"CENTURION*" – COIN TELEPHONE SETS

QSD400A1 AND QSD2400A1

IDENTIFICATION AND INSTALLATION

(a) QSD400A1

(b) QSD2400A1

Fig. 1 – Front View of QSD400A1 and QSD2400A1 Coin Telephone Sets

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1. GENERAL

1.01 This section describes the QSD400A1 and QSD2400A1 CENTURION prepay, single coin slot telephone sets. Dismantling and assembling information is given to facilitate installation of the coin telephone sets. Station wiring and option connections are also provided.

1.02 In this section the name "CENTURION" refers only to the QSD400A1 and QSD2400A1 coin telephone sets.

2. DESCRIPTION

2.01 The coin telephone sets, QSD400A1 equipped with a rotary dial and QSD2400A1 equipped with a 12-button DIGITONE* dial, are shown in Fig. 1.

2.02 The CENTURION coin telephone set components are contained in pressed metal housing and detachable cover assemblies.

2.03 A black metal pan is fitted to the back of the housing and a high-impact colored plastic hood assembly is fitted over the housing and cover assemblies. The handset hook, dial, coin-release button, and coin slot on the cover unit assembly appear through the hood assembly which is locked to the housing. The hood assembly conceals the locking devices on the coin telephone set. The instruction and number cards are inserted behind plastic windows on the hood assembly.

2.04 The hood assembly has a textured finish and is available in black, brown, blue, and green.

2.05 The CENTURION coin telephone set can be converted from rotary dialing to DIGITONE dialing or vice versa, by interchanging the dial and housing, and the hood unit assemblies. When converting from rotary to DIGITONE, a dial cover P0514540, is also required. The components mounted on the housing unit assembly are identical for both the QSD400A1 and QSD2400A1.

2.06 The electrical components in the coin telephone set are plug-ended for ease of substitution. The components interconnect through jacks on the apparatus module.

2.07 The NE-425QE1 network and TB1 terminal strip, which permits the strapping of some of the optional features, are riveted to the apparatus module. The NE-C4A ringer is mounted at the top of the apparatus module. A large screw located between the jacks retains the apparatus module in the housing assembly.

2.08 The CENTURION coin telephone set is equipped with mechanical and electronic initial rate coin totalizers which inhibit dialing from the coin telephone until a preselected amount in coins has been deposited.

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2.09 When shipped from the factory the CENTURION sets are arranged to operate on the mechanical totalizer at a 10-cent initial rate. With this arrangement the set may be used on either ground-start or loop-start Central Office (CO) lines.

2.10 The electrical Variable Initial Rate (VIR) totalizer on the Printed Circuit Board (PCB) assembly in the coin telephone set can be modified to change the initial rate from 5-cents through 40-cents in increments of 5-cents.

2.11 The Free Access to Selected Numbers (FASN) feature permits coinless calling to special preselected numbers. The CO must be equipped for FASN and the line must have a loop-start line circuit.

2.12 Ground Isolation (GI) disconnects the grounding circuit from the transmission path to minimize line induced noise during voice transmission. This feature requires that the CO line is equipped with a loop-start line circuit.

2.13 The coin identification signals are transmitted to the operator by a solid state tone generator when the required coins are deposited in the coin telephone set.

2.14 The transmission qualities of the CENTURION coin telephone sets are similar to those of the NE-500 type telephone set.

2.15 The maximum loop resistance for satisfactory operation of the set is determined by such parameters as minimum CO battery voltage, feeding bridge resistance, ringing cut-off current, etc. To ensure reliable operation it is recommended that the following conditions be met.

(a) With the handset off-hook the dc voltage at the ring and tip terminals of the set must not be less than 4.4 volts.

(b) The current in the ring side of the line should not be less than 23.0 milliamperes with the hopper trigger switch in the normal position (i.e., not tripped).

Example of long loop:

CO battery	45.0 volts
Resistance	200 ohms X 200 ohms
Current	23.0 milliamperes
Loop resistance	1365 ohms

Note: Other factors associated with the CO may limit the loop resistance to less than 1365 ohms. For higher loop resistance a long line circuit should be used.

2.16 The coin telephone set weighs approximately 50 pounds (22.7 kilograms).

2.17 The dimensions of the CENTURION coin telephone set are shown in Fig. 2.

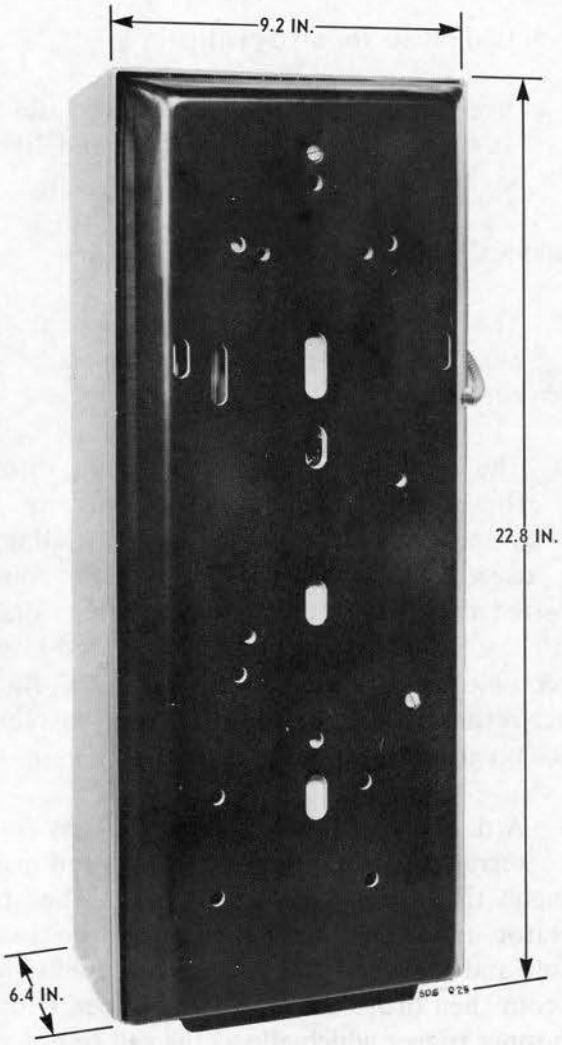

Fig. 2 – Rear View of CENTURION Coin Telephone Set

3. CIRCUIT DESCRIPTION

Coin Signaling

3.01 Coins inserted in the single slot and accepted by the chute are sorted into the appropriate channel before passing through the coin switch module. As the coin passes through the coin switch module, a switch is activated which in turn energizes the solid-state tone generator. The generator sends bursts of tone appropriate to the coin deposited to permit operator recognition. The signals are not heard in the receiver of the coin telephone set. The number of tone bursts for each coin deposited are:

- one burst for a 5-cent coin
- two bursts for a 10-cent coin
- five bursts for a 25-cent coin (transmitted at twice the rate of the 5-cent and 10-cent coin tone bursts).

