HANDSETS (DIAL HAND TEST SETS)

DESCRIPTION

1. GENERAL

1.01 This section describes the 1011B, 1011C, 1011D, 1011E, 1011F, 1011G, 1013A, 1014A, D-81760, D-81761, D-81762, D-81763, and D-158318 (formerly D-157843) handsets (dial hand test sets).

1.02 This section is reissued to revise Fig. 1, 2, and 10, to change 2.01 and Table A to reflect the replacement of the 360A and 360B tools on the 1013A handset cord with two P-16E167 test clips, and add 4.04.

1.03 The 1014A handset described in this section replaces all handsets covered in the section except the 1011B handset. The 1011B handset is replaced by the 1013A handset. The 1013A and 1014A handsets are identical except for color and associated cords.

1.04 The principal application of these sets is for originating test calls on dial system apparatus for testing the switching, continuity, and talking features of the circuit. In the maintenance of the equipment, they may also be used for locating trouble in the various portions of the circuit.

2. EQUIPMENT FEATURES

1013A and 1014A Handsets

2.01 The 1013A and 1014A handsets (Fig. 1 and 2) consist of a T1 transmitter unit, an LA2 receiver unit, a locking and nonlocking switch for monitoring and talking, an 11A dial, a 2642A transformer, and a P-90D079 switch network assembly. These parts are assembled in a blue plastic housing for the 1013A handset and in a yellow plastic housing for the 1014A handset. The 1013A handset is furnished with a 4-foot cord equipped with two alligator test clips on the test end. The 1014A handset is furnished with a ten-inch cord equipped with a 346A plug. A P-22F230 snap assembly is provided to facilitate carrying the handset on a belt.

