TRUNK TESTING PROCEDURES
USING AUTOMATIC RECYCLE FEATURE
OF TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing trunks using the automatic recycle feature of the trunk test circuit SD-25918-01.

1.02 This section is reissued for the following reasons:

(a) To revise Tests A, B, D, and E for Electronic Translation System (ETS) features.

This reissue does not affect Equipment Test Lists.

1.03 The tests covered are:

A. Intraoffice Trunk (IAO) Testing:
   The following features are tested:
   (1) Pretrip and trip operation of the trip relay. (2) Transmission pair continuity.

B. Outgoing Trunk (OGT) Testing:
   The following features of outgoing trunks which employ reverse battery interoffice supervision are tested: (1) CS relay operate and release. (2) Answer supervision. (3) Transmission pair continuity.

C. Incoming Trunk (ITNP) Testing:
   The following features of incoming trunks which employ reverse battery interoffice supervision are tested: (1) Pretrip and trip operation of the trip relay. (2) Transmission pair continuity.

D. Incoming Trunk In the Distant Office (ITDO) Testing: The following features of outgoing trunks to distant offices are tested: (1) Pretrip and trip. (2) Supervision from the distant office.

E. Miscellaneous (MISC) Testing:
   This test checks the ability of outgoing and intraoffice trunks to complete calls to tone or announcement terminations.

1.04 Automatic testing ceases after 32, 64, 96, 128, or 160 tests are completed, depending upon the setting of the MRCY switch.

1.05 Due to the plug-in selection of trunks in the ITNP class, the same incoming trunk will be seized on each test. Repeated testing of a particular trunk or random selection of any trunk in a route may be directed by the control circuit for OGT, MISC, ITDO, and IAO classes. Random selection does not guarantee that all trunks in a route will be tested.

1.06 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.

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1.07 The manner of selecting some circuits and test conditions at the master test frame (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.

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

1.09 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.

1.10 When the office is arranged for LAMA-C or 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 sections for the office arrangement.

2. APPARATUS

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

2.02 Trunk test circuit, SD-25918-01.

Tests B, D, and E

2.03 322A (make-busy) plugs as required.

3. PREPARATION

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Tests</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Refer to 1.07 through 1.11.

1  At MTF—
   Restore all keys and switches.
2  Momentarily operate RL key.
3  Set MRCY switch for number of tests required. (Refer to 1.04.)
4  Operate KY, REP, TLK keys.

Tests A, B, D, and E

5  Select A, B, and C digits required to direct call to route under test.


11 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 supervisory scanning to be repeated on the FT, CS, and SI lamps at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, supervision will continue to be repeated on the lamps, 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.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Select OR class of call and translator indication, as required, for access to selected route.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Select marker.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Select route advance.</td>
<td></td>
</tr>
<tr>
<td>9a</td>
<td>If a particular trunk is under test— Operate NTFS, NTTS keys.</td>
<td></td>
</tr>
<tr>
<td>10a</td>
<td>Select trunk under test.</td>
<td></td>
</tr>
<tr>
<td>11a</td>
<td>Operate GPA/GPB key, as required, when selected route is associated with an allotted trunk group.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Select a class of service and rate treatment, if required, for access to the route under test.</td>
<td></td>
</tr>
<tr>
<td>13b</td>
<td>If route under test is arranged for AMA operation and does not terminate in a crossbar tandem or No. 4 crossbar office— Operate KAMA key if provided.</td>
<td></td>
</tr>
<tr>
<td>14c</td>
<td>If ETS provided— Operate PCS, PTS keys.</td>
<td></td>
</tr>
</tbody>
</table>

**Tests A, and C**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15d</td>
<td>If route under test is not arranged for data service— Operate TTL key.</td>
<td></td>
</tr>
<tr>
<td>16e</td>
<td>If route under test is arranged for data service— Select numerical digits assigned to data terminating test line.</td>
<td></td>
</tr>
<tr>
<td>17e</td>
<td>Operate KRC key.</td>
<td></td>
</tr>
<tr>
<td>18f</td>
<td>If TERT switch is provided— Set TERT switch to KM position.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Select ringing combination 1.</td>
<td></td>
</tr>
</tbody>
</table>

### 4. METHOD

#### A. Intraoffice Trunk (IAO) Testing

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20a</td>
<td>If a particular trunk is under test— At relay rack frame— Operate MB switch to MB position.</td>
<td></td>
</tr>
</tbody>
</table>
21 At MTF—
Select IAO class of test.

