Task Oriented Practice
(TOP)

1D/2D TYPE COIN TELEPHONE SETS

(DTF ONLY)

INSTALLATION, CONVERSION, MAINTENANCE, AND CONNECTIONS

NOTE

Before using TOP for the first time, complete the TOP-USER Plant Training Course–PTC No. 278.

A short version of PTC No. 278 is in the back of this volume.

Printed in U.S.A.

Issue 2	AUG 1980	
506-410-402		TPG
TITLE PAGE		

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
CKL-000		● DLP-511		● DLP-546							
RTL-001		DLP-512		● DLP-547							
ATL-030		● DLP-513		● DLP-548							
● COL-050		DLP-514		● DLP-549							
● COP-051		DLP-515		● IXL-890							
● COP-052		DLP-516									
● COP-053		DLP-517									
● COP-054		DLP-518									
● COP-055		DLP-519									
● COP-056		DLP-520									
● COP-057		● DLP-521									
● TIL-095		● DLP-522									
● TAD-100		● DLP-523									
● TAP-101		DLP-524									
TAP-102		DLP-525									
TAP-103		DLP-526									
TAP-104		DLP-527									
TAP-105		● DLP-528									
TAP-106		● DLP-529									
TAP-107		● DLP-530									
● TAP-108		● DLP-531									
TAP-109		● DLP-532									
TAP-110		● DLP-533									
● TAP-111		DLP-534									
● DLP-500		● DLP-535									
● DLP-501		● DLP-536									
DLP-502		● DLP-537									
● DLP-503		● DLP-538									
● DLP-504		● DLP-539									
● DLP-505		● DLP-540									
● DLP-506		● DLP-541									
● DLP-507		● DLP-542									
● DLP-508		● DLP-543									
DLP-509		● DLP-544									
DLP-510		● DLP-545									

● REVISED OR ADDED ITEM □ CANCELED ITEM

CHECKLIST — 1D/2D-TYPE COIN TELEPHONE SET

ROUTINE TASKS	PROCEDURE NUMBER
NONE REQUIRED	

ACCEPTANCE TASKS	PROCEDURE NUMBER
NONE REQUIRED	

COMPANY ORDER TASKS	PROCEDURE NUMBER
SERVICE ORDERS	
Install 1D1, 1D2 Coin Telephone Set in Dial-Tone-First Mode and Test	COP-051
Install 2D1, 2D2 Coin Telephone Set in Dial-Tone-First Mode and Test	COP-052
Convert 1C-, 2C-Type Set in Dial-Tone-First Mode to 1D-, 2D-Type Set Dial-Tone-First Mode and Test	COP-053
Convert 1C-, 2C-Type Set in Coin-First Mode to 1D-, 2D-Type Set Dial-Tone-First Mode and Test	COP-054
Convert 1A-, 2A-Type Set in Coin-First Mode to 1D-, 2D-Type Set Dial-Tone-First Mode and Test	COP-055
Convert 1E1 Dial Postpay to 1D-Type Dial-Tone-First and Test	COP-056
Convert 1E3 Manual Postpay to 1D-Type in Dial-Tone-First and Test	COP-057

ITEM	SUBTASKS	PROCEDURE NUMBER
	NOTE: Generally for new installations, Items 1 through 8 must be performed. Additional information regarding these tasks is provided in TAD-100	
1	Install Drop Wire (if required)	–
2	Install Protection and Ground (if required)	DLP-537
3	Install Inside Wire (if required)	–
4	Install Backboard (if required)	–
5	Install Shelf (if required)	–
6	Install Security Devices (if required)	–
7	Install Extension Station (if required)	–
8	Install Auxiliary or Extension Ringer (if required)	–
9	Check Location and Mounting Facilities	DLP-500
10	Remove Coin Cover Unit	DLP-501
11	Remove Coin Chute	DLP-502
12	Remove Coin Chassis	DLP-503
13	Attach Housing to Mounting Surface	DLP-504
14	Verify or Set Initial Rate	DLP-505
15	Install 32A Coin Chassis	DLP-506
16	Install Coin Chute	DLP-507
17	Install KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	DLP-508
18	Measure Loop Resistance	DLP-509
19	Measure Ground Resistance	DLP-510
20	Perform Operational Tests	DLP-511
21	Remove KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	–

ITEM	SUBTASKS	PROCEDURE NUMBER
22	Install Number Card and Coin Cover Unit on 1D1 (Rotary Dial) Coin Telephone Set, if applicable	–
	1. Install Coin Cover Unit	DLP-512
	2. Remove Dial Fingerwheel	DLP-513
	3. Install Number Card	–
	4. Install Dial Fingerwheel	DLP-514
23	Install Number Card and Coin Cover Unit on 1D2 (TOUCH-TONE® Dial) Coin Telephone Set, if applicable	–
	1. Detach Coin Dial Unit	DLP-515
	2. Install Number Card	DLP-516
	3. Secure Coin Dial Unit	DLP-517
	4. Install Coin Cover Unit	DLP-512
24	Install Instruction Cards	DLP-518
25	Make Coin Release Lever and Call Back Test	DLP-519

ITEM	SUBTASKS	PROCEDURE NUMBER
	NOTE: Generally for new installations, Items 1 through 8 must be performed. Additional information regarding these tasks is provided in TAD-100	
1	Install Drop Wire (if required)	–
2	Install Protection and Ground (if required)	DLP-537
3	Install Inside Wire (if required)	–
4	Install Backboard (if required)	–
5	Install Shelf (if required)	–
6	Install Security Devices (if required)	–
7	Install Extension Station (if required)	–
8	Install Auxiliary or Extension Ringer	–
9	Check Location and Mounting Facilities	DLP-500
10	Open Door and Faceplate Assembly	DLP-501
11	Remove Coin Chute	DLP-502
12	Remove Coin Chassis	DLP-503
13	Attach Housing to Mounting Surface	DLP-520
14	Verify or Set Initial Rate	DLP-505
15	Install 32A Coin Chassis	DLP-506
16	Install Coin Chute	DLP-507
17	Install P11C Patch Cord	DLP-508
18	Measure Loop Resistance	DLP-509
19	Measure Ground Resistance	DLP-510
20	Perform Operational Tests	DLP-511
21	Remove P11C Patch Cord	–

INSTALL 2D1, 2D2 COIN TELEPHONE SET

ITEM	SUBTASKS	PROCEDURE NUMBER
22	Install Number Card on 2D1 (Rotary Dial) Coin Telephone Set, if applicable	–
	1. Close Door and Faceplate Assembly	DLP-512
	2. Remove Dial Fingerwheel	DLP-513
	3. Install Number Card	–
	4. Install Dial Fingerwheel	DLP-514
23	Install Number Card on 2D2 (TOUCH-TONE® Dial) Coin Telephone Set, if applicable	–
	1. Detach Coin Dial Unit	DLP-515
	2. Install Number Card	DLP-516
	3. Secure Coin Dial Unit	DLP-517
	4. Close Door and Faceplate Assembly	DLP-512
24	Install Instruction Cards	DLP-518
25	Make Coin Release Lever and Call Back Tests	DLP-519

ITEM	SUBTASKS	PROCEDURE NUMBER
1	Verify Proper Protection and Ground	DLP-537
2	Remove Coin Cover Unit or Open Door and Faceplate Assembly	DLP-501
3	Remove Coin Chute	DLP-502
4	Remove Totalizer From Coin Chute	DLP-521
5	Install 47A (MD) or 47A2 Signal on Coin Chute	DLP-522
6	Remove Coin Chassis	DLP-503
7	Verify or Set Initial Rate on 32A Coin Chassis	DLP-505
8	Install 32A Coin Chassis	DLP-506
9	Install Coin Chute	DLP-507
10	Verify Compatibility of Coin Dial Unit	DLP-525
11	Make Wiring Changes on TB2	DLP-523
12	Install KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	DLP-508
13	Verify Loop Resistance	DLP-509
14	Verify Ground Resistance	DLP-510
15	Perform Operational Tests	DLP-511
16	Remove KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	–
17	Install Coin Cover Unit or Close Door and Faceplate Assembly	DLP-512
18	Make Coin Release Lever and Call Back Tests	DLP-519

ITEM	SUBTASKS	PROCEDURE NUMBER
1	Verify Proper Protection and Ground	DLP-537
2	Remove Coin Cover Unit or Open Door and Faceplate Assembly	DLP-501
3	Remove Coin Chute	DLP-502
4	Remove Totalizer From Coin Chute	DLP-521
5	Install 47A (MD) or 47A2 Signal on Coin Chute	DLP-522
6	Remove Coin Chassis	DLP-503
7	Verify or Set Initial Rate on 32A Coin Chassis	DLP-505
8	Install 32A Coin Chassis	DLP-506
9	Install Coin Chute	DLP-507
10	Verify Compatibility of Coin Dial Unit	DLP-525
11	Make Wiring Changes on TB2	DLP-523
12	Install KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	DLP-508
13	Verify Loop Resistance	DLP-509
14	Verify Ground Resistance	DLP-510
15	Perform Operational Tests	DLP-511
16	Remove KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	–
17	Replace Information Plate (if provided)	–
18	Install Coin Cover Unit or Close Door and Faceplate Assembly	DLP-512
19	Replace Instruction Cards	DLP-524
20	Make Coin Release Lever and Call Back Tests	DLP-519

CONVERT 1C-, 2C-TYPE SET IN COIN-FIRST MODE TO 1D-, 2D-TYPE SET DIAL-TONE-FIRST MODE

ITEM	SUBTASKS	PROCEDURE NUMBER
1	Verify Proper Protection and Ground	DLP-537
2	Remove Coin Cover Unit or Open Door and Faceplate Assembly	DLP-501
3	Remove Coin Chute	DLP-502
4	Remove Totalizer From Coin Chute	DLP-521
5	Install 47A (MD) or 47A2 Signal on Coin Chute	DLP-522
6	Remove Coin Chassis	DLP-503
7	Verify Compatibility of Coin Relay	DLP-526
8	Verify or Set Initial Rate on 32A Coin Chassis	DLP-505
9	Install 32A Coin Chassis	DLP-506
10	Install Coin Chute	DLP-507
11	Verify Compatibility of Coin Dial Unit	DLP-525
12	Make Wiring Changes on TB2	DLP-523
13	Install KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	DLP-508
14	Verify Loop Resistance	DLP-509
15	Verify Ground Resistance	DLP-510
16	Perform Operational Test	DLP-511
17	Remove KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	–
18	Install Coin Cover Unit or Close Door and Faceplate Assembly	DLP-512
19	Replace Instruction Cards	DLP-524
20	Perform Coin Release Lever and Call Back Tests	DLP-519

ITEM	SUBTASKS	PROCEDURE NUMBER
1	Verify Proper Protection and Ground	DLP-537
2	Remove Coin Cover Unit	DLP-501
3	Remove Coin Chute	DLP-502
4	Remove Totalizer From Coin Chute	DLP-521
5	Install 47A (MD) or 47A2 Signal on Coin Chute	DLP-522
6	Remove Coin Chassis	DLP-503
7	Replace 50A, 50B, or 51A Hopper Assembly With 1AA Coin Relay	DLP-534
8	Verify or Set Initial Rate on 32A Coin Chassis	DLP-505
9	Install 32A Coin Chassis	DLP-506
10	Install Coin Chute	DLP-507
11	Verify Compatibility of Coin Dial Unit	DLP-525
12	Make Wiring Changes on TB2	DLP-523
13	Install KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	DLP-508
14	Verify Loop Resistance	DLP-509
15	Verify Ground Resistance	DLP-510
16	Perform Operational Tests	DLP-511
17	Remove KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	–
18	Replace Information Plate (if provided)	–
19	Install Coin Cover Unit	DLP-512
20	Replace Instruction Cards	DLP-524
21	Perform Coin Release Lever and Call Back Tests	DLP-519

CONVERT 1E1 SET IN DIAL POSTPAY MODE TO 1D1 SET DIAL-TONE-FIRST MODE

ITEM	SUBTASKS	PROCEDURE NUMBER
1	Verify Proper Protection and Ground	DLP-537
2	Remove Coin Cover Unit	DLP-501
3	Remove Coin Chute	DLP-502
4	Remove Totalizer From Coin Chute	DLP-521
5	Install 47A (MD) or 47A2 Signal on Coin Chute	DLP-522
6	Remove Coin Chassis	DLP-503
7	Replace 50A, 50B, or 51A Hopper Assembly With 1AA Coin Relay	DLP-534
8	Verify or Set Initial Rate on 32A Coin Chassis	DLP-505
9	Install 32A Coin Chassis	DLP-506
10	Install Coin Chute	DLP-507
11	Obtain New Coin Cover Unit (70A3 Rotary or 71A3 TOUCH-TONE Dial)	–
12	Verify Wiring on TB2	DLP-523
13	Install KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	DLP-508
14	Verify Loop Resistance	DLP-509
15	Verify Ground Resistance	DLP-510
16	Perform Operational Tests	DLP–511
17	Remove KS-20950, List 2 Cover Parking Tool or P11C Patch Cord	–
18	Verify Correct Information Plate	–
19	Install Number Card and Coin Cover Unit on 1D1 (Rotary Dial) Coin Telephone Set, if applicable	–
	1. Install Coin Cover Unit	DLP-512
	2. Remove Dial Fingerwheel	DLP-513
	3. Install Number Card	–
	4. Install Dial Fingerwheel	DLP-514

ITEM	SUBTASKS	PROCEDURE NUMBER
20	Install Number Card and Coin Cover Unit on 1D2 (TOUCH-TONE® Dial) Coin Telephone Set, if applicable	–
	1. Detach Coin Dial Unit	DLP-515
	2. Install Number Card	DLP-516
	3. Secure Coin Dial Unit	DLP-517
	4. Install Coin Cover Unit	DLP-512
21	Install Instruction Cards	DLP-518
22	Perform Coin Release Lever and Call Back Tests	DLP-519

TROUBLE INDICATED	MAY ALSO BE REPORTED AS	PROCEDURE NUMBER
MAINTENANCE PHILOSOPHY		TAD-100
TROUBLE REPORTS – VISUAL INSPECTION ITEMS		
Instruction Cards Multilated or Missing		DLP-524
Fingerwheel and/or Number Card Inoperative (Rotary Dial)	Fingerwheel Bent, Number Card Missing or Multilated	DLP-527
Number Card and/or Window (TOUCH-TONE® Dial) Mutilated		DLP-535
Rotary or TOUCH-TONE Dial Inoperative		DLP-531
Handset Broken or Missing	Handset Cord Broken	DLP-530
Switchhook (Coin Dial Unit) Broken		DLP-528
Coin Release Lever Bent or Broken		DLP-532
Coin Return Assembly Mutilated or Missing		DLP-533
Coin Cover Unit Mutilated		DLP-536
TROUBLE REPORTS – NORMAL OPERATIONAL FAILURES		
Telephone Set Does Not Function Properly	No Dial Tone, Doesn't Return Coins, etc.	DLP-529
TROUBLE REPORTS – STATION HAS COIN TROUBLE HISTORY		
Coins Collected or Returned in Error		TAP-111

There are many configurations and types of locations in which coin telephone service is provided. Accordingly, a general approach to maintenance of these facilities is advocated in this document, but which may be modified in accordance with local approved telephone company procedures. Because of this diversity of equipment, location, and facilities, it may be necessary to refer to other procedures and documentation to verify that operations contained herein are complete. ***Refer to TABLE A*** which lists basic operations not covered in this TOP, with a secondary source of information.

TABLE A

SECONDARY SOURCE OF INFORMATION

ITEM	OPERATION	INFORMATION PROVIDED IN
1	Install Drop Wire	Appropriate section in Division 460
2	Install Protection and Ground	Section 506-100-100 and Section 460-100-400
3	Install Inside Wire	Section 461-200-210
4	Install Backboard	Section 506-100-101
5	Install Shelf	Appropriate section in Division 508
6	Install Security Devices	Section 506-101-400
7	Install Extension Station	Section 506-100-108
8	Install Auxiliary or Extension Ringer	Section 506-410-400

After any component replacement, the coin telephone set shall be tested as a standard maintenance method per DLP-529.

It is possible that normal operational testing may not detect certain marginal operating conditions, particularly in the area of coin collection and coin return. For this reason, certain tests are specified based on history for a particular set. When a set has a history of improper coin operations, ***three additional tests are provided TAP-111.***

MAINTENANCE PHILOSOPHY – 1D/2D-TYPE COIN TELEPHONE SET

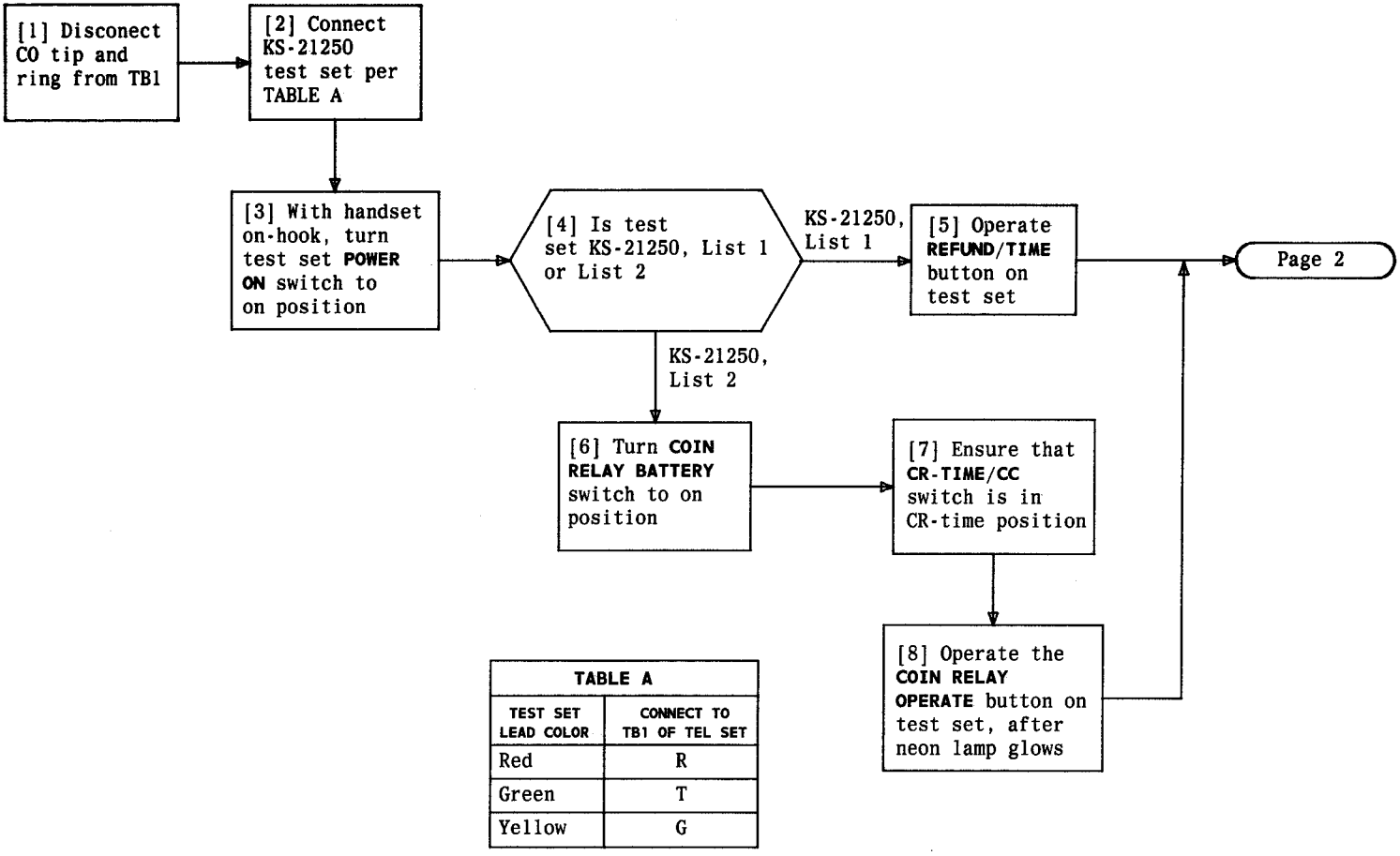
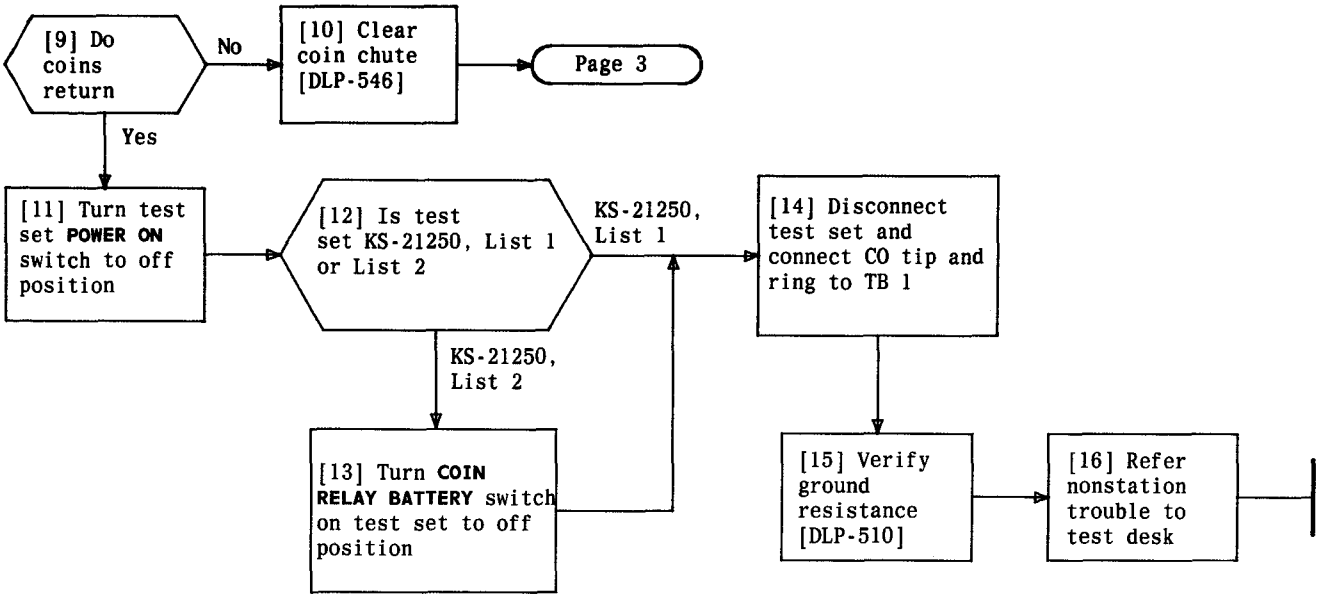


