









## FOREWORD

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Subcommittee 10 on the Glossary of Terms for Mechanical Fasteners was organized in February 1947. The purpose of the subcommittee was to promote and coordinate the standardization of fastener nomenclature for those products falling under the scope of the various other subcommittees of the B18 Sectional Committee, the definitions themselves being the responsibility of the cognizant subcommittee. It was later decided that terms not strictly in the above category but closely allied should be defined in the Glossary.

During the development period, several drafts of the Glossary were prepared and studied by Subcommittee 10 before a suitable format and content could be agreed upon.

To cover completely the field of mechanical fasteners, it has been necessary to include in this Standard illustrations of certain fastener features and types of fasteners that are of proprietary origin. Because it was impossible to include all variations of such proprietary designs, this Standard includes selected illustrations that exemplify the type of fastener or feature described. This selection was made on an impartial basis. The inclusion of any one proprietary design in this Standard does not constitute endorsement by the committee or the sponsors, nor is omission of certain styles to be construed as rejection of such styles by the committee and sponsors.

The previous edition of ASA B18.12 was approved by the B18 Sectional Committee, the sponsors, and the American Standards Association, and it was designated as an American Standard on June 22, 1962.

In May 1995 Subcommittee 12 of the B18 Standards Committee set forth the concept that a complete update and significant revision of the Glossary of Terms was necessary. The content was completely reorganized to reflect a logical approach to basic fastener characteristics and configurations. Many new sections and items, such as blind fasteners and retaining rings, were included. In total, 538 terms are included in this Edition of the Standard, which was approved by the committee in December 2000. This Standard was approved by the American National Standards Institute on August 15, 2001.

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*General.* ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, B18 Standards Committee  
The American Society of Mechanical Engineers  
Three Park Avenue  
New York, NY 10016-5990

*Proposing Revisions.* Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

*Interpretations.* Upon request, the B18 Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the B18 Standards Committee.

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Subject: Cite the applicable paragraph number(s) and the topic of the inquiry.  
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**2.1.11 physical properties:** inherent in the raw material and remain unchanged, or with only slight alteration in the fastener following manufacture. Such properties are density, thermal conductivity, and magnetic susceptibility.

**2.1.12 Part Identifying Number (PIN):** a 21-character code that identifies an ASME B18 manufactured product by specific characteristic fields such as fastener family identification, B18 standard identification, fastener style or type, thread series, nominal diameter, nominal length or dimensional/other characteristics, material and treatment, plating, coating, and passivation and special features relevant to the fastener product.

**2.1.13 precision fastener:** manufactured to close dimensional and geometric tolerances.

**2.1.14 proof load:** a tensile load that the fastener must support without evidence of permanent deformation. Proof load is an absolute value, not a maximum or minimum value. For most carbon or alloy steel fastener strength grades or property classes, proof loads are established at approximately 90 to 93% of the

expected minimum yield strength. Proof loads are frequently used as design values in joint analysis and fastener selection.

**2.1.15 proof test:** a form of tensile test where the maximum load applied is the proof load value in the applicable specification.

**2.1.16 fastener quality:** the accuracy of manufacture of the fastener such that it conforms to its specified tolerances, limits, and requirements.

**2.1.17 aircraft/aerospace fastener:** intended for use in a flying vehicle.

**2.1.18 fit:** the amount of clearance or interference between mating parts.

**2.1.19 shear fastener:** a fastener whose primary function is to resist forces applied at a right angle to the fastener axis that tend to shear it.

**2.1.20 standard fastener:** can be described from nationally recognized consensus standards documents and may be produced by any interested manufacturing facility.

EXAMPLE: An order that specifies  $\frac{1}{2}$ -13  $\times$  2 UNC-2A Hex Cap Screws, SAE J429 Grade 5, should result in the identical product being delivered by any fastener manufacturer accepting the order. Often it is said that a standard fastener could be ordered by phone and the identical product received from multiple sources.

All other fasteners would be classified as SPECIAL or NONSTANDARD and would properly fall into three groups:

- (a) modified standard
- (b) proprietary—patented
- (c) engineered special parts

Generally these will require a written description and/or blueprint or drawing to communicate what exactly is required.

**2.1.21 stock fastener:** commercially available in a quantity from a manufacturer or distributor of fasteners.

**2.1.22 substandard fastener:** does not meet its specified requirements related to fit, form, or function.

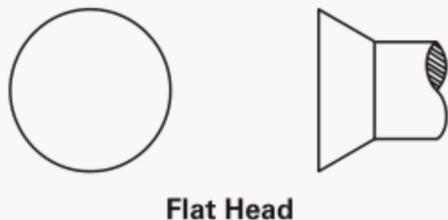
**2.1.23 tensile strength:** the maximum tension-applied load a fastener can support prior to or coincident with its fracture. Tensile strength is normally expressed in terms of stress [i.e., pounds per square inch (psi) for inch module product and megapascals (MPa) for metric product].

**TABLE 1 COMMON APPLICATIONS OF THREADED FASTENER HEAD STYLES**

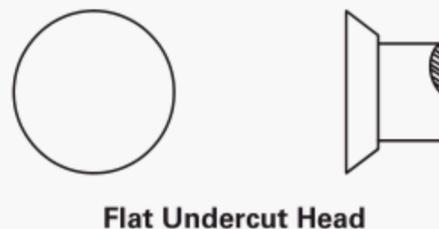
Head Style	Bolts	Machine Screws	Tapping Screws	Wood Screws	Cap Screws	Set Screws	Drive Screws	
							Metal	Wood
Ball head	...	X	...	A	...	...	...	...
Binding head	...	AB	...	...	...	...	...	...
Button head	X	...	...	...	D	...	...	...
Fillister head	...	ABC	ABC	...	A	...	...	...
Flat fillister head	...	A	...	...	...	...	...	...
Flat head: 82 deg	...	ABC	ABC	ABC	AD	...	X	AX
Flat head: 90 deg	...	ABS	ABS	...	...	...	...	...
Flat head: 100 deg	...	AB	...	...	...	...	...	...
Flat trim head	...	B	B	...	...	...	...	...
Flat undercut head	...	AB	AB	...	...	...	...	...
Headless	...	...	...	...	...	ADE	...	...
Hexagon head	AX	AX	AX	...	X	...	...	...
Hexagon washer head	AX	AX	AX	...	...	...	...	...
Oval head	...	ABC	ABC	ABC	A	...	...	AX
Oval trim head	...	B	B	...	...	...	...	...
Oval undercut head	...	AB	AB	...	...	...	...	...
Pan head	...	ABC	ABC	...	...	...	X	...
Round countersunk head	X	...	...	...	...	...	...	...
Round head	...	AB	AB	AB	A	...	X	AX
Round washer head	...	AB	AB	...	...	...	...	...
Socket head	...	...	...	...	DE	...	...	...
Square countersunk head	X	...	...	...	...	...	...	...
Square head	X	...	...	...	...	X	...	...
T-head	X	...	...	...	...	...	...	...
Truss head	...	ABC	ABC	...	...	...	...	...
12-point head	...	X	...	...	X	...	...	...
12-spline head	...	...	...	...	X	...	...	...

A = Slotted  
 B = Cross recessed  
 C = Clutch recessed  
 D = Hexagon socket  
 E = Spline socket  
 X = Plain, no slot or recess  
 S = Square recess

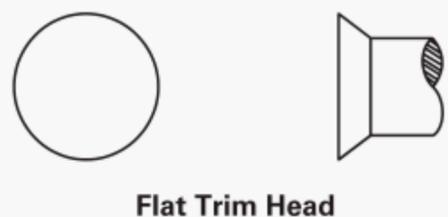
**2.3.1.7 flat head:** has a flat top surface and a conical bearing surface with various nominal head angles (82 deg, 90 deg, and 100 deg). (See also para. 2.3.1.20, round countersunk head.)



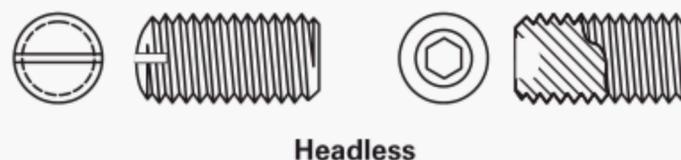
**2.3.1.9 flat undercut head:** basically the same as the standard flat head, except it is undercut to 70% of the basic head height.



**2.3.1.8 flat trim head:** has a smaller head diameter and lower head height than the standard flat head.



**2.3.1.10 headless:** normally has a slot, recess, or socket in one end.

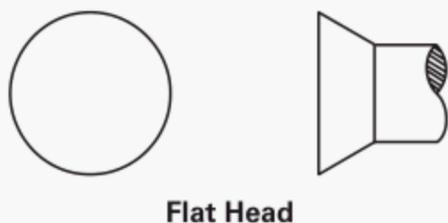


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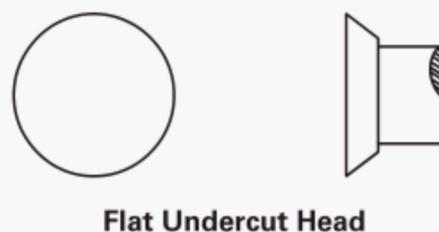
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Button head	X	...	...	...	D	...	...	...
Fillister head	...	ABC	ABC	...	A	...	...	...
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Flat head: 82 deg	...	ABC	ABC	ABC	AD	...	X	AX
Flat head: 90 deg	...	ABS	ABS	...	...	...	...	...
Flat head: 100 deg	...	AB	...	...	...	...	...	...
Flat trim head	...	B	B	...	...	...	...	...
Flat undercut head	...	AB	AB	...	...	...	...	...
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Hexagon head	AX	AX	AX	...	X	...	...	...
Hexagon washer head	AX	AX	AX	...	...	...	...	...
Oval head	...	ABC	ABC	ABC	A	...	...	AX
Oval trim head	...	B	B	...	...	...	...	...
Oval undercut head	...	AB	AB	...	...	...	...	...
Pan head	...	ABC	ABC	...	...	...	X	...
Round countersunk head	X	...	...	...	...	...	...	...
Round head	...	AB	AB	AB	A	...	X	AX
Round washer head	...	AB	AB	...	...	...	...	...
Socket head	...	...	...	...	DE	...	...	...
Square countersunk head	X	...	...	...	...	...	...	...
Square head	X	...	...	...	...	X	...	...
T-head	X	...	...	...	...	...	...	...
Truss head	...	ABC	ABC	...	...	...	...	...
12-point head	...	X	...	...	X	...	...	...
12-spline head	...	...	...	...	X	...	...	...

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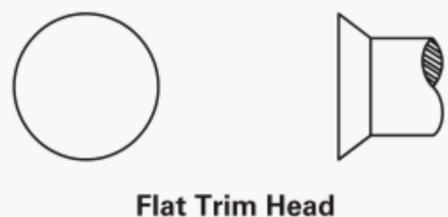
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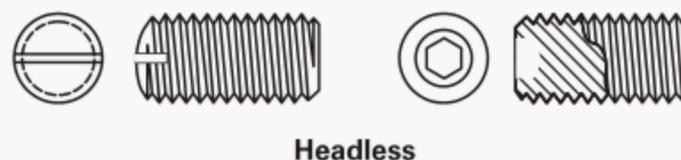
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Round Head

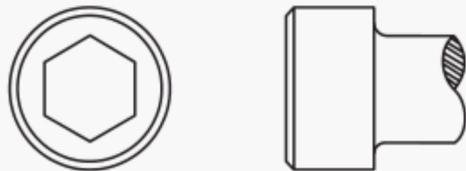
**2.3.1.22 round washer head:** a washer head upon which a round head is formed. (See also para. 2.3.1.31, *washer head*.)



Round Washer Head

**2.3.1.23 slotted head:** a head having a slot centered across its top surface to facilitate driving.

**2.3.1.24 socket head:** has a flat chamfered top surface with a smooth or knurled cylindrical side surface and a flat bearing surface. A hexagon or spline (formerly known as “fluted”) socket is formed in the center of the top surface.



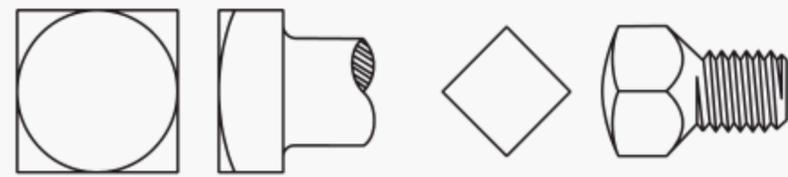
Socket Head

**2.3.1.25 square countersunk head:** a square head having a flat top surface and pyramidal bearing surface.



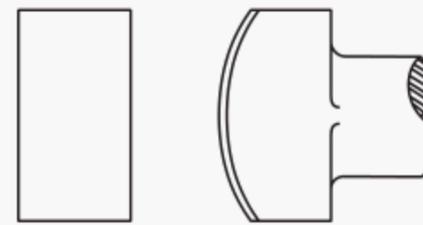
Square Countersunk Head

**2.3.1.26 square head:** has a flat top surface, four flat sides, and a flat bearing surface. Square heads on set screws have a rounded top surface and may have an underhead construction tapered or radiused directly into the threads.



Square Head

**2.3.1.27 T-head:** a rectangular shaped head, having a rounded top surface, flat sides, and a flat bearing surface.



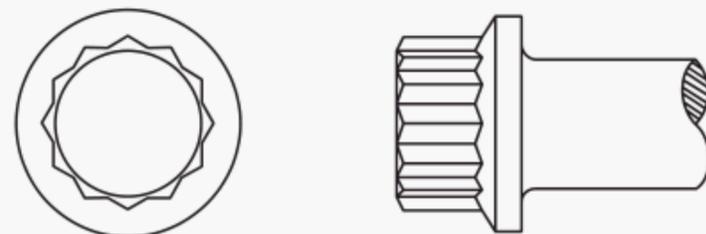
T-Head

**2.3.1.28 truss head:** has a low rounded top surface with a flat bearing surface. For a given screw size, the diameter of the truss head is larger than the diameter of the corresponding round head. (It is sometimes called “oven head” or “stove head.”)



Truss Head

**2.3.1.29 12-point flange head:** has a flat or indented top surface, 24 flats (double hex), with an integral formed circular collar connected to the base of the double hex by a conic section. It is sometimes called “double hexagon head.”



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Round Head

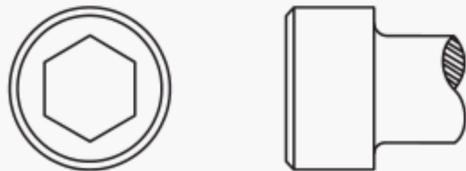
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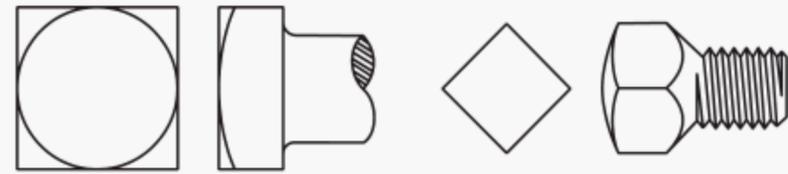
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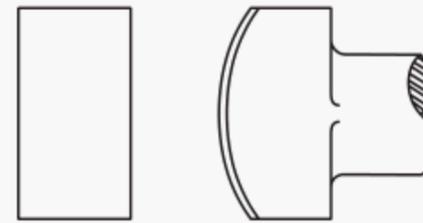
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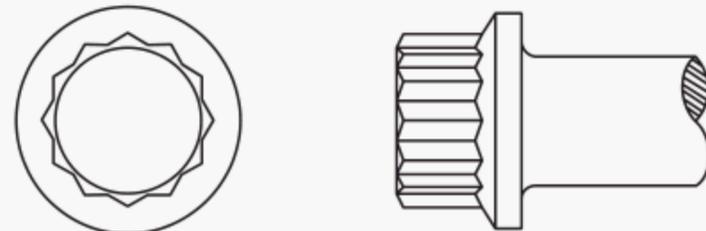
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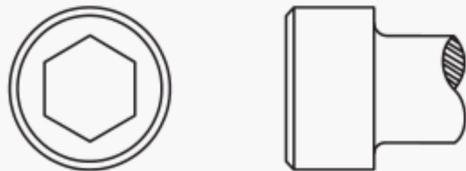
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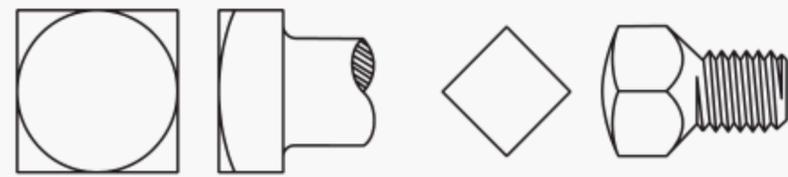
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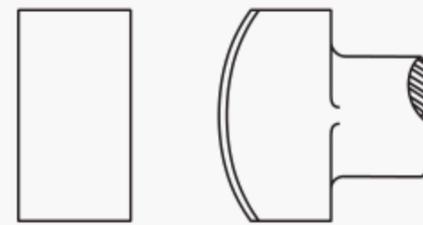
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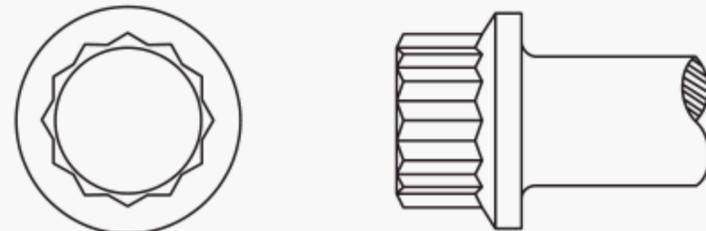
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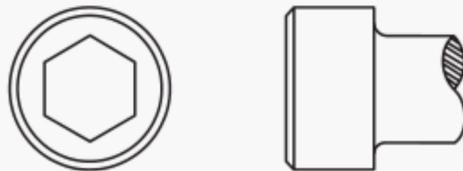
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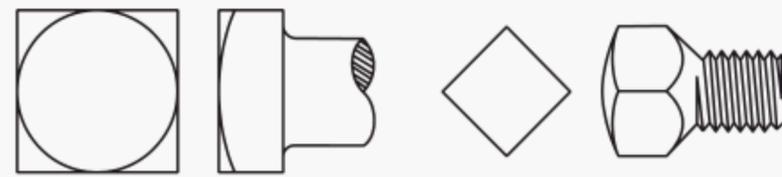
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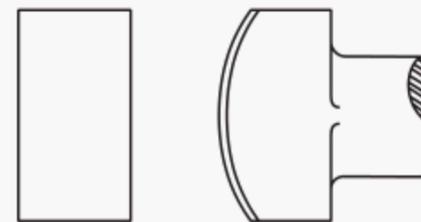
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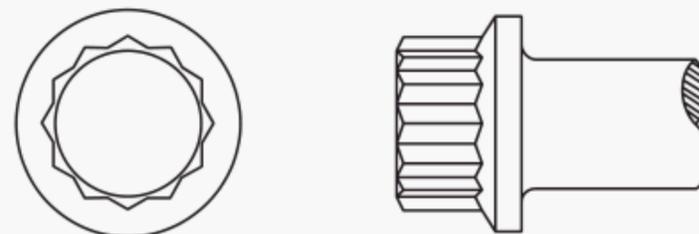
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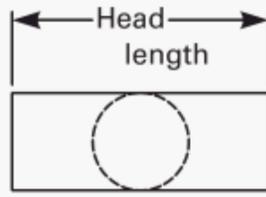
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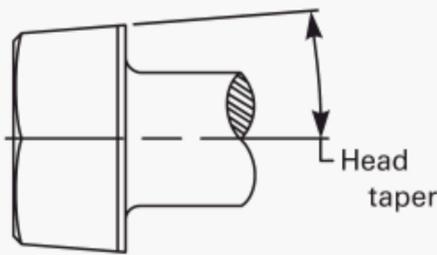