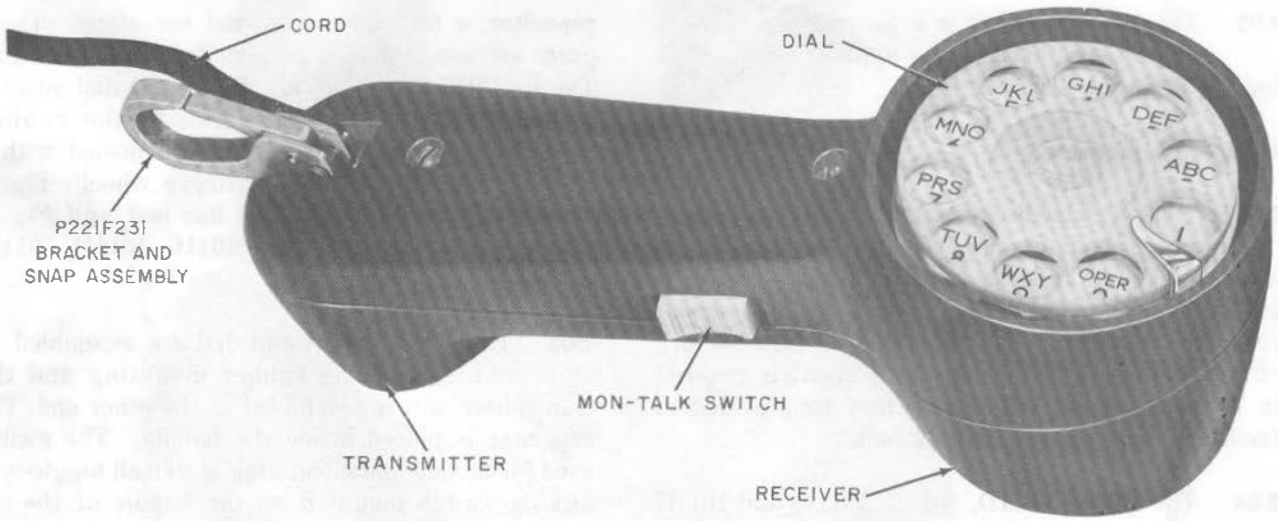

Fig. 1—1013A and 1014A Handset-Dial Side

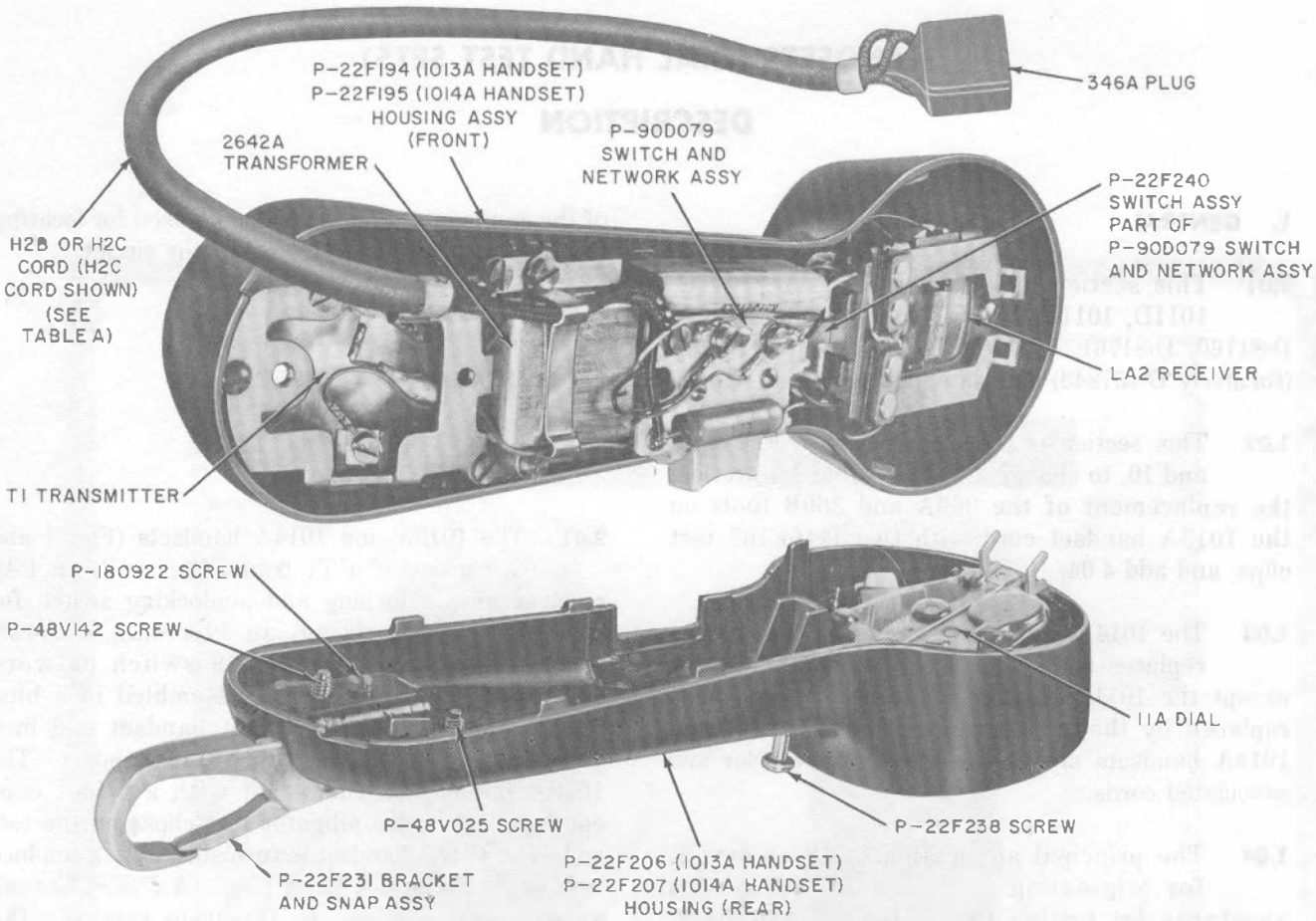

Fig. 2—1013A and 1014A Handset—Interior View

2.02 The 1014A handset is a general use handset and may be used in any application specified for the replaced 1011G handset.

1011-Type Handsets

2.03 The 1011B handset consists of an F1 transmitter unit, an HA1 receiver unit, a switch for monitoring and talking, a 361C capacitor, and a 103A dial. These parts are assembled in a molded rubber mounting. Fig. 3 shows a view of the 1011B handset. The cord arrangement is covered in Table A. A KS-16360 snap may be provided to facilitate carrying the set on a belt.

2.04 The 1011C, 1011D, 1011E, 1011F, and 1011G handsets are the same except for the cord arrangements as covered in Table A. The handset consists of an F1 transmitter unit, an HA1 receiver unit, a switch for monitoring and talking, a 361C capacitor, a 6A dial, and a dial mounting. These parts are assembled in a molded rubber mounting. The P-248137 dial mounting and a 52D dial adapter are used to assemble the dial to the rubber mounting. Some handsets were furnished with a 5HB dial which has a metal finger wheel. Fig. 4 shows a view of the 1011G handset and Fig. 5 shows a general view of the 1011C, 1011D, 1011E, or 1011F handset.

2.05 The receiver unit and dial are assembled on one end of the rubber mounting and the transmitter unit is assembled to the other end. The capacitor is placed inside the handle. The switch used for talking and monitoring is a small toggle-type locking switch mounted on the handle of the set near the receiver end. When this switch is in the MON position, the capacitor is connected in series with the transmitter and receiver and, when in the TALK position, the capacitor is short circuited.

