Name(s): _____

GD&T Block Project Worksheet

NOTE:
1. Dimension names provided in the worksheet questions below correspond to the sheet number on which they can be found in the Block Drawing Package handout (e.g., 7.A and 7.B are found on sheet 7).
2. Assume non-specified dimensions are nominal.

1. What is the maximum possible center to center distance between the holes using dimensions 7.A and 7.B?

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2. What are the maximum and minimum distances between datum A and edge 5.B?

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3. Is the diameter dimension for all of the grooves on part 1-04 the same? Explain.

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4. Which edges are most likely to contact first when part 1-01 and part 1-02 are mated. (Assume they are perfectly concentric. Use dimensions 3A, 3B, 4A, and 4B.)

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5. Is it possible for edge 8.C to contact the bottom block prior to edge 8.D when the parts are assembled correctly and everything is in tolerance?

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6. What are the maximum and minimum distances that edge 7.E can lie from datum A on page 7? Are there any issues with how this edge is dimensioned?

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7. With regards to the last two problems, is there a way that these issues could be avoided or at least improved upon?

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8. Is it possible to have a fit issue with the pin location at 7.F and the slip fit hole at 8.E? If so, what is the issue? Assume pin and hole diameters are exact.

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9. Imagine an instance of this assembly where the true manufactured dimensions are given below. Assuming all other dimensions are at their stated ideal dimension, will the lathe pin fit through the blocks? If not why and what could be done to alleviate the problem?

	Description	Measurement
5.A	Lathe Pin Diameter	0.5020”
7.C	Pin Hole Location	0.6260”
8.A	Pin Hole Location	0.6250”
8.B	Shoulder Height	1.2470”
8.F, 7.H	Reamed Hole Diameter	0.5050”

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10. The above question is only considering variations in one axis. What happens when the other axis perpendicular to the hole depth changes?

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11. What reoccurring issues can you see with this drawing package and dimensioning scheme?

_____

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12. In the future when you are creating drawing packages for your parts and assemblies how will you avoid these types of problems?

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