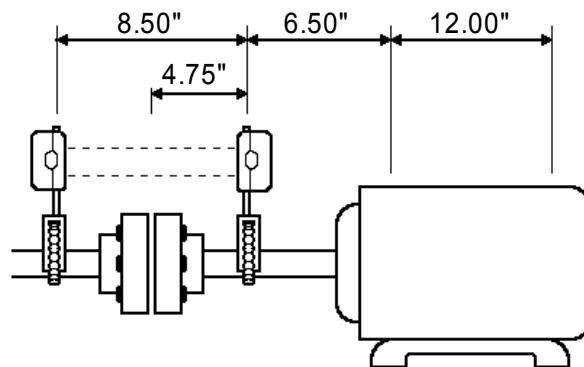
 Slight: Pump has some minor indications of raised levels. Continue to monitor for changes in content and amplitude.

 OK: Pump has no faults. Continue to monitor for changes in content and amplitude.



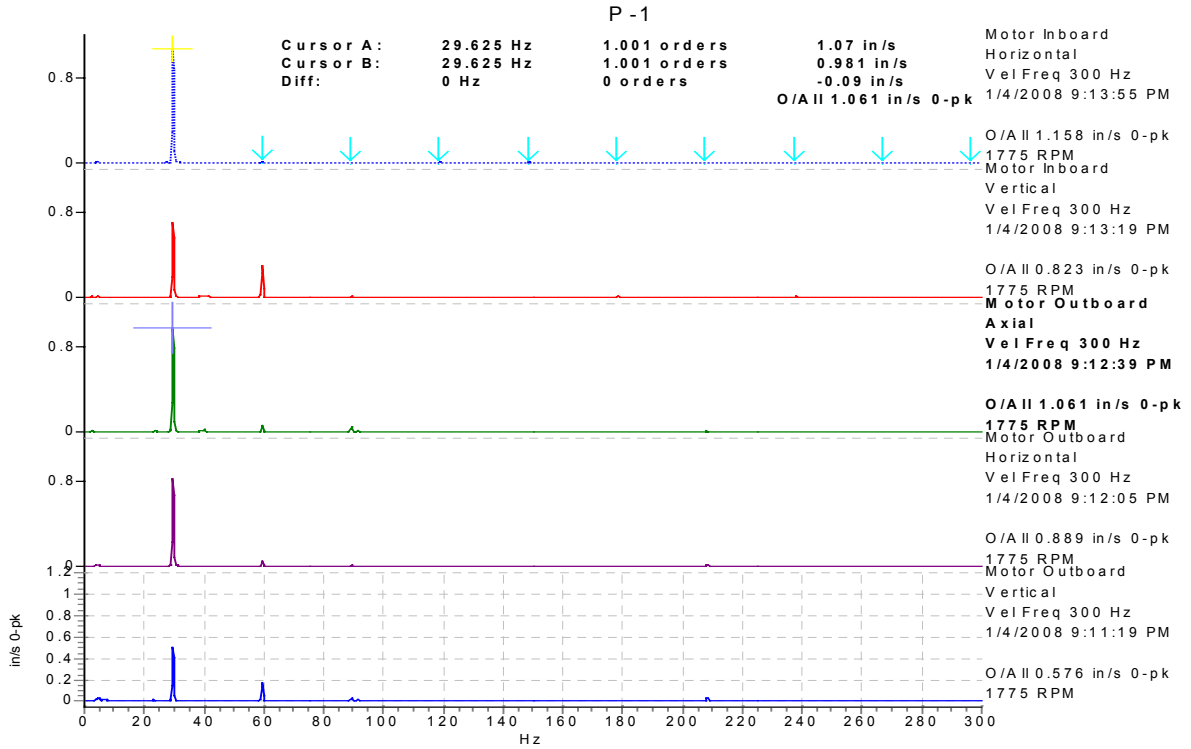
		3.6 / 1"		19.1		60.0		103.7
		0.8 / 1"		1.6		7.4		17.0

