

52-TYPE HEAD TELEPHONE SETS

PIECE-PART DATA, REPLACEMENT PROCEDURES, AND MINOR REPAIRS

1. GENERAL

1.01 This section covers information necessary for ordering parts to be used in the maintenance of 52-type head telephone sets such as those used by operators and supervisors. It also covers approved procedures for replacing these parts and for repairing and cleaning these sets.

1.02 This section is reissued to:

- Change the code designation of all 52-type head telephone sets except the 52E.
- Include information on the 52AH head telephone set.
- Include the 15A headband as an alternate for the 15F headband.
- Advise that the HC3 and HC4 receiver units have been replaced by the HC6 and HC7 units, respectively, where applicable.
- Revise Fig. 1.
- Add Table C.
- Add Table D.
- Cover the relocation of the P-335521 binding post on old type 10A receivers.
- Cover the replacement of PVC jacketed cord.
- Cover the replacement of 240A switch.

1.03 Part 2 of this section covers piece-part numbers and the corresponding names of the parts which it is practicable to replace in the field in the maintenance of the 52-type head telephone sets. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts. This information is called Piece-Part Data.

1.04 Part 3 of this section covers the approved procedures for the replacement of the parts covered in Part 2. This information is called Replacement Procedures.

1.05 Part 4 of this section covers the methods of cleaning various parts of the head telephone set. This information is called Cleaning Procedures.

1.06 Part 5 of this section covers the approved procedures for making minor repairs on the head telephone sets. This information is called Minor Repairs.

1.07 To avoid damage to the transmitter case, carry the head telephone set by some part other than the transmitter case. Care should be exercised not to scratch or nick the thermoplastic parts.

1.08 Information on the 153A and 153B amplifiers to be used with these head telephone sets for persons with impaired hearing may be found in Section 024-108-100.

1.09 When replacement of either the obsolete braided cord and/or the 289B plug is necessary, both are to be replaced using the PVC jacketed cord and 396A plug.

1.10 The code designation of the 52-type head telephone set is changed whenever the braided cord and 289B plug are replaced by the new PVC jacketed cord and 396A plug.

1.11 Table A lists the present and replacing codes for the 52-type head telephone sets.

1.12 Table B lists the principal applications of the 52-type head telephone sets and the differences in equipment features of the various sets.

1.13 Table C lists the cords and associated parts for the 52-type head telephone sets.

1.14 Table D lists the individual components used in the 52-type head telephone sets.

TABLE A — PRESENT AND REPLACING CODES FOR 52-TYPE HEAD TELEPHONE SETS

PRESENT SET CODES BEING RATED "MD"	REPLACING SET CODES
52A	52S*
52B	52L
52C	52M*
52D	52N
52FR	52PR
52GR	52RR
52H	52S*
52J	52M*
52K	52T

* The 52A and 52H sets, which may be used interchangeably, will be replaced by the 52S sets and the 52M set will replace the interchangeable 52C and 52J sets.

2. PIECE-PART DATA

2.01 The figures included in this part show the various parts in relation to other parts of the head telephone set. The piece-part numbers are given together with the names of the parts as listed by the Western Electric Company Merchandise Department. Where these names differ from those in general use in the field, the latter names in some cases are shown in parentheses.

2.02 When ordering parts for replacement purposes, give both the piece-part number and the name of the part, for example, P-484150 Screw. Do not refer to the BSP number or to any information shown in parentheses following the piece-part number.

2.03 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.

TABLE B — PRINCIPAL USES AND EQUIPMENT FEATURES OF 52-TYPE HEAD TELEPHONE SETS

HEAD TELEPHONE SET	USE	FEATURES
52AH	For maintenance on T1-type Carrier Systems	18-foot semi-spring cord High-impedance receiver unit
52E	For cable splicers — with 84A test set	7-foot cord Low-impedance receiver unit
52L	Switchboard — 4 order turret, 331-type telephone set	10-foot spring cord Push-to-talk locking switch Low-impedance receiver unit
52M	Installations at airports — 102A, 109A, or 111A key equipment	7-foot cord High-impedance receiver unit
52N	Night operator — switchboard — 84A Test Set	15-foot spring cord Low-impedance receiver unit
52PR	FAA air route traffic control centers — 102A key equipment	7-foot spring cord Push-to-talk locking or non-locking switch High-impedance receiver unit
52RR	Switching System 300	7- and 12-foot spring cord Push-to-talk locking or non-locking switch High-impedance receiver unit
52S	Operators — switchboard — 101-type key equipment	5-foot cord Low-impedance receiver unit
52T	N, O, and ON-type Carrier Systems	25-foot cord High-impedance receiver unit Sound power transmitter unit

TABLE C—CORDS AND ASSOCIATED PARTS FOR 52-TYPE HEAD TELEPHONE SETS

HEAD TELEPHONE SET	CORD		PLUG	SWITCH	CORD FASTENER	CONNECTING BLOCK
	TYPE	LENGTH (FEET)				
52AH	L4CE	18 (semi-spring)	425A		P-478356	
52E	L2Y*	7 (non-spring)				
52L	L4BY	10 (spring)	396A	KS-8010	P-478356	29A
52M	L4CC	7 (non-spring)	396A		P-478356	
52N	L4CA	15 (spring)	396A		P-478356	
52PR	L4CB	7 (spring)	396A	240A		
52RR	L6H	7 (spring)	425A	240A		
52S	L4CC	5 (non-spring)	396A		P-478356	
52T	L4CD	18 (semi-spring)	422A		P-17E761	

* The code of the cord includes two 3 Test Clips (AT-6828) and a 516A capacitor.

TABLE D—52-TYPE HEAD TELEPHONE SET COMPONENTS

HEAD TELEPHONE SET	XMTR UNIT	RCVR UNIT	XMTR ARM	RCVR HOLDER	HEAD-BAND	CORD	PLUG	SWITCH
52AH	AD1	HC7	55B	10A	15F***	L4CE	425A	
52E	N1	HC3	55A	10A	15C	L2Y		
52L	N1	HC6	55A	10A	15F***	L4BY	396A	KS-8010*
52M	N1	HC7	55A	10A	15F***	L4CC (7-Ft Cord)	396A	
52N	N1	HC6	55A	10A	15F***	L4CA (15-Ft Spring Cord)	396A	
52PR	N1	HC7	55A	10A	15C	L4CB	396A	240A
52RR	N1	HC7	55A	10A	15C	L6H	425A	240A
52S	N1	HC6	55A	10A	15F***	L4CC	396A	
52T	AD1	HC7	55B	10A	15F***	L4CD**	422A	

* Used with 29A Connecting Block.

** 18-foot semi-spring cord.

*** 15A Headband may be used as an alternate in place of 15F.

↳ **Note 1:** Use combinations of parts as shown in the following table for 52A, B, C, D, S, L, M, and N head telephone sets.

Cap
P-458982
P-16A600

Receiver Unit
HC1, HC2
HC3, HC4, HC6, HC7

Used On Case
Unlipped
Lipped or Unlipped

Note 2: 104B adapter and 101A pad (used in place of cap) may be ordered separately.

Note 3: The 15A headband, which may be used as an alternate for the 15F headband, is equipped with a P-10E121 cushioned pad. The flat P-240421 pad is available as an alternate on special order.

52-TYPE HEAD TELEPHONE SETS

	52A	52AH	52B	52C	52D	52E	52H	52J	52K	52L	52M	52N	52S	52T	52FR	52GR	52PR	52RR
HC3 Receiver Unit	X		X		X	X	X											
HC4 Receiver Unit				X				X							X	X		
HC6 Receiver Unit										X		X	X					
HC7 Receiver Unit		X							X		X			X			X	X
15C Headband						X									X	X	X	X
15F Headband (Note 3)	X	X	X	X	X		X	X	X	X	X	X	X	X				
P-16A600 Cap		X																
P-13E499 Cap		X							X					X				
P-458981 Cap	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
P-12A320 Polyethylene Disc	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
N1 Transmitter Unit	X		X	X	X	X	X	X		X	X	X	X		X	X	X	X
AD1 Transmitter Unit		X							X					X				
55A Transmitter Arm Assembly	X		X	X	X	X	X	X		X	X	X	X		X	X	X	X
55B Transmitter Arm Assembly		X							X					X				

