

LOOP AND REPEATED DIALING TOLL TRANSMISSION SELECTORS OPERATION TESTS USING TRUNK TEST SET SD-90469-01 OR SD-90469-02 (J94710A) STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of testing loop dialing and repeated dialing toll transmission selectors, using trunk test set SD-90469-01 or SD-90469-02. The selectors may be arranged for the following features:

- (a) Line seizure signal, a-c start of ringing, wet-dry supervision, and with or without digit absorbing.
- (b) Without line seizure signal, with d-c simplex ringing control, reverse battery supervision, and with or without digit absorbing.

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 features covered are:

(A) Busy Line - Loop with Leak - Coin and Non-coin Selectors - Using Connector Test Line (99 Terminal): This test checks the ability of a toll transmission selector to follow and repeat pulses and to return an indication of a busy line condition.

(B) Idle Line - Loop - Coin and Non-coin Selectors - Using Test Line SD-31636-01 or Similar Type: This test checks the ringing, supervision, rering and called party hold features of coin and non-coin selectors and, in addition, checks the coin return and collect features of coin selectors.

(C) Idle Line - Loop - Coin and Non-coin Selectors - Using Test Line SD-31425-01 or Similar Type: This test checks the ringing (when test line is arranged to await ringing), supervision, and called party hold features of coin and non-coin selectors.

(D) Idle Line - Loop - Coin and Non-coin Selectors - Using Near-by Coin Box Station: This test checks the ringing, supervision, rering and called party hold features of coin and non-coin selectors and, in addition, checks the coin return and collect features of coin selectors.

(E) All Paths Busy - Loop - Coin and Non-coin Selectors: This test checks the ability of a toll transmission selector to return an indication of an all paths busy condition.

(F) Digit-absorbing and Blocking Tests: This test checks the ability of the toll transmission selectors to absorb digits or block digits on selectors arranged for these features.

1.04 In order to test selectors arranged for d-c simplex ringing control, one of the following three test conditions must be provided:

(a) If trunk test set SD-90469-02 is used, it may be modified per Fig. B, of Issue 9, to provide d-c simplex ringing control in the GEN jack of the test set.

(b) If trunk test set SD-90469-02 which has not been modified as described in 1.04(a) is used, a d-c simplex control test jack SX, per SD-31333-01, Fig. 6, must be provided.

(c) If trunk test set SD-90469-01 is used, a d-c simplex ringing control test jack SX, per SD-31333-01, Fig. 6, must be provided.

1.05 The timed ringing circuit per SD-32196-01, for testing toll transmission selectors arranged for a-c start of ringing, is used, where provided, to give a controlled .3 second spurt of a-c to start ringing.

1.06 In connection with Tests (B) and (D), when applied to coin transmission selectors in repeated dialing toll trains, it is expected that routine tests will not ordinarily include a test of coin control features, since the coin control features are not a part of the transmission selector.

1.07 Test (A) is based upon the use of a connector test line, 99 terminal.

1.08 Test (B) is based upon the use of a connector multiple test line circuit which is designed to await ringing and to automatically present a sequence of suitable conditions for the various test features, in the order shown on SD-31636-01.

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1.09 Test (C) is based upon the use of connector multiple test line circuit SD-31425-01, or similar type, which is designed to present a series of loop opens and closures, to test supervisory features, and may or may not be arranged to await ringing. As test line circuits of this type are not arranged to test all features of a transmission selector, if it is desired to test the rering, coin return, or coin collect features, Test (D) must be used.

1.10 Tests (B) and (D) require an assistant at the switchboard coin control position and a talking circuit, as described in 2.12, between this position and the selector frame.

1.11 All keys, lamps, and jacks referred to are located on the test set unless otherwise specified.

1.12 Lettered Steps: The letters a, b, c, etc., are added to a step number to indicate that the step covers an action which may or may not be required depending on 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.

1.13 While conducting these tests on selectors directly connected to trunks, the trunks should be made busy in the approved manner.

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

1.15 Local instructions should be followed with reference to recording any traffic register operations caused by performing these tests.

1.16 If Test (F) is made on selectors arranged for blocking, Test (E) may be omitted.

1.17 When testing selectors arranged to absorb the first digit on the level under test, or arranged to block access on all or on specified levels only until a digit has been absorbed, it will be necessary to dial an extra digit and then proceed with the tests after the switch restores.

