

**8-PARTY REVERTING CALL SELECTORS
OPERATION TESTS
USING TEST SET SD-31858-01 (J34701A)
AND TEST LINE SD-31857-01
STEP-BY-STEP SYSTEMS**

1. GENERAL

1.01 This section describes a method of testing the operating features of 8-party reverting call selectors using test set SD-31858-01 and test line SD-31857-01. The tests cover selector operation under loop and leak conditions, correctness and polarity of ringing codes, and test requirements of tripping relays.

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 covered are:

(A) 8-Party Semiselective Ringing Test - Using Bells in Test Line to Indicate Ringing Signals.

(B) 8-Party Semiselective Ringing Test - Using Lamps in Test Set to Indicate Ringing Signals.

1.04 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.

1.05 Before proceeding with the tests in this section, verify that the positive and negative superimposing batteries and tripping batteries are within specified limits.

1.06 When testing reverting call selectors which have a 60- to 75-volt silent interval tripping battery, and for which ac requirements are specified, any ring-trip relay which fails on test shall be readjusted to meet the requirements in Section 040-236-701 and the readjust ringing current values provided by the test line. These values are obtained by connecting the TL jack of the test set to the AC jack of the test line as shown in Fig. 1 and Table 1.

1.07 When testing reverting call selectors arranged for 1400- or 1500-ohm maximum external subscriber loops, any ring-trip relay which fails on test shall be readjusted mechanically and electrically to meet the requirements specified in Section 040-236-701 and in the circuit requirement table. Repeat the

tests. If the relay continues to fail, apply the readjust resistance values and repeat the tests, changing the tension of the No. 1 spring as required. The readjust resistance values are applied by connecting the test set TL jack to the test line ADJ jack. Where 66- to 75-volt silent interval tripping battery is used, operate the test line and test set keys as shown in Notes (a) and (b) under Table 2 to apply the silent interval test and readjust resistance values.

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

1.09 These tests should preferably be made during periods of light traffic.

1.10 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

ALL TESTS

2.01 Test Set J34701A (SD-31858-01).

2.02 P3H Cord (or equivalent) equipped with No. 310 Plug and No. 240A Plug (3P2A Cord).

2.03 Two P3E Cords, each 6 feet long, equipped with two No. 310 Plugs (3P7A Cord).

2.04 P3E Cord, one foot long, equipped with two No. 310 Plugs (3P6A Cord). For use when test set is provided with PTR key.

2.05 P3E Cord, 6 feet long, equipped with two No. 310 Plugs (3P7A Cord). For use when test set is provided with NTR key. Also used when readjusting relays having ac readjust requirements.

TEST (B)

2.06 P3E Cord, 6 feet long, equipped with two No. 310 Plugs. For use when test set is arranged for visual indication of ringing signals (8R jack).

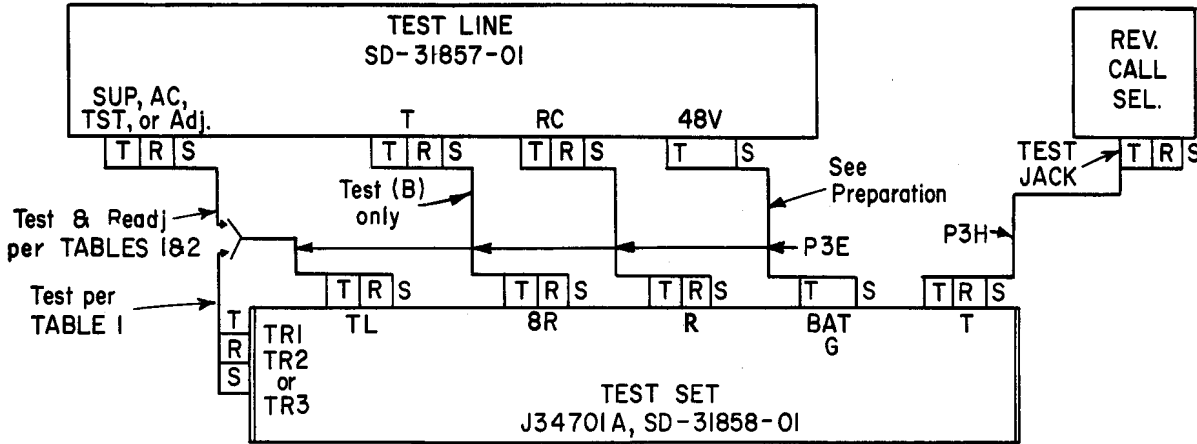


Fig. 1

TABLE 1
TEST SET PROVIDED WITH PTR KEY

KIND OF RINGING	MAX. EXT. SUBS. LOOP (OHMS)	TRIPPING BATTERY (VOLTS)	CONNECT TL JACK FOR	
			TEST	READJUST
			To Test Set Jack	To Test Line Jack
SUPER-IMPOSED	750-900	60-75	TR 1	AC
	1000-1115		TR 2	
			45-52	TR 3

