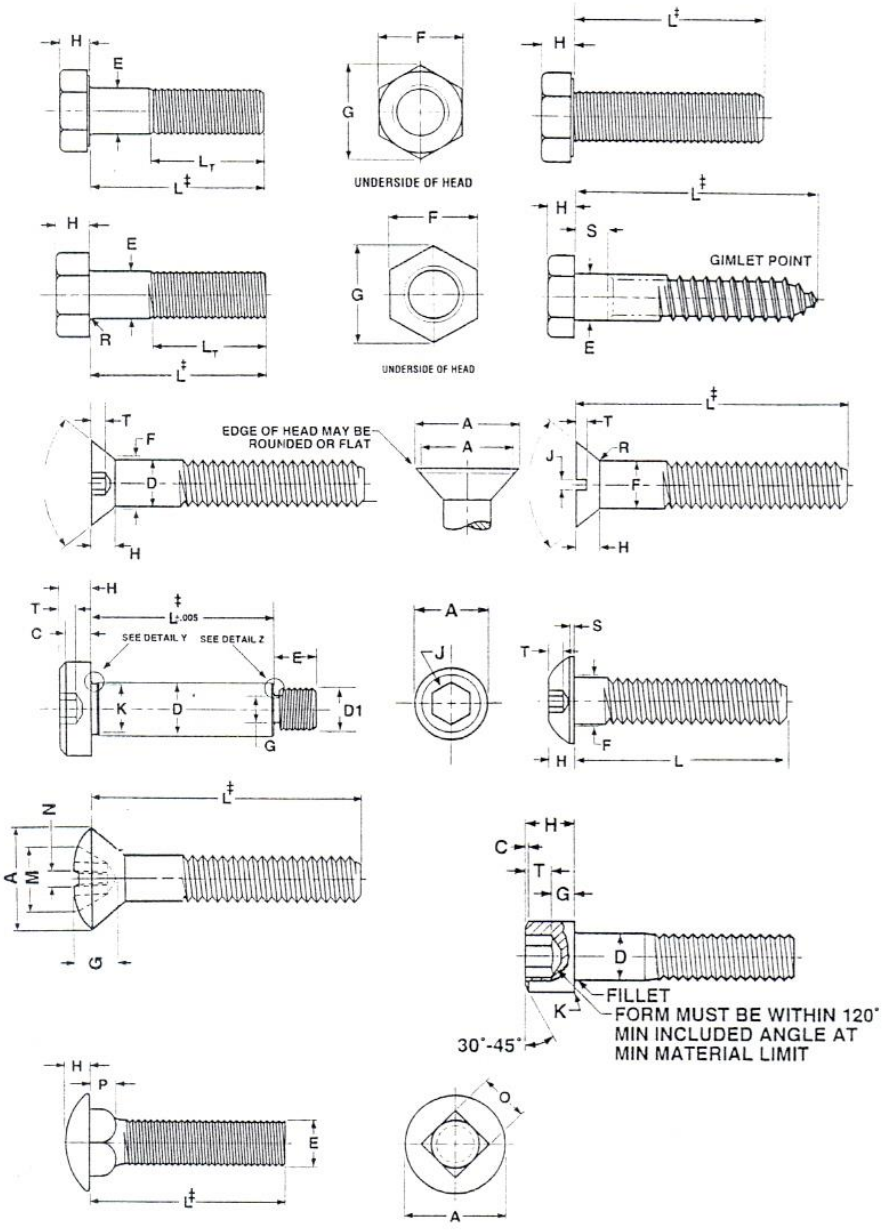
STEELMASTERS SM
Fastener Manufacturers and Distributors

Major Fastener Features & Dimensions

Bolts and Screws

The sketches below indicate key features for basic fastener products. The dimensions are annotated with consistently, ie H is always head depth, A is always head diameter. Obviously not all products are included, but hopefully enough of a range to remove confusion.
Comments and definitions are on following page.

