BELL SYSTEM PRACTICES
Station Installation and Maintenance

SECTION C42.130
SECTION C64.224
Issue 2, 10-31-40
AT&T Co Standard

COIN COLLECTORS
150U, 150W, 163, 183 TYPES
TESTS AND ADJUSTMENTS

1. GENERAL

1.01 This section covers the methods of testing and adjusting the coin hopper mechanism of 150U, 150W, 163 and 183 type coin collectors. It replaces and should, therefore, be used in place of the corresponding information given in Sections C42.127 and C64.221. ←

1.02 This section is reissued to add tests and adjustments for the 183 type coin collectors, and to include other minor changes. ↰ ↲

1.03 Since these coin collectors are the same as other multi-slot types, except for the coin hopper mechanism, use this section for the coin hopper mechanism and perform the tests and adjustments for the other parts of these coin collectors under the conditions outlined in sections in Subdivision C64 entitled "Service Order and Repair Work" and in accordance with the requirements and methods given in sections in Subdivision C42 entitled "Tests and Adjustments."

1.04 On an **inspection visit,** or in connection with a **trouble report** where the source of trouble appears to be in the coin hopper assembly, all tests given herein except as otherwise noted shall be made.

2. COIN HOPPER ASSEMBLY

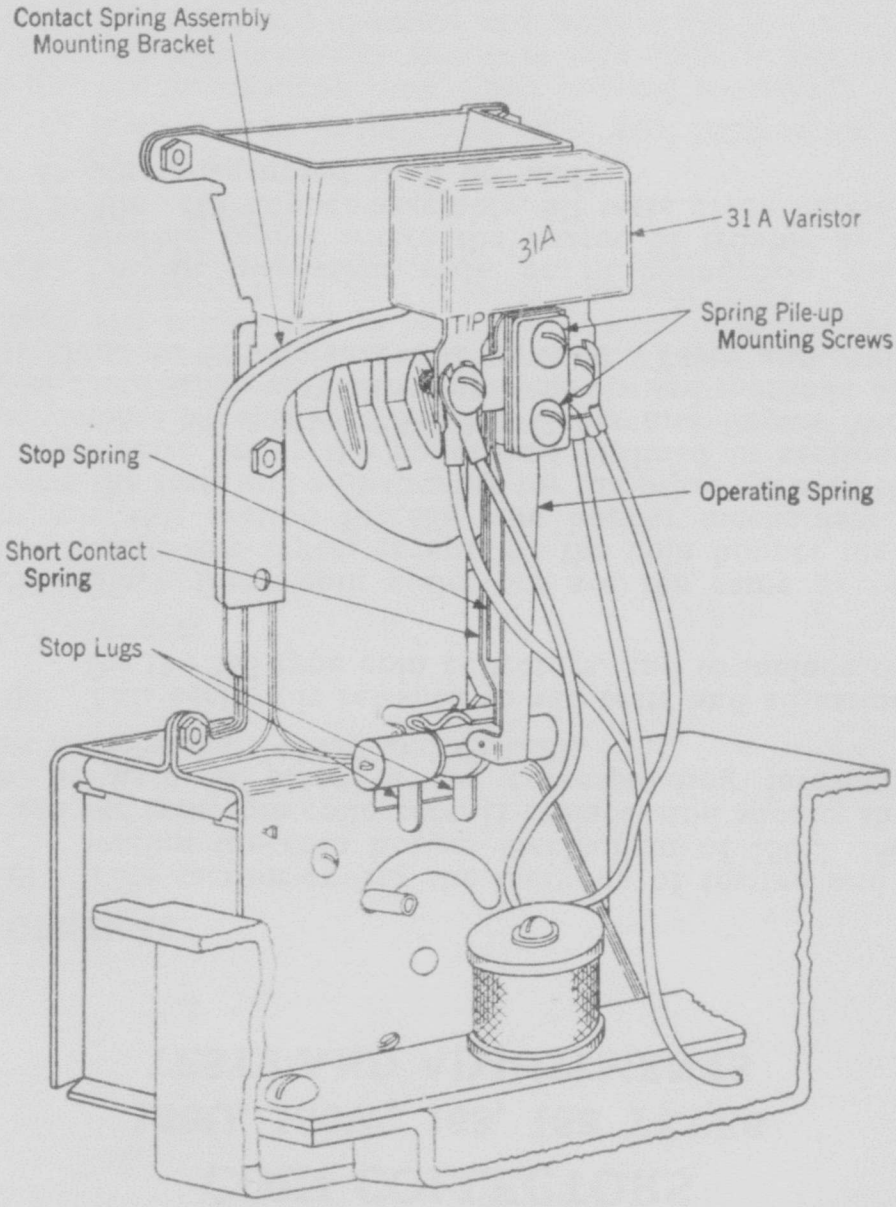

Fig. 1—Coin Hopper Assembly with 31A Varistor

Varistor and Type of Trap

2.01 If varistor is to be installed, trap preferably should be of type shown in Fig. 2(a) or 2(b), rather than of type shown in Fig. 2(c).

