

COMBINED AND COMPLETING MARKER CIRCUITS—PART 14
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section is Part 14 in a series of sections for testing combined and completing markers.

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 not affected.

- (a) To revise test procedures to include offices arranged with Electronic Translation System (ETS).
- (b) To exclude under verification in all tests, reference to "class of test" lamps.
- (c) To delete the test "Short and Long-Delay Timers for Route Translator Seizure."
- (d) To make minor changes as required.

1.03 The test covered is:

BN. Timing Features: This test checks that the marker work timer, short-delay timer, long-delay timer, and overall timer are functioning properly.

1.04 **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.

1.05 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.

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

1.07 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, DT, ORIG, ITDO, ITNP, OGT, INC, OR, SDR, IR, MISC, IAO, MLV, LT, IMS, PTT, TVT, ATNT, and IMT.

1.08 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.

218-798-308—Taking LAMA-C Equipment Out-of-Service

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

1.09 Additional test procedures are available for verification of leads between the completing marker and the distributor and scanner (DAS). Refer to Section 218-122-531 for DAS application

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to LAMA-C or Section 218-799-321 for DAS application to ETS.

1.10 When making tests in No. 5 crossbar offices arranged with Electronic Translation System and test verification requires a completing marker trace output (teletype printout or data dump) to determine the data used to process a call, operate the TCPO key at the master test frame (MTF). The data dump received at the maintenance teletypewriters (TTY) may be in a raw form (binary or hexadecimal numbering system), formatted into decimal and written text, or a combination of both. For additional information on data dumps and formats used, refer to Section 218-799-102.♦

2. APPARATUS

- 2.01 Master test control circuit, SD-25800-01.
- 2.02 322A (make-busy) plugs as required.
- 2.03 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.
- 2.04 32A test set.
- 2.05 KS-3008 stopwatch or equivalent.

3. METHOD

STEP	ACTION	VERIFICATION
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Note: Refer to paragraphs 1.04 through 1.10.

BN. Timing Features

Note: If an accurate measurement of timing intervals is desired, use J24753A test set and timing requirement tables for wire-spring-relay type marker or circuit requirement tables for nonwire-spring-relay type marker.

Work Timer for Completing Job—Combined or Completing Marker

- 1 At MTF—
Insert make-busy plug into MMB_jack associated with marker under test.
- 2 Restore all keys and switches.
- 3 Momentarily operate RL key.
- 4 Select ORIG class of test.
- 5 Select A_ through G_ digits as required to direct call through intraoffice route to individual line.
- 6 Select line location as required for line identification of any line having originating service.
- 7 Select class of service and rate treatment as required for access to selected route.

All lamps extinguished.

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STEP	ACTION	VERIFICATION
8a	◆If ETS provided— Operate P CS key.◆	
9	Select OR class of call with LT translator indication.	<i>GPA or GPB</i>
10b	If 4-wire switching route is selected— Operate 4W key.	
11c	If office is arranged for multilevel preemption— Select CDP, CD control digits as required for access to all routes.	
12	Select marker under test.	
13	At marker frame— Block operated SP relay.	<i>located C35R</i>
14	Insert plug of 32A test set into RC jack.	
15	Momentarily operate white (ST) button. When TMS relay operates, start timing .	Within 1 second— WT relay operated. At MTF— TRL lamp lighted. Trouble record taken. WT, TM designations perforated.
16	Momentarily operate RL key.	All lamps extinguished.
17	At marker frame— Remove blocking tool from SP relay.	
18	Remove plug of 32A test set from RC jack.	
19	At MTF— Restore all keys and switches.	
20	Remove make-busy plug from MMB ₁ jack.	
Short- and Long-Delay Timers for Line Link Frame Seizure—Dial Tone Job—Combined Marker—ETS Not Provided◆		
21	At MTF— Insert make-busy plug into MMB ₁ jack of marker under test.	
22	Restore all keys and switches.	
23	Momentarily operate RL key.	All lamps extinguished.
24	Select DT ₁ class of test.	

