

NOTE:

WHEN 401B OR 2401B SETS  
ARE SUPPLIED OMIT 3.05  
AND SUBSTITUTE "B" IN  
ALL PLACES REFERRED TO  
AS "A" MODEL SETS.

**"CENTURION\*" – COIN TELEPHONE SETS**

QSD401A AND QSD2401A TYPES

INSTALLATION MANUAL

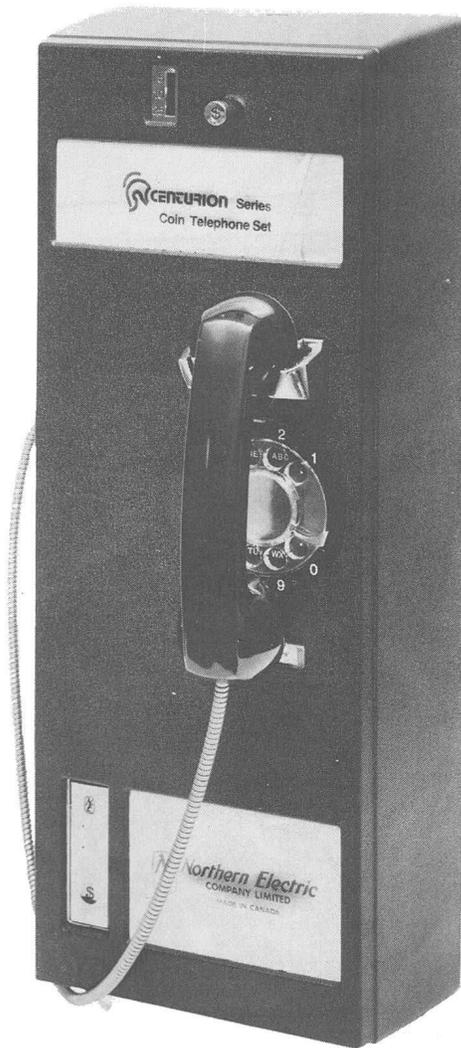


Fig. 1 – CENTURION Coin Telephone Set Type QSD401A



Fig. 2 – CENTURION Coin Telephone Set Type 2401A

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## SECTION 506-4001-290

### 1. GENERAL

1.01 This manual describes the QSD401A and QSD2401A CENTURION semi-postpay, single coin slot telephone sets. Dismantling and assembling information is given to facilitate installation of the coin telephone sets.

1.02 For detailed description, installation, maintenance, and repair information, refer to Section 506-4001-200 and 506-4001-500.

### 2. DESCRIPTION

2.01 The CENTURION coin telephone set type QSD401A (Fig. 1) is equipped with a rotary dial, and the type QSD2401A (Fig. 2) is equipped with a 12-button DIGITONE\* dial.

2.02 The CENTURION coin telephone set can be converted from rotary dialing to DIGITONE dialing or vice versa, by interchanging the dial and housing assembly and the hood unit assembly. The components mounted on the housing unit assembly are identical for both the QSD401A and QSD2401A.

2.03 The sets are equipped with an electronic variable initial rate coin totalizer (VIR) on the printed circuit board (PCB) assembly. The VIR totalizer can be modified to increase the initial rate from 5-cents up to 40-cents in increments of 5-cents.

2.04 The set weighs approximately 50 pounds (22.7 kilograms). The overall dimensions are shown in Fig. 3.

### 3. SEMI-POSTPAY OPERATION

3.01 When the handset is lifted off-hook battery and ground are connected to the set (-48 V battery to the ring side of the line, ground to the tip side of the line). Dial tone is heard and dialing may proceed.

3.02 When the called party answers, the central office provides battery reversal to the coin telephone. When the battery polarity is reversed a

diode in series with the transmitter prevents current from passing through the transmitter. In this way transmission is prevented.

3.03 Coins must now be deposited to a value equal to or exceeding the initial rate. The coin signaling and totalizer circuit, which is protected by a polarity guard, will respond to the deposited coins. When the initial rate is reached the totalizer latching relay (LRT) operates. The operation of LRT shunts out the diode in series with the transmitter, thus enabling transmission.