12-Point Flange Head

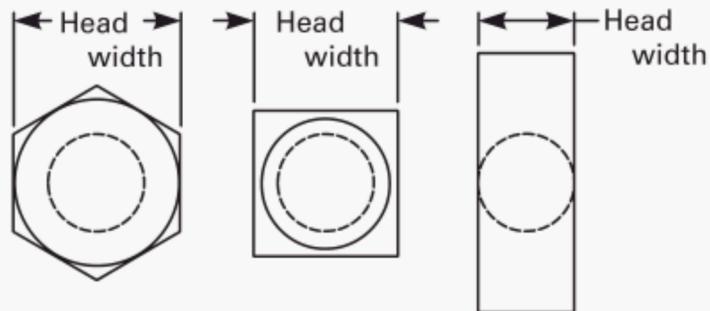
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**2.4.18 head taper:** the angle formed by the side or sides of the head and the axis of the fastener. This is not applicable to conventional countersunk heads and should not be confused with head angle.

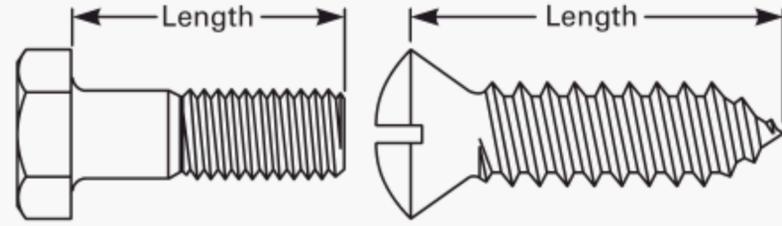


**2.4.19 head width:** the distance across opposite flats of hexagon, square, or 12-point heads measured in a plane perpendicular to the fastener axis. For rectangular or irregular shaped heads, the head width is the distance along the narrowest axis of the head measured in a like manner.



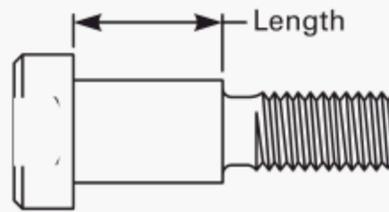
**2.4.20 length:** the length of a headed fastener is the distance from the intersection of the largest diameter of the head with the bearing surface to the extreme point, measured in a line parallel to the axis of the fastener. Exceptions: The length of a shoulder screw and a socket head shoulder screw is the length of the shoulder.

The length of a flat top countersunk head tubular rivet (with chamfered top) is measured from the intersection of the bearing surface with the shank diameter to the extreme point. The length of a headless fastener is the distance from one extreme point to the other, measured in a line parallel to the axis of the fastener.

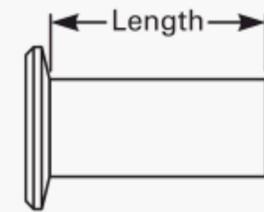


**Bolt**

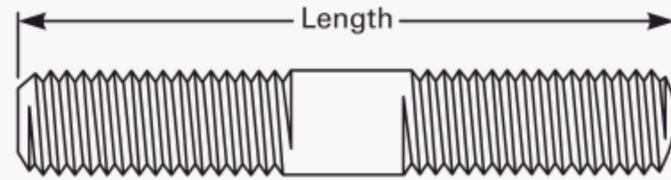
**Screw**



**Socket Head Shoulder Screw**



**Flat Top Countersunk Head Tubular Rivet (With Chamfered Top)**



**Stud**

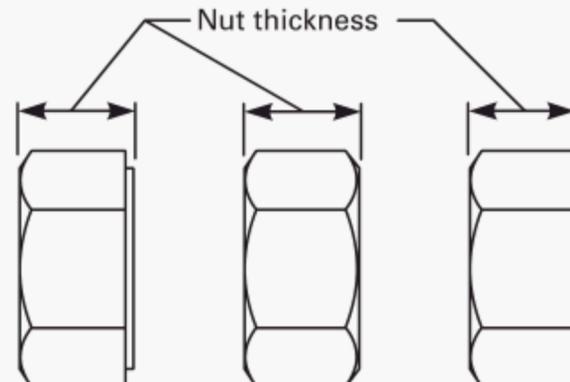
**2.4.21 length of thread engagement:** for two mating threads, the distance between the extreme points of contact on the pitch cylinders or cones, measured parallel to the axis.

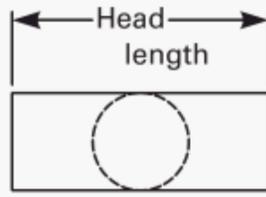
**2.4.22 limits of size:** the applicable maximum and minimum sizes (commonly referred to as "limits").

**2.4.23 maximum material condition (MMC):** for a feature of a fastener, the maximum amount of material permitted by the tolerance shown for that feature.

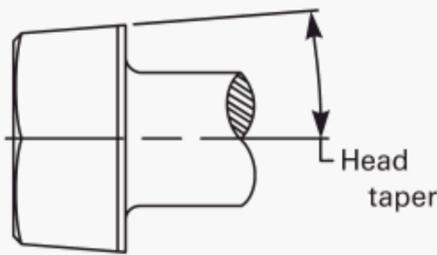
**2.4.24 nominal size:** is the designation used for the purpose of general identification.

**2.4.25 nut thickness:** the overall distance from the top of the nut to the bearing surface, measured parallel to the axis of the nut.

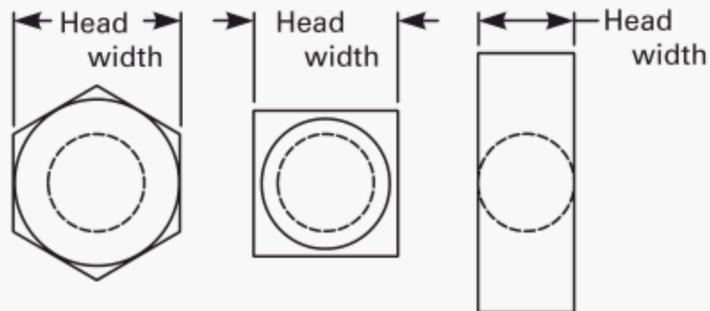




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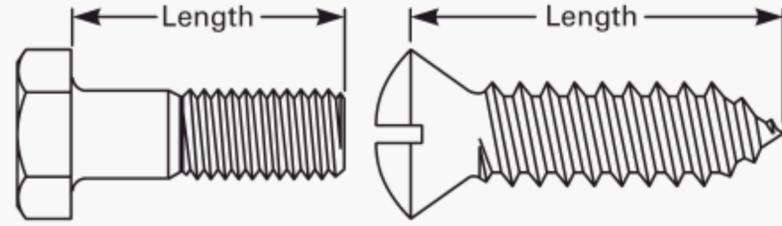


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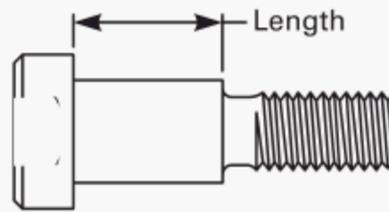
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The length of a flat top countersunk head tubular rivet (with chamfered top) is measured from the intersection of the bearing surface with the shank diameter to the extreme point. The length of a headless fastener is the distance from one extreme point to the other, measured in a line parallel to the axis of the fastener.

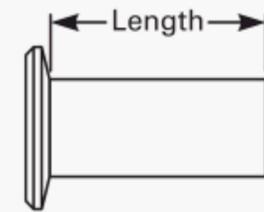


**Bolt**

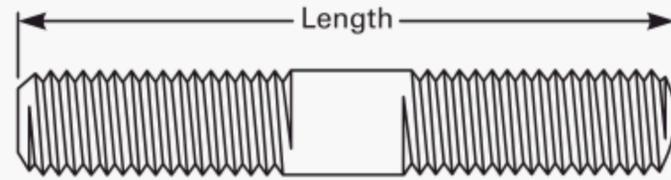
**Screw**



**Socket Head Shoulder Screw**



**Flat Top Countersunk Head Tubular Rivet (With Chamfered Top)**



**Stud**

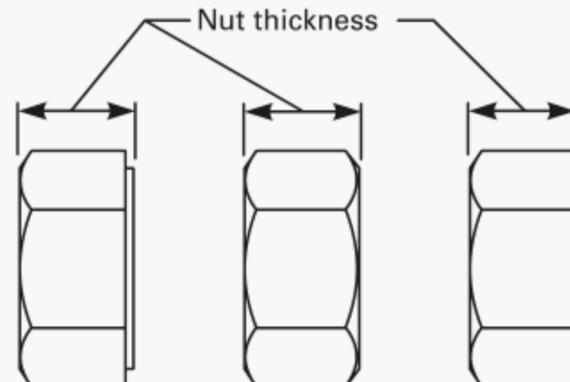
**2.4.21 length of thread engagement:** for two mating threads, the distance between the extreme points of contact on the pitch cylinders or cones, measured parallel to the axis.

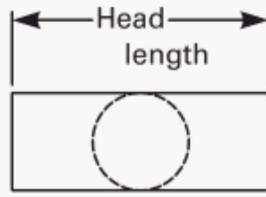
**2.4.22 limits of size:** the applicable maximum and minimum sizes (commonly referred to as "limits").

**2.4.23 maximum material condition (MMC):** for a feature of a fastener, the maximum amount of material permitted by the tolerance shown for that feature.

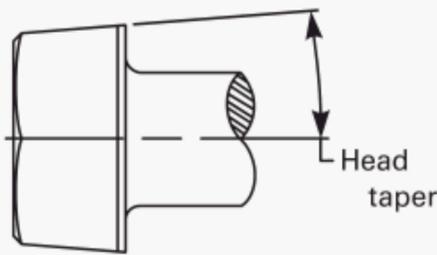
**2.4.24 nominal size:** is the designation used for the purpose of general identification.

**2.4.25 nut thickness:** the overall distance from the top of the nut to the bearing surface, measured parallel to the axis of the nut.

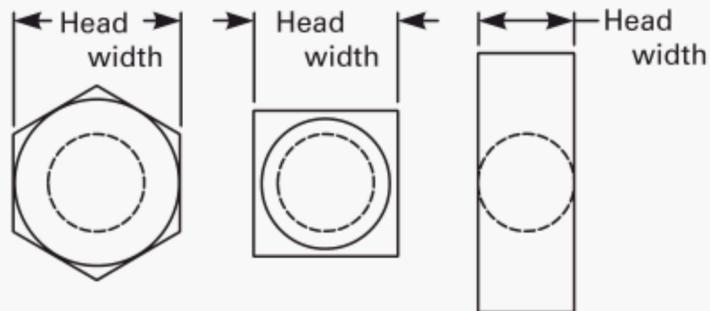




**2.4.18 head taper:** the angle formed by the side or sides of the head and the axis of the fastener. This is not applicable to conventional countersunk heads and should not be confused with head angle.

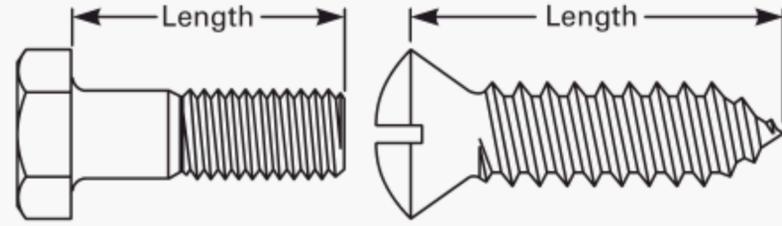


**2.4.19 head width:** the distance across opposite flats of hexagon, square, or 12-point heads measured in a plane perpendicular to the fastener axis. For rectangular or irregular shaped heads, the head width is the distance along the narrowest axis of the head measured in a like manner.



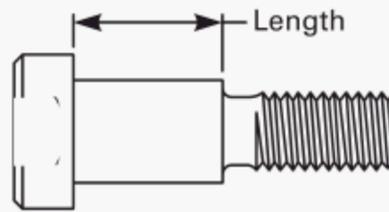
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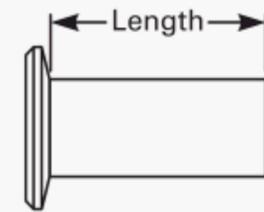


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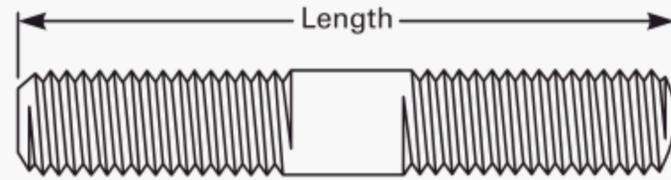
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**Socket Head Shoulder Screw**



**Flat Top Countersunk Head Tubular Rivet (With Chamfered Top)**



**Stud**

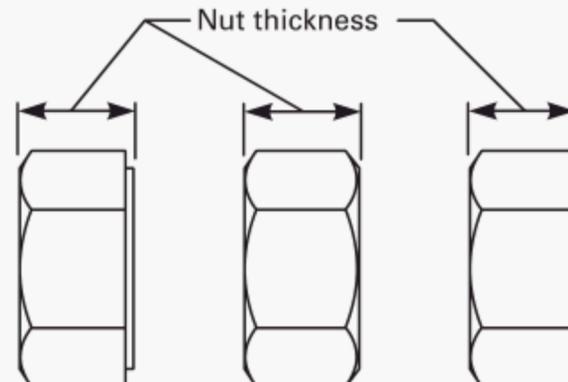
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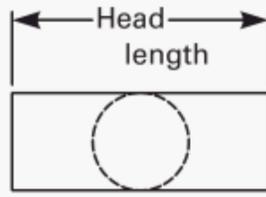
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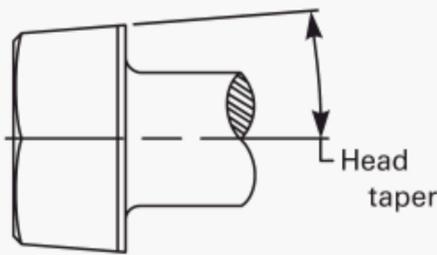
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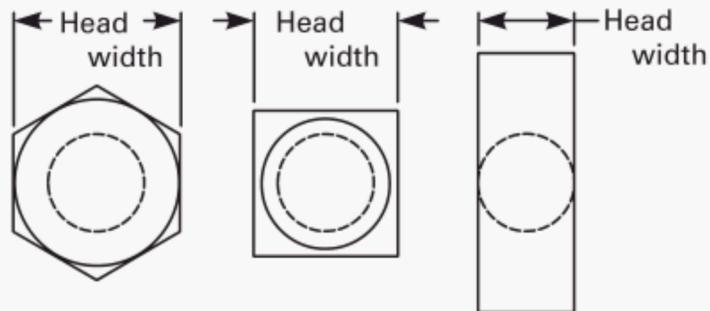




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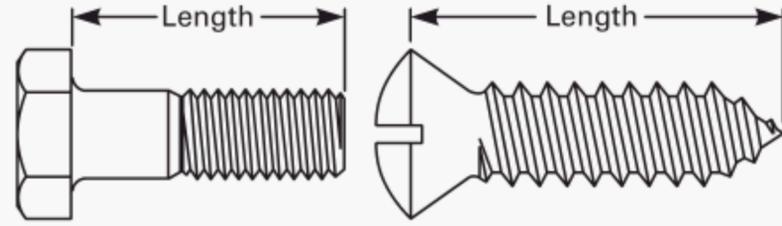


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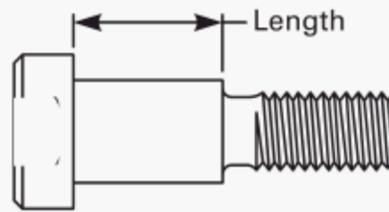
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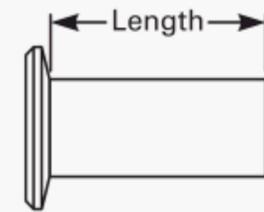


**Bolt**

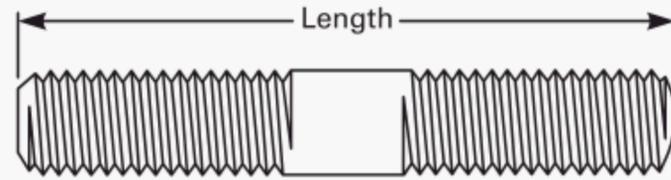
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**Stud**

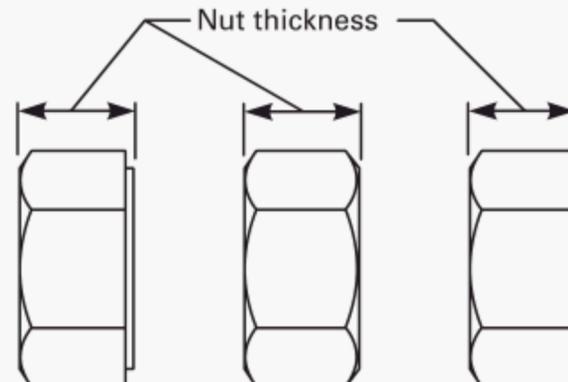
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**2.5.2 boltmaker:** a specialized type of transfer header that forms the head on a blank, may trim the head to a required shape, may point the end and roll a thread. (See also para. 2.5.37, *transfer header*, and para. 2.5.9, *cold forming*.)

