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SUBSCRIBER SETS—MAGNETO

MAINTENANCE

1.00 INTRODUCTION

This section covers specific maintenance procedures for types 299, 300, 303, 315, 317, 400, 415, 417, and D-176680 subscriber sets.

2.00 GENERAL

Prior to proceeding with routine maintenance, inspect exterior and interior of the set for loose, displaced, or broken parts and determine if any such defects are responsible for the trouble condition.

3.00 SWITCHHOOK

- The switchhook shall move freely throughout its entire travel without binding or squeaking and come to a positive stop when the receiver is removed or placed on the hook.
- If binding or squeaking is encountered, remove switchhook assembly and clean pin and bearing surfaces with a KS-2423 cloth moistened with KS-7860 petroleum spirits.
- Lubricate with a No. 2 or softer graphite pencil (see Figs. 1 and 2).
- When assembling the switchhook, make certain that the pin in the 143A is tight.
- In the 143Y, the pin must go through both holes because one end of the pin is tapered with a spring catch to secure the pin in the small hole.

4.00 CONTACTS

4.01 ALIGNMENT

- Contacts shall line up so that the point of one falls wholly within the circumference of the opposing contact.
- To align contacts, loosen mounting screws on contact assembly and shift springs.

4.02 MARGINS

- While listening in the receiver associated with the set, the receiver contact should close when

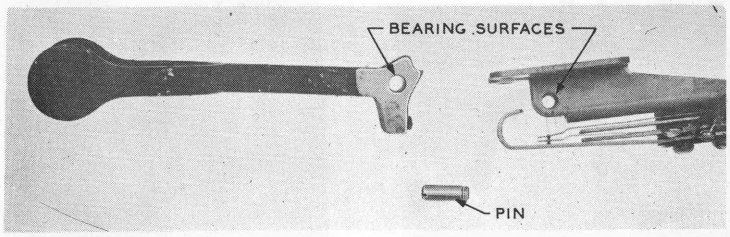

FIG. 1—143A SWITCHHOOK ASSEMBLY

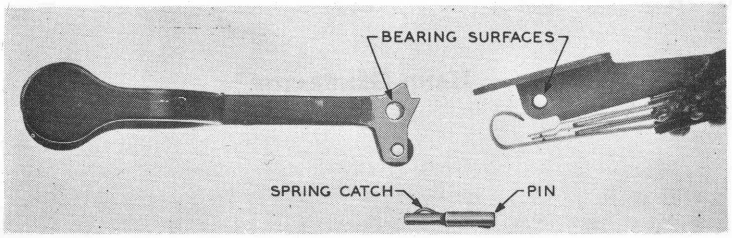

FIG. 2 — 143Y SWITCHHOOK ASSEMBLY

the switchhook has traveled approximately three-quarters of its full travel. Generally, there is enough line noise to make this test; if not, blow gently into the transmitter.

- If a loud click is heard, the transmitter contacts are making last instead of first and should be adjusted.

- The transmitter circuit should test open when the receiver is on the hook.

4.03 CLEANING

- Contacts that test open should be cleaned with a 265C tool having a clean blade.

4.04 ADJUSTMENT

- Adjust springs with a 466A tool.

4.05 FOLLOW

- All springs including those which make when receiver is on the hook shall have a perceptible follow.

5.00 TESTS

- Ring the central office, check line number, obtain code ring, and ask for a connection with the test desk.

- Adjust biasing spring, if provided.

TRANSMISSION

- With the transmitter tilted up as far as possible and the lips about one-half inch from the transmitter, speak to the operator or test deskman in a normal tone of voice.

- If trouble is encountered, repair set; then repeat test.

- When frying or scratching noises are encountered, replace noisy transmitter unit or cords.

6.00 HAND GENERATORS

- Inspect the hand generator to see that the automatic cutout functions, the gear teeth are not worn or mutilated, and the handle turns freely (see Figs. 3A and 3B).

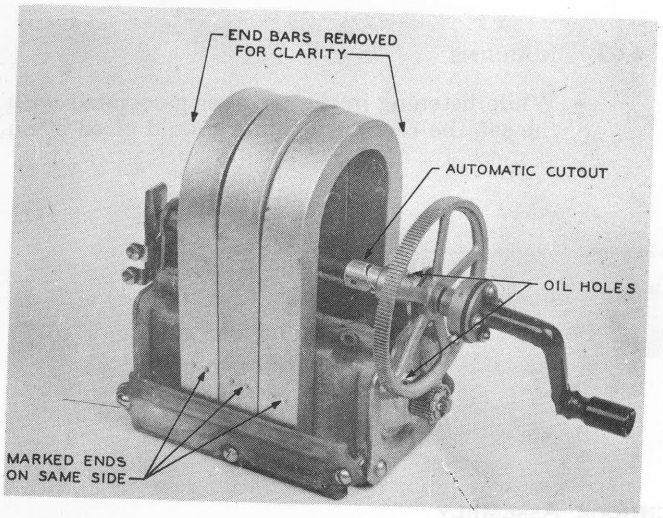

FIG. 3A

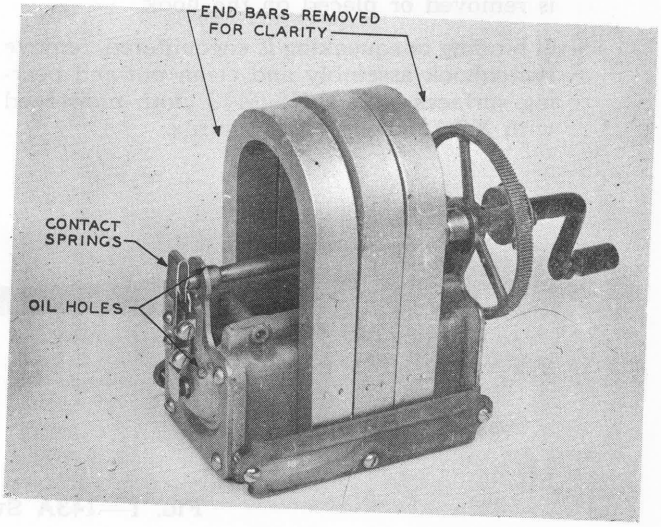

FIG. 3B

HAND GENERATOR

- When cutout fails to function, adjust contact springs and lubricate moving parts with KS-6232 oil applied with a toothpick.
- Replace generator if gear teeth are worn or mutilated.
- If there is a tendency for the shaft to stick or turn hard due to lack of lubrication, apply a slight amount of KS-6232 oil with a toothpick.
- Poor insulation of bushings in the spring assembly or partial short circuit in the armature may also cause the generator to turn hard.

Hand generator troubles may in general be located as follows:

1. Opens

- No audible ringing is heard in a test receiver bridged across the terminals when the generator is turned.
- The trouble may be due to spring adjustment of the automatic cutout or to an open winding in the armature.

2. Short Circuits

- The generator turns excessively hard in certain positions.
- If after opening one or both line wires on the generator it still turns hard, the trouble may be in the springs, bushing, or in the armature itself.

3. Weak Ringing

- If armature turns freely, this may be caused by weak magnets or magnets not properly polled.
- All similarly marked ends of the magnets must be on the same side of the generator (see Fig. 3A).