1.18 Levels on which a digit is absorbed repeatedly and levels that block and send back an all-paths-busy tone should be made using Test (F) in order to make a complete test of the selectors.

1.19 Tests (E) and (F) should preferably be made during periods of light traffic.

1.20 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.

2. APPARATUS

2.01 The apparatus required for teach test is shown in the following list. The details for each item are covered in the indicated paragraphs:

	NO. REQUIRED FOR TESTS					
	(A)	(B)	(C)	(D)	(E)	(F)
Trunk Test Set (2.02)	1	1	1	1	1	1
Patching Cord (2.03)	√	√	√	√	√	*
Testing Cord (2.04)	√	√	√	√	√	*
Operator Telephone Set (2.05)	1	1	1	1	1	1
Patching Cord (2.06)	1	1	1	1	1	1
Timed Ringing Circuit (2.07)	-	√	√	√	-	-
Patching Cords (2.08)	-	(2)√	(2)√	(2)√	-	-
Patching Cord (2.09)	-	√	√	√	-	-
Patching Cord (2.10)	-	√	√	√	-	-
No. 310 Plug (2.11)	1	-	-	-	-	-
Talking Line Circuit (2.12)	-	1	-	1	-	-
Dial Hand Test Set (2.13)	-	1	-	1	-	-
Coin Box Station (2.14)	-	-	-	1	-	-
Testing Cord (2.15)	-	-	-	-	√	-
Testing Cord (2.16)	-	-	-	-	√	-

Note: √ indicates as required by local conditions.

*As Required.

2.02 Trunk Test Set - J94710A (SD-90469-01 or SD-90469-02).

2.03 P2J Cord - 9 feet long, equipped with two No. 310 Plugs (2P9A Cord); for use in connecting BAT-G jack of test set to 48V battery and ground supply jack on selector frame.

2.04 W2M Cord - 9 feet long, equipped with one No. 310 Plug and two No. 59 and two No. 90 Cord Tips (2W12A Cord) (for use where battery supply jack is not available). When used, to be connected as follows; insert No. 310 plug into BAT-G jack of test set, connect white conductor to equipment side of a spare 48V battery fuse and red conductor to ground. In no case should the capacity of the fuse selected exceed 5 amperes.

2.05 Operator Telephone Set - to be connected to TEL jacks of test set.

2.06 P3C Cord - 10 feet long, equipped with No. 310 Plug and No. 240A Plug (3P2A Cord); for use in connecting selector test jack to T jack of test set, if timed ringing circuit is not provided. If timed ringing circuit is provided, this cord is used to connect SEL jack of timed ringing circuit to selector test jack.

2.07 Timed Ringing Circuit per SD-32196-01.

2.08 P3E Cords - 6 feet long, each equipped with two No. 310 Plugs (3P7A Cords); for use in connecting T and TL jacks of test set to T and TL jacks of timed ringing circuit.

2.09 P3E Cord - 6 feet long, equipped with two No. 310 Plugs (3P7A Cord); for use when testing loop dialing toll transmission selectors for connecting GEN jack of test set to ± or GEN or SX jack on selector frame.

Note: SX jack is used when testing transmission selectors arranged for d-c simplex ringing control; if the SX jack is not provided, no connection to GEN jack of test set is made when testing selectors of this type.

2.10 Special P3E Cord locally assembled - 6 feet long, equipped with No. 310 Plug, gray shell, at one end and No. 310 Plug, red shell, at the other end. Tip of gray plug shall be connected to ring of red plug and sleeve of gray plug shall be connected to tip of red plug; for use when testing repeated dialing toll transmission selectors to connect GEN jack set to + or GEN jack on selector frame. Insert red plug into test set and gray plug into selector frame jack.

2.11 No. 310 Plug - having T, R and S strapped; to be inserted into No. 4 Jack of connector test line in order to make connector test line busy.

Note: Not required in No. 350 offices.

2.12 A Talking Line Circuit between the switchboard position from which the coin is to be controlled and the selector frame. Any one of the following talking line circuits may be used, as applicable:

- (a) SD-30389-01 Fig. 2
- (b) SD-32021-01 Fig. 10
- (c) ES-241640 Fig. 7 or 8
- (d) SD-31619-01 Fig. 10
- (e) Use any convenient telephone in the office.