Note: Traps shown in Figs. 2 (a) and (b) have been found to be less likely to result in sticking of coins between trap and hopper than the trap shown in Fig. 2(c). If a coin sticks, holding the trap down and the contacts open, the varistor is very likely to be damaged. Trap of type shown in Fig. 2 (b) should ← ← not be used for replacement purposes.

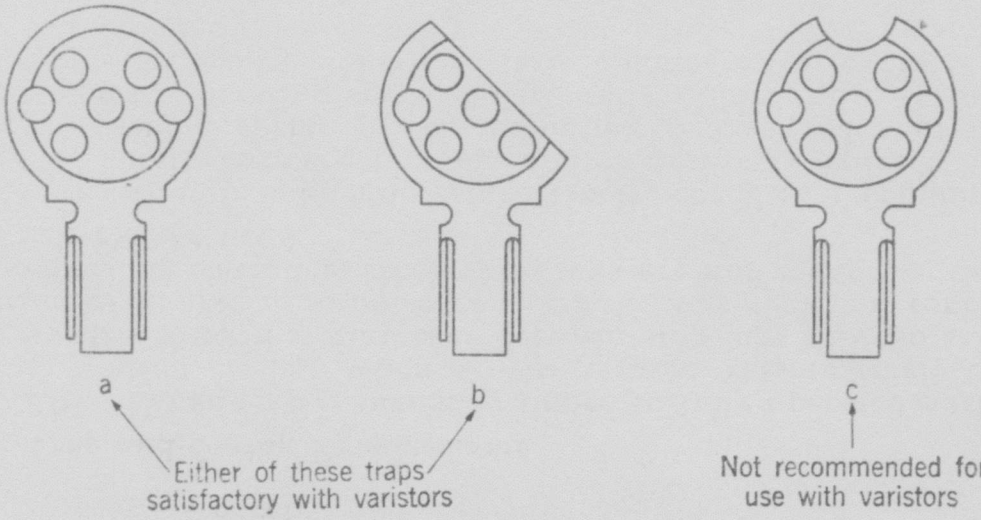

Fig. 2—Types of Traps

2.02 If coin is found stuck between trap and hopper, release coin and proceed with tests and adjustments. If repeated cases of stuck coins are experienced, replace coin collector.

2.03 These coin collectors are now normally furnished equipped with a No. 31A varistor. At existing installations varistor should be installed when specified by service order or other local instructions. Varistor should be mounted as shown in Fig. 1. Varistor terminal marked "Tip" (+) must always be connected to contact spring terminal which is on tip side of line, which, if the station is connected in standard manner, will be on left side, except at ← ← ring party stations, where it will be on right side.

Contacts

2.04 Hopper contacts shall normally be made. Check by dialing the number of the station under test and note that busy signal is received. If not received and other parts of line circuit, such as dial contacts, switchhook contacts, and wiring are clear, proceed as follows:

(a) If contacts touch but do not make, burnish with No. 265B tool.

