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AUTOMATIC ELECTRIC

Northlake, Illinois, U.S.A.

Technical
bulletin 702-62
Issue 3, September, 1958

PREPAY PAYSTATIONS
TYPE 62, 62-55, 82, 82-55, 92, AND 92-55

1. DESCRIPTION

The paystations described in this bulletin are designed for use in a dial central office equipped with coin-control repeaters, sources of positive and negative 110-volt collect and refund d.c., and an interrupter which should result in coin-control current being put on the line for about 0.6 second, and removed from the line about 0.4 second.

Figure 1. Prepay paystation.

The calling party is connected to a paystation repeater at the central office upon removal of the handset, but cannot dial until he has deposited 2 nickels or 1 dime or 1 quarter.

After deposit of required coins, the calling party may dial and extend a connection in the usual manner.

Upon completion of the call the money deposited is dropped into the cash compartment, and the paystation is restored to normal automatically.

When the call is not completed, the money deposited is returned to the calling party, and the paystation is restored to normal automatically.

On toll calls, the operator may supervise the collection of coins by audible signals picked up by a special transmitter.

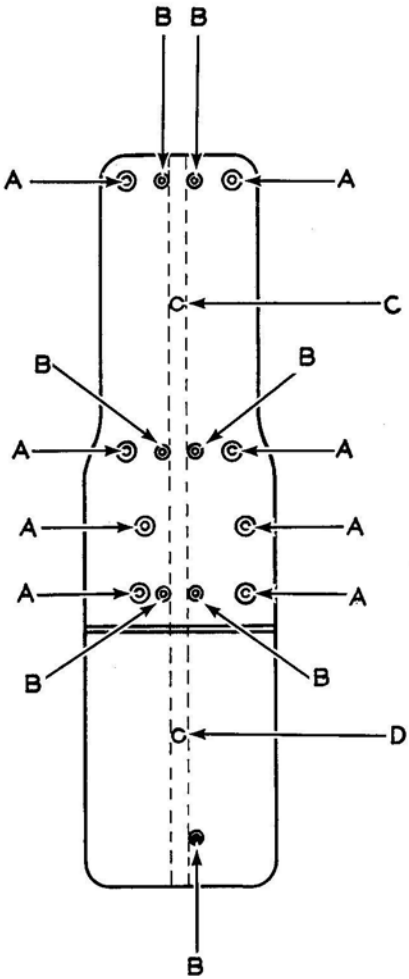


Figure 2. Backboard.

2. INSTALLATION

(1) Place the backboard against the wall vertically (it is important that the backboard and paystation are perfectly upright).

(2) Mark thru holes *B* onto the wall.

(3) Drill holes in the wall where marked to take anchors, either Ackerman-Johnson or Rawl-Taper ¼"–20.

(4) Mount the anchors in the wall.

(5) Push a loop of the interior wire thru backboard hole *C*.

(6) Carry the rest of the interior wire down the channel at the rear of the backboard.

(7) Push the end of the interior wire thru the hole in fig. 2 marked *D*.

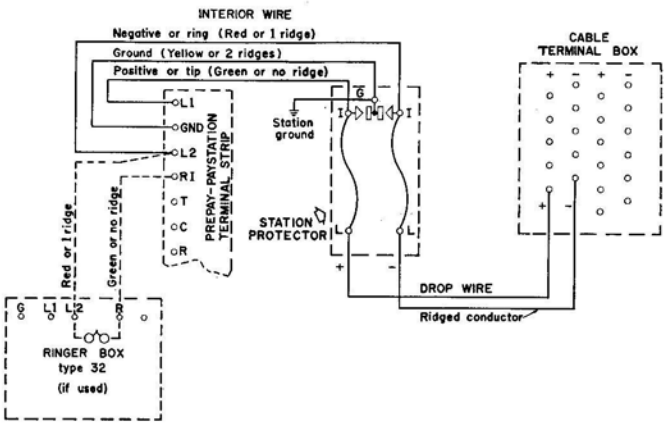


Figure 3. Connection diagram. (Polarities are important.)

If the interior wire runs along the bottom of the paystation booth or enclosure:

(8) Push a loop of the interior wire thru hole *D*.

(9) Carry the interior wire up the channel at the rear of the backboard.

(10) Push the end of the interior wire thru hole *C*.

(11) Mount the backboard using the anchor screws.

(12) Unlock the upper housing of the paystation and lift the housing off.

(13) Mount the lower housing and backplate onto the backboard with ¼"–20 flat-head machine screws using holes *A* which have threaded inserts to take the ¼"–20 screws.
(14) Make sure that the loop or end of the interior wire comes thru the slot in the backplate by the terminal strip without pinching.
(15) Remove the cover from the ringer box.
(16) Mount the ringer box on the bottom part of the backboard, using wood screws.
(17) Make sure again that the interior wire has free access to the ringer box without being pinched.
(18) Connect as shown in figure 3.
(19) Replace cover on ringer box.
(20) Replace upper housing on paystation and lock.

3. TESTS

3.1 **If you have cash-compartment key:**

(1) Insert 2 nickels, dial the paystation number, and wait for busy tone.
(2) Hang up.
(3) Check for money refund.
(4) Unlock cash compartment door.
(5) Insert dime, and dial the central office.
(6) When conversation is finished, hang up.
(7) Check that money falls into cash compartment.
(8) Repeat same procedure with a quarter.
(9) Dial operator and advise her that you are testing coin signals.
(10) Have her identify all coins deposited.
(11) Re-lock cash compartment door.

3.2 **If you do not have cash-compartment key:**

(1) Insert 2 nickels, dial the paystation number, and wait for busy tone.
(2) Hang up.
(3) Check for money refund.
(4) Insert dime. Dial central office.
(5) Advise operator that you are testing coin signals.
(6) Have operator identify each coin deposited.
(7) Hang up. Coins will be refunded.

4. MECHANISM

4.1 **Coin gauge.** The coin gauge at the top of the upper housing consists of 3 different size openings . . . for nickels, dimes, and quarters. The openings connect with the correct channel in the coin chute.

4.2 **Coin Chute.** The coin chute is mounted immediately below and in line with the coin gauge. See figures 4 and 5. The coin chute has 3 channels of varying sizes. The channel under the nickel gauge is larger than the dime channel and smaller than the quarter channel. Therefore only the correct coin in its correct channel will operate

the mechanism. All 3 channels end directly over the mouth of the coin hopper, figures 4 and 5. The lugs which hold the coin chute to the upper housing are part of a framework riveted to the upper housing, and this framework constitutes the coin-return chute for incorrect coins deposited which will fall out of the coin chute (figure 6). The incorrect coins will fall out because the depth of the particular channel on the rear face of the coin chute is just

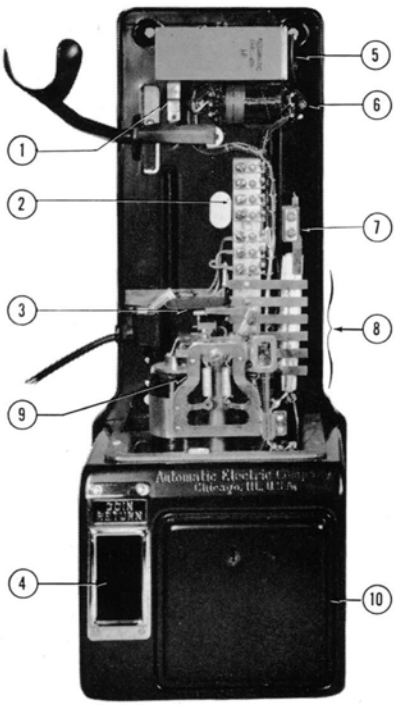
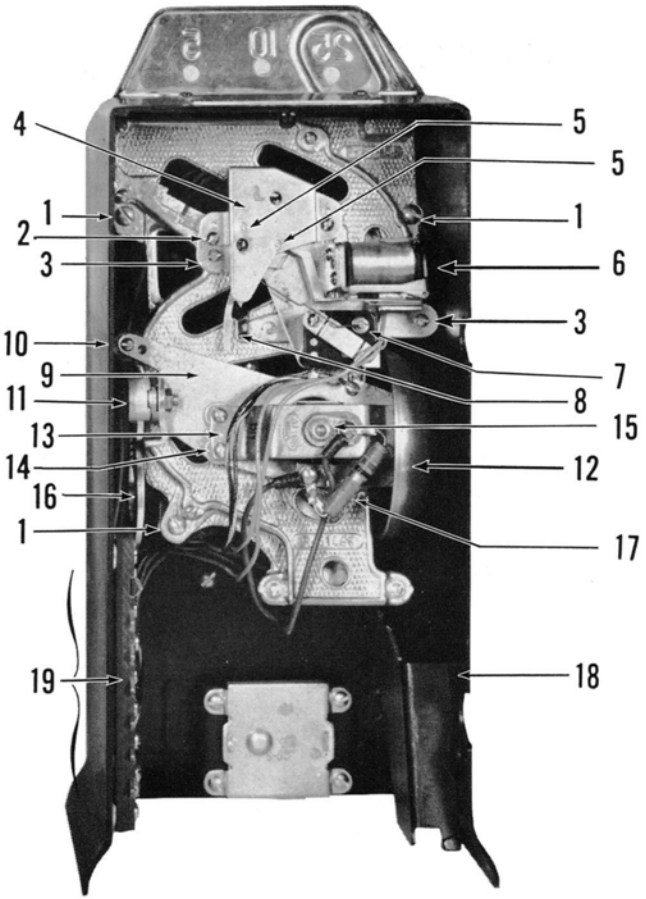


Figure 4.