STEP	ACTION	VERIFICATION
25	Select line location as required for line identification of line having originating service.	
26	At marker frame— Insulate 9B, 10B of LLC1 relay.	
27d	If short-delay timer is being tested— Block nonoperated RON relay.	
28e	If long-delay timer is being tested— Block operated RON relay.	
29	Insert plug of 32A test set into RC jack.	
30	Momentarily operate white (ST) button. When SFT relay operates, start timing .	If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If long-delay timer is being tested— In 4.6 to 7.5 seconds— LTD relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
31	Momentarily operate RL key.	All lamps extinguished.
32	At marker frame— Remove insulators from 9B, 10B of LLC1 relay.	
33	Remove blocking tool from RON relay.	
34	Remove plug of 32A test set from RC jack.	
35	At MTF— Restore all keys and switches.	
36	Remove make-busy plug from MMB_ jack of marker under test.	
Short- and Long-Delay Timers for Trunk Link Frame Seizure—Dial Tone Job—Combined Marker—ETS Not Provided		
37	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	

STEP	ACTION	VERIFICATION
38	Restore all keys and switches.	
39	Momentarily operate RL key.	All lamps extinguished.
40	Select DT class of test.	
41	Select line location as required for line identification of any line having dial pulse originating service.	
42	Select trunk link frame 0.	
43	Select marker under test.	
44	At marker frame— Block nonoperated FS0 relay.	
45d	If short-delay timer is being tested— Block nonoperated RON relay.	
46e	If long-delay timer is being tested— Block operated RON relay.	
47	Insert plug of 32A test set into RC jack.	
48	Momentarily operate white (ST) button. When SFT relay operates, start timing .	If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If long-delay timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
49	Momentarily operate RL key.	All lamps extinguished.
50	At marker frame— Remove blocking tools from FS0, RON relays.	
51	Remove plug of 32A test set from RC jack.	
52	At MTF— Restore all keys and switches.	
53	Remove make-busy plug from MMB ₁ jack.	

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STEP	ACTION	VERIFICATION
Short- and Long-Delay Timers for Number Group Seizure—Combined or Completing Marker—ETS Not Provided		
54	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
55	Restore all keys and switches.	
56	Momentarily operate RL key.	All lamps extinguished.
57	Select ORIG class of test.	
58	Select A_ through G_ digits as required to direct call through intraoffice route to individual line.	
59	Select line location as required for line identification of line having originating service.	
60	Select class of service and rate treatment as required for access to selected route.	
61	Select OR class of call with LT translator indication.	
62b	If 4-wire switching route is selected— Operate 4W key.	
63c	If office is arranged for multilevel preemption— Select CDP, CD control digits as required for access to selected route.	
64	Select marker under test.	
65	At marker frame— Block nonoperated SNG2, NGK relays. <i>C31L C31L</i>	
66d	If short-delay timer is being tested— Block nonoperated RON relay.	
67e	If long-delay timer is being tested— Block operated RON relay.	
68	Insert plug of 32A test set into RC jack.	
69	Momentarily operate white (ST) button. When SFT relay operates, start timing .	If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted.

STEP	ACTION	VERIFICATION
		Trouble record taken. SDT designation perforated. If long-delay timer is being tested— In 4.6 to 7.5 seconds— LTD relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
70	Momentarily operate RL key.	All lamps extinguished.
71	At marker frame— Remove blocking tools from SNG2, NGK, RON relays.	
72	Remove plug of 32A test set from RC jack.	
73	At MTF— Restore all keys and switches.	
74	Remove make-busy plug from MMB_ jack.	

Short- and Long-Delay Timers for Trunk Link Frame Seizure—Intraoffice Call—Combined or Completing Marker

75	Perform Steps 54 through 64.	
76	Select trunk link frame 0.	
77a	◆If ETS provided— Operate PCS, PTS keys.◆	
78	<u>Operate FS key.</u>	
79	At marker frame— Block nonoperated FS0 relay. <i>C46R</i>	
80	Perform Steps 66d through 70.	
81	At marker frame— Remove blocking tools from FS0, RON relays.	
82	Remove plug of 32A test set from RC jack.	
83	At MTF— Restore all keys and switches.	
84	Remove make-busy plug from MMB_ jack of marker under test.	

STEP	ACTION	VERIFICATION
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Short- and Long-Delay Timers for Line Link Frame Seizure—Intraoffice Call—Combined or Completing Marker

