

HEAD TELEPHONE SETS

52 TYPE

1. GENERAL

1.01 This section covers the visual inspection and electrical tests for 52 type head telephone sets.

1.02 This section is reissued to make general revisions throughout the section. Detailed reasons for reissue will be found at the end of the section. Since this reissue covers a general revision, the arrows used to indicate changes have been omitted.

1.03 Arrangements should be made locally between the Plant and Traffic Departments to have sets available for the inspection as required. A record should be kept of the sets received and inspected in order to insure the inspection of all sets within the required period.

1.04 Spare head telephone sets should be substituted for sets which are reported several times during a period of 30 days as being in trouble and on which the tests and inspections covered herein have disclosed no defects. These sets should be referred to the supervisor for disposition.

1.05 Operators head telephone sets are usually identified by number. Where this practice is followed, any set received by the Plant Department which does not have a number, should be returned to the Traffic Department to have a number assigned. After the number is assigned, a numbered heavy paper tab with the number exposed should be folded and inserted in the annular groove on the under side of the transparent receiver cap or the set should be numbered in accordance with local practices. When testing the set, care should be taken that the association of the set and its identification tab is retained.

1.06 Head telephone sets should be carried by some part other than the transmitter or transmitter arm. Care should be exercised not to scratch the thermoplastic parts.

1.07 Before making electrical tests on the head telephone set, defective parts except those which do not affect transmission should be replaced as outlined in Section A504.004 covering piece part data and replacement procedures for this apparatus.

1.08 The proper usage of 52 type head telephone sets is covered by Form E-3012.

2. LIST OF TOOLS, MATERIALS AND TEST APPARATUS

Code or
Spec.No.

Description

Tools

KS-2348 Cord Repair Screwdriver

KS-6854 3-1/2" Screwdriver

R-1021 Brush

R-8950 Syringe

- No. 5 Watchmakers Screwdriver

Materials

KS-2423 Cloth

- Bell System Powdered Soap

Test Apparatus

- Patching Cord Test Set per SD-21502-01, SD-90430-01, SD-21338-01, ES-239451 or equivalent testing equipment such as shown in Fig. 2.

Note: If none of this testing equipment is available use two No. W1U cords, three No. 6 dry cells connected in series or other suitable battery supply and an operators telephone circuit at a vacant switchboard position or desk.

W1U Cord
(2 required)

3. METHOD

General

3.01 To replace defective parts, proceed as outlined in part 3 of Section A504.004 covering replacement procedures for this apparatus.

Visual Inspection

Cords and Plugs

3.02 Inspect for badly soiled, worn or frayed cords and replace them if required. Untie knots in cords.

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OFFICE

SECTION A203.004

3.03 Inspect for broken or missing tie cords and make replacements as required. Tighten loose or improperly fastened tie cords. Replace the cord if the stay cord assembly at the receiver end is broken.

3.04 Replace damaged or defective connecting blocks or KS-8010 switches.

3.05 Inspect for broken, worn or frayed wrist loop (stay cord sleeving) and defective retractile portion of night operators and supervisors cords and replace the cord if either the wrist loop or cord is defective.

3.06 Inspect for worn or bent plugs in accordance with Section A203.007 covering tests and inspections of plugs. Tighten all parts of a plug which are loose and replace missing or defective parts. Clean plugs which require it in accordance with Sections A503.305 or A503.306 covering cleaning and polishing plugs.

3.07 Replace torn, worn, otherwise defective or missing cord fasteners, rubber sleeves or S-hooks.

Transmitter Arm Assembly

3.08 If the transmitter case is broken or cracked or has threads damaged sufficiently to prevent screwing the cap tightly on it, replace the transmitter arm assembly. If the case is not friction tight on the arm, i.e., is not tight enough to stay in the adjusted position on the arm under normal usage, replace the transmitter arm assembly.

Note: When caps are screwed finger tight on the transmitter case, in accordance with standard practice, there will be a slight gap between the case and cap.

3.09 Replace a broken, cracked, or badly chipped transmitter cap or one having threads damaged sufficiently to prevent screwing the cap tightly on the transmitter case.