22 Momentarily operate ST key.

23 When selected number of test cycles are complete, TAR lamp lighted—
Momentarily operate RL key.

24g If no further tests are to be made—
Restore all keys and switches.

25a If particular trunk is under test—
At relay rack frame—
Operate MB switch to N position.

B. Outgoing Trunk (OGT) Testing

15a If a particular trunk is under test—
At master test frame jack bay—
Insert make-busy plug into OGT-MB jack of
trunk.

16 At MTF—
Select OGT class of test.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
</table>
| 17   | Select additional digits as required for completion to route selected. | • If ETS provided—  
    FT, S1 lamps lighted.  
    If LAMA-C provided—  
    S1 lamp lighted.•  
    AS lamp lighted.  
    TS/T_\_ TS/U_\_ lamps lighted corresponding to location of trunk under test.  
    If NTFS, NTTS keys are not operated—  
    FS/T_\_ FS/U_\_ lamps lighted corresponding to frame on which trunk is located.  
    ANS, TRMK, AA, OGT-CS lamps lighted.  
• If ETS or LAMA-C provided—  
    CS lamp lighted.\  
    AS, ANS, TRMK, AA, OGT-CS lamps extinguished.  
• If ETS or LAMA-C provided—  
    CS, S1 lamps extinguished.\  
    TS/T_\_ TS/U_\_ lamps extinguished.  
    If NTFS, NTTS keys are not operated—  
    FS/T_\_ FS/U_\_ lamps extinguished.  
    Test recycl|s.  
• If a particular trunk is under test and if ETS provided—  
    FT lamp remains lighted,  
    If a particular trunk is not under test and if ETS provided—  
    FT lamp extinguished.\  
    All lamps extinguished. |
| 18   | Momentarily operate ST key. | |
| 19   | When selected number of test cycles are complete, TAR lamp lighted—  
    Momentarily operate RL key. | |
| 20g  | If no further tests are to be made—  
    Restore all keys and switches. | |
| 21a  | If particular trunk is under test—  
    At master test frame jack bay—  
    Remove make-busy plug from OGT-MB jack of trunk. | • If ETS provided—  
    FT lamp extinguished.\  |
| 20   | Have trunk made busy at originating office. | |
| 21   | Select ITNP class of test. | |
| 22   | Select incoming class of call. | |
| 23   | At relay rack frame—  
    Check that A relay of trunk is not operated, | |

C. Incoming Trunk (ITNP) Testing

20   | Have trunk made busy at originating office. | |
21   | Select ITNP class of test. | |
22   | Select incoming class of call. | |
23   | At relay rack frame—  
    Check that A relay of trunk is not operated, |
SECTION 218-240-301

STEP  

ACTION  
then patch T jack of trunk circuit to ITT jack of frame.

24g  
If directing digit or digits are required—
At MTF—
Select digits as required for incoming class of trunk under test.

25  
Operate LS key.

Trunks From Step-by-Step Office—Local Completion

26  
Operate SXS key.

27  
Momentarily operate ST key.

28  
When selected number of test cycles are complete, TAR lamp lighted—
Momentarily operate RL key.

29h  
If no further tests are to be made—
Restore all keys and switches.

30h  
Restore trunk to service.

Trunk From Other Than Step-by-Step Offices—Local Completion

31  
Operate SLP key.

32  
Momentarily operate ST key.

33  
When a selected number of test cycles are complete, TAR lamp lighted—
Momentarily operate RL key.

34h  
If no further tests are to be made—
Restore all keys and switches.

VERIFICATION

TS lamp lighted.
R- lamp flashes.
OGT-CS lamp momentarily lighted.
R- lamp extinguished.
ANS, TRMK, OGT-CS lamps lighted.
ANS, TRMK, OGT-CS lamps extinguished.
TS lamp extinguished.
Test recycles.

All lamps extinguished.

TS lamp lighted.
R- lamp flashes.
OGT-CS lamp momentarily lighted.
R- lamp extinguished.
ANS, TRMK, OGT-CS lamps lighted.
ANS, TRMK, OGT-CS lamps extinguished.
TS lamp extinguished.
Test recycles.

