SERVICE-OBSERVING CIRCUIT

TELETYPEWRITER SWITCHBOARDS 3A AND 3C

1. GENERAL

1.01 This section describes a method of making operation and transmission tests on the service-observing circuit (SD-70075-01) associated with 3A and 3C TWX switchboards.

1.02 This circuit enables the service-observing operator to monitor communications and receive supervisory signals on certain designated cord circuits which are arranged for service observing. The equipment is mounted on a service-observing desk which is remote from the switchboard. This desk is provided with a 15-type receiving-only teletypewriter.

1.03 The tests are as follows:

(A) Operation Tests - Service Observing on Answering Cords and Magnetic Counter.

(B) Operation Tests - Service Observing on Calling Cords.

(C) Distortion - Tolerance Test on Service-Observing Teletypewriter

1.04 Tests (A) and (B) will require two persons, one at the service-observing position and the other at the switchboard. Telephone communication should be established between these positions to facilitate the tests.

1.05 Test (C) will require three persons, one at the switchboard, one at the service-observing position, and the other at the test or service board. Telephone communication should be established between these positions to facilitate this test.

Note: The procedures at the test or service board are the same as those specified in BSP E35.209 for making receiving tolerance tests on operators position teletypewriters.

2. APPARATUS

Tests (A), (B), and (C)

2.01 No apparatus will be required.

Test (D)

2.02 Testing and 2-way trunk circuit to the test or service board as follows:

(a) When a telegraph testboard is provided, SD-70029-01 (3A switchboard) or SD-70387-01, (3C switchboard).

(b) When a No. 2 or 9B telegraph service board is provided, SD-70581-01.

3. METHOD (Fig. 1)

3.01 At the SO POS: Operate the teletypewriter power switch to the ON position. The teletypewriter should run closed.

(A) Operation Test - Service Observing on Answering Cords and Magnetic Counter

Test of the Answering Cord

3.02 At the Supervisor's Desk: Operate the TTY TRK key to the CALL position.

3.03 At POS A: The ANS lamp should light. Select a cord circuit arranged for service observing and operate the typing key to the HOME position. Insert the ANS plug into the SUPV jack and the ANS lamp should go out.

3.04 At the SO POS: The ANS lamp associated with the SO jacks should light. Insert the SO plug into the SO jacks. Operate the TTY key to the ANS position. The teletypewriter should run closed.

3.05 At POS A: Send test signals from the the teletypewriter keyboard.

3.06 At the SO POS: The teletypewriter should respond to the typing from the POS A keyboard.

3.07 At the SO POS: Turn the knob associated with the magnetic counter in a clockwise direction until a count of zero is indicated. Operate the CTR key.

3.08 At POS A: Send 12 random characters from the teletypewriter keyboard.

3.09 At the SO POS: The magnetic counter should indicate a count of 2. Restore the CTR key to normal.

Note: The magnetic counter is arranged to advance one position for each six characters received on the service-observing teletypewriter.

