

**KS-8740, KS-14440, AND KS-14582 SOLDERING COPPERS
AND KS-16346 SOLDERING IRON (INCLUDING KS-16368 TRANSFORMER)
PIECE-PART DATA AND REPLACEMENT PROCEDURES**

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1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of the KS-8740, KS-14440, and KS-14582 soldering coppers, and the KS-16346 soldering iron which includes the KS-16368 transformer. It also covers the approved procedures for replacing these parts.

1.02 This section is reissued to:

- (a) Add Table D
- (b) Add Fig. 11
- (c) Revise Fig. 10 to add List 3 transformer
- (d) Revise paragraph 4.18 and add paragraphs 4.19 and 4.20.

Revision arrows are used to emphasize the more significant changes. The Equipment Test List is not affected.

1.03 Part 2 of this section covers the piece-part numbers and the corresponding names of the parts which are practicable to replace in the field in the maintenance of the soldering coppers and iron. No attempt should be made to replace parts not designated.

1.04 Part 4 of this section covers the approved procedures for the replacement of parts covered in Part 2.

1.05 Parts of soldering coppers or irons should be replaced only when the coppers or irons are cool. No work should be done on electric soldering coppers or irons while they are connected to power. In the case of the KS-14582 soldering copper, make sure that the heat unit chamber is empty before replacing any parts.

1.06 Long cords on soldering coppers used on trolley-type appliance outlets can be a safety hazard. To avoid this hazard, 9-foot cords should be used unless local conditions warrant the use of special lengths.

1.07 After making any replacement of parts, the electric soldering coppers shall meet the test and inspection requirements covered in Section 075-190-501. After making any replacement of parts on KS-14582, L1 or L2 soldering copper, the copper should be fired using the KS-14768 heat unit, as covered in Section 075-190-811, to determine whether the copper is operating satisfactorily.

1.08 Soldering coppers used in central offices **must not** be ground because of probable damage to apparatus such as repeating coils and transistors or temporary interference to service by unwanted operation of relays.

NOTICE

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2. **PIECE-PART DATA**

2.01 Tables A, B, C, and D, and Fig. 1 through 11, included in this section, show the various piece parts of the soldering coppers or iron. The piece-part numbers of the various parts are given together with the names of the parts as listed by Western Electric Merchandise Department.

2.02 When ordering parts for replacement pur-

poses, give both the KS and list number and name of the part; for example: KS-8740, L70, Heater Assembly. If no list number is given, state the part number and the name of the part and refer to the soldering copper on which it is used. For example; B-124195 Washer for KS-14582, L2, Soldering Copper. Do not refer to the BSP number or to any information shown in parentheses following the piece-part number.

TABLE A
REPLACEMENT PARTS FOR KS-8740 SOLDERING COPPERS

SOLDERING COPPER LIST NO.	CORD AND PLUG LIST NO.	HEATER ASSEMBLY LIST NO.	SHELL ASSEMBLY LIST NO.
2	51 (20-ft cord w/par nonpol plug)	70 (95w)	90 (short)
3	52 (6-ft cord w/par nonpol plug)	70 (95w)	90 (short)
9	51 (20-ft cord w/par nonpol plug)	74 (110w)	90 (short)
11	55 (9-ft cord w/par nonpol plug)	70 (95w)	90 (short)
13	56 (6-ft cord w/3 prong grding plug)	70 (95w)	90 (short)
22	51 (20-ft cord w/par pol plug)	71 (95w)	91 (long)

TABLE B
REPLACEMENT PARTS FOR KS-14440 SOLDERING COPPERS

SOLDERING COPPER LIST NO.	CORD AND PLUG LIST NO.	HEATER AND TIP ASSY LIST NO.	HEATER ASSEMBLY LIST NO.	TIP LIST NO.	SOLD. COPPER REPLACEMENT LIST NO.
1 (MFR DISC.)	40 (20-ft cord w/T pol plug)	20 (60w)*	NONE	NONE	2
2 (MFR DISC.)	41 (20-ft cord w/par nonpol plug)	20 (60w)*	NONE	NONE	6
3 (MFR DISC.)	42 (6-ft cord w/par nonpol plug)	20 (60w)*	NONE	NONE	7
5 (MFR DISC.)	44 (6-ft cord w/3 prong gnd)	20 (60w)*	NONE	NONE	8
6 (MFR DISC.)	41 (20-ft cord w/par nonpol plug)		25	TIPS MUST BE ORDERED SEPARATELY (SEE NOTE)	16
7 (MFR DISC.)	42 (6-ft cord w/par nonpol plug)		25		17
8 (MFR DISC.)	44 (6-ft cord w/3 prong gnd)		25		18
11 (MFR DISC.)	40 (20-ft cord w/rad pol plug)	21 (60w)**			12
12 (MFR DISC.)	41 (20-ft cord w/par nonpol plug)	21 (60w)**			13
13	45 (20-ft cord w/par nonpol plug)		26 (45w) (Fig 6)	TO BE ORDERED SEPARATELY (SEE NOTE)	
16	45 (20-ft cord w/par nonpol plug)		25 (45w) (Fig. 6)		
17	46 (6-ft cord w/par nonpol plug)		25 (45w) (Fig. 6)		
18	47 (6-ft cord w/3 prong gnd plug)		25 (45w) (Fig. 6)		
		22 (60w)*			
		23 (60w)*			
		24 (60w)*			

