

LADDER-EXTENSION

Use

Extension ladders are provided for use when working aloft in installation, construction and maintenance work.

Precautions

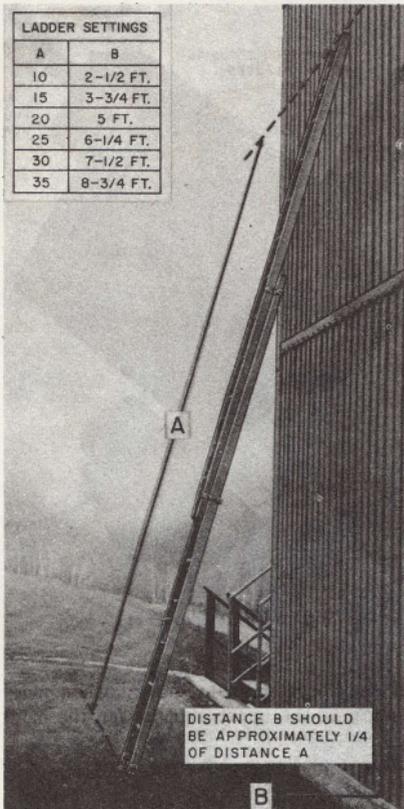
- Wear eye and head protection.
- The craftsman should always first make the ladder secure, and then make himself secure on the ladder, so he will not fall if he slips, loses his balance, or if something else goes wrong.
- Protect base of ladder from pedestrian and vehicular traffic.
- Do not use defective ladders.
- Do not place ladders on boxes, barrels, etc., to gain additional height.
- If the surface is slippery where ladder is placed, securely tie it or have it held by another craftsman.
- Do not place a ladder inside or opposite an angle formed by wires or cable where loosening of the wire or cable attachment might cause ladder to move or fall.
- Make certain locks are engaged and the rope is securely tied before climbing.
- Make sure ladder is at safe angle - base out one fourth of the extended length.
- Do not climb a ladder while wearing climbers.
- Do not hurry, take one step at a time, facing the ladder.
- Only one person on a ladder at a time.
- Do not leave erected ladders unattended.
- Work with shoulder no more than 12 inches beyond side rail.
- Do not throw tools or material to craftsman working on a ladder - use a handline.
- Do not allow drop wires, handline, or ladder rope to dangle to the ground.
- Do not tie drop wires or pull lines to ladder.
- Do not place ladder against windows, vents, etc.

"E" Fiberglass Ladders

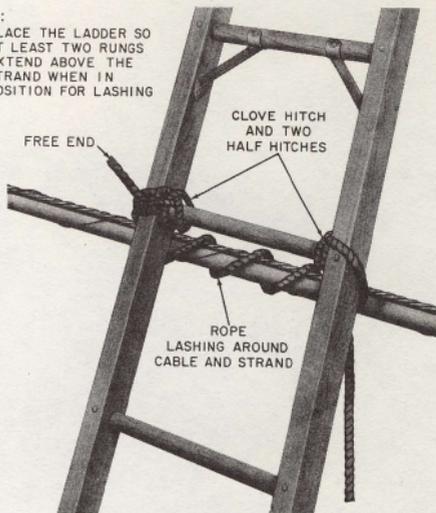
- All the above precautions shall be observed in addition to the following precautions.
- Fiberglass ladders shall be erected so that the fly (Upper Section) is on top of the base (Lower Section) in the overlap area.
- Ladders, not equipped with ladder hooks, shall extend at least three feet above the strand when placed against the strand.
- No ladder shall be used to gain access to a roof unless it is extended at least three feet above the point of support.
- Do not use the "B" ladder foot with the "E" fiberglass ladder.
- Do not allow fly to freefall while lowering.
- The "E" fiberglass ladder shall be transported only on vehicles equipped with brackets designed, or modified to accept the fiberglass ladder.

(continued)

LADDER SETTINGS	
A	B
10	2-1/2 FT.
15	3-3/4 FT.
20	5 FT.
25	6-1/4 FT.
30	7-1/2 FT.
35	8-3/4 FT.



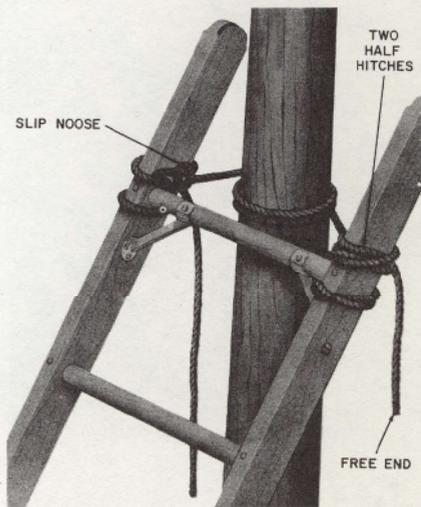
NOTE:
PLACE THE LADDER SO
AT LEAST TWO RUNGS
EXTEND ABOVE THE
STRAND WHEN IN
POSITION FOR LASHING



Lashing Ladder to Strand

WORKING LENGTHS OF EXTENSION LADDERS

SIZE OF LADDER (FEET)	MAXIMUM WORKING LENGTH (FEET)	MINIMUM OVERLAP (FEET)
16	12	4
20	16	4
24	20	4
28	24	4
32	28	4
36	31	5
40	35	5



Ladder Lashed to Tree or Pole

LADDERS-EXTENSION

Inspection

Each employee using a ladder is responsible to determine that the ladder is in good condition and its appearance indicates that neither deterioration or injury has affected its strength. Visually examine ladders before each use. Supervisors shall inspect ladders bimonthly.

INSPECT AND CHECK:



Locks and Springs

- Keep oiled.
- Keep bolted tight to side rail.
- Check springs.
- Check latch.
- Check keeper.

Pulley

- Keep oiled.
- Secure to middle of rung.
- Check sheave.

Spurs

- Check depth of notch.
- Turn wheel 90 degrees when spurs are worn.
- Always turn both wheels when a change is needed.



Rope

- Check for rot.
- Check for excessive wear.
- Check for burns.
- Check for solder.

Guide Irons

- Check for bent irons.
- Keep tightly fastened to side rails.
- Look for cracks.

(continued)

LADDERS-EXTENSION



Strand Hooks

- Check spring.
- Check lock nut.
- Check fastening to side rail.
- Must not be bent.

Rungs

- Look for cracks.
- Look for decay.
- Look for splinters.
- Look for loose rungs.
- Check for worn rungs.

Side Rails

- Check for splits,
- Check for cracks.
- Check for splinters.
- Look for loose rungs.
- Check for decay.
- Check for protruding nails.
- Check for longitudinal play,

Make the dead weight test at six month intervals or when visual inspection reveals a split, crack, splinter, etc., in a side rail.

If any defects are found which cannot be taken care of by the workman or if there is a doubt about the ladder being safe to use, it shall be exchanged at once for one in good condition.

Do not attempt to replace rungs.

Tag or mark defective ladders **"DANGEROUS, DO NOT USE."**

For Details Refer To
Section 081-740-105
081-740-106

LADDERS-STEP

Use

The two types of stepladders most generally used by Plant forces are the, "D" for janitorial and light building work, and the "E" a sturdy ladder for general plant use.

Precautions

- The workman should always first erect the ladder so it is steady and then stand on it so he is well braced and well balanced.
- Do not use substitutes for ladders.
- Select a ladder of adequate height.
- Face the ladder when ascending or descending.
- Do not hurry - take one step at a time.
- Climb with hands empty.
- Do not use as a straight ladder.
- Never use pail rest as a step.
- Do not stand on top of the ladder - work should be performed no higher than two steps from top.
- Work within 12 inches of side rails.
- Do not leave tools or other articles on the steps, pail rest, or top of ladder.
- Look up, before moving ladder, for tools, material, etc.