3.04 Battery reversal does not occur on calls to the operator and transmission is permitted at all times.

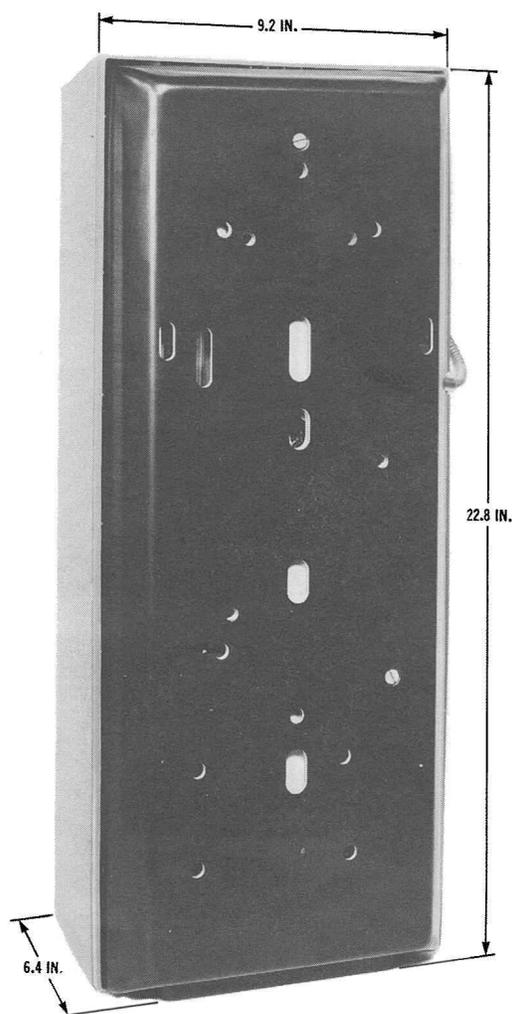


Fig. 3 — Rear View of CENTURION Coin Telephone Set

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3.05 The totalizer latching relay is reset on each call by momentarily connecting the relay reset coil in series with the loop during the operation of the dial.

3.06 All coins deposited proceed directly to the cash receptacle and cannot be returned to the customer.

#### 4. ORDERING INFORMATION

4.01 The CENTURION coin telephone sets are ordered as follows:

Coin Telephone Set QSD401A

Coin Telephone Set QSD2401A.

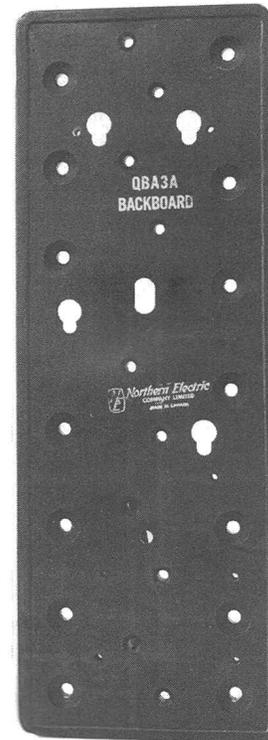
The color suffix shown in Table A follows the coin telephone set code number.

**TABLE A  
COLOR SUFFIX**

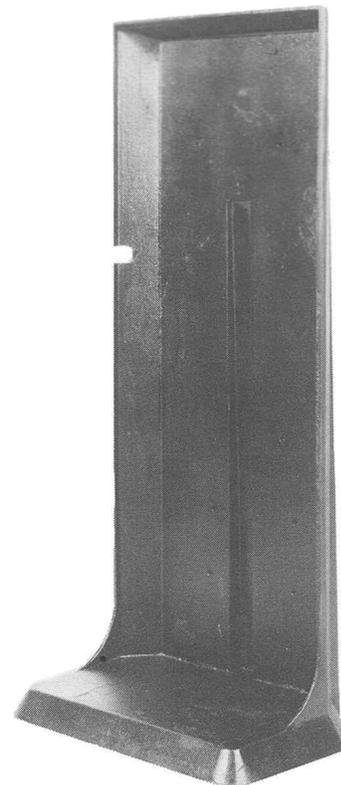
COLOR	SUFFIX
Black	-03
Brown	-26
Blue	-27
Green	-28

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.

