

LOOP DIALING A-B TOLL TRANSMISSION SELECTORS
OPERATION TESTS
USING TEST SET SD-30387-01 (J34713A) OR ES-30007-01 (X-61341)
STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of testing loop dialing A-B toll transmission selectors, using wagon-type toll train and coin box trunk test set SD-30387-01 or ES-30007-01.

1.02 This section is reissued to incorporate material from the addendum in its proper location. In this process marginal arrows have been omitted.

1.03 The tests and the features tested are:

(A) Idle Line Test: This test checks the ability of the A-B toll transmission selector to follow and repeat dial pulses, to hunt, to return the proper supervisory signals, and to release.

(B) All Paths Busy Test - Selectors Not Arranged for Blocking: This test checks the ability of the A-B toll transmission selector, not arranged for blocking, to return an indication of an all paths busy condition. When the selector is arranged for blocking, the all paths busy feature is checked under Test (C).

(C) Digit Absorbing and Blocking Test: This test checks the ability of the A-B toll transmission selector to absorb digits once only or repeatedly, and to block.

1.04 Test (A) is based upon the use of a connector test line terminal 99 (or 90). The particular test line terminal selected shall be one which can be reached by dialing from the test jacks of the selector being tested.

1.05 This section does not include tests to levels serving level hunting connectors.

1.06 Wherever the preparation or method calls for the operation of the STP, or RLS key, or of the dial, it is understood that either

the STP, or RLS key, or the dial, of the wagon-type test set, or the STP (No. 1) or RLS (No. 3) key, or the dial, of the remote control test set is meant, depending upon whether or not the remote control test set is being used.

1.07 The progress lamps designated BL or BUSY-LINE, RING, or TRIP indicate the particular test which is applied at the time the lamp is lighted.

1.08 From all positions except the BL (BUSY-LINE) through the PT (PRE-TRIP) positions, the test circuit can be returned to normal by operating and holding the RLS key until none of the progress lamps is lighted. If the test circuit is in one of the above positions it will be necessary to advance the test circuit, by means of the STP key, to a position where the RLS key may be used.

1.09 Lettered Steps: The letters a, b, c, etc, are added to a step to indicate that the step covers an action which may or may not be required, depending upon local conditions. The conditions under which a lettered step or series of steps should be made are given in the ACTION column and all steps governed by the same condition are designated by the same letter. When a condition does not apply, the associated steps should be omitted.

1.10 When conducting these tests on selectors directly connected to trunks, the trunks shall be made busy in the approved manner.

1.11 The test equipment specified in this section is designed to apply proper marginal tests (simulated critical circuit conditions) when the circuit under test and the test equipment have an applied voltage of 48.5 to 50. In those offices where power plants are normally operated at more than 50 volts, the battery voltage should be reduced and maintained within the required limits while the tests are being made.

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2. APPARATUS

ALL TESTS

- 2.01 Toll Train and Coin Box Trunk Test Set J34713A (SD-30387-01) or X-61341 (ES-30007-01).
- 2.02 No. 40B Test Set (Remote Control) (Optional).
- 2.03 Two P3E Cords, 6 feet long, each equipped with two No. 310 Plugs (3P7A).

2.04 P4K Cord, equipped with one No. 240B Plug and one No. 289B Plug (4P4A).

2.05 Operator Telephone Set.

TEST (B)

2.06 WLAF Cord, equipped with two No. 360A Tools, one No. 411A Tool, and one No. 365 Tool, for use where wiper cords are arranged for test jack termination.

2.07 WLAF Cord, equipped with two No. 360A Tools, and two No. 365 Tools, for use where wiper cords are not arranged for test jack termination.

3. PREPARATION

ALL TESTS

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
1	Connect test set jacks 3 and 4 to the correspondingly numbered test line jacks on the A-B toll transmission selector frame, using two P3E cords. <u>Note:</u> When more than one set of test line jacks 3 and 4 is available, the set selected shall be one which is multiplied to the same connector group in which the test line number to be dialed appears.	
2a	If remote control set is used - Insert the remote control set plugs red, gray, and black into the test set EXT jacks R, G, and B, respectively.	
3	Connect operator telephone set to test set jack TEL.	
4	Insert No. 289B plug of P4K cord into TST jack of test set.	
5	Operate TS OUT (T-SEL-OUT) key.	
6	Insert the maximum allowable loop resistance in the dialing circuit by means of the dials on the No. 509A resistance panel of the test set. <u>Note:</u> The proper test set resistance value to be used is that which most nearly equals the maximum working limits shown on the circuit drawing covering the selector under test, minus 50 ohms normally in the test set and the compensating resistance in the selector circuit, where provided.	

