

## TRUNK GROUP TRAFFIC SAMPLE CIRCUIT SD-27826-01

### TESTS

#### NO. 5 CROSSBAR OFFICES

##### 1. GENERAL

**1.01** This section describes methods for testing the trunk group traffic sample (TGTS) circuit SD-27826-01 using the trunk group traffic sample (TGTS) test circuit SD-27827-01 in No. 5 crossbar offices.

**1.02** This section affects Equipment Test Lists.

**1.03** The tests covered are:

**A. Automatic Sequential Testing of TGTS Circuits Using TGTS Test Circuit:**

This test checks all TGTS circuits that are not made busy. The test circuit starts with the first circuit and automatically steps through all circuits. If a circuit is made busy, the test circuit will either immediately step to the next circuit or stop at the made-busy circuit, depending on the state of the PASS BUSY key. It will also stop on any TGTS circuit which does not pass the test.

2

**B. Test of a Particular TGTS Circuit:**

This test allows a particular TGTS circuit to be tested without stepping through all TGTS circuits.

3

**C. Test of a Particular TGTS Circuit at Circuit Pack Test (CPT) Position:**

This test allows a set of circuit packs to be tested at the TGTS circuit pack test position.

3

**D. Sequence for Isolating Malfunctioning TGTS Circuit Packs:**

This test describes a recommended procedure for isolating a malfunctioning circuit pack in a particular TGTS circuit at the CPT position.

4

**1.04** Failure of the REF ZERO lamp to light indicates a malfunction in the TGTS test circuit.

**1.05** When the MTF lamp is lighted at the TGTS test circuit, the MTF is being used for testing TGTS circuits. When the LT lamp is lighted at the MTF, the TGTS test circuit is being used for testing TGTS circuits.

**1.06** Test D is provided to make use of the circuit pack test position for isolation of malfunctioning TGTS circuit packs by a process of elimination.

**1.07** Local operating procedures are to be followed for the disposition of malfunctioning circuit packs.

**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.

**1.09** The statement between the asterisks (\*\_\_\_\_\*) after action or verification statements is added to clarify the function being simulated in the test procedures of Part 3.

**1.10** After the TGTS test circuit has been prepared for testing, the operation of the TGTS test circuit may be optionally started by operation of the ON key at the master test frame jack, lamp, and key circuit.

2. APPARATUS

Test D

All Tests

2.01 Trunk group traffic sample test circuit SD-27827-01.

2.02 758A extractor tool (for removing circuit packs from frame trays).

3. METHOD

| STEP  | ACTION  | VERIFICATION  |
|---|---|---|
| <b>A. Automatic Sequential Testing of TGTS Circuits Using TGTS Test Circuit</b> |   |   |
|   | <i>Note:</i> Refer to 1.05.   |   |
| 1a  | If made-busy circuits are to be passed by—<br>At TGTS test circuit—<br>Momentarily operate PASS BUSY key.<br>(Refer to 1.10.) |   |
| 2   | Momentarily operate AUTO TEST key.  | AUTO TEST lamp lighted.<br>REF ZERO lamp lighted. (Refer to 1.04.)<br>If PASS BUSY key is operated—<br>PASS BUSY lamp lighted.<br>If TGTS circuit is idle—<br>TSC NBSY lamp lighted.<br>ALM- lamp lighted for circuit under test.<br>TSC ZERO lamp lighted.<br>SUB CY, ADD CY, CLR CY lamps momentarily lighted.<br>TEST COMP lamp lighted.<br>REF ZERO, TSC ZERO, TSC NBSY, ALM- lamps extinguished.<br>If a trouble condition is encountered—<br>ALM-, AUTO TBL lamps lighted. (Refer to 1.06.)<br>Minor alarm sounds.<br>If the TGTS circuit is made busy and PASS BUSY lamp is <i>not</i> lighted—<br>TSC BSY lamp lighted.<br>After 11 seconds—<br>Minor alarm sounds. |
| 3b  | If PASS BUSY key has not been operated and a made-busy circuit is encountered—<br>Momentarily operate STEP key.               | Minor alarm silenced.<br>STEP lamp lighted.<br>TSC BSY lamp extinguished.<br>AUTO TEST lamp lighted.<br>REF ZERO lamp lighted. (Refer to 1.04.)<br>Automatic sequential testing resumed.  |
| 4c  | If AUTO TBL lamp is lighted—<br>Operate MB- key associated with lighted ALM- lamp.  | Minor alarm silenced.   |

