COIN COLLECTORS

INSTALLATION

1. GENERAL

1.01 This section covers location, wiring, mounting, modifications, and tests for coin collector installation. It also covers use and method of assembling armored cords, relay shields, cardholders, and OUT-OF-SERVICE notices.

1.02 This section is reissued to include the G3R and F1L-3 hand sets.

1.03 Directories are covered in the section on telephone directory holders.

1.04 Connections for each type coin collector are given in related sections covering connections.

2. LOCATION

2.01 Selection of a satisfactory location is important, as coin stations are designed and placed for public use and will contain deposited coins which require safeguarding.

2.02 The location of a coin collector should be specified by the service order. Obtain instruction before proceeding if a location is not specified or does not meet requirements.

2.03 Location requirements for booths, shelves, and KS-16705 mountings are shown in sections covering their installation.

2.04 The coin collector should be located, whenever possible, in viewing range of the agent or other persons normally in the vicinity.

2.05 Give full consideration to user convenience in such items as:

- Ease of finding.
- Sufficient light.
- Privacy of conversation.
- Freedom from noise and vibration.
- Clearance from oily or dirty objects.
- Sufficient clearance from heaters or stoves.
- Clearance from moving machinery, piled merchandise, or narrow aisles.

2.06 Backboard and coin collector must be securely mounted with required fasteners, mounting screws, security studs, KS-19277 lock, and associated fasteners. This is to provide maximum security and to prevent unauthorized use of upper housing keys. Avoid locations where:

(a) Coin collector can be dislodged by hard use.

(b) Fasteners cannot be placed in solid backing.

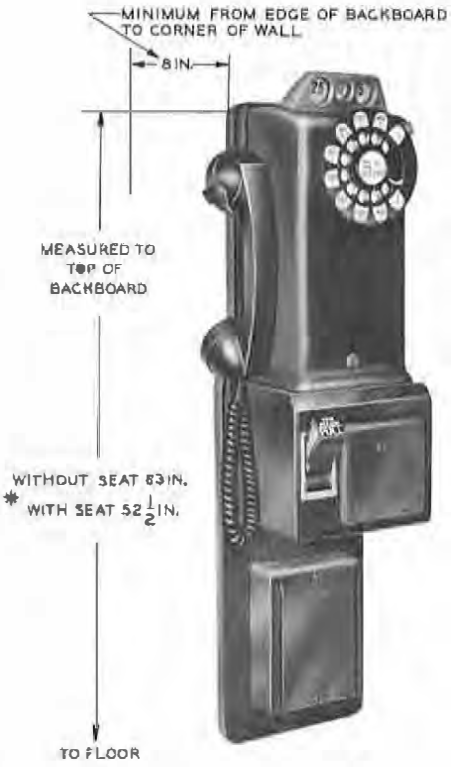
(c) Coin collector can be pried loose, on such places as round columns, window or door facings, uneven surfaces, etc.

2.07 Avoid horizontal surfaces such as shelves, counters, etc. when vertical surfaces are available.

2.08 Avoid locations over or adjacent to glass counters, showcases, fragile objects, or other property which may be damaged by dropped handsets.

2.09 If coin collector must be located on finely finished surfaces, obtain instructions before proceeding with installation. Arrangements should be made to have customer or building owner drill mounting and wire entrance holes through glazed tile, marble, and other such surfaces.

2.10 Avoid inductive effects by locating coin collector apparatus and associated wiring at least 6 inches from neon or fluorescent lights, transformers, and other similar equipment.



* Collector may be mounted at other heights to meet local conditions providing this does not introduce undesirable service or maintenance problems.

Fig. 1 — Suggested Mounting Height and Clearance

3. WIRING

3.01 Select and place wire in accordance with the section covering wiring. Wire coin collector with triple station wire to provide an individual ground conductor for each station. The ground connection for this conductor must be the same as for signaling grounds.

3.02 Conceal wiring near coin collector. Where this is not practicable, use approved molding, tubing, or woven conduit to cover wiring. If molding is not considered necessary, tape GS wire with friction tape. JKT wire need not be taped.