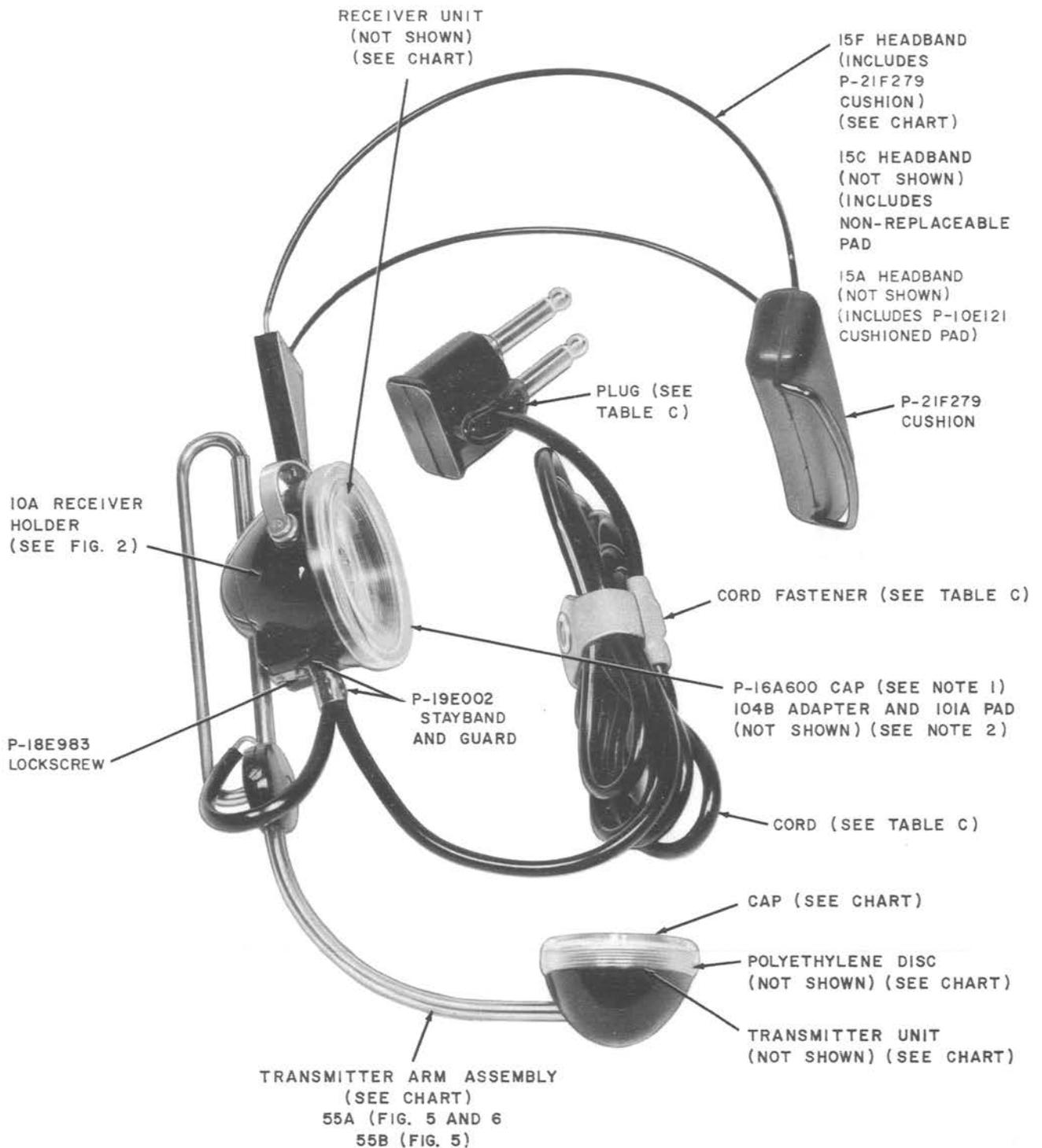


Fig. 1 — 52-Type Head Telephone Sets (52S Head Telephone Set Equipped with Stopbar Illustrated)