Inspection



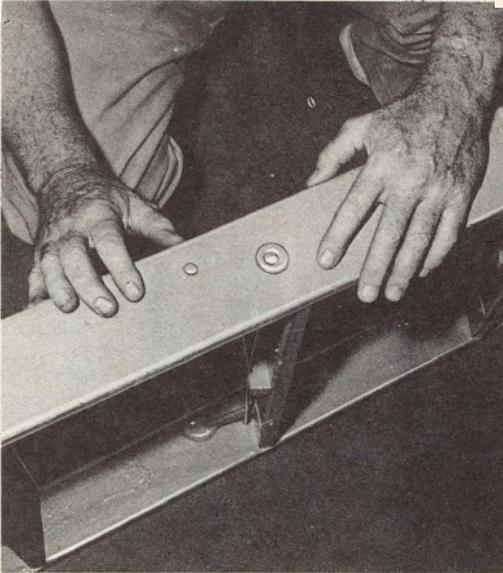
Each employee using a step ladder shall at all times assume the responsibility of determining that the ladder is in good condition.

The supervisor shall inspect all stepladders used by his forces at least quarterly.

Ladders should be tested particularly for any tendency to sway or "walk" when shaken slightly in the open position.

(continued)

LADDERS-STEP



INSPECT AND CHECK:

Spreaders - Look for loose

- spreader hinges
- attachment plates
- hinge joints
- or missing rivets

Side Rails - Look for:

- splits
- cracks
- splinters
- decay
- indentations



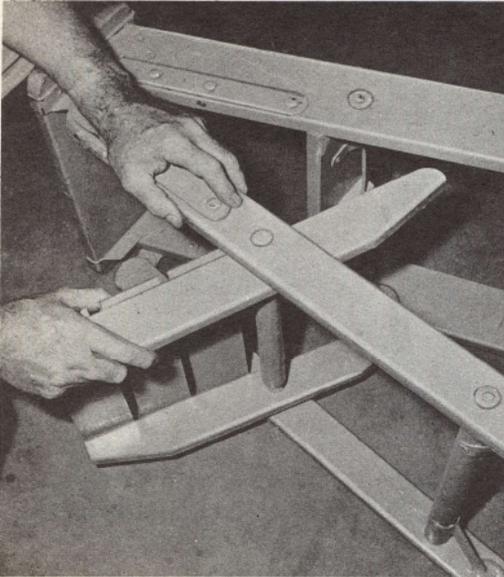
- loose nails
- loose or missing nuts
- folds or creases

Steps and Rungs - Look for:

- cracks
- decay
- splinters
- loose rungs
- loose braces and tie rods'
- worn steps and rungs

(continued)

LADDERS-STEP



Pail Rest -

Check for loose joints.

If the condition of the ladder be such that there is any doubt about it being safe to use, it shall be exchanged at once for one in good condition in accordance with the Company's established practice.

TAG OR MARK UNSAFE LADDERS: "DANGEROUS, DO NOT USE"

For Details Refer To
Section 065-104-301

LADDERS - ROLLING AND TRACK SUPPORTED

Use

Rolling ladders, portable and track supported, are used mainly in central offices in conjunction with the maintenance of C.O. equipment.

Precautions

- Do not use a defective ladder or ladders supported by defective track.
- Do not leave tools and material on unattended ladders.
- Do not drop tools to another employee nor have objects thrown to an employee.
- Do not use frames, racks, etc., to assist in ascending or descending the ladder.
- Do not climb on frames or equipment.
- Never stand with one foot on ladder and the other foot on equipment, frames, racks or other structures.
- One employee on the ladder at a time except ladders with steps on both sides.
- Do not step from one ladder to another.
- Work in balanced position and below eye level - do not overreach.
- Always face the ladder while ascending or descending, use handrail, take one step at a time.
- Guard against striking the ladder track or other overhead framework.
- Do not move ladders without first looking.
- Do not leave ladders in cross aisles when not in use.
- Move ladders slowly and evenly.

Inspection

- Inspect general condition of wood parts, cracks, breaks or splinters.
- Inspect finish of wood parts.
- Inspect for dirt, wax solder.
- See that all assembly screws, rivets, the rods, bolts and nuts are in place and secure.
- Check handrails and steps for looseness.
- Inspect condition of floor wheel assemblies, wheels, tires and brackets.
- Check that wheels revolve freely.
- Check brakes, locks, brake ropes and related assembly for wear and free movement.

LADDER SEATS

Use

Ladder seats, used on track supported ladders, allow an employee to sit while working on equipment for extended periods of time.

Precautions

- Use ladder seats on track supported ladders only.
- Do not use a defective ladder seat.
- Do not carry tools or equipment in toll compartment of ladder seat.
- Avoid hitting equipment while carrying or placing a ladder seat.
- Hold onto handrail while carrying seat to desired position on ladder.
- Check visually to ensure that the hooks and locking clamps are engaged.
- Do not stand on ladder seat.
- Remove seat when finished, going to lunch or going off duty.
- Always remove tools and material, etc., from ladder seat before removing the seat.
- Store seat in designated location.

Inspection

Inspect wood parts for:

- Split
- Breaks
- Splinters

Inspect metal parts for:

- Loose screws, nuts.
- Sharp edges, burrs.
- Ironwork sound not bent, etc.

Inspect metal seat for:

- Lock mechanism in proper condition.
- Lock clamps securely to ladder,
- Excessive wear.
- Metal fatigue.

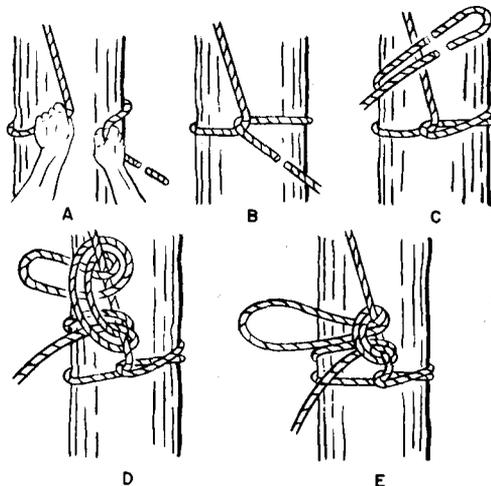
PLATFORMS AERIAL

Use

The aerial platforms are used in the performance of aerial cable work.

Precautions

- Wear eye, head, and hand protection.
- Test suspension strand before placing platform.
- Do not suspend a platform from 2200 pound strand or from any size strand which is attached to a building.
- A body belt and safety strap must be used while working on a platform.
- Never drag the platform or ropes from one location to another.
- Make sure the support hooks are properly attached to the strand.
- Attach the hooks to the main strand at a dead end pole.
- Always level platform before guy ropes are tensioned.
- Make certain that the guys are taut after platform is loaded.
- Limit weight on platform to two men and equipment needed to do the job.
- Do not place paraffin or solder pot on the platform.
- Only approved heaters shall be used.
- Use handline to raise and lower tools and material.
- Avoid spilling solder or paraffin on the ropes.
- Remove paraffin and solder dripping from platform.
- Keep pedestrians and vehicles away from the area beneath the platforms.



Line Method of Tying Guy Ropes to Pole
or Ladder Side Rail

PLATFORMS, AERIAL

Inspection

Platform - Conditions to look for when inspecting the platform are:

- Broken or cracked boards.
- Defective hardware.
- Loose bolts or screws.
- Proper knots and ties to secure hooks and saddles to ropes.
- Excessive wear that would reduce the strength of the platform.
- Need for refinishing.

Rope - Examine the surface of the entire length of rope being inspected for:

- Abrasions or broken fibers.
- cuts.
- Soft spots (badly worn rope is soft and has lost its stretch).
- Decayed or burned fibers.

At least once each month examine unexposed portions of the strands by separating the strands at 3-foot intervals along the rope and at any place along the rope that appears worn or is soft. Examine the unexposed portions for:

- Broken fibers.
- Fine powder, which indicates presence of grit.
- Mildew or mold.
- Change in color of fiber. Compare the color of the fiber at various intervals along the rope to determine any change.

Hardware

Items of hardware must be in good condition and examined at regular intervals to determine that:

- The ends of all bolts and shackle screw pins are riveted over or staked.
- It is possible to rotate rings, hooks, and thimbles freely in their anchor fittings throughout their full range.
- The gravity keepers on K Hooks are not deformed and that they fall freely.
- Snap-hook keepers operate smoothly and after being depressed and released, seat properly against the nose of the hook due to positive spring action.
- All hardware is free of fractures.