Note: SD-30389-01, Fig. 2 and ES-241640, Fig. 7 or 8 may be modified per Fig. 1; in such cases the leads to toll office or coin control selector frame should be disconnected before connecting leads to a local subscriber line circuit.

2.13 No. 1011G Dial Hand Test Set - equipped with cord assembly consisting of one W2CL Cord, one No. 471A Jack and one No. 240A Plug (No. 2W39A Cord) or cord assembly consisting of one W2CK Cord, one No. 471A Jack and one No. 310 Plug (2W38A Cord) (or equivalent). The 2W39A cord shall be used if No. 6 jack is A.E. Co. type jack and the 2W38A cord shall be used if No. 6 jack is No. 238-type jack.

Note: If a 30-foot cord is required, substitute a W2W cord, 30 feet long, equipped with two No. 130 cord tips and a No. 310 or 240A plug, for the W2CL cord; connect the No. 130 cord tips to a No. 471A jack.

For use in connecting to test line jack No. 6 at selector frame if talk line circuit is provided as in 2.12(a), (b), (c), and (d).

2.14 Coin Box Station - located as close as possible to transmission selectors.

2.15 W2W Cord - 6 feet long, equipped with a No. 310 Plug and with a No. 360C Tool and a No. 411A Tool connected to the white conductor (tip) (2W17A Cord); for use where the wiper cords terminate at the test jack, for connecting TL jack of test set to sleeve wiper cord.

2.16 W1M Cord - 3 feet, 6 inches long, to be equipped with No. 360 Tool and No. 365 Tool and with KS-6780 Connecting Clip and No. 108 Cord Tip; for use where the wiper cords do not terminate at test jack assembly for connecting ground to sleeve wiper.

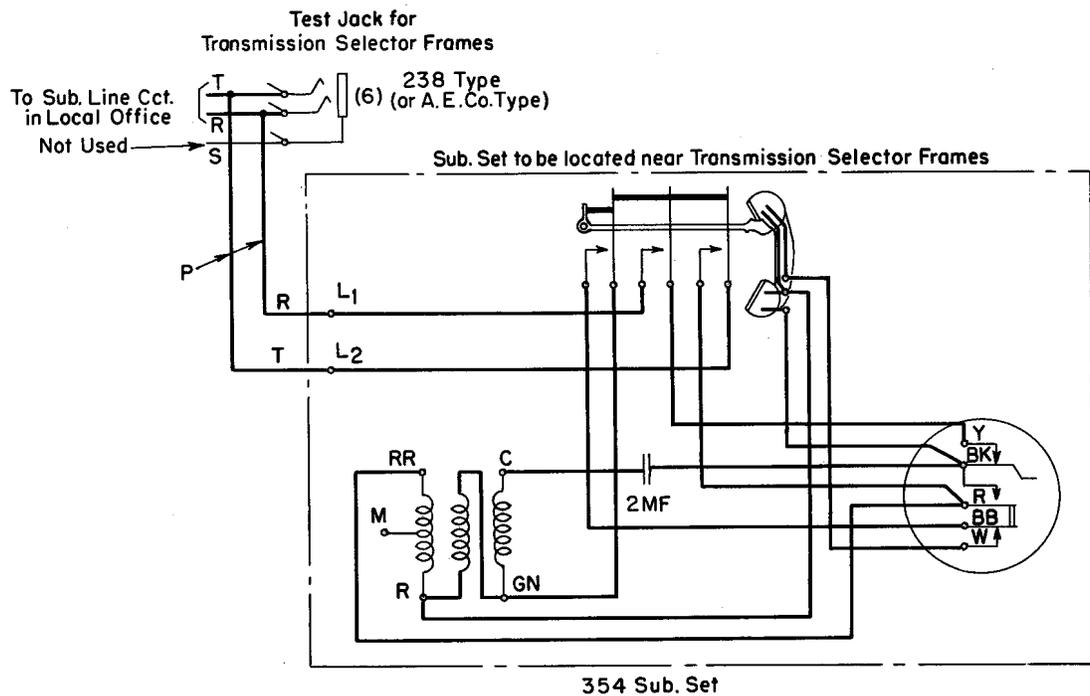


Fig. 1 - 354-Type Telephone Set

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3. PREPARATION

ALL TESTS

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
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- 1 Connect BAT-G jack of test set to 48V battery and ground, using P2J or W2M cord.