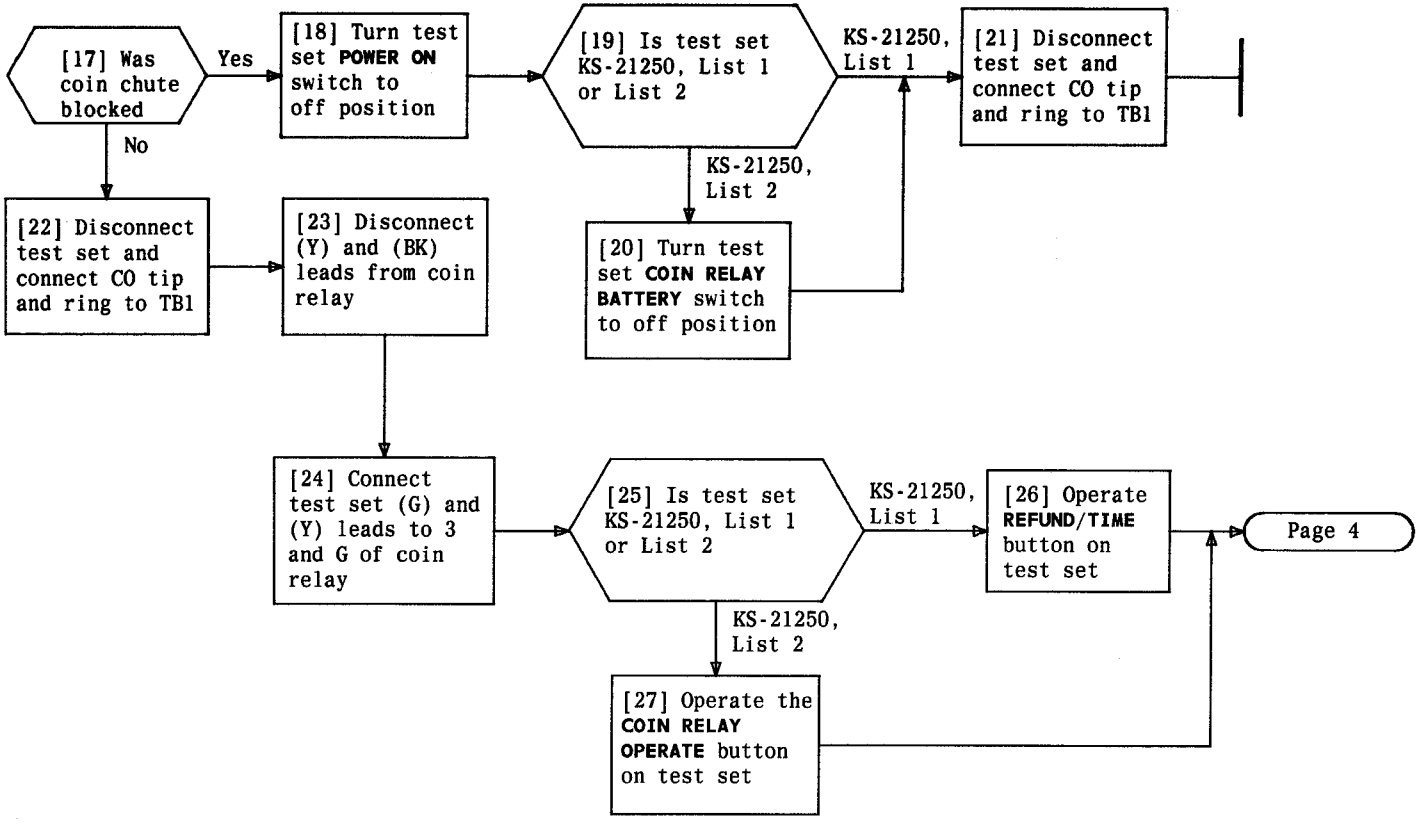
TABLE A

TEST SET LEAD COLOR	CONNECT TO TB1 OF TEL SET
Red	R
Green	T
Yellow	G

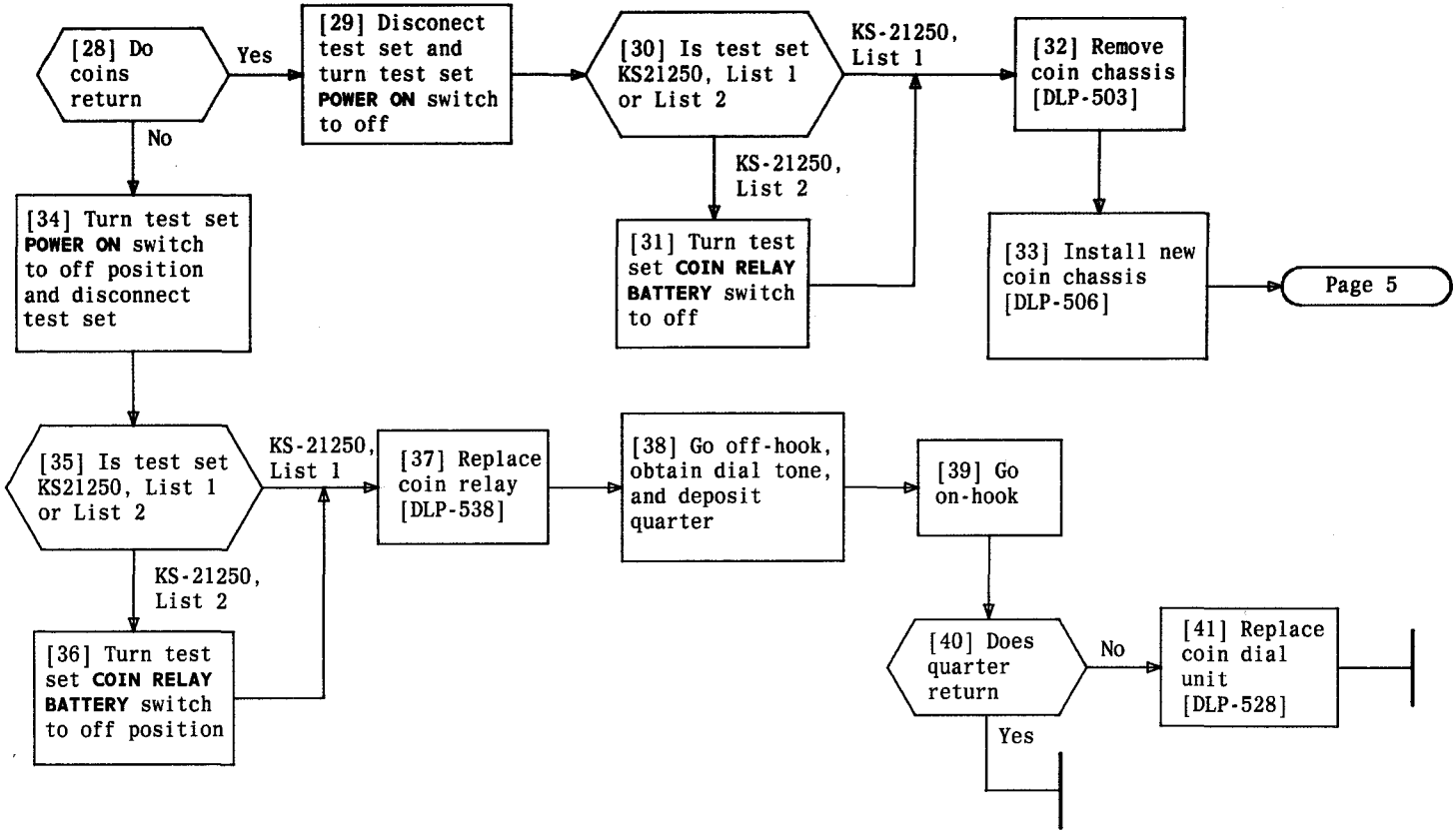
CLEAR COIN RETURN TROUBLE



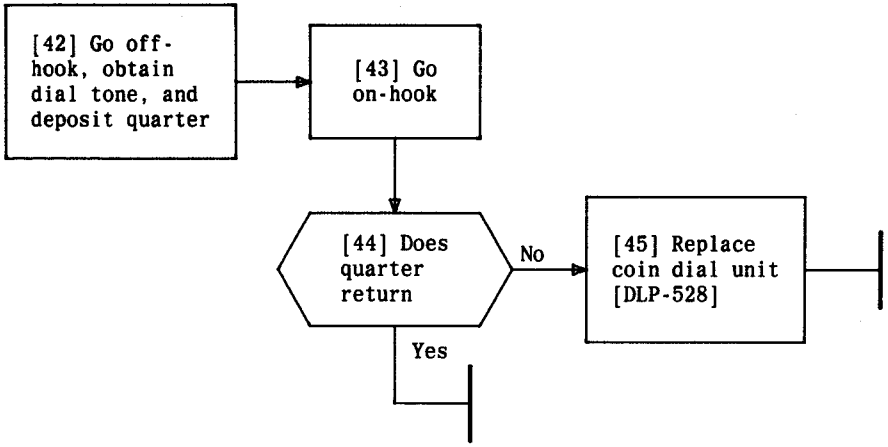
CLEAR COIN RETURN TROUBLE



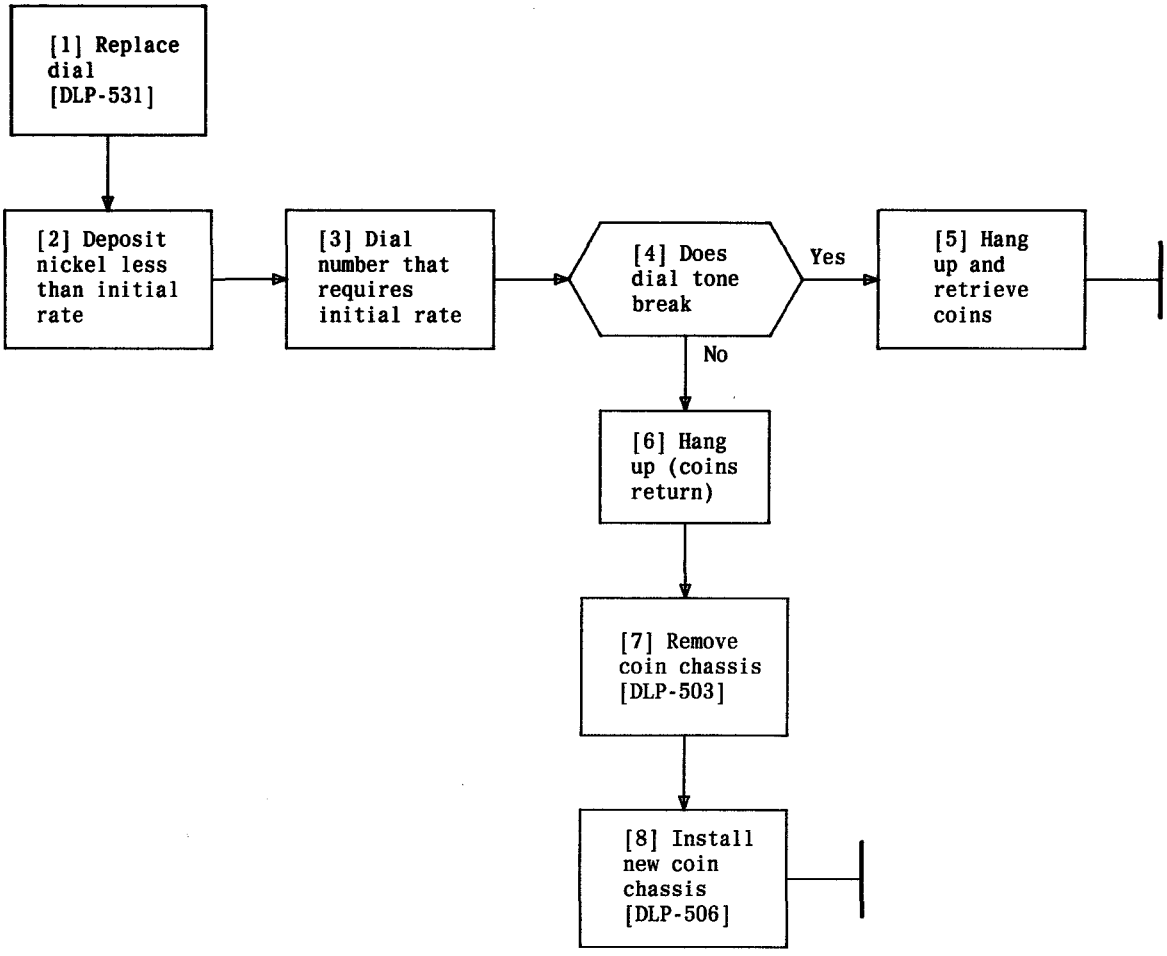
CLEAR COIN RETURN TROUBLE



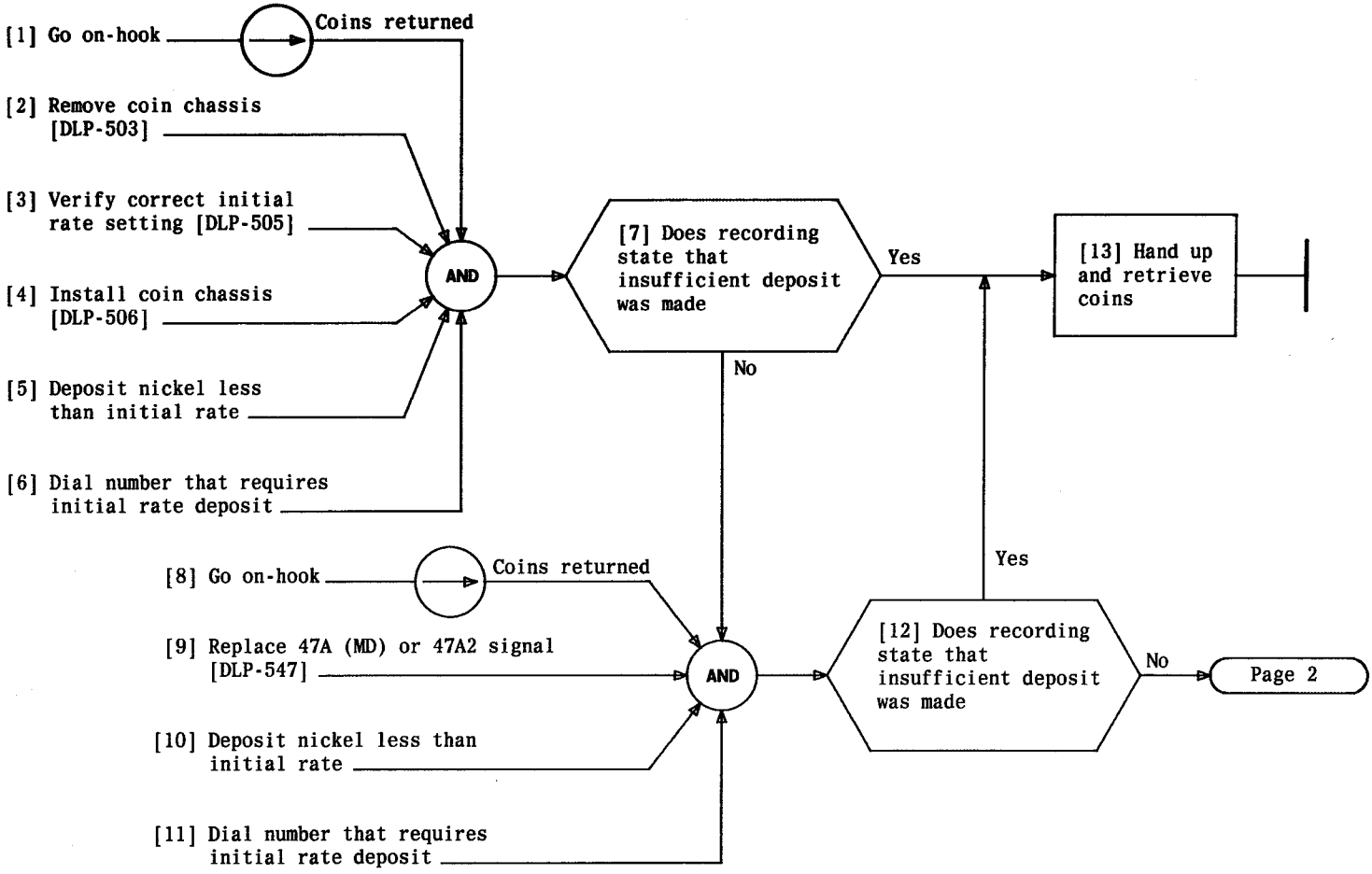
CLEAR COIN RETURN TROUBLE



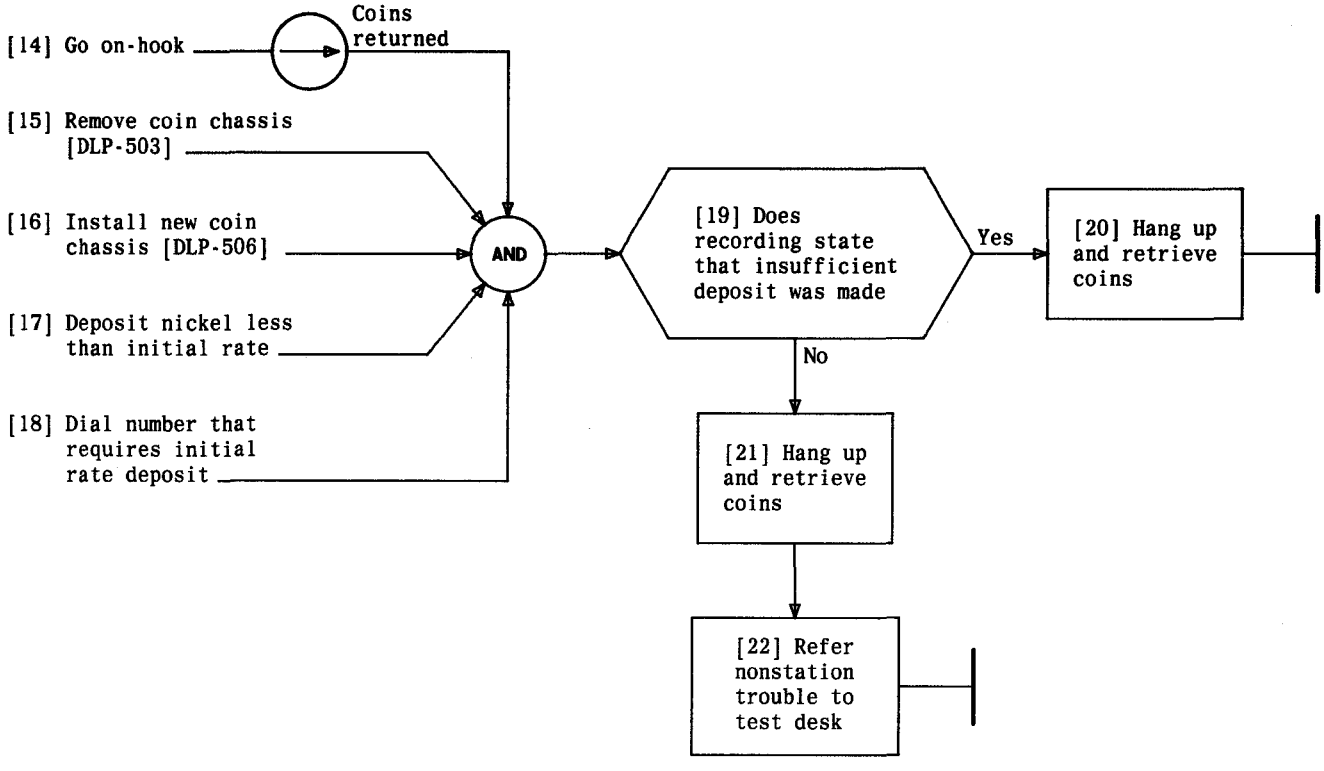
CLEAR COIN RETURN TROUBLE



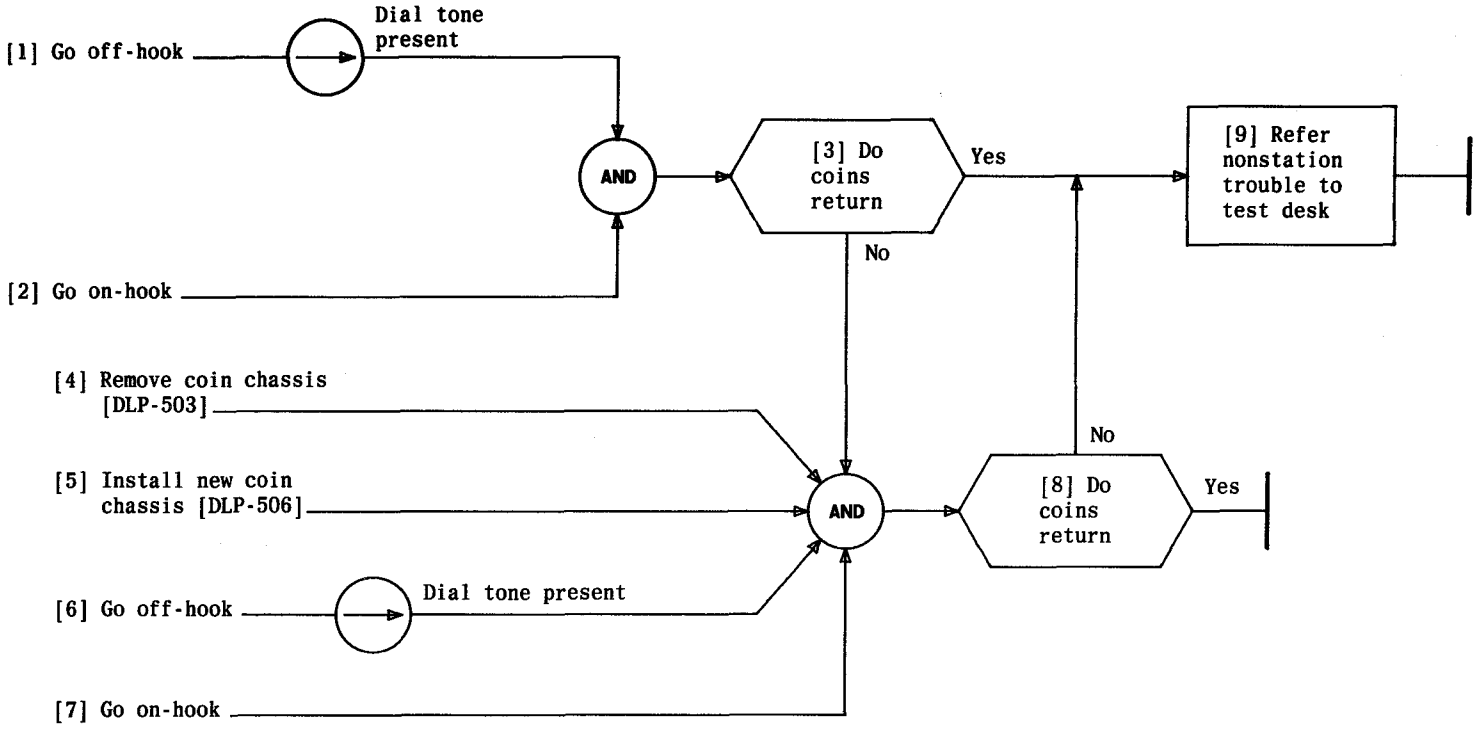
CLEAR CAN'T BREAK DIAL TONE TROUBLE



CLEAR INSUFFICIENT DEPOSIT RECORDING TROUBLE

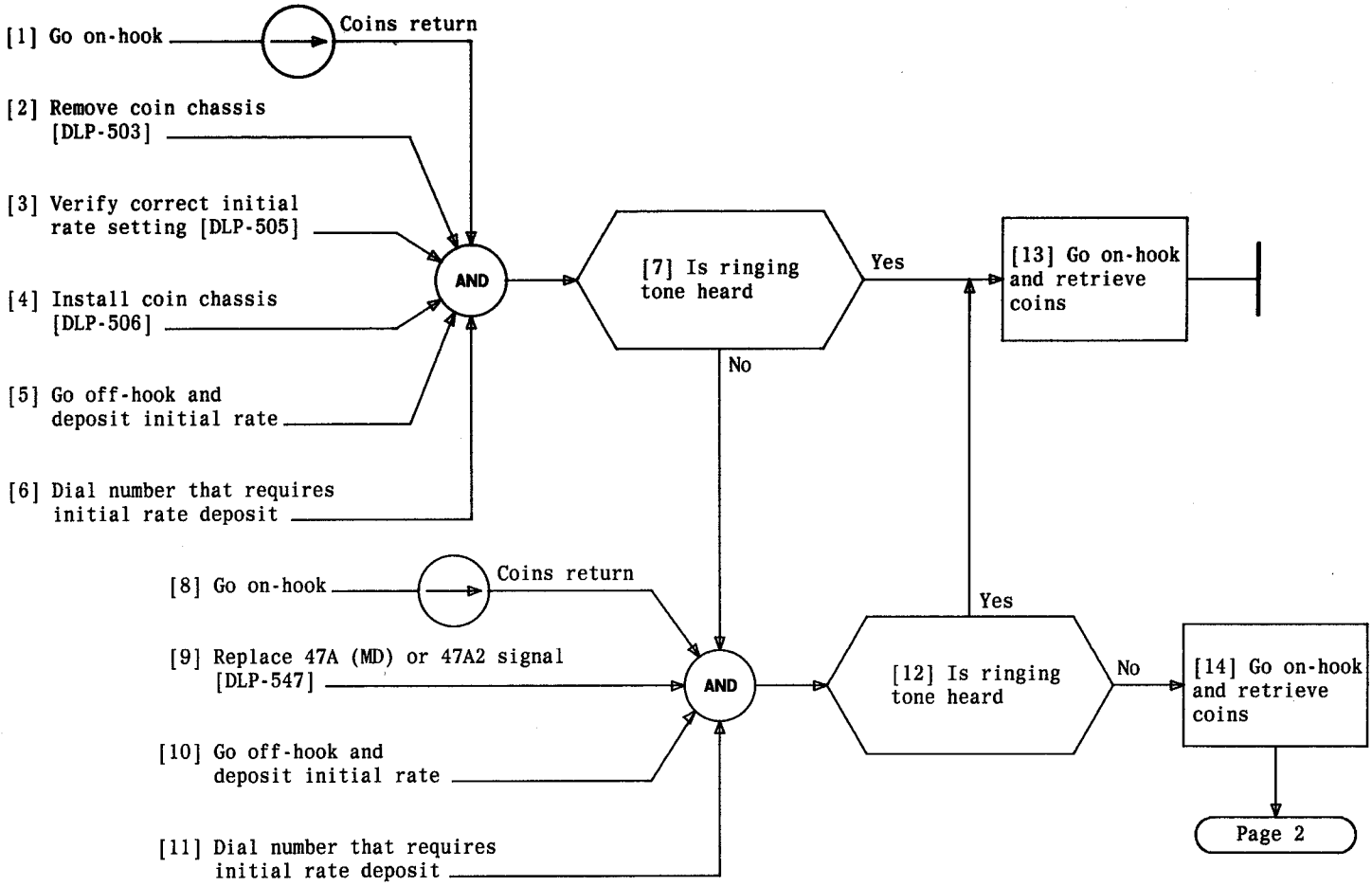


CLEAR INSUFFICIENT DEPOSIT RECORDING TROUBLE

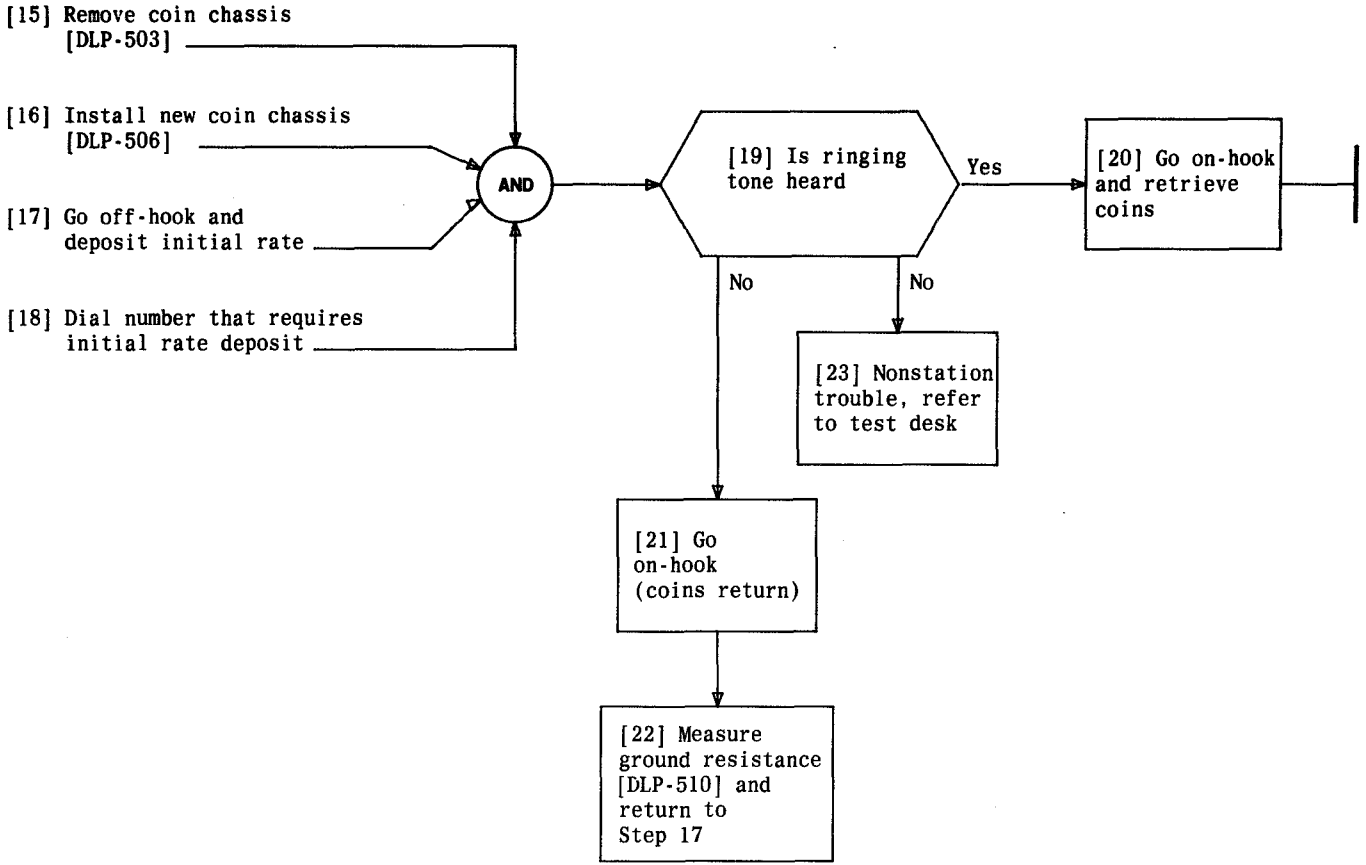


Issue 2	AUG 1980
506-410-402	TAP
PAGE 1 of 1	104

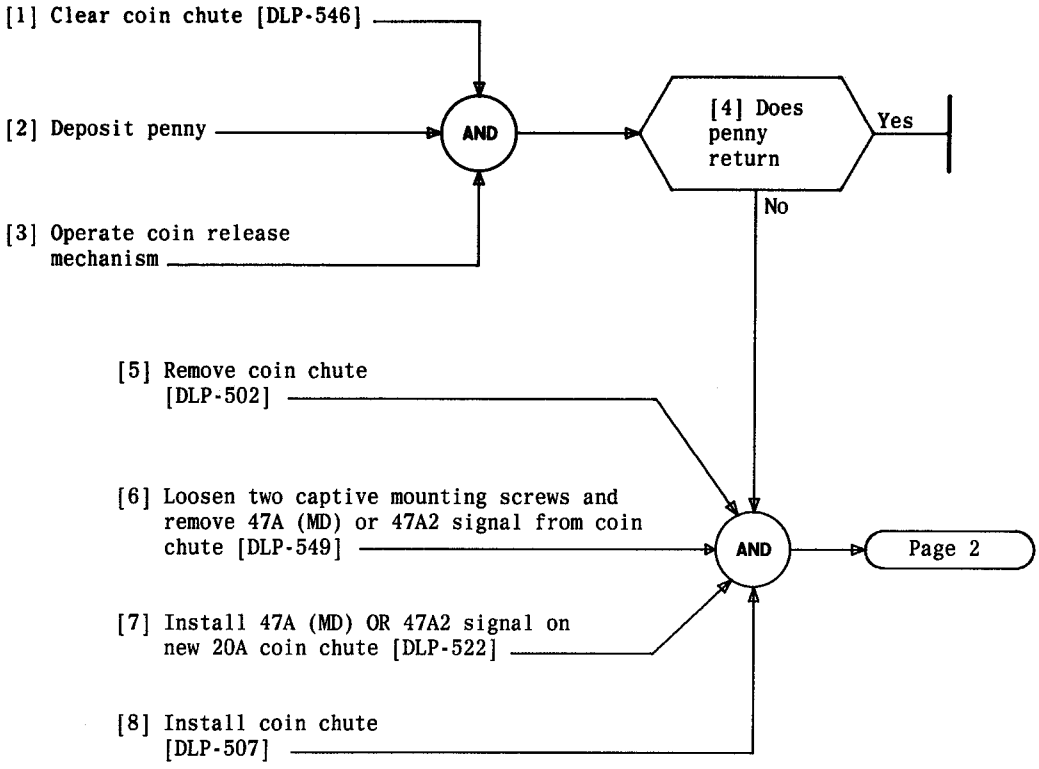
CLEAR INSUFFICIENT DEPOSIT COIN RETURN TROUBLE



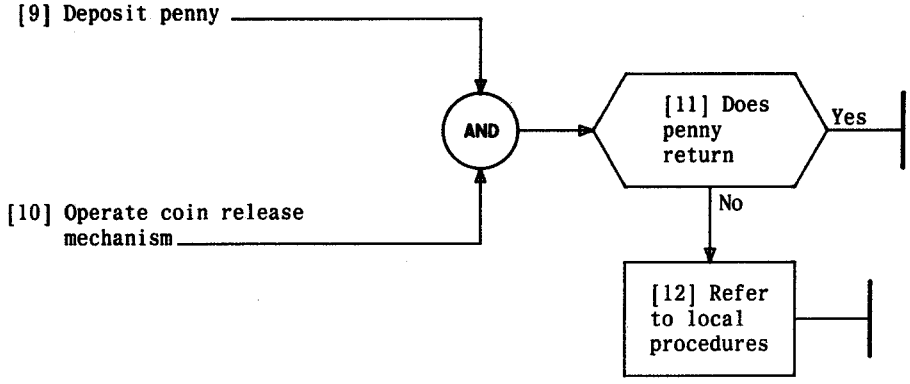
CLEAR RINGING TONE TROUBLE



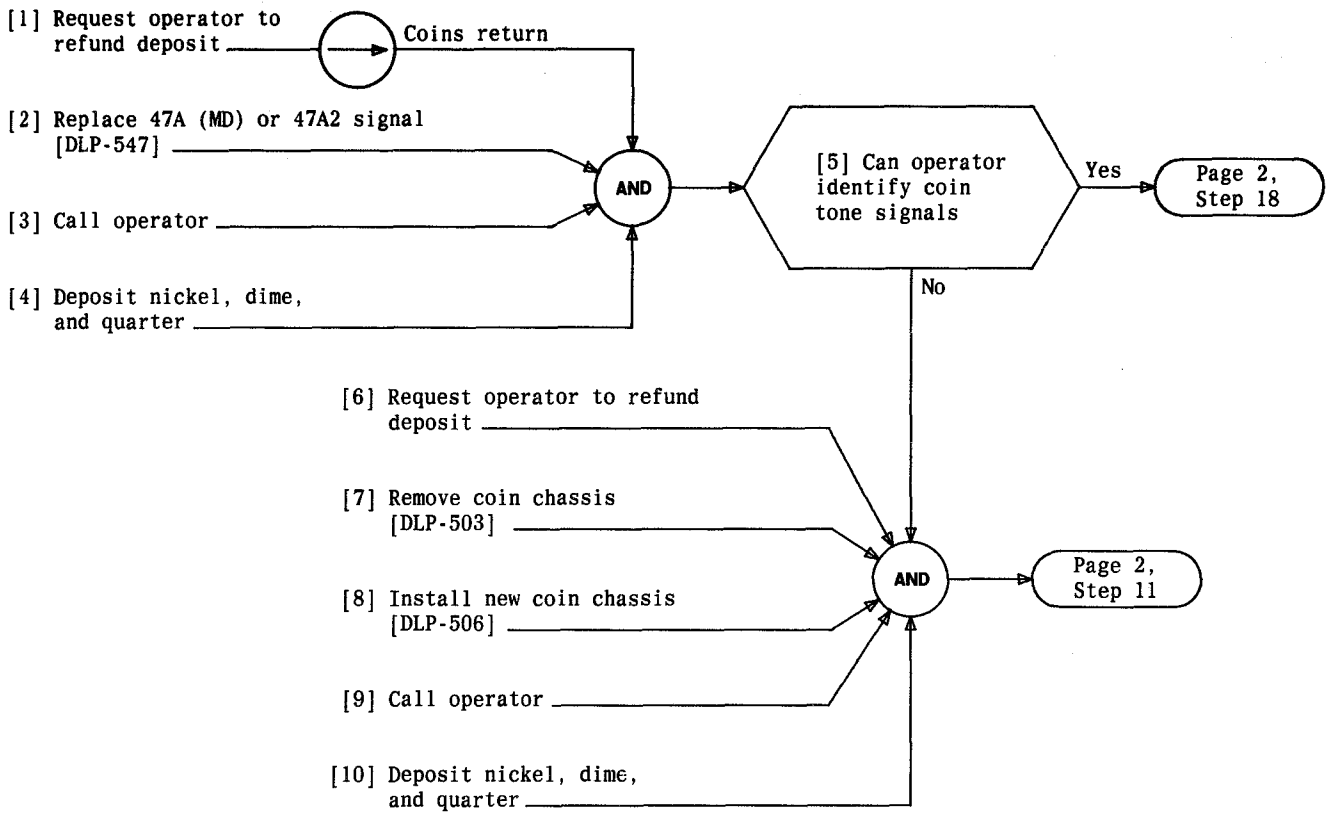
CLEAR RINGING TONE TROUBLE



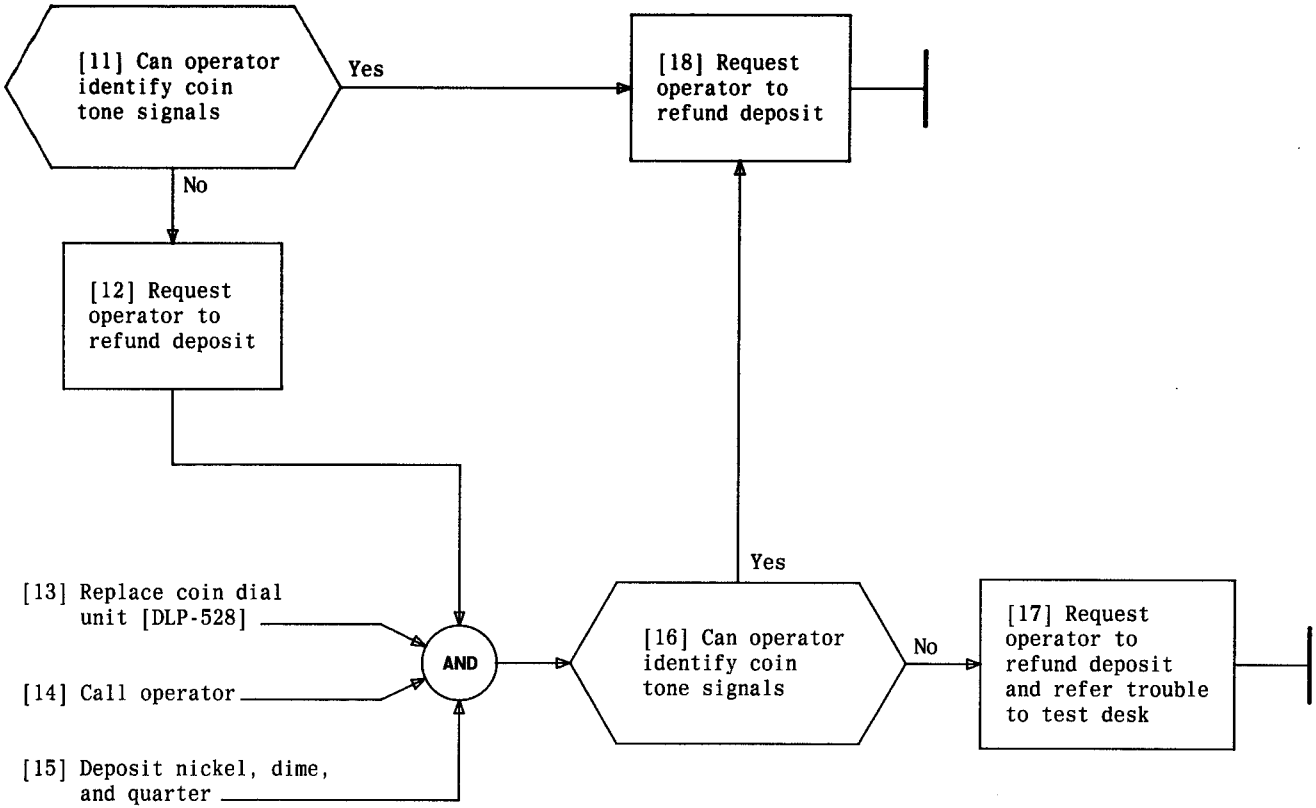
CLEAR PENNY RETURN TROUBLE



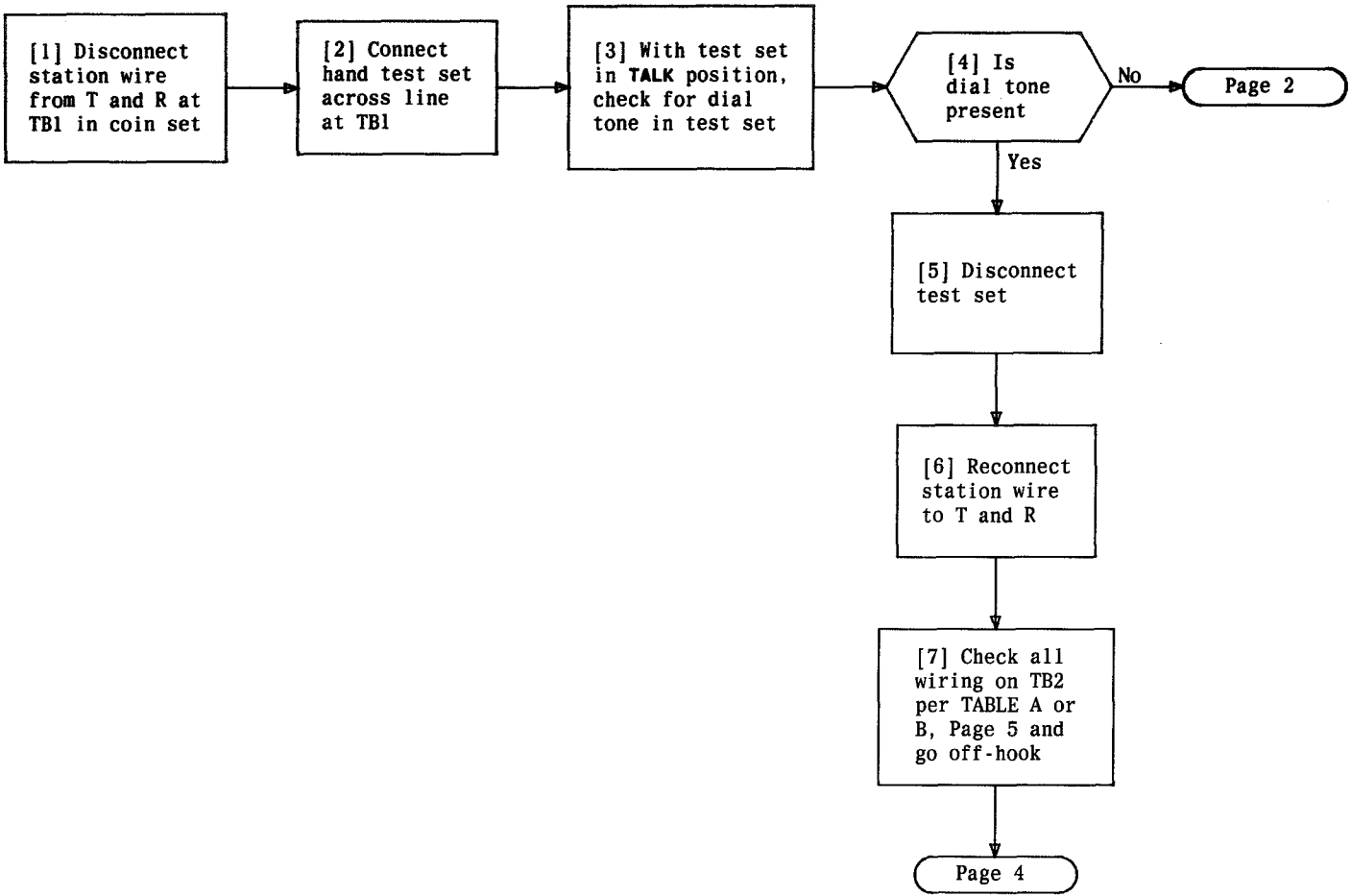
CLEAR PENNY RETURN TROUBLE



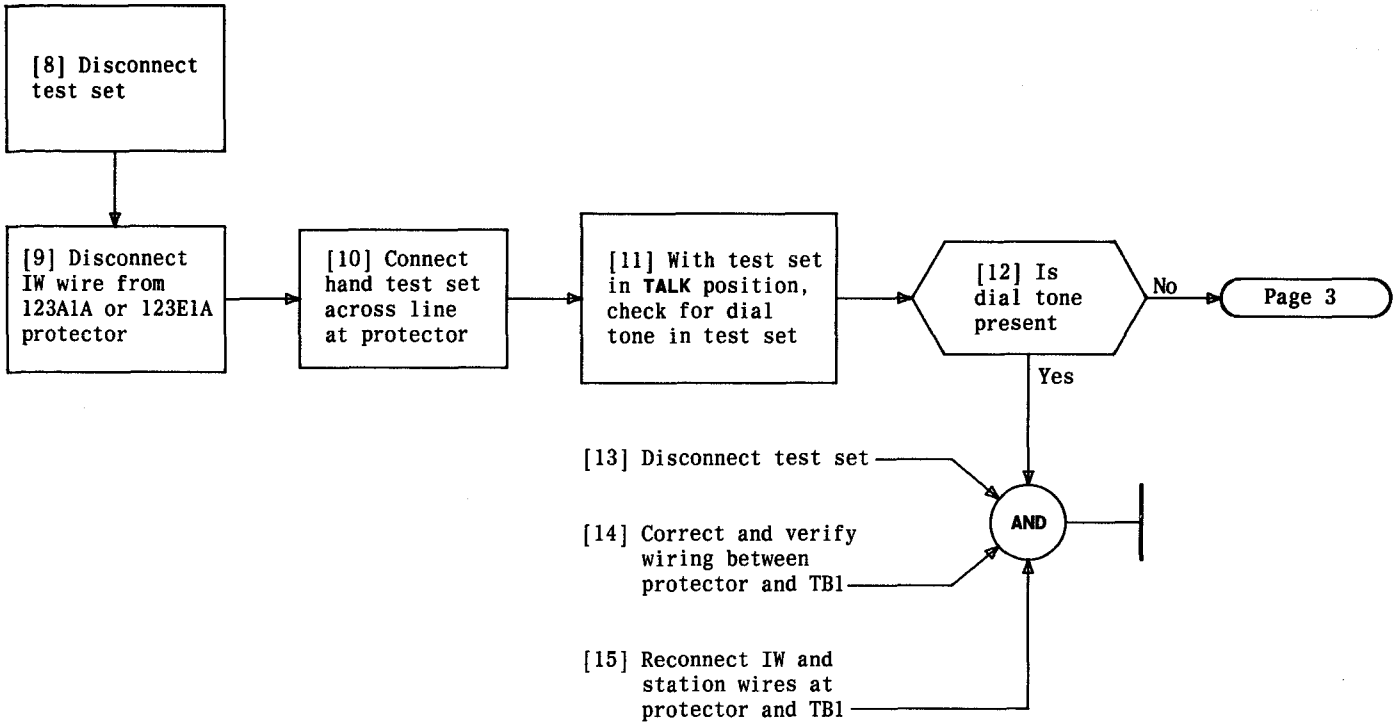
CLEAR COIN TONE SIGNAL TROUBLE



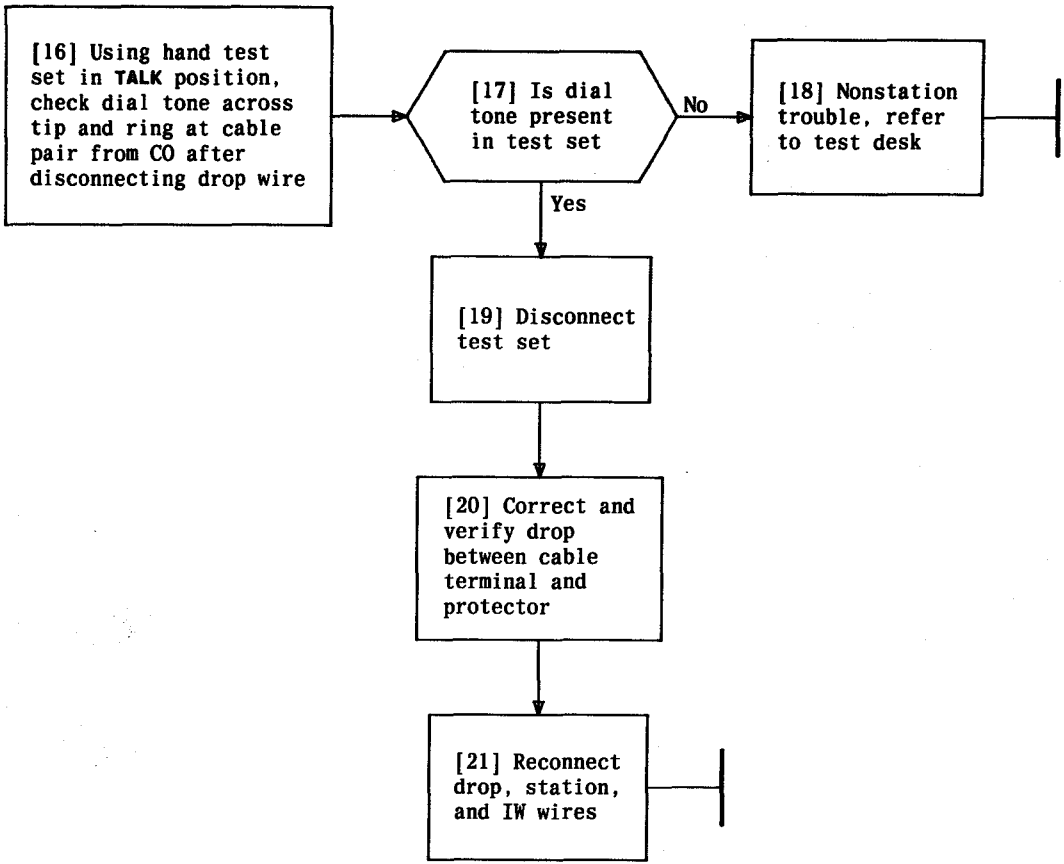
CLEAR COIN TONE SIGNAL TROUBLE



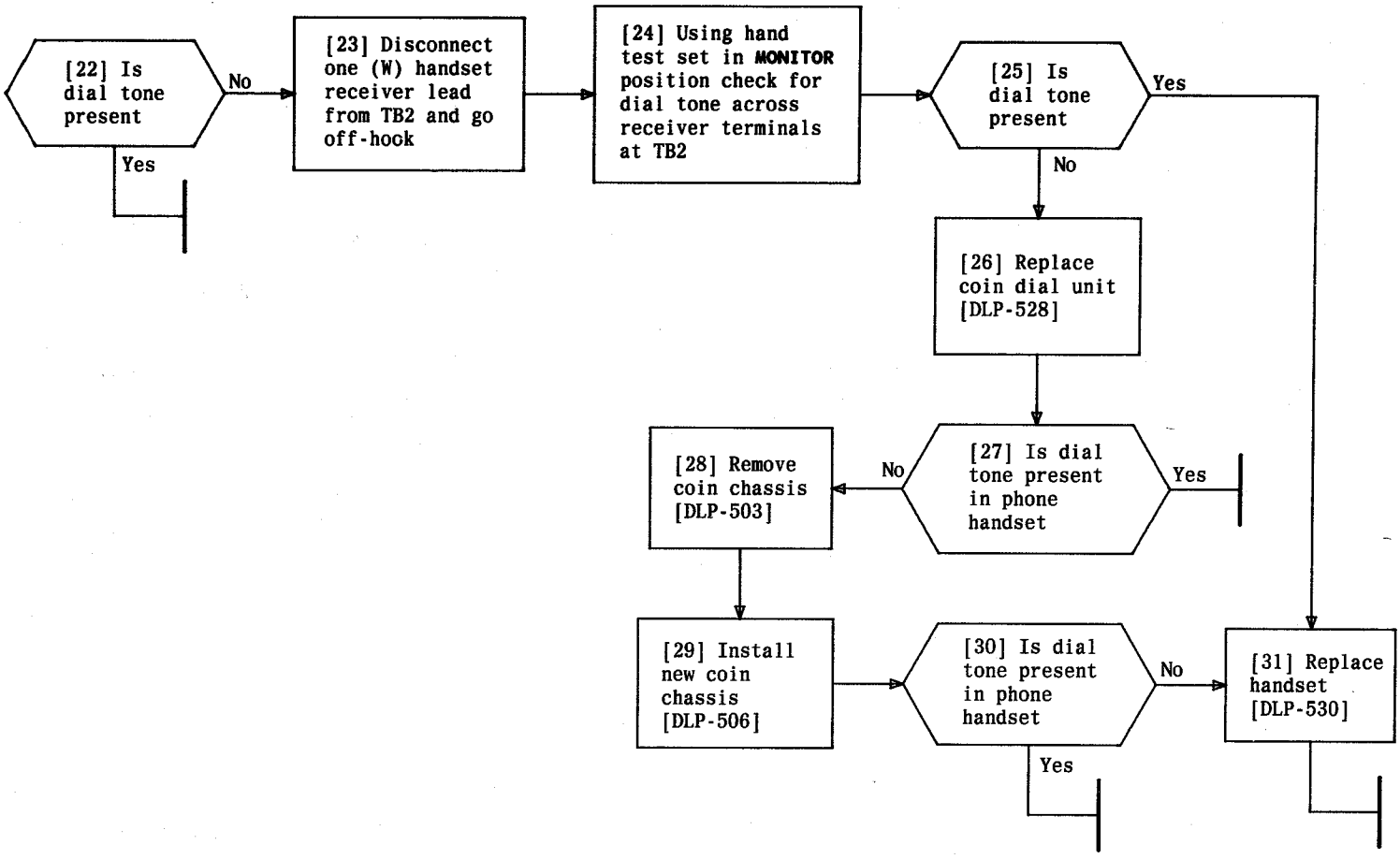
CLEAR DIAL TONE TROUBLE



CLEAR DIAL TONE TROUBLE



CLEAR DIAL TONE TROUBLE



CLEAR DIAL TONE TROUBLE

TABLE A

ROTARY DIAL TELEPHONE SET CONNECTIONS

COMPONENT	WIRE COLOR	TB2	COMPONENT	WIRE COLOR	TB2
Dial	BL	11	Switchhook	BR	10
	BL or G	8		BR	10
	W	4		O	9
	W	3		O	8
	Y	10		W	2
	Y	13		Y	7
Handset	W	4		G	12
	R	3		S	12
	BK	6		S-W	14*
	W	7		R†	12
Strap	S	2 to 3			

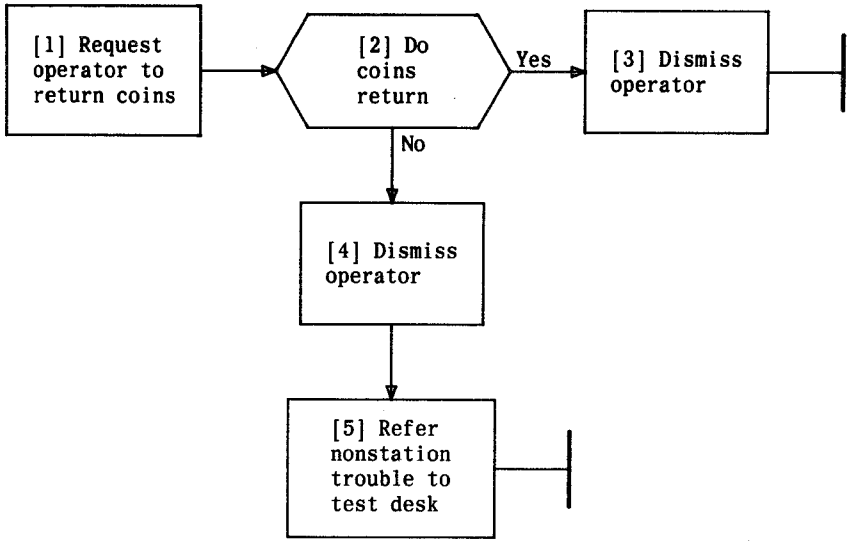
*Terminal 14 appears on new 60A coin dial units only
†(R) switchhook lead does not appear on 819042748 (P-90D274) dial and housing assemblies

TABLE B

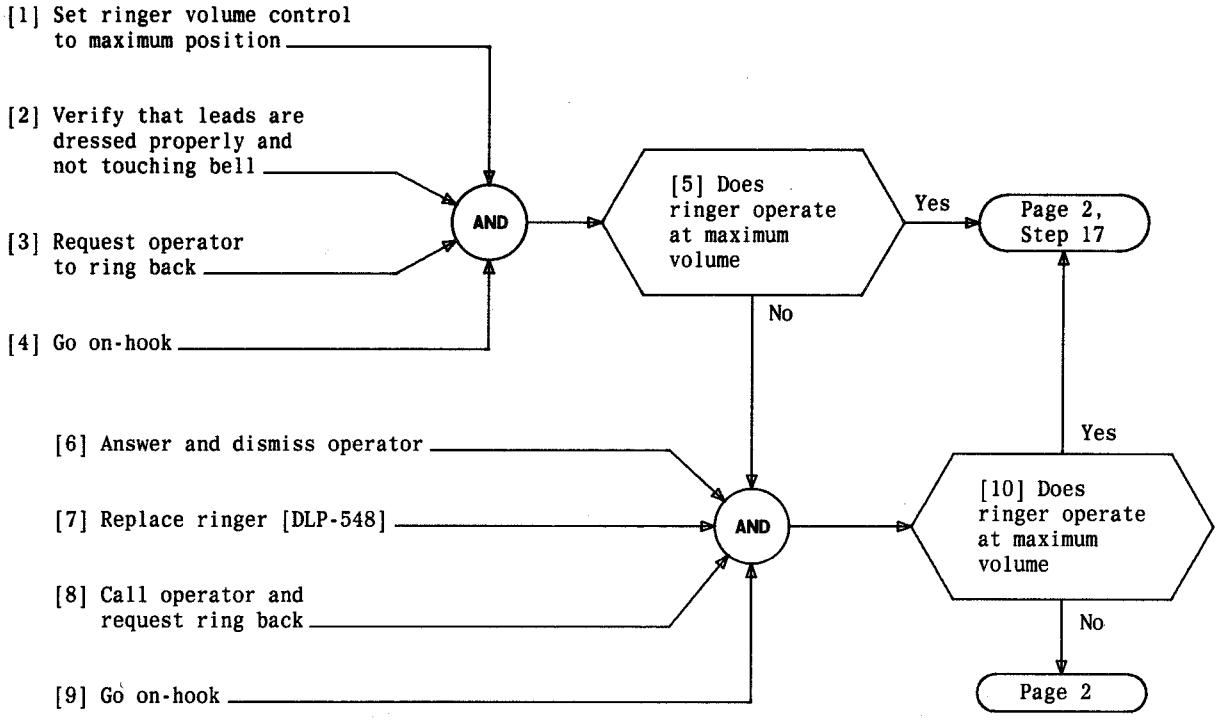
"TOUCH-TONE" DIAL TELEPHONE SET CONNECTIONS

COMPONENT	WIRE COLOR	TB2	COMPONENT	WIRE COLOR	TB2
70A (MD) or 70B Dial	G	1	Switchhook	BR	11
	W	4		BR	9
	R	3		O	9
	R-G	2		O	11
	BK	1		W	8
	O-BK	10		Y	3
	O-R	5		G	12
	W-BL	7		S	12
	O-W	10		S-W	14*
	V	13		R	12
Handset	W	7			
	R	3			
	BK	6			
	W	8			

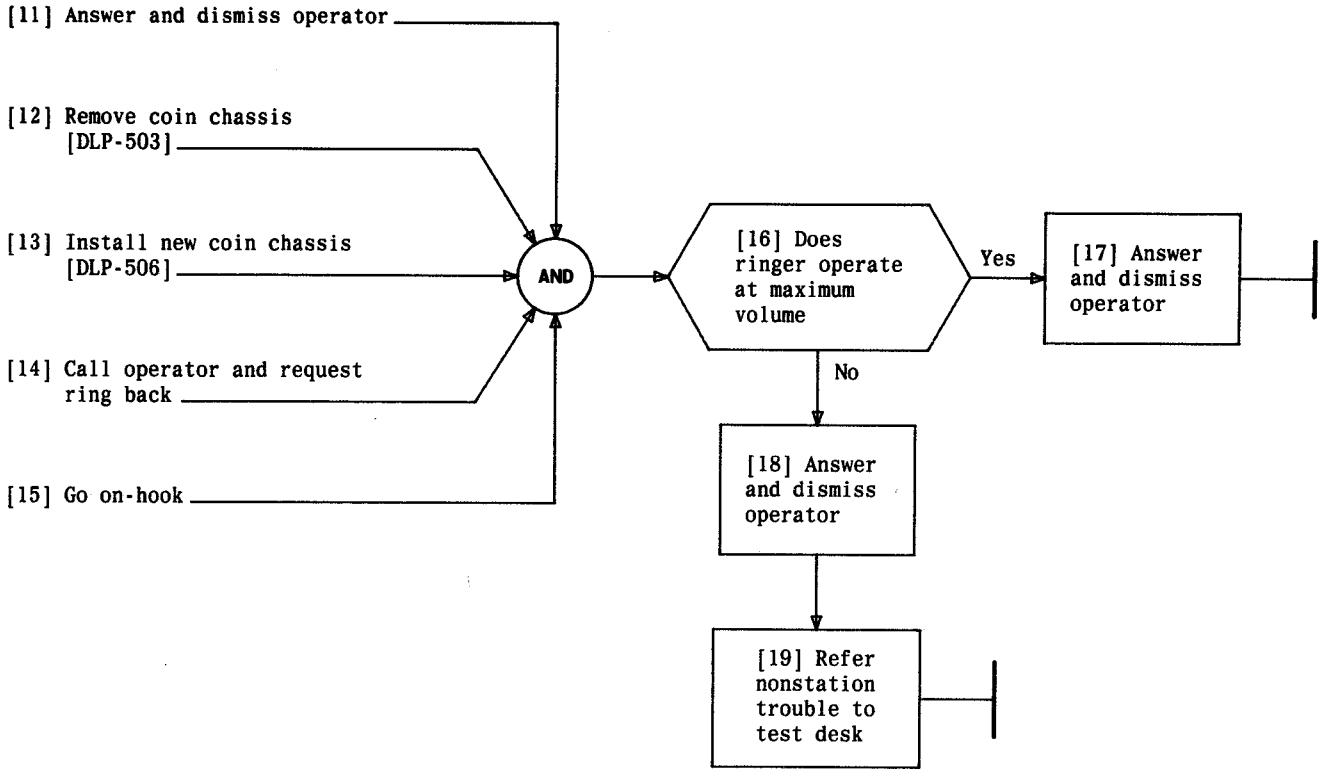
*Terminal 14 appears on new 61A coin dial units only



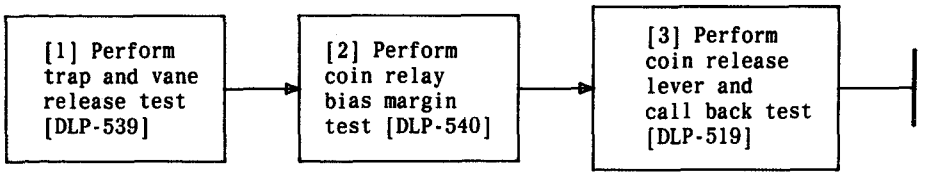
CLEAR OPERATOR COIN RETURN TROUBLE



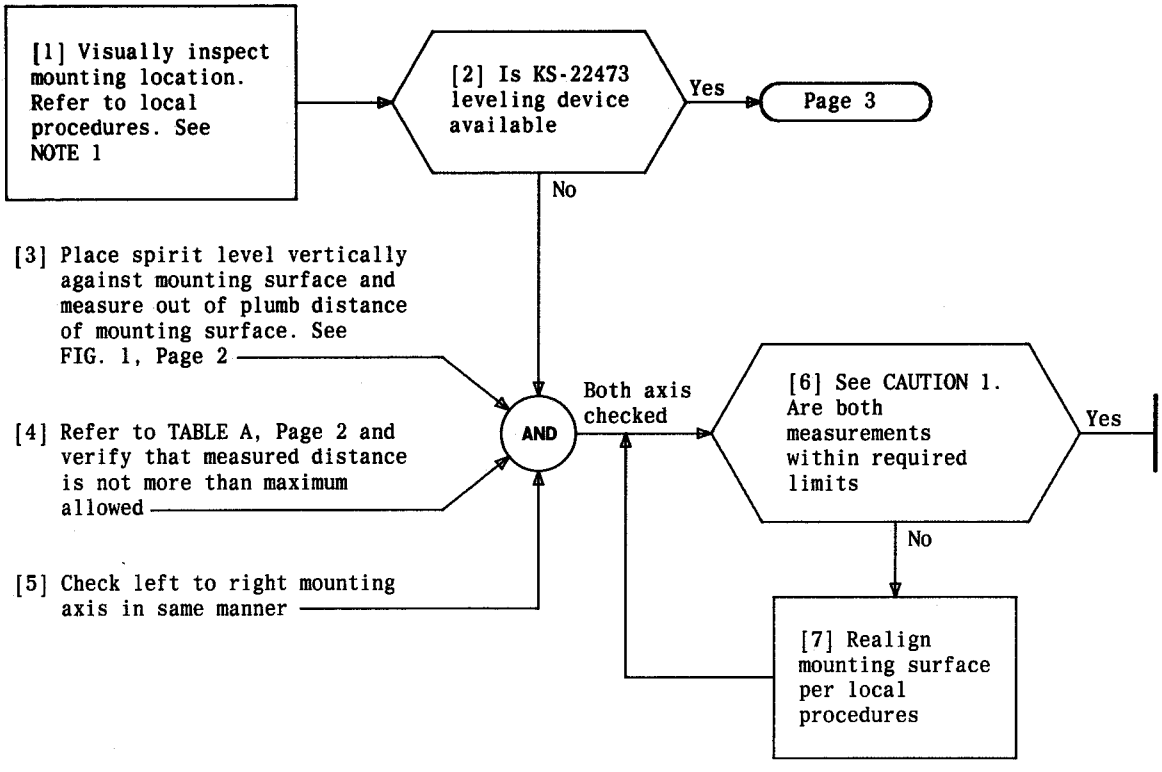
CLEAR RINGER TROUBLE



CLEAR RINGER TROUBLE



CLEAR COINS COLLECTED OR RETURNED IN ERROR TROUBLE



NOTE 1
Considerations for locating

A. Protection of drop and/or inside wires.
B. Visibility, accessibility, and possible accident hazards in selecting locations.
C. Mounting surfaces – coin telephone set should not be located on finishes that would be expensive to repair if set is removed.
D. Inductive effects – set and associated wiring must be at least 6 inches from neon fixtures, transformers, or other interference-causing equipment.

