POWER LOAD RECORDING
USING THE GENERAL ELECTRIC COMPANY TYPE CF-2 RECORDER
MODEL 8CF2AEA202
OPERATING METHODS

1. GENERAL

1.01 This section covers a method of using a General Electric Company CF-2 model 8CF2AEA202 recording millivoltmeter for use with a 50-millivolt shunt to record power plant dc drains and to cover the preparation of leads for connecting the recorder to the power discharge and ac supply circuits. The recorder scale is graduated from 0 to 1 and readings must be multiplied by the rated current value of the external shunt across which the recorder is connected. The recorder drive mechanism operates from commercial 115- or 230-volt, 60-cycle ac service. Ordering information for record rolls and typewriter ribbon for the recorder and parts required to make up the connecting leads are included in this section.

1.02 The section is reissued to revise the recorder ordering information and to add a power cord.

1.03 The information in this section is arranged under the following headings:

1. GENERAL
2. PREPARATION OF RECORDER LEADS
3. CONNECTING RECORDER TO DISCHARGE CIRCUIT
4. REMOVING RECORDER FROM DISCHARGE CIRCUIT ←

1.04 List of Tools and Test Apparatus (Equivalents may be substituted)

Tools

Copper, soldering, KS-14440

Pliers, diagonal, 5 inches

Pliers, P-long nose, 6-1/2 inches

Screwdriver, cabinet, 3 inches

Gauges

Scale, steel, R-8550

Recorder, General Electric Co type CF-2 model 8CF2AEA202 ← ←

Materials

Body, connector, Harvey Hubbell Inc., cat. No. 7084

Cap, armored cord grip, Harvey Hubbell Inc., cat No. 7057

Cord and cap, 25-foot length, one of the following, as required:

KS-7585 (radial polarized)
KS-7586 (parallel nonpolarized)
KS-7993 (parallel polarized)

Cord tips (two), No. 35

Fuses (two), 20 amperes, 250 volts, Littlefuse 3AB No. 314020 or Buss No. ABC-20

Record roll, General Electric Co cat. No. 54A1-3 for General Electric Co type CF-2 model 8CF2AEA202 recorder (5 rolls furnished with recorder)

Retainers, fuse (two), in line, Littlefuse No. 157020 or Buss No. HRJ-20 ←

Ribbon, typewriter, General Electric Co cat. No. 4141571P2 for General Electric Co type CF-2 model 8CF2AEA202 recorder

Solder, rosin core

Tape, friction or plastic

Terminal tips (two), General Electric Co cat No. 4141870P2 (furnished with recorder) ←

Wire, No. 18 double conductor, rubber-covered type SJ appliance cord, 8 inches long ←

