

PANEL COIN TELEPHONE SETS

QSD300A AND QSD2300A TYPES

PREPAY

MAINTENANCE AND ASSEMBLY OF PARTS

CONTENTS	PAGE
1. MAINTENANCE	1
2. FAULT ANALYSIS	2
3. ASSEMBLY OF FIELD REPLACEABLE PARTS	25
4. IDENTIFICATION OF PARTS	39

1. MAINTENANCE

1.01 It is recommended that field maintenance of QSD300A and QSD2300A coin telephone sets be limited to:

- Cleaning line switch contacts
- Cleaning coin relay contacts
- Clearing foreign objects from the coin paths.
- Substitution of defective replaceable parts.
- Cleaning the NSQ1016 coin chute

Caution: Do not lubricate. Solvent must not be used for cleaning.

Note: If practicable the coin chute may be washed with warm soapy water and rinsed.

1.02 The field replaceable parts are listed in Table A.

1.03 The removal and assembling instructions for the replaceable items are described in Part 3, Assembly of Field Replaceable Parts.

**TABLE A
FIELD REPLACEABLE PARTS**

PART NO.	ITEM
NSQ1016L1	Coin Chute
P0502569	Coin Switch Module
P0521246	Apparatus Module
NE-D1QA	Ringer
P0521209	Coin Relay Assembly
P015E491	Coin Return Assembly
P0521213*	Dial and Housing Assembly
P0521214†	Dial and Housing Assembly
QDB1P*	Dial
NE-35Q3K1†‡	Dial
NE-G3QF-52	Handset
P0521211*	Door Assembly
P0521212†	Door Assembly
P0896913	Coin Return Chute Assembly
P0521260	Printed Circuit Board Assembly
P0502604	Coin Guide and Bracket Assembly
NE-22QD	Lock (Upper Housing Door)
P0896963	Window (Instruction Card)
P0896334	Window (Number Card)
P0892802	Card Retainer
P0502663	Decorator Panel Kit (Stainless Steel)
P0502662	Decorator Panel Kit (Black Simulated Vinyl)
P0502661	Decorator Panel Kit, Blank (For Customer Applied Finish)
* QSD300A Type † QSD2300A Type ‡ The NE-35Q3K1 Dial is not available with the word operator printed by the 0.	

2. FAULT ANALYSIS

2.01 Electrical and mechanical faults are identified in the QSD300A and QSD2300A by performing the tests described in the fault analysis charts.

2.02 The tests described in Charts 1 through 8, must be performed in the numerical sequence of the charts for the installation and the maintenance of the QSD300A and QSD3200A coin telephone set. Malfunction of the components is identified by the failure of a test or operation. The remedial actions for each fault are listed in preferential order.

2.03 The coins required to complete the tests on the mechanical totalizer include one 25-cent, one 10-cent and two 5-cent coins. The coin requirement for testing the electronic totalizer must amount to the initial rate using a combination of 5-cent, 10-cent or 25-cent coins.

2.04 The tools required to perform the tests are listed in Table B.

2.05 The wiring connections for the QSD300A and QSD2300A type coin telephone sets are given in Fig. 1.

2.06 The schematic diagrams for the QSD300A and QSD2300A coin telephone sets are shown in Fig. 2 and 3.

2.07 The fault analysis charts are listed below:

CHART	PAGE
1. Mechanical Totalizer Call Origination Test	9
2. Electronic Totalizer (VIR) Call Origination Test	14
3. Coin Handling Test	16
4. Trap and Vane Test	17
5. Coin Relay Bias Margin Test	20
6. Transmission and Coin Identification Tone Tests	21
7. FASN Test	23
8. GI Test	24

**TABLE B
TOOLS REQUIRED FOR TESTING THE QSD300A AND QSD2300A
COIN TELEPHONE SETS**

DESCRIPTION	USE
NE-146A Bias Margin Gauge	Used for the coin relay bias margin test.
NS14995 Tool	Used in the trap and vane test.
Dial Hand Test Set	Used during fault clearing procedure.
NE-139B Tool	Used to spread coins in the coin receptacle.
NS14510L1 Meter (or equivalent)	Used to check current flow during ground isolation test.

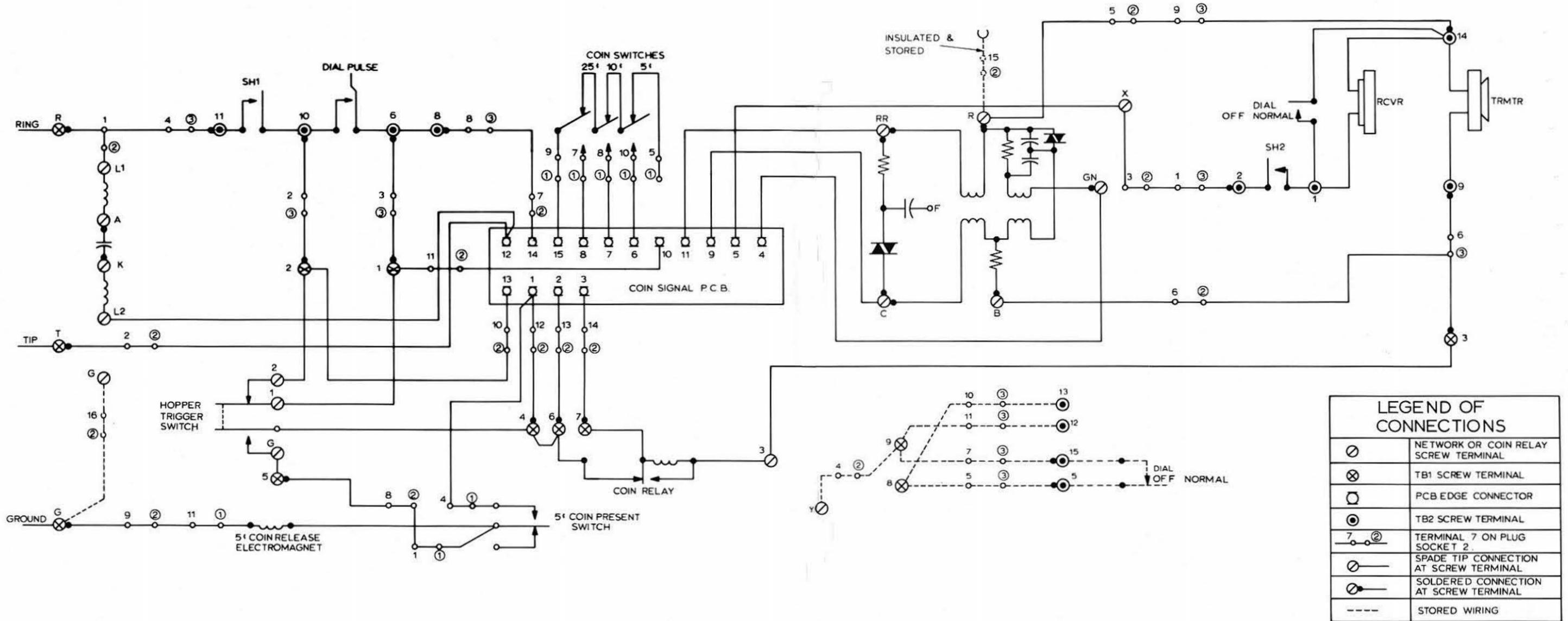
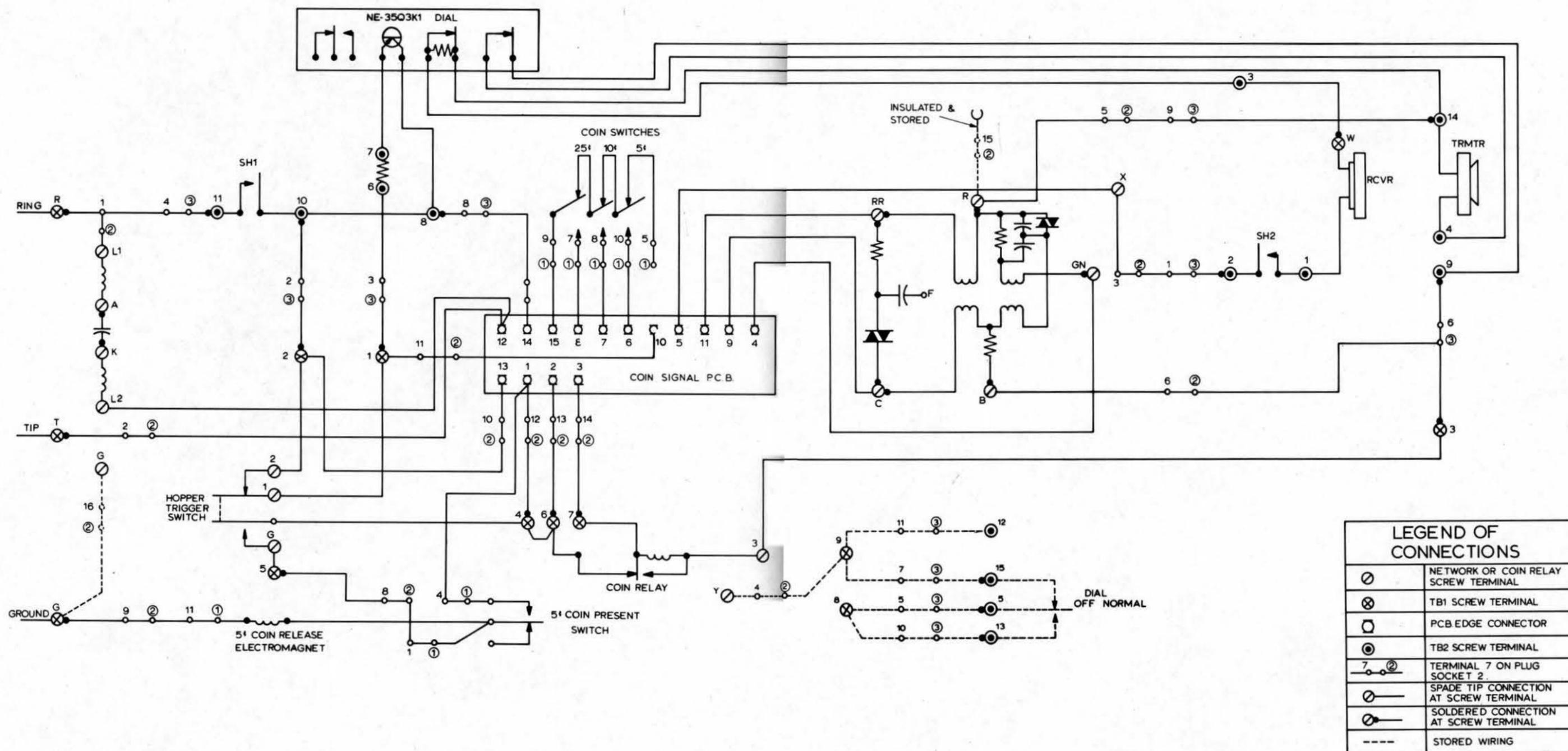


