

**DIALING AND KEY PULSING DISTRICT AND INCOMING SELECTORS
DIALING AND KEY PULSING TRUNKS FROM PANEL SWITCHBOARDS
TESTS
PANEL OFFICES**

1. GENERAL

1.01 This section describes the method of making operation tests of operators dialing district and incoming selectors, key pulsing district and incoming selectors, dialing and key pulsing trunks from panel DSA switchboards. A check of the Z segment on the commutator of panel link type sender selectors associated with operators dialing district circuits is also described.

1.02 This section is reissued to bring it in conformity with other material in the Plant Series. In this process marginal arrows have been omitted.

1.03 The tests covered and features tested are:

From Panel Switchboards

(A) Dialing District Selectors: This test checks the operation of dialing district selectors from the DSA switchboard outgoing trunk multiple, the off-normal busy test battery and the slow release feature of the D relay.

(B) Check of Z Commutator Segment (Dialing District Sender Selector - Panel Link Type Offices): This test checks the return of the sender selector elevator rod to the 0 terminal after hunting to the overflow group to find an idle sender.

(C) Key Pulsing District Selectors: This test checks the operation of key pulsing district selectors from the DSA switchboard and the off-normal busy test battery.

(D) Key Pulsing Incoming Selectors: This test checks the operation of local key pulsing incoming selectors from the DSA switchboard and includes a check of the supervisory and off-normal busy test battery features.

(E) Key Pulsing Incoming Selectors (Arranged for No-Test Operation): This test checks the operation of local key pulsing incoming selectors arranged for no-test operation and includes a test of the off-normal busy test battery.

(F) Key Pulsing Trunks: This test checks the operation of key pulsing trunks from the DSA switchboard terminating on panel tandem or distant office incoming selectors.

(G) Dialing Incoming Selectors: This test checks the operation of local dialing incoming selectors from the DSA switchboard and includes a check of the supervisory and off-normal busy test battery features.

(H) Dialing Incoming Selectors (Arranged for No-Test Operation): This test checks the operation of local dialing incoming selectors arranged for no-test operation and includes a test of the off-normal busy test battery.

(I) Dialing Trunks: This test checks the operation of dialing trunks from the DSA switchboard terminating on panel tandem or distant office incoming selectors.

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- 1.04 Test (B) will require an assistant at the DSA switchboard.
- 1.05 Tests (D), (E), (G), and (H) will require an assistant at a local line station.
- 1.06 All tests should be made during periods of light traffic when it will be convenient to use a vacant switchboard position.
- 1.07 It is desirable that all tests be made from the last appearance of the trunk in the outgoing trunk multiple.
- 1.08 Any circuit on which a failure is encountered while making these tests, should be removed from service until the trouble is cleared.
- 1.09 Register operations caused by performing these tests should be recorded and reported in accordance with local instructions.
- 1.10 The letters a, b, c, etc., are added to a step number to indicate that the steps cover 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. Where a condition does not apply, the associated steps should be omitted.

2. APPARATUS

- 2.01 Operators telephone set.

3. PREPARATION

PREPARATION FOR TESTS (A), (C), (D), (F), (G), and (I)

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
1	Insert plug of operators telephone set into telephone jack of position selected for test.	
2	Operate talking key of idle calling cord.	
3	Touch tip of calling cord plug to jack sleeve of trunk to be tested.	No click heard in receiver.

Note: If click is heard indicating a busy trunk, wait for trunk to become idle or proceed with testing another trunk.

4. METHOD

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>(A) Dialing District Selectors</u>		
4	Insert plug of calling cord into jack of trunk to be tested.	Dial tone heard. Supervisory lamp lights.
5a	If dial key is provided - Operate key.	
6a	Dial office code and busy line number in local office.	
7a	Restore dial key.	Busy tone heard. Supervisory lamp flashes.
8b	If dial release key is provided - Dial office code and busy line number in local office.	Dial pilot lamp lights.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
9b	Momentarily operate dial release key.	Dial pilot lamp extinguished. Busy tone heard. Supervisory lamp flashes.
10	Remove plug from trunk jack and immediately touch plug tip to jack sleeve of trunk being tested.	Supervisory lamp extinguished. Click heard in receiver approximately 1/3 second after removal of plug from trunk jack. Second click heard when dialing district selector rod and switch restore to normal.
11	Remove plug tip from jack sleeve of trunk being tested.	
12	Restore talking key.	
13	If additional trunks are to be tested repeat Steps 2 through 12.	
14	When all trunks are tested remove operators telephone set.	