PLATFORMS - LADDER

Use

The ladder platform is used for work on aerial cables when attached to an extension ladder.

Precautions

- Wear eye and head protection
- A body belt and safety strap must be used.
- Do not place tools or materials on the platform.
- Remove platform before lowering or moving extension ladder.
- Be sure spring actuated latches are properly engaged before mounting platform.

Inspection

Ladder platforms and associated hardware shall be inspected before each use to determine that the platform and hardware are in good condition.

If inspection reveals the platform or any associated part is in need of repair or replacement, exchange it in accordance with the company's established routine.

Conditions to look for when inspecting ladder platforms are:

Broken or cracked boards

Defective hardware such as the latches or broken welds

Loose bolts or screws

Excessive wear that would reduce the strength of the platform

Need for refinishing of nonskid upper surfaces or other surfaces

REEL DROP WIRE

Precautions

Be sure the locking pin is engaged to insure that the reel will not separate.

The inner end of the coil of wire should be secured to the reel.

Be sure it's stored in the provided place on the truck.

Use warning signs or guards to protect the public when wire is being pulled from the reel.

The brake should be adjusted to prevent over running of the reel when wire is being pulled from it.

Exercise care when lifting a loaded reel.

Keep the reel lubricated.

For details refer to
Sections 462-030-100
462-400-205

SLACK PULLERS • AERIAL

Use

The slack pullers are used for deflecting suspension strand temporarily to obtain sufficient slack in aerial cable to facilitate splicing and maintenance operations.

Precautions

Do not use slack pullers on 6.6M strand, 2.2M strand, or on any strand forming a part of self supporting type cable.

Do not use slack pullers on rusty or pitted strand as the added tension may cause the strand to break.

Do not use two slack pullers at any given location due to the possibility of overloading the slack pullers or strand.

Do not leave slack pullers at full tension overnight.

In raising or lowering slack pullers, always attach the hook of the handline to the frame of the slack puller: **NEVER** to the handle.

For details refer to
Section 632-300-205

TENTS

Use

The workmen tents are designed to provide shelter for outside plant forces during inclement weather.

Precautions

Use a body belt and safety strap when working aloft.

Exercise care when handling a tent to avoid contact with electric power wires and attachments.

When placing the tent do not untie the sidewall ropes until the guy ropes are secure. When removing the tent roll up and tie the sidewalls before releasing the tension on the guy ropes. If the sidewalls should fall free during these operations, when the guy ropes are not tensioned properly, the sail area presented could make the tent difficult to handle on a windy day.

For details refer to
Sections 081-310-107
081-310-121

ACETYLENE TORCHES

Use

Acetylene torches are used in cable splicing and maintenance.

Precautions

- Wear eye protection.
- Do not use the torch for underground work, in cable vaults, or in splicing pit at main frames.
- Ventilate aerial tents while the torch is in operation.
- Always use a friction type lighter to light the torch. **DO NOT USE MATCHES.**
- Do not direct the flame against the strand.
- Do not direct the flame toward the body.
- Never store the tank in manholes.
- Keep the tank away from fire and heat and protect, in storage, from extreme temperatures.
- Always keep the acetylene tank in an upright position when in use.
- Always extinguish the torch before it is set aside.
- Do not attempt to patch holes or cracks in the hose by taping.

Inspection

Test the apparatus before it is used and weekly while in use.

Large leaks may be detected by the odor of the escaping gas.

The apparatus should be tested for leaks as follows:

- (1) Connect the torch to the tank and turn off the flame control valve in the handle of the F torch. (In the G Acetylene Torch, remove the handle and wrap the end of the hose fitting with CR or DR tape.)
- (2) Open the tank valve about $\frac{1}{2}$ turn and then open the regulator control valve by turning it clockwise.
- (3) Paint all connections, except the connection between the mixer and handle, with soap solution and check for leaks.
- (4) Immerse the hose in water to test for leaks.

CAUTION: Never test for leaks with an open flame.

If the hose leaks or appears to be worn or cracked, it must be replaced.

Inspection (continued)

No attempt should be made to repair a leak in the torch other than to tighten the connections. If there is any evidence of a defect such as leak or a dent in the tank more than $\frac{1}{4}$ inch deep, the tank shall be returned in accordance with local routine to the supplier. If there is a leak, the tank shall be placed outdoors away from fire and other sources of ignition, the valve opened, and the tank allowed to discharge. After the tank has been discharged, the valve should be closed and the tank tagged "leaky" or "damaged" and then returned.

'A leak around the valve spindle on the tank can generally be stopped by turning the nut around the spindle to compress the packing.

BITS, WOOD BORING BRACE, B RATCHET

Use

The bits are intended for general use in boring holes in all kinds of wood.

The standard wood boring bits for telephone use are auger bits, construction bits, expansive bits and power bits.

The power bits may be used with the "B" impact wrench, C electric drill, and the B ratchet brace. All others are used with the "B" ratchet brace only.

Precautions

Wear special eye protection. See eye protection section: Personal Protection.

Be sure bit is properly placed in the chuck before starting to drill.

Maintain a firm position while drilling to avoid being thrown off balance should the bit suddenly break through.

Do not apply excessive pressure against the end of the brace with the chest or abdomen.

When working aloft use a handline or canvas bucket to raise or lower the brace and bits.

Do not hang brace on wire, cross anus, pole steps, etc., while working aloft.

Do not carry assembled brace and bit on a truck.

Bits shall not be assembled in a brace to be raised in a canvas bucket.

Before boring holes make certain there are no obstructions, such as water pipes or electrical wires, in the path of the bit.

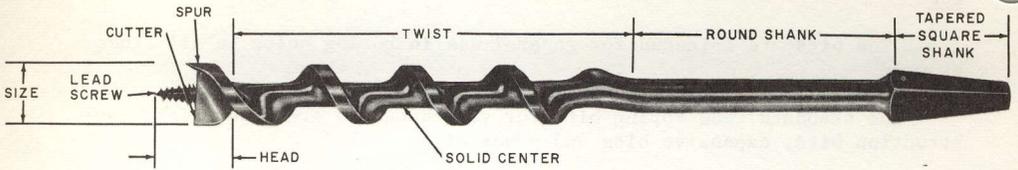
Always carry a bit with the point directed away from the body and hand.

Place bits on shelves with points toward the back of the shelf.

When finished with bits, place them in the receptacle provided for the purpose of protection.

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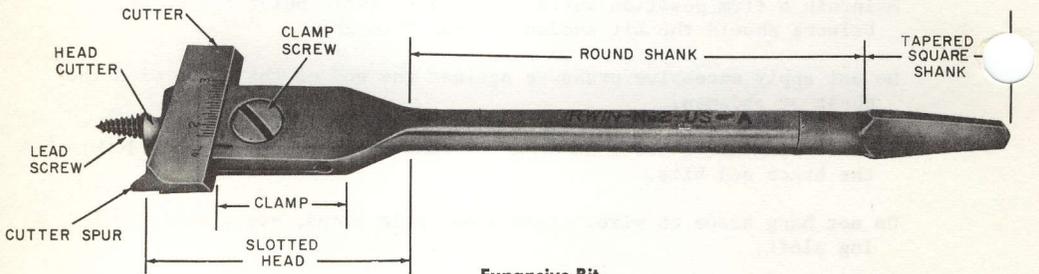
BITS, WOOD BORING



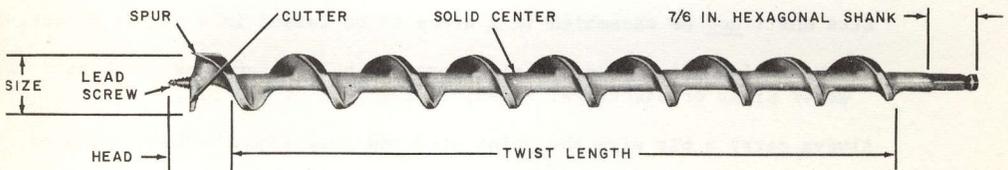
Auger Bit



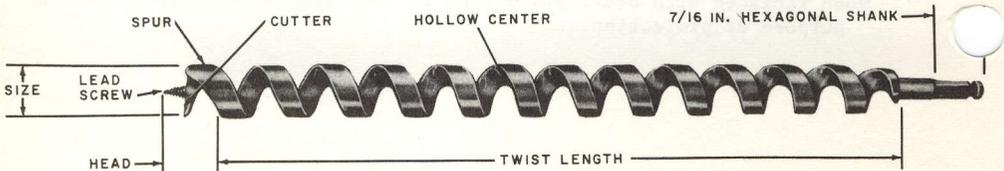
Construction Bit With Hollow Center Twist



Expansive Bit



B Power Bit



C Power Bit

BITS, WOOD BORING

Inspection

All bits shall be inspected regularly to determine that they are in good condition and do not have any injury or defects sufficient to impair their usefulness.

