

**PLEASE NOTE AND RETURN:**

BARNETT, R. G. 0

COLLINS, A. W. 0

GRAY, J. E. 0

MILLER, R. W. 0

MOORE, H. T. 10

KLAISS, M. J. 8

GENERAL SCHMIDT, W. F. 10

**HEAD TELEPHONE SETS**

**KS-19796**

**VISUAL INSPECTION AND ELECTRICAL TESTS**

**1. GENERAL**

**1.01** These inspections and tests cover the cord and plug, amplifier assembly, capsule and capsule cord, acoustic tube, earpiece assembly, and headband.

**1.02** This section is being reissued to:

- Change the amount of dc voltage which can safely be placed across the plug tips from 4.0 to 7.0 volts.
- Include reference to acoustic coupler.
- Revise Fig. 1 and 2.
- Revise the test procedure as outlined in 4.01.
- Cover cleaning procedure for acoustic tube and earpiece assembly.
- Revise the test procedure as outlined in 6.01 and 6.02.

**1.03** For the electrical tests, the KS-19796 headset will operate safely in the 52-type headset circuits providing the dc voltage across the plug tips does not exceed 7.0 volts.

**1.04** Six-wire headsets can be checked readily by observing schematic differences from four-wire sets and providing suitable jacks and connectors for test equipment.

**3. VISUAL INSPECTION**

STEP	ACTION	VERIFICATION
1	Inspect cords.	Not frayed, knotted, soiled, cut, crushed or kinked.
2	Inspect wrist loop.	Not frayed, worn or broken.

**1.05** See Section 028-350-801 for piece-part data and replacement procedures.

**2. PRECAUTIONS**

**2.01** Excessive mechanical abuse, including raps against a hard surface, can damage the receiver and transmitter units in the capsule.

**2.02** Excessive tugging on cord tips attached to amplifier posts can create a permanent noise condition. Cord tips should be withdrawn from or replaced on amplifier posts with P long-nose pliers to avoid conductor damage. Withdraw tips straight up and out.

**2.03** When checking exposed amplifier do not attempt to remove the plastic boot covering the amplifier components.

**2.04** Keep the transmitter acoustic tube and earpiece assembly clean. If either of these becomes blocked or clogged, poor transmission or reception will result. See Part 5 for cleaning procedures.

**2.05** Do not attempt to open the capsule assembly. This item can be repaired only by the manufacturer.

**2.06** Do not attempt to make repairs to either amplifier or to the acoustic tube. These items can be repaired only by the manufacturer.

**SECTION 028-350-501**

STEP	ACTION	VERIFICATION
3	Inspect voice acoustic tube and acoustic coupler (if the latter is used).	Not deformed, mutilated, or plugged. Is not loose because of damaged threads. Coupler not deformed. Properly fitted and oriented on end of tube.
4	Inspect capsule clip.	Clip ears not mutilated or deformed and within 1/16-inch of capsule.
5	Inspect headband.	Band not bent or warped. Capsule mounting arm not broken or mutilated. Sponge pads not missing, torn or dirty.
6	Inspect earpiece assembly.	Tube and eartip not cracked. Assembly free of foreign matter.
7	Inspect plug.	Plug shell not cracked. Plug not bent or dirty.
8	Inspect switch case.	Case not cracked and switch operates properly.

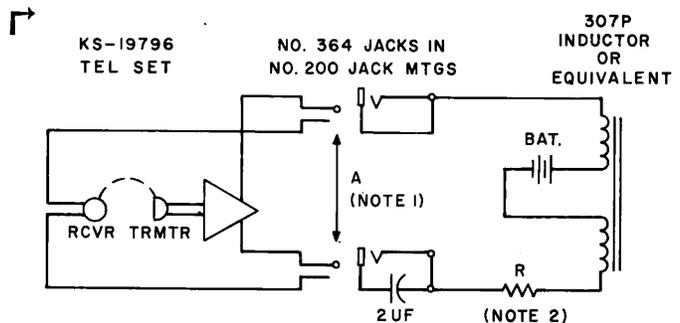
**4. ELECTRICAL TEST**

*Caution: Do not apply more than 1.5 volts to transmitter/receiver capsule as higher voltage could damage these units.*

*Caution: Do not apply more than 7.0 volts to plug tips as higher voltage could damage amplifier components.*

*Caution: Some ohmmeters use battery voltages that might be unsafe for all but cord continuity tests.*

**4.01** The testing circuit as shown in Fig. 1 may be used in lieu of plugging headset into an attendants circuit as outlined in Step 1 of Test Procedures.



**NOTES:**

- THE VOLTAGE (A) ACROSS PLUG TIPS SHALL NOT EXCEED 7.0 VOLTS.
- THE VALUES OF R SHALL BE:  
R = 33Ω FOR 24V BATTERY.  
R = 270Ω FOR 48V BATTERY.

