# TRANSLATOR CIRCUITS SD-25754-01 AND SD-26019-01 TESTS USING MASTER TEST FRAME NO. 5 CROSSBAR OFFICES ARRANGED FOR LAMA, ANI OR CDT

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## 1. GENERAL

**1.01** This section describes a method of testing translator circuits SD-25754-01 and SD-26019-01 in No. 5 crossbar offices arranged for local automatic message accounting (LAMA), automatic number identification (ANI), or call data transmitter (CDT), using the master test frame (MTF).

**1.02** The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. Equipment Test Lists are affected.

(a) To revise test procedures to include offices arranged with Call Data Transmitter (CDT).

(b) To make minor changes as required.

**1.03** The tests covered are:

**1.04** Tests A, E, and J require action and verification at the MTF and translator frame.

**1.05** Cold cathode tubes which fail during performance of Test A should be replaced, although a cold cathode tube test set indicates satisfactory tube quality.

**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.

**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 selections 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** ◗If office is equipped with the Call Data Transmitter (CDT), translator circuits SD-25754-01 and SD-26019-01 must be tested via the AMA or ANI transverters which were in the office prior to the addition of CDT. At least one transverter must be retained for test purposes.◖

## 2. APPARATUS

**2.01** The apparatus required for each test is listed in Table A. The details of each item are given in the paragraph indicated by the number in parentheses.

**2.02** Master test control circuit, SD-25800-01.

**2.03** Five KS-14378 shields, minimum, per circuit are required for offices equipped to provide ten office indexes. An additional shield per circuit is required for offices equipped to provide 30 office indexes (option R). All circuits mounted on the frame may be equipped with shields to facilitate the test.

**2.04** 67C test set or equivalent, equipped with one KS-6278 connecting clip (for use in checking the presence or absence of battery or ground).

**2.05** Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two KS-6278 connecting clips or two 624B (terminal connectors) tools (for terminal interconnections on terminal strips.

**2.06** Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, and one 518C (test pick) tool (for use in applying momentary ground on terminals).

**2.07** Blocking and insulating tools, as required. Use tools and apply, as covered in Section 069-020-801.

## 3. PREPARATION

### Test A

**3.01** Obtain from local records the line equipment numbers and their associated directory or billing numbers for any line served by the translator(s) under test. Select the lines for use of digits 0 through 9 at least once in each of the directory or billing number thousands, hundreds, tens, and units position. Also select the lines to use each office units position for offices equipped to provide ten indices or each tens and units position for offices equipped to provide thirty indices. Include each office coil when two coils serve the same office digits.

**TABLE A**

| APPARATUS | TESTS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J |
| Master Test Frame (2.02) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 |
| KS-14378 Shield (2.03) | ✓ | | | | | | | | | |
| 67C Test Set (2.04) | | | | | | | | | | 1 |
| Cord (2.05) | | | | | 1 | | | | | |
| Cord (2.06) | | | | | | | | | 1 | |
| Tools (2.07) | | | | | | | | ✓ | | ✓ |
| 322A (make-busy) Plug | | | | | | | 1 | | | 1 |
| 32A Test Set | 1 | | | | | | | | | |

✓ As required.

**Test B**

**3.02** Obtain from local records the line equipment numbers and their associated directory or billing numbers for lines served by the translator(s) under test. Select the lines for use of vertical files 0 through 4 at least once and horizontal groups (switches) 0, 1, 3, and 6.

**Tests D, G**

**3.03** Obtain from local records the line equipment number and the associated directory or billing number for any line served by the translator(s) under test.

**Test F**

**3.04** Obtain from local records the line equipment numbers and their associated directory or billing numbers for lines served by the translator(s) under test. Select a line for each vertical group served by the translator(s).

