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To: J. O. McDonough, H. P. Grossimon, D. C. Dick

From: Arnold Siegel

Subject: WHIRLWIND I PROCESSING ROUTINE FOR COURSE 6.601

The student-produced worksheets in Course 6.601 are to be prepared for Whirlwind I using the following conventions:

a. All numbers must contain both an algebraic sign (+ or -) and a decimal point (.).

b. Feed-rate must be expressed in inches per minute; time in seconds; distances in inches.

c. The four-column layout of the worksheet should be retained. The columns are

(1)	(2)	(3)	(4)
Feed-rate or time	x	y	z

However, column (1), which on the worksheet is offset from the others, should be moved up so that all four numbers appear on the same line. This will leave a blank in column (1) at the end of the worksheet. The number +0. must be placed in the blank position. This zero indicates the end of the program.

d. Column (1) may contain either feed-rate or time. An entry in this column which is a feed-rate must be written with a plus sign; an entry which is a time must be written with a minus sign. These signs simply differentiate between the two kinds of data; the time is treated as positive during processing.

e. No more than 2560 numbers (640 lines) may appear in any single program.

Post-Mortems:

When a cut is specified using a feed-rate, the processing routine will print "Feed-rate too large" if that feed-rate exceeds ±15. inches per minute.

When a cut is specified using a time, the processing routine will print "Time too small" if

$$\frac{\sqrt{(\Delta x)^2 + (\Delta y)^2 + (\Delta z)^2}}{\text{time}}$$

exceeds 500 increments per second. (1 increment = 0.0005 inches).

In both cases, the position on the page of the line in which the error occurred will also be typed out.

No check is made to determine whether

$$\sqrt{(\Delta x)^2 + (\Delta y)^2 + (\Delta z)^2}$$ is too large.

Signed: Arnold Siegel

AS:n