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| 85 | Perform Steps 54 through 64. | |
| 86a | If ETS provided—
Operate PCS key. | |
| 87 | At marker frame—
Insulate contacts as follows for forward linkage:
Nonwire-spring-relay type marker—
2T, 3T of SCB1 relay.
Wire-spring-relay type marker—
7B of SCB2 relay. | |
| 88 | Perform Steps 66d through 70. | |
| 89 | At marker frame—
Remove insulator from SCB1 or SCB2 relay. | |
| 90 | Insulate contacts as follows for call-back linkage:
Nonwire-spring-relay type marker—
1T, 2T of SCB1 relay.
Wire-spring-relay type marker—
7M of SCB2 relay.
<i>C34K</i> | |
| 91 | Repeat Steps 88 and 89. | |
| 92f | If paired line link frames are provided—
Repeat Steps 85 through 91 substituting line on paired line link frame. | |
| 93 | Remove blocking tool from RON relay. | |
| 94 | Remove plug of 32A test set from RC jack. | |
| 95 | At MTF—
Restore all keys and switches. | |
| 96 | Remove make-busy plug from MMB_ jack. | |

Short- and Long-Delay Timers for Sender Connector Frame Seizure—Outgoing Call—Combined or Completing Marker

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| 97 | At MTF—
Insert make-busy plug into MMB_ jack of marker under test. | |
| 98 | Restore all keys and switches. | |

STEP	ACTION	VERIFICATION
99	Momentarily operate RL key.	All lamps extinguished.
100	Select ORIG class of test.	
101	Select A_ through K_ digits as required to direct call to outgoing route requiring a sender.	
102	Select OR class of call with translator indication as required for access to selected route.	
103	Select line location as required for line identification of any line having access to selected route.	
104	Select class of service and rate treatment as required for access to selected route.	
105a	If ETS provided— Operate PCS key.	
106b	If 4-wire switching route is selected— Operate 4W key.	
107c	If office is arranged for multilevel preemption— Select CDP, CD control digits as required for access to selected route.	
108	Select marker under test.	
109	At marker frame— Block nonoperated SKA, SKB, TK relays. <i>C18L C18L C31R</i>	
110d	If short-delay timer is being tested— Block nonoperated RON relay.	
111e	If long-delay timer is being tested— Block operated RON relay.	
112	Insert plug of 32A test set into RC jack.	
113	Momentarily operate white (ST) button. When SFT relay operates, start timing .	If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If long-delay timer is being tested— In 4.6 to 7.5 seconds— LTD relay operated. At MTF— TRL lamp lighted.

STEP	ACTION	VERIFICATION
		Trouble record taken. LDT designation perforated.
114	Momentarily operate RL key.	All lamps extinguished.
115	At marker frame— Remove blocking tools from SKA, SKB, TK, RON relays.	
116	Remove plug of 32A test set from RC jack.	
117	At MTF— Restore all keys and switches.	
118	Remove make-busy plug from MMB_ jack.	

**Short- and Long-Delay Timers for Foreign Area Translator
Frame Seizure—Outgoing Call—Combined or Completing
Marker—ETS Not Provided**

119	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
120	Restore all keys and switches.	
121	Momentarily operate RL key.	All lamps extinguished.
122	Insert make-busy plug into FAT MB jack.	
123	Operate FAA key.	
124	Select ORIG class of test.	
125	Select A_ through K_ digits as required to direct call to outgoing route requiring foreign area translator.	918-122-1995
126	Select FAC class of call with LT1 translator indication.	
127	Perform Steps 103 through 104 and 106b through 108.	
128	At foreign area translator connector frame— Block nonoperated CA3 relay associated with marker under test and foreign area translator made busy.	
129	At marker frame— Perform Steps 110d through 114.	

STEP	ACTION	VERIFICATION
130	At foreign area translator connector frame— Remove blocking tool from CA3 relay.	
131	At marker frame— Remove blocking tool from RON relay.	
132	Remove plug of 32A test set from RC jack.	
133	At MTF— Restore all keys and switches.	
134	Remove make-busy plugs from MMB_, FAT MB_ jacks.	

Short- and Long-Delay Timers for Trunk Link Frame Seizure—Outgoing Call—Combined or Completing Marker

135	Perform Steps 97 through 108.	
136	Select trunk link frame 0.	
137a	If ETS provided— Operate PTS key.	
138	Operate FS key.	
139	At marker frame— Block nonoperated FS0 relay.	
140	Perform Steps 110d through 114.	
141	At marker frame— Remove blocking tools from FS0, RON relays.	
142	Remove plug of 32A test set from RC jack.	
143	At MTF— Restore all keys and switches.	
144	Remove make-busy plug from MMB_ jack.	

Short- and Long-Delay Timers for Line Link Frame Seizure—Outgoing Call—Combined or Completing Marker

145	Perform Steps 97 through 108.	
146	At marker frame— Insulate contacts as follows: Nonwire-spring-relay-type marker— 9B, 10B of LEC1 relay.	