Fig. 2 — Schematic Diagram of QSD300A Coin Telephone Set



LEGEND OF CONNECTIONS	
⊙	NETWORK OR COIN RELAY SCREW TERMINAL
⊗	TB1 SCREW TERMINAL
□	PCB EDGE CONNECTOR
●	TB2 SCREW TERMINAL
7-②	TERMINAL 7 ON PLUG SOCKET 2
⊙-⊗	SPADE TIP CONNECTION AT SCREW TERMINAL
⊙-⊙	SOLDERED CONNECTION AT SCREW TERMINAL
----	STORED WIRING

Fig. 3 - Schematic Diagram of QSD2300A Coin Telephone Set

CHART 1 – MECHANICAL TOTALIZER CALL ORIGINATION TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Refer to Step 2 for ground-start CO line and to Step 11 for loop-start CO line.		
GROUND START LINE			
2	Remove handset from hook.	Dial tone heard in handset.	Replace handset on hook to obtain coin return voltage from CO. Repeat Step 2. If fault is still present proceed as follows: (a) Check coin relay for proper resetting of hopper trigger switch. Substitute coin relay assembly. (b) Check connections on TB1.
3	Deposit first 5-cent coin. Dial tone is heard in handset.	Dial tone is not heard in handset.	(a) Using the dial hand test set, check if a fault is present on the CO line. (b) Check for defective handset. (c) Check for defective line switch contacts SH1 and SH2. Clean contacts SH1 and SH2. (d) Check for defective ground start switch on coin switch module. (The ground start switch should be held operated by the first 5-cent coin.)

CHART 1 (Cont) – MECHANICAL TOTALIZER CALL ORIGINATION TEST			
STEP	PROCEDURE	FAULT	REMEDIAL ACTION
4	Dial any digit except 1 or 0. Operation of dial does not break dial tone.	Operation of dial breaks dial tone.	<p>Substitute the switch module.</p> <p>(e) Check connections on TB1 and TB2.</p> <p>(f) Substitute the PCB assembly.</p> <p>Replace handset on hook to obtain coin return voltage from CO. Repeat Steps 2, 3, and 4. If fault is still present proceed as follows:</p> <p>(a) Check switch module to determine that first 5-cent coin is trapped in the switch module. Substitute switch module if first 5-cent coin is not being trapped.</p> <p>(b) Check connection on TB1 and TB2.</p>
5	Deposit second 5-cent coin. Dial any digit except 1 or 0 to break dial tone.	Operation of dial does not break dial tone.	<p>(a) Check that second 5-cent coin is passing through switch module and tripping the hopper trigger switch.</p> <p>(b) Check dial and substitute if faulty.</p> <p>(c) Check set wiring on TB1 and TB2.</p>

CHART 1 (Cont) – MECHANICAL TOTALIZER CALL ORIGINATION TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
6	Replace handset on hook to return coins.	Coins are not returned.	Correct as described in Chart 3.
7	Remove handset from hook.		
8	Deposit 10-cent coin to obtain dial tone in the handset.	Dial tone is not heard in handset.	Replace handset on hook to obtain coin return voltage from CO. If 10-cent coin is not returned, operate coin release lever to release stuck coin. Check coin chute to determine that 10-cent coin passes through properly. Repeat tests 7 and 8. If fault is still present, check that 10-cent coin is operating the hopper trigger switch. Substitute coin relay assembly.
9	Replace handset on hook to obtain coin return.	Coin not returned.	Correct as described in Chart 3.
10	Repeat Steps 7, 8, and 9 using 25-cent coin.		
LOOP START LINE			
11	Remove handset from hook and obtain dial tone.	Dial tone not heard in handset.	Remedial action same as for Step 3, except omit check on ground start switch on the switch module.

CHART 1 (Cont) – MECHANICAL TOTALIZER CALL ORIGINATION TEST			
STEP	PROCEDURE	FAULT	REMEDIAL ACTION
12	Deposit first 5-cent coin and dial any digit except 1 or 0. Operation of dial does not break dial tone.	Operation of dial breaks dial tone.	Replace handset on hook to return coin. Repeat Steps 11 and 12 and if fault is still present proceed as follows: (a) Check switch module to determine that first 5-cent coin is trapped in the switch module. Substitute switch module if first 5-cent coin is not being trapped. (b) Check connections on TB1 and TB2.
13	Deposit second 5-cent coin. Dial any digit except 1 or 0 to break dial tone.	Operation of dial does not break dial tone.	Same as Step 5.
14	Replace handset to return coins.	Coins are not returned.	Correct as described in Chart 3.
15	Remove handset from hook and obtain dial tone.		
16	Deposit 10-cent coin and dial any digit except 1 or 0 to break dial tone.	Operation of dial does not break dial tone.	Replace handset on hook to obtain coin return voltage from CO. If 10-cent coin is not returned, operate coin release lever to release stuck coin. Check coin chute to determine that 10-cent

CHART 1 (Cont) – MECHANICAL TOTALIZER CALL ORIGINATION TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
			coin passes through properly. Repeat steps 15 and 16. If fault is still present: (a) Check that 10-cent coin operates hopper trigger switch. (b) Check dial. (c) Check TB1 and TB2 wiring. (d) Substitute coin relay assembly.
17	Replace handset on hook to return coin.	Coin not returned.	Correct as described in Chart 3.
18	Repeat Steps 15, 16, and 17 using 25-cent coin.		

CHART 2 – ELECTRONIC TOTALIZER (VIR) CALL ORIGINATION TEST

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

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Remove handset from hook. Dial tone heard in handset.	Dial tone is not heard.	<ul style="list-style-type: none"> (a) Using the dial hand test set check if the fault is present on the CO line. (b) Check for defective handset. (c) Check wire connections on TB1 and TB2. (d) Check and clean line switch contacts SH1 and SH2 on the dial housing assembly. (e) Substitute the PCB assembly.
2	Deposit part of the initial rate, e.g., 10-cents and dial any digit except 1 or 0.	Operation of dial breaks dial tone.	<ul style="list-style-type: none"> (a) Check connections on TB1 and TB2. (b) Check connections on PCB assembly. (c) Substitute the PCB assembly. (d) Substitute the coin switch module.