(B) Check of Z Commutator Segment (Dialing District
Sender Selector - Panel Link Type Offices

1	Establish talking circuit between sender selector frame and switchboard position selected for test.	
2	If idle, manually raise sender selector rod associated with trunk to be tested until commutator brush is in contact with Z commutator segment.	
3	Request assistant at switchboard to insert plug of a calling cord into jack of trunk being tested and after dial tone is received, disconnect.	When call is disconnected - Sender selector rod restores to 0 terminal.
4	If additional trunks are to be tested repeat Steps 2 and 3.	
5	When all trunks have been tested disconnect talking circuit.	

(C) Key Pulsing District Selectors

4	Insert plug of calling cord into jack of trunk to be tested.	Supervisory lamp lights.
5	Momentarily operate KP key.	KP and S lamps light.
6	Key office code and busy line number in local office and momentarily operate ST key.	KP and S lamps extinguished. Busy tone heard. Supervisory lamp flashes.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
7	Remove plug from trunk jack and immediately touch plug tip to jack sleeve of trunk being tested.	Supervisory lamp extinguished. Click heard in receiver. Second click heard when key pulsing district selector rod and switch restore to normal.
8	Remove plug tip from jack sleeve of trunk being tested.	
9	Restore talking key.	
10	If additional trunks are to be tested, repeat Steps 2 through 9.	
11	When all trunks are tested remove operators telephone set.	

(D) Key Pulsing Incoming Selectors

4	Insert plug of calling cord into jack of trunk to be tested.	Supervisory lamp lights.
5	Momentarily operate KP key.	KP and S lamps light.
6	Key the number of the local line station to be used in test and momentarily operate ST key.	KP and S lamps extinguished.
7	Operate and release ringing key of calling cord.	Bell at local line station rings at machine ringing intervals. Audible ring heard at switchboard position.
8	Assistant at local line station answers.	Ringing trips. Supervisory lamp extinguished.
9	Insert plug of a second calling cord into AUX jack associated with trunk being tested and operate associated talking key.	
10	Restore talking key of first calling cord and remove associated plug from trunk jack.	Supervisory lamp of second cord does not light. Talking circuit to assistant maintained.
11	Assistant disconnects.	Supervisory lamp lights.
12	Remove plug from trunk jack and immediately touch plug tip to jack sleeve of trunk being tested.	Supervisory lamp extinguished. Click heard in receiver. Second click heard when incoming selector rod and switch restore to normal.
13	Remove plug tip from jack sleeve of trunk being tested.	
14	Restore talking key.	
15	If additional trunks are to be tested repeat Steps 2 through 14.	

