# Industrial Tool Safety - Vises

Employers are responsible for maintaining in good repair any tools and equipment supplied to workers. Workers must use tools and equipment properly and report any defects to supervisors. Tools and equipment should be inspected regularly. Use the guards and personal protective equipment which we all know are needed but sometimes tend to overlook. ***Never*** disable, for the sake of convenience any built in safety features or guards on tools. Basic hazard awareness and common sense can prevent serious injuries with industrial hand and power tools.

**Common Causes of Accidents -** Typical causes of hand and power tool accidents include the following:

- Using the wrong tool for the job
- Tools falling from overhead
- Sharp tools carried in pockets
- Using cheaters on tool handles
- Excessive vibration
- Failure to support or clamp work in position
- Carrying tools by hand up or down ladders

## Safe practices for the industrial work place

- **Use the right tool for the job.** Using a clamp to lift, using a cheater bar on a handle or, using pliers instead of a proper wrench are typical examples of the mistakes which commonly lead to accidents and injuries.
- **Use tools as recommended by the manufacturer.** For example, don't use cheaters on handles. This will exert greater forces on the tool than it was designed for and is likely to cause breakage and possible injury.
- **Damaged or broken tools should be removed from service.** Clamps with broken pads, bent handles, corroded pads, snips with notched blades, bent clamps, damaged spindles etc. are all unsafe and should be removed from service and be either repaired or destroyed.

- **Maintain tools in safe operating condition.** Keep handles, pads and spindles clean, secure and safe. Don't rely on friction tape to secure split handles or to prevent handles from splitting. Check wedges and handles frequently. Keep handles smooth and free of rough or jagged surfaces. Replace handles, spindles, blades and pads that are split, corroded, or that cannot be refitted securely.
- **Never climb ladders with tools in your hand.** Tool holders / pouches free your hands while climbing or working on ladders, scaffolding, and other areas where access may be difficult. When carrying tools up or down from elevated places, put them in substantial bags or boxes and raise and lower them with strong ropes.
- **Spark-resistant tools** (non-ferrous tools) are recommended where flammable materials or explosive dusts or vapors might be present. These tools, such as brass or copper hammers or mallets, should still be used with caution; remember, they may not guarantee safety in all explosive situations such as in the presence of gasoline vapors. It is always safer to eliminate the hazard by ensuring a safe atmosphere through isolation, ventilation, or purging.
- **Protect the cutting edges of tools when carrying them**. Carry them in such a way that they won't be a hazard to yourself and others. Carry pointed or sharp edged tools in pouches or holsters.
- **Keep your hand tools clean.** Protect them against damage caused by corrosion. Wipe off accumulated dirt and grease. Dip the tools occasionally in cleaning fluids or solvents and wipe them clean.
- **Lubricate** adjustable and other moving parts to prevent wear and misalignment.
- **Stay aware of your surroundings –** look around and keep a mental note of what is going on around you. Identify & be mindful of potential dangers.
- **Falling tools** are a dangerous hazard for workers below. Keep track of tools, especially when working at heights on scaffolds or other access equipment.

- **Inspection and Repair of Industrial Tools -** Tools should be inspected by a person qualified through training and experience to determine the safe condition of the tool. Worn or damaged tools should be tagged ***"DEFECTIVE – DO NOT USE"*** and returned to the shop for repair or replacement. Regular inspection of all tools is necessary and should cover tool maintenance. Observing proper handling and storage of tools should also be a part of the inspection process. Responsibility for inspection is usually left to the supervisor; however, tools should be checked by those who use them daily. Hand tools that get the heaviest use and abuse should be inspected frequently. To maintain and repair tools properly requires the right facilities and equipment. A good workbench, repair tools, vises, and good lighting are necessities. Only persons skilled in the repair of tools should be allowed to do the repairs.
- **Misuse -** Misuse of hand tools is a common cause of injury in the work place. In many cases, the injury results because it is assumed that everyone knows how to use most common hand tools. This is not the case. It is the responsibility of the supervisor and employer to ensure that workers are trained in the safe and proper use of hand tools.

## Personal Protection

**Hands –** Hands can be caught in machines, crushed by objects, or cut by sharp-edged tools such as chisels, knives, and saws. Hands can also be damaged by being burned, fractured, or sprained unless you stay alert. Always wear protective gloves appropriate to the job being done.

**Feet –** Always wear the correct protective footwear for the job (Steel toed, rubber, leather etc...)

**Eyes –** Eyes are highly susceptible to injury; however, most eye injuries are preventable. Always wear appropriate safety glasses / face shields for the job.

**Ears –** Hazardous noise levels are inherent in industry. Hearing protection should be worn whenever there is a risk of excessive exposure.

# Safe Use & Selection of Vises

Vises are often considered to be a third hand. The vise does the holding for you while leaving both of your hands free to work on the held object. Vises are available in many different styles, sizes & for a variety purposes.

**Proper selection**

1. Always choose a style of vise that is best suited to the job at hand.
2. Use a vise large enough to hold the work without strain.

**Improper use of vises may lead to personal injury or material damages! BESSEY® Tools will not accept any liability for damages or injuries caused by improper use!**

**Safe use**

1. Use common sense & ask yourself - Is this the tool designed for this job!
2. Make sure that the vise is secured firmly to the work surface using all of the mounting holes provided on the base with heavy duty bolts, nuts & lock washers.
3. Make sure that the work surface is firmly secured to a stable base.
4. When mounting a new vise:
   a. Always choose heavy duty fasteners of appropriate length for the thickness of your work bench top.
   b. Always choose the largest diameter bolts possible that fill out the mounting holes in the base of the vise.
   c. Mount a vise so that the stationary jaw projects slightly beyond the edge of the workbench - keeping overhang to a minimum. This allows for clamping work vertically & keeps the risk of being a hard obstruction to a minimum.
5. Properly position the work piece in the vise.
   **a.** Use the full clamping surface of the jaws to hold the work piece.
   **b.** Position work over or as close as possible to the center line of the vise.
   **c.** To prevent vibration keep the cut line as close as possible to the jaws during sawing, grinding etc…
6. Use an adjustable stand or saw horse to support the end of an extra long work piece.
7. Use protective soft jaws to prevent marring of finished surfaces.
8. Extend the lifespan of your vise by keeping all moving parts lubricated & clean.
9. Check vise for signs of damage, especially cracks in the castings before each use.
10. Replace worn jaw inserts.
11. Never unscrew movable jaw beyond maximum specified opening of vise.
12. Do not weld the base of the vise to any metal.
13. Do not repair a vise by welding or brazing.
14. Do not try to bend a heavy rod in a light vise.
15. Do not cut into the jaws.
16. Do not use a handle extension (e.g., a pipe) for extra clamping pressure.
17. Do not hammer on the handle to tighten beyond hand pressure.