

TRANSLATORS
MISCELLANEOUS TESTS
STEP-BY-STEP COMMON CONTROL OFFICES

1. GENERAL

PAGE

1.01 This section describes a method of making miscellaneous tests of translators for step-by-step offices equipped with common control. In this section, translator features are tested as used in offices with controlled outpulsing and with or without TOUCH-TONE® calling and as used in offices without controlled outpulsing and with TOUCH-TONE calling.

E. Two-Out-of-Five Trouble Release:

This test checks that if more than two digit register relays are operated for a hundreds, tens, or units digit, the translator will block and give a trouble release. 7

1.02 This section is reissued to make corrections in text and in Tests A, B, and E and to clarify locational statements throughout the section.

1.04 When trouble is indicated in the work timer (WT) or in the overall timer (OAT), check timing interval as specified in circuit requirements table.

1.03 The tests covered are:

1.05 In Test E, the PC traffic register is scored. Local instructions should be followed for recording and reporting this register operation.

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A. Trouble Detecting for Ground:

This test checks that the translator will sound a major alarm if a false ground appears on certain interconnecting leads.

2

B. Work Timer (WT): This test checks that the WT transistor timing circuit functions from seizure through two work time intervals (200 to 250 milliseconds each) before sounding a major alarm.

5

C. Overall Timer (OAT): This test checks that the OAT transistor timing circuit functions from seizure through an overall timing period (650 to 750 milliseconds) before sounding a major alarm.

6

D. Fuse Alarm (FA) Relay: This test checks that the fuse alarm relay functions to sound a major alarm when a fuse is operated. It also checks that the translator is made busy until the AR key is operated.

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1.06 All tests, except Test D, require removal of one translator from service. If the office is arranged for controlled outpulsing, the associated decoder is also removed from service.

1.07 Caution: If a regular alarm should originate during these tests, the tests should be immediately discontinued so that the alarm will sound in the normal manner. Notify the proper persons that a regular alarm is sounding.

1.08 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 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.

SECTION 227-725-501

2. APPARATUS

Tests A, B, C, and E

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

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

Tests A and E

2.03 Three testing cords, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord), one KS-6278 connecting clip, and one 624B (terminal connector) tool (for applying ground connections to terminal strips).

3. PREPARATION

STEP	ACTION	VERIFICATION
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Tests A, B, C, and E

1	At jack, key, and lamp circuit— Insert make-busy plug into TMB- jack associated with translator under test.	
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4. METHOD

STEP	ACTION	VERIFICATION
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A. Trouble Detecting for Ground

XL Relay (In Offices Without Controlled Outpulsing and With TOUCH-TONE Calling)

2	At translator under test— Block operated NPA relay.	
3	Ground TS(J) terminal 54.	Minor alarm sounds. Major alarm sounds. ◆At miscellaneous circuit—◆ XL lamp lighted. ◆At jack, key, and lamp circuit— TT lamp lighted.◆
4	At translator under test— Remove ground from TS(J) terminal 54.	
5	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. XL lamp extinguished.
6	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆

Test A

2.04 Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord), one KS-6278 connecting clip, one 639A (relay contact connector) tool, and one 651D (relay contact connector holder) tool (for making battery or ground connection to relay springs).

Test D

2.05 716C test receiver, attached to a W2AB cord, equipped with two 360A tools (2W21A cord), one KS-6278 connecting clip, and one 411B (test pick) tool.

STEP	ACTION	VERIFICATION
7	At translator under test— Remove blocking tool from NPA relay.	
8	Block operated PFA relay.	
9	Ground TS(J) terminal 44.	Minor alarm sounds. Major alarm sounds. ◆At miscellaneous circuit—◆ XL lamp lighted. ◆At jack, key, and lamp circuit— TT lamp lighted.◆
10	At translator under test— Remove ground from TS(J) terminal 44.	
11	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. XL lamp extinguished.
12	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆
13	At translator under test— Remove blocking tool from PFA relay.	
◆XL Relay (In Offices With Controlled Outpulsing and With or Without TOUCH-TONE Calling)◆		
14	Ground TS(D) terminal 14.	Minor alarm sounds. Major alarm sounds. At miscellaneous circuit— XL lamp lighted. At jack, key, and lamp circuit— TT lamp lighted.
15	At translator under test— Remove ground from TS(D) terminal 14.	
16	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. XL lamp extinguished.
17	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆
18	At translator under test— Repeat Steps 14 through 17 for TS(C) terminals 25, 35.	
19	Ground TS(D) terminal 54.	