Other items which can be replaced are the L50 -- or L58 -- handle assembly, L51 contact insulator assembly, L60 spring, and L67 insulator tube, (Fig.7).

Note: L35 Tip, 1/8-in. threaded, chisel tip, iron plated (replaced L33 chisel tip).
L36 Tip, 1/8-in. threaded, chisel tip, coated.
L37 Tip, 3/16-in. threaded, chisel tip, iron plated. (replaced L31 and L32 tips).
L38 Tip, 3/16-in. threaded, chisel tip, coated (replaced L34 tip).

* Mfr Disc, replaced by L25.

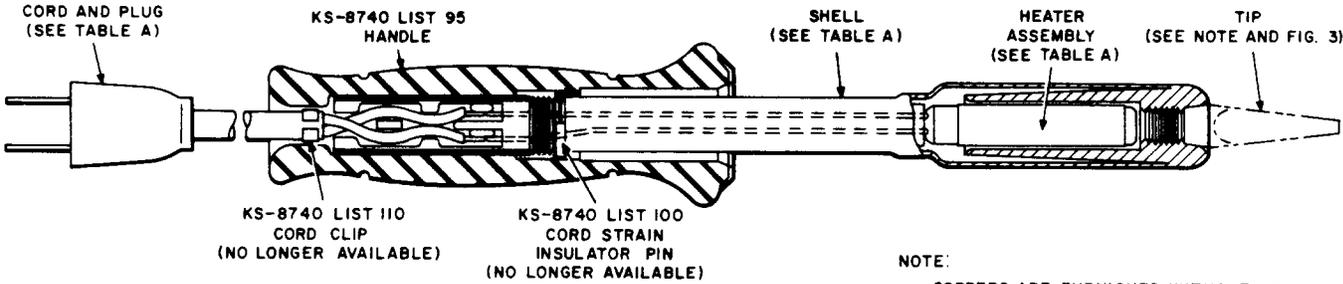
** Mfr Disc, replaced by L26.

TABLE C
REPLACEMENT PARTS FOR KS-16346 SOLDERING IRON

SOLDERING IRON LIST NO.	HANDLE LIST NO.	CABLE LIST NO.	HEATING UNIT AND TIP LIST NO.
1	41	21 (9-ft long)	31 (12w)
2	42	22 (19-ft long)	32 (12w)

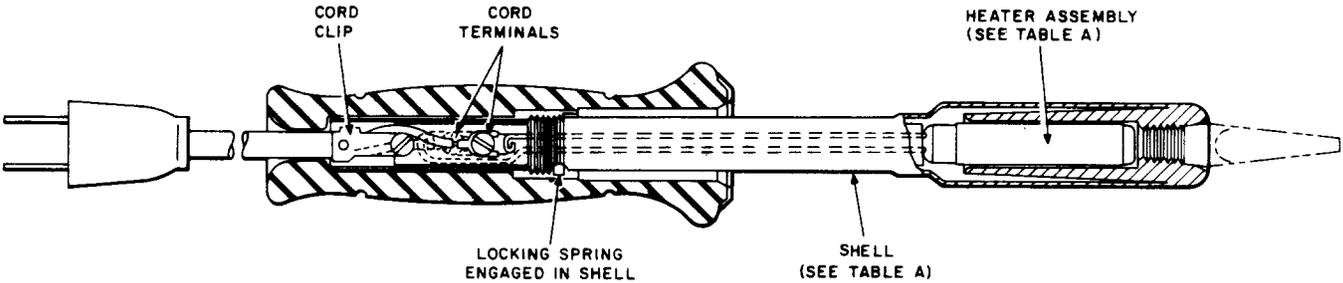
TABLE D
◆KS-16368 REPLACEMENT TRANSFORMERS◆

TRANSFORMER LIST NO.	DESCRIPTION	RATING
1	Transformer with centering prong	Mfr Disc.
2	Centering prong only	Mfr Disc.
3	Transformer with centering prong (new design)	Replaces L1

