

## 61-TYPE HEAD TELEPHONE SETS

### PIECE-PART DATA AND REPLACEMENT PROCEDURES

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**1.04** The 60-type and KS-20778, L1B, L2B, L3B, L16B, L17B, L18B, L101B, L103B, and L117B head telephone sets replace the 61-type (Mfr Disc.) head telephone sets.

**1.05** Part 3 of this section covers part numbers and the corresponding names of the parts which it is practicable to replace in the field in the maintenance of these sets. No attempt should be made to replace parts not designated.

**1.06** Part 4 of this section covers the approved procedures for the replacement of parts covered in Part 3.

#### 1. GENERAL

**1.01** This section covers information necessary for ordering parts to be used in the repair of 61-type (Mfr Disc.) head telephone sets. It also covers approved procedures for repairing and cleaning these sets.

**1.02** The reasons for reissuing this section are listed below. Since this reissue is a general revision, no revision arrows have been used to denote significant changes. The Equipment Test List is not affected.

- (1) To rate the 61-type head telephone sets Mfr Disc.
- (2) To revise the List of Tools and Materials
- (3) To revise Fig. 4
- (4) To rate the 281A-50 amplifier Mfr Disc., replaced by the 281B-50 amplifier
- (5) To change the part numbers of the shell half of the 464A-50 plug.

**1.03** The 61-type (Mfr Disc.) head telephone sets can be used in any application approved for the 52-type telephone sets.

#### 2. APPARATUS

##### 2.01 *List of Tools and Materials:*

CODE OR SPEC NO.	DESCRIPTION
<b>TOOLS</b>	
1253	Screw starter (quick wedge or equivalent)
KS-2348	Cord repair screwdriver (equipped with P-484700 bit)
KS-6854	3-1/2 inch screwdriver
KS-21233, L1	Assembly fixture (for convenient servicing of 280A amplifier)
KS-21233, L2	Assembly fixture (for convenient servicing of the 281A amplifier)
R-8950	Syringe
AT-7860	B long-nose pliers
AT-7825	3-inch C screwdriver

#### NOTICE

Not for use or disclosure outside the  
Bell System except under written agreement

## MATERIALS

KS-2423	Cloth
—	Mild powdered soap
—	Mild detergent

## 3. PIECE-PART DATA

**3.01** Figures 1 through 6 show the relationship of the various parts of the head telephone sets. The piece-part numbers of these parts are given together with the names as listed by the Western Electric Company Merchandise Department.

**3.02** When ordering replacement parts, give both the piece-part number and the name; for example: P-23F210 Screw. Do not refer to the BSP number.

**3.03** Information enclosed by parentheses ( ) is not ordering information. This information may be references to notes, parts referred to in other portions of the section and not considered replaceable, or part names in general use in the field if these names differ from those assigned by the manufacturer.

**3.04** The 61-type (Mfr Disc.) head telephone sets were available in ivory color only.

**3.05** A new type molded earpiece is available and identified as the SOUNDKEEPER® Personalized Ear Mold. Kits may be ordered from the Western Electric Company Service Center as: (Qty) Earpiece for 61-type (Mfr Disc.) Headset SOUNDKEEPER Kit. The minimum order is 40 kits (earpieces) with multiples of 40 kits. A fitter's kit containing all the material needed to fit the SOUNDKEEPER earpiece may be ordered directly from Marion Health and Safety, Inc., Rockford, Illinois.

## 4. REPLACEMENT PROCEDURES

**4.01** No attempt shall be made to repair either the printed wiring board, speech tube assembly, or transmitter and ball assembly since these components are replaceable as complete units. These items should be returned in accordance with local instructions to the Western Electric Company.

**4.02** After making replacement of parts which affect transmission, check the headset to see that it meets the tests specified in Section 028-363-501.

**4.03** *Speech Tube Assembly* (Fig. 1 and 2): To replace only the tube part of the assembly, pull the old tube off the ball assembly and substitute the new tube. To replace the ball assembly, proceed as follows:

- (1) Remove the screws from the transmitter-receiver housing using the KS-6854 screwdriver.
- (2) Remove the cap assembly.
- (3) Lift out the cord, and remove the retainer and ball assembly.
- (4) Substitute the new ball assembly.
- (5) Reinstall the retainer and cord.
- (6) Replace the cap assembly and housing screws.

