CALL-THRU TEST

USING AUTOMATIC CALL-THRU TEST SET

SD-32522-01 (J34728)

STEP-BY-STEP TYPE PBX

1. GENERAL

1.01 This section describes a method of making call-thru tests from line finders using the automatic call-thru test set SD-32522-01 and the jack access circuit SD-32523-01. This test provides for originating test calls from line finder groups equipped with or not equipped with progressional circuits to test switch trains.

1.02 Test calls are terminated at vacant connector terminations. The terminations have appearances on TL-jacks on the jack access circuit. Pulsing, continuity, ringing, tripping, and cut-through features are checked.

1.03 Local records should be consulted to determine limits for marginal loop, leak, pretrip, and trip requirements. Pretrip and trip requirements can be found in SD-32522-01, Sheet D1.

1.04 The number of completed test cycles may be tabulated (total calls, number of troubles, and number of busy conditions) when required. Registers are provided in the test set for this purpose.

1.05 An ALM jack is provided on the test set which may be patched to a PBX alarm if provided.

1.06 Care must be exercised during heavy load periods to avoid interference with customer access to equipment. Should call blocks or overflow conditions occur, testing on the particular line in question should be suspended until such conditions subside.

1.07 ***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 the test. Where the condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

2.01 Automatic call-thru test set J34728 (SD-32522-01).

2.02 Jack access circuit SD-32523-01.

2.03 Patching cord, W2FN cord, 6 feet long, equipped with two 310 plugs.

2.04 Eighteen patching cords, P3E cords, each 6 feet long, equipped with two 310 plugs (3P7A cords) as required.

2.05 A 1011G handset (dial hand test set), equipped with a 2W38A cord, consisting of a W2CK cord, a 471A jack, and a 310 plug.

---

3. METHOD

STEP	ACTION	VERIFICATION
1	Connect OL1-5 jacks of test set to OL-( ) jacks of jack access circuit using 3P7A cords.	

STEP	ACTION	VERIFICATION
2	Connect LF1-5 jacks of test set to LF-( ) jacks of jack access circuit using 3P7A cords.	
3	Connect TL1-5 jacks of test set to TL-( ) jacks of jack access circuit using 3P7A cords.	
4	Insert pins (provided with test set) into digit select board jacks of call-thru test set for each test line used to write up digital information required to direct the test calls to the test terminations. *Note 1:* Insert a pin into a jack on a level corresponding to the desired numerical digit under each alphabetical position for each digit necessary to be outpulsed to reach the test terminations. Each unused digit position must have a pin in the OFF jack. (See Fig. 1.) *Note 2:* In order that the wrong number check test can be made on calls to connector terminals, it is necessary that final (units) digit pin be placed in the K column jack.	
5	Connect test set 48V jack to —48 volt supply jack of jack access circuit or at equipment frame using W2FN cord. ***Caution: Connect cord to test set first and disconnect from test set last to avoid possible grounding of battery supply.*** *Note:* Clip-on arrangements or cords having tinsel-type conductors must not be used with this test set.	
6	Operate PWR key to ON position.	Power ON lamp lighted. Internal digit selector lamp lighted. LS1-5 lamps lighted.
7	ST key must be in normal position.	
8	Check meter reading.	Meter needle indicates zero.
9a	If requirement of Step 8 is not met — Adjust ZERO ADJ potentiometer to obtain a zero reading on meter.	
10	Operate PS CHK key to ON position.	
11	Turn meter switch to 18V position.	Meter needle rests in black portion on scale.
12	Turn meter switch to PPS position.	