4.03 The backboards (Fig. 4 and 5), and the installation apparatus and accessories shown in Tables B through D are not supplied with the set. These items must be ordered separately.



**Fig. 4 – QBA3A Backboard for Wall Mounting**



**Fig. 5 – QBA3B Backboard for Pedestal Mounting**

**TABLE B  
SECURITY KITS AND SEPARATELY ORDERED ITEMS FOR  
QSD401A AND QSD2401A TYPE SETS**

KIT DESIGNATION CODE	ITEM CODE	ITEM DESCRIPTION
QKB1A Security Kit	NE-22QC NE-22QD NE-1B NE-1C	Cash compartment lock with 2 keys Cover unit assembly lock (Note 1) Standard size cash receptacle Receptacle cover
QKB2A Security Kit	NE-22QC NE-22QD NE-1C NE-1C P0501738	Cash compartment lock with 2 keys Cover unit assembly lock (Note 1) Oversize cash receptacle Receptacle cover Vault liner assembly
Accessory Equipment	P010E070 — —	Mounting studs (4 required) Key for NE-22QD lock cover unit assembly Reserved lock combination (Note 2)
<p><i>Notes:</i></p> <ol style="list-style-type: none"> <li>Keys for the NE-22QD lock are not supplied with the lock and must be ordered separately in the quantity required.</li> <li>Security kits are available with reserved lock combinations for the NE-22QD lock, on a special order basis.</li> </ol>		

**TABLE C  
INSTALLATION AND MAINTENANCE TOOLS FOR  
QSD401A AND QSD2401A**

TOOL CODE	USE
Tool, P0896911	To remove hood, cover assemblies, and coin receptacle door. The tool is shown in Fig. 6.
Tool, QTH43A	To support the cover unit assembly in the open position.

**TABLE D  
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 F.H. wood screw	7
Hardwood	1/8 inch or No.30	1-1/4 inch No.14 F.H. wood screw	7
Masonry Concrete Brick	5/16 inch	2 inch No.14 F.H. wood screw in No. 16 plastic anchor	7
Cinder Block Hollow Tile	3/4 inch	1/4 inch x 4 inch R.H. toggle bolt	6
<i>Note:</i> Additional fasteners may be used to ensure security.			

## 5. INSTALLATION

### Installation Requirements

5.01 The following factors must be considered when choosing a location for the installation of the set:

- Accessibility for public usage.
- Adequacy of lighting.
- Degree of privacy.
- Level of noise or vibration.
- Presence and density of grease, smoke or dust.
- Clearance from moving machinery, piled merchandise, narrow aisles or stairways.

- 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.

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

### Mounting Instructions

5.02 For wall installations, the set is mounted with a QBA3A backboard as follows:

- (a) Place a mark on the mounting surface 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 wiring through the wiring access hole of the backboard.

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(c) Select an appropriate fastener.  
(Recommended fasteners are shown in Table D.)

(d) Align the top edge of the backboard with the mark on the mounting surface, and secure the backboard in position with one fastener.

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

(f) Install the remaining fasteners in the backboard.

*Note:* A spirit level may be used to ensure the set is mounted vertically.

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

5.04 The following precautions for wiring coin telephones are recommended.

- 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.

5.05 To mount the CENTURION coin telephone set:

(a) Using the P0896911 tool (Fig. 6) remove the hood and cover assembly as described in Chart 1.

