

LOCAL AND COMBINATION CONNECTORS
OPERATION AND PULSING TESTS
USING CONNECTOR TEST SET SD-31637-01 OR SD-31637-02 (J34719A)
AND PULSING TEST SET SD-31481-01 (J34717A)
STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of performing operation tests, or combined operation and pulsing tests on local connectors (except the level-hunting type) and on combination connectors (local side only) of the 100- and 200-point type by means of the connector test set, SD-31637-01 or SD-31637-02 and pulsing test set, SD-31481-01.

1.02 This section is reissued to add in Test B a method of testing the connector timed-release feature, where the connector releases automatically if the calling party fails to hang up after the called party disconnects; also a test is made to check that the timed-release feature is discontinued when the intercepting circuits are in use. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

A. *Busy-Line Test — Leak:* This test checks the stepping features of a connector under a leak condition except when the pulsing test set is used as a dialing device without margins. It also checks the ability of the connector to return busy tone and to release.

B. *Idle-Line Test — Loop:* This test checks the stepping features of a connector under a loop condition except when the pulsing test set is used as a dialing device without margins. It also checks the ringing, pretrip, trip, transmission, and release features, including a method of testing the connector timed-release feature if the calling party fails to hang up after called party disconnects. Also a false-ground test is made on the timed-release feature. Eight-party semiselective con-

connector ringing is indicated either by test line bells or visual signals on the test set. On 200-point connectors, a cut through to machine intercept test is provided.

C. *Ringling Polarity Test — 8-Party Semiselective Ringing Connectors:* This test makes a complete check of the H and J relays of 100-point local connectors or the K and R or G and L relays of 200-point local connectors. It also checks the K and N relays of 100-point combination connectors or the G and N relays of 200-point combination connectors. It is intended for use only when testing a connector in connection with clearing a specific case of trouble. The 8-party connectors should normally be tested as outlined under Tests A and B.

D. *Reverting-Call Test — 10-Party Connectors:* This test checks the reverting call feature of 10-party terminal-per-line and terminal-per-station connectors.

E. *Marginal Test of Connector Supervisory Relay — Test Set SD-31637-01 Only:* This test checks the supervisory relay of connectors arranged for 1000- or 1115-ohm maximum external subscriber loop and 60- to 75-volt silent interval tripping battery. As the tripping resistance of the test set does not provide an adequate test of the tripping relay under these conditions, this test provides a method for making an occasional test independently of the tripping relay test.

1.04 When testing 10-party terminal-per-line connectors arranged for an immediate supervisory signal (permanent signal upon seizure), the P lamp will light or, if testing other types of connectors, it may or may not light. The P lamp is connected to a common alarm circuit serving a group of connectors and may flash

occasionally due to normal operation of other connectors in the group or may be lighted steadily if a permanent signal condition exists in one or more of the connectors in the group. The lighting of this lamp may be disregarded except when supervisory tests are being made, in which case, it will be necessary to retire any permanent signal conditions of other connectors in the group before it can be determined that the connector under test is functioning properly with respect to the P lamp indication.

1.05 The pulsing test set, the dial on the connector test set, or the dial on the remote control set may be used to direct the connector to the test line.

Caution: When dialing or pulsing the test line number, if the connector stops on any other terminal, immediately release the connector so as to avoid ringing on a subscriber line.

1.06 When using the pulsing test set, the loop and leak conditions in the connector test set are ineffective. The pulsing test set can be used either with or without pulsing margins depending on whether the pulsing tests are to be combined with the operation tests.

1.07 The pulsing test may either be combined with the operation tests as described in this section or scheduled as a separate test in accordance with Section 226-400-500, in which case, Tests A and B of this section would ordinarily be made without pulsing margins. Section 226-400-500 also covers an E relay hold test which is not included in this section.

1.08 When the pulsing test is combined with Test A, a magnet pulsing test should be performed on any switch on which a pulsing failure is encountered in order to determine if the trouble indicated by Test A is due to the switch mechanism. The method of making the magnet test is described in Section 226-400-500 covering pulsing tests of connectors.

1.09 The general procedure for the analysis and correction of pulsing failures encountered in making pulsing tests of connectors is covered in Section 226-170-700.