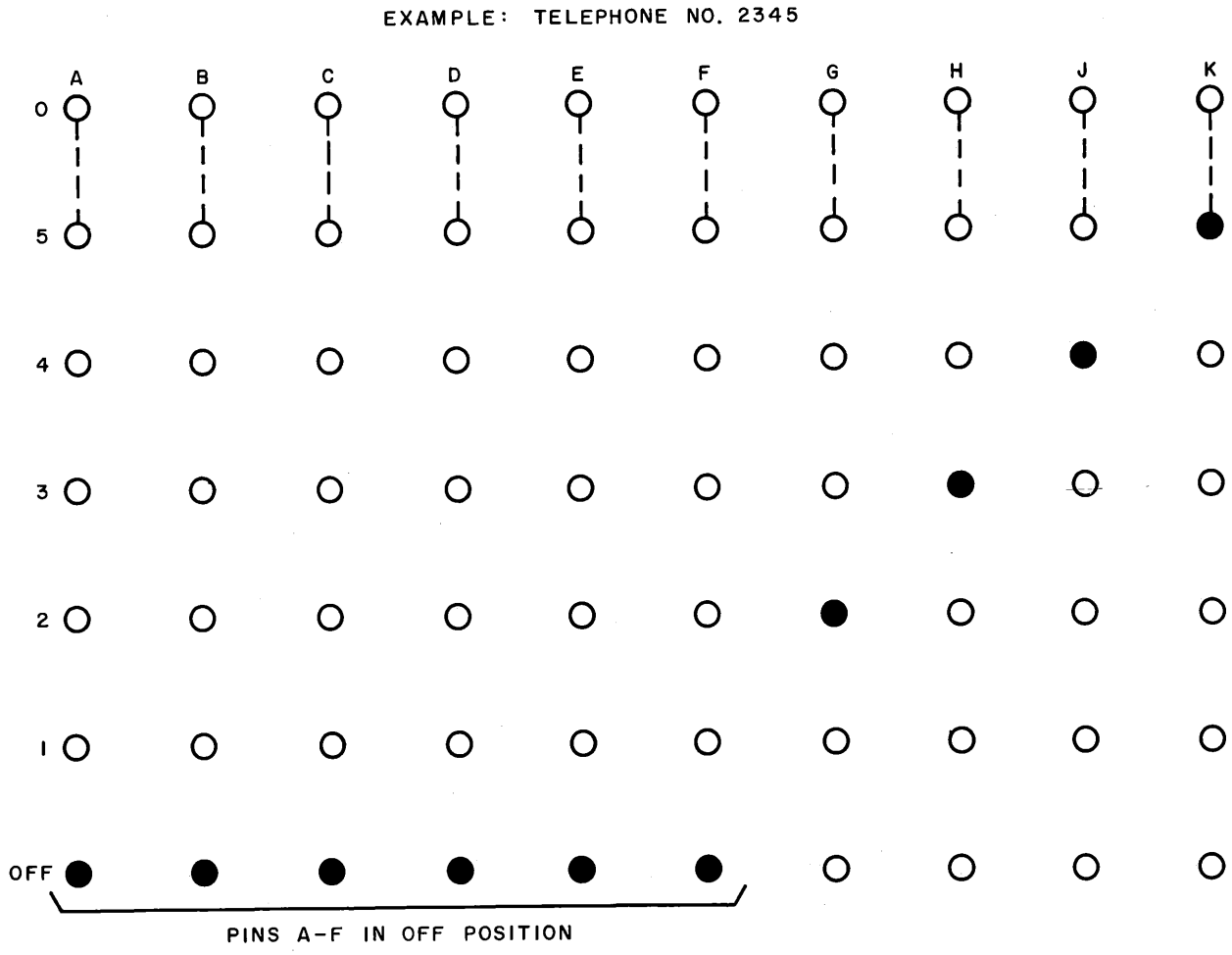

Fig. 1 — Digit Selection on Digit Select Board

STEP	ACTION	VERIFICATION
13	Adjust PPS potentiometer to obtain pulse per second rate required for test.	Meter indicates pulse-per-second rate.
14	Turn meter switch to % BK position.	
15	Adjust % BK potentiometer to obtain percent break required for test.	Meter indicates percent break.
	Note: 10 PPS and 58 % break may be used as switch and potentiometer settings in Steps 13 and 15. These are nominal values and not mandatory.	
16	Restore PS CHK key to OFF position.	

