



*Plowing Ahead*

# Understanding Different Plow Bolt Head Styles & Uses

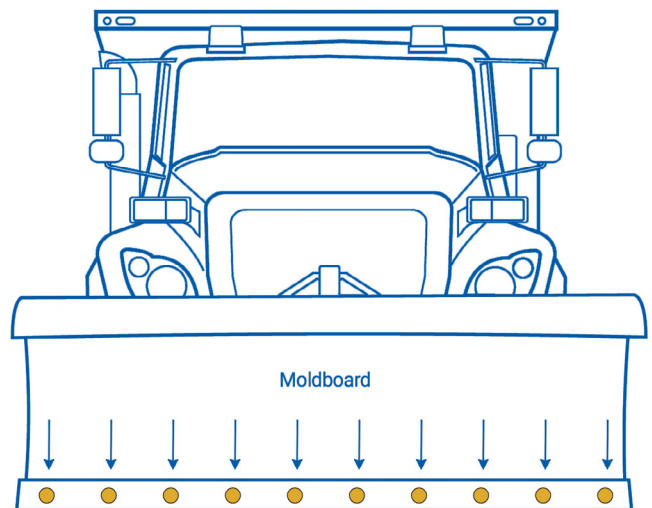
## Common Head Designs & Uses

The term **plow bolt** refers to a threaded fastener with a low-profile head that includes a feature, such as a square neck or keyway, designed to prevent the bolt from turning as a nut is tightened onto its threads.

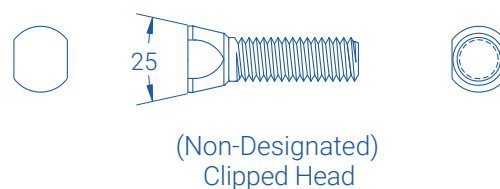
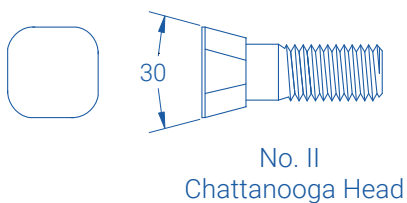
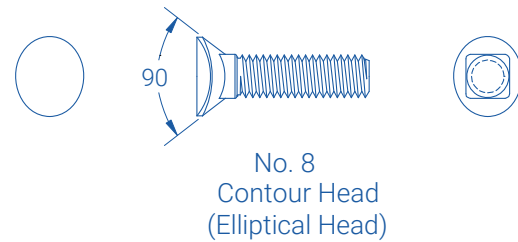
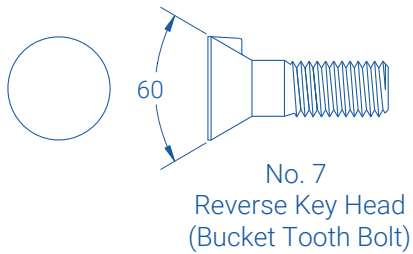
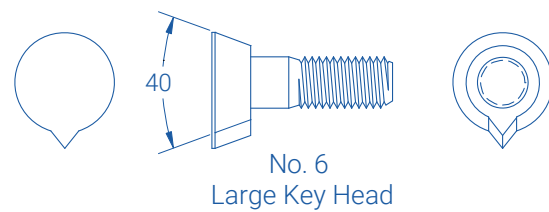
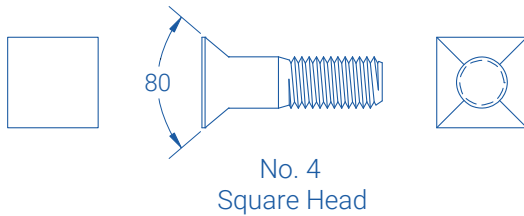
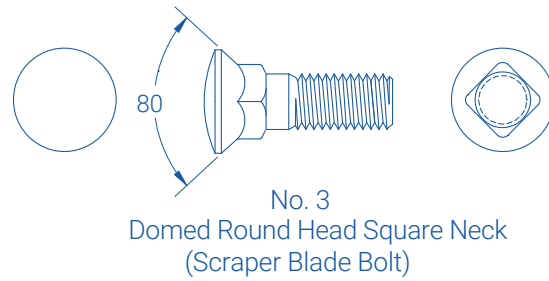
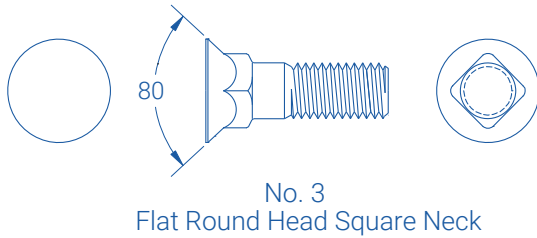
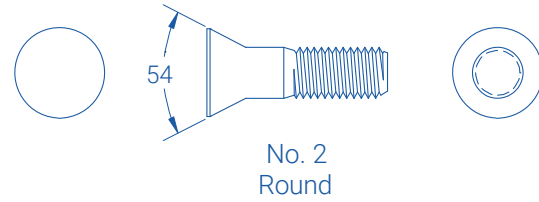
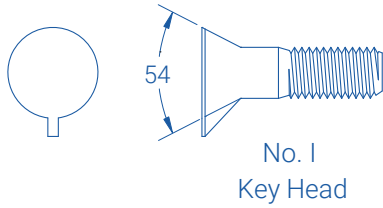
Over the years, various head designs have been classified as plow bolts. At one point, there were so many different head designs available that the fastener industry had to number them to differentiate the varying styles, as shown on page 2. Today, however, the #3 head design has become the most popular.