All lamps extinguished.
D. Incoming Trunk In the Distant Office (ITDO) Testing

15a If a particular trunk is under test—
   At master test frame jack bay—
   Insert make busy plug into OGT-MB jack of trunk.

16 At MTF—
    Select ITDO class of test.

17 Select digits to direct call to incoming trunk test line in distant office.

18d If incoming trunk test line in distant office is a synchronous test line—
    Operate SYNC key.

19 Operate MOH switch to select pulses to be counted.
    Refer to Table A.

20 Operate ST key.

• If ETS provided—
   FT, S1 lamps lighted.
   If LAMA-C provided—
   S1 lamp lighted.
   AS lamp lighted.
   TS/T, TS/U lamps lighted corresponding to location of trunk under test.
   If NTFS, NTTS keys are not operated—
   FS/T, FS/U lamps lighted corresponding to frame on which trunk is located.
   OGT-CS lamp flashes.

• If ETS or LAMA-C provided—
   CS lamp lighted, and follows OGT-CS flashes.
   OGT-CS, AS lamps extinguished.

• If ETS or LAMA-C provided—
   CS, S1 lamps extinguished.
   TS/T, TS/U lamps extinguished.
   If NTFS, NTTS keys are not operated—
   FS/T, FS/U lamps extinguished.
   Test recycles.

• If a particular trunk is under test and if ETS provided—
   FT lamp remains lighted.
   If a particular trunk is not under test and if ETS provided—
   FT lamp extinguished.
SECTION 218-240-301

STEP 21  When selected number of test cycles are complete, TAR lamp lighted—
Momently operate RL key.

22e  If no further tests are to be made—
Restore all keys and switches.

23f  If particular trunk is under test—
At master test frame jack bay—
Remove make-busy plug from OGT-MB jack.

TABLE A

<table>
<thead>
<tr>
<th>MOH SWITCH POSITION</th>
<th>PULSES TO BE COUNTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2 Pulses</td>
</tr>
<tr>
<td>3</td>
<td>3 Pulses</td>
</tr>
<tr>
<td>4</td>
<td>4 Pulses</td>
</tr>
<tr>
<td>Off</td>
<td>6 Pulses</td>
</tr>
</tbody>
</table>

E. Miscellaneous (MISC) Testing

15a  If a particular trunk is to be tested—
Make trunk busy.

16   Select MISC class of test.

17   Select digits required for call to complete.

18   Operate key(s) in Table B, according to type of test completion expected.

19   Operate ST key.

*If ETS provided—
FT, S1 lamps lighted.
If LAMA-C provided—
S1 lamp lighted.
AS lamp lighted.
TS/T, TS/U, lamps lighted corresponding to location of trunk under test.
If NTFS, NTTS keys are not operated—
FS/T, FS/U, lamps lighted corresponding to frame on which trunk is located.
AS lamp extinguished.
*If ETS or LAMA-C provided—
CS, S1 lamps extinguished.
TS/T, TS/U, lamps extinguished.
If NTFS, NTTS keys are not operated—
FS/T, FS/U, lamps extinguished.
<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>VERIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>When selected number of test cycles are complete, TAR lamp lighted—Momentarily operate RL key.</td>
<td>All lamps extinguished.</td>
</tr>
<tr>
<td>21d</td>
<td>If no further tests are to be made—Restore all keys and switches.</td>
<td></td>
</tr>
<tr>
<td>22a</td>
<td>If a particular trunk is under test—Restore trunk to service.</td>
<td>If ETS provided—FT lamp extinguished.</td>
</tr>
</tbody>
</table>

**TABLE B**

<table>
<thead>
<tr>
<th>KEY</th>
<th>TYPE OF TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBY</td>
<td>Block on busy</td>
</tr>
<tr>
<td>BRO</td>
<td>Block on reorder</td>
</tr>
<tr>
<td>BANN</td>
<td>Block on announcement</td>
</tr>
<tr>
<td>BTRD</td>
<td>Block on third ring</td>
</tr>
<tr>
<td>PBY</td>
<td>Complete on busy</td>
</tr>
<tr>
<td>PRO</td>
<td>Complete on reorder</td>
</tr>
<tr>
<td>PANN</td>
<td>Complete on announcement</td>
</tr>
<tr>
<td>PTRD</td>
<td>Complete on third ring</td>
</tr>
<tr>
<td>MW/B</td>
<td>Complete on 1000-Hz signal</td>
</tr>
</tbody>
</table>