INTERMARKER GROUP TRUNKS

TRUNK TO SUBSCRIBER

SD-25821-01, SD-26143-01

TESTS USING TRUNK TEST CIRCUIT SD-25918-01

NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section is reissued to:

(a) Add Electronic Translation System (ETS) features

(b) Revise the ringing combination chart

(c) Revise key and switch selection to conform with Section 218-106-301

(d) Revise test J to use the 1A fault locator test set, J94730A.

Since this is a general revision, the arrows ordinarily used to indicate changes have been omitted. This reissue affects Equipment Test Lists.

1.02 The tests covered are:

1.03 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Parts 3 and 4 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.

1.04 The manner of selecting some circuits and test conditions at the MTF and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

1.05 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

1.06 On Issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, such as DT, ORIG, ITDO, ITNP, OGT, etc.

1.07 Test J requires that all other trunks in the same trunk group on the same trunk link frame be made busy.

1.08 When the office is arranged for ETS, the distributors and scanners associated with the marker and trunk used in the test call must be in service or in a ***maintenance-busy*** condition—not in an ***out-of-service*** condition. To change a scanner or distributor from an ***out-of-service*** to a ***maintenance-busy*** condition, use the procedure given in the following section for the office arrangement.

218-799-701—Taking ETS Equipment Out-of-Service.

1.09 When the trunk under test is arranged for ETS, the first completed test call from the MTF will cause the TST bit to be set in the trunk register associated with the selected trunk, enabling trunk scanning to be repeated on the FT lamp at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, scanning will continue to be repeated on the lamp, even on service calls. The TST bit will remain set in the trunk register until (1) a test call is made from the MTF to another trunk, or (2) the command ***STOP:TRK TST*** is entered at the maintenance TTY.

2. APPARATUS

Tests A to I

2.01 Master test control circuit, SD-25800-01.

2.02 Trunk test circuit, SD-25918-01.

2.03 Head telephone set.

Tests D, E, and F

2.04 KS-3008 stopwatch, or equivalent

Test J

2.05 Oscillator J94730B (SD-95616-01), part of 1A fault locator test set, J94730A.

2.06 Testing cord, W1AK cord, 6 feet long, equipped with 1P (P44B, 490) banana plug, one 360B tool, and one 419A tool for testing nonwire-spring type circuits, or one 624B tool for testing wire-spring type circuits.

2.07 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and two KS-6278 connecting clips or one KS-6278 connecting clip and onne 624B tool, as required (for connecting high resistance ground (HRG) to terminal strip terminals).

2.08 Blocking and insulating tools as required. (For tool and application information, see Section 069-020-801.)

3. PREPARATION

Refer to 1.03 Through 1.09

STEP	ACTION	VERIFICATION
All Tests Except J		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Plug telephone set into TEL jack.	
4a	If tandem incoming trunk is being simulated— Select TAN subclass of test.	TAN lamp lighted.
5a	Select TAN class of call and associated translator indication.	
6b	If toll incoming trunk is being simulated— Select TOL subclass of test.	TOL lamp lighted.
7b	Select TOL class of call and associated translator indication.	
8	Operate TLK key.	
9	Select class of service.	
10	Select A through C digits of office code of called marker group.	
11	Select marker.	
12	Select route advance.	
13	Operate FS, TS keys.	
14	Select trunk under test.	
15	Operate GPA/GPB key when trunk under test is in allotted group.	
16c	If ETS provided— Operate PCS, PTS keys.	
17	Operate IMG, IMGA, or IMGB key as required for terminating test line of called marker group.	

STEP	ACTION	VERIFICATION
Tests A, B, C, D, E, F, and I		
18	Select IAO class of test.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Call to MTF Terminating Test Line		
19	Operate TTL key.	
20	Momentarily operate ST key.	If ETS provided— FT lamp lighted. PK lamp not lighted. R- lamp flashes. Ringing tone heard. TS lamp lighted. If TAN mode— AS lamp lighted. If TOLL mode— TAS lamp lighted.
21	Restore TLK key.	R- lamp extinguished. Ringing tone silenced. If ETS provided— FT lamp extinguished. TS lamp extinguished. If TAN mode— AS lamp extinguished. If TOLL mode— TAS lamp extinguished.
22	Momentarily operate RL key.	All lamps extinguished except TAN OR TOL.
23	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.
B. Ringing		
19	Select D through G digits for terminating test line number in called marker group assigned to ringing combination to be tested. (See Table A.)	
20	Operate KY key.	
21	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TS lamp lighted. If TAN mode— AS lamp lighted.