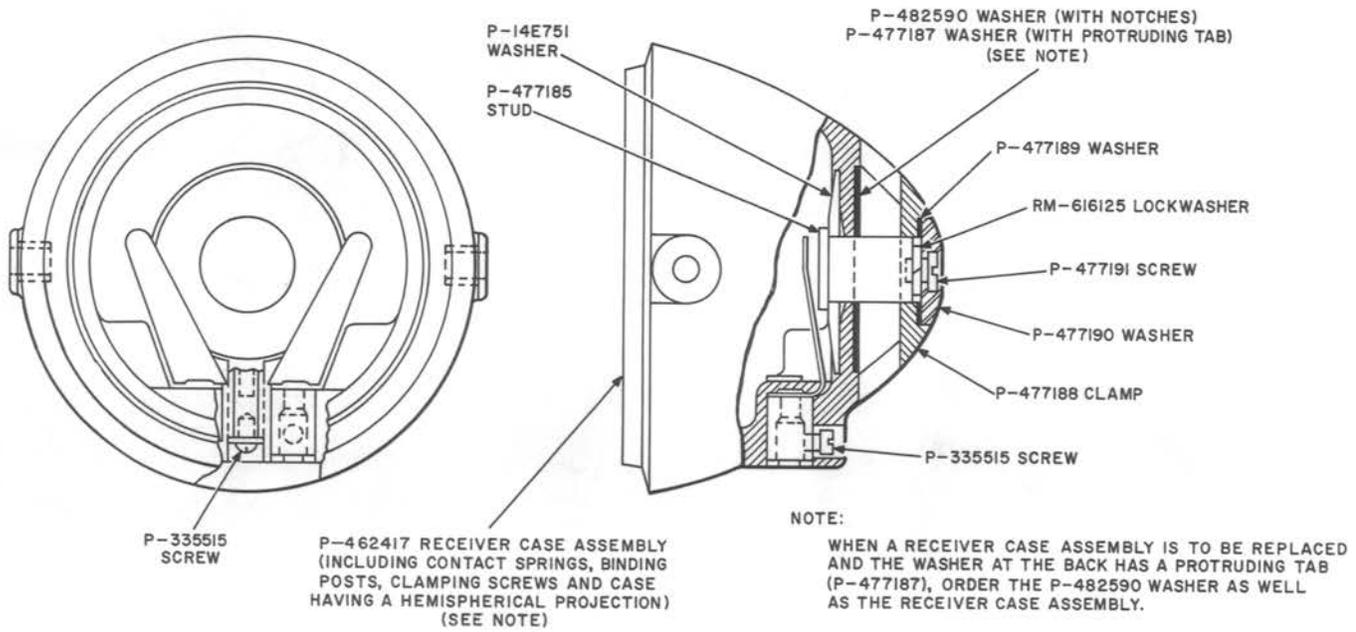


Fig. 2 — 10A Receiver Holder

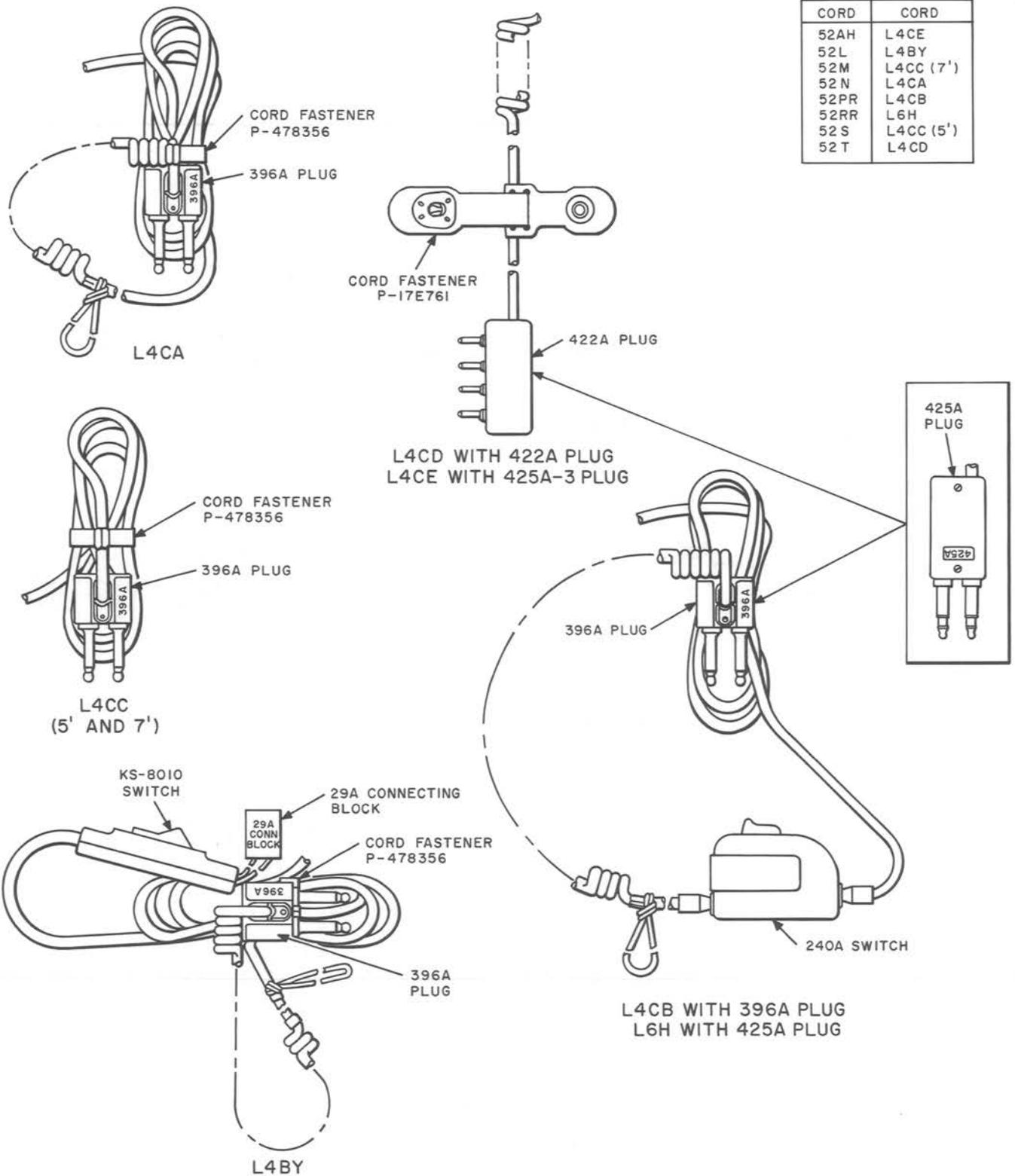


Fig. 3 — Cords and Switches Used with 52-Type Head Telephone Sets Except 52E Cord Assembly

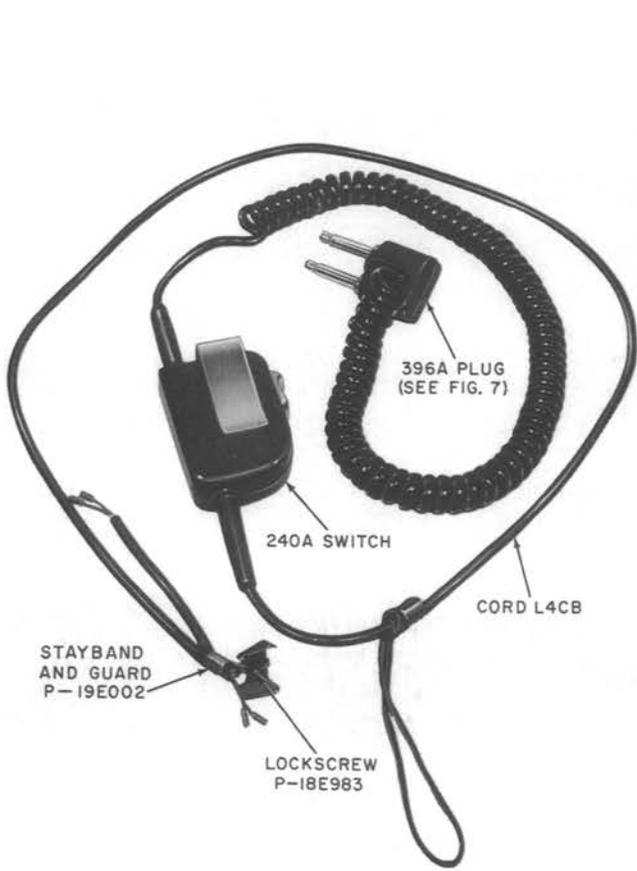


Fig. 4 — Cord Assembly (52PR and 52RR Head Telephone Set)

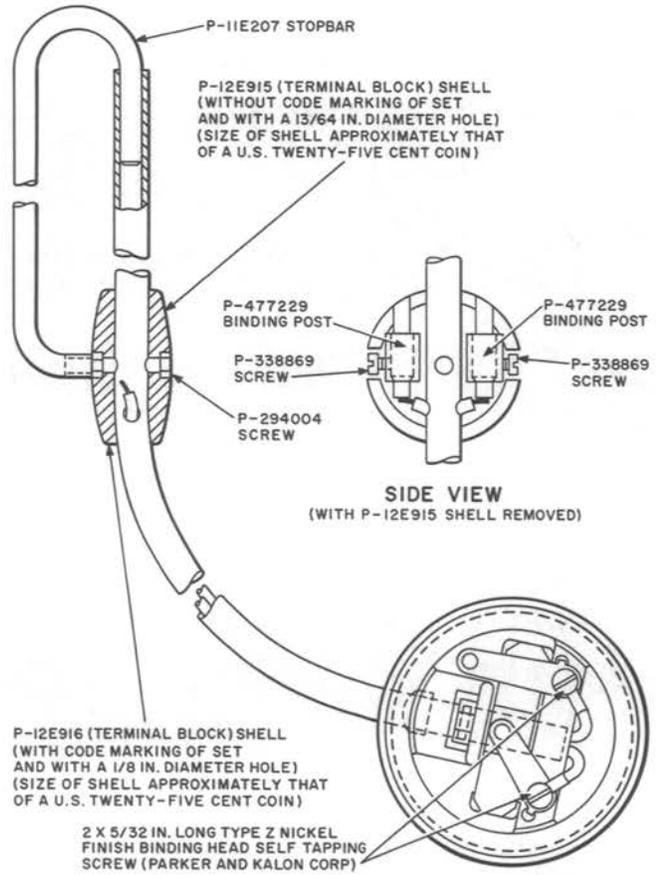


Fig. 5 — 55A and 55B Transmitter Arm Assembly (Later Type 55A Transmitter Arm Equipped with Stopbar Illustrated)