**2.5.3 broaching:** the process of removing metal by pushing or pulling a cutting tool along the surface.

**2.5.4 burnishing:** the process of producing a smooth surface by rubbing or rolling a tool against the surface.

**2.5.5 burr:** a small amount of material extending out from the edge of a hole, shoulder, etc. as the result of a machining or forming operation.

**2.5.6 chip:** a small fragment of metal removed from a surface by cutting with a tool.

**2.5.7 coining:** a process of forming metal by forcing it to flow while confined within closed dies.

**2.5.8 cold header:** a horizontal machine that is supplied with wire or rod at room temperature and in a continuous manner produces parts by applying machine pressure to cause the metal to flow and form a given configuration. Machines that are used in this process are classified by the number of blows they deliver to each workpiece and the types of dies used to hold and shape the blank.

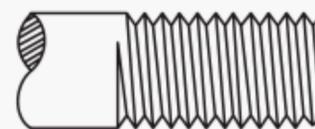
**2.5.9 cold forming (cold heading):** a process at room temperature that includes heading, upsetting, extrusion, and forging in a cold header, bolt maker, or parts former.

**2.5.10 cold working fillets:** application of machine pressures that produces compression of the outer metal fibers in the fillet. This process will improve the fatigue strength.

**2.5.11 counterboring:** the process of enlarging for part of its depth a hole previously formed and to provide a shoulder at the bottom of the enlarged hole. Special tools called counterbores are generally used for this operation.

**2.5.12 countersinking:** the process of beveling or flaring the end of a hole. Holes in which countersunk head type fasteners are to be used must be countersunk to provide a mating bearing surface.

**2.5.13 cut thread:** a thread produced by removing material from the surface with a form cutting tool.



Cut Thread

**2.5.14 drilling:** the process of forming holes by means of specialized cutting tools called drills.

**2.5.15 embossing:** the process of raising a boss or protuberance on the surface.

**2.5.16 extruding:** the process of reducing the size of some feature or diameter by forcing it through a die.

**2.5.17 facing:** the machining operation on the end, flat face, or shoulder of a fastener.

**2.5.18 flash:** the thin fin of metal along the sides or around the edges of a forged or upset section. It is caused when metal flows out between the edges of the forging dies.

**2.5.19 forging:** the process of forming a product by hammering or pressing. When the material is forged below the recrystallization temperature it is said to be cold forged. When worked above the recrystallization temperature it is said to be hot forged.

**2.5.20 grinding:** the process of removing material from the surface by the cutting action of a bonded abrasive wheel.

**2.5.21 ground thread:** a thread finished on the flanks by a grinding operation.

**2.5.22 header:** a specialized form of horizontal press.

**2.5.23 heading:** a manufacturing process involving the use of a header. This process may or may not involve upsetting or extruding. A part made from wire below the recrystallization temperature is said to be cold headed whereas parts made from wire above the recrystallization temperature are said to be hot headed.

**2.5.24 knurling:** the process of producing a roughened surface by means of a specialized forming tool called a knurl.

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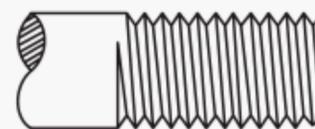
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**2.6.10** *yield strength*: the tension-applied load at which the fastener experiences a specific amount of permanent deformation.

## 2.7 Terms Relating to Material and Heat Treatment of Fasteners

**2.7.1** *alloy steel*: a steel containing elements other than carbon that have been added to obtain definite mechanical or physical properties, such as higher strength at elevated temperatures, toughness, etc.

**2.7.2** *annealed*: a fastener is considered in the annealed state when it has been heated at a given temperature for a given time and cooled at a given rate to make it soft; that is, free of hardness caused by working or previous heat treatment.

**2.7.3** *carbon steel*: a steel that does not contain any substantial amounts of alloying materials other than carbon.

**2.7.4** *case hardened*: a fastener of ferrous material having a surface that has been made harder than the core. (See also para. 2.8.21, *surface treatment*, and para. 2.8.20, *surface heat treatment*.)

**2.7.5** *cold heading stock*: material produced under closely controlled manufacturing and inspection methods so as to be suitable for heading and to be free from those defects causing fractures during heading.

**2.7.6** *decarburized*: a fastener has a decarburized surface when the carbon content of the surface is lower than the carbon content of the core.

**2.7.7** *grains*: the individual crystals of the material.

**2.7.8** *inclusions*: particles of nonmetallic impurities contained in material.

**2.7.9** *laps*: longitudinal surface defects caused by folding over fins or sharp corners into the surface of the material.

**2.7.10** *pits*: sharp depressions on the surface of a raw material or fastener.

**2.7.11** *screw stock*: metal in the form of wire or rod that is used for making screw machine parts. Usually it is of a free machining type of material.

**2.7.12** *soft*: describes the condition of a fastener that, though made from a material that can be, and normally is, hardened by heat treatment, has been left in the as-fabricated temper.

**2.7.13** *stainless steel*: a corrosion-resistant type of alloy steel that contains a minimum of 12% chromium.

**2.7.14** *strain hardening*: the increase in hardness, and hence strength, resulting from plastic deformation at a temperature below the recrystallization range. Sometimes called “work hardening.”

**2.7.15** *temper*: the state of a metal or alloy involving its structure and mechanical properties. Temper varies from the annealed temper (soft) to spring temper.

**2.7.16** *toughness*: the ability of a material to absorb considerable energy without fracturing.

**2.7.17** *voids*: internal fissures in ferrous materials. They are sometimes called “chrom checks,” “fish eyes,” “shatter cracks,” and “snow flakes.”

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## 2.8 Coatings and Finish Terminology

The following terms are commonly used in designating the various finishes applied to fasteners.

**2.8.1** *anodizing*: the formation of an oxide film on the surface by means of an anodic treatment. This is commonly used on aluminum.

**2.8.2** *black oxide*: a black finish on a fastener produced by immersing it in hot oxidizing salts or salt solutions.

**2.8.3** *coating*: the application of some material such as a metal, organic compound, etc. to the surface of a fastener.

**2.8.4** *chromate treatment*: a treatment of a fastener in a hexavalent chromium compound solution to produce a conversion coating.

**2.8.5** *dichromate treatment*: a chromate conversion coating produced on fasteners in a hot solution of sodium dichromate at a specified temperature.

**2.8.6** *dry film lubricant*: a dry solid substance that is applied to a fastener surface for the purpose of reducing friction or wear between the fastener and its mating surfaces. Natural dry film lubricants include graphite and MoS<sub>2</sub>.

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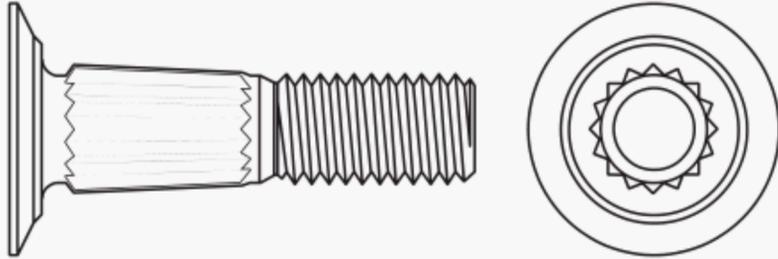
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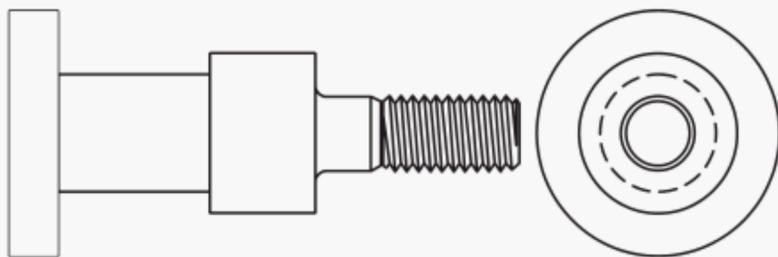
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**3.1.1.35 seal bolt:** has straight or helical flutes on the body; the heads are of various designs. It is designed for railroad car floor and similar applications to prevent leakage of water.



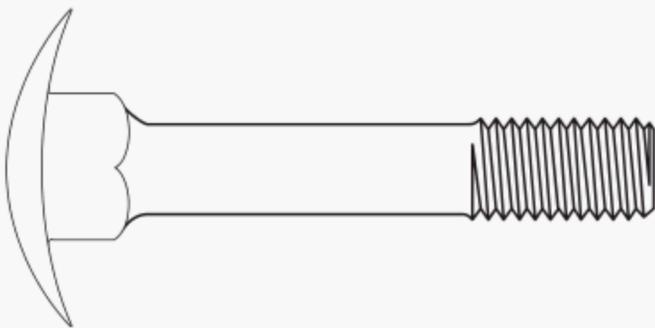
Seal Bolt

**3.1.1.36 securing bolt:** has a cylindrical head and a cylindrical shoulder on the shank. It is designed for use in securing ship decks.



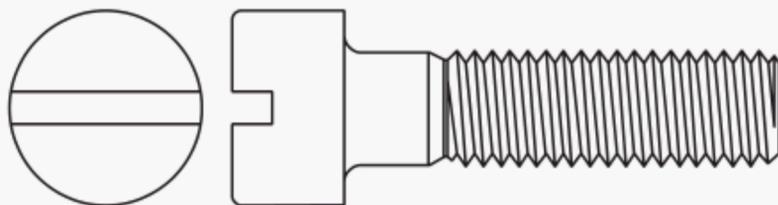
Securing Bolt

**3.1.1.37 shaft bolt:** a bolt having an elongated head curved to fit a round form and with or without a square neck.



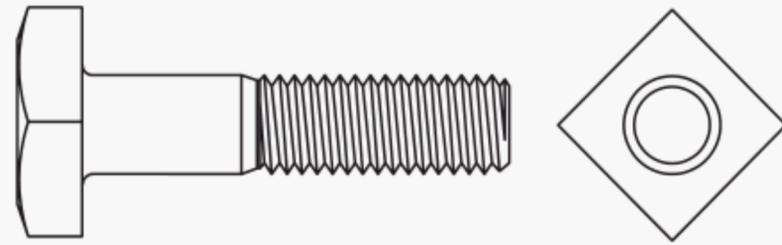
Shaft Bolt

**3.1.1.38 spring center bolt:** has a cylindrical slotted or unslotted head for holding the leaves of a vehicle spring together. When provided with a conical point (usually 80 deg included angle) it is known as a “universal spring center bolt.” (See also para. 3.1.2, screws.)



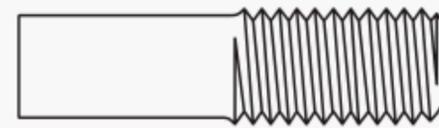
Spring Center Bolt

**3.1.1.39 square head bolt:** has a square shaped external wrenching head of standard proportions.



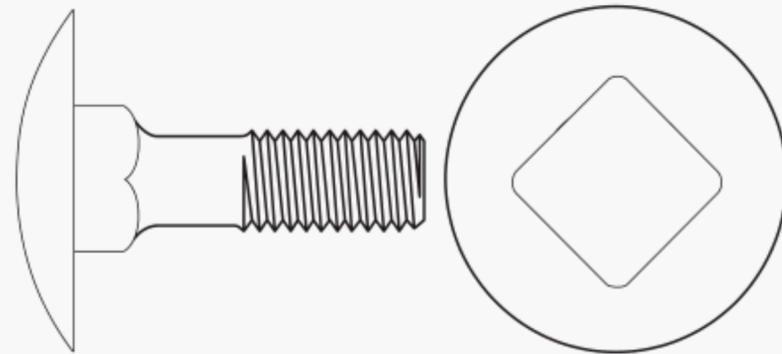
Square Head Bolt

**3.1.1.40 stay bolt:** an iron or mild steel rod, commonly having a reduced diameter body or sometimes a continuous thread. It is designed for use in bracing the flat surfaces of boilers, particularly in fire-box boilers, and in all boilers of the locomotive type to tie the fire-box to the external shell. The bolts are screwed through tapped holes in the sheets or plates and allowed to project far enough at each end to permit riveting cold with shallow round heads.



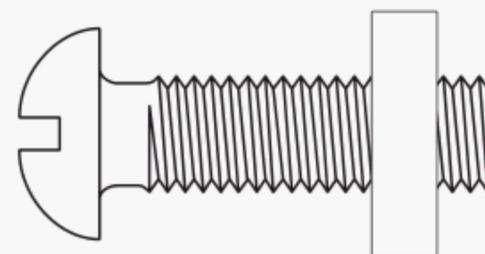
Stay Bolt

**3.1.1.41 step bolt:** a round head square neck bolt having an extra large head diameter and thin head. This fastener is designed for use in fastening flooring, step treads, etc.



Step Bolt

**3.1.1.42 stove bolt:** a former commercial standard having fractional sizes of  $\frac{1}{8}$ -32,  $\frac{5}{32}$ -28,  $\frac{3}{16}$ -24,  $\frac{7}{32}$ -22, and  $\frac{1}{4}$ -18. It is now supplied as the equivalent machine screw with nut. (See also para. 3.1.2.13, machine screw.)

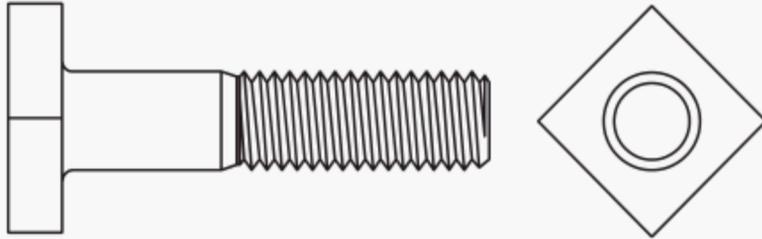


Stove Bolt

**3.1.1.43 stripper bolt:** see para. 3.1.2.20, socket head shoulder screw.

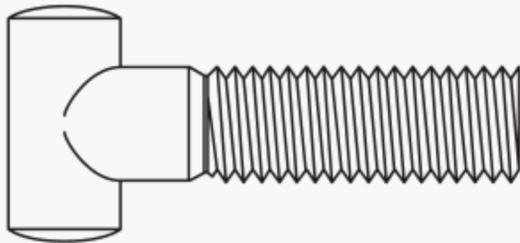
**3.1.1.44 structural bolt:** see para. 3.1.1.25, machine bolt.

**3.1.1.45 T-bolt:** a finished bolt with a square head. It is designed for holding fixtures and other accessories in the T-slots of machine tools.



**T-Bolt**

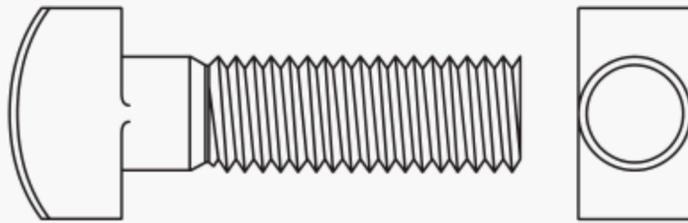
**3.1.1.46 round section T-bolt:** has an oblong head consisting of a cylindrical rod, usually of the same diameter as the bolt, which is forged or welded perpendicular to the body. Such bolts are commonly used as ends for automotive gasoline tank straps or for clamping purposes.