CAUTION 1
A tilt greater than 1-1/2 degrees in any direction can cause coin chute malfunction

CHECK LOCATION AND MOUNTING FACILITIES

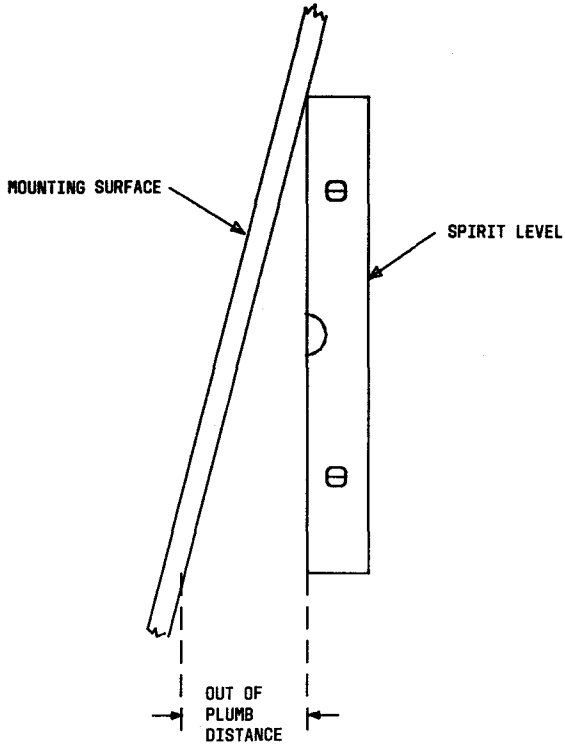


FIG. 1

TABLE A	
METHOD OF DETERMINING A VERTICAL SURFACE	
SPIRIT LEVEL LENGTH	MAXIMUM ALLOWABLE DISTANCE OUT OF PLUMB
18 inches	15/32-inch
24 inches	5/8-inch
30 inches	25/32-inch
36 inches	15/16-inch

CHECK LOCATION AND MOUNTING FACILITIES

[8] Place KS-22473 leveling device vertically against mounting surface and check the degrees out of plumb of mounting surface. See FIG. 2

[9] Verify that the number of degrees is not more than 1-1/2

[10] Check left to right mounting axis in same manner

AND

Both axis checked

[11] See CAUTION 2. Are both measurements within required limits

Yes

No

[12] Realign mounting surface per local procedures

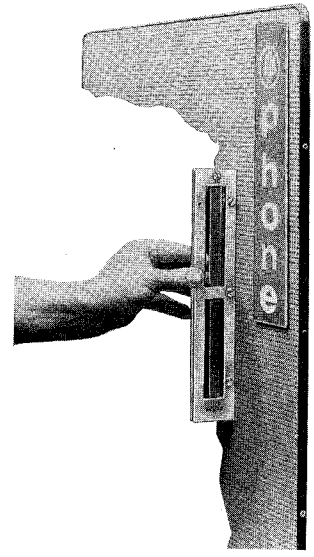
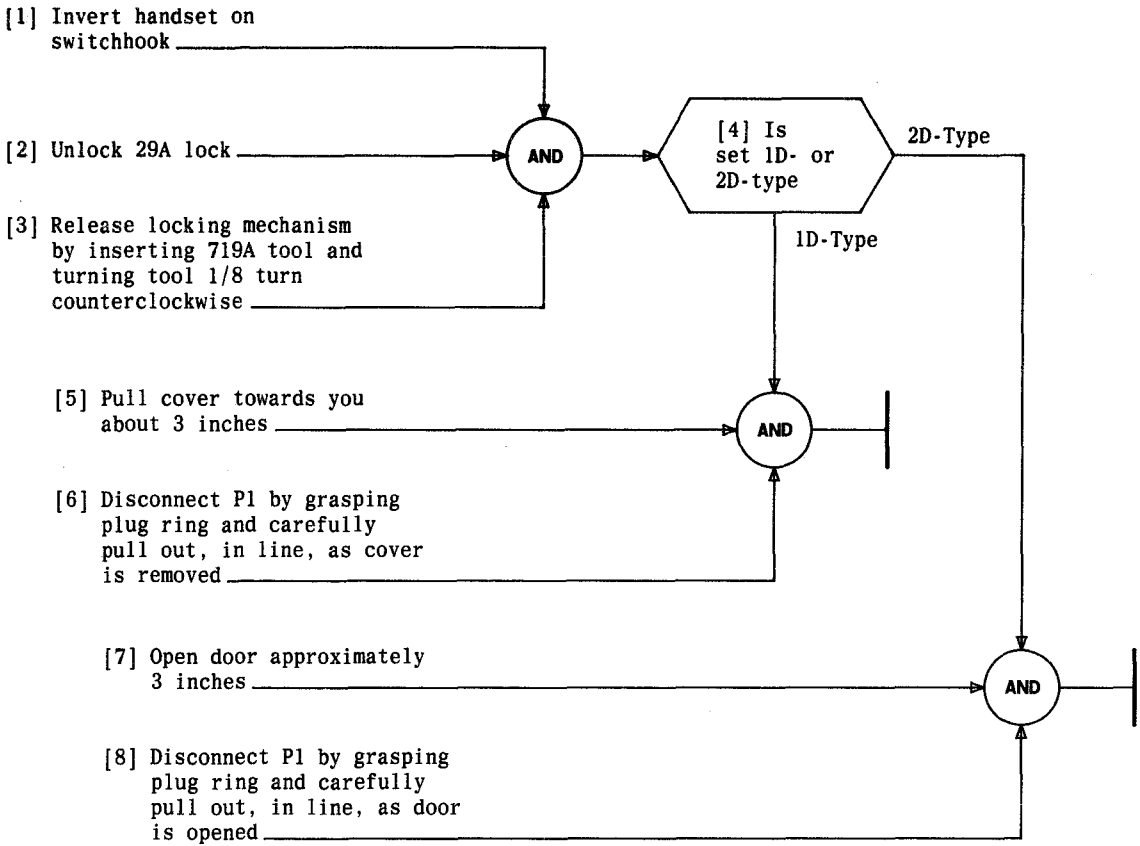


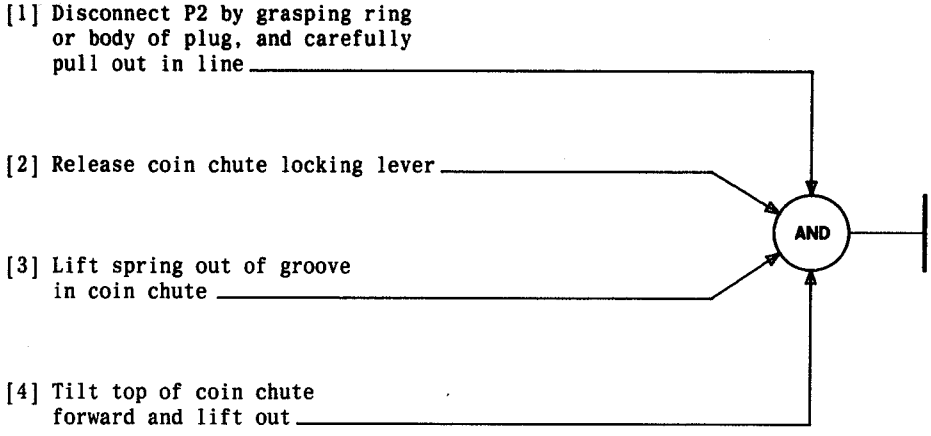
FIG. 2

CAUTION 2
A tilt greater than 1-1/2 degrees in any direction can cause coin chute malfunction

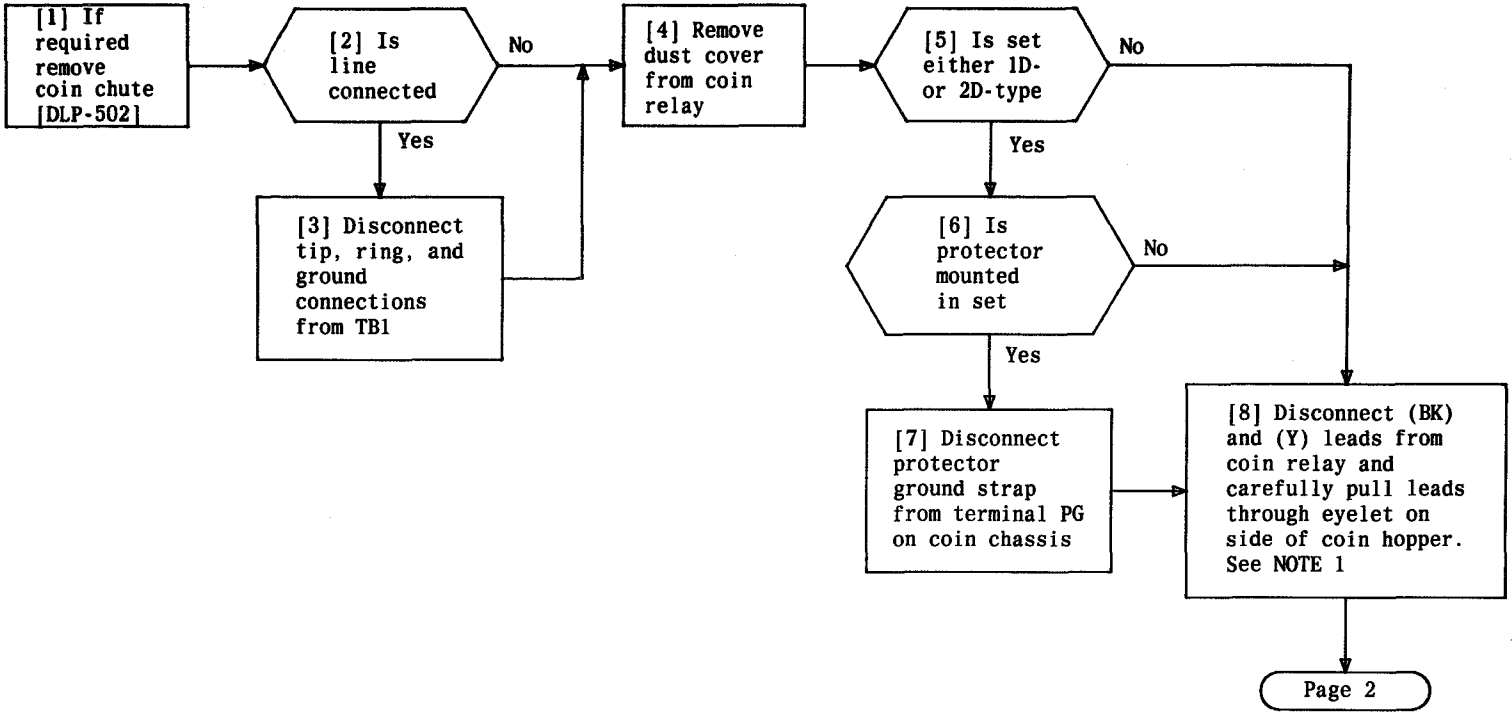
CHECK LOCATION AND MOUNTING FACILITIES



REMOVE COIN COVER UNIT (1D-TYPE SET) OR OPEN DOOR AND FACEPLATE ASSEMBLY (2D-TYPE SET)

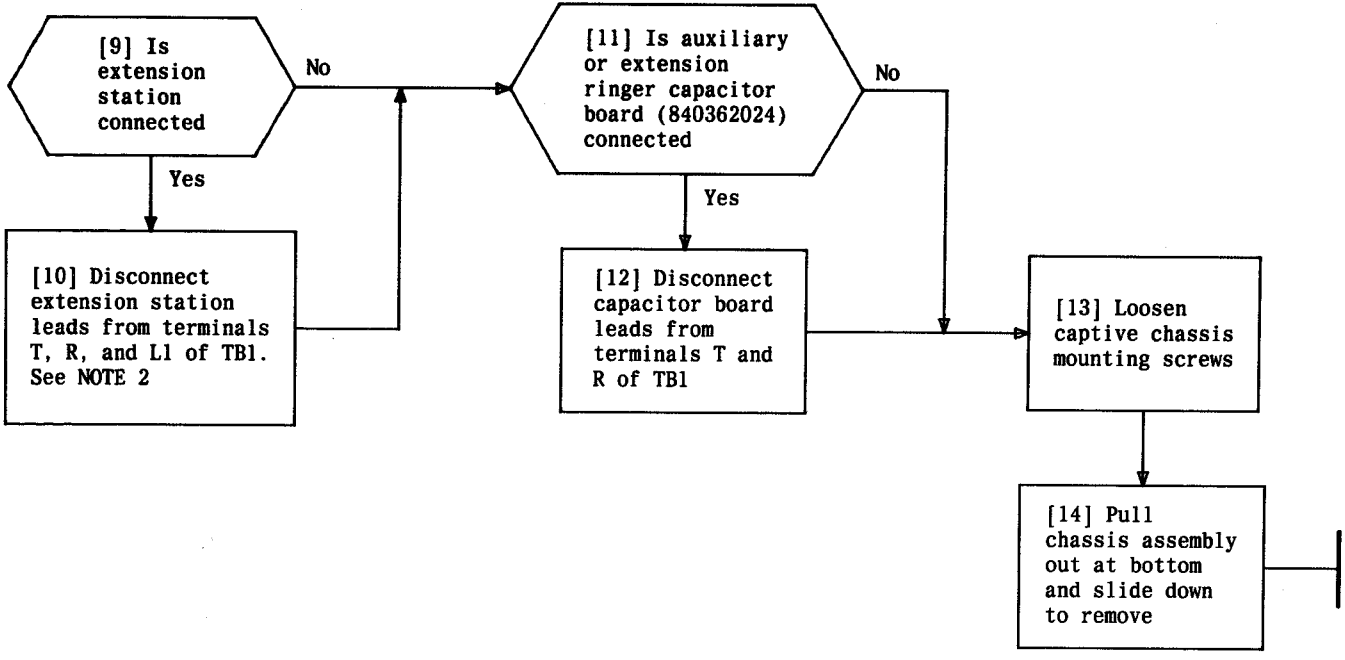


REMOVE COIN CHUTE



NOTE 1
On the 1E1 telephone set these leads are (G) and (S-R) and are connected to coin hopper

REMOVE COIN CHASSIS



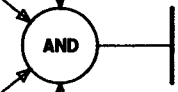
NOTE 2
Terminal L1 is on network in the 1C- and 2C-type telephone sets

Issue 2	AUG 1980
506-410-402	DLP
PAGE 2 of 2	503

REMOVE COIN CHASSIS

[1] Insert inside wire or drop wire and 12 AWG protector ground wire into wire entrance hole. See FIG. 1, Page 2

[2] Insert four security studs (furnished locally) into back of housing. See FIG. 1 and TABLE A, Page 2



[3] Place housing on mounting surface by guiding security studs into proper holes

[4] Secure housing to mounting surface using seven mounting screws (furnished with set) and 1/4 ID flat washer (provided locally). See FIG. 1 and TABLE A, Page 2

ATTACH HOUSING TO MOUNTING SURFACE (1D-TYPE SET)

TABLE A					
BACKBOARD*, BOOTH, SHELF, MOUNTING, OR KIOSK	SECURITY STUDS (4 REQUIRED)		BACKBOARD*, BOOTH, SHELF, MOUNTING, OR KIOSK	SECURITY STUDS (4 REQUIRED)	
	834080608 (P-40Y060) (SHORT SHOULDER-SHORT THREAD)	834080616 (P-40Y061) (LONG SHOULDER-SHORT THREAD)		834080608 (P-40Y060) (SHORT SHOULDER-SHORT THREAD)	834080616 (P-40Y061) (LONG SHOULDER-SHORT THREAD)
178A-03 or -51 Backboard	•		KS-19425 Booth		•
KS-21676, L2 Backboard	•		KS-19426 Mounting		•
10- and 11-Type Booths	•		KS-19580 Booth	•	
KS-14611 Booth	•		KS-19945 Shelf		•
KS-16797 Booth		•	KS-20194, L5 Shelf	•	
KS-19206 Booth	•		KS-20255 Kiosk (MD)		•
KS-19267 Shelf	•		KS-20842 Mounting	•	
KS-19340 Booth	•				

* Seven 1/4-20 by 5/8-inch hardened RHM screws 812367902 (P-23F790) are furnished with each coin telephone set for mounting to backbaord

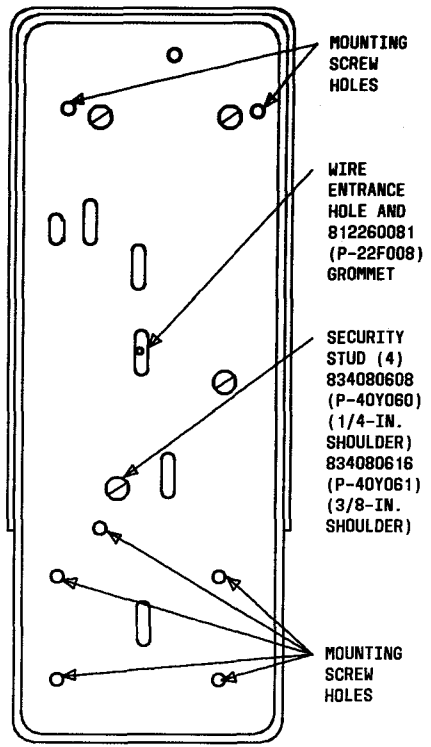


FIG. 1 – Location of Mounting Screw Holes and Security Studs in 1D-Type Set

ATTACH HOUSING TO MOUNTING SURFACE (1D-TYPE SET)

[1] Is chassis wired for correct intital rate. See NOTE 1

Yes

No

[2] See WARNING 1. Set initial rate by connecting plug-ended leads per FIG. 1 and TABLES A and B, Page 2

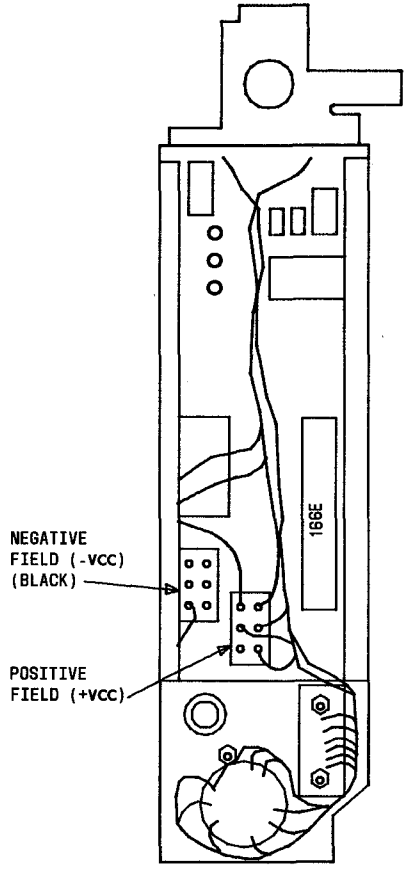


FIG. 1 – 32A Coin Chassis

NOTE 1
Set is factory-wired for 10 cent initial rate, (R) lead connected to negative field (–VCC). All other leads are connected to the positive field (+VCC)

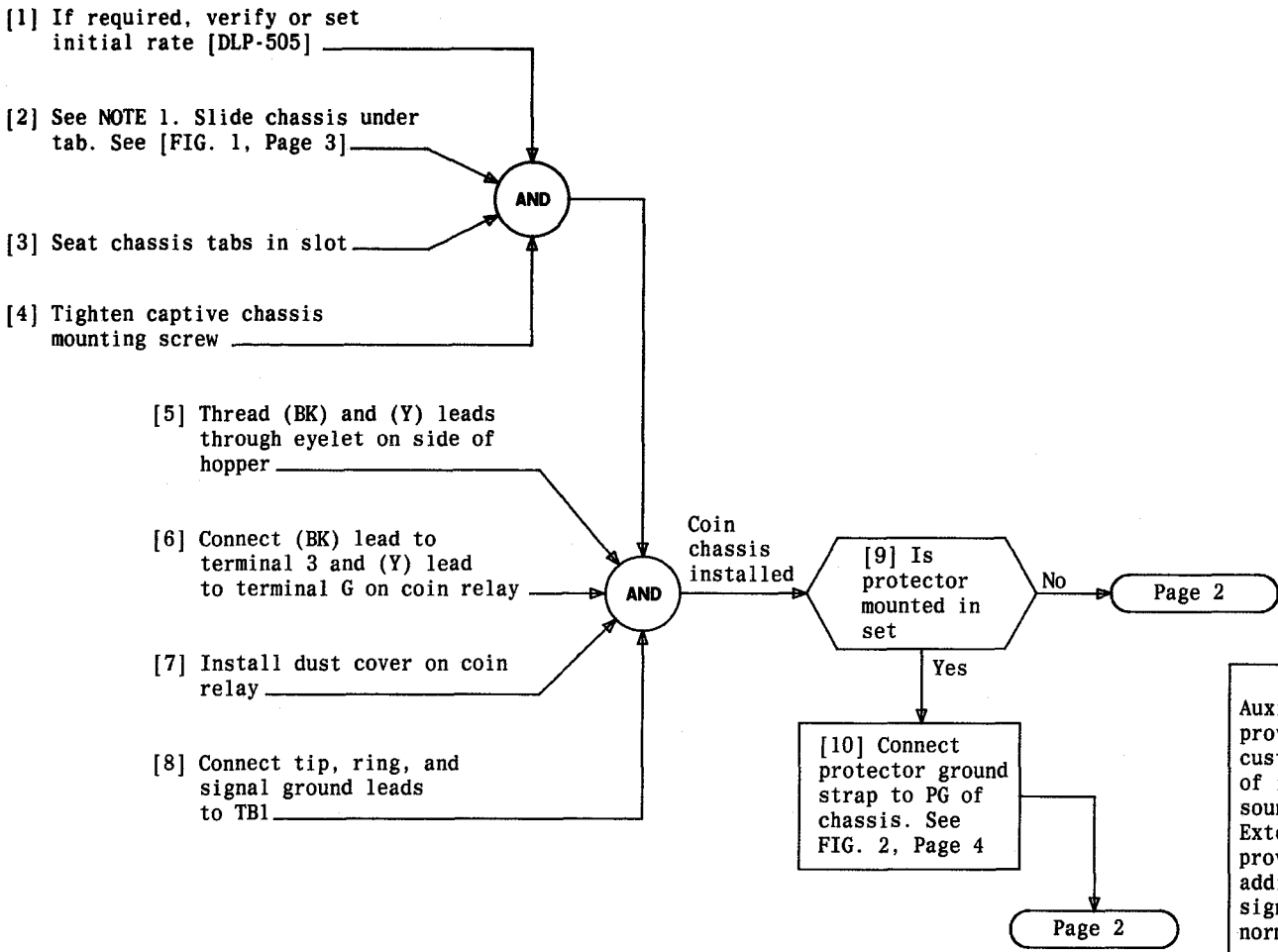
WARNING 1
The wires can be broken if grasped by the wire instead of plug

VERIFY OR SET INITIAL RATE

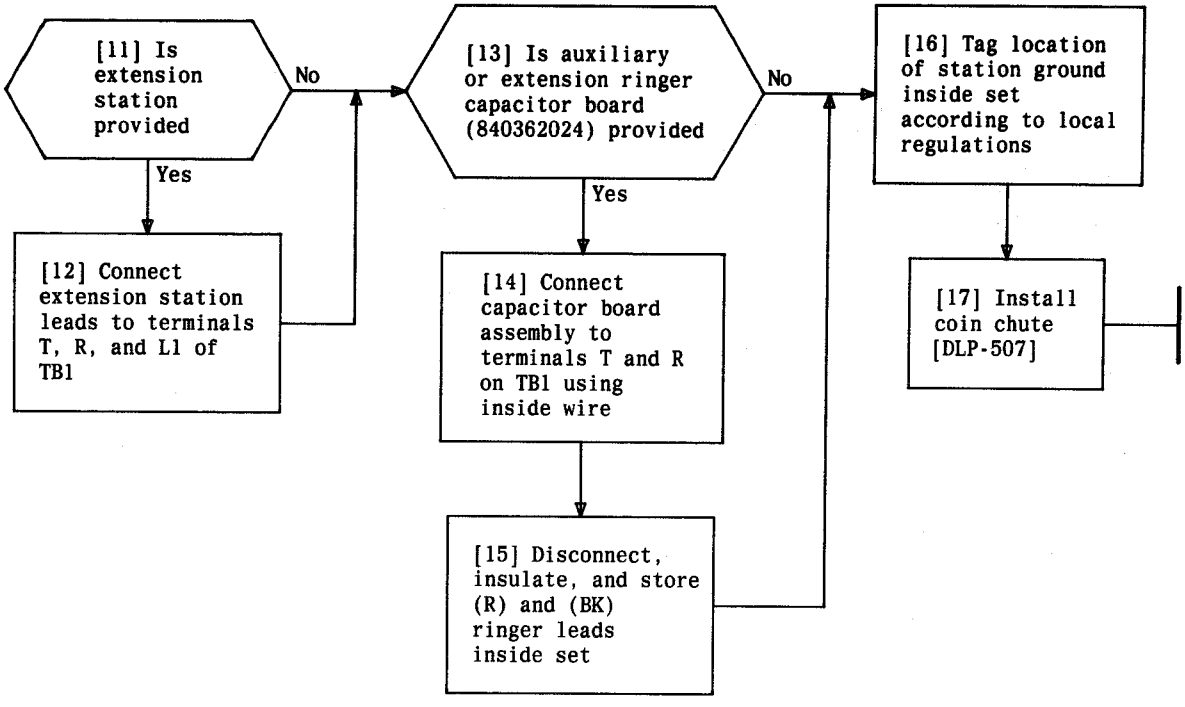
TABLE A	
INITIAL RATE LEADS*	
LEAD COLOR	INDICATED RATE
(BR)	5 cents
(R)	10 cents
(Y)	20 cents
(S)	40 cents
(W-BL)	80 cents
(W-BR)	1 dollar – 60 cents
* Leads are pluged-ended	

TABLE B						
EXAMPLES OF INITIAL RATE SETTINGS						
AMOUNT OF INITIAL RATE (CENTS)	PLUG-ENDED LEADS TERMINATED IN – NEGATIVE AND + POSITIVE FIELDS					
	(BR)	(R)	(Y)	(S)	(W-BL)	(W-BR)
5	–	+	+	+	+	+
10	+	–	+	+	+	+
15	–	–	+	+	+	+
20	+	+	–	+	+	+
25	–	+	–	+	+	+
30	+	–	–	+	+	+
35	–	–	–	+	+	+
40	+	+	+	–	+	+
45	–	+	+	–	+	+
50	+	–	+	–	+	+
*	etc					
* If higher initial rates are necessary, plug leads into negative field to equal total amount						

INSTALL 32A COIN CHASSIS



NOTE 1
Auxiliary ringer is provided when customer complains of insufficient sound level. Extension ringer is provided (at additional cost) for signaling beyond the normal ringer range



INSTALL 32A COIN CHASSIS

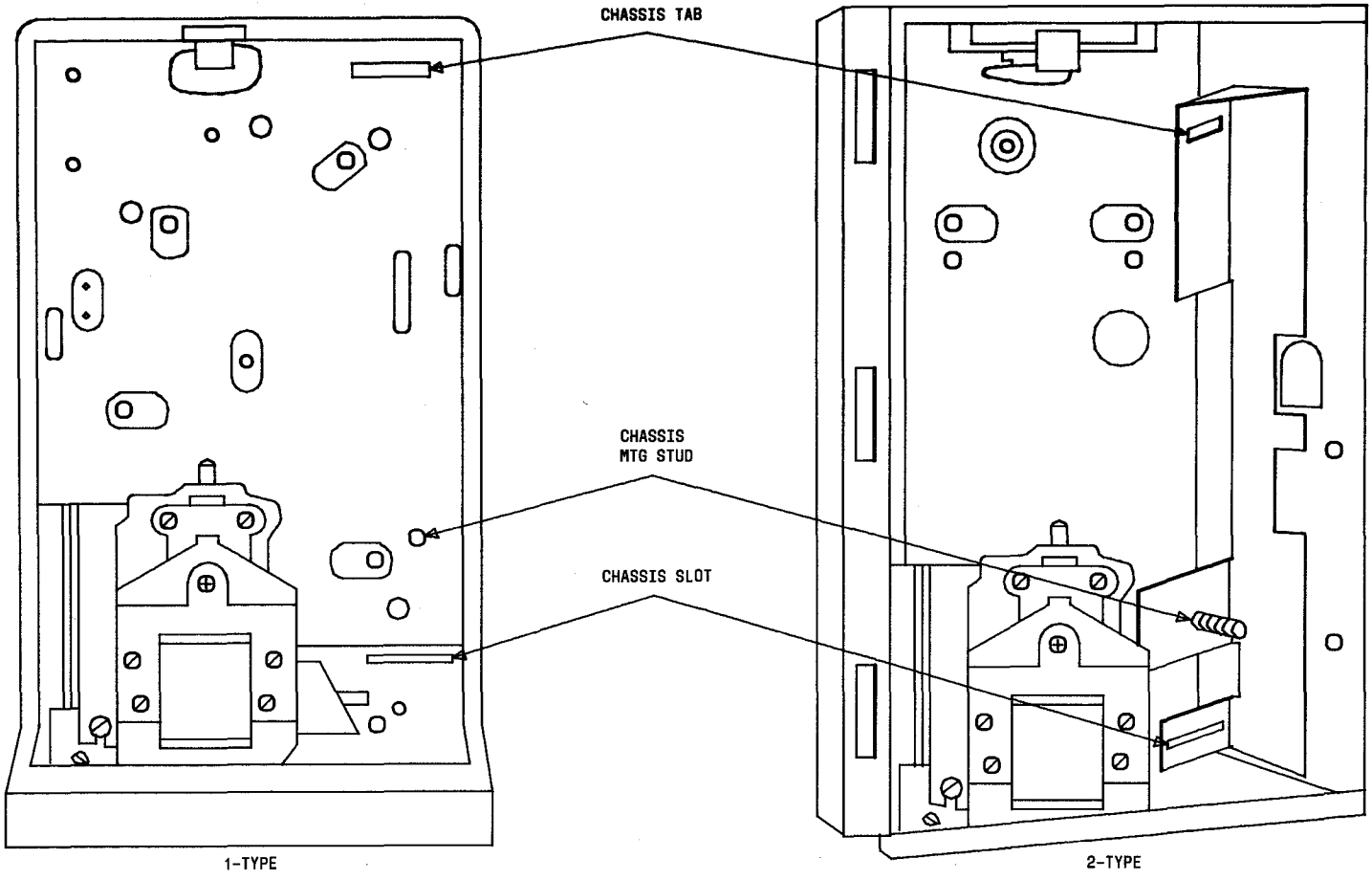


FIG. 1 – Housing and Mounting Plate Assembly

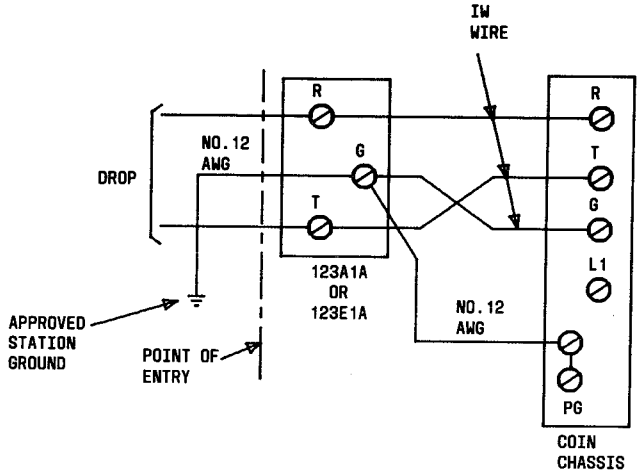


FIG. 2 – Protector Wiring When Protector is Inside Set

[1] See WARNING 1. Swing upper plate open and clean off any foreign material adhering to coin magnets. See FIG. 1

[2] Place coin chute on locating pins at rear of hopper assembly and back of housing. See FIG. 2, Page 2

[3] See NOTE 1. Place spring in groove on coin chute

[4] Lock spring in place by pushing coin chute locking lever down

[5] Connect plug P2 to J2

AND

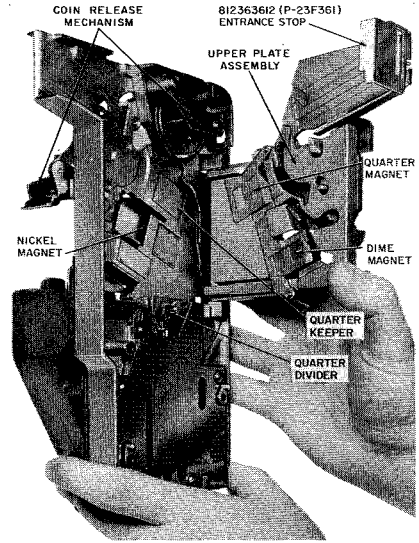


FIG. 1 – Chute

NOTE 1
Reject chute, return chute and coin return assemblies must line up properly

WARNING 1
If the quarter divider is not positioned properly, it will be damaged when the upper plate assembly is closed. See FIG. 1

INSTALL COIN CHUTE

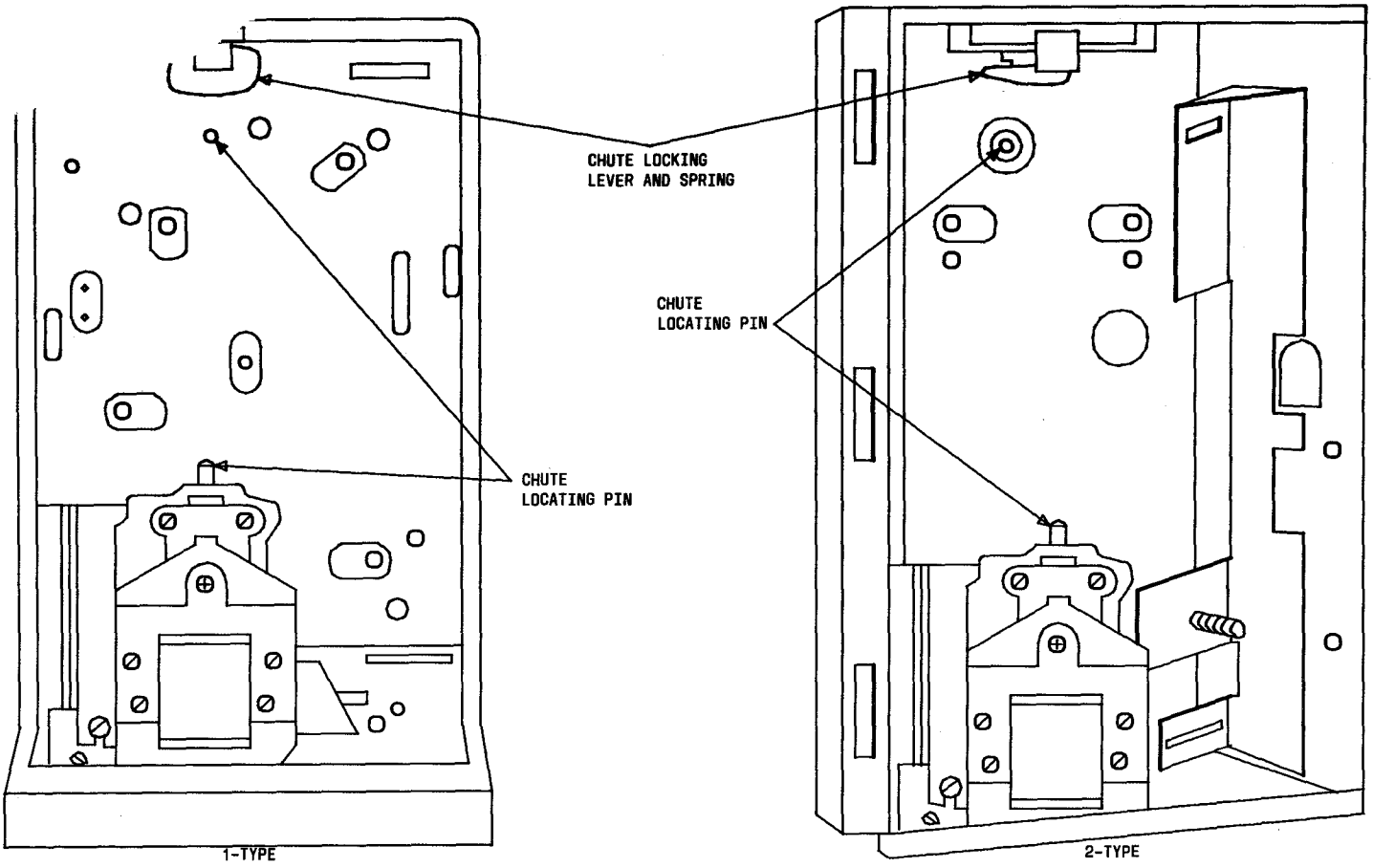
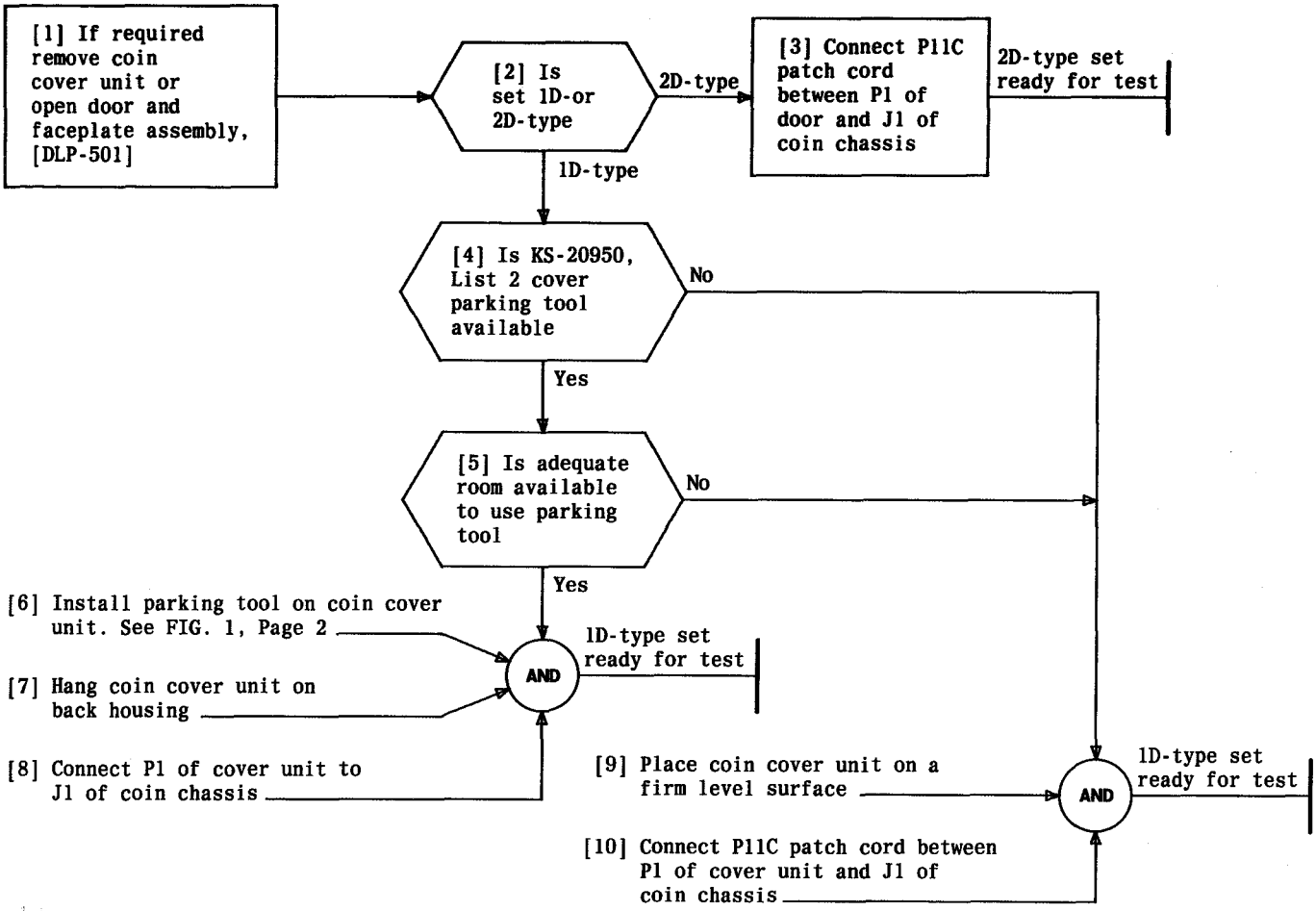


FIG. 2 – Housing and Mounting Plate Assembly

INSTALL COIN CHUTE



20950, LIST 2 COVER PARKING TOOL
CORD

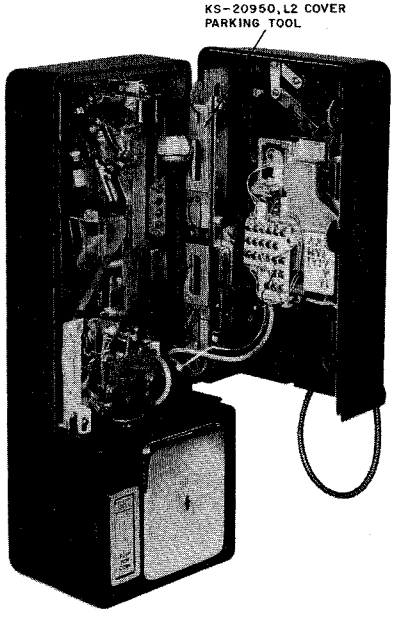
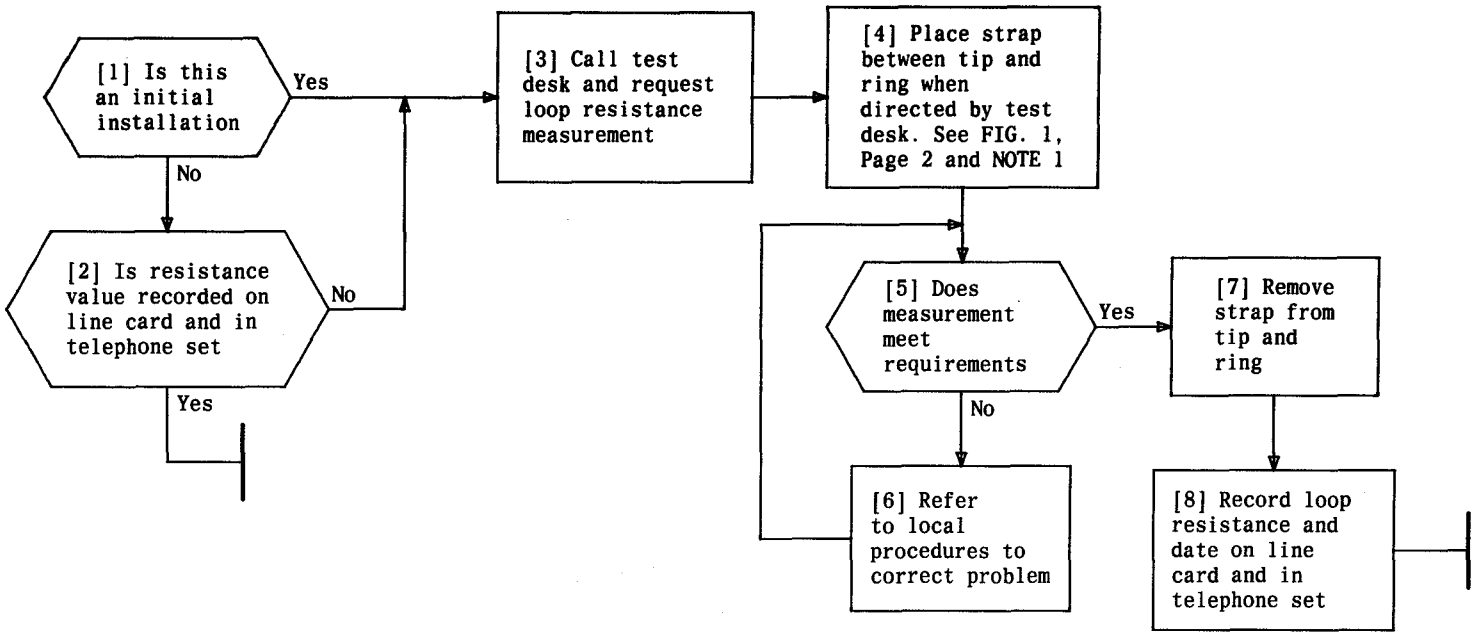


FIG. 1 – 1D-Type Coin Telephone Set With Parking Tool Installed

INSTALL KS-20950, LIST 2 COVER PARKING TOOL OR P11C PATCH CORD



NOTE 1
Hopper trigger must not be operated

Issue 2	AUG 1980
506-410-402	DLP
PAGE 1 of 2	509

MEASURE LOOP RESISTANCE

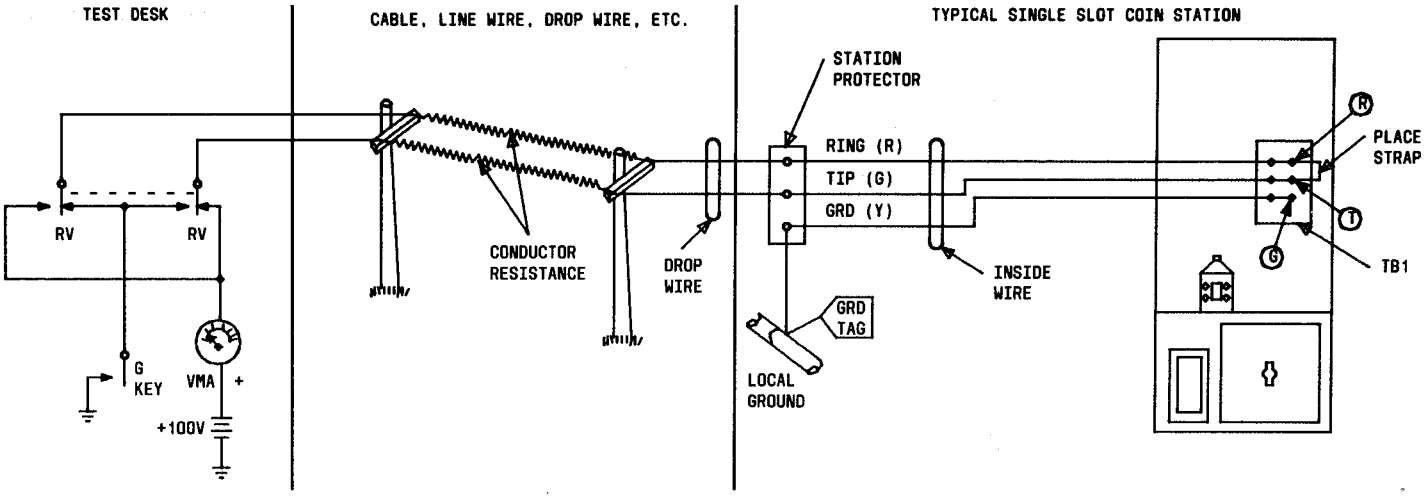
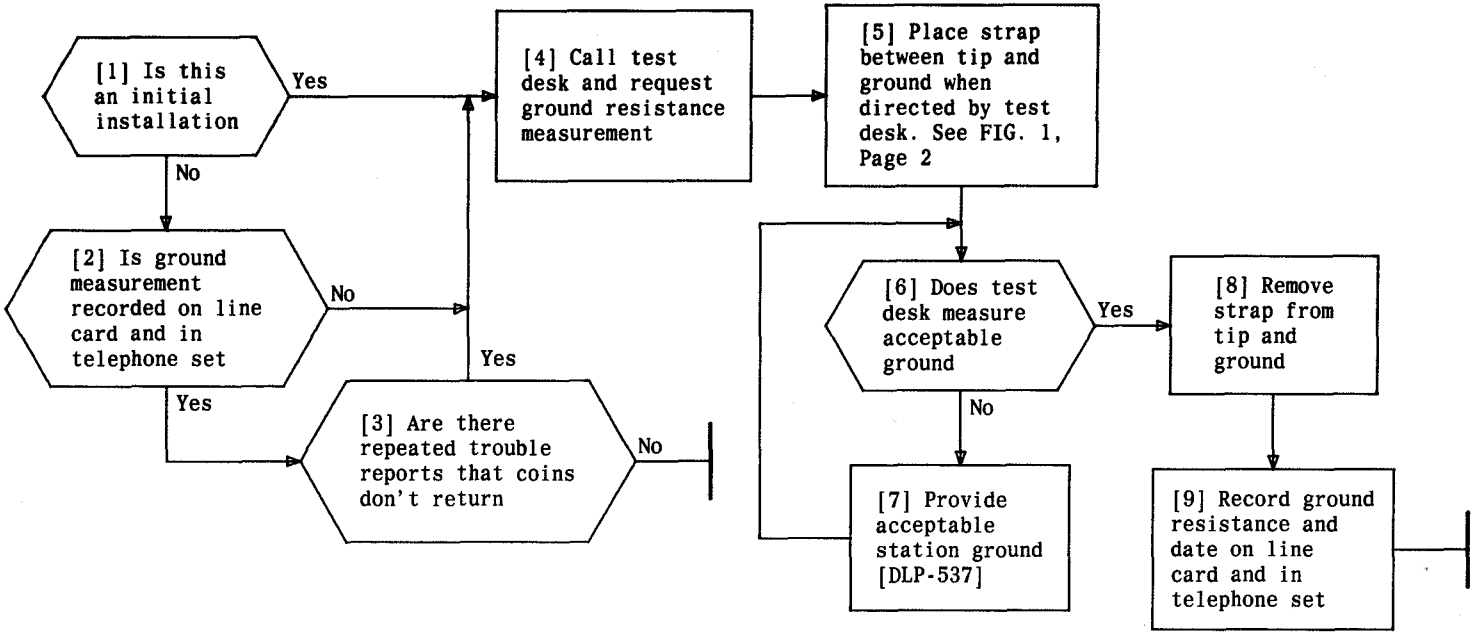


FIG. 1 – Loop Resistance Measurement

MEASURE LOOP RESISTANCE



MEASURE GROUND RESISTANCE

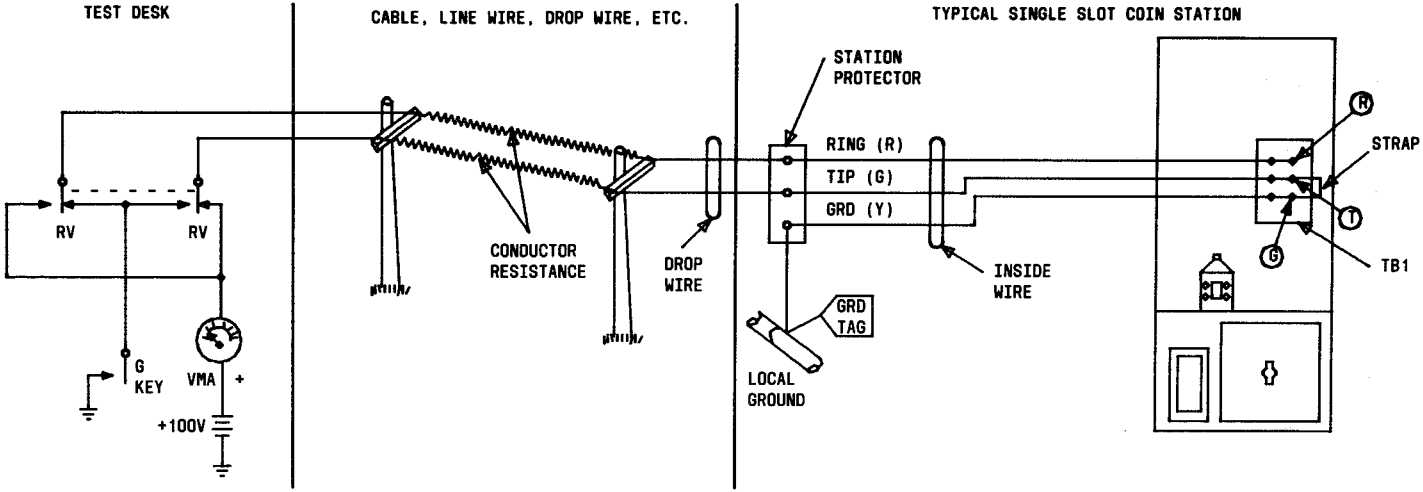
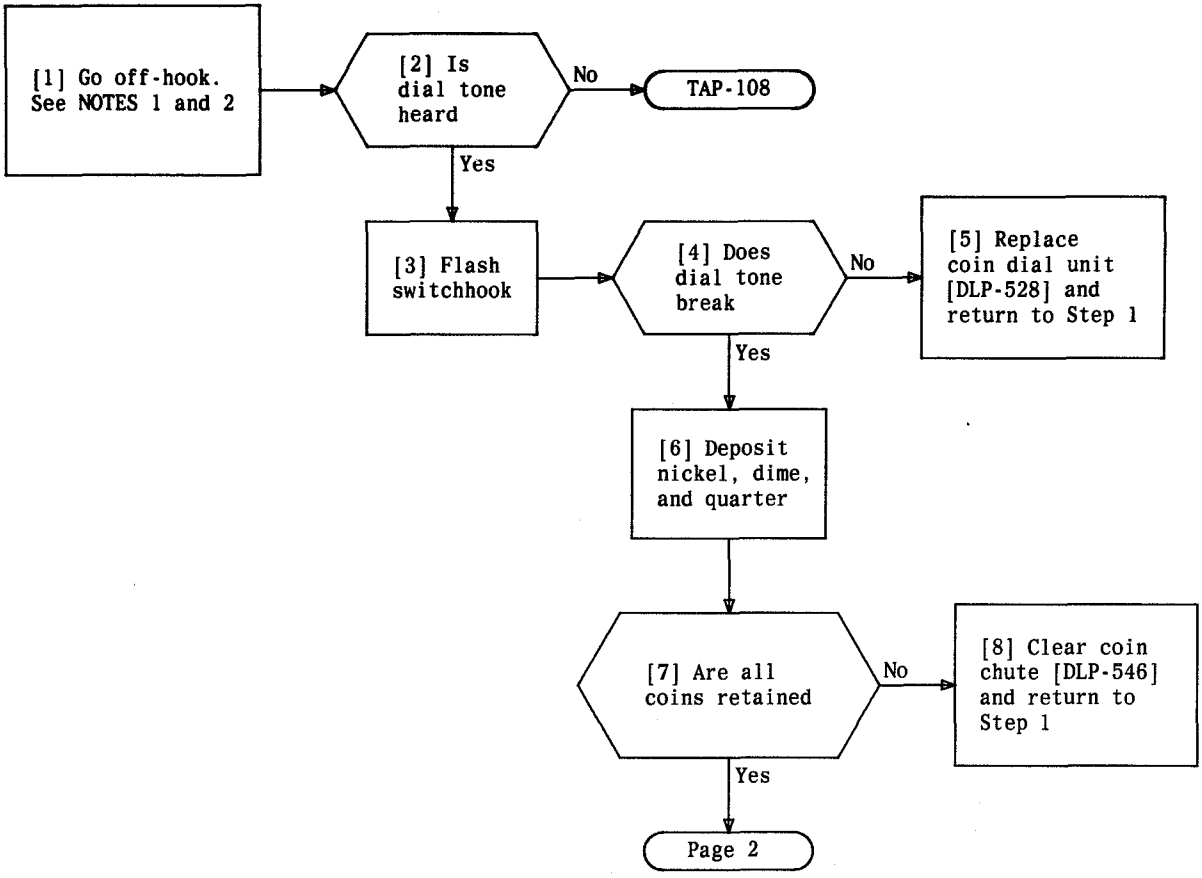