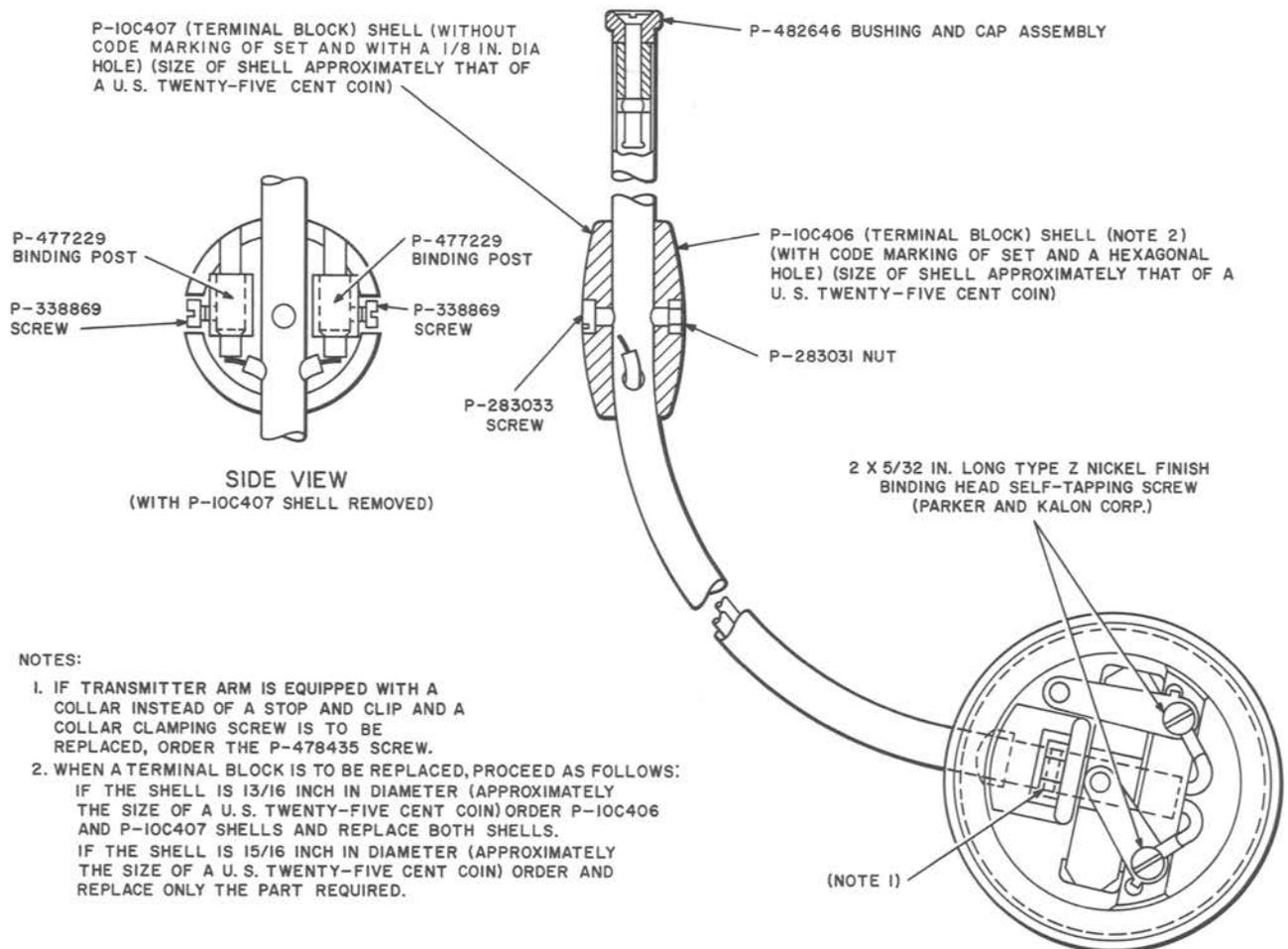
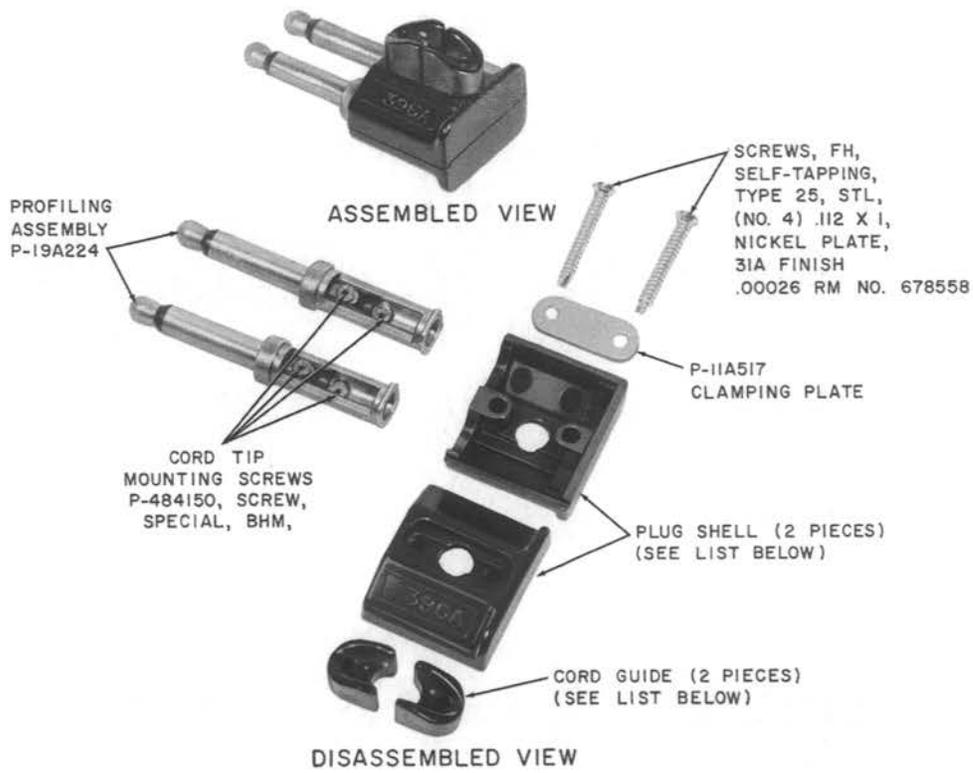


Fig. 6 — 55A Transmitter Arm Assembly — Earlier Type Equipped with Bushing and Cap Assembly



PLUG CODE	COLOR	SHELL (2 PIECES)	CORD GUIDE (2-PIECES)
396A-3	BLACK	P-376940	P-376945
396A-51	MOSS GREEN	P-376941	P-376946
396A-58	WHITE	P-376942	P-376947
396A-60	LIGHT BEIGE	P-376943	P-376948
396A-61	LIGHT GREY	P-376944	P-376949
396A-53	RED	P-421044	P-421043*
396A-56	YELLOW	P-421045	P-421043*
396A-59	ROSE PINK	P-421046	P-421043*
396A-62	AQUA BLUE	P-421047	P-421043*
396A-64	TURQUOISE	P-421048	P-421043*

*CLEAR

Fig. 7 — 396A Plug

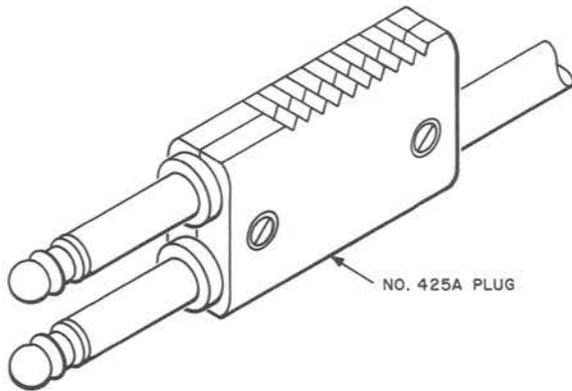


Fig. 8 — 425A Plug

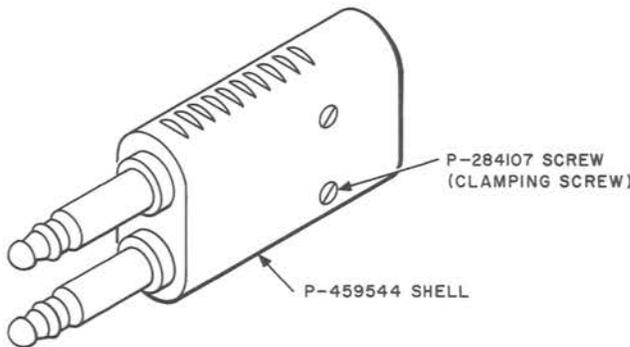


Fig. 9 — 338A Plug

3. REPLACEMENT PROCEDURES

3.01 List of Tools and Materials

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
567B (or replaced 567A)	Pad Assembly Tool
KS-2348	Cord Repair Screwdriver (equipped with P-484700 bit)
KS-6854	3-1/2 Inch Screwdriver
R-1005	Jewelers Screwdriver
R-8950	Syringe
—	P Long-Nose Pliers
—	3-Inch B Screwdriver
—	3-Inch C Screwdriver

CODE OR SPEC NO. DESCRIPTION

MATERIALS

KS-2423	Cloth
KS-8496	3 Lubricating Compound
—	Black Ceresin, C-244 Eimer and Amend, New York, N.Y. (Ozokerite) or Equivalent
—	Clear Petrolatum
—	Bell System Paste Metal Polish
—	Bell System Powdered Soap
—	Friction Tape
—	Mild Detergent

3.02 After making replacement of parts which affect transmission, check the telephone set to see that it meets the tests specified in Section 028-360-501.

3.03 No replacement procedures are specified for screws or other small parts where the procedure consists of a simple operation.

3.04 When making any replacement on a head telephone set, make sure that the association of the set and its means of identification is retained.

3.05 In order to avoid the possibility of electric shock after making any replacement of parts on a head telephone set equipped with a transmitter arm provided with the bushing and cap assembly shown in Fig. 6, proceed as follows: Determine whether the terminal block is the earlier or the later type. The earlier-type terminal block may be recognized by the diameter of the terminal shell which is that of the U.S. 5-cent coin; the diameter of the later-type shell is that of a U.S. 25-cent coin. If the terminal block is of the earlier type, check the terminal block cord clamping screws to make sure that they are covered with Ceresin at least flush with the surface of the terminal block. If not covered as specified above, in order to insulate the terminal screws, apply Ceresin over the screws flush with the surface of the terminal block. To facilitate applying Ceresin, work it with the hands to make it pliable.

→ **3.06 Receiver Unit:** To replace the receiver unit, shown in Fig. 10, unscrew the cap from the receiver holder and remove the old unit. When mounting an HC1 or HC2 unit, position it so the receiver terminals are in position nearest the ends of the contact springs. When mounting an HC3, HC4, HC6, or HC7 unit, position it so the code marking on the unit is on the side opposite the binding posts. Screw the receiver cap finger tight. When properly tightened, there will be a slight gap between the rims of the case and cap. If difficulty is encountered in screwing the cap on the case, apply clear petrolatum sparingly to the threads of the case.

10A RECEIVER HOLDER

3.07 To replace the receiver holder, proceed as follows: Remove the headband. Disconnect the cord by removing the three cord clamping screws, using the KS-2348 cord repair screwdriver, and then remove the cord terminals and the cord stay and plastic guard.

