REGENERATIVE REPEATER

TELETYPEWRITER SWITCHBOARDS 3A AND 3C

1. GENERAL

1.01 This section describes a method of making operation and transmission tests on regenerative repeaters associated with 3A and 3C TWX switchboards.

1.02 This section replaces the test procedures for the regenerative repeaters associated with the 3A TWX switchboards as covered in BSP A281.287.

1.03 The regenerative repeater and its associated terminating circuit are provided for use on certain combinations of built-up connections, to receive teletype signals with distortion from one line or trunk and to regenerate and retransmit them free of distortion to a second line or trunk. The repeater may be either mechanical or electronic. The terminating circuit terminates both sides of the repeater in the switchboard multiple-jack field, and connections to these jacks are made with the regular switchboard cord circuits.

1.04 The tests covered herein are as follows:

(A) Operation Tests (Fig. 1)

(B) Transmission Tolerance Tests (Fig. 2)

1.05 Test (A) can be made entirely at the switchboard by one man.

1.06 Test (B) should be coordinated with the test procedures outlined in Section E35.210 and will require one man at the test or service board and one man at the switchboard. When making test (B), it is desirable that telephone communication be established between the test or service board and the switchboard.

2. APPARATUS

Test (A)

2.01 No apparatus will be required.

Test (B)

2.02 Two out-of-order or make-busy circuits per SD-70039-01, with "Y" wiring.

2.03 Two miscellaneous jack circuits per SD-62889-01, Fig. 11, when a telegraph test board is provided or per SD-70618-01, Fig. 109 when No. 2 or 9B telegraph service board is provided.

Note: The out-of-order or make-busy circuits together with the miscellaneous jacks are used to extend the transmission path of the regenerative repeater to the test or service board. With this arrangement, transmission tests can be made in both directions through the repeater using the biased test signals and transmission measuring equipment associated with the test or service board.

3. METHODS

(A) Operation Tests (Fig. 1)

3.01 At POS A and B: Select an idle cord circuit in each position and operate the typing keys to the HOME position.

3.02 At POS A: Insert a CALL plug into the A jack. The BSY lamp should light and the teletypewriter should respond to typing from its own keyboard.

3.03 At POS B: Insert the CALL plug into the B jack. The teletypewriter should run closed.

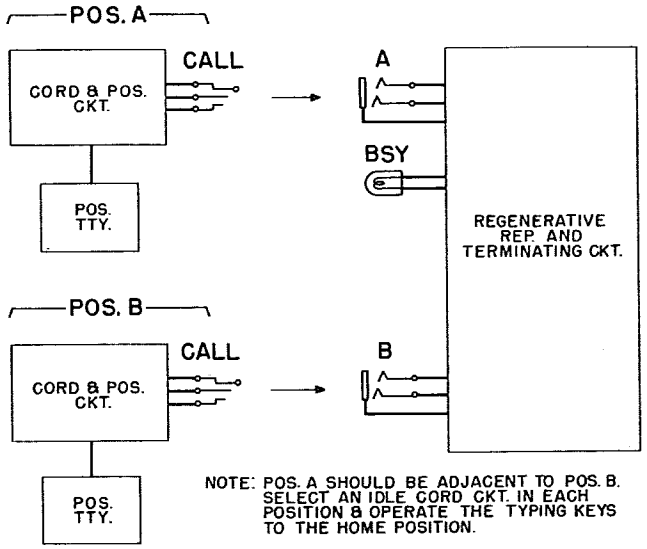

Fig. 1 - Operation Tests

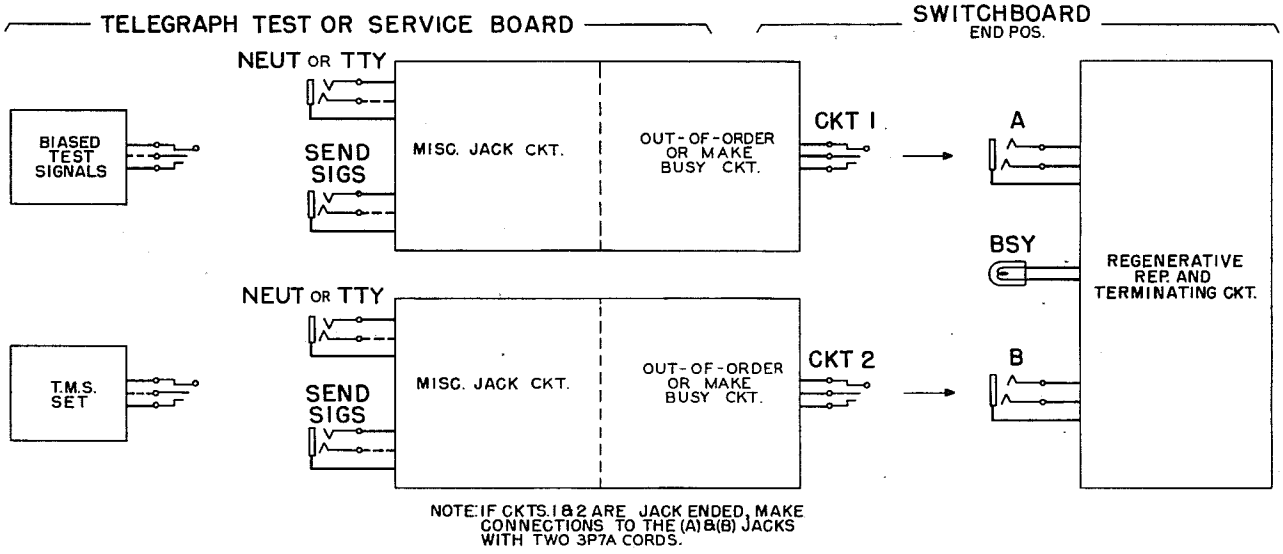

Fig. 2 - Transmission Tests

3.04 At POS B: Type on the keyboard and the POS A teletypewriter should respond.

3.05 At POS A: Type on the keyboard and the POS B teletypewriter should respond.

3.06 At POS A: Remove the CALL plug from the A jack. The BSY lamp should remain lighted.

3.07 At POS B: Remove the plug from the B jack. The BSY lamp should go out. Insert the CALL plug into the B jack. The BSY lamp should light. Remove the plug from the B jack. The BSY lamp should go out.

3.08 At POS A and B: Restore all keys and position equipment to normal.

(B) Transmission Tolerance Tests (Fig. 2)

Note: This test is made from the test or service board as outlined in Section E35.210 and is for the purpose of checking transmission requirements in both directions through the regenerative repeater. The only procedure required at the switchboard is to connect the out-of-order or make-busy circuits to the A and B jacks.

3.09 Insert the plug of out-of-order or make busy CKT 1 into the A jack and insert the plug of CKT 2 into the B jack.

3.10 The test or service board should make transmission tests in both directions through the regenerative repeater.

3.11 Upon completion of this test, remove CKTS 1 and 2 from the A and B jacks.

4. REPORTS

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