P1-Initial

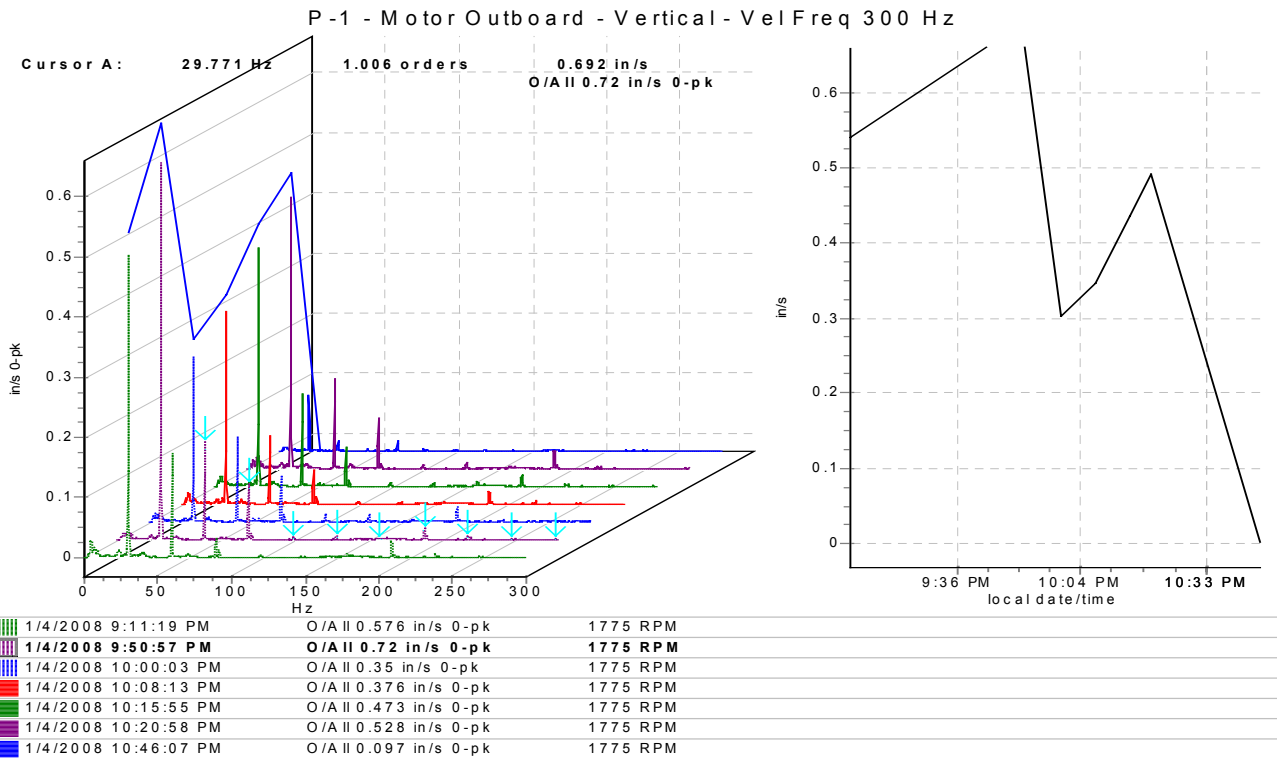


		0.1 / 1"		0.8		0.3		1.5
		0.1 / 1"		4.5		2.9		1.2

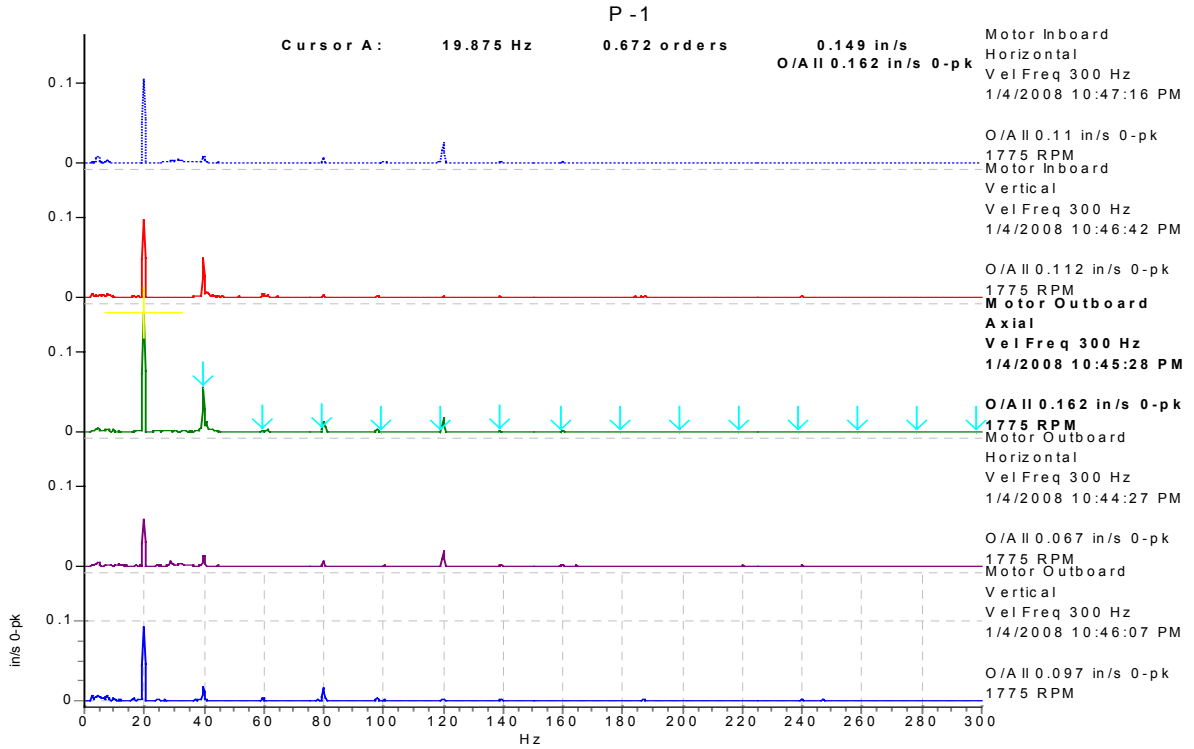
