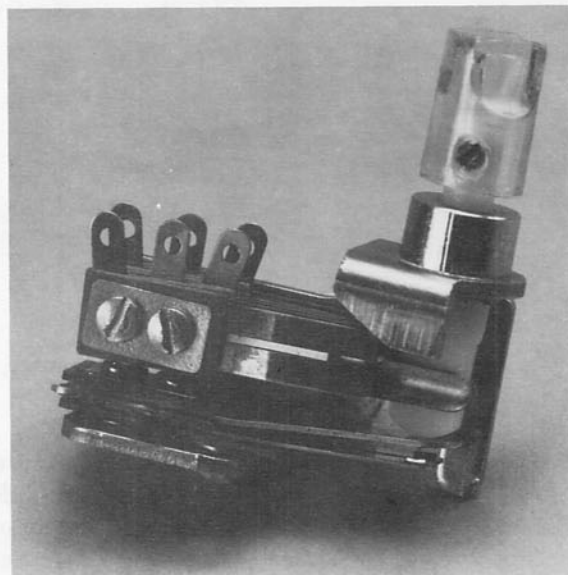


## MODEL 79453 TURN-AND-PUSH KEY ASSEMBLY

CONTENTS	PAGE
1. INTRODUCTION .....	1
2. GENERAL DESCRIPTION .....	1
MODEL 79453-101 .....	2
MODEL 79453-103 .....	2
MODEL 79453-106 .....	2
MODEL 79453-107 .....	3
MODEL 79453-108 .....	3
MODEL 79453-112 .....	3
3. REMOVAL .....	3
4. DISASSEMBLY .....	3
5. REPLACEMENT PARTS .....	3
6. ASSEMBLY .....	3
7. INSTALLATION .....	5
8. OPERATION .....	5



AW 85-186

Figure 1: Model 79453 Turn-And-Push Key Assembly

### 1. INTRODUCTION

- 1.01 This document covers the Model 79453 turn-and-push key assembly. (See Figure 1.) A general description as well as information on removal, disassembly, replacement parts, assembly, installation, and operation is included.
- 1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.
- 1.03 For information concerning telephones that this turn-and-push key assembly is used in, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

### 2. GENERAL DESCRIPTION

- 2.01 The Model 79453 turn-and-push key assembly is designed for use in the ITT two-line telephones. It provides the contacts for selecting either of the two lines, and contacts for signaling when required.
- 2.02 Line selection is accomplished by rotating the knob on the turn-and-push key assembly one quarter-turn. The switch contacts of one line are opened as the switch contacts of the other line are closed. The key will lock in either position.
- 2.03 The signaling contacts are closed by pushing down on the knob of the turn-and-push key assembly. The signaling contacts are nonlocking.
- 2.04 The turn-and-push key assembly consists of a bracket assembly, a plunger, a turn spring assembly, a push spring assembly, and a knob. (See Figure 2.)
- 2.05 The turn-and-push key assembly is attached to the telephone base with mounting screws. The associated wiring is attached to the telephone components by soldering or spade-tip lugs.

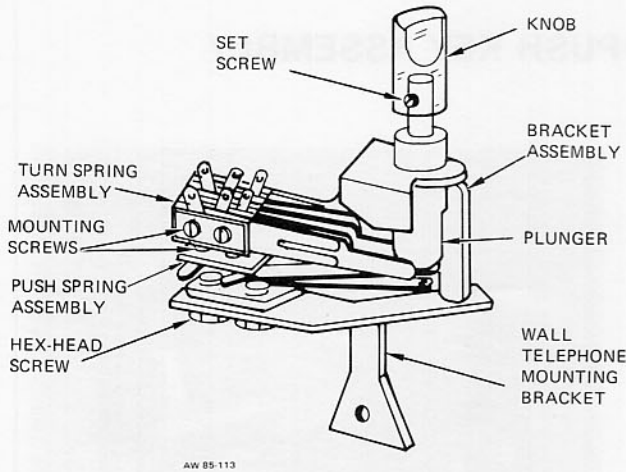


Figure 2: Model 79453 Turn-And-Push Key Assembly, Component Locations

2.06 The Model 79453 turn-and-push key assembly is available in several styles. Refer to Table A for ordering information and for an explanation of each code. The styles of the turn-and-push key assembly are briefly described in the following paragraphs.

**MODEL 79453-101**

2.07 The Model 79453-101 is the standard turn-and-push key assembly. It is equipped with the 79438-101 turn spring assembly, and the 79439-101 push spring assembly. Wiring is not included on this model.

**MODEL 79453-103**

2.08 The Model 79453-103 turn-and-push key assembly is the same as the Model 79453-101 turn-and-push key assembly, except it is equipped with the 82578-101 turn spring assembly.

**MODEL 79453-106**

2.09 The Model 79453-106 turn-and-push key assembly is the same as the Model 79453-101 turn-and-push key assembly, with the addition of the 79467-101 terminal board assembly and associated wiring.

TABLE A

ORDERING INFORMATION

CODE NUMBERS	
TURN-AND-PUSH KEY CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:	
(1) Turn-And-Push Key Model Number (See Part 1)	079453
(2) Turn-And-Push Key Style (See Part 2)	101
<b>PART 1 TURN-AND-PUSH KEY MODEL NUMBER</b>	
CODE	DESCRIPTION
079453	Model 79453 Turn-And-Push Key Assembly
<b>PART 2 TURN-AND-PUSH KEY STYLE</b>	
CODE	DESCRIPTION
101	Standard without wiring
103	Same as -101 except equipped with 82578-101 turn spring assembly
106	Same as -101 with addition of 79467-101 terminal board
107	Same as -103 with addition of 79467-101 terminal board and 84522-101 hold switch
108	Same as -107 with addition of 82577-101 hold switch
112	Same as -108 except equipped with 185337-101 knob

AW 85 149

**MODEL 79453-107**

2.10 The Model 79453-107 turn-and-push key assembly is the same as the Model 79453-103 turn-and-push key assembly, with the addition of the 79467-101 terminal board assembly and the Model 84522-101 (see Section 55-522-127) hold switch assembly.

**MODEL 79453-108**

2.11 The Model 79453-108 turn-and-push key assembly is the same as the Model 79453-107 turn-and-push key assembly, except it is equipped with the Model 82577-101 (see Section 55-577-127) hold switch assembly.

**MODEL 79453-112**

2.12 The Model 79453-112 turn-and-push key assembly is the same as the Model 79453-108 turn-and-push key assembly, except it is equipped with the 185337-101 knob.

**3. REMOVAL**

3.01 To remove the turn-and-push key assembly from the telephone, proceed as follows:

- (a) Remove the telephone housing.
- (b) Remove the dial to provide access to the terminal board assembly.
- (c) Disconnect the wiring of the turn-and-push key assembly. Some of the associated wiring must be unsoldered from the terminal board assembly.
- (d) Locate the two hex-head mounting screws on the rear of the telephone base.

*Note:* The turn-and-push key assembly inside the wall telephone is mounted on an L-shaped bracket, which is attached to the telephone base. Removal of the L-shaped bracket is required.

- (e) Loosen and remove the two hex-head mounting screws.
- (f) Remove the turn-and-push key assembly from the telephone base, or from the L-shaped bracket as in the wall telephone.

**4. DISASSEMBLY**

4.01 To disassemble the turn-and-push key assembly, proceed as follows while referring to Figure 2:

- (a) Remove the set screw from the knob.
- (b) Pull the knob from the plunger stem.
- (c) Loosen the turn spring mounting screws. Carefully remove the turn spring assembly from the bracket assembly.
- (d) Loosen the push spring mounting screws. Carefully remove the push spring assembly from the bracket assembly.
- (e) Remove the plunger from the bracket assembly.

**5. REPLACEMENT PARTS**

5.01 Replacement parts for the Model 79453 turn-and-push key assembly are listed in Table B, and shown in Figure 3.

**6. ASSEMBLY**

6.01 To assemble the turn-and-push key assembly, proceed as follows:

- (a) Insert the plunger stem up through the mounting hole of the bracket.
- (b) Place the knob on the plunger stem. Align the hole in the knob with the hole in the plunger stem.
- (c) Insert the set screw, and tighten it to secure the knob to the plunger stem.
- (d) Install the push spring assembly on the bracket assembly. The top contact of the push spring assembly should rest against the bottom of the plunger.
- (e) Install the turn spring assembly on the bracket assembly. The long rounded tip contacts should rest on each side of the plunger.

