

# AXXIS Accumulator

Technical Support Bulletin

## Analog Accumulator Diagnostics/Replacement

This document applies to Axxis Finishers shipped after 5/1/10 with 12-C or later firmware.

Last update 3-24-11

**Abstract:** If a dancer hits top or bottom during operation there are three possibilities of what is wrong: 1) Potentiometer is broken, 2) Diagnostic 44 needs correction, or 3) Diagnostic 45 has wrong value. The procedure will assist in identifying the issue and correcting. Paper should be webbed so that you perform the whole procedure.

### 1) Verify rail length is correct

Run diagnostic 40 and verify length = 17.5.

### 2) Verify sensor type is correct

Run diagnostic 55 and verify set to AnLg.

### 3) Test for bad potentiometer

Run Diagnostic 41 on input accumulator and Diagnostic 42 on output accumulator. When you run these diagnostics two values are displayed, ADC value and position. The position has a decimal point.

Verify that you get the same ADC value (+/- a few counts) every time you are at a fixed location.

If you get wildly different values for top, bottom or any fixed position on the loop then the pot has been damaged and needs to be replaced.

If you get the same value at every fixed location, the pots are good.

### 4) Test if Diagnostic 44 needs to be run

Use Diagnostic 41 and 42 to examine position of accumulator dancers. Look at the position at the bottom, 1/4 inch up from bottom, the top, and 1/4 inch from top. (You can use a 1/4" drill bit or Allen wrench to measure the 1/4" distance. Place in track so the accumulator bar hits drill bit at the top or bottom instead of the stop.)

At the top the value should read 0.0,

at 1/4 inch from top it should read between 0.25 and 0.75 inch

at bottom it should read between 17.25 and 17.5

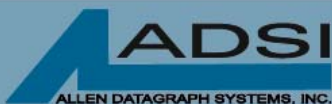
at 1/4 inch from bottom it should read between 16.75 and 17.25

at about 1/2 way from top to bottom it should read about 8.75 inches +/- 2 depending on your eye.

If this is correct then you do not have to run diagnostic 44 again. If not, then run Diag 44

( See Axxis users manual section A.4.2.7 for instructions on running diagnostic 44.

<http://ads-i-usa.com/techsupport/Axxis/iTechAXXISManual.pdf> )



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### 3) Set stepper speed in Diag 45.

The speed of the stepper will vary +/- 12% depending on tolerances of various components. Therefore, if stepper speed is nominally 3.5, the actual range can be anywhere from 3.08 to 3.92.

To set the speed,

1. Set output dancer to about center of travel with machine unloaded.
2. Run Diagnostic 42 to find position. Record this value here as "A" \_\_\_\_\_.
3. Press Load button. Output dancer will move near top.
4. Run Diagnostic 42 to find this new position. Record this value here as "B" \_\_\_\_\_.  
(Normally, this number should read 1.5 nominally, with a range of 1 to 2 being acceptable.)
5. Subtract the value "B" from step 4. from 1.5, (1.5-B), ignore sign and record here as "C" \_\_\_\_\_.
6. Subtract 1.5 from the value "A" from step 2, (A-1.5) and record here as "D" \_\_\_\_\_.
7. Divide value "C" from step 5 by value "D" from step 6. (C÷D) This is your error "E" \_\_\_\_\_.
8. If value "B" in step 4 was less than 1.5, your speed multiplier will be 1+"E". If value "B" was more than 1.5, your speed multiplier will be 1-"E". Record this value here as "F" \_\_\_\_\_.
9. Run Diag 45 to read the stepper motor speed setting. Multiply the number you see by value "F" from step 9 and enter this as the new speed setting.

Example,

Measured Value of output dancer near middle, A = 8.75

Measured Value of output dancer after Load, B = 0.87

Calculated Value C = (1.5 - 0.87) = 0.63

Calculated Value D = (8.75 - 1.5) = 7.25

Calculated Value E = (0.63 / 7.25) = 0.087

Calculated Value F = (1 + 0.087) = 1.087

From Diag 45, read existing value of 3.5. Enter new value of 3.5 x 1.087 = 3.8

### 4) Set in feed accumulator stop diagnostic 39

In order to use this diagnostic you must have installed build 12-J firmware or later. If you do not have 12-J firmware and need this diagnostic you can download a firmware update from the web site and upload it to the Axxis cutter.

You start diagnostic 39 and then enter the amount of media you always want room for in the in feed accumulator. You can set this in the range of 0.8 to 8 inches. If your input accumulator is hitting bottom this value is too low and should be increased. If you do not have enough media added to the accumulator for a frame (accumulator hits the top) you can decrease this number.

Prior versions of firmware had this accumulator stop value hardcoded to 1.5 inches.

Note: if you increase the value from 1.5 inches you reduce the maximum frame length you can cut. The table below shows maximum frame length for different values of diag 39.

frame length	diag 39 setting
14 inch	1.5
13 inch	2.5
12 inch	3.5
11 inch	4.5