

Screws: Screws are used to join two mating parts together and similar to bolts, they have head on one end and threads on the other end. However, screws usually have longer threads than bolts, also they can be made with slotted heads.

Screws are sometimes divided into two sub-categories; Cap Screws and Machine Screws. Machine screws are generally smaller in size than cap screws and they are used for screwing into thin materials.

Studs: Studs are shafts threaded at both ends, and they are used in assemblies. The exposed end is threaded over with a nut

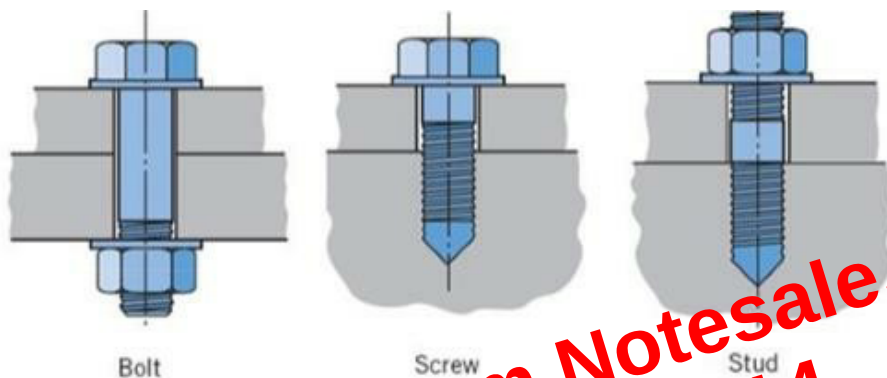


Figure 1. Indicating bolt, screw and stud

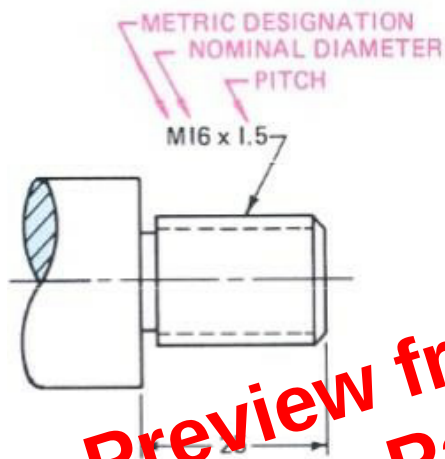
The terms bolt and screw are sometimes used interchangeably, and they can refer to the same element. In practice, the basic difference between a bolt and a screw is that a bolt is usually intended to be used in conjunction with a nut where it will be tightened or loosened using the nut, while a screw is usually intended to be mated with an internally threaded hole and the screw head is used for tightening or loosening

LESSON THREE:

ISO METRIC SCREW THREAD DESIGNATION

2.1 General description

ISO metric threads are defined in the drawing by nominal size and pitch, both express in millimeter. For example, a 16-mm diameter, 1.5-pitch, fine-thread series is expressed as M16 X 1.5.



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Page 12 of 14

2.2 Fastener's Holes

The holes into which threaded fasteners are inserted. they are of two basic types; clearance holes (unthreaded) and threaded holes.

2.2.1 **Clearance holes** are larger than the nominal diameter of the bolt or screw and the amount of clearance depends on the desired type of fit.

The table gives the diameter of clearance holes for the different types of fits