(b) If contacts do not touch, proceed with "Trap and Spring Requirements" below, which include spring adjustments.

(c) If contacts are not normally made due to improper alignment, loosen spring pile-up mounting screws and align contacts so that contact point falls wholly within circumference of opposing contact disc, preferably as near the center as possible. Tighten spring pile-up screws securely.

Trap and Spring Requirements

2.05 When trap is manually tipped to fully operated position, it shall when slowly released, restore freely to a position such that clearance between stop lugs on trap and front of hopper does not exceed 1/32". Lugs shall not touch hopper. (If clearances of the two lugs are not equal, use the smaller clearance.)

(a) If trap does not restore **freely,** check that coupling units are not binding, and if necessary correct by loosening spring pile-up mounting screws and shifting end of operating spring horizontally. (Shift entire spring pile-up so as not to disturb alignment of contacts.) Tighten screws securely.

(b) If trap does not restore **fully,** loosen spring pile-up mounting screws and adjust vertical alignment of operating spring. (Shift entire spring pile-up.) If necessary, loosen the two nuts which secure the contact spring assembly mounting bracket to the hopper and move the bracket up or down. If after making these adjustments and retightening screws and nuts, clearance between stop lugs and front of hopper is not correct, adjust tension of operating spring. Tighten screws and nuts securely.

(c) If shifting of operating spring is necessary, check alignment of contacts (2.04(c)).

2.06 When trap is fully tipped there shall be not less than .032" clearance between contacts.

(a) Bend stop spring and short contact spring simultaneously so that clearance between contacts is not less than .032". Use No. 466A tool.

2.07 With trap in normal position, contact pressure shall be minimum 10 grams, maximum 20 grams. This shall be measured by moving light spring away from heavy spring. Use No. 70G Gauge. There shall be maximum .020" follow of closed contacts from normal position. Gauge by eye.

(a) Bend stop spring and short contact spring simultaneously so that pressure and follow requirements are met, using No. 466A tool. Be sure that short contact spring is tensioned against end of stop spring. Check 2.06.

3. FINAL TESTS

Operation

3.01 Connect hand test set across terminal R (on contact spring assembly or induction coil) and contact spring terminal which is connected to the Y housing contact spring (W in case of 163C or D coin collector for local battery talking, common battery signaling service). Dial a local line (not a "free call" line). When dial tone is again heard, operate trap manually to complete the connection. ←

Note: Completion of the circuit by manual operation of the trap may require several attempts, on account of the critical adjustment of the central office equipment. Trap must be fully operated and quickly released. If trap is not fully operated, the circuit may not cut through. If trap is not released quickly, the central office equipment may cause a disconnect to occur, which will necessitate redialing.

(a) If connection is not completed after several manual operations of the trap as described above, any one of several faults may exist. If a varistor is not being used check the 63CH resistance to make sure it is not open. If a varistor is being used it may be reversed or defective, or the line may be reversed. Check line, coin collector wiring and varistor connections to see that there are no reversals. If no reversal is found try a new varistor. Check 63CH resistance if these measures fail. If no fault can be found at the station the trouble may be in the central office circuits.

Varistor Effectiveness

3.02 In operating trap manually on a local call (3.01) a click will be noted in receiver. If varistor has been added or replaced, or if a reversal of connections has been

corrected, compare the intensity of this click with the click received when the trap is operated with the station connected to an operator's position. To perform this test, connect hand test set as in 3.01, call operator and request her to leave cord up. Operate trap manually and note that click, if any, is decidedly less pronounced than when making local call.

(a) If click is as pronounced as in 3.01, replace varistor. Check 3.01.

Cross with Wiring

3.03 If a ground connection is available at the station, standard tests for crosses between coin collector housing and wiring should be made. If ground is not readily available this test may be omitted except when a cross is suspected or a periodic inspection is made. In these cases a piece of wire should be temporarily connected to the nearest available ground.