CHART 2 (Cont) – ELECTRONIC TOTALIZER (VIR) CALL ORIGINATION TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
3	Deposit the remainder of the initial rate, e.g., two 5-cent coins and dial any digit except 1 or 0.	Operation of dial does not break dial tone.	(a) Check connections on TB1 and TB2. (b) Ensure that dial operates. (c) Substitute the PCB assembly. (d) Substitute the coin switch module.
4	Replace handset on hook. Coins are returned.	Coins not returned.	Correct fault as described in Chart 3.
5	Remove handset from hook. Dial tone is heard in handset.	Dial tone is not heard.	Complete fault clearing procedure as described in Step 1.
6	Deposit a number of coins to exceed initial rate, e.g. 25-cent coin. Dial any digit except 1 or 0.	Operation of dial does not break dial tone.	(a) Check connections on TB1 and TB2. (b) Ensure that dial operates. (c) Substitute the PCB assembly. (d) Substitute the coin switch module.
7	Deposit all possible combinations of coins which amount to the initial rate and repeat Steps 2 through 5 for each coin combination.		

CHART 3 – COIN HANDLING TESTS			
STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Remove handset from hook.		
2	Deposit one coin of each denomination, 5, 10, and 25 cents.		
3	Check for presence of dial tone, then replace handset on hook to return coins.	One or more coins are not returned.	<p>Operate the coin release lever, if the coins are returned, deposit them again. If they do not return again check for the following possible faults:</p> <p>(a) Coins jammed in the coin guide, (near coin entry slot), coin chute, switch module, coin relay hopper, coin return chute assembly, or coin return assembly. Clear coins and check for possible causes of jamming.</p> <p>(b) If coins are resting on trap of coin relay, check the coin relay circuit for continuity to station ground. Check for dirty hopper trigger switch contacts, open coin relay coil, wrong or poor connections on TB1 or the coin relay.</p> <p>(c) Coin relay jammed due to full cash receptacle. Level coins and notify collection department.</p> <p>(d) Defective coin trunk. Refer to test center.</p> <p>(e) Traffic overload. Wait for coin return battery.</p>

CHART 4 – TRAP AND VANE TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Open and remove door assembly.		
2	Remove coin chute, and coin switch module.		
3	Remove coin relay dust cover.		
	<p><i>Caution: To prevent jamming of selector card and cam, the selector card is tilted by pressing downwards on one of the tabs on either side of the card before manually operating the coin relay.</i></p>		
4	Press downward on left tab of selector card and manually operate coin relay armature to its full extent of travel. Coin vane moves to collect (left) position; coin trap moves downwards.		
5	With armature fully operated, insert NS14995 tool into hopper and operate the trap to the limit of its travel.		

CHART 4 (Cont) – TRAP AND VANE TEST			
STEP	PROCEDURE	FAULT	REMEDIAL ACTION
6	Release armature and slowly withdraw tool. Armature, trap, and vane should return to nonoperated position and trap should be locked.	<p>Armature, trap, or vane does not return to its normal position.</p> <p>Vane does not restore properly.</p> <p>Trap does not operate, restore, or lock properly.</p>	<p>Relay could be mounted in a binding position. Loosen mounting screws and realign relay; tighten screws.</p> <p>Vane binds. Remove coin relay and free vane.</p> <p>Vane broken. Replace hopper and relay assembly.</p> <p>Check for the following defective apparatus and replace as necessary.</p> <p>(a) broken trap.</p> <p>(b) bent or broken trap spring.</p> <p>(c) broken trap lever.</p> <p>(d) bent or broken trap pin.</p>
7	Press downwards on right tab of selector card and manually operate coin relay armature to its full extent of travel. Coin vane moves to return (right) position; coin trap moves downwards.		
8	Repeat Steps 5 and 6.		

CHART 4 (Cont) – TRAP AND VANE TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
9	Replace coin relay dust cover.		
10	Install coin switch module, and coin chute.		
11	Replace and close door assembly.		

CHART 5 – COIN RELAY BIAS MARGIN TEST

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Open the door assembly as described in Chart 9.		
2	Remove coin relay dust cover.		
3	Deposit coins and obtain dial tone. Call test center and request a bias margin test. (Use Central Office test circuit where available.)		
4	Fit NE-146A bias margin gauge to right side of the selector card.		
5	Request test center to apply CO collect voltage.	Relay does not operate correctly to collect coin.	Defective coin relay. Replace coin relay.
6	Fit NE-146A bias margin gauge to left side of selector card.		
7	Request test center to apply CO return voltage.	Relay does not operate correctly to return coin.	Defective coin relay. Replace coin relay.
8	Remove NE-146A gauge.		
9	Replace coin relay dust cover.		
10	Close the door assembly as described in Chart 9.		

CHART 6 – TRANSMISSION AND COIN IDENTIFICATION TONE TESTS

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Complete call to operator or test center.		
2	Request identification of each coin deposited.	Poor or no transmission.	<p>(1) Check CO line for loop defect.</p> <p>(2) With the dial hand test set check the following components and substitute if faulty:</p> <ul style="list-style-type: none"> (a) Check for damaged, broken, or loose station wire connections. (b) Check for defective handset. (c) Ensure that the station Tip, Ring, and Ground connections are correct. (d) Check connections on NE-425QE1 network on apparatus module.
3	Deposit 5-cent coin, 10-cent coin, and 25-cent coin.	Improper or no coin signals.	<p>Substitute the following components and perform test after each substitution.</p> <ul style="list-style-type: none"> (a) PCB assembly. (b) coin switch module.

CHART 6 (Cont) – TRANSMISSION AND COIN IDENTIFICATION TONE TESTS

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
4	Request operator or test center to return coins.	Coins not returned.	(c) apparatus module. Repeat request and if failure re-occurs, refer to test center for a check on CO equipment.
5	Request ringback from operator or test center. Restore handset on hook.	No ringing or low volume.	(a) With dial hand test set check for generator on the CO line. (b) Adjust ringer. (c) Substitute ringer. (d) Substitute apparatus module.
6	Answer ringback from operator or test center.		

CHART 7 – FASN TEST

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

STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Remove handset from hook.		
2	Dial tone heard in handset.	Dial tone is not heard in handset.	Correct dial tone fault as described in Chart 1.
3	Deposit coins having a total value less than the initial rate. Dial test number for chargeable local calls. Calls will be directed to a recorded announcement to indicate that call cannot be completed.	Call is completed to test number.	Replace handset on hook to return coins, then repeat Steps 1, 2, and 3. If fault is still present, proceed as follows: (a) Check the lead connections on TB1. (b) Check the lead connections on the PCB assembly. (c) Substitute the PCB assembly.
4	Restore handset on hook. Coins will be returned.		
5	Repeats Steps 1, 2 and 3 except coin deposits shall equal or exceed the initial rate.	Call cannot be completed to test number.	Check for faults as shown for Step 3.

CHART 8 – GROUND ISOLATION (GI) TEST			
STEP	PROCEDURE	FAULT	REMEDIAL ACTION
1	Remove handset from hook.		
2	Open the door assembly as described in Chart 9.		
3	Ensure that hopper trigger switch is not tripped.		
4	Set NS14510 or equivalent meter to 120 mA scale and check current between terminals 5 and 4 on TB1. (Connect one side of meter to terminal 5 and the other side to terminal 4.)	Ammeter indicates a current flow exceeding 5 mA.	<ul style="list-style-type: none"> (a) Check lead connections on TB1. (b) Check lead connections on the PCB assembly. (c) Substitute PCB assembly.

