



CONSTRUCTION AND
MAINTENANCE PRACTICES
OUTSIDE PLANT

SECTION 23
PART 202

HANDSET TELEPHONES -
INSTALLATION AND MAINTENANCE OF
62-55 TYPE PREPAY PAYSTATION

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202.1 **GENERAL:** This part covers the installation and maintenance procedures for the Automatic Electric 62-55 type prepay paystation. The description and use of this telephone set is covered in Part 201.

202.1-a A #144-1 backboard shall be used for mounting the 62-55 type paystation in all cases except in booths which are designed to permit mounting on a metal backboard.

202.1-b The location for a paystation should be satisfactory to the subscriber and in general should adhere to the following:

- (1) Lighting. Paystations shall be located where adequate light (daylight or artificial light) is available for dialing, reading, and for inserting coins properly. Paystations shall not be installed in booths until power is provided for lighting.

- (2) Accessibility. The paystation should be placed where it will be readily accessible to patrons. When possible, it should be located where it will be visible from the entrance to the store or other place of business in which it is installed.
- (3) Hazards. Avoid locating paystations where users or others may be injured such as near stairways, behind doors, or near moving machinery.
- (4) Noise and Vibration. Paystations should not be located where noise or vibration is likely to interfere with telephone conversations.

202.2 **MOUNTING BACKBOARD:** Paystations shall be securely mounted to prevent unauthorized removal. It is, therefore, extremely important that the backboard be attached with the full number and type of fasteners specified. (See below.)

Table 1

Mounting Surface	Fastener
Wood 7/8" or more thick	Seven 1-3/4" x 14 F.H. Bright Wood Screws
Wood 7/8" or more in thickness covered by a wall finishing material	Seven 2-1/4" x 14 F.H. Bright Wood Screws
Hollow Tile, Metal Lath, etc., on metal framework	Seven 1/4" x 4" Spring Toggle Bolts
Unfinished masonry	Seven 1-3/4" x 14 F.H. Bright Wood Screws in 1" Wood Screw Anchors
Masonry finished with plaster, marble, tile, etc.	Same as unfinished masonry but add thickness of wall finishing material to screw length.

202. 2-a Extreme care shall be exercised when positioning the backboard to be sure that it is perfectly upright.

202. 2-b Fasteners for attaching the backboard to various surfaces are given in Table 1.

202. 2-c Prior to attaching the backboard to the wall, run the inside wire through the top backboard hole; down the rear channel of the backboard, and out the lower hole. Be sure the backboard does not pinch the inside wire during the fastening operation.

202. 3 **INSTALLATION:** Whenever possible, the wiring near the paystation shall be concealed. If this is not practicable, consider the use of molding, tubing or conduit.

202. 3-a A ground must be provided for the paystation instrument to assure proper operation of the set.

202. 3-b Station protectors, connecting blocks and other terminating apparatus shall be located where they will not be accessible to anyone using the paystation telephone set.

202. 3-c Conductor polarity shall be maintained.

202. 3-d The paystation shall be mounted on the backboard in accordance with the following procedure:

- (1) Remove the upper housing from the paystation.
- (2) Use eight 1" x 14 F.H. galvanized wood screws to attach the lower housing to the backboard.

- (3) Make sure that the inside wire passes through the backplate slot without binding.
- (4) Use wood screws to mount the ringer box to the lower part of the backboard. Machine screws shall be used in booth installations.
- (5) Again be sure the inside wire is not bound as it enters the ringer.
- (6) Connect all wires as shown in FIG. 1.