Note: To avoid grounding of battery supply lead, connect battery cord to test set first and disconnect battery cord from test set last.

- 2 Connect operator telephone set to TEL jacks of test set.

- 3 Resistances provided in test set are used for compensating various loop conditions of toll transmission selectors. Insert the maximum allowable loop resistance in the dialing circuit of the test set by operating keys indicated.

<u>Keys Operated</u>	<u>Compensating Resistance</u>
300 key	300 ohms
600 key	600 ohms
300 and 600 keys	900 ohms
LP	1200 ohms
LP and 300 keys	1500 ohms
LP and 600 keys	1800 ohms
LP and 300 and 600 keys	2100 ohms

Note 1: When making Test (A), if conductor loop resistance is such that LP key (1200 ohms) would ordinarily be employed, it will be necessary to operate 300 and 600 keys (900 ohms) instead, as Test (A) calls for operation of IK key which is in the same unit as LP key.

Note 2: In those cases where the compensating resistance in the selector is in the circuit when connection is made to the test jack, the proper test set resistance value to be used is the one which is most nearly equal to 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.

Note 3: In those cases where the compensating resistance in the selector is not in the circuit when connection is made to the test jack, the proper test set resistance value to be used is the one which is most nearly equal to the maximum working limits shown on the circuit drawing covering the selector under test, minus 50 ohms normally in the test set.

TESTS (A) AND (E)

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
4	If selector to be tested is normal, connect T jack of test set to selector test jack, using P3C cord.	BSY lamp is not lighted. If selector is busy, BSY lamp lights, in which case disconnect from selector.

TESTS (B) AND (D)

- 5a If testing selectors with coin control features and preceded by another selector, connection should be made to preceding selector in Steps 6b or 8c.

TESTS (B), (C) AND (D)

6b	If timed ringing circuit is not provided and selector to be tested is normal, connect T jack of test set to selector test jack, using P3C cord.	BSY lamp is not lighted. If selector is busy, BSY lamp lights, in which case disconnect from selector.
7c	If timed ringing circuit is provided, connect T and TL jacks of test set to T and TL jacks of timed ringing circuit, using P3E cords.	
8c-	If selector to be tested is normal, connect SEL jack of timed ringing circuit to selector test jack, using P3C cord.	BSY lamp is not lighted. If selector is busy, BSY lamp lights, in which case disconnect from selector.
9d	If testing selectors with a-c ringing control, connect GEN jack of test set to + or GEN jack on selector frame, using P3E or special P3E cord.	
10e	If testing selectors with d-c simplex ringing control and using test set SD-90469-01, or SD-90469-02 not modified as described in 1.04(a), connect GEN jack of test set to SX jack on selector frame, using P3E cord.	

4. METHOD

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>(A) Busy Line - Loop with Leak - Coin and Non-coin Selectors</u> <u>Using Connector Test Line (99 Terminal)</u>		
5	Insert the shorted No. 310 plug into No. 4 jack of connector test line to be used.	
6	Operate LK key.	
7	Operate and restore DL-ST key.	SL lamp lights.
8f	If testing selector arranged to absorb first digit on level dialed, dial absorbed digit.	Selector steps to level dialed and releases.
9g	If testing loop dialing selectors with wet-dry supervision, dial connector test line made busy in Step 5 ().	REV lamp flashes and busy tone is heard. (In some offices busy tone may not be heard.)