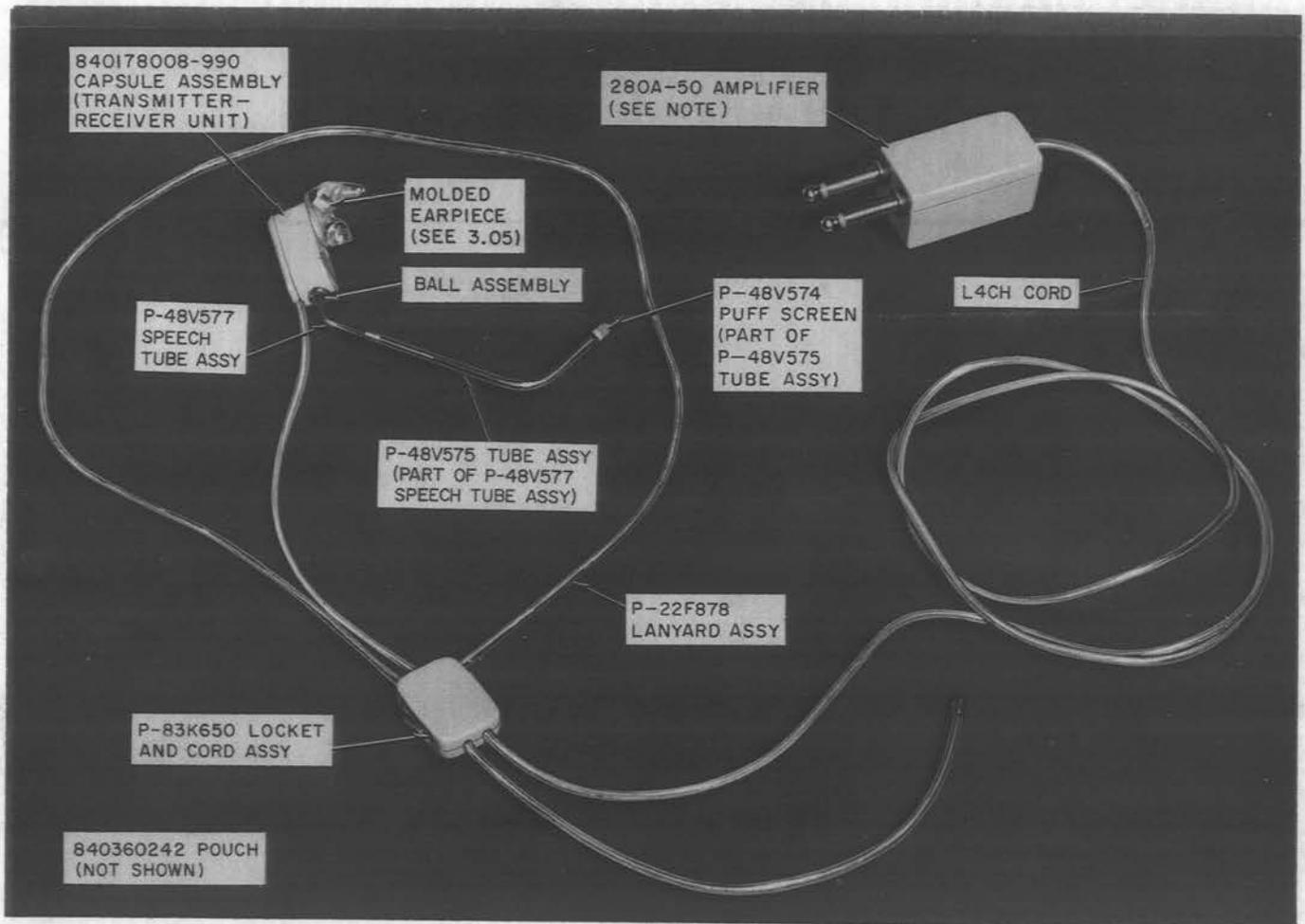
**Warning:** *Do not bend the speech tube assembly since it has been shaped by the manufacturer to insure proper operation.*

**4.04** *O Ring in Hard Plastic Earpiece Assembly* (Fig. 7): To remove the O ring push a sharp pointed object, such as a common pin, into the wall and lift out. To replace, collapse the O ring between the fingers and start it into to groove. Using the 3-inch C screwdriver, work the O ring into the groove being careful not to damage the earpiece or O ring.

**Note:** On the soft rubber earpiece, the rubber ring is a part of the molded earpiece and is not replaceable.

**4.05** *464A-50 Plug* (Fig. 4): To replace the 464A-50 plug, proceed as follows:

- (1) With the KS-6854 screwdriver, remove the three 900094020 plug clamp screws.
- (2) Lift the P-43X326 shell half and note the color of the cord conductor connections to the terminals.