TABLE 2
TEST SET PROVIDED WITH NTR KEY

KIND OF RINGING	MAX. EXT. SUBS. LOOP (OHMS)	TRIPPING BATTERY VOLTS	CONNECT TL JACK FOR	
			TEST	READJUST
			To Test Line Jacks	
SUPER-IMPOSED	750-900	60-75	SUP	AC
	1000-1115			-
			48.5-50	TST
	1400-1500	66-75	TST (a)	ADJ. (b)

Note (a) Operate ST Key of Test Line before Silent Interval Trip Test.

Note (b) Make Silent Interval readjust Trip Test by operating NTR Key of Test Set

3. PREPARATION

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
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- | | | |
|---|---|--|
| 1 | Connect the test line to the test set as shown in Fig. 1 as required by Table 1 or Table 2. | |
|---|---|--|

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

4. METHOD

(A) 8-Party Semiselective Ringing Test - Using Bells
in Test Line to Indicate Ringing Signals

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
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- | | | |
|----|---|---|
| 2 | Operate BELL-R (bells-ring) key of test line. | |
| 3 | Operate LP (loop) key. | |
| 4 | Insert No. 240A plug of P3H cord into test jack of selector. | BSY (busy) lamp does not light. |
| 5 | Operate and restore DL-ST (dial start) key. | SL (sleeve) lamp lighted. |
| 6 | Dial 11. | |
| 7 | Operate RC (reverting call) key. | -R bells ring one-ring code.
Buzzer relay follows ringing |
| 8 | Restore BELL-R key. | -R bells cease to sound.
Buzzer relay continues to follow ringing. |
| 9 | Operate PTR (pretrip) or NTR (nontrip) key at start of a ringing interval and restore before end of interval. | Buzzer relay stops while key is operated. |
| 10 | Operate TR (trip) key at start of a ringing interval and restore before end of interval. | Selector releases.
Buzzer relay stops.
SL lamp extinguished. |
| 11 | Restore RC key. | |
| 12 | Operate REV-L key and BELL-T (bells-tip) key. | |
| 13 | Operate and restore DL-ST key. | SL lamp lighted. |
| 14 | Dial 44. | |
| 15 | Operate RC key. | +R bells ring one-ring code.
Buzzer relay follows ringing. |
| 16 | Restore BELL-T key. | +R bells cease to sound.
Buzzer relay continues to follow ringing. |

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
17	Operate PTR or NTR key at start of ringing interval and restore before end of this interval.	Buzzer relay stops while key is operated.
18	Operate TR key at start of ringing interval and restore before end of this interval.	Buzzer relay stops. Selector releases. SL lamp extinguished.
19	Restore RC key.	
20	Restore REV-L key.	
21	Operate BELL-R key.	
22	Operate and restore DL-ST key.	SL lamp lighted.
23	Dial 33.	
24	Operate RC key.	+R bells follow one-ring code. Buzzer relay follows ringing.
25	Restore BELL-R key.	+R bells cease to sound. Buzzer relay continues to follow ringing.
26a	If silent interval trip battery 48.5-50 volts - Operate and restore TR key during silent interval.	Selector releases. SL lamp extinguished. Buzzer relay does not sound again.
27b	If silent interval trip battery is 66 to 75 volts, first operate ST key of test line, then - Operate and restore TR key during silent interval.	Selector releases. SL lamp extinguished. Buzzer relay does not sound again.
28	Restore RC key.	
29	Operate BELL-R key.	
30	Restore LP key and operate LK (leak) key.	
31	Operate and restore DL-ST key.	SL lamp lighted.
32	Dial 75.	
33	Operate RC key.	-R and +R bells sound two-ring code. Buzzer relay follows ringing.
		Note: Check that first ringing signal is full two rings in order to verify the pickup feature.
34	Operate and restore TR key.	Selector releases. SL lamp extinguished. Buzzer relay stops.
35	Restore RC key.	
36	Operate REV-L key.	