3.08 Unscrew the cap and remove receiver unit.

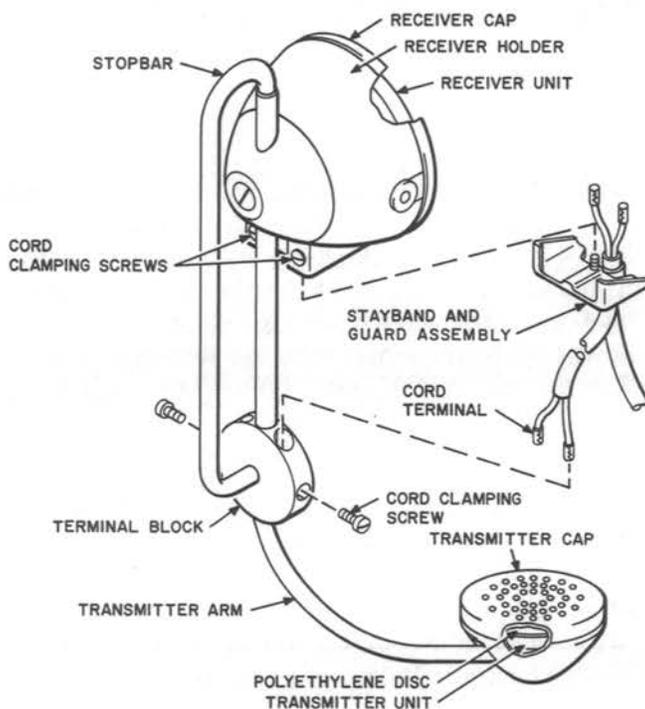


Fig. 10 — Transmitter Arm Assembly and Receiver Holder

3.09 Remove the clamp and associated washers by removing the receiver holder clamp mounting screw (Fig. 11) using the 3-inch C screwdriver and proceed as covered in 3.10 or 3.11, as applicable.

3.10 Where the transmitter arm is equipped with a stopbar, back off the terminal block clamping screw, using the KS-6854 screwdriver, until the lower end of the stopbar can be removed from the terminal block. Remove the stopbar from the transmitter arm tube. With the fingers pressing on the stud from the inside of the receiver holder (Fig. 11), slide the tube through the hole in the stud.

3.11 Where the transmitter arm is equipped with the bushing and cap assembly, remove the end cap assembly from the transmitter arm tube after loosening the end cap assembly screw with the KS-6854 screwdriver. With the fingers pressing on the stud from the inside of the receiver holder, slide the tube through the hole in the stud.

3.12 Remove the clamp and associated washers from the new receiver holder by removing the clamp mounting screw, shown in Fig. 11 using the 3-inch C screwdriver.

3.13 When assembling the receiver holder, hold it in one hand and insert the large spring washer under the contact springs with the concave side of the washer toward the back of the holder as shown in Fig. 11. Then insert the stud through this washer and the hole in the back of

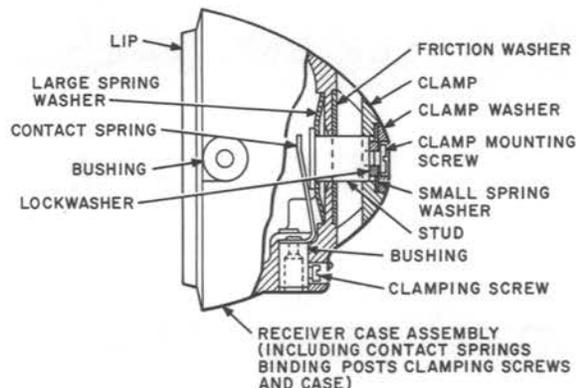


Fig. 11 — 10A Receiver Holder

the receiver holder so that the transmitter arm tube hole is outside the receiver holder. Mount the friction washer over the stud so that it is flat against the receiver holder as shown in Fig. 11. Press on the stud from the inside of the receiver holder and slide the transmitter arm tube back into the stud. Reinsert the stop-bar or end cap assembly, as applicable, and tighten the screw.

3.14 Assemble the clamp and three associated washers as shown in Fig. 11.

3.15 Insert the cord terminals so that the smooth surface of the metal tip is in contact with the screw. Tighten the screws. Tighten stay band and guard assembly screw.

3.16 To replace the receiver unit, proceed as covered in 3.06. Replace the headband. ← ←

RECEIVER CASE ASSEMBLY, LARGE SPRING WASHER, AND FRICTION WASHER

3.17 To replace any of these parts, proceed as covered in 3.07 through 3.15 substituting new parts as required.

RECEIVER HOLDER CLAMP, CLAMP MOUNTING SCREW, CLAMP WASHER, SMALL SPRING WASHER, AND LOCKWASHER

3.18 To replace any of these parts, remove the clamp, clamp washer, small spring washer, and the lockwasher from the receiver holder by removing the receiver holder clamp mounting screw, shown in Fig. 11, using the 3-inch C screwdriver.

3.19 After replacing the part, assemble the clamp and three associated washers as shown in Fig. 11 and tighten the clamp mounting screw.

101A PAD AND 104B ADAPTER

3.20 Unscrew the adapter from the receiver holder. To replace the pad, place a new pad on the 567B tool with the plastic washer side toward the tool. Then place the nipple part of the 104B adapter over the central part of the plunger of the tool, substituting a new adapter, if necessary. Press the adapter firmly toward the tool with a slight turning motion to snap the

washer on the pad over the nipple of the adapter. Screw the adapter on the receiver holder.

3.21 The pad may be left on the receiver until the four layers of tissue have been used. A layer of tissue is removed while the pad is on the adapter by breaking the top layer near the outer edge, peeling the tissue from the whole outer edge first, and then from around the plastic washer.

TRANSMITTER UNIT

3.22 To replace the transmitter unit shown in Fig. 10, unscrew the cap and carefully lift the unit from the case. Where the unit is not provided with leads, proceed as covered in 3.23. Where the unit is provided with leads, proceed as covered in 3.24.

3.23 Remove the transmitter unit. If the polyethylene disc is torn, dirty, wrinkled, or otherwise damaged, replace it. Hold the transmitter cap with the threaded side up and place the polyethylene disc in it so that it is centrally located. Place the new transmitter unit, membrane side down, on top of the disc in the cap. Place the transmitter case, threaded side down, over the cap. While maintaining the cap and case in this position, screw the cap on the case, finger tight. When properly tightened, there will be a slight gap between the rims of the cap and case. If difficulty is encountered in screwing the cap on the case, apply petrolatum sparingly to the threads of the case.

Caution: In removing or replacing the transmitter unit, hold it between the thumb and one or two fingers on the outer edge of the unit. Pressing against the moisture-resistant membrane may result in excessive sag of the membrane impairing the transmission characteristics of the unit. This precaution applies to both the replacing unit and the unit removed for repair. In packing the unit to be returned for repair, use the box in which the new unit was received. Take care that no packing material presses against the membrane.

3.24 Remove the clamping screws with the KS-6854 screwdriver and remove the transmitter unit. Substitute the new unit. With the new unit lead terminals in place, insert the clamping screws and tighten them securely using

the KS-6854 screwdriver. Position the new unit in the case and screw the cap on the case finger tight. When properly tightened, there will be a slight gap between the rims of the cap and case. If difficulty is encountered in screwing the cap on the case, apply petrolatum sparingly to the threads of the case.

POLYETHYLENE DISC

3.25 To replace the polyethylene disc, follow the procedure covered in 3.23.

TRANSMITTER ARM ASSEMBLY

3.26 General: If it is necessary to replace a transmitter case, replace the transmitter arm assembly also. See Fig. 12.

↗ **3.27** To replace the arm assembly, unscrew the transmitter cap and carefully lift the transmitter unit from the case. Where the unit is not provided with leads, remove as covered in 3.23. Where provided with leads, remove as covered in 3.24. Then disconnect the cord from the terminal block by removing the two cord clamping screws, using the KS-6854 screwdriver.

↘ **3.28** Remove the receiver holder and mount it on the new transmitter arm assembly as covered in 3.07, 3.08, 3.09, 3.13, 3.14, and 3.16.

3.29 Insert the cord terminals from the outside of the transmitter arm into the holes in the terminal block so that the smooth surface of the metal tip is in contact with the screw. Take care that the cord tips are seated on the bottom of the binding post holes; then tighten the screws.

↗ **3.30** Where the transmitter unit is not provided with leads, replace as covered in 3.23. Where the unit is provided with leads, replace as covered in 3.24.

TRANSMITTER CONTACT SPRING AND TERMINAL CLAMPING SCREWS

3.31 To replace the clamping screws that hold the transmitter contact springs in place, proceed as covered in 3.32 and 3.33. To replace the clamping screws that hold the transmitter terminals in place, proceed as covered in 3.34.