NOTE:  
THE SUFFIX -50 INDICATES IVORY COLOR.

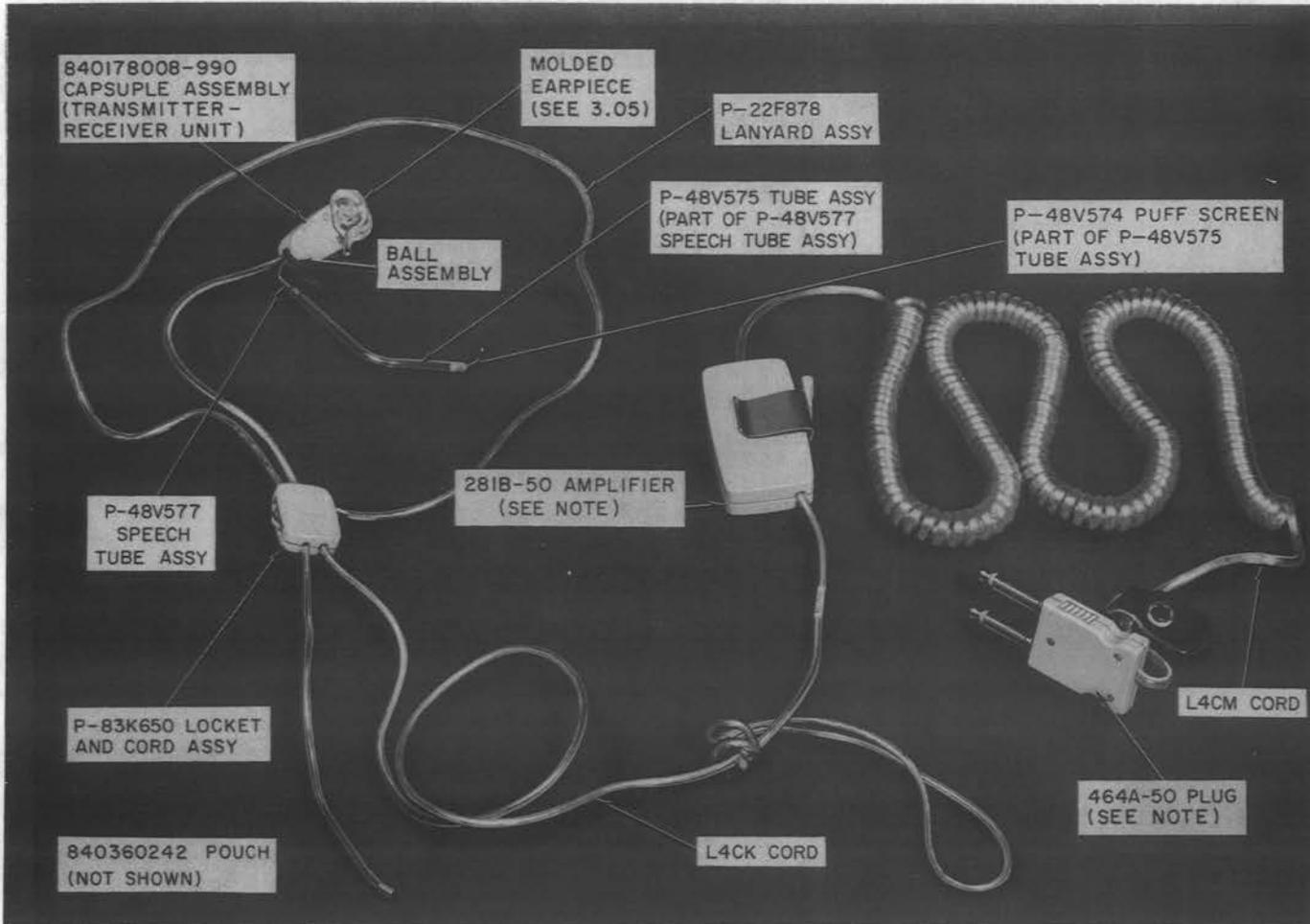
Fig. 1—61A Head Telephone Set (Mfr Disc.)