**3. PREPARATION (Cont)**

| STEP | ACTION | VERIFICATION |
|---|---|---|
| **Tests A Through G** | | |
| 1 | At MTF—<br>Restore all keys and switches. | |
| 2 | Momentarily operate RL key. | All lamps extinguished. |
| 3 | Select ▮LAMA/ANI◖ transverter. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 4a | ▶If office is arranged for LAMA, CDT and LAMA combined, or CDT only replacing LAMA—◀<br>Operate TVT key. | |
| 5a | Select recorder number. | |
| 6a | Operate TLV, ▶4DG◀ keys. | TLV lamp lighted. |
| 7a | Select message billing index. | |
| 8a | Select code pattern required for called number. | |
| **Tests A, B, D Through G** | | |
| 9b | ▶If office is arranged for ANI, CDT and ANI combined, or CDT only—<br>Operate TVTC, ATLV/TVT, ANI, TLV keys.◀ | TLV lamp lighted. |

**4. METHOD**

| STEP | ACTION | VERIFICATION |
|---|---|---|
| **A.** | **Operate Test of Directory Number Cold Cathode Tubes, Check of Directory Number Coils, and Alternate Surge Start** | |
| 10 | Operate TRO key. | |
| 11 | Select line location (Refer to paragraph 3.01.) | |
| 12c | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |
| 13c | Set CD_ switch to 1. | |
| 14 | Select office designation. | |
| 15 | Select digits which correspond to directory number or billing number expected by translation. | |
| 16d | If translator under test serves only tip parties or both tip and ring parties and the selected directory number is for a tip party line—<br>Operate TP key. | |
| 17e | If more than one area index is provided—<br>Select office index that corresponds with the translated office number. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 18 | At translator frame—<br>Place KS-14378 shields on tubes which correspond to the directory or billing number. (Refer to paragraphs 1.05 and 2.03.) | |
| 19 | At MTF—<br>Momentarily operate ST key. | MRL, TLVM, TVT lamps lighted. |
| 20 | Momentarily operate RL key. | MRL, TLVM, TVT lamps extinguished. |
| 21 | Repeat Steps 11 through 20 for each remaining line equipment location obtained in paragraph 3.01. | |
| 22 | At translator frame—<br>Insert 32A test set plug into RC jack. | |
| 23f | If 1000-line translator is under test—<br>Note whether W, Z relays are both operated or both released. | |
| 24f | Momentarily operate white (ST) button on 32A test set. | W, Z relays are in opposite positions to that noted in Step 23f. |
| 25f | Momentarily operate red (RL) button on 32A test set. | |
| 26g | If 2000-line translator is under test—<br>Note whether W1, Z relays are both operated or both released. | |
| 27g | Momentarily operate white (ST) button on 32A test set. | W1, Z relays are in opposite positions to that noted in Step 26g. |
| 28g | Momentarily operate red (RL) button on 32A test set. | |
| 29 | Remove 32A test set plug from RC jack. | |
| 30 | Remove tube shields. | |
| 31 | At MTF—<br>Restore all keys and switches not required in next test. | |

**B. Transposition Test of VF and SW Leads**

| | | |
|---|---|---|
| 10 | Select line location (refer to paragraph 3.02). | |
| 11c | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 12c | Set CD_ switch to 1. | |
| 13 | Select office designation. | |
| 14 | Select digits which correspond to directory number or billing number expected by translation. | |
| 15d | If translator under test serves only tip parties or both tip and ring parties and the selected directory number is for a tip party line—<br>Operate TP key. | |
| 16e | If more than one local area index is provided—<br>Select office index that coresponds with the translated office number. | |
| 17 | At MTF—<br>Momentarily operate ST key. | MRL, TLVM, TVT lamps lighted. |
| 18 | Momentarily operate RL key. | MRL, TLVM, TVT lamps extinguished. |
| 19 | Repeat Steps 10 through 18 for each remaining line equipment location obtained in paragraph 3.02. | |
| 20f | If office is equipped with more than one transverter—<br>Select next transverter. | |
| 21f | Repeat Steps 17 through 20f for each transverter provided. | |
| 22 | Restore all keys and switches not required in next test. | |

**C. Overflow—Offices Arranged for LAMA (1000-Line Translators Only)**

| | | |
|---|---|---|
| 9 | Select line link frame tens digit and units digit associated with translator under test. | |
| 10 | Select an even VG_. | |
| 11b | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |
| 12b | Set CD_ switch to 1. | |
| 13 | Verify that ***no*** HG_, VF_ digits have been selected. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 14 | Operate TOF key. | |
| 15 | Momentarily operate ST key. | BT-OF, TVT lamps lighted. |
| 16 | Momentarily operate RL key. | BT-OF, TVT lamps extinguished. |
| 17 | Restore all keys and switches not required in next test. | |