Bits should be examined to determine their condition following the lists below.

Auger, Construction and Power Bits:

Broken lead screw or threads badly marred.
Dull spur or edge badly nicked or bent.
Spur lower than cutting edge.
Dull or badly nicked cutting edge.
Twist of bit bent.
Round shank of bit bent.
Tapered square shank marred.

Expansive Bits:

Broken lead screw or threads badly marred.
Dull or bent spur or edge badly nicked.
Spur lower than cutting edge of head.
Dull cutter spur or edge badly nicked.
Top of cutter spur lower than cutting edge of cutter.
Dull or badly nicked cutting edge of head.
Dull or badly nicked cutting edge of cutters.
Round shank of bit bent.
Tapered square shank marred.
Threads of clamp screw stripped and slotted head badly marred.

SOLDERING COPPERS • GENERAL

Use

Soldering coppers are mostly used for making or removing soldered connections.

Precautions

Wear eye protection when using any type soldering copper.

Do not flip excess solder from coppers.

Do not hold a soldering copper near the hands or face to test its temperature.

Do not place a warm or hot copper on the floor, equipment or in any other place except the holder or rest provided for this purpose.

Do not use a soldering copper with a frayed cord or broken plug.

Do not keep copper hot when not in use for an extended period.

Keep cords clear of aisles and walkways.

Outside forces must use a handline to raise or lower a hot copper.

It should not be carried while ascending or descending a ladder.

For details refer to
Sections 009-140-811
081-330-103
075-190-501

KS-14582 L1 & L2 SOLDERING COPPERS

Use

These soldering coppers are intended for use where power for heating an electric soldering copper is not available or where the use of an open flame heated copper is not practical.

Precautions

Soldering Copper

Wear eye protection.

To avoid injury to personnel or damage to the copper, do not open the copper for at least 10 minutes after firing a heat unit.

Do not hold the copper near the hands or face to test its temperature. Use rosin core solder to check whether the copper has reach soldering temperature.

Do not place a heated copper on the floor, on equipment, or in any place other than a suitable holder.

Do not remove the copper from its holder to store it, as in a tool kit, until the copper has thoroughly cooled and the expended heat unit has been removed. When the copper is not in use, make sure the heat unit chamber is empty.

To prevent losing or damaging parts, make sure the copper is assembled before storing it.

Never heat the copper over an open flame to bring it to soldering temperature as this would damage the copper.

Make certain that the tip is properly screwed into the copper body before firing the tool. Failure to completely seat the tip may result in ejection of the tip and heat unit activation outside the combustion chamber.

Heat Units

Use only standard heat units equipped with a protective cap stamped KS-14768. Do not use commercially available nonstandard heat units.

A heat unit should be fired only in the copper and never by any other means.

Do not store heat units near very hot objects.

Do not remove heat units from the carton until they are to be used.

(continued)

KS-14582 L1 & L2 SOLDERING COPPERS

Warning: Ignited outside soldering copper, the units become white hot. Molten thermite may splatter. Adhere to operating instructions given in Sections 075-190-811 and 081-330-100.

Caution: When firing a heat unit, the copper should be held at about an arms length and pointed so that no injury or damage will occur if there is an isolated discharge from the handle under some abnormal condition.

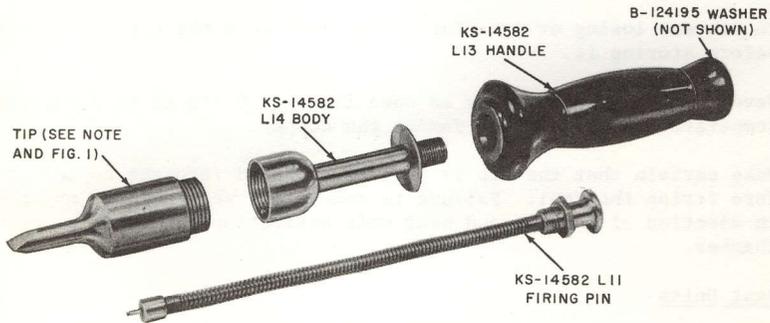


KS-14582
L5 TIP



KS-14582
L4 TIP

Fig. 1—Tips For KS-14582 Soldering Copper



NOTE:
THE KS-14582 L2 SOLDERING COPPER
IS FURNISHED WITH TIP, WHICH MUST BE
SPECIFIED IN THE ORDER.

KS-14582 L2 Soldering Copper

For Details Refer To
Sections 075-190-811
081-330-100

DRILL, AUTOMATIC "B"

Use

It is used with drill points suitable for drilling small holes in light metal or wood.

Precautions

Keep both hands behind the drill point during operation.

Use suitable eye protection.

Remove drill point from the chuck when not in use.

Do not use drill points that are bent.

Mark the location to be drilled and remove apparatus ~~before~~ before drilling holes.

Start guideholes with a center punch when metal is being drilled.

Use only enough pressure to operate the drill.

Hold the drill at right angles to surface being drilled.

Note:

Dull drill points are dangerous, only properly sharpened points should be used.

DRILL, L MASONRY



Dangerous To Use



Safe To Use

continued

Drill, L Masonry

Use

The "L" masonry drills and holders are used to drill holes in masonry for the anchoring devices with secure building attachments associated with drop and block wiring, house block, and underground cables.

Precautions

Special eye protection (see eye protection, section Personal Protection) must be worn to protect the eyes from flying chips during drilling operations in masonry.

Do not attempt drilling in explosive atmospheres such as in gassy manholes because of the sparks thrown off by the drilling.

Do not use a drill holder with a badly mushroomed head.

Protective gloves should be worn to protect the hands from flying particles of metal or masonry caused by the drilling.

Inspection

Each workman should assume responsibility for the working condition of the drill holder and drills assigned to him.

The striking head of the L Drill Holder is made purposely softer than the head of the drilling hammer and will therefore spread over or mushroom with continued use. When this occurs, the mushroomed edges shall be removed and the striking head redressed on an electric grinder.

CAUTION: Use special eye protection when using an electric grinder.

The following defects impair the drilling efficiency of L Masonry Drills:

- a. Dull cutting edges or edges badly nicked.
- b. Cutting edges of unequal length and angle formed with axis of the drill not uniform.
- c. Bent drills.
- d. Broken points.
- e. Diameter reduced by wear to point where drilled hole is too small for anchor.

Dull or unequal length cutting edges (a & b) may be restored to efficiency on an electric grinder. Maintain the same angle on the point as originally sharpened.

For conditions c, d, & e, the drills should be replaced in accordance with local practice.

For Details Refer To
Section 081-745-111

BENCH GRINDER

Precautions

Remove rings, watches, and ID bracelets before using Grinder.

Wear clothing that will not get caught in grinder.

Use all safeguards provided on the machine.

Wear special eye protection during grinding operation.

Do not force work against a cold wheel - apply it gradually allowing wheel to gradually warm up.

Do not use a machine with a loose spindle.

New wheels should be run for at least a full minute with the guard in place before applying the work.

Do not grind on the side of the wheel - it may shatter from side tension.