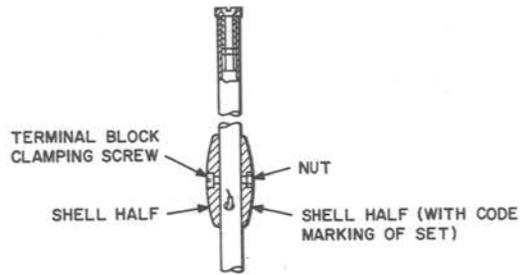


Fig. 12A

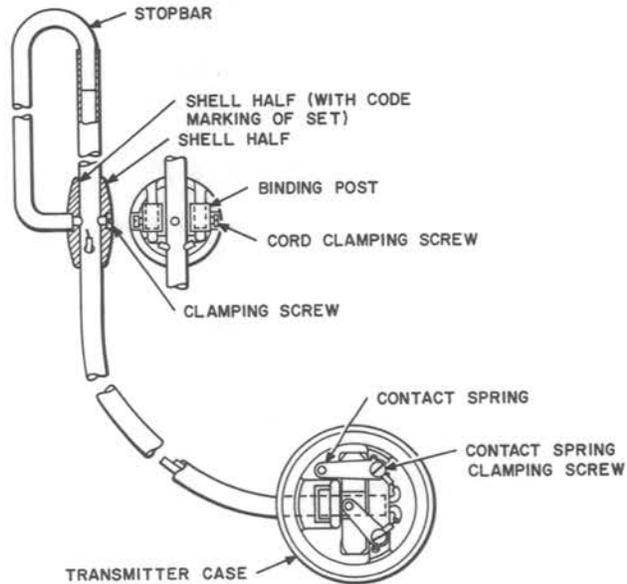


Fig. 12B

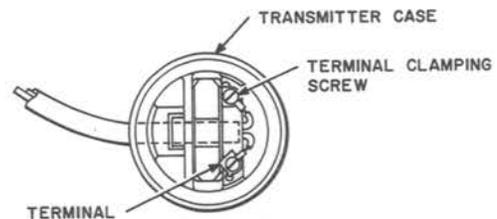


Fig. 12C

Fig. 12 — 55A and 55B Transmitter Arm Assembly

3.32 Remove the transmitter cap, transmitter unit, and polyethylene disc as covered in 3.22 and 3.23. Remove the clamping screws shown in Fig. 12B with the KS-6854 screwdriver.

3.33 With the contact springs in their proper position as shown in Fig. 11, insert the new clamping screws and tighten them using the

KS-6854 screwdriver. Place the polyethylene disc and transmitter unit in the transmitter cap and screw the cap in place as covered in 3.23.

3.34 Remove the transmitter cap, unit and clamping screws, shown in Fig. 12C, as covered in 3.22 and 3.24. Insert the new clamping screws through the terminals and remount the parts as covered in 3.24.

TRANSMITTER TERMINAL BLOCK PARTS ASSOCIATED WITH TRANSMITTER ARM EQUIPPED WITH END CAP ASSEMBLY SHELL HALF, BINDING POST, CLAMPING SCREW, AND NUT

3.35 To replace any of these parts, remove the terminal block clamping screw and nut shown in Fig. 12A using the R-1005 jewelers screwdriver, and remove the shells. When the shells are of the earlier type, discard them. The earlier-type shells may be distinguished from the later-type shells by their diameter. The earlier shells have a diameter of a U.S. 5-cent coin and the later-type shells have a diameter of a U.S. 25-cent coin.

3.36 When it is necessary to replace a binding post, remove the cord clamping screw, as required, using the KS-6854 screwdriver. Unsolder the binding post from the associated wire, and solder the new binding post to this wire.

3.37 Substitute new parts as required. Place the shell halves on the binding posts as shown in Fig. 12B. Insert the clamping screw and nut and tighten securely.

3.38 Insert the cord terminals into the new binding posts so that the smooth surface of the metal tip is in contact with the screw. Take care that the cord tips are seated on the bottom of the binding post holes, then tighten the screws.

TRANSMITTER TERMINAL BLOCK PARTS ASSOCIATED WITH TRANSMITTER ARM EQUIPPED WITH STOPBAR — SHELL HALF, BINDING POST, AND CLAMPING SCREW

3.39 To replace any of these parts, remove the screw shown in Fig. 12B, using the KS-6854 screwdriver, and remove the shells.

3.40 When it is necessary to replace a binding post, proceed as covered in 3.36.

3.41 Substitute new parts as required. Place shell halves on the binding posts as shown in Fig. 12B, insert the lower end of the stopbar, and tighten the screw.

Caution: After assembly of the stopbar, the stopbar and associated screw should be examined for projecting burrs or sharp edges.

3.42 Insert the cord terminals into the new binding posts as covered in 3.38.

3.43 *Cord Associated with 396A Plug:* To replace the cord, disconnect at the plug end as covered in 3.46. At the headset end, disconnect the cord from the 10A receiver holder by removing the two clamping screws and the cord stay screw, using the KS-2348 cord repair screwdriver. Remove the cord terminals and cord stay. Substitute the new cord and connect it to the plug and 10A receiver holder. Reassemble all parts in the reverse order of removal. If the L4CB cord is used with the 52PR head telephone set and is being replaced, disconnect the 240A switch from the replaced cord and connect it to the new cord as covered in 3.46. To replace a braided cord with a PVC jacketed cord on an old model 10A receiver, it will be necessary to move the P-335521 binding post from the hole furthest from the cap to the hole nearest the cap. Secure the P-19E002 stayband and guard to the 10A receiver holder with a P-18E983 lockscrew.

338A PLUG

3.44 Remove the clamping screws using the 3-inch C screwdriver. Remove the cord terminal screws using the KS-2348 screwdriver and pull the cord from the plug. Substitute new parts as required. Insert the cord terminals into the plug fingers taking care not to twist the cords more than 180 degrees. Insert and securely tighten the terminal screws. Reassemble the plug tightening the clamping screws.

396A PLUG

3.45 Remove the clamping screws using the 3-inch C screwdriver. Remove the cord terminal screws using the KS-2348 screwdriver and pull the cord from the shell. Substitute new parts as required. Insert the cord through the

shell and secure the cord tips to the plug fingers with the terminal screws. Tighten the screws.

- **3.46 240A and KS-8010 Switches:** To replace the 240A switch, remove the screws from the switch housing and clip using the 3-inch B screwdriver. Remove the clip and open the housing. To replace the KS-8010 switch, remove the clamping screws of the switch using the KS-6854 screwdriver and separate the switch halves. Using the KS-6854 screwdriver, loosen the terminal and cord fastening screws and remove the cord from the switch. The L4BY cord is the replacement cord for the L4AH cord and will be furnished equipped with hardware if so ordered, to facilitate the complete replacement. Substitute the new switch, connect and fasten the cord to the switch and assemble the parts in the reverse order of removal. Fig. 13 illustrates the installation of KS-8010 switch in the L4BY cord.

- 3.47 Cord Fastener (plastic strap) Associated With 422A Plug:** To place a new P-17E761 cord fastener on the cord, proceed as follows: Secure the cord fastener to the cord with the P-360125 band as shown in Fig. 14A, using the long-nose pliers. Form the cord fastener by slipping the E end of the fastener through slot 3 as shown in Fig. 14B, and the F end through slots 1 and 2 as shown in Fig. 14C.

HEADBAND PAD

- 3.48 Synthetic Rubber Headband Pad:** To place a synthetic rubber headband pad on the headband, pass the free end of the headband through slots A and B and then through slots C and D as shown in Fig. 15.

- 3.49 Folded Leather Headband Pad:** To remove a folded leather pad from the headband, pull the tabs of flap B as shown in Fig. 16 from under the wire headband, and pull the band out of the pad through slots A and C.

- 3.50** To place a folded leather headband pad on the headband, pass the free end of the headband through slot A shown in Fig. 16. The band will come out through slot C and under flap B. Slip the tabs on flap B under the wire headband to fasten it in place.