P1-Final



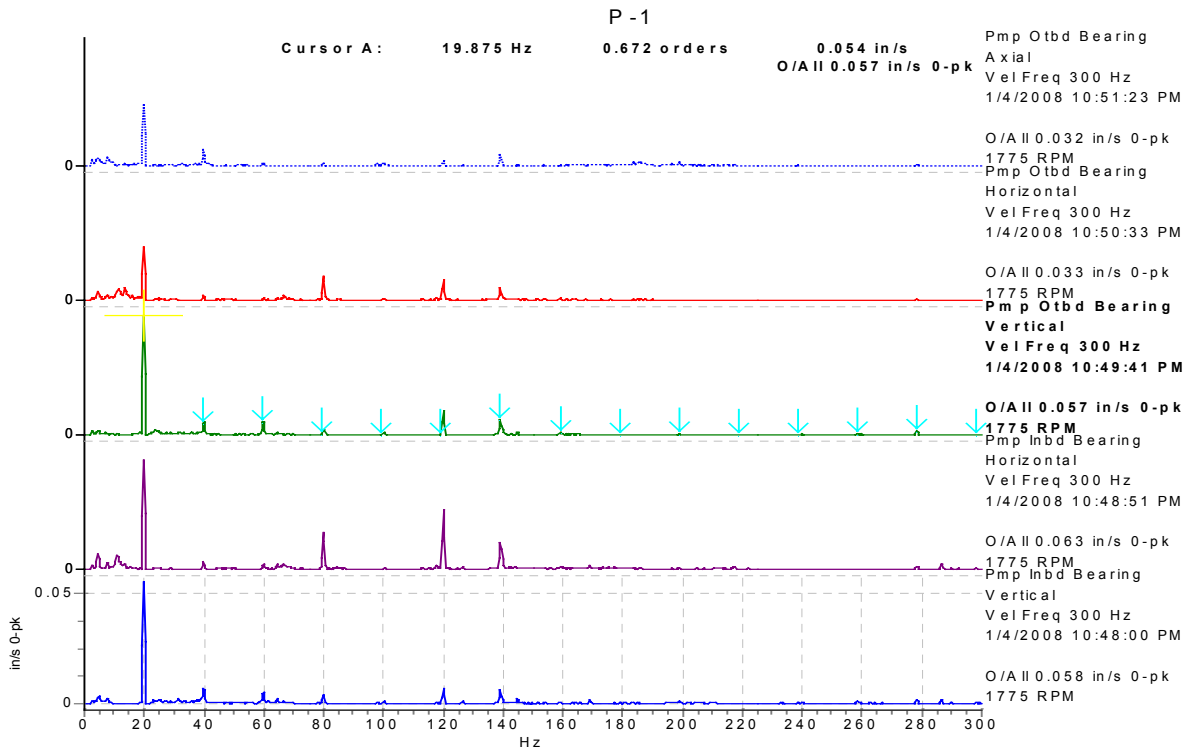
60 Hz on Drive (initial readings prior to alignment) High 1xrpm levels.



