

ATTENDANT TELEPHONE SETS WITH FIXED AND BREAST TYPE TRANSMITTERS VISUAL INSPECTIONS AND ELECTRICAL TESTS

1. GENERAL

1.01 This section describes the method of making visual inspections and electrical tests of attendant telephone sets.

1.02 This section, replacing B203.003, has been revised to make it applicable for general use in the Plant Series. Later when the A Series sections are converted to the Plant Series, Section A203.001 will also be replaced by this section.

1.03 The tests covered are:

A. **Cord and Plug:** The following features are checked. (1) Cord. (2) Tie cord. (3) Stay hook. (4) Cord tip. (5) Cord take-up. (6) Plug.

B. **No. 234 Transmitter:** The following features are checked. (1) Transmitter mouthpiece. (2) Mouthpiece tip. (3) Mouthpiece socket. (4) Breastplate. (5) Neckband.

C. **No. 396A Transmitter:** The following features are checked. (1) Transmitter mouthpiece. (2) Mouthpiece socket. (3) Breastplate. (4) Neckband. (5) Transmitter unit. (6) Rubber membrane.

D. **Fixed Transmitters and Transmitter Arms:** The following features are checked. (1) Transmitter. (2) Transmitter bell. (3) Transmitter arm. (4) Mouthpiece.

E. **Receivers, 128, 525, and 528 Types:** The following features are checked. (1) Diaphragm. (2) Pole faces. (3) Case. (4) Cap.

F. **Receivers, 716 Type:** The following features are checked. (1) Receiver unit. (2) Grid. (3) Membrane. (4) Case. (5) Cap.

G. **Headband:** The following features are checked. (1) Headband. (2) Headband pad. (3) Receiver yoke.

H. **Electrical Tests Using Operator Telephone Circuit:** The following features are checked. (1) Continuity. (2) Transmission. (3) Diaphragm performance.

I. **Electrical Tests Using Test Set (Central Office):** The following features are checked (1) Continuity. (2) Transmission. (3) Diaphragm performance.

1.04 Refer to Section A504.005 for piece-part data and replacement procedures.

1.05 In the case of No. 234 transmitters, do not tighten the small screw on the diaphragm (visible through the mouthpiece socket) as turning this screw may injure the transmitter button. If the screw is loose or missing, replace the transmitter.

1.06 Remove the breastplate of a No. 234 transmitter only when trouble is apparent in the transmitter or it is necessary to change the breastplate or cord.

1.07 Do not straighten the breastplate of a No. 234 transmitter unless it does not fit closely to the transmitter at all points. In straightening a breastplate take care to avoid damaging the finish. Replace a breastplate if it cannot be straightened so that it will fit closely to the transmitter.

1.08 Exercise care in tightening screws of the No. 396A transmitter in order to avoid breaking the slotted ends of screws.

1.09 Avoid changing the adjustment of the position of the No. 396A transmitter on the breastplate. Inspection for looseness of inaccessible screws in the rear case should be made only when looseness of the assembly indicates that the screws are not tight.

1.10 When handling receiver diaphragms, take care not to drag them across the pole faces as this may scratch the protective lacquer from the pole faces.

1.11 After tests and inspections have been completed and all trouble cleared, the cords should be wrapped around the telephone set and fastened in accordance with Section 028-360-821.

1.12 **Lettered Steps:** A letter a, b, c, etc, added to a step number in Parts 3 or 4 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.13 Before making electrical tests on the head telephone set, defective parts which affect transmission should be replaced as covered in Section A504.005.

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1.14 Arrangements should be made locally between the Plant and Traffic Department or supervisor in charge to have sets available for inspection as required. A record of the sets received and inspected should be maintained in order to insure the inspection of all sets within the required period.

1.15 Operator 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 or supervisor in charge to have a number assigned. After the number is assigned the sets should be identified in accordance with local practices.

1.16 If satisfactory to the Traffic Department or supervisor in charge, 4-foot cords should be substituted for 6-foot cords. Knots in cords should be untied.

2. APPARATUS

Test E

- 2.01 No. 75L gauge (Part of No. 74D gauge nest).
- 2.02 Straightedge, R-8550 6-inch steel scale or equivalent.
- 2.03 D-172759 test block (for 525- and 528-type receivers).
- 2.04 D-172760 test block (for 128-type receivers).

Test H

- 2.05 No. W1U cord (for short-circuiting secondary capacitors).
- 2.06 Test receiver, No. 716C receiver attached to a W2AB cord equipped with two No. 360A tools (2W21A cord), one No. 365 tool and one No. 411A tool is used with the No. 360A tools.