- (3) With the KS-2348 cord repair tool, remove the four P-484150 cord terminal screws.
  - (4) Remove the cord from the profiling assembly and the P-43X312 shell half.
  - (5) For reassembly, position the profiling assembly and cord in the P-43X312 shell half and connect terminals as noted in (2).
  - (6) Position the P-43X326 shell half and replace the 900094029 screws.
- 4.06 280A-50 Amplifier** (Fig. 5): To replace the amplifier, proceed as follows:

**Note:** Assembly fixture KS-21233, L1, is available to assist in the disassembly and

assembly of the 280A-50 amplifier. The fixture traps all loose parts. The 1253 screw starter is useful for starting the terminal board screws.

- (1) With the 3-inch C screwdriver, remove the two housing screws; lift off cover assembly.
- (2) Using the KS-2348 and the KS-6854 screwdrivers, remove terminal screw and remove the L4CH cord from the amplifier.
- (3) With the new amplifier, connect the cord as shown in Fig. 8 and assemble the parts in the reverse order of disassembly.
- (4) Dress the leads as originally positioned.



NOTE:  
THE SUFFIX -50 INDICATES IVORY COLOR.

Fig. 2—61B and 61B1 Head Telephone Sets (Mfr Disc.)

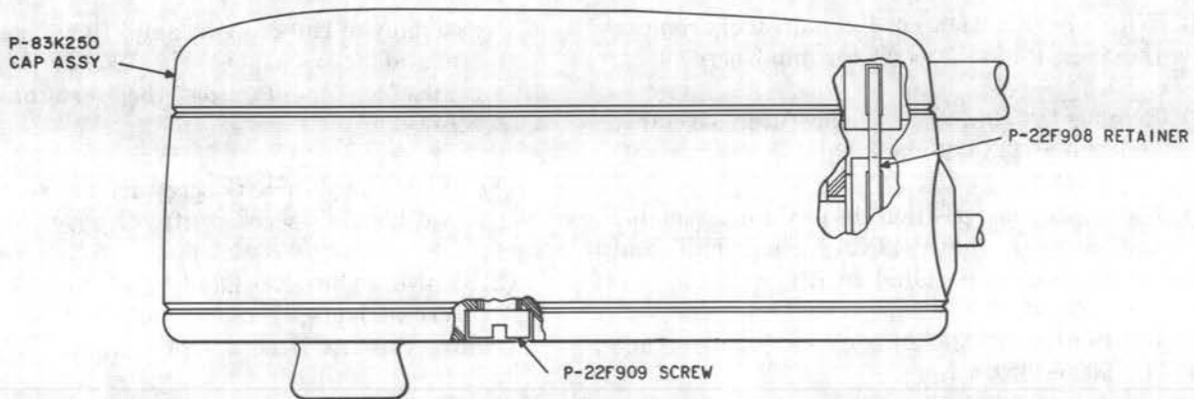


Fig. 3—Capsule Assembly 840178008-990

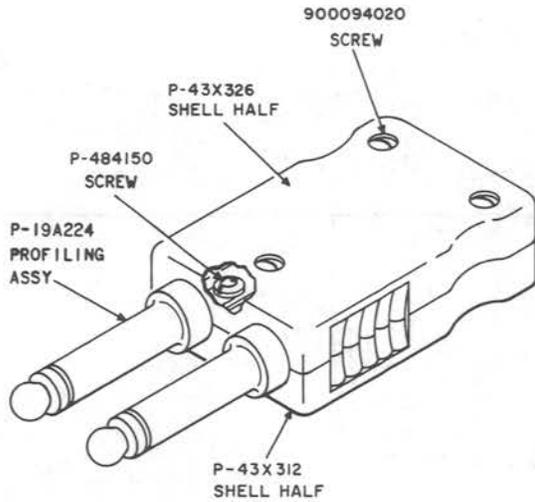


Fig. 4—464A-50 Plug

#### 4.07 Profiling Assembly Associated with 280-50 Amplifier (Fig. 5): Remove the profiling assembly as follows:

- (1) With the 3-inch C screwdriver, remove the two housing screws and lift off cover assembly.
- (2) Remove the lead and cord terminals connected to the profiling assembly using the KS-2348 and KS-6854 screwdrivers.
- (3) Remove profiling assembly.
- (4) Position the new profiling assembly in the shell half and reassemble the parts in reverse order of disassembly, connecting the lead and cord terminals as shown in Fig. 8.

