

HANDSETS (DIAL HAND TEST SETS)

DESCRIPTION

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1. GENERAL	1	1.01 This section describes the 1013A (Mfr Disc.), 1013B, 1014A (Mfr Disc.) and 1014B Handsets (Dial Hand Test Sets).
2. EQUIPMENT FEATURES	2	1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. The Equipment Test List is not affected.
3. CIRCUIT FEATURES	4	(1) To add information to a Note in Part 3
4. MAINTENANCE FEATURES	6	(2) To add figures of cords associated with 1014A (Mfr Disc.) and 1014B Handsets.
Figures		1.03 The 1014B handset described in this section replaces the 1014A handset (Mfr Disc.), and the 1013B handset replaces the 1013A handset (Mfr Disc.). The 1013B and 1014B handsets are identical except for associated cords.
1. 1013B Handset With 104A Insulators (Showing Recommended Lead Storage for Carrying on Pouch Belt)	2	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. See Tables A for principal applications.
2. 1014B Handset	3	1.05 All 1013B and 1014B handsets are equipped with LB7 receiver units and an improved 840999320 switch assembly. The LB7 receiver unit is available as a replacement for the older LA2 receiver unit in some 1013A and 1014A handsets (Mfr Disc.) in the field and the 840999320 switch assembly is available as a replacement for the P-48V024 switch assembly used in the 1013A and 1014A handsets (Mfr Disc.) in the field.
3. 1013B-1014B Handset-Interior View (1014B Shown)	3	1.06 The KS-21940, L1, handset adapter is designed as a maintenance aid for use in all types of central offices when performing installation tests, monitoring, and general maintenance on RANGE
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NOTICE

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EXTEND WITH GAIN (REG). It may also be used on circuits with E-type repeaters having 6 dB or less gain.

1.07 The 1014-type handset, the KS-21940, L1, handset adapter, and the standard 2W37A test cord provides a method of testing REG output while maintaining stability of the REG amplifier. Voice frequency amplifier performance, signaling, and the presence of boosted voltages can all be tested when using the KS-21940, L1, handset adapter.

2. EQUIPMENT FEATURES

1013- and 1014-Type Handsets

2.01 The 1013B and 1014B handsets (Fig. 1, 2, and 3) consist of a T1 transmitter unit, LB7 receiver unit, an 11C dial which contains a dirt shield between the number and plate frame to prevent contaminants from jamming the dial gear train, a 2642A transformer, an 840999320 switch assembly which contains a locking and nonlocking switch for monitoring and talking, and a rubber dial boot to prevent contaminants from entering the back of the dial. These parts are assembled in orange plastic housings for the 1013B and 1014B handsets, in a blue plastic housing for the 1013A handset (Mfr Disc.), and in a yellow plastic housing for the 1014A handset (Mfr Disc.). The 1013B handsets are furnished with a 4-foot cord equipped

with two 6A test clips on the test end. On all new handsets, the 6A test clip is equipped with a 104A insulator to prevent possible electrical shock. The 1014 handsets are furnished with a 10-inch cord equipped with a 346A plug. A P-22F231 snap assembly is provided to facilitate carrying the handset on a belt. The handset is also equipped with a rubber shoulder reset for a more secure "hands free" operation.

2.02 The 1013A handset (Mfr Disc.), which has been replaced by the 1013B, is the same as the 1013B except that it was equipped with the older P-48V024 switch assembly and has a blue plastic housing instead of the improved-type orange plastic housings and uses the 11A dial without the dirt shields. The 1014A (Mfr Disc.), which has been replaced by the 1014B, is the same as the 1013A (Mfr Disc.) except it has a 10-inch cord equipped with a 346A plug and has a yellow plastic housing.

2.03 The 1014B handset is a general use handset and may be used with the cords illustrated in Fig. 8.

2.04 The KS-21940, L1, handset adapter, Fig. 4, assembly is contained in a small, lightweight plastic box. The adapter dimensions are 1.2 inches wide by 1.3 inches high by 3.25 inches long. A one-foot cord equipped with a 346A plug and a one-foot cord equipped with a 471A jack are attached