Test I

- 2.07 Patching cord test set per SD-90430-01, SD-21502-01, SD-21338-01, SD-95665-01, ES-239451, or equivalent testing equipment as shown in Fig. 1.

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

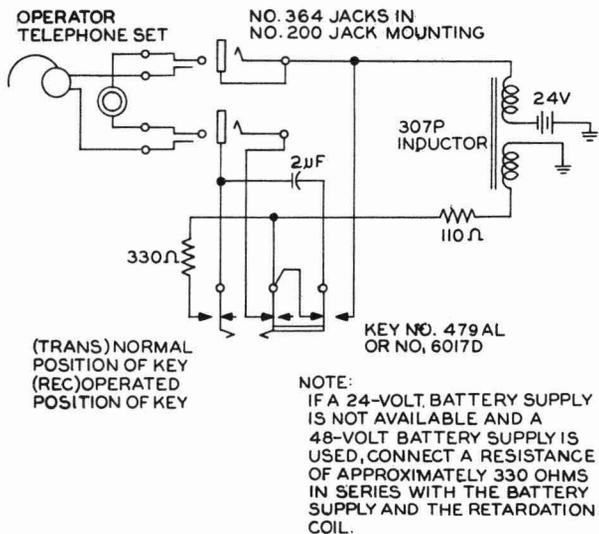


Fig. 1—Testing Circuit for Use Where a Patching Cord Test Set Is Not Available

3. METHOD

STEP	ACTION	VERIFICATION
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A. Cord and Plug

1	Inspect cord	Should not be worn, frayed, knotted, or badly soiled
2	Inspect tie cord	Should not be worn, frayed, broken, or missing Should be tied to take up strain on conductors
3	Inspect stay hook	Should not be broken, missing, distorted, or insecurely attached
4a	For No. 289A plug— Inspect soft rubber cord tip	Should be in good condition and should cover stay hook
5b	For cord used with 128-type receiver— Inspect hard rubber cord tip	Should not be broken or missing
6	Inspect cord take-up	Should not be broken, missing, or defective
7	Inspect plug	Should not be bent, dirty, nor have loose or missing parts Clean when required, in accordance with Section 022-180-811
8	Gauge plugs in accordance with Section A203.007	Should not be worn beyond allowable limits

B. No. 234 Transmitter

1	Inspect transmitter	Parts should not be broken, damaged, defective, loose, or missing
2	Inspect mouthpiece tip	Should not be bent so that mouthpiece cannot be easily inserted or so that mouthpiece is not securely held

STEP	ACTION	VERIFICATION
3	Check mouthpiece socket for friction	Spring and washers in mouthpiece socket should provide sufficient friction to hold mouthpiece in any position
4	Inspect mouthpiece socket and transmitter case	Foreign material should not be in socket or around outside of case
5	Inspect breastplate	Should not be bent, dirty, or worn to a sharp edge Finish should not be chipped Screws should not be burred, loose, or missing
6	Inspect assembly of breastplate and transmitter	Breastplate and transmitter should fit closely together and be held securely together
7	Inspect neckband	Should not be worn, soiled, or insecurely fastened to buckles
8	Inspect mouthpiece	Should not be broken, cracked, chipped, or soiled

C. No. 396A Transmitter

1	Inspect transmitter	Parts should not be broken, damaged, defective, loose, or missing
2	Inspect mouthpiece tip	Should not be bent so that mouthpiece cannot be easily inserted or so that mouthpiece is not securely held
3	Inspect mouthpiece socket and transmitter case	Foreign material should not be in mouthpiece nor around outside of transmitter case
4	Inspect breastplate	Should not be bent, dirty, or worn to a sharp edge Finish should not be chipped Screws should not be burred, loose, or missing
5	Inspect neckband	Should not be worn, soiled, nor insecurely fastened to buckles
6	Inspect mouthpiece	Should not be broken, cracked, chipped, nor soiled Metal insert should not be corroded Pins should not be loose Headless pins should be replaced by headed pins
7a	If trouble has been reported with the transmitter, if the cords are being changed, or if the transmitter is being dismantled for other reasons— Inspect front cavity of transmitter housing	There should be no foreign material in front cavity of transmitter housing
8a	Check date stamped on A1 transmitter unit	A1 transmitter unit should be replaced if more than 5 years old or if it is undated

