

## Mill Spindle Inspection Report

Technician		Cell#	
Serial Number		Date	
Model			
<b>Why is the Spindle being replaced?</b>			
1a. What is the symptom?	Noise	Exceeds 140 F	Seized Alarm
1c. When does the symptom occur?	Spindle Running Intermittently		
2. Is the spindle physically damaged?	Yes	No	
3. Describe the issue:			
<b>Mandatory Troubleshooting</b>			
<i>Lubrication</i>			
4. Are there leaks around the sight glass?	Yes	No	
5. Did you see 1 to 3 drops of oil during the oil pump cycle?	Yes	No	
<i>Spindle Condition</i>			
<i>Inline Spindles</i>			
6. Has the spindle motor alignment been verified?	Yes	No	
7. Has the NCE gap been reset with the correct shim?	Yes	No	Shim dimension Value: Axial Alignment Value: Radial Alignment Value:
<i>Belted Spindles</i>			
8. Is the drive sprocket/belt in good condition?	Yes	No	
9. Is the encoder sprocket/belt in good condition?	Yes	No	
10. Has the belt tension been verified?	Yes	No	
<i>Inline &amp; Belted Spindles</i>			
11. Look through the alarm history is there any Z-Axis servo Errors alarms generated?	Yes	No	
12. Has a vibration test been performed? If no, run a test and attach to service notification.	Yes	No	
13. Has a motor only vibrations test been performed? If no, run a test and attach to service notification.	Yes	No	
14. Has the spindle been balanced? If no, balance the spindle.	Yes	No	
15. Is the TSC union or coolant collector making noise?	Yes	No	
16. Is the spindle taper in good condition?	Yes	No	
17. Is the spindle fan working?	Yes	No	
18. Is the spindle fan vibrating?	Yes	No	
19. On machines equipped with TSC. Did you performed a Vibration analysis with the TSC Union/Adapter removed?	Yes	No	
20. Has the spindle to toolchanger alignment been verified?	Yes	No	
<i>HSK Spindle Only</i>			
21. Has the push out been verified?	Yes	No	
22. Has the grippers been greased? If yes, what grease is being used?	Yes	No	Grease:
<i>Drawbar Condition</i>			
23. Has the drawbar clamp force been checked? If yes, what is the force value?	Yes	No	Force: lb
24. If the spindle is belted with a carbide drawbar has the face runout been verified? If yes, what is the value?	Yes	No	Runout:
25. What is the drawbar shaft runout?	Yes	No	
26. Are the ball bearings and drawbar cup in good condition?	Yes	No	
<i>Tool Holders Condition</i>			
27. Are the pull studs in good condition?	Yes	No	
28. Have the pull studs been torqued to spec?	Yes	No	
29. Are the correct pull studs and tool holders being used?	Yes	No	
30. Have the tool holders been balanced? If no, balance them.	Yes	No	
<i>Spindle Deflection Test</i>			
31. Has the Spindle Deflection Test been performed? If yes, please what is the push, pull, and lost motion values? NOTE: Please only perform this if steps 1-30 have been performed and verified, and the machine is continuing to have surface finish issues.	Yes	No	Push deflection: Pull deflection: Lost Motion:
<b>Notes/ Observations:</b>			