| STEP  | ACTION  | VERIFICATION  |
|---|---|---|
| 5c  | Momentarily operate AUTO RLS key.   | All lamps extinguished.   |
| 6a  | If made-busy circuits have been passed by—<br>Momentarily operate PASS BUSY key.                            | PASS BUSY lamp extinguished.  |
| <b>B. Test of a Particular TGTS Circuit</b>   |   |   |
| <i>Note:</i> Refer to 1.05.   |   |   |
| 1   | At TGTS test circuit—<br>Set TENS, UNITS switches to select TGTS<br>circuit to be tested.                   |   |
| 2   | Momentarily operate MAN SEL key.  | MAN SEL lamp lighted.   |
| 3   | Momentarily operate AUTO TEST key.  | AUTO TEST, REF ZERO lamps lighted.<br>TSC NBSY, TSC ZERO lamps lighted.<br>SUB CY, ADD CY, CLR CY lamps momentarily<br>lighted.<br>TEST COMP lamp lighted.<br>AUTO TEST, REF ZERO, TSC ZERO, TSC<br>NBSY, TST COMP lamps extinguished.<br>If a trouble condition is encountered—<br>AUTO TBL lamp lighted. (Refer to 1.06.) |
| 4a  | If AUTO TBL lamp is lighted—<br>Momentarily operate AUTO RLS key.   | AUTO TBL lamp extinguished.   |
| 5b  | If no further tests are to be performed—<br>Momentarily operate MAN SEL key.                                | MAN SEL lamp extinguished.  |
| 6b  | Set TENS, UNITS switches to OFF.  |   |
| <b>C. Test of a Particular TGTS Circuit at Circuit Pack<br/>Test (CPT) Position</b> |   |   |
| 1   | At TGTS test circuit—<br>Install spare TGTS circuit (three circuit packs)<br>in circuit pack test position. |   |
| 2   | Momentarily operate CPT key.  | CPT lamp lighted.   |
| 3   | Momentarily operate AUTO TEST key.  | AUTO TEST lamp lighted.<br>REF ZERO lamp lighted. (Refer to 1.04.)<br>TSC ZERO lamp lighted.<br>SUB CY, ADD CY, CLR CY lamps momentarily<br>lighted.<br>TEST COMP lamp lighted.<br>If a trouble condition is encountered—<br>AUTO TBL lamp lighted. (Refer to 1.06.)  |

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| <b>STEP</b>  | <b>ACTION</b>  | <b>VERIFICATION</b>  |
|--|--|--|
| 4a   | If AUTO TBL lamp is lighted—<br>Momentarily operate AUTO RLS key.  | AUTO TBL lamp extinguished.  |
| 5  | Momentarily operate CPT key.   | All lamps extinguished.  |
| 6  | Remove TGTS circuit installed in Step 1.   |  |
| <b>D. Sequence for Isolating Malfunctioning TGTS Circuit Packs</b> |  |  |
| <i>Note:</i> Refer to 1.05.  |  |  |
| 1  | At TGTS test circuit—<br>Set TENS, UNITS switches to select TGTS circuit to be tested in service location. |  |
| 2  | Momentarily operate MAN SEL key.   | MAN SEL lamp lighted.  |
| 3  | Momentarily operate AUTO TEST key.   | AUTO TEST, REF ZERO lamps lighted.<br>TSC NBSY, TSC ZERO lamps lighted.<br>SUB CY, ADD CY, CLR CY lamps momentarily lighted.<br>TEST COMP lamp lighted.<br>AUTO TEST, REF ZERO, TSC ZERO, TSC NBSY, TEST COMP lamps extinguished.<br>*Proper function of circuit.*<br>If trouble condition is encountered—<br>AUTO TBL lamp lighted.<br>Proceed to Step 4. |
| 4  | Momentarily operate AUTO RLS key.  | AUTO TBL lamp extinguished.  |
| 5  | Install spare TGTS circuit (three circuit packs) in circuit pack test position.                            |  |
| 6  | Momentarily operate MAN SEL key.   | MAN SEL lamp extinguished.   |
| 7  | Momentarily operate CPT key.   | CPT lamp lighted.  |
| 8  | Momentarily operate AUTO TEST key.   | AUTO TEST, REF ZERO lamps lighted.<br>TSC NBSY, TSC ZERO lamps lighted.<br>SUB CY, ADD CY, CLR CY lamps momentarily lighted.<br>TEST COMP lamp lighted.<br>AUTO TEST, REF ZERO, TSC ZERO, TSC NBSY, TEST COMP lamps extinguished.<br>*Proper function of spare TGTS circuit and reference circuits.*   |
| 9a   | If MB key associated with malfunctioning circuit has not been operated—                                    |  |