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
9a	Inspect rubber membrane of A1 transmitter unit	Rubber membrane should not be soiled, torn, nor otherwise damaged	F. Receivers, 716 Type		
10a	Inspect front case	If front case has a boss, it should be replaced by one without a boss If bushing projects beyond inside surface of the case, it should be replaced by a shorter bushing	1	Remove receiver cap	
			2	Remove the receiver unit	
			3	Inspect the receiver unit	Should not be corroded Grid should not be dented Assembly should not be loose Moisture-resistant membrane should not have holes in it nor foreign material on it
D. Fixed Transmitter and Transmitter Arm			4	Inspect receiver holder	Should have no foreign material in holder
1	Inspect transmitter	Should be clean	5	Inspect cap and case	Should not be broken, cracked, badly chipped, discolored, or soiled Threads should not be damaged
2	Inspect transmitter bell	Should be clean Should be fastened securely to transmitter arm Should require moderate pressure to move it up or down Mounting bolt should be equipped with spring washer	6	Place unit in case with grid side exposed	
3	Inspect transmitter mouth-piece	Should not be dirty, broken, cracked, chipped, nor loosely mounted	7	Screw cap on case	
4	Inspect transmitter arm	Should not be bent Should be securely fastened	G. Headband		
E. Receivers, 128, 525, and 528 Types			1	Inspect headband	Should be in good condition
1	Remove receiver cap and diaphragm		2	Inspect headband pad	Should not be broken, worn, torn, or otherwise in bad condition Pad should be properly placed on headband
2	Inspect diaphragm	Should not be warped, dented, rusted, or otherwise defective Finish should be in good condition	3a	For No. 15A headband— Inspect headband wire	Should not be distorted, nicked, or badly worn Should be friction tight in cradle
3	Inspect receiver cap	Should not be broken, cracked, badly chipped, discolored, or soiled Threads should not be damaged	4a	Inspect receiver yoke	Should be friction tight and should engage receiver properly
4	Inspect receiver case	Should not be cracked, broken, have damaged threads, nor loose or missing parts There should be no foreign material in the case	5a	Inspect receiver yoke pin	Should not bind in cradle
5	Inspect pole faces	Should not be rusty nor dirty	H. Electrical Tests Using Operator Telephone Circuit		
6a	For 128- and 528-type receivers— Place receiver face up and place a No. 75L (0.011 inch) gauge on pole pieces and a straightedge on the gauge	The straightedge should touch both edges of the receiver case	1	Insert telephone set plug in jack of attendant telephone circuit	
7a	Remove the gauge and straightedge		2	Operate talking key	
8	Place the receiver face down with the test block against the diaphragm seating surface (D-172759 test block for 525- and 528-type receiver, D-172760 test block for 128-type receiver) Lift the receiver	Test block should be held by magnetism (Reject if it fails to hold after three attempts)	3	Hold transmitter in normal operating position	
9	Separate the test block from the receiver		4	Talk into and blow against transmitter	Sidetone should be heard Frying sound should not be heard Transmitter should not be dead Diaphragm should not rattle
10	Reassemble diaphragm and cap on receiver		5	Short-circuit secondary capacitor of receiver circuit	
			6	Shake, gently pull, and twist cord	Click or scraping sound should not be heard Receiver should not be dead
			7	Reverse plug in jack	

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>	<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
8	Shake, gently pull, and twist cord	Click or scraping sound should not be heard Receiver should not be dead	3	Talk and blow against transmitter	Side tone shall be heard Frying sound shall not be heard Receiver diaphragm shall not rattle Transmitter shall not be dead
9	Tap the plug	Click should not be heard			
10	Disconnect short circuit from secondary capacitor				
11a	For No. 234 transmitter—Connect clip of test receiver to convenient ground and touch pick to transmitter case	Click should not be heard in test receiver	4	Hold plug firmly in jack and shake, gently pull, and twist cord	Click or scraping sound shall not be heard in receiver
12	Restore talking key to normal		5	Operate TR key to REC position	
13	Remove telephone set plug from jack		6	Hold plug firmly in jack and shake, gently pull, and twist cord	Click or scraping sound shall not be heard in receiver
I. Electrical Tests Using Test Set (Central Office)			7a	For No. 234 transmitter—touch case to convenient source of ground	Click shall not be heard
1	Restore all test set keys to normal (if they are not normal)		8	Restore TR key to normal	
2	Insert telephone set plug in TEL or REC jack of test set		9	Remove telephone set plug from jack	