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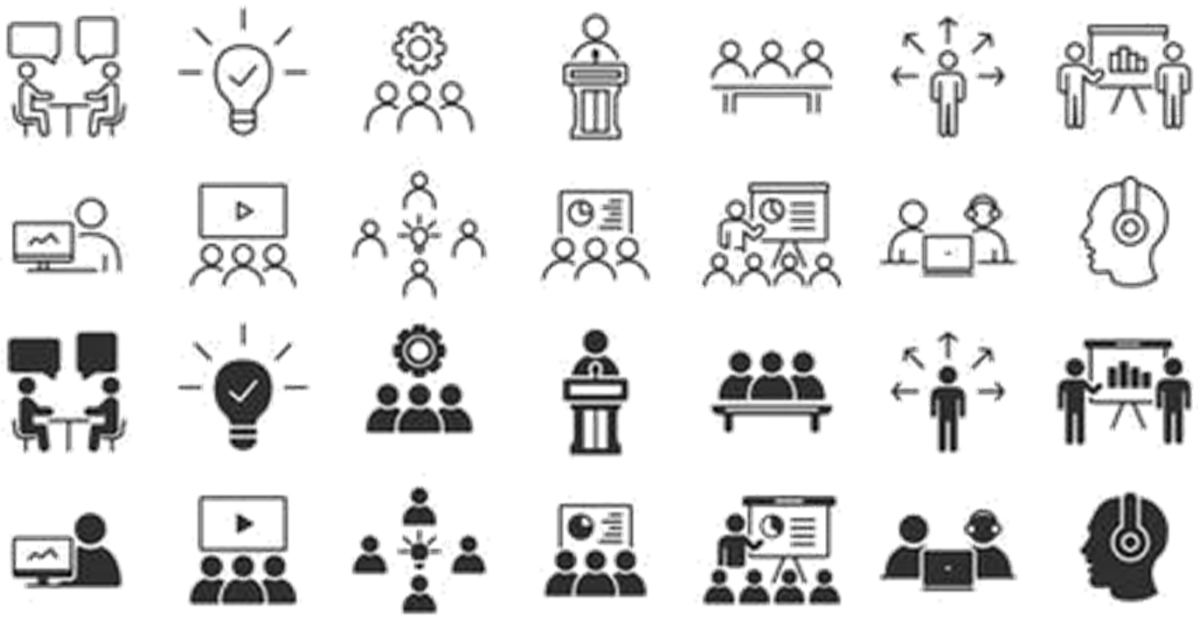
KSB

# MEM18001 - Use hand tools

# Introduction & Rules



Name

Position

Brief experience

-

Training Facilities

Emergency Situations

Proactive and Open Minded

Respect & Honest

Turn off HP / Vibrate Mode


## Training Purpose & Assessment

Participants will have skills and knowledge required to use a range of hand tools for a variety of general engineering applications.

After completing this session, you will be given, and obtain a minimum score of 80% on the written assessment and 100% on the practical assessment before being declared a PASS.

- If you fail to PASS, then you will need to be reassessed.

## Training Contents

- safe work practices and procedures and use of personal protective equipment (PPE)
- features and applications of different hand tools used in a general engineering context, including hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes and files of all cross-sectional shapes and sizes
- common faults and/or defects in hand tools
- procedures for marking unsafe or faulty tools for repair
- routine maintenance requirements for a range of hand tools, including lubricating, tightening, simple tool repairs and adjustments using engineering principles and relevant equipment
- storage location and procedures for a range of hand tools.

# Training Contents
# Range of Conditions

- Hand tools include one (1) or more of the following:
  - Hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes, files of all cross-sectional shapes and types, hand held taps and dies
- Applications include one (1) or more of the following:
  - Adjusting, dismantling, assembling and finishing of items or components, finishing, cutting, scraping of metallic and non-metallic material to size and shape, tapping/ retapping and threading/rethreading new/damaged threads
- Drawings include one (1) or more of the following:
  - drawings and sketches not covered by AS 1100 Technical drawing or AS 1102 Graphical symbols for electrotechnical documentation, and their equivalents
  - work specifications that include graphic representations that do not require interpretation
- Job specifications include one (1) or more of the following:
  - Finish, tension, size, shape,
- Routine maintenance includes one (1) or more of the following:
  - Cleaning, lubricating, tightening, simple tool repairs, adjustments

# Safe Work Practices and Procedures and Use of Personal Protective Equipment (PPE)

# Safety


**Safety** is the state of being protected from danger or risk.

**Safety** refers to the actions and practices implemented to prevent work-related accidents, injuries and illnesses.

# Quality Policy

## Quality Policy

**Achieving maximum customer satisfaction**

Our customers set the standards for the quality of our products and services. We satisfy their wishes in full and on time.

**Promoting quality consciousness**

We ensure that all our employees are highly qualified by providing them with ongoing training and comprehensive information. Each of our managers is an example in putting quality-mindedness into practice.

**Every employee meets the customer's wishes**

The principle of customer-supplier relations also applies internally: The next in line during the work process is a customer; he/she receives impeccable work results.

**Avoiding mistakes instead of remedying them**

We establish causes so that we can prevent errors and put a stop to them.

**Improving quality**

The steady improvement of work processes, methods of work and the work environment ensures that every employee is successful and satisfied. At the same time, this helps to secure our leading position in the market.

**Involving suppliers**

In fair and open partnership, we support our suppliers in the pursuit of shared quality objectives.

# OHSE Policy

## Occupational Health, Safety, and Environment (HSE) Policy

**Informing about relevance to the environment**

We inform our customers about the environmental relevance of our products, processes and services.

**Promoting awareness of environmental issues, occupational health and safety**

To protect the environment and our employees we undertake measures that go beyond what is required by law. Our employees are trained and informed by us.

**Strengthening our employees' sense of responsibility**

Our employees help to shape our operational processes. This enables them to recognize early on any situations that could have an impact on the environment or on safety and to make sure people are informed about these situations.

**Recognizing and avoiding risks**

We constantly and systematically review the impact of our production on people and the environment. By recognizing risks, we can take any preventive action that may be necessary. In the case of new production processes and products, we consider the environmental impact in the development stage. This impact is kept to a minimum, as far as technically and economically feasible. In the process, we take account of both occupational health and safety.

**Compliance with regulations**

Using the procedures defined in the Integrated Management System, we monitor our activities to ensure compliance both with national legislation and with our own EHS rules.

**Commitment of outside companies**

We ensure that outside companies working on our sites are also committed to compliance with national legislation and our own rules for protection of the environment, occupational health and safety.