TABLE B

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED					
			101	103	106	107	108	112
		Model 79453 Turn-And-Push Key Assembly						
1	079452-101	Knob	1	1	1	1	1	-
1	185337-101	Knob	-	-	-	-	-	1
2	079446-101	Bracket Assembly	1	1	1	1	1	1
3	079449-102	Plunger	1	1	1	1	1	1
4	079920-101	Bracket, L-Shaped <sup>1</sup>	-	-	-	1	-	-
5	180219-101	Screw, Mounting <sup>1</sup>	-	-	-	1	-	-
6	079474-101	Screw, Hex-Head Mounting <sup>1</sup>	2	2	2	4	4	4
7	079439-101	Push Spring Assembly	1	1	1	1	1	1
8	079437-101	Screw, Push Spring Assembly Mounting	2	2	2	2	2	2
9	079438-101	Turn Spring Assembly	1	-	1	-	-	-
9	082578-101	Turn Spring Assembly	-	1	-	1	1	1
10	190332-102	Screw, Turn Spring Assembly Mounting	2	-	2	-	-	-
10	082580-103	Screw, Turn Spring Assembly Mounting	-	2	-	2	2	2
11	079467-101	Terminal Board Assembly	-	-	1	1	1	1
12	095747-109	Resistor, 500 Ohm	-	-	-	2	2	2
13	079451-101	Screw, Set	1	1	1	1	1	1
	084522-101	Hold Switch Assembly (Not Shown)	-	-	-	1	-	-
	082577-101	Hold Switch Assembly (Not Shown)	-	-	-	-	1	1

NOTE:

AW 85-150

1. This part must be ordered separately.

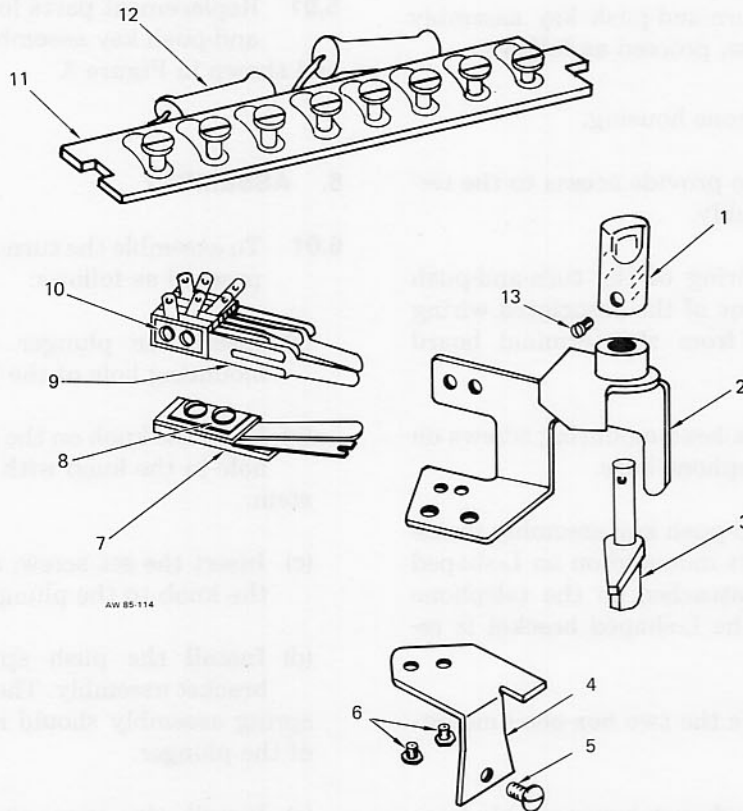


Figure 3: Model 79453 Turn-And-Push Key Assembly, Exploded View

## 7. INSTALLATION

**7.01** To install the turn-and-push key assembly inside the telephone, proceed as follows:

- (a) Remove the telephone housing.
- (b) Remove any telephone component that may obstruct access to the mounting location and the terminal board assembly.
- (c) Install the turn-and-push key assembly to the telephone base using the two hex-head mounting screws.

*Note:* To install the turn-and-push key assembly inside a wall telephone, first attach the turn-and-push key assembly to the L-shaped mounting bracket using the two hex-head mounting screws. Then attach the bracket to the telephone base using the round-head mounting screw.

(d) Attach the wiring to the telephone components while referring to the circuit label of the telephone in Volume 1 of the Telephone Apparatus Practices Manual and Figures 4 or 5 of this section.

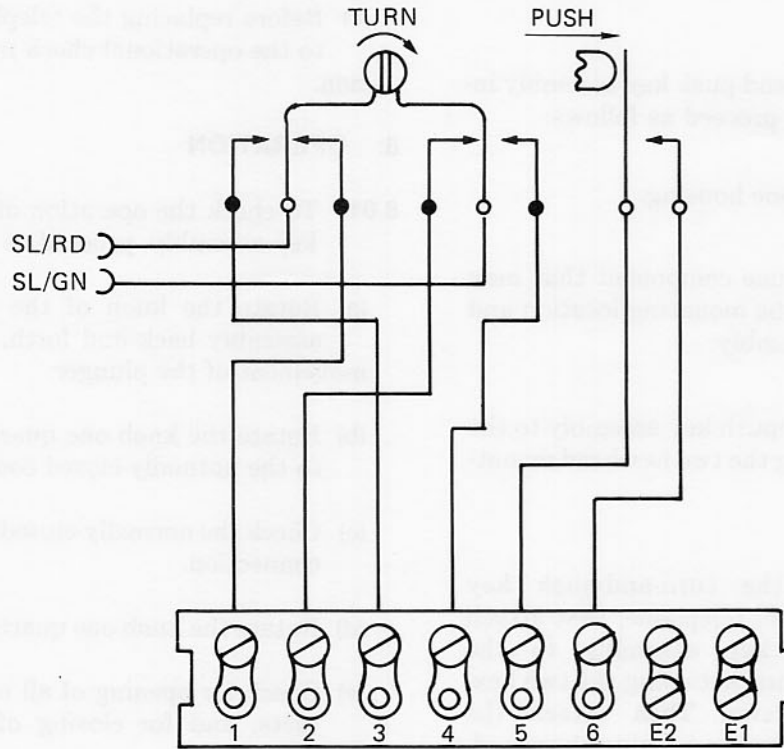
*Note:* Some of the wires must be soldered to the terminal board assembly, and other wires must be attached with the spade-tip lugs.

(e) Before replacing the telephone housing, refer to the operational check in Part 8 of this section.

## 8. OPERATION

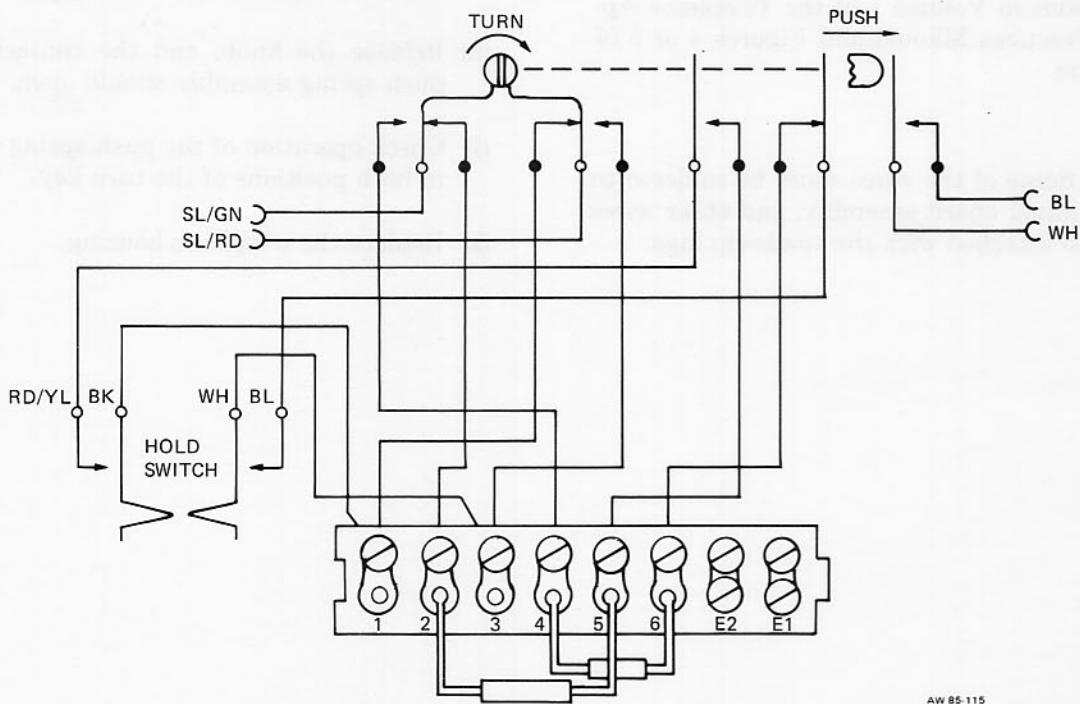
**8.01** To check the operation of the turn-and-push key assembly, proceed as follows:

- (a) Rotate the knob of the turn-and-push key assembly back and forth, and check for free movement of the plunger.
- (b) Rotate the knob one quarter-turn to the left, to the normally-closed contact position.
- (c) Check the normally-closed contacts for proper connection.
- (d) Rotate the knob one quarter-turn to the right.
- (e) Check for opening of all normally-closed contacts, and for closing of all normally-open contacts.
- (f) Press down on the knob.
- (g) Check for closing of the push spring assembly contacts when the knob is fully pressed down.
- (h) Release the knob, and the contacts of the push spring assembly should open.
- (j) Check operation of the push spring assembly in both positions of the turn key.
- (k) Replace the telephone housing.