**D. Vertical File Lead Cross Detection**

| | | |
|---|---|---|
| 10 | Select line location. (Refer to paragraph 3.03.) | |
| 11c | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |
| 12c | Set CD_ switch to 1. | |
| 13d | If VF_ keys are provided—<br>Operate two VF_ keys, one corresponding to line location of paragraph 3.03. | |
| 14e | If VF switch is provided—<br>Set VF switch to correspond to line location of paragraph 3.03. | |
| 15e | Ground any contact of KVF1 relay located on MTF and associated with a VF_ lead listed in Table B which corresponds to a different VF_ than the one used in Step 14e. | |

**TABLE B**

| KVF1 RELAY CONTACTS | VF LEAD |
|---|---|
| 5T | 0 |
| 7T | 1 |
| 9T | 2 |
| 7B | 3 |
| 5B | 4 |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 16 | Select office designation. | |
| 17 | Select digits which correspond to directory number or billing number expected by translation. | |
| 18f | If translator under test serves only tip parties or both tip and ring parties and the selected directory number is for a tip party line—<br>Operate TP key. | |
| 19g | If more than one local area index is provided—<br>Select office index that corresponds with the translated office number. | |
| 20 | Momentarily operate ST key. | TVT, TRL, TRR, aisle pilot lamps lighted.<br>Minor alarm sounds.<br>Trouble record taken.<br>TI, MTPT, TLV, TV, TVT, XVF, two VF_ designations perforated. |
| 21 | Momentarily operate RL, TRR-AR keys. | TVT, TRL, TRR, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 22h | If office is equipped with more than one transverter—<br>Select next transverter. | |
| 23h | Repeat Steps 20 through 22h for each transverter provided. | |
| 24 | Restore all keys and switches not required in next test. | |

### E. Equipment Terminal Cross or Ground Detection

***Note:*** If CDT provided and cross detection capability of translator access circuit is desired, refer to Section 218-779-503, Test C.

| | | |
|---|---|---|
| 10 | Select line link frame tens digit and units digit associated with translator under test. | |
| 11 | Select any VG_ served by translator under test. | |
| 12c | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |
| 13c | Set CD_ switch to 1. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 14 | Select HG_, VF_ associated with translator under test for test call 1 as indicated in Table C. | |
| 15 | At translator frame—<br>Make terminal interconnections for test call 1 as indicated in Table C.<br><br>***Note:*** Perform this test without delay. While the terminal interconnections indicated in Table C are made in offices arranged for LAMA, bulk billed calls made by a portion of the customers served by the translator under test will be completed without a charge record. Detailed billed calls will be routed to overflow. In offices arranged for ANI, calls made by a portion of the customers served by the translator under test will require operator identification. | |

**TABLE C**

| TEST CALL | SELECT (KEY OR SWITCH) | TERMINAL INTERCONNECTIONS | |
|---|---|---|---|
| | | FROM | TO |
| 1 | HG1, VF0 | HG0, VF0 | HG1, VF0 |
| 2 | HG0, VF0 | HG0, VF0 | HG1, VF0 |
| 3 | HG1, VF1 | HG0, VF1 | HG1, VF1 |
| 4 | HG0, VF1 | HG0, VF1 | HG1, VF1 |
| 5 | HG1, VF2 | HG0, VF2 | HG1, VF2 |
| 6 | HG0, VF2 | HG0, VF2 | HG1, VF2 |
| 7 | HG1, VF3 | HG0, VF3 | HG1, VF3 |
| 8 | HG0, VF3 | HG0, VF3 | HG1, VF3 |
| 9 | HG1, VF4 | HG0, VF4 | HG1, VF4 |
| 10 | HG0, VF4 | HG0, VF4 | HG1, VF4 |
| 11 | HG0, VF1 | HG0, VF0 | HG0, VF1 |
| 12 | HG0, VF0 | HG0, VF0 | HG0, VF1 |
| 13 | HG0, VF0 | HG0, VF0 | HG0, VF2 |
| 14 | HG0, VF0 | HG0, VF0 | HG0, VF3 |
| 15 | HG0, VF0 | HG0, VF0 | HG0, VF4 |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 16 | At MTF—<br>Momentarily operate ST key. | TVT, TRL, TRR, aisle pilot lamps lighted.<br>Minor alarm sounds.<br>Trouble record taken.<br>TI, MTPT, TLV, TV, TVT, XET designations perforated.<br><br>***Note:*** The trouble record XET perforation will ***not*** be made when the terminal interconnections indicated in Table C are associated with unassigned line equipment. |
| 17 | Momentarily operate RL, TRR-AR keys. | TVT, TRL, TRR, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 18d | If office is equipped with more than one transverter—<br>Select next transverter. | |
| 19d | Repeat Steps 16 through 18d for each transverter provided. | |
| 20 | Repeat Steps 14 through 17 for test calls 2 through 15 as indicated in Table C. | |
| 21 | At translator frame—<br>Remove test terminal interconnections from terminal strip. | |
| 22 | At MTF—<br>Restore all keys and switches not required in next test. | |

