313-TYPE COLD CATHODE TUBES
USING TEST CIRCUIT SD-68204-01
REQUIREMENTS AND ADJUSTING PROCEDURES
NO. 4, A4A, 4A, AND 4M SWITCHING SYSTEMS

## 1. GENERAL

1.01 This section covers the conditions under which the electrical requirements of 313-type cold cathode tubes shall be applied using the cold cathode tube set circuit SD-68204-01 in the Nos. 4, A4A, 4A, and 4M toll switching systems.

1.02 This section replaces Section A229.808, Issue 1, and changes the nomenclature of the section to agree with changes in the schematic drawing of the test circuit per Issue 6D. The Nos. 4A, A4A, and 4M toll switching systems are also added to the title.

## 2. APPARATUS

2.01 Cold Cathode Tube Test Circuit SD-68204-01.

## 3. PREPARATION

3.01 Operate the ON key. Observe that the ON lamp lights.

3.02 Operate the M1 key to the MG 250V position.

3.03 Change the position of the MG potentiometer and note that the voltmeter reading changes. If the reading does not change, the indication is that there is a trouble condition in the test circuit, in which case, clear the trouble before proceeding.

3.04 Operate the M1 key to the CG 125V position.

3.05 Change the position of the CG potentiometer and note that the voltmeter reading changes. If the reading does not change, the indication is that there is a trouble condition in the test circuit, in which case, clear the trouble before proceeding.

3.06 Restore all keys. Observe that the ON lamp is extinguished.

## 4. REQUIREMENTS

4.01 Cold cathode tubes shall meet the electrical requirements specified in Tube Requirements Table on the test circuit drawing.

## 5. TESTING PROCEDURES

5.01 Operate the ON key. Observe that the ON lamp lights.

5.02 Insert the tube to be tested into the T socket.

5.03 Operate the M1 key to the MG 250V position.

5.04 Adjust the MG potentiometer so that the reading on the lower scale of the meter is 65. This reading is equivalent to 130 volts.

> Note: If the required reading can not be obtained at any position of the potentiometer, operate the MGV key to the H position and then adjust the potentiometer for the proper reading.

5.05 Operate the M1 key to the CG 125V position.

5.06 Adjust the CG potentiometer so that the reading on the lower scale of the meter is equal to that specified for the maximum ionizing starter gap voltage in the Tube Requirements Table.

5.07 Operate the TST key. Observe that the BD lamp lights, indicating that the tube under test has met its ionization requirements.

5.08 Restore the M1 key and the MGV key, if operated, and operate the M2 key to the 25 MA position.

5.09 Adjust the MG potentiometer so that the reading on the upper scale of the meter is 20 milliamperes. Observe that the BD lamp remains lighted.

> Note: If the required reading can not be obtained at any position of the potentiometer, operate the MGV key to the H position and then adjust the potentiometer for the proper reading.

5.10 Operate the M2 key to the MG 125V position. Observe that the direct reading on the lower scale of the meter is within the limits specified for the anode gap voltage drop in the Tube Requirements Table.

5.11 Restore the M2 key and the MGV key, if operated. Restore the TST key. Observe that the BD lamp is extinguished.

5.12 Operate the M1 key to the MG 250V position.

5.13 Adjust the MG potentiometer so that the reading on the lower scale of the meter multiplied by 2 is equal to that specified for the maximum anode gap voltage forward voltage in the Tube Requirements Table.

> Note: If the required reading can not be obtained at any position of the potentiometer, operate the MGV key to the H position and then adjust the potentiometer for the proper reading.

5.14 Operate the M1 key to the CG 125V position.

5.15 Adjust the CG potentiometer so that the direct reading on the lower scale of the meter is 1 volt lower than that specified for the minimum ionizing starter gap voltage in the Tube Requirements Table.

5.16 Operate the TST key. Observe that the BD lamp does not light.

5.17 Restore all keys. Observe that the ON lamp is extinguished.