FIG. 1 – Ground Resistance Measurement

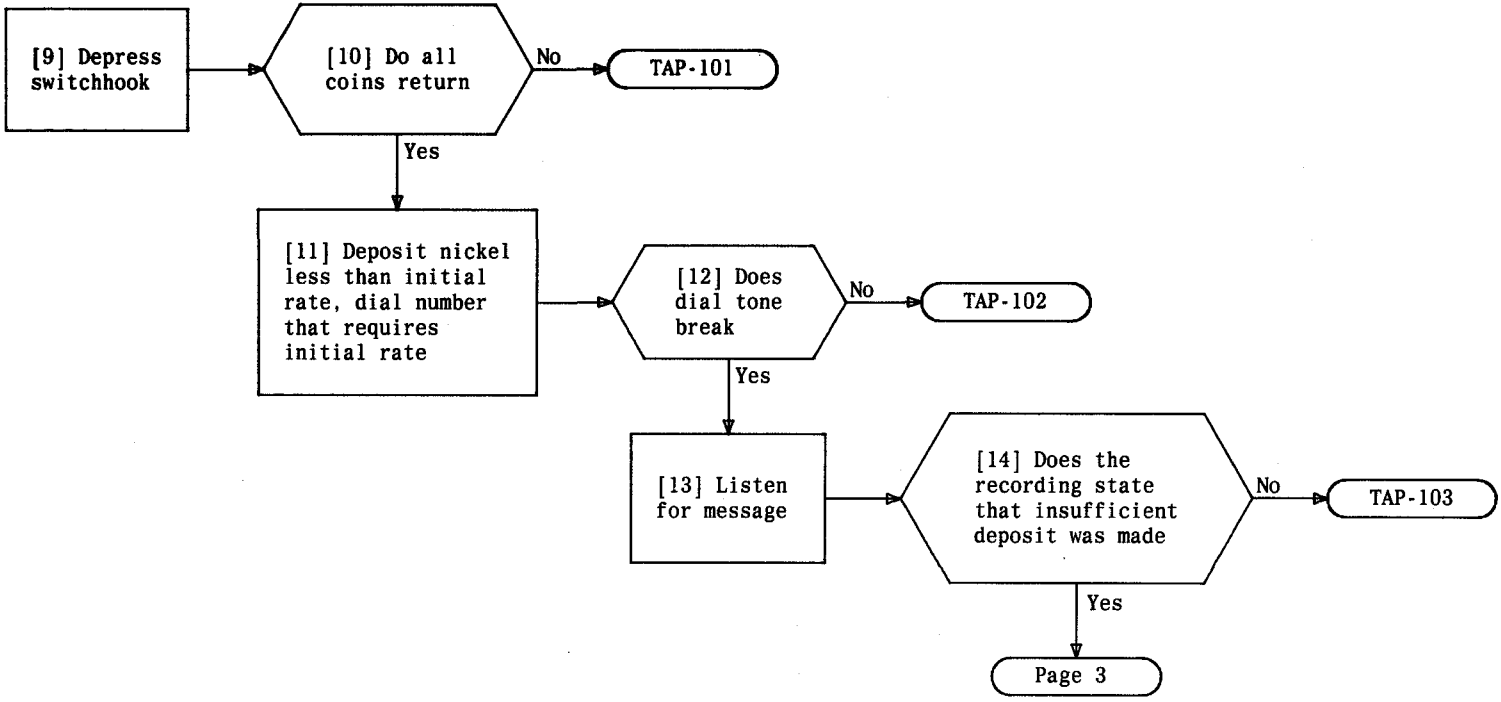
MEASURE GROUND RESISTANCE



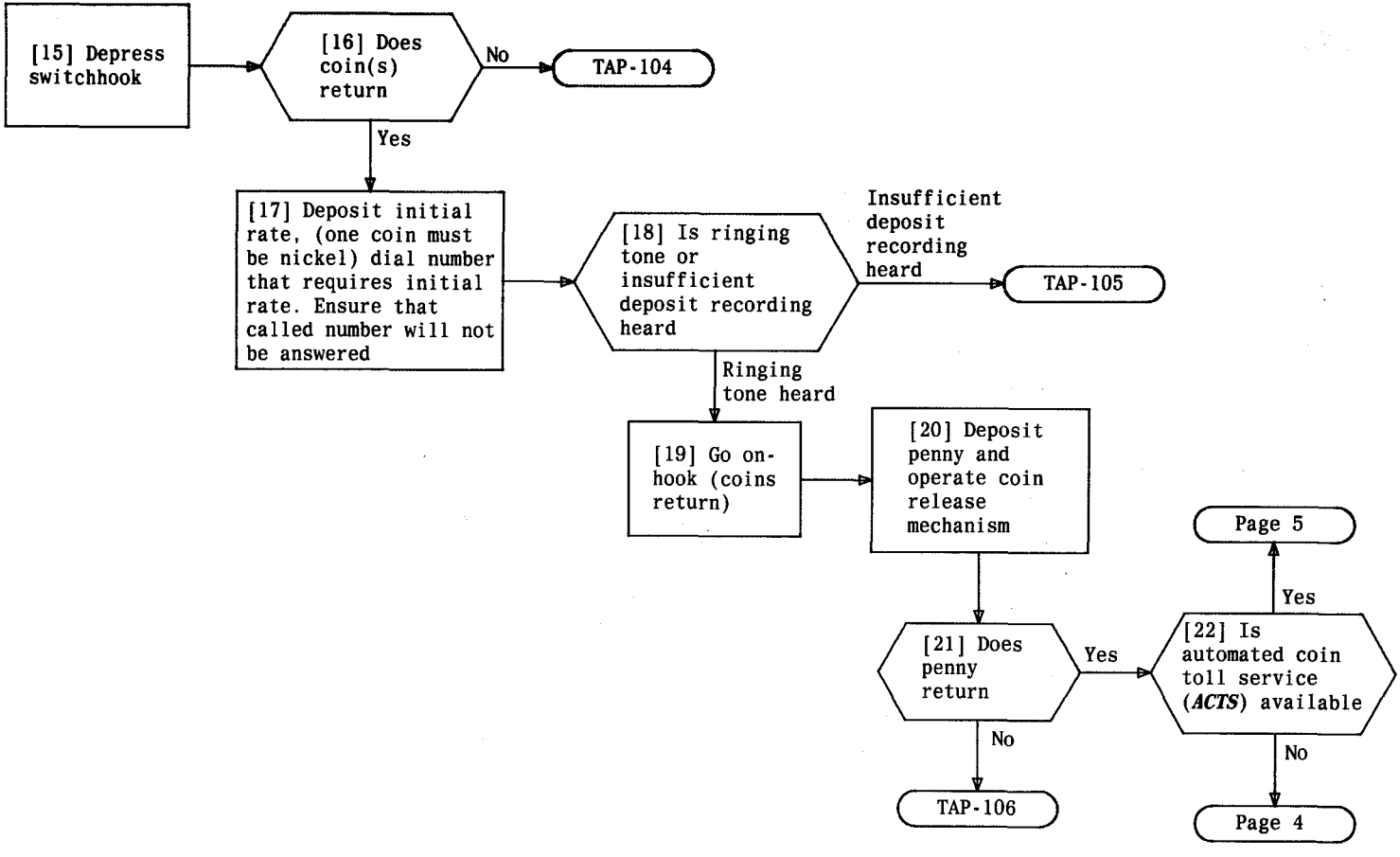
NOTES

1. The serving central office must be wired for dial-tone-first and the line circuit associated with the station under test properly wired for loop start prior to performing the following test
2. Any time you leave this DLP to clear trouble you should always return to Step 1 and test again

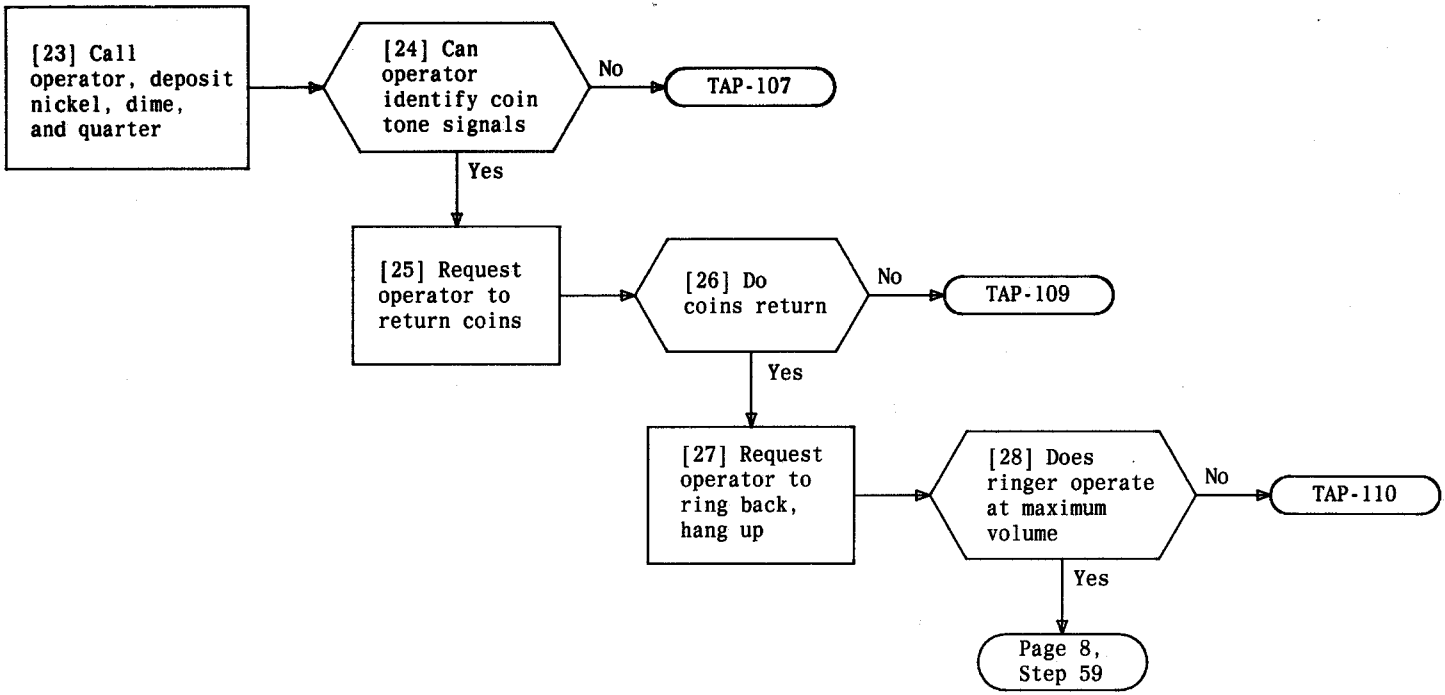
PERFORM OPERATIONAL TEST



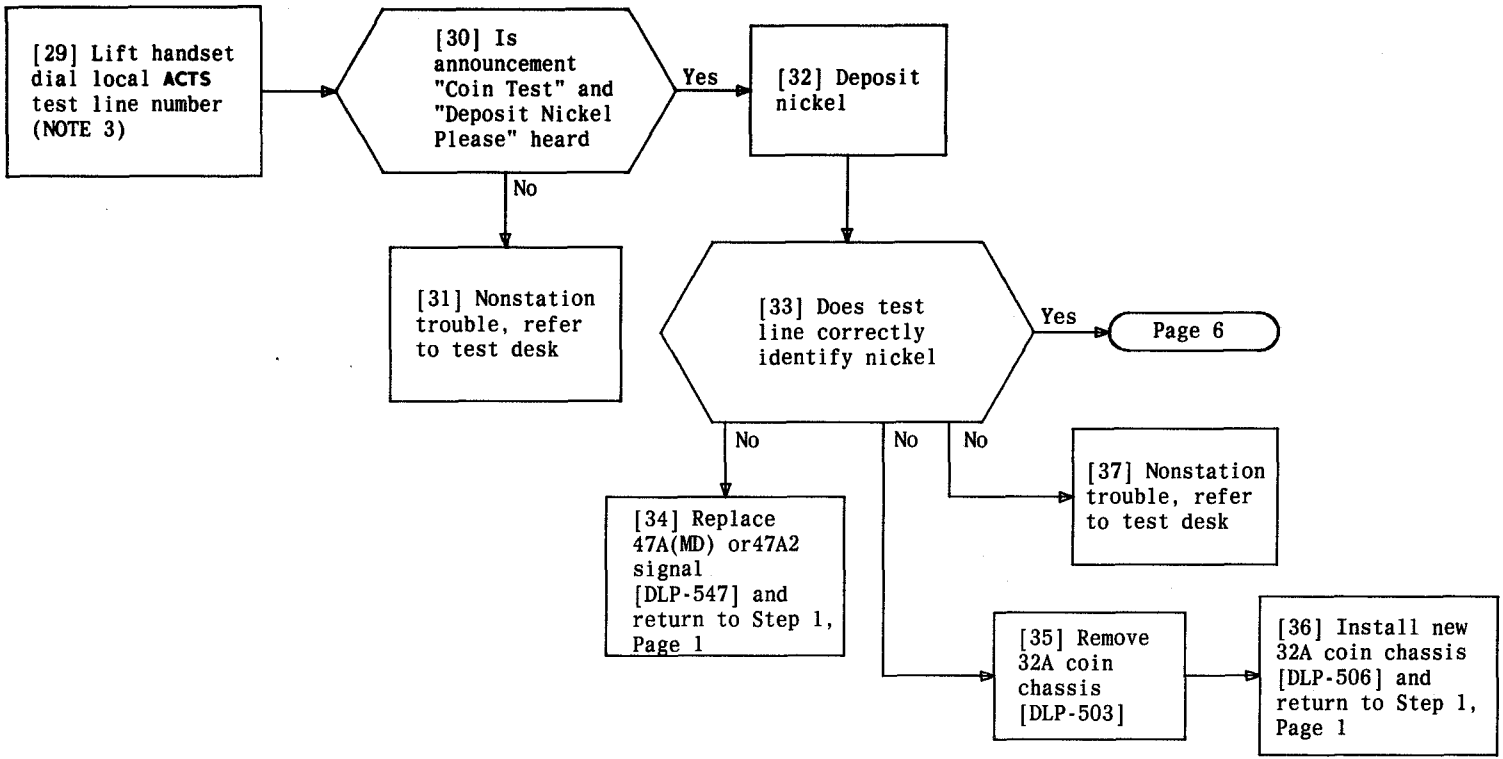
PERFORM OPERATIONAL TEST



PERFORM OPERATIONAL TEST



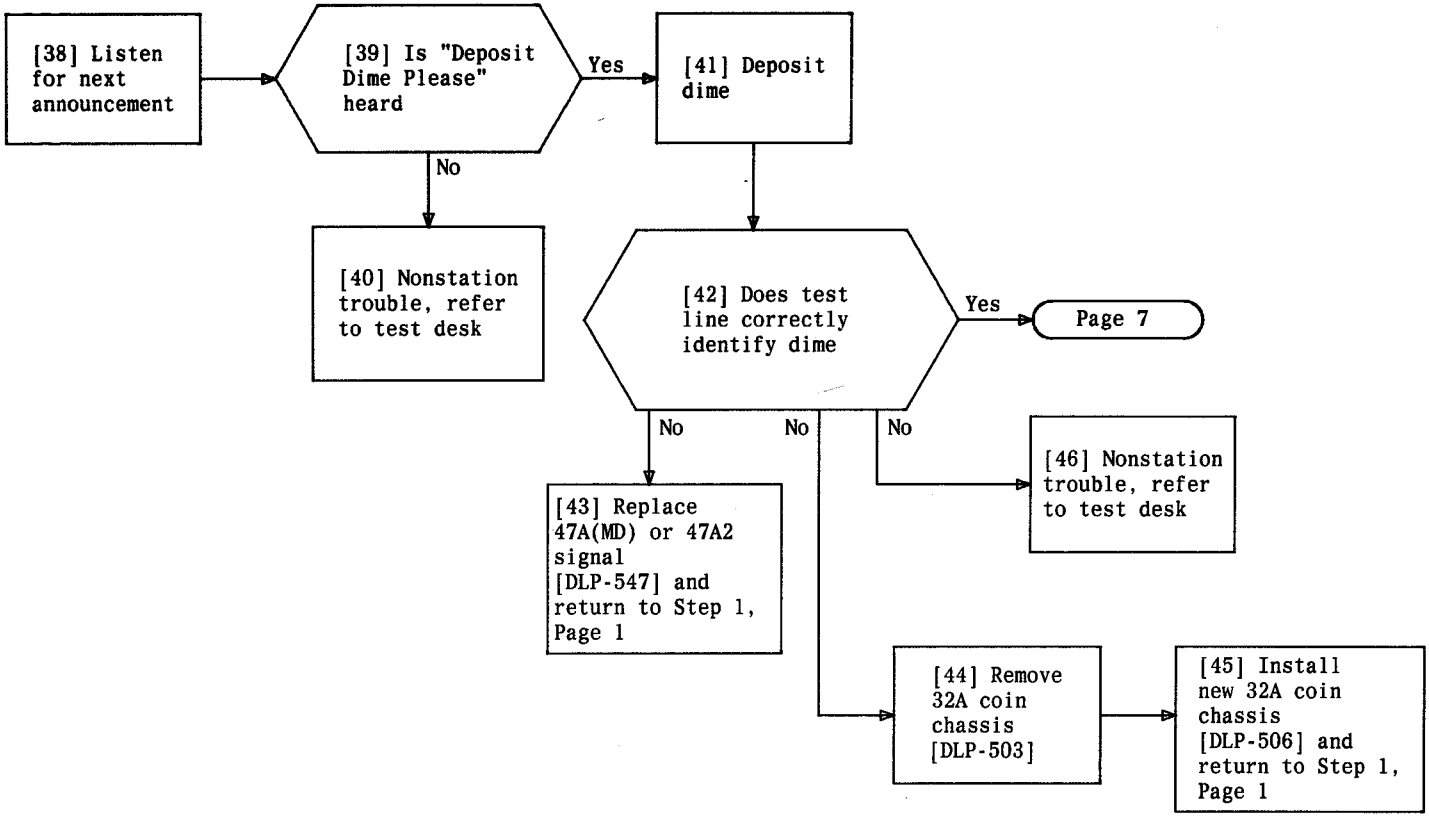
PERFORM OPERATIONAL TEST



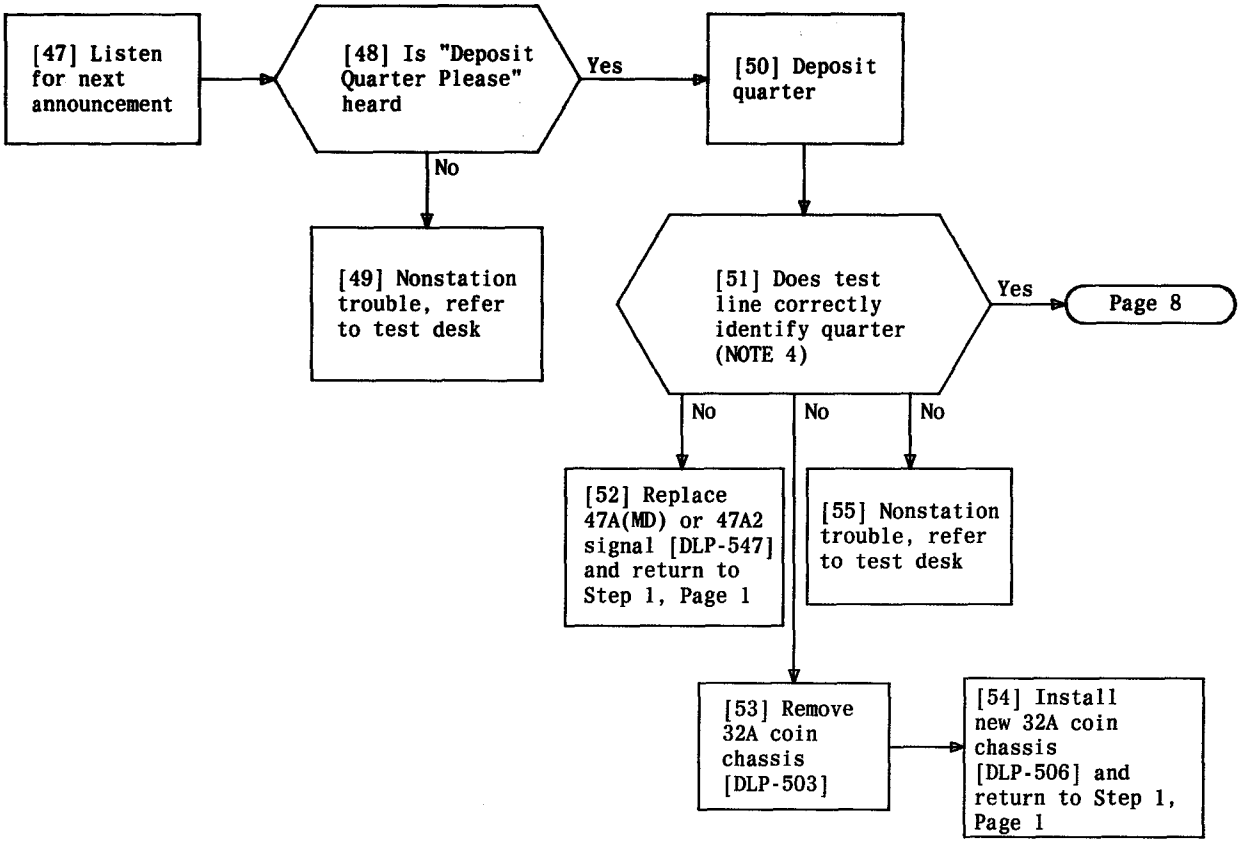
NOTE 3

If coin test line is busy recorder tone (120 IPM) will be heard

PERFORM OPERATIONAL TEST



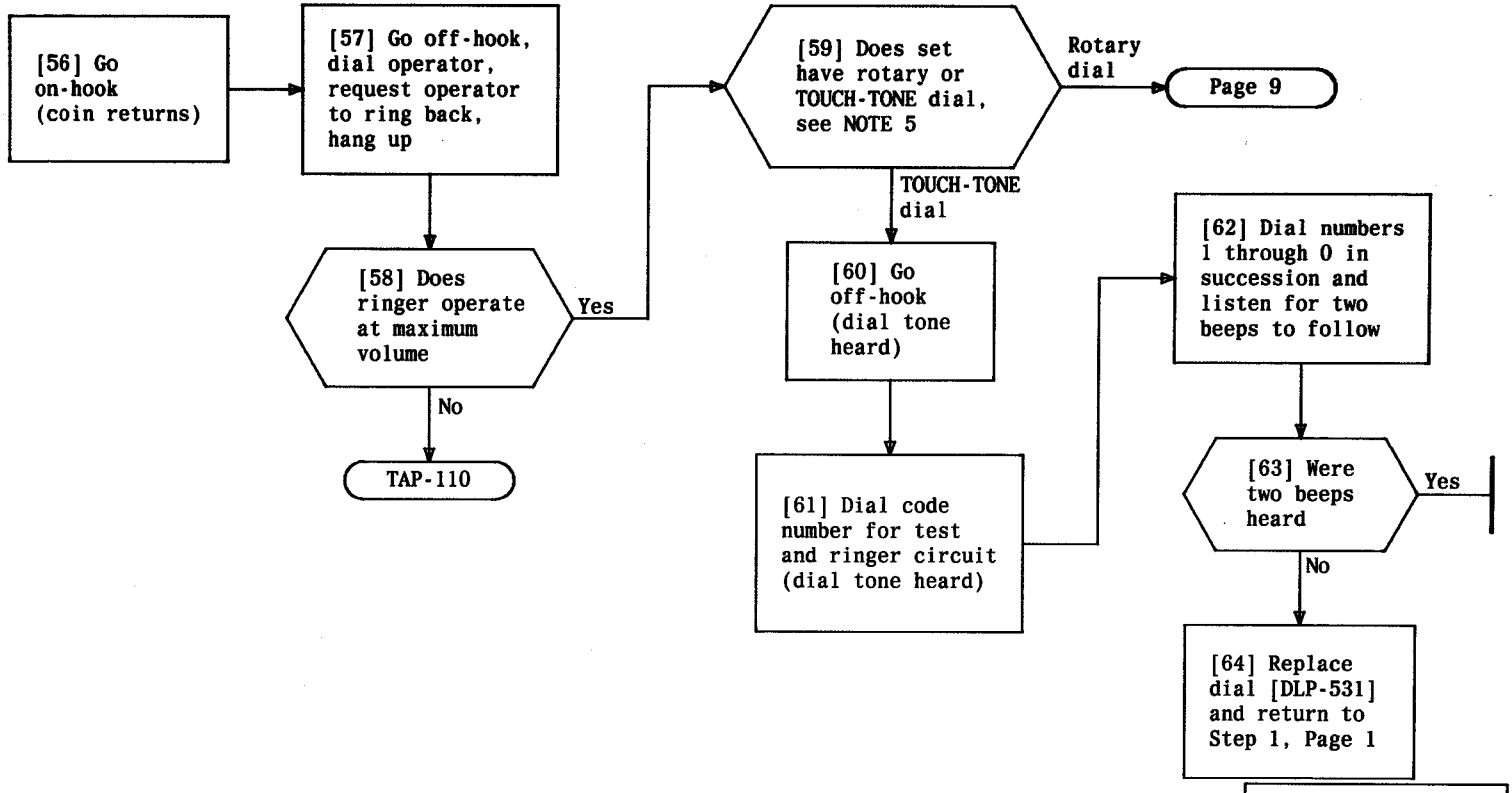
PERFORM OPERATIONAL TEST



NOTE 4

Additional coins can be dsposited in any sequence; however, a two minute overall time limit is placed on each test call. If this is exceeded, an announcement "Test Has Ended" will be heard, a coin return signal will be generated, and the connections broken

PERFORM OPERATIONAL TEST



NOTE 5

If dial test circuits are not available, be guided by local instructions for testing dials

PERFORM OPERATIONAL TEST

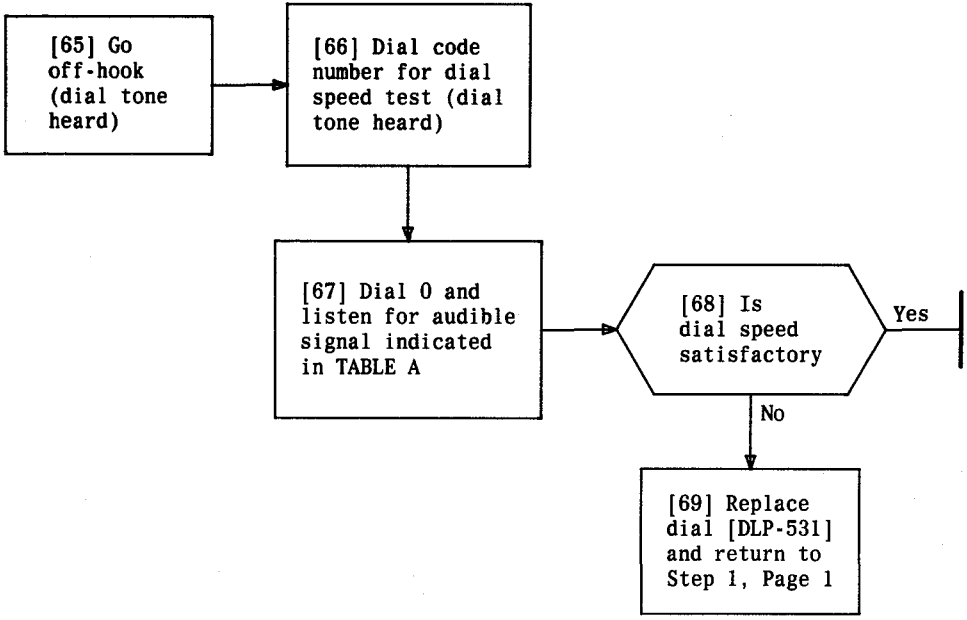
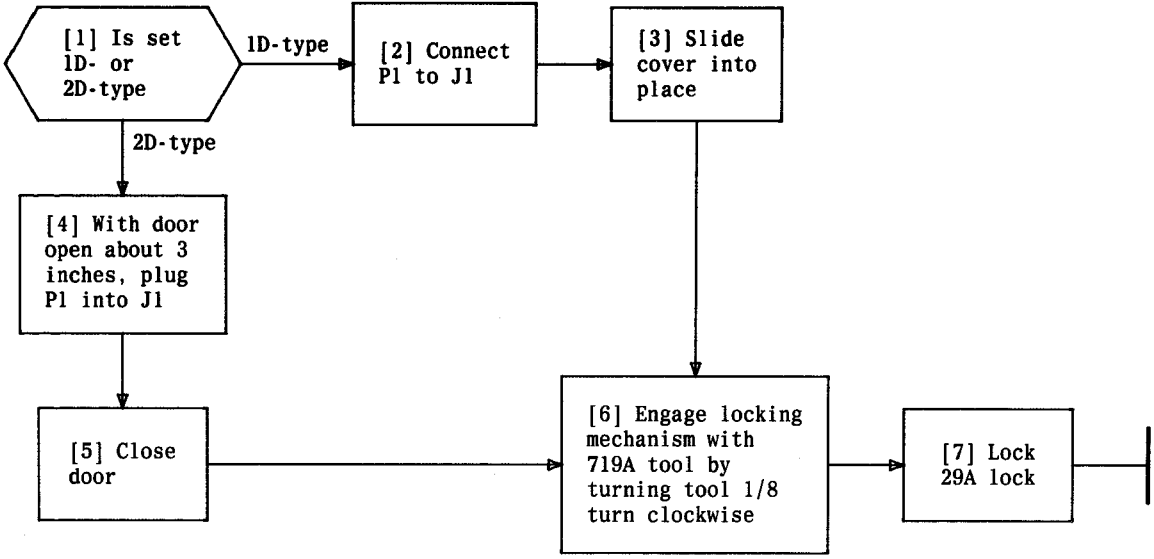


TABLE A

AUDIBLE SIGNAL HEARD	CONDITION
Audible ringback	Dial speed satisfactory
Rapidly interrupted dial tone	Dial speed fast
Slowly interrupted dial tone	Dial speed slow



INSTALL COIN COVER UNIT (1D-TYPE) OR CLOSE DOOR AND FACEPLATE ASSEMBLY (2D-TYPE)

[1] See WARNING 1. Use an allen wrench or KS-21107, List 1 releaser, turn setscrew clockwise until stop is reached. See FIG. 1 and NOTE 1

AND

[2] Turn fingerwheel in a clockwise direction until operator hole is in the 9 position, and lift off

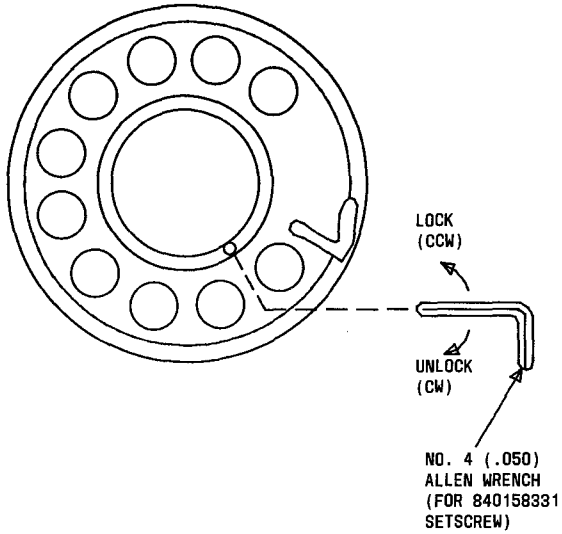


FIG. 1 – Remove Fingerwheel on 8U (MD), 8W(MD), or 8WA Dial

NOTE 1

Dial fingerwheel is secured with a No. 4-40 setscrew

WARNING 1

When turning setscrew, 8WA dial must be in the fully run down position to prevent losing the setscrew

REMOVE DIAL FINGERWHEEL

[1] Ensure that setcrew is all the way in, clockwise

[2] Place fingerwheel on dial with operator hole over the 9 position

[3] Rotate the fingerwheel counterclockwise until in its normal position

AND

[4] Use an Allen wrench or KS-21107, List 1 releaser, turn setscrew counterclockwise until stop is reached. See FIG. 1

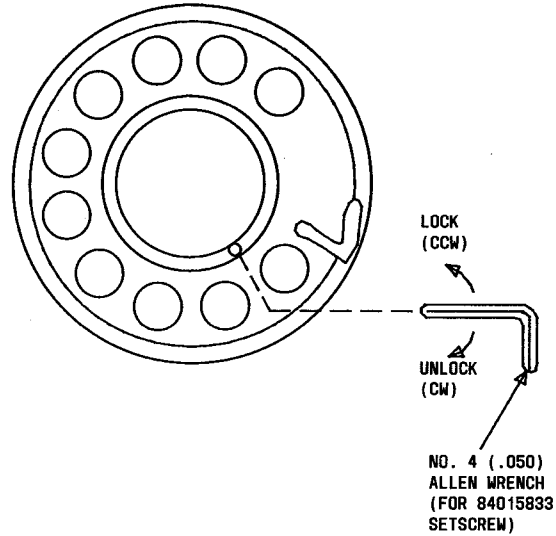


FIG. 1 – Installing Fingerwheel on 8U(MD), 8W(MD), or 8WA Dial

INSTALL DIAL FINGERWHEEL

DETACH COIN DIAL UNIT (1D2 OR 2D2 SET)

[1] Take handset off switchhook

[2] Remove four self-locking mounting screws. See FIG. 1

[3] See WARNING 1. Pull coin dial unit away from cover or door and carefully pull handset cord through hole in faceplate. See FIG. 1

AND

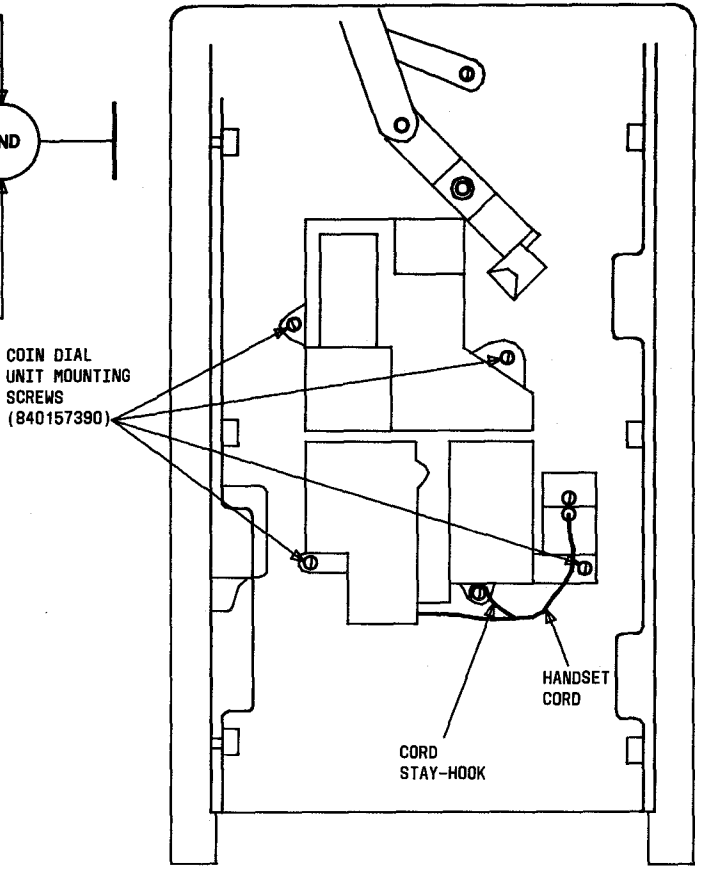


FIG. 1 – Coin Cover Unit

WARNING 1

Armored handset cord is attached to coin dial unit

[1] Insert window in faceplate from rear. See NOTES 1, 2 and FIG. 1

[2] Insert number card in window. See FIG. 2, Page 2

[3] Secure window and number card using card holder bracket and two thread forming nuts. See FIG. 3, Page 2

AND

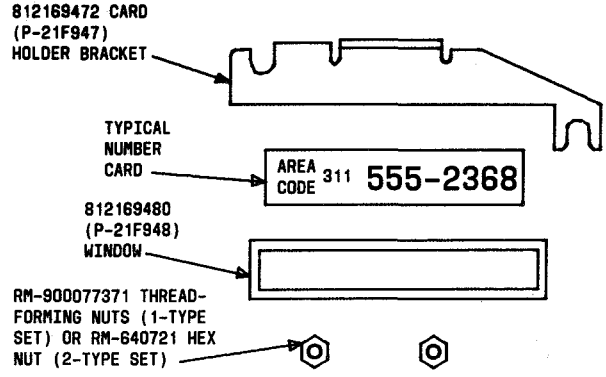


FIG. 1 – Number Card and Associated Hardware (TOUCH-TONE Set)

NOTES

1. Number card furnished locally
2. Card holder bracket, window, and (2) nuts are packaged separately and shipped from the factory in the cash compartment

INSTALL NUMBER CARD IN 1D2 OR 2D2 COIN TELEPHONE SET

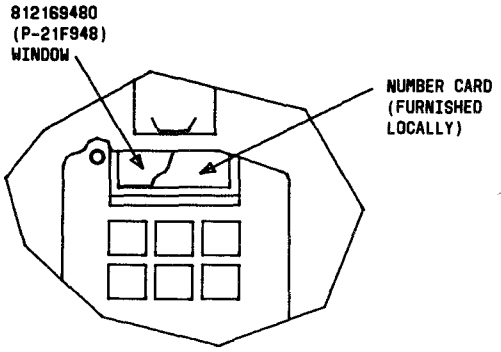


FIG. 2 – Window and Number Card Installed in Faceplate (TOUCH-TONE Set)

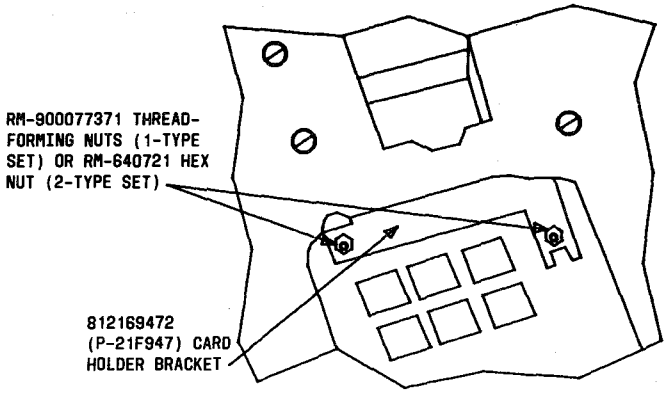


FIG. 3 – Card Holder Bracket Installed (TOUCH-TONE Set)

INSTALL NUMBER CARD IN 1D2 OR 2D2 COIN TELEPHONE SET

[1] Make sure that four handset cradle mounting screws are tight

[2] See WARNING 1. Position coin dial unit by carefully pulling armored handset cord through faceplate from front side

AND

[3] Align and secure coin dial unit using four self-locking mounting screws. See FIG. 1 and NOTE 1

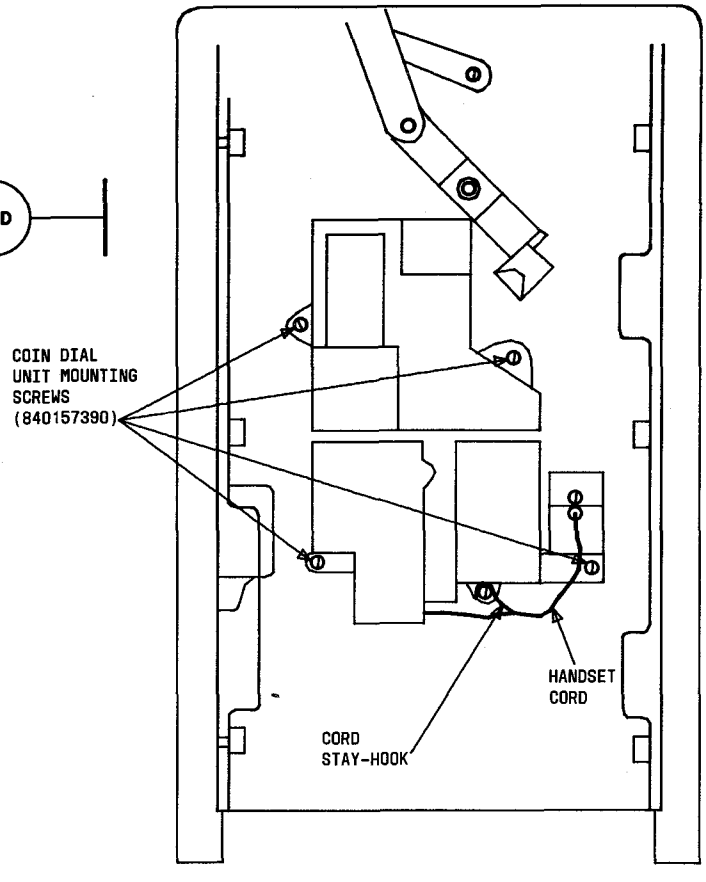


FIG. 1 – Coin Cover Unit

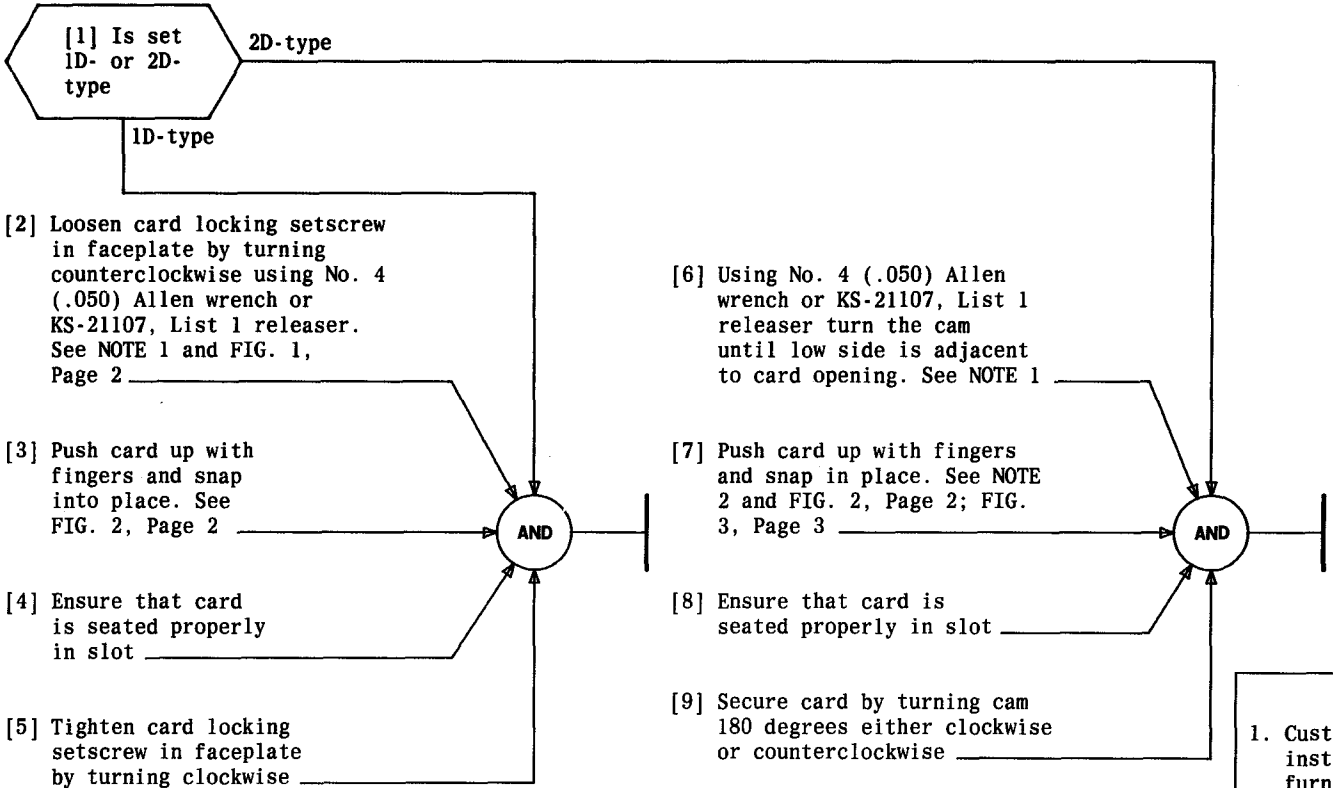
NOTE 1

Coin dial unit mounting screws must be tight to prevent unit from becoming loose due to vibration

WARNING 1

Armored handset cord is attached to coin dial unit

SECURE COIN DIAL UNIT (1D2 OR 2D2 SET)



NOTES

1. Customer instruction cards furnished locally
2. On early production 2-type sets instruction cards are installed by pushing down

Issue 2	AUG 1980
506-410-402	DLP
PAGE 1 of 3	518

INSTALL INSTRUCTION CARDS (1D– OR 2D–TYPE SET)

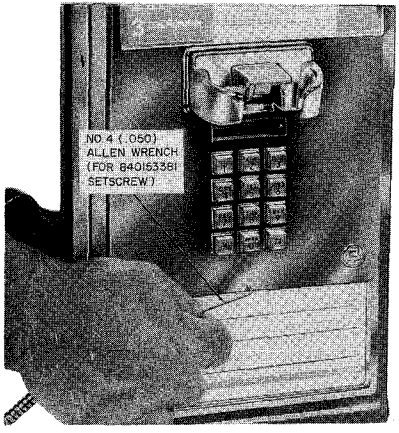


FIG. 1 – Loosening or Securing Instruction Cards (Current Production Sets)

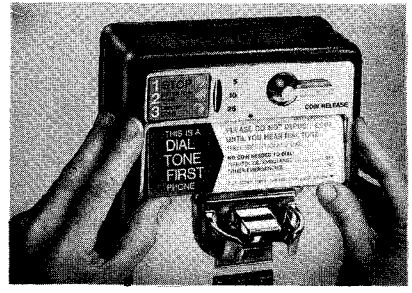


FIG. 2 – Installing Instruction Cards (All 1-Type and Current Production 2-Type)