Bekasi, 21 Maret 2018

**Philippe OLIVIER**
President Director
PT KSB Indonesia

**Hand Tools Safety**

- ❑ Select the right tool for the job
- ❑ Inspect tools before use
- ❑ Use personal protective equipment (PPE)
- ❑ Follow correct techniques

**Hand Tools Safety**

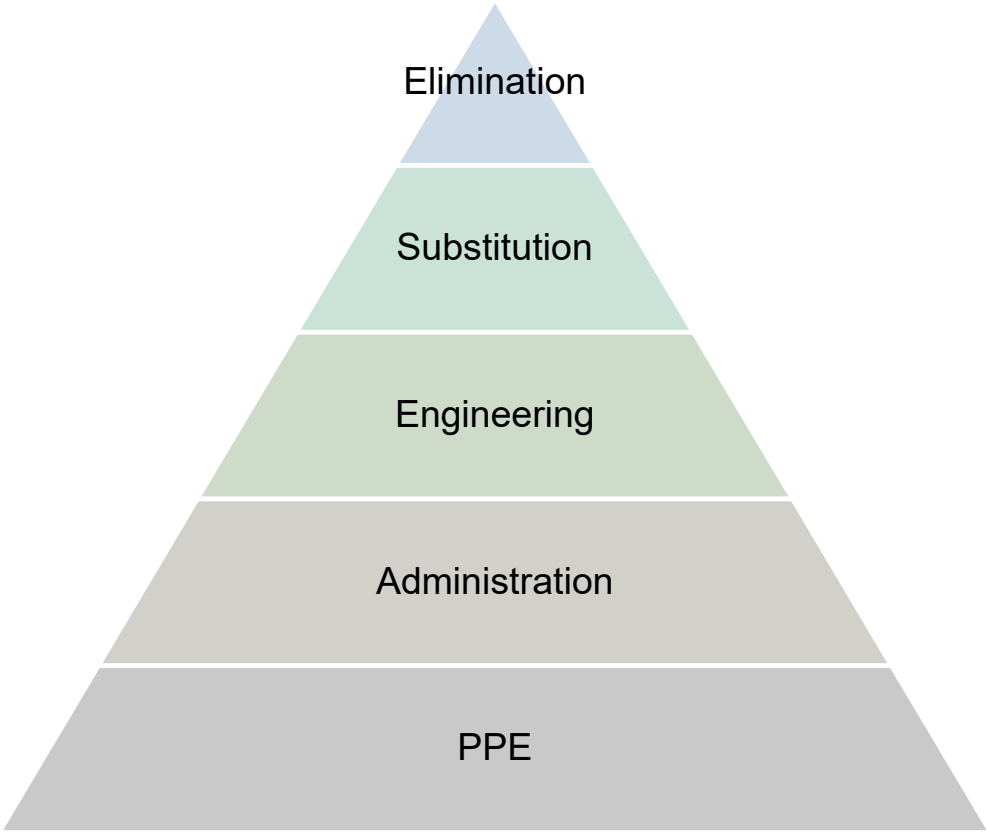
- ❑ Use the right tool size
- ❑ Avoid improper tool use
- ❑ Follow manufacturer's guidelines
- ❑ Store tools properly

**Potential hazard**

- ❑ Sharp tools
- ❑ Heavy equipment
- ❑ Fragments, splinters, sebu
- ❑ Broken tool
- ❑ Unsafe workplace
- ❑ Lack of lighting
- ❑ Ergonomic hazards
- ❑ Wrong technique
- ❑ Lack of knowledge and training
- ❑ Not wearing PPE

# Hazard & Risk Management

1. • Hazard Identification
2. • Hazard and Risk Assessment
3. • Hazard and Risk Control



# Hand Tools

Classification

Application

## Hand Tools – Classification by the Group Function

- ❑ Fastening Tools
- ❑ Striking/ Impact Tools
- ❑ Gripping/ Clamping Tools
- ❑ Cutting Tools
- ❑ Marking and Layout Tools
  - Measuring Tools

## Fastening Tools

- play a crucial role in mechanical engineering workplaces, where the assembly and joining of various components are common tasks.
  - Wrenches/ Spanner
  - Screw-drivers

**Spanners (=Wrenches)**

- Open-End Spanner
- Ring Spanner (Box-End Spanner)
- Combination Spanner
- Ratchet and Socket Set
- Adjustable Spanner (Crescent Wrench)

## Spanners (=Wrenches)

- ❑ Pipe Wrench
- ❑ Torque Wrench
- ❑ Allen Key (Hex Key)
- ❑ Adjustable Wrench
- ❑ Impact Wrench
- ❑ Slodging Spanner

## Open-End Spanner

- a simple wrench with U-shaped jaws that grip two opposite faces of the nut or bolt.
- Open-end spanners are handy in situations where there is limited space around the fastener.

**Ring Spanner (Box-End Spanner):**

- This type of spanner has a closed ring at one or both ends.
- The closed design provides a more secure grip on the fastener and minimizes the risk of slipping.

## Combination Spanner

- has an open-end at one end and a ring or box-end at the other end.
- This dual design provides versatility as it can be used in a variety of situations.

## Adjustable Spanner (Crescent Wrench)

- has an adjustable jaw that allows it to fit nuts and bolts of different sizes.
- This versatility makes it a handy tool in various applications.

## Pipe Wrench

- Designed for gripping and turning pipes and rounded objects, a pipe wrench has serrated jaws that provide a strong grip.
- It is commonly used in plumbing and pipefitting.

## Torque Wrench

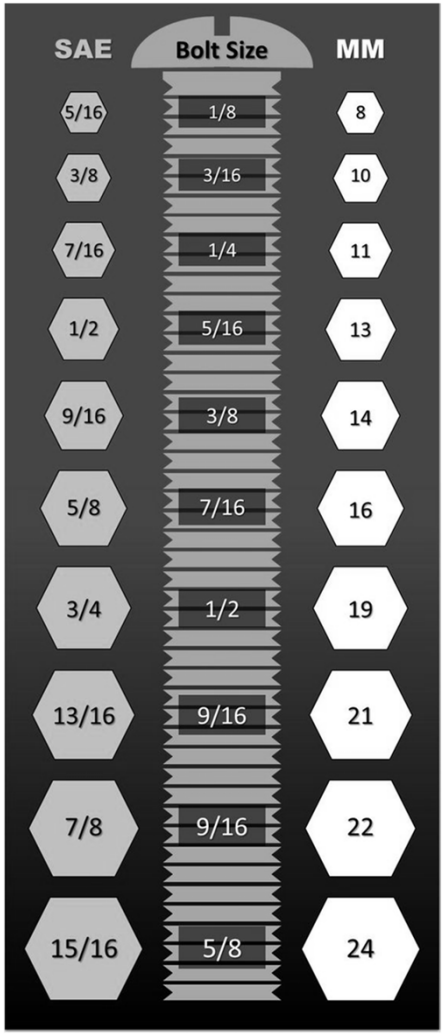
- a specialized spanner used to apply a specific amount of torque to a fastener.
- crucial in applications where precise torque is essential, such as automotive and engineering.

