SECTION 506-3221-290
P0521258
Issued: 20 December 1974
Standard N

"CENTURION*" – COIN TELEPHONE SETS

QSD400A AND QSD2400A

PREPAY

INSTALLATION MANUAL

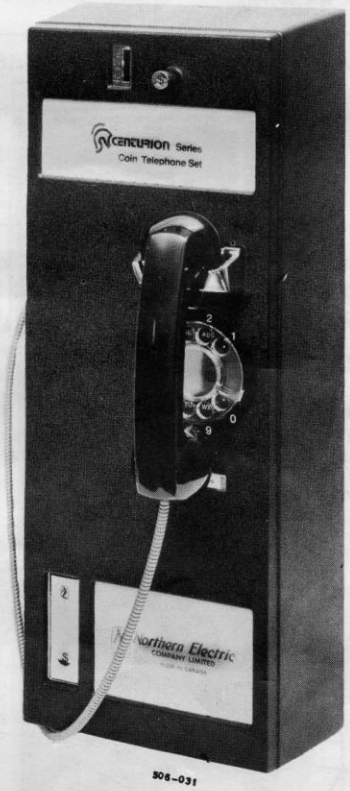

Fig. 1 – CENTURION Coin Telephone Set QSD400A

Fig. 2 – CENTURION Coin Telephone Set QSD2400A

*Trademark of Northern Electric Company, Limited

PRINTED IN CANADA

1. GENERAL

1.01 This manual describes the QSD400A and QSD2400A CENTURION prepay, 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 Sections 506-3221-200 and 506-3221-500.

2. DESCRIPTION

2.01 The CENTURION coin telephone set type QSD400A (Fig. 1) is equipped with a rotary dial, and the type QSD2400A (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 QSD400A and QSD2400A.

2.03 The sets are equipped with mechanical and electronic initial rate coin totalizers which provide dialing service from the coin telephone after a preselected amount in coins has been deposited.

2.04 The mechanical totalizer is regulated for a 10-cent minimum initial rate. When shipped, sets are strapped for a 10-cent totalizer initial rate for connection to either loop start or ground start central office lines.

2.05 The electronic variable initial rate (VIR) totalizer on the printed circuit board (PCB) assembly in the coin telephone set can be modified to increase the initial rate from 5-cents up to 40-cents in increments of 5-cents.

2.06 The free access to selected numbers (FASN) permits coinless calling to special preselected numbers. The CO must be equipped for FASN and the line must have a loop-start line circuit.

2.07 The ground isolation (GI) feature disconnects the grounding circuit from the transmission path to minimize line induced noise during voice transmission. This feature requires that the CO line be equipped with a loop-start line circuit.

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

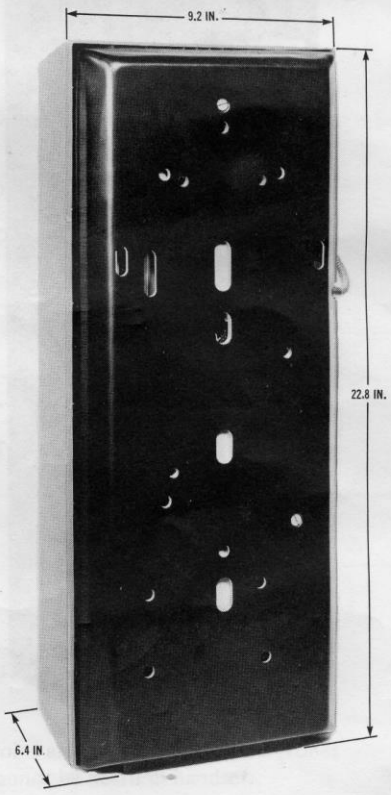

Fig. 3 – Rear View of CENTURION Coin Telephone Set

*Trademark of Northern Electric Company, Limited

3. ORDERING INFORMATION

3.01 The CENTURION coin telephone sets are ordered as follows:
Coin Telephone Set QSD400A
Coin Telephone Set QSD2400A.
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

3.02 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 shown in Fig. 4 may be ordered as a guard assembly.

3.03 The backboards (Fig. 5 and 6), and the installation apparatus and accessories shown in Tables B through D are not supplied with the set. These items must be ordered separately.

