

PREPAYMENT COIN TRUNKS
OPERATION TESTS
USING TEST SET SD-31858-01 (J34701A)
STEP-BY-STEP SYSTEMS

1. GENERAL

PAGE

1.01 This section describes a method of testing the operating features of prepayment coin trunks in 355A, 360A, and 35-E-97 community dial offices, using the SD-31858-01 (J34701A) test set.

for offices equipped with differing circuit arrangements (dial tone first or coin first, BT relay operation arranged to hold or to release the switch train). **6**

1.02 This section is reissued to include steps for trunks associated with improved coin service which eliminates coin deposit when making calls to specified numbers from prepay coin stations. Test H is added to test the Auxiliary Coin Trunk. This reissue affects the Equipment Test List.

C. Coin Return and BT Relay Nonoperate Test—Leak: This test checks the coin return feature of the coin trunk, pulsing under a leak condition, and the BT relay on a nonoperate test condition, using connector test line SD-31857-01, Fig. 3 (99 terminal). **8**

1.03 The tests covered are:

PAGE

D. Cut-through Test: This test checks the ability of the coin trunk to cut through to an operator. **9**

A. Coin Collect—BT Relay Operate—Trunk Cut-through and Reversal Test—Loop Using Connector Multiple Test Line SD-31932-01, SD-31263-01, or SD-31642-01: This test checks the coin collect features of the coin trunk, the BT relay for its test operate requirements, the cut-through and reversal feature, and includes provision for offices equipped with differing circuit arrangements (dial tone first or coin first, BT relay operation arranged to hold or to release the switch train). The cut-through test is made only if the method based on the use of test line SD-31642-01 is used.

E. Stuck Coin Alarm Test: This test checks that the stuck coin alarm feature of the coin trunk functions satisfactorily. **9**

F. P1 Relay Release Test—Using Connector Test Line SD-31857-01, Fig. 3 (99 Terminal): This test checks the ability of the P1 relay in the coin trunk to release satisfactorily under an open circuit condition. **10**

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B. Coin Collect—BT Relay Operate—Trunk Cut-through and Reversal Test—Loop Using Connector Test Line SD-31857-01, Fig. 3 (99 Terminal): This test checks the coin collect features of the coin trunk, the BT relay for its test operate requirements, the cut-through and reversal feature, and includes provisions

G. Coin Trunk Timed Release Circuit Test (SD-31861-01): This test checks that the coin trunk timed release circuit will release the trunk when a "stuck coin" condition is applied. **11**

H. Auxiliary Coin Trunk Test: This test checks the ability of auxiliary coin trunk circuit to allow a 3-digit service code call to be completed without the insertion of a coin at the coin station. It also checks the ability of the connecting

PAGE

coin trunk circuit to collect or return a coin. 12

1.04 Test A includes a cut-through test to be used where the SD-31642-01 test line is provided. Otherwise Test D should be used to check this feature.

1.05 Test B is intended for use where a connector multiple test line is not available. It is based on the availability of connector test line jack SD-31857-01, Fig. 3 (99 terminal at the coin trunk relay rack. If the test line is not available, make Test A to check the features in Test B.

1.06 Test D need not be made if Test A is made using test line SD-31642-01, or if Test B is made.

1.07 The method of testing the P1 relay under Test F depends on the existence of the CL jack in the test circuit, and on the availability of connector test line jacks SD-31857-01, Fig. 3 (99 terminal) at the coin trunk relay rack. Where these features are not provided, the P1 relay should be checked with a relay adjusting test set, if necessary.

1.08 All jacks, keys, and lamps referred to are located at the test set unless otherwise specified.

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

1.10 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 3 or 4 of the section indicates an action which may or may

not be required, depending on local conditions. The condition under which a lettered step or series of 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.

1.11 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 Head telephone set (for use with the J34701A test set).
- 2.03 Patching cords—Two P3E cords, 6 feet long, equipped with red-shelled 310 plugs (3P7A cord).

Tests B and F

- 2.04 Patching cord—P3E cord, 6 feet long, equipped with black-shelled 310 plugs (3P6D cord).

Test F

- 2.05 Patching cord—P3E cord, 6 feet long, equipped with 310 plugs (3P7A or 3P6D cord).

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	Connect test telephone set to TEL jack.	
2	Insert plug of P3E cord into T jack.	

STEP	ACTION	VERIFICATION
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Tests A, C, D, E, G, H

- 3 Using No. P3E cord, connect BAT G jack to 48-volt battery-ground supply jack.

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

Tests A, B, C, E

- 4a If key to prevent alarm transmission is provided—
Operate AS key. SDR GRD lamp lighted.