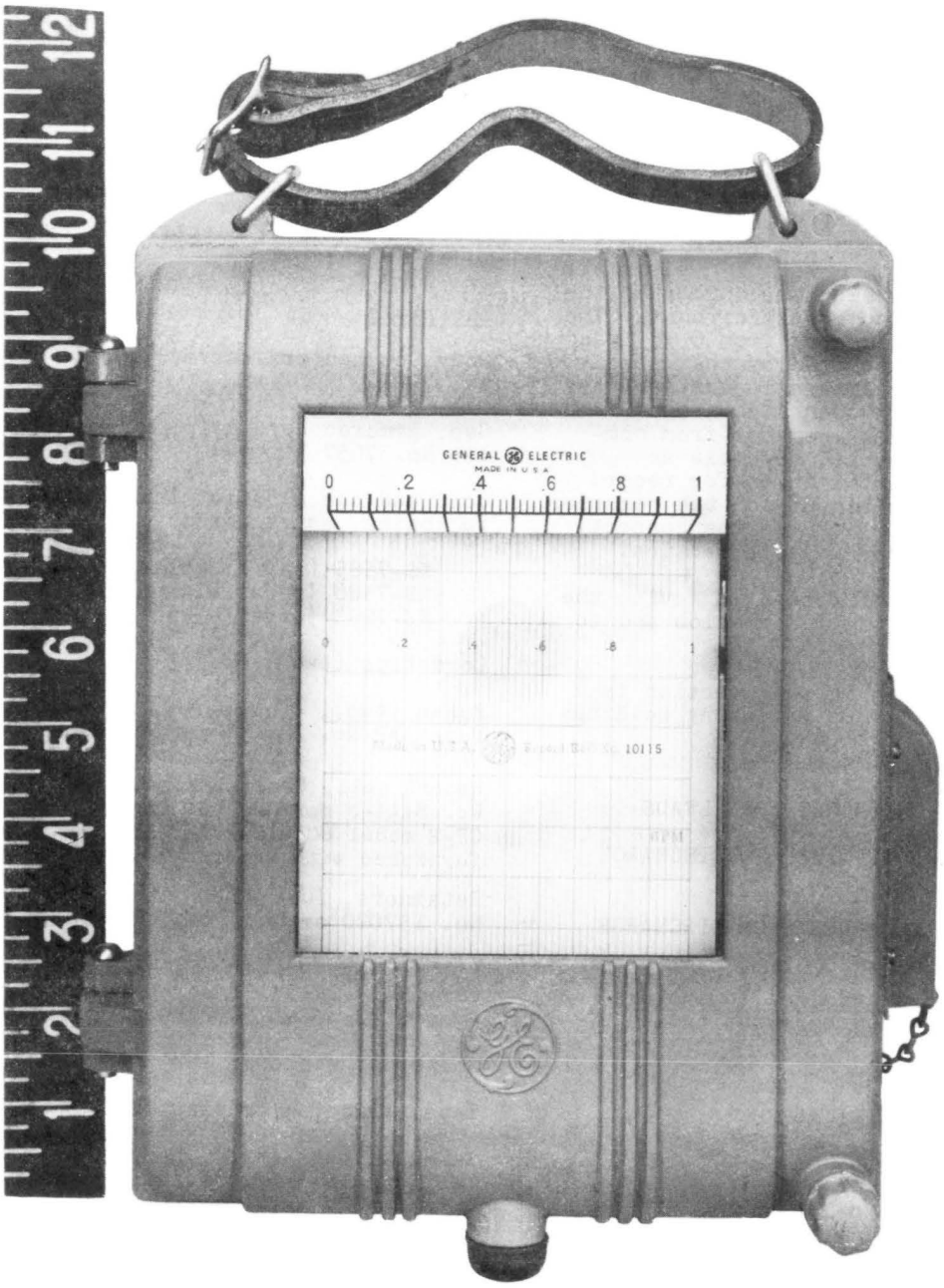

Fig. 1 - General Electric Company Type CF-2 Recorder - Cover Closed

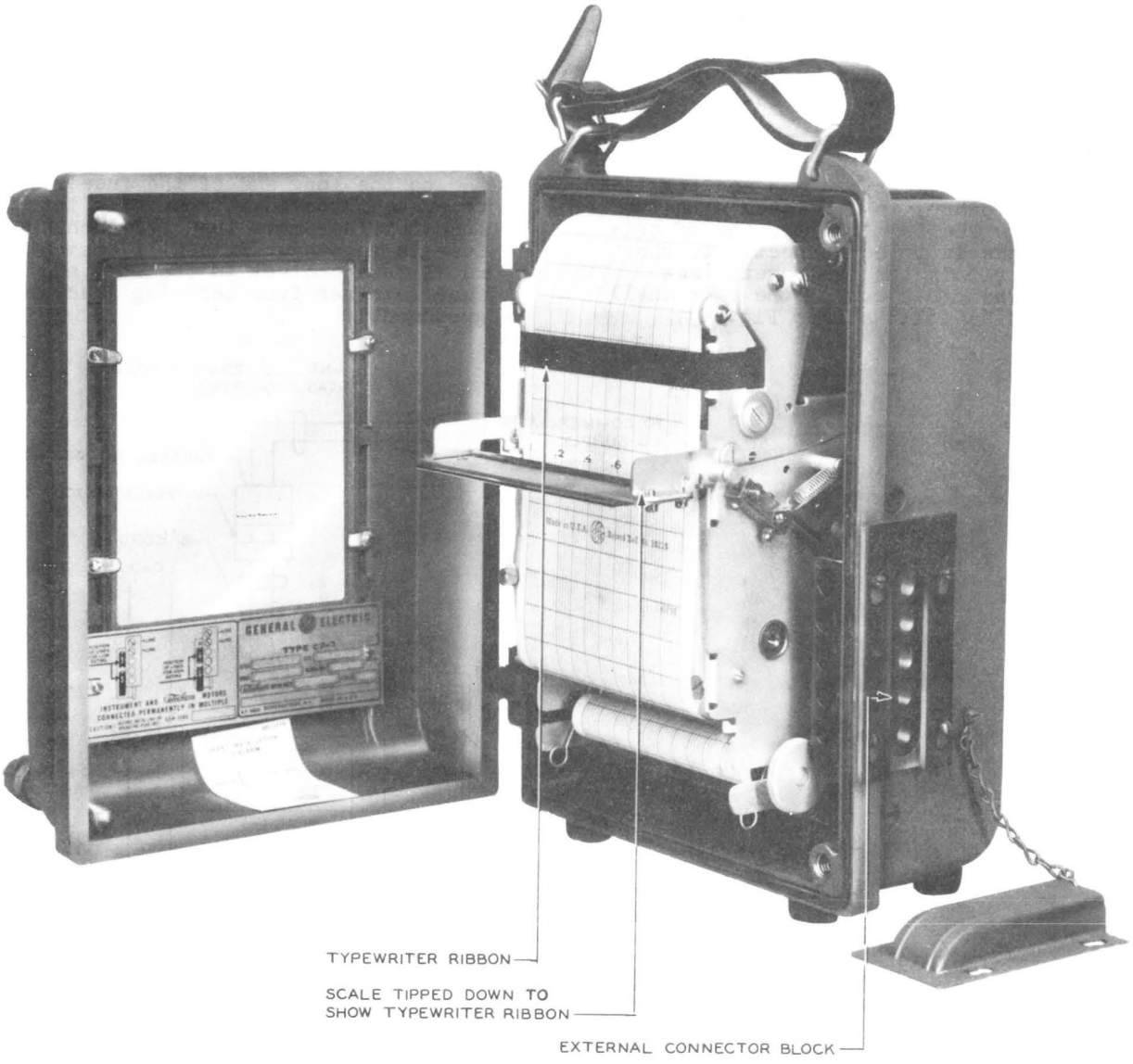

Fig. 2 - General Electric Company Type CF-2 Recorder - Cover Open

2. PREPARATION OF RECORDER LEADS

2.01 AC Supply Leads: Make up an 8-inch cord using No. 18 double-conductor rubber-covered wire. Equip one end of this cord with the two General Electric Company terminal tips furnished with the instrument and connect it to the two ac supply terminals on the terminal strip in the recorder (see Fig. 3). Attach the Hubbell No. 7057 plug cap to the other end of this cord. Attach the Hubbell No. 7084 body to the free end of the 25-foot KS cord.

2.02 DC Equipment Leads: A 5-foot length of black and white twisted wire, equipped with lugs at one end and terminal tips at the other, is furnished with the instrument. The terminal tip end of this pair of leads is to be connected to the terminal strip in the instrument (see Fig. 3). The other end of the pair shall be arranged as follows (see Fig. 4):

(a) Cut the leads furnished on each end of the fuse retainer to 3 inches.

(b) Skin the lead on the long end of each fuse retainer and solder to a No. 35 cord tip.

(c) Skin the lead on the short end of each fuse retainer. Remove the lug and skin the loose end of each of the equipment leads. Splice a fuse retainer to each equipment lead. Solder and tape the spliced connections.

(d) Wrap tape around the lead connected to the long end of the fuse retainer to prevent the lead from going into the fuse retainer more than 1/2 inch when the fuse is removed. This will prevent the metal fuse contact in the long end of the fuse retainer from becoming inadvertently grounded.

