

Hamilton-Junior lab-off-site learning packet day 2

Instructor Mark Hamilton

Date _____

Program/Class AEM Jr.

Period 1-4

State Indicator/Competency:

Competency 25.4: Interpret and apply information from prints and drawings.

Descriptors:

25.4.5 Identify the basic types and methods of internal and external screw thread representation.

Instructional Objective(s):

1: students will explain thread designations within 80% accuracy

2: Students will name 4 of 5 thread series

Materials:

Virtual machine shop

Method of Instruction:

Research

Activities:

Read through the hand out and answer the questions

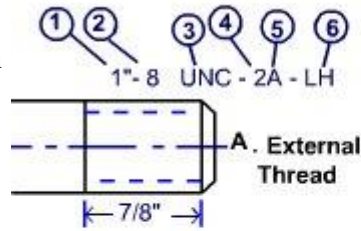
Closure:

Answer the questions on the last page

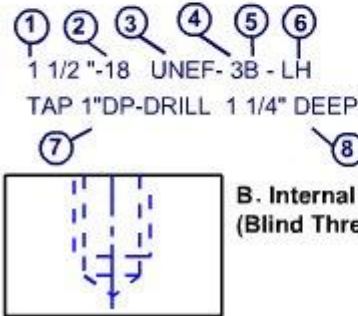
Assessment:

Answer sheet will be collected and is worth 10 points

Before discussing tapping an understanding of thread systems must be gained. The graphic on the right explains how thread systems are defined showing the diameter, number of threads per inch, series, class, direction, length, and tap depth.



(Assumed right-hand unless designated)



C. Dimensioning Code

- ① Nominal diameter
- ② Number of threads/inch
- ③ Thread system/series
- ④ Class of thread fit
- ⑤ Internal or external thread
A.-external
B.-internal
- ⑥ Direction of threads:
right-hand (assumed),
LH-left-hand
- ⑦ Thread length or depth
- ⑧ Tap drill depth

There are five basic thread series in American National and Unified Screw Thread system. They are:

1. Coarse (UNC)
2. Fine (UNF)
3. Extra Fine (UNEF)
4. Special (UNS) National
5. Pipe Thread (NPT)

ISO Metric threads have a somewhat different coding system. For example a metric thread would be noted as **M 10 x 1.5-6H**.

- M indicates a Metric thread.
- 10 indicates a basic size of 10 millimeters.
- 1.5 is the pitch in millimeters. Note that the M 10 taps are also available as M 10 x 1.00 - 6H and 10 x 1.25 -6H.
- 6 identifies the grade of tolerance. Six (6) is commonly used and comparable with class 2 Unified American Standard. The grade of tolerance ranging from 3 to 5 fine, 6 medium tolerances 7-9 are coarse.
- H means that it is an internal thread with no allowance. Internal threads are defined with capitals, for example G designates a tight allowance.

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Name _____

1. Write the definition of the thread designation beside the word for the following thread designation 1-8-UNC-2A-LH

a. 1=

b. 8=

c. UNC=

d. 2A=

e. LH=

2. Give the definition of the 5 basic thread series call outs below

a. (UNC)=

b. (UNF)=

c. (UNEF)=

d. (UNS)=

e. (NPT)=