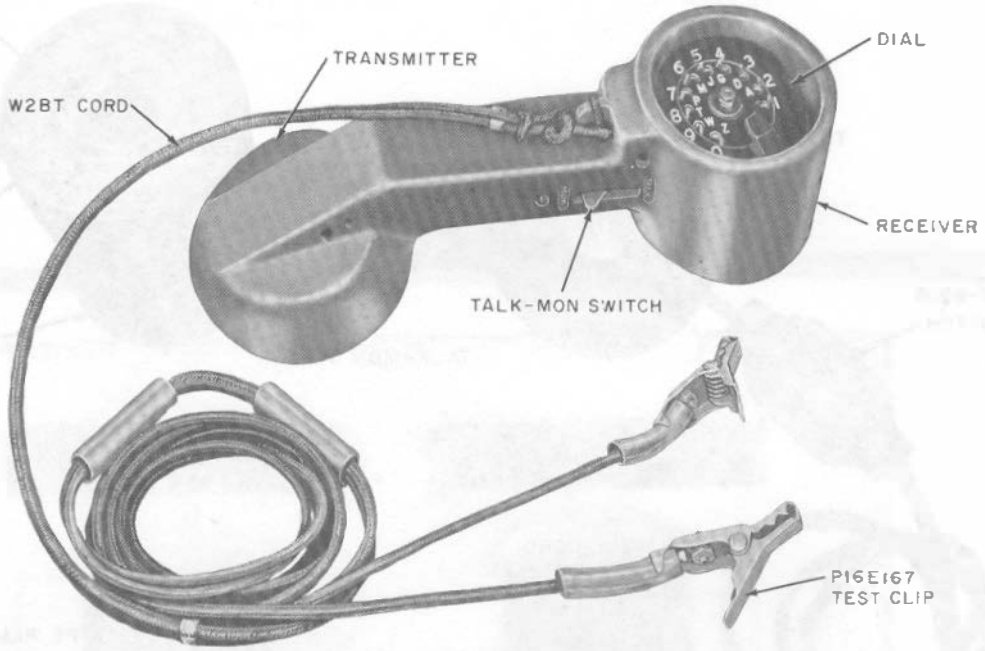

Fig. 3—1011B Handset

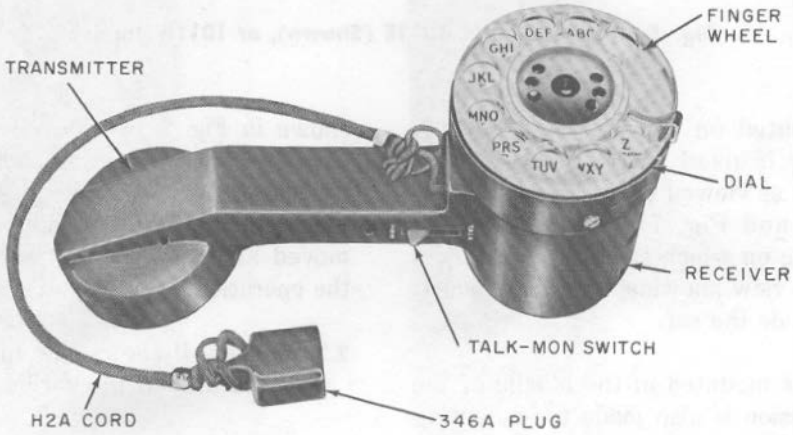

Fig. 4--1011G Handset

2.06 Table A shows the differences in equipment features of the various handsets.

D-Specification Type Handsets

2.07 The principal equipment of all of these sets includes a transmitter and receiver, a capacitor, a dial, and a cord terminating in a plug or connecting clips. The plug or connecting clips provide for connecting the test set to the proper points on the circuit or apparatus to be tested.

2.08 The equipment is assembled in a divided die-cast aluminum housing approximately 10 inches long. The receiver and dial are mounted back to back on one end of the housing, and the

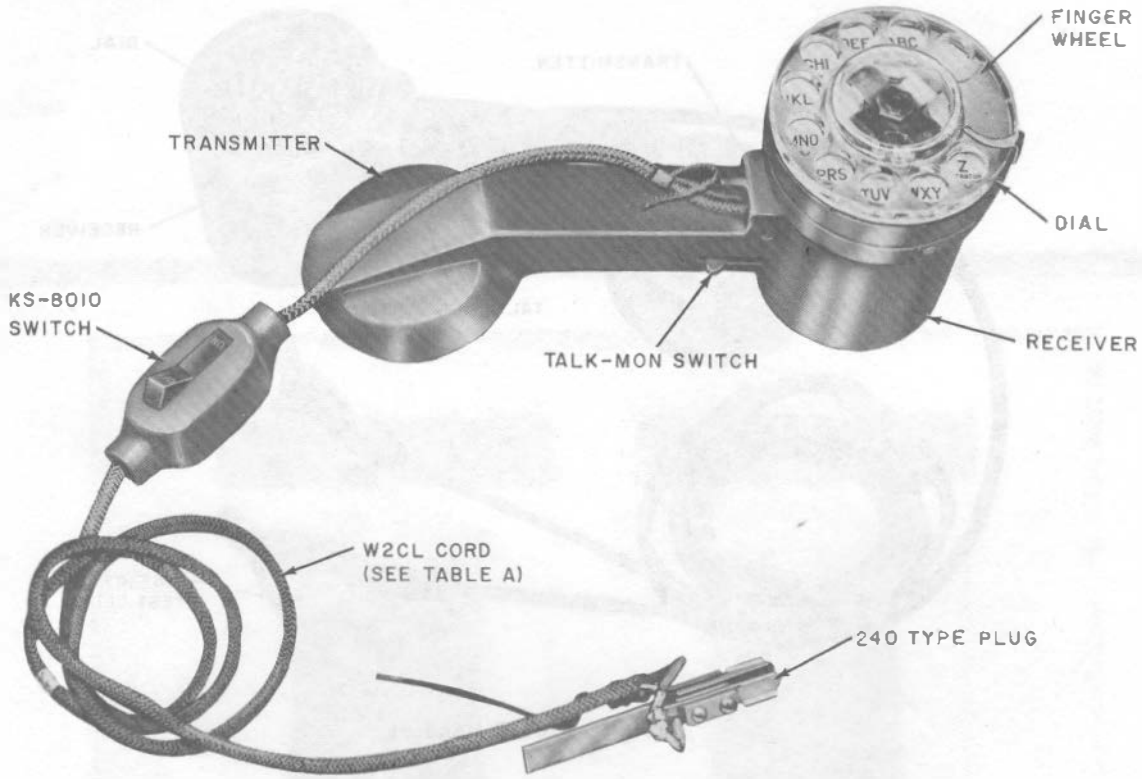

Fig. 5--1011C, 1011D, 1011E (Shown), or 1011F Handset

transmitter is mounted on the opposite end. A 38A dial mounting is used to protect the dial. Fig. 6 shows the set as viewed from the transmitter and receiver side, and Fig. 7 shows the set as viewed from the side on which the dial is mounted. Fig. 8 is an interior view showing the arrangement of the apparatus inside the set.