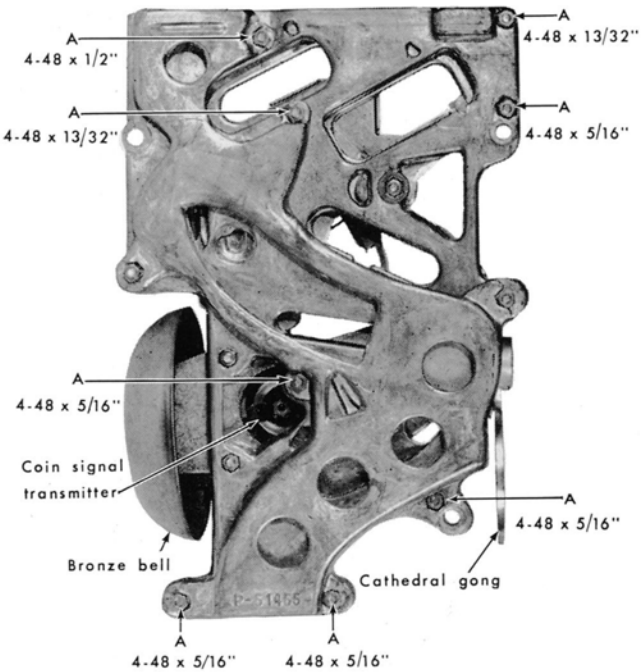
1. Hookswitch springs
2. Terminal block
3. Coin hopper
4. Coin return
5. 4 μf capacitor
6. Induction coil
7. Auxiliary terminal assembly
8. Transfer springs
9. Coin relay
10. Cash compartment



1. Mounting screws for coin-chute assembly
2. Mounting screws (2) for 2-nickel-mechanism cover plate
3. Mounting bracket and screw for 2-nickel mechanism
4. Cover plate for 2-nickel mechanism
5. Pivots for shock lever and pendulum
6. Restoring magnet
7. Microswitch with wire arm
8. Pendulum
9. Mounting bracket for coin-signal gongs
10. Screw for coin-signal-gongs mounting bracket

11. Cathedral-gong mounting
12. Bronze bell
13. Mounting bracket for coin-signal transmitter
14. Screws (4) for coin-signal-transmitter mounting bracket
15. Coin-signal-transmitter mounting unit
16. Cathedral gong
17. 75Ω resistor
18. Rejected-coin return chute
19. Jackstrip terminal block

Figure 5.



A refers to Coin chute screws

Figure 6. Coin chute.

deep enough to hold a coin of the right size. After falling out of the coin chute they hit this coin-return chute and are guided to the mouth of the coin-return chute in the lower housing (figure 4).

4.3 **Coin signals.** The bell mounted on the right side of the coin chute (figure 6 being a rear view it is shown on the left) is so situated with respect to the nickel and dime channels, that the nickel will strike and ring the bell at the bottom of the bell; hence there will only be one ring: the dime on the other hand will strike the

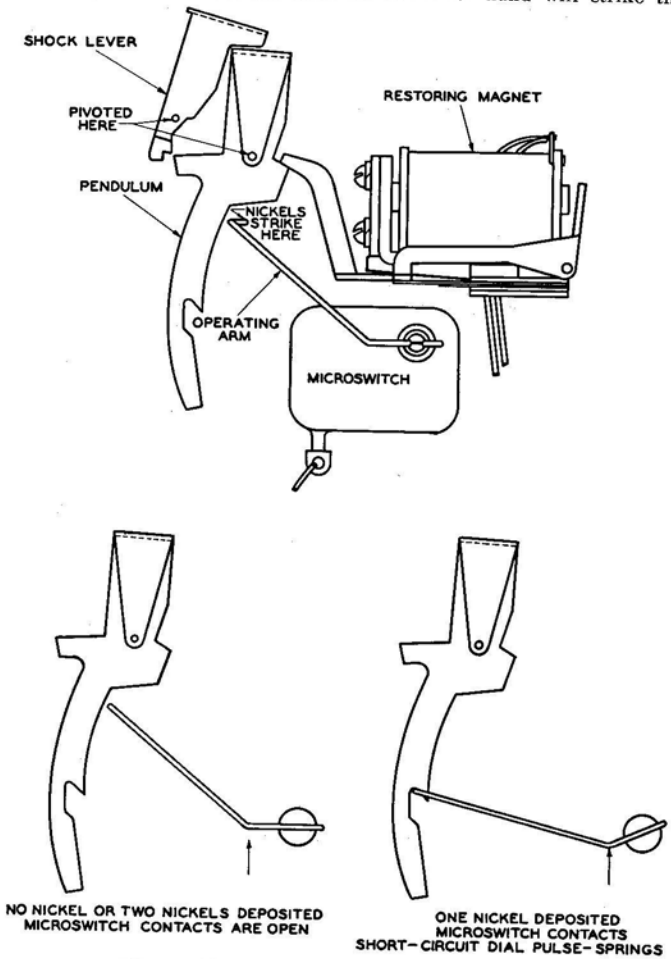
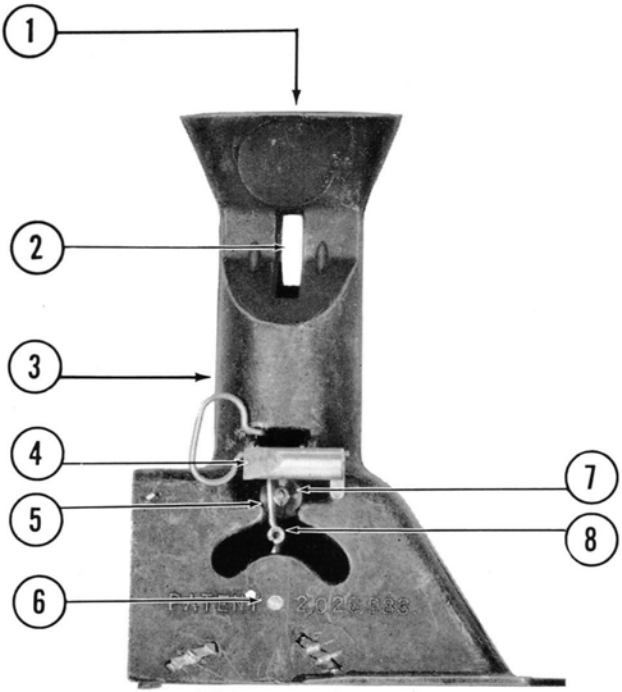


Figure 7. Nickel-counting mechanism.



1. Coin-hopper mouth
2. Coin-trigger slots
3. Coin-hopper housing
4. Counterweight of trap bottom
5. Coin-deflecting vane
6. Coin-deflecting-vane pivot pin
7. Coin-deflecting-vane roller
8. Coin-deflecting-vane projection

Figure 8. Coin hopper.

bell at the top and again at the bottom, making two rings. On the other side of the coin chute is the cathedral gong which a quarter will hit once. The tones of the bell and the gong are easily distinguished by the operator at the central office. A transmitter conveys these signals to the operator.

4.4 **Ten-cent-service two-nickel control.** Since these paystations

are for ten-cent service, arrangements must be made so that two nickels or one dime must be deposited before a local call can be made. This is done by the microswitch shown in figure 5 and more especially in figure 7.

The *first* nickel slides the operating arm down along the edge of the pendulum, pushing it somewhat below the pendulum notch. Gravity then draws the narrow bottom of the pendulum against the operating arm. When the first nickel passes beyond the arm, spring tension in the microswitch lifts the arm into the notch, where it latches as shown in the lower right-hand sketch of figure 7. This short-circuits the dial pulse-springs.

When the caller deposits the *second* nickel, it strikes the operating arm, pushing it downwards. The arm rides along the cam-like surface leading out of the notch, and throws the pendulum abruptly to the left. As the coin moves on, spring tension in the microswitch raises the operating arm to normal. By the time the pendulum swings back against the operating arm, the arm is above where it could re-latch. The microswitch then restores, and removes the short circuit from the dial pulse-springs. The caller now can dial.

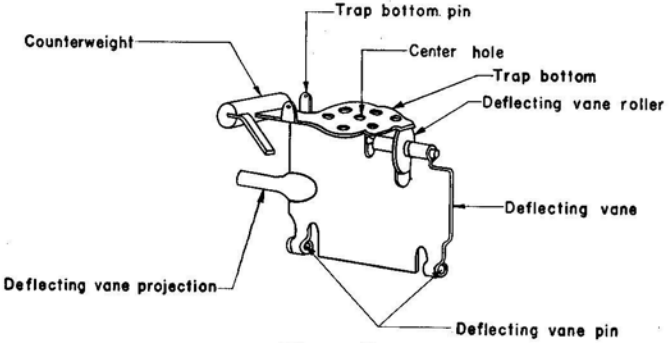


Figure 9.

If a dime (or a quarter) is used in the paystation, these operations are skipped; the pendulum and microswitch function only when the nickel slot is used.

Immediately above the microswitch is restoring magnet (figure 5 and 7). As the restoring magnet is in series with the coin relay, the restoring magnet operates every time the central office sends coin-control current to collect or refund; this has no significance when a dime or quarter is used, but in the event that either a single nickel in the case of an abandoned call, or an odd number of nickels in the case of a toll call, have been deposited, the operating arm of the restoring magnet will move the pendulum to the left and allow the operating arm of the microswitch to restore and

therefore set the mechanism for the next call. If one nickel is inserted and the caller then hangs up, the nickel will be refunded. The shock lever figure 7 is a safety device in that if the paystation is banged after one nickel has been inserted in an attempt to set the mechanism for a call with only one nickel, the shock lever will move over and stop the pendulum from moving and therefore the microswitch operating arm will remain latched.

4.5 **Coin-control mechanism.** The coin hopper and its action are illustrated in figures 8, 9, 10, 11, 12, 13, and 14. Figure 8 is a front view of the coin hopper. Figure 9 shows the internal mechanism of the coin hopper with the housing removed. Figure 10 shows a coin just entering the coin hopper mouth. Figure 11 shows the coin trigger still set before a coin has dropped down. Figure 12 shows the coin trigger tripped. Figure 13 shows refund, and figure 14 shows collection. As the coin leaves the coin chute, it enters the coin-hopper mouth (figure 10), and falls down, tripping the coin trigger (figure 12) and comes to rest on the trap bottom (figure 9).