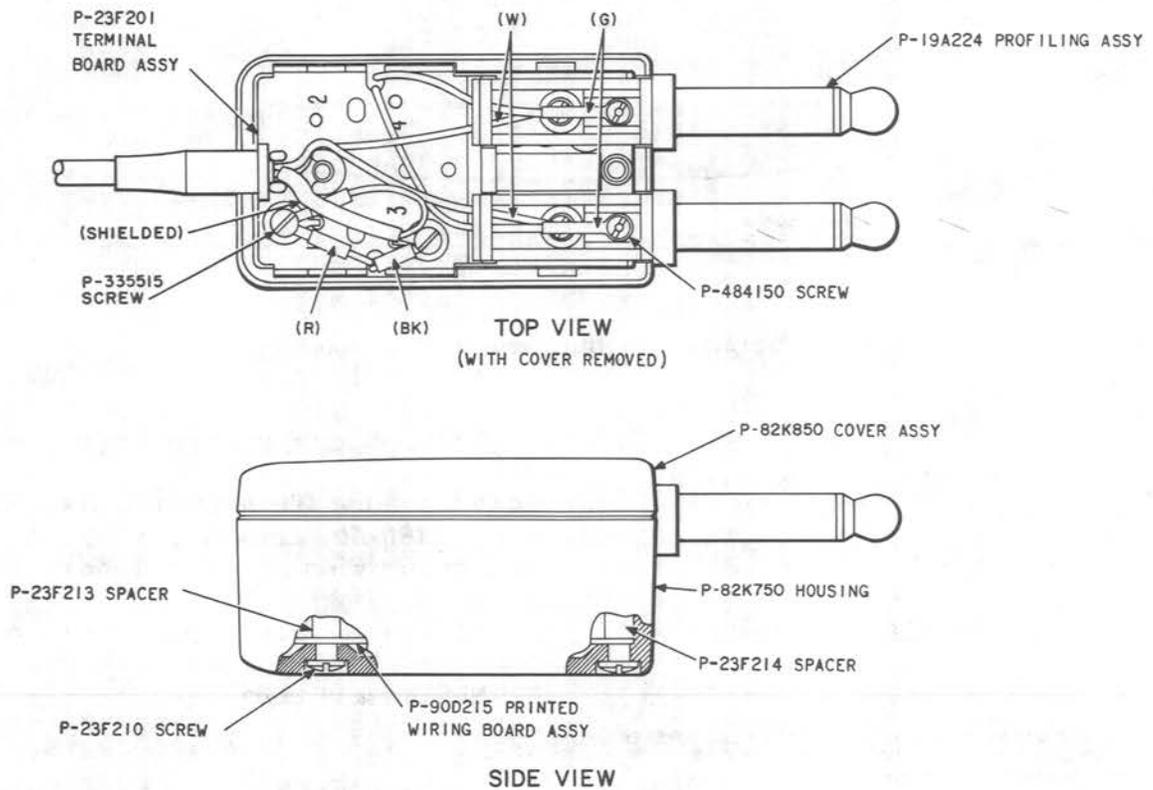


Fig. 5—280A-50 Amplifier

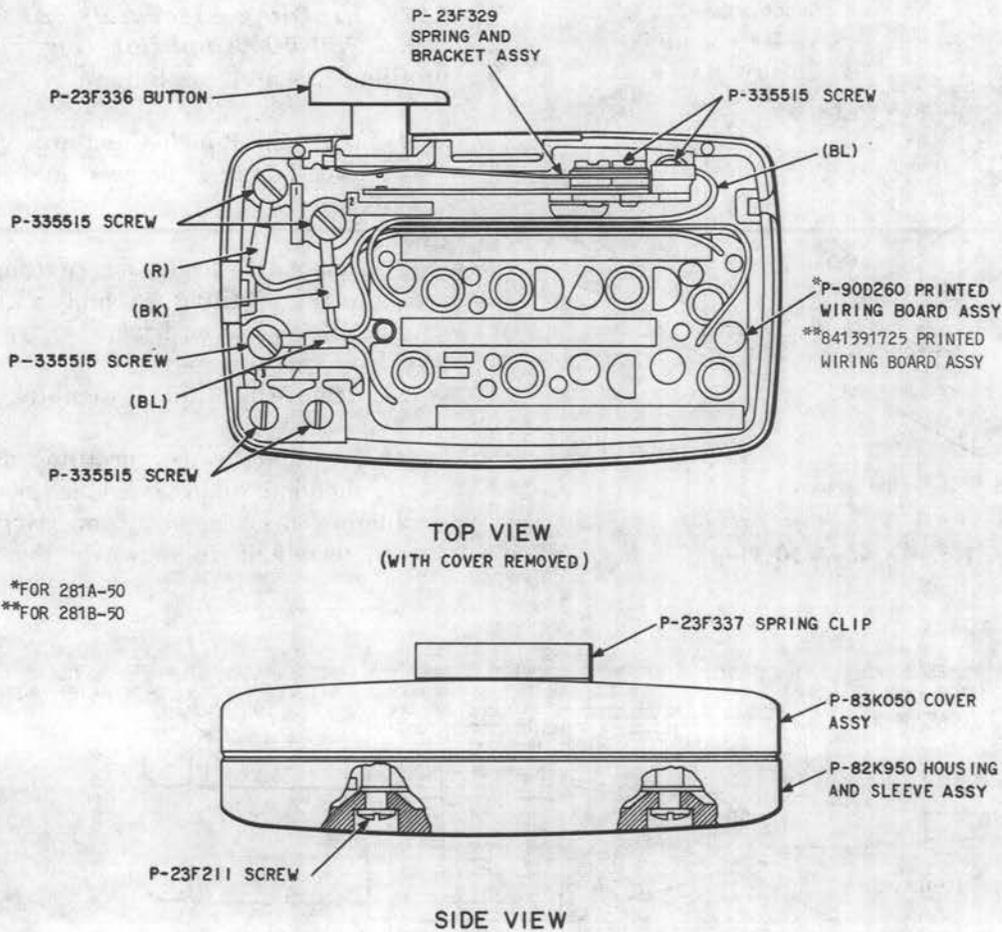
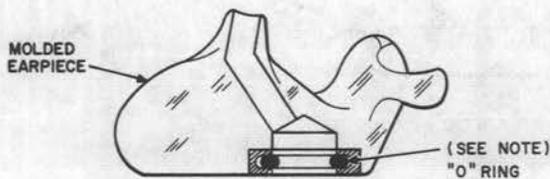


Fig. 6—281A-50 (Mfr Disc.) and 281B-50 Amplifiers



NOTE:

"O" RING MAY BE OBTAINED FROM PARKER SEAL COMPANY  
17325 EUCLID AVENUE, CLEVELAND OHIO 44112 AS THEIR  
PART NUMBER 2-009-E515-8.

Fig. 7—Molded Earpiece Showing O Ring

(5) Dress leads as originally positioned.

4.08 *Printed Wiring Board Associated with 280-50 Amplifier* (Fig. 5): Remove the printed wiring board as follows:

