

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G86.057.1**  
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**AT&TCo Standard**

**106A, 107A AND 107B TEST SETS**  
**DESCRIPTION AND MAINTENANCE**

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**1. GENERAL**

1.01 This section describes the 106A, 107A and 107B Test Sets which are intended primarily for talking, testing and fault location on open wire lines. It is reissued to include a monitor switch on the 53F Head Telephone Set and a clip for attaching the switch box of the 106 type set to the case of the 107 type set during fault location operations. Instructions for use of these sets are covered in the Practices relating to open wire construction and maintenance.

1.02 The 106 and 107 type sets have a dielectric strength of 10,000 volts rms. They supersede the 85, 86, 87 and 92 type test sets. The 107 type set will not operate in conjunction with the 92 type set nor will the 106 type set operate with the 85, 86 and 87 type sets.

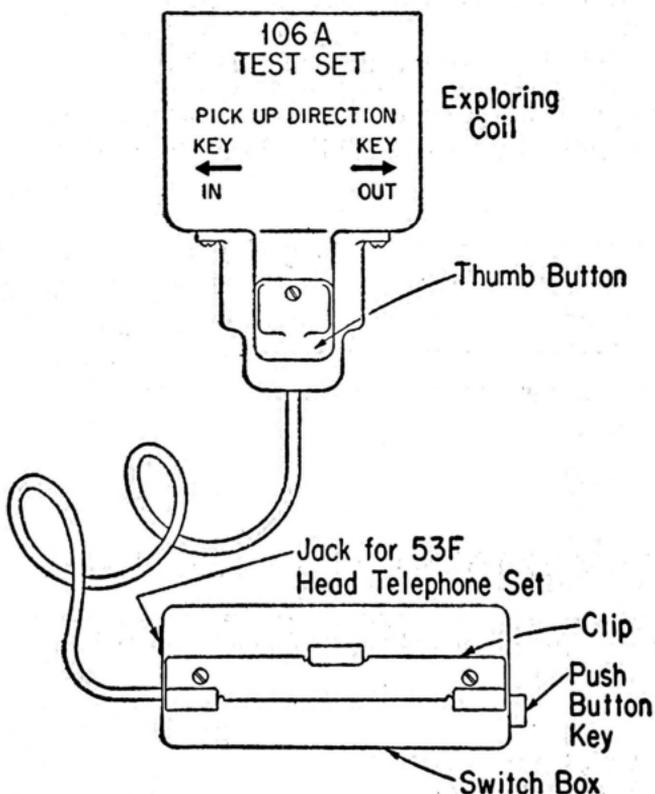
1.03 Use of the 106 and 107 type sets does not eliminate the necessity for observing all prescribed precautions because of their 10,000-volt dielectric protection. All precautions relating to checking the line for clearance from electric wires must be observed.

**2. 106A TEST SET**

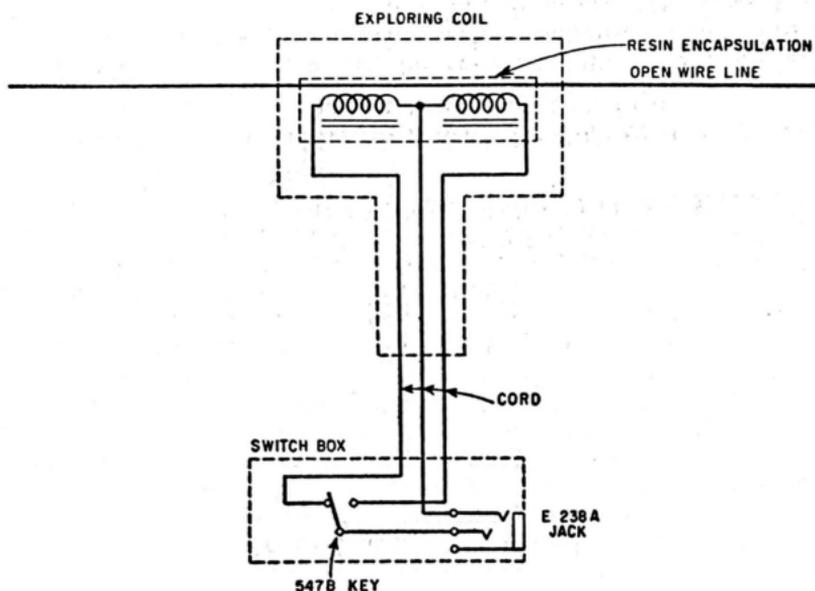
2.01 The 106A Test Set consists of an exploring coil and switch box permanently connected by means of a cord. The windings of the exploring coil are encased in a cast resin.

block which gives mechanical and moisture protection to the windings and provides the unit with high dielectric strength. The cast resin block is mounted in a plastic housing with a handle and grip. A thumb button on the housing permits raising the magnetic shunts so that the exploring coil can be placed over the line wire. The switch box consists of a plastic housing containing a push-button key, jack and clip. The clip is provided to attach the switch box to the case of the 107 type test set during fault location operations.