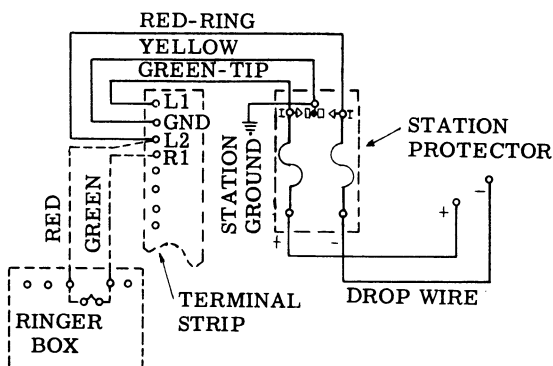


Fig. 1

202.3-e Tests. The following tests shall be conducted after the upper housing has been mounted and locked in place:

- (1) Insert two nickels, dial the paystation number, and listen for busy signal.
- (2) Hang up and check money refund.
- (3) Call the testboard and cooperate in making complete test of station.
- (4) While talking with testboardman, check for noise or cutouts by manipulation of upper housing. If noise is caused by manipulating the upper housing, clean and adjust housing transfer springs and adjust terminal block.
- (5) While talking with testboardman, the handset cord shall also be tested by manipulation. If noise or frying sounds are observed during this test, replace the handset cord.
- (6) Clear any other trouble as instructed by the testboard.
- (7) Place a "Temporary Out-of-Service" card on the instrument.

202.4 **MAINTENANCE:** It is important that all worn or broken parts be replaced and other conditions requiring maintenance, however slight, be corrected as soon as possible.

202.4-a Care shall be taken not to set the upper housing of the instrument down where it might be damaged or become dirty.

202.4-b Dial. When removing the dial from the upper housing, the coin chute must be removed first. Then disconnect the dial leads from the connecting terminal. Unscrew the three small flat-headed screws and pull the dial forward carefully. Feed the dial leads through the slot in the inner mounting cup. Check the dial for bind-free operation and correct speed of 9-11 pulses per second.

202.4-c Coin Gauge. When coins or slugs become stuck in the coin gauge, remove them with a toothpick, orange stick, or similar wooden instrument. Do not use a screwdriver or similar tool as damage may result. If necessary, loosen or remove the coin chute to facilitate the removal of stuck coins or slugs from the coin gauge. Clean the coin gauge after the removal of the obstructions. If the coin gauge is out of alignment or mutilated, the upper housing or, if necessary, the entire instrument shall be replaced.

202.4-d Coin Chute. The coin chute and its component parts are illustrated in FIG. 2. The coin chute is mounted immediately below and in line with the coin gauge. The chute employs three channels of varying sizes to receive nickels, dimes or quarters. 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. If a coin or slug is stuck in the chute, remove the chute from the upper housing before attempting to dislodge the stuck material. The chute should be examined for the cause of sticking, i. e., dirt, damage to coin channels or openings, etc. If chute does not appear to be damaged or dirty, it should be reassembled in the upper housing. However, if chute is damaged or dirty, it shall be replaced. Do not attempt to clean a dirty coin chute.

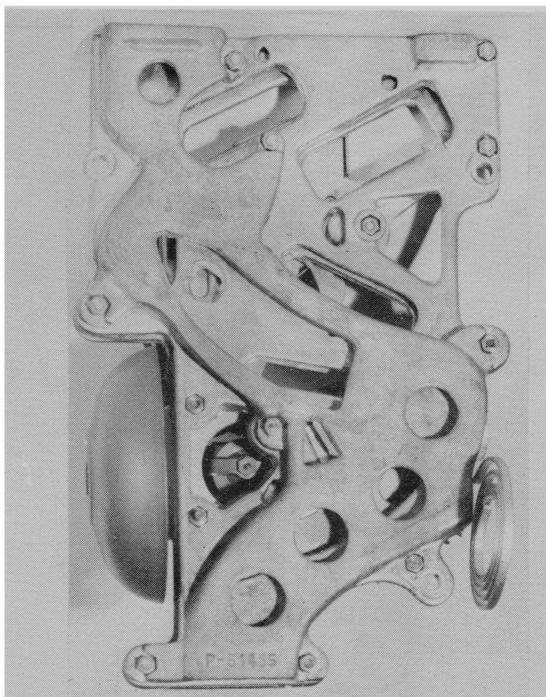


Fig. 2

Note: Slugs or washers may occasionally become stuck in the coin reject openings. If this is the case, remove obstructions and check for troubles with a standard coin before replacing the chute.