**Round Section T-Bolt**

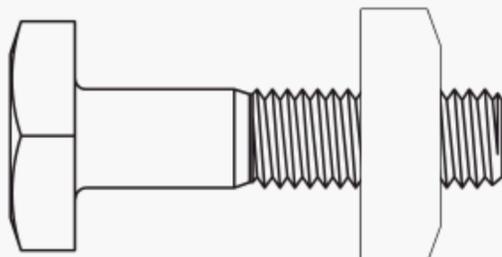


**3.1.1.47 T-head bolt:** a bolt similar to a machine bolt, which has an oblong head with a convex cylindrical top.



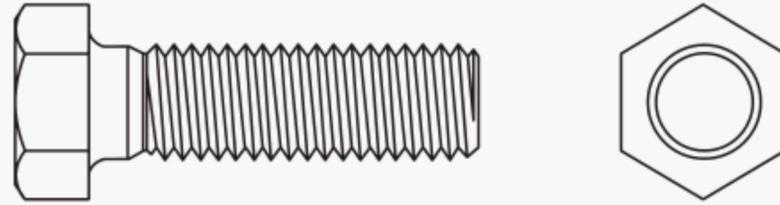
**T-Head Bolt**

**3.1.1.48 tank bolt:** a medium strength square head bolt.



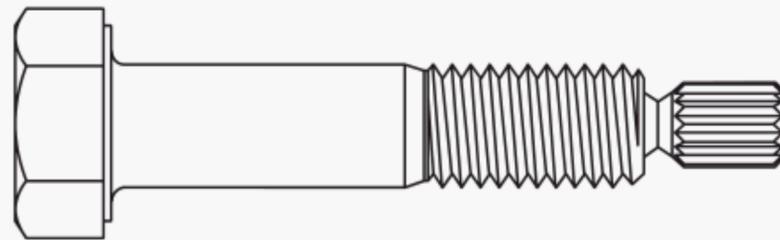
**Tank Bolt**

**3.1.1.49 tap bolt:** a square or hexagon head machine bolt, threaded relatively close to the head.



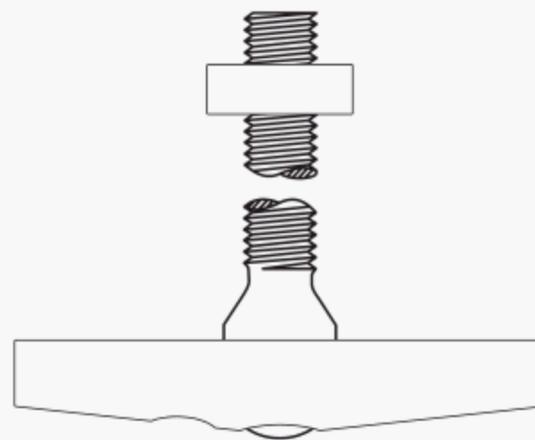
**Tap Bolt**

**3.1.1.50 tension control bolt:** a round or hexagon head bolt manufactured with a 12-spline drive and control groove on the threaded end. The fastener is tightened using a special wrench that simultaneously engages the nut and spline. The spline is designed to shear off when a pre-determined clamp load has been achieved.



**Tension Control Bolt**

**3.1.1.51 toggle bolt, head anchored:** a toggle bolt having a U-shaped wing rotatably attached to the head so that it can be aligned with the shank and pushed through a hole. It is used as a fastener in a hole that is accessible only from one side.

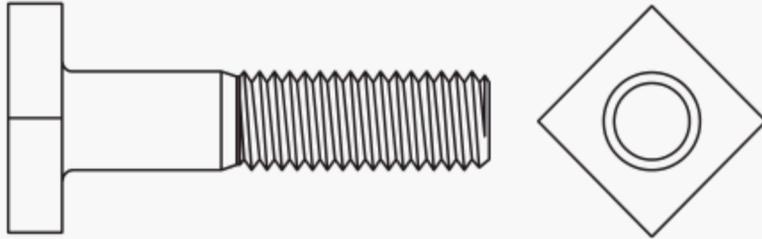


**Head Anchored Toggle Bolt**

**3.1.1.52 track bolt:** a steel bolt having a circular head with oval or mushroom top, an oval or elliptical neck that fits into an oval hole in a rail joint bar to prevent the bolt from turning, and a chamfer point. It is designed for joining railroad rails.

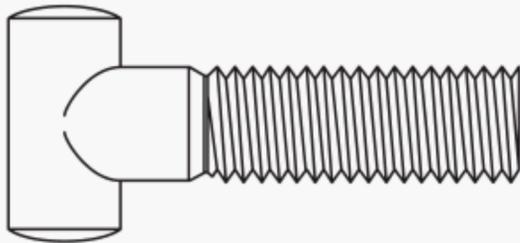
**3.1.1.44 structural bolt:** see para. 3.1.1.25, machine bolt.

**3.1.1.45 T-bolt:** a finished bolt with a square head. It is designed for holding fixtures and other accessories in the T-slots of machine tools.



**T-Bolt**

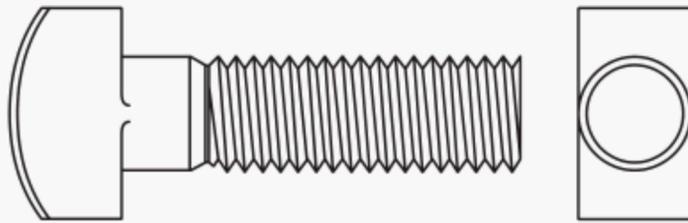
**3.1.1.46 round section T-bolt:** has an oblong head consisting of a cylindrical rod, usually of the same diameter as the bolt, which is forged or welded perpendicular to the body. Such bolts are commonly used as ends for automotive gasoline tank straps or for clamping purposes.



**Round Section T-Bolt**

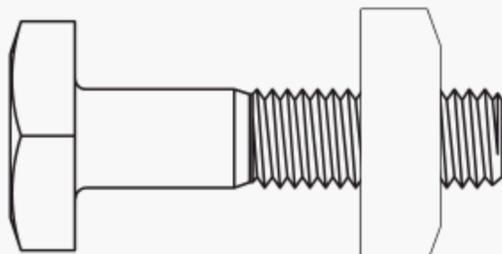


**3.1.1.47 T-head bolt:** a bolt similar to a machine bolt, which has an oblong head with a convex cylindrical top.



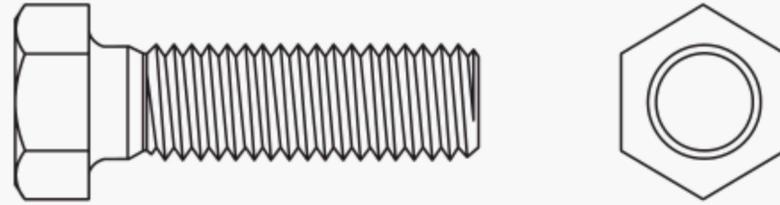
**T-Head Bolt**

**3.1.1.48 tank bolt:** a medium strength square head bolt.



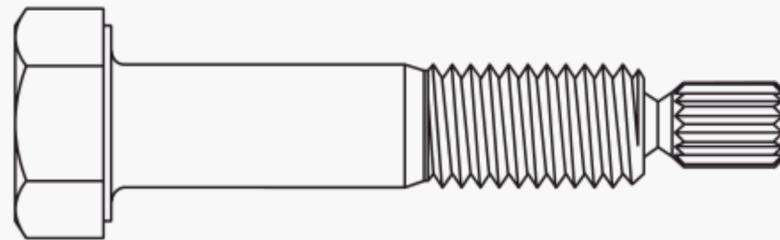
**Tank Bolt**

**3.1.1.49 tap bolt:** a square or hexagon head machine bolt, threaded relatively close to the head.



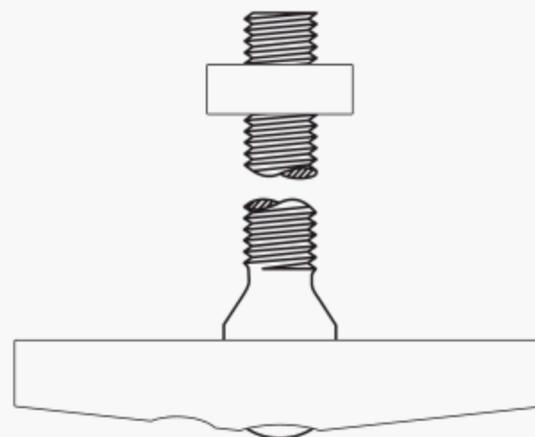
**Tap Bolt**

**3.1.1.50 tension control bolt:** a round or hexagon head bolt manufactured with a 12-spline drive and control groove on the threaded end. The fastener is tightened using a special wrench that simultaneously engages the nut and spline. The spline is designed to shear off when a pre-determined clamp load has been achieved.



**Tension Control Bolt**

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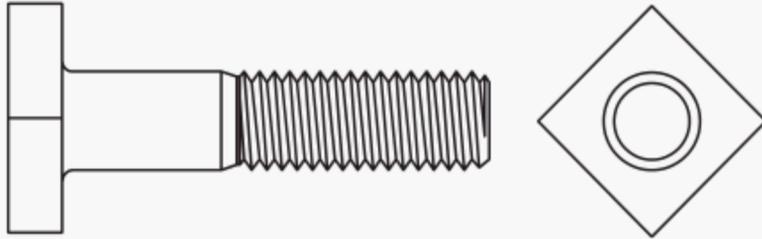


**Head Anchored Toggle Bolt**

**3.1.1.52 track bolt:** a steel bolt having a circular head with oval or mushroom top, an oval or elliptical neck that fits into an oval hole in a rail joint bar to prevent the bolt from turning, and a chamfer point. It is designed for joining railroad rails.

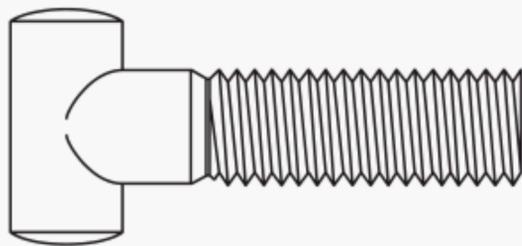
**3.1.1.44 structural bolt:** see para. 3.1.1.25, machine bolt.

**3.1.1.45 T-bolt:** a finished bolt with a square head. It is designed for holding fixtures and other accessories in the T-slots of machine tools.



**T-Bolt**

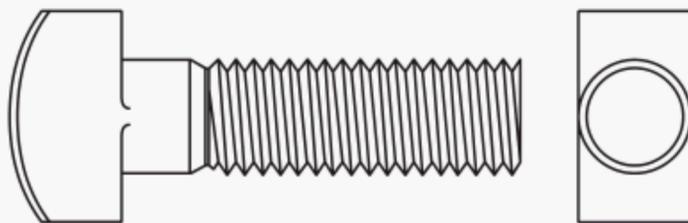
**3.1.1.46 round section T-bolt:** has an oblong head consisting of a cylindrical rod, usually of the same diameter as the bolt, which is forged or welded perpendicular to the body. Such bolts are commonly used as ends for automotive gasoline tank straps or for clamping purposes.



**Round Section T-Bolt**

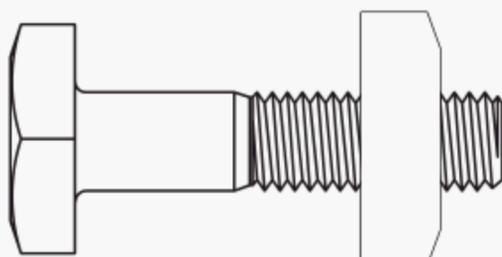


**3.1.1.47 T-head bolt:** a bolt similar to a machine bolt, which has an oblong head with a convex cylindrical top.



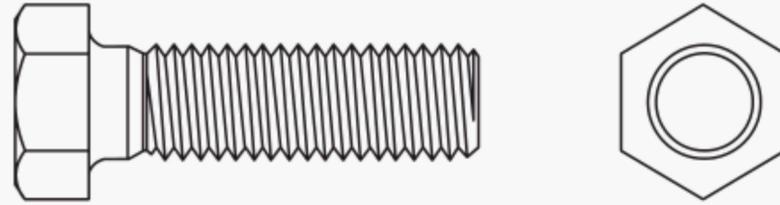
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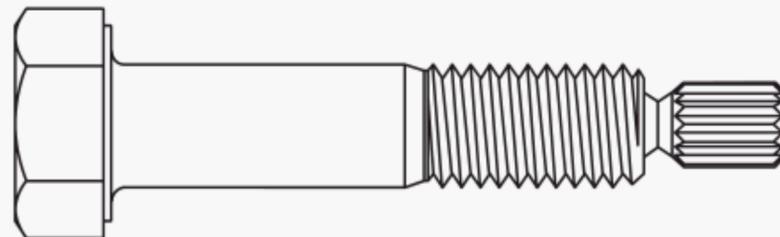
**Tank Bolt**

**3.1.1.49 tap bolt:** a square or hexagon head machine bolt, threaded relatively close to the head.



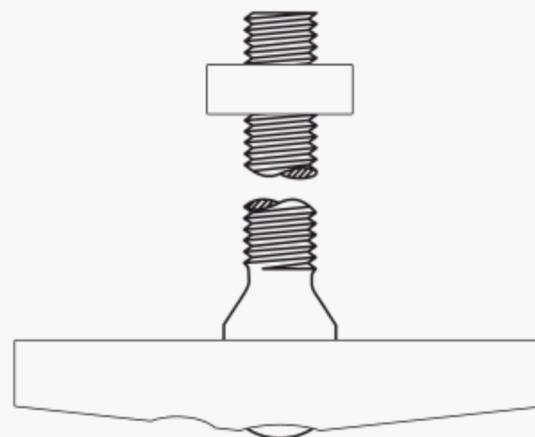
**Tap Bolt**

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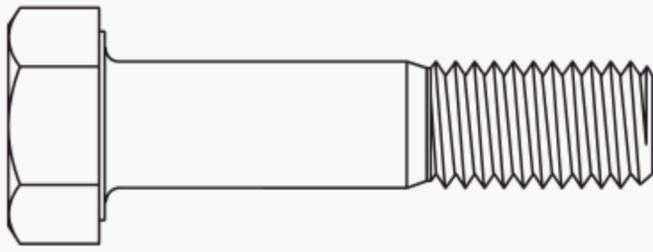
**Tension Control Bolt**

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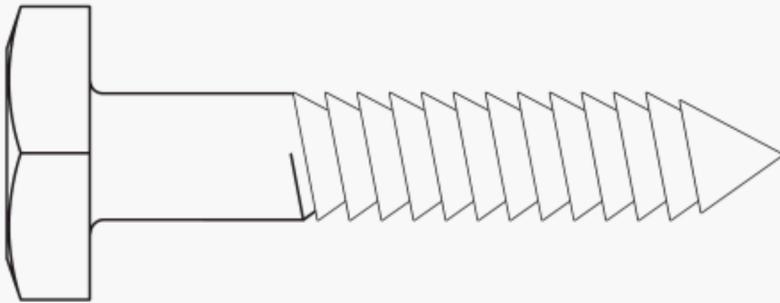
**Head Anchored Toggle Bolt**

**3.1.1.52 track bolt:** a steel bolt having a circular head with oval or mushroom top, an oval or elliptical neck that fits into an oval hole in a rail joint bar to prevent the bolt from turning, and a chamfer point. It is designed for joining railroad rails.



Cap Screw

**3.1.2.8** *fetter drive screw*: a lag screw having a buttress type thread known as the fetter drive thread. It is designed for attaching hardware to wooden poles used in electric power lines.



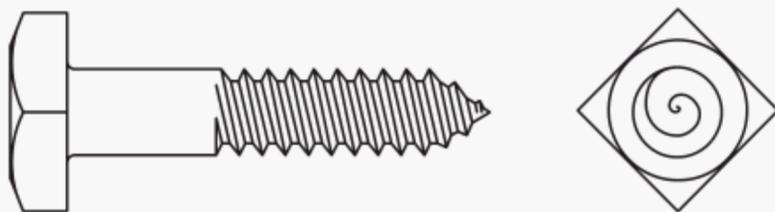
Fetter Drive Screw

**3.1.2.9** *head locking screw*: has a head of such design that it resists forces tending to loosen it.

**3.1.2.10** *insert screw*: designed for permanent assembly of the head or shank within a cast or molded material such as hard rubber, organic plastics, or die castings. The head or shank or both are provided with serrations, knurling, or other projections or indentations to prevent its rotation in the molded material.

**3.1.2.11** *knurled head screw*: has a circular head whose periphery is knurled or serrated and, therefore, manually turned without tools. (See also para. 3.1.2.2, *adjusting screw*.)

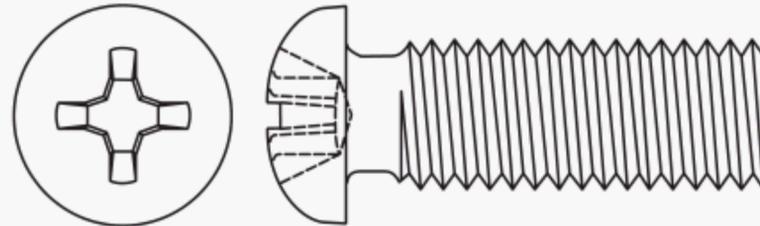
**3.1.2.12** *lag screw*: has a distinct point, wide spaced threads, and a hex or square head that facilitates the driving into a drilled hole while forming a mating thread.



Lag Screw

**3.1.2.13** *machine screw*: has a slotted, recessed, or wrenching head and threaded for assembly with a preformed internal thread. Machine screws are generally available in the following standard head styles: binding, fillister, 80 deg and 100 deg flat, flat trim, hexagon,

hexagon washer, oval, oval trim, pan, round, and truss (90 deg for metric). They are also made in numerous special head styles to suit particular requirements. They are generally furnished with plain points but for special purposes may have chamfered, header, pilot, or other type points. (“Machine screw with nut” has practically replaced the term “stove bolt.”)



Machine Screw

**3.1.2.14** *metallic drive screw (Type U)*: a hardened screw having a blunt or sharp pilot point, single or multiple threads of steep lead angle, and generally furnished with a round or flat head. It is used with a clearance hole in one of the parts to be fastened and designed for assembly by impact in sheet metal, castings, fiber, plastics, etc.

**3.1.2.15** *miniature screw*: less than 0.06 in. or 1.6 mm in diameter, having a slotted head, and threaded for assembly with a preformed internal thread. Miniature screws are generally available in the following standard head styles: fillister, pan, 100 deg flat, and binding. They are generally furnished with chamfer points.

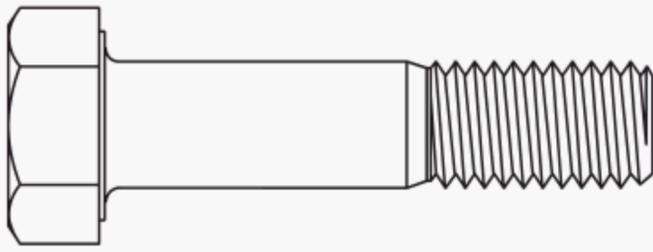
**3.1.2.16** *one-way head screw*: a round head screw that is slotted but has side clearances at diagonally opposite sides of the slot so that the screw can be driven only in the direction of assembly; designed to prevent tampering or theft. (Sometimes called “tamper proof screws.”)

