

## PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

### PK DESCRIPTIONS

#### 1. Sheet Metal Screw



- Fastens thin metal to thin metal.

- Threaded its entire length.
- Can have flat, oval, round or binding heads.
- Typical lengths range from 1/8" to 2".
- Starting holes are either drilled or punched and should be slightly smaller than the screw diameter.

#### 2. Machine Screw



- Can have round, oval, flat and fillister heads.
- Intended to be screwed

- into prethreaded holes in metal.
- May look like a bolt, but user drives it with a screwdriver instead of a wrench.
- Comes in coarse (24 threads per inch) and fine (32 threads per inch) sizes.
- They are sized according to diameter, thread and length. Example: a 6-32x3/4 means the screw has a 6-gauge diameter with 32 threads per inch and is 3/4" long.
- The round head type is most commonly used.
- The flat head type is used when the top

must be flush with the surface.

- Oval heads are used in countersunk holes.
- Fillister heads are used in counter-bored holes.

#### 3. Set Screw



- Prevents bolts from loosening due to vibration.

- The thumb screw type can be tightened by hand.
- Headless set screws are tightened with a screwdriver.
- Square head set screws are tightened with a wrench.
- Socket set screws are tightened with a hex wrench.

#### 4. Wood Screw



- Used to secure wood together.
- Usually made of

- unhardened steel, stainless steel, aluminum or brass.
- Steel screws can have a choice of several coatings: bright-finished, blued, or zinc-, cadmium- or chrome-plated.
- Threads on this screw run from the point along three-fourths of the length and heads are slotted.

#### 5. Dowel Screw



- Threaded on both ends.

- Used for assembling pieces of furniture end to end.

#### 6. Lag Screw



- Also called a lag bolt.

- Similar to wood screws but stronger.
- Used when ordinary screws are too short or too lightweight and when increased gripping power is needed.
- Used for wrenching into wood surfaces or for inserting into lag shields in masonry.
- Has a hex head.

#### 7. Drywall/Deck Screw



- Use when installing drywall or decking material.

- Coated to prevent rust.

#### 8. Power Drive Fastener



- Designed specifically for use with power equipment.
- Several types are

- available. One type is a pneumatic fastener where nails, screws or staples are collated in

strips or coils that are loaded into a pneumatic gun that drives them into the material.

- Another type is the powder-actuated fastener, where the fastener is driven into the material, usually metal or concrete, by a small explosion, similar to the way a firearm works.

#### 9. Turnbuckle



- Used to tighten wire or for bracing doors.

- Consists of a barrel-shaped metal device with a threaded rod inserted into each end.
- Rods have eyes at both ends, or some types have a hook on one end and an eye on the other.

#### 10. Screw Eye/Hook



- A screw eye consists of screw thread at one end and a ring at the other.

- A screw hook consists of screw thread at one end and a hook at the other.
- Used to hang tools or utensils or for holding them together.

#### 11. Carriage Bolt



- Has a square shoulder under the head that pulls

into soft materials such as wood and prevents the bolt from turning while the nut is tightened.

- Has coarse, partial threads and a smooth, rounded head.

### 12. Stove Bolt



- Used to hold light metals or wood.
- Heads can be flat, oval or round.
- Heads are slotted for a screwdriver.
- Usually supplied with a nut and is intended for use with a nut.

### 13. Machine Bolt



- Comes with regular, square, hex, button or countersunk heads.
- Square heads fasten joints and materials where bolt requirements are not too severe.
- Button heads work best where smooth surfaces are necessary.
- Use countersunk heads for flush surfaces.

### 14. Threaded Rod



- Rod with continuous thread from one end to the other.
- Available in different diameters.
- Used where extra-long bolts are required.
- Can be bent to make U-bolts, eye bolts and J-bolts.

### 15. Washer

- Small metal circles that provide a hard



- surface against which you tighten a screw.
- It matches the size of the screw it is being used with.
- Comes in flat, countersunk or flush shapes.

### 16. Nut



- Screws onto the threaded end of a bolt to help tighten the bolt.
- Most common are hex and square nuts, also called full nuts.
- Wing and knurled nuts are used where frequent adjustment or disassembly is necessary.
- The locknut type has a self-locking feature that allows it to be locked into position without additional lock washers, cotter pins or locking wire.

### 17. Cotter Pin



- Versatile fastening device.
- Made of ferrous and nonferrous wire.
- Comes in various diameters and lengths ranging from 1/32" x 1/2" to 1/4" to 18".
- Inserts into a hole in a bolt, shaft or similar part. An eye on one end prevents the pin from going through while prongs at the other end are bent back to lock the pin in place.

### 18. Rivet

- Securely fastens something that can be



- reached from just one side.
- The multi-grip type expands to fill oversized and irregular holes and self-adjusts for misaligned holes.
- Used in metal, plastic and composite materials.
- Ideal for installing gutters and drop ceilings or repairing large appliances.
- Available in 1/8", 3/32", 3/16" and 1/4" diameters.
- Can have dome, countersunk and large flange head styles.

### ANATOMY OF A FASTENER

Threaded fasteners consist mainly of the head, the shoulder or neck, the shank, the thread and the point. There are a wide variety of styles and types of each of these parts.