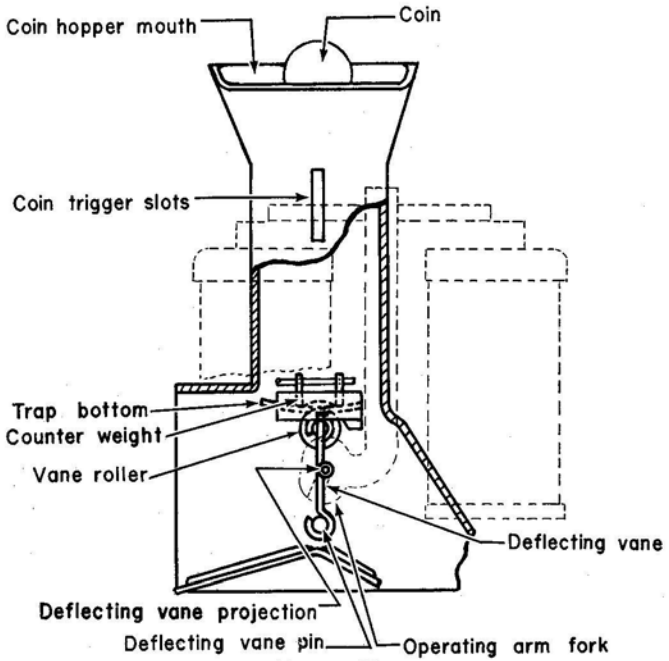
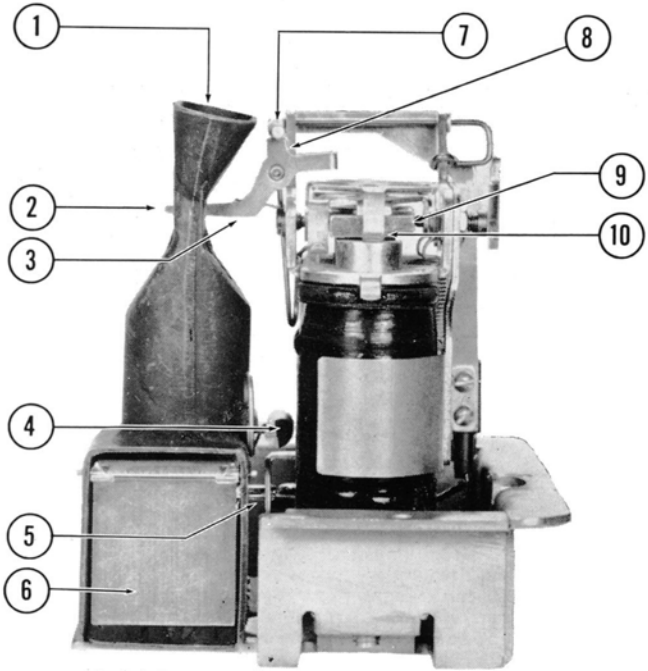


Figure 10.

The trap bottom is held up by the roller of the deflecting vane, and therefore the coin remains on the trap bottom.

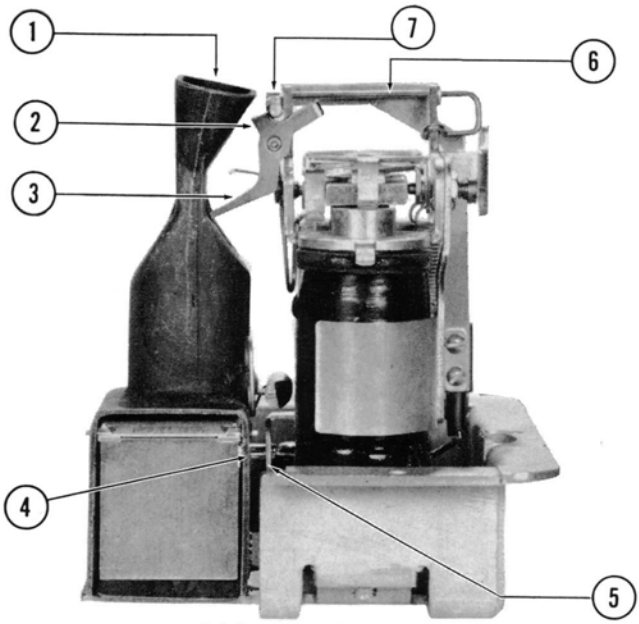
The projection of the deflecting vane is engaged with the fork of the operating arm of the coin relay figure 11. When current from the central office operates the relay, the fork of the operating arm will move to the right or left depending on the polarity of the



1. Coin-hopper mouth
2. Coin-trigger tip
3. Coin trigger
4. Counterweight of trap bottom
5. Operating-arm fork engaged with deflecting-vane projection
6. Coin shield
7. Switch lever
8. Coin-trigger latch
9. Armature
10. Restoring lever

Figure 11.

current sent from the central office. The fork in moving to left or right carries the projection of the deflecting vane with it and as the projection is part of the deflecting vane, the vane must also move to the left or right. As the deflecting vane moves under the direction of the fork, the roller moves from beneath the trap bottom (see figure 13). The weight of the coin overcomes the weight of the counterweight (see figure 9) and therefore the trap bottom will fall down pivotting on its pin, the coin slides off the trap bottom and is deflected by the deflecting vane to the left or right. In the case of figure 13 it is deflected to the left into the cash refund compartment. Figure 14 shows the result of a completed call, the operating



1. Coin-hopper mouth
2. Coin-trigger latch
3. Coin trigger
4. Deflecting-vane projection
5. Operating-arm fork
6. Switch-lever pivot
7. Switch lever

Figure 12.

arm fork is caused to move to the left carrying the vane to the left and therefore the coin is deflected into the cash compartment. The polarity +110 volts d.c. or — 110 volts d.c. placed on the line by central-office equipment controls collection or refund of the coin. On an unanswered call, after the calling party hangs up, —110 volts d.c. placed on the line by central-office equipment operates the coin relay. The operating arm moves to the right and positions the deflecting vane to deflect the coins into the refund compartment (figure 13). In the case of a completed call, after calling party hangs up, +110 volts d.c. placed on line by central-office equipment operates the coin relay to move the operating arm to the left and positions the deflect-

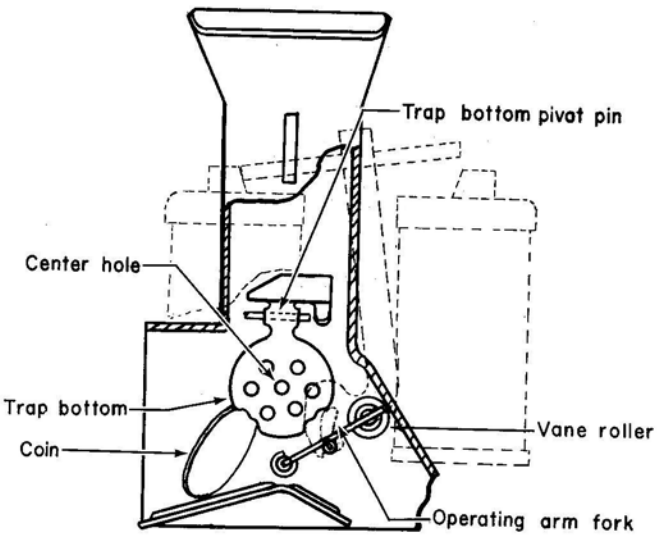


Figure 13. Refund.

ing vane to deflect the coin into the cash compartment (figure 14). After the coin has dropped, the counterweight of the trap bottom will return the trap bottom to the horizontal position and as the coin control current is switched off the deflecting vane will return to the vertical as in figure 9 so that when another coin is dropped for another call the trap bottom will remain in position holding the coin until such time as the coin or coins are to be disposed of.

4.6 **Coin relay.** The coin relay (figure 15) consists of 2 coils with a permanent magnet between them and the armature pivoted

in the center and on top of the coils and magnet. In this way the armature can be made to rock on its pivot to either side as required simply by reversing the polarity of the direct current which is connected to the coils. This action governs the refund or collection of the coins. The relay is connected to a 110-volt source at the central office. Figures 16, 17, 18, and 19 show the various parts of the coin relay. Situated on the top of the armature is the operating arm assembly pivoted in the center. It consists of the fork which engages with the projection of the deflecting vane (figures 13 and 14), the horizontal portion which is in contact with the armature (figure 14), and

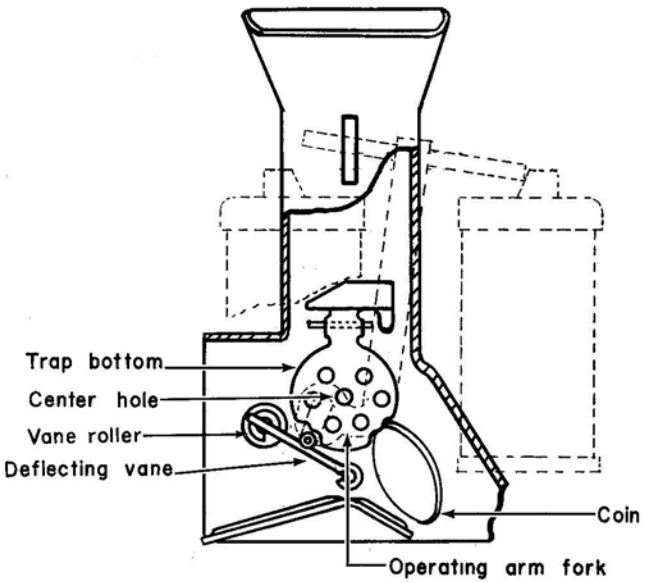
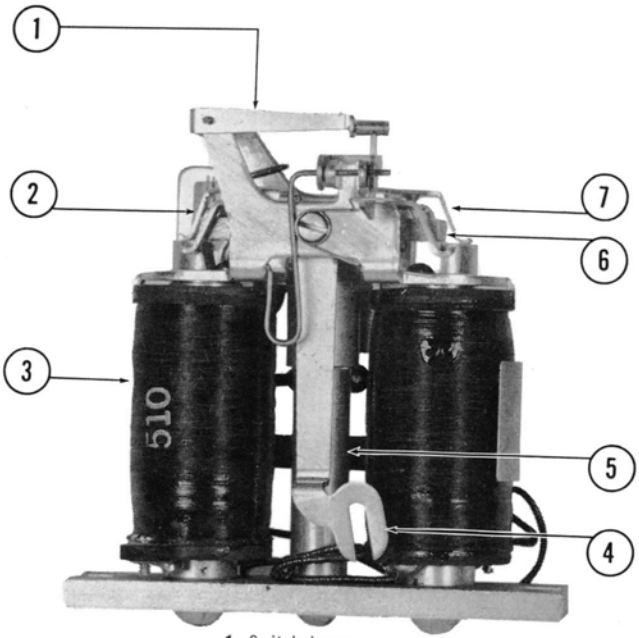


Figure 14. Collection.

the restoring arm (figures 16 and 20) which carries the stud that operates the ground-switch springs. Above the operating arm are the restoring levers (figures 17 and 20) pivoted on the same pivot as the operating arm and armature. The restoring levers are in contact with the operating arm and are also connected to the restoring springs (figure 14) which hold the restoring levers down under tension. These restoring levers ensure that when the direct current is switched off to the coils the operating arm will return to the level horizontal position. Also mounted on the coin relay is the

switch lever which is pivoted on the coin relay frame (figures 15, 17, and 20). One end of the switch lever rests on the latch of the coin trigger (figures 16 and 11), the other end has a half round set in it which allows the stud of the restoring arm to restore the switch lever when required (figure 16). Also mounted on the coin relay frame is the coin trigger which is also pivoted (figure 11). The coin trigger is unbalanced in such a way that, if free, it will return to the horizontal position of its own accord. The tip of the coin trigger protrudes right through the slot in the front and rear of the coin hopper (figure 11); therefore, it is impossible for a coin to drop through the coin hopper without tripping the trigger.

