Calculating the Drum Midpoint and Mtravel Value

Product

- Magnus VLF
- Magnus VLF CL
- Magnus VLF MCU

Background

The drum midpoint must be correctly entered into the NVS parameters so that the firmware can accurately perform geometric correction. If the carriage unexpectedly trips the away sensor while plotting, the **Mtravel** value in the NVS parameters may be incorrect and must be determined.

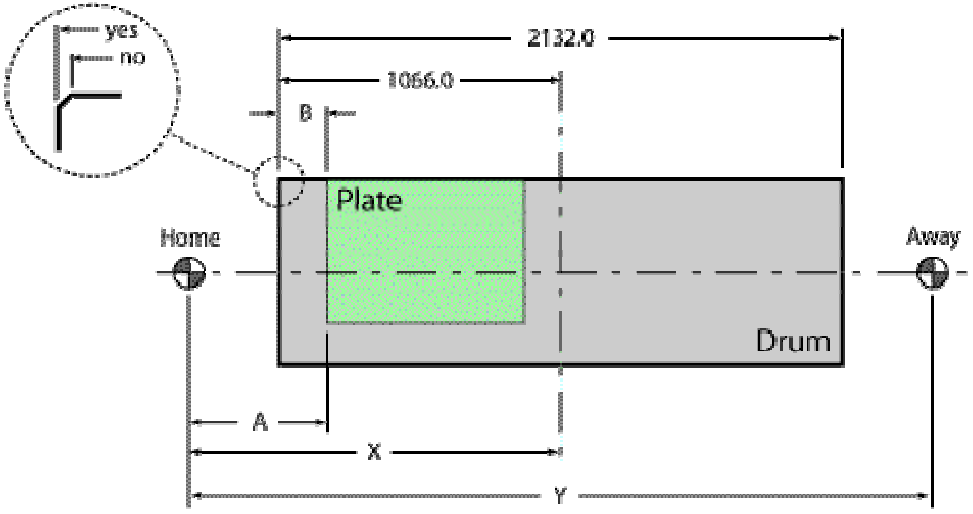
Solution

Calculate the drum midpoint and determine the **Mtravel** value for that device.

Tools required For this procedure, use a high accuracy 6 in. steel rule for making measurements. Do not use the average hardware store tape measure as it is not accurate enough.

Determining the Drum Midpoint on a Magnus VLF

1. Load a plate on the home side of the drum so that the plate edge is within 6 in. of the side of the drum—this is so that you can use a 6 in. steel rule for taking measurements.
2. Type `>>carriage init` to initialize the carriage.
3. Type `>>edge test` to determine the plate edge position from Home—this will be dimension A. The head detects the edge of the plate and report this position using the Home tab as reference.
4. Using a steel ruler, measure the distance from the plate edge to the edge of the drum along the edge detect strip—this will be dimension B. Ensure that you take the measurement from the edge of the drum and not from the inside edge of the chamfer on drum edge.



Calculating the Drum Midpoint and Mtravel Value

5. Calculate the drum midpoint from Home using the following formula: X=A-B+1066.0 (where 1066.0 mm is half the width of the drum used on the Magnus VLF). Round off to the nearest millimeter.
6. Enter the drum midpoint value into NVS. Type:
   `>>set gc drummidpoint <value>`
7. Initialize the registration pin locations. Type:
   `>>gc init`
8. To determine the carriage **Mtravel** value, shown as Y in the illustration, send the carriage to position 2207—the Away sensor should not yet be tripped. Send the carriage closer to the Away sensor in increments of 1 until the sensor is tripped (for example, 2208, 2209..). The last value that did not trip the Away sensor is the **Mtravel** value.
9. Enter the Mtravel value into NVS. Type `>>set carriage mtravel <value>` .

Some additional values can now be determined:

- Edge of drum = drum midpoint – 1066.0
- Edge of laser shield = edge of drum + 2.0
- TH3 installation/removal position = drum midpoint + 4.0

Technical contact	Tony Lamprecht
Date submitted	01 December 2005
Last updated	21 December 2005