3. ASSEMBLY OF FIELD REPLACEABLE PARTS		CHART	COMPONENT	PAGE
3.01 The instructions for substituting the field replaceable components in the QSD300A and QSD2300A coin telephone sets are contained in the following charts. The field replaceable components are listed in Table A.		13	Dial and Housing Assembly and Dial	31
		14	Ringer NE-D1QA	32
		15	PCB Assembly	33
		16	Handset NE-G3QF-52	34
		17	Coin Chute NSQ1016L1	34
		18	Coin Return Chute Assembly	35
		19	Coin Switch Module	35
		20	Coin Relay	36
		21	Coin Return Assembly	38
CHART	COMPONENT	PAGE		
9	Door Assembly	25		
10	Apparatus Module	26		
11	Upper Housing Lock	27		
12	Instruction and Number Cards.	30		

CHART 9 – OPENING AND REMOVING THE DOOR ASSEMBLY

STEP	PROCEDURE
OPENING THE DOOR ASSEMBLY	
1	Unlock NE-22QD lock (rotate key clockwise).
2	Insert P0896911 tool (Fig. 4) in keyhole on right side. Rotate tool 1/8 turn clockwise to release right-hand bolt.
3	Move key from right-side to left-side keyhole. Rotate tool 1/8 turn counterclockwise to release left-hand bolt.
4	Remove handset from hook.
5	Door is hinged at the bottom. Open door by pulling outward at the top.
6	Adjust position of open door by moving the supporting chain to a new position in the notch at the upper end of the left-hand lock strike.

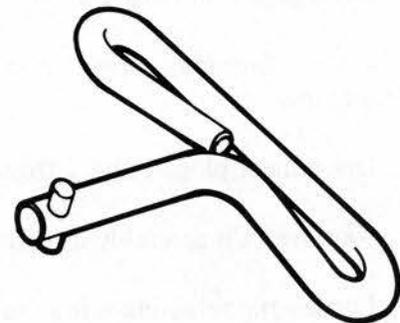


Fig. 4 – P0896911 Tool

CHART 9 (Cont) – OPENING AND REMOVING THE DOOR ASSEMBLY

STEP	PROCEDURE
7	Close the door by reversing the above procedure.
REMOVING THE DOOR ASSEMBLY	
8	Disengage plug 3 from jack 3 on the connector bracket assembly.
9	Support the door and unhook the chain from the notch at the top of the lock strike.
10	With the door open nearly 90°, lift the hinge end of the door upward until it is clear of the flange on the front of the housing.
11	Replace the door by performing Steps 1 through 10 in the reverse order. (Check that cords or restraining chain are not trapped in the hinge area.)

CHART 10 – REMOVAL AND REPLACEMENT OF APPARATUS MODULE (Fig. 5)

STEP	PROCEDURE
1	Open the door assembly as described in Chart 9.
2	Disengage coin release linkage from coin chute. See Fig. 6.
3	Loosen fastening screw for coin guide assembly. Swing the coin guide assembly outward on its hinge.
4	Disconnect plugs 1 and 2 from jacks 1 and 2.
5	Remove PCB assembly as described in Chart 15.
6	Loosen the retaining screw for the apparatus module.
7	Lift the module upward until lower end clears housing bracket.
8	Replace the apparatus module by performing Steps 1 through 7 in the reverse order.

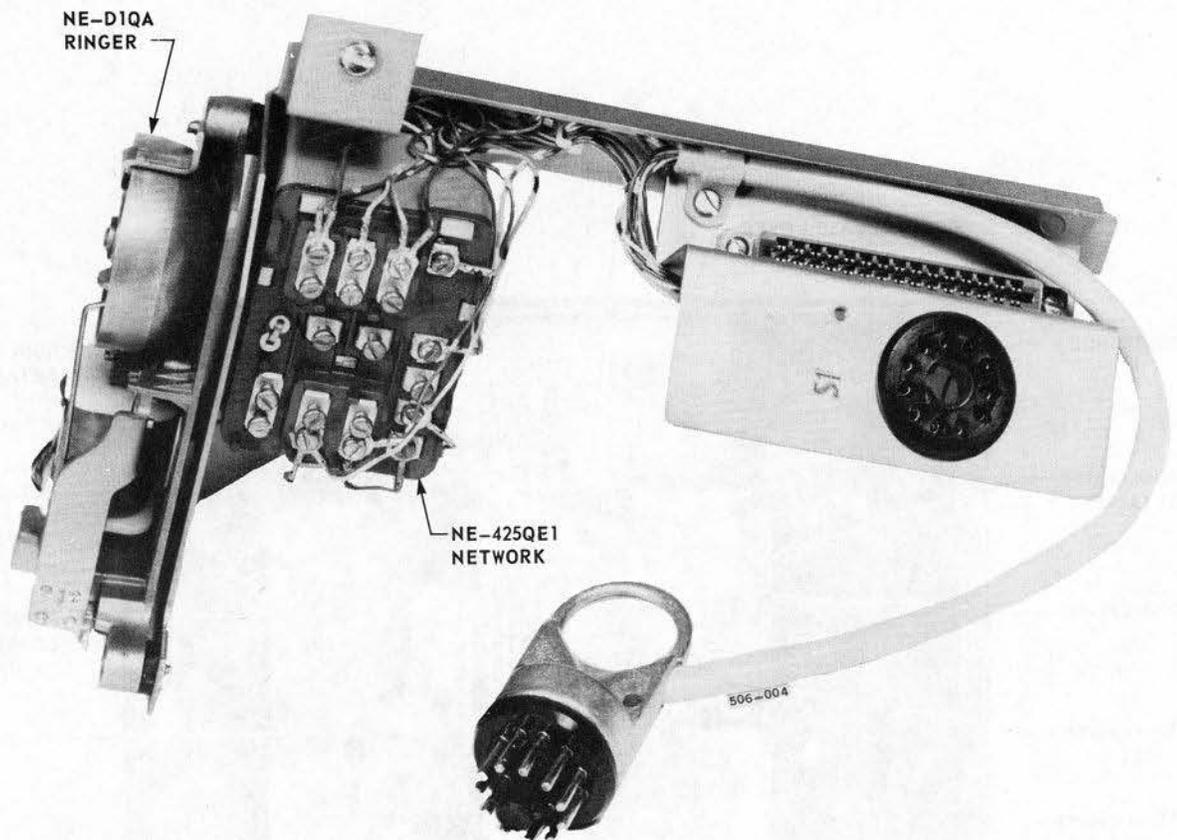


Fig. 5 – Apparatus Module

CHART 11 – INSTALLATION AND REMOVAL OF UPPER HOUSING LOCK (NE-22QD)	
STEP	PROCEDURE
1	Open and remove the door assembly as described in Chart 9.
2	Remove the four hexagon nuts but do not remove the washer spacers from the lock mounting studs (Fig. 7).
3	Place the key in the NE-22QD lock and operate the lock to fully withdraw the lock bolt.
4	Fit the lock to the four mounting studs. (The key must remain in the lock and the lock bolt shall be withdrawn. The key handle must be inserted through the hole in the door.)
5	Replace the four hexagon nuts and tighten.
6	Replace and close the door assembly.