2.09 A capacitor is mounted in the handle of the set and provision is also made for mounting two nonlocking pushbutton type keys within the handle. The key buttons extend from the sides of the handle and when depressed are flush with the surface of the handle. A resistor is mounted in the handle of the D-81763 and D-158318 handsets.

2.10 When desired, the cords may be removed from the connecting block and two D-97530 cord tips may be inserted. This permits the use of other cord combinations which are equipped with 360-type tools.

2.11 A D-96823 key-locking slider is available for use with these sets. This slider which is shown in Fig. 9 provides a means for holding the C button operated. The slider is arranged to grip the handset handle with sufficient pressure so it will not slide out of position. The slider can be moved along the handle without interfering with the operation of the R key.

2.12 Table B shows the differences in equipment features of the various handsets.

3. CIRCUIT FEATURES

1013A and 1014A Handsets

3.01 A schematic of the sets is shown in Fig. 10 and 11.

3.02 When the MON-TALK switch is operated to the MON position, the receiver is bridged across the line in series with a capacitor and a high turns ratio transformer. The handsets (in the monitoring condition) introduce virtually no bridging loss or phase shift for any frequency in the voice band. This permits monitoring on all

TABLE A

EQUIPMENT FEATURES OF 1011-TYPE, 1013A, AND 1014A HANDSETS

CODE OF SET	CODE OF CORD	CORD TERMINATES IN	PRINCIPAL APPLICATION	SEE NOTE
1011B	W2BT	P-16E167 Test Clips	Outside Plant	—
1011C	W2DB	KS-6780 Connecting Clip	General Use	1
1011D	W2CK	310 Plug	Panel and Crossbar Offices	
1011E	W2CL	240A Plug	Step-by-Step and Community Dial Offices, Step-by-Step Intertoll Dialing, and Dial PBX	2,4
1011F	W3AA	325A or 351A Plug	Crossbar Offices	3,4
1011G	H2A	346A Plug	General Use	5
1013A	H2B	P-16E167 Test Clips	Outside Plant	
1014A	H2C	346A Plug	General Use	5

Notes:

1. Some 1011C handsets were furnished with the W2CJ cord and 360-type tools.
2. The 1011E handset is also furnished when ordered with a 240H plug. Other 240-type plugs may be locally equipped.
3. The 1011F handset may also be equipped locally with a 325B or 351B plug for testing 2-party message-rate lines.
4. A KS-8010 switch containing a resistor is included as part of the W2CL (1200 ohms) and W3AA (2000 ohms) cords. This is a locking-type switch.
5. The 1011J and 1014A handsets provides an arrangement whereby a basic coded handset can be adapted by means of plug-in cords to all central office tests requiring the use of a handset.

message, WADS, TWX, program, or high speed data transmission facilities, without interrupting service.

3.03 When the MON-TALK switch is operated to the TALK position, the talking circuit bridge impedance is low and considerable loss is introduced when the handsets are bridged across a working circuit. The MON-TALK switch may be depressed momentarily to step switches or held operated for short talk periods. When the MON-TALK switch button is locked in the TALK position, the red portion of the button is visible.

3.04 The handsets can be connected either across the line or from either side of the line to ground. The handsets may be connected into the circuit at any convenient location in the control office such as all distributing frames, toll connecting, and intertoll trunks, or switches in step-by-step and crossbar offices.

3.05 The transmit and receive levels of these handsets are about 3dB lower than a 500-type telephone set.

3.06 The 1014A handset may be used with all the cord assemblies associated with the replaced 1011G handset (see 3.12).

1011-Type Handsets

3.07 Schematics of the circuit arrangements of these sets are shown in Fig. 12, 13, and 14.

3.08 On the 1011C, 1011D, 1011E, 1011F, or 1011G handset when the dial is moved off-normal, closure of the off-normal contacts short