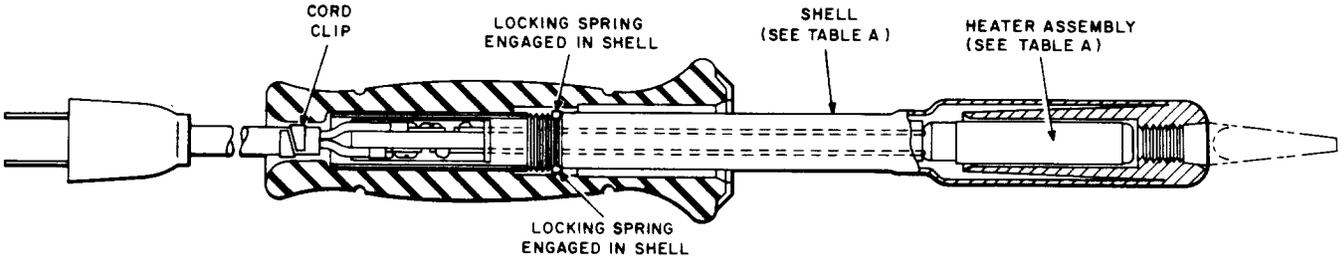


NOTE:
COPPERS ARE FURNISHED WITHOUT TIP WHICH MUST BE ORDERED SEPARATELY.

