

American Telephone and Telegraph Company

BELL SYSTEM PRACTICES
Teletypewriter and Manual
Telegraph Station and PBX
Installation and Maintenance

SECTION P30.908
Appendix 9
Issue B, 3-4-43
Long Lines Department
Dist. Class. 600AC

PRIVATE LINE SERVICE

CIVIL AERONAUTICS ADMINISTRATION

PROCEDURE - ARMY OWNED EQUIPMENT

ON CAA CIRCUITS

1. GENERAL

1.01 This appendix covers special procedures in connection with certain Army-owned and maintained teletypewriter equipment connected to CAA circuits. It is reissued to cover Army type teletypewriter equipment as well as the Bell System type of equipment.

1.02 The Army has a considerable number of drops (not extensions) on CAA circuits which are considered as "Receiving Only" drops. These drops, however, are normally equipped with sending and receiving teletypewriters so that on short notice they may become sending and receiving drops.

1.03 Station Teletypewriter Equipment. In order to avoid needless wear and to make sure that it will be in satisfactory condition if converted to two-way service, the sending mechanism on these machines is made inoperative. Normally this work is done by Army personnel, but Telephone Company personnel may be called on to disable this mechanism or to place it in commission again. The following procedure has been agreed upon and should be followed by Telephone Company personnel assigned to this work.

1.04 When the Army desires this work to be done by the Telephone Company, authorization will normally be covered by Private Line Service Order. Assistance may be requested locally, however, as outlined in instructions covering maintenance arrangements for customer owned equipment.

2. MODIFICATIONS

2.01 Bell System Type 15KSR Teletypewriter. This machine should be modified as follows:

- (1) Remove the gear from the keyboard sending shaft. Reinsert its mounting screw, with washers attached, in the shaft. By means of a cord, tie the gear to the sending shaft between the bearing bracket and the driving clutch.
- (2) Short circuit the keyboard contacts and break key by connecting a common strap between Terminals 3, 4 and 5 of the Send-Receive-Break key (K-1).

Note: On machines modified in accordance with Issue A of this Appendix, this strap was extended to include Terminals 1 and 2 of the Send-Receive-Break key. The change in method was instituted so that the modification of this key on the 15 teletypewriter would conform to that for the 19 type. 15-type teletypewriters which are now modified in accordance with Issue A need not be changed unless desired.

- (3) Arrange the line-test key permanently in the "line" position so that the line relay cannot be disconnected from line. To do this, use a P-356557 plunger in the key. (If this plunger is not already in the machine, it is to be furnished by the Telephone Company and its cost included in the report of expense incurred.)

2.02 Army Type 15KSR Teletypewriter. This machine is ordinarily mounted on the XRT 97 or XRT 106 table. The wiring of this teletypewriter is essentially the same as that of the Bell System 15KSR teletypewriter. The principal difference in so far as this Appendix is concerned is that the key which is used as a line-test key on the Bell System type machine has been wired on the Army type machine to operate as a polar-neutral key (key pushed in - polar; key pulled out - neutral). This machine should be modified as follows:

- (1) Same as 2.01 (1).
- (2) Same as 2.01 (2).

- (3) Install a strap between slip connection Terminals 51 and 56 of the teletypewriter base to prevent opening of the line relay biasing winding if the polar-neutral key is operated to the polar position.

2.03 Bell System Type 19ASR Teletypewriter. This machine should be modified as follows:

- (1) Modify the perforator transmitter to provide for perforating only as described in Section P36.660 under "Modification of Perforator Transmitter for Limited Use of Keyboard Control Operating Lever."

Note: The 104749M blocking plate specified in Section P36.660 was not called for in Issue A of this Appendix and need not be provided on machines which are now modified in accordance with that issue. (Where this blocking plate is furnished by the Telephone Company, its cost should be included in the report of expense incurred.)

- (2) Short circuit the keyboard contacts and break key by connecting a common strap between Terminals 3, 4 and 5 of the Send-Receive-Break key (K-1).
- (3) Short circuit the transmitter-distributor sending contacts by connecting a strap between Terminals 2 and 3 of the transmitter-distributor mounting plate, upper springs.
- (4) Open the power leads to the motor and start magnet of the transmitter-distributor by disconnecting from Terminals 6 and 8 of the transmitter-distributor mounting plate, the leads that are designated "D" and "B," respectively, on the 19A table circuit label drawing. Tape these leads separately.

Note: In the case of DC installations, the lead to be removed from Terminal 8 is designated "C" instead of "B."

- (5) Arrange the line-test key permanently in the "line" position so that the line relay cannot be disconnected from the line. To do this, use a P-356557 plunger in the key. (If this plunger is not already in the machine, it is to be furnished by the Telephone Company and its cost included in the report of expense incurred.)

2.04 Army Type 19ASR Teletypewriter. This machine is ordinarily mounted on the XRT 96 or XRT 107 table. The wiring of these tables is materially different from that of the Bell System 19A table. However, the wiring of the teletypewriter units themselves is essentially the same as that of the teletypewriter units of the Bell System 19ASR machine, the principal difference, in so far as this Appendix is concerned, being that the key which is used as a line-test key on the Bell System type machine has been wired on the Army type machine to operate as a polar-neutral key (key pushed in - polar; key pulled out - neutral). This machine should be modified as described below.

Note: Other instructions specify the use of wiring plans covered in Sections P96.001 or P96.002 for Army type 19ASR teletypewriters on Bell System services. The modification instructions given herein assume machines wired in accordance with one of those Sections.

- (1) Same as 2.03 (1).
- (2) To render the keyboard contacts and the transmitter-distributor sending contacts ineffective, proceed as follows:
 - (a) Machines wired in accordance with Section P96.001.
Remove the existing wires from bottom Terminals 3 and 4 of Line Terminal Block C in the teletypewriter table and tape them separately. Connect tip side of the loop to bottom Terminal 3 and ring side of the loop to the bottom Terminal 4 of Terminal Block C, instead of as shown in Section P96.001.
 - (b) Machines wired in accordance with Section P96.002.
Remove the existing wires from bottom Terminals 3 and 4 of Line Terminal Block C in the teletypewriter table and tape them separately. Connect Terminal 7 of the 128B2 subset to bottom Terminal 3 of Line Terminal Block C and connect Terminal 6 of the 128B2 subset to bottom Terminal 4 of Line Terminal Block C, instead of as shown in Section P96.002.
- (3) Disable the transmitter-distributor start magnet by removing the strap between Terminals 37 and 39 of Power Terminal Block B in the teletypewriter table. This strap should be stored for future use by fastening one end of it to unused Terminal 21 of Power Terminal Block B.

(4) Open the power leads to the transmitter-distributor motor by disconnecting at Terminal 41 of Power Terminal Block B in the teletypewriter table the lead from Terminal 6 of the transmitter-distributor mounting plate. Tape this lead.

2.05 With the modifications applied as described in this Appendix to either the Bell System Type 19ASR or the Army Type 19ASR machine, it will be noted that the perforator and the character counter mechanism will still function in the normal manner. This arrangement was requested by the customer.

2.06 Where Army Type 19ASR machines are modified as specified herein, a copy of the appropriate P96 section of Bell System Practices, marked to show the wiring changes which were made, should be left at the station for use by the customer's maintenance men.