## Allen Key (Hex Key)

- a tool used for turning screws and bolts with hexagonal sockets.
- It's L-shaped and is commonly used in assembling furniture and machinery.

## Conversion that May Be Useful

- ❑ 30
- ❑ 36
- ❑ 41
- ❑ 46



## Ratchet and Socket Set

- a ratchet and socket set is a versatile tool for fastening and loosening nuts and bolts.
- The ratchet allows for continuous rotation without repositioning the tool.

## Screwdrivers

- ❑ Flathead Screwdriver (Slotted Screwdriver)
- ❑ Phillips Screwdriver
- ❑ Hex Screwdriver (Allen Wrench)
- ❑ Clutch Head Screwdriver
- ❑ Electric Screwdriver
- ❑ Impact Screwdriver

## Flathead Screwdriver (Slotted Screwdriver)

- Designed for screws with a single, straight slot across the head.
- Flathead screwdrivers come in various sizes to match different screw dimensions.

## Phillips Screwdriver

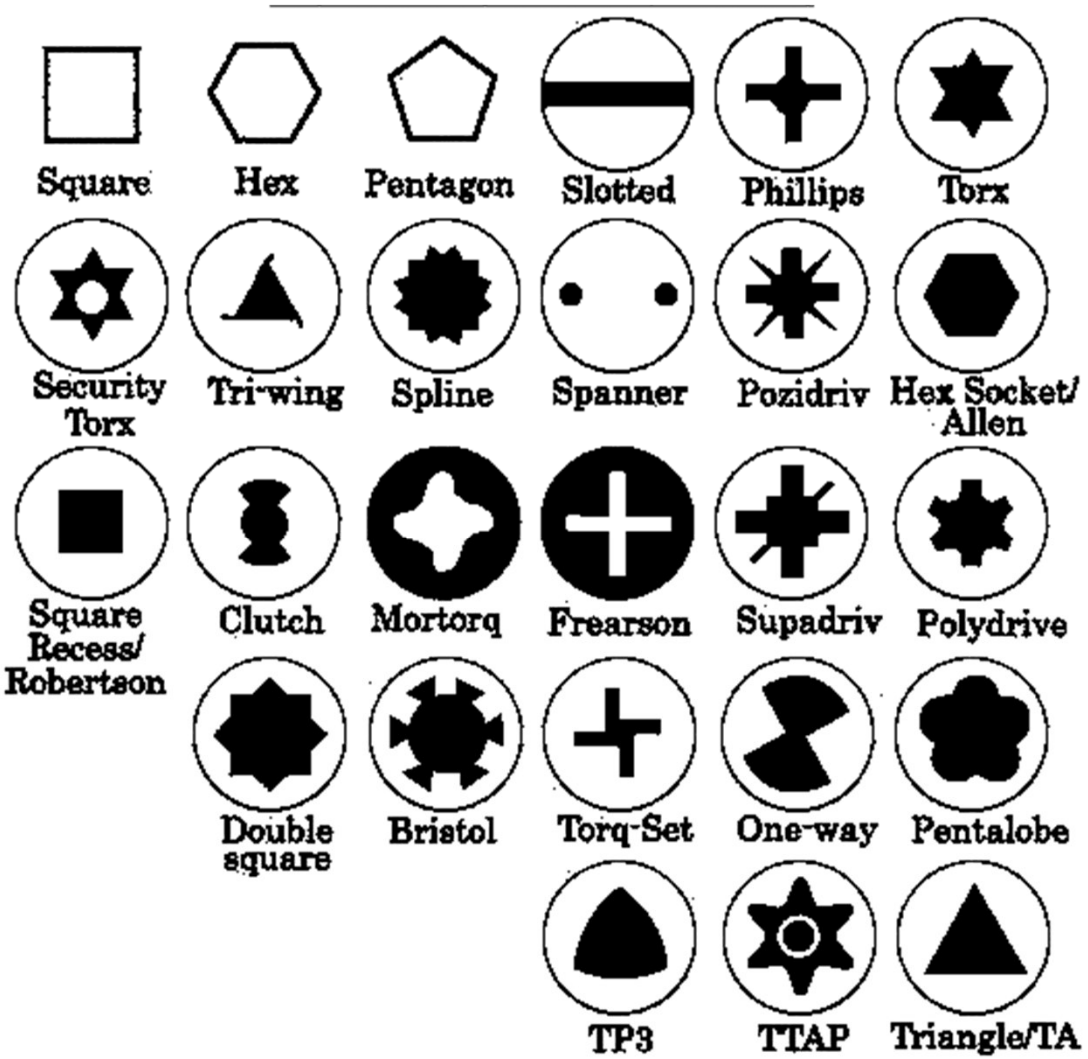
- Specifically designed for Phillips head screws, which have a cross-shaped recess.
- Phillips screwdrivers are characterized by their cross-shaped tips.

## Hex Screwdriver (Allen Wrench)

- Used for screws with hexagonal (hex) recesses.
- often available as separate tools or as part of a multi-bit screwdriver set.

## Clutch Head Screwdriver

- Designed for screws with a unique clutch head that resembles a bowtie.
- These screwdrivers are used in various applications, including security screws.