This is because the #3 head design offers a combination of strength, durability, and ease of use, making it ideal for heavy-duty applications. Typically, #3 Head Plow Bolts are used to attach the blade, or moldboard, to snow plows and construction equipment like bulldozers and graders, as seen in the image below.

Other popular plow bolts include the #7 Head Plow Bolt and the Clipped Head Plow Bolt. The #7 head, often referred to as a Bucket Tooth Bolt, is used to install the teeth on excavator buckets. Lastly, the Clipped Head Plow Bolt is used to assemble blades on farm equipment tillers.



### Plow Bolt Head Styles



## Earnest's Plow Bolt Offerings

### #3 Head Plow Bolts

Earnest offers #3 Head Plow Bolts in two head styles: flat and domed. The flat head style is made to the dimensional requirements specified by ANSI B18.9 and is characterized by its flat head. This style of fastener is ideal for applications where a smooth and flush surface is necessary.

Alternatively, the domed head features an added layer of steel on top of the head. This extra layer of material provides enhanced wear resistance, making the domed head more durable than the standard flat head. It's also important to note that the domed head is interchangeable with the flat head in most assemblies.

In plow bolt applications, the head is subjected to excessive wear. As the head of the plow bolt wears, its ability to hold the blade tightly in place is reduced, which can lead to bolt breakage or damage to the blade. The domed head design increases the amount of material in the head, which increases its wear resistance and reduces bolt and blade breakage.

### 170M, commonly called a Grade 9 (170,000 psi min tensile strength)

Earnest's 170M line incorporates special thread lengths or body diameters along with a higher strength than our standard line of #3 Head Plow Bolts. This line is commonly called Scraper Blade Bolts because they are typically used to install scraper blades on construction equipment. Scraper blade applications are very abrasive, and the added strength and hardness of this line is designed to resist this abrasion.

### Grade 8 (150,000 psi min tensile strength per SAE J429)

Earnest's standard line of #3 Head Plow Bolts are made to a grade 8 strength level that provides excellent strength with ductility.

### Grade 5 (120,000 psi min tensile strength per SAE J429)

Earnest's line of Flat Head Plow Bolts are commonly sold in the grade 5 strength level.



#3 Flat Head Plow Bolt



#3 Domed Head Plow Bolt

## Earnest's Plow Bolt Offerings (cont.)

### #7 Head Plow Bolts

The #7 Head Plow Bolt, also known as a Bucket Tooth Bolt, Round Countersunk Bolt, Reverse Key Bolt, or Shear Blade Bolt, features a low-profile countersunk head with a formed key for easier assembly and enhanced durability.

This head design is commonly used in the assembly of the teeth on bulldozers, backhoes, and excavator buckets. Another popular application for this low-profile head design is in the assembly of shear blades in metal shears and demolition shears. Though it is most commonly used to attach the teeth to the buckets used on construction equipment.

Earnest's line of Bucket Tooth Bolts are made to the dimensional requirements of ANSI B18.9 and are made from alloy steel, heat treated to a grade 8 (150,000 psi min) strength level, for excellent toughness and wear resistance.



#7 Head Plow Bolt

### Clipped Head Plow Bolts

Earnest's line of Clipped Head Plow Bolts offers a special head design that is typically used on plows in agriculture. This head design is commonly called a Tiller Bolt.

Earnest's line of Clipped Head Plow Bolts come threaded to the head and are commonly sold in the grade 5 strength level, providing toughness and strength.



Clipped Head Plow Bolt

**Have questions or want to learn more about the plow bolts we offer? Contact us today!**

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