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
16	When all trunks are tested remove operators telephone set.	
	<u>(E) Key Pulsing Incoming Selectors (Arranged for No-Test Operation)</u>	
1	Insert plug of operators telephone set into telephone jack of position selected for test.	
2	Establish connection over a local trunk to assistant at local line station selected for test.	
3	Request assistant to maintain connection and restore talking key.	
4	Operate talking key of second idle calling cord.	
5	Touch tip of calling cord plug to jack sleeve of trunk to be tested.	No click heard in receiver. <u>Note:</u> If click is heard indicating a busy trunk, wait for trunk to become idle or proceed with testing another trunk.
6	Insert plug of calling cord into jack of trunk to be tested.	Supervisory lamp lights.
7	Momentarily operate KP key.	KP and S lamps light.
8	Key number of local line station used for test and momentarily operate ST key.	KS and S lamps extinguished. Connection established to assistant at busy local line station.
9	Remove plug of second cord from trunk jack and immediately touch plug tip to jack sleeve of trunk being tested.	Supervisory lamp extinguished. Click heard in receiver. Second click heard when incoming selector rod and switch restore to normal.
10	Remove plug tip from jack sleeve of trunk being tested.	
11	If additional trunks are to be tested repeat Steps 5 through 10.	
12	When all trunks are tested, disconnect connection to local line station and remove operators telephone set.	
	<u>(F) Key Pulsing Trunks</u>	
4	Insert plug of calling cord into jack of trunk to be tested.	Supervisory lamp lights.
5	Momentarily operate KP key.	KP and S lamps light.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
6a	If trunks to panel offices are to be tested - Key busy line number of terminating office and momentarily operate ST key.	KP and S lamps extinguished. Busy tone heard. Supervisory lamp flashes.
7b	If trunks to panel tandem offices are to be tested - Key office code and busy line number of terminating office and momentarily operate ST key.	KP and S lamps extinguished. Busy tone heard. Supervisory lamp flashes.
8	Remove plug from jack and momentarily touch plug tip to jack sleeve of trunk being tested.	No click heard in receiver. Supervisory lamp extinguished.
9	Restore talking key.	
10	If additional trunks are to be tested repeat Steps 2 through 9.	
11	When all trunks are tested remove operator telephone set.	
<u>(G) Dialing Incoming Selectors</u>		
4	Insert plug of calling cord into jack of trunk to be tested.	Dial tone heard. Supervisory lamp lights.
5a	If dial key is provided - Operate key.	
6a	Dial number of local line station to be used in test.	
7b	If dial release key is provided - Dial number of local station to be used in test.	Dial pilot lamp lights.
8a	Restore dial key.	
9b	Momentarily operate dial release key.	Dial pilot lamp extinguished.
10	Operate and release ringing key of calling cord.	Bell at local station rings at machine ringing intervals. Audible ring heard at switchboard position.
11	Assistant at local line station answers.	Ringling trips. Supervisory lamp extinguished.
12	Insert plug of a second calling cord into AUX jack associated with trunk being tested and operate associated talking key.	
13	Restore talking key of first calling cord and remove plug from trunk jacks.	Supervisory lamp of second cord extinguished. Talking circuit to assistant maintained.
14	Assistant disconnects.	Supervisory lamp lights.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
15	Remove plug from AUX jack and immediately touch plug tip to jack sleeve of trunk being tested.	Supervisory lamp extinguished. Click heard in receiver. Second click heard when incoming selector rod and switch restore to normal.
16	Remove plug tip from jack sleeve of trunk being tested.	
17	Restore talking key.	
18	If additional trunks are to be tested repeat Steps 2 through 17.	
19	When all trunks are tested remove operators telephone set.	
<u>(H) Dialing Incoming Selectors (Arranged for No-Test Operation)</u>		
1	Insert plug of operators telephone set into telephone jack of position selected for test.	
2	Establish connection over a local trunk to assistant at local line station selected for test.	
3	Request assistant to maintain connection and restore talking key.	
4	Operate talking key of a second idle calling cord.	
5	Touch tip of calling cord plug to jack sleeve of trunk to be tested.	No click heard in receiver. <u>Note:</u> If click is heard indicating a busy trunk, wait for trunk to become idle or proceed with testing another trunk.
6	Insert plug of calling cord into jack of trunk to be tested.	Dial tone heard. Supervisory lamp lights.
7a	If dial key is provided - Operate key.	
8a	Dial number of local line station used in test.	
9b	If dial release key is provided - Dial number of local line station used in test.	Dial pilot lamp lights.
10a	Restore dial key.	Connection established to assistant at busy local station.
11b	Momentarily operate dial release key.	Dial pilot lamp extinguished. Connection established to assistant at busy local station.

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
12	Remove plug from trunk jack and immediately touch plug tip to jack sleeve of trunk being tested.	Supervisory lamp extinguished. Click heard in receiver. Second click heard when incoming selector rod and switch restore to normal.
13	Remove plug tip from jack sleeve of trunk being tested.	
14	Restore talking key.	
15	If additional trunks are to be tested repeat Steps 4 through 14.	
16	When all trunks are tested disconnect connection to local line station and remove operators telephone set.	

(I) Dialing Trunks

4	Insert plug of calling cord into jack of trunk to be tested.	Dial tone heard. Supervisory lamp lights.
5a	If dial key is provided and trunks to panel offices are to be tested - Operate dial key.	
6a	Dial busy line number of terminating office.	
7a	Restore dial key.	Busy tone heard. Supervisory lamp flashes.
8b	If dial key is provided and trunks to panel tandem offices are to be tested - Operate dial key.	
9b	Dial office code and busy line number of terminating office.	
10b	Restore dial key.	Busy tone heard. Supervisory lamp flashes.
11c	If dial release key is provided and trunks to panel offices are to be tested - Dial busy line number of terminating office.	Dial pilot lamp lights.
12c	Momentarily operate dial release key.	Dial pilot lamp extinguished. Busy tone heard. Supervisory lamp flashes.
13d	If dial release key is provided and trunks to panel tandem offices are to be tested - Dial office code and busy line number of terminating office.	Dial pilot lamp lights.
14d	Momentarily operate dial release key.	Dial pilot lamp extinguished. Busy tone heard. Supervisory lamp flashes.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
15	Remove plug from jack and momentarily touch plug tip to jack sleeve of trunk being tested.	No click heard in receiver. Supervisory lamp extinguished.
16	Restore talking key.	
17	If additional trunks are to be tested repeat Steps 2 through 16.	
18	When all trunks are tested remove operators telephone set.	