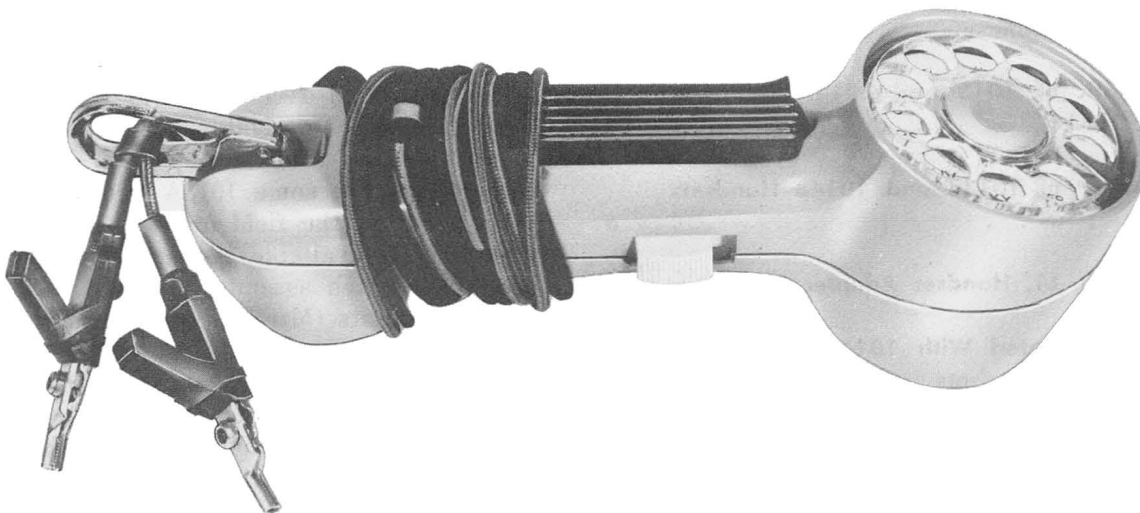


Fig. 1—1013B Handset with 104A Insulators (Showing Recommended Lead Storage for Carrying on Pouch Belt)