**3.1.2.17** *ornamental head screw*: has a head of artistic design, for use when an improved appearance is desired.

**3.1.2.18** *set screw*: a hardened screw with or without a head, threaded the entire length and having a formed point designed to bear on a mating part. Set screws are regularly furnished in square head, headless slotted, hexagon socket and spline socket styles in combination with the set screw point styles illustrated and described below.

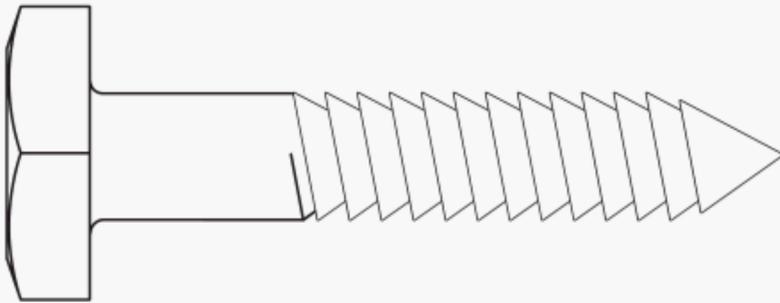


Set Screw



Cap Screw

**3.1.2.8** *fetter drive screw*: a lag screw having a buttress type thread known as the fetter drive thread. It is designed for attaching hardware to wooden poles used in electric power lines.



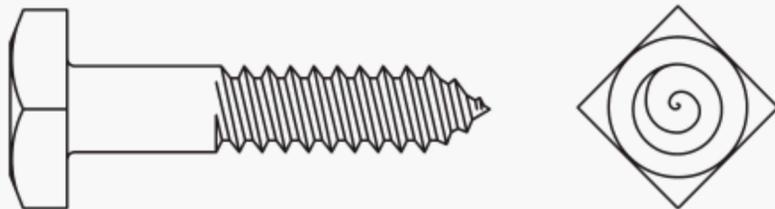
Fetter Drive Screw

**3.1.2.9** *head locking screw*: has a head of such design that it resists forces tending to loosen it.

**3.1.2.10** *insert screw*: designed for permanent assembly of the head or shank within a cast or molded material such as hard rubber, organic plastics, or die castings. The head or shank or both are provided with serrations, knurling, or other projections or indentations to prevent its rotation in the molded material.

**3.1.2.11** *knurled head screw*: has a circular head whose periphery is knurled or serrated and, therefore, manually turned without tools. (See also para. 3.1.2.2, *adjusting screw*.)

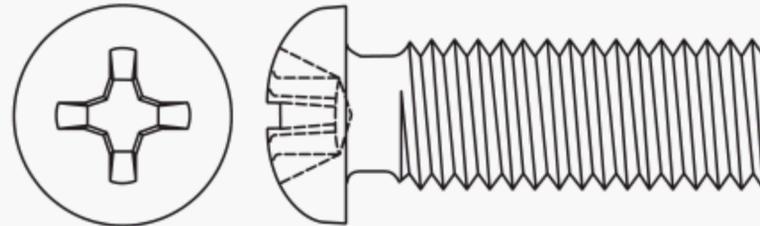
**3.1.2.12** *lag screw*: has a distinct point, wide spaced threads, and a hex or square head that facilitates the driving into a drilled hole while forming a mating thread.



Lag Screw

**3.1.2.13** *machine screw*: has a slotted, recessed, or wrenching head and threaded for assembly with a preformed internal thread. Machine screws are generally available in the following standard head styles: binding, fillister, 80 deg and 100 deg flat, flat trim, hexagon,

hexagon washer, oval, oval trim, pan, round, and truss (90 deg for metric). They are also made in numerous special head styles to suit particular requirements. They are generally furnished with plain points but for special purposes may have chamfered, header, pilot, or other type points. (“Machine screw with nut” has practically replaced the term “stove bolt.”)



Machine Screw

**3.1.2.14** *metallic drive screw (Type U)*: a hardened screw having a blunt or sharp pilot point, single or multiple threads of steep lead angle, and generally furnished with a round or flat head. It is used with a clearance hole in one of the parts to be fastened and designed for assembly by impact in sheet metal, castings, fiber, plastics, etc.

**3.1.2.15** *miniature screw*: less than 0.06 in. or 1.6 mm in diameter, having a slotted head, and threaded for assembly with a preformed internal thread. Miniature screws are generally available in the following standard head styles: fillister, pan, 100 deg flat, and binding. They are generally furnished with chamfer points.

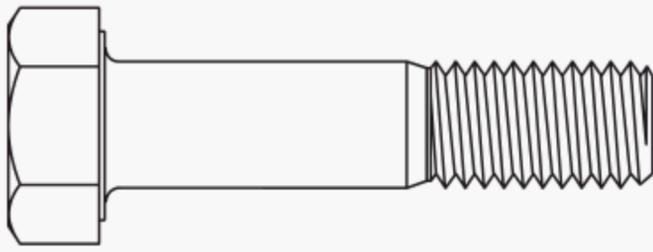
**3.1.2.16** *one-way head screw*: a round head screw that is slotted but has side clearances at diagonally opposite sides of the slot so that the screw can be driven only in the direction of assembly; designed to prevent tampering or theft. (Sometimes called “tamper proof screws.”)

**3.1.2.17** *ornamental head screw*: has a head of artistic design, for use when an improved appearance is desired.

**3.1.2.18** *set screw*: a hardened screw with or without a head, threaded the entire length and having a formed point designed to bear on a mating part. Set screws are regularly furnished in square head, headless slotted, hexagon socket and spline socket styles in combination with the set screw point styles illustrated and described below.

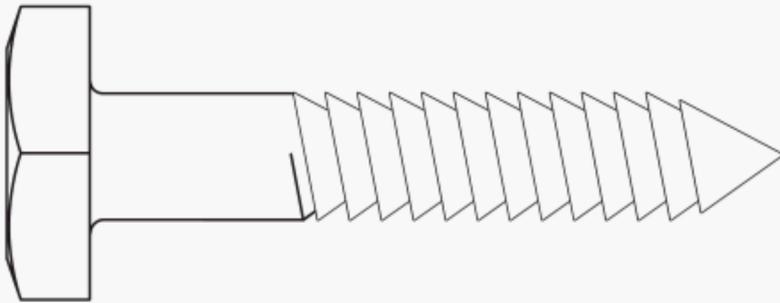


Set Screw



Cap Screw

**3.1.2.8** *fetter drive screw*: a lag screw having a buttress type thread known as the fetter drive thread. It is designed for attaching hardware to wooden poles used in electric power lines.



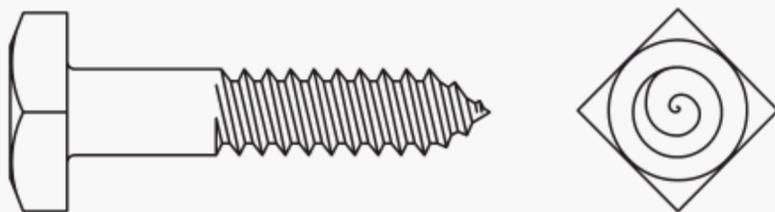
Fetter Drive Screw

**3.1.2.9** *head locking screw*: has a head of such design that it resists forces tending to loosen it.

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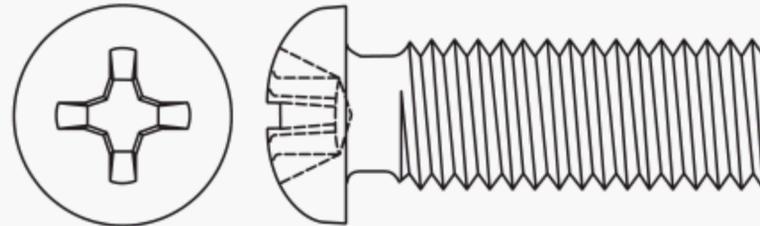
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Lag Screw

**3.1.2.13** *machine screw*: has a slotted, recessed, or wrenching head and threaded for assembly with a preformed internal thread. Machine screws are generally available in the following standard head styles: binding, fillister, 80 deg and 100 deg flat, flat trim, hexagon,

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Machine Screw

**3.1.2.14** *metallic drive screw (Type U)*: a hardened screw having a blunt or sharp pilot point, single or multiple threads of steep lead angle, and generally furnished with a round or flat head. It is used with a clearance hole in one of the parts to be fastened and designed for assembly by impact in sheet metal, castings, fiber, plastics, etc.

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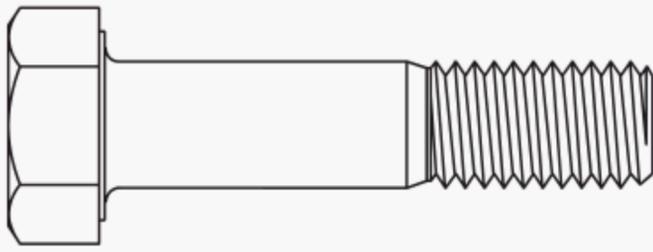
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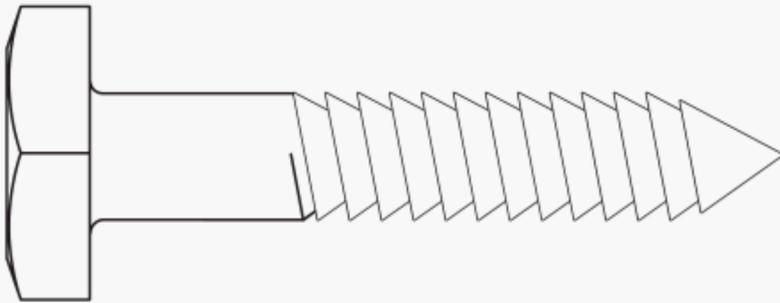


Set Screw



Cap Screw

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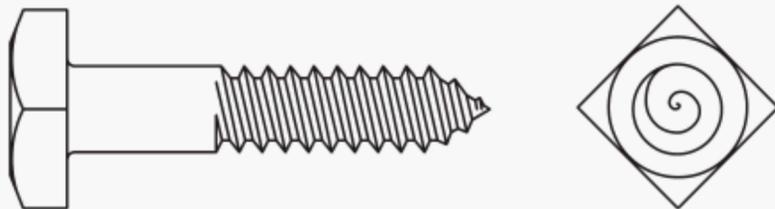
Fetter Drive Screw

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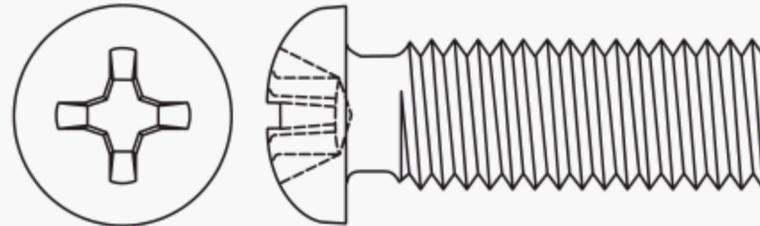
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Lag Screw

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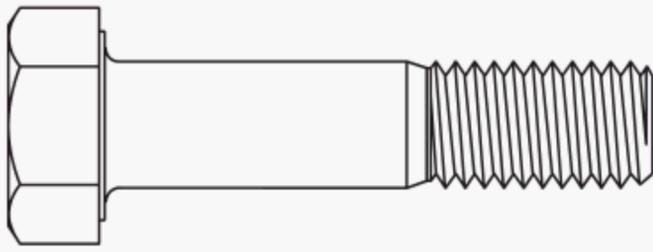
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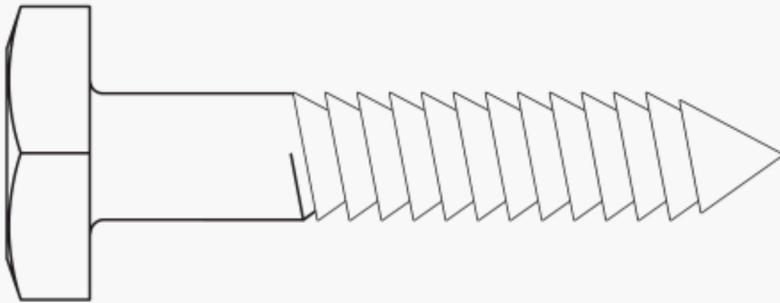


Set Screw



Cap Screw

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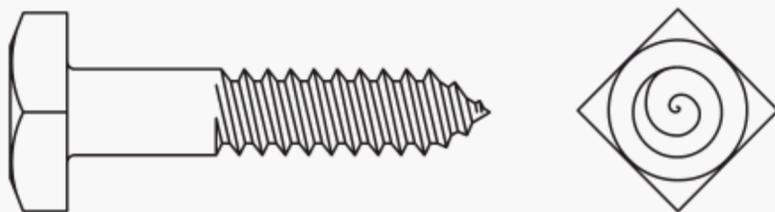
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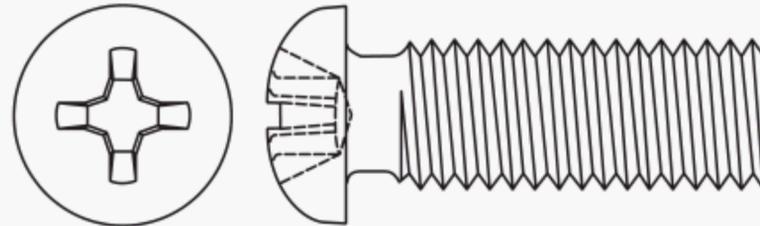
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Lag Screw

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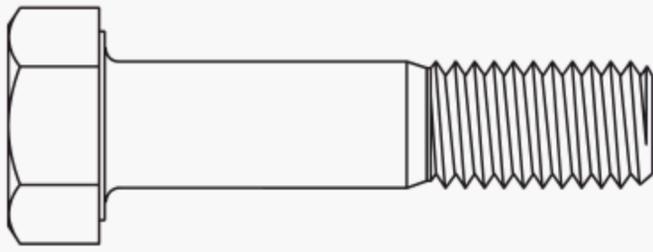
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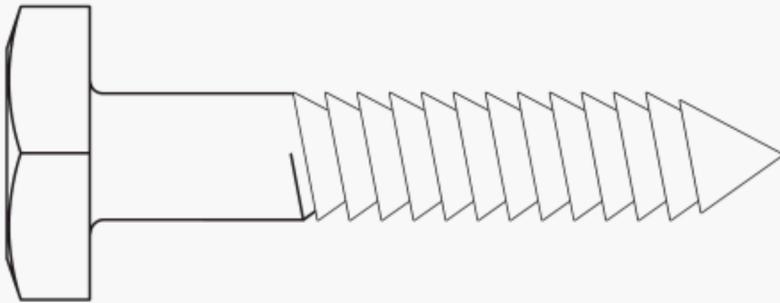


Set Screw



Cap Screw

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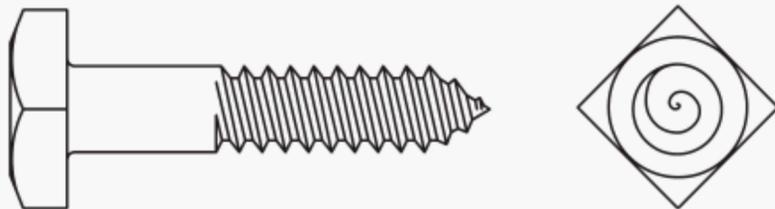
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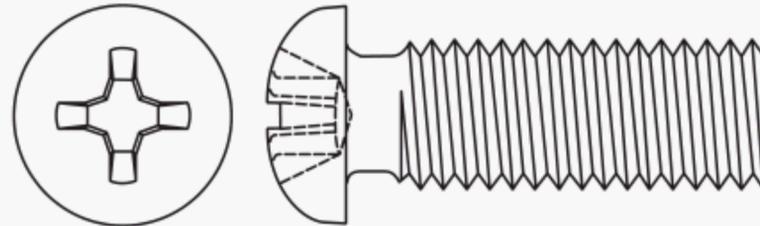
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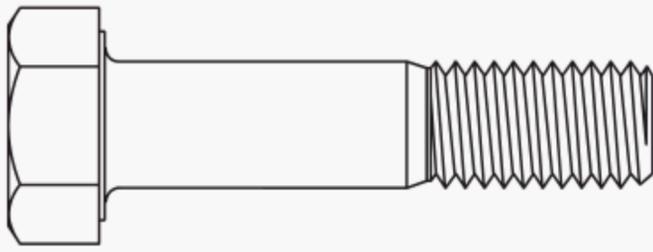
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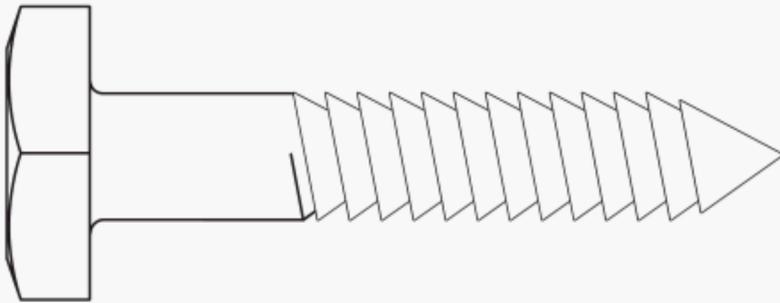