202.4-e Check for Two-Nickel Operation. With the upper housing off, a check should be made to determine that the microswitch operating lever latches in the pendulum notch on the first nickel and unlatches when the second nickel is deposited. (See FIG. 3) For proper operation,

the shock lever must engage the pendulum when the upper housing is tilted to the left to an angle of 30° . Check to see that a penny or dime placed in the nickel chute will fall out to the return chute; likewise, when put into the quarter chute that they will fall out into the coin return chute.

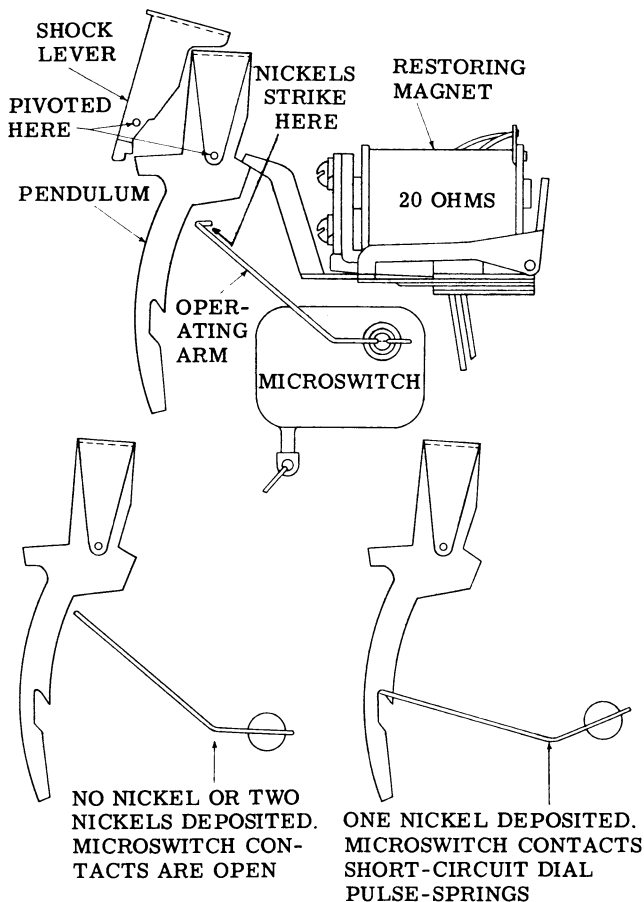


Fig. 3

202. 4-f Signal Gongs. Upon completion of any coin chute adjustments, repairs, or replacements, the signal gongs shall be checked for signal transmission. The bell mounted on the right side of the coin chute (FIG. 2 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 be one ring. The dime will strike the bell at the top and again at the bottom, producing two rings. Located on the opposite side of the chute is the cathedral gong which a quarter will hit once. The difference in tones emitted by the gong and the bell should be easily distinguished by the operator. The coin-signal-transmitter conveys these signals to the operator. If a poor signal is obtained, check the bell and gong to be sure they are securely fastened. If satisfactory signals cannot be obtained by manipulating the bell and gong arrangement, replace the coin chute.

202. 4-g Coin Relay. The coin relay consists basically of two coils with a permanent magnet armature suspended above and between them. In this way the armature can be made to operate 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 will govern the collect and refund operation of the relay. FIG. 4 shows the relay and ground switch springs in position before any coins have been deposited. Notice that the switch lever rests on the top of the latch on the coin trigger and at the same time observe the position of the other end of the switch lever with the half round set as well as the stud on the restoring arm. The ground switch spring with the half round set should bear against the stud. The ground switch contacts are open and the dial shunt contacts are closed thereby preventing pulses from the dial being sent to the central office.

