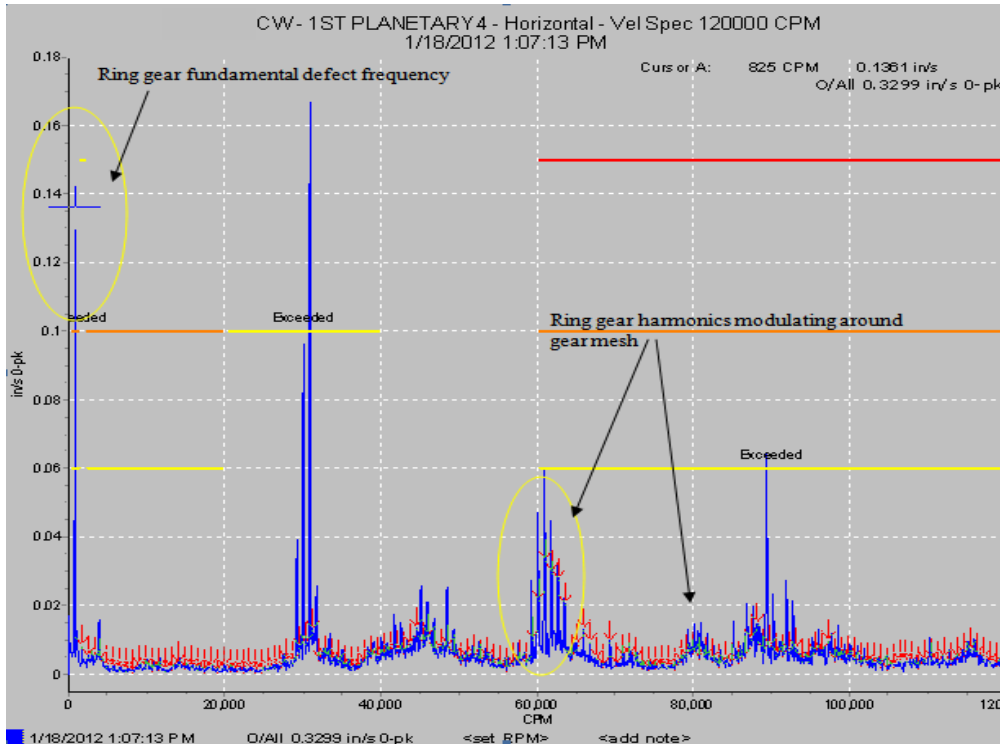
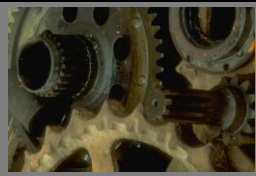


Planetary Set-Up



- Finding this ring gear issue prior to gearbox shipment prevented wasted man hours in shipping and installation
- Prevented installation of a subpar machine that could have seen a reduced lifespan and future problems.

“Many dollars can be saved from the bottom line by post rebuild vibration evaluation before delivery.”

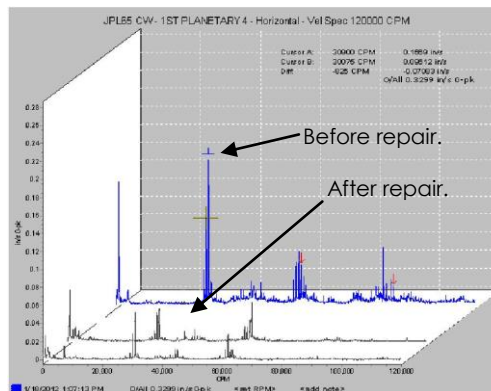
Ring Gear Cocked in Housing

Vibration inspection of equipment prior to it leaving the manufacturer or rebuilder can be very beneficial. These tests can provide evidence for or against warranty claims and can help ensure that the customer is delivered a product of the highest quality.

This value was again shown with a gearbox. Through the use of vibration inspection data, the presence of a ring gear flaw was determined prior to the gearbox being attached to a service motor for delivery to the customer.

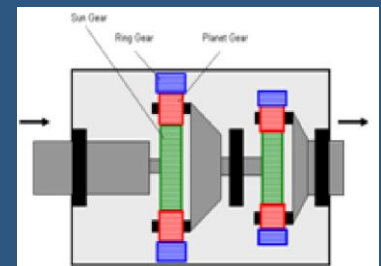
Upon disassembly of the gearbox, it was found that the ring gear was cocked in the housing and off a total of 0.008 in. This flaw had resulted in elevated gear mesh frequencies with ring gear sidebands and the presence of a ring gear fundamental frequency in the gathered vibration spectrums.

After fixing the ring gear issue, the gearbox was reassembled, and further vibration testing confirmed that the problem had indeed been corrected.



From back to front, the waterfall above shows the initial test stand run with the ring gear issue, the test stand run after the issue had been corrected, and the corrected gearbox run as a powertrain with the service motor installed.

It can be seen that the ring gear fundamental, the gearmesh harmonics, and the ring gear sidebands all decreased significantly after the issue was corrected in this large gearbox.



Gearbox set-up with two planetaries.

Data was collected with the Commtest Data Collector.

Feel free to contact Keith J. Earl with any questions
keaj@meaur.com