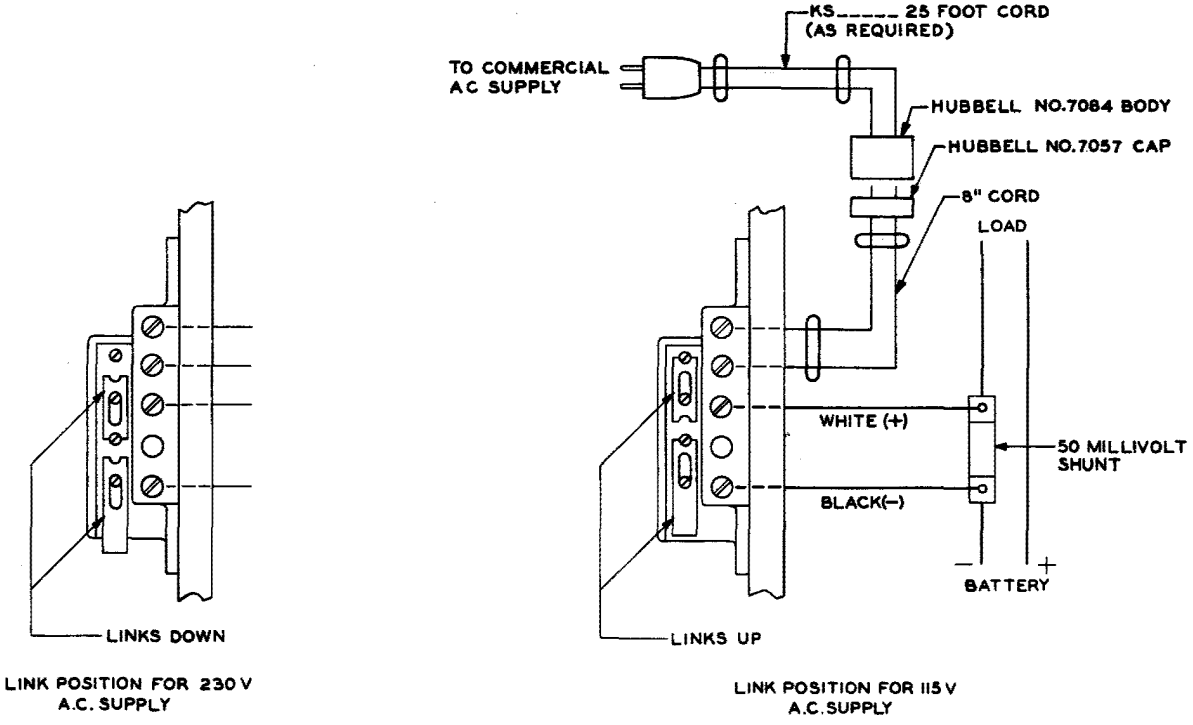

Fig. 3 - Recorder Terminal Strip Link Positions

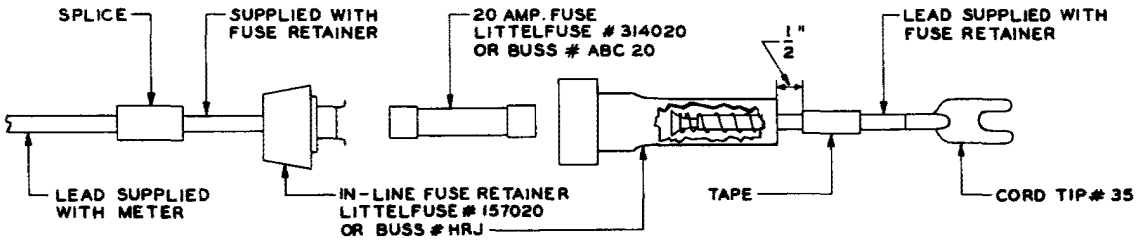

Fig. 4 - Test Lead Preparation

3. CONNECTING RECORDER TO DISCHARGE CIRCUIT

3.01 The recorder is intended to connect across the 50-millivolt shunt located between the negative battery bus and the power plant load bus.

Note: Where a 50-millivolt shunt is not provided, the CF-2 recorder cannot be used.