- (1) With the 3-inch C screwdriver, remove the two housing screws; lift off cover assembly. Note dress of leads.
- (2) Using the KS-2348 and KS-6854 screwdrivers, remove the four screws securing the printed wiring board leads.
- (3) Remove the terminal board assembly and the printed wiring board.

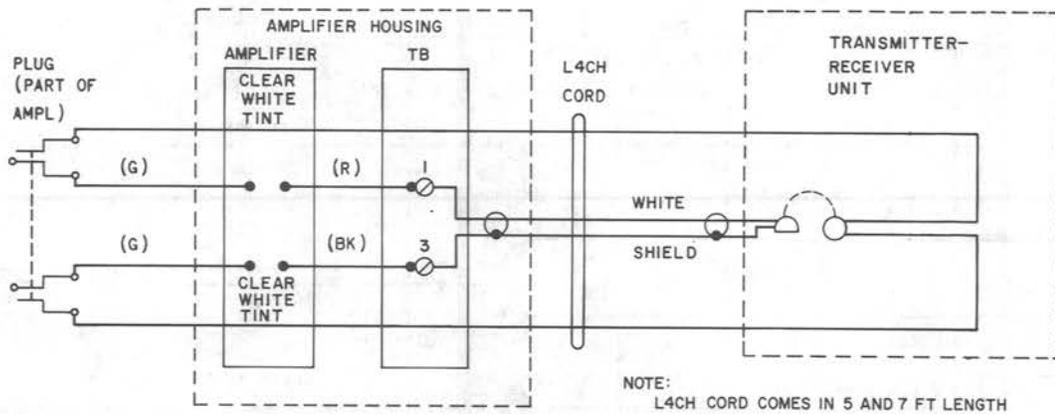


Fig. 8—280A-50 Amplifier Connecting Diagram

- (4) Position the new printed wiring board and the terminal board assembly.
- (5) Connect the lead as shown in Fig. 8.
- (6) Assemble parts in reverse order of disassembly.
- (7) Dress leads as originally positioned.