- Fastener heads fall into two types. The first are those with a recess for driving such as slotted and Phillips. The second are those designed to be held by a tool gripping the outside of the head, such as the square and hex types. The profile of the head depends on the application. Flat, oval and rounded are common types.
- The shoulder or neck prevents the turning of the bolt during tightening. It may be square, ribbed, fin neck, round or oval.
- The shank is the unthreaded portion of the fastener.
- The thread determines how the fastener is to be used. Some fasteners have coarse

thread, while others have fine thread. They are also divided into classes, Class 1A, 2A, 3A and 5, and each class has an application recommendation.

- The point of the fastener can be a variety of styles, including flat, oval, cut, dog, half-dog, machine, gimlet and nail. Each style has its own use.

**OTHER TRAINING TIPS**  
*Designed to give you confidence on the salesfloor!*  
This section is for retail skills training specific to this core product category.

### FAQs

**Q:** What do the numbers—such as 8-32—mean on a machine screw?

**A:** The first number is the diameter. The bigger the number the bigger the screw. The second number is the number of threads per inch.

**Q:** What does a lock washer do?

**A:** It helps to tighten the grip of the nut. If the screw needs to maintain lots of torque or if it's going to vibrate, you should consider using a lock washer.

**Q:** What screw do I use to anchor a knob onto a drawer?

**A:** If you do not have the knob to identify the size, it's probably an 8-32 screw. It may not be the right one, but it's the best guess that



may keep you from making another trip.

**Q:** What can I use to tighten up a sagging clothesline?

**A:** A turnbuckle installed at one end permits you to tighten the line to the desired tautness.

**Q:** How can I square up my wooden screen door? It is rubbing on the sill.

**A:** A screen door turnbuckle, applied diagonally, will raise the sagging edge.

**Q:** What is the difference between a sheet metal screw and a wood screw?

**A:** The main difference is a sheet metal screw has threads along its entire length. A wood screw has threads along about two-thirds of its length and costs a little less.

**Q:** Are there screws that will not rust?

**A:** Brass, aluminum and stainless steel screws should meet your needs.

**Q:** Why would I use aluminum?

**A:** It is less expensive than stainless, but it is softer and not as strong. Aluminum nails are used for some specific applications. For example, they are good underwater. In general, stainless is the most popular.

**Q:** Why would I use brass screws?

**A:** Brass is also softer than and not as strong as stainless, and its main use is when you want the decorative look of brass.

**Q:** What do the marks on the head of a bolt mean?

**A:** They represent the hardness of the bolt. No marks indicates the least hard, three marks is medium hardness and bolts with six marks are the hardest.

**Q:** What are the advantages of a carriage bolt?

**A:** The square shoulder, sunk into wood, prevents the bolt from turning, and the round head gives a smoother finish.

**Q:** Even with a lock washer, I continue losing the nut off my mower.

**A:** Use a lock nut with a nylon insert. This arrangement will not vibrate loose as easily.

**Q:** What is the meaning of USS and SAE as it pertains to bolts?

**A:** USS are coarse threads, while SAE are fine threads.

**Q:** What is a lag bolt?

**A:** It is basically a large wood screw (with a pointed tip) and a hex head.

**Q:** I need some joist hangers.

**A:** The most important factor is to make sure you buy the right joist hanger that fits the dimension of lumber are you using.

**Q:** I have a bolt that is not threading in properly. Can I fix this?

**A:** Yes, a thread repair kit allows you to retap it, put in an insert and rebuild it.

**Q:** I've broken the head off a bolt. Is there some way I can get it out?

**A:** You should use a bolt extractor kit. It has a tap and an insert with a left-hand thread so that it can be turned to remove the bolt.

**Q:** I have looked for specific-size screws everywhere, but I can't find one that is the right size?

**A:** It may be a metric size.

#### **UPSELLING**

- Stainless steel fasteners may be preferable for some applications. They are more expensive but are the most resistant to corrosion.
- Be aware of the different types of screws available for use on treated lumber. Stainless steel will be the best, but there are other coatings with varying price ranges and effectiveness in chemically treated lumber. Remind customers that the better quality fasteners will be less likely to leave rust spots and will last longer.

#### **ADD-ON SALES**

- Screwdriver Set
- Wrenches
- Drill Bits
- Cordless Drill

#### **PRO CORNER**

##### Threaded Fastener Materials

- Low and medium carbon steels are the most common materials used to make threaded fasteners. These are covered in specification documents published by SAE (Society of Automotive Engineers) and ASTM (American Society for Testing of Materials) and include:
  - SAE 1010: used for machine screws, carriage bolts, etc. where strength requirements are not critical.
  - SAE 1018, 1020, 1021: for bright cap screws and special fasteners.
  - SAE 1038: for high-strength bolts and cap screws.
  - SAE 1100: generally used for nuts.
- Several types of stainless steels are used for fasteners, either for nonmagnetic or corrosion-resistance requirements.
- Aluminum, copper, bronze, brass and plastics are other products used to make fasteners.
- A common and often inexpensive way of protecting fasteners from corrosion, or for improving their appearance, is to apply a coating. Zinc, cadmium, tin, nickel and chromium are common coatings used. Steel may also be oxidized, blued, brass or bronze plated or simply lacquered or color matched.
- Another recently developed finish is a bi-metal fluorocarbon, primarily for use with pressure-treated lumber and other exterior



applications where high corrosion resistance is necessary.

**MERCHANDISING**

- Place drywall screwbits close by the deck and drywall screws. These also make excellent impulse items for placing near the checkout.
- Merchandise packaged screws and boxed screws together.
- Use manufacturer's bin displays of machine screws and bolts to create a strong impression just off the power aisle.