3.10 Clean the membrane of the transmitter unit with an R-1021 brush, applying light strokes. If the adhering matter cannot be removed in this manner or if the membrane is damaged, replace the unit.

3.11 Inspect for loose or missing transmitter arm collar clamping screws in the transmitter case and tighten or replace as required, using the No. 5 watchmakers screwdriver.

3.12 Inspect for dirty transmitter cases and caps. Remove transmitter caps and wash in a solution of soap and lukewarm water at all periodic inspections.

If the caps cannot be released for washing, wipe them with a clean KS-2423 cloth slightly dampened with water. Shake or blow dirt and dust out of the transmitter case with the R-8950 syringe and wipe the exterior with a cloth slightly dampened with water. Dry the case and cap before the transmitter is assembled in the case.

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.

3.13 If the contact springs of the transmitter case are broken or defective, replace the transmitter arm assembly.

3.14 Inspect for a loose or missing screw in the transmitter arm end plug. Tighten the nut on the screw if the screw is loose and replace the end plug assembly if the screw is missing.

3.15 Inspect for loose or missing screws in the transmitter cord conductor terminal block and tighten or replace, as required.

Receiver Holder

3.16 Replace a broken, cracked or badly chipped receiver case or cap or one having threads damaged sufficiently to prevent screwing the cap tightly on the receiver case.

Note: When caps are screwed finger tight on the receiver case, in accordance with standard practice, there will be a slight gap between the case and cap.

3.17 Replace a broken or cracked friction joint cover (moulded end clamp).

3.18 Replace the spring washer and friction washer of receiver holders, which do not hold the transmitter arm tightly enough to hold it in adjustment under normal usage or which do not limit the rotation of the arm.

3.19 Tighten loose receiver case dome clamping screws. Replace missing screws.

3.20 If the contact springs of the receiver case are loose, defective or missing, replace the receiver case assembly.

3.21 Tighten loose stay cord clamping screws and cord terminal screws. Replace missing screws.

3.22 Inspect for dirty receiver holders and caps. Remove receiver caps and wash in a solution of soap and lukewarm water at all periodic inspections. If the

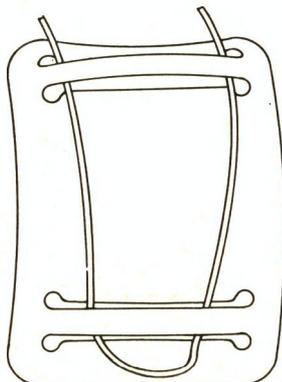
caps cannot be released for washing, it will be satisfactory to wipe them with a clean, dry KS-2423 cloth. Shake or blow dirt and dust out of the receiver case with the R-8950 syringe and wipe the exterior of the holder with a cloth slightly dampened with water. Dry the holder and cap before the receiver unit is assembled in the case.

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.

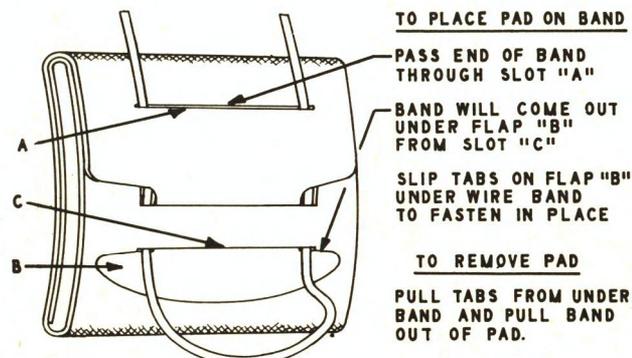
Headband

3.23 Adjust badly bent wires. Any adjustment of the wires adjacent to the triangular support shall not prevent their sliding in the triangular support which shall grip them friction tight. Replace the headband if any parts are broken.

3.24 Adjust yokes with the fingers which do not hold the receiver snugly.



Fibre Type Headband Pad



Folding Type Headband Pad

Fig. 1 - Method of Placing Pad on Headband

3.25 Replace pads that are broken, torn or have sharp chips which might catch in the hair. Attach pads to the headband as shown in Fig. 1.