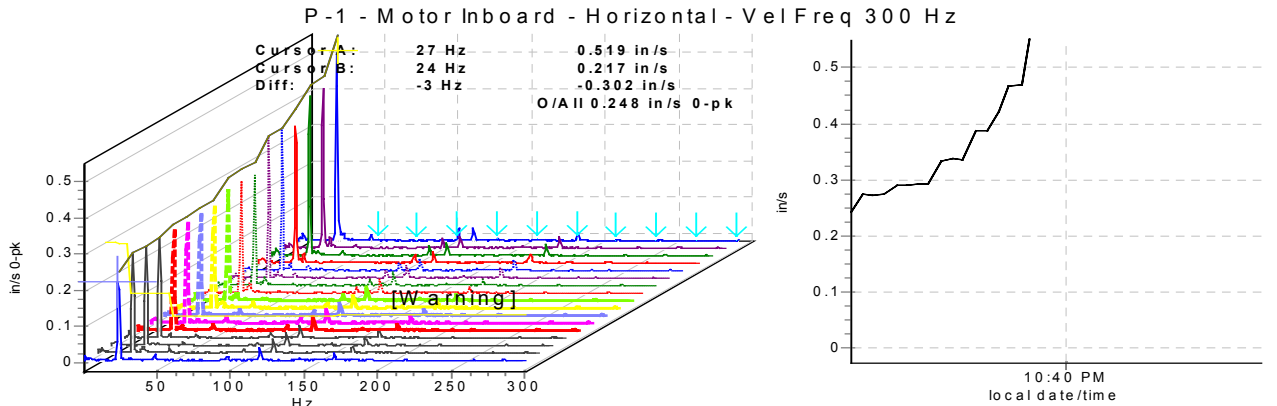
Note the variation before alignment and then after with rotation of coupling as 2nd variable.