4.7 **Operation of the coin relay.** Figure 16 shows the relay



1. Switch lever
2. Restoring lever
3. Relay coils
4. Operating-arm fork
5. Magnet heelpiece
6. Armature
7. Restoring lever

Figure 15. Coin relay, rear view.

and ground switch springs in position before any coins have been deposited. Notice the switch lever resting on top of the latch of the coin trigger (figures 16 and 11) and at the same time observe the position of the other end of the switch lever with the half round set and the stud on the restoring arm. Also, notice that the ground switch spring with the half round set is bearing up against the stud. The ground switch contacts are open and the dial shunt contacts are closed preventing pulses from the dial being sent to the central office. In figures 17 and 12, a coin has been deposited into the coin chute and it has dropped into the coin hopper, and on its way down the hopper has tripped the coin trigger; the trigger has been forced downwards and the latch has moved away from the switch lever, allowing the switch lever to drop slightly. As the switch lever has dropped slightly it prevents the coin trigger from returning to the horizontal position because the latch of the

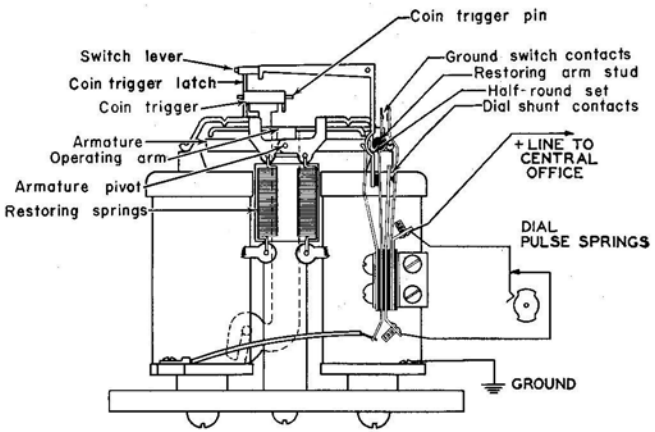


Figure 16.

coin trigger is now butting up against the switch lever (figure 12). Referring back to figure 17 note the position of the stud, switch lever, and contacts. The end of the switch lever with the half round set has been allowed to move slightly to the right and the ground switch contacts are now closed and the pressure on the outside spring of the ground switch has opened the dial shunt contacts, and the stud is still in the center. The dial can now send pulses *unless* the coin dropped was a first nickel; in this case the microswitch has placed a shunt across the dial still preventing pulses from being sent to the central office until the second nickel has been deposited and the shunt of the microswitch has been removed from

the dial. In the case of a dime or a quarter the coin relay has opened the path for dial pulses.

In figure 18 the caller has been unanswered; therefore, as he hangs up "Neg" 110 V is applied to the +line which causes the armature to rock over to the left as in figure 18. Now as the fork of the operating arm is a part of the operating arm the fork is caused to move to the right as seen by the dotted image in the center of the drawing. The fork being engaged with the projection of the deflecting vane, the vane is caused to move to the right also allowing the trap bottom to drop. The vane guides the coins to the refund compartment. At the same time the stud of the operating arm has been caused to move upwards out of the area of the 2 half round

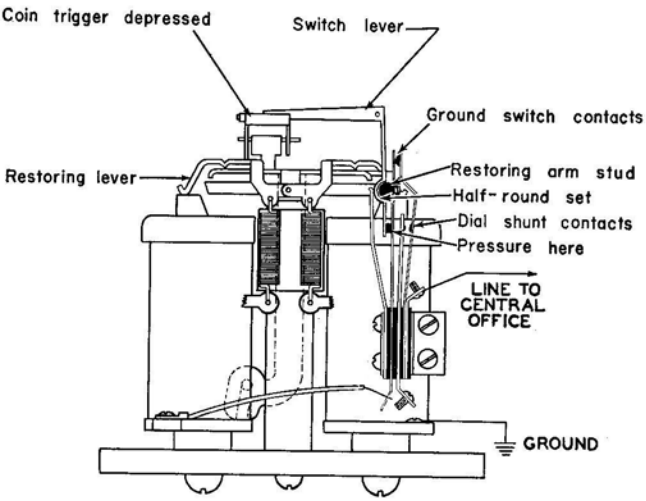


Figure 17.

sets in the switch lever and the ground switch spring. The stud in riding up has forced the switch lever to the left against the spring tension and being at a right-angle the other end of the switch lever has moved upwards away from the latch of the coin trigger (figure 9) thereby allowing the coin trigger to regain its horizontal position. Also the movement of the stud out of the area of the 2 half round sets has ensured that the ground switch spring contacts will remain closed throughout the operation due to exerting pressure on both springs. When the "Neg" 110 volts is removed from the + line, the position of the relay will be as in figure 16 with the switch lever resting on the projection of the coin trigger, holding the ground switch contacts open and the dial shunt contacts closed. In figure

19 the call has been answered and when the caller hangs up "Pos" 110 volts is placed on the +line and therefore the armature will rock to the right carrying the fork to the left and the deflecting vane moving to the left also, the trap bottom drops and the coin is guided to the cash compartment. In this case note that the stud moving downwards has carried out its same function of keeping the ground switch contacts closed. When the positive 110 volts is removed from the + line, the armature will return to the position of figure 14 as before.

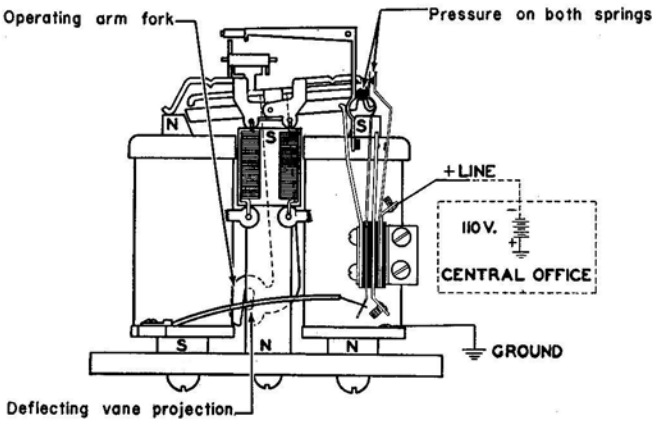


Figure 18. Refund.

5. ROUTINE MAINTENANCE

5.1 **Coin gauge.** When carrying out inspection of coin gauge, look for cleanliness, mutilation and stuck coins or slugs. Do not use hard steel instruments to remove coins or slugs, use wooden instruments such as a toothpick or orange stick. In the case of stuck coins etc., find the reason why they have stuck; e.g. dirt, sticky deposits, or coin gauge out of alignment. If out of alignment or mutilated, replace upper housing and overhaul original upper housing in the shop.

5.2 **Coin chute.** On inspection of coin chute, pay particular attention to cleanliness and if a mutilated coin or slug has stuck in the chute, to see that the chute has not been damaged in any way. If chute should be dirty or damaged, replace upper housing and overhaul original upper housing in shop. Do not attempt to clean a dirty chute. Check signals of nickel, dime, and quarter; if operator cannot recognize the signals, replace and overhaul in shop. With

upper housing off, check the microswitch lever, that it latches in the notch on the first nickel and that it unlatches from the pendulum on the second nickel. Make sure that the shock lever engages with pendulum when the upper housing is tilted to the left at 30°. Check that penny or dime in nickel chute fall out to the return chute; likewise, when put into the quarter chute they will fall out into the return chute.

6. LOWER HOUSING

When inspecting the lower housing, check handset cord and hookswitch for ease of operation.

6.01 **Coin relay.** Unscrew the bolts at the heel plate of the coin relay and move the relay slightly so that the operating arm fork disengages from the deflecting vane projection. With a pencil point (or graphite), rub the inner surfaces of the fork. Check coin trigger. Reinstall coin relay and screw down tightly.

6.02 **Coin hopper.** Check the trap bottom and deflecting vane for correct operation.

(a) Insert a thin piece of wood ¾″ wide, 5″ long, and ⅛″ thick into the mouth of the coin hopper.
(b) Carefully push down coin trigger.
(c) Continue until wood touches trap bottom.
(d) Depress left side of coin relay armature with the other hand.
(e) Push wood down following trap bottom.
(f) Release armature.
(g) Pull wood strip slowly upward.
(h) Make sure vane and trap bottom return to original position.
(i) Repeat but this time press *right* side of coin relay armature.

6.03 **If the mechanism appears to be faulty:**
(a) Check vane for tight bearings.
(b) Unscrew coin control relay heel plate.
(c) Disconnect the three leads on contact springs.
(d) Remove coin relay being careful to clear trigger from slot in hopper.
(e) Take vane projection and hold almost vertically but a little to the left.
(f) Release and vane should drop fully to collect position.
(g) Repeat but to the right this time.
(h) If vane binds in any way, replace.

6.04 **Check vane for binding on hopper.**
(a) Grasp vane projection pin and pull towards you.
(b) Move vane to left and right while still pulling towards you.
(c) Make sure vane does not scrape on front of hopper.
(d) Repeat but this time push vane projection away from you.
(e) Make sure vane does not scrape on rear of hopper.
(f) If vane scrapes, replace hopper assembly.

6.05 **Check ease of movement of trap and vane.**
(a) Move vane to the left.

(b) Lift trap bottom counterweight with other hand.
(c) Move vane to upright position slowly and keep very light pressure on counterweight.
(d) Make sure vane lifts trap smoothly and evenly.
(e) Repeat to the right.
(f) If movement catches, replace trap and vane.

6.06 **Check clearance between trap and vane.**
(a) Move counterweight up and down; there should be a small clearance.

6.07 **Installing coin relay after tests to hopper.**
(a) Ease coin trigger through slots in hopper.
(b) Move vane to upright position and ease into fork.
(c) Move relay to right or left until edge of vane can be seen through center hole of trap bottom, looking down mouth of hopper, also that coin trigger is in the center of the slots and not scraping the sides.
(d) Screw down heel plate holding relay to make sure the relay does not move and upset the adjustment.

6.08 **Check coin shield on refund side of hopper to see that it works freely.** Replace if faulty.