Note: Where key is not provided, or where alarms are transmitted over extension alarm circuit and no provision is made to cut off the extension of alarms, it will be necessary to notify the proper person in the distant office to disregard the alarms during the testing procedures.

- 5b If an audible alarm signal is provided—
Operate the associated AL or AUD key to position where audible alarm will be heard.

Note: Some offices may have circuit arrangements which do not furnish key control of the coin trunk timed release feature. In this case it will be necessary to block coin trunk timed release C relay in the nonoperated position.

Tests B, F

- 6 Patch B and R jacks to connector test line B and R jacks, respectively, using P3E cords.

4. METHOD**A. Coin Collect—BT Relay Operate—Trunk Cut-through and Reversal Test—Loop Using Connector Multiple Test Line SD-31932-01, SD-31263-01, or SD-31642-01**

- 6 Patch free end of P3E cord to coin trunk T jack of trunk under test. BSY lamp not lighted.

Note: If lamp is lighted, remove plug immediately and make test later when trunk is idle.

SECTION 226-521-501

STEP	ACTION	VERIFICATION
Trunks Arranged to Hold the Switch Train After BT Relay Operates		
7	Operate TP BT and CBT LP keys.	
8	Operate and restore DL ST key.	SL lamp lighted. Dial tone may or may not be heard (dial tone before or after coin deposit).
9	Operate CN key.	SL lamp remains lighted.
10	Dial operator level ().	Operator cannot be reached.
11	Restore TP BT and CN keys.	
12	Operate and hold FL key.	SL lamp extinguished.
13	Restore FL key.	
14	Operate and restore DL ST key.	SL lamp lighted.
15	◆ Proceed as in Steps 22c, 23d or 24e as applicable.◆	

Trunks Arranged to Release the Switch Train After the BT Relay Operates

16	Operate TP BT and CBT LP keys.	
17	Operate and restore DL ST key.	SL lamp lighted. Dial tone may or may not be heard (dial tone before or after coin deposit).
18	Operate CN key.	SL lamp extinguished.
19	Restore TP BT and CN keys.	
20	Operate and restore DL ST key.	SL lamp lighted.
21	Proceed as in Steps 22c or 23d as applicable.	

All Trunks

22c	◆ On trunks arranged to give dial tone before coin deposit but not arranged for coinless access to specified numbers— Dial 0.◆	Dial tone still heard.
23d	On trunks arranged to give dial tone after coin deposit— Dial operator level ().	No dial tone heard. Operator cannot be reached.

STEP	ACTION	VERIFICATION
24e	<p>◆On trunks arranged for coinless access to specified numbers— Dial a number requiring coin deposit.</p>	Announcement heard that this call requires a coin deposit.
25e	Operate and hold FL key.	SL lamp extinguished.
26e	Restore FL key.	
27e	Operate and restore DL ST key.	SL lamp lighted.◆
28	Operate CN key.	Dial tone heard.
29	<p>Dial connector multiple test line in reverse battery connector group.</p> <p><i>Note:</i> When test line SD-31932-01, SD-31263-01, or SD-31642-01 is dialed, tripping is delayed. If tripping does not occur during first or second ringing interval, indication is that connector is ringing on another terminal. In this case remain on the connection for a short time and, if a subscriber or operator answers, operate the TRS key and advise that a test is being made.</p>	<p>Intermittent tone heard and loop closures.</p> <p><i>Note:</i> Wait long enough to obtain at least three test line loop closures and note that REV lamp does not light during that time. Flickering of the lamp may be disregarded, but lamp should not come to full brilliancy during either a full tone or full silent period.</p>
30f	<p>Where test line SD-31642-01 is used— Operate REV key.</p>	REV lamp lighted.
31f	Operate ID key.	
32f	<p>Operate SW key at beginning of 5-second closed interval of test line.</p> <p><i>Note:</i> On trunks arranged for delay interval, before setting the collect condition, do not operate SW key during first 5-second closed interval.</p>	<p>SL and REV lamps extinguished. BSY lamp lighted. CC lamp flashes at 60 ipm at end of 5-second closed interval. Trunk trouble lamp lighted steadily during following 2-second open interval.</p>
33f	Restore CN key.	CC, BSY, and trunk trouble lamps are extinguished.
34f	Restore SW, ID, REV, and CBT LP keys.	
35f	Remove cord from test jack unless other tests are to be made on trunk.	
36g	<p>Where test line SD-31932-01 or SD-31263-01 is used— Operate ID key.</p>	
37g	Operate and hold FL key.	<p>CC lamp flashes at 60 ipm. Trunk trouble lamp lighted steadily.</p>

SECTION 226-521-501

STEP	ACTION	VERIFICATION
38g	With FL key held operated— Restore CN key.	CC, SL, and trunk trouble lamps extinguished.
39g	Restore FL, CBT LP, and ID keys.	
40g	Remove cord from test jack unless other tests are to be made on this trunk.	