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
10h	If testing loop dialing selectors with reverse battery supervision, operate REV key and dial connector test line made busy in Step 5 ().	REV lamp lights and after test line is seized, REV lamp flashes and busy tone is heard. (In some offices busy tone may not be heard.)
11i	If testing repeated dialing selectors, dial connector test line made busy in Step 5 ().	REV lamp will not light. In offices where loop dialing connectors are provided in repeated dialing toll trains REV lamp flashes. In both cases busy tone is heard. (In some offices, busy tone may not be heard.)
12	Operate FL key.	Selector releases, SL lamp is extinguished. REV lamp, if lighted, is extinguished.
13	Restore FL key.	
14j	If no further tests are to be made, restore all keys.	
15j	Remove all test connections.	
<u>(B) Idle Line - Loop - Coin and Non-coin Selectors</u> <u>Using Test Line SD-31636-01 or Similar Type</u>		
11k	If testing selectors with coin control feature, establish talking circuit between position where coin is to be controlled and switch frame.	
12k	At coin control position, make necessary connections for controlling coin over trunk under test.	
13a	If testing from a preceding selector, operate DL-ST key.	SL lamp lights.
14a	Dial level leading to transmission selector under test and, by opening and closing off-normal springs, step preceding selector to terminal connected to transmission selector to be tested.	SL lamp may be extinguished during stepping but lights again when stepping is completed.
15a	Restore DL-ST key.	
16m	If testing from a transmission selector, operate and restore DL-ST key.	SL lamp lights.
17f	If testing selectors arranged to absorb first digit on level dialed, dial absorbed digit.	Selector steps to level dialed and releases.
18n	If testing selectors with wet-dry supervision, dial connector multiple test line number ().	REV lamp lights.
19o	If testing selectors with reverse battery supervision, operate REV key and dial connector multiple test line number ().	REV lamp lights.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>Ringling</u>		
20p	If testing selectors arranged for automatic start of ringing.	Audible ringing tone is heard for one or two short periods.
21c	If timed ringing circuit is provided, and selectors are not arranged for automatic start of ringing, operate ID key for about 2 seconds.	Audible ringing tone is heard for one or two short periods.
22b	If timed ringing circuit is not provided, and selectors are not arranged for automatic start of ringing, operate RING key for about 2 seconds.	Audible ringing tone is heard for one or two short periods. (REV lamp is extinguished while RING key is operated.)
23	(Test line automatically advances to apply trip test condition.)	<p>Ringling is tripped, low tone is heard, and REV lamp is extinguished for about one second.</p> <p>Note: If tripping does not occur during first or second ringing interval, indication is that connector is ringing on another terminal. In this case remain on connection for a short time and if a subscriber or an operator answers, operate the TRS key and advise that a test is being made.</p>
<u>Supervision</u>		
24	(Test line automatically advances to apply supervisory flash test condition.)	At end of low tone interval, REV lamp flashes once, low tone is again heard, and REV lamp is extinguished for about one second; REV lamp then flashes three times and lights steadily for about two seconds. Low tone is not heard during two-second interval and may not be heard during fast flashing.
<u>Rering - With Bridge</u>		
25	(Test line automatically advances to apply rering with bridge test condition.)	After two-second lighted interval, low tone is heard and REV lamp is extinguished.
26	Immediately upon hearing low tone, operate RING key for about two seconds and release.	Directly following release of RING key, REV lamp lights for about two seconds. Low tone is not heard.
27	(Test line automatically advances to apply coin return with bridge test condition for coin selectors or called party hold test condition for non-coin selectors.)	After two-second lighted interval, audible ringing tone is heard and REV lamp is extinguished.
<u>Coin Return - With Bridge</u>		
28k	If testing selectors with coin control features, at coin control position, operate RETURN key immediately after audible ringing tone is heard by tester.	In coin control selector method offices and in offices arranged for control by the local "A" operator, high tone is heard while RETURN key is operated.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
29k	At coin control position, release RETURN key.	REV lamp lights. Low tone is not heard.
30k	(Test line automatically advances to apply coin collect test condition.)	After two-second lighted interval, interrupted low tone is heard.

Coin Collect - Without Bridge

31k	At coin control position, operate COLLECT key immediately after interrupted low tone is heard by tester.	REV lamp is extinguished while COLLECT key is operated. In coin control selector method offices and in offices arranged for control by the local "A" operator, low tone is heard while COLLECT key is operated.
32k	At coin control position, release COLLECT key.	REV lamp lights. Low tone is not heard.
33k	(Test line automatically advances to apply called party hold test condition for coin selectors.)	After two-second interval, low tone is heard and REV lamp is extinguished.

Called Party Hold

34k	Immediately upon hearing low tone, operate FL key.	Note that selector does not release for about four seconds; selector then releases and SL lamp is extinguished.
35q	If testing non-coin selector with wet-dry supervision, immediately upon hearing audible ringing tone, operate FL key.	Note that selector does not release for about four seconds; selector then releases and SL lamp is extinguished.
36r	If testing non-coin selectors with reverse battery supervision, immediately upon hearing audible ringing tone, operate FL key.	Selector releases immediately and SL lamp is extinguished.
37	Restore FL key.	
38j	If no further tests are to be made, restore all keys.	
39j	Remove all test connections.	

