

Servo Amplifier Troubleshooting Inspection Report

Technician		Cell#	
Serial Number		Date	
Model			

Servo Amplifier Type

30A	
45A	
60A	
90A	

Why is the Amp being replaced?

1a. What alarms are generated?		1b. Does the alarm reset?	
1c. When does the alarm occur?			
2. Is the drive physically damaged?			
3. Other - Describe the issue:			

Mandatory Troubleshooting

4a. What is the incoming voltage to the machine? Measure the incoming voltage at the main circuit breaker and record the measured values below.

L1-L2	L2-L3	L1-L3	L1-GND	L2-GND	L3-GND

4b. What is the main transformer tap setting.

5a. What was the measured DC BUSS output voltage?

5b. Does the DC Buss gauge in diagnostic match the actual measured DC BUSS voltages?

If all amplifiers are faulted upon power-up and there is no DC buss, then perform the next two steps and answer the questions, if not, then skip to step 8.

6. Power OFF. Wait for the Vector Drive to fully discharge. Disconnect the 320V output cables from the drive. Disable all the axis (except Z in mills, X in lathes and Y on Horizontal machines). Power on the machine does the DC buss come up? If you answer yes, then the problem is with one of the drive amps.

7. Power OFF. Wait for the Vector Drive to fully discharge. Disconnect the regen cables from the drive. Power on the machine does the DC buss come up? *If you answer yes, then the problem is with the regen load or the drive is shorted.*

8. Power OFF. Wait for the Vector Drive to fully discharge. Disconnect all the cables from the amplifier. With a Multimeter set to Ohms measure and fill out the readings below. **NOTE:** The lead color call-out in parenthesis refers to the multimeter probe color for correct positioning of the probes.

A-Phase to GND (Chassis)	B-Phase to GND (Chassis)	C-Phase to GND (Chassis)
<i>Positive Terminal to GND (Chassis)</i>	<i>Negative Terminal to GND (Chassis)</i>	<i>Negative (Black Lead) to A-Ph (Red Lead)</i>
<i>Negative (Black Lead) to B-Ph (Red Lead)</i>	<i>Negative (Black Lead) to C-Ph (red lead)</i>	<i>Positive (Black Lead) to A-PH (Red Lead)</i>
<i>Positive (Black Lead) to B-Ph (Red Lead)</i>	<i>Positive (Black Lead) to C-Ph (Red Lead)</i>	<i>Positive (Black Lead) to Negative (Red Lead)</i>

9. Did you check Y/D wiring?	
10. Did you check the axis cables and motors for shorts to chassis?	
11. Did you check the spindle motor for shorts to chassis?	
12. Did you check the Vector Drive for shorts to chassis?	
13. What channel on the Processor PCB is used to command the servo amplifier you are troubleshooting?	
13. Did you inspect the axis servo amp command cable to make sure that the pins and connectors are in good condi	
14. Did you ohm out the Regen box, what was the Ohm reading?	
15. Are there ferrite filters installed on the output cables from the servo amps?	
16. Are there ferrite filters installed on the output cables of the drive and REGEN cable?	
17. Was all info found in the Troubleshooting Guide complete and useful??	

Notes/ Observations:

For more troubleshooting guidance refer to Servo Amplifier Troubleshooting Guide on the service website.