RINGING AND COIN CONTROL GENERATORS

AND ASSOCIATED APPARATUS AND CIRCUITS

1. GENERAL

1.01 This section covers the preparation of notes and schematic drawings for use in expediting the locating and clearing of trouble in ringing and coin control generators or interrupters associated apparatus and circuits, and to provide general instructions relative to the clearing of trouble in this class of equipment.

1.02 The issuance of notes and drawings similar to those attached is particularly intended to assist employees other than the regular powermen who are on duty on Sundays, holidays, etc., but these notes and drawings should also be of value in aiding anyone to rapidly locate the various circuit parts whenever required. The drawings appear on separate sheets for easy reference.

1.03 The number of different types and arrangements of ringing generators and their associated coils, switches, circuits, etc., make it impracticable to cover each type in detail in practice form. The attached notes and drawings are therefore to be used as models for each wire chief to follow in the preparation of drawings applicable to his office in particular.

2. GENERAL TROUBLE PROCEDURES

2.01 The procedure to follow in the event of a failure of all of the functions of a ringing and coin control generator or a complete failure of one of these functions should be emphatically impressed upon all concerned. This is, to start the reserve machine and transfer the load to that machine or, where automatic transfer equipment is provided, to see that the automatic features function as intended.

2.02 The transfer of the load to the reserve machine will restore service in a majority of cases where troubles of these classes are encountered. The actual trouble may then be located and corrected in a normal manner, after which the regular machine should be restored to service.

2.03 Where the trouble is not corrected by transferring the load to the reserve machine, the fault is usually in a branch circuit as the common part of the circuit on the equipment side of the transfer switches is very limited.

2.04 Where failures do occur outside of the common part of the circuit, the type and location of the trouble will usually be indicated by alarm lamps and signals associated with the various fuses, etc.

2.05 A plant department employee receiving a report of a ringing and coin control failure of any kind should make every effort to obtain all available information that would assist in the rapid location and clearing of the trouble.

3. PREPARATION OF NOTES AND DRAWINGS

3.01 The attached data are in two groups, as follows:

(a) A model set of schematic drawings showing a general circuit layout of the ringing machine features segregated by groups, i.e., all tones are on one drawing, all classes of ringing current on another, etc. Each drawing is arranged to show the location on the ringing machine, power board, distributing fuse panel, etc., of the fuse switch, or other part involved. One drawing indicates the function of each of the rings on the commutator and interrupter of the ringing machine.

(b) A model set of notes describing the procedure to be followed for each type of failure, together with the location of the parts to be checked.

3.02 Each wire chief shall prepare in draft form a set of notes and schematic drawings for his office based upon the attached model notes and drawings, or, if the models are suitable for use in the particular office with a minimum amount of correction, shall order additional copies of the models from the general plant supervisor.

3.03 In preparing the drawings for a particular office, care should be taken to indicate the various points where tests are to be made and their location and thus avoid the delay, in the case of circuit trouble, of obtaining this information from several more elaborate drawings.

3.04 In cases where draft copies of notes and drawings are prepared, these shall be forwarded by the wire chief to the general plant supervisor who will arrange for duplication and furnish the number of copies required.

3.05 Copies of notes and drawings prepared for a particular office shall be mounted near the power board and at such other locations on the equipment floors as may seem desirable.

3.06 Drawings No. 8 to No. 14 may be adapted to a particular office by posting fuse capacity and equipment location in the space provided.

Attachments:
Drawings No. 1 to No. 14
Model Set of Notes

MODEL SET OF NOTES

SECTION 155-499-901PN

COMMON EQUIPMENT TROUBLE - RINGING AND COIN CONTROL GENERATORS AND ASSOCIATED APPARATUS AND CIRCUITS

METHOD OF RESTORING SERVICE AND CLEARING TROUBLE

RESTORING SERVICE

1. Failures of ringing, coin collect, impulse, or tone features of the ringing generator circuit will be one of three classes:

   (A) Complete failure of all circuits (all ringing, tones, etc.)
   (B) Complete failure of one circuit (1 bell ring, C.C., etc.)
   (C) Partial failure of one circuit (dial tone off part of selectors, etc.)