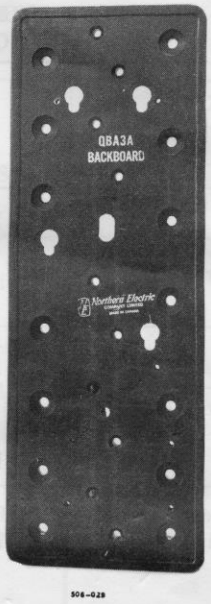

Fig. 5 – QBA3A Backboard for Wall Mounting

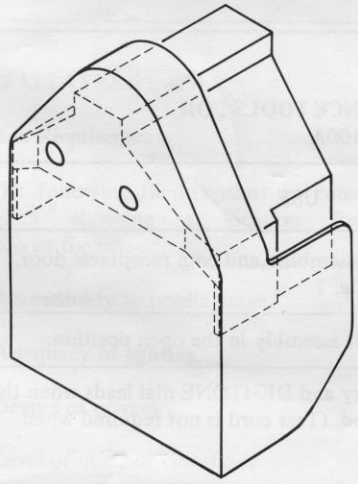

Fig. 4 – Antidrilling Relay Guard

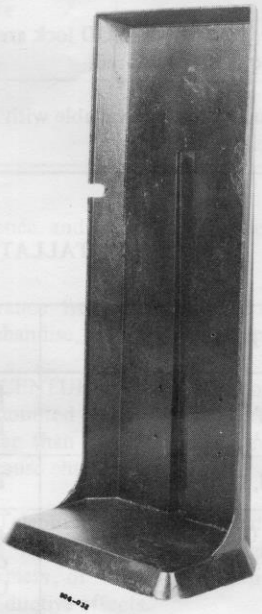

Fig. 6 – QBA3B Backboard for Pedestal Mounting

TABLE B
SECURITY KITS AND SEPARATELY ORDERED ITEMS FOR QSD400A AND QSD2400A 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	NE-P010E070 NE-P0521254 – –	Mounting studs (4 required) Guard assembly (antidrilling relay guard) Key for NE-22QD lock cover unit assembly 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.

TABLE C
INSTALLATION AND MAINTENANCE TOOLS FOR QSD400A AND QSD2400A

TOOL CODE	USE
Tool, P0896911 Tool, P0532301	To remove hood, cover assemblies,and coin receptacle door. The tools are shown in Fig. 7.
Tool, QTH43A	To support the cover unit assembly in the open position.
Test Cord, NE-P16QA	To extend both the rotary and DIGITONE dial leads when the cover assembly is removed. (Test cord is not required when QTH43A tool is used.)

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
Note: Additional fasteners may be used to ensure security.			

4. INSTALLATION

Installation Requirements

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

- Accessibility to 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

4.02 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 3-conductor wiring through the wiring access hole of the backboard.

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

(d) Align the top edge of the backboard with 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.

4.03 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 coin chute.

4.04 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.

4.05 To mount the CENTURION coin telephone set:

(a) Using the P0896911 or P0532301 tool (Fig. 7) remove the hood and cover assembly as described in Chart 1.

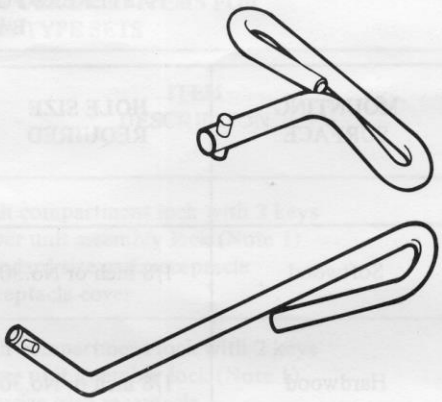

Fig. 7 – P0896911 and P0532301 Tools

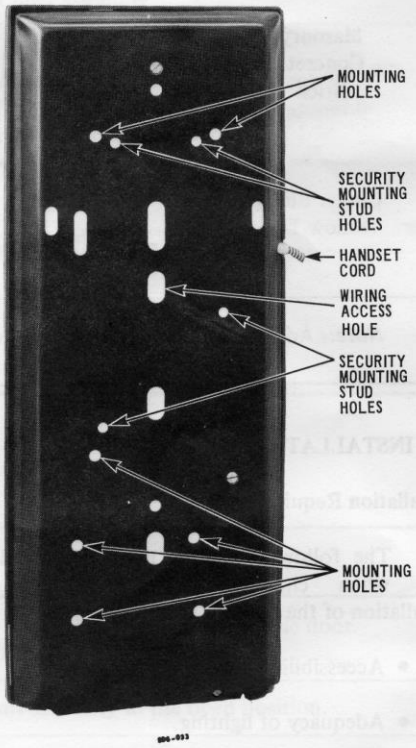

Fig. 8 – Location of Mounting Screw and Security Stud Holes

(b) Insert the four P010E070 security studs in the threaded holes in the back of the telephone set (Fig. 8).

(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.

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

Caution: Some components on the PCB are susceptible to damage by static electricity. Touch the metal case of the set to discharge any static electricity before removing or replacing the PCB or before moving the initial rate lead. The initial rate lead must be connected at all times except to change the initial rate.

(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 after checking that it is strapped for the type of service required.

4.06 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 level assembly.

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

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 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.
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.