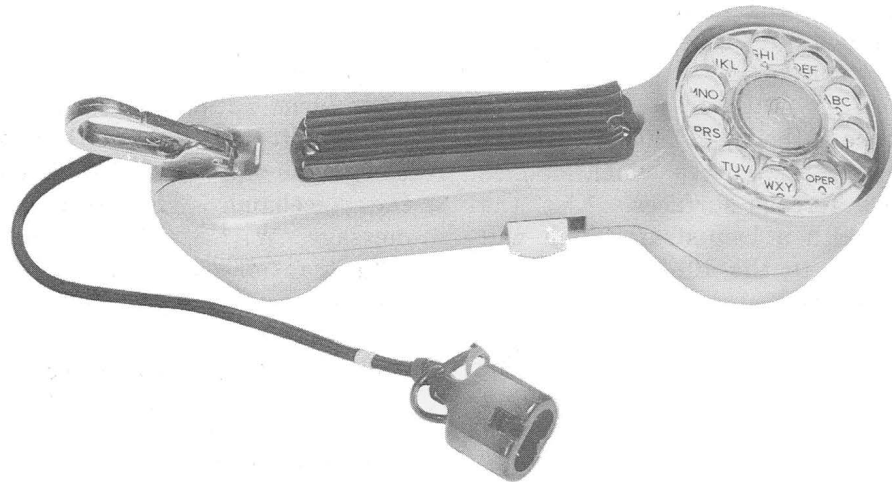


Fig. 2—1014B Handset

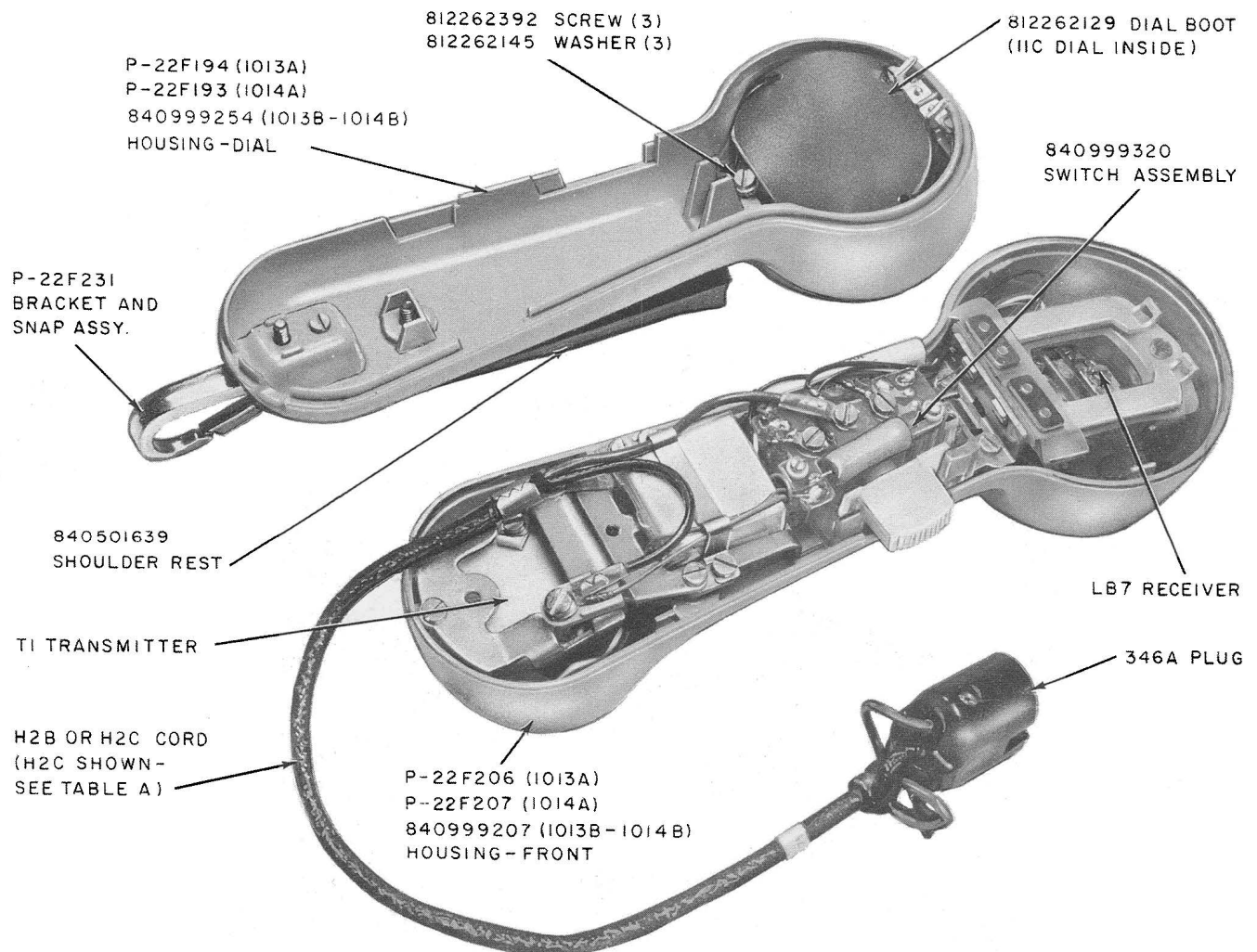


Fig. 3—1013B-1014B Handset—Interior View (1014B Shown)

to the adapter. These cords allow the adapters to be inserted between a 1014-type handset and a standard 2W37A test cord.

2.05 The rear surface of the KS-21940, L1, handset adapter has a magnetic strip which enables it to be held by most ferrous surfaces. Also, the adapter is equipped with a loop-strap which will allow it to be fastened to the 1014-type handset or to a craft person's belt.

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

3. CIRCUIT FEATURES

1013- and 1014-Type Handsets

3.01 A schematic of the sets is shown in Fig. 5 and 6.

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 voiceband. This permits monitoring on all 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. The MON-TALK switch may also be retained in the TALK position by depressing and sliding toward the dial. To release the button

