Hand Tools

Hand Tools - Screwdrivers

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What are some general safety tips to know when using screwdrivers?

Screwdrivers are made in various shapes and sizes and for many uses. Use the correct screwdriver for the job.

- Always match the screwdriver to the screw head, both in terms of size and type.
- Choose contoured handles that fit the shank tightly, with a flange to keep the hand from slipping off the tool.
- Use a slot screwdriver with a blade tip width that is the same as the width of slotted screw head.
- For cross head screws, use the correct size and type of screwdriver: a Phillips screwdriver may slip out of a screw head designed for use with the slightly, flatter-tipped Pozidriv screwdriver.
- Use a vise or clamp to hold the stock if the piece is small or moves easily.
- Wear safety glasses or a face shield (with safety glasses or goggles) that is appropriate for the hazards of the work you are doing.
- Keep the screwdriver handle clean. A greasy handle could cause an injury or damage from unexpected slippage.
- Shut off electricity before beginning work on electrical equipment (lock out, de-energize and tag out).
- If work must be carried out on "live" equipment, use screwdrivers that have insulated handles designed for electrical work and a non-conducting shaft. Remember, most plastic handles are designed for grip and comfort.
- Use non-magnetic tools when working near strong magnets (e.g., in some laboratories).

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- Use a screw-holding screwdriver (with screw-holding clips or magnetic blades) to get screws started in awkward, hard-to-reach areas. Square-tipped screwdrivers (e.g., Robertson) that hold screws with recessed square holes are also useful in such situations.
- Use an offset screwdriver in close quarters where a conventional screwdriver cannot be used.



Offset Screwdriver

- Use a screwdriver that incorporates the following features when continuous work is needed:
 - A pistol grip to provide for a straighter wrist and better leverage.
 - A "Yankee drill" mechanism (spiral ratchet screwdriver or push screwdriver) which rotates the blade when the tool is pushed forward.
 - o A ratchet device to drive hard-to-move screws efficiently.
- Or use a powered screwdriver.



Yankee Drill Mechanism with a Pistol Grip

- File a rounded tip square making sure the edges are straight. A dull or rounded tip can slip out of the slot and cause hand injury or damage to materials.
- Store screwdrivers in a rack or partitioned pouch so that the proper screwdriver can be selected quickly.

What should I avoid doing?

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- Do not lean or push on a screwdriver with any more force than necessary to keep contact with the screw. A screw properly piloted and fitted will draw itself into the right position when turned. Keep the shank directly over the screw being driven.
- Do not hold the stock in one hand while using the screwdriver with the other. If the screwdriver slips out of the slot, you may cut your hand.
- Do not hammer screws which cannot be turned.
- Do not grind the tip to fit all sizes of screw heads.
- Do not try to use screwdrivers on screw heads for which they are not designed (e.g., straight blade screwdrivers on Phillips, clutch head, Torx or multi-flutted spline screw heads).
- Do not use defective screwdrivers (i.e., ones with rounded or damaged edges or tips; split or broken handle; or bent shaft).
- Do not use a screwdriver for prying, punching, chiseling, scoring, scraping or stirring paint.
- Do not use pliers on the handle of a screwdriver for extra turning power. A wrench should only be used on the square screwdriver shank designed for that purpose.
- Do not expose a screwdriver blade to excessive heat. Heat can affect the temper of the metal and weaken the tool.
- Do not use a screwdriver to check if an electrical circuit is live. Use a suitable meter or other circuit testing device.
- Do not carry screwdrivers in your pockets.

Refer to OSH Answers General Hand Tool Operation for more tips.

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