2.02 The switch box of each 106A Test Set, shipped from factory stock after June 1, 1958, is equipped with this clip. The clip, coded P12C680, is fastened to the switch box by two screws coded P48C394. Those 106A Test Sets in use without the clip will be equipped when returned for repair or retest. The P12C680 Clip and P48C394 Screws may also be ordered for field installation. The following illustration shows the 106A Test Set.



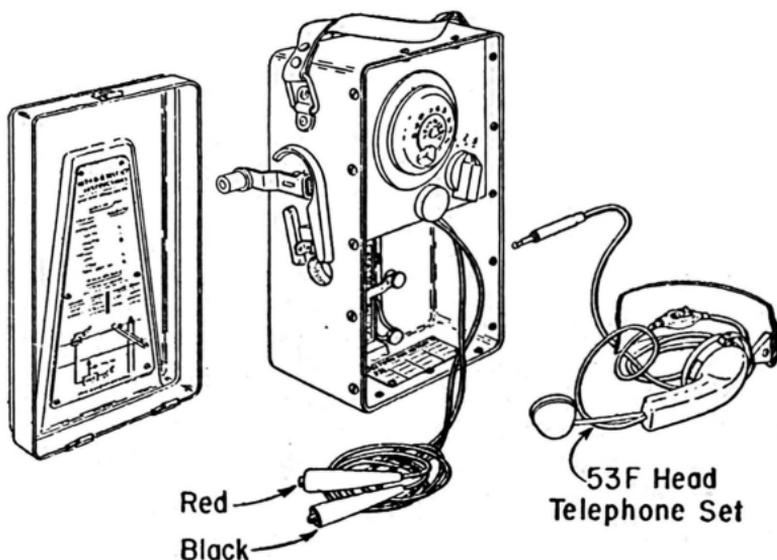
2.03 The circuit diagram of the 106A Test Set is shown in the following sketch.



### 3. 107A AND 107B TEST SETS

3.01 The 107A and 107B Test Sets weigh approximately 11 pounds with associated head telephone set and battery. The over-all dimensions of the two sets are 12-1/2 inches long, 7-1/2 inches wide and 5 inches deep. Both sets are equipped with carrier filters and a hand operated ringing generator. The only difference between the two sets is that the 107B has been provided with a dial.

3.02 The illustration shows the 107B Test Set with a 53F Head Telephone Set.



3.03 Electric shock protection is provided by the use of an isolation transformer between the talking circuit and the rest of the set. The metal housing of the rest of the set is isolated from the user by a semi-rigid case of high dielectric strength. A carbon block protector is provided across the primary of the isolation transformer. Its function is to protect the transformer primary in the event that a high potential occurs between the line leads. If the set should become inoperative in service the carbon protector should be examined. IF IT APPEARS TO BE SHORTED THE SET SHOULD BE TAKEN OUT OF SERVICE AND RETURNED FOR A RE-CHECK OF ITS SAFETY FEATURES. UNDER THESE CONDITIONS THE PROTECTOR SHOULD NOT BE REPLACED IN THE FIELD.

3.04 Acoustic shock protection for the 107 type test set is provided by varistors in the talking circuit. ←

3.05 If sidetone is heard in the receiver but it is impossible to hear or be heard, the nylon bearings of the hand generator may be sticking off normal. A slight rocking of the hand generator crank will restore the set to normal.

3.06 IF THE SET BECOMES INOPERATIVE FOR ANY REASON OTHER THAN THE EXHAUSTION OF BATTERIES OR LOSS OF LINE CLIPS IT SHOULD BE RETURNED FOR REPAIR AND RECHECK.

3.07 The lid of the 107 type set is removable.

3.08 A 53F Head Telephone Set, equipped with a monitor switch, is used with each set and is stored within the 107 type test set. The coiled line leads should be placed into the compartment before placing the 53F Head Telephone Set. All 53F Head Telephone Sets shipped from factory stock after October, 1958 will be equipped with an L3J Cord containing a monitor switch. Those 53F sets in use without the monitor switch will be equipped when returned for repair or retest. The L3J Cord may also be ordered for field installation.

3.09 Transmitter current is supplied by a KS-6570 Dry Battery (4-1/2 volts).

3.10 Each set is fitted with a pair of line leads 6 feet long and terminated in No. 27 Universal Test Clips for making connections to line wires. The test clips are covered with No. 29 Rubber Insulators, red on one clip and black on the other.

3.11 A carrying strap is provided with the test set. One end of the strap is equipped with a snap hook so that the strap may be parted for hanging the test set over a crossarm.

3.12 The circuit of the 107A and 107B Test Sets is shown in the following diagram.



## 5. ANNUAL ELECTRICAL RETEST

5.01 Each 106A, 107A and 107B Test Set shall be returned annually for an electrical retest. The date (month and year) for retest shall be stamped on a marking plate at time of manufacture and at each subsequent retest.

5.02 The marking plate is fastened to the handle of the 106A Test Set.

5.03 The marking plate is fastened in the space below the battery inside of the 107 type sets.