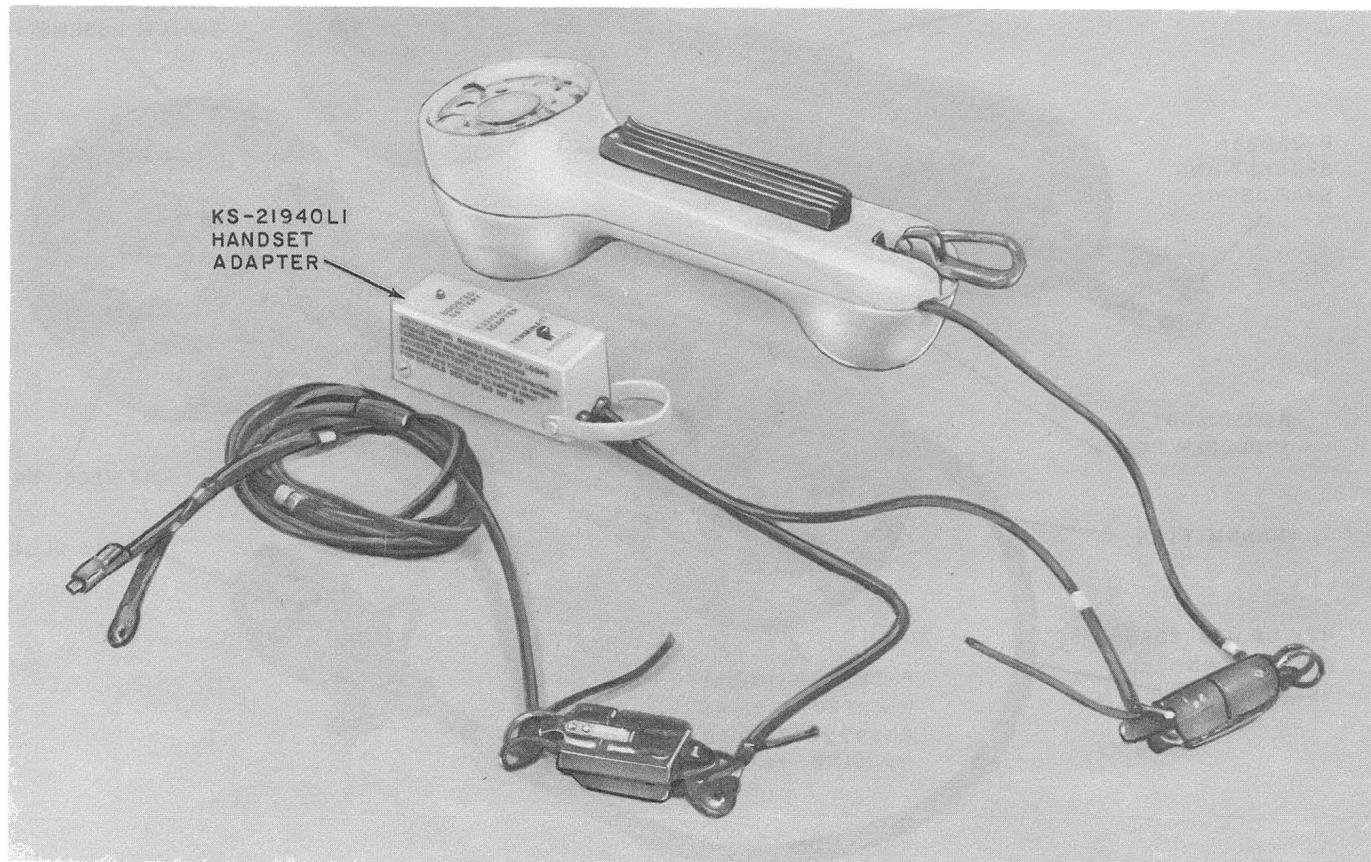


Fig. 4—KS-21940, L1 Handset Adapter and 1014A (Mfr Disc.) Handset

TABLE A

EQUIPMENT FEATURES OF 1013A (MFR DISC.), 1013B
1014A (MFR DISC.), AND 1014B HANDSETS

CODE OF SET	CODE OF CORD	CORD TERMINATES IN	PRINCIPAL APPLICATION
1013A*	H2B	6A Test Clips	Outside Plant
1013B	H2B	6A Test Clips	General Use
1014A*	H2C	346A Plug	General Use (See Note)
1014B	H2C	346A Plug	General Use (See Note)

* Mfr. Disc.

Note: The 1014A (Mfr Disc.) and 1014B handsets provide arrangements 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.
(See Fig. 8 and 9)