AW 85-116

Figure 4: Wiring Diagram for -106 Turn-And-Push Key Assembly



AW 85-115

Figure 5: Wiring Diagram for -107, -108, and -112 Turn-And-Push Key Assemblies

## MODELS 79613 AND 79971 EXCLUSION SWITCH ASSEMBLIES

CONTENTS	PAGE
1. INTRODUCTION .....	1
2. GENERAL DESCRIPTION .....	1
MODEL 79613 .....	2
MODEL 79971 .....	2
3. REMOVAL .....	3
4. DISASSEMBLY .....	3
5. REPLACEMENT PARTS .....	3
6. ASSEMBLY .....	4
7. OPERATION .....	4
8. INSTALLATION .....	5

### 1. INTRODUCTION

1.01 This document covers the Models 79613 and 79971 exclusion switch assemblies. (See Figure 1.) A general description as well as information on removal, disassembly, replacement parts, assembly, operation, and installation is included.

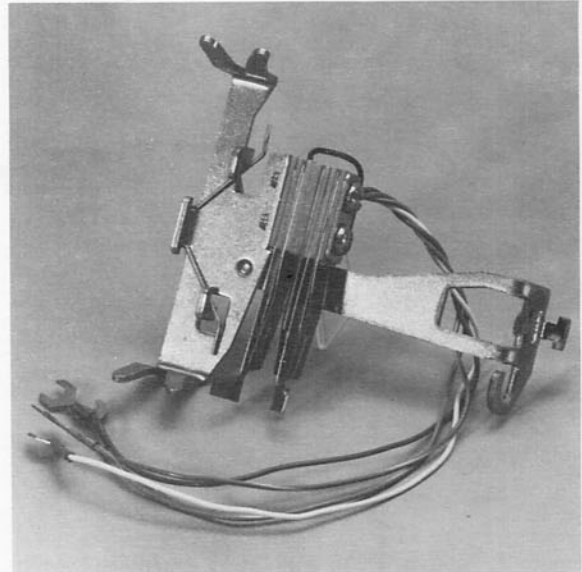
1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For information concerning telephones that these exclusion switches are used in, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

### 2. GENERAL DESCRIPTION

2.01 The Models 79613 and 79971 exclusion switch assemblies are designed for use in the ITT desk telephones. The exclusion switch assembly allows the station user to manually exclude other stations from a CO/PBX (Central Office/Private Branch Exchange) line.

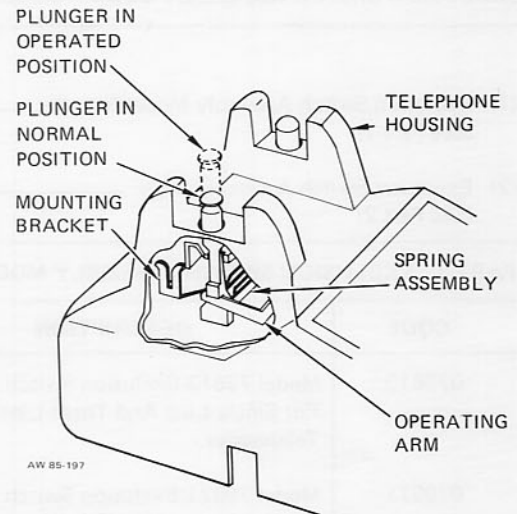
2.02 The exclusion switch assembly is controlled by the left-hand cradle plunger.



AW 85-300

Figure 1: Models 79613 and 79971 Exclusion Switch Assemblies

2.03 The left-hand cradle plunger is of a special design. In the normal or low position, the cradle plunger is used to operate the cradle switch assembly. In the operated or raised position, the cradle plunger is used to operate the exclusion switch assembly. (See Figure 2.)



AW 85-197

Figure 2: Cradle Plunger Positions

2.04 The exclusion switch assembly consists of a spring assembly, a retainer spring, a mounting bracket assembly, and associated wiring. (See Figure 3.)

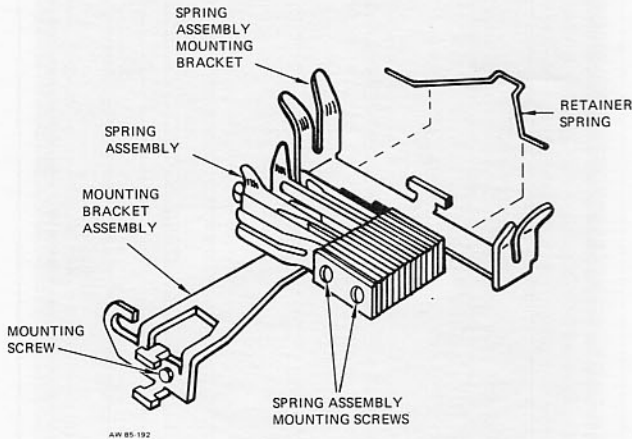


Figure 3: Models 79613 and 79971 Exclusion Switch Assemblies, Component Locations

2.05 The exclusion switch assembly is attached to the mounting bracket of the cradle switch assembly inside the telephone. A mounting screw is provided with the exclusion switch assembly. The associated wiring is equipped with spade-tip leads for attaching to the two-position terminals on the telephone components.

**MODEL 79613**

2.06 The Model 79613 exclusion switch assembly is used in the ITT single-line and the ITT three-line desk telephones.

**MODEL 79971**

2.07 The Model 79971 exclusion switch assembly is used in the ITT six-button key telephone.

2.08 The Models 79613 and 79971 exclusion switch assemblies are identified by a code number. Refer to Table A for ordering information and for an explanation of the code number.

TABLE A

ORDERING INFORMATION

<b>CODE NUMBERS</b>			
<b>EXCLUSION SWITCH ASSEMBLY CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:</b>			
		<b>079613</b>	<b>101</b>
(1) Exclusion Switch Assembly Model Number (See Part 1)	_____		
(2) Exclusion Switch Assembly Style (See Part 2)	_____		
<b>PART 1 EXCLUSION SWITCH ASSEMBLY MODEL NUMBER</b>		<b>PART 2 EXCLUSION SWITCH ASSEMBLY STYLE</b>	
<b>CODE</b>	<b>DESCRIPTION</b>	<b>CODE</b>	<b>DESCRIPTION</b>
079613	Model 79613 Exclusion Switch Assembly For Single-Line And Three-Line Desk Telephones	101	Standard
079971	Model 79971 Exclusion Switch Assembly For Six-Button Key Telephones	101	Standard



### 3. REMOVAL

**3.01** To remove the exclusion switch assembly from the telephone, proceed as follows:

- (a) Remove the telephone faceplate, if applicable.
- (b) Remove the telephone housing.
- (c) Loosen the dial mounting screws. Move the dial in order to allow access to the terminal board assembly.
- (d) Disconnect the exclusion switch assembly leads from the telephone components.
- (e) Loosen the ringer mounting screws. Remove the ringer, and move it to one side.
- (f) Loosen the mounting screw of the exclusion switch assembly approximately three-quarters of a turn.
- (g) Lift the exclusion switch assembly up, and pull it out of the mounting slots on the cradle switch assembly.

### 4. DISASSEMBLY

**4.01** To disassemble the exclusion switch assembly, proceed as follows while referring to Table B and Figure 4:

- (a) Unhook the retainer spring from the tabs on the mounting bracket of the exclusion switch assembly.
- (b) Lift the spring assembly from the exclusion switch assembly mounting bracket.
- (c) Carefully loosen the spring assembly mounting screws.
- (d) Remove the spring assembly from its mounting bracket.

**Warning:** *Further disassembly of the spring assembly is not recommended, and is beyond the scope of this section.*

### 5. REPLACEMENT PARTS

**5.01** Replacement parts for the Models 79613 and 79971 exclusion switch assemblies are listed in Table B, and shown in Figure 4.

