GDC Calibration procedures

It is important to note that to get into the service mode of the GDC computer you must press the period (.) and alarm buttons at the same time. You will be prompted for a password which is 1 (one) and press enter to accept.

1) Calibration of the throughput measurement…..every 6 months

a) Hopper must be completely emptied. Make sure the rubber boots are in good shape and not folded in. Make sure the load cell is secure and the eyelet is straight.

b) Go to service menu(online service…Thruput….MRN) note the hopper weight.

c) Place a precisely defined calibration weight in the hopper and note the new MRN weight. This total weight will now be the hopper and the weight in grams or 1000th of a pound if measurement is not metric.

d) Subtract the empty hopper weight from the calibration & hopper weight. If the difference is greater than 15 grams or .02 ounces, then the above procedure should be performed again. If the hopper is still off by greater than 15 grams or .02 ounces, the hopper should be calibrated.

e) The new MVSL is calculated as follows: Actual weight of calibration weight divided by the computed difference times the hopper MVSL.

f) **Example: empty weight is 6500 grams and calibration weight is 5000 grams. The MVSL for the hopper is 99.6. When the calibration weight is put in the hopper, the new weight is 11530. Subtract 6500 from the 11530 and you have 5030. If system is weighing in lb's and calibration weight is in lb's, the above will still apply.**

   5000/5030 = .994   multiplied by the current MVSL of 99.6 will be 99.0. This value is entered in Parameter…thruput…MRN…..select the hopper and scroll to the MVSL. Save this change under parameter save.

g) When you are happy with the above results the system can be put back into operation. It is easy to check the calibration of the hoppers when the system is running. Note the core weight before starting a new roll and then note the start and end time of your production sample(PT). Note the output displayed on the GT3 display every 2 minutes. Weigh the sample and subtract the core weight which will give you the Roll weight(RG). Determine the average weight from your two minute samples and then determine the thruput from the actual sample using this formula: **RG/PT** = average of the output display. This should be within 1% of the displayed output.

h) In conclusion, you can also check the G/M or LB/KFT by sampling several tests per meter length. If there is a difference between the actual and displayed value the haul-off speed should be checked for accuracy. If the haul-off speed is correct the difference could be a result of wrinkling or stretching. This can be resolved through a speed correction parameter MVSL. Call me if this is the case!

2) Calibration of the Line speed

a) Determine the exact speed of the haul-off via a hand tach and see if this value is displayed by the GDC display. If not then do the following.
b) Go to service…online service….MRN and note the frequency of the haul-off
c) Divide the frequency by the actual line speed and multiply by 100.
d) This value gets put in parameter service…. …MRN…haul-off. and then select MUHI and put this value there. Put 100 on the next line down called MCHI. The next line down is called MRHI and should be the maximum speed of the haul-off. Once this is done, save the change under parameter save and verify the correct speed is displayed.

3) Calibration of the Screw speeds

a) Determine the exact screw speed and see if this value is displayed on the GDC. If not then do the following.
b) Go to service…online service….MRN and note the frequency of the extruder speed
c) Divide the frequency by the actual extruder speed and multiply by 100.
d) This value gets put in parameter service….thruput…MRN…extruder 1 or 2 or 3..and then select MUHI and put this value there. Put 100 on the next line down called MCHI. The next line down is called MRHI and should be the maximum speed of the extruder. Once this is done, save the change under parameter save and verify the correct speed is displayed.

4) Calibration of the slew rates

a) The line must be running
b) Go to service…online service….MRN and note the speed of the puller or extruder, whichever you are testing as the procedure is the same for both.
c) We will calibrate the slew rate for the haul-off in this example.
d) Go to parameter thruput….dout and select the line for Inc haul-off which will be a value of 1 or 0. Select the enter button which will change the state of the value and do this for exactly 10 seconds. use a stopwatch. Hit enter again which will stop the incrementing. Go to online thruput and note the new speed of the Haul-off. Use this formula to calculate the slew rate:

12 X 10(change time)/RPM1 – RPM2 = DSRI and DSRD

e) Now go to parameter thruput….DDC…select haul-off and enter these values. When you are done, go to parameter save and hit enter. The system should be calibrated at this time.