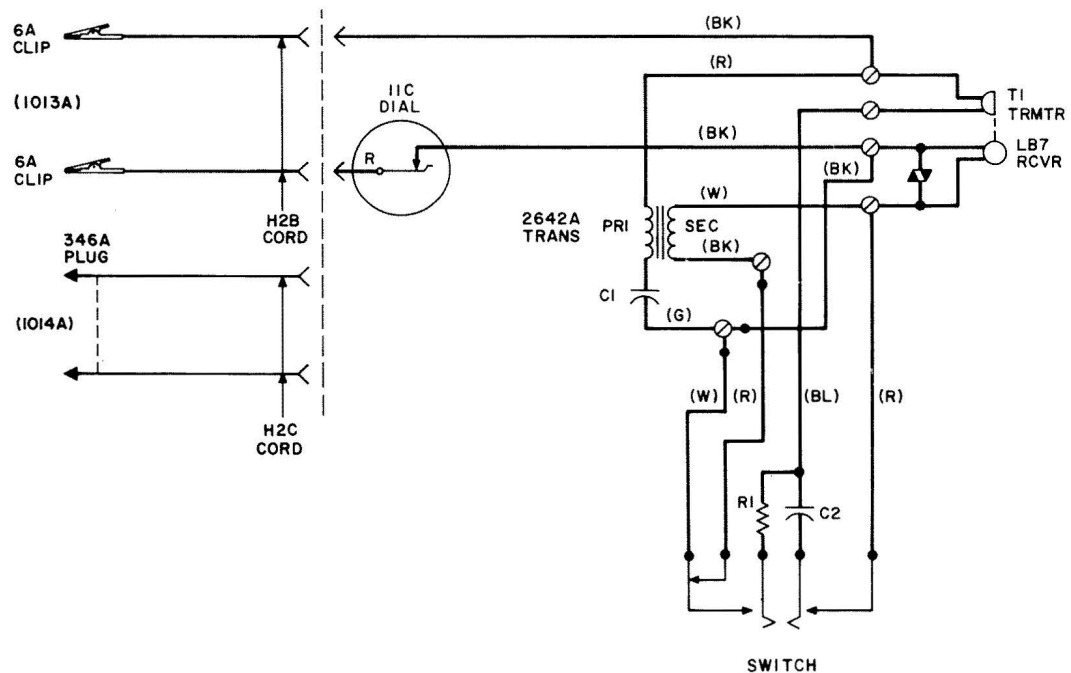


Fig. 5—Schematic of 1013A and 1014A Handsets (Mfr Disc.)

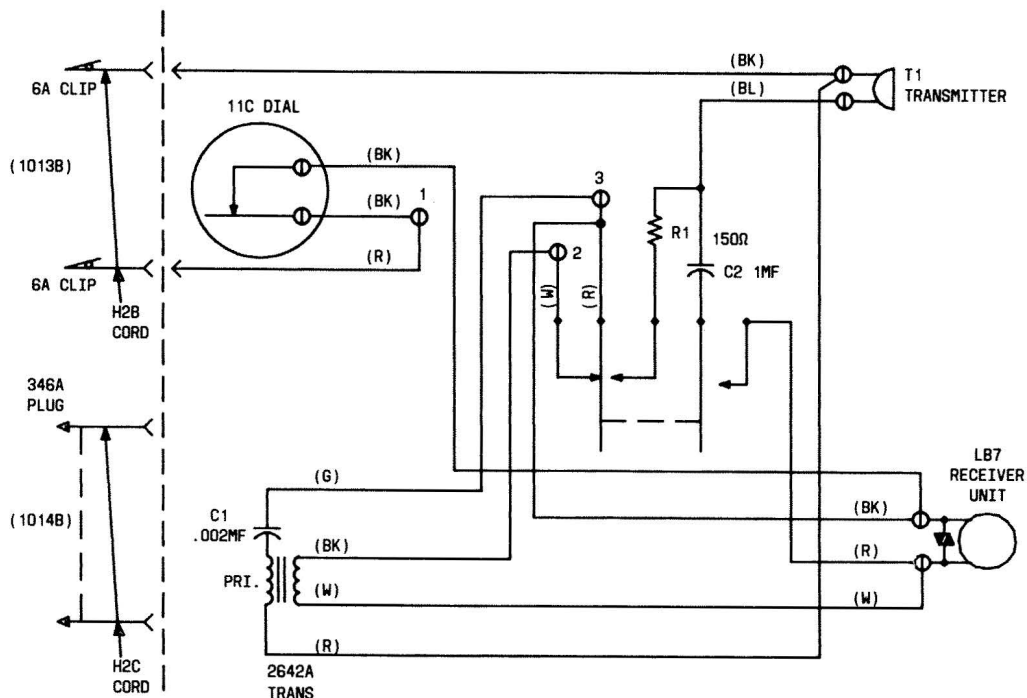


Fig. 6—Schematic of 1013B and 1014B Handsets

from the retained TALK position, the button must be slid in the direction of the transmitter and released to the MON position.

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.

Warning: Do not connect the handset directly across a 48-volt battery or other very low impedance voltage sources as permanent damage to the handset could result.

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

3.06 The 1014A (Mfr Disc.) and 1014B handsets may only be used with the cord assemblies shown in Fig. 8 and 9.

3.07 The KS-21940, L1, handset adapter contains a two position slide switch and a light

emitting diode (LED). The switch selects the desired mode of operation, BRIDGE or TERMINATE. The LED identifies the presence of elevated voltage and also the voltage polarity across the loop.

