

SCREWDRIVERS
DESCRIPTION, USE, AND MAINTENANCE

1. GENERAL

- 1.01 This practice covers the description, use and maintenance of screwdrivers and appropriate safety precautions.
- 1.02 The screwdrivers provided for field use are high grade tools with heat-treated blades. The ends of the blades are ground to fit the screws ordinarily found in telephone work.
- 1.03 Screwdrivers are furnished in two types: blade type and Phillips. The heavy duty blade type screwdriver is designed for general use with large size wood and machine screws. The light duty blade type screwdriver is for light work with small screws used primarily in apparatus assembly and repair. The Phillips screwdriver is used in any application employing Phillips recessed slot screw-heads.
- 1.04 The following precautions shall be observed when handling screwdrivers.
 - a. *Do not use* screwdrivers as drills, chisels, scrapers, or pinch bars.
 - b. *Do not* carry screwdrivers in pockets where injury to persons or damage to property may result from the exposure of the blade tip.
 - c. Screwdrivers with broken, chipped or rounded points *shall not* be used.
 - d. *Always* work in such a position that if the screwdriver should slip it will not cause injury, particularly to the hands or face. If it is necessary to hold small objects, the hand should be kept away from the back of the object so that it will not be struck if the screwdriver slips. This can usually be accomplished by placing the object against some supporting surface. *Avoid holding small objects in the palm of the hand.*

2. DESCRIPTION

- 2.01 Figure 1 shows screwdriver types and sizes.
- 2.02 Figure 2 shows the results of improper use and maintenance of blade screwdrivers. Such conditions cause accidents and unsatisfactory workmanship.
- 2.03 Always use the proper size screwdriver with each size of screw.

3. USE

- 3.01 In general, a pilot hole will not be required for starting the smaller sizes of screws in soft wood. Pilot holes of the *following* sizes shall be made for the larger sizes of screws where such holes are not already available.

SIZE OF WOOD SCREW

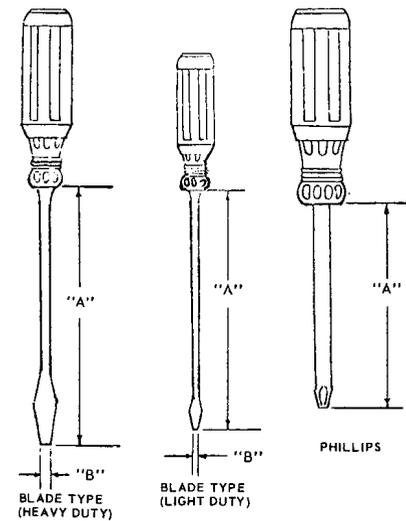
HARD WOOD	SOFT WOOD	SIZE OF DRILL POINT
	No. 6	1/16 Inch
No. 6	No. 8 to No. 10	3/32 Inch
No. 8 to No. 10	No. 12 to No. 14	1/8 Inch
No. 12 to No. 18	No. 18	11/64 Inch

See Figure 1 on following page.

- 3.02 Before starting screws in metal, be sure the proper size hole has been predrilled and, where necessary, tapped and threaded in the metal.
- 3.03 After the pilot hole has been drilled, insert the screw. Use both hands when starting screws, one on the handle of the screwdriver and the other on the blade to steady it on the screw. Turn the screw, keeping the centerline of the screwdriver in line with the centerline of the screw. (See Figure 3)
- 3.04 If it is difficult to turn the screw into the wood, lubricate the threads with a small amount of soap or wax. Be sure the lubricant does not get into the screw slot or on the tip of the screwdriver. If lubricant gets on either of these points, it should be removed to prevent accidents when the screw is being turned.

4. INSPECTION

- 4.01 Look for the following conditions when inspecting screwdrivers:
 - a. Point of tip chipped, worn, bent, or improperly shaped.
 - b. Soft tip (temper destroyed).
 - c. Shank bent or loose in handle.
 - d. Handle broken, split or butt end mushroomed or rough.
- 4.02 If any of the above conditions are found and cannot be repaired in the field, mark the screwdriver defective and exchange it for one in good condition in accordance with local practices.
- 4.03 Each employee is responsible for examining his screwdrivers at frequent intervals to determine that they are safe and in good condition.
- 4.04 Screwdrivers shall be inspected during the periodic tool inspections and employees performing this work shall see that all instructions contained in this practice are followed.



HEAVY DUTY		LIGHT DUTY		PHILLIPS		
"A"	"B"	"A"	"B"	"A"	POINT SIZE	SCREW SIZE *
4"	1/4"	3"	3/16"	3"	1	2-3-4
6"	5/16"	6"	3/16"	4"	2	5-6-7-8-9
8"	3/8"	8"	3/16"	4"	3	10-12-14-16

* ALWAYS USE CORRECT POINT SIZE WITH CORRESPONDING SCREW SIZES.