1.10 **100-Point Connectors:** The test line for these connectors is connected to terminal 99 except in the case of rotary hunting connector

groups where terminal 99 is made busy and the test line is connected to terminal 90. The hunting feature is checked by directing the switch to terminal 99 and having it step to 90 (See 1.12).

1.11 **200-Point Connectors:** The test line for nonrotary hunting connectors is connected to terminal 99 of the upper and lower banks. The test line for rotary hunting connectors is connected to terminal 99 of the upper banks and to terminal 90 of the lower banks, terminal 99 of the lower bank being made busy. The rotary hunting feature of the switch is tested, with the test set LO-UP key in the normal position, by directing the switch to terminal 99 and having it step to 90 (See 1.12).

1.12 For regular connectors the disconnect time is within 12 to 30 seconds, for rotary hunting connectors the disconnect time is within 25 to 37 seconds.

1.13 In Test B, spaces are provided in the steps, where required, for writing in the interval during which the pretrip and trip tests are to be made as indicated in Table A or B.

1.14 Wherever the preparation or method calls for the operation of the STP, PLS, or RLS key, or the dial, it is understood that either the STP, PLS, or RLS key, or the dial of the connector test set, or the STP (No. 1), PLS (No. 2), 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.

1.15 The testing methods require that the test circuit be advanced through the various positions in which the proper conditions for the tests are applied. This is accomplished by momentarily operating the STP key. The progress lamps designated BSY-L (BUSY LINE), IDLE-L (IDLE LINE), PRE TRIP, RING, T-TRIP (TONE TRIP), T-CO (TONE CUT-OFF), and CLD-HLD (CALLED HOLD) indicate the particular test which is applied at the time the lamp is lighted.

1.16 From all positions, except the BSY-L and IDLE-L positions, the test circuit can be returned to normal by operating and holding the RLS key until none of the progress lamps are lighted. If the test circuit is in the BSY-L or IDLE-L position, it is necessary to advance the test circuit beyond these positions by means of

the STP key, where the RLS key may then be used.

1.17 When testing connectors arranged for 1400- or 1500-ohm maximum external subscriber loop, any ring-trip relays which fail on the pretrip or trip test (test set test resistance values) shall be readjusted mechanically and electrically to meet the requirements specified in Sections 040-803-701 and 040-236-701 and in the circuit requirement table. Repeat the test and, if the relay continues to fail, operate the test set keys as indicated for READJ in Table B to apply the test set readjust resistance values and change the tension in the No. 1 spring as required.

1.18 When testing connectors arranged for 1000- or 1115-ohm maximum external subscriber loop which have a 60- to 75-volt silent interval tripping battery and for which ac requirements are specified, any ring-trip relays which fail on the pretrip or trip test (test set test resistance values) shall be readjusted mechanically to meet the requirements specified in Sections 040-803-701 and 040-236-701 and the readjust ringing current values provided by the test set. These values are obtained by operating the test set keys as indicated for READJ in Table A or B.

1.19 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.

1.20 *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.

1.21 Local instructions should be followed for recording and reporting any register operations caused by performing these tests.

2. APPARATUS

All Tests

- 2.01** Connector test set, J34719A (SD-31637-01 or SD-31637-02).
- 2.02** Connector test line circuit, SD-31653-01.
- 2.03** No. 40B (or 40A) (remote control) test set required for making a tripping test in Test B when testing connectors arranged for free service on the ninth level in lettered steps (i) using SD-31637-02, otherwise optional for all other tests.
- 2.04** Test receiver consisting of a 723 receiver attached to a R2DB cord, 6 feet long, equipped with a 347A plug (2W32A cord).
- 2.05** Patching cord, P3H cord, 10 feet long, equipped with a 310 plug and a 240A plug (3P2A cord) (for use with 100-point connectors).
- 2.06** Patching cord, consisting of two 10-foot P3H cords equipped with 310 plugs, both cords connected to a 240B plug (5P3B cord) (for use with 200-point connectors).
- 2.07** Patching cords, two P3E cords, 6 feet long, each equipped with two 310 plugs (3P7A cord).