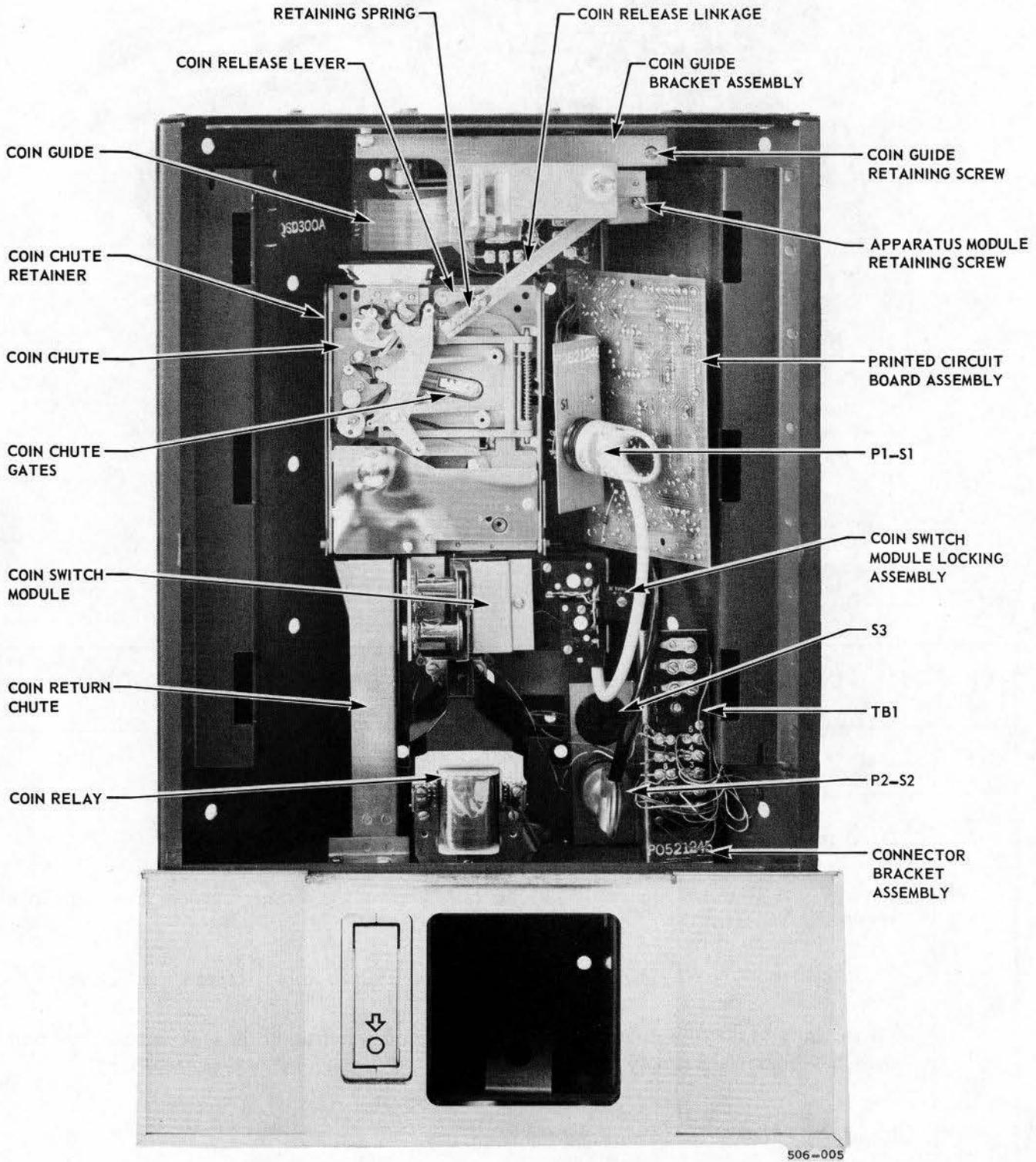


Fig. 6 - QSD300A and QSD2300A Coin Telephone Set with Door Assembly Removed

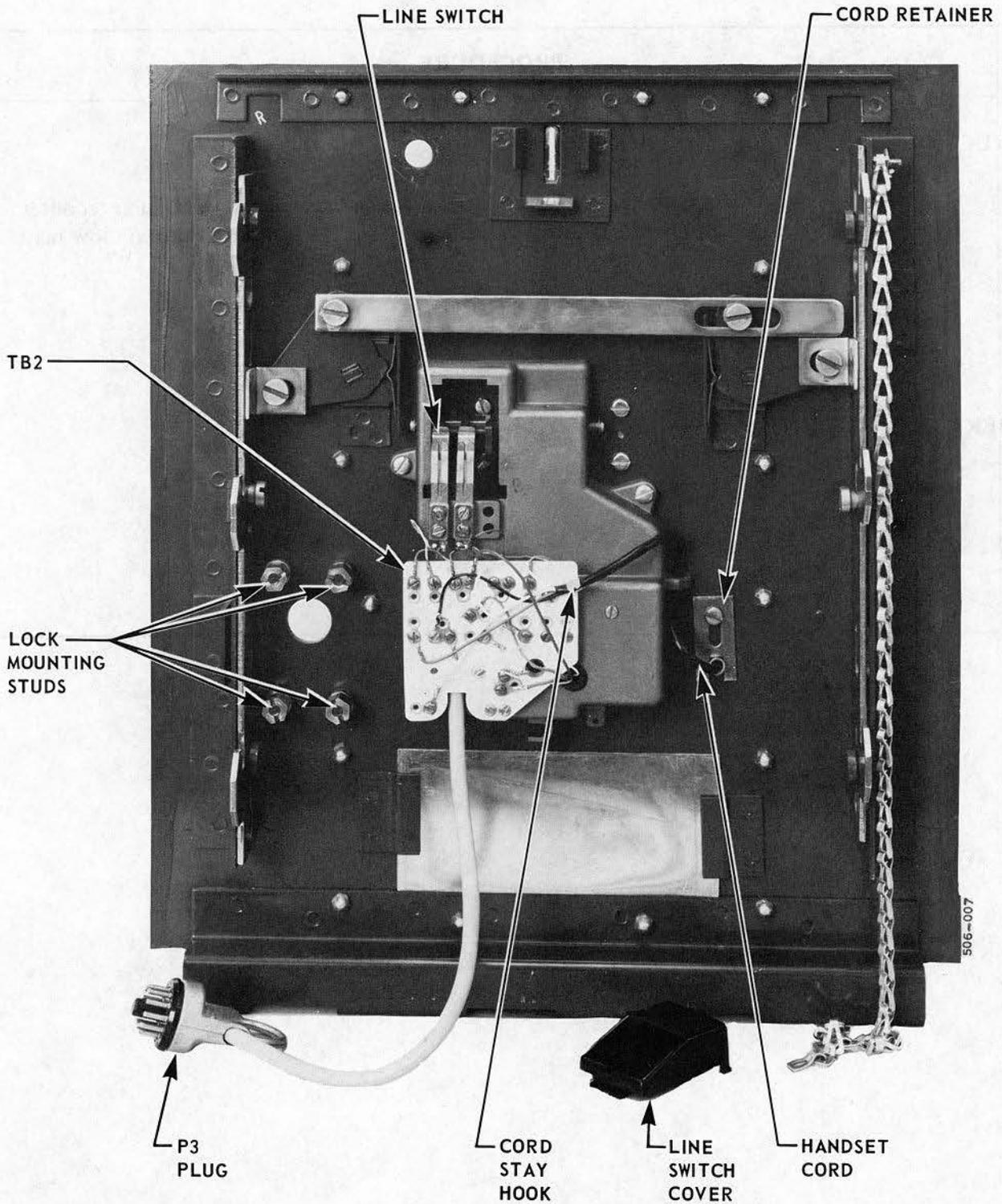


Fig. 7 - Door Assembly

CHART 12 – INSTALLATION AND REMOVAL OF INSTRUCTION AND NUMBER CARDS

STEP	PROCEDURE
INSTRUCTION CARD (UPPER AND LOWER)	
1	Remove clear plastic window. Slide window upward using finger pressure friction on outer surface of window. When lower edge of window is exposed the bottom of the window may be pried out and the window removed.
2	Insert instruction card.
3	Replace clear plastic window.
NUMBER CARD	
4	Remove clear plastic window using NS-16750L3 releaser.
5	Insert number card.
6	Replace clear plastic window.

CHART 13 – REMOVAL AND REPLACEMENT OF DIAL AND HOUSING ASSEMBLY AND DIAL

STEP	PROCEDURE																	
DIAL AND HOUSING ASSEMBLY																		
1	Open and remove door assembly as described in Chart 9.																	
2	Loosen screw on TB2 and disconnect handset cord stay hook.																	
3	Disconnect handset leads from TB2.																	
4	Remove three mounting screws.																	
5	Lift dial and housing assembly from the door.																	
6	Replace the dial and housing assembly by performing Steps 1 through 5 in the reverse order.																	
The handset leads are reconnected as follows:																		
<table border="1" data-bbox="493 968 1382 1276"> <thead> <tr> <th data-bbox="493 968 792 1087" rowspan="2">LEAD COLOR</th> <th colspan="2" data-bbox="792 968 1382 1024">TB2 TERMINAL NUMBER</th> </tr> <tr> <th data-bbox="792 1024 1102 1087">QSD300A</th> <th data-bbox="1102 1024 1382 1087">QSD2300A</th> </tr> </thead> <tbody> <tr> <td data-bbox="493 1087 792 1136">R</td> <td data-bbox="792 1087 1102 1136">9</td> <td data-bbox="1102 1087 1382 1136">4</td> </tr> <tr> <td data-bbox="493 1136 792 1184">BK</td> <td data-bbox="792 1136 1102 1184">14</td> <td data-bbox="1102 1136 1382 1184">14</td> </tr> <tr> <td data-bbox="493 1184 792 1232">W</td> <td data-bbox="792 1184 1102 1232">1</td> <td data-bbox="1102 1184 1382 1232">1</td> </tr> <tr> <td data-bbox="493 1232 792 1276">W</td> <td data-bbox="792 1232 1102 1276">14</td> <td data-bbox="1102 1232 1382 1276">3</td> </tr> </tbody> </table>		LEAD COLOR	TB2 TERMINAL NUMBER		QSD300A	QSD2300A	R	9	4	BK	14	14	W	1	1	W	14	3
LEAD COLOR	TB2 TERMINAL NUMBER																	
	QSD300A	QSD2300A																
R	9	4																
BK	14	14																
W	1	1																
W	14	3																
DIAL																		
7	Loosen screws on side of dial. Do not remove screws from dial mounting.																	
8	Disconnect dial leads on TB2.																	
9	Pry dial bracket on one side of dial with a screwdriver, and free two bosses from the aligning holes on the bracket.																	
10	Tilt dial slightly and lift from dial and housing assembly. If replacing dial, press on dial to engage the two bosses in the aligning holes on the bracket.																	