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STEP	ACTION	VERIFICATION
20	Block operated 2TR relay.	Minor alarm sounds. Major alarm sounds. ◆At miscellaneous circuit— XL lamp lighted. At jack, key, and lamp circuit— TT lamp lighted.◆ Minor alarm silenced.
21	At translator under test— Remove ground from TS(D) terminal 54.	
22	Remove blocking tool from 2TR relay.	
23	At miscellaneous circuit— Momentarily operate AR key.	XL lamp extinguished.
24	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Major alarm silenced. ◆TT lamp extinguished.◆
25	At translator under test— Ground TS(D) terminal 24.	
26	Momentarily operate TST relay.	Minor alarm sounds. Major alarm sounds. ◆At miscellaneous circuit—◆ XL lamp lighted. ◆At jack, key, and lamp circuit— TT lamp lighted.◆
27	At translator under test— Remove ground from TS(D) terminal 24.	
28	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. XL lamp extinguished.
29	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆
XTL Relay ◆(In Offices Without Controlled Outpulsing and With TOUCH-TONE Calling)◆		
30	At translator under test— Insert 651D connector holder over contacts of XTL relay.	
31	Connect 639A connector of 893 cord to 6F of XTL relay.	
32	Connect KS-6278 connecting clip of 893 cord to ground.	

STEP	ACTION	VERIFICATION
33	Ground first terminal listed in Table A.	Minor alarm sounds. Major alarm sounds. ◆At miscellaneous circuit—◆ XL lamp lighted. ◆At jack, key, and lamp circuit— TT lamp lighted.◆

TABLE A	
TERMINAL	LEAD
TS(B) 14	3DG
TS(B) 15	CCT
TS(B) 24	4DG
TS(B) 25	VC
TS(B) 34	5DG
TS(B) 44	7DG
TS(B) 54	10DG

34	At translator under test— Remove ground from first terminal listed in Table A.	
35	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. XL lamp extinguished.
36	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆
37	At translator under test— Repeat Steps 33 through 36 for each of the remaining terminals in Table A.	
38	Remove 639A, 651D tools from XTL relay.	
39	Disconnect KS-6278 connecting clip from ground.	
40a	If no further tests are to be made— At jack, key, and lamp circuit— Remove make-busy plug from TMB- jack associated with translator under test.	
B. Work Timer (WT)		
2	At translator under test— Block nonoperated OAT relay.	
3	Block operated STM relay.	At jack, key, and lamp circuit— TR- lamp lighted.

STEP	ACTION	VERIFICATION
	<i>Caution: When insulating springs, use care not to dislodge movable springs from grooves of comb.</i>	
4	◆At translator under test— Insulate 12M of CH2 relay.	After timing period— Minor alarm sounds. ◆At jack, key, and lamp circuit— TT lamp lighted.◆ After second timing period— Major alarm sounds. ◆At miscellaneous circuit—◆ TA lamp lighted.
5	At translator under test— Remove blocking and insulating tools.	At jack, key, and lamp circuit— TR- lamp extinguished.
6	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. TA lamp extinguished.
7	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆
8a	If no further tests are to be made— At jack, key, and lamp circuit— Remove make-busy plug from TMB- jack associated with translator under test.	

C. Overall Timer (OAT)

2	At translator under test— Block nonoperated WT relay.	
3	Block operated STM relay.	At jack, key, and lamp circuit— TR- lamp lighted. After timing period— Major alarm sounds. At miscellaneous circuit— TA lamp lighted.
4	At translator under test— Remove blocking tools from STM, WT relays.	At jack, key, and lamp circuit— TR- lamp extinguished.
5	At miscellaneous circuit— Momentarily operate AR key.	Major alarm silenced. TA lamp extinguished.
6a	If no further tests are to be made— At jack, key, and lamp circuit— Remove make-busy plug from TMB- jack associated with translator under test.	

