

7030 Ryburn Dr. Millington, TN

Phone: (901) 873-5300

Fax: (901) 873-5301

www.gohispeed.com

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Joshua Palmer ATS Southwire-Starkville, MS

Joshua,

The following is a brief summary of the field balancing that was performed on SH-2 and SH-3 Taping Head Spindles at the Starkville facility. SH-2 was checked on 3/3/22 and was operating at around 1200 rpm. This unit appears to operate at around 500 rpm on average. During our reference run, data showed vibrations to be within tolerance for 1200 rpm. Overall amplitude at 1 x rpm was .06 ips-pk. 1 x rpm peak in displacement, which is typically what unit of measure is used for field balancing, showed an amplitude of 1.08 mil pk-pk. These amplitudes are acceptable for 1200 rpm. See spectral data below.



Spectral velocity data of SH-2 above shows overall amplitude of .109 ips-pk. Circled peak is operating speed. and has an amplitude .06 ips-pk. There does appear to be some rpm harmonics present in the data which is typically caused by fit looseness. Amplitudes are low at this time, so no actions are recommended.

SH-3 was set-up for balance on 3/4/22. This unit was operating at 800 rpm during the balance test. 1 x rpm amplitude at 800 rpm was very low. Peak amplitude showed to be .01 ips-pk. 1 x rpm peak amplitude in displacement was .4 mil pk-pk. These amplitudes are well within tolerance for 800 rpm. The average speed for this unit is also around 500 rpm. See data below.



Velocity spectral data above is SH-3 at 800 rpm. Circled peak is operating speed. Notice the highest peak in data is at 3 x rpm. This type of vibration is typically caused by bent shaft, misalignment, cocked bearing. Overall amplitude of SH-3 is still rather low overall at .125 ips-pk, but this may cause issues in the future.

In conclusion, both head spindles had acceptable vibration and did not require a field trim balance. There did appear to be some slight looseness possibly in the SH-2 bearing and/or other component. SH-3 vibration data showed a dominant vibration at 3 x rpm and may indicate bent shaft/cocked bearing. Overall amplitudes are low, but this could cause some issues in the future. No immediate actions are recommended at this time.

As always, it has been a pleasure to serve ATS and Southwire-Starkville. If there are any comments or questions, please do not hesitate to contact us.

Sincerely, Kevin Maxwell Cat III Vibration Analyst/Reliability Specialist

Cell: 901-486-4565 Email: kwilliam@gohispeed.com