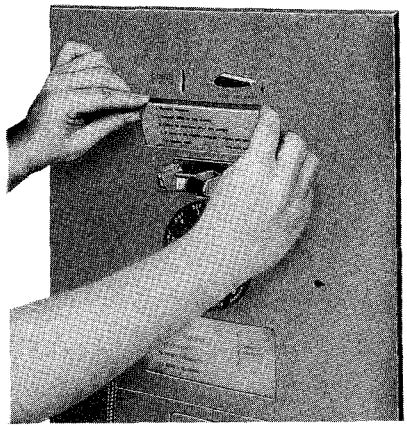
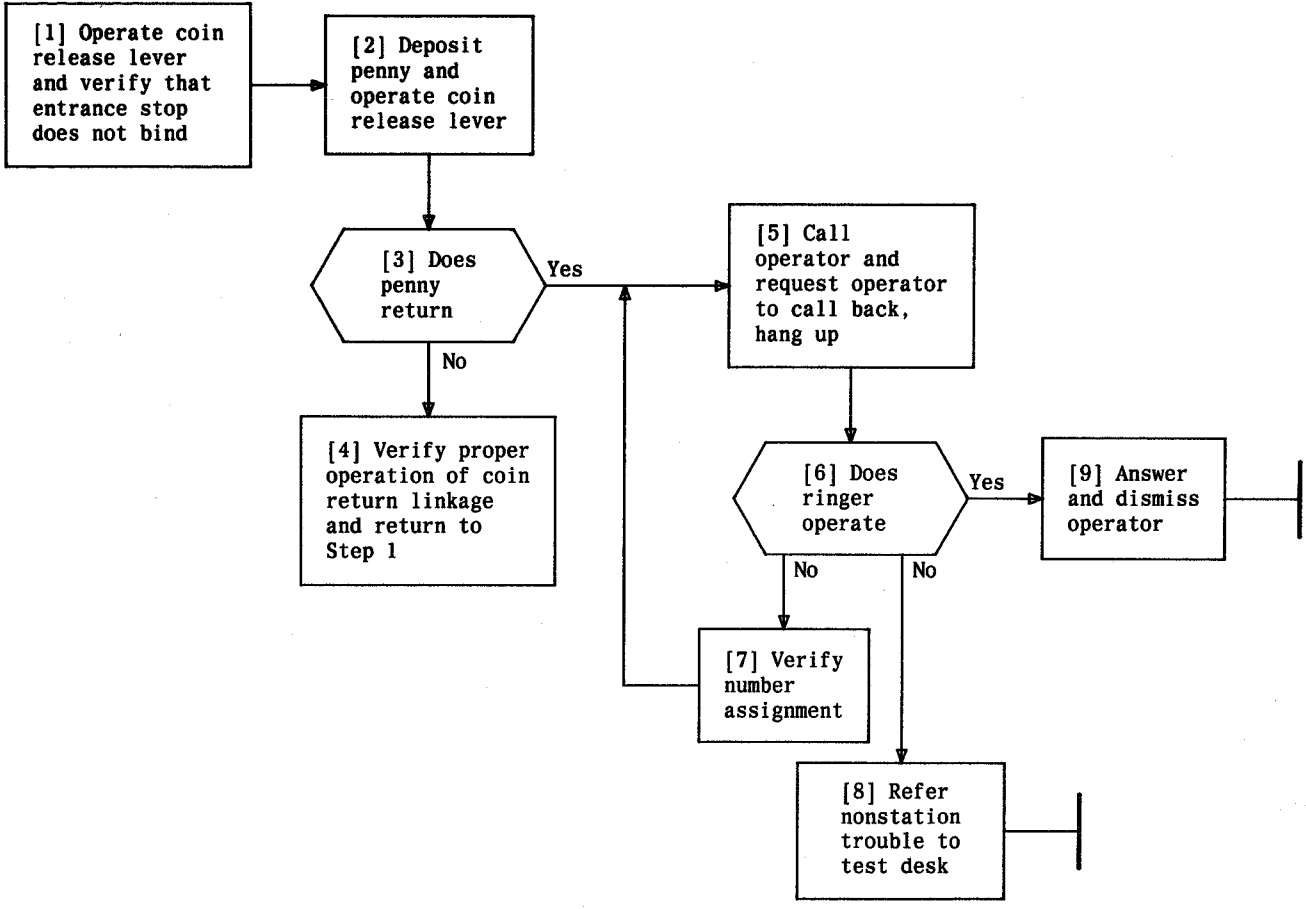
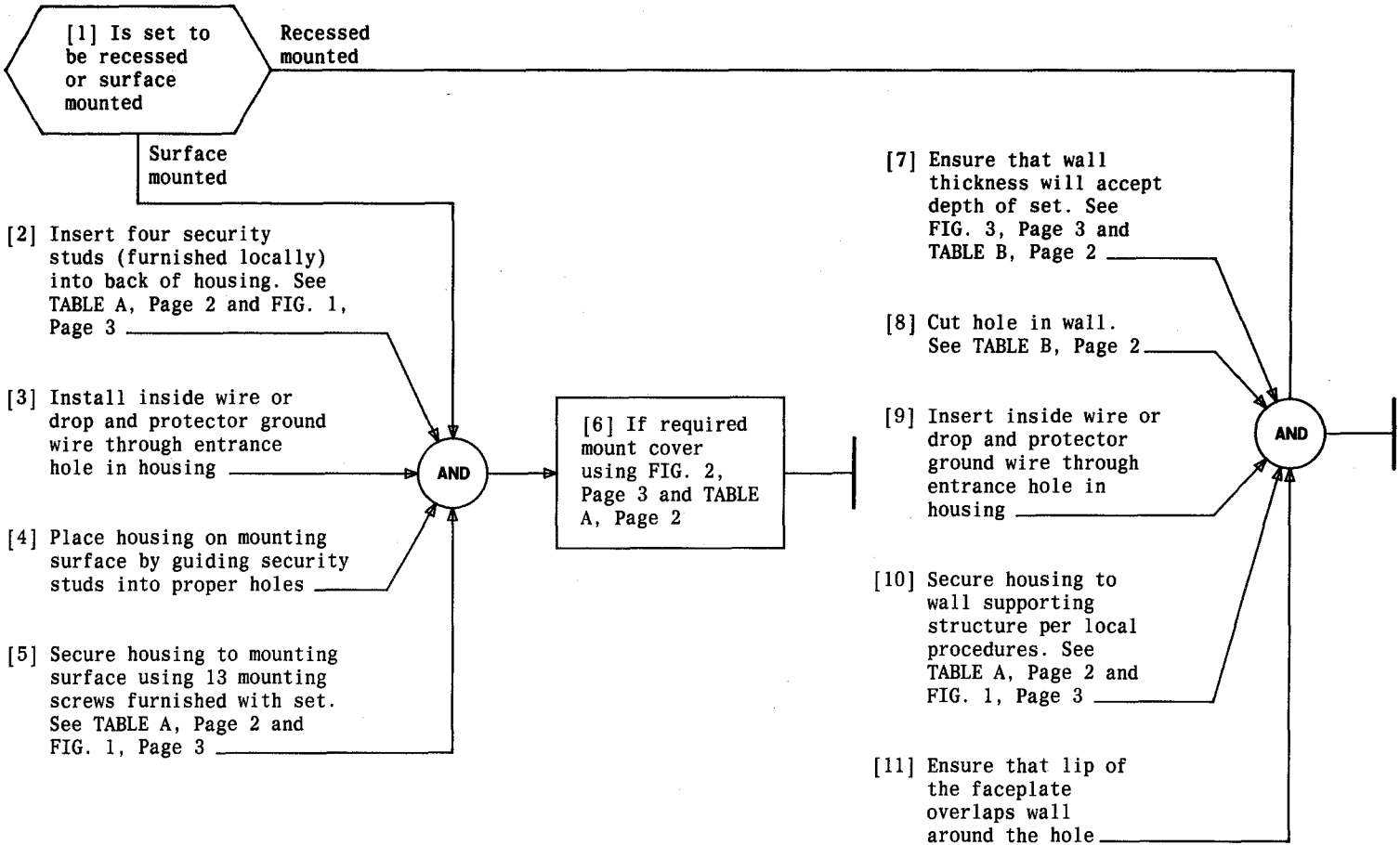


FIG. 3 – Installing Instruction Cards In Early Production 2-Type Set



PERFORM COIN RELEASE LEVER AND CALL BACK TEST



ATTACH HOUSING TO MOUNTING SURFACE (2D-TYPE SET)

TABLE A			
MOUNTING OF 2D-TYPE SET †			
BOOTH, SHELF, OR MOUNTING	SECURITY STUDS (4 REQUIRED)		COVER REQUIRED*
	834080608 (P-40Y060) (SHORT SHOULDER-SHORT THREAD)	834080616 (P-40Y061) (LONG SHOULDER-SHORT THREAD)	
KS-19206 Booth	•		127B FIG. 2
KS-19340 Booth	•		127B FIG. 2
KS-19426 Mounting		•	KS-19426, List 34 Top Assembly
KS-19442 Booth	•		127B FIG. 2
KS-20194 Shelf	•		

* Three No. 8-32 by 3/16 RHM screw are furnished with cover for installation

† Thirteen 1/4-20 by 5/8-inch hardened RHM screws 812367902 (P-23F790) are furnished with each coin telephone set for mounting to backboard

TABLE B*
Height – 22-25/64 inches
Width – 16-9/64 inches
Depth – 6 inches

* Bottom edge of cutout should be approximately 34 inches from floor for a standard coin slot height of 54 inches

ATTACH HOUSING TO MOUNTING SURFACE (2D-TYPE SET)

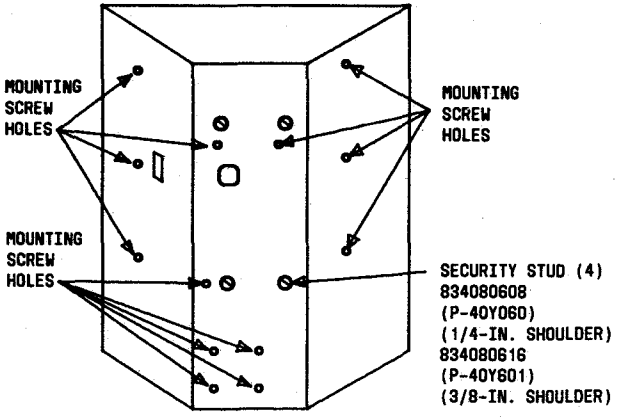


FIG. 1 – Location of Mounting Screw Holes and Security Studs In 2D-Type Set

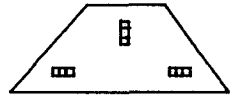


FIG. 2 – 127A and 127B Covers

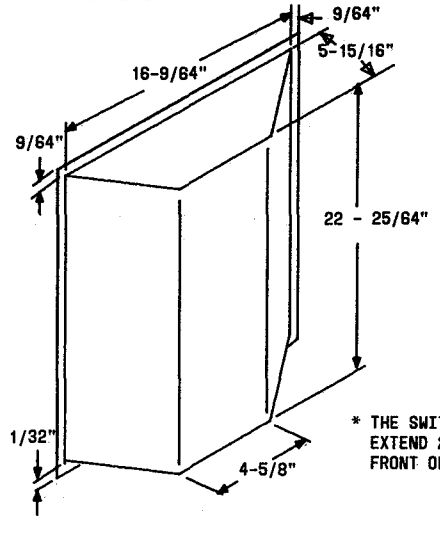
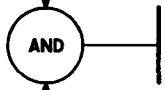


FIG. 3 – Rear View of Panel Set Showing Dimensions*

ATTACH HOUSING TO MOUNTING SURFACE (2D-TYPE SET)

[1] See WARNING 1. Unscrew three captive-type screws which attach totalizer to chute



[2] Carefully remove totalizer from chute, see NOTE 1

NOTE 1

Disposition of totalizer is optional

WARNING 1

Totalizer arms are easily damaged

Issue 2	AUG 1980
506-410-402	DLP
PAGE 1 of 1	521

REMOVE TOTALIZER FROM COIN CHUTE

[1] Place signal on chute.
Be sure that short guide pins on chute mate with signal bracket holes. See FIG. 1

AND

[2] Tighten two captive mounting screws

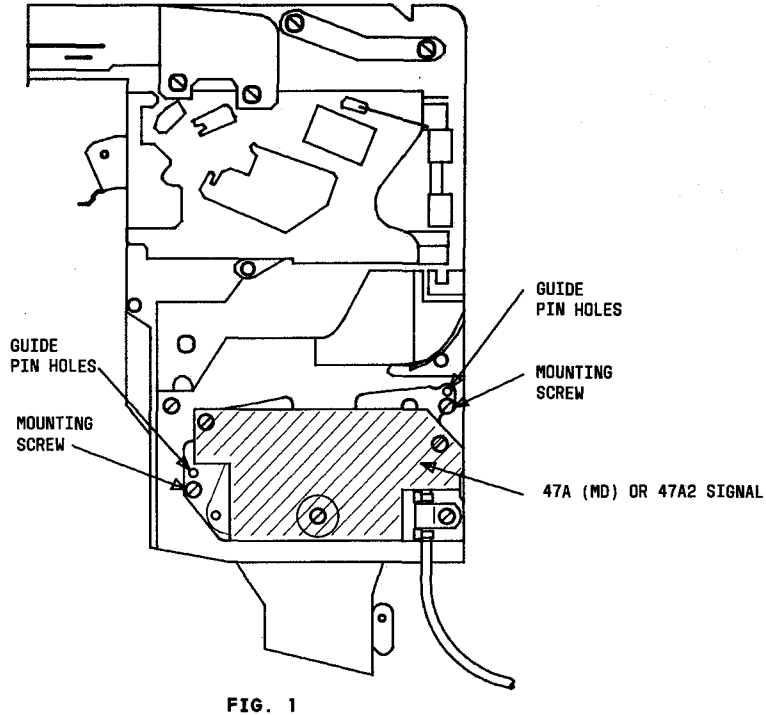


FIG. 1

INSTALL 47A (MD) OR 47A2 SIGNAL ON COIN CHUTE

Issue 2	AUG 1980
506-410-402	DLP
PAGE 1 of 1	522

[1] Make wiring changes shown in TABLE A or B, Page 2

TABLE A

ROTARY DIAL TELEPHONE SET CONNECTIONS

COMPONENT	WIRE COLOR	REMOVE FROM TB2		CONNECT TO TB2	COMPONENT	WIRE COLOR	REMOVE FROM TB2		CONNECT TO TB2
		1A-2A-, 1C-2C-COIN-FIRST MODE	1C-2C- DIAL-TONE-FIRST MODE	1D-2D- DIAL-TONE-FIRST MODE			1A-2A-, 1C-2C-COIN-FIRST MODE	1C-2C- DIAL-TONE-FIRST MODE	1D-2D- DIAL-TONE-FIRST MODE
Dial	BL	9	9	11	Switchhook	BR	11	11	10
	BL or G	10	10	8		BR	10	10	10
	W	2	2	4		O	10	10	9
	W	3	3	3		O	11	11	8
	Y	9	*	10		W	8	8	2
	Y	9	13	13		Y	3	3	7
Handset	W	2	2	4		G	13	9	12
	R	3	3	3		S	9	9	12
	BK	6	6*	6		S-W	–	–	14†
	W	8	8	7		R‡	12	12	12
Strap	S	1 to 4	1 to 4	2 to 3					

* Terminal 9 on 819042748 (P-90D274) and 840152227 dial and housing assemblies
Terminal 12 on 841317241 and 841317258 dial and housing assemblies

† Terminal 14 appears on new 60A coin dial unit only

‡ (R) Switchhook lead does not appear on 819042748 (P-90D274) dial and housing assembly

MAKE WIRING CHANGES ON TB2

TABLE B

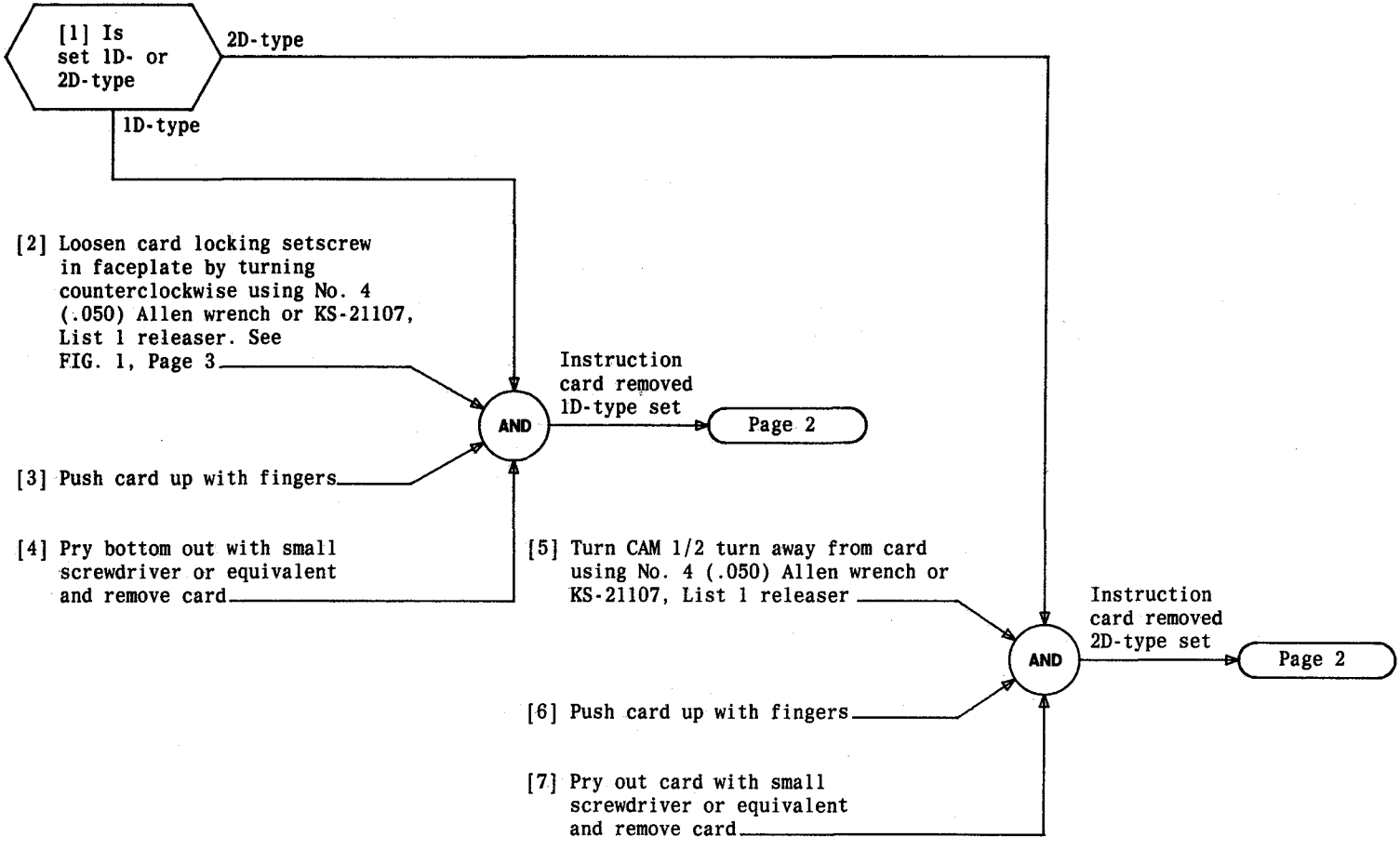
"TOUCH-TONE" DIAL TELEPHONE SET CONNECTIONS

COMPONENT	WIRE COLOR	REMOVE FROM TB2		CONNECT TO TB2	COMPONENT	WIRE COLOR	REMOVE FROM TB2		CONNECT TO TB2
		1A-2A-, 1C-2C-COIN-FIRST MODE	1C-2C- DIAL-TONE-FIRST MODE	1D-2D- DIAL-TONE-FIRST MODE			1A-2A-, 1C-2C-COIN-FIRST MODE	1C-2C- DIAL-TONE-FIRST MODE	1D-2D- DIAL-TONE-FIRST MODE
70A(MD) or 70B Dial	G	4	4	1	Switchhook	BR	11	11	11
	W	2	2	4		BR	9	9	9
	R	5	5	3		O	9	9	9
	R-G	6	6	2		O	11	11	11
	BK	1	1	1		W	8	8	8
	O-BK	11	11	10		Y	3	3	3
	O-R	10	10	5		G	13	9	12
	W-BL	7	7	7		S	9	9	12
	O-W	10	*	10		S-W	–	–	14†
	V	10	13	13		R	12	12	12
Handset	W	7	7	7					
	R	3	3	3					
	BK	5	5	6					
	W	8	8	8					

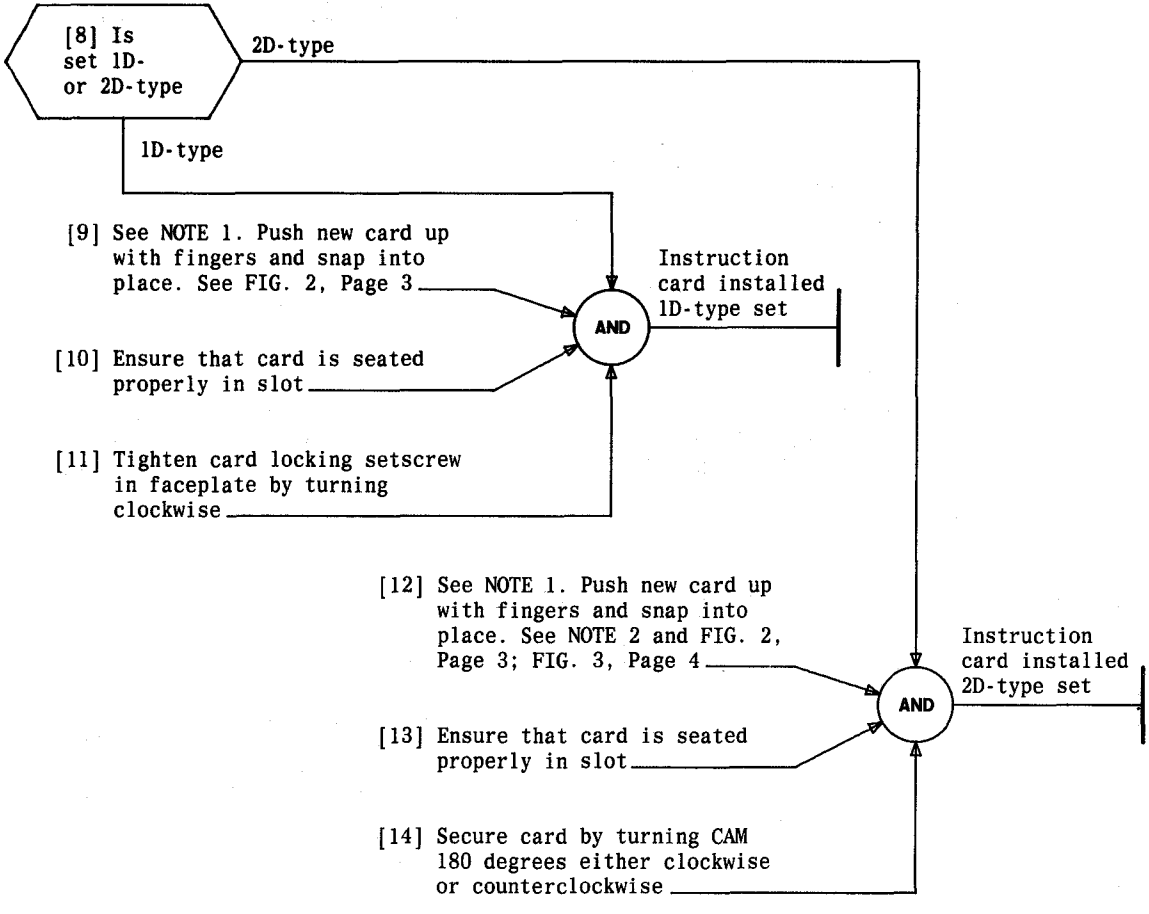
* Terminal 9 on 840155402, 840155394, or 840346977 (manufactured before 8-74) dial and housing assemblies.
Terminal 12 on 840347173, 61A, or 840346977 (manufactured after 8-74) dial and housing assemblies.

† Terminal 14 appears on new 61A coin dial unit only

MAKE WIRING CHANGES ON TB2



REPLACE INSTRUCTION CARDS



NOTES

1. Customer instruction cards furnished locally
2. On eary production 2-type sets instruction cards are installed by pushing down

REPLACE INSTRUCTION CARDS

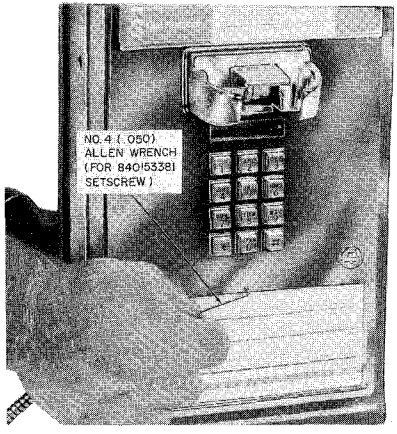


FIG. 1 – Loosening or Securing Instruction Cards (Current Production Sets)

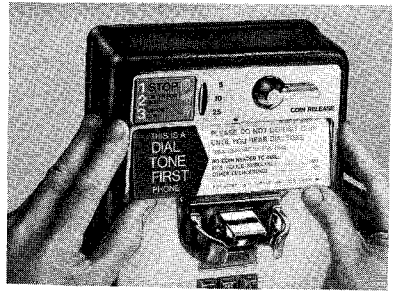


FIG. 2 – Installing Instruction Cards (All 1-Type and Current Production 2-Type Sets)

REPLACE INSTRUCTION CARDS

FIG. 3 – Installing Instruction Card In Early Production 2-Type Set

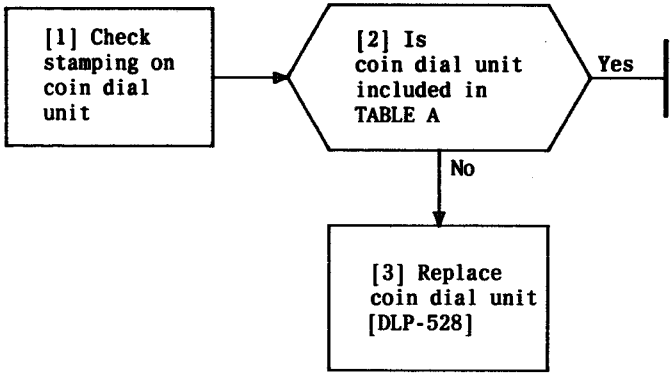
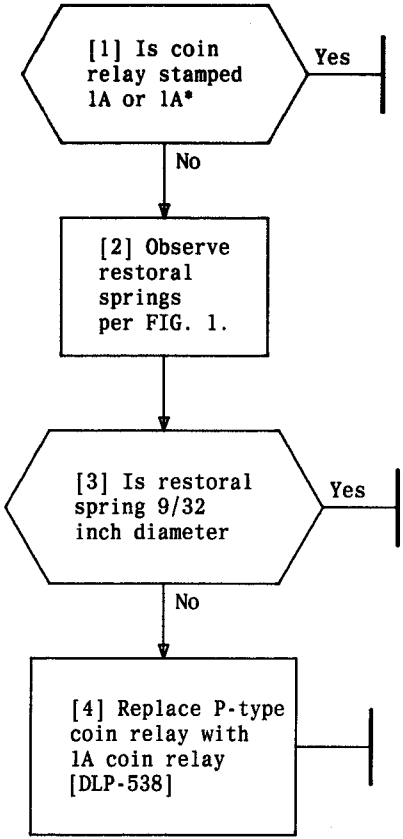
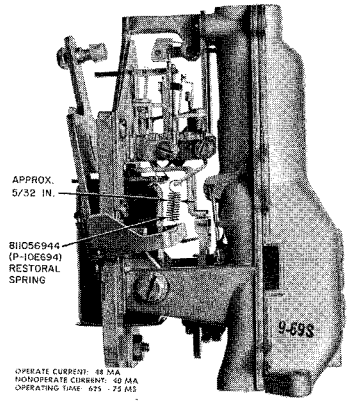


TABLE A	
COIN DIAL UNIT	
ROTARY DIAL SET	"TOUCH-TONE" DIAL SET
60A	61A
841317241	840346977
841317258	840347173
819042748 (P-90D274)	840155402
840152227	840155394

VERIFY COMPATIBILITY OF COIN DIAL UNIT WITH 1D– OR 2D–TYPE SET



NONCOMPATABLE RELAY



COMPATABLE RELAY

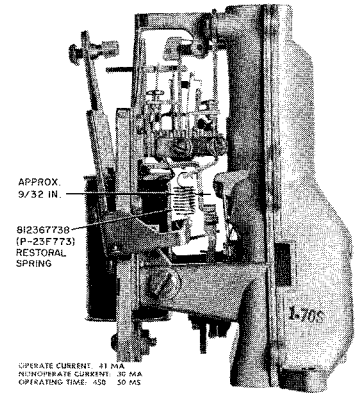


FIG. 1 – Coin Relays

VERIFY COMPATIBILITY OF COIN RELAY

[1] See WARNING 1. Use Allen wrench or K5-21107, List 1 releaser, turn setscrew clockwise until stop is reached. See FIG. 1.

[2] Turn fingerwheel in a clockwise direction until operator hole is in the 9 position, and lift off.

AND

Fingerwheel removed

[3] If required replace number card. See NOTE 1

[4] Ensure that setscrew is all the way in clockwise.

[5] Place new fingerwheel on dial with operator hole over position 9.

AND

Fingerwheel installed

[6] Rotate fingerwheel counterclockwise until in its normal position.

[7] Use Allen wrench or KS-21107. List 1 releaser, turn setscrew counterclockwise until stop is reached. See FIG. 1.

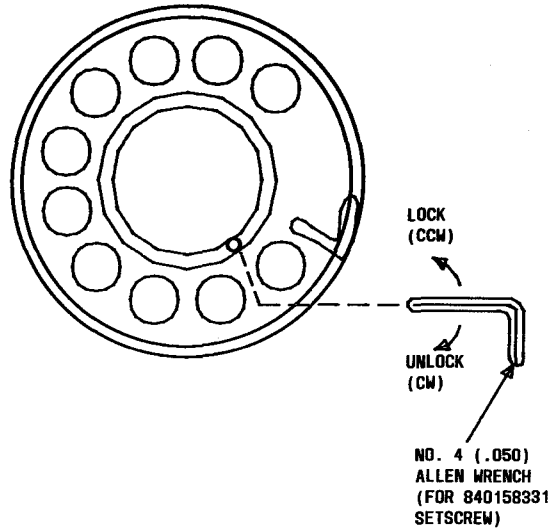


FIG. 1 – Replacing (840151872) Fingerwheel on 8U (MD), 8W (MD), or 8WA Dial

NOTE 1
Number card furnished locally

WARNING 1
When turning setcrew, dial must be in the fully run down position to prevent losing the setscrew

REPLACE FINGERWHEEL AND/OR NUMBER CARD (1D1– OR 2D1–TYPE TELEPHONE SET)

[1] If required, remove coin cover unit (ID-type set) or open door and faceplate assembly (2D-type set) [DLP-501]

[2] Take handset off switchhook

[3] Disconnect (R), (BK), and two (W) handset leads from TB2 on rear of coin dial unit

[4] Loosen stay-hook screw and move handset cord aside. See FIG. 1

[5] Remove screw and coverplate which secure handset cord to dial housing. See FIG. 1

AND

Handset removed

[6] Remove four self-locking coin dial unit mounting screws. See FIG. 1

[7] Remove coin dial unit

AND

Coin dial unit removed

Page 2

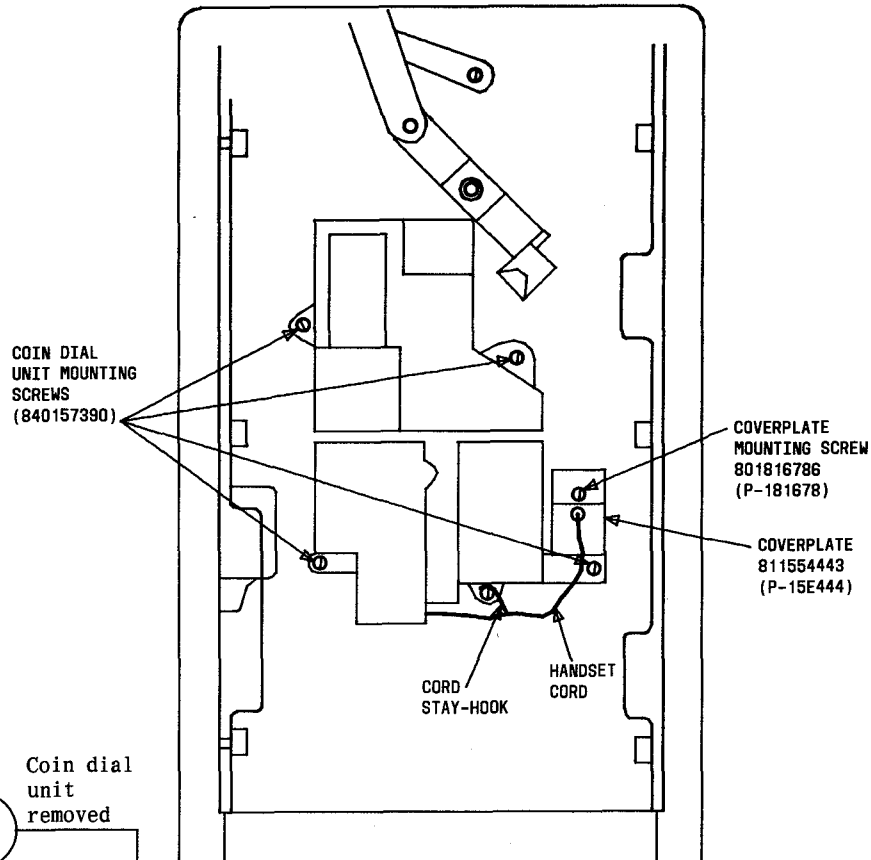


FIG. 1 – Coin Cover Unit

REPLACE COIN DIAL UNIT

[8] Make sure that four handset cradle mounting screws are tight

[9] See TABLE A. Feed handset cord through opening in new coin dial unit

[10] Position new coin dial unit and secure using four mounting screws. See NOTE 1

[11] Feed armored handset cord through coverplate

[12] Install coverplate and stayhook

[13] Connect handset leads per TABLE B

[14] If required, make wiring changes per DLP-523

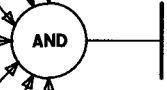
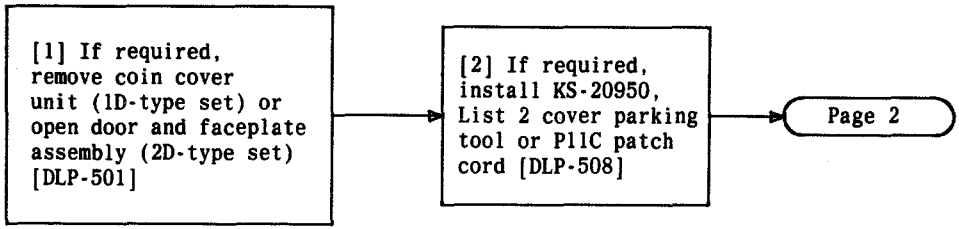


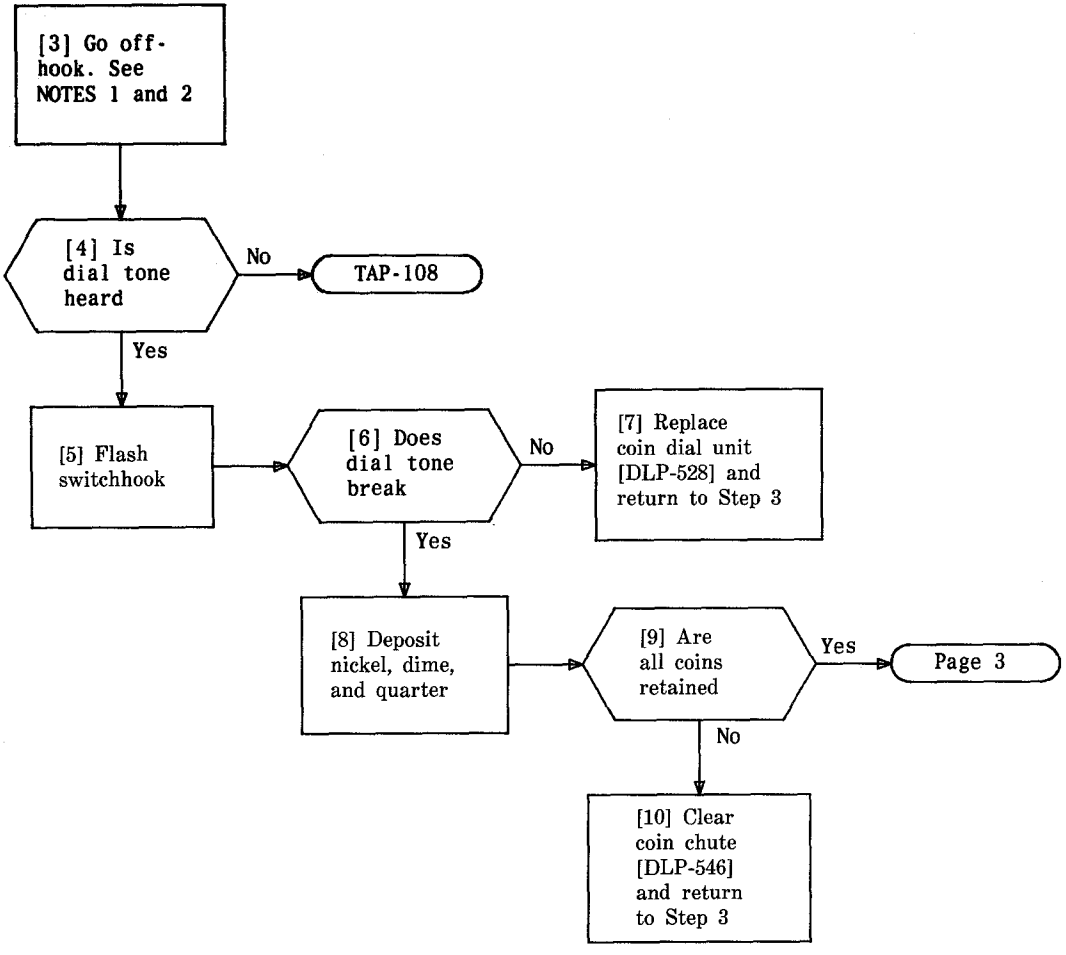
TABLE A	
COIN TEL SET	COIN DIAL UNIT*
1D1	60A3-44, 60A2-44, or 841317241
1D2	61A3-44, 61A2-44, or 840346977
2D1 (Brushed Stainless)	60A3-44, 60A2-44 (Chrome), or 841317241
2D1 (Bronze)	60A3-84, 60A2-84, (Bronze), or 841317258
2D2 (Brush Stainless)	61A3-44, 61A2-44, (Chrome), or 840346977
2D2 (Bronze)	61A3-84, 61A2-84, (Bronze), or 840347173
* 60A3- or 61A3- coin dial units are preferred for replacement	

TABLE B		
COMPONENT	WIRE COLOR	CONNECT TO TB2
Handset (Rotary Set)	W R BK W	4 3 6 7
Handset (TOUCH-TONE Set)	W R BK W	7 3 6 8

NOTE 1
Four coin dial unit mounting screws must be tight to prevent unit from becoming loose due to vibration

REPLACE COIN DIAL UNIT

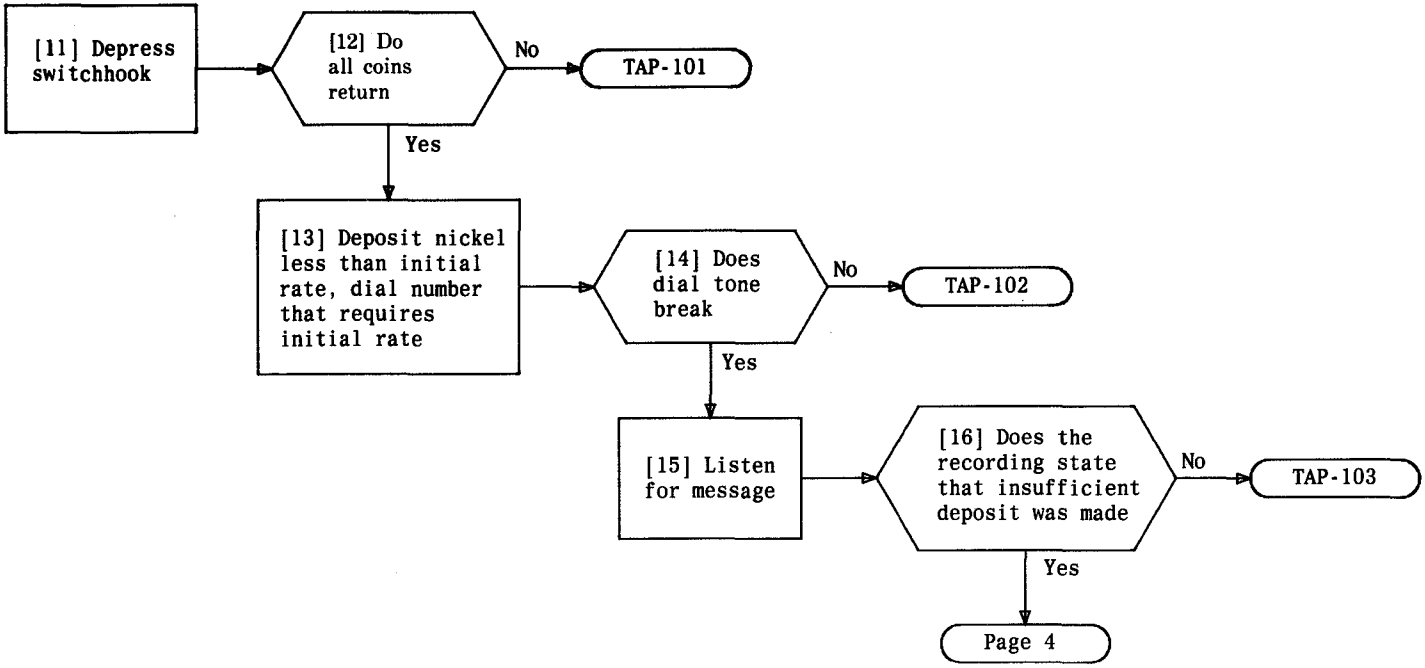

[1] If required, remove coin cover unit (1D-type set) or open door and faceplate assembly (2D-type set) [DLP-501]
[2] If required, install KS-20950, List 2 cover parking tool or P11C patch cord [DLP-508]
Page 2



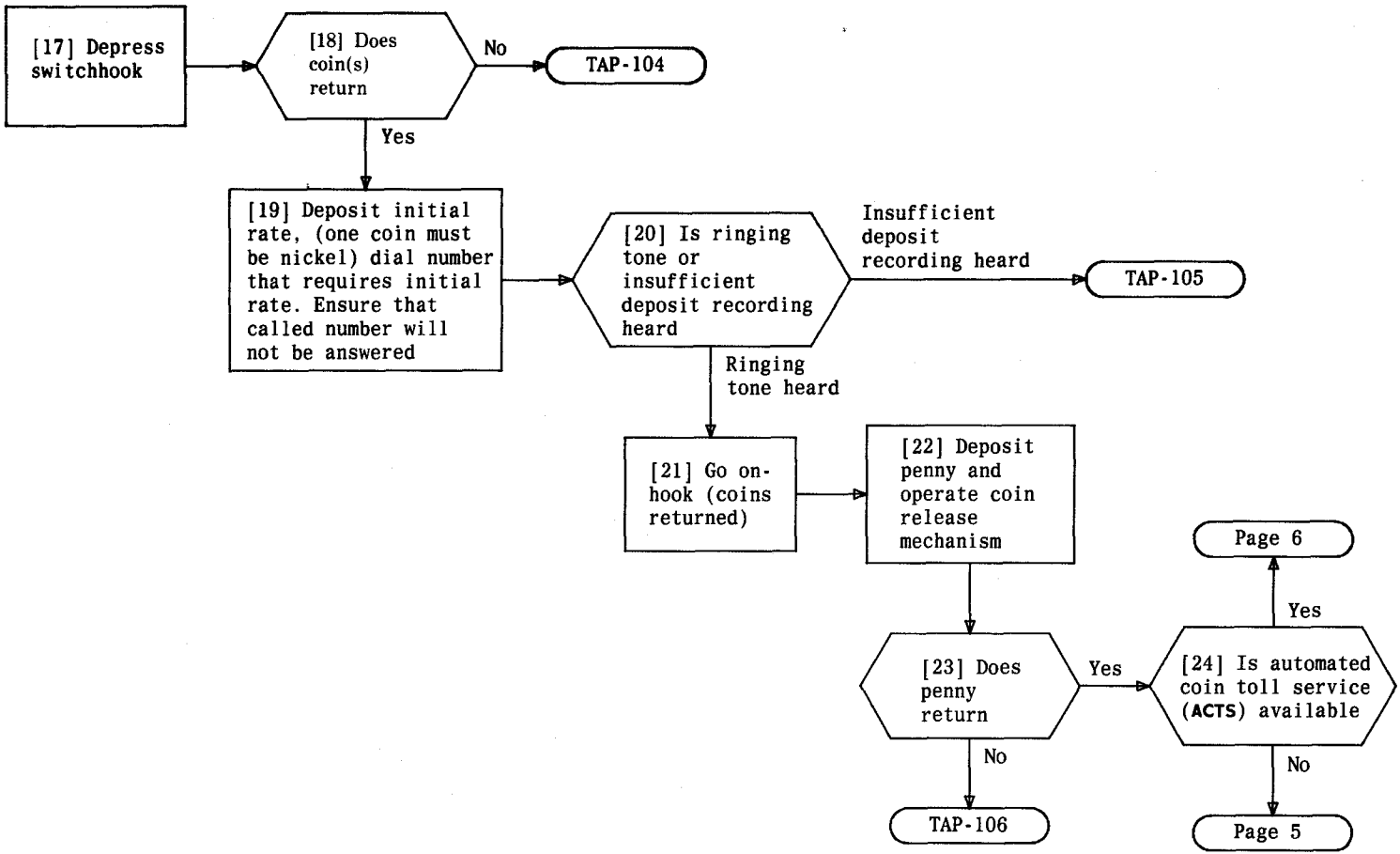
NOTES

1. The serving central office must be wired for dial-tone-first and the line circuit associated with the station under test properly wired for loop start prior to performing the following test
2. Any time you leave this DLP to clear trouble you should always return to Step 3 and test again

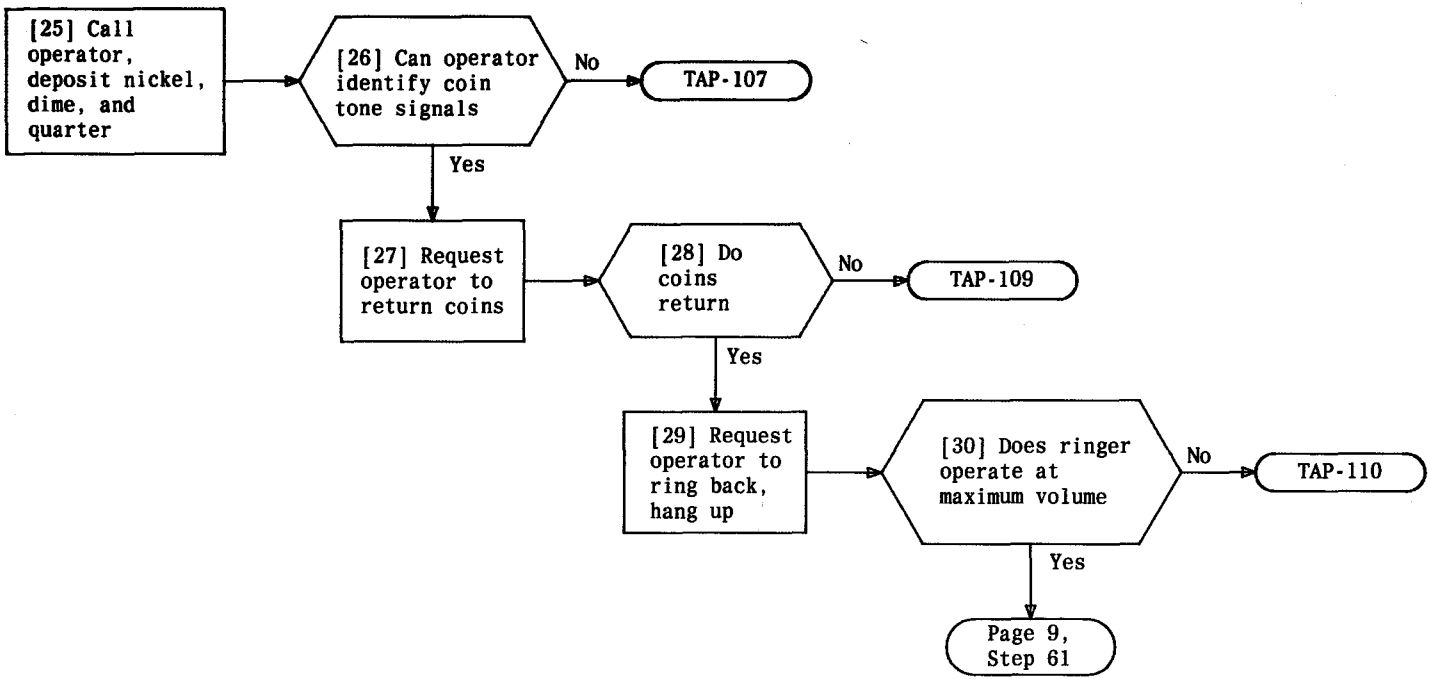
PERFORM TROUBLE TEST

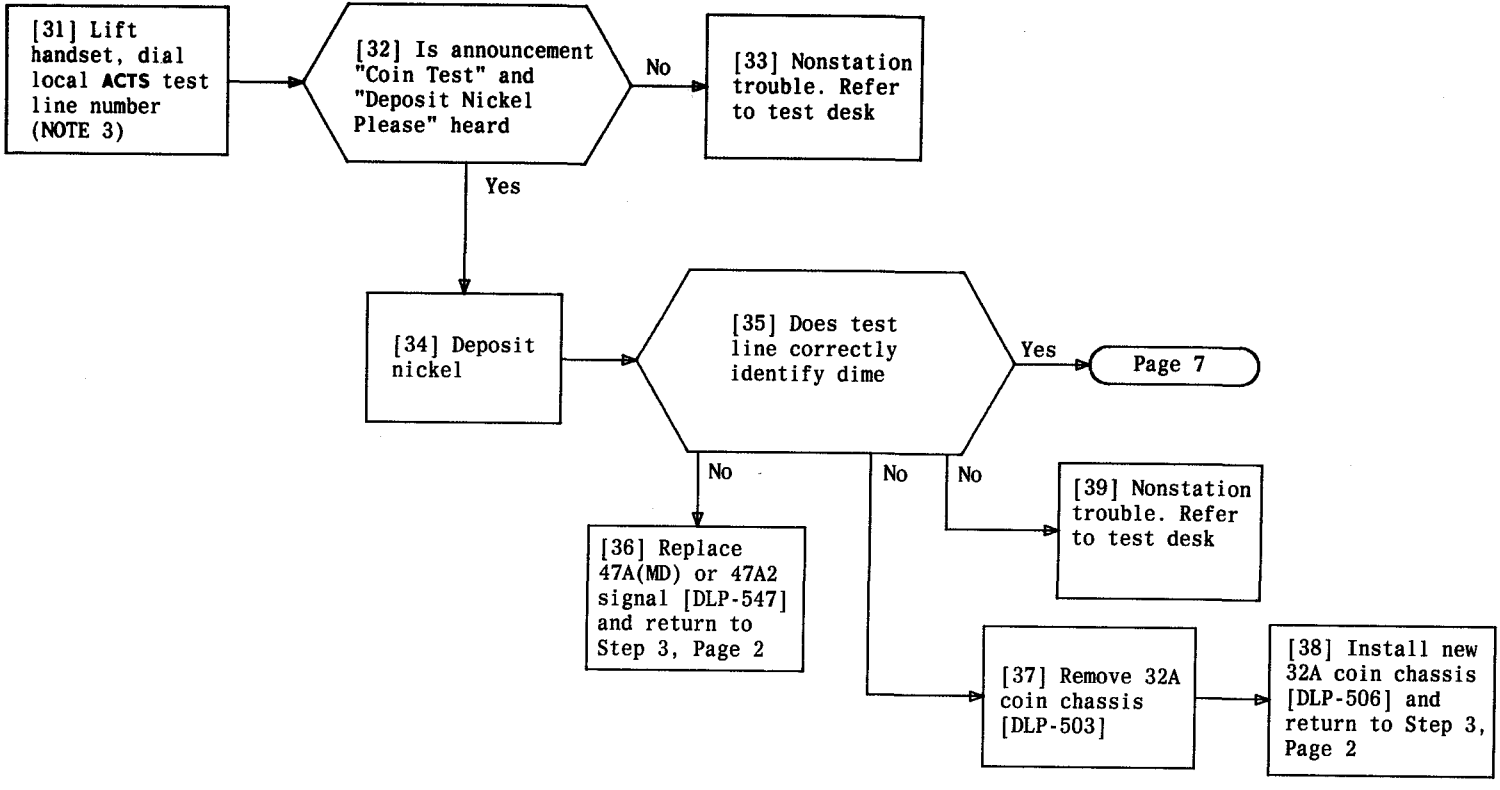


PERFORM TROUBLE TEST



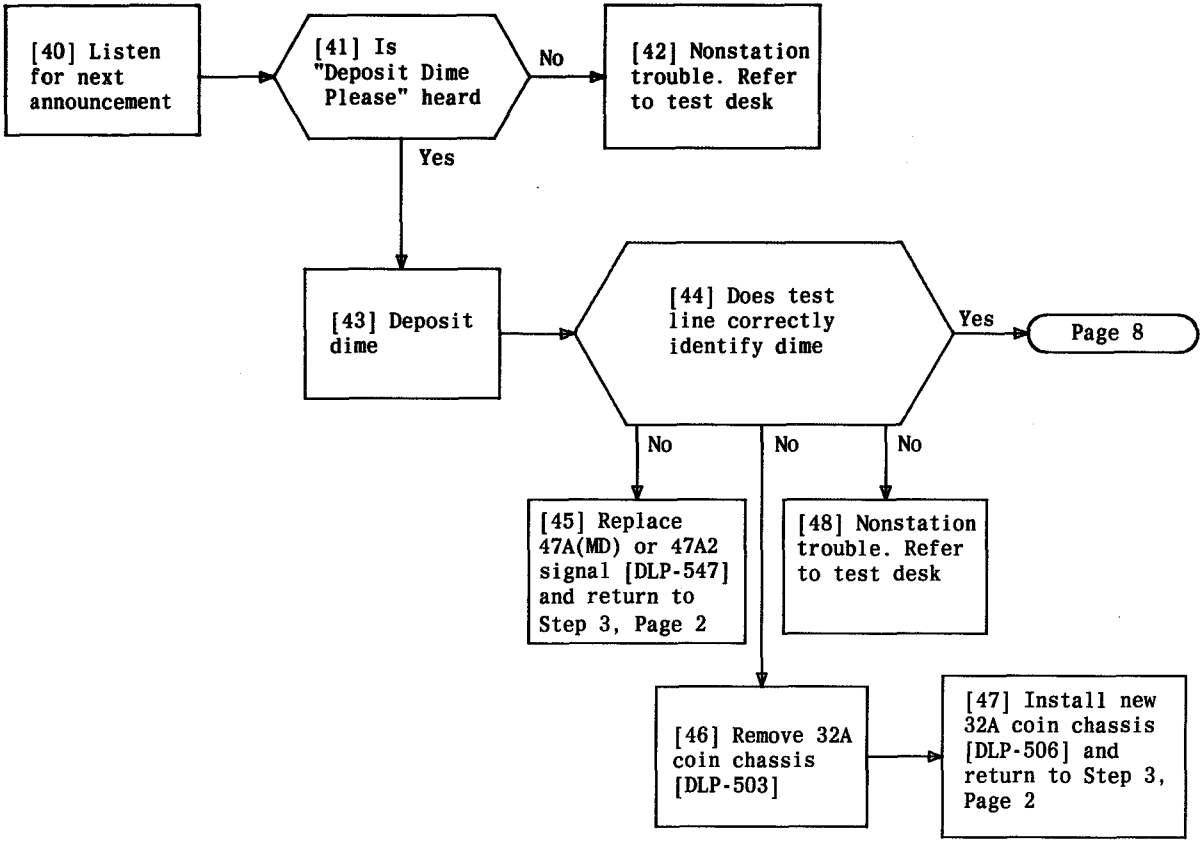
PERFORM TROUBLE TEST


[25] Call operator, deposit nickel, dime, and quarter
[26] Can operator identify coin tone signals
No
TAP-107
Yes
[27] Request operator to return coins
[28] Do coins return
No
TAP-109
Yes
[29] Request operator to ring back, hang up
[30] Does ringer operate at maximum volume
No
TAP-110
Yes
Page 9, Step 61