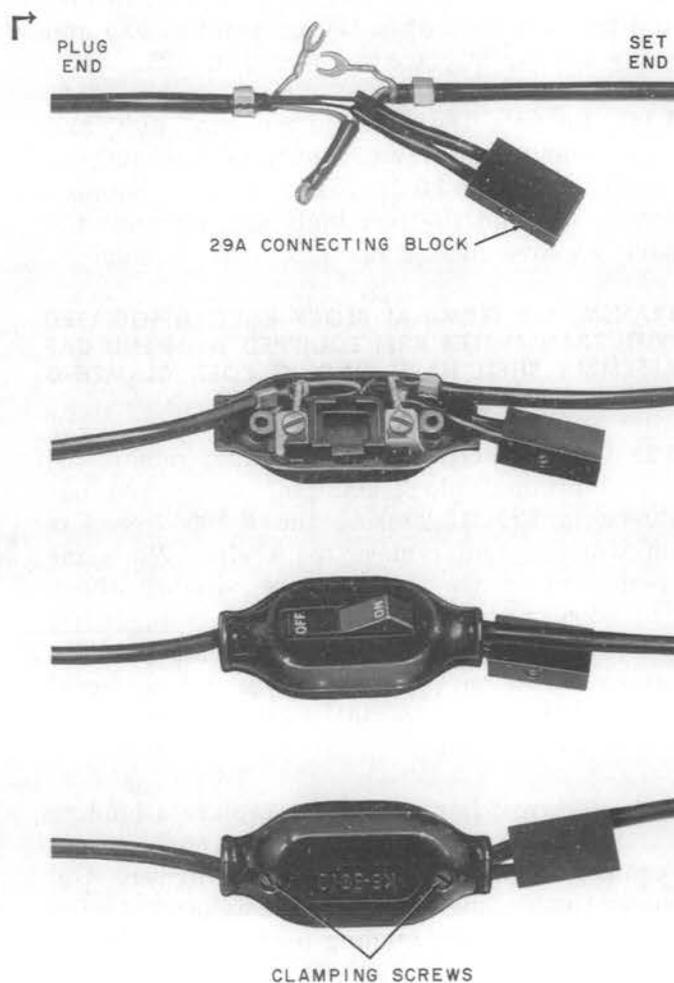


Fig. 13 — L4BY Cord Switch and 29A Connecting Block Assembly

- 3.51 Foam Rubber Headband Pad:** To remove a foam rubber pad from the headband, un-snap fastener C shown in Fig. 17 and pull the pad off the headband through slots A and B.

- 3.52** To place a foam rubber pad on the headband, un-snap fastener C shown in Fig. 17 and pass the free end of the headband through slot A and out through slot B. Snap fastener C to hold the headband in place.

- 3.53 Synthetic Foam Headband Pad:** To place a synthetic foam headband pad on the headband, pass the free end of the headband through the slot of the pad, making sure that the thicker half of the pad is on the inner side of the headband as shown in Fig. 18.

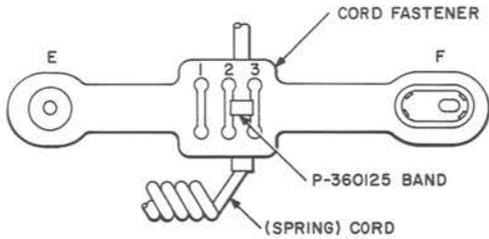


Fig. 14A

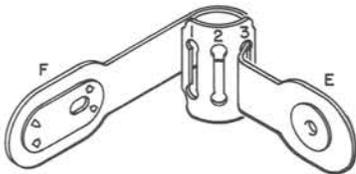


Fig. 14B

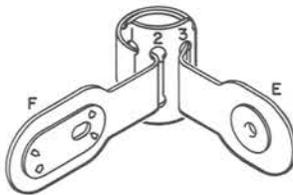


Fig. 14C

Fig. 14 — Forming Cord Fastener

4. CLEANING PROCEDURES

PLUGS

4.01 Clean plugs in accordance with Section 069-380-811 or 069-380-812.

TRANSMITTER CAPS AND CASES

4.02 *Cloudy or Discolored Transmitter Caps:*

Remove transmitter caps which are cloudy or discolored. Clean the caps with a small amount of Bell System metal polish applied to a slightly dampened KS-2423 cloth. Take care that the

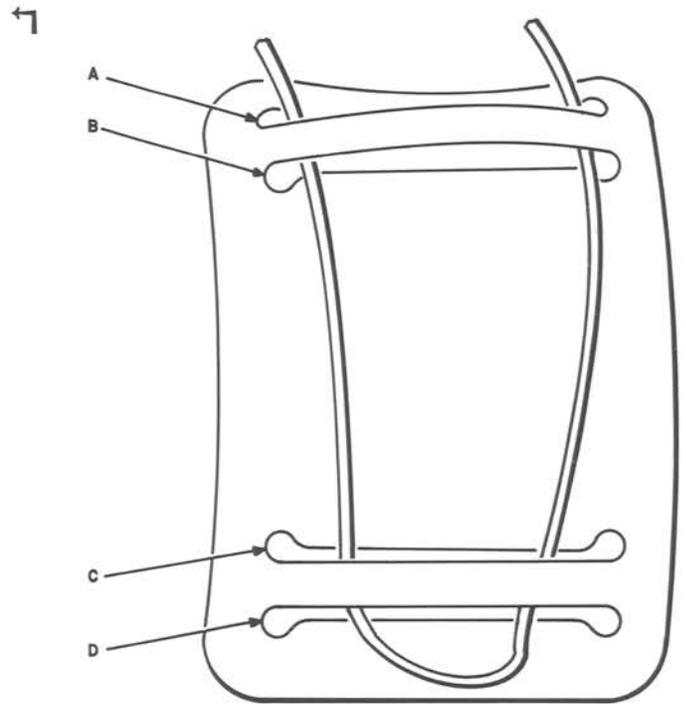


Fig. 15 — Synthetic Rubber Headband Pad

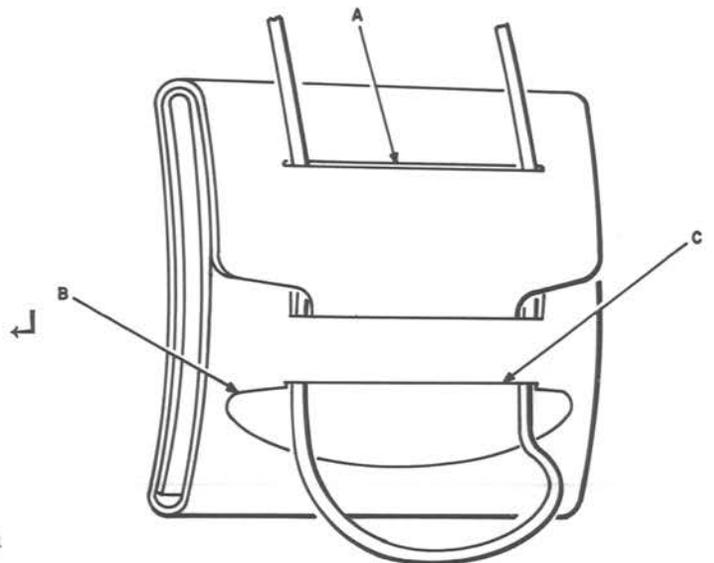


Fig. 16 — Folded Leather Headband Pad

metal polish does not clog the holes in the caps. Wash the caps in a solution of soap and luke-warm water. If the metal polish did clog the holes and was not removed by washing, blow it

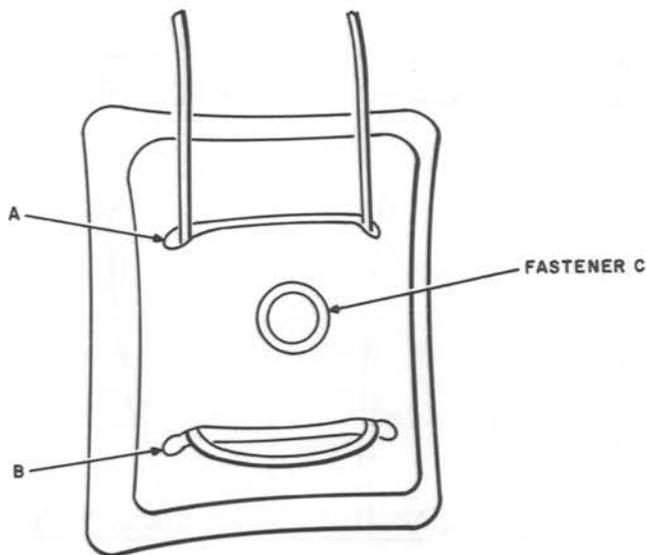


Fig. 17 — Foam Rubber Headband Pad

out with the R-8950 syringe and wash the caps again.

4.03 Dirty Transmitter Caps: Remove caps which are dirty but not cloudy or discolored and wash in a solution of soap and lukewarm water. If the caps cannot be released for washing, wipe them with a clean KS-2423 cloth slightly dampened with water.

4.04 Transmitter Cases: Shake or blow dirt and dust out of the transmitter cases with the R-8950 syringe and wipe the exteriors with a cloth slightly dampened with water.