3.03 Locate connecting block, protector, or other terminating apparatus where inaccessible to a person using coin collector. If necessary, locate protector outside of building.

4. BACKBOARDS

4.01 Select and install backboard in accordance with the sections covering identification and installation of backboards. Suggested heights and clearance are shown in Fig. 1.

All coin collectors should be mounted on an approved backboard.

5. MOUNTING COIN COLLECTOR

Caution 1: Remove handset from switchhook before removing or replacing upper housing of coin collector. This reduces the possibility of damage to gate operating arm.

Caution 2: Do not replace upper housing on prepay coin collectors without placing a P-349486, P-16A336, or KS-7994 shield; or a P-10E783 cover over the relay.

Caution 3: Do not replace upper housing on backplate equipped with an induction coil without the P-16A833 neoprene cover in place over coil. Place cover so it does not interfere with gate operating arm directly below induction coil.

Caution 4: Take care to see that mounting surface is plane if 234G collector is wall mounted (not in booth). An uneven wall will warp backplate and cause misalignment between upper and lower housings.

5.01 Security fasteners, such as security studs and bolt fasteners (Fig. 2), should be used in vulnerable locations where prying of upper housing is likely to occur. The stud fastener should be used in locations where maximum physical security is not essential, but where protection is desired against unauthorized use of upper housing keys.

5.02 Security studs (Table A) should be used with any coin collector which has security stud holes in the backplate and keyhole slots in the mounting surface.

5.03 The bolt fastener or stud fastener is used with the KS-19277 lock. This combination gives additional security to the upper housing. See section covering identification and assembly of parts of coin collectors.

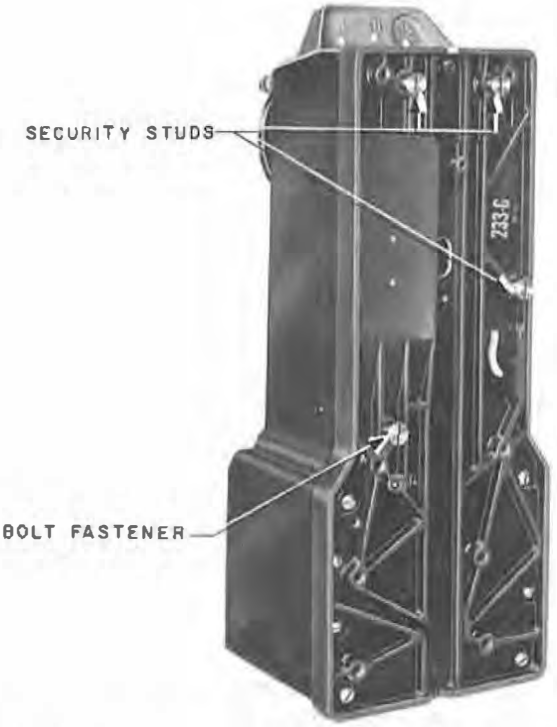


Fig. 2 — Location of Security Studs and Bolt Fastener on Aluminum Backplate

TABLE A

FASTENERS FOR COIN COLLECTORS

Mounting Surface	Fasteners	
	Security Studs	Screws
Wooden Booths, no backboards*	None	1-¼ inch No. 14 Wood Screws
Metal Booths, open type		P-210250 ¼-20 x ¾-inch FH Machine Screws
139A Backboards in 19-Type Shelves		P-210249 ¼-20 x ⅝-inch FH Machine Screws
19-Type Shelves	None	P-49C296 ¼-20 x 1-inch FH Machine Screws
144D Backboards*		
174A Backboards*	P-10E070	
167-Type Backboards in booths and 20-type shelves		
KS-16705 Mountings		
KS-14611 Booths		
KS-16797 Booths	P-12E798	

* Screws not furnished; must be ordered separately.

5.04 The KS-19277 lock can be used only in postpay collectors and collectors having a single-coil relay. The collector must also have a lower right security stud hole in the backplate. When the bolt or stud fastener is used there must be a corresponding keyhole slot in the mounting surface.