(C) Idle Line - Loop - Coin and Non-coin Selectors
Using Test Line SD-311425-01 or Similar Type

11	Operate and restore DL-ST key.	SL lamp lights.
12f	If testing selectors arranged to absorb first digit on level dialed, dial absorbed digit.	Selector steps to level dialed and releases.
13n	If testing selectors with wet-dry supervision, dial connector multiple test line number ().	REV lamp lights.
14o	If testing selectors with reverse battery supervision, operate REV key and dial connector multiple test line number ().	REV lamp lights.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>Ringling (Using Test Line Arranged to Await Ringing)</u>		
	<u>Note:</u> If test line is not arranged to await ringing, disregard <u>Ringling</u> test and proceed as in Step 19t.	
15p	If testing selectors arranged for automatic start of ringing.	Audible ringing tone is heard for one or two short periods.
16c	If timed ringing circuit is provided, and selectors are not arranged for automatic start of ringing, operate ID key for about two seconds.	Audible ringing tone is heard for one or two short periods.
17b	If timed ringing circuit is not provided, and selectors are not arranged for automatic start of ringing, operate RING key for about two seconds.	Audible ringing tone is heard for one or two short periods. (REV lamp is extinguished while RING key is operated.)
<u>Supervision</u>		
18s	If test line is arranged to await ringing.	REV lamp flashes and test line tone is heard after ringing is tripped. REV lamp follows test line interruptions and is extinguished any time test line tone is heard. Test line tone may not be heard during fast flashing intervals of the test line.
19t	If test line is not arranged to await ringing.	REV lamp flashes and test line tone is heard after test line terminal is seized. REV lamp follows test line interruptions and is extinguished any time test line tone is heard. Test line tone may not be heard during fast flashing intervals of the test line.
<u>Called Party Hold</u>		
20u	If testing selectors with wet-dry supervision, using test line arranged to provide long loop closures (approximately 5 seconds), operate FL key at beginning of long tone interval.	At end of long tone interval, selector releases and SL lamp is extinguished.
21v	If testing selectors with reverse battery supervision, using test line arranged to provide long loop closures (approximately five seconds), operate FL key at beginning of long tone interval.	Selector releases immediately and SL lamp is extinguished.
22w	If test line is not arranged to provide long loop closures, operate FL key.	Selector releases and SL and REV lamps are extinguished.
23	Restore FL key.	
24j	If no further tests are to be made, restore all keys.	
25j	Remove all test connections.	