→ **4.05** Dry the cases and caps before the transmitter units are assembled in the cases
↳ as covered in 3.23 or 3.24, as applicable.

Caution: Do not use alcohol or a chloride base cleaner as these will attack the case and cap material and may render the set flammable.

RECEIVER CAPS AND CASES

4.06 Cloudy or Discolored Receiver Caps: Remove receiver caps which are cloudy or discolored from the receiver cases. Clean the caps with a small amount of Bell System metal polish applied to a slightly dampened KS-2423 cloth. Take care that the metal polish does not

clog the holes in the caps. Wash the caps in a solution of soap and lukewarm water. If the metal polish did clog the holes and was not removed by washing, blow it out with the R-8950 syringe and wash the caps again.

4.07 Dirty Receiver Caps: Remove caps which are dirty but not cloudy or discolored and wash in a solution of soap and lukewarm water. If the caps cannot be released for washing, it will be satisfactory to wipe them with a clean, dry KS-2423 cloth.

4.08 Receiver Cases: Shake or blow dirt and dust out of the receiver cases with the R-8950 syringe and wipe the exteriors with a cloth slightly dampened with water.

4.09 Dry the holders and caps before the receiver units are assembled in the cases. Replace receiver units as covered in 3.06.

Caution: Do not use alcohol or a chloride base cleaner as these will attack the case and cap material and may render the set flammable.

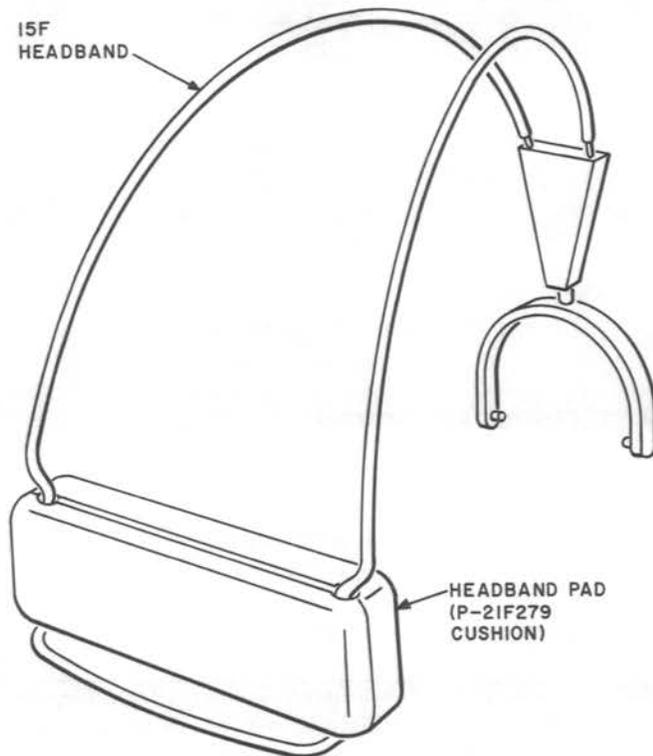


Fig. 18 — Synthetic Foam Headband Pad

REMOVABLE SYNTHETIC AND FOAM RUBBER HEADBAND PADS (15A HEADBAND) AND SYNTHETIC FOAM HEADBAND PAD (15F HEADBAND)

4.10 Remove the pad from the headband. Wipe with a clean KS-2423 cloth slightly dampened with a solution of mild detergent and water. Care should be exercised when wiping the pad so as not to let the water get into the slots of the pad. After wiping the foam rubber pad, allow it to dry with the slots down. Remount the dry pad on the headband.

NONREMOVABLE HEADBAND PAD (15C HEADBAND)

4.11 Wipe with a clean KS-2423 cloth slightly dampened with a solution of mild detergent and water. Care should be exercised when wiping the pad so as not to let the water get on the inside surface of the pad at the ends. Allow to dry before using.

5. MINOR REPAIRS

KS-8010 SWITCH

5.01 If the cord is not gripped securely by the retaining walls of the KS-8010 switch, proceed as follows: Remove the clamping screws of the switch using the KS-6854 screwdriver and separate the switch halves. Build up the cord with several turns of friction tape at a position between the two green or yellow conductors and approximately 1/4 inch from the conductor nearer the cord body. The buildup should allow the cord to be held firmly in the switch, but not so tightly that there is a possibility of the switch walls breaking. Reassemble the switch and tighten the screws.

HEADBAND

5.02 Reform any badly bent headband wires. Take care when doing this that the wires will hold any adjusted positions but can still be moved into and out of the cradle without bending.

5.03 Where the yoke pin binds in the one-piece cradle (except cradles that have an asterisk under the code marking), lubricate it as follows: Pull the pin out from the cradle as far as possible. With the yoke pin in the fully extended position, apply a thin film of KS-8496 lubricating compound to the shaft of the pin for a distance of 1/2 inch from the cradle. Work the pin back and forth through the cradle to check that it no longer binds.

5.04 Where a yoke pin is so loose in the cradle that the receiver holder can no longer be held in an adjusted position, replace the headband.

5.05 When a headband is new, the joint between the yoke and the yoke pin is tight. With use this joint may become loose, allowing some play between the yoke and the yoke pin. Eventually the yoke pin may break away from the yoke, particularly if the yoke pin is riveted by the earlier method as shown in Fig. 19A, where the riveted part is thin at the edges. Where there is play between these parts and it appears that the yoke pin may break away from the yoke, replace the headband. Do not attempt to repair the riveted joint.

5.06 Do not attempt to repair headbands when the headband wires are marked sufficiently to impair their strength. Disregard nicks or cuts of a minor nature, such as rub marks or flattened areas at the first bend just above the cradle as shown in Fig. 19. Replace any headband on which nicks are deep enough to snag the fingernail as it is run along the wire.

5.07 If a yoke does not hold a receiver, adjust the yoke as required. To do this, hold the yoke between the fingers and apply pressure taking care not to distort the yoke. Excessive bending of the yoke may weaken it in the section riveted to the yoke pin.

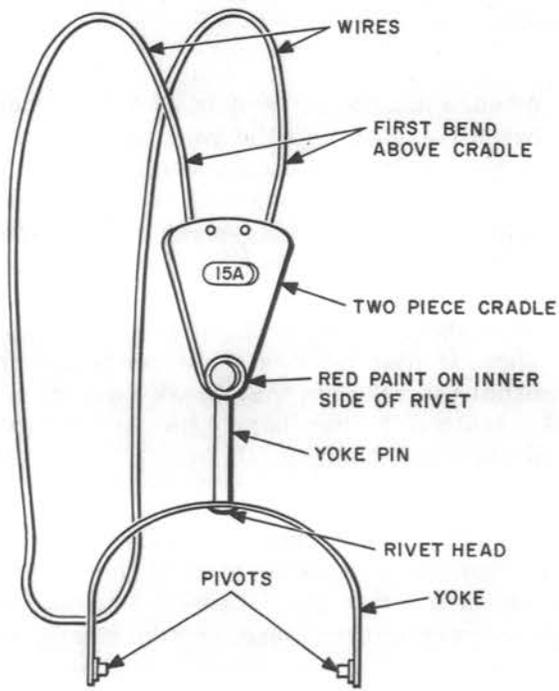


Fig. 19A

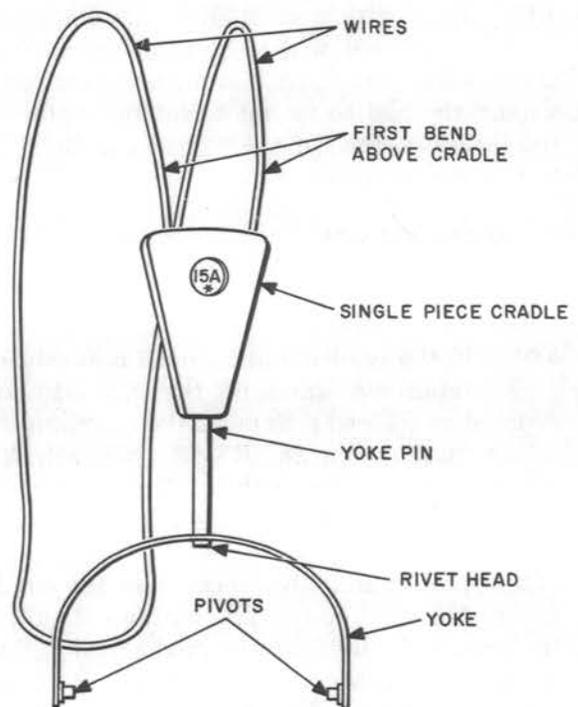


Fig. 19B

Fig. 19 — Headband