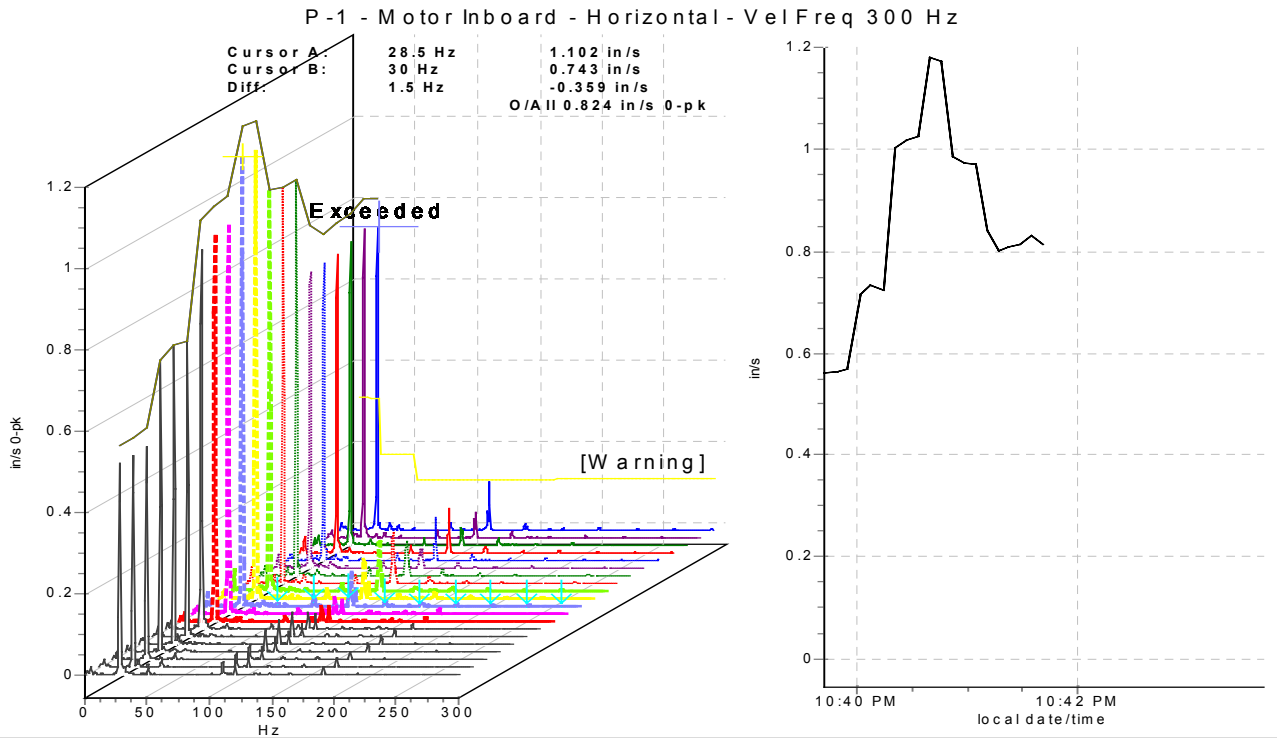
40 Hz on Drive! All levels well within .3 ips recommended limit.



40 Hz on drive and levels are acceptable.



1/4/2008 10:39:26 PM	O/A II 0.248 in/s 0-pk	<set RPM >
1/4/2008 10:39:30 PM	O/A II 0.281 in/s 0-pk	<set RPM >
1/4/2008 10:39:34 PM	O/A II 0.278 in/s 0-pk	<set RPM >
1/4/2008 10:39:38 PM	O/A II 0.281 in/s 0-pk	<set RPM >
1/4/2008 10:39:43 PM	O/A II 0.296 in/s 0-pk	<set RPM >
1/4/2008 10:39:47 PM	O/A II 0.296 in/s 0-pk	<set RPM >
1/4/2008 10:39:51 PM	O/A II 0.298 in/s 0-pk	<set RPM >
1/4/2008 10:39:55 PM	O/A II 0.298 in/s 0-pk	<set RPM >
1/4/2008 10:40:00 PM	O/A II 0.34 in/s 0-pk	<set RPM >
1/4/2008 10:40:04 PM	O/A II 0.343 in/s 0-pk	<set RPM >
1/4/2008 10:40:08 PM	O/A II 0.341 in/s 0-pk	<set RPM >
1/4/2008 10:40:13 PM	O/A II 0.391 in/s 0-pk	<set RPM >
1/4/2008 10:40:17 PM	O/A II 0.392 in/s 0-pk	<set RPM >
1/4/2008 10:40:22 PM	O/A II 0.428 in/s 0-pk	<set RPM >
1/4/2008 10:40:26 PM	O/A II 0.47 in/s 0-pk	<set RPM >
1/4/2008 10:40:31 PM	O/A II 0.473 in/s 0-pk	<set RPM >
1/4/2008 10:40:35 PM	O/A II 0.567 in/s 0-pk	<set RPM >



1/4/2008 10:42:01 PM	O/A II 0.824 in/s 0-pk	<set RPM >
----------------------	------------------------	------------

Note the 28.5 resonance in this direction and then levels taper off.