**CHART 13 (Cont) – REMOVAL AND REPLACEMENT OF DIAL AND HOUSING
ASSEMBLY AND DIAL**

STEP	PROCEDURE																																						
11	<p>Replace dial in dial housing assembly by performing Steps 7 through 10 in the reverse order. The dial leads are reconnected as follows:</p> <table border="1" data-bbox="331 543 1203 1087"> <thead> <tr> <th data-bbox="331 543 652 678" rowspan="2">LEAD COLOR</th> <th colspan="2" data-bbox="652 543 1203 604">TB2 TERMINAL NUMBER</th> </tr> <tr> <th data-bbox="652 604 958 678">QSD300A</th> <th data-bbox="958 604 1203 678">QSD2300A</th> </tr> </thead> <tbody> <tr> <td data-bbox="331 678 652 720">O-R</td> <td data-bbox="652 678 958 720">—</td> <td data-bbox="958 678 1203 720">7</td> </tr> <tr> <td data-bbox="331 720 652 762">O-BK</td> <td data-bbox="652 720 958 762">—</td> <td data-bbox="958 720 1203 762">8</td> </tr> <tr> <td data-bbox="331 762 652 804">R</td> <td data-bbox="652 762 958 804">—</td> <td data-bbox="958 762 1203 804">4</td> </tr> <tr> <td data-bbox="331 804 652 846">R-G</td> <td data-bbox="652 804 958 846">—</td> <td data-bbox="958 804 1203 846">9</td> </tr> <tr> <td data-bbox="331 846 652 888">W</td> <td data-bbox="652 846 958 888">1, 14</td> <td data-bbox="958 846 1203 888">3</td> </tr> <tr> <td data-bbox="331 888 652 930">BL</td> <td data-bbox="652 888 958 930">10</td> <td data-bbox="958 888 1203 930">14</td> </tr> <tr> <td data-bbox="331 930 652 972">O</td> <td data-bbox="652 930 958 972">—</td> <td data-bbox="958 930 1203 972">15</td> </tr> <tr> <td data-bbox="331 972 652 1014">G-W</td> <td data-bbox="652 972 958 1014">—</td> <td data-bbox="958 972 1203 1014">5</td> </tr> <tr> <td data-bbox="331 1014 652 1056">V-BL</td> <td data-bbox="652 1014 958 1056">—</td> <td data-bbox="958 1014 1203 1056">13</td> </tr> <tr> <td data-bbox="331 1056 652 1098">G</td> <td data-bbox="652 1056 958 1098">6</td> <td data-bbox="958 1056 1203 1098">—</td> </tr> <tr> <td data-bbox="331 1098 652 1140">Y</td> <td data-bbox="652 1098 958 1140">5, 15</td> <td data-bbox="958 1098 1203 1140">—</td> </tr> </tbody> </table>	LEAD COLOR	TB2 TERMINAL NUMBER		QSD300A	QSD2300A	O-R	—	7	O-BK	—	8	R	—	4	R-G	—	9	W	1, 14	3	BL	10	14	O	—	15	G-W	—	5	V-BL	—	13	G	6	—	Y	5, 15	—
LEAD COLOR	TB2 TERMINAL NUMBER																																						
	QSD300A	QSD2300A																																					
O-R	—	7																																					
O-BK	—	8																																					
R	—	4																																					
R-G	—	9																																					
W	1, 14	3																																					
BL	10	14																																					
O	—	15																																					
G-W	—	5																																					
V-BL	—	13																																					
G	6	—																																					
Y	5, 15	—																																					

CHART 14 – SUBSTITUTION OF RINGER NE-D1QA

STEP	PROCEDURE
1	Open the door assembly as described in Chart 9.
2	Remove the PCB assembly as described in Chart 15.
3	Remove apparatus module as described in Chart 10.
4	<p>Remove ringer leads on the NE-425QE1 network from following terminals:</p> <p>(a) R lead on terminal L1</p>

CHART 14 (Cont) – SUBSTITUTION OF RINGER NE-D1QA

STEP	PROCEDURE
	(b) BK lead on terminal L2 (c) S lead on terminal A (d) S-R lead on terminal K
5	Loosen three captive screws on ringer frame.
6	Pull ringer lead out of grommet and remove ringer.
7	Replace NE-D1QA ringer on apparatus module by performing Steps 1 through 6 in the reverse order.

CHART 15 – REMOVAL AND REPLACEMENT OF PRINTED CIRCUIT BOARD ASSEMBLY

STEP	PROCEDURE
1	Open door assembly as described in Chart 1.
2	Disconnect plug 2 from jack 2.
3	Grasp front edge of PCB assembly at top and bottom. Do not apply pressure on components of PCB assembly.
4	Pull PCB assembly outward, away from connector. PCB should be pulled out carefully to avoid damage to the components on the PCB.
5	Insert PCB with component side adjacent to the right-hand lock strike and outside wall of housing.
6	Reconnect plug 2 to jack 2.

CHART 16 – SUBSTITUTION OF HANDSET NE-G3QF-52

STEP	PROCEDURE																	
1	Open the door assembly as described in Chart 9.																	
2	Loosen screw on TB2 and disconnect handset cord stay hook.																	
3	Disconnect the following handset leads from TB2 as follows: <table border="1" data-bbox="321 613 1211 915" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th data-bbox="321 613 636 747" rowspan="2">LEAD COLOR</th> <th colspan="2" data-bbox="636 613 1211 672">TB2 TERMINAL NUMBER</th> </tr> <tr> <th data-bbox="636 672 912 747">QSD300A</th> <th data-bbox="912 672 1211 747">QSD2300A</th> </tr> </thead> <tbody> <tr> <td data-bbox="321 747 636 798">R</td> <td data-bbox="636 747 912 798">9</td> <td data-bbox="912 747 1211 798">4</td> </tr> <tr> <td data-bbox="321 798 636 848">BK</td> <td data-bbox="636 798 912 848">14</td> <td data-bbox="912 798 1211 848">14</td> </tr> <tr> <td data-bbox="321 848 636 898">W</td> <td data-bbox="636 848 912 898">1</td> <td data-bbox="912 848 1211 898">1</td> </tr> <tr> <td data-bbox="321 898 636 915">W</td> <td data-bbox="636 898 912 915">14</td> <td data-bbox="912 898 1211 915">3</td> </tr> </tbody> </table>	LEAD COLOR	TB2 TERMINAL NUMBER		QSD300A	QSD2300A	R	9	4	BK	14	14	W	1	1	W	14	3
LEAD COLOR	TB2 TERMINAL NUMBER																	
	QSD300A	QSD2300A																
R	9	4																
BK	14	14																
W	1	1																
W	14	3																
4	Loosen screw on retainer plate. Slide plate upward to release armor jacket.																	
5	Pull cord out through cord entry hole in door.																	
6	Replace handset by performing Steps 1 through 5 in the reverse order.																	

CHART 17 – REMOVAL AND REPLACEMENT OF COIN CHUTE NSQ1016L1

STEP	PROCEDURE
1	Open door assembly as described in Chart 9.
2	Disengage coin release linkage from coin chute (Fig. 6).
3	Disengage coin chute retainer on upper left side of chute bracket (Fig. 6).
4	Lift chute upward until lower end can be pulled outward, then pull upper end upward and forward to clear mounting bracket.
5	Replace the coin chute by performing Steps 1 through 4 in the reverse order.

CHART 18 – REMOVAL AND REPLACEMENT OF COIN RETURN CHUTE ASSEMBLY (FIG. 9)

STEP	PROCEDURE
1	Open door assembly as described in Chart 1.
2	Remove coin chute as described in Chart 17.
3	Loosen retaining screw (Fig. 9).
4	Remove three mounting screws (Fig. 9).
5	Tilt assembly forward and lift upward.
6	Replace the assembly by performing Steps 1 through 5 in the reverse order.