When Using Pulsing Test Set

- 2.08** Pulsing test set, J34717A (SD-31481-01).
- 2.09** Patching cord, P2J cord, 6 feet long, equipped with 310 plugs (2P9B cord) (used where battery supply jack is available).
- 2.10** Testing cord, W2M cord, 9 feet long, equipped with a 310 plug, tip and sleeve connections, and two 59 cord tips (2W12A cord) (used where battery supply jack is not available).
- 2.11** Patching cord, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord).
- 2.12** Patching cord, P4N cord, 6 feet long, equipped with two 289B plugs (4P8B cord).

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Test B

2.13 Patching cord, P3E cord, 10 feet long, equipped with two 310 plugs (3P6F cord).

2.14 No. 1011G (dial hand test set) handset, connected to a W2CL cord, 4 feet long, equipped with a 471A jack and a 240A plug (2W39A cord) (used when checking for a false ground on the timed-release lead, where necessary).

2.16 184B plug, designated B (ring and sleeve strapped).

2.17 310 plug, designated C with tip and ring strapped.

Note: The designation, A, B, or C, as required, should be stamped locally on the shells of the above plugs.

Test B for 8-Party Connectors and Test C When Audible Ringing Signal Is Provided

2.15 310 plug, designated A with tip, ring, and sleeve open.

When Visual Signal Is Provided

2.18 Patching cord, P3E cord, 10 feet long, equipped with 310 plugs (3P6F cord).

3. PREPARATION

STEP	ACTION	VERIFICATION
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All Tests

1 Connect test line jack 3 to test set jack 3, using a 6-foot P3E cord.

2 Connect test line jack 4 either to test set jack 4 or 4-100 in offices having 100-point connectors only, or to test set jack 4-200 in offices having both 100- and 200-point connectors, using another 6-foot P3E cord.

3a If remote control set is used —
Insert remote control set plugs, red, gray, black, into R, G, B test set jacks, respectively.

4 Connect test receiver to test set TEL jack.

5 Operate, hold RLS key long enough to extinguish any progress lamps that may be lighted, or, if necessary, operate, release STP key required number of times.

All lamps extinguished.

When Using Pulsing Test Set

6b If battery supply jack is available —
Connect 48-volt battery, ground to BAT-G jack of pulsing test set, using P2J cord.

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

STEP	ACTION	VERIFICATION
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- 7c If battery supply jack is not available — Insert 310 plug of W2M cord into BAT-G jack of pulsing test set.
- 8c Connect red (sleeve) conductor of cord to frame ground, and white (tip) conductor to equipment side of convenient 48-volt battery fuse (not to exceed 5 amperes in any case).
- 9 Connect pulsing test set TL jack to connector A test set jack, using 6-foot P3E cord.
- 10 Connect pulsing test set A, B jacks to connector test set LK, LP jacks, respectively, using P4N cord.
- 11d If using pulsing test set without margins — Restore all keys to normal position.
- 12e If using pulsing test set with margins — Operate keys as indicated below to establish the proper loop and leak conditions.

LOOP RESISTANCE	KEY OPERATED
1000 ohms	200 and 800
1200 ohms	400 and 800
1400 ohms	200, 400, and 800

LEAK CONDITION	KEYS OPERATED
Leak B	LK B
Leak A	LK A

Note: Pulsing tests should be made with a 1400-ohm loop and leak A condition in offices where all connector B functional relays are of the 248 or 222 type modified with a 1:1 ratio armature; otherwise, pulsing tests should be made with a 1200-ohm loop and leak A condition. Local instructions, however, may specify the use of other loop and leak conditions.

- 13f If testing 100-point connectors — Connect test set T jack to test jack of connector under test, using P3H cord.
- 14g If testing 200-point connectors — Connect 210 red shell plug to test set T jack, black shell to RU jack, 240B plug to upper part of test jack of connector under test, using 5P3B cord.

GD lamp does not light.

Note: If lamp lights, remove plug from test jack, proceed to another switch.

GD lamp does not light.

Note: If lamp lights, disconnect from switch, proceed to another switch.