**F. Translator Identification**

| | | |
|---|---|---|
| 10 | Operate REC key. | |
| 11 | Select line location. (Refer to paragraph 3.04.) | |
| 12c | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |
| 13c | Set CD_ switch to 1. | |
| 14 | Select office designation. | |
| 15 | Select digits which correspond to directory number or billing number expected by translation. | |
| 16d | If translator under test serves only tip parties or both tip and ring parties and the selected | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| | directory number is a tip party line—<br>Operate TP key. | |
| 17e | If more than one local area index is provided—<br>Select office index that corresponds with the translated office number. | |
| 18 | Momentarily operate ST key. | MRL, TLVM, TVT lamps lighted.<br>Trouble record taken.<br>MTPT, TLV, LVM, TV, DR_, TVT, TLR designations perforated which are associated with translator under test.<br>If 1000-line translator is under test—<br>G_ designation perforated corresponding to VG_ selected in Step 11.<br>If 2000-line translator is under test—<br>G_, GA or GB designations perforated corresponding to FT_, FU_, and VG_ selected in Step 11. |
| 19 | Momentarily operate RL key. | MRL, TLVM, TVT lamps extinguished. |
| 20 | Repeat Steps 11 through 19 for each remaining line equipment location obtained in paragraph 3.04. | |
| 21 | Restore TLV key. | TLV lamp extinguished. |
| 22 | Restore all keys and switches not required in next test. | |

**G. Make-Busy**

***Note:*** If CDT provided and translator make-busy indication to translator access (TA) circuit is desired, refer to Section 218-779-503, Test B, TBY lead.

| | | |
|---|---|---|
| 10 | Select line location. (Refer to paragraph 3.03.) | |
| 11c | If line location is associated with 4-wire line link frame—<br>Operate 4W key. | |
| 12c | Set CD_ switch to 1. | |
| 13 | Select office designation. | |
| 14 | Select digits which correspond to directory number or billing number expected by translation. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 15d | If translator under test serves only tip parties or both tip and ring parties and the selected directory number is a tip party line—<br>Operate TP key. | |
| 16e | If more than one local area index is provided—<br>Select office index that corresponds with the translated office number.<br><br>***Note:*** Perform this test without delay. In offices arranged for LAMA, bulk billed calls made by customers served by the translator under test will be completed with a charge record. Detailed billed calls will be routed to overflow. In offices arranged for ANI, calls made by customers served by the translator under test will require operator identification. ▶In offices arranged for CDT, calls made by customers served by the translator under test will cause the CDT controller to data link to AMARC the calling subscriber's line equipment number (LEN) instead of the directory number.◀ | |
| 17 | Insert make-busy plug into TRNSL-MB or AMAT-MB jack, as provided, for translator under test. | |
| 18a | ▶If office is arranged for LAMA, CDT and LAMA combined, or CDT only replacing LAMA—◀<br>Momentarily operate ST key. | TVT, DIS1, MRL lamps lighted. |
| 19a | Momentarily operate RL key. | TVT, DIS1, MRL lamps extinguished. |
| 20b | ▶If office is arranged for ANI, CDT and ANI combined, or CDT only—◀<br>Momentarily operate ST key. | TVT, BT lamps lighted. |
| 21b | Momentarily operate RL key. | TVT, BT lamps extinguished. |
| 22f | If office is equipped with more than one transverter—<br>Select next transverter. | |
| 23f | Repeat Steps 18a through 22f for each transverter provided. | |
| 24 | Remove make-busy plug from TRNSL-MB or AMAT-MB jack. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 25 | Restore all keys and switches not required in next test. | |