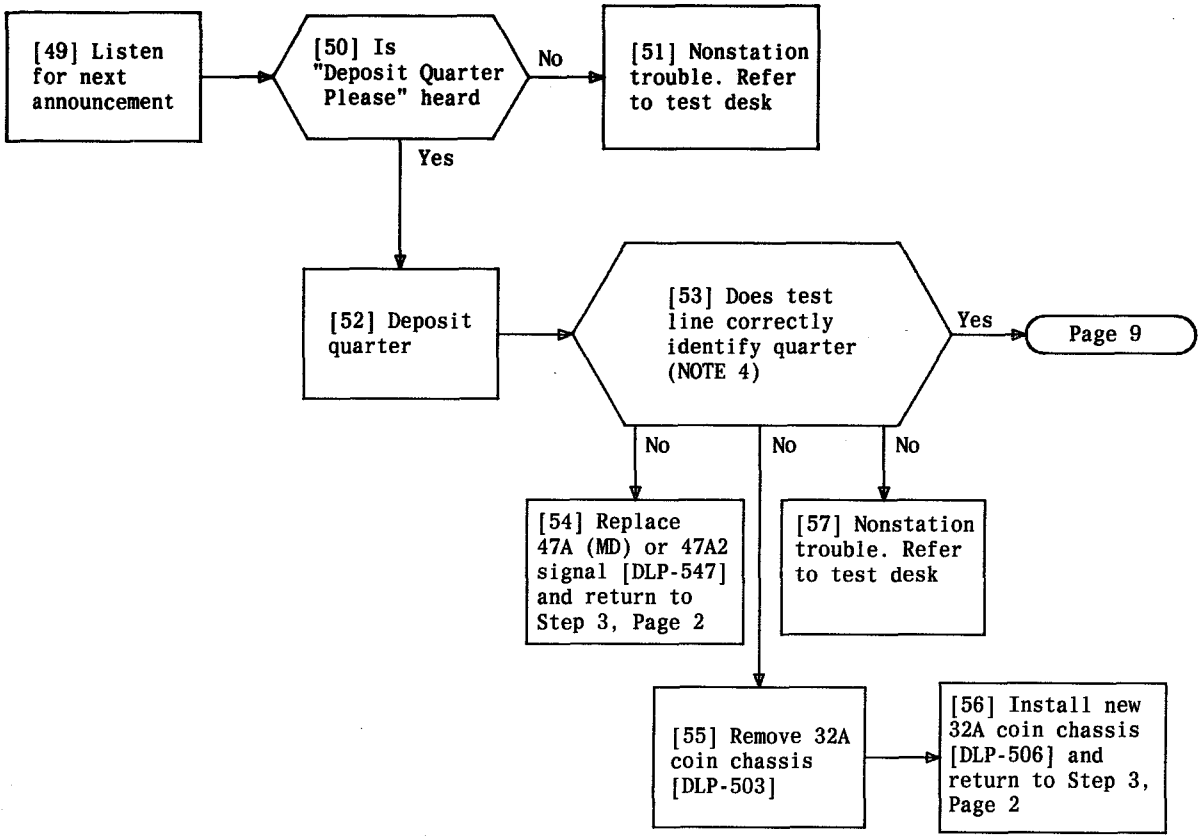


NOTE 3
If coin test line is busy reorder tone (120 IPC) will be heard

PERFORM TROUBLE TEST

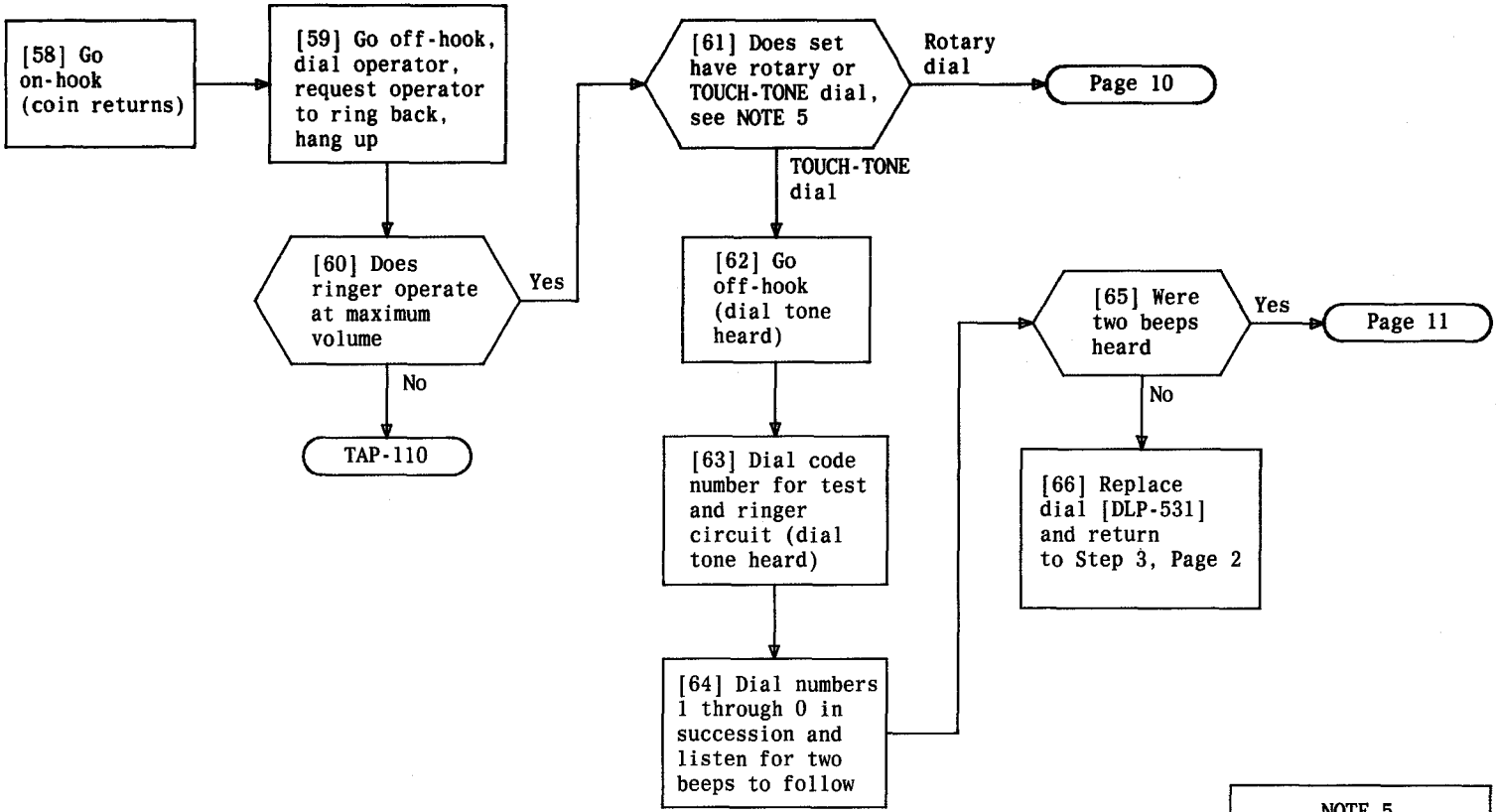


PERFORM TROUBLE TEST



NOTE 4
Additional coins can be deposited in any sequence; however, a two minute overall time limit is placed on each test call. If this is exceeded, an announcement "Test Has Ended" will be heard. A coin return signal will be generated, and the connections broken

PERFORM TROUBLE TEST



NOTE 5
If dial test circuits are not available, be guided by local instructions for testing dials

PERFORM TROUBLE TEST

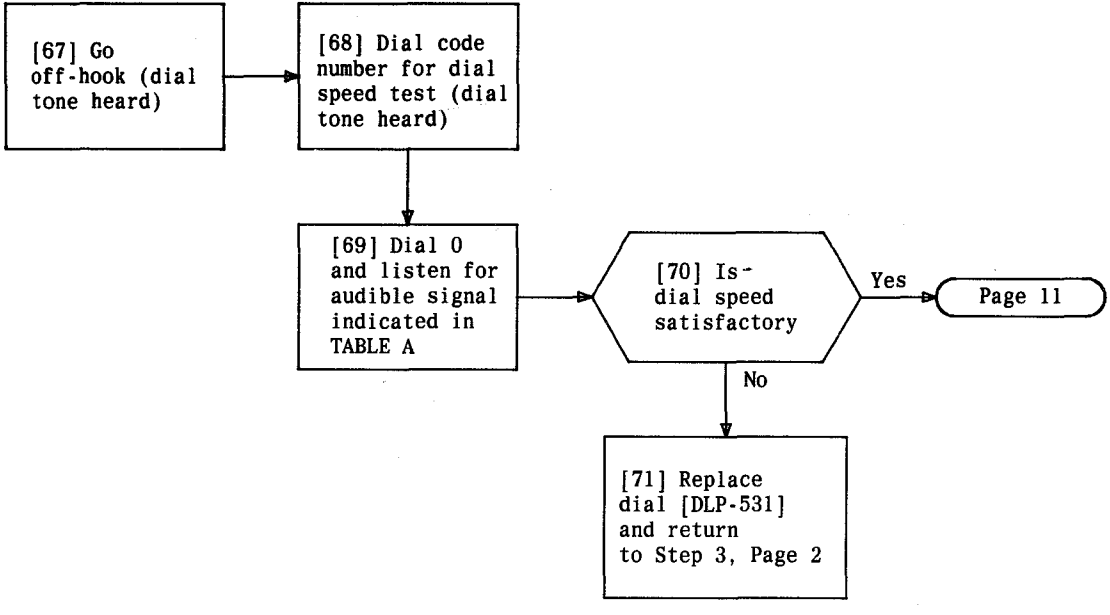
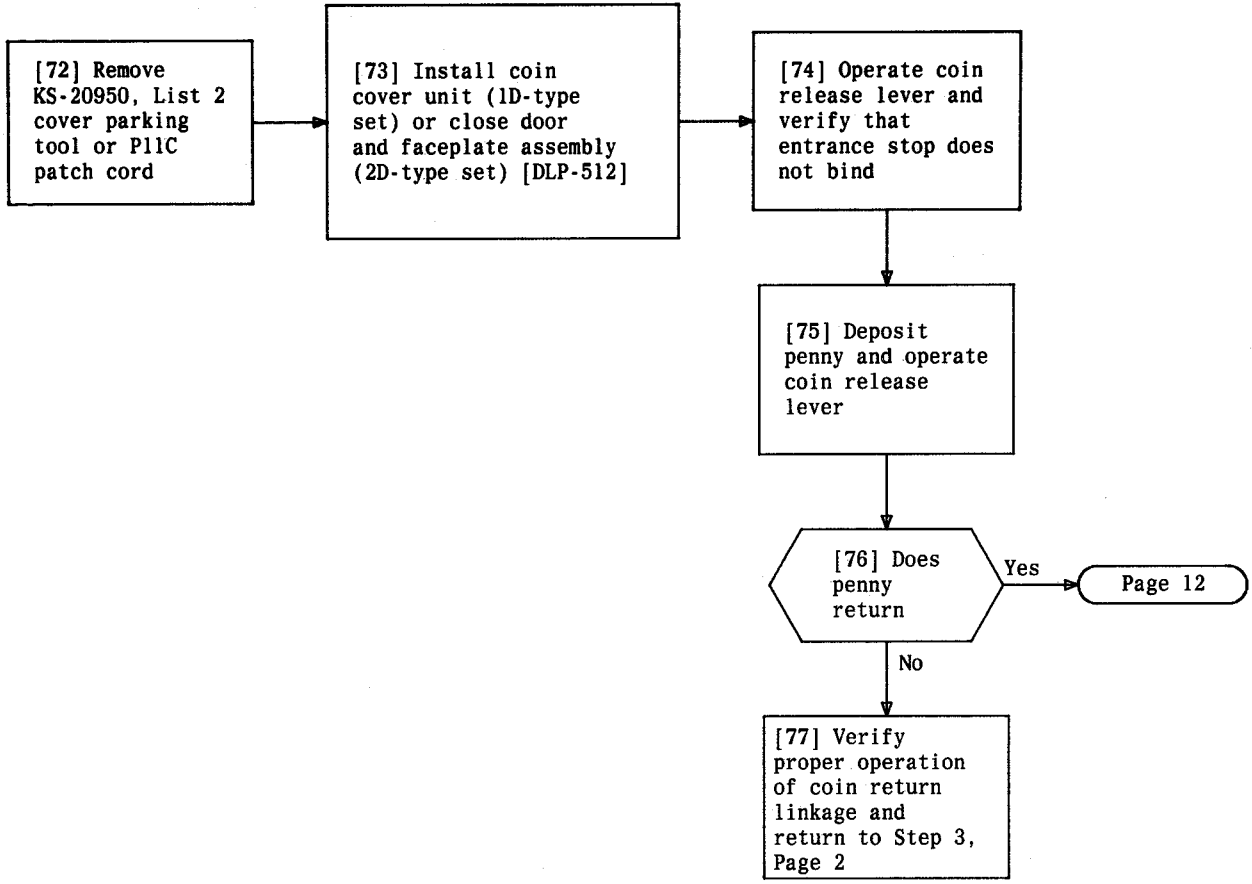
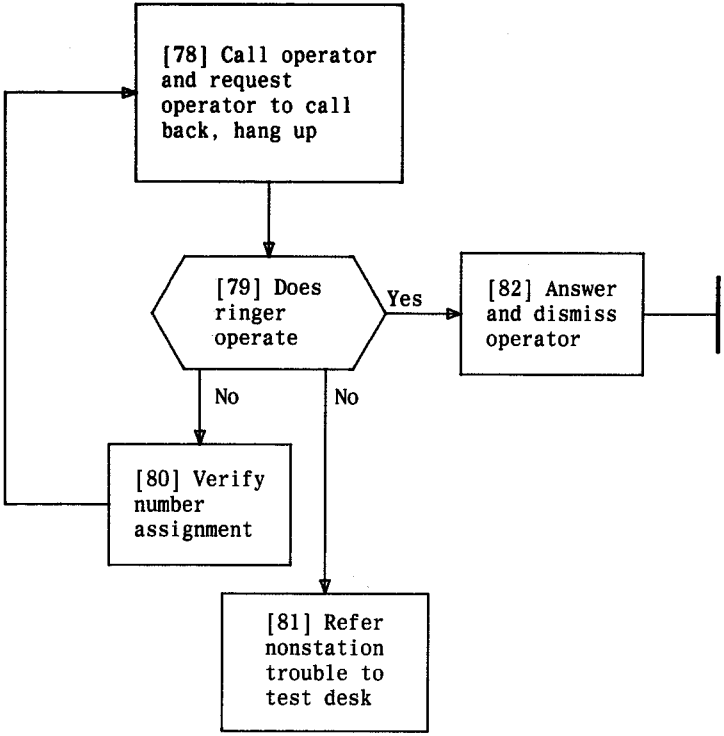
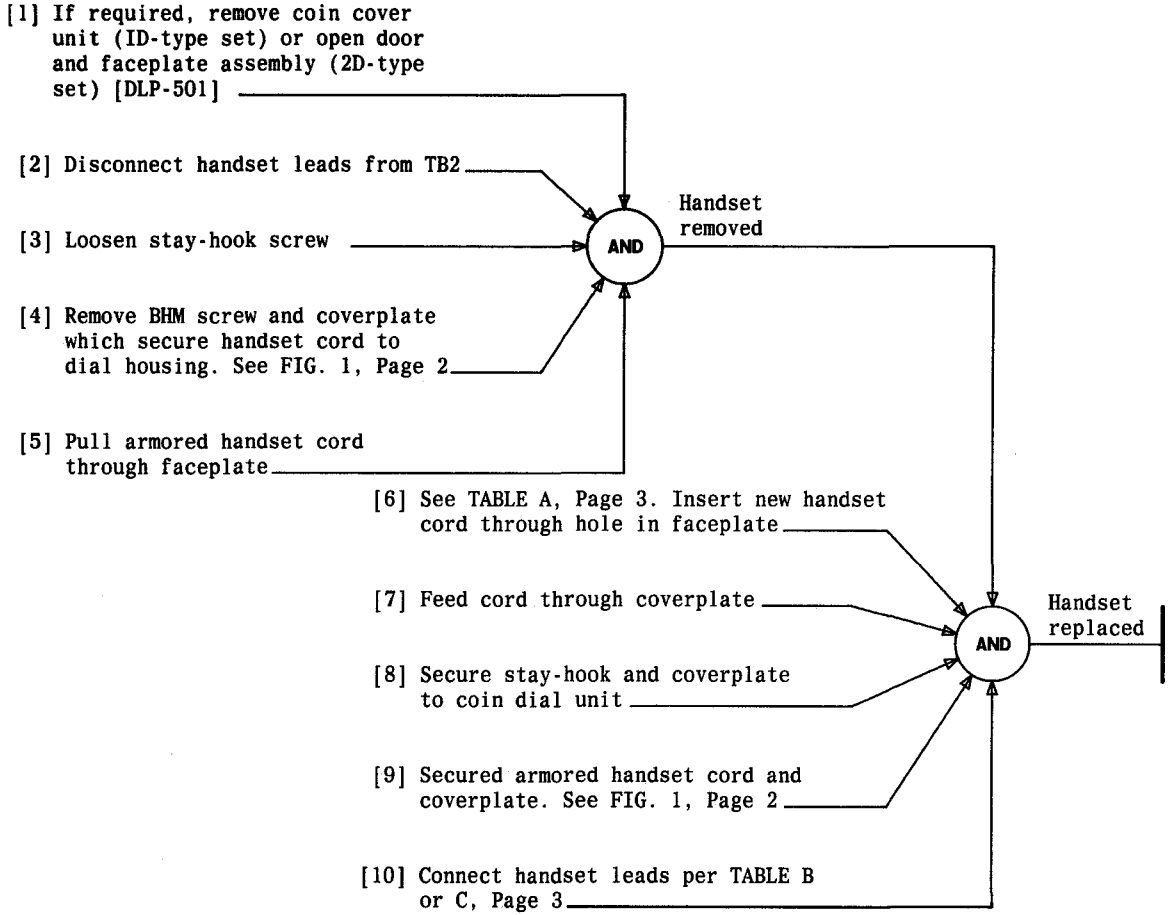


TABLE A	
AUDIBLE SIGNAL HEARD	CONDITION
Audible ringback	Dial speed satisfactory
Rapidly interrupted dial tone	Dial speed fast
Slowly interrupted dial tone	Dial speed slow



PERFORM TROUBLE TEST


[78] Call operator and request operator to call back, hang up
[79] Does ringer operate
Yes
[82] Answer and dismiss operator
No
No
[80] Verify number assignment
[81] Refer nonstation trouble to test desk



REPLACE HANDSET

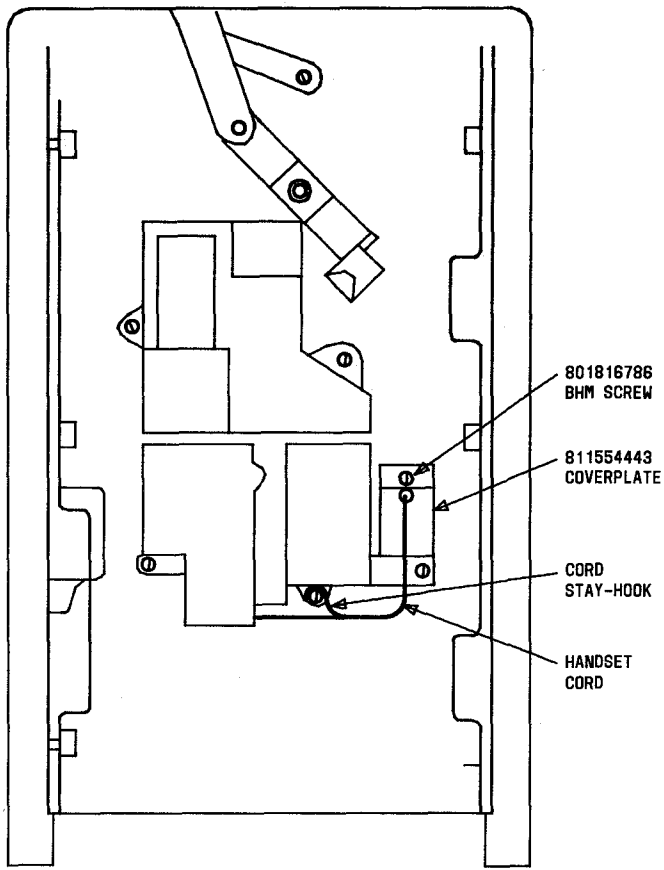


FIG. 1

REPLACE HANDSET

TABLE A	
SET CODE	HANDSET* CODE
1D1/1D2 All Sets	G3AH-52 or G3AK-52
2D1/2D2-67	
2D1/2D2-84	G3AH-03 or G3AK-03
* Standard handsets shown. A G13D amplifier handset is optional	

TABLE B		
G3AH-52 OR G3AK-52 HANDSET		
WIRE COLOR	CONNECT TO	
	ROTARY SET	"TOUCH-TONE" SET
W	TB2-4	TB2-7
R	TB2-3	TB2-3
BK	TB2-6	TB2-6
W	TB2-7	TB2-8

TABLE C		
G13D HANDSET		
WIRE COLOR	CONNECT TO	
	ROTARY SET	"TOUCH-TONE" SET
Y	TB2-7	TB2-7
R	TB2-3	TB2-3
BK	TB2-6	TB2-6
G	TB2-4	TB2-8

[1] If required, remove coin cover unit (ID-type set) or open door and faceplate assembly (2D-type set) [DLP-501]

[2] Take handset off switchhook

[3] Remove four mounting screws. See FIG. 1

[4] See WARNING 1. Pull coin dial unit away from cover or door and carefully pull handset cord through hole in faceplate

AND

Coin dial unit detached

Page 2

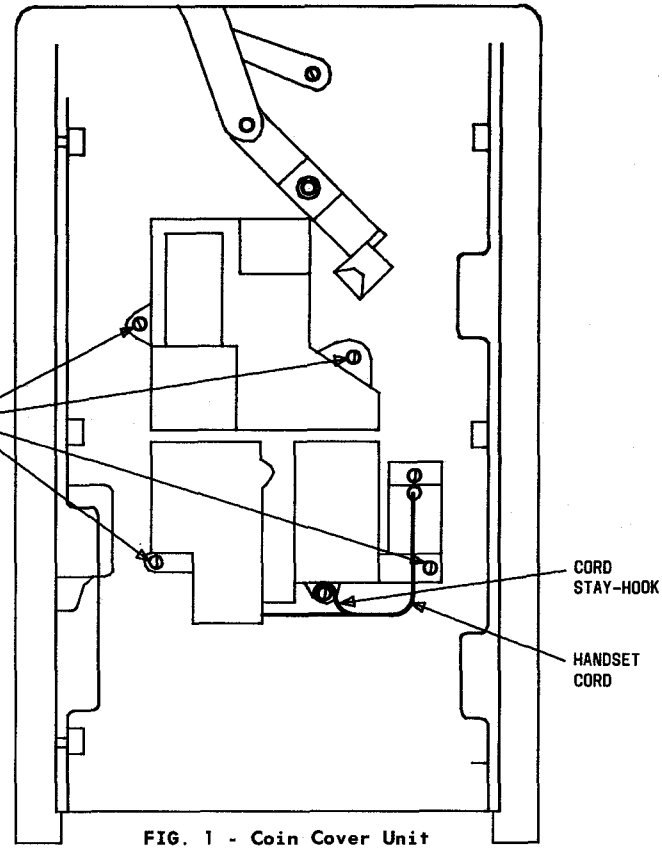


FIG. 1 - Coin Cover Unit

WARNING 1
Armored handset cord is attached to coin dial unit

REPLACE ROTARY OR "TOUCH-TONE" DIAL

[5] Disconnect dial leads per TABLE A, see NOTE 1

[6] Loosen two mounting screws on side of dial through access holes in coin dial unit

[7] Apply pressure with screwdriver to dial mounting screw through access hole in coin dial unit to free dial locating pins

[8] Lift dial off and pull leads through hole in coin dial unit

AND

Dial removed

[9] If rotary dial is being installed, remove and discard dust cover

[10] Feed leads of new dial through hole in coin dial unit

[11] Install new dial making sure that four locating pins are properly seated in mounting brackets

[12] Tighten two dial mounting screws

AND

Dial installed

Page 3

TABLE A

DIAL CONNECTIONS

DIAL	WIRE COLOR	TB2
8U(MD), 8W(MD), or 8WA Rotary Dial	BL	11
	BL or G	8
	W	4
	W	3
	Y	10
	Y	13
70A(MD) or 70B TOUCH-TONE Dial	G	1
	W	4
	R	3
	R-G	2
	BK	1
	O-BK	10
	O-R	5
	W-BL	7
	O-W	10
	V	13

NOTE 1
It is not necessary to disconnect handset when removing dial

REPLACE ROTARY OR "TOUCH-TONE" DIAL

[1] Remove coin cover unit (1D-type set) or open door and faceplate assembly (2D-type set) [DLP-501]

[2] Remove screw which secures link and lever assembly to coin release lever shaft, FIG. 1

AND

Shaft and handle assembly removed

[3] Remove shaft and handle assembly

[4] Insert shaft and handle assembly through faceplate and orient per FIG. 2

AND

[5] Place link and lever assembly over rear of shaft and secure with screw, FIG. 1

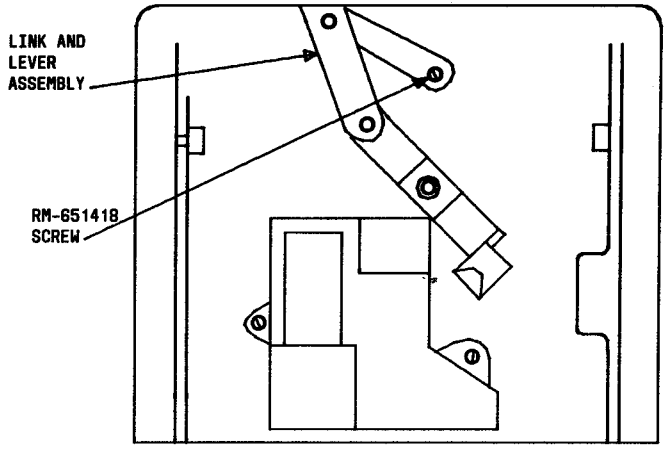


FIG. 1

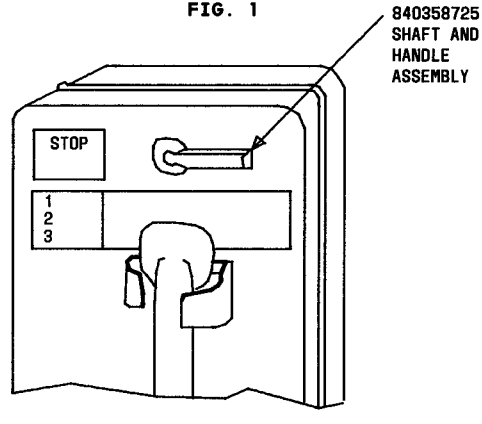
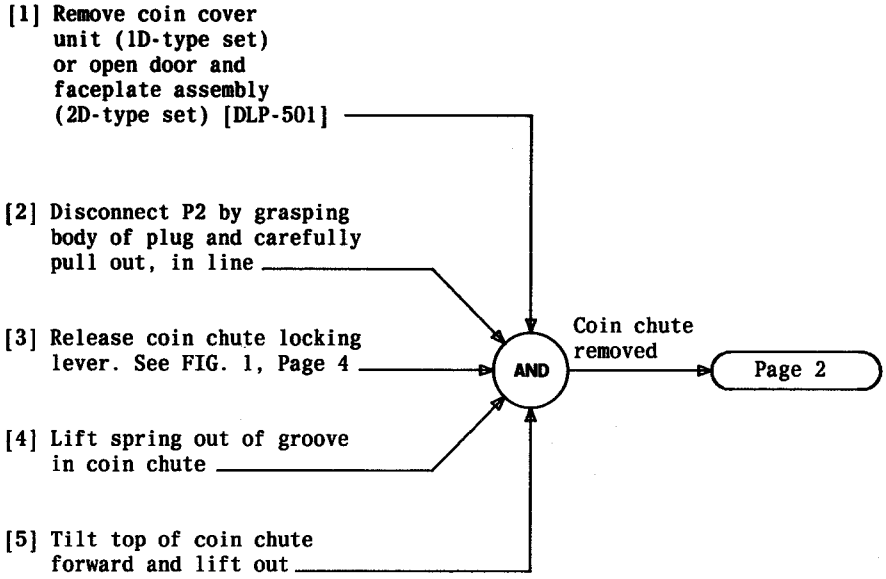
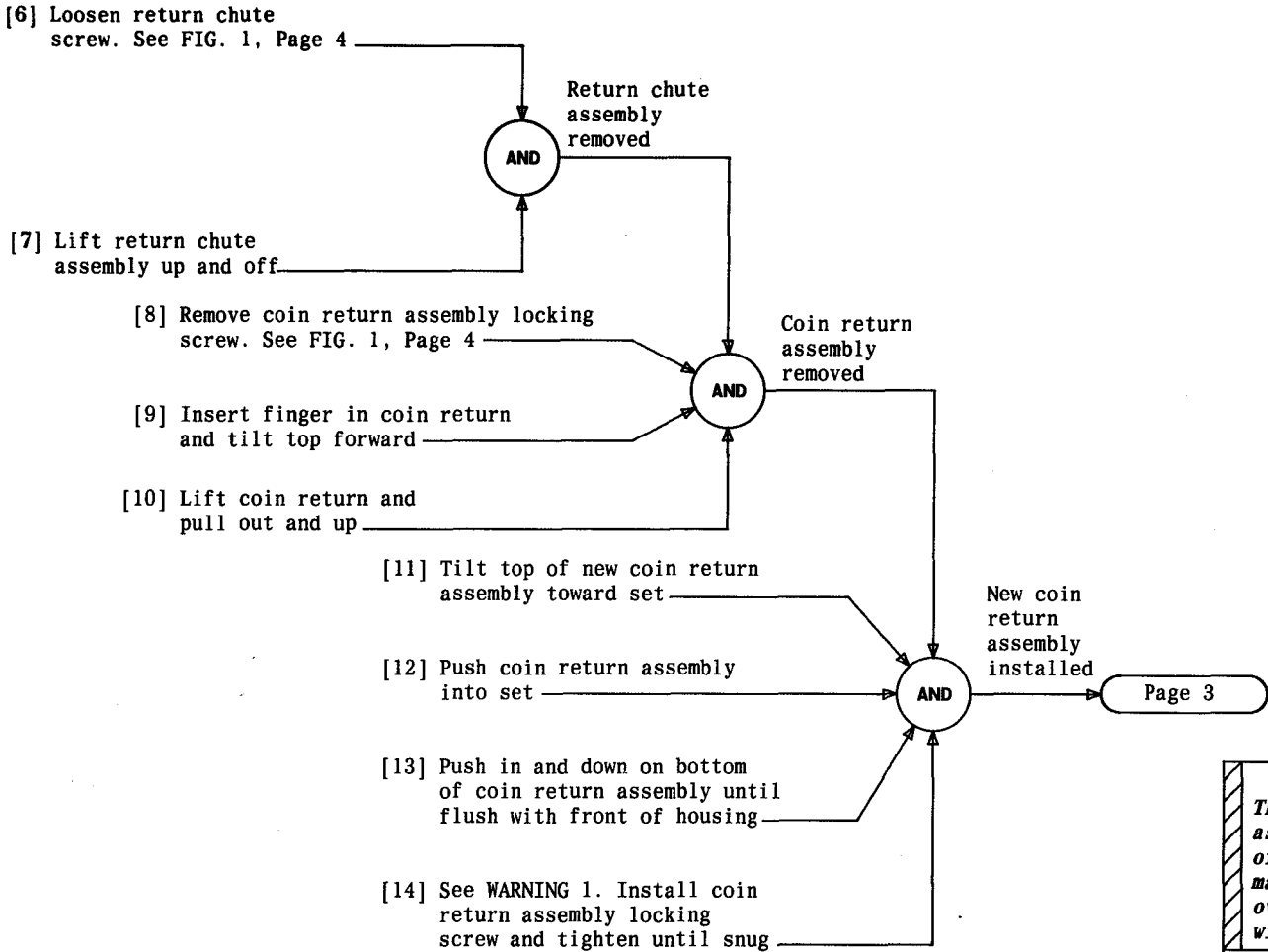


FIG. 2

REPLACE COIN RELEASE LEVER

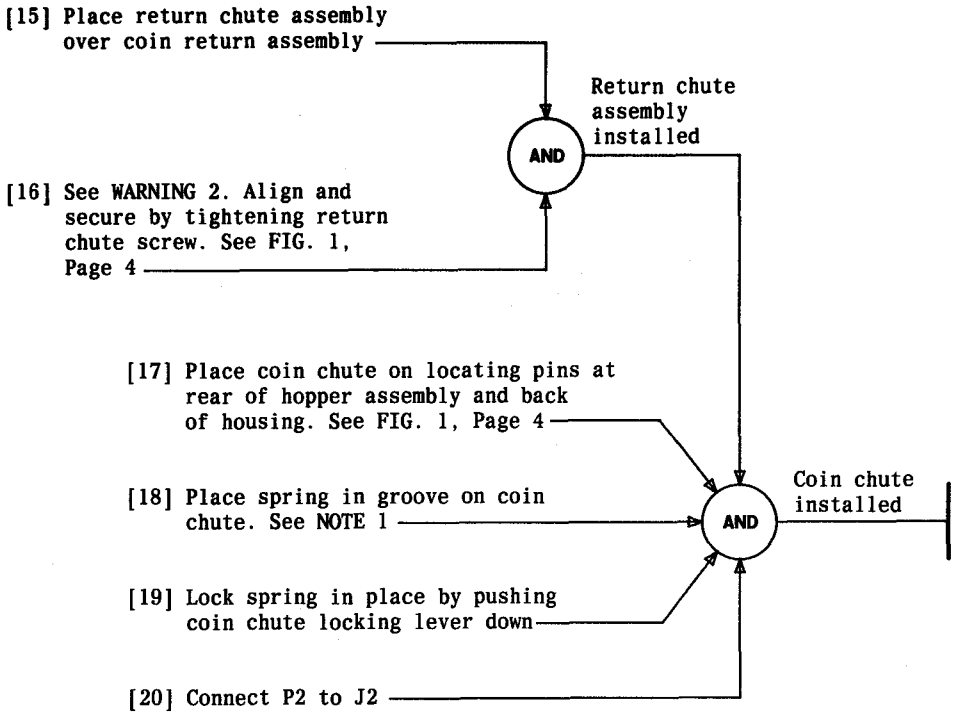


REPLACE COIN RETURN ASSEMBLY



WARNING 1
The coin return assembly is made of hardened material and overtightening will damage screw

REPLACE COIN RETURN ASSEMBLY



NOTE 1
Reject chute, return chute, and coin return assemblies must line up properly

WARNING 2
Two tabs on right side of return chute must be seated properly on lip on left side of hopper and key-hole slot on front of return chute (plastic version only) must be completely down behind mounting screw

REPLACE COIN RETURN ASSEMBLY

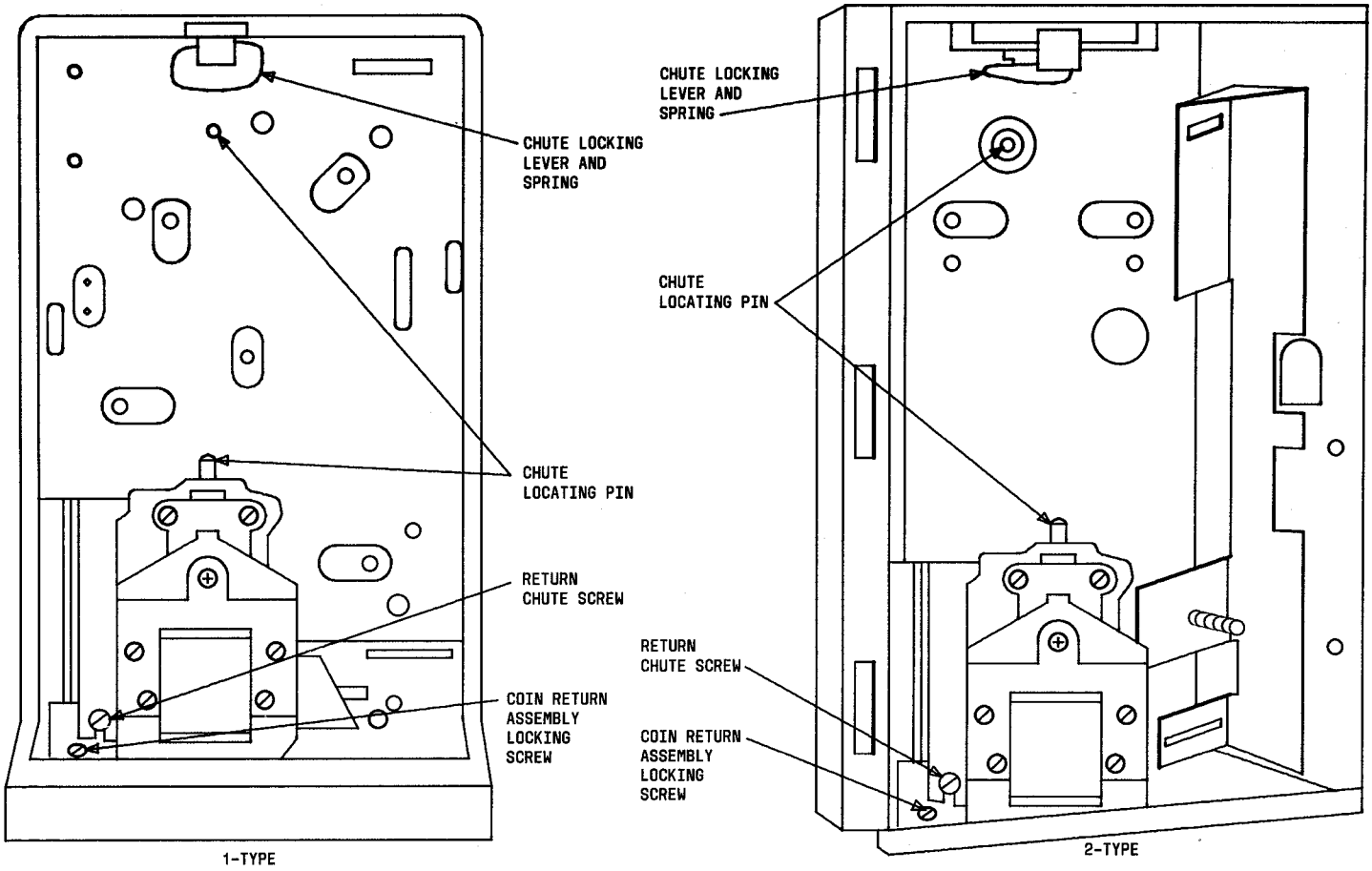
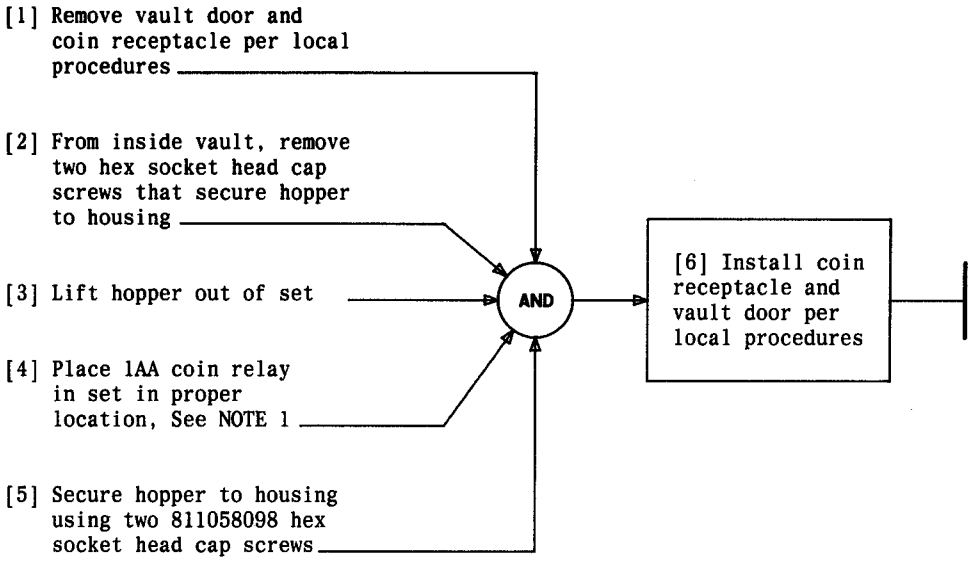


FIG. 1 – Housing and Mounting Plate Assembly

REPLACE COIN RETURN ASSEMBLY



REPLACE 50A, 50B, OR 51A HOPPER ASSEMBLY WITH 1AA COIN RELAY

NOTE 1
1AA coin relay consists of 1A coin relay and 811557172 (P-15E717) coin hopper assembly

[1] Remove coin cover unit (1D-type set) or open door and faceplate assembly (2D-type set) [DLP-501]

[2] Take handset off switchhook

[3] Remove four mounting screws. See FIG. 1

[4] See WARNING 1. Pull coin dial unit away from cover or door and carefully pull handset cord through hole in faceplate