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STEP	ACTION	VERIFICATION
15h	If test set is arranged for monitoring and it is desired to monitor on off-normal connector — Insert 240 plug of P3H or 5P3B cord into test jack of off-normal connector, listen in receiver.	GD lamp lighted. Conversation heard. <i>Note:</i> If no conversation is heard when monitoring a combination connector, it may indicate that the connector is being held over the toll train.

Test A for 10-Party Connectors

- 16 Operate 10P-TPS key when testing 10-party terminal-per-station connectors or 10-party terminal-per-line connectors arranged for reverting calls.
- Note:* By using position H-O, an operate test of the local connector H relay or the combination connector K relay, is applied; by using position J-O, an operate test of the local connector J relay or the combination connector N relay is applied; and by using position J-NO, a nonoperate test of the J or N relay is applied.

Test B

- 17 In offices equipped with permanent signal testing equipment —
Connect PS (or PERM-T) jack on connector frame to test set P jack, using 10-foot P3E cord.
- 18i If testing connectors arranged for free service on ninth level, using test set SD-31637-02 —
Operate NON-REV key.
- 19 Where false ground test on timed-disconnect lead is indicated —
Determine from office records, proper connector and terminal to dial to seize intercepting trunk which controls timed-release ground to connector under test.

Test B for 8-Party Connectors and Test C

- 20j If audible ringing signal is provided —
Insert A, B, or C plug into 8-PTY jack of test line when applying Test B to 8-party connectors.
- Note 1:* Use a different plug on each test cycle. In performing Test C, use the plugs as outlined therein.

STEP	ACTION	VERIFICATION
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Note: By using the A plug, an operate test of the local connector K relay is applied; by using the B plug, an operate test of the local connector J relay or the combination connector N relay is applied; and by using the C plug, a nonoperate test of the J or N relay is applied.

21k	If visual ringing signal is provided — Connect 8-PTY jack of test set to 8-PTY jack of test line, using 10-foot P3E cord.	
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22	Operate test set J-O, J-NO, H-O key to one of the three positions when applying Test B to 8-party connectors.	
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Note: Use a different position on each test cycle. In performing Test C, use the test line and test set as outlined therein.

Test E

23	Check that silent interval tripping battery is at least 67 volts before making this test.	
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24	Operate TST key, if provided.	
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4. METHOD

STEP	ACTION	VERIFICATION
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A. Busy-Line Test — Leak

17	Operate, release STP key to advance test circuit to BSY-L position.	BSY-L lamp lighted. GD lamp lighted.
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18	Dial or pulse 99.	
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Note: When testing 10-party terminal-per-line connectors arranged for busy test of the called line following dialing of the code digit, it will be necessary to dial or pulse an extra digit following the test number.

Connector steps to ninth level, rotates smoothly to test line terminal.
BSY lamp lighted.
Busy tone heard in receiver.
CT lamp flashes (200-point connectors only).

19	Operate RLS key momentarily.	
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BSY lamp extinguished.
Connector releases.
GD lamp extinguished momentarily.
Busy tone removed.
CT lamp extinguished.

20	Remove 240A plug from test jack of connector.	
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GD lamp extinguished.

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STEP	ACTION	VERIFICATION
B. Idle-Line Test -- Loop		
23	Operate test set keys as indicated for TEST in Table A or B to provide the proper pre-trip and trip conditions in the test set.	
24	When testing 10P-TPL connectors — Operate 10P-TPL key, if provided.	
	<i>Note:</i> For tests during silent interval, the silent interval tripping battery shall be within the voltage limits shown in the tables.	
25	Operate, release STP key to advance test circuit to IDLE-L position.	IDLE-L lamp lighted. GD lamp lighted.
↗ 26g	If testing 200-point connectors — Operate test set MI key.	
27g	Dial or pulse 99.	Connector steps to ninth level, rotates smoothly to test line terminal. BSY lamp not lighted. Recorded message heard in head receiver.
28g	Operate RLS key momentarily.	Connector releases. GD lamp extinguished, then relighted. IDLE-L lamp remains lighted.
29g	Restore MI key to normal.	
↘ 30g	Operate LO-UP key to UP position.	
31	Dial or pulse 99.	Connector steps to ninth level, rotates smoothly to test line terminal. BSY lamp lighted. RS lamp lights during ringing intervals. Audible ring heard in receiver.
	<i>Note:</i> When testing 10-party terminal-per-line connectors, dial an extra digit following the test number to set the ringing code. Operate RR key if a ring party code is to be dialed, or operate the RT key if a tip party code is to be dialed. A different ringing code should be used on each test cycle.	<i>Note:</i> When testing 2-ring or code-ringing connectors, check that the first audible ring is a full code ring in order to check the pick-up feature.
		<i>Where audible ringing signal is provided —</i> R— bell rings when A or C plug is used. R+ bell rings when B plug is used.
32	Remove A, B, or C plug from 8-PTY jack of test line.	R— or R+ bell silenced.
		<i>Where visual ringing signal is provided —</i> R— lamp lights when J-O, J-NO, H-O key is in either H-O or J-NO position. R+ lamp lights when J-O, J-NO, H-O key is in J-O position.
33	Remove plug from 8-PTY jack of test line.	R— or R+ lamp extinguished.