Earlier type aluminum and cast iron coin collector backplates were provided with only two upper security stud holes. Some of these were later equipped with security stud bushings instead of threaded holes. In cases where the backplates are equipped with security stud bushings, it is recommended that the bolt fastener be used instead of the stud fastener.

5.05 In vulnerable locations, all new installations and existing coin collectors should be equipped with:

- P-10E070 or P-12E798 security studs.
- P-25E301 or P-25E302 bolt fastener.
- KS-19277 lock assembly.

5.06 Security studs are furnished with aluminum booths and KS-16705 mountings. Security studs are not furnished with coin collectors and must be ordered separately for use with 174A and 167-type backboards. (See Table A.)

5.07 The new 233- and 234-type collectors and the 200-type C stock collectors are equipped with the KS-19277 lock and P-25E301 bolt fastener (Fig. 3).

5.08 If the P-25E302 bolt fastener is required, such as in the universal booth, it must be ordered separately and substituted for the P-25E301 fastener.

5.09 Replace the P-25E301 bolt fastener as follows:

(1) Unlock the 10-type lock with the 10-type key.

(2) Place the KS-19277 tubular key in the KS-19277 lock and turn in a counterclockwise direction until lock has disengaged from bolt fastener.

Prevent damage to the tubular key when locking or unlocking the KS-19277 lock by applying and maintaining a slight forward pressure on the key while rotating it in a clockwise or counterclockwise direction.

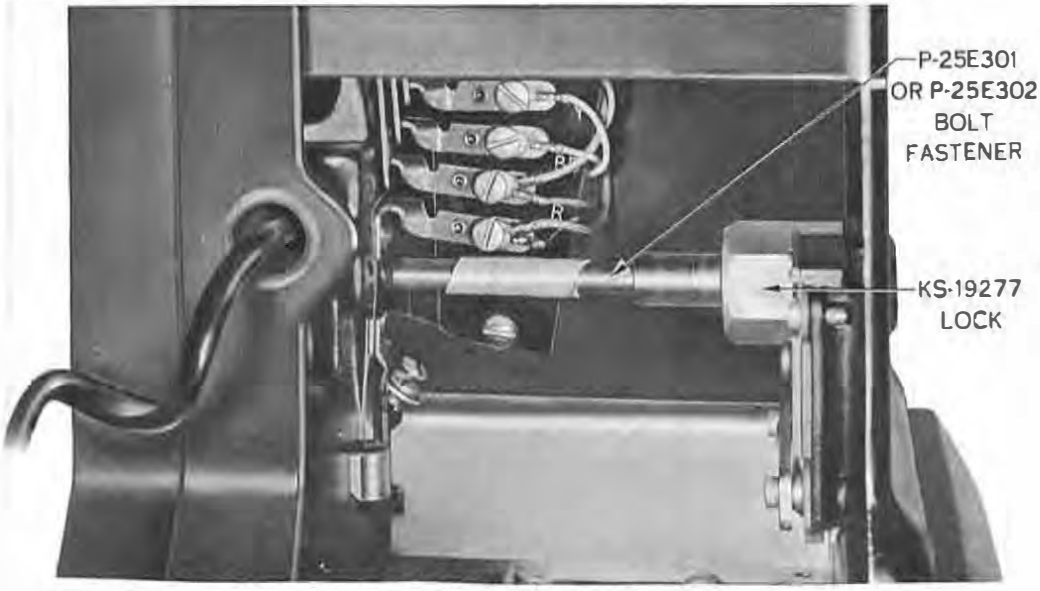


Fig. 3 — Cutaway Section of Upper Housing, KS-19277 Lock and Associated Parts, Completely Installed

(3) Remove upper housing.

(4) Unscrew the P-25E301 bolt fastener from the security stud hole and replace with the P-25E302 bolt fastener.

It is important that fastener be screwed down tightly against coin collector backplate when installing the new coin collectors equipped with a bolt or stud fastener, or when changing from one type of fastener to another. If the fastener is not tight, subsequent action of screwing or unscrewing the lock on to end of fastener will loosen it and unfavorably affect the security of the installation.

(5) Install the coin collector on the mounting surface by inserting the shoulders of the security studs and bolt fasteners into the corresponding keyhole slots which exist in mounting surface.