Mechanical Totalizer

3.02 The mechanical totalizer detects the total number of 5-cent coins deposited for 10-cent initial rate calls.

3.03 The first 5-cent coin, when passing through the coin switch module, operates the totalizer and drops in the coin hopper, tripping the coin trigger. When the second 5-cent coin is deposited the mechanical totalizer permits dialing from the coin telephone set. The operated hopper trigger switch provides ground on the CO line to collect/return the deposited coins and to request service on ground start line circuits.

3.04 A deposited 10-cent coin or 25-cent coin is segregated by the coin chute and passes through the coin switch module. The tone generator monitors the switches on the switch module and generates the appropriate coin signals. The coin then drops into the coin hopper, tripping the hopper trigger which allows the call to proceed. The mechanical totalizer is not operated by the deposit of these coins.

Electronic Totalizer (VIR)

3.05 The electronic totalizer is used to inhibit dialing (or continuity to ground for FASN operation) in the same manner as the mechanical totalizer. The electronic totalizer receives its input signals from the same switches on the switch module which provide inputs to the coin signal tone generator. The electronic totalizer can be strapped (on the PCB assembly) so that it enables dialing (or continuity to ground for FASN operation) when the total value of the coins deposited equals or exceeds the preset initial rate. The initial rate may be preset by appropriate strapped connections on the PCB assembly.

FASN Operation

3.06 When the coin telephone set is used with a CO which is equipped to provide FASN service the user receives dial tone by lifting the handset and may complete a call to any free access number without depositing coins.

3.07 When a non-FASN call is made, ground identification is detected by the CO when the initial rate is deposited.

GI Feature

3.08 The GI feature provides a means of disconnecting the station ground from the transmission network whenever line current is flowing. This feature achieves a substantial reduction in transmission circuit noise caused by induced voltages on the line.

3.09 GI is activated by current on the ring side of the line. When this feature is used, ground tests or coin collect/return functions, which require an electrical continuity to ground, must be made on the tip side of the line only.

Coin Rejection

3.10 Slugs, washers, tokens, or foreign coins inserted through the slot in the coin guide are directed to the coin chute and rejected to the coin return assembly or held up. The coin return

button, when pressed, has a positive clearing action, which releases the slugs, washers, etc., into the coin return assembly.

4. ORDERING INFORMATION

4.01 The CENTURION coin telephone sets are ordered as follows:

COIN TELEPHONE SET QSD400A1
COIN TELEPHONE SET QSD2400A1

The color suffix shown in Table A follows the coin telephone set code number.

TABLE A
COLOR SUFFIX NUMBER

COLOR	SUFFIX NUMBER
Black	-03
Brown	-26
Blue	-27
Green	-28

4.02 A security kit may be ordered as a complete kit or individual items may be ordered from the codes listed in Table B. The antidrilling relay guard, as shown in Fig. 3, may be ordered as a Guard Assembly, P0521254.

4.03 Instruction and number cards should be supplied locally and must be in accordance with the dimensions given in Table C.

4.04 The backboards listed in Table D are used to mount the coin telephone sets for wall and pedestal installations. The two types of backboards are shown in Fig. 4 and 5.

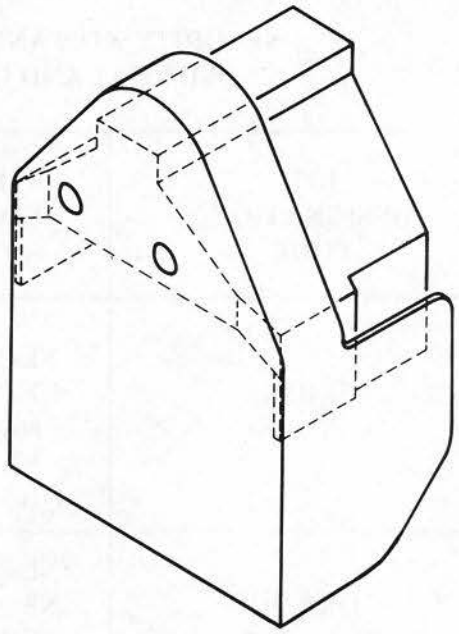

Fig. 3 – Antidrilling Relay Guard

4.05 Tools required for the installation and maintenance of the CENTURION coin telephone sets are not supplied with the set and must be ordered separately as shown in Table E.

4.06 The coin telephone set components that may be substituted in the field are listed in Table F.

4.07 If the coin telephone set has been installed, but is not ready for service, place a QSW1A out of service sign in the coin entry slot so that customers cannot deposit coins. When service is established, remove the sign or arrange for the agent or other responsible person to do so. The QSW1A sign, as shown in Fig. 6, is installed by inserting the double pronged projection into the coin entry slot and pressing firmly into place until the sign is flush against the front surface of the plastic hood. (Do not remove the hood.) The sign may be removed by pulling it out of the coin entry slot.

TABLE B
SECURITY KITS AND SEPARATELY ORDERED ITEMS FOR QSD400A1 AND QSD2400A1 COIN TELEPHONE SETS

KIT DESIGNATION CODE	ITEM CODE	ITEM DESCRIPTION
QKB1B Security Kit	NE-22QC	Cash compartment lock with 2 keys
	NE-22QD	Cover unit assembly lock (Note 1)
	NE-1B	Standard-size cash receptacle
	NE-1C	Receptacle cover
	P015E388	Spacer and spring assembly
QKB2B Security Kit	NE-22QC	Cash compartment lock with 2 keys
	NE-22QD	Cover unit assembly lock (Note 1)
	NE-1C	Oversize cash receptacle
	NE-1C	Receptacle cover
Accessory Equipment	P010E070	Mounting studs (4 required)
	P0521254	Guard assembly
	–	Key for NE-22QD lock
	–	Reserved lock combination (Note 2)

Notes:

1. Keys for the NE-22QD lock are not supplied with the lock and must be ordered separately in the quantity required.

2. Security kits are available with reserved lock combinations for the NE-22QD lock, on a special order basis.

Fig. 4 – QBA3A Backboard for Wall Mounting

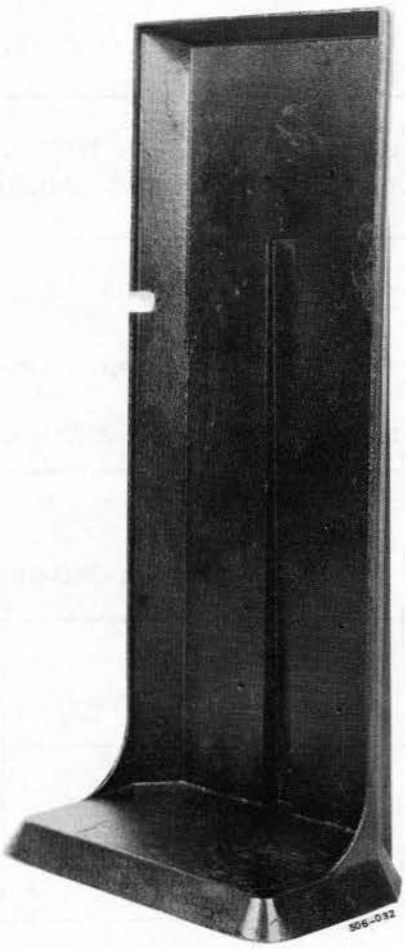

Fig. 5 – QBA3B Backboard for Pedestal Mounting

Fig. 6 – QSW1A Out of Service Sign

TABLE C
INSTRUCTION CARD SIZES

CARD LOCATION	WIDTH (±0.020)	HEIGHT (±0.020)	THICKNESS (MAX.)
Upper	7.230 in.	2.510 in.	0.030 in.
Lower	5.330 in.	3.520 in.	0.030 in.
Number	2.200 in.	0.740 in.	0.030 in.