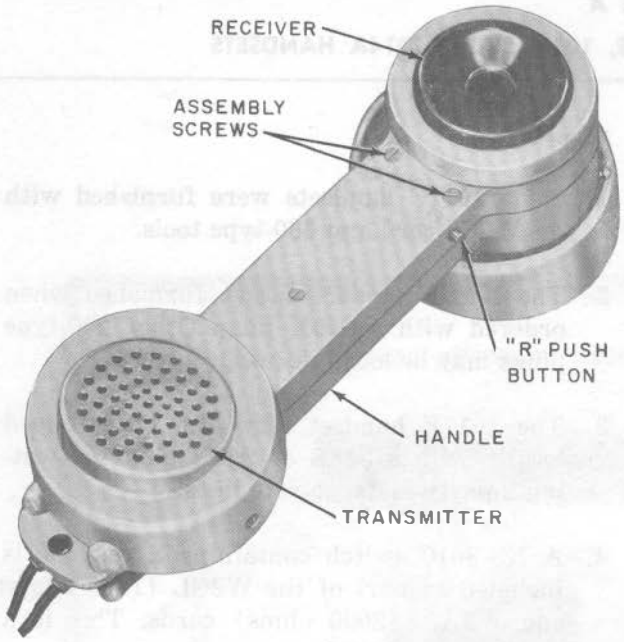

Fig. 6—D-Specification Type Handsets—Transmitter and Receiver Side

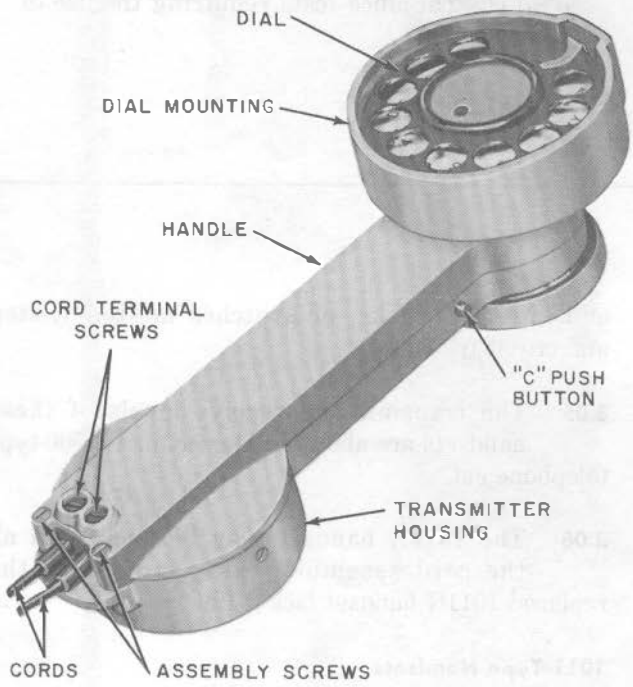

Fig. 7—D-Specification Type Handset—Dial Side

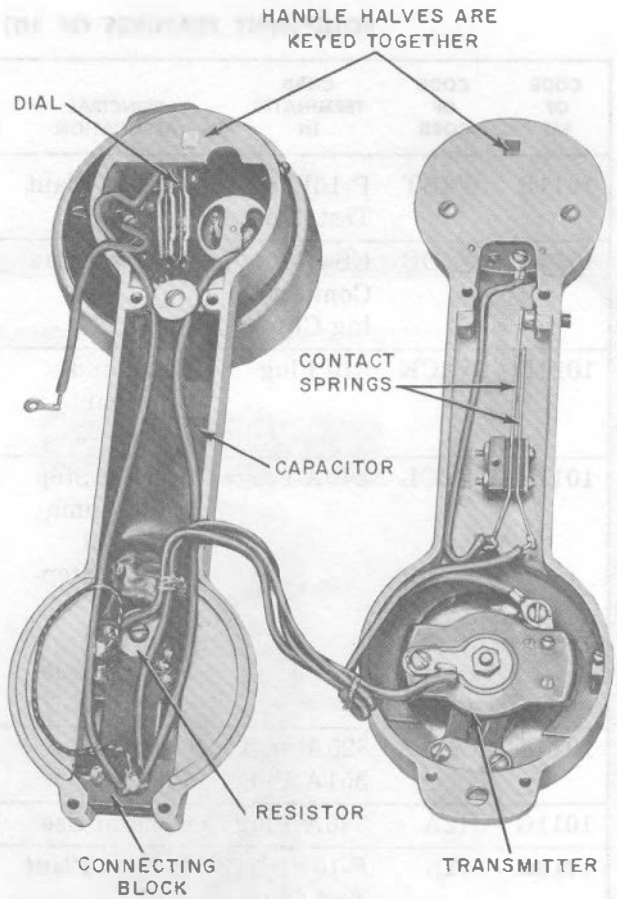

Fig. 8—D-Specification Type Handset—Opened

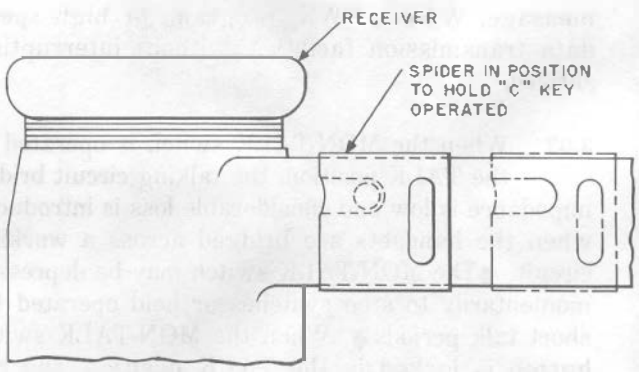

Fig. 9—D-96823 Key—Locking Slider

TABLE B

EQUIPMENT FEATURES OF D-SPECIFICATION TYPE HANDSETS

CODE	BUTTON WHEN DEPRESSED		TYPE OF CLIPS OR PLUGS	PRINCIPAL USE	SEE NOTE
	C	R			
D-81760	Connects Capacitor in Series	Not Provided	Frankel Clip With Spikes	Community Dial Offices	1
D-81761	Connects Capacitor in Series	Not Provided	Frankel Clip Without Spikes	Panel and Crossbar Offices	1
D-81762	Connects Capacitor in Series	Not Provided	109, 110, 309, or 310 Plug	Panel and Crossbar Central Offices	1
D-81763	Short Circuits Capacitor	Connects 1200 Ohms in Series	240A Plug	Intertoll Dialing, Step-by-Step and Community Dial Offices, and Dial PBX	2
D-158318	Places 2000-Ohm Ground on Tip Side	Short Circuits Capacitor	325A or 351A Plug	Crossbar Local and Toll Offices	3

Notes:

1. The D-81760, D-81761, and D-81762 handsets are the same except for the type of plugs or clips furnished.
2. The D-81763 handset may also be equipped locally with 240F or other 240-type plugs. The replaced D-95692 handset formerly specified for making selector rotary tests was the same as the D-81763 handset except that it was equipped with a 240H plug.
3. The D-158318 handset may also be equipped locally with a 325B or 351B plug for testing on 2-party message-rate lines.

circuits the transmitter and receiver during the time the dial is off normal, thus eliminating clicks in the receiver due to dialing and removing the transmitter and receiver from the pulsing circuit.