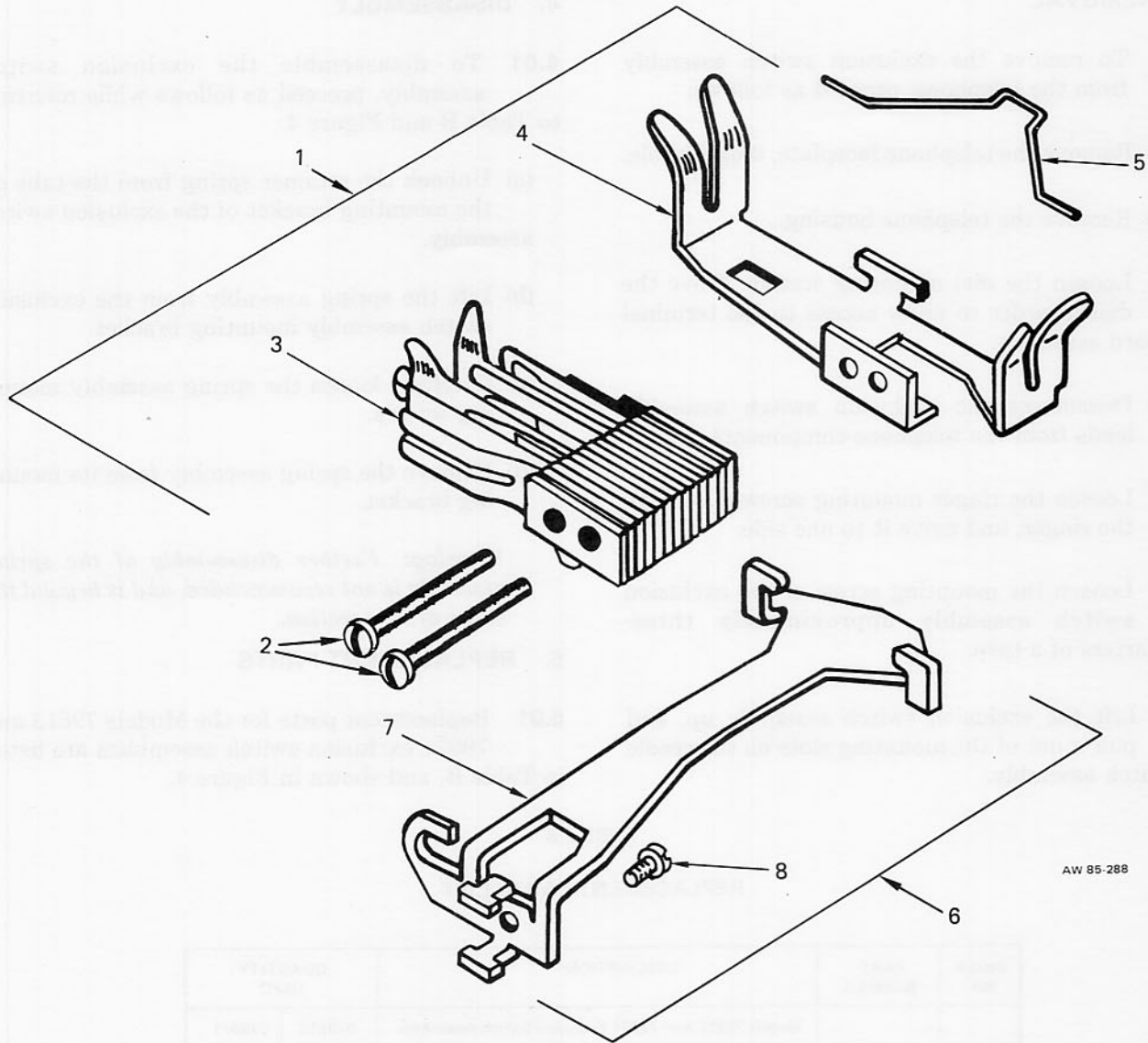
TABLE B  
REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
			079613	079971
		Models 79613 And 79971 Exclusion Switch Assemblies	079613	079971
1	079614-101	Spring Assembly	1	—
1	079970-101	Spring Assembly	—	1
2	066849-101	Screw, Spring Mounting	2	—
2	180174-101	Screw, Spring Mounting	—	2
3		Springs, Contact <sup>1</sup>	1	1
4	079604-101	Bracket, Spring Assembly Mounting	1	—
4	079969-101	Bracket, Spring Assembly Mounting	—	1
	075326-745	Wiring Assembly, BK (Not Shown)	1	—
	075326-785	Wiring Assembly, RD/YL (Not Shown)	1	1
	075326-786	Wiring Assembly, GN/YL (Not Shown)	1	1
	075326-787	Wiring Assembly, WH (Not Shown)	1	1
	075326-788	Wiring Assembly, BL (Not Shown)	1	1
	075326-789	Wiring Assembly, BK (Not Shown)	—	1
	075326-798	Wiring Assembly, RD/GN (Not Shown)	—	1
	075326-799	Wiring Assembly, BK/WH (Not Shown)	—	1
	075326-800	Wiring Assembly, RD/BK (Not Shown)	—	1
	075326-101	Wiring Assembly, BN/RD (Not Shown)	—	1
5	079624-101	Spring, Retainer	1	1
6	079625-101	Mounting Bracket Assembly, Exclusion Switch	1	1
7	079605-101	Bracket, Mounting	1	1
8	069020-103	Screw, Bracket Mounting	1	1

AW 85-214

## NOTE:

<sup>1</sup> This part is not serviced separately.



AW 85-288

Figure 4: Models 79613 and 79971 Exclusion Switch Assemblies, Exploded View

## 6. ASSEMBLY

**6.01** To assemble the exclusion switch assembly, proceed as follows while referring to Table B and Figure 4:

- (a) Attach the spring assembly to its mounting bracket using the two mounting screws.
- (b) Place the spring assembly onto the mounting bracket of the exclusion switch assembly.
- (c) Hook the retainer spring to the L-shaped tabs on the mounting bracket of the exclusion switch assembly.

## 7. OPERATION

**7.01** The operation of the exclusion switch assembly can be checked before installation inside the telephone. Proceed as follows:

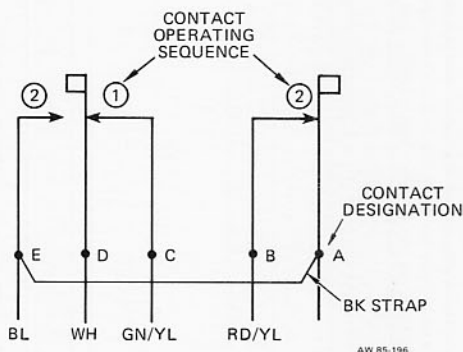
- (a) Invert the telephone housing assembly to provide access to the mounting location of the exclusion switch assembly.
- (b) Place the exclusion switch assembly in its mounting location inside the inverted telephone housing.

- (c) Hold the exclusion switch assembly in place.
- (d) Pull the left-hand cradle plunger to the operated position; then, return the cradle plunger to the normal position.
- (e) Check that the left-hand cradle plunger passes between the innermost contacts of the spring assembly.
- (f) Check that the contacts of each mating pair of springs open and close simultaneously.
- (g) Check for the correct contact operating sequence when the cradle plunger is in the operated position. The contact operating sequence is shown in Figure 5 for the Model 79613 exclusion switch assembly, and in Figure 6 for the Model 79971 exclusion switch assembly.

**8. INSTALLATION**

**8.01** To install the exclusion switch assembly inside the telephone, proceed as follows:

- (a) Remove the telephone faceplate, if applicable.



**Figure 5: Model 79613 Exclusion Switch Assembly, Schematic**

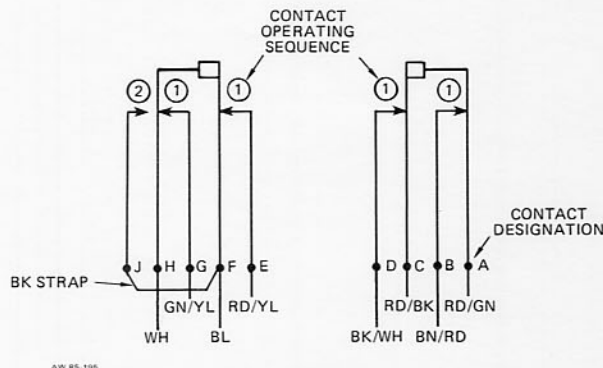
- (b) Remove the telephone housing.
- (c) Remove the dial and ringer, and move them to one side.
- (d) Insert the exclusion switch assembly mounting bracket in the matching mounting slots on the cradle switch assembly.
- (e) Tighten the mounting screw.
- (f) Connect the exclusion switch assembly leads to the telephone components. Refer to the circuit label of the telephone.

*Note:* To replace an exclusion plunger, refer to the replacement parts for the telephone in Volume 1 of the Telephone Apparatus Practices Manual for the correct part number.

- (g) Replace the ringer and dial.
- (h) Replace the telephone housing.

*Note:* Check operation of the left-hand cradle plunger in the normal and operated positions.