STEP	ACTION	VERIFICATION
	Wire-spring-relay type marker— 1 of LLC2 relay. C38L	
147	Perform Steps 110d through 114.	
148f	If paired line link frames are provided— Repeat Steps 145 through 147 substituting line on paired line link frame.	
149	At marker frame— Remove insulator from LLC1 or LLC2 relay.	
150	Remove blocking tool from RON relay.	
151	Remove plug of 32A test set from RC jack.	
152	At MTF— Restore all keys and switches.	
153	Remove make-busy plug from MMB_ jack.	

**Short- and Long-Delay Timers for Trunk Guard
Test—Outgoing Call—Combined or Completing Marker**

154	Perform Steps 97 through 108.	
155	Select DP or MF outgoing sender.	
156	Insert make-busy plug into MB_ jack of sender selected in Step 155.	
157	Operate (pull-out) CTR_ key associated with selected sender.	
158	At outgoing sender frame— On sender selected in Step 155— Block nonoperated TG1 relay.	
159	Block operated LR relay.	
160g	If MF outgoing sender is selected— Block nonoperated OF1, CL4 (if provided) relays.	
161h	If DP outgoing sender is selected— Block nonoperated TT1, TT (if provided) relays.	
162	At marker frame— Block nonoperated NDI relay. C23L	

STEP	ACTION	VERIFICATION
163i	If a route requiring AMA has been selected— Block nonoperated MXT, XT5 relays.	
164d	If <i>short-delay</i> timer is being tested— Block nonoperated RON relay.	
165e	If <i>long-delay</i> timer is being tested— Block operated RON relay.	
166	Insert plug of 32A test set into RC jack.	
167	Momentarily operate white (ST) button. When SFT relay operates, <i>start timing</i> .	If <i>short-delay</i> timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— MRL lamp lighted. Trouble record taken. SDT designation perforated. If <i>long-delay</i> timer is being tested— In 4.6 to 7.5 seconds— LTD relay operated. At MTF— MRL lamp lighted. Trouble record taken. LDT designation perforated.
168	At outgoing sender frame— On sender selected in Step 155— Remove all blocking tools placed in Steps 158 through 161h.	
169	Momentarily operate RL key.	All lamps extinguished.
170	At marker frame— Remove blocking tool from RON, NDI, MXT, XT5 relays.	
171	Remove plug of 32A test set from RC jack.	
172	At MTF— Restore all keys and switches.	
173	Remove make-busy plugs from MMB_, MB_ jacks.	
174	Restore (push-in) CTR_ key.	

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STEP	ACTION	VERIFICATION
Short- and Long-Delay Timers for Trunk Link Frame Seizure—Incoming Call—Combined or Completing Marker		
175	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
176	Restore all keys and switches.	
177	Momentarily operate RL key.	All lamps extinguished.
178	Select INC class of test.	
179	Select A_ through G_ digits as required to direct call to any local line.	
180	Select incoming class of call with translator indication as required for completion to called line.	
181	Select any trunk link frame.	
182	Select incoming trunk class as required for completion to called line.	
183	Select marker under test.	
184b	If 4-wire switching route is selected— Operate 4W key.	
185c	If office is arranged for multilevel preemption— Select CDP, CD, CDA control digits as required for completion to called line.	
186j	If office is arranged for multilevel preemption and call is directed to line with multilevel preemption feature— Operate AD key.	
187k	If office is arranged for multilevel preemption and call is directed to line without multilevel preemption features— Operate OD key.	
188	At marker frame— Insert plug of 32A test set into RC jack.	
189	Block nonoperated TFK3 relay. C44R	
190d	If <i>short-delay</i> timer is being tested— Block nonoperated RON relay.	

STEP	ACTION	VERIFICATION
191e	If <i>long-delay</i> timer is being tested— Block operated RON relay.	
192	Momentarily operate white (ST) button. When SFT relay operates, <i>start timing</i> .	If <i>short-delay</i> timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If <i>long-delay</i> timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
193	Momentarily operate RL key.	All lamps extinguished.
194	At marker frame— Remove blocking tools from TFK3, RON relays.	
195	Remove plug of 32A test set from RC jack.	
196	At MTF— Restore all keys and switches.	
197	Remove make-busy plug from MMB_ jack.	
Short- and Long-Delay Timers for Sender Connector Frame Seizure—Pulse Conversion Call—Combined or Completing Marker		
198	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
199	Restore all keys and switches.	
200	Momentarily operate RL key.	All lamps extinguished.
201	Select INC class of test.	
202	Select A_ through D_ digits for any numericals.	
203l	If MF to RP conversion is provided— Select PCR incoming class of call.	PC lamp lighted.
204m	If MF to DP conversion is provided— Select PCD incoming class of call.	PC lamp lighted.