TABLE D
BACKBOARDS FOR QSD400A1 AND QSD2400A1 COIN TELEPHONE SETS

ORDERING CODE	USE
Backboard QBA3A	For wall installations
Backboard QBA3B	For shelf, table, or pedestal installations

TABLE E
INSTALLATION AND MAINTENANCE TOOLS FOR
QSD400A1 AND QSD2400A1 COIN TELEPHONE SETS

TOOL CODE	USE
Tool, P0896911	To remove hood, cover assemblies, and coin receptacle door. (The tool is shown in Fig. 8.)
Tool, QTH43A	To support the cover unit assembly in the open position. (The tool is shown in Fig. 14.)
Tool, P0532301	To remove hood, cover assemblies, and coin receptacle door where available space does not permit use of tool P0896911 (The tool is shown in Fig. 8.)

TABLE F
COMPONENTS REPLACEABLE IN THE FIELD

PART NO.	ITEM
NSQ1016L2	Coin chute
P0501296	Coin switch module
P0521284	Apparatus module
NE-C4A	Ringer
P015E687	Coin relay assembly
P015E491	Coin return assembly
P0521271†	Dial and housing assembly
P0521277‡	Dial and housing assembly
QDB1M†	Dial
NE-35Q3K1‡	Dial
NE-G3QH-*	Handset
P0521273†	Cover unit assembly
P0521274‡	Cover unit assembly
P0501279	Chute return assembly
P05018**†	Hood unit assembly
P05019**†	Hood unit assembly
P0521260	Printed circuit board assembly
NE-22QD	Lock (cover unit assembly)
P0500824	Window (upper card)
P0500825	Window (lower card)
P0501269	Window (number card)
P0501274	Coin Return Ramp

* Add color code suffix per Table A
** Replace with color code suffix per Table A
† QSD400A1
‡ QSD2400A1. (The NE-35Q3K1 Dial is not available with the word operator printed beside the 0).

5. INSTALLATION

INSTALLATION REQUIREMENTS

5.01 Information required for installation of the CENTURION coin telephone set is contained in the following charts.

Chart 1 – Removal and Replacement of Hood and Cover Unit Assemblies

Chart 2 – Removal and Replacement of Apparatus Module for Installation

Chart 3 – Conversion from Mechanical to Electronic Totalizer (VIR)

Chart 4 – FASN Conversion

Chart 5 – GI Conversion

Chart 6 – Installation and Removal of the Cover Unit Assembly Lock

Chart 7 – Removal and Replacement of Cash Compartment Lock and Spacer Assembly

Chart 8 – Installation and Removal of Instruction and Number Cards

Before removing or inserting the PCB, disconnect battery by removing Plug 2 from Jack 2.

5.02 The following factors should be considered when choosing a location for the installation of the CENTURION coin telephone set:

- Accessible for public usage.
- Adequate light.
- Privacy.
- Minimum noise or vibration.
- Absence of grease, smoke, or dust.
- Clear of moving machinery, piled merchandise, narrow aisles or stairways.
- Check local installation practices before mounting the coin telephone set on surfaces that would be expensive to repair if the set is removed.

- Telephone and wiring must be located at least 6 inches from neon light fixtures, transformers or other equipment likely to cause inductive effects.

- The CENTURION coin telephone set must be mounted on a vertical surface. A tilt greater than 1.5 degrees in any direction can cause chute malfunction.

MOUNTING INSTRUCTIONS

5.03 For wall mounted installations, the CENTURION coin telephone set is mounted with a QBA3A backboard as follows:

(a) Place a mark on the wall 63 inches from the floor if the user is standing, or 52 inches from the floor if the user is seated.

(b) Place the station 3-conductor wiring through the wiring access hole of the backboard.

(c) Select the appropriate type of fasteners from Table G.

(d) Locate top edge of the backboard on the mark on the mounting surface and secure with one fastener.

(e) Move the backboard to the vertical position and mark the position.

(f) Place the remaining fasteners in the backboard. Place sufficient fasteners to guarantee security.

Note: A spirit level may be used to ascertain if the wall is vertical and to mount the telephone set in the vertical position.

5.04 The CENTURION coin telephone set mounting screw holes and security stud locations are shown in Fig. 7.

5.05 External wiring to the telephone set is fed in through the oval (1 inch by 0.5 inch) hole in the rear wall of the housing directly below the coin chute.

5.06 The usual precautions for wiring of coin telephones should be observed:

- Conceal wiring near the telephone or use approved moulding or tubing.

- Locate protectors and connecting blocks where they will be inaccessible to the coin telephone user.

5.07 To mount the CENTURION coin telephone set proceed as follows:

(a) Remove the hood and cover unit assembly as described in Chart 1.

(b) Insert the four P010E070 security studs in the threaded holes in the back of the telephone set. (See Fig. 7.)

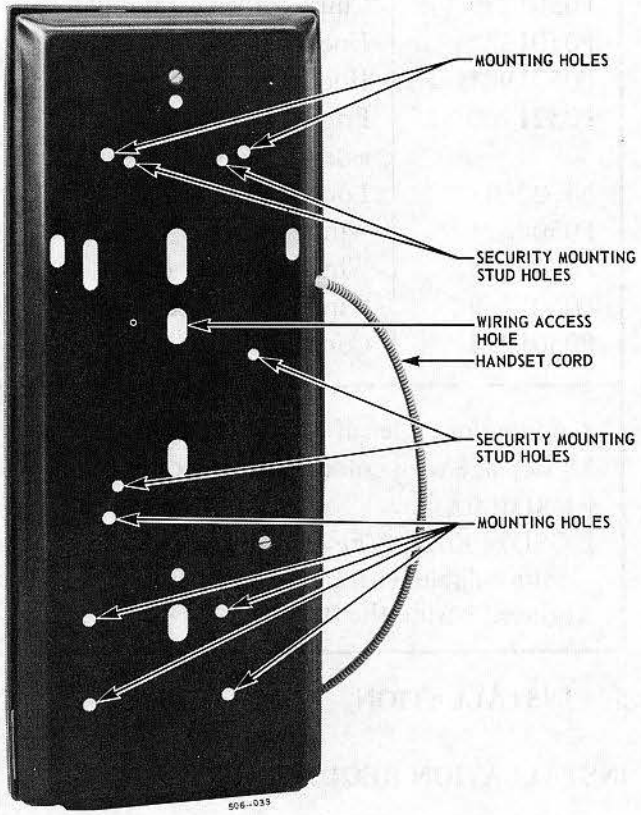

Fig. 7 – Location of Mounting Screw and Security Mounting Stud Holes

(c) Insert the 3-conductor station wire through the wiring access hole in the coin telephone set housing.