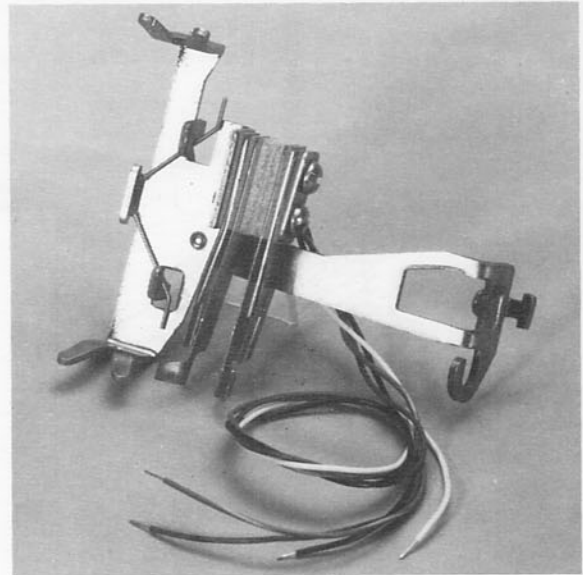
- (j) Replace the faceplate, if applicable.



**Figure 6: Model 79971 Exclusion Switch Assembly, Schematic**

## MODEL 82577 HOLD SWITCH ASSEMBLY

CONTENTS	PAGE
1. INTRODUCTION .....	1
2. GENERAL DESCRIPTION .....	1
3. REMOVAL .....	2
4. DISASSEMBLY .....	3
5. REPLACEMENT PARTS .....	3
6. ASSEMBLY .....	4
7. OPERATION .....	4
8. INSTALLATION .....	5



AW 85-301

Figure 1: Model 82577 Hold Switch Assembly

### 1. INTRODUCTION

1.01 This document covers the Model 82577 hold switch assembly. (See Figure 1.) A general description as well as information on removal, disassembly, replacement parts, assembly, operation, and installation is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

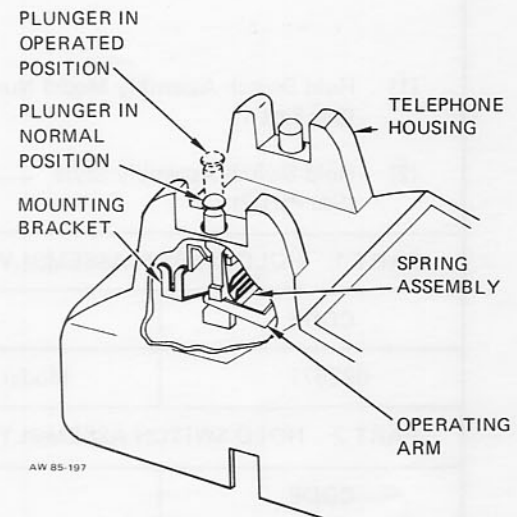
1.03 For information concerning telephones that this hold switch assembly is used in, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

2.03 The left-hand cradle plunger is of a special design. In the normal or low position, the cradle plunger is used to operate the cradle switch assembly. In the operated or raised position, the cradle plunger is used to operate the hold switch assembly. (See Figure 2.)

### 2. GENERAL DESCRIPTION

2.01 The Model 82577 hold switch assembly is designed for use in the ITT two-line desk telephone. It allows the station user to manually place a call on hold and to manually return to the held call when desired.

2.02 The hold switch assembly is controlled by the left-hand cradle plunger.



AW 85-197

Figure 2: Cradle Plunger Positions

2.04 The hold switch assembly consists of a mounting bracket assembly, a spring assembly, a retainer spring, and associated wiring. (See Figure 3.)

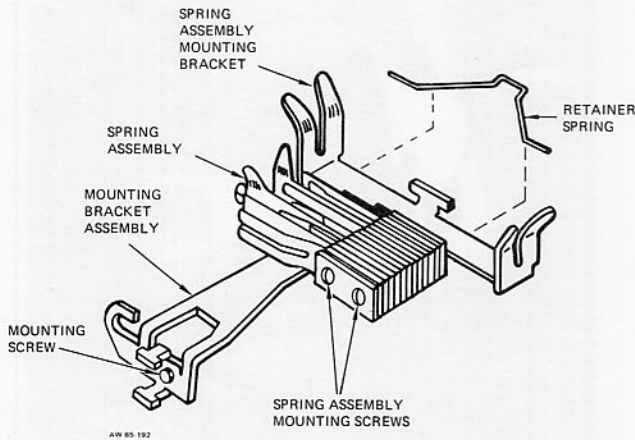


Figure 3: Model 82577 Hold Switch Assembly, Component Locations

2.05 The hold switch assembly is attached to the mounting bracket of the cradle switch assembly inside the telephone. A mounting screw is provided with the hold switch assembly. The associated wiring is soldered to the terminals of the terminal board assembly.

2.06 The Model 82577 hold switch assembly is identified by a code number. Refer to Table A for ordering information and for an explanation of the code number.

3. REMOVAL

3.01 To remove the hold switch assembly from the telephone, proceed as follows:

- (a) Remove the telephone faceplate, if applicable.
- (b) Remove the telephone housing.
- (c) Loosen the dial mounting screws. Move the dial in order to provide access to the terminal board assembly.

TABLE A

ORDERING INFORMATION

<b>CODE NUMBERS</b>	
<b>HOLD SWITCH ASSEMBLY CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:</b>	
(1) Hold Switch Assembly Model Number (See Part 1)	082577
(2) Hold Switch Assembly Style (See Part 2)	101
<b>PART 1 HOLD SWITCH ASSEMBLY MODEL NUMBER</b>	
<b>CODE</b>	<b>DESCRIPTION</b>
082577	Model 82577 Hold Switch Assembly
<b>PART 2 HOLD SWITCH ASSEMBLY STYLE</b>	
<b>CODE</b>	<b>DESCRIPTION</b>
101	Standard

AW 85-216

- (d) Disconnect the hold switch assembly leads from the telephone components. The leads must be unsoldered from the terminal board assembly.
- (e) Loosen the ringer mounting screws. Remove the ringer, and move it to one side.
- (f) Loosen the mounting screw of the hold switch assembly approximately three-quarters of a turn.
- (g) Lift the hold switch assembly up, and pull it out of the mounting slots on the cradle switch assembly.

#### 4. DISASSEMBLY

4.01 To disassemble the hold switch assembly, proceed as follows while referring to Table B and Figure 4:

- (a) Unhook the retainer spring from the tabs on the mounting bracket of the hold switch assembly.
- (b) Lift the spring assembly from the hold switch assembly mounting bracket.
- (c) Carefully loosen the spring assembly mounting screws.
- (d) Remove the spring assembly from its mounting bracket.

