**REPLACING PAGE ADDENDUM**
***Filing Instructions:***
1. REMOVE FROM THE SECTION THE PAGES NUMBERED THE SAME AS THOSE ATTACHED TO THIS PINK SHEET.
2. INSERT THE ATTACHED PAGES INTO THE SECTION IN THEIR PLACE.
3. PLACE THIS PINK SHEET AHEAD OF PAGE 1 OF THE SECTION.

ADDENDUM 218-125-501
Issue 1, September 1969
AT&TCo Standard

# MARKER CONNECTORS

# NONWIRE-SPRING-RELAY TYPE

# TESTS

# NO. 5 CROSSBAR OFFICES

## 1. GENERAL

**1.001** This addendum supplements Section 218-125-501, Issue 6. The attached pages must be inserted in the section in accordance with the filing instructions above.

**1.002** This addendum is issued to revise Part 2, Apparatus and Test P to include circuit additions. This addendum does not affect Equipment Test Lists.

**Attached:**

**Page 3 dated September 1969, revised**
**Page 4 dated September 1969, revised**
**Page 37 dated September 1969, reissued**
**Page 38 dated September 1969, revised**
**Page 39 dated September 1969, revised**
**Page 40 dated September 1969, revised**
**Page 41 dated September 1969, added**

## 2. APPARATUS

The following changes apply to Part 2 of this section:

(a) Table A—revised

(b) 2.04—revised

(c) 2.10—revised

## 4. METHOD

The following change applies to Part 4 of this section:

(a) Test P—revised

*P. Master Traffic Control Short-Cycle Gate Feature:* This test checks the alarm, marker connector lockout, and short-cycle gate features of nonwire-spring-relay type master traffic control circuits in offices with combined marker groups with separate traffic control for line link marker connectors.

**1.04** Tests A, C, F, I, and L apply only to line link marker connectors. Test P applies only to link link marker connectors with separate traffic control in offices with combined markers.

**1.05** Tests B, E, G, J, K, and M apply only to originating and incoming register marker connectors.

**1.06** Tests D, H, N, and O apply to both line link and register marker connectors.

**1.07** If Test I, J, O, or P indicates trouble in a timing network, check the timing interval as outlined in the circuit requirements table.

**1.08** When a line link marker connector frame is arranged to serve a maximum of four line link marker connectors, the marker connector control relays are located at the connector frame. With this arrangement, action and verification will be required at more than one location for making Tests E, F, G, I, J, and O.

**1.09** When a line link marker connector frame is arranged to serve a maximum of eight line link marker connectors, the marker connector control relays are located at the line link frame. With this arrangement, action and verification is required at more than one location for making Tests A, C, D, H, L, and N, in addition to the tests listed in 1.08.

**1.10** As described in 1.08 and 1.09, the marker connector control relays may be located at either the connector frame or at the line link frame. In the tests where reference is made to these relays in the ACTION or the VERIFICATION columns, the equipment location shall be designated "At connector frame—" to indicate either the connector frame or the line link frame.

**1.11** The method of blocking apparatus or insulating contacts is covered by Section 069-020-801.

**1.12** The method of making test connections to apparatus is covered by Section 069-131-811.

**1.13** All tests covered by this section should be made as rapidly as possible.

**1.14** ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 3 or 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.

## 2. APPARATUS

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

**2.02** 322A (make-busy) plugs, as required.

**2.03** 349A (make-busy) plug (for retiring the trouble recorder request alarm on a remote control basis from the marker connector frame).

***Note:*** In Tests A and H, the trouble recorder request alarm may be retired on a remote control basis. Using the 3P3D cord (2.08), the TRR-AR jack is patched to the RC-AR-SP jack at the master test frame jack, lamp, and key bay. To retire the alarm, the 349A plug is inserted and withdrawn from the SP (spare) jack at the marker connector frame.

**2.04** ▶518C◀ tool (for checking relays energized or not energized).

***Note:*** In Tests E, O, and P, the ▶518C◀ tool of the ▶67C test set◀ may be used.

**2.05** 508A (armature blocking) tools, as required.

**2.06** 627A (armature blocking) tools, as required.

***Note:*** 627A tools are required for Tests C, D, G, and M when the marker connectors are part wire-spring-relay type.

**TABLE A**

| APPARATUS | TESTS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
| 322A Plugs (2.02) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | |
| 349A Plug (2.03) | ✓ | | | | | | | ✓ | | | | | | | | |
| 518C Tool (2.04) | | | ✓ | ✓ | ✓ | | | | | | | | | | ✓ | ✓ |
| 508A Tool (2.05) | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| 627A Tool (2.06) | | | ✓ | ✓ | | | | | | | | | | | | |
| ITE 4069 Tool (2.07) | | | | | | | ✓ | | | | | | | | | |
| Patching Cord (2.08) | 1 | | | | | | | 1 | | | | | | | | |
| Testing Cord [2.09(a)] | 1 | 1 | | | 1 | | | 1 | 1 | 1 | | 1 | 1 | | 2 | 2 |
| Testing Cord [2.09(b)] | | | 2 | 2 | | | | | 1 | 1 | | 1 | 1 | | 2 | 1 |
| Testing Cord [2.09(c)] | | | 2 | 2 | | | | | | | | | | | | |
| Testing Cord [2.09(d)] | | | | | | 1 | | | | | 1 | | | | 3 | 3 |
| Test Set (2.10) | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| KS-3008 Stop Watch or equivalent | | | | | | | | | ✓ | ✓ | | | | | ✓ | ✓ |
| Toothpicks (2.11) | | | ✓ | ✓ | ✓ | | | | | | | | | | | |
| KS-7187 Paper (2.12) | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |

✓ Indicates as required.

