OUTGOING REPEATERS

PULSING AND CONTINUITY TEST

USING TRUNK TEST SET SD-90469-02 (J94710A)

STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a pulsing and continuity test for outgoing repeaters (not including pulse correcting repeaters) associated with outgoing trunks to the following offices: step-by-step, No. 1 crossbar, No. 5 crossbar, crossbar tandem, and manual (call indicator) offices.

1.02 This section is reissued to provide for testing into all other offices in addition to step-by-step and call indicator offices. Aso, trunk test set SD-90469-02 is to be used instead of pulsing test set SD-31481-01. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 This test checks the pulsing relays, under simulated loop and leak conditions, of repeaters serving trunks to all offices. This test also checks continuity through the repeater to the distant office.

1.04 Unless otherwise covered by local instructions, the loop value to be used in a particular office should be the same as those used when making pulsing tests on the selectors and connectors in that office. Local instructions, however, may specify the use of other loop values.

1.05 When testing a repeater which is preceded by a plunger-type out-trunk switch, the associated master switch should be rotated to pick up disengaged plungers.

1.06 Repeaters on which "out-of-service" failures are encountered should be held busy until the trouble is cleared.

1.07 The test equipment specified in this section is designed to apply proper marginal tests (simulated critical circuit conditions) when the circuit under test and the test equipment have an applied voltage of 48.5 to 50. In those offices where power plants are normally operated at more than 50 volts, the battery voltage should be reduced and maintained within required limits while the tests are being made.

1.08 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 3 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.

2. APPARATUS

2.01 Trunk test set J94710A (SD-90469-02).

2.02 52A Head telephone set (associated with test set).

2.03 Patching cord, P3K cord, 12 feet long, equipped with one 310 plug, two 59 cord used when battery supply jack is used to supply battery and ground to test set.

2.04 Patching cord, W2M cord, 9 feet long, equipped with one 310 plug, two 59 cord tips, and two 108 cord tips (2W12A cord), used when battery supply for the test set is provided by a spare 35-type fuse (not to exceed 5 amperes) and frame ground or by a battery and ground block.

2.05 Patching cord, P3H cord, 10 feet long, equipped with one 310 plug and one 240A plug (3P2A cord), used when repeaters are not equipped with test jacks arranged for 310 plugs.

2.06 Patching cord, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A), used when repeaters are equipped with test jacks arranged for 310 plugs.

3. METHOD

STEP	ACTION	VERIFICATION
1	At test set — Connect battery and ground to BAT-G jack of trunk test set. *Note:* If using 2W12A cord assembly, connect battery to tip (white) conductor and ground to sleeve (red) conductor. ***Caution: To avoid possible grounding of the battery supply lead, connect cord to test set first and, when disconnecting, remove cord from test set last.***	
2a	If repeater to be tested is equipped with test jacks arranged for 310 plugs — Insert 310 plug of 3P7A cord into T jack of trunk test set.	
3b	If repeater to be tested is not equipped with test jacks arranged for 310 plugs — Insert 310 plug of 3P2A cord into T jack of trunk test set.	
4	Connect head telephone set to TEL jack of trunk test set.	
5	Insert free end of cord connected to T jack of test set into test jack of repeater under test.	BY lamp does not light. *Note:* If BY lamp lights, remove plug from test jack and proceed to the next idle trunk.
6	Set up loop condition in accordance with 1.04. The loop values are established by depressing keys indicated below:	
7	Operate DL ST key.	

LOOP RESISTANCE (OHMS)	KEYS DEPRESSED
300	300
600	600
900	900
1200	LP
1500	LP, 300
1800	LP, 600
2100	LP, 300, 600

STEP	ACTION	VERIFICATION
8	Dial reverse battery test line number.	SL lamp lighted. REV lamp flashes. Intermittent tone heard.
9	Restore DL ST key.	Same as Step 8.
10	Restore LP and resistance (300 and 600) keys; momentarily operate FL key.	SL, REV lamps extinguished. Tone silenced.
11	Operate LK key.	
12	Operate DL ST key.	
13	Dial reverse battery test line number.	SL lamp lighted. REV lamp flashes. Intermittent tone heard.
14	Restore DL ST key.	Same as Step 13.
15	Restore LK key; momentarily operate FL key.	SL, REV lamps extinguished. Tone silenced.
16c	If other repeaters are to be tested — Repeat Steps 5 through 15.	
17d	If no further tests are to be made — Remove all cords and restore all keys.	