(d) Engage the security studs at the back of the set in the keyhole slots in the backboard and allow the set to slide down into position.

TABLE G
FASTENERS FOR COIN TELEPHONE SET BACKBOARDS

MOUNTING SURFACE	HOLE SIZE REQUIRED	SIZE AND TYPE OF FASTENERS	MINIMUM NUMBER OF FASTENERS
Softwood	1/8-inch or No. 30	1-3/4 inch No. 14 FH wood screw	7
Hardwood	1/8-inch or No. 30	1-1/4 inch No. 14 FH wood screw	7
Masonry Concrete Brick	5/16-inch	2 inch No. 14 FH wood screw in No. 16 plastic anchor	7
Cinder Block Hollow Tile	3/4-inch	1/4 x 4 inch RH toggle bolt	6
Note: Additional fasteners may be used to ensure security.			

(e) Remove the apparatus module as described in Chart 2.

(f) Remove the PCB assembly by grasping the upper and lower corners of the circuit board and pulling forward.

(g) Fasten the set to the backboard with three pan-head machine screws (1/4 inch, no. 20) 1/2 inch in length.

(h) Insert four pan-head machine screws at the back of the coin receptacle, if accessible.

(i) Place the apparatus module as described in Chart 2.

(j) Insert the PCB assembly after checking that it is strapped for the type of service required.

CONNECTIONS AND OPTION SELECTION

5.08 Connect the station wiring leads, tip, ring, and ground, to the T, R, and G connections on TB1 on the apparatus module. Press the station wiring into the clamp located on the side of the chute bracket and lever assembly.

5.09 When shipped from the factory the CENTURION coin telephone sets are wired for 10-cent mechanical totalizer operation. The mechanical totalizer permits connection to loop-start or ground-start CO lines.

5.10 To convert the CENTURION coin telephone set from the mechanical totalizer to the electronic totalizer (VIR) proceed as described in Chart 3.

5.11 To use the set with a CO which is equipped for FASN service convert as described in Chart 4.

5.12 To convert the CENTURION coin telephone set for GI proceed as described in Chart 5.

LOCK AND GUARD ASSEMBLY INSTALLATION

5.13 The locks on the housing and cover assemblies are secured to the chassis of the assemblies by four Allen head screws. (Use a 5/32-inch Allen wrench.)

5.14 The cover is removed from the housing assembly as described in Chart 1, before installing the NE-22QD cover lock assembly. The P0532301 or P0896911 tool (Fig. 8) is used to unlock the hood and cover assemblies.

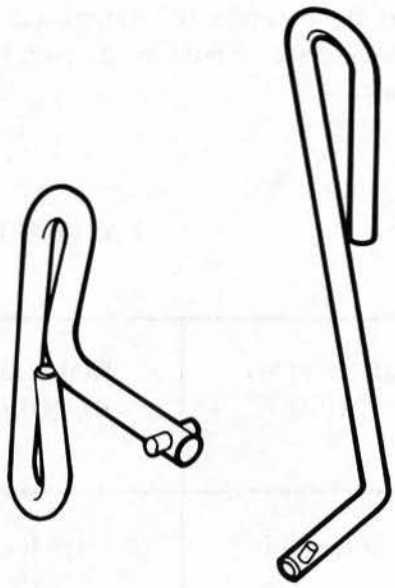

Fig. 8 – P0896911 and P0532301 Tools

5.15 The cover unit assembly lock installation is described in Chart 6.

5.16 Cash compartment lock and spacer assembly instructions are given in Chart 7.

5.17 The guard assembly (Fig. 3) is installed over the coin relay in place of the plastic dust cover normally provided with the set. The guard assembly snaps over the hopper trigger bracket in a manner similar to that used to fasten the dust cover in place.

INSTRUCTION AND NUMBER CARDS

5.18 The installation and removal procedures for instruction and number cards are given in Chart 8.

CHART 1 – REMOVAL AND REPLACEMENT OF HOOD AND COVER UNIT ASSEMBLIES	
STEP	**PROCEDURE**
HOOD UNIT ASSEMBLY	
1	Remove handset from hook.
2	Insert P0896911 or P0532301 tool into hood lock at top of the set (Fig. 9).
3	Unlock by rotating tool 1/4 turn in either direction.
4	Tilt hood slightly forward and remove by lifting upward and forward.
5	Return hood lock to locked position to remove tool.
COVER UNIT ASSEMBLY	
6	Unlock NE-22QD lock on left side of cover unit assembly.
7	Insert P0896911 or P0532301 tool in key hole located above NE-22QD lock (Fig. 10).
8	Rotate tool counterclockwise approximately 1/16 turn to release locking mechanism.
	Caution: The cover unit assembly cannot be completely removed until plug 2 is disengaged from jack 2 inside the set. This also removes battery from the PCB.
9	Grasp cover unit assembly firmly by both sides and slide it forward until cover unit is clear.
10	Support cover unit assembly while disconnecting plug 2.
11	Remove rubber spacer between the PCB assembly and coin chute if present. Discard spacer. (This spacer is required for protection during transportation only.)
12	Remove P0896911 or P0532301 tool by restoring cover unit lock system to locked position.
13	Replace hood and cover unit assembly by reversing above procedure.

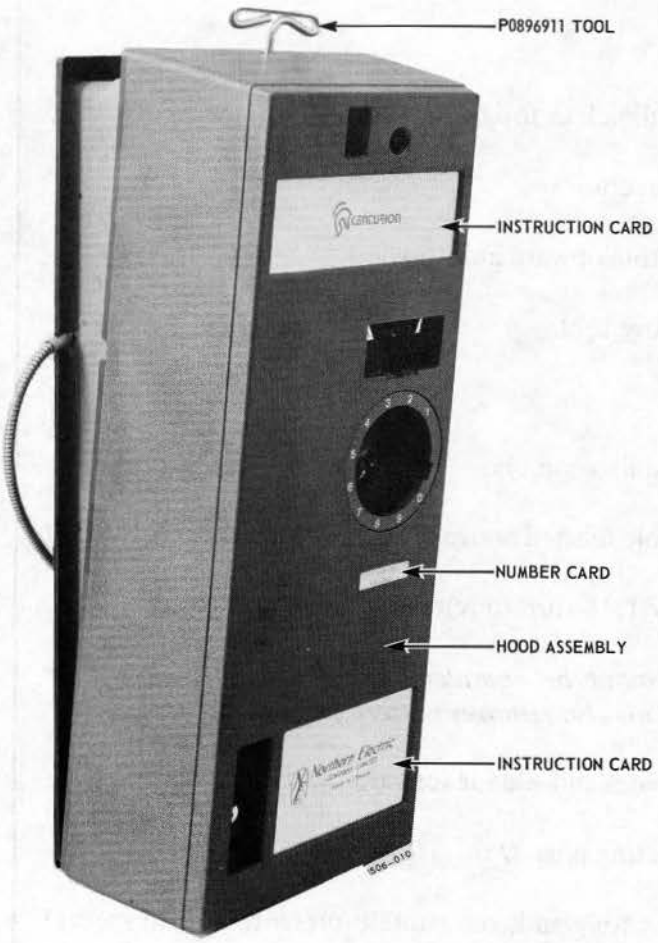

Fig. 9 – Coin Telephone Set Showing the Location of P0896911 Tool When Unlocking the Hood Assembly