AND

Page 2

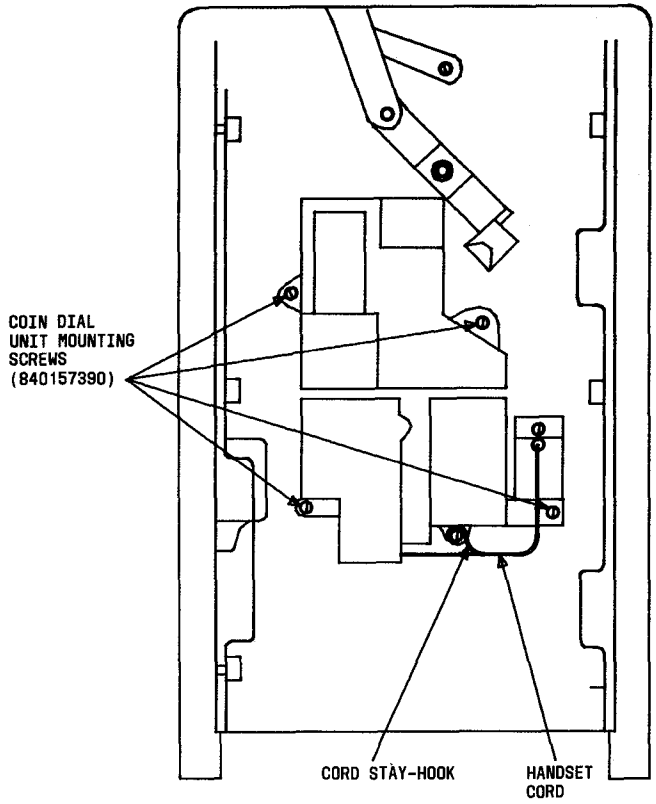
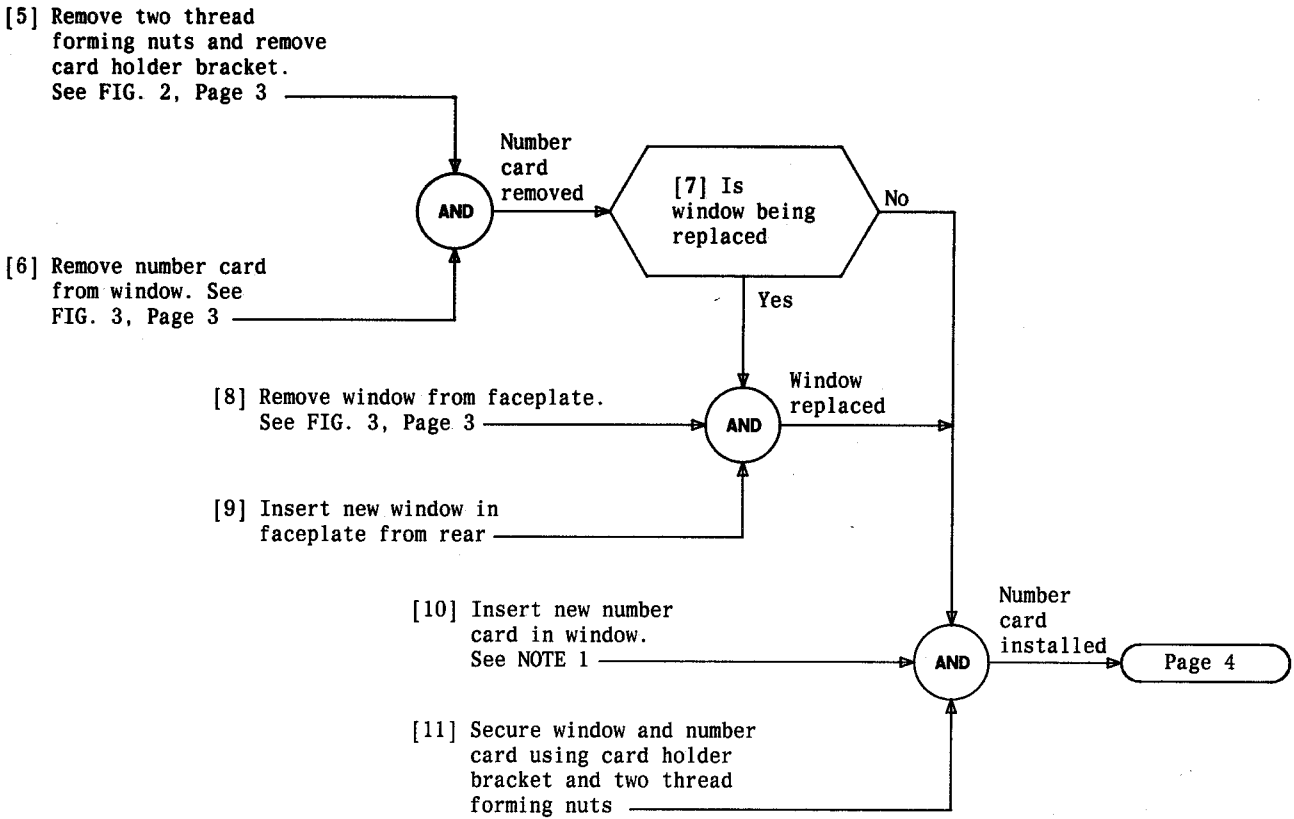


FIG. 1 – Coin Cover Unit

WARNING 1
Armored handset cord is attached to coin dial unit

REPLACE NUMBER CARD AND/OR WINDOW IN "TOUCH-TONE" DIAL TELEPHONE SET



NOTE 1
Number card ordered separately

Issue 2	AUG 1980
506-410-402	DLP
PAGE 2 of 4	535

REPLACE NUMBER CARD AND/OR WINDOW IN "TOUCH-TONE" DIAL TELEPHONE SET

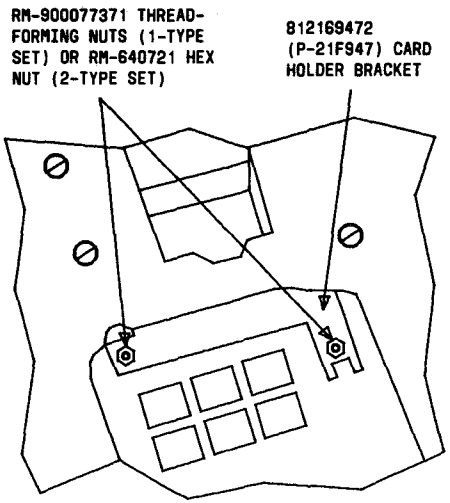


FIG. 2 – Card Holder Bracket Installed (TOUCH-TONE Set)

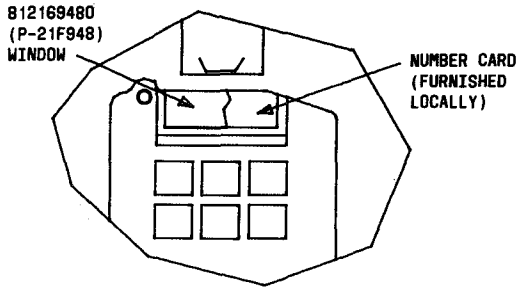


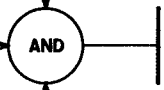
FIG. 3 – Window and Number Card Installed in Faceplate (TOUCH-TONE Set)

REPLACE NUMBER CARD AND/OR WINDOW IN "TOUCH-TONE" DIAL TELEPHONE SET

[12] Make sure that four handset cradle mounting screws are tight

[13] Position coin dial unit by carefully pulling armored handset cord through faceplate from front side

[14] Align and secure coin dial unit using four mounting screws. See FIG. 1, Page 1 and NOTE 2



NOTE 2
Four coin dial unit mounting screws must be tight to prevent unit from becoming loose due to vibration

REPLACE NUMBER CARD AND/OR WINDOW IN "TOUCH-TONE" DIAL TELEPHONE SET

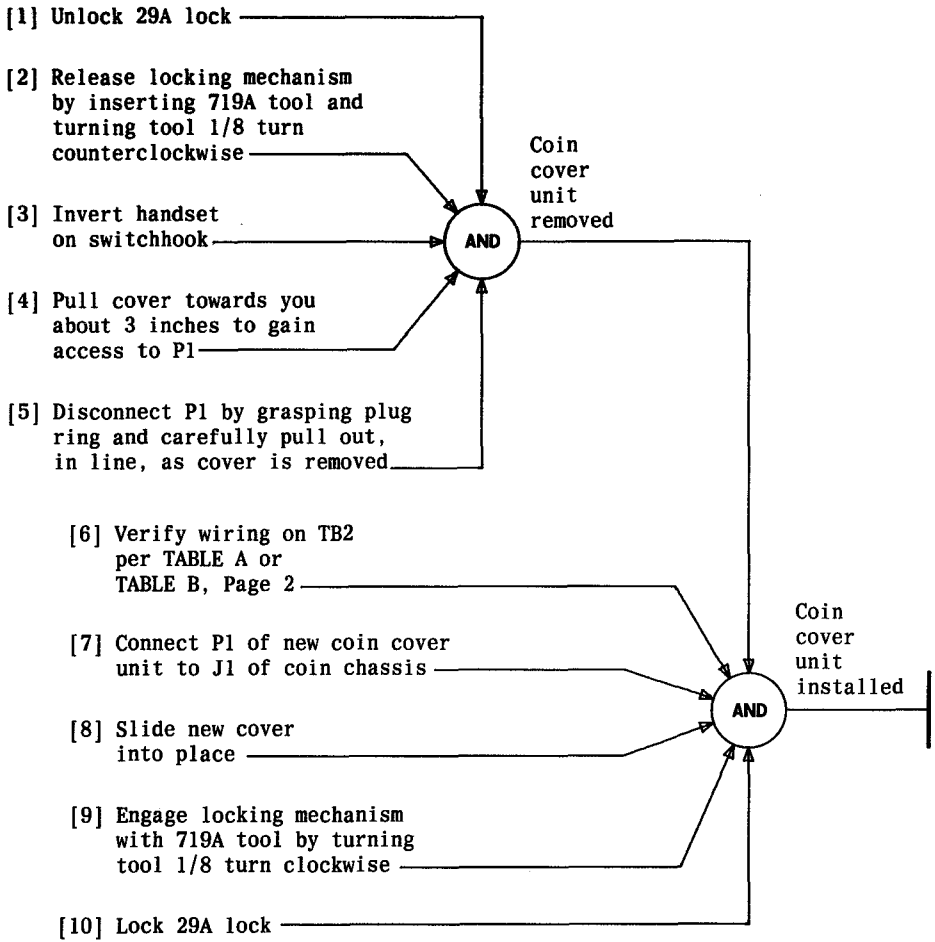


TABLE A

ROTARY DIAL TELEPHONE SET CONNECTIONS

COMPONENT	WIRE COLOR	TB2	COMPONENT	WIRE COLOR	TB2
Dial	BL	11	Switchhook	BR	10
	BL or G	8		BR	10
	W	4		O	9
	W	3		O	8
	Y	10		W	2
	Y	13		Y	7
Handset	W	4		G	12
	R	3		S	12
	BK	6		S-W	14*
	W	7		R†	12
Strap	S	2 to 3			

* Terminal 14 only appears on new 60A coin dial units

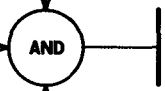
† (R) switchhook lead does not appear on 819042748 (P-90D274) dial and housing assemblies

REPLACE COIN COVER UNIT

TABLE A					
"TOUCH-TONE" DIAL TELEPHONE SET CONNECTIONS					
COMPONENT	WIRE COLOR	TB2	COMPONENT	WIRE COLOR	TB2
70A(MD) or 70B Dial	G	1	Handset (Contd)	BK	6
	W	4		W	8
	R	3	Switchhook	BR	11
	R-G	2		BR	9
	BK	1		O	9
	O-BK	10		O	11
	O-R	5		W	8
	W-BL	7		Y	3
	O-W	10		G	12
	V	13		S	12
Handset	W	7		S-W	14*
	R	3		R	12
* Terminal 14 only appears on new 61A coin dial units					

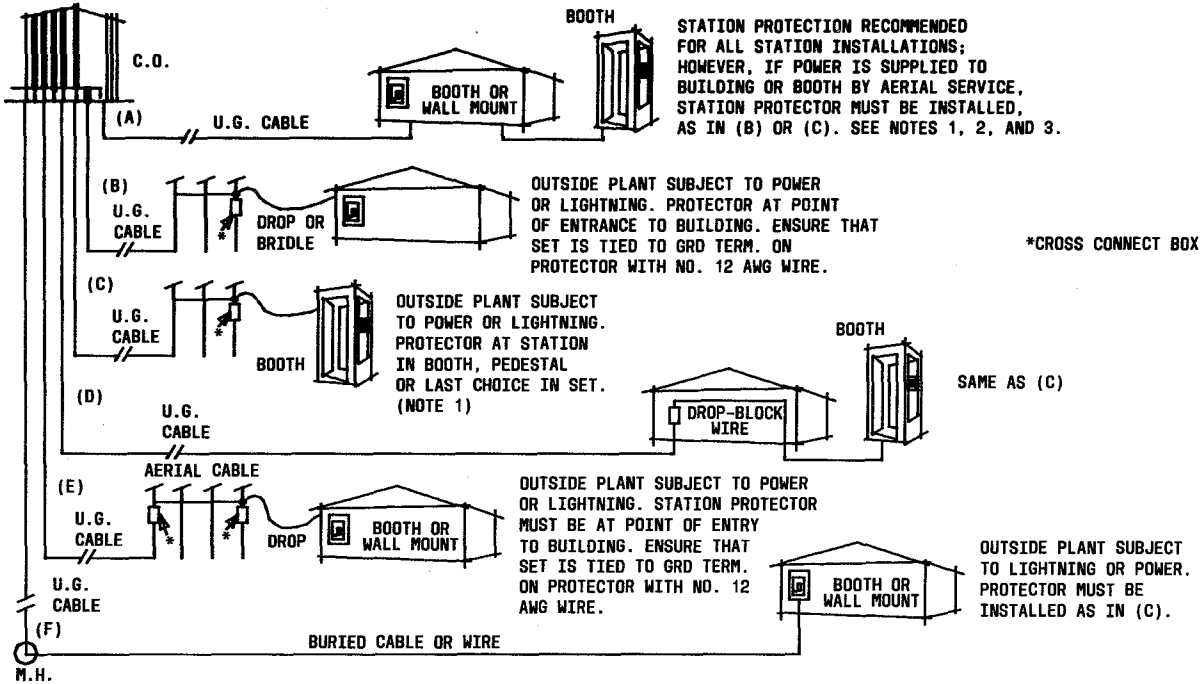
[1] Select protector location. See FIG. 1, NOTES 1, 2, and 3, Page 2

[2] Refer to FIG. 2 and NOTE 4, Page 3, for connections when protector is outside set



[3] Refer to FIG. 3, Page 3; FIG. 4 and 5, Page 4, for connections when protector is inside set

VERIFY PROTECTION AND GROUND CONNECTIONS



NOTES:

1. THE PREFERRED LOCATION FOR A PROTECTOR IS AT THE POINT OF ENTRY INTO A BUILDING OR BOOTH. A PROTECTOR SHOULD BE INSTALLED IN A SET ONLY AS THE LAST RESORT. FOR ADDITIONAL INFORMATION ON STATION PROTECTOR AND SIGNALING PROTECTOR AND SIGNALING GROUNDS, SEE SECTIONS 460-100-400, 506-100-100, AND 508-100-100
2. HOUSING OF ALL OUTSIDE STATIONS MUST BE GROUNDED. IF SET IF NOT MOUNTED IN A GROUNDED ENCLOSURE, RUN A NO. 12 AWG WIRE FROM STATION TO NEAREST APPROVED GROUND
3. CARBON BLOCKS THAT BREAK DOWN PREMATURELY CAN CAUSE FAILURES OF COIN COLLECT OR REFUND. CARBON BLOCKS SHOULD BE REPLACED BY GAS TUBE PROTECTORS (123E1A) OR 11B1A PROTECTOR UNITS IN 123-TYPE PROTECTOR BASE.

FIG. 1 — Protection Requirements

VERIFY PROTECTION AND GROUND CONNECTIONS

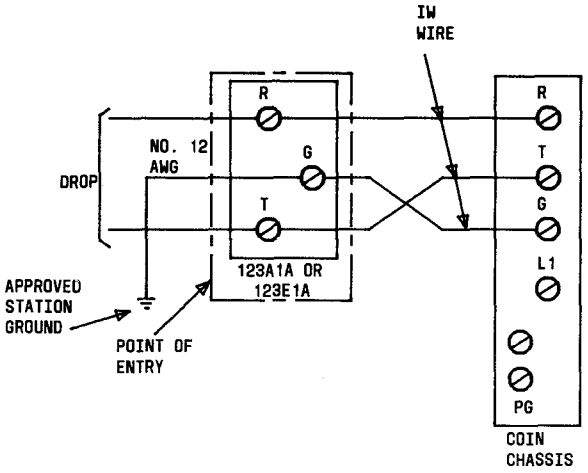


FIG. 2 – Protector Wiring When Protector is Outside Set

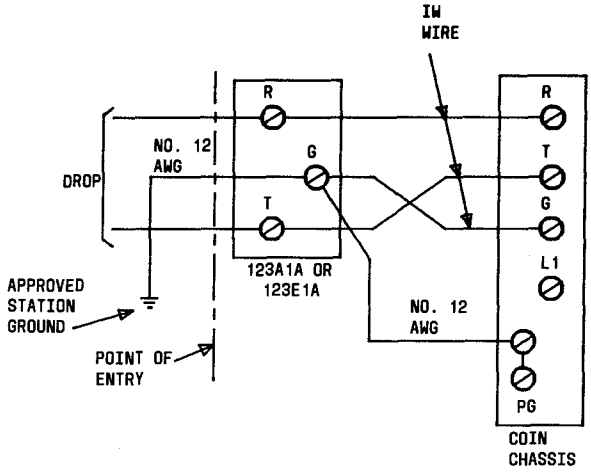


FIG. 3 – Protector Wiring When Protector is Inside Set

NOTE 4
When wiring protector outside of set the maximum length of the (Y) 22 or 24 AWG IW signal ground is 125 feet

VERIFY PROTECTION AND GROUND CONNECTIONS

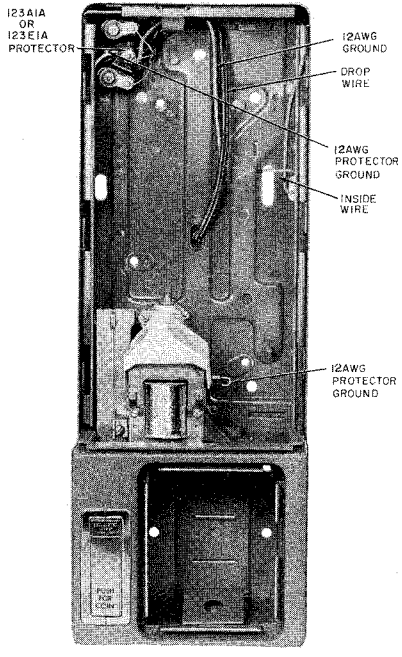


FIG. 4 – Protector Mounted in 1D-Type Set

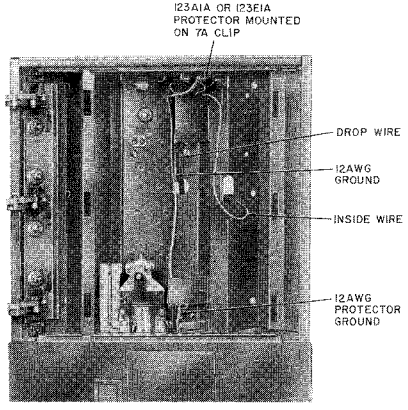
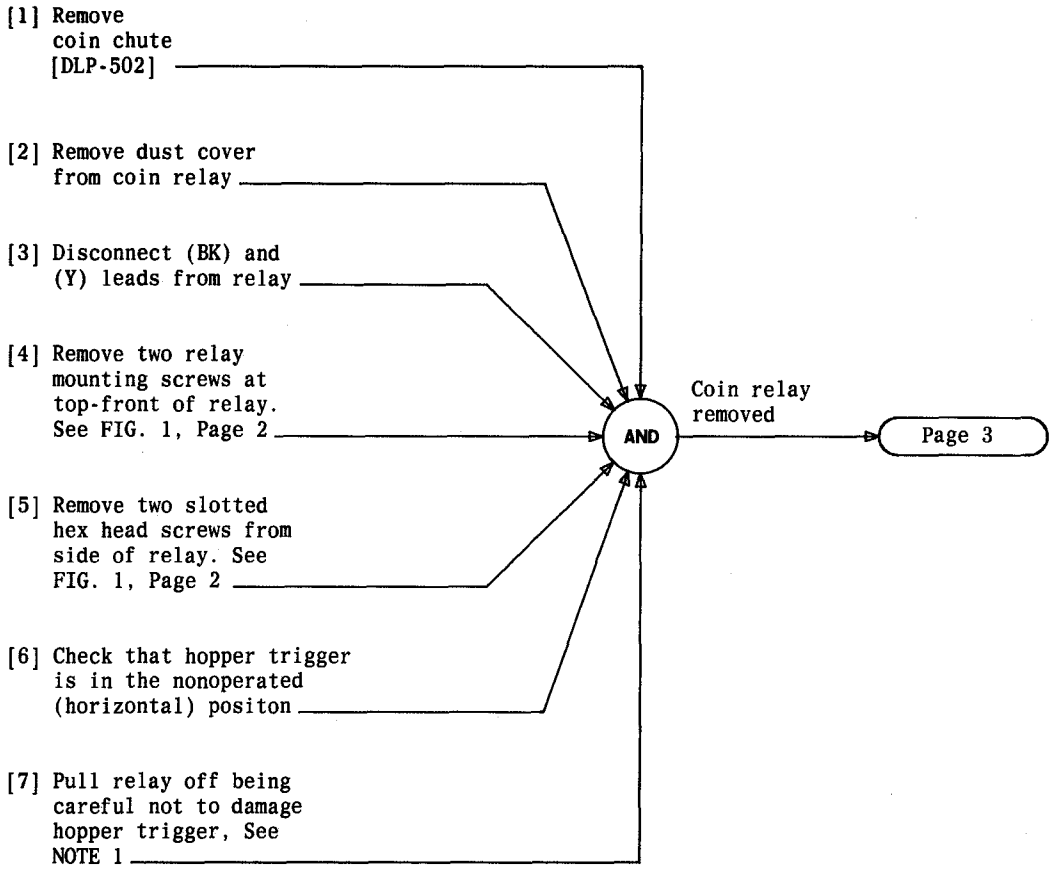


FIG. 5 – Protector Mounted in 2D-Type Set



REPLACE COIN RELAY

NOTE 1
Disposition of defective coin relay is optional

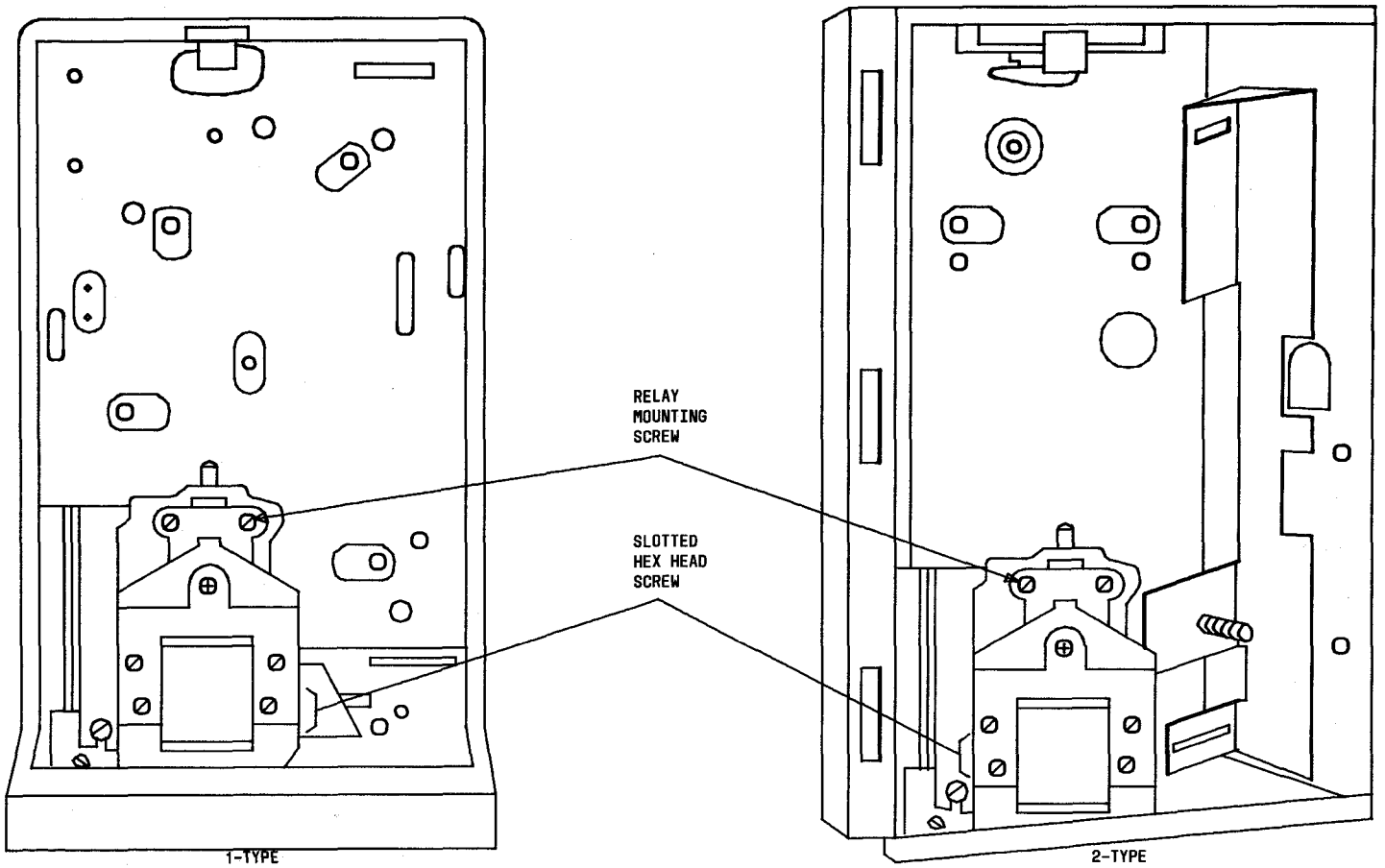


FIG. 1 – Housing and Mounting Plate Assembly

REPLACE COIN RELAY

[8] Move coin vane to left (collect) position. See FIG. 2, Page 4

[9] With hopper trigger in nonoperated (horizontal) position. Move relay into position until trigger enters T-shaped slot in hopper and trap lever tab just enters opening in selector card. See NOTE 2

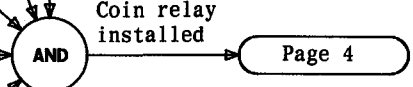
[10] Press down slightly on ear of left side of selector card and manually move armature forward to its operated position. Hold armature in this position

[11] See WARNING 1. Move coin relay forward until square stem on vane enters hole in cam and mounting screw holes line up

[12] See NOTE 3. Install and tighten evenly two mounting screws on top of coin relay and two slotted hex head mounting screws in each side of relay

[13] Make sure that trigger, armature, trap, and vane operate without binding

[14] Reconnect (Y) lead to terminal G and (BK) lead to terminal 3



NOTES

2. If trigger support bracket is so distorted that mounting holes do not engage hopper bosses, relay should not be installed
3. Two top mounting screws must be tightened first so that bosses will be properly seated

WARNING 1
Stem of vane should not be forced into opening in cam without proper alignment. Cam can be broken very easily

REPLACE COIN RELAY

[15] Install dust cover on coin relay → [16] Install coin chute [DLP-507]

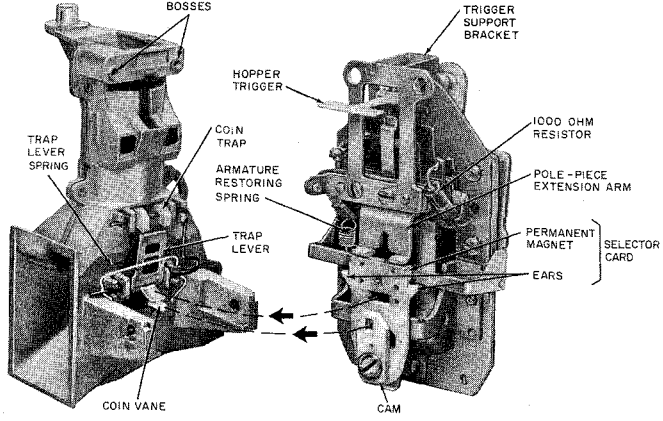
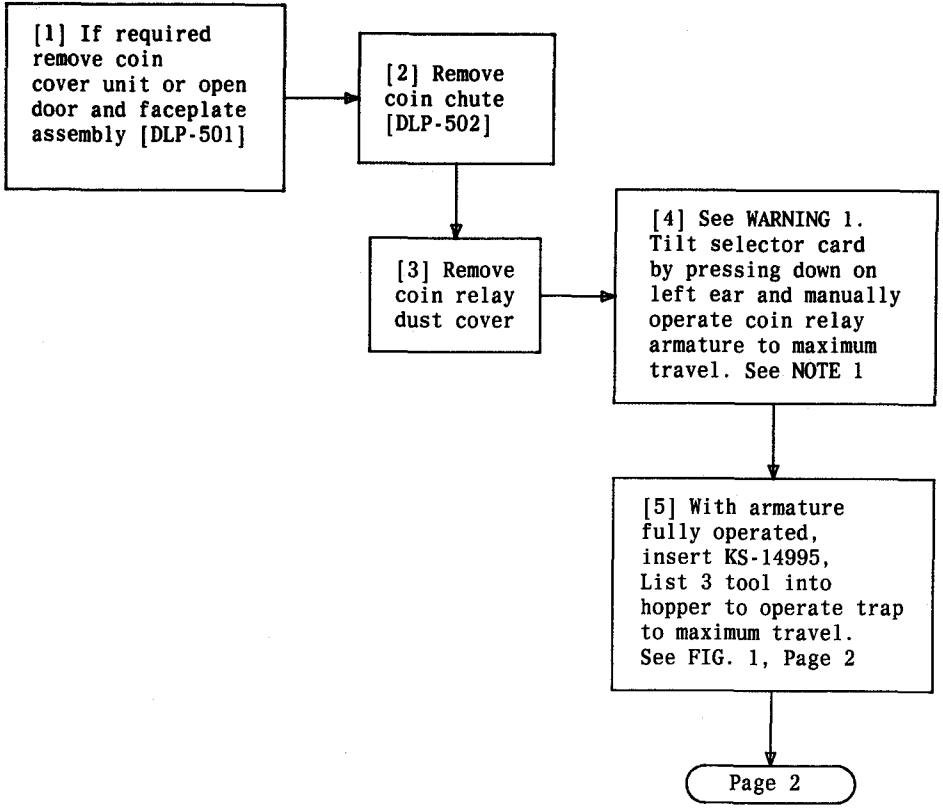


FIG. 2 - Coin Hopper and Rear View of Coin Relay



PERFORM TRAP AND VANE RELEASE TEST

NOTE 1
Coin vane moves to collect (left) position; coin trap moves downward

WARNING 1
If selector card is not tilted, jamming will occur between selector card and cam engaging surfaces

[6] Release armature and slowly withdraw tool

[7] Does armature, trap, and vane return to nonoperated position

Yes

No

[8] Refer to TABLE A, Page 3 and clear trouble

[9] Insert KS-14995, List 3 tool into hopper and apply firm downward pressure (approximately 1/2 pound) with tool on coin trap in hopper throat. Do not force down enough to damage parts

[10] Is there any perceptible movement of the coin relay armature

No → Page 3

Yes

[11] Install a new trap lever spring [DLP-545] and return to Step 4, Page 1

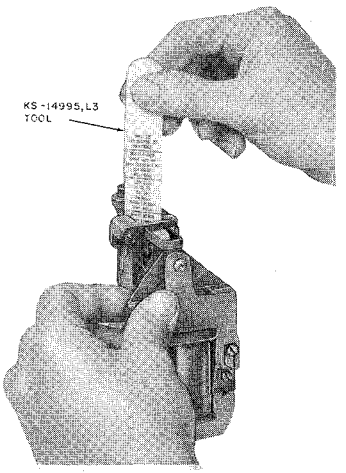


FIG. 1 – Trap and Vane Release Test

PERFORM TRAP AND VANE RELEASE TEST

[12] See WARNING 2. Press down on right ear of selector card and manually operate coin relay armature to maximum travel. See NOTE 2

[13] With armature fully operated, insert KS-14995, List 3 tool into hopper to operate trap to maximum travel. See FIG. 1, Page 2

[14] Release armature and slowly withdraw tool

[15] Does armature, trap and vane return to nonoperated position

Yes

[17] Install coin relay dust cover

[18] Install coin chute [DLP-507]

No

[16] Refer to TABLE A and clear trouble. Return to Step 4, Page 1

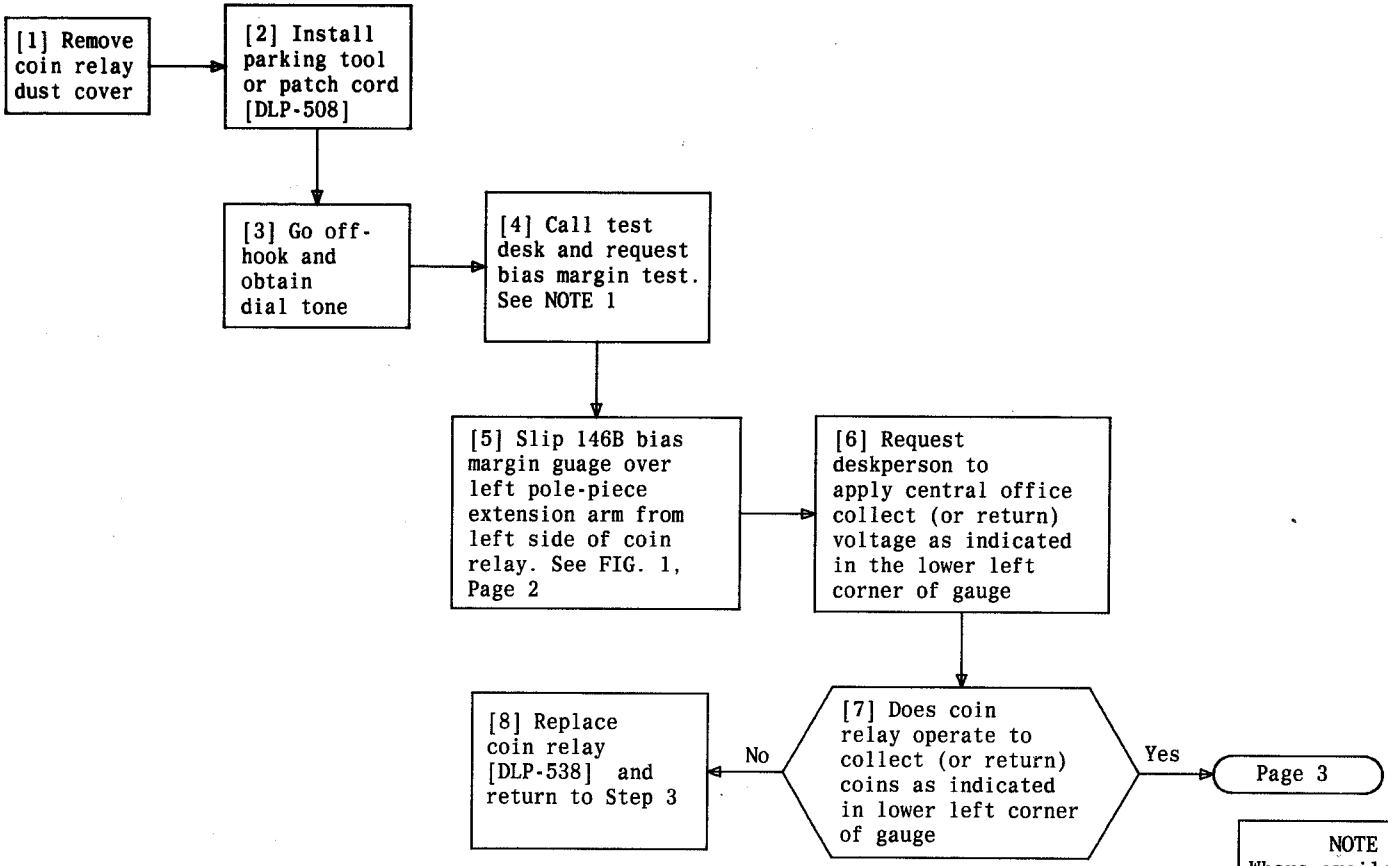
TABLE A
TROUBLE ANALYSIS

FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION	PROCEDURE NUMBER
Armature, trap, or vane does not return to normal	Coin relay binding	1. Loose mounting screws, realign relay. Tighten screws	
		2. Replace coin relay	DLP-538
Vane does not restore properly	Vane binds or vane broken	1. Remove coin relay from hopper	DLP-541
		2. Free vane or replace vane	DLP-542
		3. Install coin relay	DLP-544
Trap does not operate, restore, or lock properly	Trap broken	1. Remove coin relay from hopper	DLP-541
	Trap lever spring bent or broken	2. Replace defective apparatus	DLP-543
	Trap lever broken	3. Install coin relay	DLP-544
	Trap pin bent or broken		

NOTE 2
Coin vane moves to refund (right) position, coin trap moves downward

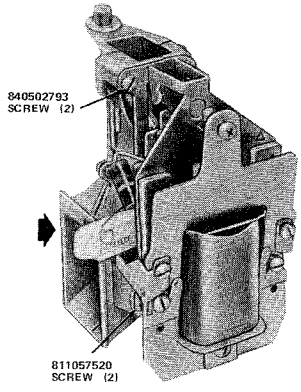
WARNING 2
If selector tab is not tilted, jamming will occur between selector card and cam engaging surfaces

PERFORM TRAP AND VANE RELEASE TEST

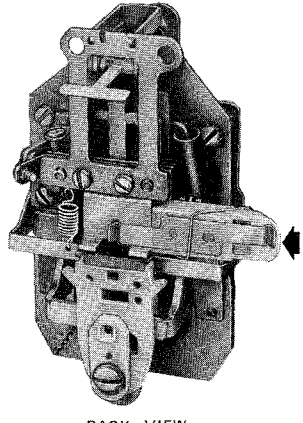


NOTE 1
Where available central office coin test line must be used

PERFORM COIN RELAY BIAS MARGIN TEST



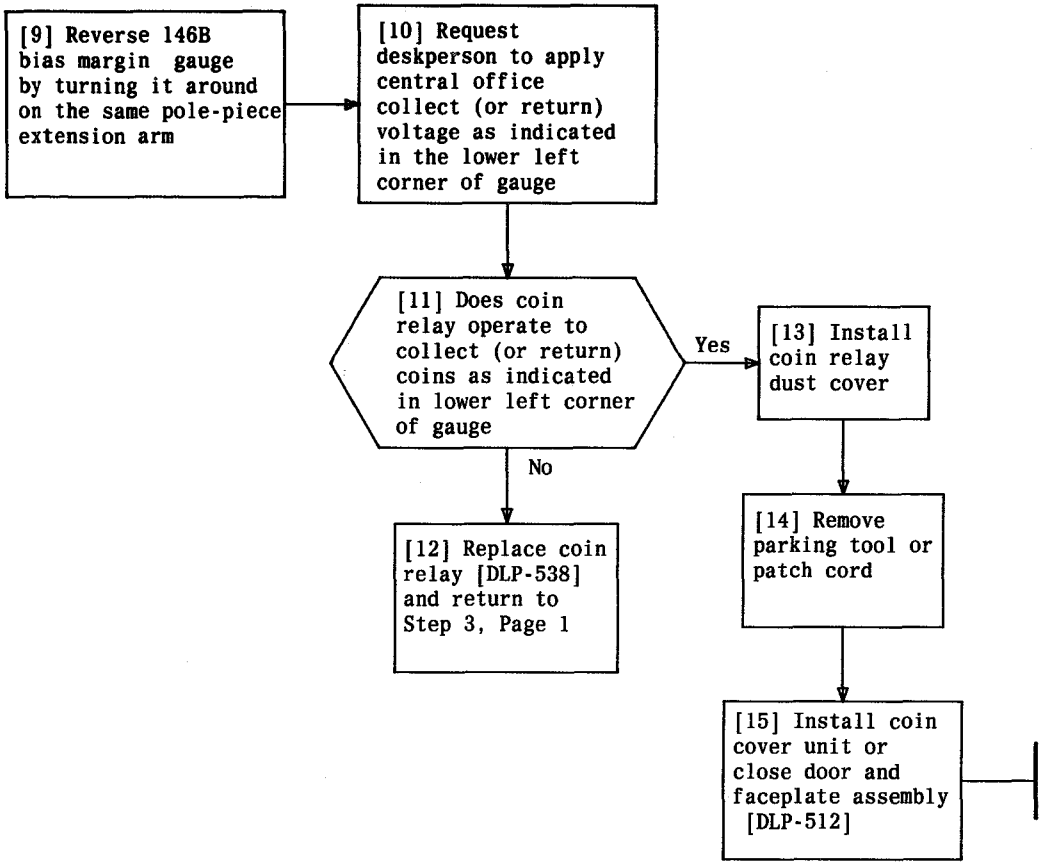
SIDE VIEW



BACK VIEW

FIG. 1 – Bias Margin Gauge In Position For Collect Test

PERFORM COIN RELAY BIAS MARGIN TEST



PERFORM COIN RELAY BIAS MARGIN TEST

[1] Disconnect (BK) and (Y) leads from relay

[2] Remove two relay mounting screws at top-front of relay, see FIG. 1

[3] Remove two slotted hex head screws from side of relay

[4] Check that hopper trigger is in nonoperated (horizontal) position

[5] Pull relay off, being careful not to damage hopper trigger

AND

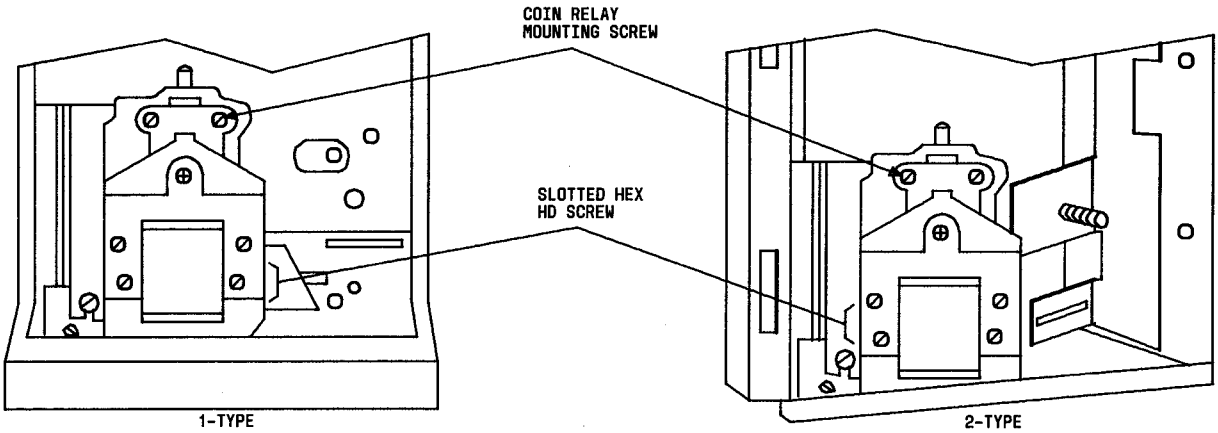
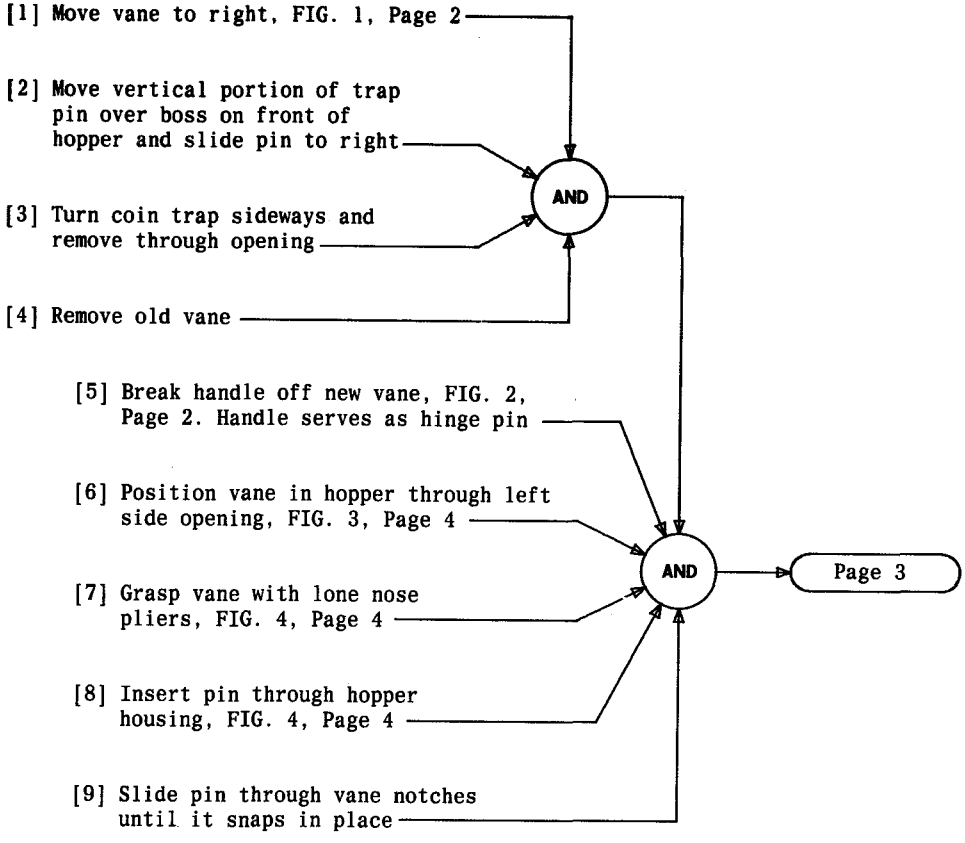


FIG. 1 – Housing and Mounting Plate Assembly

REMOVE COIN RELAY FROM HOPPER

Issue 2	AUG 1980
506-410-402	DLP
PAGE 1 of 1	541



REPLACE VANE

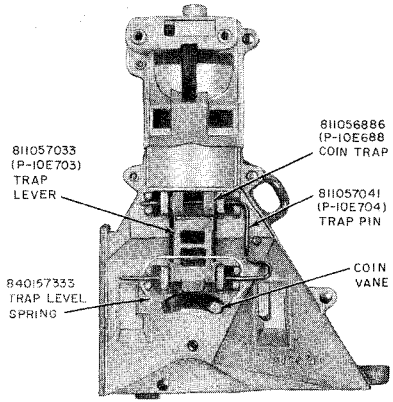


FIG. 1 – Coin Trap and Trap Lever Assembly

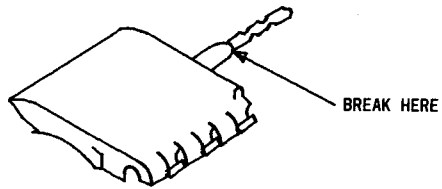
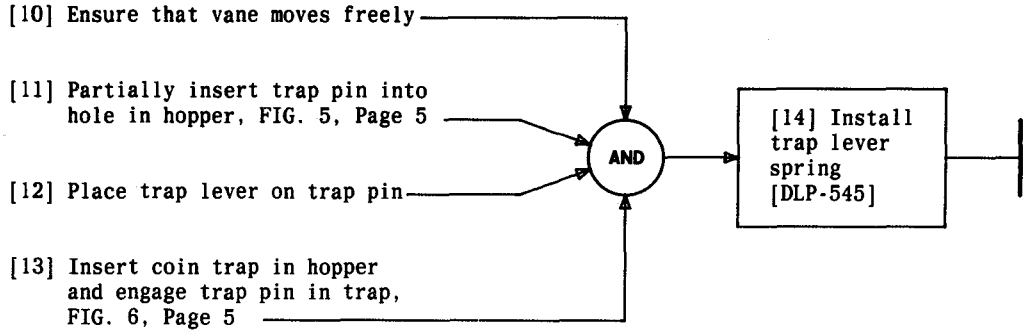


FIG. 2 – 840360572 Replaceable Coin Vane

REPLACE VANE



REPLACE VANE

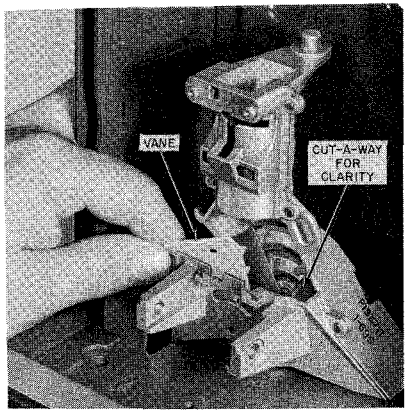


FIG. 3 – Inserting Vane

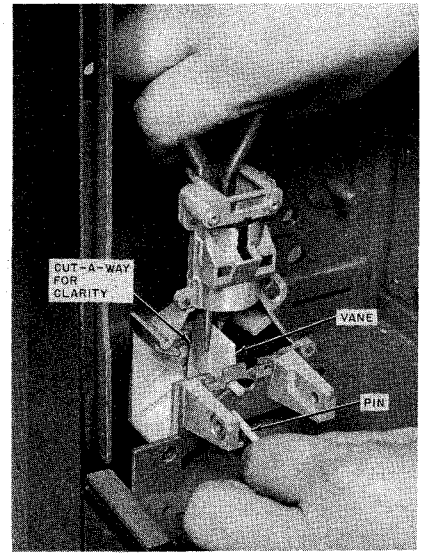


FIG. 4 – Installing Pin in Vane

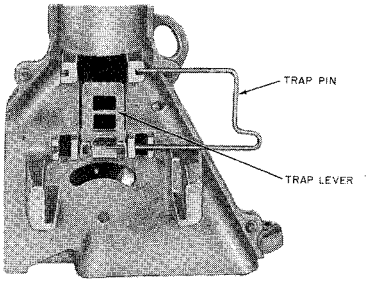


FIG. 5 – Placing Trap-Lever Pin in Hopper

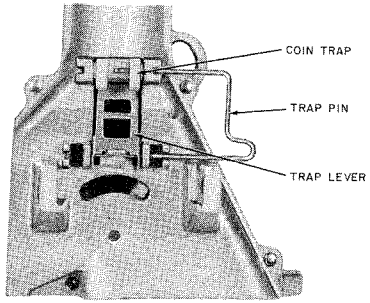
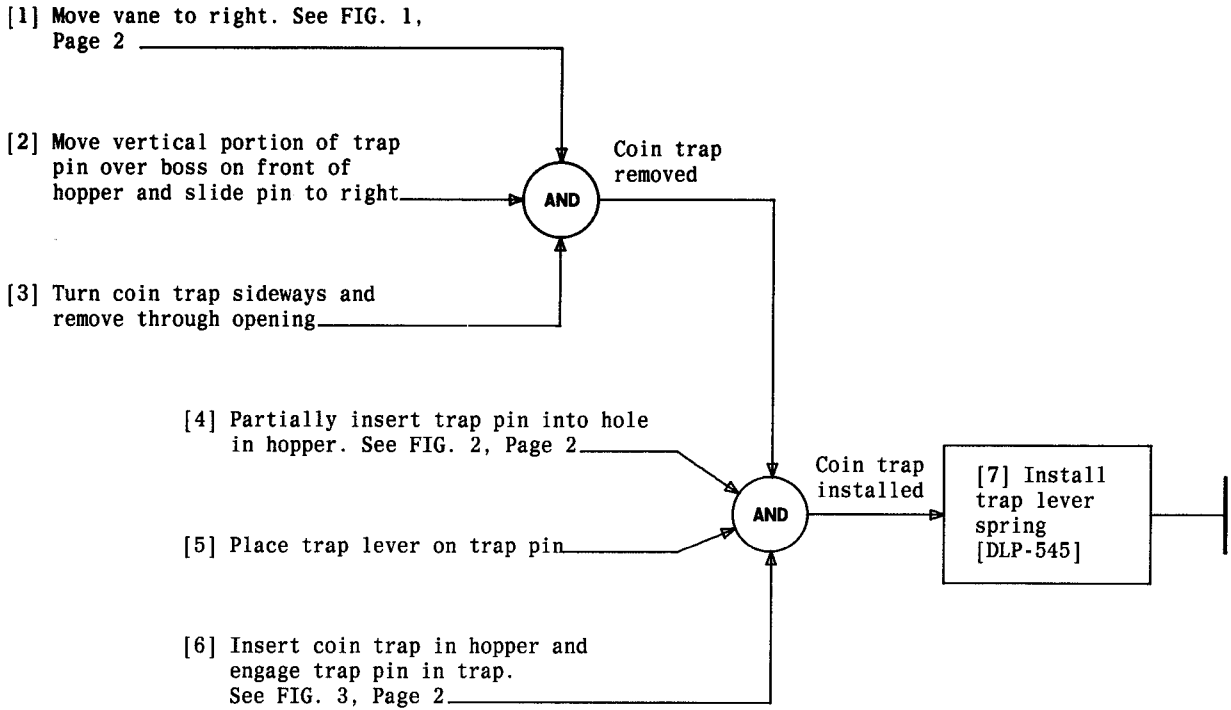