5.10 Mount coin collector by placing four screw fasteners in the upper mounting holes of backplate and four in the coin compartment, if open. If compartment is not open, the four fasteners will be added later by the public telephone representative. Use fasteners designated in Table A. To mount collector:

(1) Bring wires through opening in backplate, making sure wire is not pinched or crushed between coin collector and backplate.

(2) Avoid bowing backplate by partially tightening each screw fastener alternately until coin collector is secure.

5.11 Location requirements for associated subscriber sets are specified in sections covering installation of station sets, booths, shelves, and KS-16705 mountings.

6. INSTALLATION OF BOLT AND STUD FASTENERS

6.01 To install bolt fastener on an existing coin collector in the field, it is necessary to:

(1) Determine type coin collector to be modified and if the mounting surface will accept the bolt fastener. Refer to section covering identification and assembly of parts for type of coin collector.

(2) Use an upper housing equipped with KS-19277 lock assembly.

(3) Replace the P-13A091 BKX terminal assembly with the P-25E300 assembly.

(4) Disconnect wiring to coin collector.

(5) Remove coin collector temporarily from its mounting surface.

(6) Remove lower right security stud, if present. Screw the proper bolt fastener, P-25E301 or P-25E302, in backplate. Be sure it is screwed down tightly.

(7) Place P-25E351 spiral wrap insulator (Fig. 4) centrally on bolt fastener shaft. This eliminates the possibility of the bolt fastener grounding the lowest lug of the upper housing contacts.

(8) Redress wiring on the bottom lug of upper housing contacts.

(9) Install security studs in the three remaining security stud holes.

(10) Place coin collector on mounting surface. Insert the shoulders of the security studs and bolt fasteners in corresponding keyhole slots in mounting surface.

(11) Reconnect coin collector wiring.

(12) Place upper housing on coin collector. Apply pressure to upper housing until KS-19277 lock mates with bolt fastener. (See Fig. 4.) Screw the KS-19277 lock clockwise with the tubular key, until upper housing is drawn tightly against backplate.

(13) Lock 10-type lock with the 10-type key.

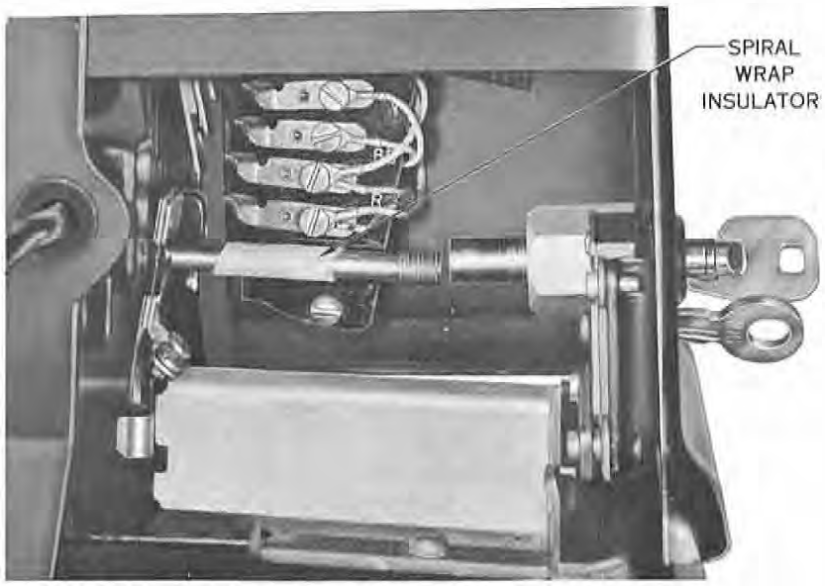


Fig. 4 – Cutaway Section, Mating of Bolt Fastener and KS-19277 Lock

6.02 To install stud fastener on existing coin collectors in the field, it is necessary to:

(1) Determine type coin collector to be modified as covered in section on identification and assembly of parts of coin collectors.

(2) Use upper housing equipped with a KS-19277 lock assembly.

(3) Replace P-13A091 BKX terminal assembly with the P-25E300 assembly.