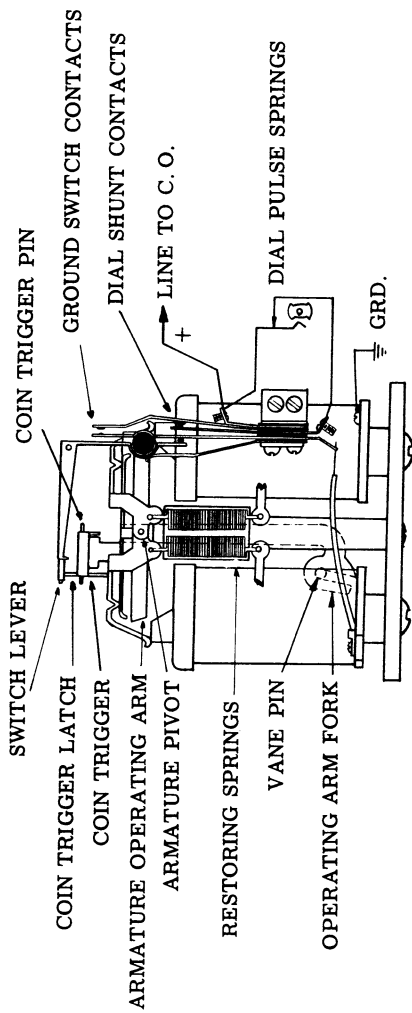


Fig. 4

When routine maintenance operations are being conducted the following shall apply:

- (1) 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 vane pin.
- (2) Apply the lead of a grade 2B or softer lead pencil (or graphite) to bearing surfaces of the fork slot. Rub the lead on these surfaces to deposit as continuous a coating as practicable.
- (3) If bearing surfaces of the fork are excessively rough, replace the relay.
- (4) Remove any magnetic particles present on adjacent surfaces of armature, pole pieces, or on top of the magnet.
- (5) Reinstall coin relay by engaging operating arm fork with vane pin and ease coin trigger through slots in coin hopper.
- (6) While looking down hopper mouth, move relay to right or left until edge of vane is seen to be centered in middle hole of trap bottom.
- (7) Screw down heel plate while holding relay to make sure that it does not move and upset the previous adjustment.
- (8) Check to see that coin trigger is in the center of the slots and not scraping the sides. Bend trigger as required to meet this requirement.

202. 4-h Coin Hopper. FIG. 5 illustrates the coin hopper with its component parts indicated. The coin hopper illustrated is in an unoperated position. As the coin

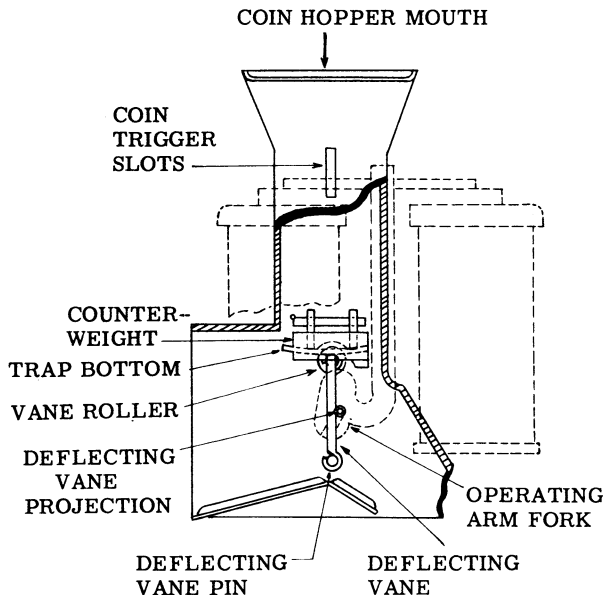


Fig. 5

leaves the coin chute, it enters the coin hopper mouth and falls down tripping the coin trigger and coming to rest on the trap bottom. The trap bottom is held up by the roller of the deflecting vane, and therefore the coin remains on the trap bottom. 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 current. Positive coin battery will cause a deposited coin to be collected while negative battery will refund the coin. The fork, in moving, 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. When the vane has been operated, the weight of the coin overcomes the weight of the trap counterweight and the trap bottom will fall down. The coin then slides off the trap bottom and is directed by the deflecting vane to the right or left as the case may be. After the coin has dropped, the counterweight will return the trap bottom to the horizontal

position and as the coin control current is switched off, the deflecting vane will return to its normal vertical position.