| STEP | ACTION   | VERIFICATION   |
|------|--|--|
|      | Operate MB key associated with malfunctioning circuit.   |  |
| 10   | Remove malfunctioning TGTS circuit (three circuit packs) from service location and replace with spare TGTS circuit tested in Step 8. |  |
| 11   | Momentarily operate CPT key.   | CPT lamp extinguished.   |
| 12   | Momentarily operate MAN SEL key.   | MAN SEL lamp lighted.  |
| 13   | Repeat Step 3.   | Circuit should function properly.<br>If not, trouble condition is external to TGTS circuit packs.  |
| 14   | Restore MB- key associated with service location of TGTS circuit.  |  |
| 15   | Install malfunctioning TGTS circuit (three circuit packs) in circuit pack test position.   |  |
| 16   | Momentarily operate MAN SEL key.   | MAN SEL lamp extinguished.   |
| 17   | Momentarily operate CPT key.   | CPT lamp lighted.  |
| 18   | Repeat Step 8.   | If trouble condition is encountered—<br>AUTO TBL lamp lighted.<br>Proceed to Step 19.<br>If the circuit functions properly on first test, repeat Step 8 a minimum of 10 times prior to labeling the TBTS as operable.  |
| 19   | Momentarily operate AUTO RLS key.  | AUTO TBL lamp extinguished.  |
| 20   | Remove circuit pack 6 (CP6) from test circuit tray position T and replace with a new circuit pack 6.                                 |  |
| 21   | Repeat Step 8.   | If TGTS circuit functions properly—<br>Repeat Step 8 several times to ensure that malfunction was in circuit pack 6.<br>Tag circuit pack 6 as malfunctioning.<br>(Refer to 1.07.)<br>If trouble condition is encountered—<br>AUTO TBL lamp lighted.<br>Proceed to Step 22. |
| 22   | Momentarily operate AUTO RLS key.  | AUTO TBL lamp extinguished.  |
| 23   | Remove new circuit pack 6 from position T and replace with original circuit pack 6.  |  |

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| <b>STEP</b> | <b>ACTION</b>   | <b>VERIFICATION</b>   |
|-------------|---|---|
| 24          | Remove circuit pack 7 (CP7) from test circuit tray position U and replace with a new circuit pack 7.  |   |
| 25          | Repeat Step 8.  | If TGTS circuit functions properly—<br>Repeat Step 8 several times to ensure that malfunction was in circuit pack 7.<br>Tag circuit pack 7 as malfunctioning. (Refer to 1.07.)<br>If trouble condition is encountered—<br>AUTO TBL lamp lighted.<br>Proceed to Step 26. |
| 26          | Momentarily operate AUTO RLS key.   | AUTO TBL lamp extinguished.   |
| 27          | Extract new circuit pack 7 from position U and replace with original circuit pack 7.                  |   |
| 28          | Extract circuit pack 8 (CP8) from test circuit tray position V and replace with a new circuit pack 8. |   |
| 29          | Repeat Step 8.  | If TGTS circuit functions properly—<br>Repeat Step 8 several times to ensure that malfunction was in circuit pack 8.<br>Tag circuit pack 8 as malfunctioning. (Refer to 1.07.)  |
| 30          | Momentarily operate CPT key.  | CPT lamp extinguished.  |
| 31          | Set TENS, UNITS switches to OFF.  |   |