CHART 19 – REMOVAL AND REPLACEMENT OF THE COIN SWITCH MODULE (FIG. 8)

STEP	PROCEDURE
REMOVAL OF SWITCH MODULE	
1	Open door assembly as described in Chart 1.
2	Disconnect plug 1 from jack 1.
3	Rotate the retaining screw 1/4 turn counterclockwise to free right end of module.
4	Pull right end of module forward until it clears the mounting bracket.
5	Move the whole module to the right until it clears the left side of the mounting bracket.
REPLACEMENT OF SWITCH MODULE	
6	Align two locating tabs on left side of module with two slots on the left side of chute bracket.
7	Align locking assembly with oval slot on right side of bracket.
8	Press the right side of the module backwards against the mounting bracket.
9	Rotate the locking assembly 1/4 turn clockwise to lock the assembly.

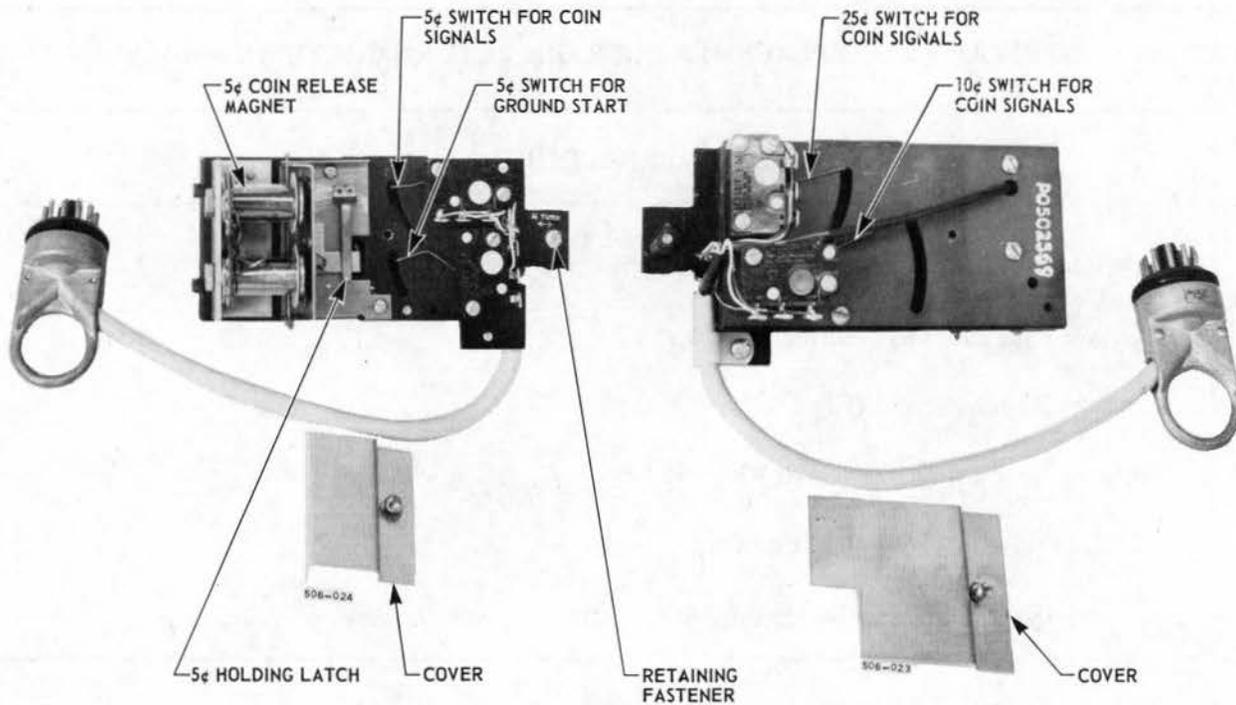


Fig. 8 – Coin Switch Module

CHART 20 – SUBSTITUTION OF THE COIN RELAY

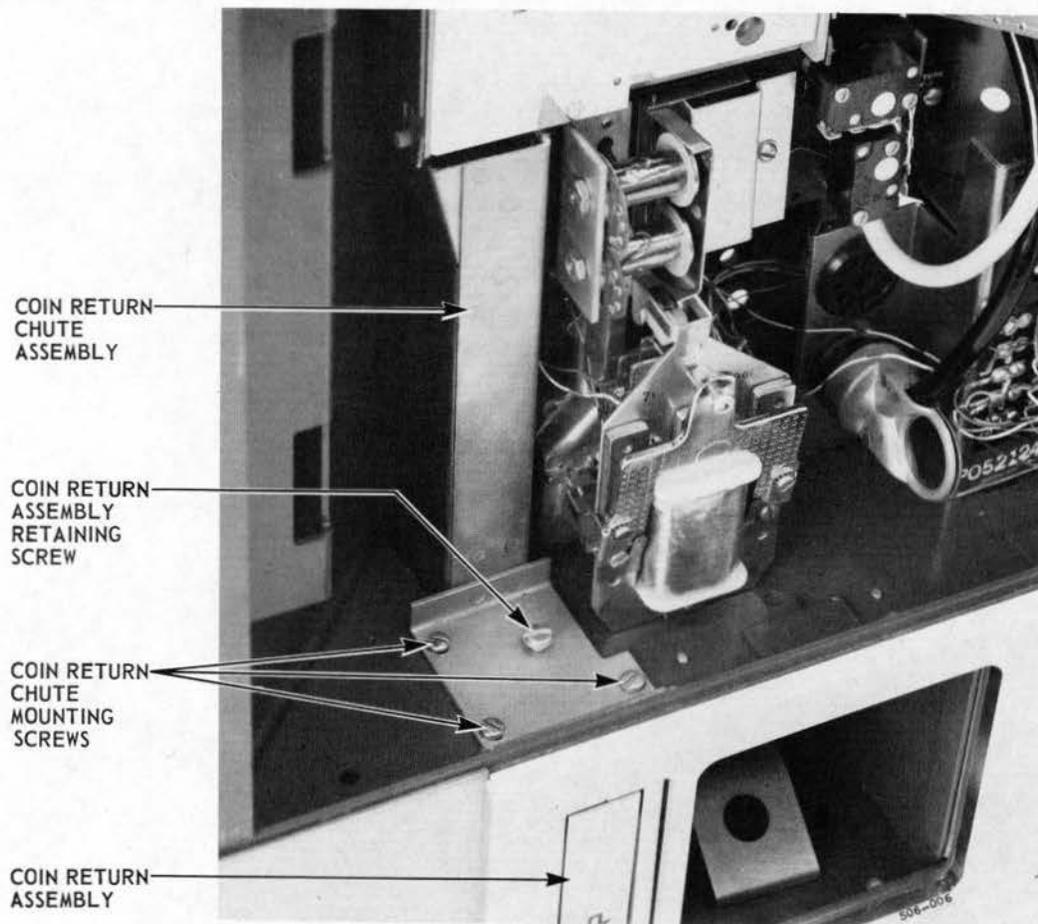
STEP	PROCEDURE
1	Open and remove door assembly as described in Chart 9.
2	Disconnect coin relay leads from terminal board TB1 as follows: (Do not disconnect leads at the coin relay) <ul style="list-style-type: none"> (a) O-R lead on terminal 1 (b) W-G lead on terminal 2 (c) W-BL lead on terminal 3 (d) O-BK lead on terminal 7 (e) Y-BL lead on terminal 6 (f) G lead on terminal 4 (g) R-G lead on terminal 5

CHART 20 (Cont) – SUBSTITUTION OF THE COIN RELAY

STEP	PROCEDURE
3	Remove two screws from each side of the coin trigger.
4	Remove two slotted hex-head screws in the coin hopper casting from each side of the relay.
5	Remove the coin switch module as described in Chart 19.
6	Pull coin relay outward so the coin trigger is not damaged. The cord which extends around the rear of the hopper must be lifted over the top of the hopper.
7	Replace the coin relay by performing Steps 1 through 6 in a reverse order. When refitting the coin relay to the hopper assembly check carefully to be certain that the vane in the lower part of the hopper engages properly with the cam on the relay.

CHART 21 – SUBSTITUTION OF THE COIN RETURN ASSEMBLY (FIG. 9)

STEP	PROCEDURE
1	Open and remove door assembly as described in Chart 9.
2	Remove coin return chute assembly as described in Chart 18.
3	Tilt top of coin return assembly forward from front of the housing.
4	Remove coin return assembly by pulling outward and upward.
5	Replace coin return assembly by performing Steps 1 through 4 in reverse order.