**2.07** ITE 4069 (blocking) tools, as required.

**2.08** One P3D cord, 9 inches long, equipped with two 309 plugs (3P3D cord). (See 2.03 and note.)

**2.09** 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and as follows:

(a) One KS-6278 connecting clip and one 419A tool (for connection to nonwire-spring-relay springs).

(b) One KS-6278 connecting clip and one 607A tool (for connection to winding terminal of U- or Y-type relay).

(c) One KS-6278 connecting clip and one 624A tool (for connection to winding terminal of AF-, AG-, or AJ-type relay).

*Note:* 624A tools are required for Tests C and D only when wire-spring-relay type marker connectors form part of an MS- relay chain.

(d) Two KS-6278 connecting clips (for connection to punching of 218-type terminal strip).

**2.10** 67C test set or equivalent, equipped with one KS-6278 connecting clip (for use in checking presence of battery or ground).

**2.11** Toothpicks (for blocking multicontact relays nonoperated).

**2.12** KS-7187 Bell seal bond paper, No. 20 substance (for insulating relay contacts).

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 56 | At master test frame—<br>Release CMTCA or DMTCA key. | CMTCA or DMTCA lamp extinguished. |
| 57 | At relay rack frame—<br>Remove ground from 1T spring of SRB relay. | |
| 58 | Remove blocking tools from SRB, CWA, CWB, IM1, IM2 relays. | |
| 59 | Connect battery to punching 26 of terminal strip B. | |
| 60 | Simultaneously connect ground to punchings 13, 14 of terminal strip B. | TMA relay operated.<br>ALA relay remains nonoperated.<br>If major alarm has not sounded after approximately 5 seconds—<br>Proceed immediatedly to Step 61. |
| 61 | Remove ground from punchings 13, 14 of terminal strip B. | |
| 62 | Remove battery from punching 26 of terminal strip B. | |
| 63 | Remove battery from 3B spring of ALB relay. | |
| 64 | Connect battery to 3B spring of ALA relay. | |
| 65 | Connect battery to punching 26 of terminal strip C. | |
| 66 | Simultaneously connect ground to punchings 13, 14 of terminal strip C. | TMB relay operated.<br>ALB relay remains nonoperated.<br>If major alarm has not sounded after approximately 5 seconds—<br>Proceed immediately to Step 67. |
| 67 | Remove ground from punchings 13, 14 of terminal strip C. | |
| 68 | Remove battery from punching 26 of terminal strip C. | |
| 69 | Remove battery from 3B spring of ALA relay. | |
| 70b | If master traffic control unit is associated with a combined marker group—<br>Insulate 3B contact of RB2 relay in originating register group busy circuit. | At terminal strip D of master traffic control unit—<br>Ground present on punching 22.<br>Ground not present on punching 23. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 71b | Ground punching 23 of terminal strip A. | RFC relay operated.<br>At terminal strip D—<br>Ground present on punchings 22, 23. |
| 72b | Ground punching 21 of terminal strip D. | RFC1 relay operated.<br>At terminal strip D—<br>Ground not present on punching 22.<br>Ground present on punching 23. |
| 73b | Remove ground from punching 23 of terminal strip A. | RFC relay released.<br>At terminal strip D—<br>Ground present on punchings 22, 23. |
| 74b | Remove ground from punching 21 of terminal strip D. | RFC1 relay released. |
| 75b | Remove insulator from 3B contact of RB2 relay in originating register group busy circuit. | |
| 76a | If office is arranged for alarm sending—<br>Restore alarm transfer key to position prior to start of test. | |

