

COIN TIMING AND COIN COLLECT AND MONITOR CIRCUITS
FOR OVERTIME CHARGING
OPERATION TESTS
USING TRUNK TEST SET SD-90469-01 (J94710A)
STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section covers tests of coin timing and coin collect and monitor circuits for overtime charging using trunk test set J94710A in No. 1 and No. 350A step-by-step dial offices.

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) Timing Circuit Operation with All Trunk Finders and Associated Coin Collect and Monitor Circuits
- (B) Release of Timer when Coin Monitor Operator Answers
- (C) Coin Collect and Monitor Circuit Splitting and Recall Features
- (D) Cancellation of Timing on Calls to Recording Completing Operator

1.04 The J94710A trunk test set is used only to originate and control the test calls. The marginal conditions imposed on the trunk circuit by the test set are not a factor in checking the operation of the timing and coin collect and monitor circuits.

1.05 The tests covered by this section should be made during periods of light traffic because they require that some of the trunk finders accessible to the timing circuit under test should be taken out of service.

1.06 A test of the coin timing circuit timing interval is covered in a separate section.

1.07 If desired, Tests A, B and C can be made on the same cycle of tests and thereby avoid duplicating some of the operations involved in setting up the connections to the test line.

1.08 A record of the readings of the registers operated during these tests should be made before and after the tests and these readings should be forwarded in accordance with local instructions.

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

- 2.01 Trunk test set J94710A (SD-90469-01).
- 2.02 No. 258C plugs as required.
- 2.03 No. 32A test set.

3. PREPARATION

3.01 All Tests: Prepare the J94710A test set for a test on the coin trunk associated with the coin timing circuit under test as described in the section covering tests of coin trunks using this test set.

3.02 Tests A, B, and C: Connect the No. 32A test set to the OT (overtime) jack of the coin trunk associated with the timing circuit under test.

4. METHOD

(A) Timing Circuit Operation with all Trunk Finders and Associated Coin Collect and Monitor Circuits

4.01 This test checks the operation of the timing circuit against all trunk finders and associated coin collect and monitor circuits in collecting the coin at the end of the 4-1/2 minute interval and in recycling the timing where a coin is deposited for an additional interval.

4.02 The all trunk finders busy or the trunk finder group overflow register will operate when the following tests are made.

4.03 Make busy all except one of the trunk finders to which the timing circuit under test has access by inserting No. 258C plugs into their test and make busy jacks.

Note: Since the tests which follow require the use of the one trunk finder not made busy, other timing circuits which may attempt to summon a trunk finder may be unable to do so. In this case, the collection of the coin after the 4-1/2 minute interval and the timing of subsequent overtime intervals will be delayed. If all trunk finders are busy and a timing circuit waits for a trunk finder for a period of 18 to 48 sec-

onds, the major alarm will be sounded. The alarm is retired when all waiting timing circuits are connected to trunk finders.

4.04 Originate a call to the test line from the trunk test set in accordance with the section covering tests of coin trunks using the J94710A test set except that the test set CN (coin) key, which is operated in calling the test line, should be left operated. When the connection to the test line is established and ringing is tripped, the timer will start. After continual flashing is received from the test line, as indicated by the test set REV (reversal) lamp, operate the LP (loop) key on the trunk frame.

4.05 Depress the white button of the No. 32A test set until the trunk finder connects to the trunk. Then release the button. This simulates the 4-1/2 minute closure from the timer and causes a trunk finder to be summoned. By listening in the receiver of the operator's telephone set, check that no clicks are transmitted to the trunk as the trunk finder and coin collect and monitor circuits function. If clicks are heard, this may indicate an open or shorted resistance or condenser in the coin collect and monitor circuit or a loose connection at some point in the connecting circuits. Check that the CC (coin collect) lamp of the test set lights momentarily and, by listening in the receiver check that tone is transmitted to the trunk when the CC lamp lights.

4.06 After the trunk finder has connected to the timing circuit and the coin collect and monitor circuit has simulated coin collect, momentarily depress the red button of the No. 32A test set to simulate the 5 minute closure from the timer. Again check for the absence of clicks as the coin collect and monitor circuit tests for the deposit of a coin. Also check that the operator is not summoned. The timer should restore to normal and start to time the next interval.

Note: In case the one idle trunk finder was seized for use with a service call before the timing circuit under test was ready to seize it, the timer will fail to restore when the red button of the No. 32A test set is depressed. In this case, remove the busy condition from one of the other trunk finders. This trunk finder will then be seized for use with the test call unless another timing circuit is waiting for a trunk finder and has the preference. Under this latter condition, it will be necessary to release one or more additional trunk finders until one is made available for the test call.

4.07 After the test for operation of the timing circuit with the first trunk finder is completed, make busy all except a different trunk finder. Repeat the operations outlined in 4.05 with another trunk finder. Proceed in this manner until

the operation of the timing circuit has been checked with all associated trunk finders.

4.08 If desired, tests B and C may be made on the same cycle of tests before the connections to the trunk and test line are taken down. Otherwise remove the trunk finder busy conditions and also the connection to the OT jack.

(B) Release of Timer when Coin Monitor Operator Answers

4.09 This test checks the operation of the coin collect and monitor circuit in summoning the operator and releasing the timer if no coin has been deposited when the 5 minute interval has elapsed.

4.10 Proceed as outlined in 4.02 to 4.07, inclusive, except that after the connection to the test line is established and coin collect is simulated as in 4.05, release the test set CN key. This should cause the operator to be summoned after the red button of the No. 32A test set is depressed. When the operator requests the deposit of an additional coin, check that the timer restores to normal. Inform the operator that a test is in progress and reoperate the CN key. When the operator disconnects, check that the timer is started again.

(C) Coin Collect and Monitor Circuit Splitting and Recall Features

4.11 Proceed as outlined in 4.02 to 4.07, inclusive, except that after the connection to the test line is established and coin collect is simulated as in 4.05, release the CN key. Then depress the red button of the No. 32A test set. The operator should be summoned when the red button is released. When the operator requests the deposit of an additional coin, inform her that a test is being made and request her to split the connection and to check that the tone transmitted by the test line is audible from the splitting jack. When the connection is split, make sure that the tone from the test line is not audible in the receiver of the operator's telephone set connected to the test set.

4.12 Request the operator to disconnect and check that her trunk lamp flashes as a signal that the connection between the test set and test line is still established without the coin test being satisfied.

4.13 When the operator answers again, release the IP key on the frame and operate the OC (open circuit) key. Then request her to remove the plug from the answering jack. This should cause the release of the connection. This checks that the operator is not summoned under the condition where the called subscriber disconnects (simulated by the OC key) but the calling subscriber does not.

(D) Cancellation of Timing on Calls to Recording Completing Operator

4.14 Originate a call to the recording completing operator from the trunk test set, as described in the section covering tests of subscriber recording completing trunks using test set SD-90469-01.

4.15 When the operator answers, inform her that a test is being made and check that the timer does not start.

4.16 Remove the test connection to the trunk T jack.

5. REPORTS

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

5.02 A record of the readings of the registers operated during these tests should be made before and after these tests are made and these readings should be forwarded in accordance with local instructions.