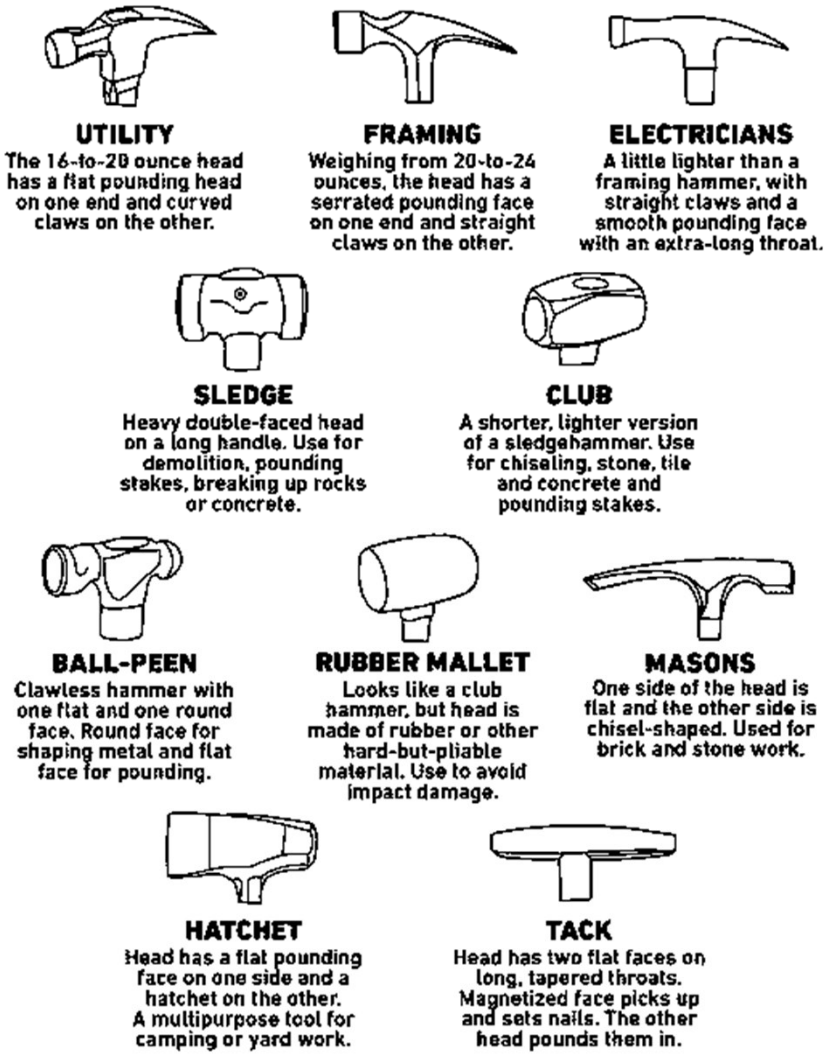


## Impact Screwdrivers

- a hand tool designed to provide additional torque to aid in the loosening or tightening of fasteners, such as screws or bolts.
- especially useful for dealing with stubborn or rusted fasteners.

## Striking/ Impact Tools

- hand tools that are designed to deliver force through a striking action.
- commonly used in construction, automotive repair, metalworking, and various other applications where force is needed to drive, shape, or manipulate materials.



## Hammers

- ❑ Claw Hammer
- ❑ Ball-Peen Hammer
- ❑ Sledgehammer
- ❑ Cross Peen Hammer
- ❑ Club Hammer
- ❑ Dead Blow Hammer
- ❑ Soft-Faced Hammer (Rubber Mallet)
- ❑ Joiner's Mallet

## Claw Hammer

- Head: Flat face for driving nails; curved claw for pulling nails.
- Common Uses: Woodworking, carpentry, general construction.

## Sledgehammer

- Head: Large, flat face on both sides.
- Common Uses: Demolition, driving stakes, heavy construction.

## Cross Peen Hammer

- Head: One flat face, one wedge-shaped (cross peen) face.
- Common Uses: Metalworking, shaping and spreading metal.

## Club Hammer

- Head: Short handle, often with a double-faced head.
- Common Uses: Light demolition, driving chisels and wedges.


## Dead Blow Hammer

- Head: Typically filled with shot or sand for added weight and reduced rebound.
- Common Uses: Minimizing damage to surfaces, automotive work.

## Soft-Faced Hammer (Rubber Mallet)

- Head: Made of rubber or other non-marring materials.
- Common Uses: Woodworking, furniture assembly, tapping materials without causing damage.

## Joiner's Mallet

- Head: Wooden head with a flat or slightly rounded face.
- Common Uses: Woodworking, chisel work, assembling joinery.

## Chisels (Wedges) and Punches

- ❑ Flat Chisel
- ❑ Cold Chisel

- ❑ Center Punch
- ❑ Pin Punch
- ❑ Taper Punch
- ❑ Prick Punch
- ❑ Drive Punch (Leather Punch)

## Flat Chisel

- Blade: Straight and flat blade.
- Common Uses: Cutting or shaping wood, metal, or stone.

## Cold Chisel

- Blade: Straight with a slight bevel; sturdy for cutting metal.
- Common Uses: Cutting or chipping metal, masonry work.

## Wedges

- designed to split, lift, secure, or separate objects by applying force to a particular point.
- a triangular or tapered shape and work by converting force applied to the wedge into lateral pressure, creating a separation or movement.

## Center Punch

- Tip: Pointed.
- Common Uses: Creating an indentation for drill bits, marking the center of a hole.

## Pin Punch

- Tip: Pointed, but smaller and slenderer than a center punch.
- Common Uses: Removing pins, aligning holes, starting screws.

## Tapered Drift Punch

- Tip: Tapered to a point.
- Common Uses: Aligning or removing tight-fitting pins.

## Prick Punch

- Tip: Extremely sharp point.
- Common Uses: Marking or scribing fine lines on metal.

## Hole Punch (Leather Punch)

- Tip: Hollow, used for punching holes in leather or soft materials.
- Common Uses: Leatherworking, creating holes in belts, straps, or fabrics.

## Gripping/ Clamping Tools

- Pliers
- Clamps
- Vises

## Pliers

- ❑ Slip-Joint Pliers
- ❑ Needle-Nose Pliers (Long Nose)
- ❑ Linesman Pliers
- ❑ Side-Cutting Pliers (Diagonal Pliers)
- ❑ Tongue and Groove Pliers (Channellock)
- ❑ Vise-Grip Pliers
- ❑ Wire Stripping Pliers
- ❑ Crimping Pliers
- ❑ Snap Ring Pliers (Circlip Pliers)
- ❑ Bent-Nose Pliers

## Slip-Joint Pliers

- Design: Adjustable joint with multiple settings.
- Common Uses: Gripping, bending, and twisting various materials. Ideal for general-purpose tasks.


## Needle-Nose (long nose) Pliers

- Design: Long, pointed jaws for precision work.
- Common Uses: Holding and manipulating small objects, working in tight spaces, and performing detailed tasks.

**Linesman Pliers (=Combination Pliers)**

- Design: Heavy-duty pliers with a flat gripping surface and cutting edges.
- Common Uses: Cutting, gripping, and bending electrical wires. Commonly used by electricians.


## Side-Cutting Pliers (Diagonal Pliers)

- Design: Cutting edges on one side for cutting wires.
- Common Uses: Cutting electrical wires, cable ties, and other materials.

## Tongue and Groove Pliers (Channellock P

- Design: Adjustable jaw width with serrated gripping surfaces.
- Common Uses: Gripping and turning pipes, nuts, and bolts. The adjustable jaw allows versatility.

## Locking Pliers (Vise-Grip Pliers)

- Design: Adjustable jaw that can be locked in place.
- Common Uses: Holding objects securely, acting as a temporary clamp. Ideal for tasks that require a firm grip.

## Wire Stripping Pliers

- Design: Jaws with notches for stripping insulation from electrical wires.
- Common Uses: Stripping and preparing wires for electrical connections.

## Crimping Pliers

- Design: Jaws with crimping dies for creating secure connections on electrical connectors.
- Common Uses: Crimping terminals onto wires for electrical connections.

## Hose Grip Pliers

- Design: Long-handled pliers with curved jaws for gripping hoses.
- Common Uses: Gripping and turning hoses, especially in automotive applications.