**Warning:** *Further disassembly of the spring assembly is not recommended, and is beyond the scope of this section.*

#### 5. REPLACEMENT PARTS

5.01 Replacement parts for the Model 82577 hold switch assembly are listed in Table B, and shown in Figure 4.

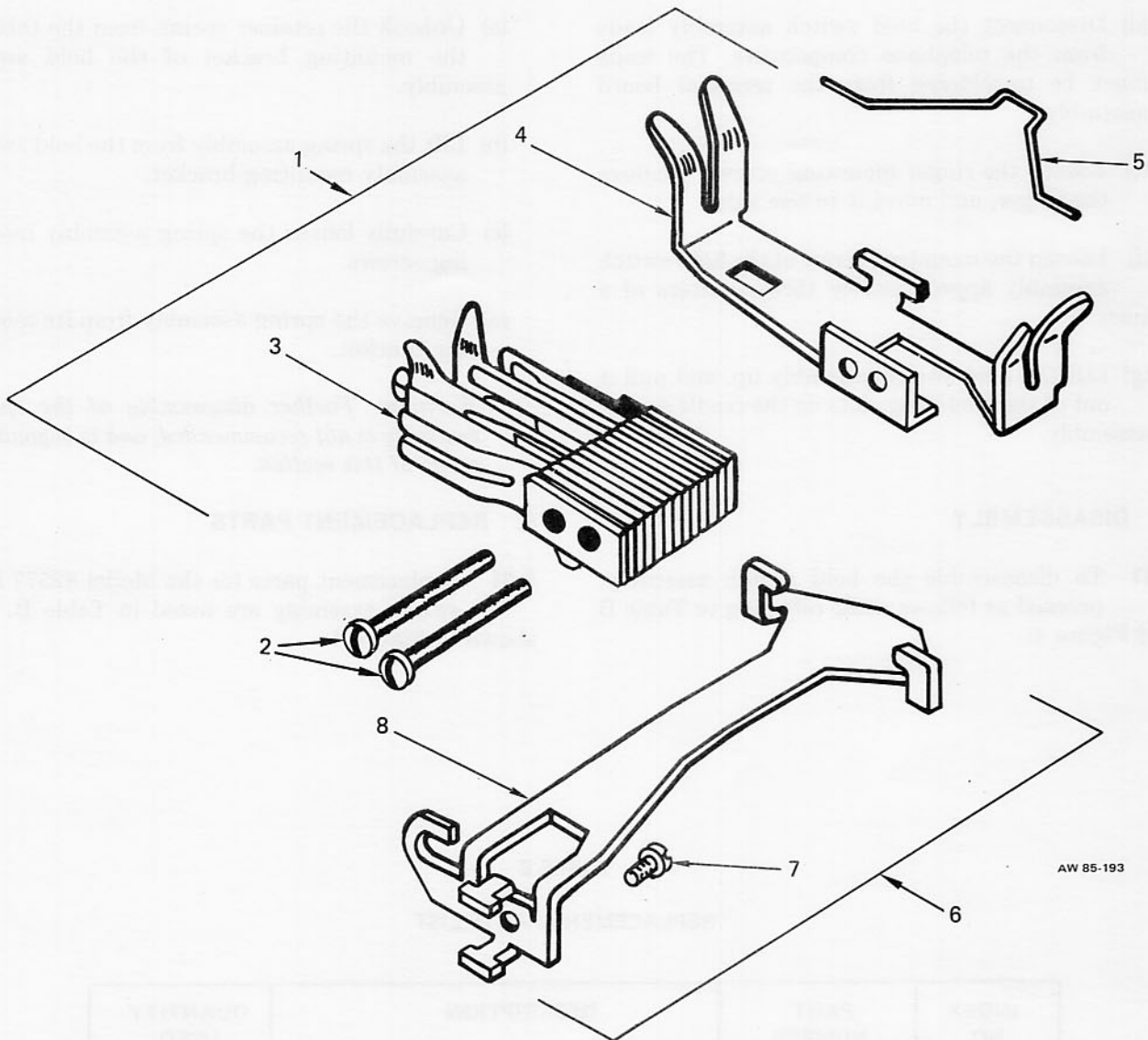
TABLE B  
REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED
		<b>Model 82577 Hold Switch Assembly</b>	<b>101</b>
1	082581-101	Spring Assembly	1
2	066849-101	Screw, Spring Assembly Mounting	2
3		Springs, Contact <sup>1</sup>	1
4	079604-101	Bracket, Mounting	1
	075326-179	Wire Assembly, BL (Not Shown)	1
	075326-180	Wire Assembly, WH (Not Shown)	1
	075326-181	Wire Assembly, BK (Not Shown)	1
	075326-182	Wire Assembly, RD/YL (Not Shown)	1
5	079624-101	Spring, Retainer	1
6	079625-101	Mounting Bracket Assembly, Hold Switch	1
7	069020-103	Screw, Mounting	1
8	079605-101	Bracket, Mounting	1

AW 85-217

NOTE:

<sup>1</sup> This part is not serviced separately.



AW 85-193

Figure 4: Model 82577 Hold Switch Assembly,  
Exploded View

## 6. ASSEMBLY

6.01 To assemble the hold switch assembly, proceed as follows while referring to Table B and Figure 4:

- (a) Attach the spring assembly to its mounting bracket using the two mounting screws.
- (b) Place the spring assembly onto the mounting bracket of the hold switch assembly.
- (c) Hook the retainer spring to the L-shaped tabs on the mounting bracket of the hold switch assembly.

## 7. OPERATION

7.01 The operation of the hold switch assembly can be checked before installation inside the telephone. Proceed as follows:

- (a) Invert the telephone housing assembly to provide access to the mounting location of the hold switch assembly.
- (b) Place the hold switch assembly in its mounting location inside the inverted telephone housing.

- (c) Hold the hold switch assembly in place.
- (d) Pull the left-hand cradle plunger to the operated position; then, return the cradle plunger to the normal position.
- (e) Check that the left-hand cradle plunger passes between the innermost contacts of the spring assembly.
- (f) Check that the contacts of the springs open and close simultaneously. (Refer to Figure 5.)

## 8. INSTALLATION

8.01 To install the hold switch assembly inside the telephone, proceed as follows:

- (a) Remove the telephone faceplate, if applicable.
- (b) Remove the telephone housing.
- (c) Remove the dial and ringer, and move them to one side.

- (d) Insert the hold switch assembly mounting bracket in the matching mounting slots on the cradle switch assembly.
- (e) Tighten the mounting screw.
- (f) Solder the hold switch assembly leads to the telephone components. Refer to the circuit label of the telephone.

*Note:* To replace a hold plunger, refer to the replacement parts for the telephone in Volume 1 of the Telephone Apparatus Practices Manual for the correct part number.

- (g) Replace the ringer and dial.
- (h) Replace the telephone housing.

*Note:* Check operation of the left-hand cradle plunger in the normal and operated positions.

- (j) Replace the faceplate, if applicable.

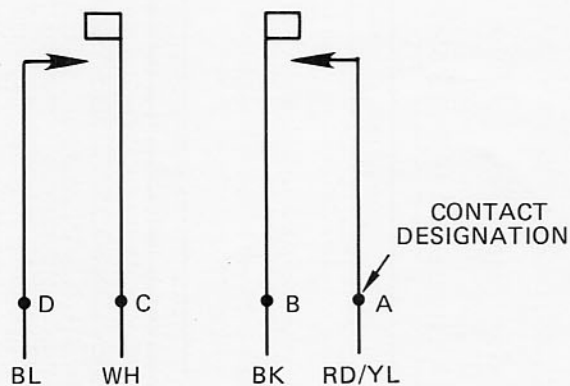


Figure 5: Model 82577 Hold Switch Assembly, Schematic



## MODEL 84522 HOLD SWITCH ASSEMBLY

CONTENTS	PAGE
1. INTRODUCTION .....	1
2. GENERAL DESCRIPTION .....	1
3. REMOVAL .....	2
4. DISASSEMBLY .....	2
5. REPLACEMENT PARTS .....	2
6. ASSEMBLY .....	4
7. INSTALLATION .....	4
8. OPERATION .....	4

### 1. INTRODUCTION

1.01 This document covers the Model 84522 hold switch assembly. (See Figure 1.) A general description as well as information on removal, disassembly, replacement parts, assembly, installation, and operation is included.

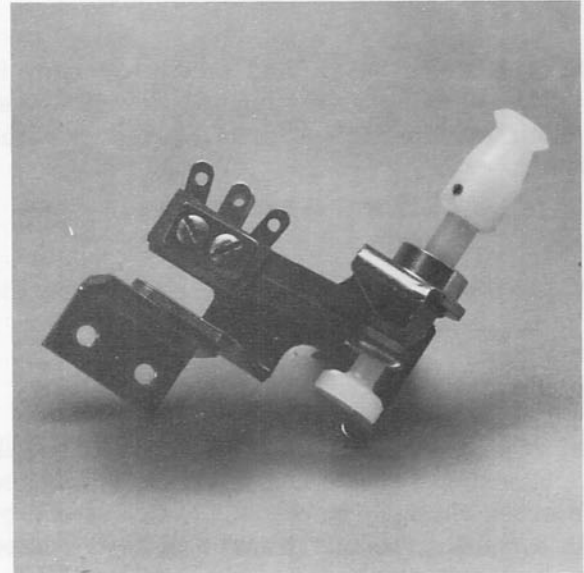
1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For information concerning telephones that this hold switch assembly is used in, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

### 2. GENERAL DESCRIPTION

2.01 The Model 84522 hold switch assembly is designed for use in the ITT two-line wall telephone. It allows the station user to manually place a call on hold and to manually return to the held call when desired.

2.02 The call is placed on hold when the station user pushes down on the handle located on the top of the telephone. To return to the call previously placed on hold, the station user must pull up on the handle.

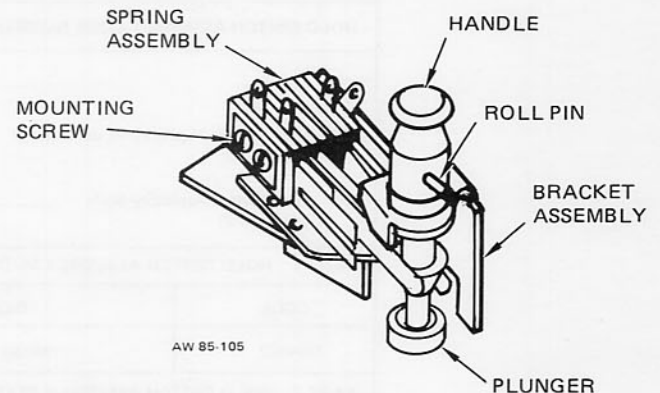


AW 85-185

Figure 1: Model 84522 Hold Switch Assembly

*Caution: Do not place the handset on-hook while a call is on hold; the call on hold will be disconnected. The hold switch assembly automatically releases when the handset is placed in the handset cradle.*

2.03 The hold switch assembly consists of a bracket assembly, a stack-up spring assembly, a plunger, a handle, and associated wiring. (See Figure 2.)



AW 85-105

Figure 2: Model 84522 Hold Switch Assembly, Component Locations

2.04 The hold switch assembly is attached to the telephone base with two hex-head mounting screws. The associated wiring is soldered to the terminals of the terminal board assembly.