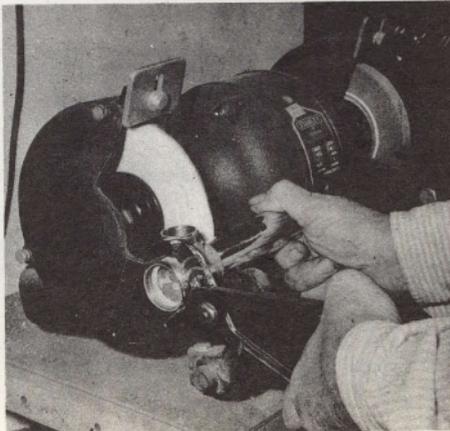
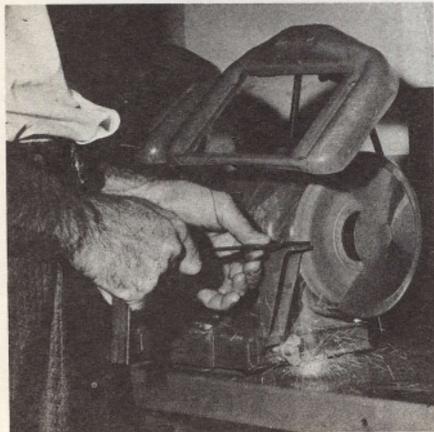
Always buff below the horizontal axis of the wheel to prevent the wheel from throwing the object.

Never use a rag to hold work to be buffed or ground - the rag may be caught in the wheel and pull your hand into the machine.

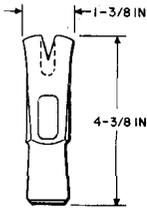
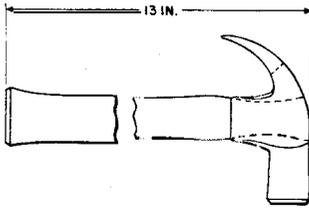
Hold the object being ground firmly against the tool rest in front of the wheel.

Do not operate the grinder without the tool rest.

Do not grind small pieces of material - the danger of slipping is too great.



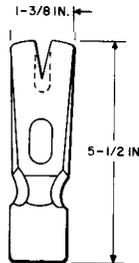
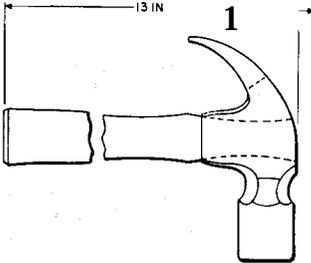
HAMMERS, HATCHETS AND AXES



Use

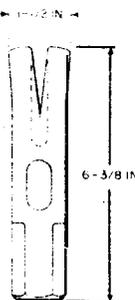
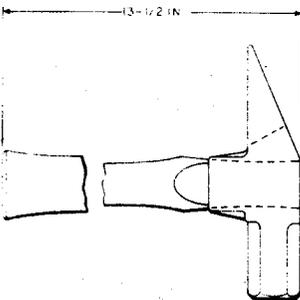
One Pound Claw Hammer is intended for general use in connection with driving nails. This hammer shall not be used for striking masonry drills or chisels.

One Pound Claw Hammer



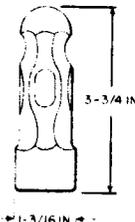
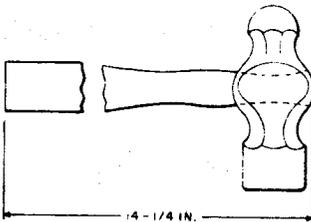
One and One-half Pound Claw Hammer has a full curved claw with a heat treated head similar to that of a ball peen hammer. It is suitable for light drilling operations. It is intended for use by the cable splicing forces in connection with drilling holes, removing cable sheath and beating in the end of sleeves.

One and One-Half Pound Claw Hammer



Two Pound Claw Hammer is a ripping claw hammer intended for use by the construction forces for general light construction work and for dismantling plant. This hammer shall not be used for striking masonry drills or chisels.

Two Pound Claw Hammer

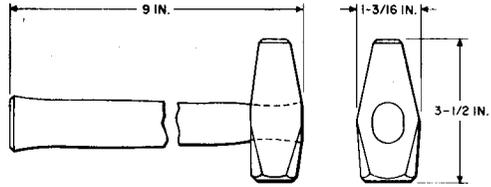


One Pound Ball Peen Hammer is intended for use in shops and garages and in passenger car tool kits.

One Pound Ball Peen Hammer

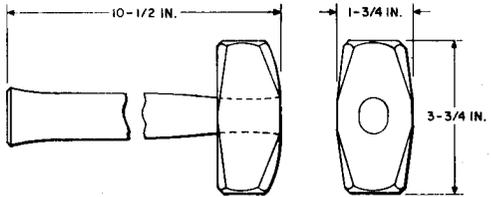
HAMMERS, HATCHETS AND AXES

One and One-Quarter Pound Drilling Hammer is intended for use by the construction and installation forces for use with masonry drills and drill holders. The head of this hammer has a drilling face on one end and a tack hammer face on the opposite end to facilitate driving anchors and setting nails of the hammer drive anchors.



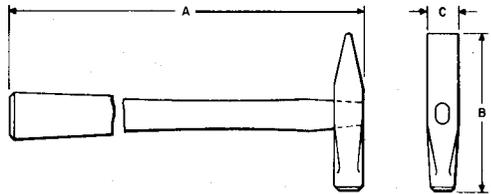
One and One-Quarter Pound Drilling Hammer

Two Pound Drilling Hammer is a doublefaced hammer intended for use with medium weight masonry drills and chisels. This hammer is too heavy for use with the standard small masonry drills and should not be used for drilling holes in brick walls for masonry anchors.



Two Pound Drilling Hammer

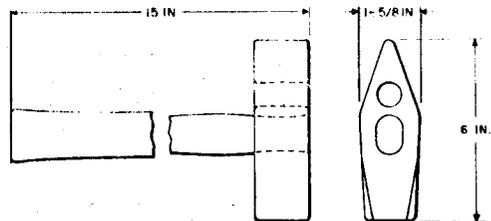
Riveting Hammers are available in four-ounce, seven-ounce, and twelve-ounce weights. The four-ounce is for the central office forces. The seven-ounce hammer is intended primarily for use by the installation and repair forces but may also be used by the cable splicing forces for light operations. The twelve-ounce which as a tempered head, is suitable for use with the large chipping knife.



SIZE	A	B	C
4 OZ	11 IN.	3-5/8 IN.	5/8 IN.
7 OZ	12 IN.	4 IN.	3/4 IN.
12 OZ	13 IN.	4-1/2 IN.	7/8 IN.

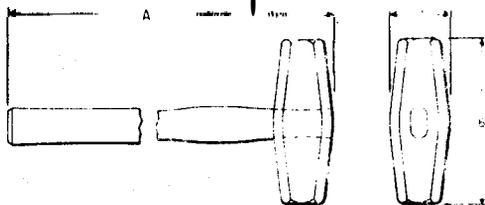
Riveting Hammer

Driving Hammer is a three-pound hammer having a striking face on one end and a straight peen on the opposite end of the head. The head is provided with a pole to facilitate straightening pole steps. It is intended for use by construction and installation forces in driving the heavier nails, lag screws, etc.



Three Pound Driving Hammer

HAMMERS, HATCHETS AND AXES

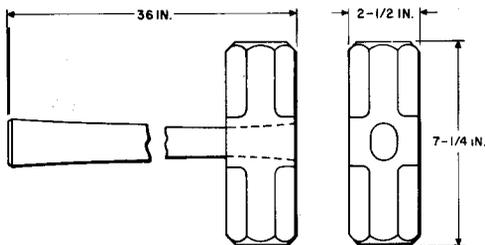


Use

Striking Hammers are available in four-pound and eight-pound weights. The four-pound hammer, is intended for use by the construction forces in connection with drilling holes through walls and in floors and cutting pavement with chisels. This hammer is suitable for use with one hand. The eight-pound hammer is similar and is intended for use by construction forces in cutting asphalt or stone with chisels and drilling holes with the heavy rock drills for dynamite or rock anchors.