3.08 The mode marked BRIDGE is used when tests are made by bridging across the output of a regular module, normally connected to an H88 loaded cable pair. The TERMINATE mode is used when the subscriber cable pair is not connected to the central office regular module. A schematic diagram of the adapter is shown in Fig. 7.

4. MAINTENANCE FEATURES

1013A (Mfr Disc.), 1014A (Mfr Disc.), 1013B and 1014B Handsets

4.01 These handsets are designed to permit an employee to repair his own set with piece parts as shown in Fig. 3.

4.02 Access to the internal parts may be gained by removing the three housing assembly screws (Fig. 3). One of the screws also serves as a fastener for the P-22F231 bracket and snap assembly.

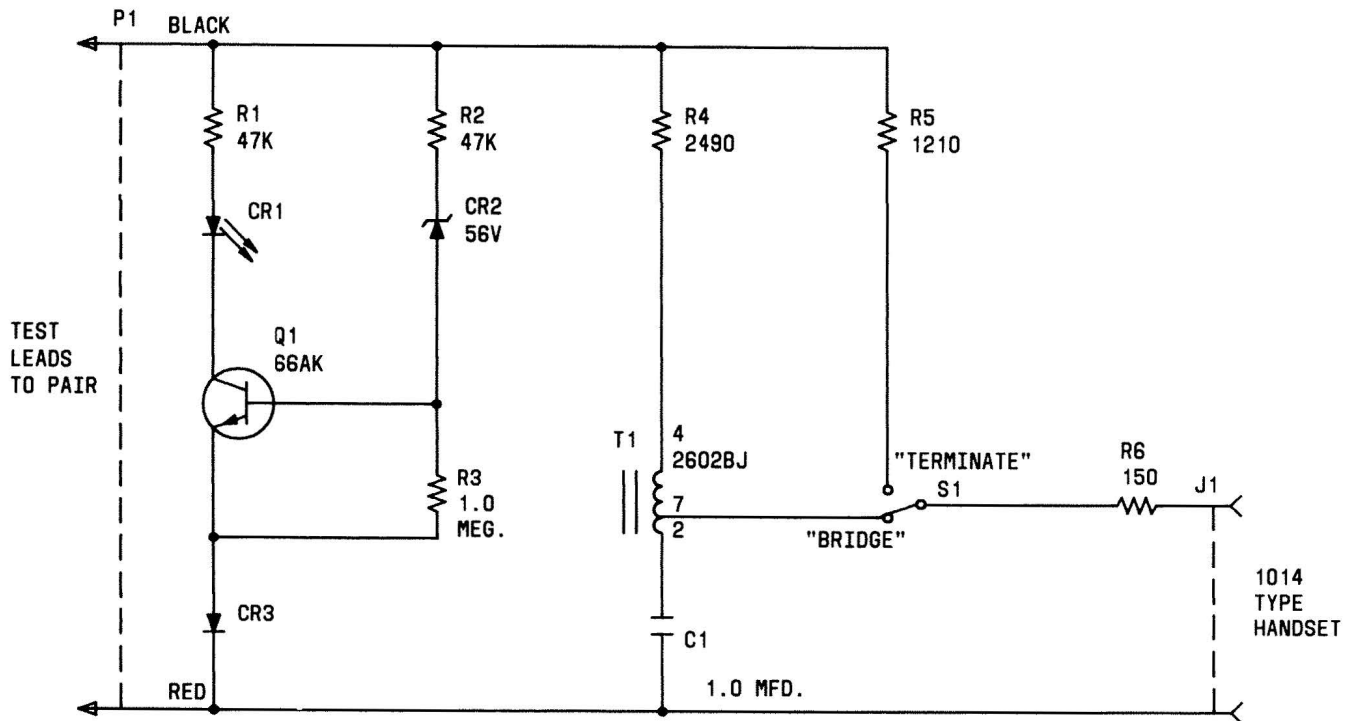


Fig. 7—KS-21940, L1 Handset Adapter Circuit

4.03 The 11C dial used on the 1013A (Mfr Disc.) and 1013B and 1014A (Mfr Disc.) and 1014B handset **should not** be lubricated.