**H. Transverter Preference Chain Transfer and Alarm**

**For 1000-Line Translator Frame Equipped With MTR Key**

| | | |
|---|---|---|
| 1 | At translator frame—<br>Momentarily operate MTR key. | CH relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 2a | If AR key is operated—<br>Restore AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 3b | If AR key is ***not*** operated—<br>Operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 4 | Momentarily operate MTR1 key. | CH1 relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 5a | If AR key is operated—<br>Restore AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 6b | If AR key is ***not*** operated—<br>Operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 7 | Momentarily operate MTR2 key. | CH2 relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 8a | If AR key is operated—<br>Restore AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 9b | If AR key is ***not*** operated—<br>Operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |

**For 1000-Line Translator Frame Equipped With TR Key**

| | | |
|---|---|---|
| 10c | If TR key is operated—<br>At translator frame—<br>Restore TR key. | TR, TR_ relays released. |
| 11 | Insulate 2T, 3T of TR relay. | CH relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 12 | Remove insulator from TR relay. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 13 | Momentarily operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 14 | Insulate 8T, 9T of TR relay. | CH1 relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 15 | Remove insulator from TR relay. | |
| 16 | Momentarily operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 17 | Insulate 5B, 6B of TR relay. | CH2 relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 18 | Remove insulator from TR relay. | |
| 19 | Momentarily operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 20 | Operate TR key. | TR, TR_ relays operated. |
| 21 | Restore TR key. | TR, TR_ relays released. |
| **For 2000-Line Translator Frame Equipped With TR Key** | | |
| 22c | If TR key is operated—<br>At translator frame—<br>Restore TR key. | TRT, T_ relays released. |
| 23 | Insulate 8B of TRT relay. | CH relay momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 24 | Remove insulator from TRT relay. | |
| 25 | Momentarily operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 26 | Insulate 4B of TRT relay. | CH1 relay momentarily operated.<br>CH, aisle pilot lamp lighted.<br>Minor alarm sounds. |
| 27 | Remove insulator from TRT relay. | |
| 28 | Momentarily operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 29 | Insulate 6B of TRT relay. | CH, CH1 relays momentarily operated.<br>CH, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 30 | Remove insulator from TRT relay. | |
| 31 | Momentarily operate AR key. | CH, aisle pilot lamps extinguished.<br>Minor alarm silenced. |
| 32 | Operate TR key. | TRT, TR_ relays operated. |
| 33 | Restore TR key. | TRT, TR_ relays released. |

**I. TB Lead Ground Detection— Offices Arranged for LAMA**

| | | |
|---|---|---|
| 1a | If 1000-line translator is under test—<br>At translator frame—<br>Momentarily connect ground to TB_ terminal on TRVB or TRV terminal strip, as provided. | XTB, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 2b | If 2000-line translator is under test—<br>At translator frame—<br>Momentarily connect ground to terminal 20 of terminal strip A. | XTB, aisle pilot lamps lighted.<br>Minor alarm sounds. |
| 3 | Momentarily operate RXTB key. | XTB, aisle pilot lamps extinguished. |

**J. Overlap**

***Note:*** Perform this test without delay. In offices arranged for LAMA, bulk billed calls made by customers served by the translator under test will be completed without a charge record. Detailed billed calls will be routed to overflow. In offices arranged for ANI, calls made by customers served by the translator under test will require operator identification. ▶In offices arranged for CDT, calls made by customers served by the translator under test will cause the CDT controller to data link to AMARC the calling subscribers LEN instead of the directory number.◀

| | | |
|---|---|---|
| 1 | At MTF—<br>Insert make-busy plug into TRNSL-MB or AMAT-MB jack, as provided, for translator under test. | |
| 2a | If 1000-line translator is under test—<br>At translator frame— | GON relay in each case momentarily operated. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| | Momentarily operate in succession G0 through G19 relays. | |
| 3a | Block operated GON relay. | Battery absent on the following top contacts: 2, 4, 6, 8, 10.<br>Battery absent on the following bottom contacts: 2, 4, 6. |
| 4b | If 2000-line translator is under test—<br>At translator frame—<br>Momentarily operate in succession GAA0 through GAA19 and GBA0 through GBA19 relays. | GON relay in each case momentarily operated. |
| 5b | Block operated GON relay. | Battery absent on 1B through 10B contacts. |
| 6 | Remove blocking tool from GON relay. | |
| 7 | At MTF—<br>Remove make-busy plug from TRNSL-MB or AMAT-MB jack. | |