TABLE A — TEST SET PER SD-31637-01

KIND OF RING	MAX. EXT. SUB. LOOP (OHMS)	TRIP BAT. VOLTS	FOR		KEYS OPERATED					PRETRIP	TRIP	
					NOT USING FIG. C		USING FIG. C					
			TEST	READJ.	SUP TST	SUP ADJ	SS	TST	ADJ.			
AC-DC	1000-1115	46-50	X					X	X		Ringing period	Silent period
SUPER-IMPOSED	1000-1115	46-50	X		X				X			
		60-75	X		X						Ringing period	Ringing period
					X		X			X		

TABLE B — TEST SET PER SD-31637-02

KIND OF RING	MAX. EXT. SUB. LOOP (OHMS)	TRIP BAT. VOLTS	FOR		KEYS OPERATED					PRETRIP	TRIP	
			TEST	READJ.	1000A	1000B	1400A	1400B	ADJ.			
AC-DC	1000-1115	48.5-50	X		X						Silent period	Silent period
		60-75	X			X					Ringing period	Ringing period
SUPER-IMPOSED	1400-1500		48.5-50		X			X				
					X		X		X			
		66-75	X					X				
					X				X	X		

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STEP	ACTION	VERIFICATION
34	Operate STP key momentarily at start of () interval. (This test shall be completed within same interval by performing Step 35.)	PRE-TRIP lamp lighted. IDLE-L lamp extinguished.
35	Operate, release STP key.	RING lamp lighted. PRE-TRIP lamp extinguished. RS lamp lights during ringing intervals. Audible ring continues to be heard in receiver.
36m	If testing connectors arranged to reverse battery on ninth level, using test set SD-31637-01 or SD-31637-02 with 1400B key normal — Operate, release ST key at start of () interval.	T-TRIP lamp lighted. RING lamp extinguished. Proper transmission tone heard in receiver. <i>Note:</i> If this test was applied in the silent interval, check that the audible ringing signal is not heard again in the receiver or, if applied in the ringing interval, check that the audible ringing signal is immediately stopped upon the application of the test. The RS lamp is disconnected when this test is applied and cannot be considered as an indication that the ringing has tripped.
37n	If testing connector arranged to reverse battery on ninth level, using test set SD-31637-02 with 1400B key operated — Operate, release STP key at start of silent interval.	T-TRIP lamp lighted. RING lamp extinguished. Ringing tone not heard again in receiver. Proper transmission tone heard in receiver.
38p	If transmission tone was not heard in Step 37n — Operate PLS key momentarily.	Proper transmission tone heard in receiver. (Disregard lighting of CT lamp.)
39q	If testing connectors arranged for free service on ninth level, using test set SD-31637-01 — Operate, release STP key at start of () interval.	T-TRIP lamp lighted. RING lamp extinguished. <i>Note:</i> If this test was applied in the silent interval, check that the audible ringing signal is not heard again in the receiver or, if applied in the ringing interval, check that the audible ringing signal is immediately stopped upon the application of the test. The RS lamp is disconnected when this test is applied and cannot be considered as an indication that the ringing has tripped.
40q	Operate, restore NON-REV key.	Proper transmission tone heard in receiver.