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>(D) Idle Line - Loop - Coin and Non-coin Selectors</u> <u>Using Near-by Coin Box Station</u>		
11k	If testing selectors with coin control feature, establish talking circuit between position where coin is to be controlled and switch frame.	
12k	At coin control position, make necessary connections for controlling coin over trunk under test.	
13a	If testing from a preceding selector, operate DL-ST key.	SL lamp lights.
14a	Dial level leading to transmission selector under test and, by opening and closing off-normal springs, step preceding selector to terminal connected to transmission selector to be tested.	SL lamp may be extinguished during stepping, but lights again when stepping is completed.
15a	Restore DL-ST key.	
16m	If testing from a transmission selector, operate and restore DL-ST key.	SL lamp lights.
17f	If testing selectors arranged to absorb first digit on level dialed, dial absorbed digit.	Selector steps to level dialed and releases.
18n	If testing selectors with wet-dry supervision, dial connector terminal number of near-by coin box station ().	REV lamp lights.
19o	If testing selectors with reverse battery supervision, operate REV key and dial connector terminal number of near-by coin box station ().	REV lamp lights.
<u>Ringling</u>		
20p	If testing selectors arranged for automatic start of ringling.	Bell of station rings and audible ringling is heard by tester.
21c	If timed ringling circuit is provided, and selectors are not arranged for automatic start of ringling, operate ID key for about two seconds.	Bell of station rings and audible ringling is heard by tester.
22b	If timed ringling circuit is not provided, and selectors are not arranged for automatic start of ringling, operate RING key for about two seconds.	Bell of station rings and audible ringling is heard by tester. (REV lamp is extinguished while RING key is operated.)
<u>Supervision</u>		
23	Lift receiver at station.	REV lamp is extinguished and ringling stops.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>Rering With Bridge</u>		
24	Operate RING key.	Ringling is heard in station receiver.
25	Release RING key.	Ringling is no longer heard in station receiver.
<u>Coin Return - With Bridge</u>		
26k	If testing selectors with coin control feature, deposit a coin in coin box station, leaving receiver off hook.	
27k	At coin control position, operate and release RETURN key.	Coin is returned.
<u>Coin Collect - Without Bridge</u>		
28k	Restore receiver of station.	REV lamp lights.
29k	Deposit coin.	
30k	At coin control position, operate and release COLLECT key.	Coin is collected. REV lamp is extinguished while COLLECT key is operated.
<u>Called Party Hold</u>		
31k	Lift receiver at station.	REV lamp is extinguished.
32n	If testing selectors with wet-dry supervision, operate FL key.	Selector does not release.
33n	Restore FL key.	
34n	Restore station receiver.	REV lamp lights.
35n	Operate FL key.	Selector releases, SL and REV lamps are extinguished.
36n	Restore FL key.	
37o	If testing selectors with reverse battery supervision, operate FL key.	Selector releases, SL and REV lamps are extinguished.
38o	Restore FL key and station receiver.	
39j	If no further tests are to be made, restore all keys.	
40j	Remove all test connections.	
<u>(E) All Paths Busy - Loop - Coin and Non-coin Selectors</u>		
5	Operate and restore DL-ST key.	SL lamp lights.
6f	If testing selectors arranged to absorb first digit on level dialed, dial absorbed digit.	Selector steps to level dialed and releases.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
7x	If testing loop dialing selectors arranged for test jack termination of wiper cords, insert No. 310 plug of W2W cord into TL jack of test set.	
8x	Operate ID key.	
9x	Hold No. 411A tool of W2W cord against sleeve wiper cord terminal and dial any level, except one on which selector is arranged to absorb repeatedly.	Selector steps to level dialed and rotates to 11th rotary position. REV lamp flashes and all paths busy tone is heard. (In some offices, all paths busy tone may not be heard.)
10x	Remove No. 411A tool as soon as selector reaches 11th rotary position.	
11y	If testing loop dialing selectors not arranged for test jack termination of wiper cords, connect No. 365 tool of WLM cord to ground.	
12y	Connect KS-6780 connecting clip of WLM cord directly to sleeve wiper and dial any level, except one on which selector is arranged to absorb repeatedly.	Selector steps to level dialed and rotates to 11th rotary position. REV lamp flashes and all paths busy tone is heard. (In some offices, all paths busy tone may not be heard.)
13y	Remove KS-6780 connecting clip as soon as selector reaches 11th rotary position.	

(F) Digit-absorbing and Blocking Tests

4	Insert No. 310 plug of P3C cord into T jack of test set.	
5	Observe that selector to be tested is normal - Insert No. 240A plug of P3C cord into selector test jack.	BSY lamp does not light. <u>Note:</u> If selector is busy, BSY lamp lights, in which case disconnect from selector.
6	Operate and restore DL ST key.	SL lamp lights and remains lighted.
7a	If level to be tested is arranged to absorb once - Dial level.	Selector steps to level and releases.
8a	Dial same level again.	Selector steps to level and cuts in on first idle terminal.
9a	Operate FL key momentarily.	Selector releases. SL lamp extinguishes.
10b	If level to be tested is arranged to block service until digit has been previously absorbed - Dial level.	Selector steps to level and rotates to eleventh rotary position. REV lamp flashes at all-paths-busy rate.
11b	Operate FL key momentarily.	Selector releases. SL lamp extinguishes.

- 12c If level to be tested is arranged to absorb repeatedly - Dial level several times. Selector steps to level and restores each time.
- 13c Dial level arranged not to absorb repeatedly, or if provided, level arranged to block service until digit has been previously absorbed. Selector steps to level and cuts in on first idle terminal.
- 14c Operate FL key momentarily. Selector restores to normal. SL lamp extinguishes.
- 15 Repeat Steps 7a to 14c inclusive, as required to check all levels arranged for digit absorbing or blocking.
- 16 Remove No. 240A plug from selector test jack when all levels have been tested.
- 17d If no further tests are to be made - Restore all keys.
- 18d Remove all test connections.