

TALKING SHOP

SCREWDRIVERS - First, we will discuss screwdrivers. Practically everyone is familiar with the standard screwdriver. The portion you grip is called the handle, the steel portion extending from the handle is the SHANK, and the end which fits into the slot in the screw is called the BLADE.

A screwdriver is intended for one principal purpose--to loosen or tighten screws. But the ordinary mechanic, especially the beginner, uses it for so many other purposes that it is one of the most misused tools in his kit.

The conventional screwdriver with a slim steel shank and wood or plastic handle is designed to withstand considerable twisting force in proportion to its size. But it was not designed to be used as a pry or pinch bar and if much force is applied when it is so used, it will bend.

Another thing which may happen if the screwdriver is used for prying is that the blade may break. The tip of the blade is hardened to keep it from wearing, and the harder it is the easier it will break if much of a bending strain is applied.

There are times when a screwdriver may be used to advantage for prying, but if you use it to pry make sure that it is large enough to stand the force that is being applied. The way to avoid possible damage to your screwdrivers, of course, is not to use them for prying. Pinch bars, sometimes called pry bars, should be used instead. They are made purposely for prying and are strong enough to resist bending.

If you must use a screwdriver as a pry, use it with good mechanical judgment.

A broken blade means that a screwdriver becomes useless. It has to be reworked and retempered and is something which requires much skill.

If the shank of the screwdriver is once bent, it usually is difficult to get it perfectly straight again. And if the shank is not straight it is hard to keep the blade centered in the slot of the screw.

Don't hammer on the end of a screwdriver--it's not to be used in the place of a cold chisel, a punch or a drift. But here's another contradiction: Suppose you had to remove a rusty screw and the slot was full of rust. In such a case, it would be all right to tap gently on the handle of the screwdriver, holding it at an angle to clean the slot. And after the slot was cleaned sufficiently you might want to tap on the screwdriver with a hammer to seat it well into the slot before trying to

loosen the screw. But remember, be cautious and careful. Before you do any tapping on the handle, see that you have a screwdriver which has the steel shank extending through the handle. Screwdrivers which do not have the shank extending through the handle have the handle pinned to the shank, usually through the ferrule which is the metal sleeve on the handle where the shank enters. If you attempted to hammer on a screwdriver of this type, chances are the handle would split and the screwdriver would be ruined. Most of the better screwdrivers for automotive work are made with the shank going all the way through the handle so you can tap on them if the occasion requires. Some of the newer type of screwdrivers with moulded plastic handles are made to withstand tapping but others aren't, so don't take any chances. Tools cost money and sometimes they are hard to get when you need them, so when you use tools, treat them gently.

Screwdrivers for general purpose are classified by size, according to the combined length of the shank and blade, which is commonly called the BLADE. In size, they run 2½, 3, 4, 5, 6, 8, 10 and 12 inches, and the diameter or thickness of the shank and width and thickness of the blade tip which fits the screw slot are proportionate to the length of the shank. There are special purpose screwdrivers, however, which have extra thick or thin blades.

Too much emphasis cannot be placed on selecting the size of a screwdriver so that the thickness of the blade makes a good fit in the screw slot. This not only prevents the screw slot from becoming burred and the blade tip from being damaged, but reduces the force required to keep the screwdriver in the slot.

The tip of a correctly ground screwdriver blade should have the sides of the blade practically parallel. It costs more money to grind the blade like this and most manufacturers grind the blade sides so they gradually taper out to the shank body. Here is a little trick--dress the screwdriver blade on an emery wheel so the faces taper in very slightly for a short distance back of the tip. A screwdriver blade ground in this manner will stay down in the screw slot even when a severe twisting force is being exerted. A blade which tapers out from the tip, especially if the taper is extreme, has a tendency to raise out of the slot whenever much twisting is applied.

There is one type of heavy-duty screwdriver with a square shank. It's designed that way so you can use a wrench on it. The shank is extra large-made strong enough to TAKE IT--and it's the only type of screwdriver on which you should use a wrench. DON'T USE PLIERS ON A SCREWDRIVER.

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In addition to the set of general purpose screwdrivers, there are other types designed for electrical and instrumental work. Some of you are familiar with the small screwdrivers with a clip for fastening them to your pocket. A mechanic's kit isn't complete without a couple of these small size screwdrivers.

PHILLIP TYPE SCREWDRIVERS have become very popular in recent years because of the many Phillips head screws used by automobile and truck manufacturers, especially on mouldings and other trim. The heads of these screws have two slots which cross at the center. Their advantage over screws with standard slots is that the screwdriver can't sideways out of the slot and mar the finish. However, more downward pressure must be exerted on the Phillips screwdriver to keep it in the cross slot than to keep a correctly ground standard screwdriver in a standard screw slot. Three sizes of Phillips type screwdrivers, a 4, 6, and 8 inch, will handle all Phillips head screws used on automotive vehicles.

Now and then a mechanic has need for an OFFSET SCREWDRIVER when there isn't sufficient space to work a standard screwdriver. The offset screwdriver has one blade forged in line with the shank or handle and the other blade at right angles to the shank. With such an arrangement, when the swinging space for the screwdriver is limited, the mechanic can change ends after each swing and thus work the screw in or out of the threaded hole.

One medium and one extra large offset screwdriver should be in every automotive tool kit. The extra large size is used on drag link and tie rod ends in automobile and truck steering mechanism.

A word of caution--never use a screwdriver to check an electrical circuit where the amperage is high. By that, I mean where the electrical current is strong enough to arc and melt the screwdriver blade. This doesn't mean that you shouldn't use a screwdriver to find which spark plug is causing an engine to miss. Current to the spark plugs is high in voltage but low in amperage and won't damage a screwdriver.

This hasn't anything to do with the use of tools, but we might put in a word of caution here on a closely related subject. Don't wear rings when working around batteries or starting motors. There have been some bad burns because of this. When a ring comes in contact with a starter terminal and the starter housing at the same time, there are rapid and painful results.

If a screwdriver blade becomes damaged through misuse or if a corner chips off because the blade is too hard, the screwdriver can be made serviceable again by grinding it on an emery wheel. When grinding a damaged blade, first grind the tip straight and at a right angle to the shank. Never hold the screwdriver against the emery wheel very long at a time and keep dipping the blade in water to keep it cool. Unless this is done, the heat caused by friction against the emery wheel will draw the temper and the blade will become soft. After the tip is ground square dress off a little at a time from each face. Be careful to keep the blade thick enough to make a fairly tight fit in the slot of the screw for which the screwdriver is intended. Keep the faces parallel for a short distance or have them taper in a slight amount. Never grind the faces so they taper to a sharp edge at the tip.

A B C's of HAND TOOLS

CLASSIFIED ADS

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