STEP	ACTION	VERIFICATION
41k	If testing connectors arranged for free service on ninth level, using test set SD-31637-02 — Operate, release STP key of 40B test set at start of () interval.	T-TRIP lamp lighted. RING lamp extinguished. <i>Note:</i> If this test was applied in the silent interval, check that the audible ringing signal is not heard again in the receiver or, if applied in the ringing interval, check that the audible ringing signal is immediately stopped upon the application of the test. The RS lamp is disconnected when this test is applied and cannot be considered as an indication that the ringing has tripped.
42k	Operate PLS key momentarily.	Proper transmission tone heard in receiver. (Disregard lighting of CT lamp.)
Γ 43r	If testing "SUPV 1" permanent signal alarm — Test set SD-31637-01 (option T) or SD-31637-02 Operate, release STP key.	T-CO lamp lighted. T-TRIP lamp extinguished. P lamp lighted. Tone removed.
44s	If testing wiper cords — Test set SD-31637-01 (option W) Operate, release STP key.	T-CO lamp lighted. T-TRIP lamp extinguished. Tone removed.
45s	Move wiper cords slightly while listening in receiver.	No noise heard in receiver. BSY lamp does not flash.
46t	If connector under test is arranged for calling party control with timed-release feature — Operate, release STP key. <i>Note:</i> Timed release feature will not operate with option W of SD-31637-01 test set.	T-CO lamp lighted. T-TRIP lamp extinguished. P lamp lighted. Tone removed. After timed interval, GD lamp extinguished, indicating timed disconnect functioned (See 1.12).
L 47t	Operate, release STP key. <i>Note:</i> If performing this test, perform Steps 48u through 52u on one connector per shelf, where applicable.	Connector releases.
48u	If connector is arranged for timed-release from ground supplied under control of intercepting trunk — Insert plug of handset into test jack of any connector having access to the intercept trunk associated with the connector under test.	

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STEP	ACTION	VERIFICATION
49u	Dial terminal connected to intercept trunk.	Connector stops on proper terminal. Audible ringing heard. At operator position — Call answered, ringing silenced.
50u	At operator position — Disconnect when disconnect signal is received.	
51u	Operate, release STP key.	T-CO lamp lighted. T-TRIP lamp extinguished. P lamp lighted. Tone removed. GD lamp does not extinguish at end of timed interval (See 1.12).
52u	Disconnect handset plug from connector test jack used in test.	Connector releases.
53u	Operate, release STP key.	CLD-HLD lamp lighted. T-CO lamp extinguished. Connector releases. BSY, P, GD lamps extinguished.
54u	Operate RLS key momentarily.	CLD-HLD lamp extinguished.
55v	If testing connectors arranged for calling party control without timed-release feature — Operate, release STP key.	CLD-HLD lamp lighted. T-CO lamp extinguished. Connector releases. BSY, R, GD lamps extinguished.
56v	Operate RLS key momentarily.	CLD-HLD lamp extinguished.
57w	If testing connectors arranged for joint control (100-point connectors only) — Operate, release STP key.	CLD-HLD lamp lighted. T-CO lamp extinguished. Connector does not release. BSY lamp remains lighted. GD lamp flashes once. P lamp lighted.
58w	Operate RLS key momentarily.	CLD-HLD lamp extinguished. Connector releases. BSY lamp extinguished. GD lamp extinguished. P lamp extinguished.
59i	If testing connectors arranged for free service on ninth level, using test set SD-31637-02 — Restore NON-REV key.	
60	Remove 240 plug from test jack of connector.	