(4) Screw P-25E303 stud fastener from front of backplate into lower right security hole, if vacant. If there is a security stud in this hole, remove the coin collector from its mounting surface and then remove the security stud. In all cases where the coin collector must be removed from its mounting surface, it is recommended that the bolt fastener be used instead of the stud fastener. In the latter case proceed as in 6.01.

(5) Place P-25E351 spiral wrap insulator (Fig. 4) centrally on stud fastener shaft. This eliminates the possibility of the stud fastener grounding the lowest lug of the upper housing contacts.

(6) Redress wiring on bottom lug of upper housing contacts.

(7) Place upper housing on coin collector. Apply pressure to upper housing until KS-19277 lock mates with bolt fastener. (See Fig. 4.) Screw the KS-19277 lock clockwise, with the tubular key, until upper housing is drawn tightly against backplate.

(8) Lock 10-type lock with the 10-type key.

7. GROUNDING HOUSING ASSEMBLY

7.01 Ground assembly as follows:

Prepay Open-Type Installation

(a) Connect JKT lead or GS insulated wire as shown in Table B. Dress wire so it will not interfere with moving parts of coin mechanism or coin relay shield.

TABLE B

PREPAY OPEN-TYPE INSTALLATION

GROUND CONNECTIONS FOR HOUSING ASSEMBLY

Collector	From	To Mechanism Base Screw Located on
234G	Coin Relay Ground Terminal	Right side (Fig. 5)
Other than 234G		Left side (Fig. 6)*

* Remove lockwasher under screw.

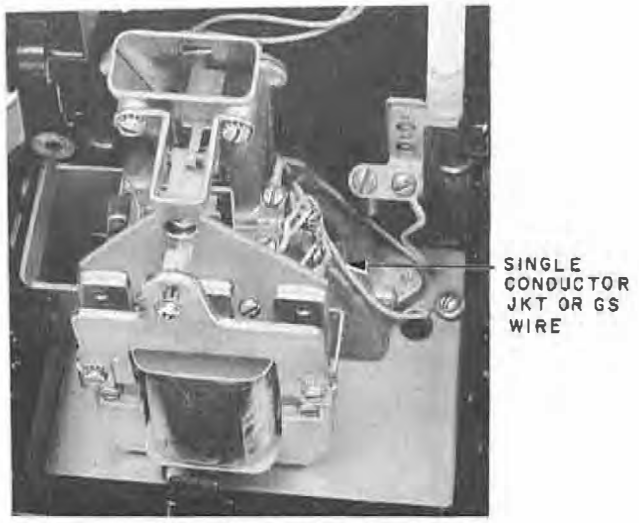


Fig. 5 — Method of Grounding 234G Coin Collector Housing Assembly, Open-Type Installation

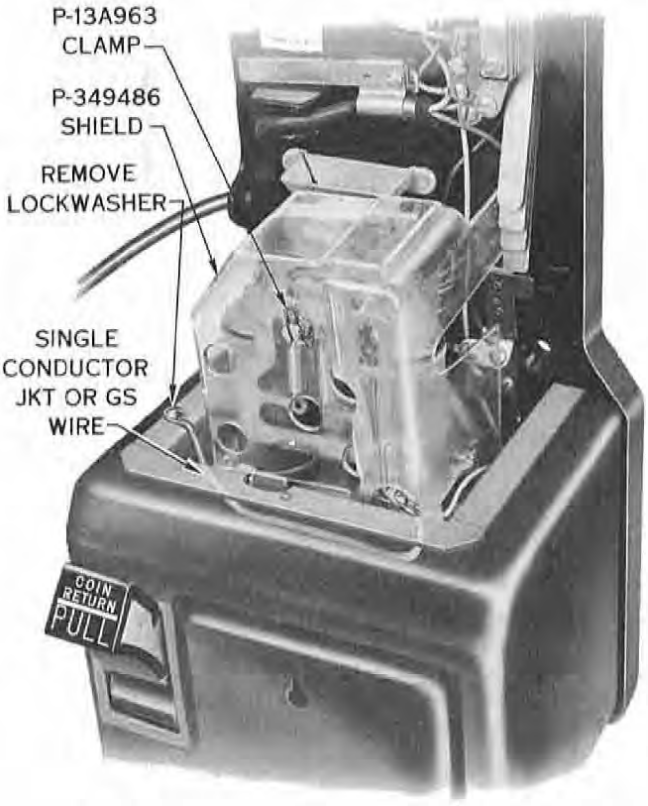


Fig. 6 — Method of Grounding Housing Assembly, Open-Type Installation

Postpay Open-Type Installation

(a) Connect station wire ground conductor directly to mechanism base screw as in Fig. 7.

