7 Control Features

7.2.1 Sketch the axis speed during a zero-return sequence, for a machine tool outfitted with a deceleration dog switch. Include the switch signal, marker pulse and stroke distance in the drawing. Repeat the sketch for a high-speed memory zero-return.

a.) Repeat the sketch for a high-speed memory zero-return.

b.) What is the distance from zero return to the marker pulse?

c.) How can you calculate the distance from zero return to the dog?

7.2.2 To increase the zero-return stroke by 0.0320 inches requires how many 0.001 mm parameter units?

7.3 List some reasonable interlock conditions for the following:

a.) Spindle Start.
b.) Cycle Start.
c.) Feed Hold.
d.) Emergency Stop.

7.5 Sketch a circle having the following machine tool problems:

a.) Excessive mechanical backlash.

b.) Excessive cutting rate.

c.) Unbalanced servo position loops.

7.6 Using the results of Exercise 5.2, list the specifications required to completely describe a:
a.) Two axis lathe system.
b.) An add on rotary axis system.

7.9 Sketch the schematics for a new RS232 cable having a 9-pin connector on one end and a 25-pin on the other for:
a.) Software handshaking.
b.) Hardware handshaking.