Axis Humming Troubleshooting Inspection Report

Technician		**Cell#**	
Serial Number		**Date**	
Model			

Ballscrew

What is the brand of the current ballscrew?					
Has the ballscrew ever been replaced?	Yes☐ No☐	**If yes, what is the brand of the original ballscrew?**			
What type of coupler is installed?	☐ Flex Coupling	☐ Solid Coupling		☐ Spider Coupling	

Preliminary Troubleshooting

1. What axis is affected with the humming?		Axis:	
2a. Is the machine humming when the machine is stationary?		Yes☐ No☐	
2b. Is the machine humming when the axis is in motion?		Yes☐ No☐	
3a. What alarms are generated, if any?		**3c.** Have you submitted a video of the original issue to service?	Yes☐ No☐
3b. When does the alarm occur?			
4a. Has the machine been crashed?	Yes☐ No☐	**4b.** Is the ballscrew physically damaged?	Yes☐ No☐
4c. Are the support or motor housing bearings damaged? Bearings should feel smooth by hand.		Yes☐ No☐	
5a. Did you check the ballscrew for correct lubrication?		Yes☐ No☐	
5b. Is the correct lubrication being used?	Yes☐ No☐	Lubcrication Used:	
6. For brand new installed machines that alarm during power up restart: Has the machine been rough leveled before first power up?		Yes☐ No☐	
7. Is the machine able to move across full travel in jog mode **AND** by command without alarming out after rough leveling the machine?		Yes☐ No☐	
8.Has an **inspection report** been completed and submitted to service for evaluation? **DO NOT** make geometry adjustments before consulting with service.		Inspection Report	Yes☐ No☐ N/A☐
9. Has an **error report** been submitted to service for evaluation?		Error Report:	Yes☐ No☐ N/A☐
10. What is the load range for the axis? (submit a video of the axis load as it moves full travel)			
11. Have you saved and submitted the LSC files to Service? (Save LSC comp by doing the following. USB inserted Press [LIST PROGRAM] > navigate to USB press [F4] for system, then select “save LSC”) **(For GM-2 Dual Ballscrew Only)**		Yes☐ No☐	

12. Other - Describe the issue:

Mandatory Troubleshooting - DO NOT MOVE TO THIS STEP UNTIL PRELIMINARY TROUBLESHOOTING IS COMPLETE

13. Did you download and install the latest configuration files for the machine? (Only do this if service has evaluated the error report and has instructed to do so.)	Yes☐ No☐ N/A☐			
14. Verify the breakaway torque value (this value will be in in-lbs) at the motor end, middle of travel and support end for axis.		Motor	Middle	Support
	Axis:			
15. Is the Software Version **100.23.000.1000** or higher?	Yes☐ No☐			

Mechanical Troubleshooting - DO NOT MOVE TO THIS STEP UNTIL SERVICE HAS INSTRUCTED TO DO SO

WHEN PROVIDING A VIDEO, PROVIDE THE VIDEO WITH AUDIBLE SOUND.

16a. Remove any additional weight (tooling, vices, rotaries) and jog affected axis full travel. (Submit a video of the axis as it moves full travel and record the axis loads at motor end, middle of travel and support end for the axis.)		Motor	Middle	Support
	Axis:			
16b. Is there humming still present? If yes, proceed to the next step.	Yes☐ No☐			
17a. Remove waycovers for affected axis and jog the axis full travel.(Submit a video of the axis as it moves full travel and record the axis loads at motor end, middle of travel and support end for the axis.)		Motor	Middle	Support
	Axis:			
17b. Is there humming still present? If yes, proceed to the next step.	Yes☐ No☐			
18a. Align ballscrew/ballnut and support bearing, and coupler by following the Ballscrew-Troubleshooting Guide.				
18b. Observe and record a video of the Axis Servo load while jogging axis in question through full travel. A properly aligned Ball Screw will exhibit consistent servo loads throughout its travel.				
18c. Is there humming still present? If yes, proceed to the next section.	Yes☐ No☐			
19a. Square machine and submit an inspection report. (Only do this if service has evaluated the inspection report and has instructed to do so.)				
19b. Jog all axes full travel. (Submit a video of the axes as it moves full travel and record the axis loads at motor end, middle of travel and support end for the axis.)		Motor	Middle	Support
	Axis:			
19c. Is there humming when the machine is stationary?	Yes☐ No☐			
19d. Is there humming when the axis is in motion?	Yes☐ No☐			

20. Other - Describe the issue:

Parameters Troubleshooting - DO NOT MOVE TO THIS STEP UNTIL SERVICE HAS INSTRUCTED TO DO SO
21. Provide a Ball Bar Test and provide a picture of the friction compensation parameters**. DO NOT** make any changes to the parameters**.**
22. Provide a Servo Motor Current Data Collection
23. Provide a Linear Axis Test (Resonance Scan Test and Linear Axis Test)
Notes/ Observations:
Attach this report, an error report, and any relevent documentation to a service notification in the Haas Service App.