3.09 When the switch in the handle of the set is operated to the MON position, the receiver is bridged across the line in series with a capacitor which provides a monitoring path. When the switch is operated to the TALK position, the capacitor is short circuited, thus permitting transmitter battery to flow and providing a dc bridge across the tip and ring of the line.

3.10 On the 1011E handset, a 1200-ohm resistor connected inside a KS-8010 switch forms part of the cord assembly. When the ON button of this switch is in the depressed position, the resistor is short circuited through the contacts of the switch. When the OFF button of the switch is in the depressed position, the short circuit is removed by the opening of the switch contacts and the 1200-ohm resistor is connected in series with the line, thus simulating the dialing condition encountered on long loops.

3.11 On the 1011F handset, a 2000-ohm resistor connected inside a KS-8010 switch forms part of the cord assembly. When the ON button of the switch is in the depressed position, the switch contact is closed. When this contact is closed, ground is connected from the frame of the plug through the 2000-ohm resistor to the tip of the line. This arrangement can be used to simulate the deposit of a coin on a coin box line or to cause a seizure of other types of lines requiring ground start. When the OFF button of the switch is in the depressed position, the 2000-ohm resistor is disconnected from the tip side of the line.

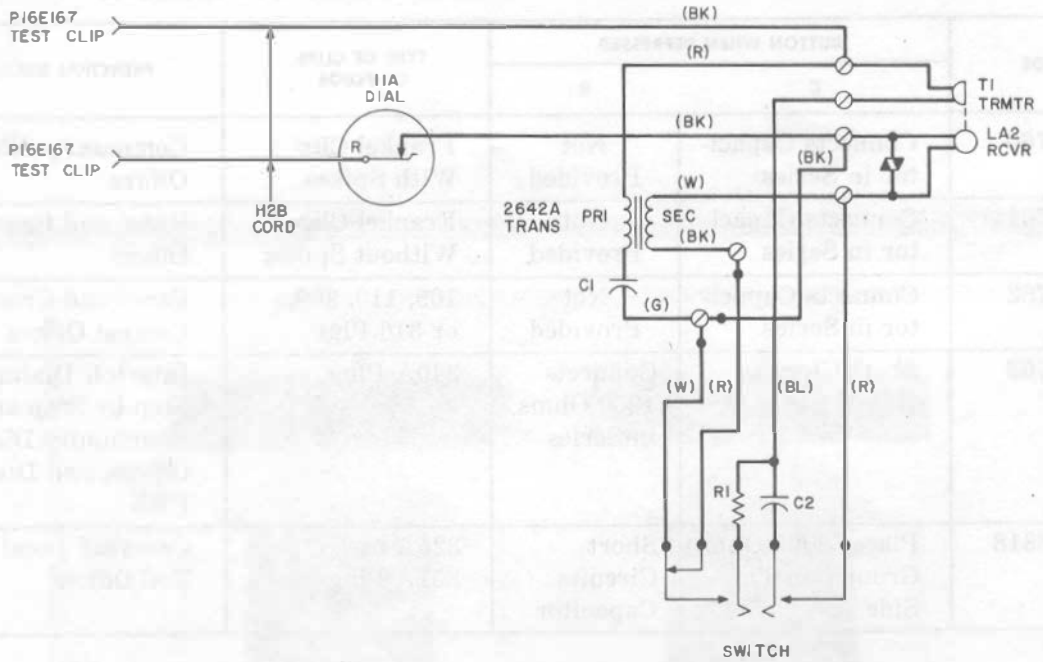

Fig. 10—Schematic of 1013A Handset

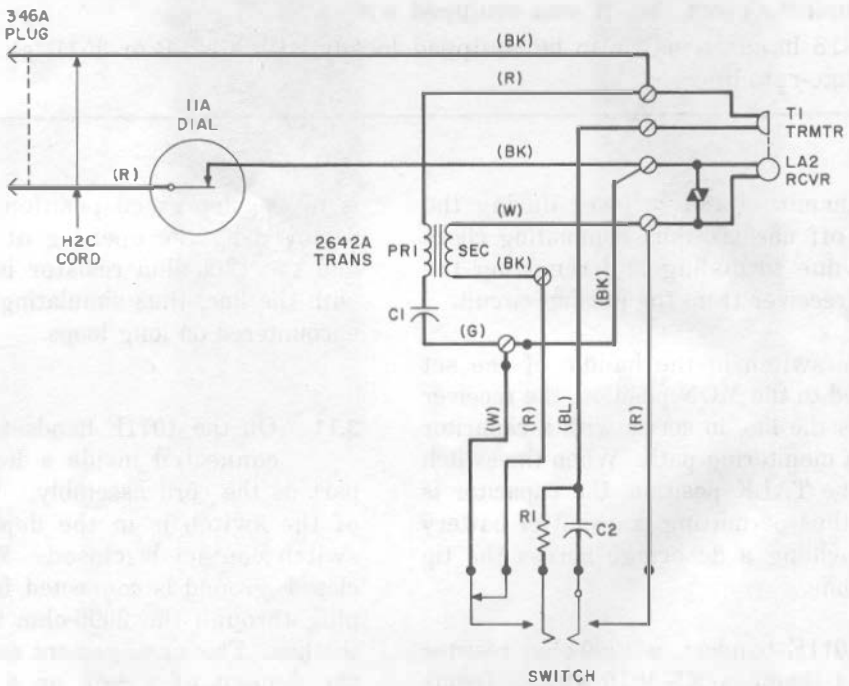

Fig. 11—Schematic of 1014A Handset

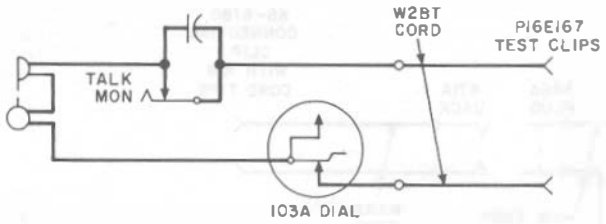

Fig. 12—Schematic of 1011B Handset

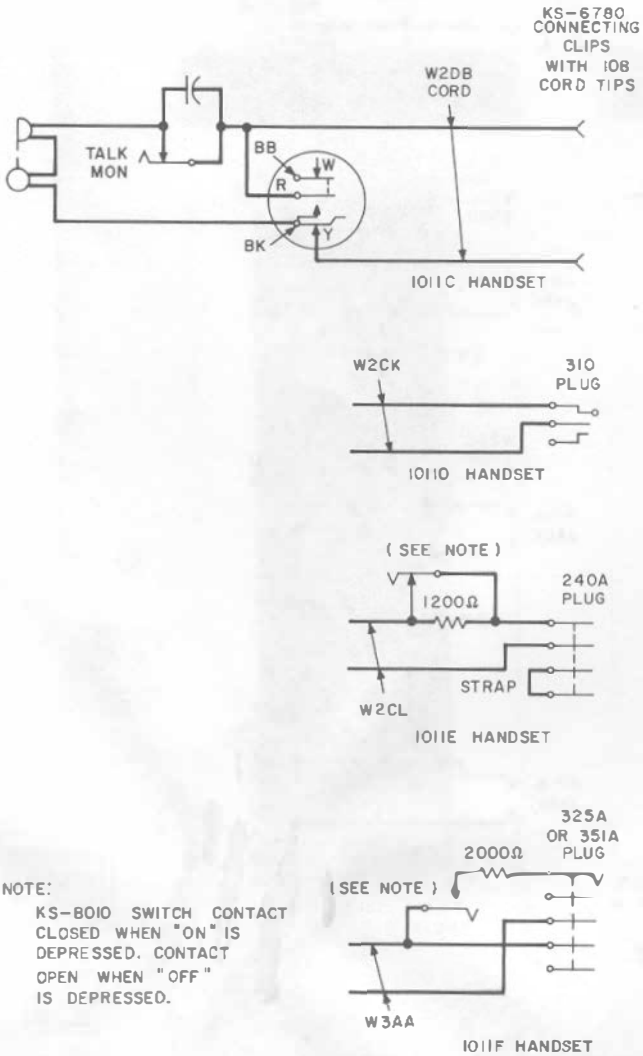