Figure 1. Screwdriver Sizes

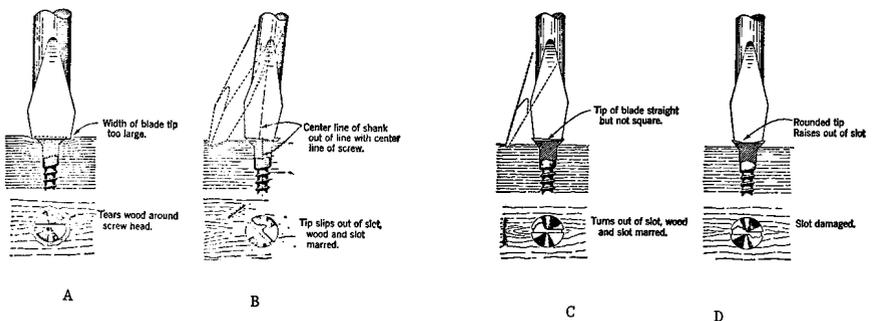


Figure 2.

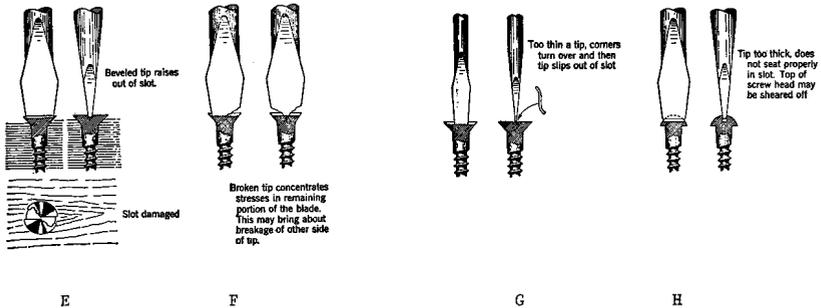


Figure 2

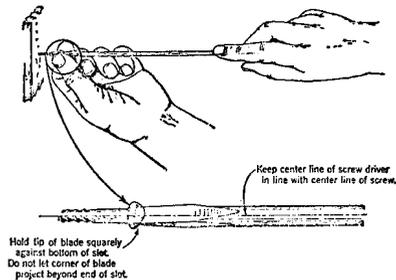


Figure 3

5. MAINTENANCE

5.01 The following method shall be used for repointing blade type screwdriver tips:

- a. Select a file designed for sharpening tools. If the teeth of the file are clogged, clean them with the standard file card brush.
- b. Select a location that is steady and at approximately the height of the elbows. The surface should be flat so that it can be used as a guide for pushing the file straight across the tip of the screwdriver.
- c. Hold the screwdriver blade perpendicular to the flat surface and use the index finger to steady it.

- d. Grasp the file securely so that its movements can always be controlled. Place the file on the tip of the screwdriver, parallel with the flat surface and apply sufficient pressure for the teeth to grasp the metal. Move the file forward and parallel to the surface of the tip of the screwdriver (see Figure 4). On the return stroke, the file should be lifted slightly above the surface being filed to avoid dulling the cutting teeth. Continue this process until the desired shape has been obtained.

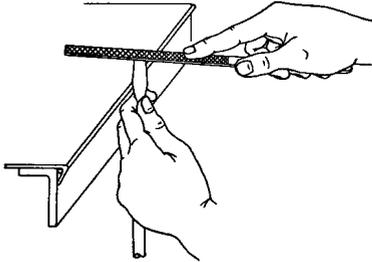


Figure 4. Filing Tip of Screwdriver

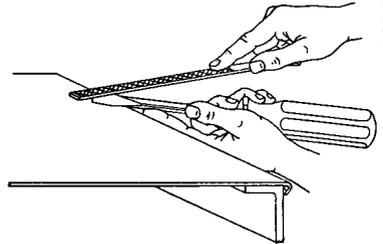


Figure 5. Restoring Tip of Screwdriver

- e. Restore the width of the tip as close to its original size as possible with the file (see Figure 5).
- f. To restore the thickness of the tip, the entire broad face of the tip should be filed as shown in figure 6.

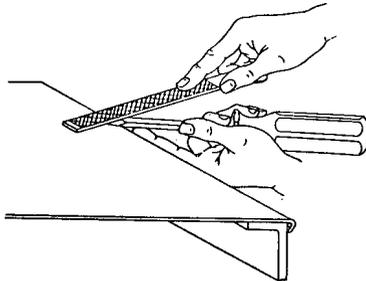


Figure 6. Restoring Thickness of Tip

5.02 *An emery wheel shall not be used for repointing a screwdriver blade.*

- 5.03 To straighten a bent screwdriver blade, place the bent portion on a solid flat surface with the tip and the shank near the handle resting on the flat surface. Strike the bent section with a mallet or hammer. Start near the handle and continue striking, each blow a little ahead of the last blow, until the tip is reached. This operation should be repeated until the shank is straight. Light blows should be used in order to avoid damage to the shank surface. If a vise is available it may be used by placing the blade of the tool in the vise and applying leverage as required to straighten the shank.

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5.04 *Phillips screwdrivers shall not be repointed or filed down.* If the head of the screwdriver is damaged in any way, the screwdriver shall be replaced by a new one.