**Fig. 1—Testing Circuit for Checking Headset**

**TEST PROCEDURES**

STEP	ACTION	VERIFICATION
1	Insert headset plug in unoccupied attendants circuit or use testing circuit as illustrated in Fig. 1. In no case shall the dc voltage across the plug tips exceed 7.0 volts.	

STEP	ACTION	VERIFICATION
2	Operate necessary keys and/or switches to activate transmitter amplifier.	
3	Listen to receiver.	No unusual crackling, noises, or tones.
4	Talk, whistle, or blow into end of transmitter acoustic tube. Check disconnect action of headset switch if used. Reverse plug and repeat.	Side tone heard. Transmitter, receiver and amplifier satisfactory.
5	Shake and gently pull and twist cords. Move plug about in jack.	No noise. Cordage and plug satisfactory.

#### Defective Sets

6	If sidetone is heard for only one position of plug, repeat reversal of plug several times.	If trouble persists, substitute working amplifier and repeat steps 1 to 5.
7	If sidetone is missing for both positions of plug, remove plug shell and amplifier cover to expose cord conductor ends. Check colors against applicable schematic layout. See Fig. 3, 4, and 5. Check contact action of headset switch, if used.	
8	Apply 1.5 volts momentarily across sleeves of plug while listening to receiver.	No audible click indicates cord or receiver failure.
9	Remove receiver capsule cord tips from amplifier pins and apply 1.5 volts momentarily across cord tips.	Missing click indicates defective receiver and/or its capsule cord.
10	Repeat Step 9 with transmitter cord tips.	Missing click indicates defective transmitter and/or its capsule cord.
11	Remove plug cord tips from amplifier and check for continuity of all conductors.	Satisfactory cordage indicates faulty amplifier section. Substitute a working amplifier and check steps 1 to 5.

#### 5. CLEANING PROCEDURE

5.01 The acoustic tube and earpiece assembly should always be kept clean. Particular attention should be paid to keeping the sound openings unobstructed (free from wax in the case of the eartip).

5.02 The following are recommended cleaning agents in order of preference:

(a) Cetylclde

(b) Clean-aid

(c) Zephiran

5.03 Where possible, visible contaminants should be removed with clean tissue, cloth, or cotton. Further cleaning should be done with the acoustic tube or earpiece assembly removed from the capsule.

5.04 Any cleaning agent (see 5.02) should be wiped dry and accumulations thereof should

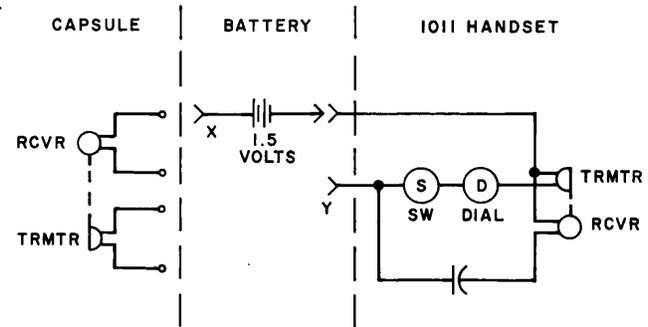
not be allowed to obstruct the openings. Blowing through the tube will remove the agents. Solids caught in the sound openings can be dislodged with a piece of soft wire approximately 1/32 inch in diameter.

**6. USE OF 1011 HANDSET FOR HEADSET CHECKS**

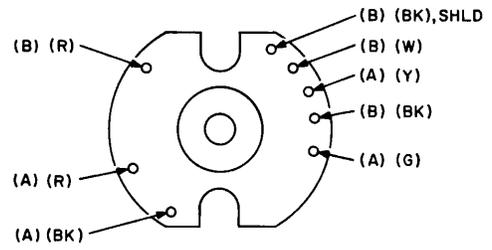
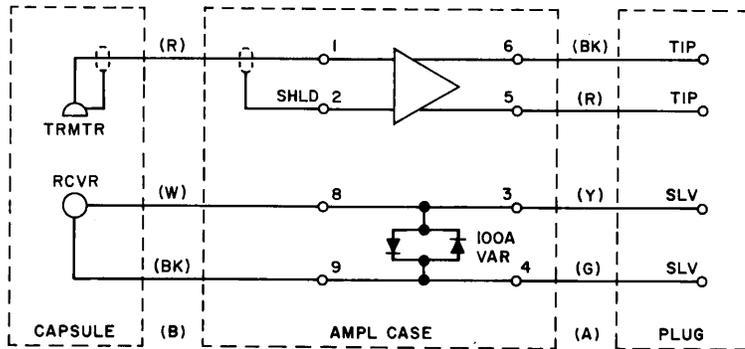
**6.01** Transmitter/receiver capsule check can be made with the setup given in Fig. 2. With the capsule transmitter or the capsule receiver of the headset connected to x and y, operating the switch of the 1011 handset should produce clicks in handset receiver (for continuity), and in the capsule transmitter and receiver (for acoustic operation).

