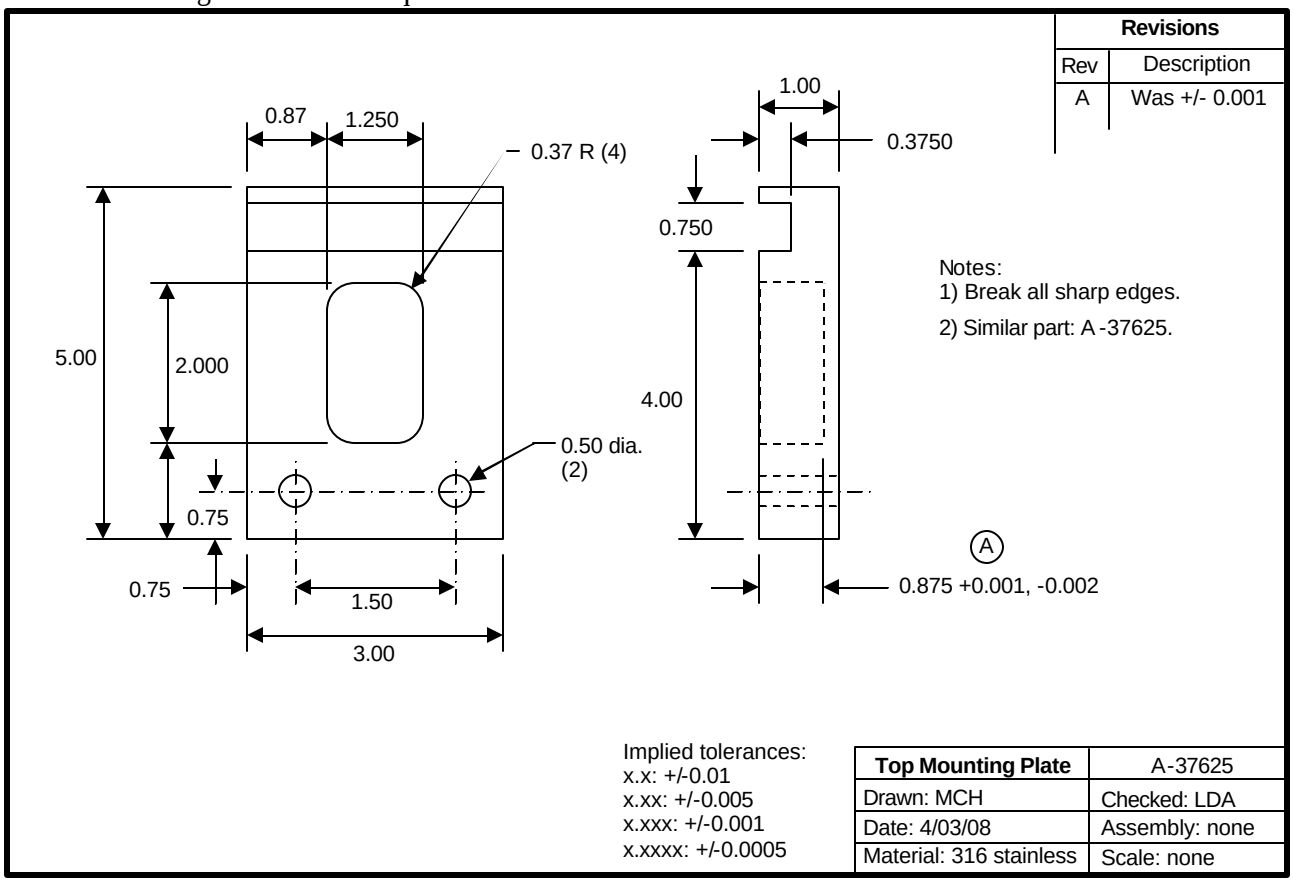
Basic Machining Practices — Exercise 1

Name: Date: Score (100 possible):

5 points each (answers begin on page 273)

Use this drawing to answer the questions below.



1) Specify the overall size of this workpiece (thickness, width, and height).

2) What is the distance between the two 0.5 diameter holes?

3) What is the size of the rectangular pocket (width, length, and depth)?

4) What material will this workpiece be made from?

5) Do the 0.5 diameter holes go all the way through the workpiece?

6) All tolerances but one are implied.

- ✍ true
- ✍ false

7) What is the tolerance for the rectangular pocket's width and length (not depth)?

8) For the slot width (0.750 dimension), specify the mean value, high limit, and low limit.

mv: hl: ll:

9) For the hole diameters (0.50 dia. dimension), specify the mean value, high limit, and low limit.

mv: hl: ll:

10) For the rectangular pocket depth (0.875 dimension), specify the mean value, high limit, and low limit.

mv: hl: ll:

11) Unless told otherwise, you should use the mean value as your target value when making adjustments.

- ✍ true
- ✍ false

12) What is the current revision (letter) for this drawing?

13) After removing a completed workpiece from the machine, you measure the width of the 0.750 slot and find it to be 0.7503.

a. Is it acceptable?_____

b. Is an adjustment necessary?_____

c. If so, how much? _____

14) After removing a completed workpiece from the machine, you measure the depth of the 0.750 slot and find it to be 0.3743.

a. Is it acceptable?_____

b. Is an adjustment necessary?_____

c. If so, how much? _____

15) After removing a completed workpiece from the machine, you measure the width of the rectangular pocket and find it to be 1.252.

a. Is it acceptable?_____

b. Is an adjustment necessary?_____

c. If so, how much? _____

16) After removing a completed workpiece from the machine, you measure the length of the rectangular pocket and find it to be 2.002.

a. Is it acceptable?_____

b. Is an adjustment necessary?_____

c. If so, how much? _____

17) After removing a completed workpiece from the machine, you measure the depth of the rectangular pocket and find it to be 1.8737.

a. Is it acceptable?_____

b. Is an adjustment necessary?_____

c. If so, how much? _____

18) After removing a completed workpiece from the machine, you measure the distance between the two 0.5 diameter holes and find it to be 1.503.

a. Is it acceptable?_____

b. Is an adjustment necessary?_____

c. If so, how much? _____

19) When adjustments are necessary, adjustment polarity (plus or minus) is determined by whether or not more material must be removed from the workpiece. If more material must be removed, the polarity for the adjustment will usually be negative.

- ✍ true
- ✍ false

20) When a workpiece attribute is out of tolerance, it can usually be saved if more material must be machined in order to bring the attribute within its tolerance band.

- ✍ true
- ✍ false