6.09 **Check all switch points for cleanliness especially horizontal transfer switch points.**

6.10 **Check dial for bind free operation and correct speed.**

6.11 **Call station to place collect current and refund current and note action of relays, coin control and restoring magnet.**

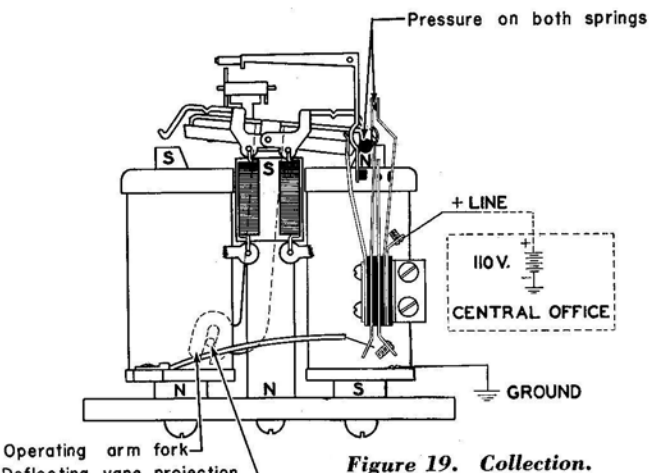


Figure 19. Collection.

7. SHOP OVERHAUL INSTRUCTIONS

Unlock the upper housing with the key provided, pull the lower part of the upper housing towards you and lift, this will disengage the projection on the inside top of the upper housing from the socket on the back plate and the upper housing will be clear.

7.1 **Upper housing.**

Coin gauge. The coin gauge is mounted with rivets; to disassemble remove these rivets after first removing coin chute (see §7.2). Install coin gauge *before* installing coin chute.

7.2 **Coin chute.**

(a) Lay upper housing front downward on the bench.

(b) Remove coin chute by unscrewing the 3 mounting screws, see fig. 4.

(c) Unscrew all leads to the jackstrip terminal (see figure 5).

(d) Lift out the coin chute assembly complete, carefully making sure not to damage cathedral gong.

(e) Pull the leads through the retaining bracket fixed to the housing.

(f) Lay the coin chute assembly flat with sub-assemblies uppermost.

(g) Unscrew the screw holding the bronze bell and remove bell complete with brass washer.

(h) Unscrew the nut holding cathedral gong and remove gong.

(i) Unscrew the mounting screws and nuts of the 2 nickel mechanism (see figure 5). Note that the long screw is the one situated underneath the restoring magnet.

(j) Unscrew the 2 screws and nuts holding the bracket on which is mounted the signal transmitter. Note that in this case the long screw is the one situated just above the cathedral gong mounting (see figure 5). Lift off bracket complete with signal transmitter subassembly.

(k) Unscrew the 4 screws holding the signal transmitter assembly to the bracket. Lift off sub-assembly.

(l) Unscrew the nut holding the signal transmitter. Lift out signal transmitter.

(m) Unscrew the remaining 8 screws and nuts on the coin chute (see figure 6) and the three parts can be separated.

(n) Unscrew the 2 screws holding the restoring magnet to the bracket and withdraw the restoring magnet.

(o) Unscrew the 2 screws running through the microswitch and withdraw microswitch; be careful not to damage spring arm.

(p) Unscrew the 2 remaining screws holding the cover plate of the pendulum and shock lever and remove cover plate.

(q) Remove carefully the pendulum and shock lever from their respective pivots.

(r) Draw the pivots from the back of the plate.

(s) Clean all parts and inspect thoroughly.

(t) Pay particular attention to the cleanliness and tension of the

transfer springs mounted on the terminal block assembly on the back plate. These springs connect all the circuits through the jack springs from the upper housing.

(u) Replace parts as necessary.

7.3 **To remove the dial.**

(a) Remove the coin chute (see §7.2).

(b) Disconnect the dial leads from the jackstrip terminal inside the upper housing.

(c) Unscrew the 3 small flat headed screws and pull the dial forward carefully feeding the dial leads through the slot in the inner mounting cup.

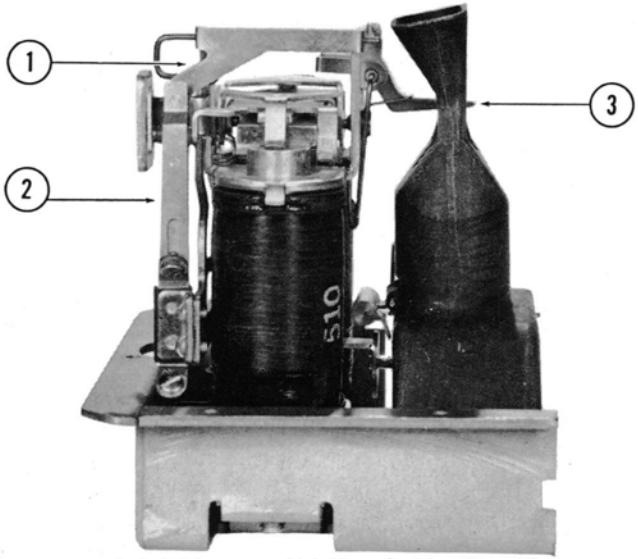
7.4 **To install the dial.**

(a) Feed the dial leads from the front of paystation through the slot in the inner mounting cup and push the dial home.

(b) Install the 3 flat headed long screws and tighten.

(c) Connect the dial leads to the jackstrip terminal as in wiring diagram, figure 21.

Note. If you find difficulty in locating the threaded holes in the dial, loosen the 3 round-headed screws and align the holes. Do not forget to tighten the 3 round-headed screws afterwards.



1. Switch-lever arm with half-round set (see figure 16)
2. Contact springs
3. Coin-trigger tip

Figure 20.

8. TESTS AND ADJUSTMENTS TO UPPER HOUSING

Test slugs for the coin gauge and the coin chute must have the following dimensions.

Coin gauge. The coin gauge must accept the following maximum slugs.

	Quarter	Dime	Nickel
Diameter	0.961″	0.710″	0.846″
Thickness	0.083″	0.058″	0.083″

Coin chute. The coin chute shall accept the following maximum, minimum, and standard slugs.

	Quarter			Dime		
	Max.	Min.	Std.	Max.	Min.	Std.
Diameter	0.977″	0.938″	0.961″	0.721″	0.685″	0.710″
Thickness	0.090″	0.052″	0.083″	0.070″	0.043″	0.058″

	Nickel		
	Max.	Min.	Std.
Diameter	0.857″	0.805″	0.846″
Thickness	0.090″	0.050″	0.083″

Note. The maximum slugs will *not* pass through the coin gauge. The coin chute must reject the following minimum slugs.

	Quarter	Dime	Nickel
Diameter	0.903″	0.653″	0.767″
Thickness	0.083″	0.052″	0.083″

A dime or nickel deposited in any opening other than the one for which it is intended must be conveyed to the coin return chute, and a penny deposited in either nickel or quarter coin opening must also be conveyed to the coin return chute.

9. TWO-NICKEL MECHANISM

(a) Check the pendulum and shock lever for free movement on their pivots, they must not bind in any way, or interfere with each other.

(b) Operate restoring magnet relay with 1570Ω in series on 46 volts (28 ma) and check that there is clearance between microswitch spring and that portion of pendulum just above notch.

(c) Check operating arm of microswitch as follows:

1. The hub must not interfere with microswitch mounting bracket.
2. The operating arm must have approximately a 10° angle.
3. The end of the operating arm in the coin chute slot must not rub against the sides and/or the back of the coin chute.
4. The operating arm when latched in the pendulum must ride in the radius of the notch.
5. Check that with the operating arm engaged in the pendulum, tilt the upper housing anti-clockwise approximately 30°, the shock lever must then slide off the left arm of the pendulum

with perceptible clearance. This ensures that the pendulum will be unable to disengage from the microswitch operating arm by banging on the side of the upper housing after a deposit of one nickel only.

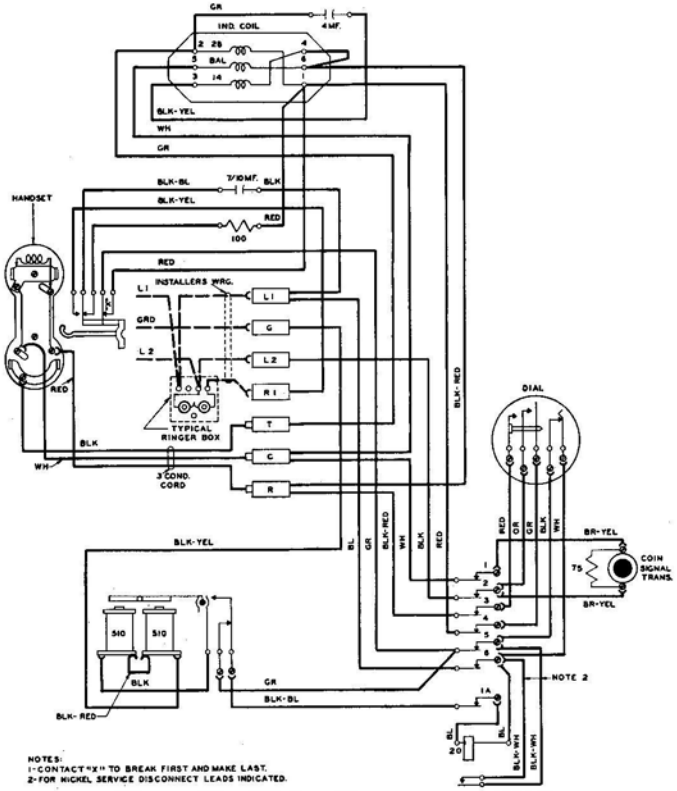


Figure 21. Wiring diagram, type 62-55.

10. RESTORING MAGNET RELAY

(a) Operate restoring magnet relay with 1570Ω in series on 46 volts (28 ma) and note that relay operates completely.