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
7	Holding RLS key operated, insert No. 240B plug of P4K cord into test jack of selector under test.	GRD (GUARD) lamp does not light.
8	Restore RLS key.	GRD (GUARD) lamp lights.

TEST (A)

9b	When the transmission selector supervisory relay is adjusted for 1000-ohm maximum external subscriber loop - Operate the 1000A key (if provided).	
10c	When the transmission selector supervisory relay is adjusted for 1400-ohm or 1500-ohm maximum external subscriber loop - Operate the 1400A key.	

TEST (B)

9	Connect No. 365 tool of WLAF cord to ground.	
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4. METHOD

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>(A) Idle Line Test</u>		
11	Operate and release STP key to advance test circuit to RING position.	RING lamp lights.
12	Dial test line number. <u>Note 1:</u> When the level corresponding to the first digit of the test line number selected is arranged for once only absorption, or for blocking until a digit has been absorbed, it will be necessary to dial a level arranged for once only absorption before dialing the test line number. <u>Note 2:</u> If the test line number dialed is in 10-party terminal per line code ringing group, dial an extra digit following the test number to set the ringing code.	BSY (BUSY) lamp lights. Test set bell rings.
13	Operate and release STP key.	TRIP lamp lights. RING lamp extinguished. SUPV lamp lights. Test set bell does not again ring.
14	Operate RLS key momentarily.	Selector releases. BSY (BUSY) lamp extinguished. TRIP lamp extinguished. SUPV lamp extinguished. GRD (GUARD) lamp extinguished momentarily.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
15d	Remove plug from selector test jack, unless other tests are to be made on this switch.	GRD (GUARD) lamp extinguished.
<u>(B) All Paths Busy Test - Selectors Not Arranged for Blocking</u>		
10	Operate and release STP key to advance test circuit to BL (BUSY-LINE) position.	BL (BUSY-LINE) lamp lights.
11e	If testing selectors arranged to absorb first digit on level to be dialed - Dial absorbed digit.	Selector steps to level dialed and releases.
12f	If testing selectors arranged for test jack termination of wiper cords - Hold No. 411A tool of WIAF cord against sleeve wiper cord terminal.	
13f	Dial any level except one on which the selector is arranged to absorb digits repeatedly.	Selector steps to level dialed and rotates to 11th rotary position. SUPV lamp flashes at all paths busy rate.
14f	Remove No. 411A tool as soon as selector reaches 11th rotary position.	
15g	If testing selectors not arranged for test jack termination of wiper cords - Connect No. 365 tool of WIAF cord directly to the sleeve wiper.	
	<u>Note:</u> It is permissible to span the two wiper springs with the clip in order to make this connection.	
16g	Dial any level except one on which the selector is arranged to absorb digits repeatedly.	Selector steps to level dialed and rotates to 11th rotary position. SUPV lamp flashes at all paths busy rate.
17g	Remove No. 365 tool as soon as selector reaches 11th rotary position.	
18	Operate RLS key momentarily.	BL (BUSY-LINE) lamp extinguished. SUPV lamp extinguished. Selector releases. GRD (GUARD) lamp extinguished momentarily.
19d	Remove plug from selector test jack, unless other tests are to be made on this switch.	GRD (GUARD) lamp extinguished.

(C) Digit Absorbing and Blocking Test

9	Operate and release STP key to advance test circuit to BL (BUSY-LINE) position.	BL (BUSY-LINE) lamp lights.
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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
10h	If selector is arranged to block on specified levels - Dial a level so arranged.	Selector steps to level dialed and rotates to 11th rotary position. SUPV lamp flashes at all paths busy rate.
11h	Operate RLS key momentarily.	Selector releases. SUPV lamp extinguished. GRD (GUARD) lamp extinguished momentarily.
12i	If selector is arranged to absorb digits once only on specified levels - Dial a level so arranged.	Selector steps to level dialed and releases.
13j	If selector is arranged to block on specified levels until a digit has been absorbed - Dial a level so arranged.	Selector steps to level dialed and rotates to first idle terminal.
14j	Operate RLS key momentarily.	Selector releases. GRD (GUARD) lamp extinguished momentarily.
15k	If selector is arranged to absorb digits repeatedly on specified levels - Dial a level so arranged, twice.	Selector steps to level dialed and releases each time.
16d	Remove plug from selector test jack, unless other tests are to be made on this switch.	GRD (GUARD) lamp extinguished.