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STEP	ACTION	VERIFICATION
205	Select 0, 2, 3, or 5 incoming trunk class as required for class of supervision.	
206	Select any trunk link frame.	
207	Select marker under test.	
208	At marker frame— Block nonoperated SKA, SKB, TK relays.	
209d	If short-delay timer is being tested— Block nonoperated RON relay.	
210e	If long-delay timer is being tested— Block operated RON relay.	
211	Insert plug of 32A test set into RC jack.	
212	Momentarily operate white (ST) button. When SFT relay operates, start timing .	<p>If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated.</p> <p>If long-delay timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.</p>
213	Momentarily operate RL key.	All lamps extinguished.
214	At marker frame— Remove blocking tools from SKA, SKB, TK, RON relays.	
215	Remove plug of 32A test set from RC jack.	
216	At MTF— Restore all keys and switches.	
217	Remove make-busy plug from MMB_ jack.	
<p>Short- and Long-Delay Timers for Trunk Link Frame Seizure—Pulse Conversion Call—Combined or Completing Marker</p>		
218	Perform Steps 198 through 207.	

STEP	ACTION	VERIFICATION
219	At marker frame— Block nonoperated TFK3 relay.	
220	Perform Steps 209d through 213.	
221	At marker frame— Remove blocking tools from TFK3, RON relays.	
222	At MTF— Restore all keys and switches.	
223	Remove make-busy plug from MMB_ jack.	
Short- and Long-Delay Timers for Outgoing Sender Connector Frame Seizure—Incoming Call (LLP)—Completing Marker		
224	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
225	Restore all keys and switches.	
226	Momentarily operate RL key.	All lamps extinguished.
227	Select INC class of test.	
228	Select A_ through G_ digits as required to direct call to an unrestricted LLP station.	
229	Select incoming class of call with translator indication as required for access to selected route.	
230	Select incoming trunk class as required for access to selected route.	
231	Select any trunk link frame.	
232	Select marker under test.	
233	At marker frame— Insert plug of 32A test set into RC jack.	
234	Block nonoperated SKA, SKB, TK relays.	
235d	If short-delay timer is being tested— Block nonoperated RON relay.	
236e	If long-delay timer is being tested— Block operated RON relay.	

STEP	ACTION	VERIFICATION
237	Momentarily operate white (ST) button. When SFT relay operates, start timing .	If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If long-delay timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
238	Momentarily operate RL key.	All lamps extinguished.
239	At marker frame— Remove blocking tools from SKA, SKB, TK, RON relays.	
240	Remove plug of 32A test set from RC jack.	
241	At MTF— Restore all keys and switches.	
242	Remove make-busy plug from MMB_ jack.	
Short- and Long-Delay Timers for Sender Connector Frame—Automatic Intercept—A&M Version—Combined or Completing Marker		
243	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
244	Restore all keys and switches.	
245	Momentarily operate RL key.	All lamps extinguished.
246	Select INC class of test.	
247	Select A_ through G_ digits as required to direct call to any local line.	
248	Select any trunk link frame.	
249	Select incoming class of call with translator indication as required for completion to called line.	

STEP	ACTION	VERIFICATION
250	Select incoming trunk class as required for completion to called line.	
251	Select marker under test.	
252	Operate AIS, AIRI keys.	
253	At OS_AIS frame— Block nonoperated MCA_ relay associated with marker under test.	
254	At marker frame— Insert plug of 32A test set into RC jack.	
255d	If <i>short-delay</i> timer is being tested— Block nonoperated RON relay.	
256e	If <i>long-delay</i> is being tested— Block operated RON relay.	
257	Momentarily operate white (ST) button. When SFT relay operates, <i>start timing</i> .	If <i>short-delay</i> timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If <i>long-delay</i> timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
258	Momentarily operate RL key.	All lamps extinguished.
259	At marker frame— Remove blocking tool from RON relay.	
260	Remove plug of 32A test set from RC jack.	
261	At OS_AIS frame— Remove tool from MCA_ relay.	
262	At MTF— Restore all keys and switches.	
263	Remove make-busy plug from MMB_ jack.	