FIG. 6 – Placing Coin Trap in Hopper



REPLACE COIN TRAP AND ASSOCIATED COMPONENTS

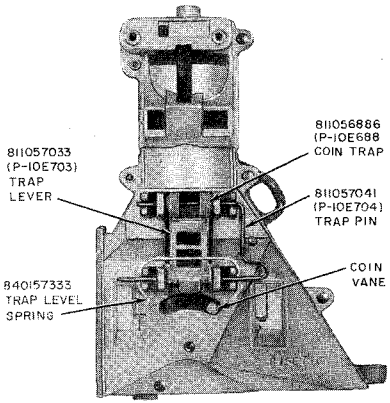


FIG. 1 – Coin Trap and Trap Lever Assembly

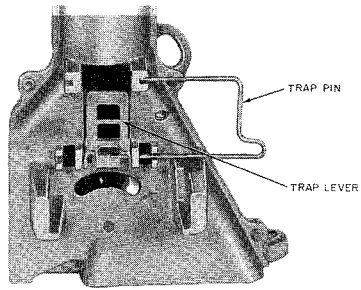


FIG. 2 – Placing Trap Lever Pin in Hopper

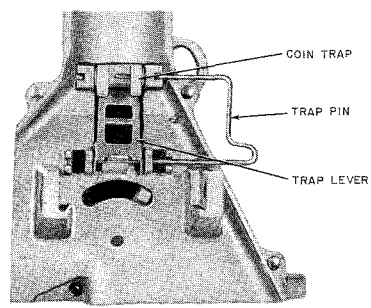


FIG. 3 – Placing Coin Trap in Hopper

REPLACE COIN TRAP AND ASSOCIATED COMPONENTS

[1] Move coin vane to left (collect) position. See FIG. 1, Page 2

[2] With hopper trigger in nonoperated (horizontal) position, move relay into position until trigger enters T-shaped slot in hopper and trap lever tab just enters opening in selector card. See NOTE 1

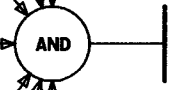
[3] Press down slightly on ear of left side of selector card and manually move armature forward to its operated position. Hold armature in this position

[4] See WARNING 1. Move coin relay forward until square stem on vane enters hole in CAM and mounting screw holes line up

[5] Place and tighten evenly two mounting screws at top of coin relay and two slotted hex head mounting screws on each side

[6] Make sure that trigger, armature, trap, and vane operate without binding

[7] Connect (Y) lead to terminal G and (BK) lead to terminal 3



NOTE 1
If trigger support bracket is so distorted that mounting holes do not engage hopper bosses, relay should not be installed

WARNING 1
If stem of vane is forced into opening in cam without proper alignment, cam can be broken

INSTALL COIN RELAY ON HOPPER

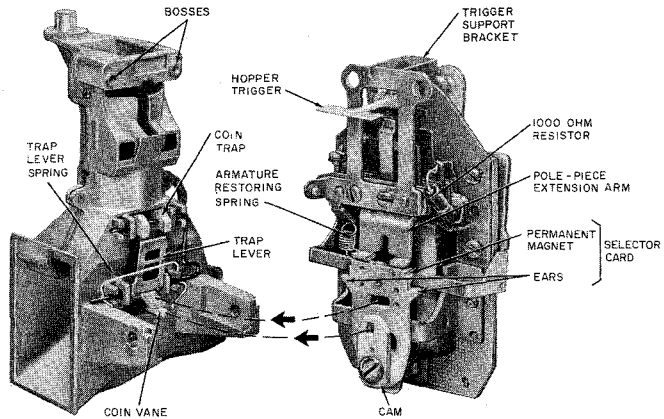


FIG. 1 – Coin Hopper and Rear View of Coin Relay

INSTALL COIN RELAY ON HOPPER

[1] Remove coin relay from hopper, if required, [DLP-541]

[2] If present remove phosphor bronze trap lever spring

[3] See WARNING 1 and FIG. 1, move trap pin to the right so that left end of pin is flush with hopper guide. See FIG. 2, Step 1, Page 2

[4] Holding notched left leg of new spring at an angle away from hopper, slide the right notched leg of the spring under trap pin. See FIG. 2, Step 2, Page 2

[5] Swing loose end of spring across face of trap lever and position notch of left leg in alignment with end of trap pin. See FIG. 2, Step 3, Page 2

[6] Push trap pin to the left, over and through the left leg notch of new spring, until trap pin detents. See FIG. 2, Step 4, Page 2

[7] Install coin relay on hopper [DLP-544]

AND

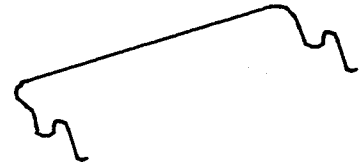
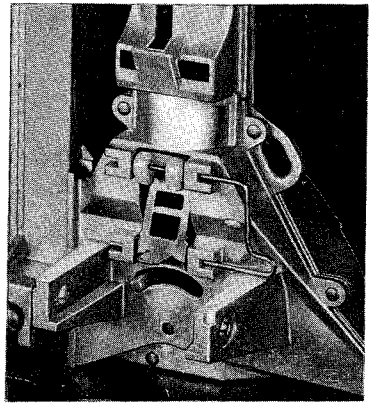


FIG. 1 – 840157333 Trap Lever Spring

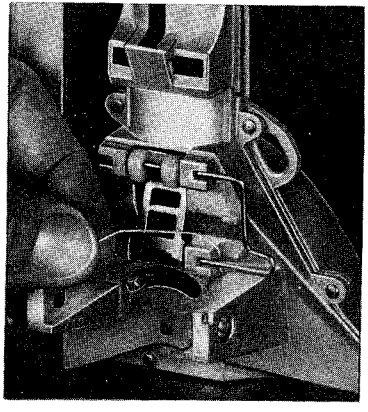
WARNING 1

The trap lever springs may become deformed or twisted when several are intermixed together. This situation can be corrected by grasping each leg of a loose spring with one's fingers and countertwisting them until both legs are aligned properly

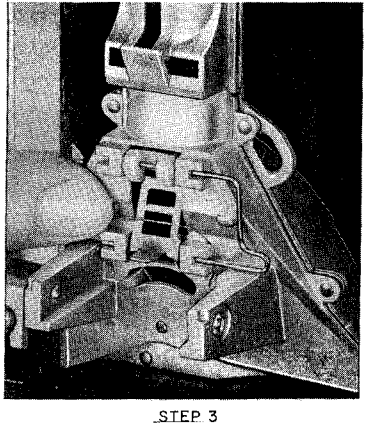
INSTALL 840157333 TRAP LEVER SPRING



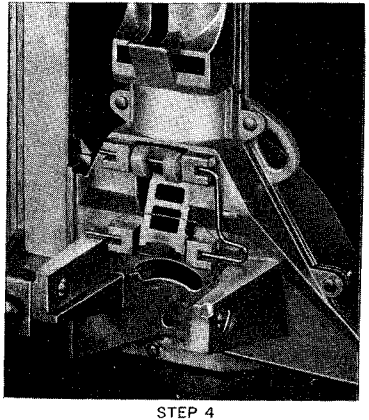
STEP 1



STEP 2



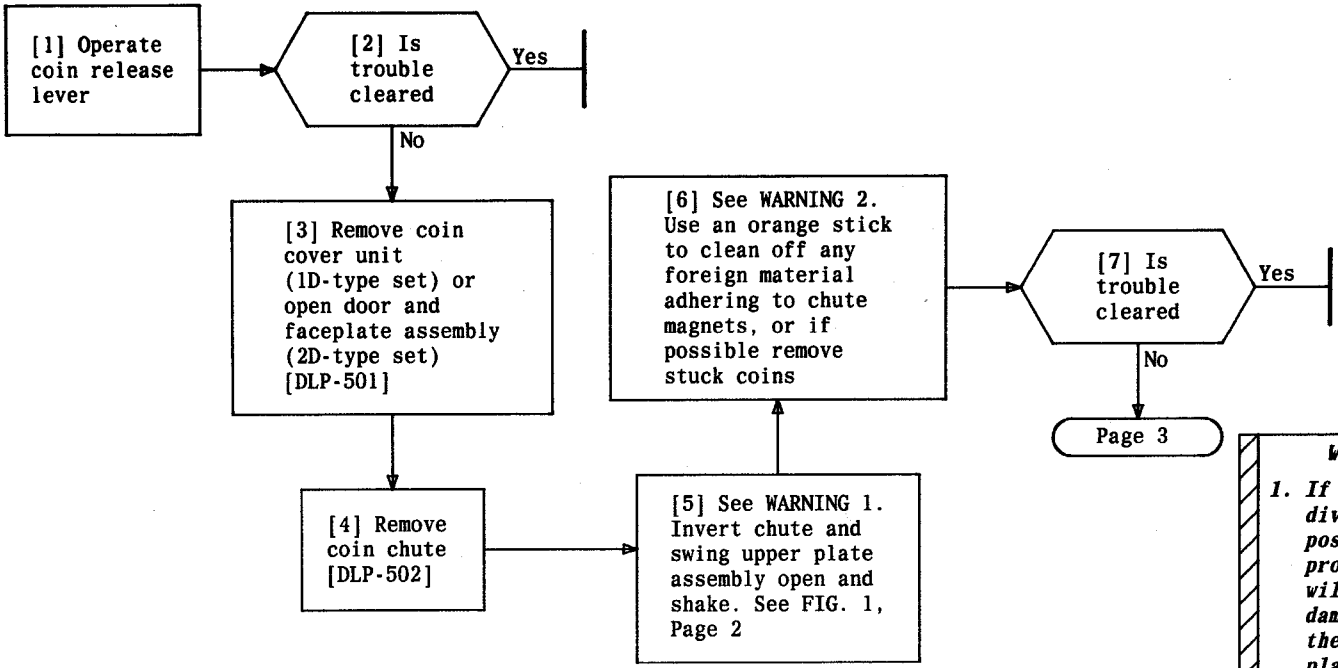
STEP 3



STEP 4

FIG. 2 – Installing Trap Lever Spring (Typical)

INSTALL 840157333 TRAP LEVER SPRING



WARNINGS

1. ***If the quarter divider is not positioned properly, it will become damaged when the upper plate assembly is closed, the divider can be bent***
2. ***The use of a screwdriver may damage chute. Chute assembly screws should not be loosened***

CLEAR COIN CHUTE

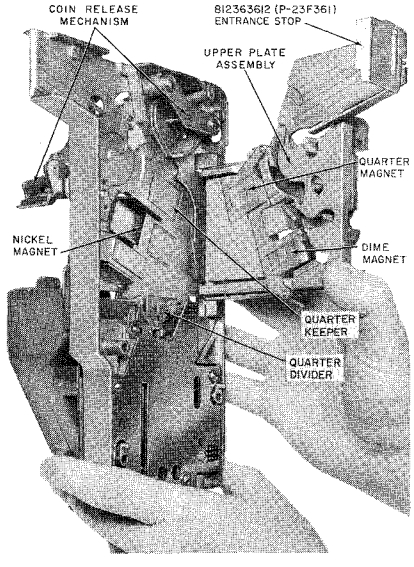


FIG. 1 – Chute

CLEAR COIN CHUTE

[8] Remove 47A (MD) or 47A2 signal from chute [DLP-549]

[9] See WARNING 3. Swing upper plate assembly open. See FIG. 2

Page 4

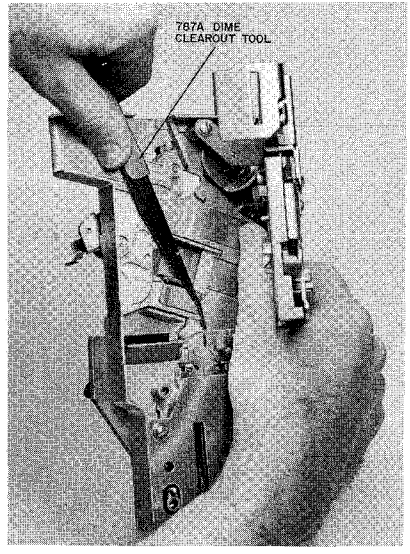
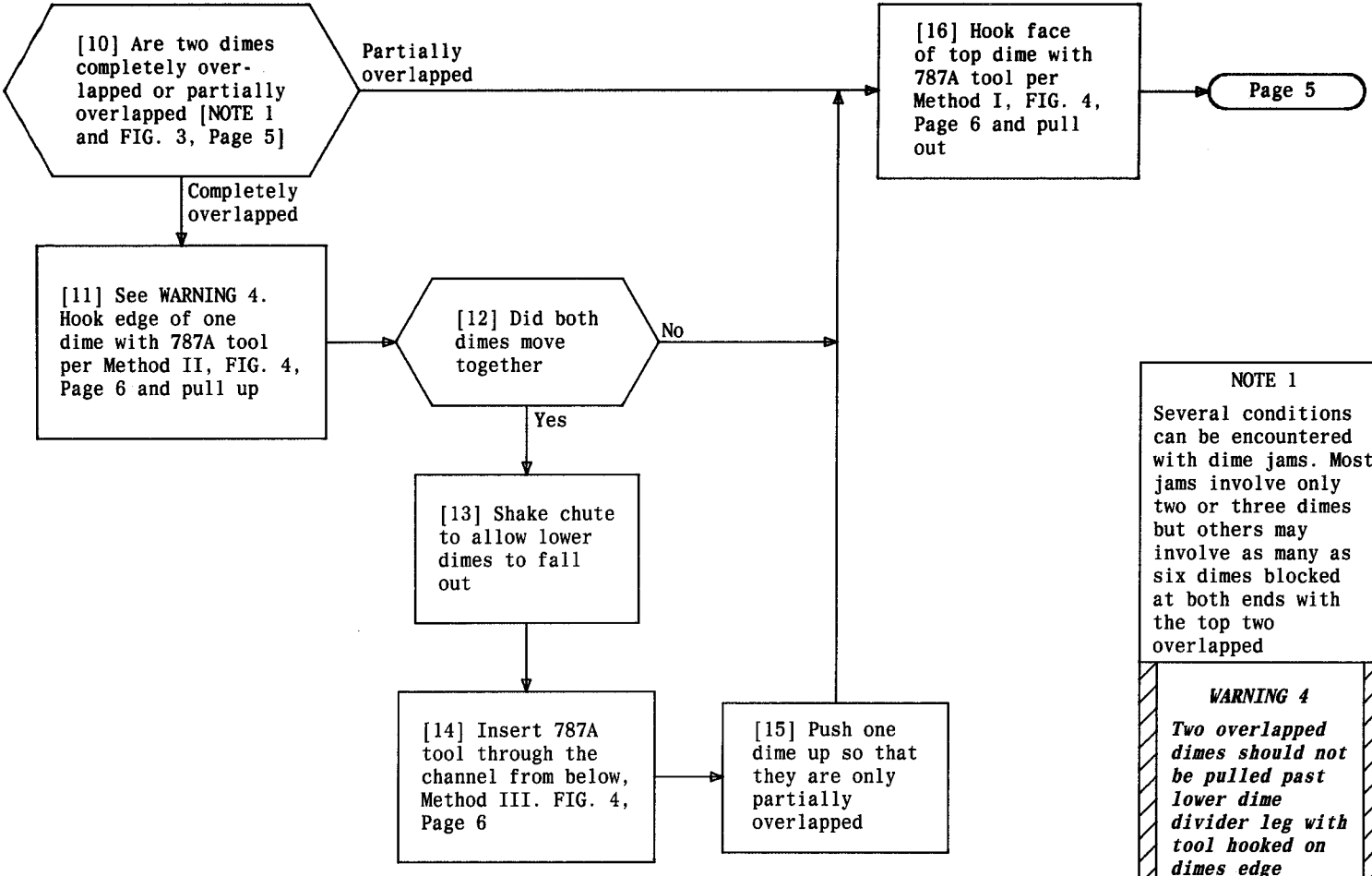


FIG. 2 – Using a 787A Dime Clearout Tool in Chute

WARNING 3

If the quarter divider is not positioned properly, it will become damaged when upper plate assembly is closed. The divider can be bent

CLEAR COIN CHUTE



NOTE 1

Several conditions can be encountered with dime jams. Most jams involve only two or three dimes but others may involve as many as six dimes blocked at both ends with the top two overlapped

WARNING 4

Two overlapped dimes should not be pulled past lower dime divider leg with tool hooked on dimes edge

CLEAR COIN CHUTE

[17] Install 47A (MD) or 47A2 signal on chute [DLP-522]

[18] Install coin chute [DLP-507]

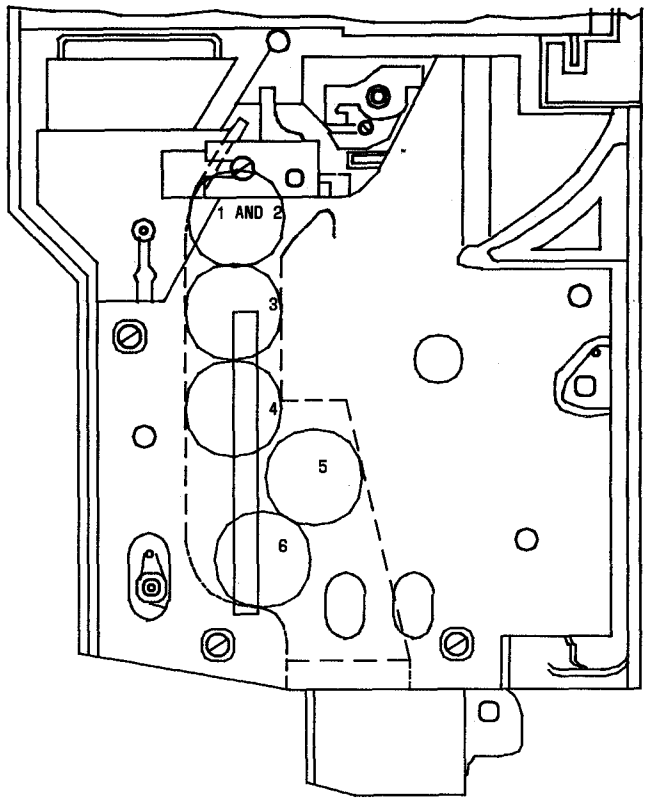


FIG. 3 – Lower Portion of Coin Chute With Six Dimes Jammed

CLEAR COIN CHUTE

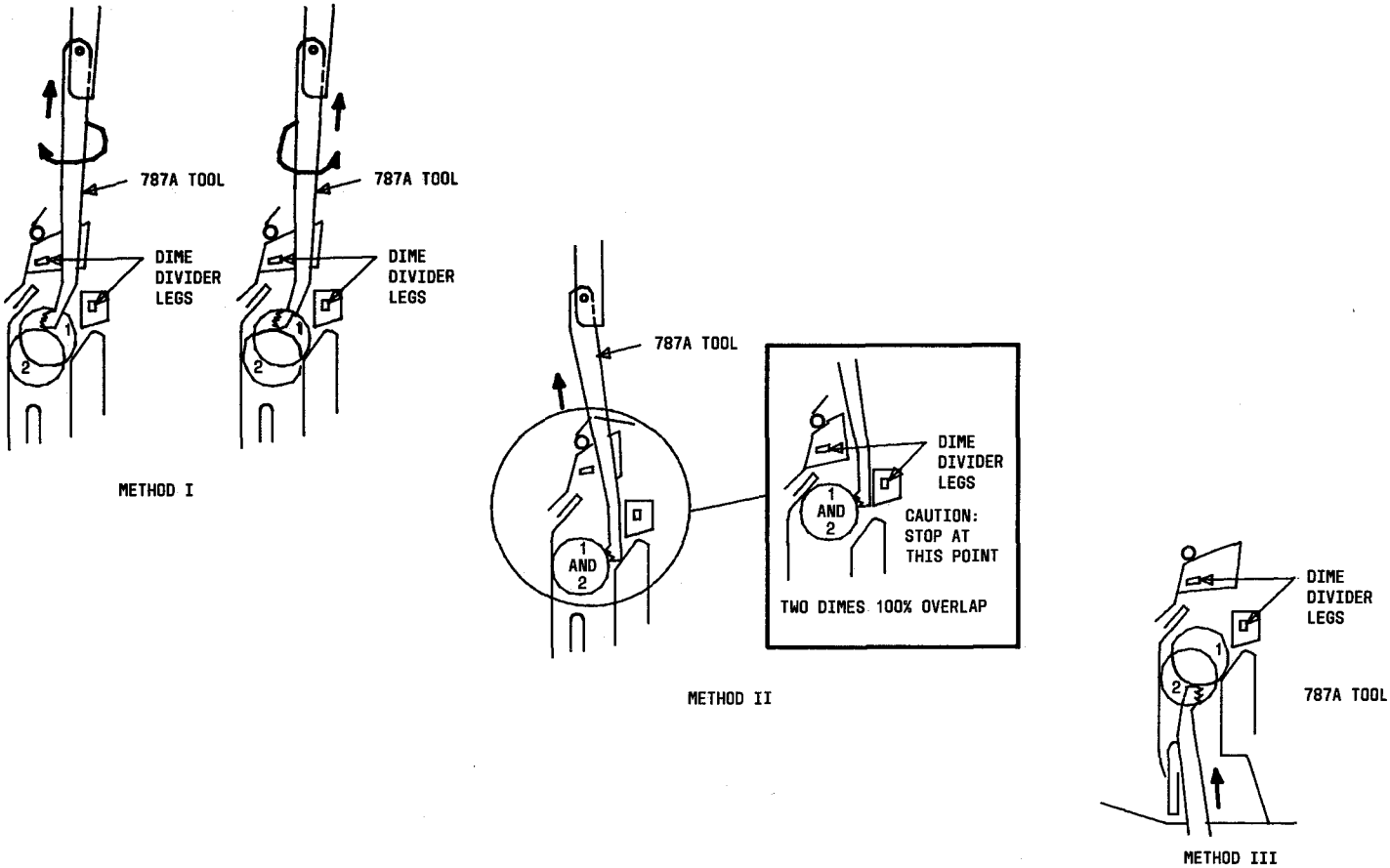
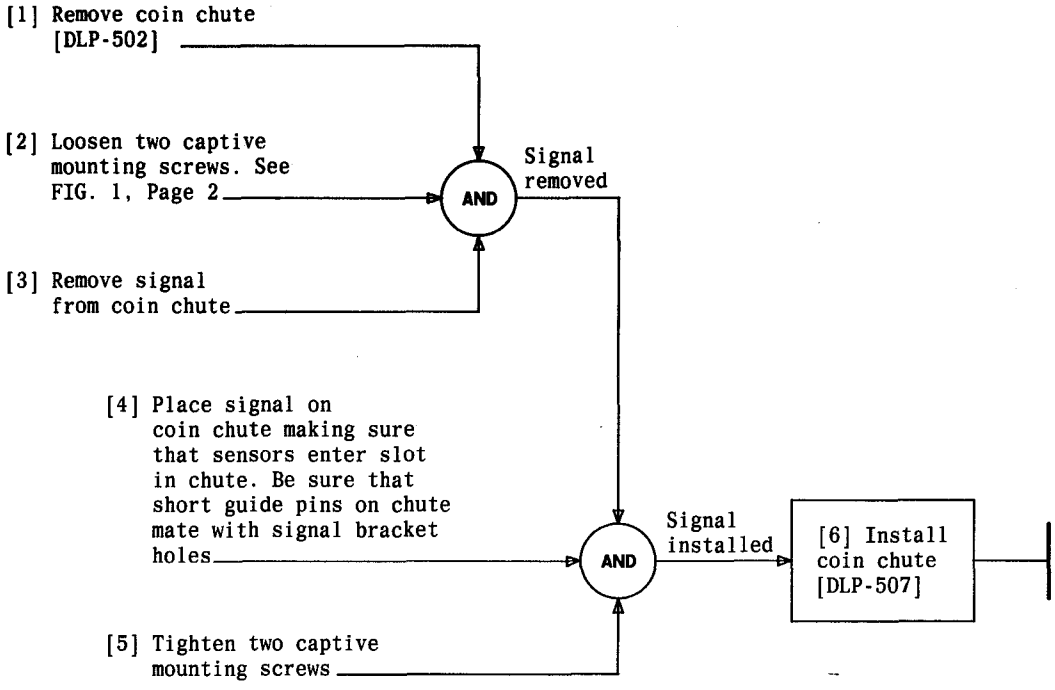


FIG. 4 – Method for Removing Jammed Dimes from Chute



REPLACE 47A (MD) OR 47A2 SIGNAL

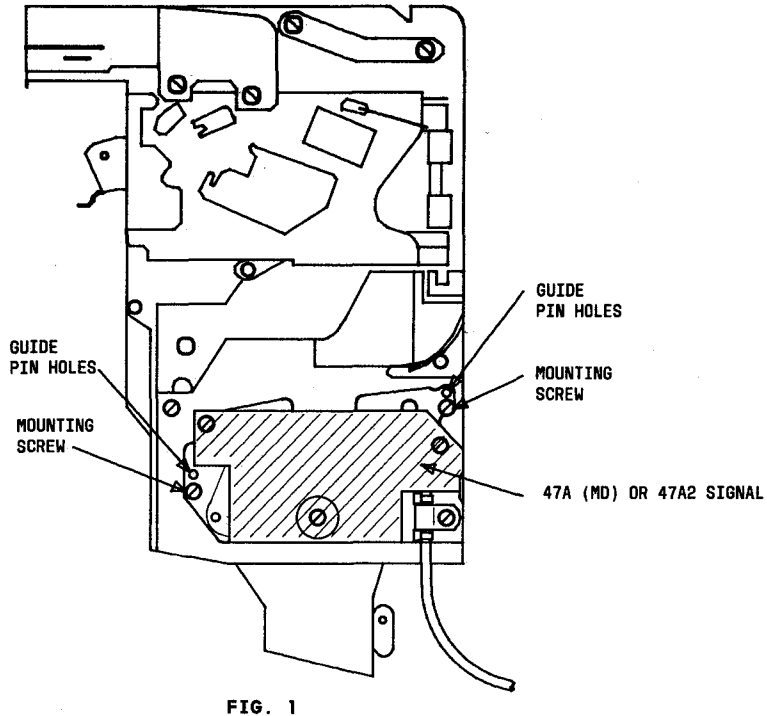
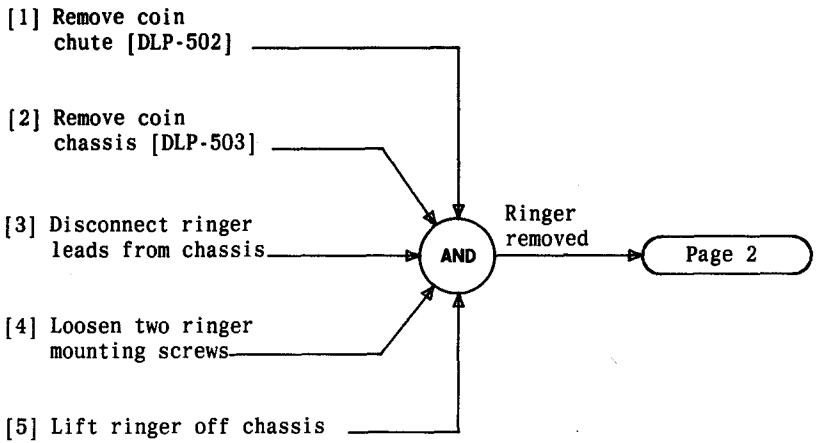


FIG. 1

REPLACE 47A (MD) OR 47A2 SIGNAL



REPLACE RINGER

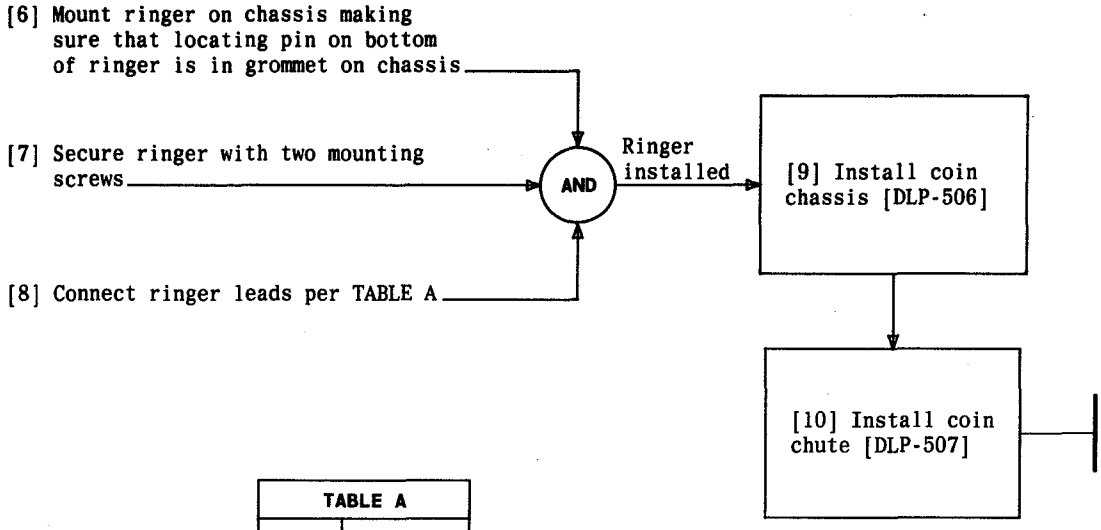


TABLE A	
WIRE COLOR	CONNECT TO
S	Term. 15
S-R	
BK	Term. 16
R	TB1-R

REPLACE RINGER

[1] Loosen two captive mounting screws. See FIG. 1

AND

[2] Remove signal from chute

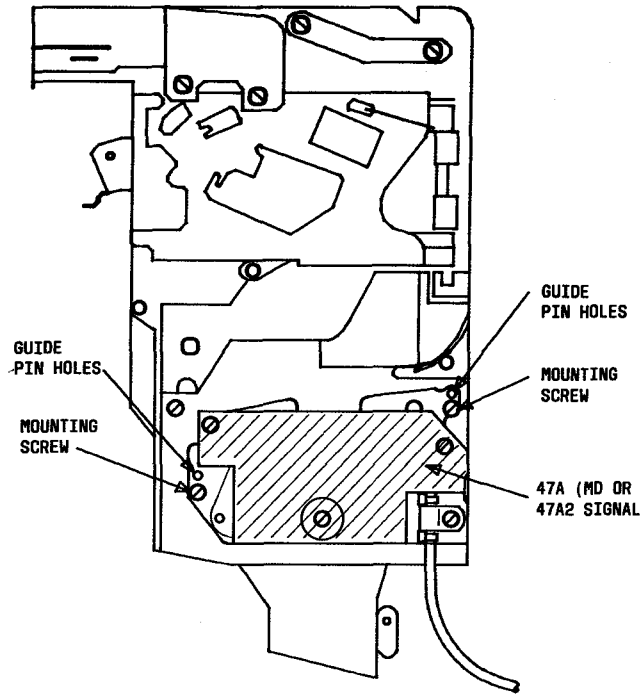
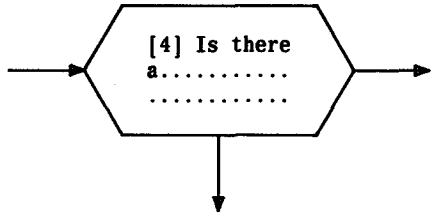


FIG. 1

REMOVE 47A (MD) OR 47A2 SIGNAL FROM COIN CHUTE

Issue 2	AUG 1980
506-410-402	DLP
PAGE 1 of 1	549

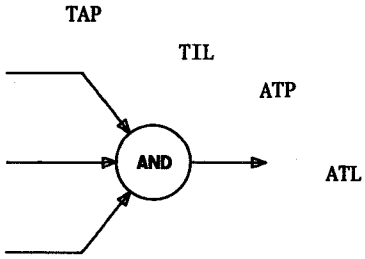


WARNING
Always be safety conscious on and off the job

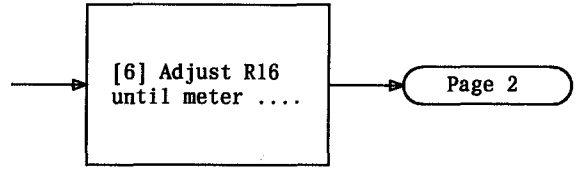
This is a. . . . . .

TASK ORIENTED PRACTICE. . . . . *or* TOP

The next few pages will tell you how to use this document.



[DLP-540]



HOW TO USE THIS "TOP"

This book is called a Task Oriented Practice or a "TOP." It is a type of programmed document – one which gives you step-by-step instructions of how to do a job (or task). A TOP can be a big help in your everyday work, but you must know how to use it correctly. Take a few minutes, say 15 or 20, and study these few pages until you feel you understand how to use a TOP. Taking this time now will very likely save you time and effort later on.

An important thing to remember about TOP is that it contains all the needed instructions to complete a job. If you are doing the job for the first time, you will be directed through each action without having to guess or remember where to find the necessary information. If you are experienced on a particular job, TOP can provide just that information which you may have forgotten.

Almost all of your jobs can be classified into one of four types – ***Routine, Acceptance, Company Order,*** or ***Trouble Clearing***. This is how TOP defines these four work types:

Routine

that work you do as part of a Controlled Maintenance Plan like scheduled cleaning or scheduled tests. Routine work may also include those things you do as a "routine" part of your job like requesting a TTY printout or turning on equipment in the mornings and off in the evenings.

Acceptance

that work you do to verify that equipment is installed properly. Normally this is a test or inspection you perform when Western Electric has completed a new installation or addition. It could also be a test you perform when another group from ***your*** Company has completed an installation or addition of equipment. Acceptance work, however, is always related to testing or checking newly installed equipment.

Company Order

that work you do in response to one of several different "orders" which may be given to you. Some of the orders you may be familiar with are Circuit Orders, Service Orders, Traffic Orders, Recent Change Orders, etc. Normally, company order type work is something done to install, establish, change, or discontinue some service offered by the telephone company.

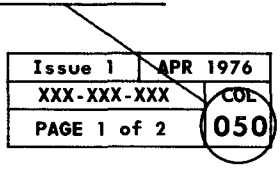
Trouble Clearing

is simply what it says – that work you do to clear and repair troubles in the system. Trouble clearing may be done in answering a customer complaint, responding to some office alarm, an abnormal TTY printout, etc.

Try to fix these four work types firmly in your mind. As you will see, you must classify each job you get in one of these four types before you will be able to look up the instructions in the TOP.

Now glance briefly at the front cover; there are several things which will be useful there. In the upper-right corner is the 9-digit volume number. Near the center is the volume title which tells you something about the contents – such things as the system (or subsystem) name and perhaps the type of jobs included in the volume. Next is a four-line index located in the lower-left corner. This index provides the location of four "lists" which are simply a listing of all the jobs in each of the four job types. If a nine-digit (XXX-XXX-XXX) number appears on

the front cover index, that particular list is located in another volume of the TOP. A three-digit number on the line means that the list is in this volume, and the list can be located by searching the lower-right corner of each page for the ***referenced number***.



These numbers will always be arranged in numerical order; however, all numbers in the sequence will not be used.

Some TOP volumes may cover only a small part of a system, so on the inside of each front cover you will find a documentation plan. This plan will give a bird's-eye view of all the volumes in the TOP and can help you quickly determine the correct volume.

Locate one of the TOP volumes which contains a Company Order List, and note from the front cover that this list is numbered "050." Turn to that number in the TOP.

This Company Order List (COL) is simply a listing of all the Circuit Order jobs, Service Order jobs, etc, that may be done on this system. Once you know the job you have to do, use the lists as an index to find the number of the "procedure" which tells you ***what to do*** to complete that job.

Now pick one of these jobs from the list which references to a COP (Company Order Procedure), and using the referenced number, locate that procedure in the TOP. Look over this procedure and note that it gives all the items which must be done to complete the job.

The items are numbered and must be completed in that order; however, you may see some lettered (A, B, C...) items in the procedure. These letters are assigned to options or other items which may be done differently because of equipment variations, etc. Look over the following example to get a better idea of what is meant by the numbers (1, 2, 3...) and letters (A, B, C...) which may be used in the procedure.

ITEM	SUBTASKS	PROCEDURE NUMBER
1	Do the first thing first	DLP-XXX
2	Do the second item next	DLP-XXX
3	Do the following optional items as required by the Company Order or as is required by the system you are working on	
	A. An optional item	DLP-XXX
	B. Another optional item	–
	C. Another optional item which must be done in the sequence below	
	1. First part of Option "C"	DLP-XXX
	2. Last part of Option "C"	DLP-XXX
4	Do the next part of the job	DLP-XXX
5	Do the last part of the job	DLP-XXX

Remember that this procedure tells you ***what*** to do in order to complete the total job. If you know ***how*** to do an item in the procedure, you should go ahead and complete it. If you need further information on ***how*** to do part of the job, then you should turn to the referenced DLP or Detail Level Procedure. When you complete all the steps in the DLP, then you must turn back to the COP or Company Order Procedure to find the next item to be done.

TOP is designed so that you will have to read only what is necessary to get your job done. At any time when you know how to perform all the steps in an item, it is not necessary to look further for the "how to" information – simply complete the item and go on to the next one. This idea, in TOP, is known as "bypassing."

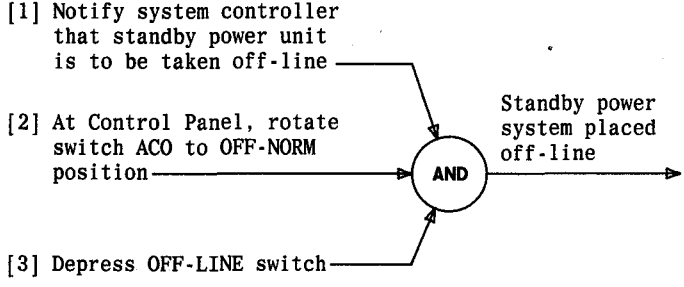
Here are some of the things designed into TOP to help you "bypass" information you may already know:

Summary Statement

A summary statement is used with a DLP (or the flow-charted procedures). It tells you briefly what the procedure does and what type measurement or result can be observed. After reading the summary, you may be able to complete the procedure without reading further. Some shorter DLPs, of course, do not have summary statements.

Result Statement

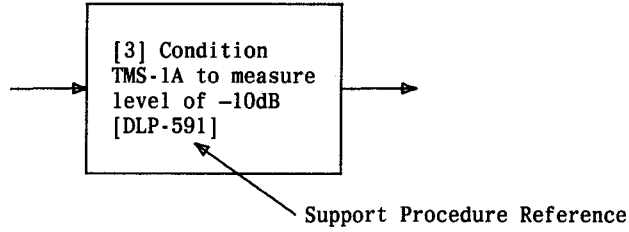
A result statement may be used in a flow-charted procedure along with the "AND" symbol. Here is an example of the "AND" symbol and a ***result statement***:



When using a procedure, read the result statement first. If you know how to place standby power system in off-line status, it would be unnecessary to read steps 1, 2, and 3.

Support Procedures

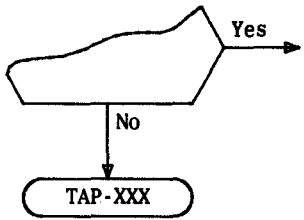
When you see this kind of reference in TOP, it refers to a support procedure.



The support procedure (DLP-591) would provide information about how to operate the TMS-1A. Of course, if you are familiar with the TMS-1A, there is no reason to look up DLP-591.

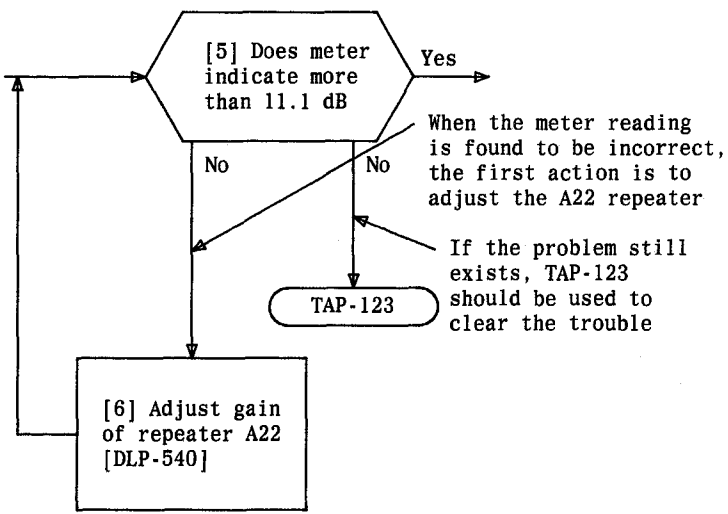
So far, the Company Order type jobs have been the main topic; however, you will find that the Routine and Acceptance categories are used in the same manner. You may come across a couple of new abbreviations in those categories, namely, Acceptance Task Procedure (ATP) and Routine Task Procedure (RTP). These categories are used in the same way that the Company Order Procedure (COP) is used in the Company Order work.

While using TOP, you probably will run across a reference similar to this:



This reference to TAP-XXX indicates that the equipment is not operating correctly and the TAP (Trouble Analysis Procedure) should be used to help you find and repair the trouble.

This idea can be carried further. In some cases, a decision block may have more than one abnormal output. This simply means that you should try more than one solution to the problem. See the example below.



Trouble clearing information in TOP is basically used the same way as the other types. When a trouble report or equipment alarm requires you to troubleshoot a system, the Trouble Indicator List (TIL) is the place to start. This (TIL) is a listing of trouble symptoms or alarms with a reference to a Trouble Analysis Procedure (TAP). The TAP is an aid in analyzing and locating the cause of the trouble. The TAP may reference to other information such as a Trouble Analysis Data (TAD) or an Isolation Diagram (ISD) as an aid in the trouble clearing process.

Any job must always be done safely and it is no different with TOP. Here are three items which you should look for in TOP:

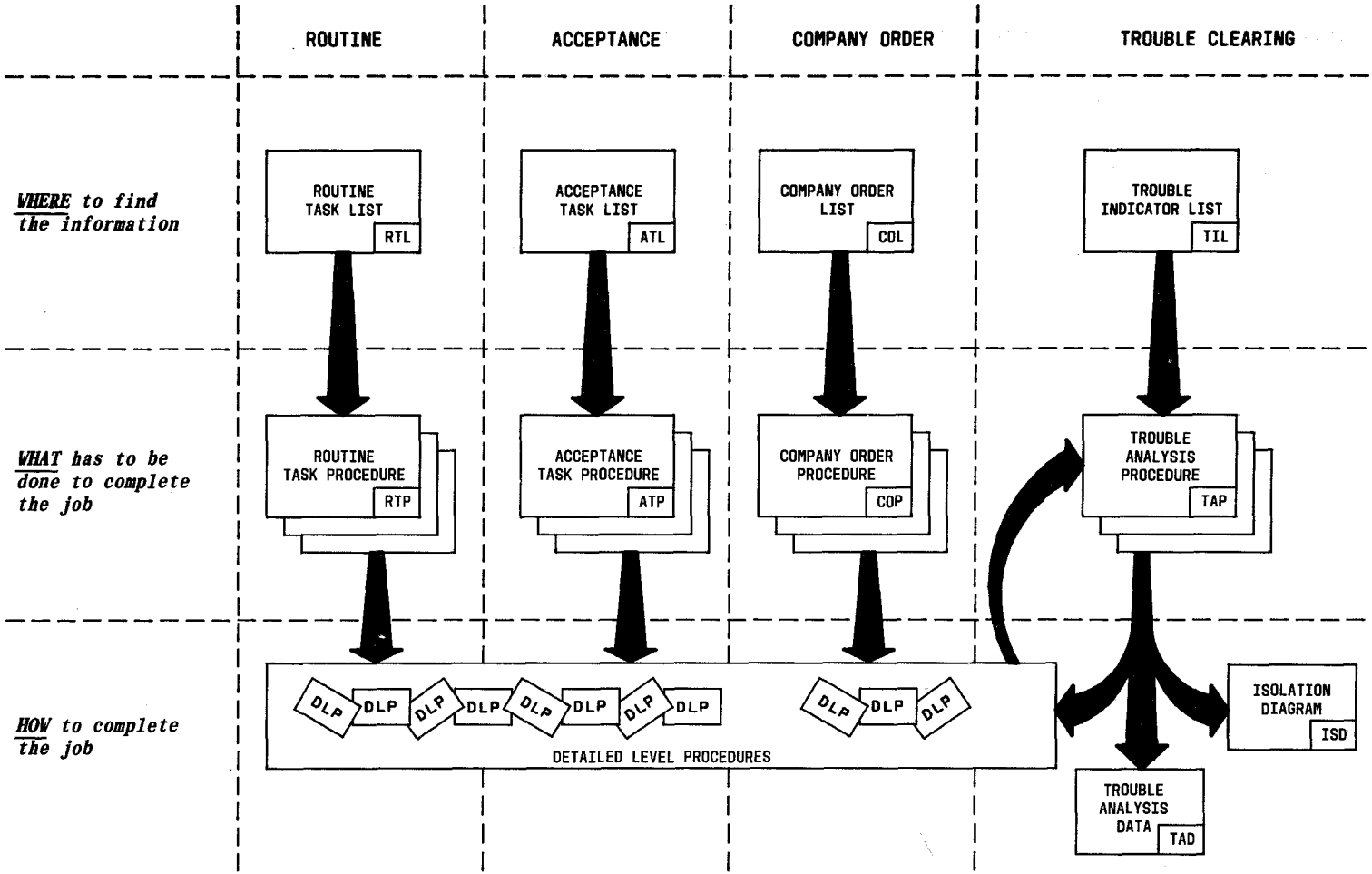
DANGER – ***means there is a possibility of personal injury***

CAUTION – ***means there is a possibility of service interruption***

WARNING – ***means there is a possibility of equipment damage***

The last page of this introductory section is a diagram which shows all the elements used to make up a TOP and basically how they are organized to make a complete document. The diagram may, at first, seem to be complex; but remember, TOP is a programmed document and it always tells you where to find the next bit of information required to do the job. The diagram, however, may be useful later if you need to know the words which DLP, TAP, etc, represent or simply a memory jogger about TOP in general.

While using any TOP, if you find errors, or if a procedure is inadequate or missing, your comments are greatly needed. They may be forwarded by using the standard form E3973 which is available through your Company. Thank you for helping us prepare better documentation.


ROUTINE
ACCEPTANCE
COMPANY ORDER
TROUBLE CLEARING
WHERE to find the information
WHAT has to be done to complete the job
HOW to complete the job
ROUTINE TASK LIST
RTL
ACCEPTANCE TASK LIST
ATL
COMPANY ORDER LIST
COL
TROUBLE INDICATOR LIST
TIL
ROUTINE TASK PROCEDURE
RTP
ACCEPTANCE TASK PROCEDURE
ATP
COMPANY ORDER PROCEDURE
COP
TROUBLE ANALYSIS PROCEDURE
TAP
DLP
DETAILED LEVEL PROCEDURES
ISOLATION DIAGRAM
ISD
TROUBLE ANALYSIS DATA
TAD