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

4.05 The new 840999320 switch assembly is a smoother, more reliable, switch than those used in the 1013A and 1014A handsets (Mfr Disc.). This assembly can be used as a direct replacement in the 1013A and 1014A handsets (Mfr Disc.). Keeping the underside of this MON-TALK sliding switch free from grit and grime will ensure its proper operation. The pierce points on the 6A test clips used on the 1013A (Mfr Disc.) and 1013B handsets may be replaced if they become dull or broken. A D-180659 Kit of Parts containing 24

each of the pierce points and locknuts can be ordered for replacement purposes.

104A Insulator

4.06 The 104A insulator can be ordered for use with handsets equipped with 6A tests clips that were made prior to the introduction of the 104A insulator.

4.07 To equip a 6A test clip with a 104A insulator proceed as follows:

- (1) Remove the 6A clip from the cord and discard the plastic sleeve
- (2) Slide the 104A insulator (barrel end first) on the cord far enough to allow reconnection of the 6A clip to the cord
- (3) Block the jaws of the 6A clip open by clamping it to a screwdriver handle or similar tool
- (4) Slide the insulator on the back of the clip.

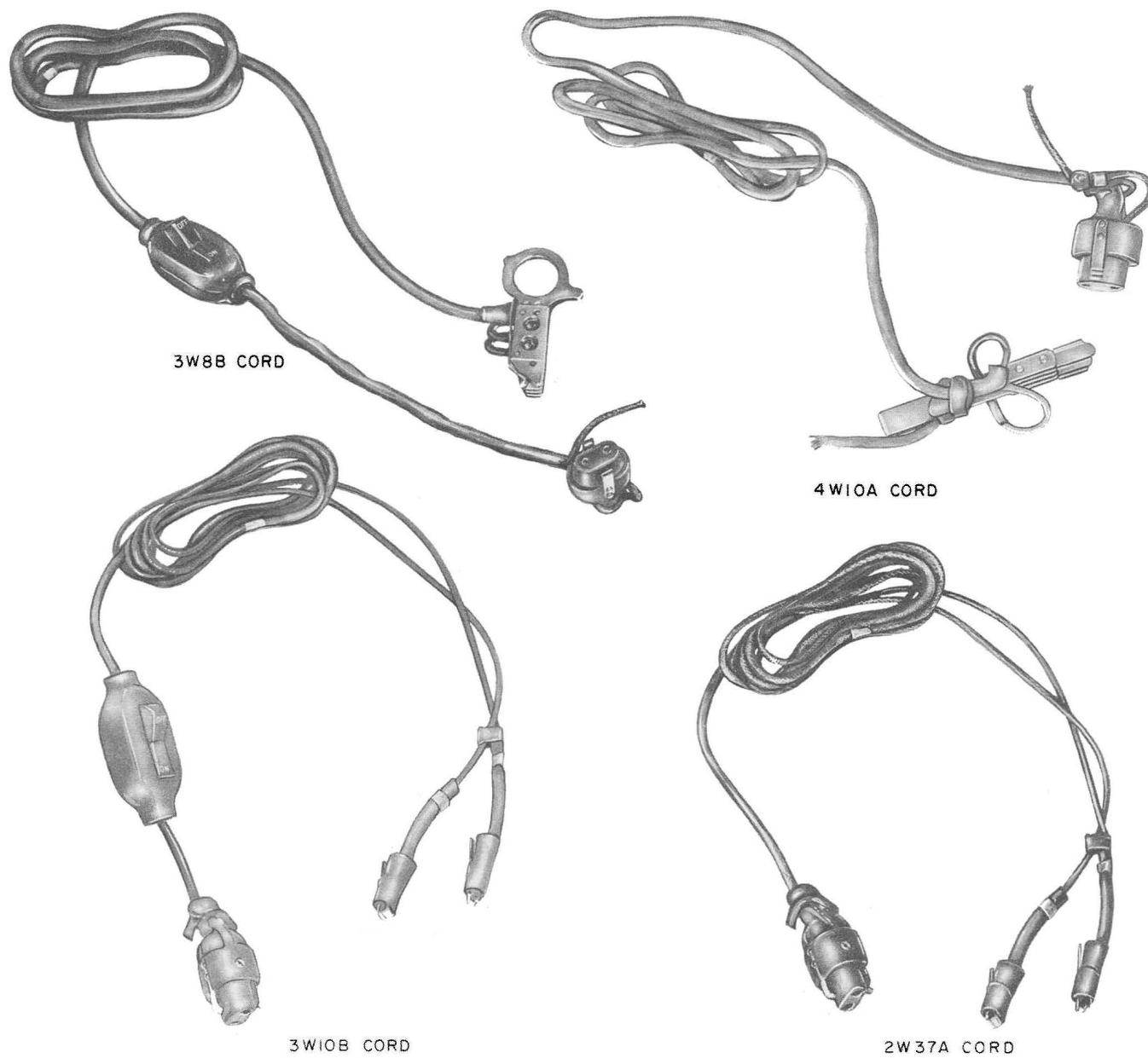


Fig. 8—Cords Associated With 1014A (Mfr Disc.) and 1014B Handsets

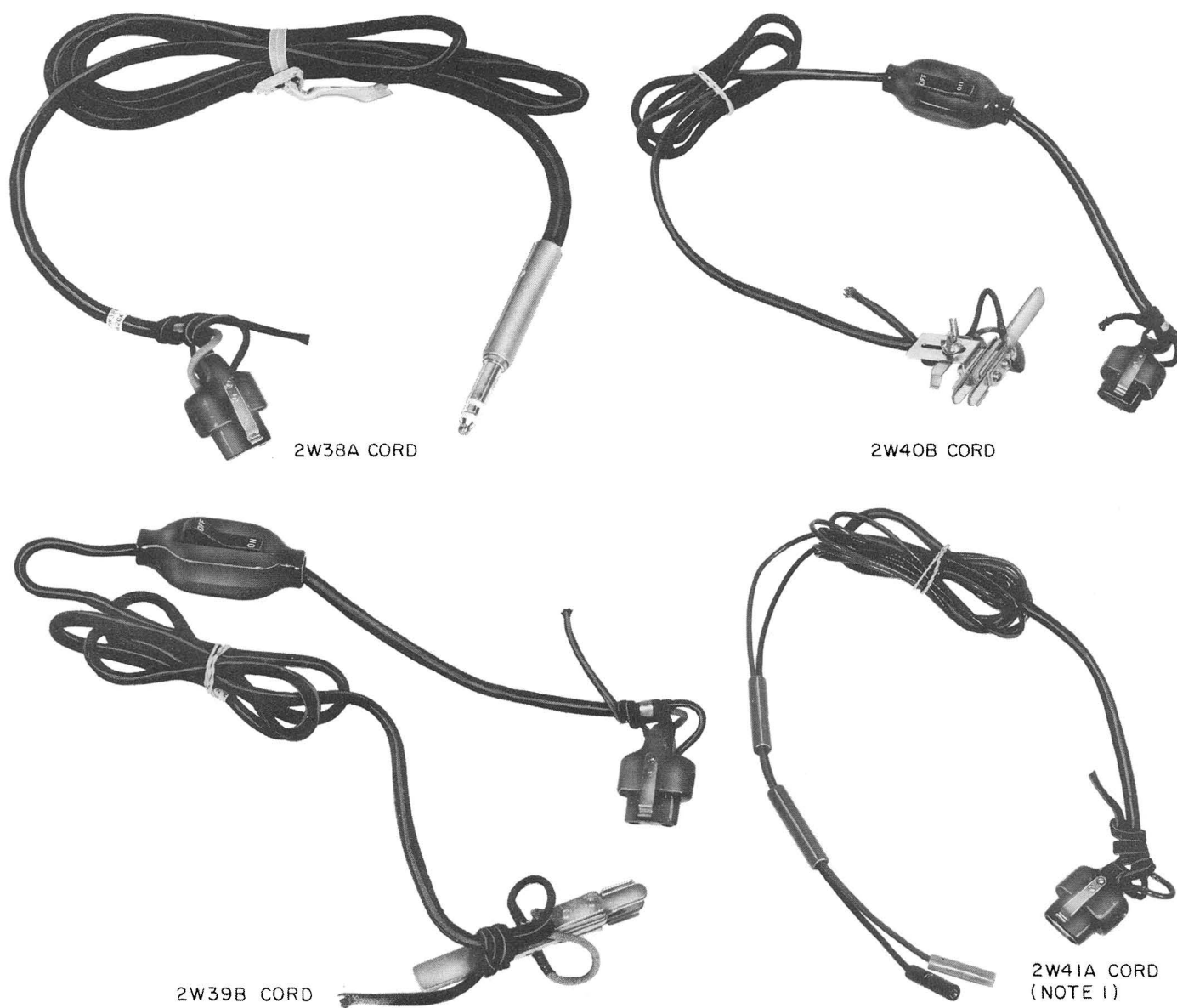


Fig. 9—Cords Associated With 1014A (Mfr Disc.) and 1014B Handsets