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

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

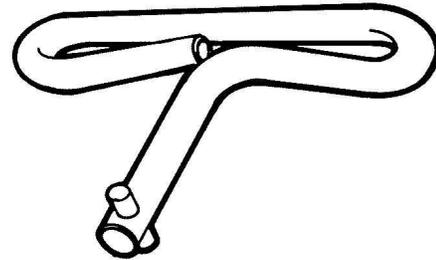


Fig. 6 – P0896911 Tool

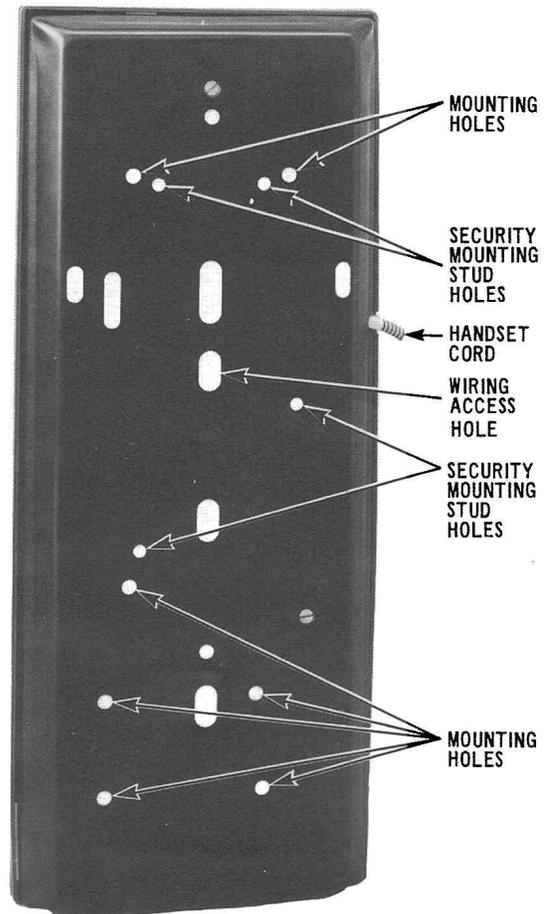


Fig. 7 – Location of Mounting Screw and Security Stud Holes

- (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.
  - (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 size 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 1.
  - (j) Insert the PCB assembly.
- 5.06 Connect the station wiring leads, tip, and ring to the T and R 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.
- 5.07 To change the initial rate:
- (a) Remove the PCB assembly.
  - (b) Move the initial rate lead (R) to the appropriate terminal.
  - (c) Replace the PCB assembly.

## CHART 1 – REMOVAL AND REPLACEMENT OF HOOD AND COVER UNIT ASSEMBLY

STEP	PROCEDURE
<b>HOOD UNIT ASSEMBLY</b>	
1	Remove handset from hook.
2	Insert P0896911 tool into hood lock at top of the set (Fig. 8).
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.
<b>COVER UNIT ASSEMBLY</b>	
6	Unlock NE-22QD lock on left side of cover unit assembly.
7	Insert P0896911 tool in key hole located above NE-22QD lock (Fig. 9).
8	Rotate tool counterclockwise approximately 1/16 turn to release locking mechanism.
<p style="text-align: center;"><i>Caution: The cover unit assembly cannot be completely removed until plug 2 is disengaged from jack 2 inside the set.</i></p>	
9	Grasp cover unit assembly firmly by side flange and slide it forward until cover unit is clear.
10	Support cover unit assembly while disconnecting plug 2.
11	Remove rubber spacer between PCB assembly and coin chute if present. Discard spacer. (This spacer is required for protection during transportation.)
12	Remove P0896911 tool by restoring cover unit lock system to locked position.
13	Replace hood and cover unit assembly by reversing the above procedure.