## Snap Ring Pliers (Circlip Pliers)

- Design: Jaws with tips for installing or removing snap rings (circlips).
- Common Uses: Installing or removing snap rings in mechanical assemblies.

## Bent-Nose Pliers

- Design: Similar to needle-nose pliers but with a bent tip.
- Common Uses: Accessing and gripping objects in tight or awkward spaces.

## Joiners (Rivet)

- used to fasten materials together using rivets.
- mechanical fasteners that consist of a cylindrical shaft with a head on one end.
- The shaft is inserted into pre-drilled holes in the materials being joined, and the other end is then deformed to create a second head, securing the materials together.

## Clamps

- C-Clamps or G-Clamps or D-Clamps
- Quick-Release Clamps
- Pipe Clamps
- Band Clamps

## C-Clamps

- Design: Resembles the letter "C" with an adjustable screw.
- Common Uses: Holding objects together during assembly or welding.

## Quick-Release Clamps

- Design: One-handed operation with a quick-release mechanism.
- Common Uses: Quick and easy clamping for various tasks.


## Pipe Clamps

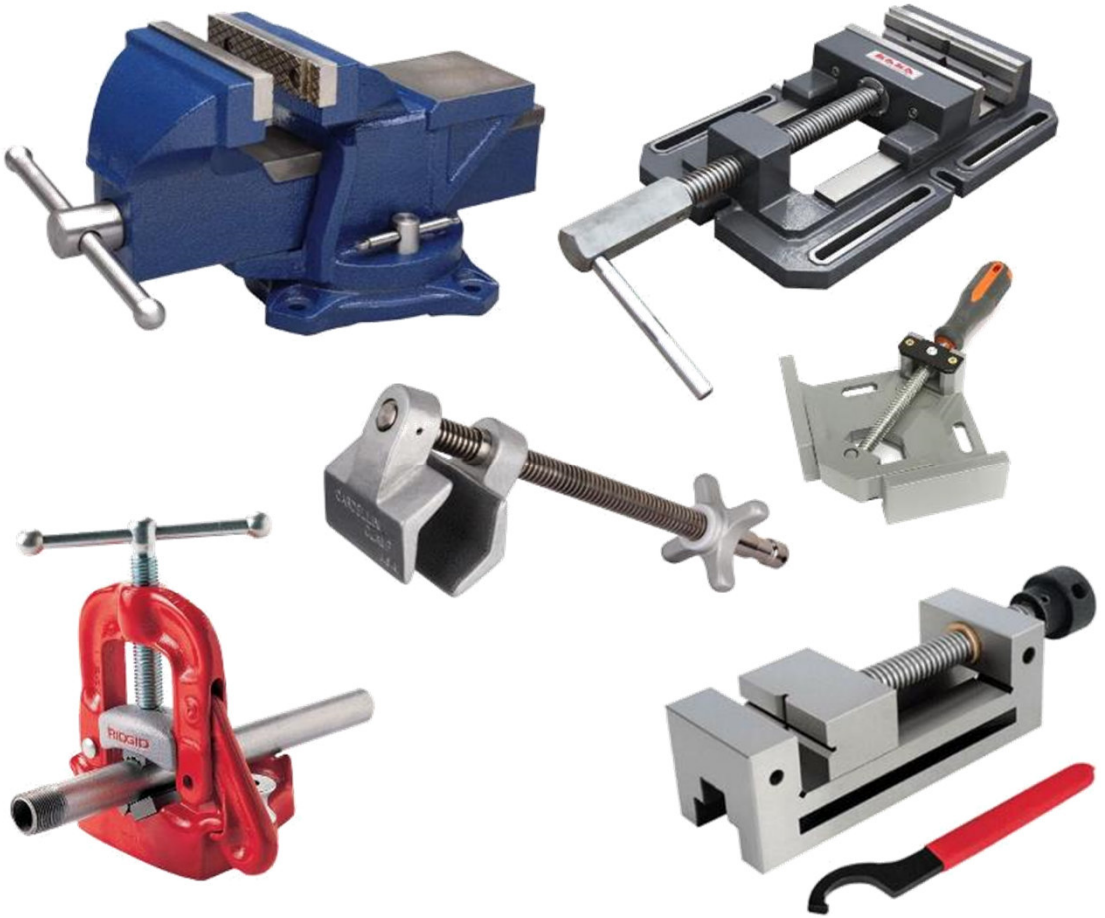
- Design: Designed to grip pipes securely.
- Common Uses: Plumbing work, securing pipes during cutting or threading.

## Band Clamps

- Design: Consists of a band or strap and a mechanism for tightening.
- Common Uses: Holding irregularly shaped objects together, such as round or angled pieces.

## Vises (Vices)

- ❑ Bench Vise
- ❑ Machine Vise
- ❑ Pipe Vise (or Pipe Clamp)
- ❑ Angle Vise (Tilting Vise)
- ❑ Precision Vise
- ❑ Pipe Jaw Attachment



## Bench Vise

- Design: Mounted on a workbench
  - typically has two parallel jaws, one fixed and one movable,
  - operated by a threaded spindle.
- Common Uses: Holding workpieces for various tasks like sawing, drilling, or filing in woodworking and metalworking

## Machine Vise

- Design: Mounted on machine tools like milling machines or drill presses, designed for securing workpieces during machining operations.
- Common Uses: Precision machining tasks such as milling, drilling, or grinding.

## Pipe Vise (or Pipe Clamp)

- Design: Specialized vise designed to hold pipes securely.
- Common Uses: Plumbing work, threading pipes, or cutting metal pipes.


## Angle Vise (Tilting Vise)

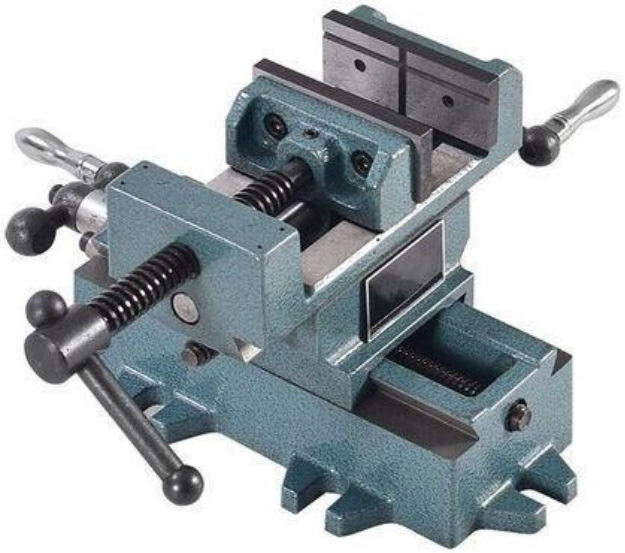
- Design: Allows the workpiece to be held at various angles, often adjustable and tilting.
- Common Uses: Precision drilling, milling, or grinding at specific angles.