STEP	ACTION	VERIFICATION
D. Fuse Alarm (FA) Relay		
1	At translator under test— Using test receiver, apply battery to fuse alarm bus bar for translator under test.	MB relay operated. At miscellaneous circuit— FA lamp lighted. Major alarm sounds.
2	▶At translator under test—◀ Remove battery from fuse alarm bus bar.	▶At miscellaneous circuit—◀ FA lamp extinguished. Major alarm silenced. ▶If fuse guard lamp is provided—◀ FG lamp lighted.
3	Momentarily operate AR key.	▶At translator under test—◀ MB relay released. ▶If fuse guard lamp is provided— At miscellaneous circuit—◀ FG lamp extinguished.

E. Two-Out-of-Five Trouble Release

- 2 At translator under test—
Block operated NPA relay.
- 3 Block nonoperated STM relay.

Hundreds Digit Trouble Release

- 4 Simultaneously apply ground to terminals of group 1 listed in Table B. Minor alarm sounds.
▶At jack, key, and lamp circuit—
TT lamp lighted.◀

TABLE B	
GROUP	TERMINALS TO BE GROUNDED
1	TS(G) 11, TS(G) 21, TS(G) 31
2	TS(G) 11, TS(G) 41, TS(G) 51
3	TS(G) 21, TS(G) 31, TS(G) 41
4	TS(G) 21, TS(G) 31, TS(G) 51
5	TS(G) 31, TS(G) 41, TS(G) 51

- 5 At translator under test—
Remove ground from terminals of group 1 in Table B.
- 6 At jack, key, and lamp circuit—
Momentarily operate TT-AR key. Minor alarm silenced.
▶TT lamp extinguished.◀
- 7 At translator under test—
Repeat Steps 4, 5, and 6 for each remaining group in Table B.

STEP	ACTION	VERIFICATION
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Tens Digit Trouble Release

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| 8 | Simultaneously apply ground to terminals of group 1 listed in Table C. | Minor alarm sounds.
◆At jack, key, and lamp circuit—
TT lamp lighted.◆ |
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TABLE C	
GROUP	TERMINALS TO BE GROUNDED
1	TS(G) 12, TS(G) 22, TS(G) 32
2	TS(G) 12, TS(G) 42, TS(G) 52
3	TS(G) 22, TS(G) 32, TS(G) 42
4	TS(G) 22, TS(G) 32, TS(G) 52
5	TS(G) 32, TS(G) 42, TS(G) 52

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| 9 | At translator under test—
Remove ground from terminals of group 1 in Table C. | |
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| 10 | At jack, key, and lamp circuit—
Momentarily operate TT-AR key. | Minor alarm silenced.
◆TT lamp extinguished.◆ |
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| 11 | At translator under test—
Repeat Steps 8, 9, and 10 for each remaining group in Table C. | |
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Units Digit Trouble Release

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| 12 | Block operated ON relay. | |
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| 13 | Simultaneously apply ground to terminals of group 1 listed in Table D. | Minor alarm sounds.
◆At jack, key, and lamp circuit—
TT lamp lighted.◆ |
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TABLE D	
GROUP	TERMINALS TO BE GROUNDED
1	TS(G) 13, TS(G) 23, TS(G) 33
2	TS(G) 13, TS(G) 43, TS(G) 53
3	TS(G) 23, TS(G) 33, TS(G) 43
4	TS(G) 23, TS(G) 33, TS(G) 53
5	TS(G) 33, TS(G) 43, TS(G) 53

STEP	ACTION	VERIFICATION
14	At translator under test— Remove ground from terminals of group 1 in Table D.	
15	At jack, key, and lamp circuit— Momentarily operate TT-AR key.	Minor alarm silenced. ◆TT lamp extinguished.◆
16	At translator under test— Repeat Steps 13, 14, and 15 for each remaining group in Table D.	
17	Remove blocking tools from ON, STM, NPA relays.	
18a	If no further tests are to be made— At jack, key, and lamp circuit— Remove make-busy plug from TMB- jack associated with translator under test.	