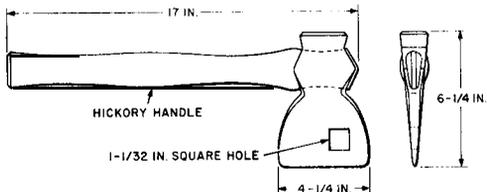
SIZE	A	B	C
4 POUND	15-3/4 IN.	6 IN.	1-1/2 IN.
8 POUND	33 IN.	7-3/8 IN.	1-7/8 IN.

Striking Hammer



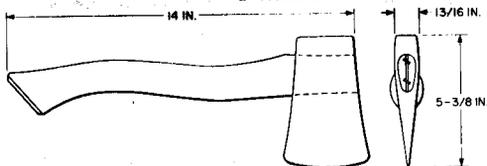
Blacksmith's Sledge Hammer is a ten-pound hammer intended for use by the construction forces for heavy striking.

Ten Pound Blacksmith Sledge

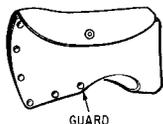


B Hatchet is a modified three-pound broad hatchet with a hickory handle for use as an alternative to the driving hammer in line construction work. It is not intended for use as a cutting tool and the blade has a blunt edge for safety. A square hole, in the outer corner of the blade is for use in holding the heads of 5/8-inch square head bolts and for straightening pole steps.

B Hatchet



One and one-quarter Pound Hatchet is a cutting tool of axe pattern. It is intended for use in pole inspection work and in general use where light chopping of wood is involved.

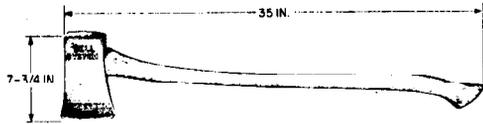


One and One-Quarter Pound Hatchet and Guard

HAMMERS, HATCHETS AND AXES

U s e

The Four-Pound Axe is intended for use in cutting off poles and railroad car stakes, splitting logs, limbs, tree trunks, felling trees, and other work where heavy cutting is required. It is not designed for use as either a maul, a drilling hammer, a sledge, or a wedge for splitting logs.



AXE GUARD

Precautions

Four Pound Axe and Guard

Always wear special eye protection (see eye protection section: Personal Protection) during drilling, chopping, or other operations involving the use of hammers, hatchets, or axes.

Never use a hammer, hatchet, or axe with a loose head or cracked handle.

Use the hammers, hatchets, or axes only for the purposes specified.

Never leave an unguarded hatchet or axe where these tools may constitute a potential source of injury to persons or vehicles.

Secure a firm footing before starting to chop. Avoid slippery surfaces and never stand on a fallen tree, pole, or log while chopping it. Check to see that the travel of the axe will have a wide berth, making sure that its movement is not retarded by an obstruction such as a branch. Do not permit anyone to stand in front or in back of the path of an axe being swung. Guard against the persons being struck by chips that are likely to fly.

Always swing an axe so the travel of the cutting edge is away from you. Stand at such a position that the axe will travel beyond the legs before it strikes the point where the cut is being made. Never chop between the feet.

Never use an axe aloft in a tree.

Never grasp an axe or hatchet so the hand is in contact with the cutting edge.

Always keep the guards in place on axes or hatchets when not in use.

Always store the hammers, hatchets, and axes in the proper truck compartment or storage place when not in use.

HAMMERS, HATCHETS AND AXES

Inspection

Each employee should inspect the hammers, hatchets, and axes before each use to assure himself that they do not have defects which might impair their usefulness or safe handling.

Make sure the heads are not loose. If the wedge has worked up, tap the handle lightly to position the head, and then drive the wedge in further with a flat piece of steel. Improvised wedges such as nails, screws, etc., should not be used.

Inspect the heads of hammer and hatchets for the presence of burrs. Maintain a slight bevel around the striking faces of hammers and hatchets with a whetstone. Replace all hammers having broken or chipped claws or chipped striking faces.

Inspect the handles of hammers, hatchets, or axes for indications of splitting or cracking. Also check for roughness or splinters.

Inspect the heads of hammers, hatchets, and axes for spread or cracked eyes, cracked blades, dull or nicked cutting edges, and for loose or missing wedges.

Make certain the guards are in good condition in order to properly protect the cutting edges of hatchets and axes.

PLIERS

Use

There are various types of pliers for different types of work. The proper type should be used for the job to be done.

Precautions

- Wear eye protection
- Work with pliers below eye level
- **NEVER** carry pliers in clothing pockets
- Do not use long nose pliers with bent or twisted ends
- Do not use pliers with worn serrations or if filled with residue of solder, wax, copper or lead.
- Do not use pliers as a substitute for wrench or hammer
- Do not pull toward body when skinning or pulling wire.

Inspection

Look for

- Jaws should open and close freely and not loose
- Worn serrations - use fingernail test(Fig. 1)
- Dull cutting edges.
- Roughness
- Light visible through closed jaws (Fig., 2)

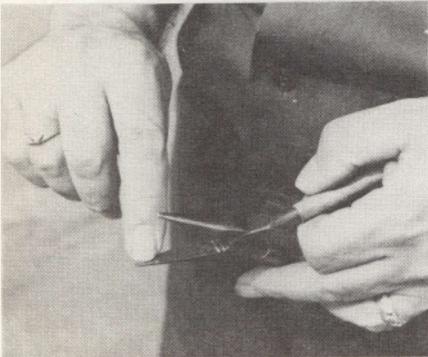


Fig. 1

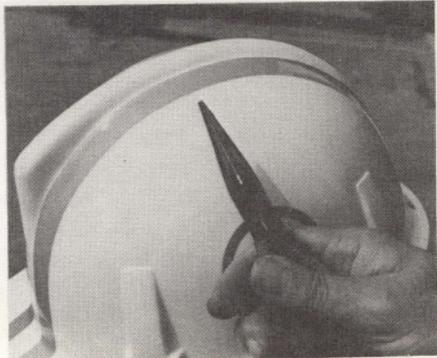
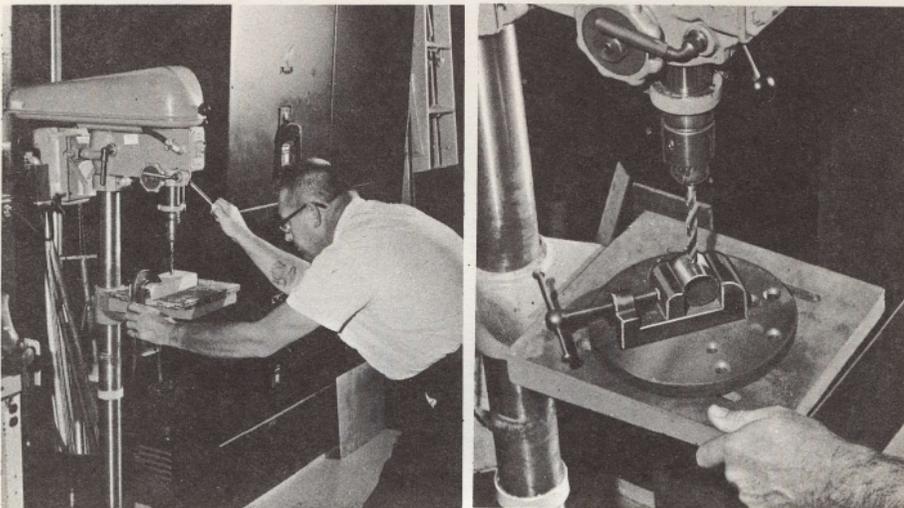


Fig. 2

DRILL PRESS



Precautions

Wear eye protection.

Wear clothing that will not get caught in the press - roll sleeves up and out of the way.

Remove rings, watches and identification bracelets before using the machine.

Use the safeguards provided on the machine.

Follow all electrical safety rules.

Always use the drill press vise, or a clamp, to hold work - do not risk your fingers.

Fasten the vise, or clamp, securely to prevent the work from revolving or breaking the drill point.

Stop the drill press immediately if the drill catches in the work and causes it to revolve.