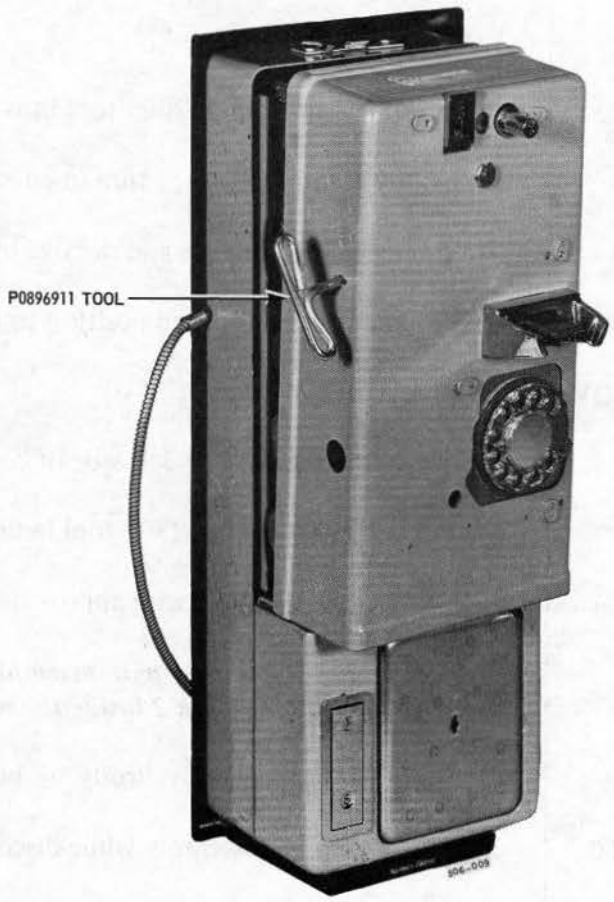

Fig. 10 – Coin Telephone Set Showing the Location of P0896911 Tool When Unlocking the Cover Unit Assembly

CHART 2 – REMOVAL AND REPLACEMENT OF APPARATUS MODULE FOR INSTALLATION (Fig. 12)

STEP	PROCEDURE
1	Remove hood and cover unit assemblies as described in Chart 1.
2	Remove plugs 1 and 4 from jacks on apparatus module (Fig. 12).
3	Disconnect station wiring leads from terminals T, R, and G on TB1.
4	Completely loosen captive screw located beside jack 1.
5	Pull lower end of module forward approximately 1/4 inch and lower module until upper end of module mounting bracket is clear of locating slots in housing mounting plate.
6	Pull module forward carefully to avoid unnecessary interference with chute mounting bracket or coin relay.
7	Place the apparatus module on the side of the set as shown in Fig. 12. It will be necessary to pull out any slack cable from the edge connector and the handset cord in order to move the apparatus module to the position shown.
8	Replace apparatus module by performing Steps 1 through 7 in the reverse order. Slack in the cable to the edge connector and in the handset cord, may be pushed into the space behind the hopper of the coin relay.
9	The handset cord should be positioned in the cord clamp on the side of the chute bracket after the set has been installed and the apparatus module has been returned to its proper position. (To remove the handset cord from the cable clamp it is recommended that the four spade-tipped leads be disconnected and the cord then pulled out lengthwise from the clamp).

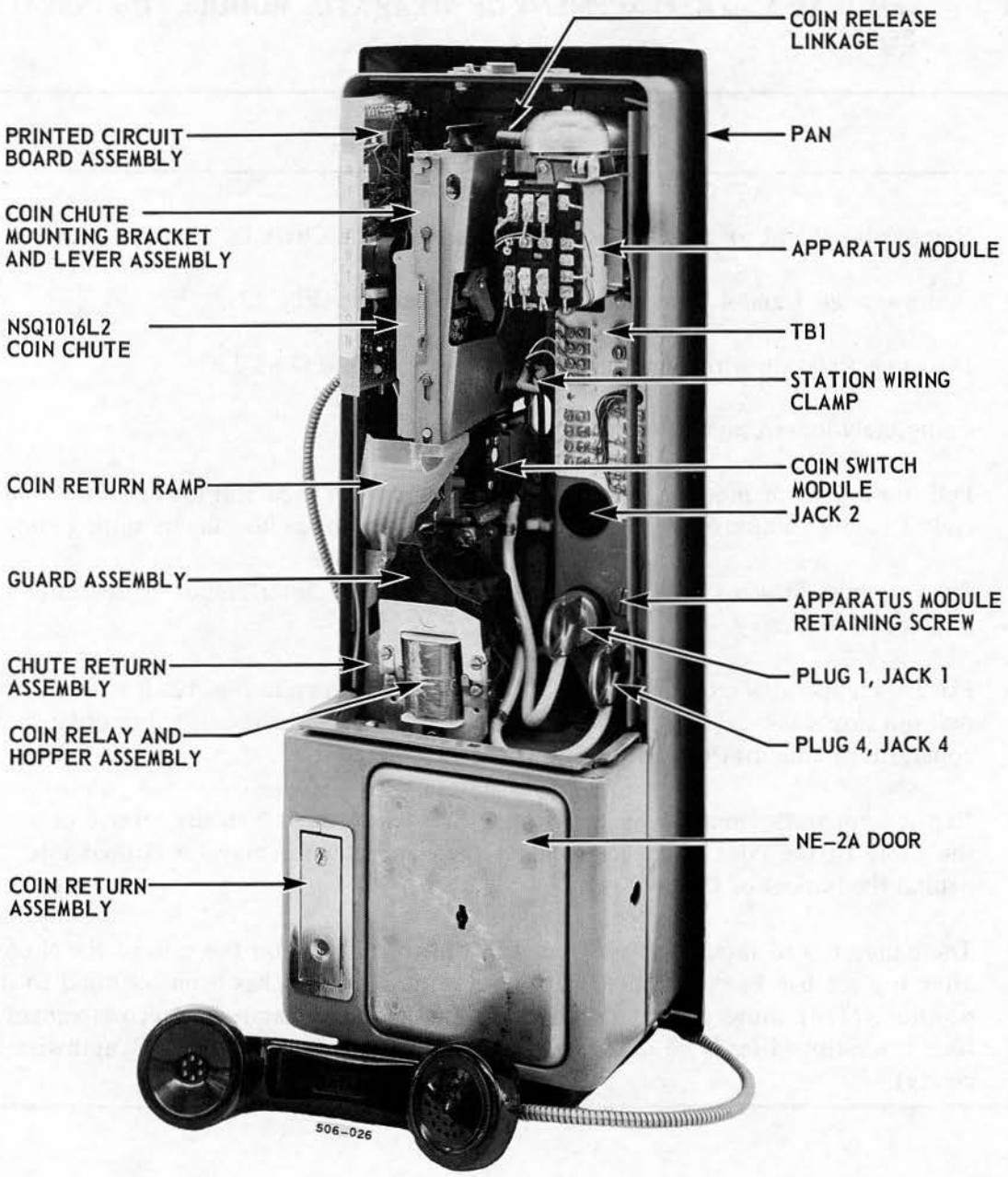

Fig. 11 – QSD400A1 and QSD2400A1 Coin Telephone Set Hood and Cover Unit Assembly Removed