(b) Connect 1690Ω in series with restoring magnet relay and apply 46 volts (26 ma) and note that *relay does not operate.*

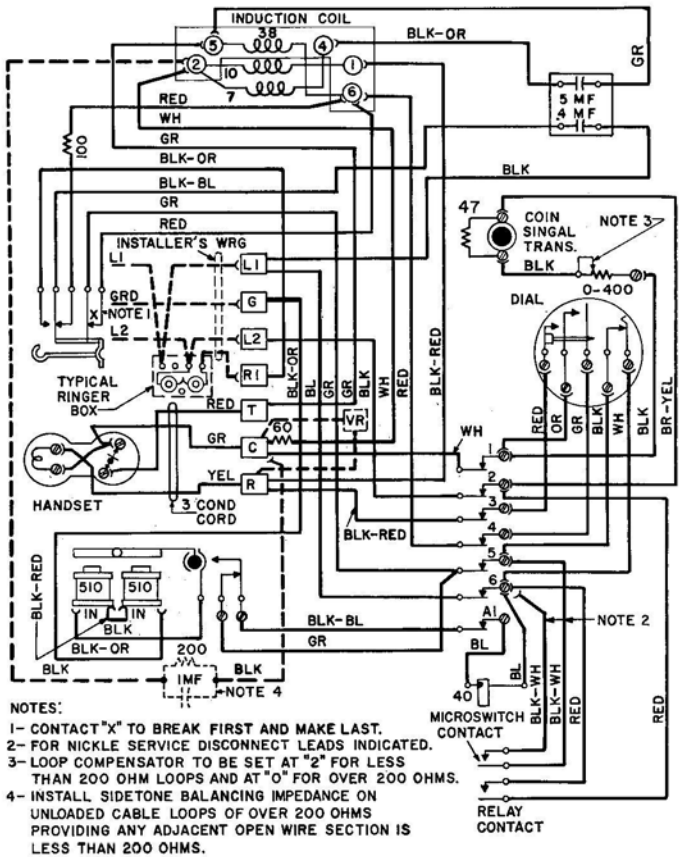


Figure 21A. Wiring Diagram, type 82-55

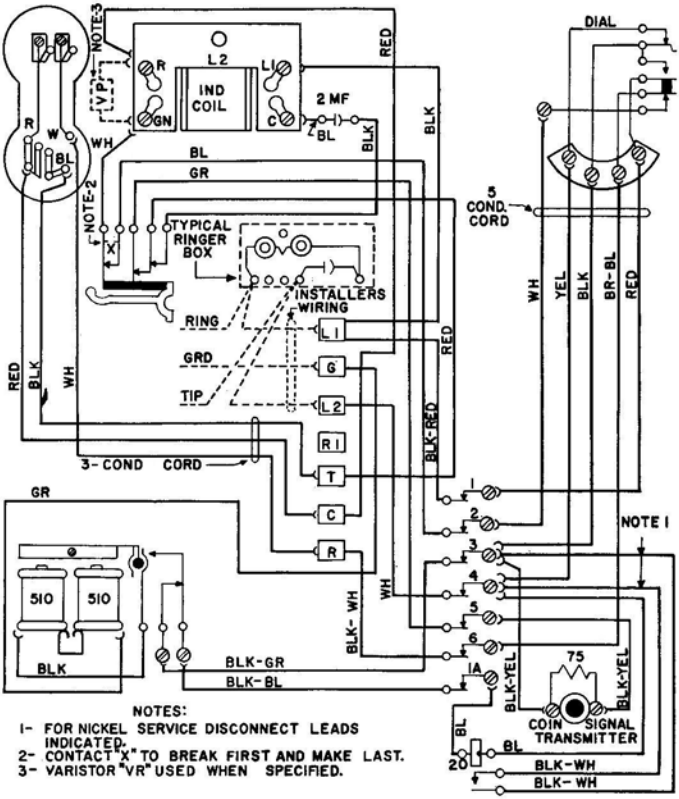


Figure 21B. Wiring Diagram, type 92-55

11. TO REASSEMBLE UPPER HOUSING MECHANISM

(a) Place the 3 parts of the coin chute together and install the screws and nuts (see figure 3). Take care that you use the correct length screws. Tighten screws.

(b) Install the bell and gong mounting bracket with the 3 screws and nuts being careful to use the correct length screw. Tighten screws and nuts.

(c) Mount cathedral gong and tighten screw and nut.

(d) Mount the bronze bell, be careful to mount the flat brass washer in between the bell and the bracket with the countersunk part of the washer next to the bell. Tighten the screw.

(e) Test coin chute with slugs (see §8.0).

(f) Mount the restoring magnet to the mounting plate, tighten the 2 screws.

(g) Mount the microswitch on to the mounting plate being careful to clamp the restoring magnet leads with the clamp bracket.

(h) Remount the copper pivots for the pendulum and shock lever.

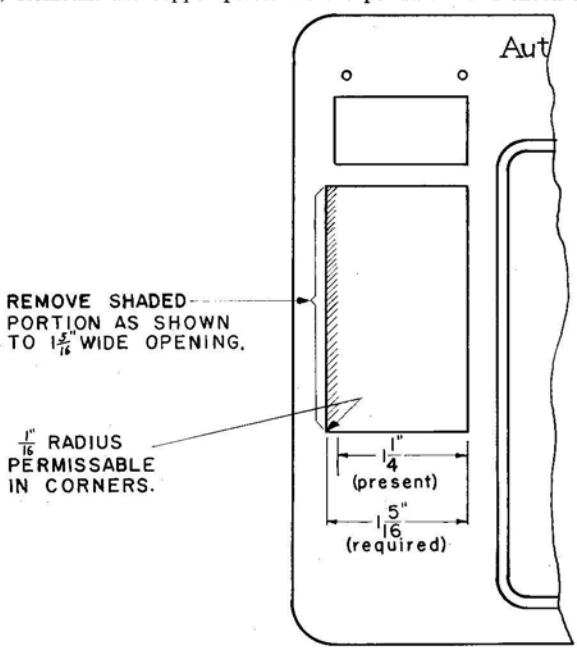


Figure 22.

(i) Carefully mount the pendulum on its pivot and the shock lever on *its* pivot.

(j) Place the pendulum and shock lever cover plate on to the two pivots being careful not to bend the pivots. Install the 2 small screws and tighten. Do not install the screws until the 2 pivots are through the 2 holes of the cover plate and the cover plate is fully home and touching the mounting plate all round.

(k) Mount the 2 nickel mechanism on to the coin chute with the correct length screws and nuts being careful not to damage the microswitch operating arm. Tighten screws and nuts.

(l) Test coin gauge with slugs (see §8).

(m) Replace coin gauge if necessary by knocking out rivets. Install new coin gauge with new rivets.

(n) Mount coin chute and tighten the 3 mounting screws.

(o) Connect leads as per wiring diagram.

12. TO REMOVE COIN CONTROL MECHANISM

(a) Loosen the 2 terminal screws, at the spring contacts and 1 at the rear of the coil.

(b) Disconnect the 3 leads.

(c) Unscrew the 2 large round-headed screws holding the heel plate of the coin relay.

(d) Trip the coin trigger by hand.

(e) Lift off carefully the coin relay, make sure that the fork disengages from the projection of the deflecting vane and that the trigger does not get bent in the slots of the coin hopper.

12.1 **To remove the coin hopper.**

(a) Unscrew the 3 small screws from inside the cash compartment at the top.

(b) Lift coin hopper out.

12.2 **Clean thoroughly with a soft brush, remove any iron filings around the armature and coin relay coil cores, carry out tests.** Make sure that the coin hopper mechanism works freely.

13. UPPER HOUSING LOCK

Check the lock that it operates under a force not to exceed 1000 grams at a leverage of 2″ from the center of the key.

13.1 **Horizontal transfer switch.** Test insulation between all adjacent metal parts, it must withstand 500 volts a.c. frequency between 16Ω and 60Ω for one-quarter of a second.

13.2 **Hookswitch.** Test pressure of contact points with receiver off the hook. Pressure must not be less than 2½ oz. Test the clearance between contacts when open, this must not be less than 1/64″. Test the degree of movement of the operating spring, this must not be less than 5/64″. Test the hook with an 11½ oz. receiver, the hook must go up to a full stop when the receiver is taken off.

14. LOWER HALF

Mechanism unit. The relay must safely deposit or refund a charge of one dime up to eleven nickels when d.c. of 60 volts is applied to the coils immediately after the armature has been operated in the reverse direction by 120 volts d.c.

Test that the armature *does not operate* when 40 volts d.c. is applied in either direction to the coils and eleven nickels are dropped, one after another, into the coin hopper through the coin chute whilst the current is passing through the coils.

Test the armature by applying 120 volts in either direction and reduce this without a break in the current to 30 volts; the armature must return to normal.

All *final* tests involving the coin relay must be made with the upper housing in place.

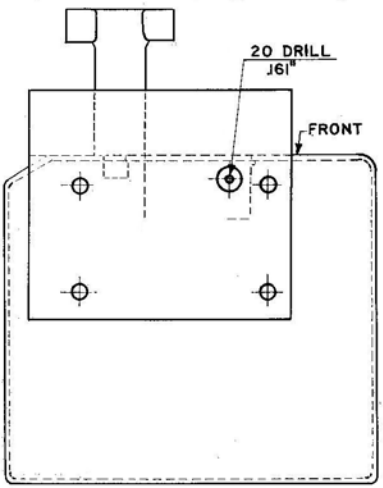
Check magnet strength for 2500 maxwells.

Check ground switch spring contacts clearance, it must not be less than 0.010" (ten thousandths of an inch).

Check the dial shunt spring contacts clearance, it must not be less than 0.010" (ten thousandths of an inch).

Drop a minimum dime ten times into the coin hopper mouth. The trigger must be tripped each time, the ground switch contacts must be closed each time, and the dial shunt spring contacts must be opened each time and maintain their clearance of 0.010".

Test the contact springs "follow", it must be 0.010".



METHOD OF APPLICATION

1. PRIOR TO INSERTION OF JIG INTO OPENING, TURN KNOB CLOCKWISE AS FAR AS IT WILL GO.
2. INSERT JIG INTO OPENING ENSURING THAT JIG IS NESTED SOLIDLY AGAINST LOWER EDGE OF OPENING.
3. TURN KNOB COUNTER CLOCKWISE AS FAR AS IT WILL GO. THIS ACTION WILL LOCK THE JIG INTO POSITION FOR ACCURATE DRILLING OF PIVOT PIN HOLE.
4. DRILL HOLE AS DESCRIBED UNDER "5" IN THE CONVERSION INSTRUCTIONS. IT IS SUGGESTED THAT THE HOUSING BE SET FLAT ON ITS SIDE SO THAT DRILLING ACTION IS DOWNWARD.

Figure 23.

Test the release of the switch lever by pushing the coin trigger down until you can push a 0.030″ feeler gauge between the point of the trigger and the inside rear wall of the coin hopper, at this point the switch lever projection must be clear of the switch lever. The switch lever having tripped, the ground switch contact must be held without break until the armature is operated in either direction.

Check the resting point of the switch lever on the projection of the coin trigger, this must be approximately on the vertical line of the pivot for the trigger.

Check the trigger extension point, this must be on the vertical center line of the coin hopper slot and must not touch either the sides of the slot or the top.

Check the side play of the trigger; it must not exceed 0.005″. Check that the restoring arm which extends from the operating arm, safely restores the switch lever to normal position with a full stroke of the armature and that the coin trigger is permitted to latch the switch lever.

Check the operating arm fork, that it brings the deflecting vane (when in the normal position) to the perpendicular so that the edge of the vane can be seen through the center hole of the trap bottom, this can be seen through the mouth of the hopper.