(A) Complete Failure of All Circuits

2. In case of a complete failure: First, start the emergency battery-driven generator and transfer the load to it. Second, check the various tones, etc., to see that they are restored. If one or more circuits are still in trouble proceed as outlined in 5.

(B) Complete Failure of One Circuit

3. In case of a complete failure of one circuit, such as the 1-bell ring, coin collect, etc., start the emergency battery-driven generator and transfer the load to it. Check the circuit that was in trouble to see if it is clear.

(C) Partial Failure of One Circuit

4. Where the trouble is a failure of one of the circuits, such as dial tone, ringing current, etc., on only part of the equipment, trace the circuit back from the selector, connector, or other equipment involved toward the fuse panel until the trouble is located.

PROBABLE LOCATION OF TROUBLE

5. If found to be still in trouble, proceed as follows: (The attached model schematic drawings show the circuits and locations of apparatus:)

Busy and Dial Tones (Reference Drawing No. 3)	Location
(1) Check transfer switch contacts and connections	Front and rear of power board panel No____
(2) Check connections at 30A and 60A repeating coils	Rear of power board panel No____
(3) Test for 48V battery at terminal 1 of 30A coil or "S" terminals of 60A coil.	Rear of power board panel No____
(4) If no battery is received on the coils (see 3) check the 48V-5 amp fuse and connections.	Front of power board panel No____
(5) Check for tone across terminals 1 and 2 of 30A or "S" terminals of 60A coils. No tone indicates defective coil.	Rear of power board panel No____
(6) Check wiring and tone at 3 amp tone fuses. These fuses are at the end of common tone circuit.	Front of power board panel No____
Coin Collect Circuits 110V+ & 110V-D-C	
(1) Check the transfer switch contacts and connections and test for current.	Front and rear of power board panel No____
(2) Check the 2 amp CC+ or - fuse connections and test for current.	Front and Rear of power board panel No____

Coin Collect Circuits 110V+ & 110V-D-C (Cont.)	Location
Note: These fuses are the end of the common circuit.	
Ringing Generator (Drawing No. 2)	
(1) Check the contacts and connections at the transfer switch and test for current.	Front and rear of power board panel No____
(2) Check the connections at the 3 amp fuses (direct generator) and check for generator. (These fuses are the end of the common circuit.	Front and rear of power board panel No____
(3) Check the connections at the 5 amp fuses (interrupted generator R1 and R2) and check for generator.	Front and rear of power board panel No____
Note: The fuses in 2 and 3 are the end of the common circuit.	
60 Interruptions per Minute (60-I.P.M.) (Drawing No. 5)	
(1) Check the contacts and connections at the transfer switch and test for interrupted ground.	Front and rear of power board panel No____
(2) Check the contacts and connections at the #707 Trumbull switches and test for interrupted ground.	Rear of power board panel No____
Note: These switches are the end of the common circuit.	
120 Interruptions per Minute (120-I.P.M.) (Drawing No. 5)	
(1) Check the contacts and connections at the transfer switch and test for interrupted ground.	Rear of power board panel No____
(2) Check the contacts and connections at the #707 Trumbull switches and test for interrupted ground.	Rear of power board panel No____
Note: These switches are the end of the common circuit.	
Pick-up	
(1) Check the contacts and connections of the transfer switches of each branch of the pick-up circuit.	Front and rear of power board panel No____
(2) Check the contacts and wiring of the #707 Trumbull switches.	Rear of power board panel No____
Note: These switches are the end of the common circuit.	
Pick-up Alarm	
(1) Check the contacts and connections of the transfer switches.	Front and rear of power board panel No____
(2) Check the wiring and fuses at the alarm contacts of the interrupted ringing current fuses.	Front and rear of power board panel No____