A. EQUIPPED WITH CORD STRAIN INSULATOR PIN AND SOLDERED WIRE CONNECTIONS



B. EQUIPPED WITH A LOCKING SPRING AND SCREW WIRE CONNECTIONS



C. EQUIPPED WITH A LOCKING SPRING AND SCREW WIRE CONNECTIONS

Fig. 1—KS-8740 Soldering Copper

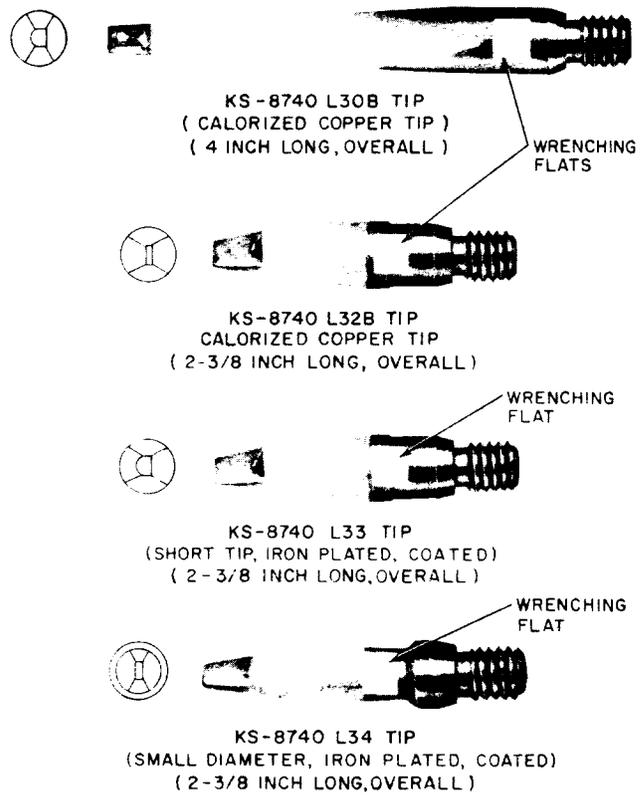


Fig. 2—Tips for KS-8740 Soldering Coppers

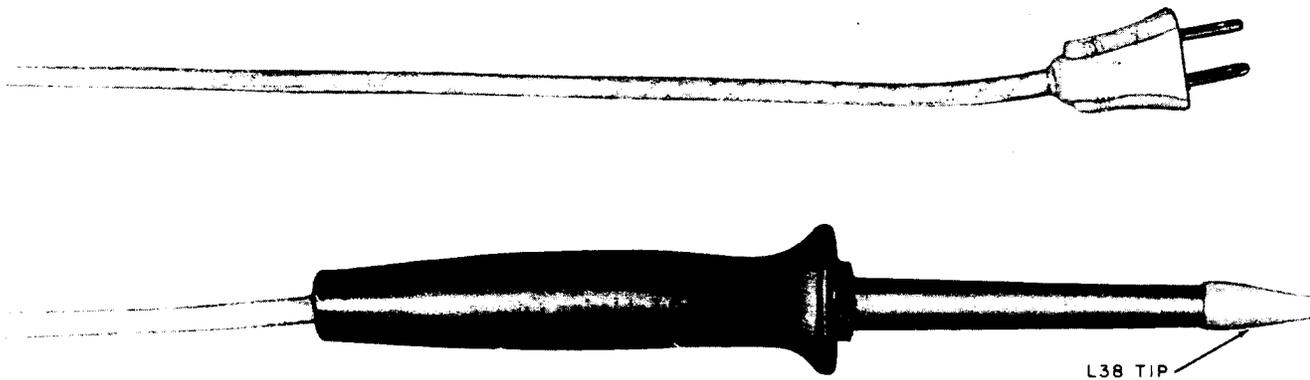


Fig. 3—KS-14440 Soldering Copper—L16 or L17 With L38 Tip

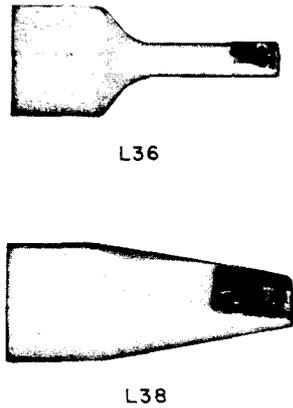


Fig. 4—KS-14440, L36, Tip (1/8-Inch Coated), L38 Tip (3/16-Inch Coated)

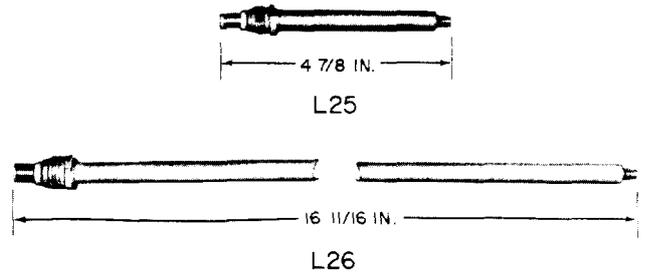


Fig. 5—KS-14440, L25, Heater Assembly (4-7/8 Inch), L26 Heater Assembly (16-11/16 Inch)

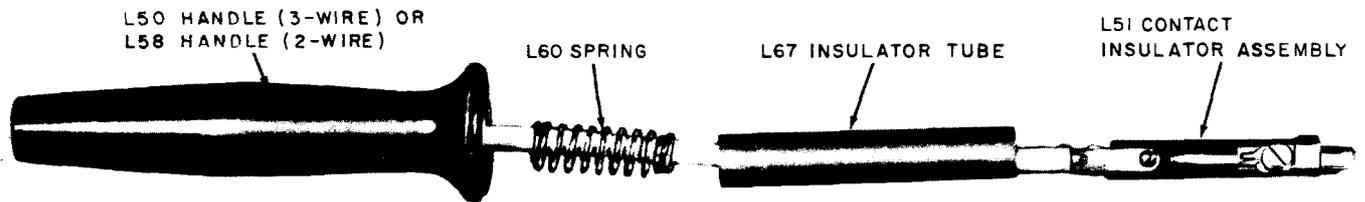
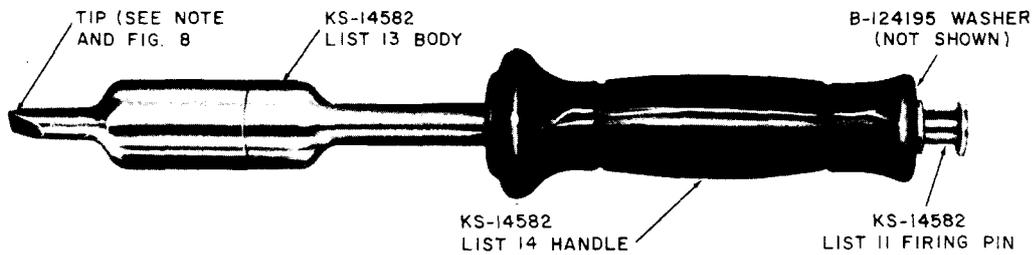


Fig. 6—KS-14440 Soldering Copper-Showing Parts in the Handle



NOTE:
THE KS-14582 LIST 2 SOLDERING COPPER IS FURNISHED WITH TIP, WHICH MUST BE SPECIFIED IN THE ORDER.