The following procedure shall be adhered to when maintaining the hopper:

- (1) To check the trap bottom and deflecting vane for correct operation, insert a thin piece of wood $3/4$ in. wide, 5 in. long and $1/8$ in. thick (a tongue depressor will suffice) into the mouth of the coin hopper.
- (2) Carefully push down coin trigger and continue until wood touches trap bottom.
- (3) Depress left side of coin relay armature with the other hand and push the wood down following trap bottom.
- (4) Release armature and pull wood strip slowly upward making sure vane and trap bottom return to original position.
- (5) Repeat process but this time press right side of coin relay armature.
- (6) Check clearance between trap and vane by moving the counterweight up and down; there should be a small clearance.
- (7) Check coin shield on refund side of hopper to be sure it works freely. Replace if faulty.

202. 4-i Antistuffing Coin Return. With all the play taken up, the pull bucket shall operate freely over its entire range of operation. The bucket shall not be broken and shall be free from sharp burrs and nicks likely to cause personal injury. Also, the bucket shall restore freely to the fully closed position when released from the fully open position. If trouble cannot be cleared, replace the paystation instrument.

202. 4-j Check all switch points for cleanliness, especially horizontal transfer switch points.

202. 5 **CONNECTIONS:** The 62-55 type prepay paystation shall be connected as shown in FIG. 6. It is important that polarity be maintained.

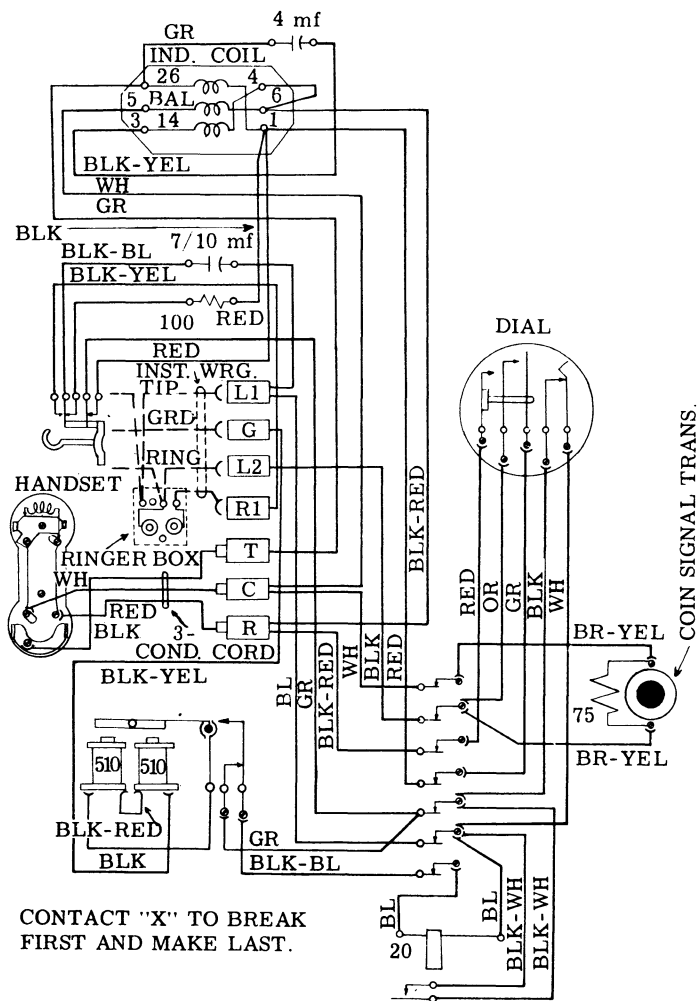


Fig. 6