Fig. 13—Schematic of 1011C, 1011D, 1011E, and 1011F Handsets

3.12 The 1011G handset and its associated cord assemblies are shown in Fig. 14. The 1011G handset, when associated with the 2W40A cord assembly, may be used in place of the 1011E handset and, when associated with the 3W8A cord assembly, may be used in place of the 1011F handset.

3.13 The 1011C, 1011D, 1011E, and 1011F handsets may be coverted to the 1011G handset by replacing the associated present cord and plug by the H2A cord and 346A plug.

D-Specification Type Handsets

3.14 Schematics of the circuit arrangement of these handsets are shown in Fig. 15, 16, and 17.

3.15 When the dial is moved off normal, closure of the off-normal contacts short circuits the transmitter and receiver. This eliminates clicks in the receiver due to dialing and removes the transmitter and receiver from the pulsing circuit.

3.16 When the contacts associated with the C button (R button in the case of the D-158318 handset) are open, the receiver is bridged across the line through a capacitor which provides a monitoring path. When the contacts are closed, the capacitor is short circuited, thus permitting transmitter battery to flow and providing a dc bridge across the tip and ring of the line.

3.17 On the D-81763 handset, the 1200-ohm resistor is short circuited through the normally closed contacts of the R button. Operation of the R button opens the short circuit and connects this resistor in series with the line to simulate the dialing conditions encountered on long loops.

3.18 On the D-158318 handset, the 2000-ohm resistor is connected between the normally open contacts of the C key and the frame of the 351A or 351B plug. When the C key is operated, ground is connected through this resistor to simulate the condition encountered on a call from a coin box line.