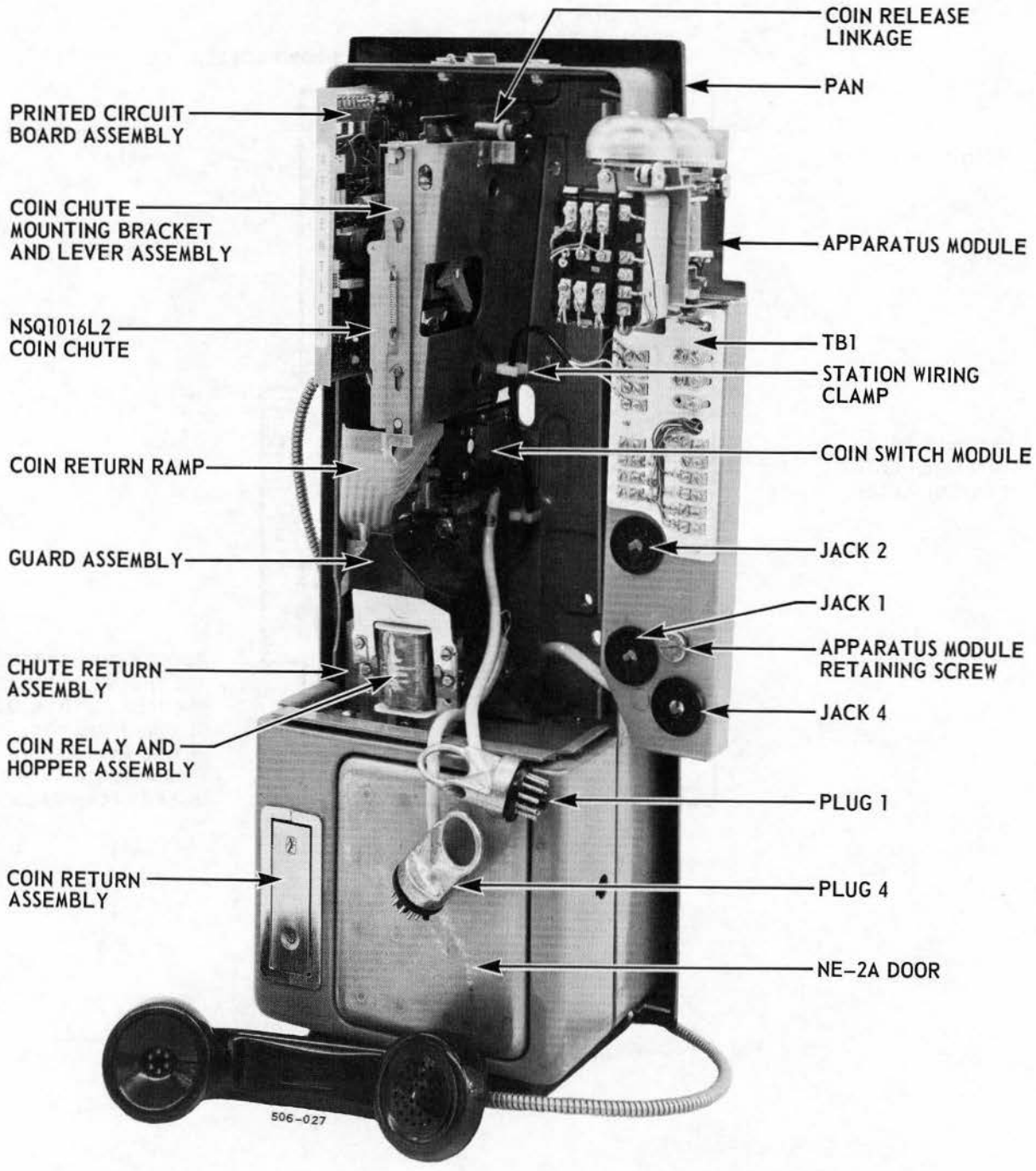

Fig. 12 – Apparatus Module Positioned on the Side of the Coin Telephone Set for Installation