Indoor Booths

(a) A No. 14-gauge insulated ground wire (P-12C414 ground wire assembly) is provided as covered in section on indoor booths, 5, 6, 10, and 11 types. Connect and dress wire as shown in Fig. 7. At prepay station, dress wire so it will not interfere with operation of coin relay or placing of coin relay shield.

Aluminum Booths

(a) On KS-16705 mountings, grounding is provided through mounting screws.

19- and 20-Type Shelves

(a) Ground in same manner as open-type installation.

Fig. 7 — Method of Grounding Housing Assembly, Indoor Booth

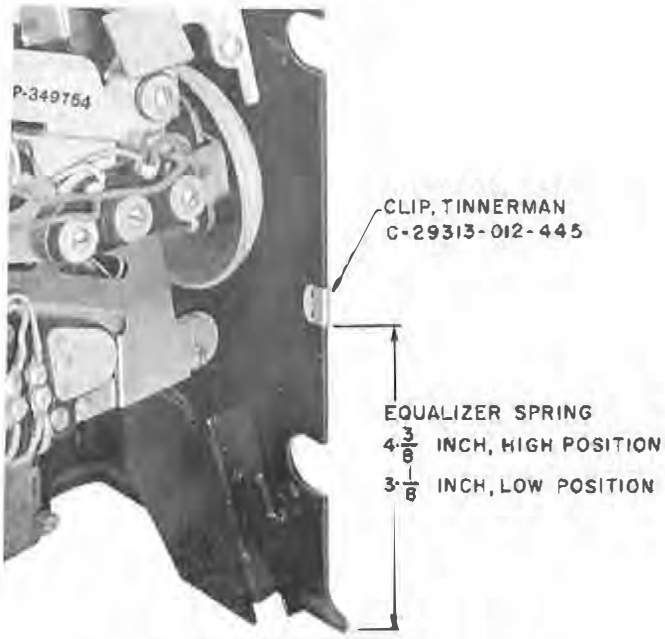


Fig. 8 — Method of Grounding Upper Housing to Backplate

7.02 To ground upper housing to backplate:

(a) Place U-shaped spring clip, on left edge of upper housing, so as to contact equalizer spring on left side of backplate. Add clip to upper housing if not already equipped. (See Fig. 8.)

8. COIN RELAY SHIELD OR COVER

8.01 Coin relay can be protected against damage and fraudulent operation by either a molded plastic shield, molded plastic cover, or fiber shield. It is necessary to remove shield or cover for certain connections and tests. Shield or cover should be placed on relay at any time upper housing is assembled on backplate.

8.02 The P-349486 shield (clear plastic) replaces earlier type shield KS-7994 (fiber). Use P-349486 shield on 2-coin relays unless coin collector is equipped with a D-95365 contact device in coin return. In this case, use a P-16A336 shield to provide required clearance.

8.03 The P-349486 plastic shield is held in place with a P-13A963 clamp (furnished with shield). The clamp is placed over front pivot screw of coin relay (Fig. 6) and is not used on fiber shield.

8.04 The P-10E783 coin relay cover is used on single-coil coin relay and snaps in place over coin-trigger support bracket.

9. CARDHOLDER AND APPARATUS BLANK

9.01 To mount 8-type cardholder on dial coin collector:

(1) Remove and save three slotless screws located at rear of coin gauge. Do not remove fourth screw, if present, which is positioned over electromagnet.

(2) Attach cardholder to upper housing with screws and nuts previously removed or new P-81J703 RH slotless machine screws, P-92383 hexagon nuts, and P-423621 external-tooth lockwashers. Place washers under nuts inside upper housing.