4. MAINTENANCE FEATURES

1013A and 1014A Handsets

4.01 The parts shown in Fig. 2 may be replaced locally.

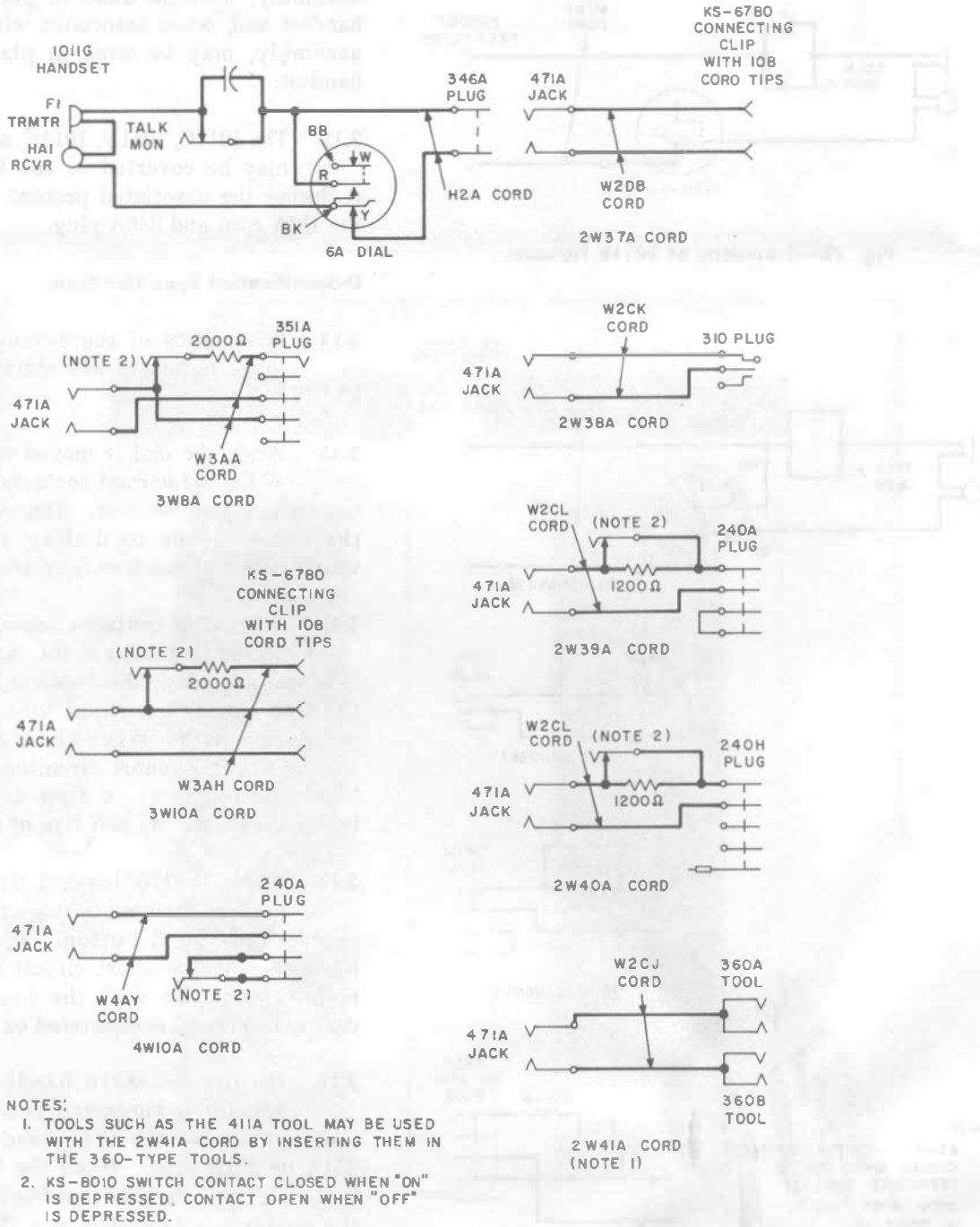

Fig. 14—Schematic of 1011G Handset and its Associated Cords

4.02 Access to the internal parts may be gained by removing the three housing assembly screws (Fig. 2). One of the screws also serves as a fastener for the P-22F231 bracket and snap assembly.

4.03 The 11A dial used on the handset should not be lubricated.

4.04 To make dialing easier for left-handed users, the 11A dial may be repositioned in

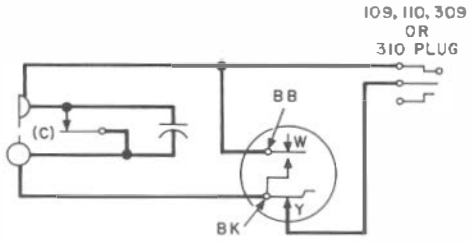

Fig. 15—Schematic of D-81760, D-81761, and D-81762 Handsets (Clips Furnished Instead of Plug on D-81760 and D-81761 Sets)

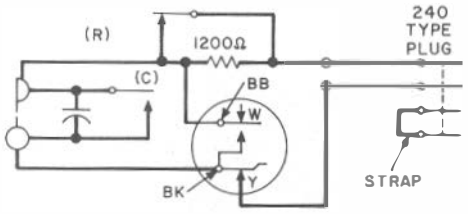

Fig. 16—Schematic of D-81763 Handset

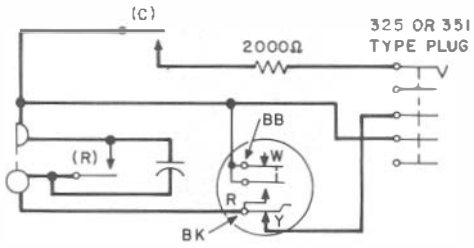

Fig. 17—Schematic of D-158318 Handset

the housing by rotating it 180 degrees. When repositioning the dial, dress the dial leads properly to prevent broken connections, interference with reassembly of the housing, or interference with operation of the dial.

1011-Type Handsets

4.05 The dial should be adjusted to meet the requirements covered in Section 028-300-701. In case the transmitter or receiver is defective, the set should be returned through the usual channels for repair.

D-Specification Type Handsets

4.06 Removing the two screws in the handle near the rim of the receiver and the two screws at the transmitter end near the point where the cords are attached and separating the two parts of the housing makes the apparatus and wiring readily accessible. The dial should be adjusted to meet the requirements covered in Section 028-300-701. In case the transmitter or receiver is defective, the set should be returned through the usual channels for repair.