STEP	ACTION	VERIFICATION
C. Ringing Polarity Test — 8-Party Semiselective Ringing Connectors		
23j	If audible ringing signal is provided — Insert plug A into 8-PTY jack of test line.	
24j	Operate, release STP key to advance test circuit to IDLE-L position.	IDLE-L lamp lighted. GD lamp lighted.
25j	Dial or pulse 99.	Connector steps to ninth level, rotates smoothly to test line terminal. BSY lamp lighted. RS lamp lights during ringing intervals. R— bell rings, follows ringing code. Audible ring heard in receiver.
26j	Remove plug A from 8-PTY jack, insert plug C.	R— bell continues to ring.
27j	Remove plug C from 8-PTY jack, insert plug B.	R— bell silenced. R+ bell rings, follows ringing code.
28j	Operate RLS key momentarily.	R+ bell silenced. BSY lamp extinguished. Connector releases. GD lamp extinguished momentarily.
29j	Remove plug B from 8-PTY jack.	
30k	If visual ringing signal is provided — Operate J-O J-NO, H-O (498A) key to H-O position.	
31k	Operate, release STP key to advance test circuit to IDLE-L position.	IDLE-L lamp lighted. GD lamp lighted.
32k	Dial or pulse 99.	Connector steps to ninth level, rotates smoothly to test line terminal. BSY lamp lighted. R— lamp flashes, follows ringing code. Audible ring heard in receiver.
33k	Operate J-O, J-NO, H-O key to J-NO position.	R— lamp continues to follow ringing code.
34k	Operate J-O, J-NO, H-O key to J-O position.	R— lamp extinguished. R+ lamp flashes, follows ringing code.
35k	Operate RLS key momentarily.	R+ lamp extinguished. BSY lamp extinguished. Connector releases. GD lamp extinguished momentarily.
36k	Remove patching cord from 8-PTY jack of test line and test set.	
37	Remove 240A plug from test jack of connector.	

STEP	ACTION	VERIFICATION
D. Reverting-Call Test — 10-Party Connectors		
16	Operate test set keys as indicated for TEST in Table A or B to provide the proper pre-trip and trip conditions in the test set.	
17	Operate, release STP key to advance test circuit to RING position.	RING lamp lighted. GD lamp lighted.
18	Operate SLB key momentarily.	BSY lamp lighted.
19	Dial or pulse 99. <i>Note:</i> When testing 10-party terminal-per-line connectors, dial or pulse an extra digit following the test number.	Connector steps to ninth level, rotates smoothly to test line terminal. Busy tone heard in receiver.
20	Operate OLP key.	BSY lamp flashes once. Connector does not release. GD lamp extinguished. RS lamp lights during ringing intervals. <i>Note:</i> When testing 10-party terminal-per-station connectors, this ringing is a combination of the short reverting call code and the ringing code assigned to the test line or, when testing 10-party terminal-per-line connectors, to the code corresponding to the digit dialed.
21m	If testing 10-party terminal-per-line connectors — Operate RT key.	RS lamp flashes only during short reverting call code rings.
22n	If testing 10-party terminal-per-line connectors arranged for reverting call ring on ninth level — Operate RT key if ring party code was dialed or RR key if tip party code was dialed.	RS lamp flashes only during short reverting call code rings.
23	Operate, release STP key at start of silent interval.	T-TRIP lamp lighted. RING lamp extinguished. RS lamp extinguished.
24	Operate RLS key momentarily.	T-TRIP lamp extinguished. Connector releases. BSY lamp extinguished.
25	Restore OLP key, RT key (if operated).	
26	Restore RR key.	
27	Remove 240A plug from test jack of connector.	

STEP	ACTION	VERIFICATION
E. Marginal Test of Connector Supervisory Relay — Test Set SD-31637-01 Only		
25	Operate, release STP key to advance test circuit to RING position.	RING lamp lighted. GD lamp lighted.
26	Dial or pulse 99.	Connector steps to ninth level, rotates smoothly to test line terminal. BSY lamp lighted. RS lamp lights during ringing intervals. Audible ring heard in receiver.
27m	If testing connectors arranged to reverse battery on ninth level — Operate, release STP key at start of silent interval.	T-TRIP lamp lighted. RING lamp extinguished. Proper transmission tone immediately heard in receiver.
28n	If testing connectors arranged for free service on ninth level — Operate, release STP key at start of silent interval.	T-TRIP lamp lighted. RING lamp extinguished.
29	Operate, restore NON-REV key.	Proper transmission tone heard in receiver.
30	Operate RLS key momentarily.	T-TRIP lamp extinguished. Connector releases. BSY lamp extinguished. GD lamp extinguished.
31	Remove 240A plug from test jack of connector.	
32	Restore TST key, if operated.	