**4.09 L4CH Cord** (Fig. 1): To replace the L4CH cord proceed as follows:

- (1) At the headset end, remove the housing screws using the KS-6854 screwdriver and remove the cap assembly.
- (2) Remove the old cord, and position the new cord in the headset.
- (3) Reassemble the parts in the reverse order of removal.
- (4) Disconnect the cord at the 280A-50 amplifier by removing the housing screws using the 3-inch C screwdriver, and remove the cover.
- (5) With the KS-2348 and KS-6854 screwdrivers, remove the terminal screws and remove the L4CH cord from the amplifier.
- (6) Position the new cord in the amplifier, and connect the cord as shown in Fig. 9.
- (7) Dress leads as originally positioned.

- (8) Assemble the parts in reverse order of removal.

**4.10 281A-50 (Mfr Disc.) or 281B-50 Amplifier** (Fig. 6): Replace the amplifier as follows:

**Note:** Assembly fixture KS-21233, L2, is available to assist in the disassembly and assembly of the 281A-50 (Mfr Disc.) or 281B-50 amplifier. The fixture traps all loose parts. The 1253 screw-starter is useful for starting the terminal board screws.

- (1) With the 3-inch C screwdriver, remove the housing screws, lift off cover assembly, and remove spring clip.
- (2) With the KS-6854 screwdriver, remove the terminal screws and lift the L4C cord and the L4CM cord from the amplifier.
- (3) Connect the cords in the new amplifier as shown in Fig. 9 or 10.
- (4) Dress leads as originally positioned.
- (5) Assemble parts in reverse order of removal.

**4.11 Switch Associated with 281A-50 (Mfr Disc.) or 281B-50 Amplifier:** Replace the switch as follows:

- (1) With the 3-inch C screwdriver, remove the housing screws, lift off cover assembly, and remove spring clip.

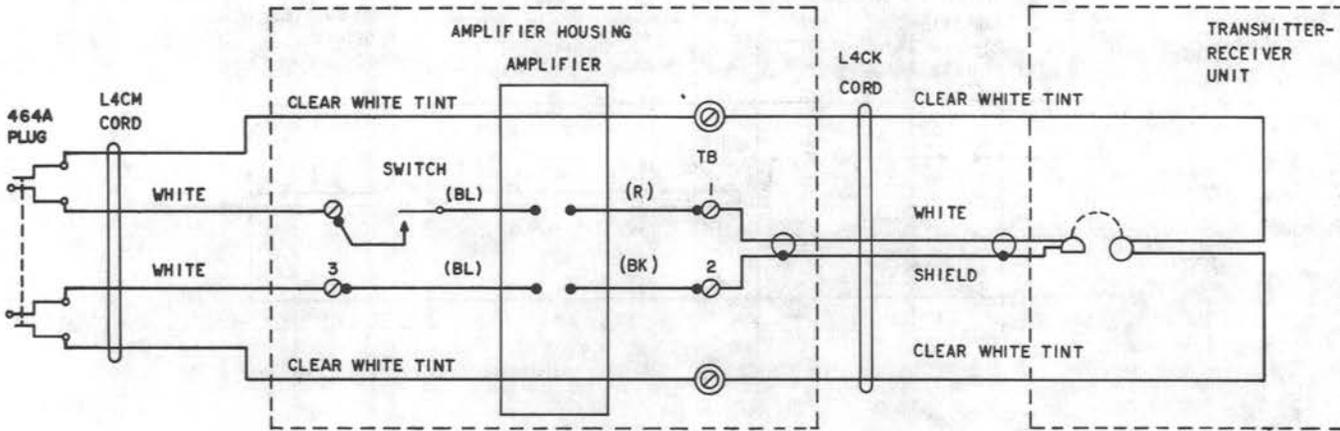
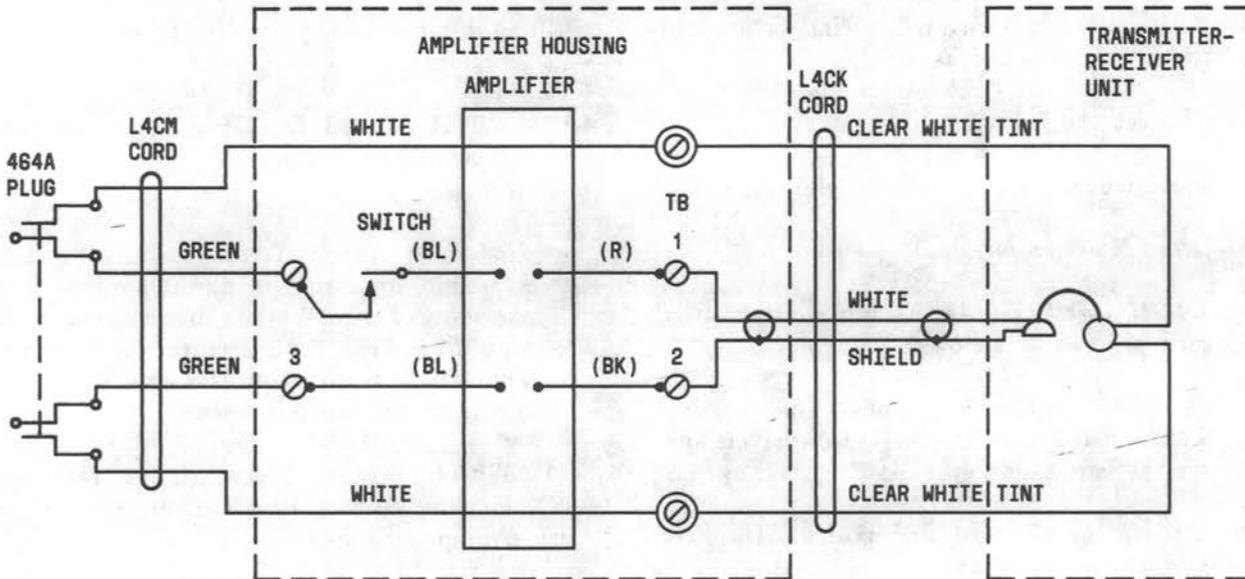