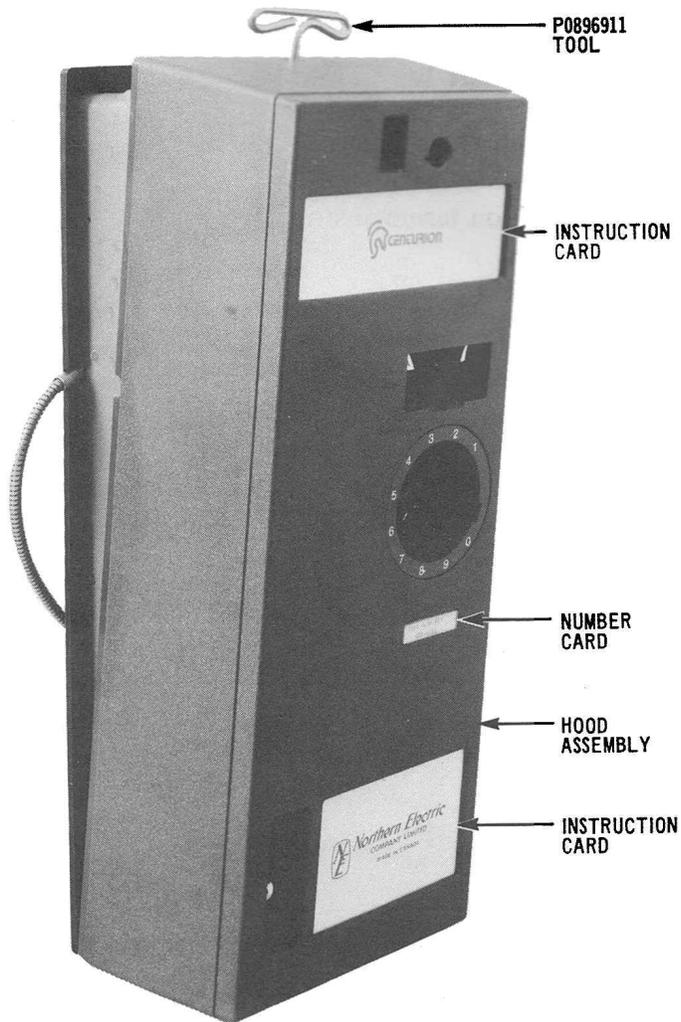


Fig. 8 – Inserting the P0896911  
Tool to Unlock Hood  
Assembly



Fig. 9 – Inserting the P0896911  
Tool to Unlock the Cover  
Unit Assembly

CHART 2 – REMOVAL AND REPLACEMENT OF APPARATUS MODULE	
STEP	PROCEDURE
1	Remove hood and cover unit assemblies as described in Chart 1.
2	Remove plugs 1, 3, and 4 from jacks on apparatus module (Fig. 10).
3	Disconnect handset leads from terminals R, B, W, and W on terminal strip TB1.
4	Disconnect station wiring leads from terminals T, R, and G on TB1.
5	Completely loosen captive screw located between jacks 2 and 4.
6	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.
7	Pull module forward carefully to avoid unnecessary interference with chute mounting bracket or coin relay.
8	Replace the apparatus module by reversing the above procedure.

**6. OPERATION CHECKS**

6.01 On completion of the installation, perform the operational checks outlined in Charts 3, 4, and 5.

CHART 3 – CALL ORIGINATION TEST		
STEP	PROCEDURE	VERIFICATION
1	Remove the handset from the hook.	Dial tone heard in handset.
2	Dial test number for chargeable local call.	Operation of dial breaks dial tone.
3	Called party answers.	
4	Calling party responds.	Called party cannot hear calling party.
5	Calling party deposits coins to a total value less than the initial rate charge.	Called party cannot hear calling party.