Fig. 7—KS-14582, L1, Soldering Copper

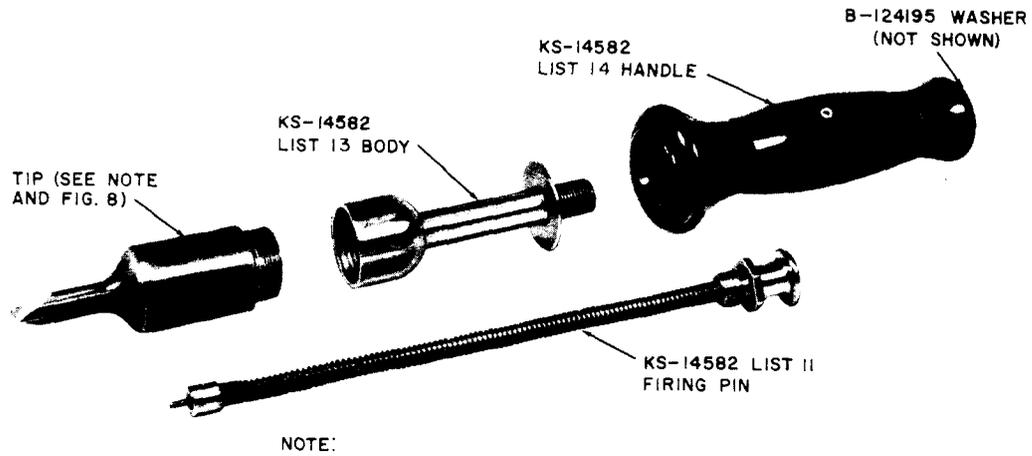


Fig. 8—KS-14582, L2, Soldering Copper—Showing Components

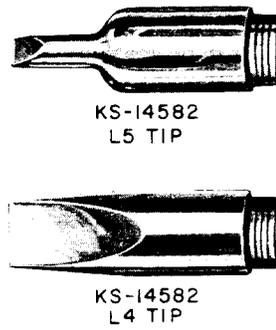


Fig. 9—Tips for KS-14582 Soldering Copper

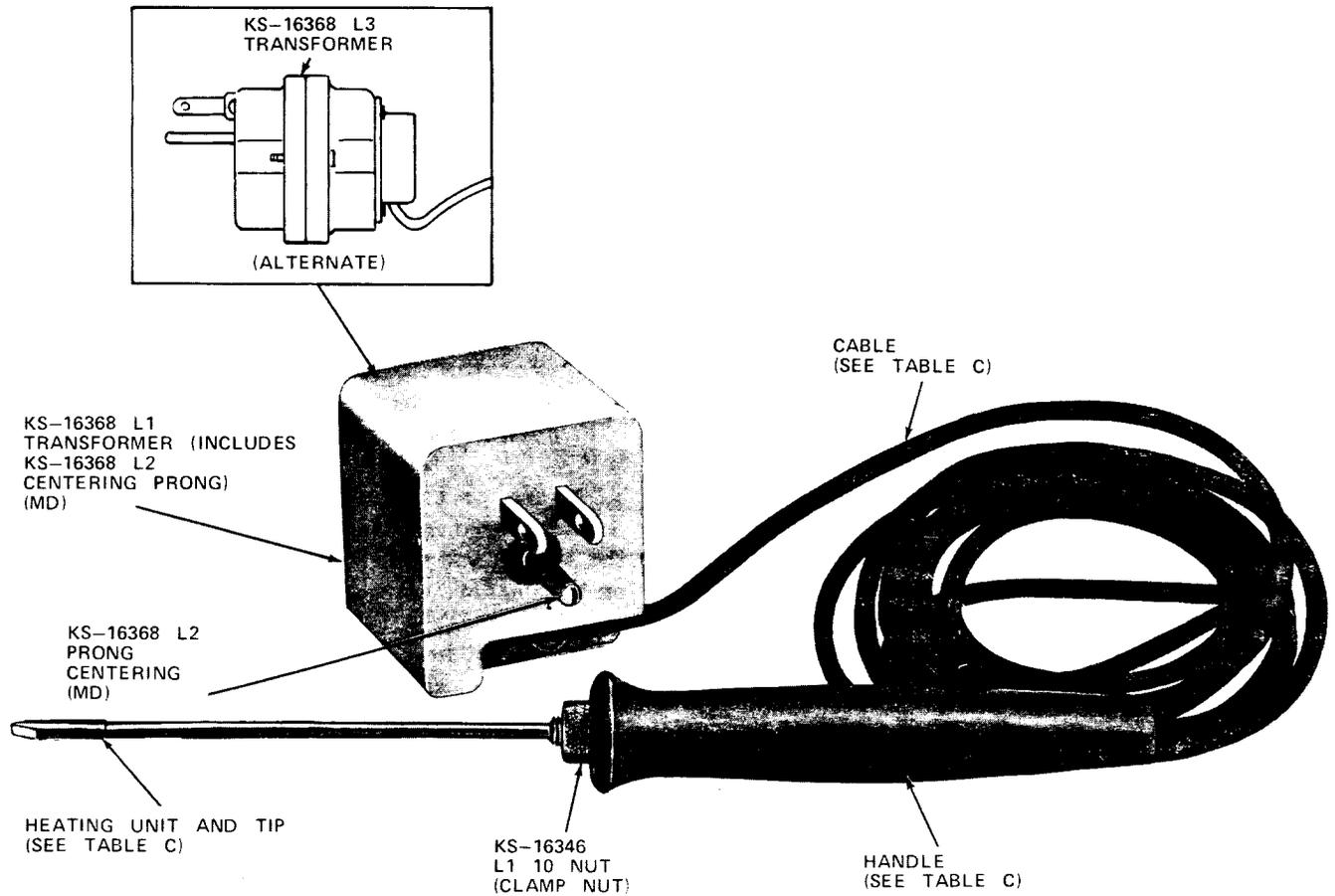
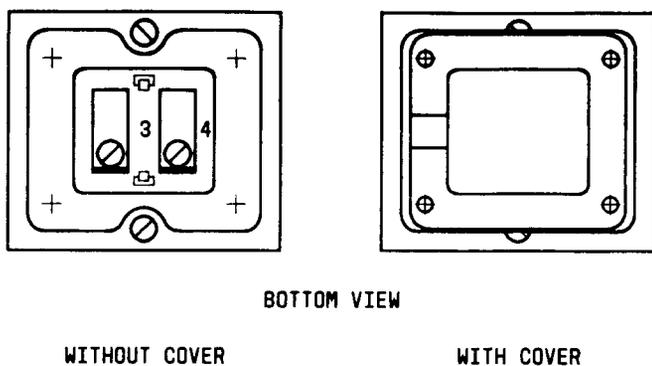


