TB059 (Rev1) - Control Reporting Procedures

Overview

This document describes the procedures to complete the reporting requirements for control integration. When you are finished with control integration, completed drag tests for all axes, performed an Autotune, completed ball bar measurements, you must ship the machine with a Servo Control Configuration Disk and also email us the files that are on it.

Procedure:

1. Performing required test procedures:

- After the control integration is completed, ensure all turn ratios; backlash, limit switches and travel limits are properly set.
- From the PID Configuration Menu, perform an Autotune to ensure all parameters are set properly. Reference Tech Bulletins #44 & #45 as necessary.
- Perform a Drag Diagnostic on all axes; reference Tech Bulletin #47 as necessary.
- Perform Ball Bar Tests. Run the ball bar once for the XY plane. Use a feedrate of 1000mm/min and the largest possible ball bar length. This is the uncompensated ball bar run and should be named K ***nnnn***XYU.RTB, where ***nnnn*** is the control serial number and the K is to be replaced with the first letter of the machine frame builder, i.e., E for Extron, G for Gain Shin, P for Ping Jeng, L for L & W, T for Top One, and so on. Adjust lash in the CNC7 Machine Configuration based upon the ball bar analysis. Run the ball bar again after adjusting lash. Verify that the ball bar analysis is reporting lash near zero. If lash is still not near zero, continue to make adjustments to the lash and running the ball bar until you have lash that is near zero or it is the best that can be done. When finished, name the file K***nnnn***XYC.RTB, which is the final compensated ball bar run. Repeat the procedures above for the ball bar on the XZ and YZ planes, obtaining the files K***nnnn***XZU.RTB, K***nnnn***XZC.RTB, K***nnnn*** YZU.RTB, and K***nnnn***YZC.RTB.
- As of CNC10 version 1.10, run system test to ensure the control is setup correctly.

2. The Servo Control Configuration Disk is to be made in the following manner:

- Start with a blank disk that has been formatted.
- Ensure all ball bar test files are saved to the disk.
- Go to the **F7 - Utilities** menu and choose the **F7 - Report option**. The report option will place the following files on the disk, Report File.

Report files in CNC7 w/DOS:

1. **INSTALL.BAT** - a program that is later used by the **F2 - Update** function to the relevant machine files onto the control.
2. **CNC7.CFG** - the control configuration, which contains the information that you will find in the Control and Machine Configuration screens of the CNC7 software. This file cannot be read. It is not a text file.
3. **CNC7.WCS** - the control work coordinate system information, which contains the information that is

found in the Work Coordinate System Configuration of the CNC7 software. This file cannot be read. It is not a text file.
4. **CNC7CFG.TXT** - Includes the cnc7.cfg, cnc7.wcs, cnc7.job, cnc7.prm, and other files in a form that is readable. It is a text file.
5. ***.OUT** - all files that have a .out extension. The files that would have a .out extension are:
* **AUTOTUNE.OUT** - this file exists if an autotune has been run at least once. This file should be present.
* **DRAG_?.OUT** - the drag plot files generated after a drag test has been completed. There should be one for each axis, i.e., drag_x.out, drag_y.out, and drag_z.out.

Report files in CNC10 w/ Linux:

1. **INSTALL.SH** - Linux equivalent to the install. bat file used in DOS.
2. **REPORT.TXT** - Identical to the CNC7CFG.TXT containing a snapshot of every configuration screen plus job and WCS files.
3. **REPORT.ZIP** - This file takes the place of the backup config file as well as containing all the files normally copied into a report. However, to restore the configuration you need to do an update not restore config because backup and restore config are no longer options as of CNC10 version 1.10.

Once all the files are placed on the disk, compress them into one .zip file (DOS ONLY) along with the Centroid Team Final Factory Report file and email the file to support@centroidcnc.com. It is a good idea to keep a copy of the zipped file for every machine shipped. Be sure to ship the Servo Control Configuration Disk with the machine. Remember to record the control serial number, the machine serial number, and the date. To avoid damage, place the disk into a cardboard disk mailer.

Additional Notes:

- One disk cannot be used to gather all the control reports from different machines because the previous files will be overwritten.
- Remember to put a label on the disk and to use a new disk for each machine that is shipped.

Document History

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