**B. Coin Collect—BT Relay Operate—Trunk Cut-through
and Reversal Test—Loop Using Connector Test
Line SD-31857-01, Fig. 3 (99 Terminal)**

7	Patch free end of P3E cord to coin trunk T jack of trunk under test.	BSY lamp not lighted. <i>Note:</i> If lamp is lighted, remove plug immediately and make test later when trunk is idle.
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**Trunks Arranged to Hold the Switch Train After BT
Relay Operates**

8	Operate TP BT and CBT LP keys.	
9	Operate and restore DL ST key.	SL lamp lighted. Dial tone may or may not be heard. (Dial tone before or after coin deposit).
10	Operate CN key.	SL lamp remains lighted.
11	Dial operator level ().	Operator cannot be reached.
12	Restore TP BT and CN keys.	
13	Operate and hold FL key.	SL lamp extinguished.
14	Restore FL key.	
15	Operate and restore DL ST key.	SL lamp lighted.
16	Proceed as in Step 23c, 24d or 25e as applicable.	

**Trunks Arranged to Release the Switch Train After
BT Relay Operates**

17	Operate TP BT and CBT LP keys.	
18	Operate and restore DL ST key.	SL lamp lighted. Dial tone may or may not be heard. (Dial tone before or after coin deposit).
19	Operate CN key.	SL lamp extinguished.

STEP	ACTION	VERIFICATION
20	Restore TP BT and CN keys.	
21	Operate and restore DL ST key.	SL lamp lighted.
22	Proceed as in Step 23c, 24d or 25e as applicable.	
All Trunks		
23c	On trunks arranged to give dial tone before coin deposit— Dial 0.	Dial tone still heard.
24d	On trunks arranged to give dial tone after coin deposit— Dial operator level ().	No dial tone heard. Operator cannot be reached.
25e	◆If trunks arranged for coinless access to specified numbers— Dial a number requiring a coin deposit.	Announcement heard that this call requires a coin deposit.
26e	Operate and hold FL key.	SL lamp extinguished.
27e	Restore FL key.	
28e	Operate and restore DL ST key.	SL lamp lighted.◆
29	Operate CN key.	Dial tone heard.
30	Dial connector test line terminal. <i>Note:</i> Use ring side code if connectors are of terminal-per-line type.	Audible ringing heard in receiver. Test set buzzer sounds.
31	Operate and release ANS key three times at slow flashing rate.	Tone heard while key is operated. REV lamp not lighted. Ringing is tripped on first or second ringing interval. <i>Note 1:</i> Flickering of REV lamp may be disregarded, but lamp should not remain lighted during an entire interval that the ANS key is either operated or released. <i>Note 2:</i> If ringing is not tripped during first or second ringing interval, remain on the connection for a short time and if a subscriber or an operator answers, operate TRS key and advise that a test is being made.
32	Operate ANS key and then REV key.	REV lamp lighted. Buzzer relay operates continuously. Steady tone heard in receiver.

SECTION 226-521-501

STEP	ACTION	VERIFICATION
33	Operate ID key.	
34	Operate SW key.	
35	After 3 to 4 seconds— Restore ANS key.	CC lamp flashes 60 ipm. Trunk trouble lamp lighted. SL and REV lamps extinguished. BSY lamp lighted.
36	Restore CN key.	CC, BSY lamps extinguished. Trunk trouble lamp extinguished.
37	Restore the SW, CBT LP, REV, and ID keys.	
38	Remove test cord from trunk test jack unless other tests are to be performed on trunk.	
39	Remove patching connections to B and R jacks.	

C. Coin Return and BT Relay Nonoperate Test—Leak

6	Patch free end of P3E cord to T jack of coin trunk under test.	BSY lamp not lighted. <i>Note:</i> If lamp is lighted, remove plug immediately and make test later when trunk is idle.
7	Operate ID key.	
8	Operate and restore DL ST key.	SL lamp lighted. Dial tone may or may not be heard. (Dial tone before or after coin deposit).
9c	On trunks arranged to give dial tone after coin deposit— Operate CN key.	Dial tone heard in receiver.
10	Operate LK key.	
11	Dial connector test line (99 terminal).	Busy signal heard in receiver. <i>Note:</i> If ringing induction is heard, remain on the connection for a short time and, if a subscriber or an operator answers, operate TRS key and advise that a test is being made.
12	Restore LK key.	
13	Operate SW key.	CR lamp flashes. SL lamp extinguished. BSY lamp lighted.