Ease up on the feed pressure as the drill point breaks through the work to lessen the possibility of damage.

Stop the drill press before attempting to remove work, chips, cuttings, and to make adjustments.

Reference
Bell System Safety Manuals

SAWS

Use

There are different type saws for various types of work. The proper type should be used for the job to be done.

Precautions

- Wear eye protection
- Keep hands and fingers away from cutting edge
- Maintain a balance while sawing
- Never force a saw while cutting
- Material to be cut, should be held firmly in place while cutting
- Protect the cutting edge when not in use.

Inspection look for

- Broken or missing teeth
- Bent blade
- Handle, broken, cracked, or loose.
- Rust

Use

Screwdrivers are intended for use in turning screws and nothing else.

Precautions

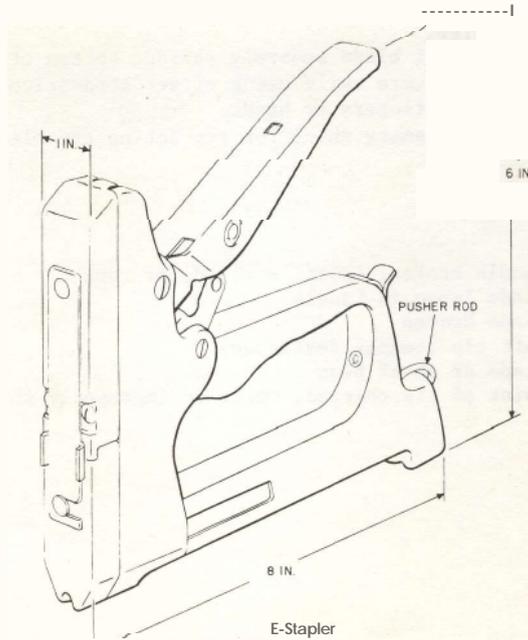
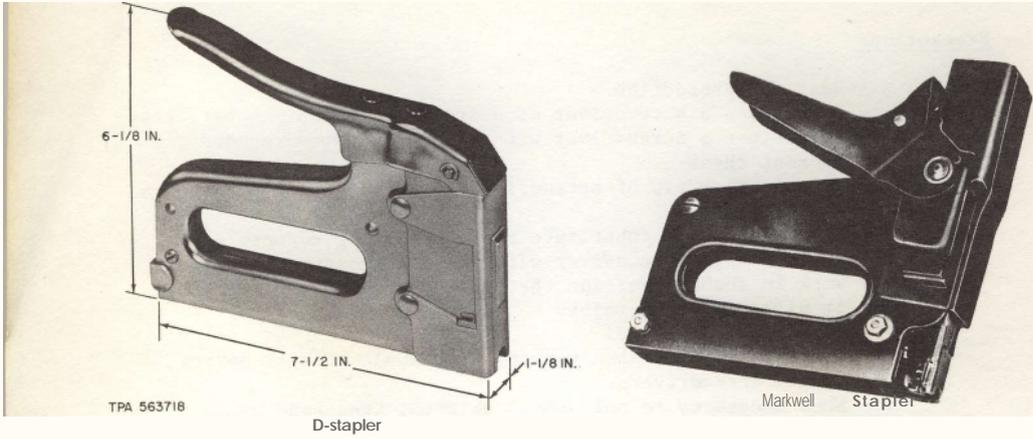
- Wear eye protection
- Do not use a screwdriver as a drill, chisel pinch bar, etc.
- Do not use a screwdriver with broken, chipped rounded tip or bent shank
- Do not stick tip of screwdriver in a flame or a pot of hot solder
- Do not use as a substitute for a soldering copper
- Use the size screwdriver with the right sizes of screws
- Work in such a position that if the screwdriver slips it will not cause injury
- Work below eye level
- Use extreme care when working with small thin or narrow tipped screwdrivers.
- When necessary to hold small objects, keep hand away from back of object in case screwdriver slips
- Avoid holding small objects in palm of hand
- **NEVER** carry screwdrivers in clothing pockets.
- Use two hands when starting a screw, one on the handle to do the turning the other on the blade to steady it on the screw.
- Hold tip of blade squarely against bottom of screw slot
- Use extra care while using offset screwdrivers to avoid injury to fingers or hands.
- Never use emery wheel for repointing the blade

Inspection

Look for

- Handle broken, split, cracked, or rough.
- Blade loose in handle
- Blade broken
- Soft tip (temper destroyed)
- Blade or shank bent
- Point of tip chipped, worn, or improperly shaped

STAPLERS - WIRE



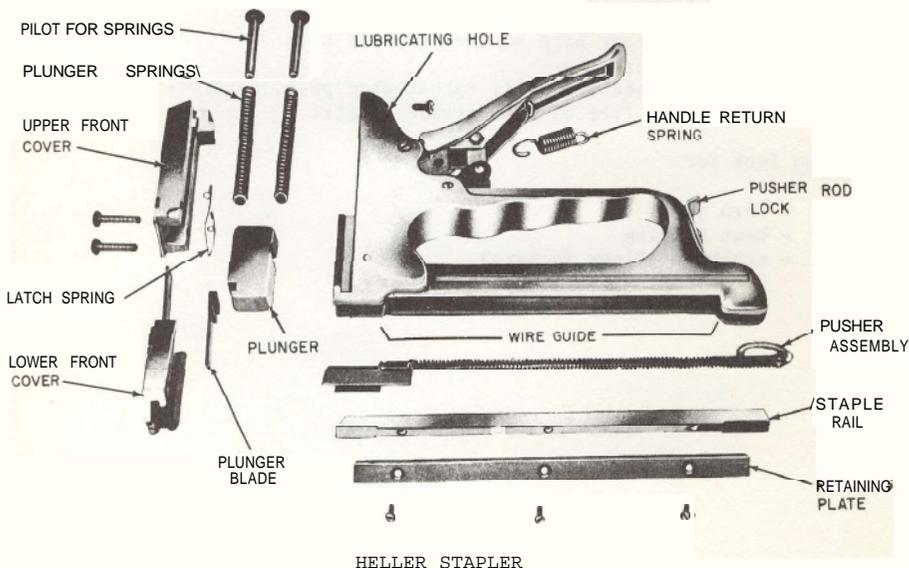
STAPLERS - WIRE

Use

The stapler should be operated only when staples are being driven to attach cables or wire.

Precautions

- Wear eye protection when using or loading a stapler.
- Do not use the pusher assembly to free a jammed staple,
- Keep fingers away from the stapler head.
- When dismantling the tool for cleaning or when inspecting and testing for smoothness of action after reassembly, be certain that the head of the tool is in a position that will prevent possible accident hazard should any staples be left in the Magazine.



For details refer to
Sections 080-110-101 - "D" Stapler
080-110-102 Heller Stapler
080-110-103 - Markwell Stapler
080-110-104 - "E" Stapler

WRENCHES

Use

Wrenches come in various sizes and shapes and are used for placing or removing nuts or bolts.

Precautions

- Wear eye protection
- Do not use a wrench as a hammer.
- Do not hammer on handle of a wrench.
- Do not drive a wrench on a nut.
- Do not shim the jaws of a wrench.
- Always turn an adjustable wrench so that the handle moves toward the movable jaw of the wrench.
- When using a solid non adjustable wrench use the proper size so the jaws fit snug over the nut.
- Whenever possible pull, rather than push, on a wrench handle.
- Keep clean free of oil, grease or dirt.

Inspection look for

- Worn jaws
- bent handles
- cracks or flaws in metal

"B" IMPACT WRENCH

Use

The wrench and sockets are used in placing or removing nuts and drive screws of pole line hardware. The wrench and bits are used in boring holes through wooden objects such as poles or building beams. There are two types of B impact wrenches (Fig. 1 & Fig. 2), the difference being the location of the reversing switch.

Precautions

- Wear eye protection
- Check voltage of power source. Do not plug in wrench if voltage is not 115V A.C.
- Allow wrench to stop before reversing direction of rotation.
- Be sure switch is turned as far as it will go when changing direction.
- Do not push bit into the wood.
- Keep away from pipes and electric power lines when using wrench.
- Be careful that clothing does not become entangled in turning bit or socket.
- Always disconnect the cord from power source before check wrench.
- Do not operate trigger switch until the wrench is in working position.
- Be sure socket is a snug fit in the wrench chuck.
- Do not overload the wrench.

