Experiment No. 22

Statement:

Understanding Screw Thread terminology

Desired Learning Objectives

2. This practical aim to understand the different types of threads and illustrate external right-hand threads of screws and bolts. Through this practical, trainees would be able to determine screw / bolt's terminology and different aspects of diameter of bolt.

Equipment / Material Required

3. Required apparatus are: -

(a) Different types of bolts & screws.

(b) Flip chart of different types of Screw thread.

(c) Thread Pitch gauge.

(d) Outside Micrometer / Vernier Caliper.

(e) Steel rule

Safety Precautions

4. During the practical, trainees must be briefed on following safety aspects:

(a) Use the measuring tool with care and safety.

(b) Write down the readings in appropriate place.

(c) Use of proper tool according to the nature of job.

(d) Keep the threaded portion safe from any marks / damage.

(e) Avoid hitting on the threaded portion of bolt and screw.

Procedure

5. Demonstrate the different types of threads displayed in the lab:

(a) Observe different types of screws / bolts.

(b) Measure and note the major and minor diameters of screws/bolts with the help of Vernier caliper.

(i) Specimen No 1 Minor Día ………… Major Día…………….

(ii) Specimen No 2 Minor Día ………… Major Día…………….

(iii) Specimen No 3 Minor Día ………... Major Día…………….

(b) Measure and note the thread pitch with the help of thread pitch gauge.

(i) Specimen No 1 thread pitch ………………
(ii) Specimen No 2 thread pitch ………………
(iii) Specimen No 3 thread pitch ………………

(c) Segregate them according to the thread angle and group them according to the types of threads (metric, buttress, square and acme threads).

(i) Specimen No 1 thread type ………Head type...................
(ii) Specimen No 2 thread type ………Head type....................
(iii) Specimen No 3 thread type ………Head type....................

(d) Measure and note the nominal length of the following screws and bolts.

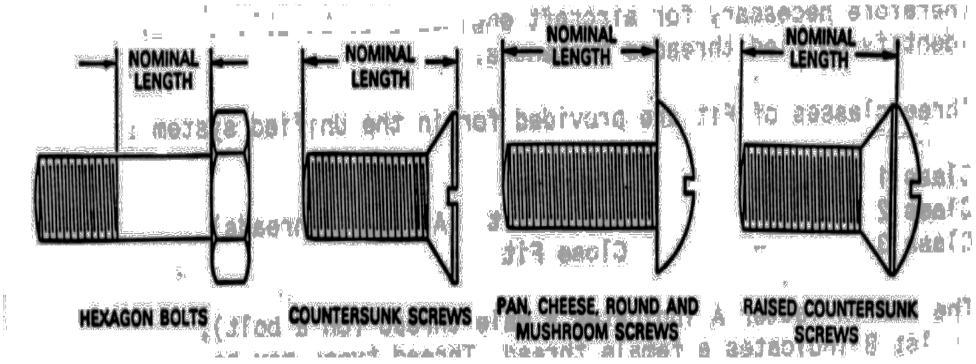
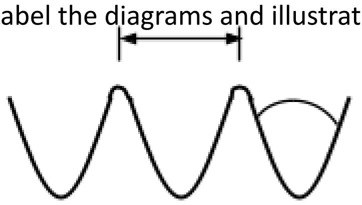


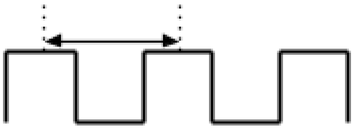
FIG 6.91: Designation of Fastener Lengths

(i) Specimen No 1 Nominal length ………………
(ii) Specimen No 2 Nominal length ………………
(iii) Specimen No 3 Nominal length ………………

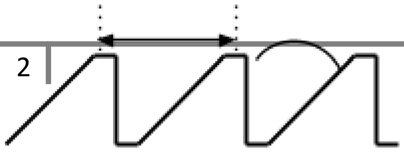
(f) Label the diagrams and illustrate the type of thread and its angle.



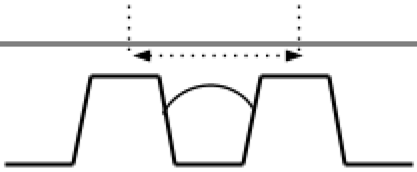
……………… Thread



………Thread



…………..Thread



………………thread

FIG 6.92 : Screw Thread Forms

(h) Label the Figure 3 below and write the label the parts of screw thread: -

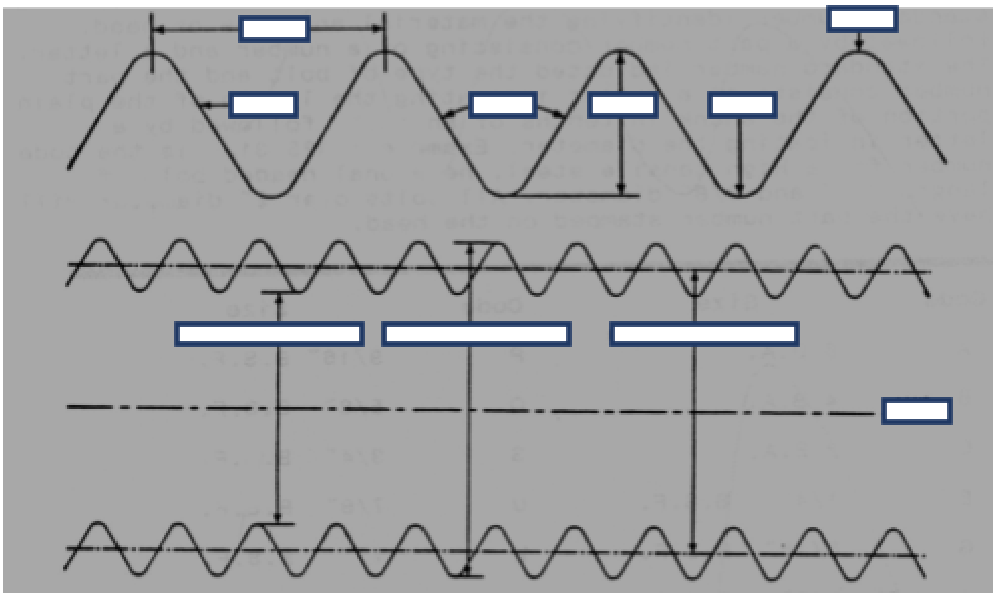


FIG 6.93 : Screw Thread Terminology

Conclusion:

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