STEP	ACTION	VERIFICATION
14	Operate REV after CR lamp has flashed several times.	CR lamp continues to flash. Trunk trouble lamp lighted steadily.
15	Restore CN key.	CR and BSY lamps extinguished. Trunk trouble lamp extinguished.
16	Restore SW, REV, and ID keys.	
17	Remove test cord from trunk test jack unless other tests are to be conducted on this trunk.	
D. Cut-through Test		
4	Patch free end of P3E cord to T jack of coin trunk under test.	BSY lamp not lighted. <i>Note:</i> If lamp is lighted, remove plug immediately and make test later when trunk is idle.
5	Operate TRS and CN keys.	
6	Operate and restore DL ST key.	SL lamp lighted. Dial tone heard in receiver.
7	Dial code () to reach recording completing trunks. <i>Note:</i> If trunks are not provided, dial operator office code ().	Dial tone silenced. Operator answers. CR lamp lighted when automatic coin return feature functions. No excessive clicks heard in receiver.
8	Advise operator that test call is being made. <i>Note:</i> Where automatic coin return feature is not provided, request operator to return coin.	CR lamp lighted while coin return current is applied. No excessive clicks heard in receiver.
9	Restore CN key.	
10	Operate and hold FL key.	SL lamp extinguished.
11	Release FL key.	
12	Remove test cord from trunk test jack unless other tests are to be made on trunk.	
E. Stuck Coin Alarm Test		
6	Patch free end of P3E cord to T jack of coin trunk under test.	BSY lamp not lighted. <i>Note:</i> If lamp is lighted, remove plug immediately and make test later when trunk is idle.

SECTION 226-521-501

STEP	ACTION	VERIFICATION
7	Operate SW key.	
8	Operate CN and DL ST key.	BSY lamp lighted. Dial tone heard in receiver.
9	Restore DL ST key.	BSY lamp remains lighted. CR lamp flashes at 60 ipm. Trunk trouble lamp steadily lighted. (Note that common coin alarm lamp lighted after an interval or approximately 2 to 4 minutes).
		Note: If an audible alarm signal circuit is provided, the alarm should be heard when coin alarm lamp lights.
10	Release CN key.	CR and BSY lamps extinguished. Trunk trouble and coin alarm lamps and audible alarm (if provided) are retired.
11	Restore SW key.	
12	Proceed as in Steps 6 through 10 to test one coin trunk in each group.	
13	Operate transfer key of alarm circuit for coin trunks to test duplicate equipment and repeat Steps 6 through 10.	
14	Remove test cord from test jack of trunk unless other tests are to be conducted on this trunk.	

F. P1 Relay Release Test—Using Connector Test Line SD-31857-01, Fig. 3 (99 Terminal)

7	Patch free end of P3E cord to coin trunk T jack under test.	BSY lamp not lighted. Note: If lamp is lighted, remove plug immediately and make test later when trunk is idle.
8	Operate CBT LP key.	
9	Operate and restore DL ST key.	SL lamp lighted.
10	Operate CN key.	SL lamp remains lighted. Dial tone heard in receiver.
11	Dial test line of a reverse battery connector hundred group having an appearance at coin trunk bay.	

STEP	ACTION	VERIFICATION
12	Operate TP BT, LK, BY, and RR keys.	
13	Connect 6-foot patching cord to CL jack.	
14	Operate ANS key.	
15	Plug other end of patching cord into TT jack of trunk under test. <i>Note:</i> Insert plug into TT jack quickly to prevent opening circuit long enough to release connection.	Test set C lamp lighted.
16	Operate SW key.	SL and C lamps extinguished. BSY lamp lighted.
17	Restore RR key.	C lamp not lighted.
18	Remove cord from trunk TT jack.	
19	Disconnect cord from trunk T jack. Restore all keys to normal.	
G. Coin Trunk Timed Release Circuit Test (SD-31861-01)		
4	Make coin trunk timed release circuit effective either by operating ALM or AUD key, or by removing blocking tool from C relay (see Step 5b Preparation).	
5	Patch free end of P3E cord to coin trunk T jack under test.	BSY lamp not lighted. <i>Note:</i> If lamp is lighted, remove plug immediately and make test later when trunk is idle.
6	Operate SW key.	
7	Operate CN and DL ST keys.	BSY lamp lighted. Dial tone heard in receiver.
8	Restore DL ST key. <i>Note:</i> When testing on a routine basis, a check of the coin trunk timed release circuit register should be made on one trunk in each group. When testing an individual trunk, a test of the register should be made on this trunk. In either case, read the register before and after making a test of the trunk.	BSY lamp remains lighted. CR lamp flashes at 60 ipm. Trunk trouble lamp steadily lighted. CR lamp flashes not more than three or four times and the BSY lamp and trunk trouble lamp are then extinguished.