3.10 At POS A: Restore the cord-circuit typing key to normal.

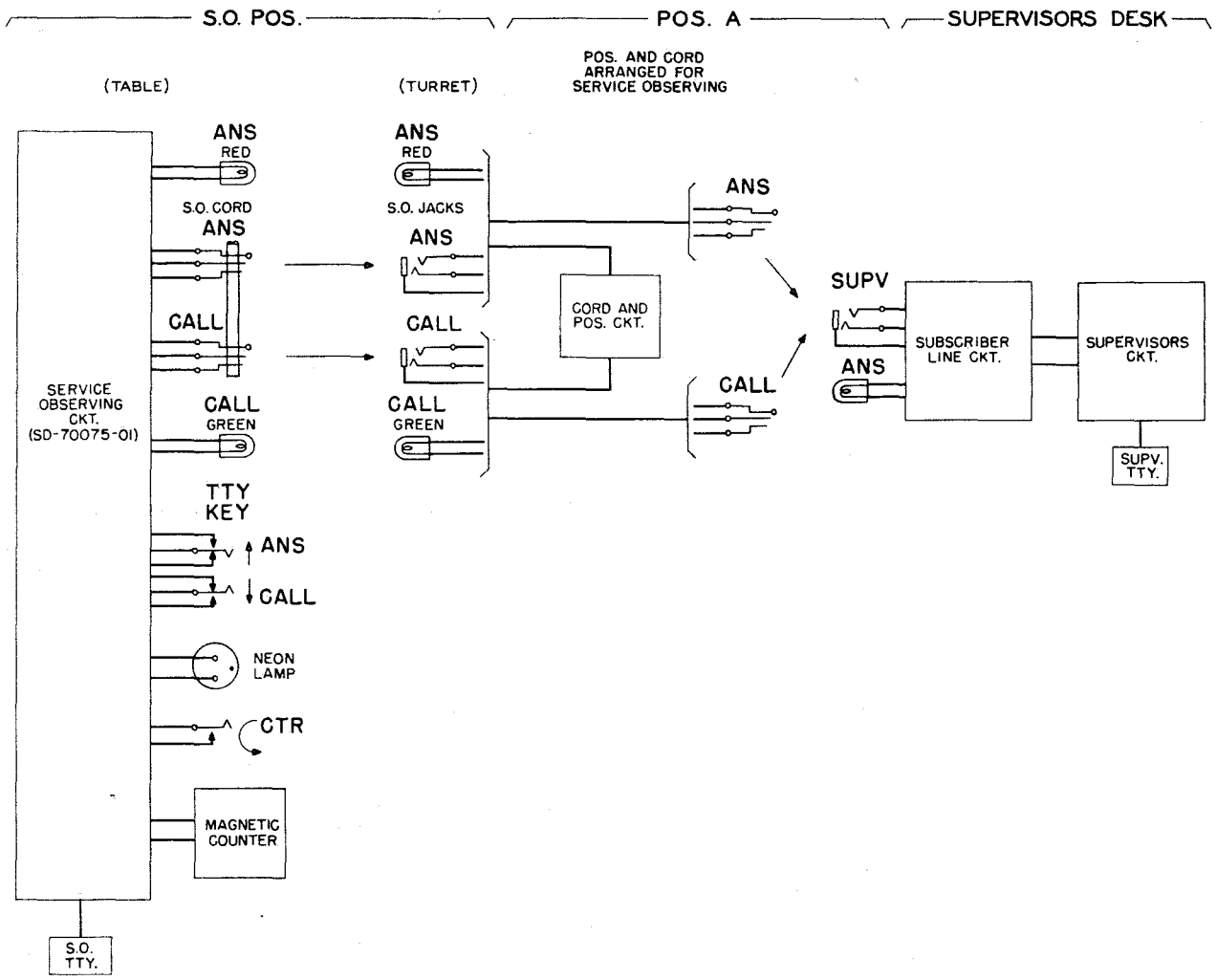

Fig. 1 - Service-observing Circuit

3.11 At the Supervisory Desk: Restore the TTY TRK key to normal and then reoperate to the CALL position.

3.12 At the SO POS: The ANS lamp associated with the SO cord should flash.

3.13 At POS A: The answering cord lamp should flash. Operate the typing key to the HOME position. The lamp should go out.

3.14 At the SO POS: The ANS lamp associated with the SO cord should go out.

3.15 At the Supervisor's Desk: Restore the TTY TRK key to normal.

3.16 At the SO POS: The ANS lamp associated with the SO cord should light steadily.

3.17 At POS A: The answering cord lamp should light steadily. Remove the plug from the SUPV jack. The lamp should go out.

3.18 At the SO POS: The ANS lamp associated with the SO cord and the ANS lamp associated with the SO jacks should both go out. Restore the TTY key to the normal position. The teletypewriter should run closed. Leave the SO plug in the SO jacks.

(B) Operation Tests - Service Observing on Calling Cords

3.19 At POS A: Insert the CALL plug into the SUPV jack. The calling-cord lamp should light.

3.20 At the SO POS: The CALL lamp associated with the SO jacks should light. The CALL lamp associated with the SO cord should light. Operate the TTY key to the CALL position.

3.21 At POS A: Operate the RING key for approximately 2 seconds.

Note: This will register as an incoming call at the supervisor's desk.

3.22 At the SO POS: The ringing-indication neon lamp should light in response to the operation of the RING key.

3.23 At the Supervisor's Desk: The ANS lamp should light. Operate the TTY TRK key to the CALL position. The ANS lamp should go out. The teletypewriter should run closed. Send test signals from the teletypewriter keyboard.

3.24 At the SO POS: The CALL lamp associated with the SO cord should go out. The teletypewriter should respond to the typing from the supervisor's teletypewriter keyboard.

3.25 At POS A: The calling-cord lamp should go out. Restore the cord-circuit typing key to the normal position.

3.26 At the Supervisor's Desk: Restore the TTY TRK key to normal and then reoperate to the CALL position.

3.27 At the SO POS: The CALL lamp associated with the SO cord should flash.

3.28 At POS A: The calling-cord lamp should flash. Operate the typing key to the HOME position and the lamp should go out.

3.29 At the SO POS: The CALL lamp associated with the SO cord should go out.

3.30 At the Supervisor's Desk: Restore the TTY TRK key to normal. Restore all position equipment to normal.

3.31 At the SO POS: The CALL lamp associated with the SO cord should light.

3.32 At POS A: The calling-cord lamp should light. Remove the plug from the SUPV jack. The lamp should go out. Restore all position equipment to normal.

3.33 At the SO POS: The CALL lamp associated with the SO cord and the CALL lamp associated with the SO jacks should go out. Remove the SO cord from the SO jacks. Restore the TTY key to the normal position. Restore all position equipment to normal.

(D) Distortion Tolerance Test on Service-observing Teletypewriter

3.34 Receiving tolerance tests should be made on the service observing teletypewriter as outlined in BSP E25.512, using the local test requirements. The procedures outlined herein detail the method of obtaining biased test signals from the test or service board.

Note: This test procedure consists of having the test or service board connect biased test signals to the testing and 2-way trunk circuit to the TWX switchboard. An answering cord that is arranged for service observing is then connected to the switchboard end of the testing and 2-way trunk circuit. In this manner the biased test signals will be extended to and received on the service-observing teletypewriter.

3.35 At POS A: Select a cord circuit that is arranged for service observing and insert the ANS plug into the TRK jack associated with the testing and 2-way trunk circuit to the test or service board.

3.36 At the SO POS: Insert the SO plug into the SO jacks associated with the cord being used in 3.35. Operate the TTY key to the ANS position. Arrange with the attendant at the test or service board to connect biased and distorted test signals to the REC TRK jack of the testing and 2-way trunk circuit. Make orientation readings on the service-observing teletypewriter as required. Upon completion, remove the SO plug from the SO jack. Restore the TTY-TRK key to normal and restore all position equipment to normal.

3.37 At POS A: Remove the plug from the TRK jack.

3.38 Arrange with the test or service board to remove the test signals from the testing and 2-way trunk circuit and restore all position equipment to normal.

4. REPORTS

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