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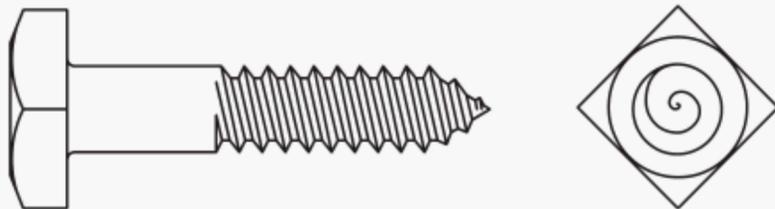
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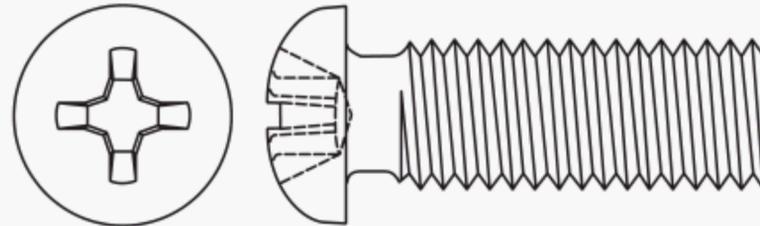
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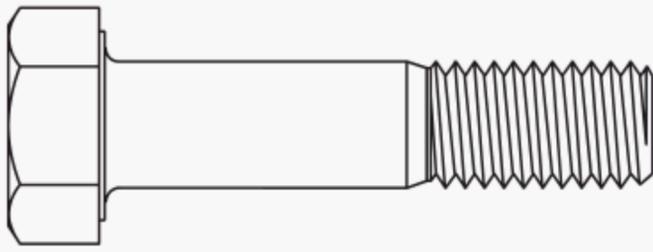
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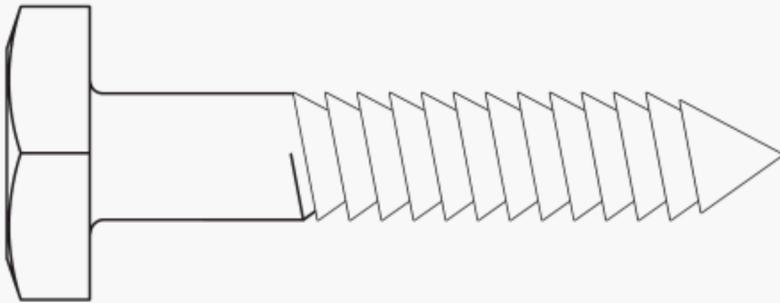


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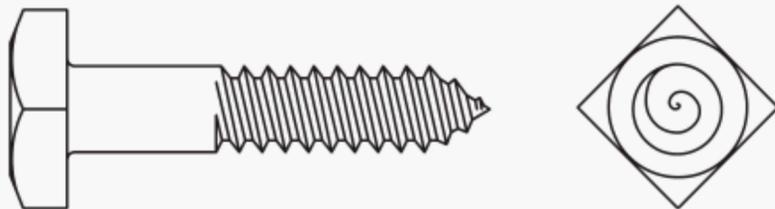
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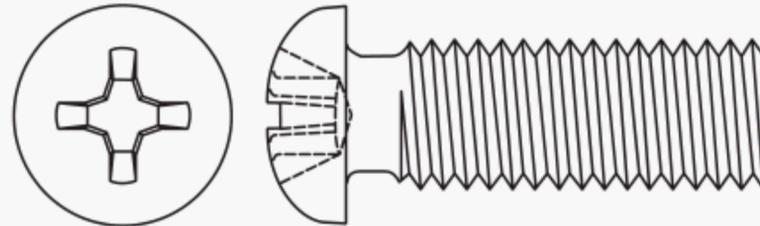
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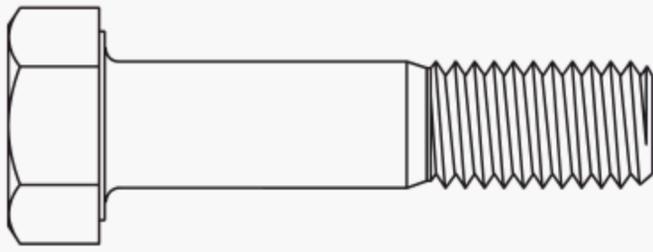
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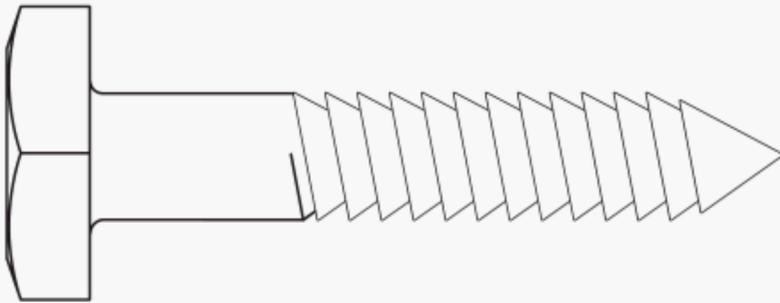


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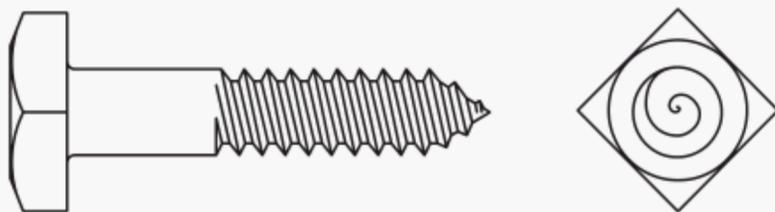
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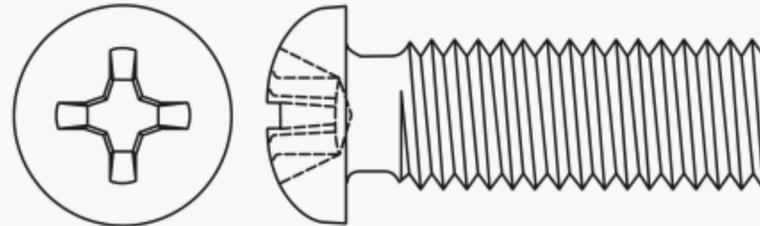
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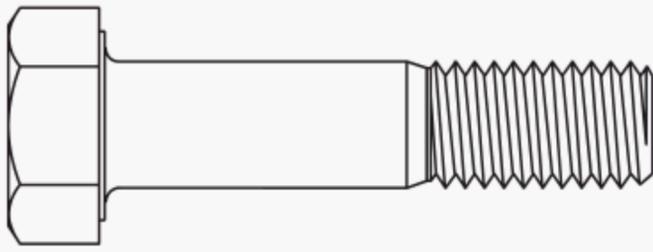
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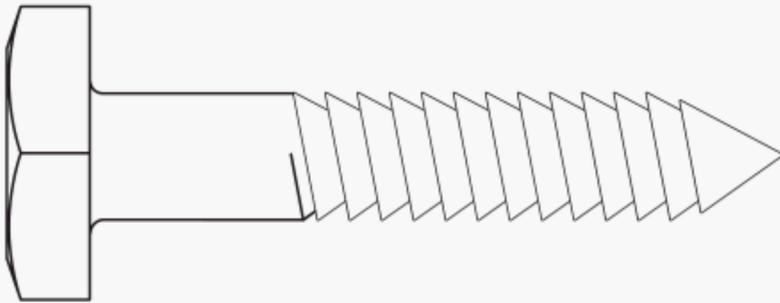


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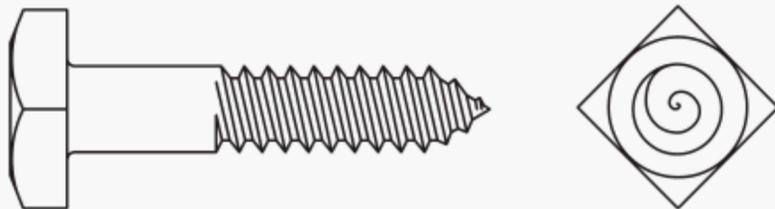
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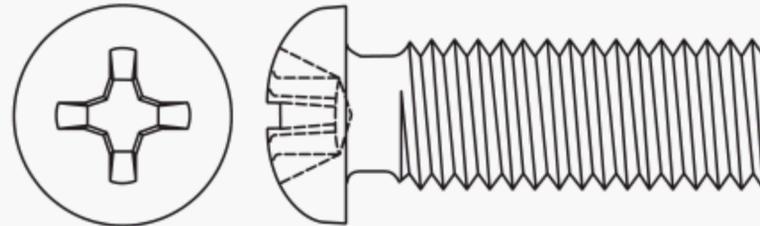
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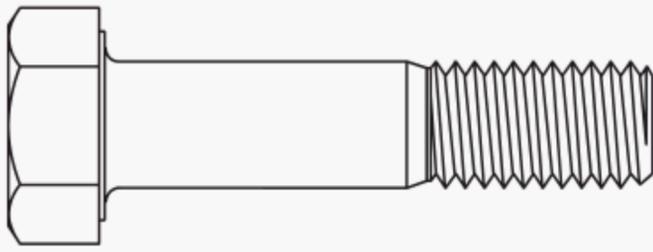
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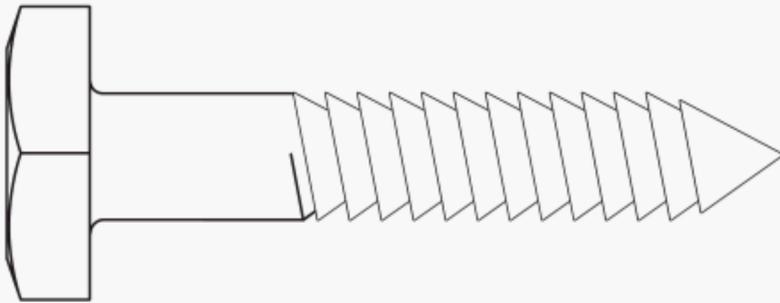


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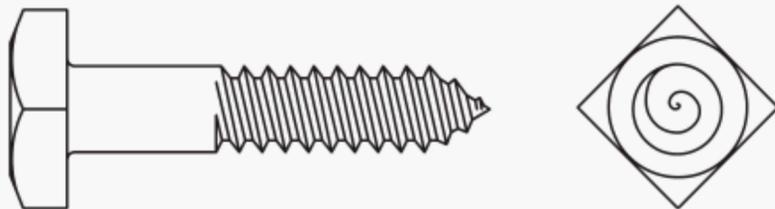
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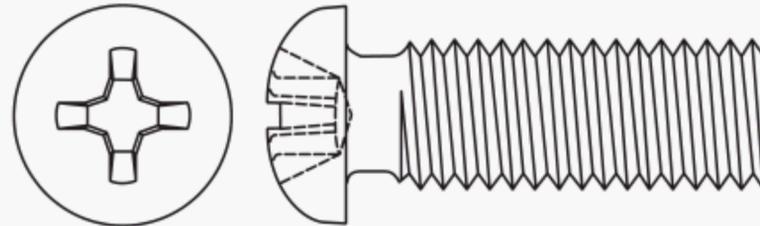
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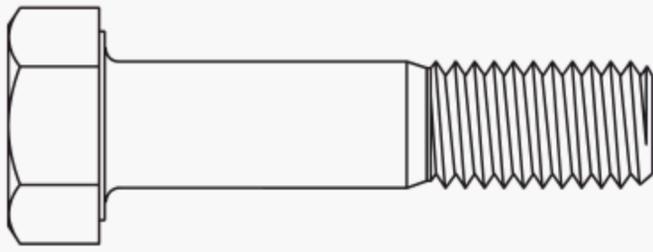
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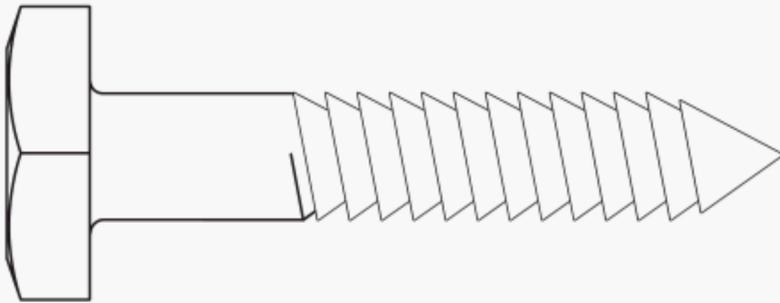


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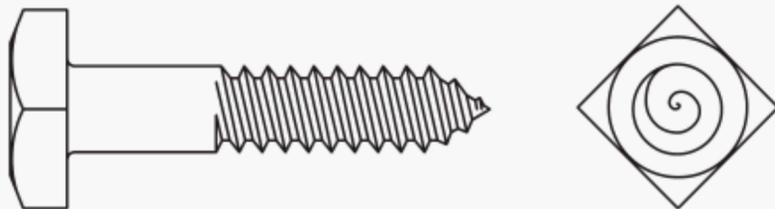
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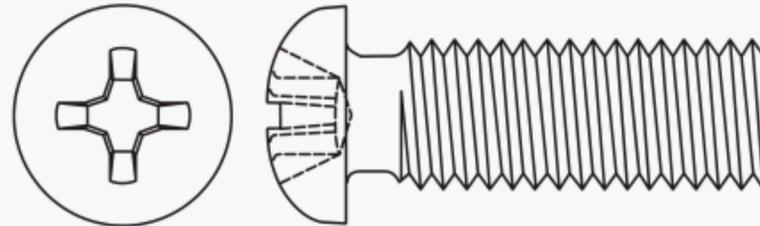
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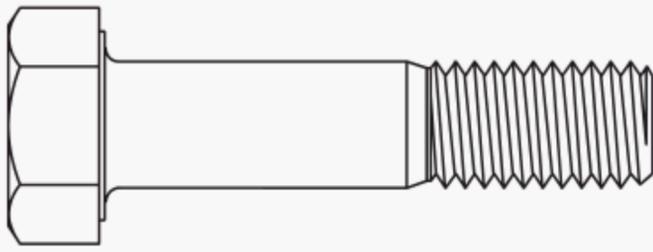
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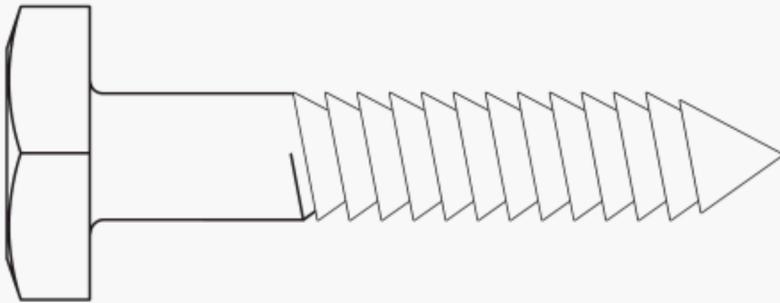


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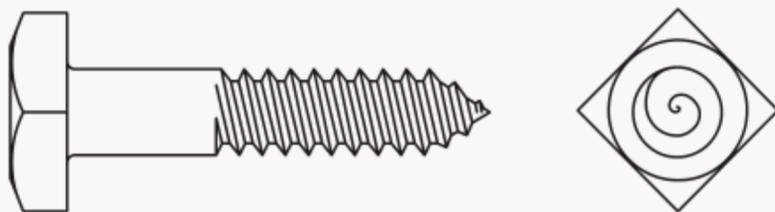
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**3.1.2.11** *knurled head screw*: has a circular head whose periphery is knurled or serrated and, therefore, manually turned without tools. (See also para. 3.1.2.2, *adjusting screw*.)

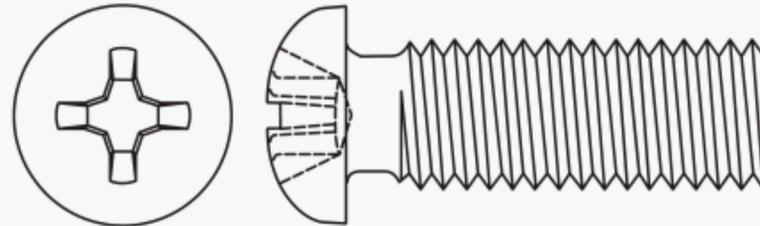
**3.1.2.12** *lag screw*: has a distinct point, wide spaced threads, and a hex or square head that facilitates the driving into a drilled hole while forming a mating thread.



Lag Screw

**3.1.2.13** *machine screw*: has a slotted, recessed, or wrenching head and threaded for assembly with a preformed internal thread. Machine screws are generally available in the following standard head styles: binding, fillister, 80 deg and 100 deg flat, flat trim, hexagon,

hexagon washer, oval, oval trim, pan, round, and truss (90 deg for metric). They are also made in numerous special head styles to suit particular requirements. They are generally furnished with plain points but for special purposes may have chamfered, header, pilot, or other type points. (“Machine screw with nut” has practically replaced the term “stove bolt.”)



Machine Screw

**3.1.2.14** *metallic drive screw (Type U)*: a hardened screw having a blunt or sharp pilot point, single or multiple threads of steep lead angle, and generally furnished with a round or flat head. It is used with a clearance hole in one of the parts to be fastened and designed for assembly by impact in sheet metal, castings, fiber, plastics, etc.

**3.1.2.15** *miniature screw*: less than 0.06 in. or 1.6 mm in diameter, having a slotted head, and threaded for assembly with a preformed internal thread. Miniature screws are generally available in the following standard head styles: fillister, pan, 100 deg flat, and binding. They are generally furnished with chamfer points.

**3.1.2.16** *one-way head screw*: a round head screw that is slotted but has side clearances at diagonally opposite sides of the slot so that the screw can be driven only in the direction of assembly; designed to prevent tampering or theft. (Sometimes called “tamper proof screws.”)

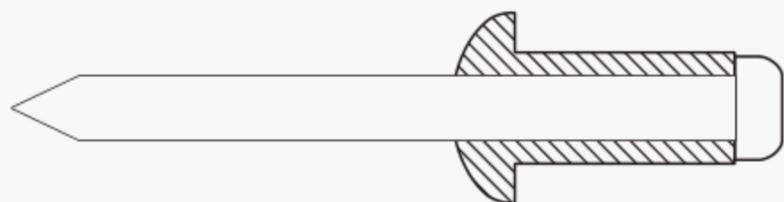
**3.1.2.17** *ornamental head screw*: has a head of artistic design, for use when an improved appearance is desired.

**3.1.2.18** *set screw*: a hardened screw with or without a head, threaded the entire length and having a formed point designed to bear on a mating part. Set screws are regularly furnished in square head, headless slotted, hexagon socket and spline socket styles in combination with the set screw point styles illustrated and described below.