Electrical Tests

3.26 Insert the plug of the head telephone set to be tested into the test jacks of the test set. In offices not having a patching cord test set or equivalent testing equipment, use an operators telephone circuit at a vacant switchboard position or desk, except that the receiver cord test should be made as outlined in the note of 3.27.

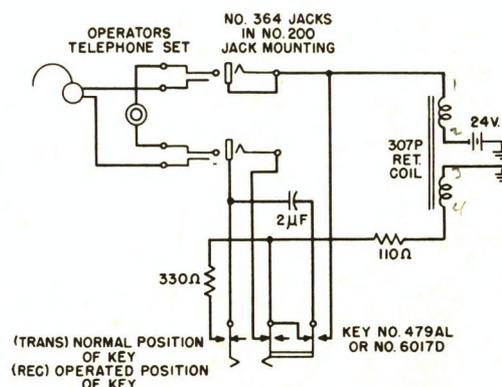


Fig. 2 - Testing Circuit for Use Where a Patching Cord Test Set is Not Available

3.27 Operate the transfer key of the test set to the position for testing the receiver cord (this position is usually designated REC).

Note: If testing equipment is not available and tests are being made at a switchboard position or desk, remove the operators telephone set plug from the jacks. Using two WLU cords, connect one end of each cord to the two sleeves of the plug. Connect the other ends of the WLU cords to the terminals of a string of three No. 6 dry cells or other source of battery and ground so that a current flow of approximately .06 ampere will be obtained.

3.28 With current flow established through the receiver cord, hold the plug of the telephone set firmly in place and shake the cord by means of a gentle twisting and pulling movement beginning at the base of the plug and continuing throughout the entire length of the cord to the point where it is connected to the receiver. Repeat this procedure with the plug reversed in the jacks of the test set, again listening in the receiver for disturbances. A click or scraping sound in the receiver will indicate a defect in the cord or a loose connection in the receiver or plug. If the receiver appears "dead" it may be due to a defective receiver unit or an open cord. Replace the receiver unit with a new or repaired unit and then recheck the receiver cord. If the cord is defective, replace the cord.

3.29 With the transfer key of the test set in the REC position and the transmitter arm grounded or with the battery supplied as in the note below, rotate the transmitter case from one extreme position to the other several times. A click in the receiver indicates that the transmitter leads are grounded on the tubing. If this is the case, replace the transmitter arm assembly.

Note: When making this test at a switchboard remove the telephone set plug from the jacks. Connect one side of a string of three No. 6 dry cells to either plug sleeve with a WLU cord. Connect the other sleeve to either tip with a second WLU cord and connect the transmitter arm tubing to the other battery terminal.

3.30 Restore the test set key to normal. Current will flow through the transmitter and the associated cord conductors. Talk into or blow against the transmitter and listen for sidetone in the receiver. If the transmitter appears "dead", does not have sidetone, or develops appreciable frying or burning noise, replace the unit.

3.31 Hold the plug of the head telephone set firmly in place and shake the cord by means of a gentle twisting and pulling movement beginning at the base of the plug and continuing throughout the entire length of the cord to the points where it is connected to the transmitter arm connecting block and the receiver. A click or scraping sound in the receiver will indicate a defect in the cord.

3.32 Tap the plug while in the jack to detect poor contacts. If it appears that a cutout is caused by the wearing on one side of each tip, rotate each shaft a quarter of a turn in the shell so that a less worn surface is presented to the jack springs. If the cutout persists after rotating the shaft, check the plug in accordance with Section A203.007 covering tests and inspection of plugs. Replace plugs otherwise defective.

3.33 After inspection and tests have been completed and all troubles cleared wrap the sets in accordance with Section A502.030 covering wrapping operators telephone sets.

4. REPORTS

4.01 Enter the required record of these tests on the proper form.

REASON FOR REISSUE

1. To amplify the procedure for dealing with defective sets for which the tests specified in this section disclose no defects (1.04).
2. To revise the means of identification of the operators head telephone sets (1.05).
3. To add paragraphs covering reference to Section A504.004 for the replacement of parts (1.07 to 3.01).
4. To revise the list of Tools, Materials, and Test Apparatus (Part 2).
5. To revise the testing circuit which is used when a patching cord test set is not available (Fig. 2).
6. To revise and amplify the procedures throughout the section.