2.05 The Model 84522 hold switch assembly is identified by a code number. Refer to ordering information in Table A for an explanation of the code number.

**3. REMOVAL**

3.01 To remove the hold switch assembly from the telephone, proceed as follows:

- (a) Remove the telephone housing.
- (b) Disconnect the wiring of the hold switch assembly. The wiring must be unsoldered from the terminals on the hold switch assembly, or from the terminal board assembly located under the dial.
- (c) Locate the two hex-head mounting screws on the rear of the telephone base.
- (d) Loosen and remove the two hex-head mounting screws.
- (e) Remove the hold switch assembly from the telephone.

**4. DISASSEMBLY**

4.01 To disassemble the hold switch assembly, proceed as follows while referring to Figure 2:

- (a) Remove the roll pin from the handle. Insert the end of a straightened paper clip into the hole of the handle, and push the roll pin out of the opposite side.
- (b) Remove the handle from the plunger stem.
- (c) Push the top end of the plunger down into the bracket assembly. The plunger will disengage from the contacts of the spring assembly.
- (d) Remove the plunger from the bracket assembly.
- (e) Loosen the spring assembly mounting screws.
- (f) Carefully remove the spring assembly from the bracket assembly.

*Warning: Further disassembly of the spring assembly is not recommended, and is beyond the scope of this section.*

**5. REPLACEMENT PARTS**

5.01 Replacement parts for the hold switch assembly are listed in Table B, and shown in Figure 3.

TABLE A  
ORDERING INFORMATION

CODE NUMBERS	
HOLD SWITCH ASSEMBLY CODE NUMBERS ARE FORMED IN TWO STEPS AS FOLLOWS:	
(1) Hold Switch Assembly Model Number (See Part 1)	084522
(2) Hold Switch Assembly Style (See Part 2)	101
PART 1 HOLD SWITCH ASSEMBLY MODEL NUMBER	
CODE	DESCRIPTION
084522	Model 84522 Hold Switch Assembly
PART 2 HOLD SWITCH ASSEMBLY STYLE	
CODE	DESCRIPTION
101	Standard

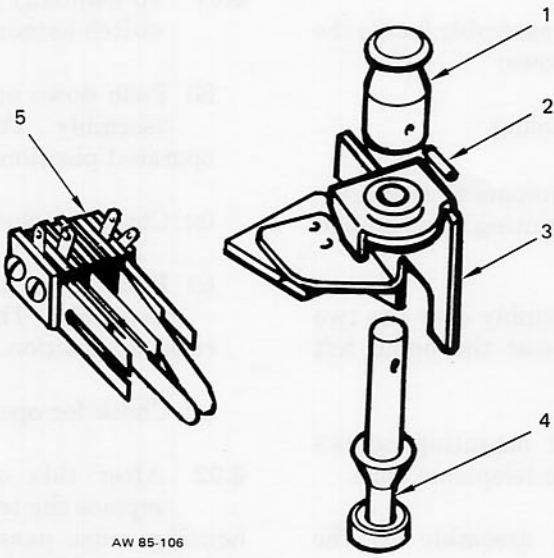
AW 85-134

TABLE B  
REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED
		Model 84522 Hold Switch Assembly	101
1	084528-101	Handle	1
2	095209-101	Pin, Roll	1
3	084523-101	Bracket Assembly	1
4	084527-101	Plunger	1
	075326-179	Wire, BL (Not Shown)	1
	075326-180	Wire, WH (Not Shown)	1
	075326-181	Wire, BK (Not Shown)	1
	075326-182	Wire, RD/YL (Not Shown)	1
5	084524-101	Spring Assembly	1
	079474-101	Screw, Hex-Head Mounting <sup>1</sup> (Not Shown)	2

NOTE: AW 85-135

- 1. This part must be ordered separately.



AW 85-106

Figure 3: Model 84522 Hold Switch Assembly, Exploded View

## 6. ASSEMBLY

**6.01** To assemble the Model 84522 hold switch assembly, proceed as follows:

- (a) Place the spring assembly on the bracket assembly.
- (b) Tighten the spring assembly mounting screws to secure it in place.
- (c) Insert the small end of the plunger stem through the rounded contact tips into the bushing on the upper part of the bracket assembly.
- (d) Pull the rounded tips of the contacts away from the plunger stem. Push the plunger up into the bracket assembly.
- (e) Install the handle onto the plunger stem.
- (f) Align the hole in the plunger stem with the hole in the handle.
- (g) Insert the roll pin into the hole in the handle. Push the roll pin into the handle and plunger stem. The roll pin should be flush with the outside edge of the handle.

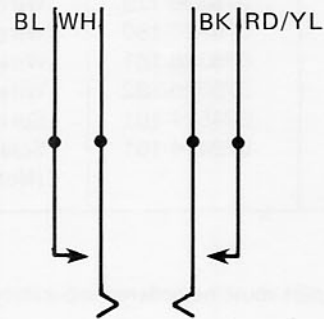
## 7. INSTALLATION

**7.01** To install the hold switch assembly inside the telephone, proceed as follows:

- (a) Remove the telephone housing.
- (b) Remove any telephone component that may obstruct access to the mounting location and the terminal board assembly.
- (c) Place the hold switch assembly over the two mounting holes located near the upper left area of the telephone base.
- (d) Insert the two hex-head mounting screws through the bottom of the telephone base.
- (e) Secure the hold switch assembly to the telephone base.

(f) Connect the wiring to the hold switch assembly. (See Figure 4.) The wiring must be soldered to the terminals on the hold switch assembly, or to the terminal board assembly located under the dial. Refer to the circuit label of the telephone in Volume 1 of the Telephone Apparatus Practices Manual.

(g) Before replacing the telephone housing, refer to OPERATION in Part 8 of this section.



AW 85-104

Figure 4: Model 84522 Hold Switch Assembly, Wiring Diagram

## 8. OPERATION

**8.01** To manually check the operation of the hold switch assembly, proceed as follows:

- (a) Push down on the handle of the hold switch assembly. The handle should lock in the operated position.
- (b) Check for closing of both sets of contacts.
- (c) Pull up on the handle of the hold switch assembly. The handle should lock in the released position.
- (d) Check for opening of both sets of contacts.

**8.02** After this operation check is completed, replace the telephone housing. The telephone housing must pass over the handle of the hold switch assembly without binding.

## MODEL 186177 HOOKSWITCH CRADLE ASSEMBLY

CONTENTS	PAGE
1. INTRODUCTION .....	1
2. GENERAL DESCRIPTION .....	1
3. REMOVAL .....	2
4. DISASSEMBLY .....	2
5. REPLACEMENT PARTS .....	2
6. ASSEMBLY .....	4
7. OPERATION .....	4
8. INSTALLATION .....	4

### 1. INTRODUCTION

1.01 This document covers the Model 186177 hookswitch cradle assembly. (See Figure 1.) A general description as well as information on removal, disassembly, installation, and operation is included.

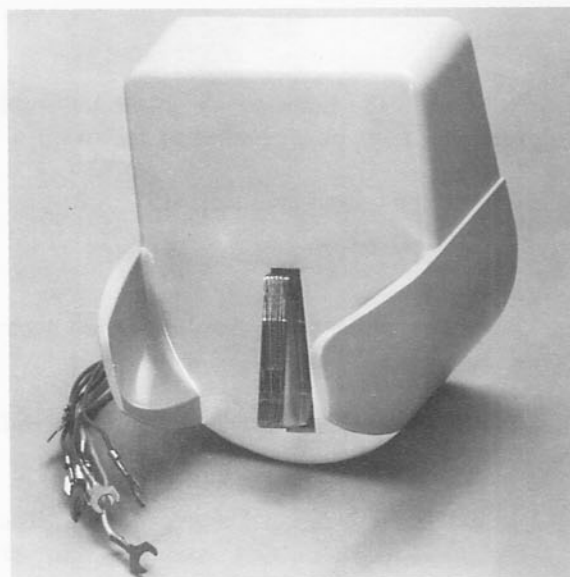
1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For information concerning telephones that this hookswitch cradle assembly is used in, refer to the appropriate section in Volume 1 of the ITT Telephone Apparatus Practices Manual.

### 2. GENERAL DESCRIPTION

2.01 The Model 186177 hookswitch cradle assembly is designed for use in the ITT 10-button wall telephones. It provides the hookswitch cradle for holding the telephone handset, and the components necessary for connecting the telephone to a desired line.