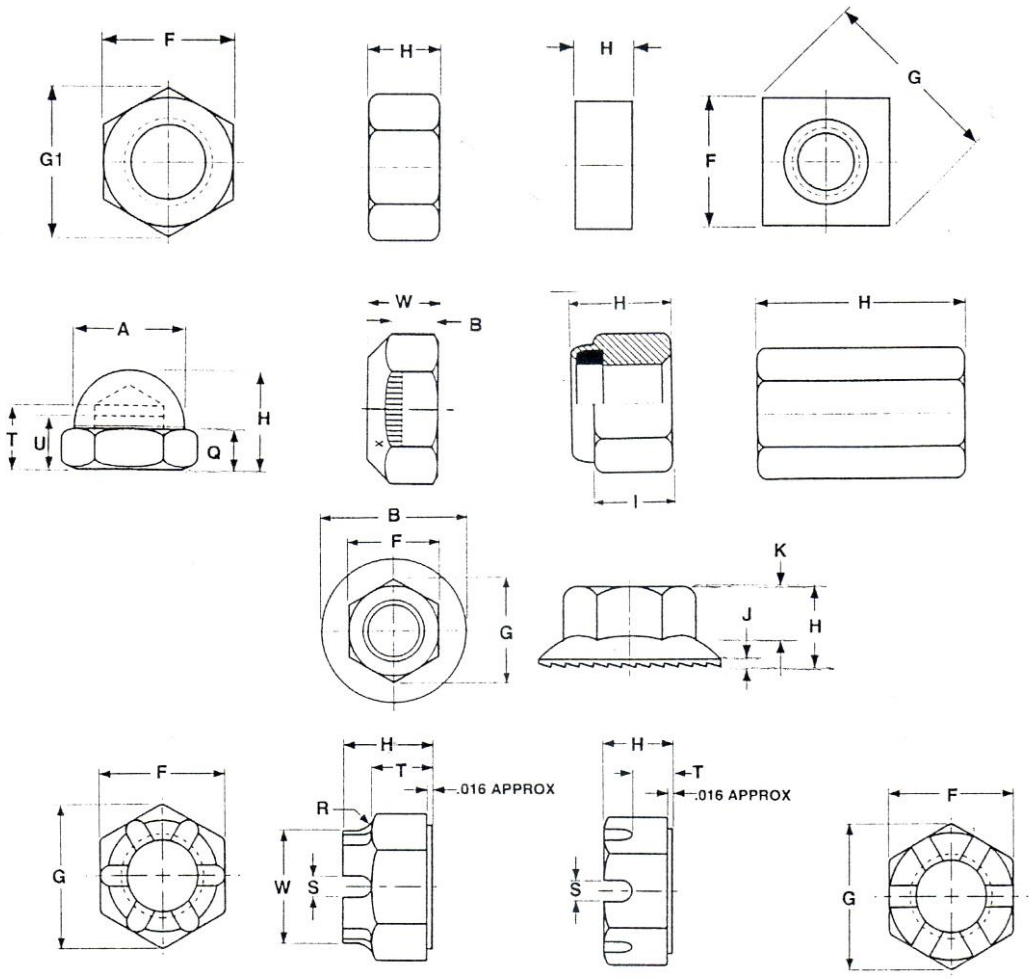


Bolts and Screws, continued

Dimension	Definition and Comments
A	Head diameter. Note on Countersunk heads there is a "theoretical diameter to the "sharp edge" although in practise this is difficult to measure.
C	Top chamfer or radius on Cap screws, Shoulder bolts etc.
D	Shank diameter. Do not assume that this will always be the same as the thread diameter. Depending on the product (eg Shoulder bolt) and the method of manufacture, Thread Rolled or Cut it could be different.
E	Thread, and full body, or shoulder diameter
F	Fillet transition diameter. More simply the diameter where the fillet, or radius, under the head disappears into the under head plane
G	Across the corners measurement on an external hexagon.
H	Depth of Head. Note that for washer faced product, this dimension includes the washer face.
J	Width of slot on screws, or the across the flats measurement on an internal hexagon drive.
K	Shoulder neck diameter.
L	Product length. Note that countersunk product is measured overall, and raised countersunk to the flush plane. All other product is measured from under the head to the end of the shank. Washers faced product is measured from under the washer face to the end of the shank..
Lt	Thread length. It may be important to specify to "the last scratch" or last full thread.
M	Width or overall diameter of Phillips or Pozidriv recess
N	Width of driving wing Phillips or Pozidriv recess
P	Depth of square neck on Coach bolt.
R	Radius of under head fillet
S	Side height of head
T	Depth of slot, or effective depth of internal driving recess.

Nuts

The sketches below indicate key features for basic nut products. The dimensions are annotated with consistently, ie H is always nut height. Obviously not all products are included, but hopefully enough of a range to remove confusion.



A	Diameter of the dome on a Dome nut	**K**	Height above flange on a Flange nut
B	Diameter of the flange on a Flange nut	**Q**	Height of hex on a Dome nut
F	Width across the flats (AF) on hexagon or square	**R**	Radius of castle on Castle nut
G	Width across the corners (AC) on hexagon or square	**S**	Width of slot on Castle or Slotted nuts
H	Overall height of a nut	**T**	Depth of Washer face. Note **H** includes this dimension
J	Thickness of flange	**W**	Diameter of castle on Castle nut