COIN CONTROL SELECTORS
PULSING TESTS
USING PULSING TEST SET SD-31481-01
STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of applying pulsing tests to coin control selectors with a pulsing range of 1500 to 2000 ohms. Pulsing tests are not required for coin control selectors arranged for loops under 1500 ohms. The tests are based on the use of the pulsing test set SD-31481-01.

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

1.03 **The tests covered are:**

(A) Over-all Pulsing Test

(B) Magnet Pulsing Test

1.04 Test (B) is not required on a routine basis, but should be performed on any switch on which a failure is encountered under the leak test condition in Test (A) in order to determine if the trouble indicated by this test is due to the switch mechanism.

1.05 The 800-ohm loop resistance under the condition of these tests simulates the pulsing condition in service for loops between 1500 and 2000 ohms.

1.06 These tests do not apply to coin control selectors equipped with only one bank and arranged for five-level operation.

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

1.08 If an "out of service" failure is encountered the associated trunk should be held busy in the approved manner until the trouble is cleared.

1.09 **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

Tests (A) and (B)

2.01 Pulsing Test Set J34717A (SD-31481-01).

2.02 No. 36B Test Set (Remote Control).

2.03 One P2J Cord equipped with two No. 310 (or No. 110) Plugs (2P9B) - used where a battery supply jack is available.

2.04 One W2M Cord equipped with one No. 310 (or No. 110) Plug, tip and sleeve connections, and two No. 59 Cord Tips (2W12A) and two No. 108 Cord Tips - used where a battery supply jack is not available.

2.05 One W1B Cord equipped with one No. 310 (or No. 110) Plug, ring connection, and one No. 59 Cord Tip and one No. 108 Cord Tip (1W5A).

2.06 One W1W Cord equipped with one No. 310 (or No. 110) Plug, tip connection, and one No. 240A Plug. The W1W cord should be connected to the No. 2 terminal (tip) of the No. 240A plug. Strap No. 1 terminal (ring) and No. 4 terminal together.

Test (B) Only

2.07 One W1H Cord equipped at one end with a No. 47B Plug and at the other end with a No. 360B Tool (1W8A) and a No. 419A Tool.

3. PREPARATION

Tests (A) and (B)

3.01 Make the associated coin control trunk busy at the originating end in the approved manner.

3.02 Remove the heat coils from the trunk at the main frame to clear the selector of the trunk apparatus.

3.03 Connect 48-volt battery and ground to the BAT-G jack of the pulsing test set. Use a P2J cord if a battery supply jack is provided. If a battery supply jack is not available, use a W2M cord, connecting the No. 59 cord tip of the white (tip) conductor to a spare 48-volt battery fuse or to the equipment side of a battery fuse in service, and the red (sleeve) conductor to ground. In no case should the fuse selected exceed 5 amperes.

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.

3.04 Insert the plug of the W1B cord into the TL jack of the pulsing test set and connect the No. 59 cord tip of the same cord to a spare 48-volt battery fuse or to the equipment side of a battery fuse in service. In no case should the fuse selected exceed 5 amperes. See Note in 3.03.

3.05 Connect the No. 36B test set to jacks A and B of the pulsing test set. Place the stay cord of the No. 289A plug to the bottom, or the ridged side of the No. 152 plug to the left.

3.06 Insert the No. 310 plug of the W1W cord into the SW jack of the pulsing test set.

Test (B) Only

3.07 Insert the No. 47B plug of the W1H cord into the MAG jack.

4. METHOD

(A) Over-all Pulsing Test

4.01 Establish a loop resistance of 800 ohms by operating key 800 of the test set.

4.02 Operate the LKC key.

4.03 With the coin control trunk made busy at the originating end and the tip and ring conductors cleared from the trunk apparatus in accordance with 3.01 and 3.02, insert the No. 240A plug into the test jack.

4.04 Depress and hold the remote control LP key until the switch starts to rotate. Observe that the switch steps smoothly to the ninth level and then rotates smoothly to terminal 99.

Note: If the switch steps vertically on the second series of pulses it may be due to the C relay being too slow in its release.

4.05 Momentarily depress the remote control RLS key. Observe that the switch releases.

4.06 Repeat the operation in 4.04, except this time depress the remote control LK key.

4.07 Unless other tests are to be conducted on the switch, depress the remote control RLS key and remove the No. 240A plug from the test jack. Observe that the switch releases. Unless the selector is to be held out of service due to a trouble condition, restore the associated coin control trunk to service by replacing the heat coils and removing the busy condition at the originating end.

(B) Magnet Pulsing Test

4.08 With the test set connections established and the test set keys operated as in Test (A), operate the MAG key of the pulsing test set.

Note: The 800 and LKC keys are ineffective when making the magnet pulsing test. The LKB key, however, is effective and should be in the normal position. By having the keys operated as in the over-all pulsing test, while conducting the magnet pulsing test, it is convenient to switch from one test to the other in the process of clearing trouble. This switching is accomplished by the release or operation of the MAG key as required.

4.09 Remove the switch cover and connect the No. 419A tool of the W1H cord to the back contact spring of the pulsing springs of the selector A relay.

4.10 If Test (B) is made as a consecutive operation with Test (A), and the switch has been left off normal at the completion of Test (A), momentarily depress the remote control RLS key.

4.11 Depress and hold the remote control LK key until the switch starts to rotate. Observe that the switch steps smoothly to the ninth level and then rotates smoothly to terminal 99.

Note: It is not a requirement that the C, or E, relay hold during the magnet test. If the C, or E, relay releases during this test hold it operated manually to check the associated magnet pulsing. If the over-all pulsing test indicated a C, or E, relay failure, correction of the failure should be in accordance with 1.06.

4.12 If it is desired to repeat Test (A) or (B), release the switch by momentarily depressing the remote control RLS key.

4.13 At the completion of the tests, momentarily depress the remote control RLS key and remove the No. 240A plug from the test jack. Observe that the switch releases. Remove the No. 419A tool and replace the switch cover. Unless the selector is to be held out of service due to a trouble condition, restore the associated coin control trunk to service by replacing the heat coils and removing the busy condition at the originating end.

5. REPORTS

5.01 The required record of these tests should be entered on the proper form.