STEP	ACTION	VERIFICATION
17	Set LOOP, LEAK, PTR, TRIP, CBRT switches and IT DG key to correspond to equipment and test requirements.	
18	Set RNG SW switch for each line to be used to polarity required. See appropriate connector circuit or local records of connector polarity. (Switches on unused lines should be set on HOLD position).	
19	Operate start key to ST position momentarily for a single test cycle or to a RPT position for repeated test cycles.	LS lamps lighted momentarily. Test set pulses digits set up on digit select board. RNG lamps lighted during ringing cycle. PTR lamp lighted momentarily. RNG lamps extinguished. REV lamps lighted momentarily. Test set circuit restored. If RPT key is operated — Starts next test cycle.
20b	If test fails to complete — Note lamp indications and test set selector position.	
21b	Consult Table A to determine the general source of trouble. *Note:* The switch train will be held operated in most cases to facilitate trouble checking. The exceptions are the connector releases when a wrong number is reached (WN lamp lighted) or a complete train releases when a connector B relay timing test falls or an all-paths-busy condition is encountered.	
22c	If no further tests are to be made — Remove all cords, restore all keys, switches.	

TABLE A

SELECTOR POSITION

	LINE NO. 1						LINE NO. 2						LINE NO. 3						LINE NO. 4						LINE NO. 5					
	LS	REV	RNG	PTR	WN	ALM	LS	REV	RNG	PTR	WN	ALM	LS	REV	RNG	PTR	WN	ALM	LS	REV	RNG	PTR	WN	ALM	LS	REV	RNG	PTR	WN	ALM
1		A				A		A				A		A				A		A				A		A				A
2																														
3																														
4	B					B	B					B	B					B	B					B	B					B
		C				C		C				C		C				C		C				C		C				C
5	D					D	B					B																		
		E				E		C				C													B					B
6	F					F	D					D	B					B								C				C
		G				G		E				E		C				C							B					B
7	H					H	F					F	D					D	B					B		C				C
		I				I		G				G		E				E		C				C	D					D
8	J					J	H					H	F					F	D					D		E				E
		K				K		I				I		G				G		E				E	F					F
9	L					L	J					J	H					H	F					F		G				G
		M				M		K				K		I				I		G				G	H					H
10							L					L	J					J	H					H		I				I
								M				M		K				K		I				I	J					J
11													L					L	J					J		K				K
														M				M		K				K	H					H
12																			L					L		M				M
																				M				M	I					I
13	L					L	L					L	L					L	L					L		L				L
		M				M		M				M		M				M		M				M	J					J
14	L					L	L					L	L					L	L					L		M				M
	N				N	N	N				N	N		N			N	N		N			N	N	K					K
		O				O		O				O		O				O		O				O	L					L
15		P		P		P		P		P		P		P		P		P		P		P		P		M				M
			Q			Q			Q			Q			Q				Q			Q			Q	L					L
16			R			R			R			R			R				R			R			R		M				M
		S				S			S			S			S				S			S			S						S

Note 1: This chart shows a typical 7-digit readout of the STP selector position and test set lamps lighted. This assumes no digit absorbing selectors. With digit absorbing selectors, Steps 5 through 12 would change according to office switch arrangements.
Note 2: On initial seizure all sleeve lamps must be lighted to indicate ground received from selectors. The following letters and meanings refer to those used in Table A.

A — B relay slow to release in connector.
B — Loss of sleeve ground.
C — Reversal of T&R leads (if sel has not stepped between LFDR bank and 1st sel A).
D — Failure to receive sleeve ground from 2nd sel.
E — Reversal of T&R leads (1st sel to 2nd).
F — Failure to receive sleeve ground from 3rd sel.
G — Reversal of T&R leads (2nd to 3rd sel).
H — Failure to receive sleeve ground from 4th sel.
I — Reversal of T&R leads (3rd to 4th sel).
J — Failure to receive sleeve ground from 5th sel.
K — Reversal of T&R leads (4th to 5th sel).
L — Failure to receive sleeve ground from conn.
M — Reversal of T&R leads 5th to conn.
N — Call terminated at wrong number. All switches in the train should be checked for mechanical or pulsing failure.
O — False operation of connector D relay.
P — Tripping relay operated when pretrip resistance was inserted in line.
Q — No ring received.
R — Failure to trip ring.
S — No supervision from connector.
▨ — Indicates unlighted lamp.