STEP	ACTION	VERIFICATION
		If TOLL mode— TAS lamp lighted. PK lamp not lighted. R-, R+, T- or T+ lamp flashes as shown in Table A. Ringing tone heard in unison with lighting of R-, R+, T- or T+ lamp.
22	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
23	Repeat Steps 19, 21, and 22 for each ringing combination equipped in called marker group.	
24	Restore all keys and switches not required for next test.	TAN or TOL lamp extinguished.
C. Trip and Pretrip		
19	Operate TTL key.	
20	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TS lamp lighted. If TAN mode— AS lamp lighted. If TOLL mode— TAS lamp lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes.
21	During silent interval of ringing— Operate PTP key and hold operated for 1/2 second.	R- lamp continues to flash.
22	During silent interval of ringing— Operate TRP key and hold operated for 1/2 second.	R- lamp extinguished. Ringing tone silenced.
23	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
24	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.
D. Supervision—Normal Release		
19	Operate TTL key.	
20	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TS lamp lighted. If TAN mode—

TABLE A — RINGING CODE CHECK CHART

RINGING COMB. OTRC, RC- KEYS OR RCT1 KEY & RCU- SWITCH	RINGING SELECTION SWITCH SELECT MAGNETS OPERATED	RINGING DETECTION LAMP LIGHTED	RINGING TEST LINE NO.	RINGING CODES	RINGING INTERVAL IN SECONDS 0 1 2 3 4 5 6	REMARKS
1*†	0,6	R—		Code 1 Gen		
2	0,2	R—		Code 1 Gen		
		R—		Code 2 Gen		
		R—		Continuous		
3*	0,3	R+		Code 2+		
		R—		Code 1 Gen		
		R—		Code 3 Gen		
		R+		Code 3+		
4	0,4	R—		Code 4 Gen		
		R—		Code 1 HV		
		R—		Code 2 Gen		
5*	0,5	R+		Code 2+		
		R—		Code 2 Gen		
		R—		Code 5 Gen		
		§¶		—48 Ring, Grd Tip		Silent Level
6	0,7	§¶		—48 Ring, Grd Tip		Silent Level
		R+		Code 1+		
		R—		Code 2 Gen		
7*	1,7	T—§		—48 Tip, Grd Ring		Silent Level
		T+		Code 1+		
		T—		Code 2 Gen		
8*	0,8	R—		Code 1 Gen		Free Line
		R+		Code 2+		
9	1,8	T—		Code 1 Gen		Free Line
		T+		Code 2+		
10‡	0,6	R—		Code 1 Gen		
11*†	1,6	T—		Code 1 Gen		
12*	1,2	T—		Code 1 Gen		
		T—		Code 2 Gen		
		T—		Continuous		
13	1,3	T+		Code 2+		
		T—		Code 1 Gen		
		T—		Code 3 Gen		
		T+		Code 3+		
14*	1,4	T—		Code 4 Gen		
		T—		Code 1 HV		
		T—		Code 2 Gen		
15	1,5	T+		Code 2+		
		T—		Code 2 Gen		
		T—		Code 5 Gen		
		T—§		—48 Tip, Grd Ring		Silent Level

*These ringing combinations check all equipped crosspoints on the ringing selection switch.
†In offices arranged for marker controlled immediate ring, set RMBR switch to position 1.
‡Ringing combination 10 is listed for information purposes only and should not be used for testing the ringing feature.
§If line link pulsing or direct access to No. 101 ESS is provided, operate RTK key to test silent level.
¶No indication.

STEP	ACTION	VERIFICATION
		AS lamp lighted. If TOLL mode— TAS lamp lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes.
21	Operate ANS key; ***start timing.***	R- lamp extinguished. Ringing tone silenced. OGT-CS lamp lighted. Steady high tone heard.
22	6 seconds after ANS key operated— Restore ANS, TLK keys.	TS, OCT-CS lamps extinguished. If TAN mode— AS lamp extinguished. If TOLL mode— TAS lamp extinguished. If ETS provided— FT lamp extinguished.
23	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
24	Restore all keys and switches not required for next test.	TAN or TOL lamp extinguished.
E. Supervision—Timed Release		
19	Operate TTL key.	
20	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TS lamp lighted. If TAN mode— AS lamp lighted. If TOLL mode— TAS lamp lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes.
21	Operate ANS key; start timing.	R- lamp extinguished. Ringing tone silenced. OGT-CS lamp lighted. Steady high tone heard.
22	6 seconds after ANS key operated— Restore TLK key; restart timing.	If TAN mode— AS lamp extinguished. If TOLL mode— TAS lamp extinguished. OGT-CS lamp extinguished. In 13 to 32 seconds— TS lamp extinguished.