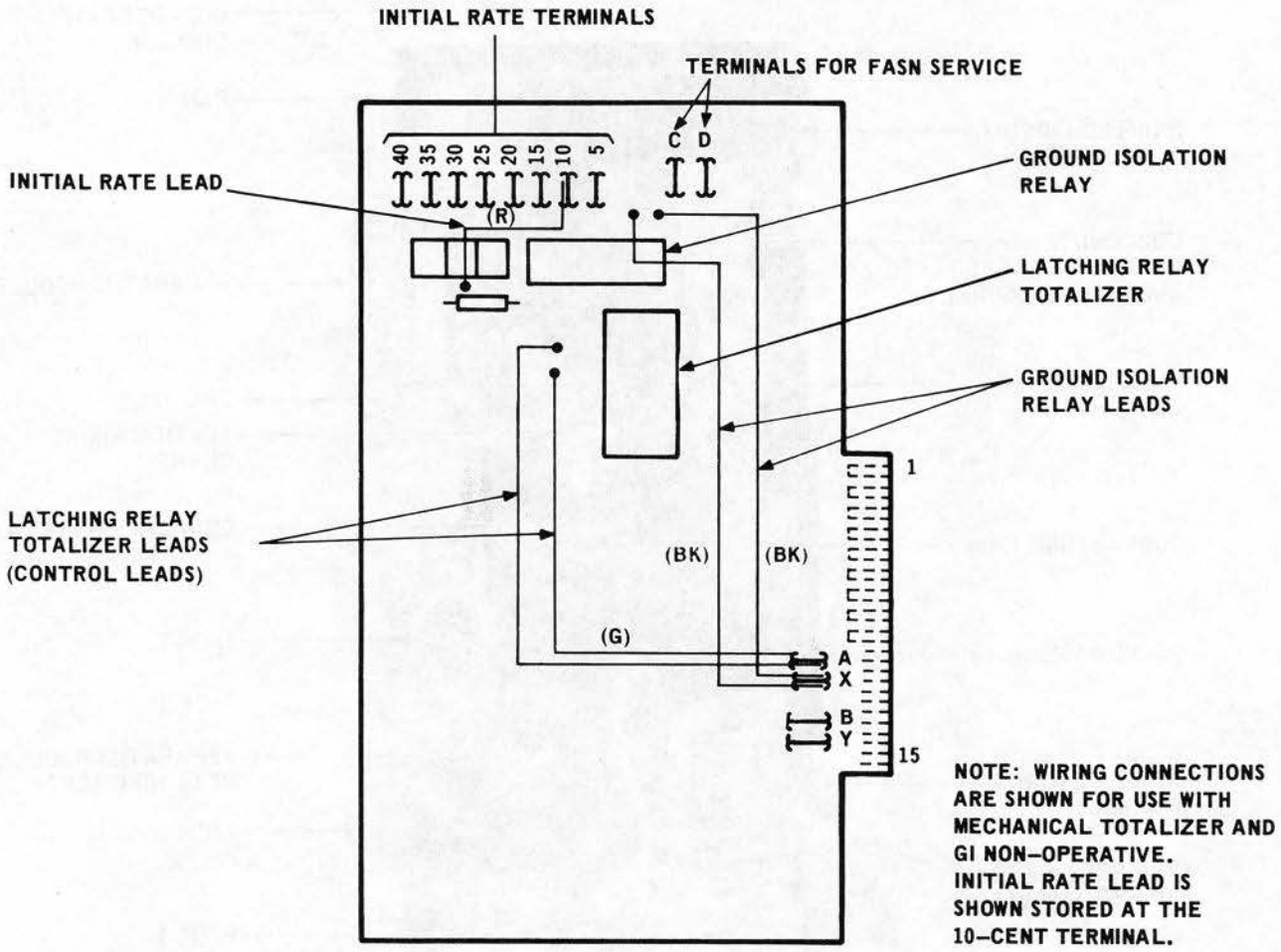

Fig. 13 – Coin Signaling and VIR PCB Assembly

CHART 3 – CONVERSION FROM MECHANICAL TO ELECTRONIC TOTALIZER (VIR)

STEP	PROCEDURE
1	Ensure the CO line is wired for loop start. Dial tone is heard in handset before any coins are deposited.
2	Remove hood and cover unit assemblies as described in Chart 1.
3	Move S lead on TB1 on apparatus module from terminal 10 to terminal 4.
4	Remove switch module.
5	Cut O-W lead to upper end of reed switch on coin switch module, insulate and store lead.
6	Replace switch module.
7	Remove PCB assembly from housing unit assembly.
8	Move R lead to required initial rate terminal (Fig. 13).
9	Move one G lead from terminal A to terminal B.
10	Insert PCB assembly.
11	Replace hood and cover unit assembly.
12	Perform operation test described in Part 6.

CHART 4 – FASN CONVERSION

STEP	PROCEDURE
1	Remove hood and cover unit assembly as described in Chart 1.
2	Remove PCB assembly from housing unit assembly.
3	Move G leads from terminals A and B (Fig. 13) to FASN terminals C and D.

CHART 4 (Cont) – FASN CONVERSION	
STEP	**PROCEDURE**
4	Insert PCB assembly in housing unit assembly.
5	At TB1 on apparatus module, disconnect V-BL and Y-BL leads from terminals 9 and 6. Insulate spade tips and store leads. (The V-BL lead may have been removed previously for GI.)
6	Replace hood and cover unit assembly as described in Chart 1.
7	Perform operation test described in Part 6.

CHART 5 – GI CONVERSION	
STEP	**PROCEDURE**
1	Remove hood and cover unit assemblies as described in Chart 1.
2	Remove PCB assembly from housing unit assembly.
3	Remove BK ground isolation leads (Fig. 13) from storage on quick-connect terminal and connect one lead to X and the other lead to Y quick-connect terminals.
4	Insert PCB assembly in housing unit assembly.
5	At TB1 on apparatus module, disconnect V-BL lead from terminal 9. Insulate spade tip and store lead. (The V-BL lead may have been removed previously for FASN.)
6	Replace hood and cover unit assembly.
7	Perform operation test described in Part 6.

CHART 6 – INSTALLATION AND REMOVAL OF COVER UNIT ASSEMBLY LOCK

STEP	PROCEDURE
1	Remove hood and cover unit assemblies as described in Chart 1.
2	Ensure that lock is operational.
3	Remove four Allen head screws adjacent to lock location hole (Fig. 15) on inside of cover unit assembly with 5/32-inch Allen wrench.
4	Place cover unit assembly locking bolts in locked position.
5	Lock NE-22QD lock and remove key.
6	Align lock with hole and four screw holes in cover.
7	Insert four Allen head screws and tighten them with 5/32-inch Allen wrench.
8	Remove lock by reversing above procedure.

CHART 7 – REMOVAL AND REPLACEMENT OF CASH COMPARTMENT LOCK AND SPACER ASSEMBLY

STEP	PROCEDURE
	CASH COMPARTMENT LOCK
1	Remove hood unit assembly as described in Chart 1.
2	Insert P0896911 tool in NE-2A door.
3	Rotate tool 1/8 turn counterclockwise.
4	Remove door with a pulling motion.
5	Remove coin box, if present.
6	With 5/32-inch Allen wrench remove four Allen head screws in the cash compartment.

CHART 7 (Cont) – REMOVAL AND REPLACEMENT OF CASH COMPARTMENT LOCK AND SPACER ASSEMBLY	
STEP	**PROCEDURE**
7	Align lock with the opening in side of the cash compartment so that the bolt on the lock extends outward.
8	Secure lock with four Allen head screws.
9	Remove lock by reversing above procedure.
SPACER ASSEMBLY (REQUIRED ONLY WITH SMALL CASH RECEPTACLE)	
10	***Do not remove vault liner assembly.*** Add spacer assembly above the vault liner assembly with buffer spring on top side as follows.
11	Insert spacer assembly diagonally into cash compartment with the edge adjacent to the lock held lower than the opposite edge.
12	Keeping the rear edge of the spacer assembly close to the floor of the cash compartment, change the spacer assembly from the diagonal position to a horizontal position.
13	Raise the rear edge of the spacer assembly until the underside bracket of the spacer assembly can be inserted into the slot located on the lower rear wall of the cash compartment.
14	Holding a screwdriver at angle of approximately 45° to the horizontal, press the blade of the screwdriver against the tab on the front end of the underside bracket. Strike the end of the screwdriver handle with palm of the hand to cause the tab to engage with the small rectangular opening in the floor of the cash compartment.
15	To remove the spacer assembly, pry the tab out of the rectangular opening and follow Steps 11 through 13 in reverse order.

CHART 8 – INSTALLATION AND REMOVAL OF INSTRUCTION AND NUMBER CARDS (Fig. 9)

STEP	PROCEDURE
	INSTRUCTION CARDS
1	Remove hood assembly as described in Chart 1.
2	Remove clear plastic window and metal retaining plate by pressing inwards on center of outer surface of window. This pressure causes the window and plate to disengage from inside of the hood.
3	Insert or remove instruction card between window and retaining plate. Insert one edge of assembly in the window opening and bow the assembly inwards to spring the opposite edge into position.
	NUMBER CARD
4	Grasp center edges of retaining plate, located inside hood, and pull until retaining plate is disengaged from flange at each end.
5	Insert or remove number card behind plastic window.
6	Insert one edge of retaining plate in position, bow plate and spring opposite edge into position.

6. OPERATION TESTS

6.01 On completion of the installation or after replacing components, perform operation tests to ensure that the CENTURION coin telephone set meets the operating requirements before it is turned over to the customer.

6.02 The transmission, coin identification tones, coin collect/refund and ringback tests are performed with the assistance of the test center or operator, depending on local procedures.

