Testing Vibration for Trendsetters

Applies to

☑ Trendsetter 400/800
☑ Trendsetter VLF
☑ Trendsetter AL
☑ Trendsetter VLF AL

Background

Some customers wanted a method for determining whether vibrations at their site would cause problems for Trendsetter operation.

This procedure is used to determine what shock acceleration gets transmitted to the Trendsetter engine in the frequency range of 30-150Hz:

- A result of less than 1-2mg then would be on the safe side.
- A result of more than 12-15mg would probably cause some plot artifacts (in the form of a couple of vertical hair lines 2-3" in the plot)
- A result between 1-2mg and 12-15mg is in a gray area that would require further testing.

Tools and parts

- accelerometer probe with sensitivity of 1000 mV/g (e.g. Kistler: PiezoBeam accelerometer, Model: 8628B5)
- signal analyser
- metallic block(~2x2x2" or larger)

Steps

1. Hook up the accelerometer probe to a signal analyser.
2. Fix the probe to the metallic block
3. Place the block on the floor near the Trendsetter so the probe can measure vibration in the vertical direction.
4. Set the analyser range to 0-200Hz (X-axis), and 0-10 mg (Y-axis).
5. Measure and record the floor vibration spectrum from 0-200Hz when there are maximum peaks of seismic activities at the site.
6. Repeat step.5 for at least 5 times and record the results.
7. Send the vibration spectrums results to your Creo representative for analysis.

Notes

Normal industrial operations at a site (e.g. a lift truck dropping a 200 lb load on the floor with dropping speed of 1 foot/sec) on a concrete ground level floor cause 1-1.5 mg shock. However, on a second floor or higher it might be as high as 5-30 mg depending on the type of building.

Technical contact

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