Set Screw

**3.3.3.2 blind rivet:** a blind fastener that has a self-contained mechanical or other feature that permits the formation of an upset on the blind end of the rivet and expansion of the rivet shank during rivet setting to join the component parts of an assembly.



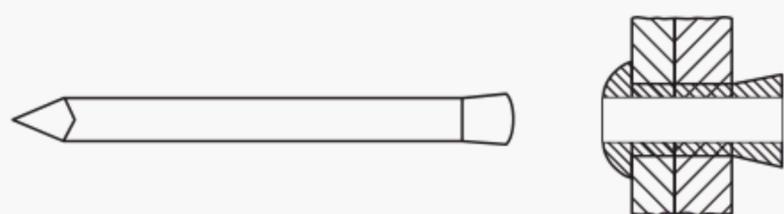
**Blind Rivet**

**3.3.3.2.1 pull mandrel blind rivet:** a multiple piece assembly consisting of at least a rivet body and a mandrel. In the setting operation the rivet is inserted into the components to be joined, the mandrel is gripped, pulled axially, and its head upsets the rivet body forming a blind head. Pull mandrel blind rivets are further classified as follows:

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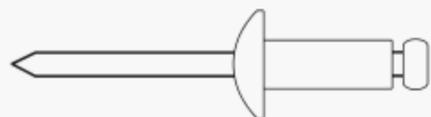


**Pull Through Mandrel Blind Rivet**

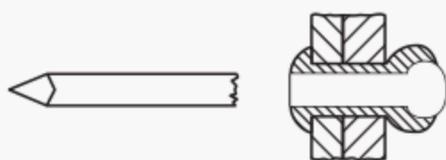


**Set Pull Through Mandrel Blind Rivet**

**3.3.3.2.3 break mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body and breaks at or near the junction of the mandrel and its upset end.



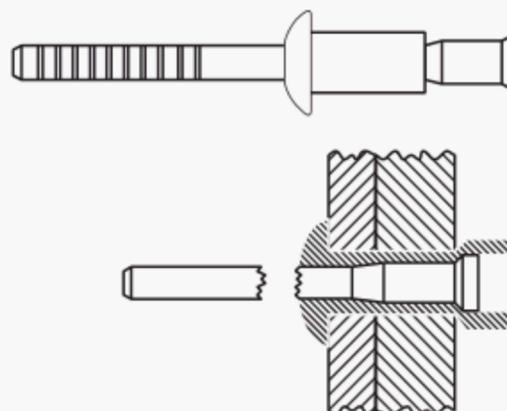
**Break Mandrel Blind Rivet**



**Set Break Mandrel Blind Rivet**

**3.3.3.2.4 nonbreak mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body, but does not break. This type requires the mandrel to be dressed in a subsequent operation.

**3.3.3.2.5 structural self-plugging pull mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body and breaks at a point within or above the rivet head with the entrapped length of mandrel being retained in the rivet body.



**Multi-Grip Flush Break Self-Plugging Pull Mandrel Blind Rivet**

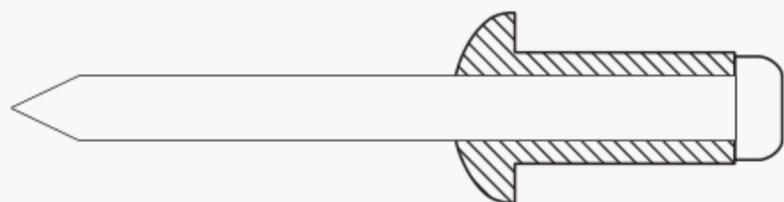
**3.3.3.2.6 structural flush break pull mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body and breaks at a point within or above the rivet head. Flush break means that the break plane of the mandrel occurs above the junction of rivet shank and head, thus the shear plane(s) of the joint will occur through rivet shank and mandrel.

**3.3.3.2.7 multi-grip flush break pull, positive lock mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into the rivet body and breaks essentially flush with the top of the rivet head. Because the break plane of the mandrel occurs above the junction of rivet shank and head, the shear plane(s) of the joint will occur through rivet shank and mandrel. Multi-grip means the rivet has the design capability to join component parts having a broad range of thicknesses. Positive lock means that during rivet setting an intentional deformation occurs in the rivet mandrel and/or body that provides a mechanical resistance to mandrel removal from the body.

**3.3.4 Pins**

**3.3.4.1 pin:** a straight cylindrical or tapered fastener, with or without a head, designed to perform a semi-permanent attaching or locating function.

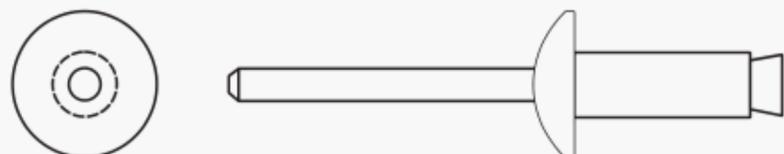
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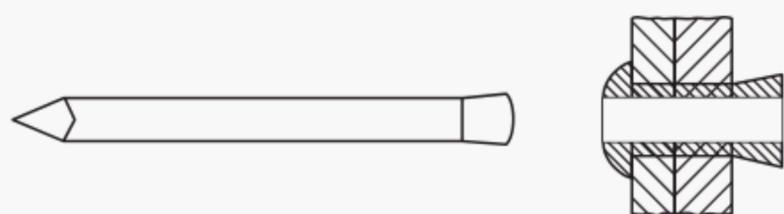
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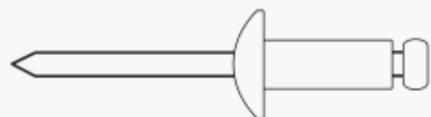


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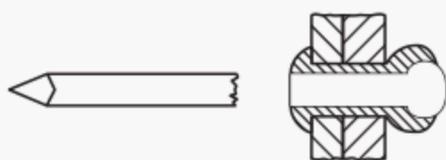


**Set Pull Through Mandrel Blind Rivet**

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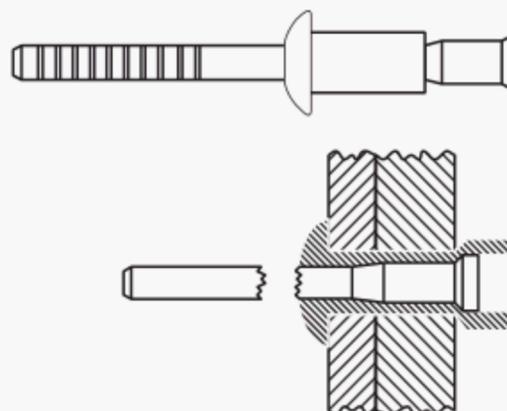
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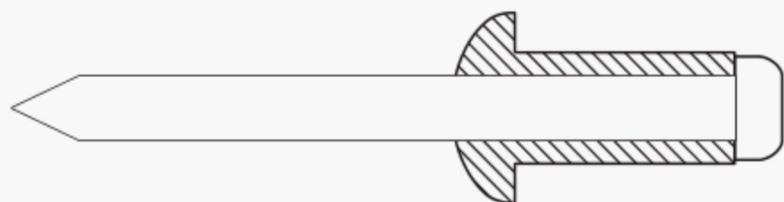
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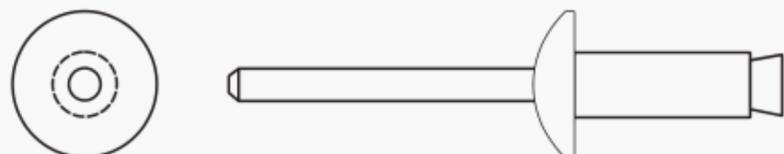
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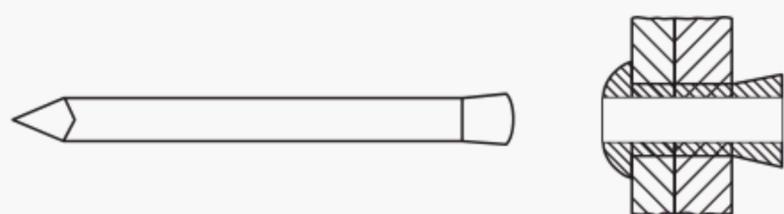
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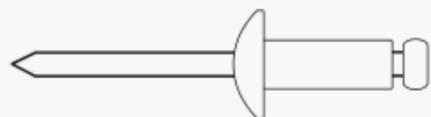


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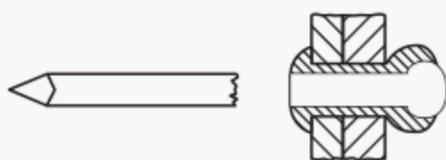


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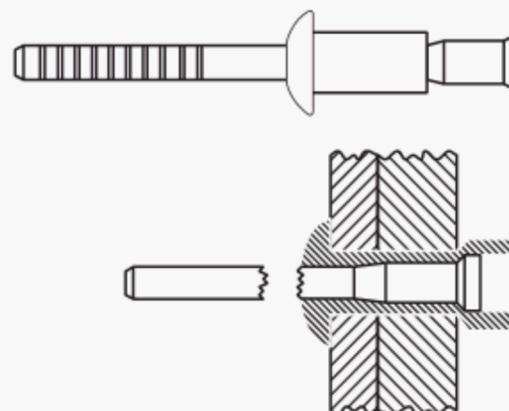
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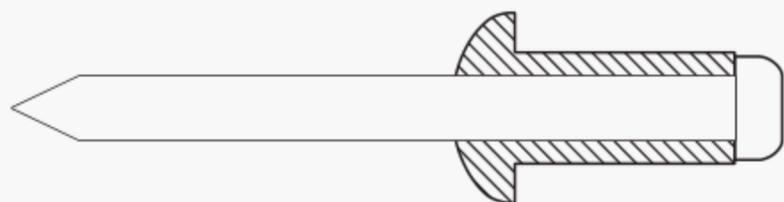
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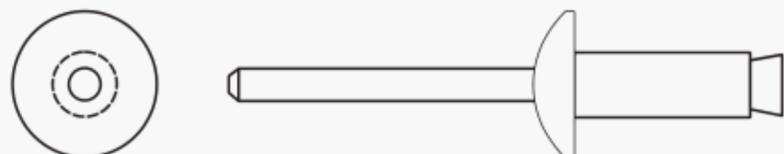
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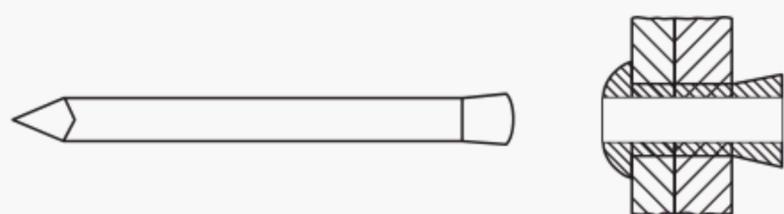
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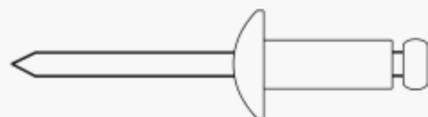


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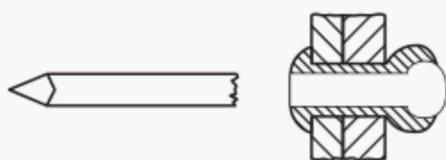


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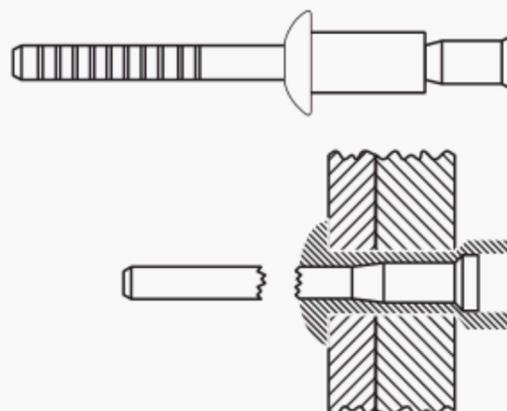
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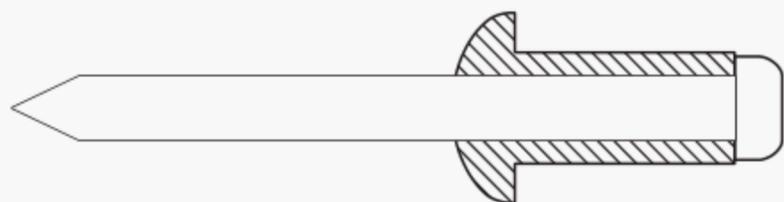
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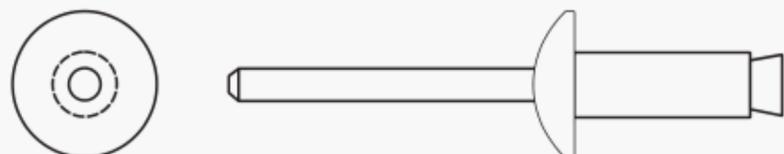
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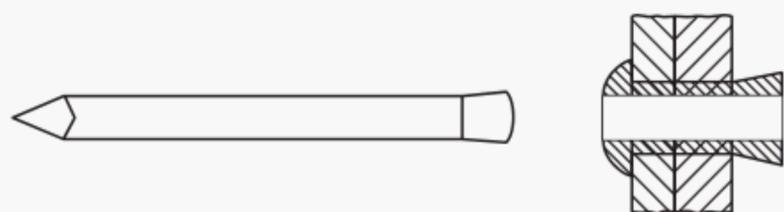
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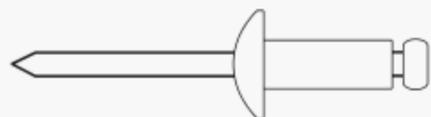


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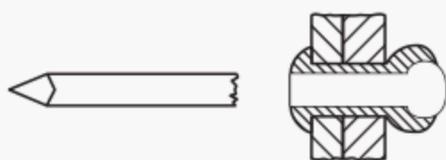


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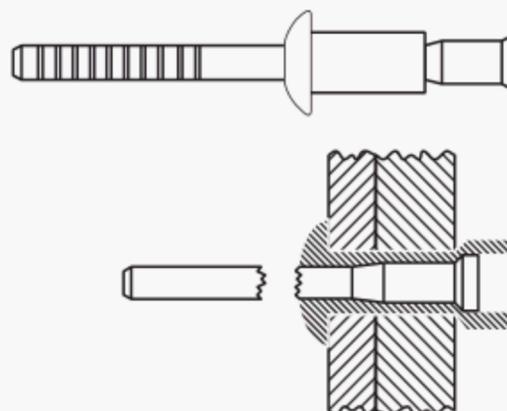
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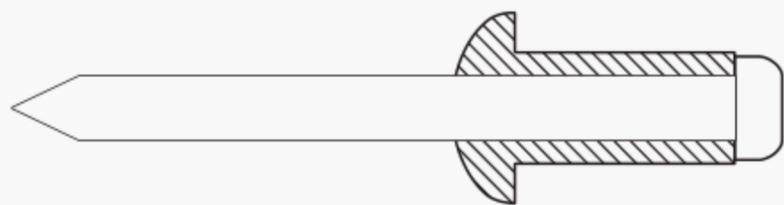
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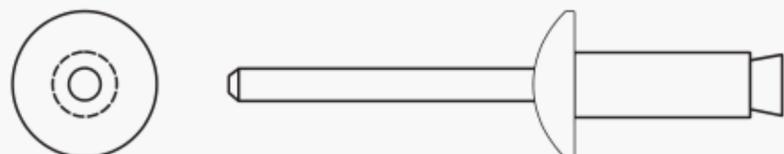
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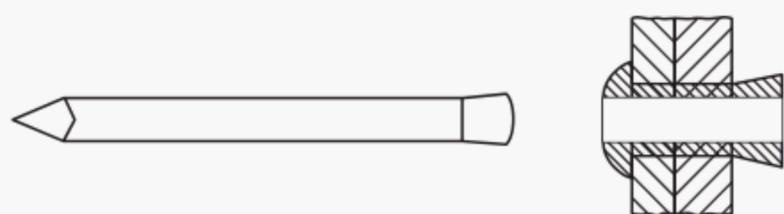
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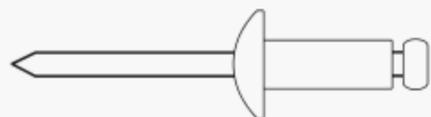


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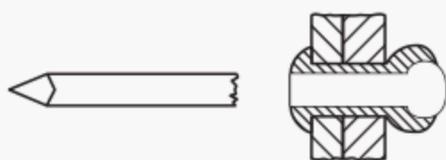


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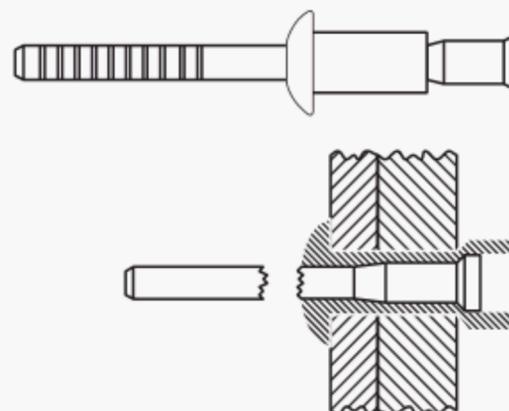
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**3.3.3.2.5 structural self-plugging pull mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body and breaks at a point within or above the rivet head with the entrapped length of mandrel being retained in the rivet body.



**Multi-Grip Flush Break Self-Plugging Pull Mandrel Blind Rivet**

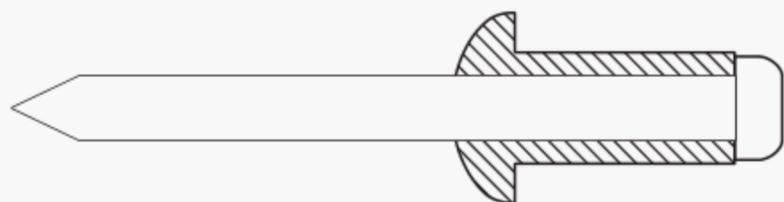
**3.3.3.2.6 structural flush break pull mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body and breaks at a point within or above the rivet head. Flush break means that the break plane of the mandrel occurs above the junction of rivet shank and head, thus the shear plane(s) of the joint will occur through rivet shank and mandrel.