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
37	Restore BELL-R key and operate BELL-T key.	
38	Repeat Steps 31 to 35 except dial 68.	Same as Steps 31 to 35.
39	Repeat Steps 31 to 35 except dial 42.	Same as Steps 31 to 35 except +R and -R bells sound one-ring code.
40	Repeat Steps 31 to 35 except dial 82.	Same as Steps 31 to 35 except +R bells sound two-ring code and -R bells sound one-ring code.
41	Operate and restore DL-ST key.	SL lamp lighted.
42	Dial nonworking terminal 89.	Selector steps to terminal dialed.
43	Operate RC key.	Selector releases. SL lamp extinguished.
44	If no other tests are to be made restore all keys and remove all cord connections.	
<u>(B) 8-Party Semiselective Ringing Test - Using Lamps in Test Set to Indicate Ringing Signals</u>		
2	Connect 8R jack of test set to T jack of test line.	
Note: During the following operations the lighting of the test set (C) and (REV) lamps may be disregarded.		
3	Operate the BY key and the PTR or NTR key.	
4	Operate the LP (loop) key.	
5	Remove the No. 310 plug from the TL jack.	
6	Insert No. 240A plug of P3H cord into test jack of selector.	BSY (busy) lamp not lighted.
7	Operate and restore DL-ST (dial-start) key.	SL (sleeve) lamp lighted.
8	Dial 11.	
9	Operate RC (reverting call) key.	CR lamp lights in response to one ring code.
10	Restore NTR or PTR key.	Buzzer relay follows one-ring code.
11	Restore BY key.	CR lamp extinguished.
12	Reinsert the No. 310 plug (removed in Step 5 above) into the TL jack.	
13	Operate PTR (pretrip) or NTR (nontrip) key at start of a ringing interval and restore before end of interval.	Buzzer relay stops while key is operated.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
14	Operate TR (trip) key at start of a ringing interval and restore before end of interval.	Selector releases. Buzzer relay stops. SL lamp extinguished.
15	Restore RC key.	
16	Operate BY key.	
17	Operate REV-L (reverse-line) key.	
18	Operate and restore DL-ST key.	SL lamp lighted.
19	Dial 44.	
20	Operate RC key.	CC lamp lights in response to one-ring code. Buzzer relay follows one-ring code.
21	Restore BY key.	CC lamp extinguished. Buzzer relay continues to follow one-ring code.
22	Operate PTR or NTR key at start of ringing interval and restore before end of this interval.	Buzzer relay stops while key is operated.
23	Operate TR key at start of ringing interval and restore before end of this interval.	Buzzer relay stops. Selector releases. SL lamp extinguished.
24	Restore RC key.	
25	Restore REV-L key.	
26	Remove No. 310 plug from TL jack.	
27	Operate BY key and NTR or PTR key.	
28	Operate and restore DL-ST key.	SL lamp lighted.
29	Dial 33.	
30	Operate RC key.	CC lamp lights in response to one-ring code.
31	Restore NTR or PTR key.	Buzzer relay follows one-ring code.
32	Restore BY key.	CC lamp extinguished.
33	Reinsert No. 310 plug into TL jack.	
34	Operate PTR or NTR key at start of a ringing interval and restore before end of interval.	Buzzer relay stops while key is operated.
35a	If silent interval trip battery 48.5-50 volts - Operate and restore TR key during silent interval.	Selector releases. SL lamp extinguished. Buzzer relay stops.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
36b	If silent interval trip battery is 66 to 75 volts, first operate ST key of test line, then - Operate and restore TR key during silent interval.	Selector releases. SL lamp extinguished. Buzzer relay stops.
37	Restore RC key.	
38	Restore LP key and operate LK (leak) key.	
39	Remove No. 310 plug from TL jack.	
40	Operate BY key and NTR or PTR key.	
41	Operate DL-ST key.	SL lamp lighted.
42	Dial 75.	
43	Restore LK key.	
44	Operate RC key.	CR and CC lamps light in response to two-ring code. <u>Note:</u> Check that first ringing signal is full two rings to verify pickup feature.
45	Restore BY key and NTR or PTR key.	CR and CC lamps extinguished. Buzzer relay follows ringing.
46	Reinsert No. 310 plug into TL jack.	
47	Operate and restore TR key.	Selector releases. SL lamp extinguished. Buzzer relay stops.
48	Restore RC key.	
49	Operate REV-L key.	
50	Operate BY key.	
51	Operate and restore DL-ST key.	SL lamp lighted.
52	Dial 68.	
53	Operate RC key.	CR and CC lamps light in response to two-ring code. Buzzer relay follows ringing. <u>Note:</u> Check that first ringing signal is full two rings to verify the pickup feature.
54	Operate and restore TR key.	Selector releases. SL lamp extinguished. Buzzer relay stops.
55	Restore RC key.	

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
56	Repeat Steps 51 to 55 except dial 42.	Same as Steps 51 to 55 except that CR and CC lamps light in response to one-ring code.
57	Repeat Steps 51 to 55 except dial 82.	Same as Steps 51 to 55 except CR lamp lights in response to one-ring code and CC lamp lights in response to two-ring code.
58	Operate and restore DL-ST key.	SL lamp lighted.
59	Dial nonworking terminal 89.	Selector steps to terminal dialed.
60	Operate RC key.	Selector releases. SL lamp extinguished.
61	If no other tests are to be made restore all keys and remove all cord connections.	