Fig. 10—KS-16346 Soldering Iron



BOTTOM VIEW

WITHOUT COVER

WITH COVER

◆ Fig. 11—KS-16368, L3, Transformer—Bottom View◆

3. APPARATUS

3.01 List of Tools and Materials:

TOOLS	DESCRIPTION
255	Grooved pliers
245	3/8 and 7/16-inch open double-end flat wrench
310B	9/32-inch open double-end offset wrench
417A	1/4- and 3/8-inch open double-end flat wrench
418A	5/16 and 7/32-inch open double-end wrench
KS-14164	Brush
R-5850	5/8- and 3/4-inch open double-end offset wrench
AT-7860	B long-nose pliers
AT-8420	B Combination pliers
AT-7825	3-inch C screwdriver
AT-7825	4-inch E screwdriver
AT-7329	4-ounce riveting hammer
MATERIALS	
KS-6824	Sealing compound

TOOLS	DESCRIPTION
—	1/4-inch drill rod, 8 inches long

4. REPLACEMENT PROCEDURES

KS-8740 SOLDERING COPPER

4.01 There are two types of heater assemblies which can be used interchangeably in the KS-8740 soldering copper. One type of heater assembly, Fig. 1(A), uses a cord strain insulator pin to secure the heater assembly to the shell and has solder lug terminals for making cord connections. The other types Fig. 1 (B and C), have a locking-spring arrangement to secure the heater assembly to the shell and has screw-type wire terminals for making cord connections.

4.02 Tip: To remove the tip, Fig. 1, place the shell of the soldering copper in a vise and unscrew the tip from the shell using the 245 (7/16 inch) or 310B (9/32 inch) open-end wrench. **Be careful not to damage dielectric coated area of the L33 and L34 tips.** If the tip sticks and cannot be removed easily with the pliers, lightly tap the shell near the tip end with the 4-ounce riveting hammer to free the threads and then remove the tip as covered above. Mount the new tip.

Warning: Do not clamp the tip in the vise and turn the shell as this may damage the cord leads inside the handle.

4.03 Shell: To remove the shell, remove the tip as covered in paragraph 4.02; manually unscrew the handle; and slide it back on the cord. Depending on the type of heater assembly, proceed as follows:

- Using the B long-nose pliers, grasp the bent down portion of the cord strain insulator pin and remove. Slide the shell from the heater assembly.
- Depress the heater assembly locking spring until it is clear of the hole in the shell and remove the shell.

4.04 If the shell cannot be removed easily, the heater assembly is probably frozen to the shell. In this case, insert the 1/4-inch drill rod through the tip end of the shell and lightly tap the rod with the 4-ounce riveting hammer. If the heater

assembly cannot be removed by light tapping, replace the heater assembly as well as the shell. In this case, transfer the leads to the new heating assembly as covered in paragraph 4.05. Before assembling parts, make sure the wattage rating marked on the shell is the same as that marked on the heating element of the heater assembly. To replace the shell on the first type of heater assembly, slide the shell over the heater assembly and position it so the holes adjacent to the threaded portion of the shell are in line with the groove in the cord strain insulator. Insert the cord strain insulator pin through the holes in the shell and the groove in the insulator. Tighten the handle and remount the tip. To replace the shell on the later type of heater assembly, depress the locking spring and slide the shell over the heater assembly until it engages hole in the shell. Replace the handle and mount tip as above.