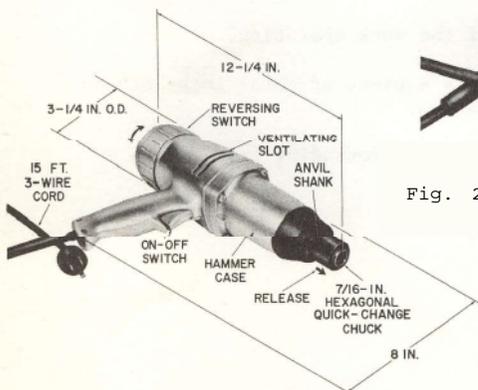


Fig. 1-B Impact Wrench with END Cap Reversing Switch

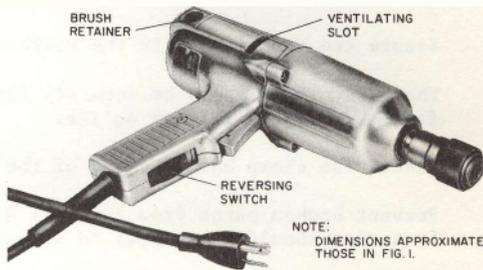
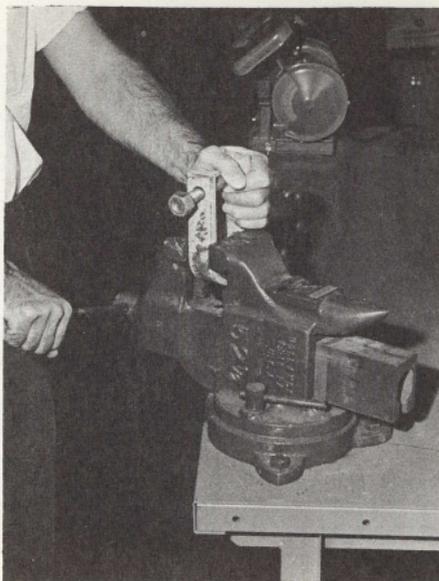


Fig. 2-B Impact Wrench with Reversing Switch in Handle

For details refer to Section 081-050-101

VICES



Precautions

Use a vise to hold objects steady for your planned work.

Secure the vise firmly to the workbench or working surface.

The vise clamp should be securely tightened to prevent objects from slipping or falling on feet.

Place vise clamp handle clear of the work operation.

Prevent broken parts from flying - a piece of metal to be broken in a vise should be wrapped in a rag.

Tools and material should not be left protruding from a vise - passing persons may be injured.

BATTERY ROOMS

This is written in a narrative form due to the complexity of the safety precautions required.

Precautions

Protective equipment such as rubber gloves, rubber aprons, and special eye protection shall be worn when handling electrolyte or cells containing electrolyte.

Avoid creating sparks, including those from static electricity, or the use of an open flame near batteries since the gas is explosive when sufficiently concentrated. Before performing each individual work operation, firmly touch a grounded rack, or an intercell connector near the grounded end of the battery - to discharge the static electricity from body.

Gas vents should not be allowed to become clogged as explosion due to internal pressure may result. Such an explosion may short circuit other cells and lead to a fire.

Overfilling can lead to plugging of gas vents.

Only appropriate insulated tools shall be used.

Adjacent batteries, exposed metal, and power circuits shall be protected with insulating blankets during work operations.

Battery racks, stands, cabinets, and miscellaneous equipment shall be clean and free from corrosion. They shall be level and properly grounded.

Never insert a thermometer into the electrolyte withdrawal tube or use a mercury filled thermometer to take temperature reading.

Acid or electrolyte shall not be added to any cell as a substitute for adequate charging.

A wire brush shall not be used in close proximity to cell terminals and intercell connectors.

When cleaning corroded terminals or posts care should be used so as not to allow neutralizing solutions to enter the cell.

Electrolyte shall be disposed of in such a manner that it will not cause environmental pollution or damage to equipment. (Consult local practice for disposal.)

Special eye protection shall be used in assembly operations of a hydrometer syringe.

(Continued)

Neutralizing Agents

Soda solutions are used for general neutralizing of electrolyte. Use either table soda (bicarbonate) or washing soda.

Boric acid solution is used to neutralize alkaline and nickel cadmium battery electrolytes.

Tetrasodium pyrophosphate (Pyro) used for general electrolyte neutralization has been discontinued for ecological reasons.

Household ammonia is used for neutralizing electrolyte on clothing. This solution will not cause fabric spotting as readily as a soda solution.

Neutralizers are never to be used in the eyes.

Housekeeping

The battery room or power room shall be kept neat and orderly. It should be free of clutter and supplies and material should never be stored in the battery room

***See eye protection, Section Personal Protection.**

For Details Refer to
Section 157-601-701

BURIED PLANT

The trend in all areas is toward buried plant for all utilities. Like all other types of work, there are proper methods and tools used to perform safely.

Precautions

Wear eye, head and hand protection.

- Observe all ordinances and public regulations.
- Required permits should be obtained before starting work.
- Trenches, excavations, holes shall be protected with suitable warning devices at all times.
- Before starting work on private property obtain necessary permission.
- Exercise special care to protect trees, shrubs, flowers, etc., on private property.

Be alert for caving of trenches or excavation walls.

- Keep unauthorized persons away from trench or excavation.
- Be alert for buried foreign plant - check ahead.
- When foreign objects are encountered investigate with caution.
- Never disturb electrical plant or pipe lines.

To avoid hazard, when using heavy equipment, carefully observe local terrain.

Do not use an open flame if combustible gases are present.

Trenches or other excavations four or more feet deep, in which craftsmen are required to work, shall be supported by adequate shoring and supplied with ladders.

Ladders shall extend from the bottom of the trench to at least three feet above the top of the trench.

GAS LINE BROKEN OR DAMAGED

Employee should:

Leave the hole open to allow gas to dissipate into atmosphere.

Warn residents and the public in the vicinity.

Notify local-fire department.

Notify local gas company.

Keep the public clear of the area until condition is cleared.

Notify your supervisor.

ELECTRIC LINE BROKEN OR DAMAGED

Employee should:

Barricade location until condition has been cleared.

Notify the local electric company.

Keep the public clear of the area.

Notify your supervisor.

PIPE LINE OTHER THAN GAS BROKEN OR DAMAGED

Employee should:

Follow same instructions as for gas line, if a liquid is noticed which appears to be volatile, such as gasoline.

Notify the appropriate utility, municipality, etc.

Notify your supervisor.

BURIED PLANT

Before performing any type of maintenance work:

- Accurately locate path and depth of cables before starting to excavate. 3
- Uncover cautiously - digging by hand - always dig to one side and use only tools with wood, or similar insulating material, handles. NEVER use digging bars.
- Identify telephone plant positively by electrical means.
- Protect self and telephone plant from power.
- Maintain sheath continuity. . . BOND

Construction Equipment

Only trained and qualified personnel should be allowed to operate equipment.

- Eye and head protection shall be worn.
- All adjustments, lubrications, fueling, etc., shall be done with engines turned off.
- Do not operate a trencher from any position other than operator's seat.
- Do not use excessive speeds or abrupt maneuvers.
- Use caution when operating equipment around people or buildings.
- Turn off engine, remove ignition key if trencher is left unattended.
- Do not attempt to remove roots, vines or foreign matter while plow or trencher is in motion.
- Do not walk between trencher or plow-train while in motion.

On gasoline powered earth augers.

- Rotating parts shall be kept free of sharp burrs or projections.
- KEEP hands, limbs, and clothing clear from all rotating parts. Keep children and onlookers away from work area.
- NEVER allow power unit to operate unattended.
- Inspect all equipment before using.
- Do not hoop up more rods than can be safely controlled.

For Details Refer to
Sections 620-102-010
624-020-010
629-100-010