9.02 The 50-type apparatus blank may be used as an instruction cardholder. On dial coin collector, mount apparatus blank assembly with two P-222882 O.112-36 x ¼-inch RH machine screws. Two plugged mounting holes are provided below dial in upper housing. On manual coin collector, apparatus blank is used to cover the dial cup and is secured from the rear by three P-242938 screws.

9.03 Place instruction cards as directed locally.

10. AUXILIARY HANDSET DEVICES

Transmitter and Receiver Locks

10.01 Use and method of mounting transmitter and receiver locking devices are covered in the components section on handset connections and maintenance. Locks are intended for use at locations where vandalism has been encountered or is likely. Locations for use shall be designated locally.

Fig. 9 — 118A Transmitter Cover

Antifrost Transmitter Cover

10.02 The 118A cover is intended for use on F- and G-type hand sets, where subfreezing temperatures are encountered. The cover fastens to outside of transmitter cap and prevents condensed moisture from freezing in grid holes of transmitter cap. (See Fig. 9.) Its use shall be designated locally.

Antifraud Transmitter Unit

10.03 The T2 transmitter unit is equipped with a protective grid to prevent fraudulent use of coin stations.

Handsets with Armored Cords

10.04 The G3R and F1L-3 hand sets replace the G1G-3, G3N-3, and F1K-3 respectively. The G3R and F1L-3 hand sets are equipped with a PVC jacketed cord having an outer covering of stainless-steel flexible hose. The transmitter and receiver caps are cemented to the handset handle. The handsets are also equipped with T2 transmitters.

10.05 The G3R and F1L-3 hand sets are for use on all coin collectors to give additional handset protection against vandalism and fraudulent use.

10.06 All new 233- and 234-type coin collectors and all 200-type C stock coin collectors are factory equipped with the G3R hand set.

10.07 The G3R hand set is available in black (-3), moss green (-51), and light beige (-60). The F1L-3 hand set is available in black (-3) only.

10.08 To install the G3R or F1L-3 hand set on existing coin collector installations, it is necessary to modify the coin collector backplate. For this modification see the section on coin collector identification and assembly of parts.

11. OUT-OF-SERVICE NOTICES

11.01 If coin collector is not ready for service when installation work is completed, place a SORRY - TEMPORARILY OUT OF SERVICE KS-7991 sign (Fig. 10) or E-4914 form (Fig. 11) so customers will not deposit coins. When a coin collector is placed in service, leave a book of E-4914 forms with public telephone agent or responsible person and give instructions for its use when coin collector is out of service.

Fig. 10 — KS-7991 Sign in Place over Coin Gauge

Fig. 11 — E-4914 Form

11.02 A book of E-4914 forms is included in the packing container of each new coin collector. The KS-7991 sign is not included with coin collector and must be ordered separately.

11.03 The KS-7991 sign includes a fastening arrangement consisting of a No. 8-32 x ¾-inch RH machine screw and a self-retained Tinnerman speed nut C-6724-832-373 (Fig. 11 and 12).

12. POLYETHYLENE BAG

On 230-, 233-, and 234-type coin collectors, a polyethylene bag is placed over the coin relay-hopper mechanism at the factory. This protects it from foreign particles prior to installation. Bag must be removed before coin collector is placed in service. Connect all wiring possible before removing bag. Place P-10E783 coin relay cover over relay before assembling upper housing on backplate.

13. FINAL TESTS

13.01 Detailed information on the following tests is given in appropriate maintenance sections of coin collectors.

Coin Handling Features:

Trap and Vane Release Test	Prepay
Bias Margin Test	Prepay
Coin Chute Operation and Refund Test	Prepay Postpay
Coin Signal Test	Prepay Postpay
Hopper Contact Operation	Postpay
Pushbutton Mechanism	General

Station Operation:

Dial Shorting Contact Springs	Prepay
Varistor Effectiveness	Postpay
Noise or Cutout	General
Dial and Ringer Test	Local Practice

13.02 Check that numberplate, instruction card, and directory are in place.

Fig. 12 — Rear View of KS-7991 Sign