Check that there is no clearance between the restoring levers and the cores and the operating arm and levers at point of contact, with the operating arm in the normal position. Check the clearance between the frame and the lugs that limit the armature travel, that it is between 0.129″ and 0.135″.

Test that the switch lever will safely restore the coin trigger with full armature travel but will not be restored if the armature is pushed down by hand to within 0.030″ clearance of the armature limiting lugs and the frame. Pressure should be brought to bear inside the rounding of the lug.

Should it be necessary, the switch lever may be bent to conform with the above requirements.

14.1 **Relay operation and adjustments.** Relay must operate between 60 and 120 volts with a pile up of 11 nickels or 1 thin dime, and should not operate under any circumstances with a minimum of 40 volts. If relay operates with 40 volts, make certain that the vane is adjusted so that the edge of the vane can be seen through the center hole of the trap bottom. Adjust by shifting complete relay to right or left. Otherwise adjustment for this feature is limited to re-tensioning of the restoring springs.

Sluggish operation of the relay may be caused by insufficient "follow" on the ground switch contacts. Adjust by increasing the tension of the ground switch operating spring or by bending the contact springs, being sure that the dial shunting springs break to a clearance of minimum .010″ and that the tension of the switch lever on the trigger is not increased to the point where the minimum dime

will not trip the trigger. If the mating surfaces of the trigger and switch lever are rough, smooth with crocus paper which facilitates operation with the minimum dime.

If the relay fails to operate on 60 volts or fails to release on 30 volts, check and adjust as follows:

Inspect armature and coil cores for metal chips and remove them if found.

Check coin vane for binding; there should be clearance between vane and hopper and play in both directions.

Correct if necessary.

Check for binding at engagement of coin vane and operating lever.

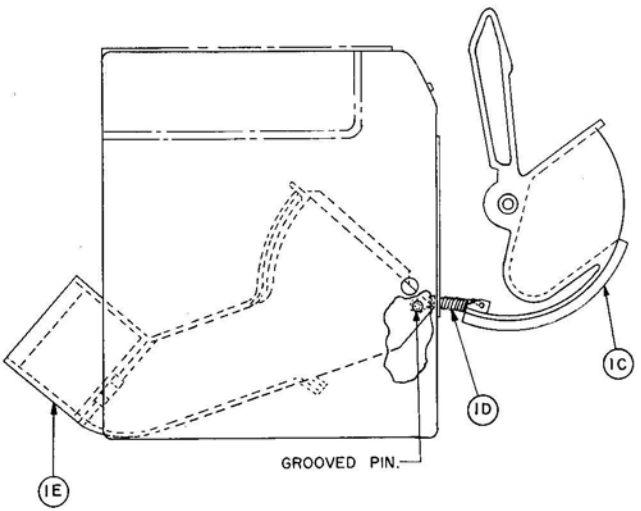


Figure 24.

Remove burrs or adjust if vane projection hits top of slot in operating lever fork.

Check trap for binding.

Check for binding in armature, operating arm, and restoring levers. (It may help to remove one end of restoring lever spring when removing bind here).

With everything working freely:

Adjust restoring lever springs to least tension permissible and still have a positive release with 30 volts across the coils.

Check for operation at 60 volts. In most cases operation should be satisfactory. If not, attempt to improve by readjusting restoring lever springs.

If operation is not satisfactory, loosen locking screws in armature and shift towards pole piece where failure to operate occurs. (When making this adjustment, the amount of movement is more readily seen if the armature is tilted so as to observe the clearance between the armature and pole piece).

Recheck at 30 volts and 60 volts.

If operation is still not satisfactory, readjust restoring levers so as to tilt the armature closer to the pole piece on the side where the failure occurs. After this is done, it will be necessary to readjust the operating arm lugs to maintain 0.129″ and 0.035″ adjustments and also possibly the switch lever to obtain reliable restoring of the trigger.

15. CABLE AND ELECTRICAL PARTS

Electrical continuity test. The continuity of the apparatus will be tested with an ohmmeter with the telephone and upper housing removed, and should show the following readings when connected between the following points on the lower housing.

15.1 **Hook up—Trigger restored.**

Transfer spring #4 to Bl-Blk on 0.7 μf capacitor reads 100Ω approximately.

Transfer spring #3 to transfer spring #1 reads 65Ω approximately.

Transfer spring #3 to Blk-Yel on 4 μf capacitor reads 14Ω approximately.

Transfer spring #2 to L2 reads short. Green on 4 μf capacitor to terminal I reads short.

Black on 0.7 μf capacitor to terminal T—reads 28Ω approximately.

Transfer spring A and transfer #6 reads 20Ω approximately.

15.2 **Hook up—Trigger tripped.**

L1 to G reads 1020Ω approximately.

Transfer spring 1A to terminal G reads 1020Ω.

15.3 **Hook down—Trigger either tripped or restored.**

Blk-Bl on 0.7 μf or (1 μf) capacitor to RI reads short.

16. TYPE 62-55 UPPER HOUSING CONTINUITY TESTS

Ohmmeter should read short between the following points on the upper housing:

Terminal #5 to terminal #6.

16.1 **Dial off normal.**

Terminal #2 to terminal #3.

Terminal #2 to terminal #4.

Note: All readings may vary ± 10%.

17. RINGER TESTS WITH BREAKDOWN VOLTAGE

Connect a 7,000Ω ringer into the circuit. Using 500 volts, 60~ as voltage source, adjust ringer to ring thru 125,000Ω and not to ring thru 250,000Ω.

18. TYPE 62-55 LOWER HOUSING BREAKDOWN TESTS

With the 11½ oz. receiver on the switch hook and the trigger restored, the ringer shall not operate when 500 volts, 60~ is connected for ¼ second between the following points on the lower housing:

Housing to all soldered connections and terminals.
Terminal G to terminal L1.
Lug 1 on induction coil to terminal L1.
Lug 1 on induction coil to Blk-Bl on 0.7 μf or (1 μf) capacitor.

With receiver on the hook and trigger tripped:
Lug 1 on induction coil to L1.

With receiver off the hook and trigger restored:
Blk-Bl on 0.7 μf capacitor to terminal R1.

19. TYPE 62-55 UPPER HOUSING BREAKDOWN TESTS

The ringer must not operate when 500 volts, 60~ is connected for ¼ second between the following points on the upper housing (dial at normal):

Housing to all terminals.
Between jackstrip terminals #2 and #3.
Between jackstrip terminals #2 and #4.
Between jackstrip terminals #4 and #5.

19.1 **Dial off normal.** With ringer connected between jackstrip terminals #4 and #5, let dial rotate back to normal. An intermittent ringing should be heard. A steady ring indicates a short. No ring indicates pulsing springs are not making.

20. TYPE 82-55 UPPER HOUSING CONTINUITY TESTS

Set the line compensator at 4.

20.1 **Dial normal**—Microswitch open

Transfer spring #1 to transfer spring #2 reads 425Ω* approximately.

Transfer spring #5 to transfer spring #6 reads 0Ω approximately.

Transfer spring #6 to transfer spring AUX 1-A reads 40Ω approximately.

20.2 **Dial off normal.** Microswitch open or closed

Transfer spring #4 to transfer spring #3 reads 0Ω approximately.

Transfer spring #4 to transfer spring #1 reads 0Ω approximately.

20.3 **When relay is operated**—Dial normal—Microswitch open or closed

Transfer spring #2 to transfer spring #6 reads 0Ω approximately.

When the microswitch on the 2 nickel mechanism is in the operated position and the dials impulse springs are open.

Transfer spring #5 to transfer spring #6 reads 0Ω approximately.

21. TYPE 92-N-55 UPPER HOUSING CONTINUITY TESTS

21.1 **Dial normal**—Microswitch open or closed

Transfer spring #4 to AUX transfer spring #1-A reads 20Ω approximately.

Transfer spring #5 to transfer spring #6 reads 20-30Ω approximately.

21.2 **Dial normal**—Microswitch open

Transfer spring #3 to transfer spring #4 reads 0Ω approximately.

21.3 **Dial off normal**(impulse spring open)—Microswitch closed

Transfer spring #3 to transfer spring #4 reads 0Ω approximately.

21.4 **Dial off normal** (Microswitch open or closed)

Transfer spring #1 to transfer spring #2 reads 0Ω approximately.

Transfer spring #1 to transfer spring #6 reads 0Ω approximately.

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*NOTE: Because these values are measured across the transmitter, they may vary somewhat depending on the age of the telephone, the type of ohmmeter used, and the position of the transmitter.

22. TYPE 92-W-55 UPPER HOUSING CONTINUITY TESTS

22.1 **Dial normal**—Microswitch open or closed

Transfer spring #2 to transfer spring #6 reads 0Ω approximately.

Transfer spring #4 to AUX transfer spring #1A reads 20Ω approximately.

Transfer spring #3 to transfer spring #5 reads 20-30Ω* approximately.

22.2 **Dial normal**—Microswitch open

Transfer spring #3 to transfer spring #4 reads 0Ω approximately.

22.3 **Dial off normal** (Impulse springs closed)—Microswitch open

Transfer spring #1 to transfer spring #4 reads 0Ω approximately.

22.4 **Dial off normal** (Impulse springs open)—Microswitch closed

Transfer spring #3 to transfer spring #4 reads 0Ω approximately.

23. TYPE 82 AND 82-55 LOWER HOUSING CONTINUITY TESTS

Ohmmeter should be connected between the following points:

23.1 **Hookswitch up**—Trigger normal

L1 to BLK on 0.4 mf capacitor reads 0Ω approximately.

L1 to transfer spring #6 reads 0Ω approximately.

Transfer spring #5 to lug #6 on induction coil reads 0Ω approximately.

Lug #6 on induction coil to GR wire on 5 mf capacitor reads 38Ω approximately.

Lug #6 on induction coil to BLK—BL wire on 0.4 mf capacitor reads 100Ω approximately.

Lug #6 on induction coil to transfer spring #4 reads 0Ω approximately.

Lug #5 on induction coil to T reads 0Ω approximately.

C to lug #2 on induction coil reads 25Ω approximately.

C to transfer spring #1 reads 0Ω approximately.

Lug #2 on induction coil to R reads 10Ω approximately.

Lug #2 on induction coil to BLK-OR wire on 5 mf capacitor reads 7Ω approximately.

R to transfer spring #3 reads 0Ω approximately.

L2 to transfer spring #2 reads 0Ω approximately.

G to ground switch assembly spring #1 reads 1020Ω approximately.

T to C reads continuity.*

23.2 **TYPE 82-55 ONLY**

Transfer spring #5 to AUX transfer spring #1-A reads 0Ω approximately.