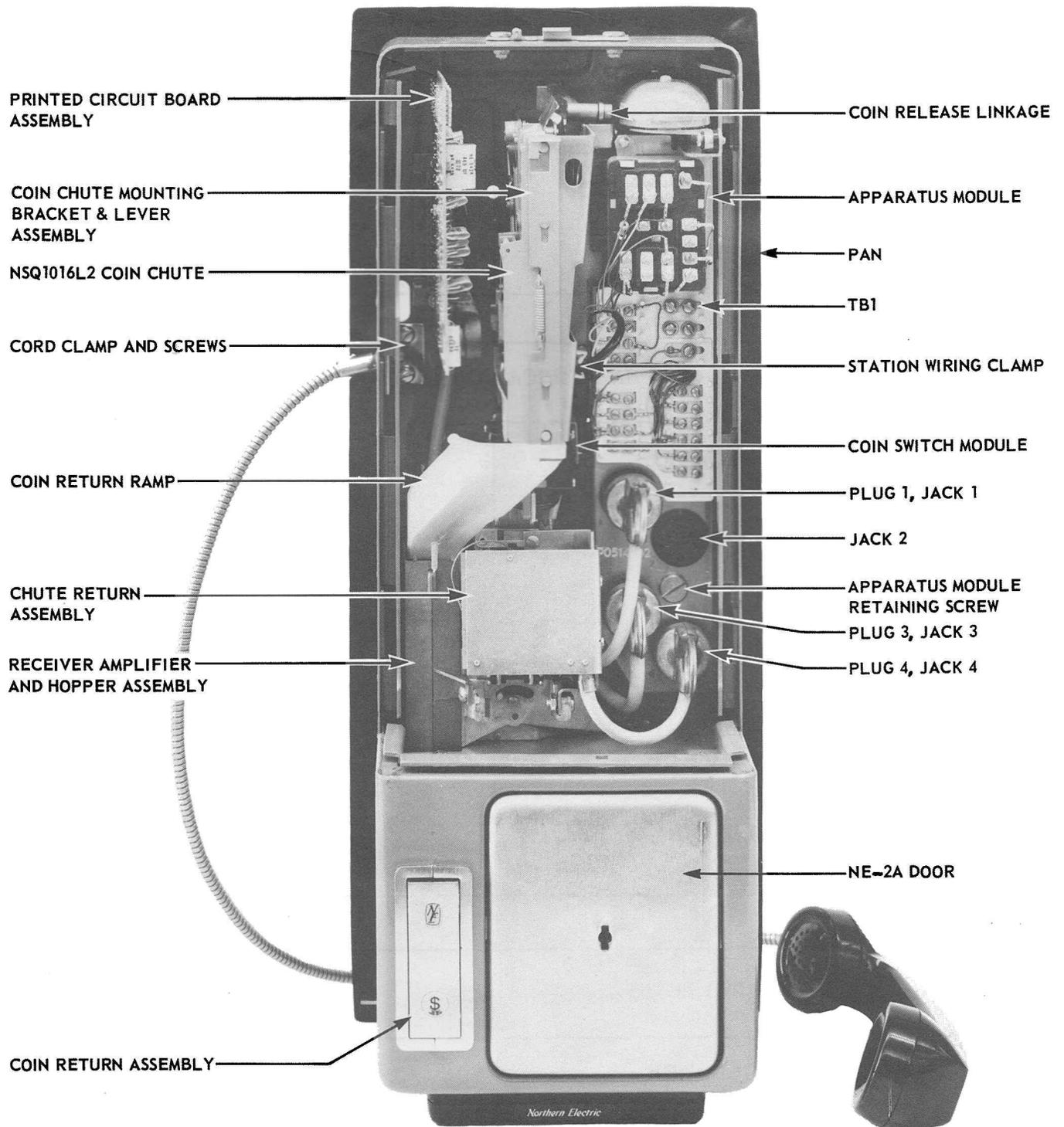


Fig. 10 – QSD401A and QSD2401A Coin Telephone Set with Hood and Cover Unit Assembly Removed

<b>CHART 3 (Cont) – CALL ORIGINATION TEST</b>		
<b>STEP</b>	<b>PROCEDURE</b>	<b>VERIFICATION</b>
6	Calling party deposits additional coins to a total value equal to or exceeding the initial rate charge.	Called party can hear calling party and normal conversation is possible.
7	Restore handset.	

<b>CHART 4 – TRANSMISSION, COIN IDENTIFICATION TONE, AND RINGBACK TESTS</b>		
<b>STEP</b>	<b>PROCEDURE</b>	<b>VERIFICATION</b>
1	Complete call to operator or test center.	Operator or test center answers and confirms that voice levels are satisfactory.
2	Request identification of 5-cent, 10-cent, and 25-cent coin deposits.	
3	Request ringback from operator or test center and restore handset.	Operator or test center correctly identifies coin deposits and confirms that coin signal levels are satisfactory.
4	Answer ringback call.	Ringback is received.
5	Restore handset.	

<b>CHART 5 – COIN HANDLING TESTS</b>		
<b>STEP</b>	<b>PROCEDURE</b>	<b>VERIFICATION</b>
1	Deposit 5-cent, 10-cent and 25-cent coins.	Coins pass through the coin chute, switch module and hopper into the cash compartment.
2	Deposit 1-cent coin.	
		Coin is rejected and returned through the coin return.