## Swivel Vise

- Design: Features a swiveling base, allowing the vise to rotate horizontally.
- Common Uses: Versatile for holding workpieces at different angles.

## Precision Vise

- Design: Engineered for high precision work, often with fine adjustment features.
- Common Uses: Delicate machining operations requiring tight tolerances.



## Pipe Jaw Attachment

- Design: An accessory that can be added to a bench vise to hold pipes securely.
- Common Uses: Plumbing work, allowing a standard bench vise to hold pipes.

## Cutting Tools

- Saws (Hacksaw)
- Files
- Taps and Dies

## Saws (Hacksaw)

- C-Shaped Frame
- Adjustable Tensioning Mechanism
- Removable Blade
- Teeth Orientation
- Handle
- Blade Varieties

## Files

- ❑ Flat File
- ❑ Mill File
- ❑ Round File
- ❑ Half-Round File
- ❑ Triangle File
- ❑ Square File
- ❑ Needle File
- ❑ Rasp File
- ❑ Cabinet File
- ❑ File Set

## Taps and Dies

- ❑ Taper Tap (or Starting Tap)
- ❑ Plug Tap
- ❑ Bottoming Tap

- ❑ Round Dies
- ❑ Hexagonal Dies

## Marking and Layout Tools

- ❑ Scribing Tool
- ❑ Dividers
- ❑ Center Punch
- ❑ Try Square
- ❑ Combination Square
- ❑ Steel Rule (Ruler)
- ❑ Tape Measure

## Steel Rule (Ruler)

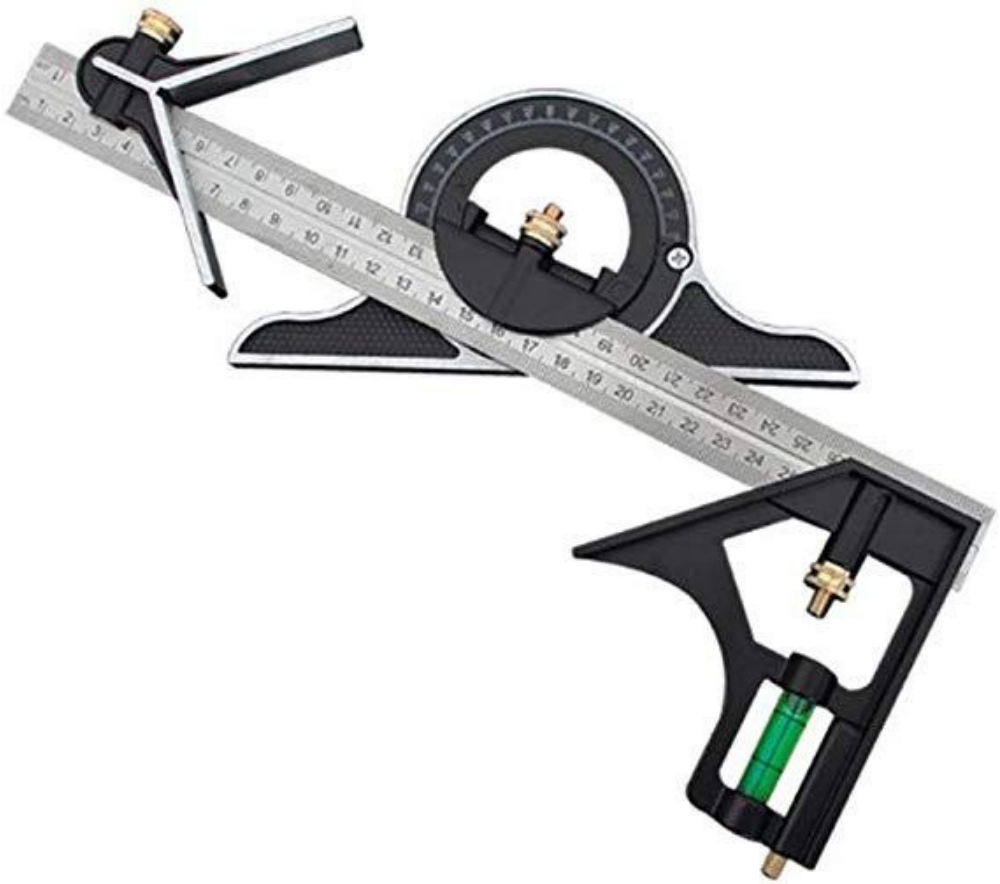
- Design: A straight edge with graduated markings for measuring length.
- Common Uses: Measuring and marking straight lines.

## Tape Measure

- Design: A flexible tape housed in a case with a locking mechanism.
- Common Uses: Measuring longer distances and dimensions.

## Combination Square

- Design: A tool with a ruler and an adjustable square or 90-degree angle.
- Common Uses: Measuring and marking square lines, checking for 45-degree angles.



## Try Square

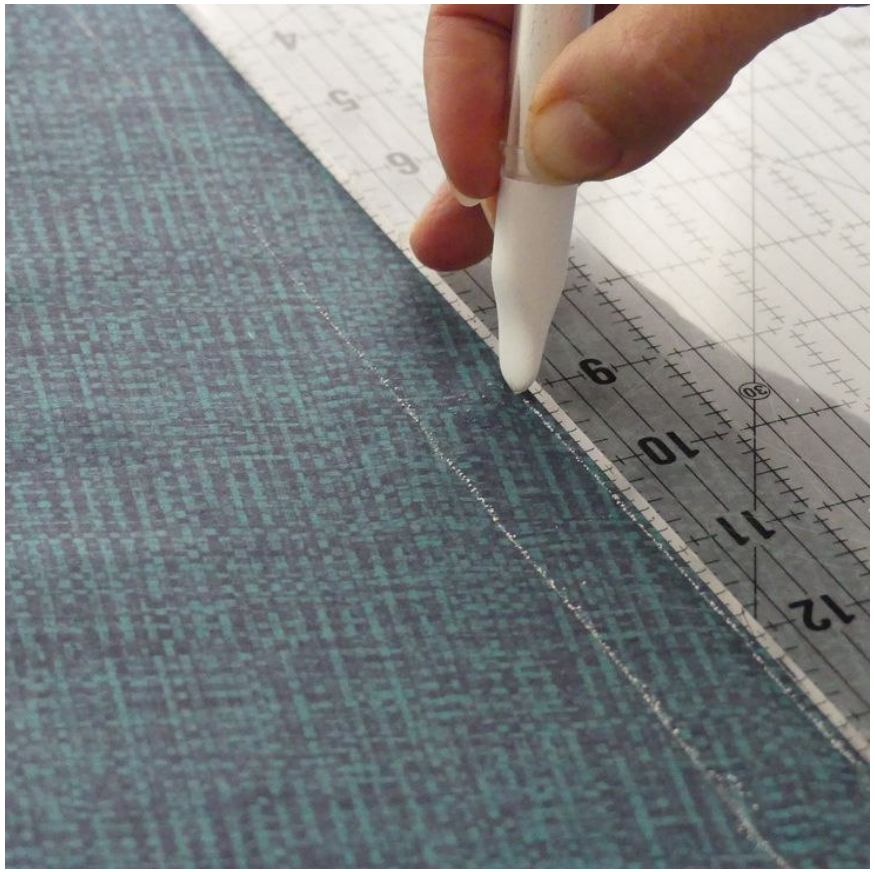
- Design: A tool with a 90-degree angle for checking the squareness of edges.
- Common Uses: Marking perpendicular lines and checking corners.

