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WORKSHEET 24

NAME

YEAR 9 BASIC TECHNOLOGY

. . Screws

There are two types of screws, machine and wood screws. Both are made of metal; however the machine screw has a constant diameter and joins with nuts while the wood screw is tapered and grips to the actual wood surface. Screws are generally made from low to medium carbon steel wire, but other tough and inexpensive metals may be substituted, such as stainless steel, brass, nickel alloys, or aluminum alloy. Screws come with many different styles of heads, the three most common are flat, round and pan.

Types of Screws:

Flat

(i) The ***countersunk*** head are probably the most common. They do not protrude above the surface so can be filled and painted over and become invisible. This type of head is used in butt hinges and in metal where the head is to be flat with the surface. The heads have an included angle of 82°.

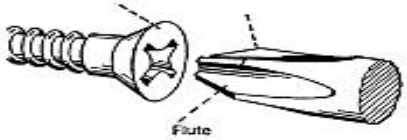
Round

(ii) These are used when a countersunk head is not required.

Pan

(iii) These are similar to round head except the top of the head is flat, self -threading metal screws are a good example.

Screws sizes are listed with the shank size first then the length. Shank sizes are denoted by numbers, the larger the number the larger the shank, the most common sizes are # 6, # 8 and # 10 so a medium size screw 1½" long would be listed as: # 8 × 1½".



These are a basic item to have in assorted sizes, not as popular as they once were but still necessary. It is very important that the bit be the right size for the slot in the screw .

The bit must be kept in good condition by grinding or filling it square as they tend to wear at the outside corners. When purchasing screws for projects, be advised to use Phillips or Robertson style screws.

Phillips Head Screwdriver

At least the three sizes, # 1, # 2, and # 3 should be in your tool box. This type of screwdriver will sit on the end of the screw as it is started and is less likely to slip as it is being driven.

In order to allow for the screw to be driven easily through the metal, a pilot hole is drilled.

There are **two** basic reasons for drilling pilot holes:

(i) For tight fitting.

(ii) Prevent the material from splitting.

The pilot hole in the top piece should allow for easy fit of the screw shank, and allow the threads on the screw to get a good grip without stripping in the bottom piece. Pilot holes can be drilled with special bits that are made for different size diameter and length of screws and will also countersink the head of the screw.

REVIEW QUESTIONS

1. Sketch the following screws and write down their uses:

    a. Countersunk
    b. Round head
    c. Flat head
    d. Pan head