Fig. 9—281A-50 (Mfr Disc.) Amplifier Connecting Diagram



NOTE:  
THE L4CM CORD COMES IN 9 OR 13 FT. LENGTHS.

Fig. 10—281B-50 Amplifier Connecting Diagram

- (2) With the KS-6854 screwdriver, remove the terminal and mounting screws and lift the switch out.
- (3) Position new switch in amplifier, replace mounting screws, and connect leads as shown in Fig. 9 or 10.
- (4) Dress leads as originally positioned.
- (5) Reassemble in reverse order of removal.

**4.12 Printed Wiring Board Associated with the 281A-50 (Mfr Disc.) or 281B-50 Amplifier:** Replace the printed wiring board as follows.

- (1) With the 3-inch C screwdriver, remove the housing screws, lift off cover assembly, and remove spring clip.
- (2) Note the dress of the leads.

(3) With the KS-6854 screwdriver, remove the terminal screws holding the printed wiring board terminals and remove the board.

(4) Position the new printed wiring board and reassemble in reverse order of removal, connecting the terminal leads as shown in Fig. 9 or 10.

(5) Dress the leads as originally positioned.

**4.13 L4CM Cord** (Fig. 2): Replace the L4CM cord as follows:

(1) Remove the old cord from the 464A-50 plug as covered in paragraph 4.05.

(2) Position new cord and reassemble the parts in the reverse order of removal.

(3) At the 281A-50 (Mfr Disc.) or the 281B-50 amplifier, disconnect the old cord as covered in paragraph 4.10.

(4) Position new cord in amplifier and connect terminals as shown in Fig. 9 or 10.

(5) Reassemble the parts in reverse order of removal.

**4.14 L4CK Cord:** To remove the L4CK cord, proceed as follows:

(1) Disconnect the cord at the 281A-50 (Mfr Disc.) or 281B-50 amplifier as covered in paragraph 4.10.

(2) At the headset end, remove the housing screws using the KS-6854 screwdriver and remove the cap assembly.

(3) Remove the old cord, and position the new cord in the headset.

(4) Connect the new cord to the amplifier as shown in Fig. 9 or 10.

(5) Reassemble the parts in the reverse order of removal, and dress the leads as originally positioned.

## 5. CLEANING PROCEDURES

### PLUGS

**5.01** Clean plugs in accordance with Sections 069-380-811 and 069-380-812.

### CASES

**5.02** Shake or blow dirt and dust out of the amplifier and transmitter-receiver cases with the R-8950 syringe, and wipe the exteriors with a cloth slightly dampened with water.

**Warning:** *Do not use an alcohol base cleaner as this will attack the case and cap material and may render the set flammable.*

### MOLDED EARPIECES

**5.03** The molded earpieces must be kept clean by using a soft cloth and a solution of soap and water. Dislodge accumulations in sound passage with 1/32-inch soft wire or pipe cleaner.