BLK-BL to BLK wires, both on 0.4 mf capacitor reads open (very high resistance).

*NOTE: Because these values are measured across the transmitter, they may vary considerably depending on the age of the telephone, the type of ohmmeter used, and the position of the transmitter.

23.3 **TYPE 82 ONLY**
Transfer springs #5 and #6 read 0Ω approximately.
BLK-BL to BLK wires, both on 0.4 mf capacitor reads 100Ω approximately.
23.4 **TYPE 82-55 ONLY** Hookswitch up—Trigger tripped
G to AUX transfer spring #1 reads 1020Ω approximately.
23.5 **TYPE 82 ONLY**
G to transfer spring #6 reads 1020Ω approximately.
23.6 **Hookswitch down**—Trigger tripped or normal
R1 to BLK-BL wire on 0.4 mf capacitor reads 0Ω approximately.

24. TYPE 92-N-55 LOWER HOUSING CONTINUITY TESTS

Ohmmeter connected between the following points (readings may vary ±10%).
24.1 **Hookswitch up**—Trigger normal
L1 on terminal strip to R on induction coil reads 22Ω approximately.
C on terminal strip to R on induction coil reads 0Ω approximately.
Transfer spring #2 to transfer spring #0 on terminal strip reads 21Ω approximately.
Transfer spring #2 to transfer spring T on terminal strip reads continuity*.
Transfer spring #2 to transfer spring GN on induction coil reads 0Ω approximately.
Transfer spring #1 to transfer spring L1 on terminal strip reads 0Ω approximately.
Transfer spring #3 to transfer spring #6 reads 0Ω approximately.
Transfer spring #3 to AJX transfer spring #1-A reads 0Ω approximately.
Transfer spring #4 to transfer spring L2 on terminal strip reads 0Ω approximately.
Transfer spring #5 to transfer spring T on terminal strip reads 0Ω approximately.
GN on induction coil to BL on 2 mf capacitor reads 20Ω approximately.
Transfer spring #6 to BLK on 2 mf capacitor reads 0Ω approximately.
24.2 **Hookswitch up**—Trigger tripped
G on terminal strip to AUX transfer spring #1-A reads 1020Ω approximately.
#3 on transfer spring to AUX transfer spring #1-A reads open.
24.3 **Hookswitch down**—Trigger tripped off normal
R on induction coil to GN on induction coil reads 75Ω approximately.

*NOTE: Because these values are measured across the transmitter, they may vary considerably depending on the age of the telephone, the type of ohmmeter used, and the position of the transmitter.

25. TYPE 92-W-55 LOWER HOUSING CONTINUITY TESTS

Ohmmeter connected between the following points (readings may vary ± 10%).

25.1 **Hookswitch up**—Trigger normal

L1 on terminal strip to R on induction coil reads 22Ω approximately.

C on terminal strip to R on induction coil reads 0Ω approximately.

Transfer spring #1 to L1 on terminal strip reads 0Ω approximately.

Transfer spring #2 to GN on induction coil reads 0Ω approximately.

Transfer spring #3 to AUX transfer spring #1-A reads 0Ω approximately.

Transfer spring #4 to L2 on terminal strip reads 0Ω approximately.

Transfer spring #5 to T on terminal strip reads 0Ω approximately.

Transfer spring #6 to C on terminal strip reads 21Ω approximately.

Transfer spring #6 to T on terminal strip reads continuity.*

Transfer spring #5 to BLK on 2 mf capacitor reads 0Ω approximately.

GN on induction coil to BL on 2 mf capacitor reads 20Ω approximately.

25.2 **Hookswitch up**—Trigger tripped

G on terminal strip to AUX transfer spring #1-A reads 1020Ω approximately.

#3 on transfer spring to AUX transfer spring #1-A reads open.

25.3 **Hookswitch down**—Trigger tripped or normal

R on induction coil to GN on induction coil reads 75Ω approximately.

26. BREAKDOWN TEST

The insulation between all adjacent insulated metal parts shall withstand 500 volts a-c, 16-60 cps for ¼ second.

27. MICROSWITCH

With buzzer connected between microswitch terminals or jackstrip terminals #5 and #6, buzzer should operate when microswitch arm is latched on pendulum and cease when released from pendulum.

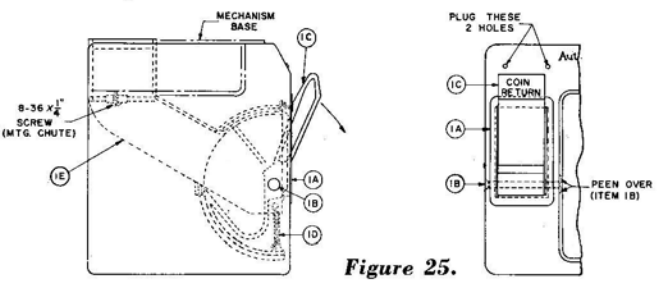

Figure 25.

*NOTE: Because these values are measured across the transmitter, they may vary considerably depending on the age of the telephone, the type of ohmmeter used, and the transmitter.

28. CONVERSION TO ANTI-STUFFING DEVICE COIN-RETURN CHUTE

Conversion of a paystation to this device is simple and takes very little time.

The parts required are:—

(1)	1 P-70293	Conversion kit which consists of
	1 P-11845	Coin-return escutcheon
	1 P-11848	Swivel pin
	1 P-11858	Anti-stuffing device
	1 P-60617	Coin-refund chute
(2)	1 P-70294	Drill jig

28.1 **Method of Conversion.** Disassemble the paystation lower housing from the back plate and remove the mechanism base (with coin relay and hopper) and the refund chute in the following manner; retaining all the screws.

(1) Unlock the cash compartment door.

(2) Loosen the 2 terminals at the spring contacts of the coin relay and 1 terminal at the rear of the coil.

(3) Remove the leads from the coin relay.

(4) Unscrew the 2 $\frac{1}{4}$-28$\times\frac{1}{2}$" screws and the 3 10-32$\times\frac{1}{4}$" screws at the rear of the back plate which hold the lower housing.

(5) Unscrew the $\frac{1}{4}$-28$\times\frac{1}{2}$" screw inside the cash compartment in the left bottom rear corner. There is a slot at the bottom of the coin refund partition, which gives easy access for the screwdriver to reach the screw.

(6) Unscrew the $\frac{1}{4}$-28$\times\frac{1}{2}$" screw in the top right-hand corner of the inside of the cash compartment.

(7) Remove the lower housing from the back plate and lay the back plate flat in a safe place.

(8) Unscrew the 2 #8-36$\times\frac{1}{4}$" RH screws from underneath the mechanism base holding the present coin refund chute.

(9) Unscrew the 3 #8-36$\times$3/16" RH screws on the inside top right of the cash compartment holding the mechanism base to the lower housing.

(10) Unscrew the #8-36$\times$3/16" RH screw in the inside center front of the cash compartment which also holds the mechanism base.

(11) Place the lower housing upright and unscrew the #8-36×3/16" RH screw from the left side of the mechanism base.

(12) Lift off the mechanism base complete with the coin relay and coin hopper.

(13) Lift out the coin return chute, prying up the lip in the front until it clears the edge of the lower part of the escutcheon.

(14) Knock out the 4 drive pins holding the present escutcheon on to the lower housing and retain 2 of the drive pins to plug up the 2 top holes. Discard present escutcheon.

(15) Widen the coin return escutcheon opening of the lower housing per fig. 22, using a file or preferably by milling.

(16) Lay the cash compartment on its side with the refund section uppermost.

(17) Place drill jig P-70294 on the lower housing in the coin refund opening as in figure 23, and clamp tight.

(18) Drill a hole using the jig guide with a #20 drill (0.161"). This hole must be drilled through the outside of the cash compartment and the inner partition to take the swivel pin.

(19) Countersink the outside hole to suit the head of the swivel pin.

(20) Plug the 2 upper holes used by the discarded escutcheon with 2 of the old drive pins.

(21) Assemble escutcheon into the widened opening by inserting it into the opening.

(22) Bend over the bottom flange of the escutcheon against the inside surface of the lower housing.

(23) Place the refund chute in the approximate location in the lower housing, with the grooved pin to the front at the coin refund opening (see figure 24).

(24) Assemble the other end of the coil spring into the hole of the lip of the anti-stuffing device as in figure 24. Close up loop of spring after this assembly.

(25) Give the anti-stuffing device one half-turn; this is necessary because the anti-stuffing device is positioned upside down for easily inserting the coin spring.

(26) Insert anti-stuffing device into the coin return opening lining up all the holes of the device, the refund chute, and the lower housing to allow for free insertion of the swivel pin.

(27) Peen over the legs of the swivel pin against the side of the partition.

(28) Place the mechanism base complete with coin relay and hopper in position on the top of the lower housing, holding the refund chute up so that the coin hopper can slide inside the edges of the refund chute.

(29) Lay the lower housing carefully front down, do not damage anti-stuffing device.

(30) Insert a #8-36×3/16" RH screw in the top left hole of the inside of the cash compartment. Move mechanism base to line up the threaded hole of the base with the hole in the lower housing.

(31) Do not tighten this screw at this time.

(32) Insert a #8-36×3/16" RH screw in the lower left hole of the inside of the cash compartment and screw up approximately 2 turns, also leave this screw loose.

(33) Place the lower housing on its back.

(34) Insert a #8-36×3/16" RH screw in the center-front of the inside of the cash compartment and leave this screw loose.

(35) Place a #8-36×3/16" RH screw in the remaining hole of the mechanism base and screw up tight.

(36) Tighten other 3 screws.

It will facilitate the insertion of these screws if a screw holding tool is used.

(37) Secure refund chute to mechanism base with an #8-36×¼" RH screw (see fig. 25).

(38) Place the lower housing in position on to the back plate with the back plate lying flat on the bench.

(39) Insert a ¼-28×½" screw using a screw-holding tool into the top right hand corner inside the cash compartment. Leave loose.

(40) Insert a ¼-28×½" screw into the bottom left-hand corner of the inside of the cash compartment. The screw can be reached by the screwdriver through the slot in the partition.

(41) Set the paystation upright.

(42) Insert a ¼-28×⅜" screw in the top right-hand corner of the rear of the back plate.

(43) Insert a ¼-28×⅜" screw in the bottom left-hand corner of the rear of the back plate.

(44) Insert 3 #8-32×¼" screws in the remaining 3 holes.

(45) Tighten all 7 screws.

(46) Install the upper housing and lock with key.

Printed in U.S.A. by
Brookes & Sons Company
8000 9-58