STEP	ACTION	VERIFICATION
		If ETS provided— FT lamp extinguished.
		Note: It is assumed that the thermal time delay relay in the trunk has not been energized for at least 4 minutes prior to the test.
23	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
24	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.
F. Call to Free Line		
19	Select D through G digits for free line number in called marker group.	
20	Operate KY key.	
21	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TS lamp lighted. If TAN mode— AS lamp lighted. If TOLL mode— TAS lamp lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes.
22	Operate ANS key.	R- lamp extinguished. Ringing tone silenced. Steady high tone heard. OGT-CS lamp ***not*** lighted.
23	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
24	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.
G. Call to Busy Line		
18	Operate BB key.	
19	Select MISC class of test.	
20	Momentarily operate ST key.	If ETS provided— FT lamp lighted. OGT-CS lamp flashes. Busy tone heard (60 IPM) If TAN mode— AS lamp lighted.

STEP	ACTION	VERIFICATION
		If TOLL mode— TAS lamp lighted.
21	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
22	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.
H. Overflow		
18	Select D through G digits for overflow line number in called marker group.	
19	Operate KY key.	
20	Select MISC class of test.	
21	Momentarily operate ST key.	If ETS provided— FT lamp lighted. OGT-CS lamp flashes. Interrupted low tone (120 IPM) heard. If TAN mode— AS lamp lighted. If TOLL mode— TAS lamp lighted.
22	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
23	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.
I. Trunk Busy		
19	Operate TTL key.	
20	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TS lamp lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes. If TAN mode— AS lamp lighted. If TOLL mode— TAS lamp lighted.
21	Momentarily operate RL key.	All lamps extinguished except TAN or TOL.
22	At relay rack location of trunk under test— Operate MB switch to MB position.	MB lamp lighted. At MTF— If ETS provided— FT lamp lighted.

STEP	ACTION	VERIFICATION
23	Momentarily operate ST key.	TB lamp lighted.
24	Momentarily operate RL key.	All lamps extinguished except TAN or TOL. If ETS provided— FT lamp remains lighted.
25	Operate NTTS, NTFS keys.	
26	Repeat Steps 20, 24.	
27	At relay rack location of trunk under test— Operate MB switch to N position.	MB lamp extinguished. At MTF— If ETS provided— FT lamp extinguished.
28	Restore all keys and switches not required in next test.	TAN or TOL lamp extinguished.

J. False-Busy and False-Idle Conditions (ETS not Provided)

1	Connect power to 1A fault locator, operate W-T switch to W position and HR-LRT switch to HR position.	Whistle heard.
2	Connect WT jack of fault locator to terminal: SD-26043-01—45 SD-25821-01—A10 or A45	Whistle not heard.
3	While circuit under test is idle— Block operated TM relay.	If trunk under test is the only idle trunk or the only trunk using the same route on the same trunk link frame— Whistle heard.
4a	If more than one trunk on same trunk link frame using same route— Operate MB switches of all other circuits using same route on same trunk link frame as trunk under test.	Whistle heard when last trunk made busy.
5	Momentarily remove blocking tool frm TM relay.	Whistle not heard while blocking tool removed.
6a	If more than one trunk on same trunk link frame using same route— Operate MB switches to N position for all trunks made busy in Step 4A.	Whistle not heard if any trunks idle.
7	Connect HRG terminal to terminal: SD-26043-01—55 SD-25821-01—A9 or A55	

STEP	ACTION	VERIFICATION
8	Disconnect WT jack of fault locator from: SD-26043-01—45 SD-25821-01—A10 or A45 and reconnect to: SD-26043-01—15 SD-25821-01—A11 or A15	Whistle heard.
9	Remove blocking tool from TM relay.	Whistle not heard.
10	Remove test connections from terminal strip.	
11	Remove power connection from 1A fault locator (connected in Step 1).	