EML2322L Example Tapped Hole Quiz

Based on the information presented in the lab and lecture, ***explain the exact tools and sequence used to tap a #10 thread into an aluminum workpiece on a manual milling machine.*** A similar quiz must be correctly completed by all team members to use the CNC milling machine to drill and tap the holes in your second lab hub; otherwise you must perform these operations on the manual machines for the necessary practice.

THREAD SPECIFICATION (i.e. 10-24, 1/4-20, M6x1.0, etcetera): _____

SEQUENCE & TOOLS (be explicit with regard to tool names and sizes):

1. Find part zeros using a(n) _____ and the DRO to locate the sides of the part and set datums

2. Use a(n) _____ to accurately locate and begin drilling the hole

3. Use a(n) _____ (of size _____) to finish drill the hole to final size for threading

4. Load a(n) _____ into the spindle to ensure the hole is tapped normal to the part's surface

5. Thread the hole using a(n) _____ , <u>tap handle</u> and <u>cutting oil</u>

Based on the information presented in the lab and lecture, ***explain the exact tools and sequence used to tap a 3/8" thread into a steel workpiece on a manual milling machine.***

THREAD SPECIFICATION (i.e. 10-24, 1/4-20, M6x1.0, etcetera): _____

SEQUENCE & TOOLS (be explicit with regard to tool names and sizes):

1. Find part zeros using a(n) _____ and the DRO to locate the sides of the part and set datums

2. Use a(n) _____ to accurately locate and begin drilling the hole

3. Use a(n) _____ to drill the initial (or pilot) hole through the part

4. Use a(n) _____ (of size _____) to finish drill the hole to final size for threading

5. Load a(n) _____ into the spindle to ensure the hole is tapped normal to the part's surface

6. Thread the hole using a(n) _____ , <u>tap handle</u> and <u>cutting oil</u>