## Marking Gauge

- Design: A tool with an adjustable fence and a scribing point for marking lines parallel to an edge.
- Common Uses: Transferring measurements and marking consistent lines.

## Chalk Line

- Design: A reel with a chalk-filled string for marking straight lines over long distances.
- Common Uses: Marking guidelines on surfaces, especially in construction.



## Center Punch

- Design: A tool with a pointed end used to create an indentation for drilling.
- Common Uses: Marking the center point for drilling holes.

## Bevel Gauge

- Design: A tool with an adjustable angle for marking and transferring angles.
- Common Uses: Setting and transferring angles in woodworking and metalworking.

## Dividers

- Design: Two-pointed legs with an adjustable joint, used for marking and measuring distances.
- Common Uses: Transferring measurements and scribing circles or arcs.


## Scribing Tool

- Design: A tool with an adjustable point for marking lines parallel to an edge.
- Common Uses: Scribing lines for accurate cuts and fittings.

# Hand Tools Fault/ Defects

## Hand Tools Fault/ Defects

- ❑ Blunt or Dull Cutting Edges
- ❑ Bent or Warped Blades
- ❑ Loose Handles or Grips
- ❑ Cracks or Breaks
- ❑ Corrosion and Rust
- ❑ Worn Joints and Hinges
- ❑ Missing or Damaged Fasteners
- ❑ Inaccurate Measurements
- ❑ Unstable Joints in Adjustable Tools
- ❑ Handle Slippage

## Blunt or Dull Cutting Edges

- Issue: Reduced cutting efficiency and increased effort required for cutting.
- Causes: Normal wear and tear, use on hard materials, inadequate maintenance.
- Solution: Sharpen the cutting edges using appropriate tools.

## Bent or Warped Blades

- Issue: Altered cutting or striking performance.
- Causes: Excessive force, misuse, accidental damage.
- Solution: Straighten or replace the blade if necessary.

## Loose Handles or Grips

- Issue: Compromised control and safety during use.
- Causes: Wear of handle connections, poor manufacturing, insufficient tightening.
- Solution: Tighten fasteners, replace handles, or use appropriate adhesives if applicable.

## Cracks or Breaks

- Issue: Reduced structural integrity and potential safety hazards.
- Causes: Overloading, misuse, manufacturing defects.
- Solution: Replace the tool if cracks or breaks are present.

## Corrosion and Rust

- Issue: Impaired functionality and compromised aesthetics.
- Causes: Exposure to moisture, lack of proper storage, poor-quality materials.
- Solution: Clean and remove rust, apply a rust inhibitor, store tools in a dry environment.

## Worn Joints and Hinges

- Issue: Reduced stability and control.
- Causes: Continuous use, lack of lubrication, poor-quality joints.
- Solution: Lubricate joints, replace worn-out parts, or consider overall replacement.

## Missing or Damaged Fasteners

- Issue: Compromised structural integrity.
- Causes: Wear and tear, inadequate maintenance, manufacturing defects.
- Solution: Replace missing or damaged fasteners using appropriate replacements.

## Inaccurate Measurements

- Issue: Reduced precision and reliability.
- Causes: Worn-out or damaged measuring components, poor calibration.
- Solution: Calibrate or replace measuring tools, such as rulers or tapes.

## Unstable Joints in Adjustable Tools

- Issue: Reduced stability and accuracy in adjustments.
- Causes: Wear in joint mechanisms, poor manufacturing.
- Solution: Lubricate joints, tighten fasteners, or replace worn-out parts.

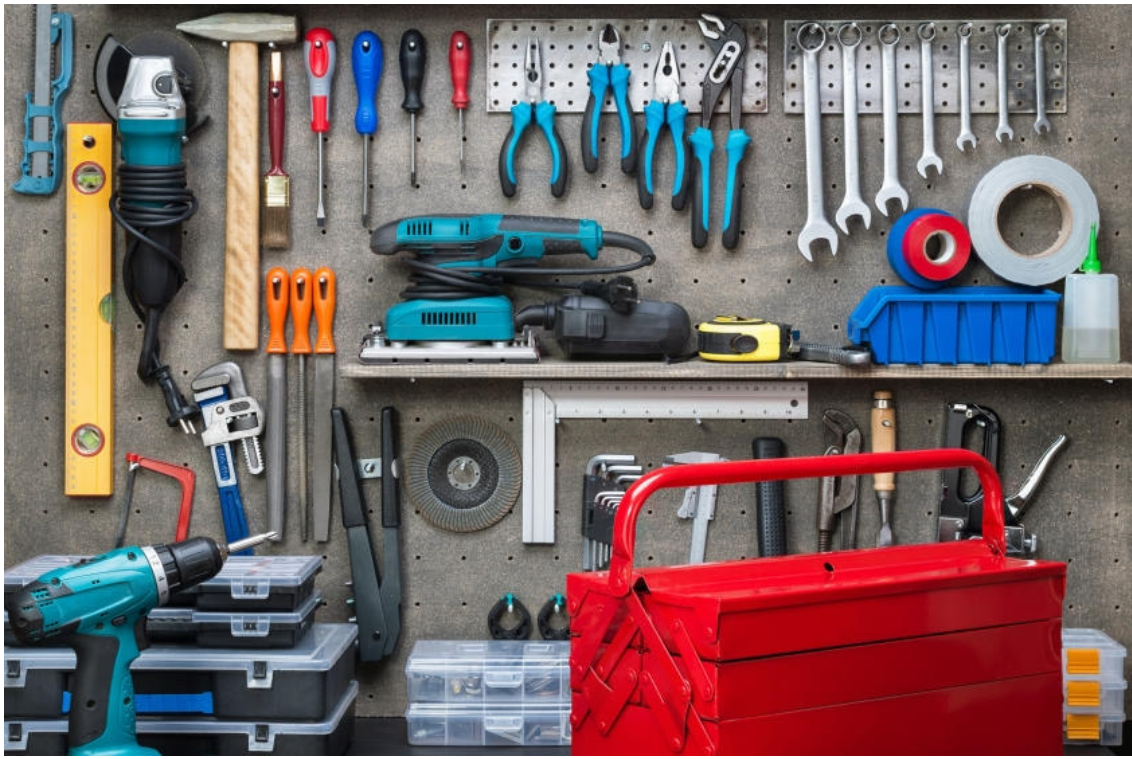
## Handle Slippage

- Issue: Reduced grip and control during use.
- Causes: Wear on handles, oily or greasy residues.
- Solution: Clean handles, apply non-slip materials, or replace worn-out handles.