SECTION 226-521-501

STEP	ACTION	VERIFICATION
9	Proceed as in Steps 5 through 8 on all other trunks.	
10	Remove all patching connections to trunks. Restore all keys to normal.	
11	Operate ALM key (if used) in alarm circuit to position where local alarms are effective. <i>Note:</i> Upon restoration of ALM key, where an alarm feature is provided to indicate that the coin trunk timed release circuit has functioned to release a trunk from a stuck coin condition, observe that the associated SCN lamp lights and that the audible alarm sounds. Operate the associated RLS key and note that the visual and audible indications are retired.	
H. Auxiliary Coin Trunk Test		
4	At auxiliary coin trunk— Operate MB key associated with auxiliary trunk to be tested.	MB lamp lighted.
5a	If MB lamp does not light in Step 4— Restore MB key and operate MB key of another auxiliary trunk until one can be found which causes MB lamp to light. <i>Note:</i> A lighted MB lamp indicates an idle auxiliary coin trunk circuit.	
6	Connect free end of P3E cord (other end connected to T jack of test set) to TST jack of auxiliary trunk circuit. <i>Note:</i> For the following tests the MI key must be in the nonoperated position and the LO key must be in the LO position.	
7	At test set— Operate DL ST key.	
8	Operate and hold FL key.	
9	Operate CN and RCK keys.	
10	Restore FL key.	SL lamp lighted. Dial tone heard in head telephone set.
11	Dial first three digits assigned to test line in a reverse battery connector group.	After third digit has been dialed— CTCK lamp momentarily lighted.

STEP	ACTION	VERIFICATION
12	Continue to dial last four digits assigned to test line number. <i>Note:</i> If it is desired to talk to the called end, the TRS key is operated and the RCK key is restored to normal. When conversation is completed, the RCK key is reoperated.	Connector connects to terminating test line number. Ringing heard in head telephone set.
13	After ringing is tripped— Operate FL key.	CC lamp momentarily lighted. <i>Note:</i> If coin battery was also applied to the ring side of the line, the CR and CC lamps will alternately flash.
14	Restore DL ST, FL, RCK, and CN keys.	Switch train releases. SL lamp extinguished.
15	Operate DL ST key.	
16	Operate and hold FL key.	
17	Operate CN and RCK keys.	
18	Restore FL key.	SL lamp lighted. Dial tone heard in head telephone set.
19	Dial telephone number assigned to test line in a nonreversing connector group.	After third digit, CTCK lamp momentarily lighted. Connector connects to terminating test line number. Ringing heard in head telephone set.
20	After ringing is tripped— Operate FL key.	CR-CTCK lamps momentarily lighted. <i>Note:</i> If coin battery was also applied to the ring side of the line, the CR and CC lamps will alternately flash.
22	Restore DL ST, FL, RCK, and CN keys.	Switch train releases. SL lamp extinguished.
22	Operate DL ST key.	
23	Operate and hold FL key.	
24	Operate CN and RCK keys.	
25	Restore FL key.	SL lamp lighted. Dial tone heard in head telephone set.
26	Dial 0 (operator).	Audible ringing heard. After operator answers, CR lamp momentarily

SECTION 226-521-501

STEP	ACTION	VERIFICATION
		lighted. REV lamp lighted.
27	Operate TRS key and restore RCK key.	
28	Advise operator of test being made.	
29	Restore DL ST, FL, and CN keys.	Switch train releases. SL, REV lamps extinguished.
30	Operate DL ST key.	
31	Operate and hold FL key.	
32	Operate CN and RCK keys.	
33	Restore FL key.	SL lamp lighted. Dial tone heard in head telephone set.
34	Dial digits assigned to 3-digit service code (such as 411).	After third digit is dialed— CTCK lamp not lighted. Ringing heard in head telephone set.
35	After ringing is tripped— Operate TRS key and restore RCK key.	Operator answers call.
36	Inform operator of test call being made.	
37	Operate FL key.	CR-CTCK lamps momentarily lighted.
38	Restore all keys; remove cord from TST jack of auxiliary trunk under test.	Note: If coin battery was also applied to the ring side of the line, the CR and CC lamps will alternately flash.
39	Repeat Steps 1 through 38 for other auxiliary coin trunk circuits to be tested.	
40	Remove all cords, restore all keys.◀	