3.02 Adjust the terminal block links in the recorder to agree with the voltage of the ac power convenience outlet to which the meter will be connected (see Fig. 3).

3.03 Remove the fuses from the fuse retainers in the dc equipment leads. Connect the terminal tip ends of the black and white leads to the recorder terminal strip (see Fig. 3). Connect the white lead to the load bus side of the 50-millivolt shunt, and connect the black lead to the negative battery bus side of the shunt (see Fig. 5). To connect these leads to the shunt, place the cord tip at the end of each test lead under the meter terminal screw on the two ends of the shunt and tighten. Reinstall the fuses by first placing the fuse into the short end of the fuse retainer, and then plugging the short end of the fuse retainer into the long end of the fuse retainer. Then connect the Hubbell cap and body together (see Fig. 3) and plug the ac supply cord into an ac supply outlet. The recorder should start recording the power load.

4. REMOVING RECORDER FROM DISCHARGE CIRCUIT

4.01 Disconnect the ac supply cord leaving the 8-inch cord permanently connected to the recorder.

4.02 When removing the equipment leads after all measurements have been taken, first separate the fuse retainers, loosen the screws on the shunt, remove the No. 35 cord tip ends of the leads from the shunt, tighten the shunt screws, remove the terminal tip ends of the leads from the recorder terminal strip, and reassemble the fuse retainers.

Note: See General Electric Company Instruction Bulletin GEN-1080J, which is furnished with the recorder, for operating and maintenance instructions.

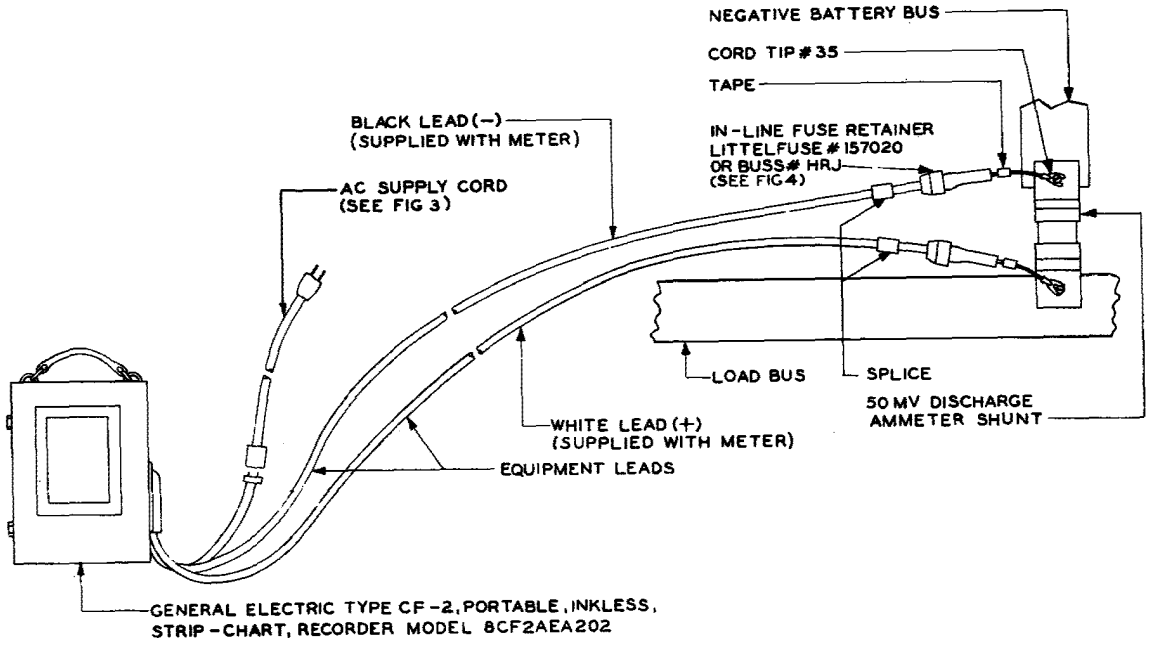

Fig. 5 - Connection Sketch