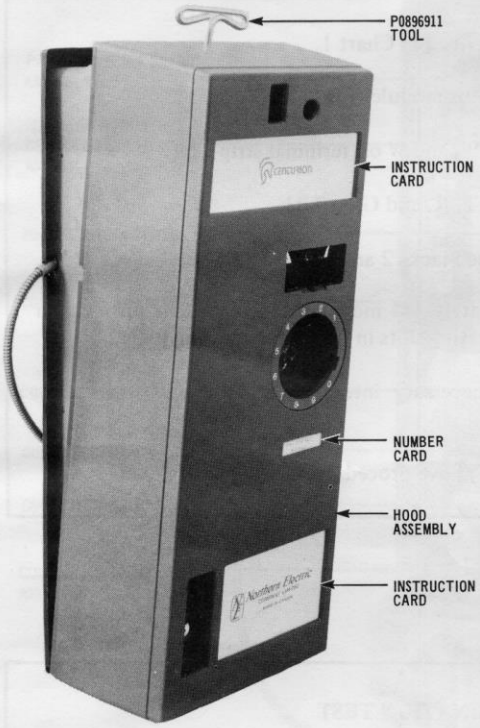

Fig. 9 – Inserting the P0896911 Tool to Unlock Hood Assembly

Fig. 10 – 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. 11).
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.

5. OPERATIONAL CHECKS

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

CHART 3 – 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.
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.

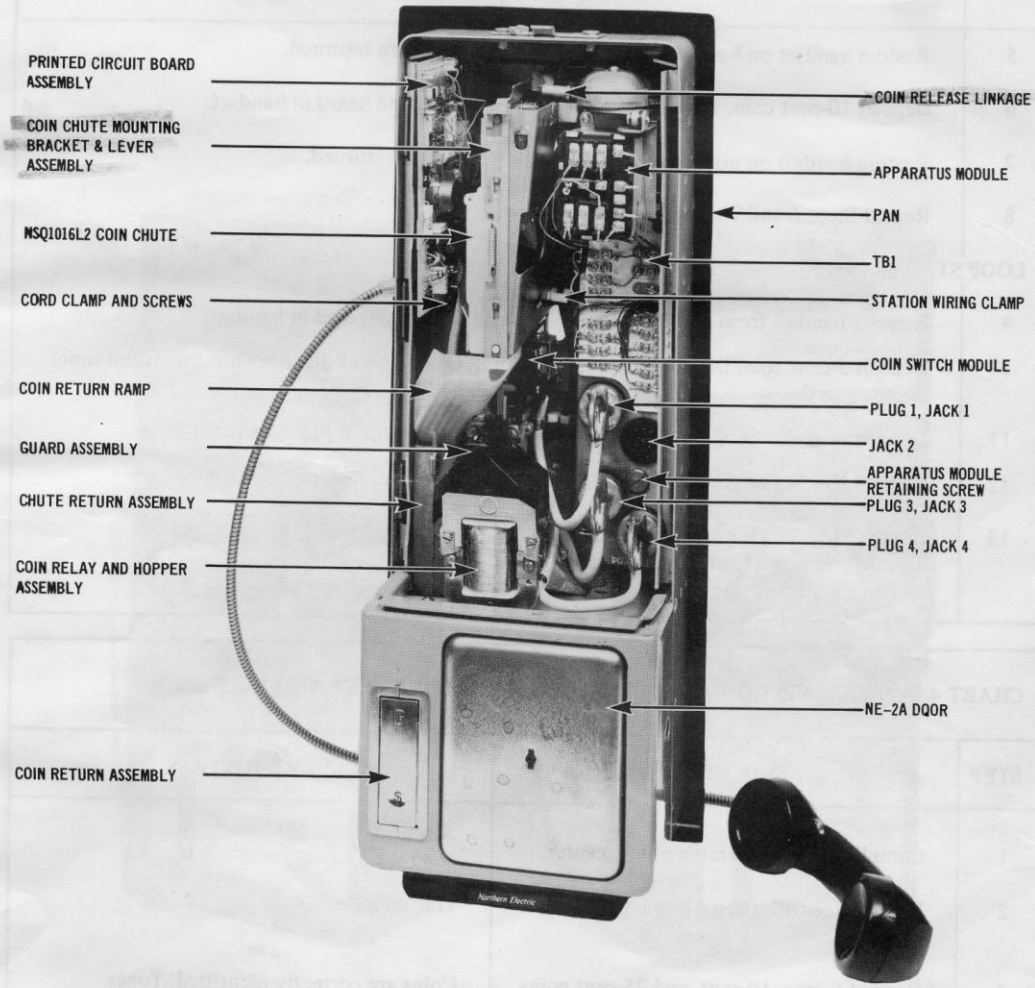

Fig. 11 – QSD400A and QSD2400A Coin Telephone Set
Hood and Cover Assembly Removed

CHART 3 (Cont) – MECHANICAL TOTALIZER CALL ORIGINATION TEST		
STEP	**PROCEDURE**	**VERIFICATION**
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, 11, and 12 using one 10-cent and one 25-cent coin instead of two 5-cent coins.	

CHART 4 – 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.	Ringers on telephone set operate.