SIDETONE MAGNETO STATIONS
MAINTENANCE

1. GENERAL

1.01 This section includes maintenance information relating to transmitter batteries and hand generators. Maintenance information for other apparatus used at magneto stations is included in Division C30.

1.02 This section is reissued to omit reference to 4-cell batteries and to cover 2-cell batteries.

2. TRANSMITTER BATTERY

2.01 When stations are visited for any purpose, test battery with a No. 35 gauge.

2.02 This gauge is provided with windings of 15 and 5 ohms resistance, approximately. Both of these windings are used in series when making 3-cell readings. When single cell readings are made, the depression of the stem short-circuits the 15-ohm winding, leaving the 5-ohm winding. With this gauge, the following method should be used for testing cells in transmitter service where three cells in series are used:

2.03 Connect the gauge to the terminals of the battery for one minute. If the needle of the gauge, within this time, falls below the cutoff point marked "three cells," one or more of the cells are used up or defective and the entire battery should be renewed.

2.04 Batteries containing 2 cells require that each cell be tested separately. To test a single cell, connect the gauge across the terminals of the cell and depress the stem of the gauge for one minute. If the needle does not remain above the cut-off point marked "one cell" in red above the scale, the cell under test is not good enough to be left in service. If either cell is below the cut-off point, replace both cells.

2.05 When placing a new battery, it should be dated as described in Section C51.102.

2.06 **Transmitter batteries containing two sets of dry cells in parallel** require that one set be disconnected from the other while tests are being made.

3. HAND GENERATOR

3.01 **Automatic Cutout:** The automatic cutout should positively open and close the contacts when the handle is rocked back and forth to the point where the armature just starts to turn. If the cutout fails to operate properly, correct this condition when possible by adjustment of the contact springs or lubrication of the moving parts with a small amount of oil per KS-6232. This may be applied with a toothpick. When the contact springs require adjustment, adjust them as necessary with a No. 466A tool or approved equivalent. The adjustment should in no case be such as to make a visible kink in the springs.

3.02 In the case of generators arranged so that the armature is normally short-circuited as in the No. 48A generator, see that there is sufficient tension on the transfer spring to assure that the back contact will be made in the normal position. If necessary, adjust the tension of the transfer spring as in paragraph 3.01.

3.03 **Generator Maintenance:** When operating the hand generator, if there is a tendency for the shaft to stick or turn hard due to lack of lubrication, apply a slight amount of oil per KS-6232 with a toothpick. If after lubrication the generator still turns hard, it may be due to poor insulation of bushings in the spring pile-up or partial short circuit in the armature.

3.04 **Hand generator troubles** may in general be located as follows:

(a) **Opens:** Generator may be turned freely, but with set disconnected from the line no ringing current is felt if moistened fingers are placed across its terminals and little or no ringing is heard in test receiver if this is bridged across the generator terminals. This trouble may be due to spring adjustment of the automatic cutout or to open winding of armature.

(b) **Short Circuits:** The generator handle turns excessively hard in certain positions. Open one or both wires of generator. If the generator still turns abnormally hard every half revolution of the armature, the trouble may be in the springs or bushings or in the armature itself.

(c) **Weak Ringing:** If armature turns freely this may be due to weak magnets or to some of the magnets not being poled the same as the other magnets. All similarly marked ends of the magnets must be on the same side of the generator.