**3.3.3.2.7 multi-grip flush break pull, positive lock mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into the rivet body and breaks essentially flush with the top of the rivet head. Because the break plane of the mandrel occurs above the junction of rivet shank and head, the shear plane(s) of the joint will occur through rivet shank and mandrel. Multi-grip means the rivet has the design capability to join component parts having a broad range of thicknesses. Positive lock means that during rivet setting an intentional deformation occurs in the rivet mandrel and/or body that provides a mechanical resistance to mandrel removal from the body.

**3.3.4 Pins**

**3.3.4.1 pin:** a straight cylindrical or tapered fastener, with or without a head, designed to perform a semi-permanent attaching or locating function.

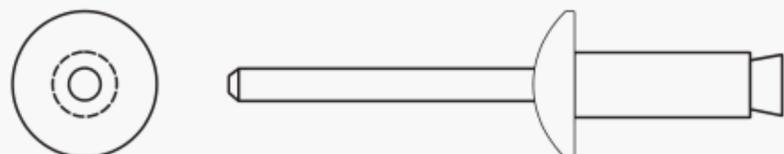
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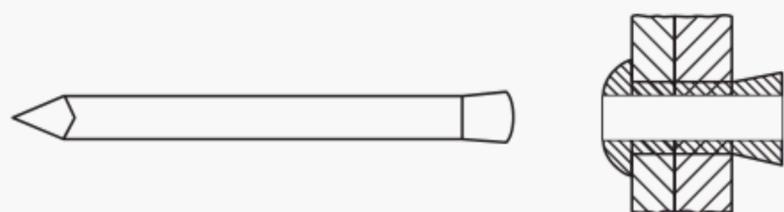
**Blind Rivet**

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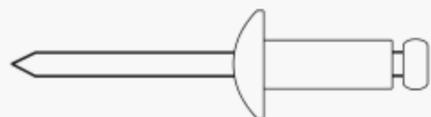


**Pull Through Mandrel Blind Rivet**

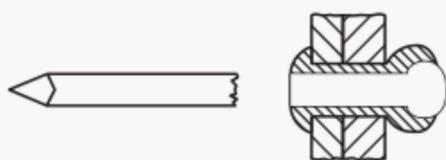


**Set Pull Through Mandrel Blind Rivet**

**3.3.3.2.3 break mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body and breaks at or near the junction of the mandrel and its upset end.



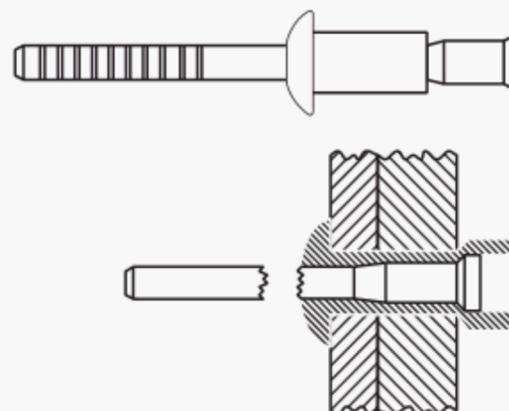
**Break Mandrel Blind Rivet**



**Set Break Mandrel Blind Rivet**

**3.3.3.2.4 nonbreak mandrel blind rivet:** a pull mandrel type of blind rivet where during the setting operation the mandrel is pulled into or against the rivet body, but does not break. This type requires the mandrel to be dressed in a subsequent operation.

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**Multi-Grip Flush Break Self-Plugging Pull Mandrel Blind Rivet**

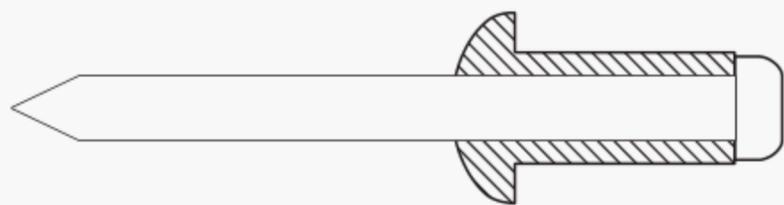
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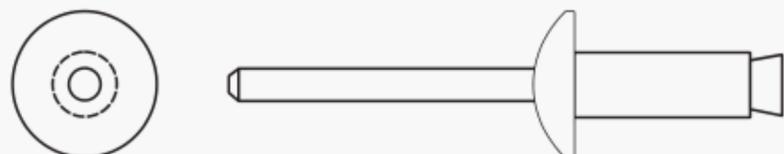
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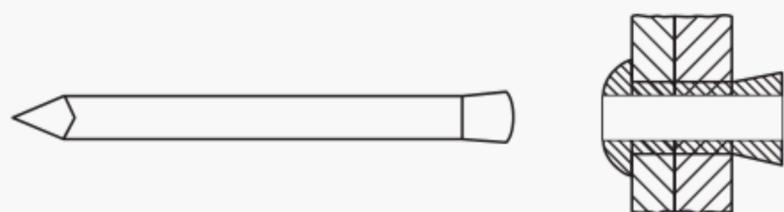
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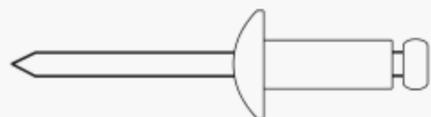


**Pull Through Mandrel Blind Rivet**

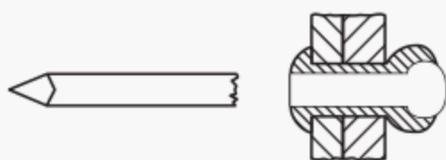


**Set Pull Through Mandrel Blind Rivet**

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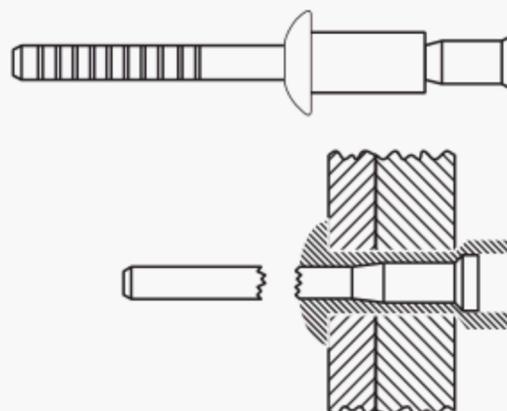
**Break Mandrel Blind Rivet**



**Set Break Mandrel Blind Rivet**

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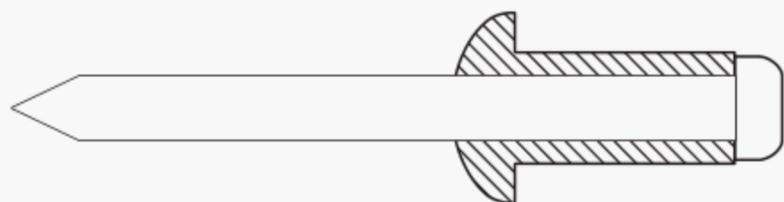
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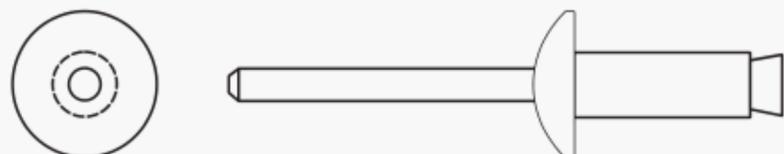
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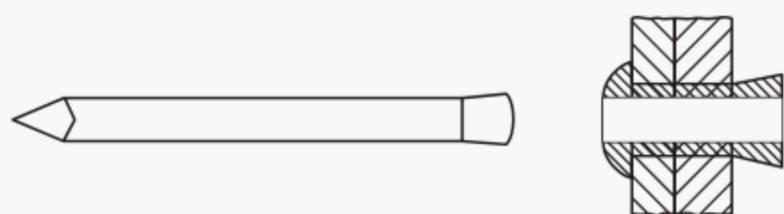
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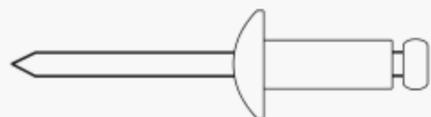


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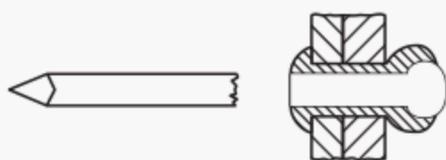


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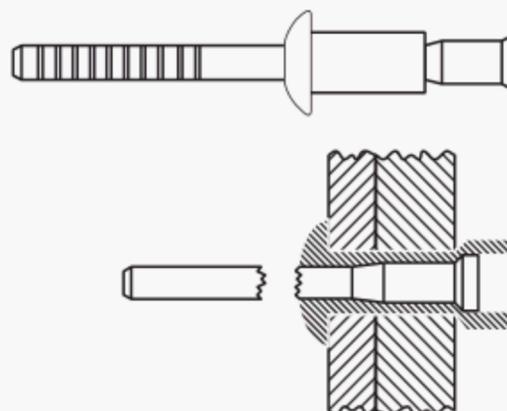
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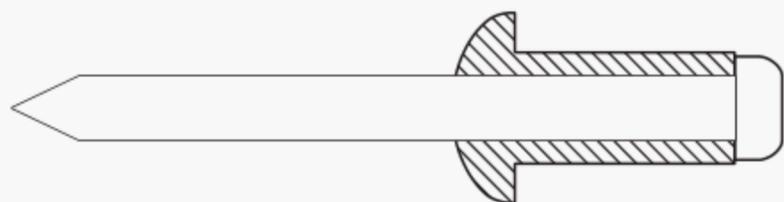
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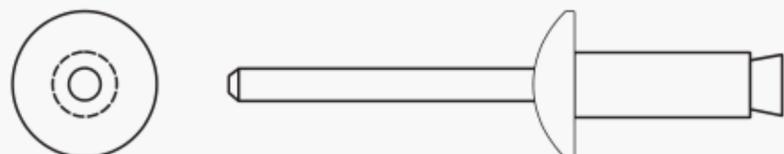
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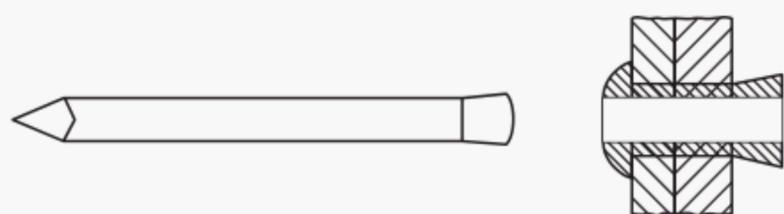
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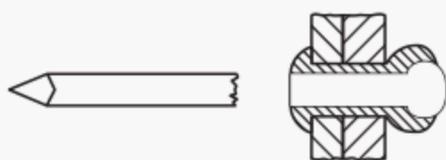


**Set Pull Through Mandrel Blind Rivet**

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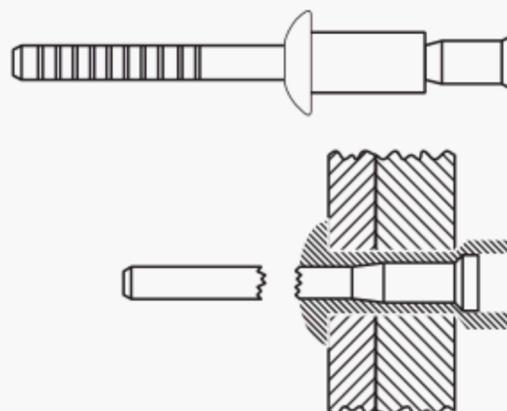
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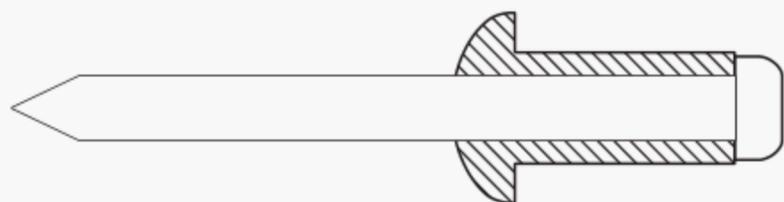
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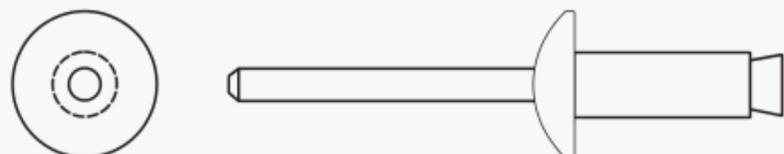
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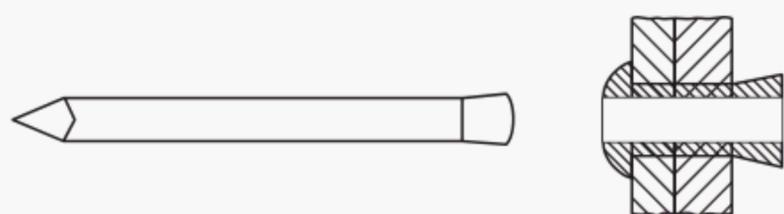
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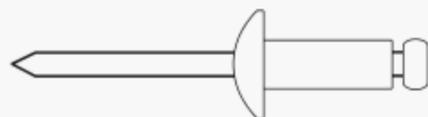


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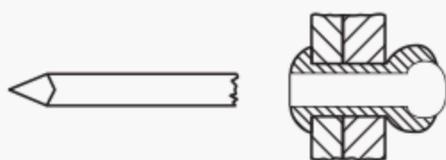


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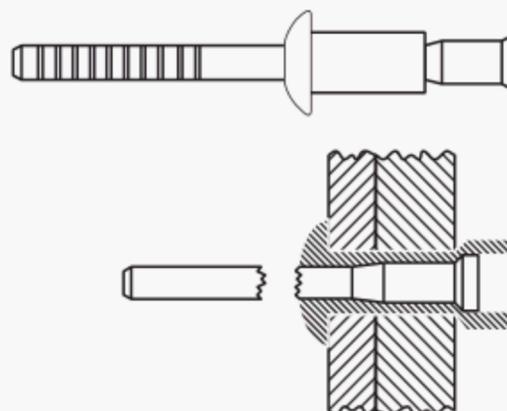
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 Round countersunk head square neck plow bolt (no. 3 head), 3.1.1.29.1  
 Round countersunk heavy key head plow bolt (no. 6 head), 3.1.1.29.2  
 Round countersunk reverse key head plow bolt (no. 7 head), 3.1.1.29.3  
 Round head, 2.3.1.21  
 Round head bolt, 3.1.1.33  
 Round head fin neck bolt, 3.1.1.6.2  
 Round head ribbed neck bolt, 3.1.1.6.3  
 Round head short square neck bolt, 3.1.1.6.4  
 Round head square neck bolt, 3.1.1.6.5  
 Round nut, 3.2.1.23  
 Round section T-bolt, 3.1.1.46  
 Round top countersunk head, 2.3.2.7  
 Round washer head, 2.3.1.22  
 Runout, 2.4.36
- Scale, 2.5.32  
 Screw, 3.1.2.1  
 Screw and washer assembly (sems), 3.1.4  
 Screw stock, 2.7.11  
 Seal bolt, 3.1.1.35  
 Sealing washer, 3.3.1.15  
 Securing bolt, 3.1.1.36  
 Self-tapping insert, 3.2.2.7  
 Set screw, 3.1.2.18  
 Shaft bolt, 3.1.1.37  
 Shank, 2.2.14  
 Shank diameter, 2.4.37  
 Shank length, 2.4.38  
 Shaving, 2.5.33  
 Shear fastener, 2.1.19  
 Shear head, 2.3.1.19  
 Shear strength, 2.6.6  
 Shot peening, 2.5.34  
 Shoulder, 2.2.15  
 Shoulder rivet, 3.3.2.11  
 Shoulder screw, 3.1.2.19  
 Shouldered eye bolt, 3.1.1.11.2  
 Shouldered nut ring bolt, 3.1.1.31  
 Shuttle screw, 3.1.2.21  
 Skein nut, 3.2.1.24  
 Sleeve nut, 3.2.1.25  
 Sliver, 2.5.35  
 Slot depth, 2.4.39  
 Slot eccentricity, 2.4.40  
 Slot width, 2.4.41  
 Slotted head, 2.3.1.23  
 Slotted nut, 3.2.1.26  
 Slotted spring pin, 3.3.4.9.2  
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 Socket depth, 2.4.42  
 Socket diameter, 2.4.43  
 Socket head, 2.3.1.24  
 Socket head shoulder screw, 3.1.2.20  
 Socket width, 2.4.44  
 Soft, 2.7.12  
 Solid bushing insert, 3.2.2.8  
 Source, 2.9.16  
 Special fastener, 2.1.10  
 Spherical point, 2.2.12.11, 3.1.2.18.7  
 Spline nut, 3.2.1.27  
 Split rivet, 3.3.2.12  
 Spring center bolt, 3.1.1.38  
 Spring nut, 3.2.1.28  
 Spring pin, 3.3.4.9  
 Square countersunk head, 2.3.1.25  
 Square countersunk head plow bolt (no. 4 head), 3.1.1.29.4  
 Square end straight pin, 3.3.4.11  
 Square grip washer, 3.3.1.16  
 Square head, 2.3.1.26  
 Square head bolt, 3.1.1.39  
 Square neck, 2.2.11.3  
 Square nut, 3.2.1.29  
 Stainless steel, 2.7.13  
 Stamped nut, 3.2.1.30  
 Standard fastener, 2.1.20  
 Stay bolt, 3.1.1.40  
 Steeple head, 2.3.2.13  
 Step bolt, 3.1.1.41  
 Stock fastener, 2.1.21  
 Stove bolt, 3.1.1.42  
 Strain hardening, 2.7.14  
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