4.05 Heater Assembly: To replace the heater assembly, remove the shell as covered in paragraph 4.03. Slide the insulating tube back on the cord to gain access to the cord leads. And, depending on the type of heater assembly, proceed as follows:

(a) On the soldered type cord terminal, note the position of the leads and cord clip in the cord strain insulator in order to ensure positioning them properly in the new insulator. Unsolder the leads and remove the heater assembly, including the insulating tube. Slide the insulating tube of the new heater assembly on the cord leaving the leads free. Connect and solder the leads to the heater assembly making sure the insulation on the leads comes up to the terminals on the heater assembly. Properly position the leads in the cord strain insulator with the tongue of the cord clip in the groove of the insulation, and slide the insulating tube over the leads. Mount the shell as covered in paragraph 4.04 and tighten the handle.

(b) On the terminal screw type heater assembly, slide the insulating tube back on the cord. Loosen the terminal screws to free the spade tips on the black and white leads. Remove screw holding cord clip to the cord terminal assembly. To assemble, fasten the cord clip crimped on the cord to the cord terminal assembly. Connect the two leads equipped with closed tips to the terminals. Note that the longest lead goes to the furthest terminal. Depress cords in place, slide the insulating tube over the leads, mount the shell as covered in paragraph 4.04, and tighten the handle. In this situa-

tion, the cord clip and insulating tube furnished with the new heater assembly are not needed.

(c) To assemble the terminal screw type heater assembly to the soldered type cord assembly, remove the L110 cord clip first. Cut the black lead to leave 1-5/8 inch beyond the end of the jacket. Skin approximately 3/8-inch of the insulation from the conductor. Form the bared stranded conductors into a loop and solder strands into a solid conductor. Assemble to the furthest terminal of the cord strain device. Cut the white lead to leave 1-3/8 inch beyond the end of the cord jacket. Skin approximately 3/8-inch of insulation from the conductor. Form the bared strands into a loop and solder strands into a solid conductor. Assemble to the second terminal. Assemble the cord clip to the heater assembly and crimp around the jacket with the 255 pliers. The clip should assemble approximately 1/8-inch from the end of the jacket. Slide the insulator tube over the cord terminal assembly, mount the shell, and tighten the handle.

Warning: Before mounting the shell, make sure the insulating tube is mounted over the cord connections to the heater assembly.

4.06 Handle: Remove the heater assembly as covered in paragraph 4.05. Remove the handle. In some cases the insulating tube of the heater assembly may freeze to the inside of the handle. If this occurs and the tube cannot be easily removed, replace the insulating tube as well as the handle. Slide the new handle over the cord with the smaller end of the handle toward the plug. Connect the cord leads to the heater assembly and reassemble the parts as covered in paragraph 4.05.

4.07 Cord Strain Insulator Pin: To remove, unscrew the handle and slide it back on the cord. Grasp the bent down portion of the cord strain insulator pin with the B long-nose pliers and remove the pin. To replace, position the shell with the holes adjacent to the threaded portion of the shell in line with the groove in the cord strain insulator. Insert the cord strain insulator pin through the hole in the shell and the groove in the insulator. Securely tighten the handle.

4.08 Cord and Plug and Cord Clip: Remove the heater assembly and cord as covered in paragraph 4.05. Remove the handle from the cord. Do not

attempt to reuse the cord clip from the old cord. Remove the cord clip supplied with the new cord. Slide the handle on the new cord with the smaller end of the handle toward the plug. Fasten the loose cord clip to the cord terminal assembly. Connect the closed tips as covered in paragraph 4.05. Dress the cords in place and tightly crimp the cord clip onto the cord jacket using the 255 pliers. Cord assemblies equipped with precut leads and closed tips will not assemble to heaters having soldered type cord terminals. In these cases, replace the heater assembly with a screw type heater assembly, or follow subparagraph 4.05(c). No attempt should be made to replace a defective plug. After assembly, check operation per paragraph 1.07.

KS-14440 SOLDERING COPPER

4.09 The KS-14440, L13, L16, L17, and L18 soldering coppers all have a replaceable heater, a replaceable tip, and a replaceable cord set. Earlier models had combined heater/tip assemblies.

4.10 Heater and Tip Assembly Replacement (Other than L13, L16, L17, and L18):

Grasp the handle firmly in one hand and with the other hand apply the R-5850 wrench to the hexagonal section of the heater assembly adjacent to the handle. Remove the assembly with the wrench. Mount the new heater and tip assembly in the handle, making sure the cylindrical contacting surfaces of the heater engage the concave side of the terminal in the handle. Securely tighten the heater and tip in the handle with the wrench. Replace as called for in paragraph 4.11.

4.11 Tip Replacement (L13, L16, L17, or L18 only):

To replace a tip on a L13, L16, L17, or L18 soldering copper, apply the R-5850 wrench to the hexagonal section of the heater adjacent to the handle. At the same time apply the 417A tool to the flats of the tip and, turning the tip in a counterclockwise direction, loosen the tip and remove by hand. Replace new tip in opposite sequence.