### P. Master Traffic Control Short-Cycle Gate Feature

| | | |
|---|---|---|
| 3 | At master test frame—<br>Operate DMTCB key. | DMTCB lamp lighted. |
| 4 | At relay rack frame—<br>Block nonoperated CWA, CWB, IM1, IM2 relays. | |
| 5 | Block operated AMB, ▶TCA1◀ relays. | |
| 6 | Connect ground to 1T of AMB relay. | TCA relay operated.<br>▶TCA1 relay deenergized.<br>IM1, IM2 relays energized. |
| 7 | Remove blocking tool from TCA1 relay; ***start timing.***◀ | In 2 to 3 seconds—<br>Major alarm sounds.<br>TCA relay released.<br>▶TCA1 relay energized.<br>IM1, IM2 relays deenergized.◀<br>At master test frame—<br>DMCGA lamp lighted. |
| 8 | Operate DMTCA key. | DMTCA lamp lighted. |
| 9 | Momentarily operate MC-AR key. | Major alarm silenced.<br>DMCGA lamp extinguished. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 10 | ▶At relay rack frame—<br>Block nonoperated AMB relay. | IM1, IM2 relays energized. |
| 11 | Insulate 3-4B of AMB relay. | IM1, IM2 relays remain energized. |
| 12 | Remove insulator from 3-4B of AMB relay. | |
| 13 | Insulate 1-2B of AMB relay. | IM1, IM2 relays remain energized. |
| 14 | Remove insulator from AMB relay. | |
| 15 | Block operated AMB, TMB relays.◀ | |
| 16 | Connect battery to 3B of ALA relay. | |
| 17 | Connect battery to ▶4B◀ of TMA relay. | TMA relay operated. |
| 18 | Insulate ▶2-3T◀ of TCA relay. | ▶TCA1 relay deenergized.◀<br>IM1, IM2 relays deenergized. |
| 19 | Remove battery from TMA relay. | TMA relay released.<br>IM1, IM2 relays energized. |
| 20 | Remove insulator form TCA relay. | TCA1 relay operated.<br>IM1, IM2 relays deenergized. |
| 21 | ▶Remove blocking tool from TMB relay.◀ | |
| 22 | Remove ground from AMB relay. | |
| 23 | Remove battery from ALA relay. | |
| 24 | ▶Connect ground to 4T of CWA relay. | |
| 25 | Remove blocking tool from CWA relay; ***start timing.*** | In 2 to 3 seconds—<br>CWS relay momentarily operated.<br>Major alarm sounds.◀<br>ALB relay nonoperated.<br>At master test frame—<br>DMCGA lamp lighted. |
| 26 | At relay rack frame—<br>Remove ground from CWA relay. | |
| 27 | At master test frame—<br>Momentarily operate MC-AR key. | Major alarm silenced.<br>DMCGA lamp extinguished. |
| 28 | Restore DMTCA key. | DMTCA lamp extinguished. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 29 | At relay rack frame—<br>Block operated TCA relay. | Battery ▶present◀ on terminals 2 and 3 of terminal strip A. |
| 30 | Remove blocking tool from TCA relay. | Battery ▶absent◀ on terminals 2 and 3 of terminal strip A. |
| 31 | Manually operate CWA relay of master control circuit for register marker connectors. | At master traffic control circuit for line link marker connectors—<br>TCA relay momentarily operated. |
| 32 | At master test frame—<br>Restore DMTCB key. | DMTCB lamp extinguished. |
| 33 | Operate DMTCA key. | DMTCA lamp lighted. |
| 34 | At relay rack frame—<br>Block nonoperated CWA, ▶TCB◀ relays. | |
| 35 | ▶Connect ground to 5T of AMB relay. | |
| 36 | Remove blocking tool from TCB relay; ***start timing.*** | In 2 to 3 seconds—<br>TCB relay momentarily operated.<br>Major alarm sounds.◀<br>At master test frame—<br>DMCGB lamp lighted. |
| 37 | Operate DMTCB key. | DMTCB lamp lighted. |
| 38 | Momentarily operate MC-AR key. | Major alarm silenced.<br>DMCGB lamp extinguished. |
| 39 | At relay rack frame—<br>Connect battery to 3B or ALB relay. | |
| 40 | Connect battery to ▶4B◀ of TMB relay. | TMB relay operated. |
| 41 | Insulate 2-3T of TCB relay. | TCB1 relay released.<br>IM1, IM2 relays deenergized. |
| 42 | Remove battery from TMB relay. | TMB relay released.<br>IM1, IM2 relays energized. |
| 43 | Remove insulator from TCB relay. | TCB1 relay operated.<br>IM1, IM2 relays deenergized. |
| 44 | Remove ground from AMB relay. | ▶TCB relay released. |
| 45 | Remove battery from ALB relay. | |
| 46 | Connect ground to 4T of CWB relay.◀ | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 47 | ▶Remove blocking tool from CWB relay; ***start timing.***◀ | In 2 to 3 seconds—<br>CWB relay momentarily operated.<br>Major alarm sounds.<br>At master test frame—<br>DMCGB lamp lighted. |
| 48 | At relay rack frame—<br>Remove ground from CWB relay. | |
| 49 | Block operated TCB relay. | Battery ▶present◀ on terminals 2 and 3 of terminal strip D. |
| 50 | Remove blocking tool from TCB relay. | Battery ▶absent◀ on terminals 2 and 3 of terminal strip D. |
| 51 | At master test frame—<br>Momentarily operate MC-AR key. | Major alarm silenced.<br>DMCGB lamp extinguished. |
| 52 | Restore DMTCA key. | DMTCA lamp extinguished. |
| 53 | At relay rack frame—<br>In master traffic control for register marker connectors—<br>Manually operate CWB relay. | |
| 54 | Remove blocking tools from IM1, IM2, CWA, AMB relays. | |
| 55 | At master test frame—<br>Restore DMTCB key. | DMTCB lamp extinguished. |
| 56a | If office is arranged for alarm sending—<br>Restore alarm transfer key to position prior to start of test. | |