# Maintenance and Storage Procedure

## Maintenance

- ❑ Clean Tools After Use
- ❑ Inspect for Damage
- ❑ Sharpen Cutting Edges
- ❑ Lubricate Moving Parts
- ❑ Tighten Loose Parts
- ❑ Handle Care
- ❑ Replace Damaged Parts
- ❑ Store Properly
- ❑ Protect Against Corrosion
- ❑ Follow Manufacturer Recommendations



## Inspect for Damage

- Regularly inspect tools for any signs of wear, damage, or defects. Look for broken handles, bent shafts, or dull cutting edges.

## Clean Tools After Use

- Wipe off dirt, grease, or any debris from the tools after each use. Use a damp cloth or appropriate cleaning solution.

## Lubricate Moving Parts

- Apply lubricating oil to moving parts of tools such as pliers, wrenches, and ratchets to prevent rust and ensure smooth operation.

## Tighten Loose Parts

- Check for loose screws, nuts, or bolts on hand tools. Tighten them as needed to maintain tool integrity.

## Sharpen Cutting Edges

- Keep cutting tools, such as saws, chisels, and knives, sharp. Regularly sharpen blades using appropriate sharpening tools.

## Replace Damaged Parts

- Replace broken or damaged parts promptly. Many hand tools have replacement parts available.

## Store Properly

- Store tools in a dry environment to prevent rust. Use toolboxes, racks, or pegboards to keep them organized.

## Protect Against Corrosion

- For metal tools, apply a light coat of rust inhibitor or oil to protect against corrosion when not in use.

## Handle Care

- Sand and refinish wooden handles periodically to prevent splinters. For tools with rubber or plastic handles, clean and inspect for any wear.`

## Follow Manufacturer Recommendations

- Adhere to the manufacturer's guidelines for specific tools, especially when it comes to maintenance and usage.

## Calibrate Measuring Tools

- Periodically check and calibrate measuring tools, such as levels and tape measures, to ensure accuracy.

## Storage of Hand Tools

- ❑ Organize and Arrange
- ❑ Separate Tools
- ❑ Hang Tools Properly
- ❑ Use Protective Cases
- ❑ Secure Loose Tools
- ❑ Keep Toolboxes Clean
- ❑ Store in a Cool, Dry Place
- ❑ Label Storage Spaces
- ❑ Lock Up Valuable Tools
- ❑ Regularly Update Inventory

## Organize and Arrange

- Keep tools organized and arranged in a tool chest, toolbox, or on a pegboard.
- This makes it easier to locate and access them when needed.

## Separate Tools

- Store tools separately to prevent damage caused by contact with each other.
- Use dividers or tool rolls to keep them separated.

## Hang Tools Properly

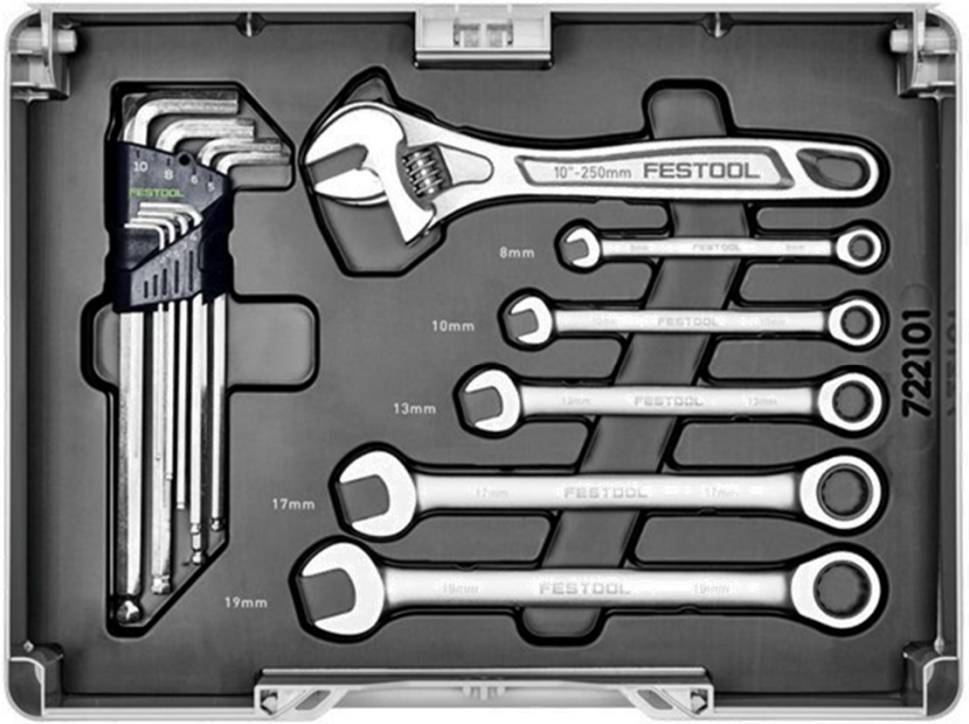
- Hang tools with handles, such as hammers and wrenches, to prevent distortion and damage.
- Use hooks or pegs on a pegboard or wall-mounted tool rack.

## Use Protective Cases

- For precision tools or those with delicate components, consider using protective cases to prevent damage during storage.

## Lock Up Valuable Tools

- For valuable or specialized tools, consider locking them in a secure cabinet or toolbox to prevent theft.



## Secure Loose Tools

- Secure loose tools with straps, bungee cords, or other restraints in a toolbox or chest to pr`event shifting during transportation.

## Keep Toolboxes Clean

- Regularly clean the inside of toolboxes to remove debris and prevent tools from being damaged.

## Store in a Cool, Dry Place

- Avoid storing tools in areas with extreme temperatures or high humidity, as these conditions can lead to rust and deterioration.

## Label Storage Spaces

- Label drawers, bins, or compartments to make it easy to locate specific tools quickly.

# Label Storage Spaces

- Keep an inventory of your tools and update it regularly to track missing or damaged items.

## 5S Culture

- ❑ Seiri (Sort)
- ❑ Seiton (Set in Order)
- ❑ Seiso (Shine)
- ❑ Seiketsu (Standardize)
- ❑ Shitsuke (Sustain)

"Thank you for Your Participation"