4.12 Handle, Cord and Plug, Core Strain Insulator, and Associated Parts (Other than L13, L16, L17, and L18):

To replace any of these parts, remove the heater and tip assembly as covered in paragraph 4.10. Slide the handle spring, washer, and insulating tube back on the cord so the terminals are accessible. Note the position of the leads and cord clip in the contact insulator assembly in order to ensure positioning them properly in the

insulator when the parts are reassembled. Unsolder the leads. Substitute new parts as required and assemble the parts in the reverse order of removal. If the cord and plug are to be replaced, do not attempt to remove the cord clip from the old cord. Position a new cord clip on the end of the rubber insulation of the cord with the tongue of the clip toward the leads extending from the cord. Securely crimp the clip in position on the cord using the 255 pliers. Properly position the leads in the cord strain insulator with the tongue of the cord clip in the groove of the insulator. Connect and solder the leads. Slide the insulating tube over the contact insulator assembly and pull the handle into position over the insulating tube. Remount the heater and tip as covered in paragraph 4.10.

Warning: Before mounting the handle, make sure the insulating tube is mounted over the leads in the cord strain insulator.

4.13 Handle, Cord and Plug, Contact Insulator Assembly, and Associated Parts (L13, L16, L17, and L18, only):

To replace any of these parts, remove the heater and tip as covered in paragraph 4.10. Slide the handle, spring, and insulating tube back on the cord so the terminals are accessible. Note the position of the leads and cord clip in the contact insulator assembly in order to ensure positioning them properly in the insulator assembly when the parts are reassembled. Using the 3-inch C screwdriver, remove the screws which secure the cord clip and the cord terminals to the contact assembly. Substitute new parts as required and assemble the parts in the reverse order of removal. If the cord and plug are to be replaced, do not attempt to remove the cord clip from the old cord. Properly position the leads in the contact insulator assembly and secure the cord tips with screws. Position a new cord clip on the end of the rubber insulation of the cord with the tongue of the clip toward the leads extending from the cord, making sure the screw hole in the clip is over the screw hole in the contact insulator assembly. Secure the clip to the contact insulator assembly using the 3-inch C screwdriver. Securely crimp the clip into position using the 255 pliers. Slide the insulating tube over the contact assembly and pull handle into position over the insulating tube. Remount the heater and tip as covered in paragraph 4.10. After assembly, check operation per paragraph 1.07.

KS-14582 SOLDERING COPPER (USED WITH KS-14768 HEAT UNIT)

4.14 Tip: Remove the tip by manually unscrewing it from the body of the copper. If the tip cannot be easily removed, hold the handle firmly in one hand and grasp the tip just behind the wedge-shaped end with the B combination pliers. Loosen and remove the tip. Mount the new tip on the copper, fingertight.

4.15 Firing Pin and Washer: To replace either of these parts, hold the handle firmly in one hand and apply the R-5850 wrench to the hexagonal nut at the rear of the handle. Remove the firing pin and washer in the recessed end of the handle by turning the firing pin counterclockwise with the wrench. Substitute new parts as required and mount the parts in the reverse order of removal.

4.16 Handle: Remove the firing pin as covered in paragraph 4.15, taking care not to lose the washer in the recessed end of the handle. Remove the handle by unscrewing it from the body. If the handle cannot be easily removed, hold it firmly in one hand, grasp the body just forward of the handle with the B combination pliers, and loosen the handle. Apply a small amount of KS-6824 sealing compound to the threads of the body that screw into the handle with the KS-14164 brush and mount the new handle. Remount the firing pin making sure the washer is in place in the recess in the handle.

4.17 Body: Remove the tip and handle as covered in paragraphs 4.14 and 4.16. Substitute the new body, applying KS-6824 sealing compound to the threads that screw into the handle using the KS-14164 brush. Remount the parts in the reverse order of removal.

KS-16346 SOLDERING IRON

4.18 ♦To replace any part of the KS-16346 soldering iron except the transformer, manually unscrew and remove the clamp nut. Slide the handle off the heating unit and tip. If the heating unit and tip is to be replaced, unsolder the lead to the unit and remove the unit tip from the cable anchor and terminal at the end of the cable.

4.19 If the KS-16368 transformer is to be replaced, remove the bottom cover per Fig. 11 (if applicable), and disconnect the cable leads from the transformer using a 4-inch E screwdriver. If the cable is to be replaced, disconnect the leads at the transformer in accordance with the above instructions. In addition, the leads must be unsoldered from the heating unit and tip.

4.20 Substitute new parts as required and reassemble the parts in the reverse order of removal. After assembly, check operation per paragraph 1.07.♦