STEP	ACTION	VERIFICATION
Short- and Long-Delay Timers for Trunk Link Frame Seizure—Transfer Call Identifier Usage—Phase III Centrex—Completing Marker		
264	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
265	Restore all keys and switches.	
266	Momentarily operate RL key.	All lamps extinguished.
267	Select INC class of test.	
268	Select line location as required for any centrex line.	
269	Select any trunk link frame equipped with a transfer trunk.	
270	Select marker under test.	
271	Operate DTF, DAT, TI keys.	
272	At marker frame— Insulate 9M of DTI1 relay.	
273d	If short-delay timer is being tested— Block nonoperated RON relay.	
274e	If long-delay timer is being tested— Block operated RON relay.	
275	Insert plug of 32A test set into RC jack.	
276	Momentarily operate white (ST) button. When SFT relay operates, start timing .	If short-delay timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If long-delay timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
277	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
278	Remove insulator from DTI1 relay.	
279	Remove blocking tool from RON relay.	
280	Remove plug of 32A test set from RC jack.	
281	At MTF— Restore all keys and switches.	
282	Remove make-busy plug from MMB_ jack.	
Short- and Long-Delay Timers for Line Link Frame Seizure—Transfer Call—Identifier Usage—Phase III Centrex—Completing Marker		
283	Perform Steps 264 through 271.	
284	At marker frame— Insulate 3M of DTI1 relay.	
285	Perform Steps 273d through 282.	
Short- and Long-Delay Timers for Trunk Link Frame Seizure—Attendant Transfer Call—Phase I and II Centrex—Completing Marker		
286	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
287	Restore all keys and switches.	
288	Momentarily operate RL key.	All lamps extinguished.
289	Select INC class of test.	
290	Select any trunk link frame.	
291	Select trunk number as required for incoming trunk.	
292	Select marker under test.	
293	Operate TRF key.	
294	At marker frame— Insulate 2M of TRF2 relay.	
295d	If <i>short-delay</i> timer is being tested— Block nonoperated RON relay.	

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STEP	ACTION	VERIFICATION
296e	If <i>long-delay</i> timer is being tested— Block operated RON relay.	
297	Insert plug of 32A test set into RC jack.	
298	Momentarily operate white (ST) button. When SFT relay operates, <i>start timing</i> .	If <i>short-delay</i> timer is being tested— In 2.6 to 4.25 seconds— SDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. SDT designation perforated. If <i>long-delay</i> timer is being tested— In 4.6 to 7.5 seconds— LDT relay operated. At MTF— TRL lamp lighted. Trouble record taken. LDT designation perforated.
299	Momentarily operate RL key.	All lamps extinguished.
300	At marker frame— Remove insulator from TRF2 relay.	
301	Remove blocking tool from RON relay.	
302	Remove plug of 32A test set from RC jack.	
303	At MTF— Restore all keys and switches.	
304	Remove make-busy plug from MMB_ relay.	

Overall Timer—Combined or Completing Marker

305	At MTF— Insert make-busy plug into MMB_ jack of marker under test.	
306	Restore all keys and switches.	
307	Momentarily operate RL key.	All lamps extinguished.
308	Select ORIG class of test.	
309	Select A_ through G_ digits as required to direct call through intraoffice route to individual line.	
310	Select OR class of call with LT translator indication.	

STEP	ACTION	VERIFICATION
311	Select line location as required for line identification of any line having originating service.	
312	Select class of service and rate treatment as required for access to selected route.	
313a	◆If ETS provided— Operate PCS key.◆	
314b	If 4-wire switching route is selected— Operate 4W key.	
315c	If office is arranged for multilevel preemption— Select CDP, CD control digits as required for access to selected route.	
316	Select marker under test.	
317	At marker frame— Block nonoperated SFT, WT relays.	
318	Block operated SP relay.	
319	Insert plug of 32A test set into RC jack.	
320	Momentarily operate white (ST) button. When OAT relay operates, <i>start timing</i> .	In 9.6 to 15.4 seconds— MRL relay operated. TA lamp lighted. Major alarm sounds. At MTF— MRL, BTOF lamps lighted.
321	Momentarily operate RL key.	All lamps extinguished.
322	At marker frame— Remove blocking tool from SFT, SP, WT relays.	
323	Momentarily operate AR key.	TA lamp extinguished. Major alarm silenced.
324	Remove plug of 32A test set from RC jack.	
325	At MTF— Restore all keys and switches.	
326	Remove make-busy plug from MMB_ jack.	