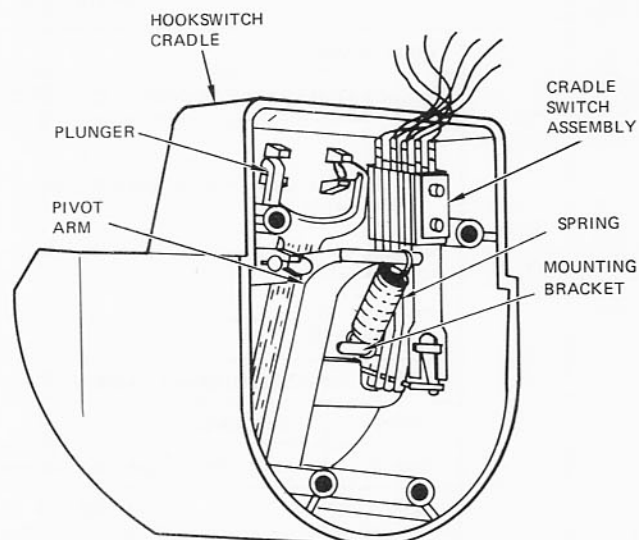
2.02 The hookswitch cradle assembly contacts are operated when the station user removes the telephone handset from the hookswitch cradle. Replacing the telephone handset in the hookswitch cradle returns the contacts to the normal position.



AW 85-184

Figure 1: Model 186177 Hookswitch Cradle Assembly

2.03 The hookswitch cradle switch assembly (see Figure 2) consists of a plastic hookswitch cradle, a spring stack-up cradle switch assembly with mounting screw, a plunger, a pivot arm, and a coiled spring.



AW 85-119

Figure 2: Model 186177 Hookswitch Cradle Assembly, Component Locations

**SECTION 55-177-121, ISS 1**

**2.04** The Model 186177 hookswitch cradle assembly is identified by a code number. Refer to ordering information in Table A for an explanation of the code number.

**3. REMOVAL**

**3.01** To remove the hookswitch cradle assembly from the telephone, proceed as follows:

- (a) Remove the telephone faceplate.
- (b) Remove the telephone housing.
- (c) Remove the telephone dial to provide access to the terminal board.
- (d) Disconnect the leads of the hookswitch cradle assembly from the terminal board.
- (e) Remove the four mounting screws that attach the hookswitch cradle assembly to the telephone base.

**4. DISASSEMBLY**

**4.01** To disassemble the hookswitch cradle assembly, proceed as follows while referring to Figure 2:

- (a) Using a pair of needle-nose pliers, remove the coiled spring that is attached to both the pivot arm and the mounting bracket of the cradle switch assembly.

- (b) Loosen the cradle switch assembly mounting screw.

- (c) Carefully lift and disengage the cradle switch assembly from the pivot arm, and remove it from the hookswitch cradle assembly.

- (d) Remove the pivot arm from the plastic hookswitch cradle.

- (e) Remove the plunger by lifting it out of the brackets of the hookswitch cradle.

**5. REPLACEMENT PARTS**

**5.01** Replacement parts for the hookswitch cradle assembly are listed in Table B, and shown in Figure 3.

TABLE A

ORDERING INFORMATION

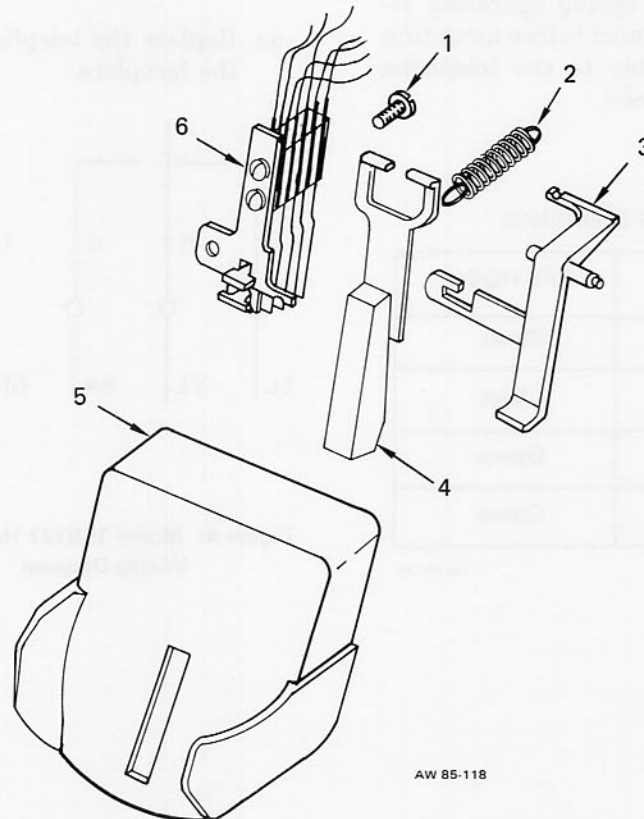
CODE NUMBERS				
HOOKSWITCH CRADLE ASSEMBLY CODE NUMBERS ARE FORMED IN THREE STEPS AS FOLLOWS:				
		186177	0	00
(1) Hookswitch Cradle Assembly Model Number (See Part 1)	_____		_____	_____
(2) Style (See Part 2)	_____		_____	_____
(3) Color (See Part 3)	_____		_____	_____
<b>PART 1 HOOKSWITCH CRADLE ASSEMBLY MODEL NUMBER</b>				
<b>CODE</b>	<b>DESCRIPTION</b>			
186177	Model 186177 Hookswitch Cradle Assembly			
<b>PART 2 STYLE</b>		<b>PART 3 COLOR</b>		
<b>CODE</b>	<b>DESCRIPTION</b>	<b>CODE</b>	<b>DESCRIPTION</b>	
0	Standard	00	Black	
		05	Moss Green	
		13	Beige	
		15	White	
		44	Light Ash	
		45	Cocoa Brown	

TABLE B  
REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED
		<b>Model 186177 Hookswitch Cradle Assembly</b>	<b>0**</b>
1	096407-102	Screw, Mounting	1
2	075307-102	Spring, Coiled	1
3	186175-101	Arm, Pivot	1
4	088773-101	Plunger	1
5	186174-0**	Cradle, Hookswitch	1
6	186178-101	Cradle Switch Assembly	1
	181978-162	Wire Assembly, SL (Not Shown)	1
	181978-161	Wire Assembly, YL (Not Shown)	1
	181978-119	Wire Assembly, BN (Not Shown)	1
	181978-160	Wire Assembly, GN (Not Shown)	1
	181978-112	Wire Assembly, WH (Not Shown)	1
	181978-113	Wire Assembly, RD (Not Shown)	1
	181978-114	Wire Assembly, BK (Not Shown)	1

AW 85-147

\*\* Substitute 2-digit color code when ordering.



AW 85-118

Figure 3: Model 186177 Hookswitch Cradle Assembly, Exploded View

**6. ASSEMBLY**

**6.01** To assemble the hookswitch cradle assembly, proceed as follows:

- (a) Install the plunger in the plastic hookswitch cradle.
- (b) Install the pivot arm.
- (c) Install the cradle switch assembly. Carefully engage the t-shaped operating bar with the slot of the pivot arm.
- (d) Insert the mounting screw for the cradle switch assembly.
- (e) Using a pair of needle-nose pliers, place one end of the coiled spring in the slot on the mounting bracket of the cradle switch assembly. Attach the other end to the slot on the pivot arm.

**7. OPERATION**

**7.01** A check of the correct spring operating sequence should be performed before mounting the hookswitch cradle assembly to the telephone base. The procedure is as follows:

- (a) Manually press down the plunger to simulate going on-hook.
- (b) Release the plunger to simulate going off-hook, and check the spring operating sequence while referring to Table C and Figure 4.

**8. INSTALLATION**

**8.01** To install the hookswitch cradle assembly on a telephone, proceed as follows:

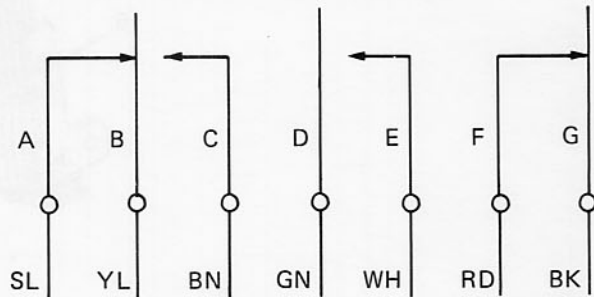
- (a) Remove the telephone faceplate and telephone housing.
- (b) Mount the hookswitch cradle assembly on the telephone base using the four mounting screws.
- (c) Remove the dial to provide access to the terminal board.
- (d) Connect the wires to the terminal board while referring to the circuit label of the telephone.
- (e) Replace the telephone dial, the housing, and the faceplate.

TABLE C

CONTACT OPERATING SEQUENCE

CONTACT	ON-HOOK	OFF-HOOK
B-C	Opens	Closes
D-E	Opens	Closes
A-B	Closes	Opens
F-G	Closes	Opens

AW 85-148



AW 85-120

**Figure 4: Model 186177 Hookswitch Cradle Assembly, Wiring Diagram**