**6.02** Cord conductor continuity checks can be made as in 6.01. In this case, the conductor is connected to x and y. Operation of the switch

of the 1011 handset should produce clicks in the handset receiver. If the headset switch is used, it should be connected to x and y. Operating the headset switch should produce clicks in the handset receiver.

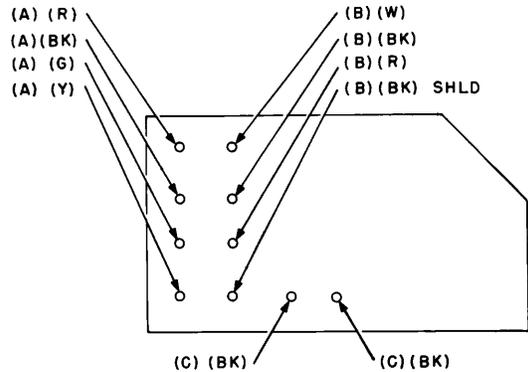
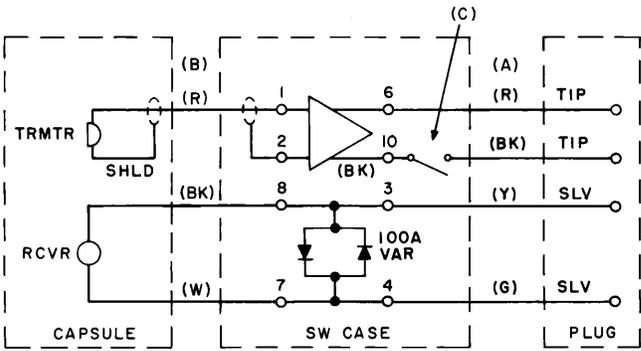


**Fig. 2—Sketch Showing Connections for Checking Capsule and Cord Using 1011 Handset**



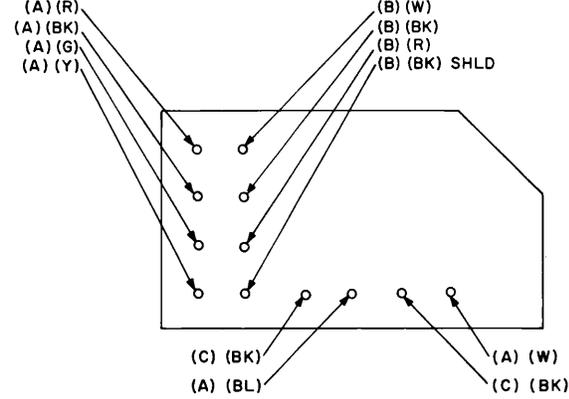
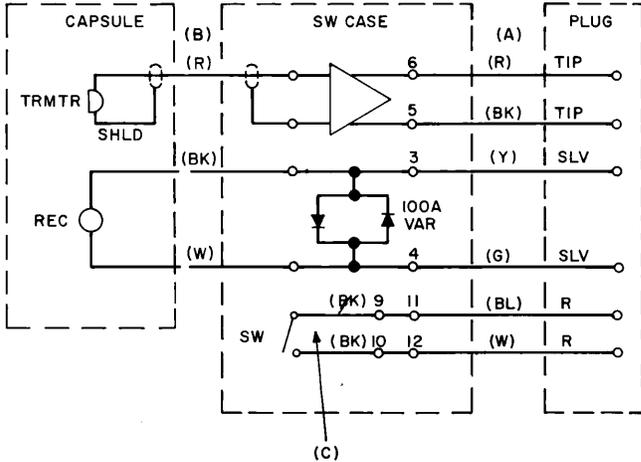
KEY:  
 (A) SPRING CORD OR STRAIGHT CORD.  
 (B) CAPSULE CORD.

**Fig. 3—Circuit Schematic and Color Coding Chart for L49 Amplifier Used on L1 and L2 Headsets**



KEY:  
 (A) - SPRING CORD  
 (B) - CAPSULE CORD  
 (C) - SWITCH WIRES

Fig. 4—Circuit Schematic and Color Coding Chart for L51 Amplifier Used on L4 to L9 Headsets and for L53 Amplifier Used on L3 Headset



KEY:  
 (A) - SPRING CORD  
 (B) - CAPSULE CORD  
 (C) - SWITCH WIRES

Fig. 5—Circuit Schematic and Color Coding Chart for L50 Amplifier Used on L10 to L15 Headsets