Fig. 9 – Mounting Arrangement for Coin Return Chute Assembly

4. IDENTIFICATION OF PARTS

4.01 An exploded view of the QSD300A and QSD2300A coin telephone sets is shown in Fig. 10 with the parts keyed by numbers to

Table C. An exploded view of the door assembly is given in Fig. 11 with parts keyed by numbers to Table D.

4.02 The instructions for substituting field replaceable parts are detailed in Part 3.

TABLE C
QSD300A AND QSD2300A COIN TELEPHONE SET
IDENTIFICATION OF PARTS

ITEM NO. FIG. 10	IDENTIFICATION	DESCRIPTION
1	P0893695	Roof Assembly
2	P0502604	Coin Guide and Bracket Assembly
3	-	0.190-24 (No. 10-24) Hex Nut
4	P0896966	Housing Assembly
5	P0893684	Spacer
6	P0521246	Apparatus Module
7	NSQ1016L1	Coin Chute
8	-	0.190-24 (No. 10-24) x 0.250 Long Pan Head Machine Screw
9	P0502569	Coin Switch Module
10	C0016451	0.190-24 (No. 10-24) Locknut
11	P0896982	Vault Unit Assembly
12	-	0.250-20 (1/4-20) x 0.500 Long Hex Head Cap Screw
13	P0896913	Coin Return Chute Assembly
14	-	0.190-24 (No. 10-24 x 0.312 Long Screw and Washer Screw
15	P0521210	Coin Relay and Hopper Assembly
16	-	0.164-32 (No. 8-32) x 0.312 Long Screw and Washer Assembly
17	P0521245	Connector Bracket Assembly
18	-	0.112-40 (No. 4-40) x 0.312 Long Pan Head Machine Screw
19	P0521260	Printed Circuit Board Assembly
20	P0502594	Mounting Bracket Assembly
21	P015E491	Coin Return Assembly
22	NE-1B	Coin Receptacle Rail
23	-	0.164-36 (No. 8-36) x 0.250 Long Slotted Head Machine Screw
24	-	0.125-40 (No. 5-40) x 0.312 Long Pan Head Machine Screw
25	NE-1B	Coin Receptacle
26	NE-1C	Receptacle Cover
27	P0892802	Cord Retainer
28	NE-22QD	Lock
29	P0892488	Spacer
30	P0896991	Hex Nut (Slotted)
31	P0521211	Door Unit Assembly (Rotary Dial) (Fig. 11)
	P0521212	Door Unit Assembly (DIGITONE Dial) (Fig. 11)
33	NE-22QC	Lock
34	P010E990	0.250-28 (1/4-28 x 0.469 Long Screw and Washer Assembly
35	NE-1A	Door
36	P0502663	Decorator Panels (Stainless Steel)
37	NE-G3QF-52	Handset
38	P0892491	Chain
39	-	Lock Nut 0.164-32 (No. 8-32)
-	P0896959	Door trim right
-	P0896960	Door trim left
-	P0896958	Door trim top
-	P0896961	Vault trim right
-	P0896962	Vault trim left
-	P0896958	Vault trim bottom

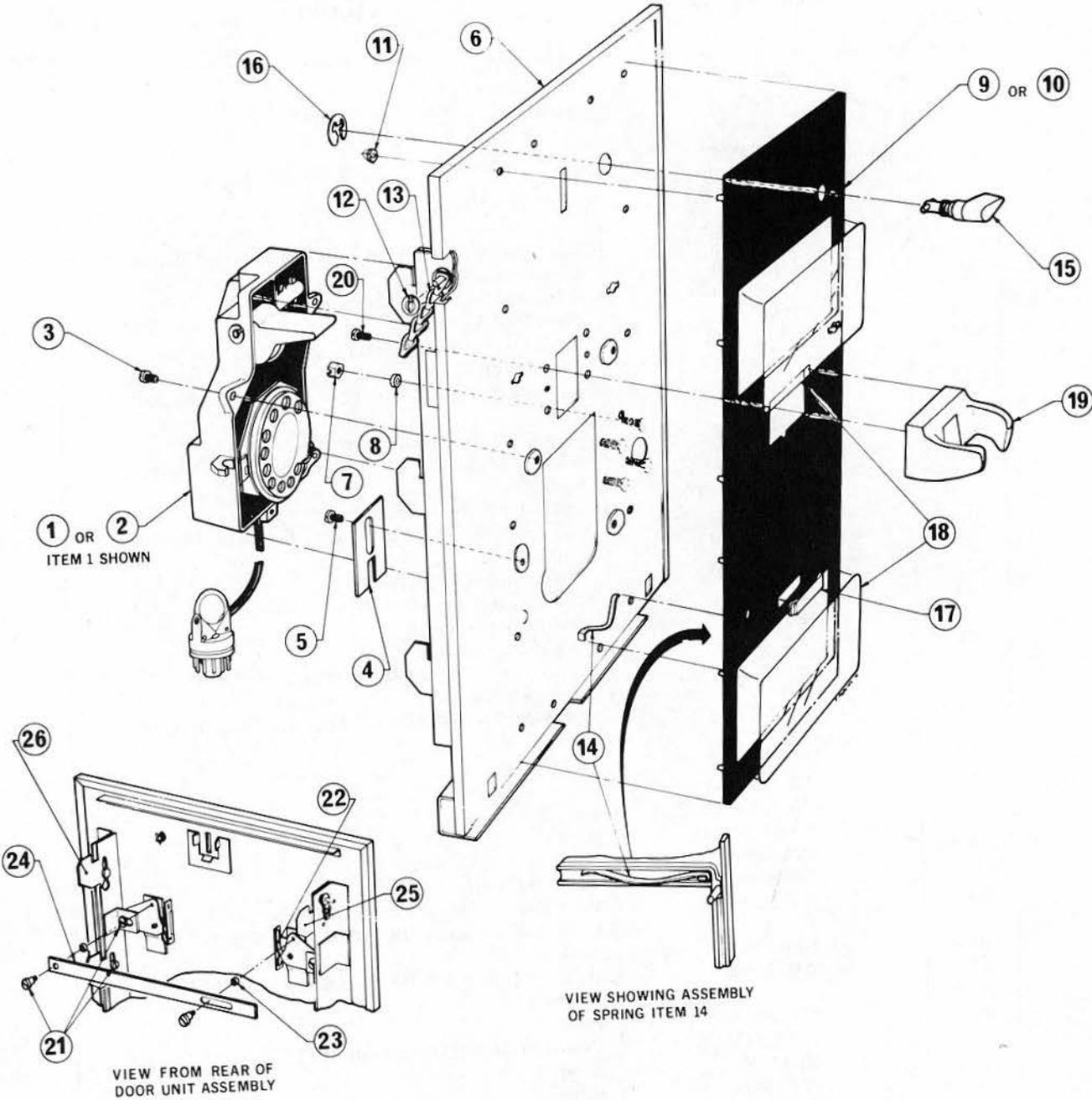


Fig. 11 – Door Unit P0521211 or P0521212 –
See Table C For Assembly of Parts Detail

TABLE D
DOOR UNIT ASSEMBLY
IDENTIFICATION OF PARTS

ITEM NO. FIG. 11	IDENTIFICATION	DESCRIPTION
1	P0521213	Dial housing assembly rotary dial
2	P0521214	Dial housing assembly DIGITONE dial
3	—	Machine Screw 0.190-24 (No. 10-24) by 0.438 Long Pan Head
4	P0892802	Cord retainer
5	—	Machine Screw 0.190-24 (No. 10-24) by 0.250 Long Pan Head
6	P0896983	Door and locking mechanism assembly
7	P0896991	Nut slotted
8	P0892488	Spacer
9	P0896993	Faceplate rotary dial
10	P0896994	Faceplate DIGITONE dial
11	P097Y374	Hexagon sheet metal nut
12	C0026324	Speed nut
13	P0892491	Chain
14	P015E818	Spring
15	P0896992	Coin return lever assembly
16	C0026338	Retaining ring
17	P0896334	Number card window
18	P0896963	Instruction card window
19	P0521251	Hook
20	—	Machine Screw 0.190-32 (No. 10-32) by 0.250 Long Pan Head
21	P0896926	Shoulder screw
22	P015E333	Detent Spring
23	P0896955	Spacer
24	P0896949	Locking bolt
25	P0896939	Bolt assembly right
26	P0896940	Bolt assembly left