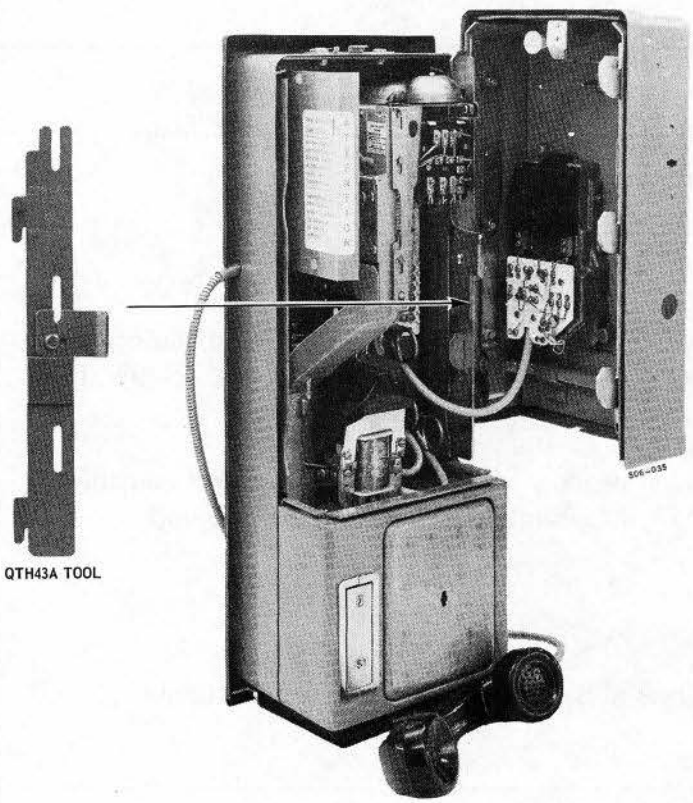

Fig. 14 – QSD400A1 or QSD2400A1 Coin Telephone Set Showing Cover Unit Assembly Removed and Supported by QTH43A Tool

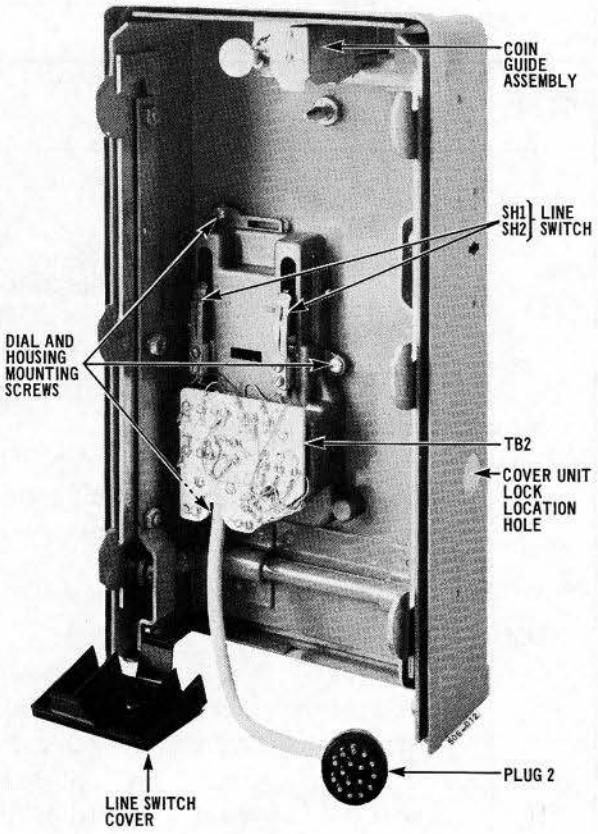

Fig. 15 – Cover Unit Assembly

CHART 9 – MECHANICAL TOTALIZER CALL ORIGINATION TEST		
STEP	**PROCEDURE**	**VERIFICATION**
GROUND START LINE		
1	Remove handset from hook.	Dial tone not heard.
2	Deposit 5-cent coin.	Dial tone heard in handset.

CHART 9 (Cont) – MECHANICAL TOTALIZER CALL ORIGINATION TEST		
STEP	**PROCEDURE**	**VERIFICATION**
3	Dial any digit except 1 or 0.	Operation of dial does not break dial tone.
4	Deposit second 5-cent coin. Dial any digit except 1 or 0.	Operation of dial breaks dial tone.
5	Restore handset on hook.	Coins are returned.
6	Deposit 10-cent coin.	Dial tone heard in handset.
7	Restore handset on hook.	Coin is returned.
8	Repeat Steps 6 and 7 using 25-cent coin.	
LOOP START LINE		
9	Remove handset from hook.	Dial tone heard in handset.
10	Deposit 5-cent coin. Dial any digit except 1 or 0.	Operation of dial does not break dial tone.
11	Deposit second 5-cent coin.	Operation of dial breaks dial tone.
12	Restore handset on hook.	Coins are returned.
13	Repeat Steps 9, 10, and 12 using one 10-cent or one 25-cent coin instead of two 5-cent coins.	

CHART 10 – ELECTRONIC TOTALIZER (VIR) CALL ORIGINATION TEST

Note: To facilitate the description of this test the instructions apply to 20-cent initial rate.

STEP	PROCEDURE	VERIFICATION
1	Remove handset from hook.	Dial tone heard in handset.
2	Deposit part of initial rate, e.g., one 10-cent coin. Dial any digit except 1 or 0.	Operation of dial does not break dial tone.
3	Deposit remainder of initial rate. Dial any digit except 1 or 0.	Operation of dial breaks dial tone.
4	Restore handset on hook.	Coins are returned.
5	Remove handset from hook.	Dial tone heard in handset.
6	Deposit a number of coins to exceed initial rate, e.g., one 25-cent coin. Dial any digit except 1 or 0.	Operation of dial breaks dial tone.
7	Repeat Steps 1 through 4 for all possible combinations of coins which amount to the initial rate.	

CHART 11 – TRANSMISSION, COIN IDENTIFICATION TONE TEST, AND RINGBACK		
STEP	**PROCEDURE**	**VERIFICATION**
1	Complete call to operator or test center.	
2	Request identification of each coin deposited.	Transmission is clear.
3	Deposit 5-cent, 10-cent, and 25-cent coins.	Coins are correctly identified. Tones cannot be heard in handset.
4	Request ringback from operator if telephone set is equipped for 2-way service.	
5	Restore handset on hook.	Ringer on telephone set operate.

CHART 12 – FASN TEST		
STEP	**PROCEDURE**	**VERIFICATION**
1	Remove handset from hook.	Dial tone heard in handset.
2	Deposit coins having a value less than the initial rate. Dial test number for chargeable local call.	Call is directed to recorded announcement or tone indicating that call cannot be completed.
3	Restore handset on hook.	Coins are returned.
4	Repeat tests 1, 2, and 3 with coins deposited equal to or exceeding initial rate.	Call can be completed.

CHART 13 – GI TEST		
STEP	**PROCEDURE**	**VERIFICATION**
1	Remove handset from hook.	
2	Remove hood and cover unit assemblies. Support the cover with the QTH43A tool.	
3	Ensure that hopper trigger switch is not tripped.	
4	Set NS-14510 or equivalent milliammeter to 120 mA scale and check current between terminals 4 and 9 on TB1.	Milliammeter indicates current flow of 5 mA or less.