

## 204 TYPE SELECTOR BANK CONTACTS AND ASSOCIATED WIPERS TELEGRAPH AND TOLL EQUIPMENTS CLEANING AND TREATING

### 1. GENERAL

1.01 This section covers the procedures for cleaning and treating bank contacts and wipers of 204 type selectors used in telegraph and toll equipments.

1.02 See Division 026 section covering 204 type selectors (minor switches) for requirements covering cleaning and treating these bank contacts and wipers.

1.03 For the purpose of this section where reference is made to the right and left levels it shall be interpreted as the levels that are further and nearer, respectively, the flat portion of the selector frame. References to the upper and lower bank contacts shall be interpreted as the outer and inner rows, respectively, of each level with respect to the frame. If the selectors are mounted in any other position reference to the levels shall be translated to take care of this condition.

### 2. TOOLS AND MATERIALS

<u>Code No.</u>	<u>Description</u>
<u>Tools</u>	
451A	Bank Contact Cleaner (Modified Locally)
-	R-1051 6" Pillar File
-	4 Oz. Riveting Hammer
-	1/16" Pin Punch
-	KS-6320 Orange Stick
<u>Materials</u>	
-	No. 29 Sleeving (Aloxite)
-	No. 30 Sleeving (Oiled)
-	No. 22 Wire (1 Foot Long)

### 3. PREPARATION OF CLEANING TOOL

3.01 Modification of No. 451A Bank Contact Cleaner: Cut approximately 1-1/2" off the length of the handle and saw a slot in the end to replace the slot in the portion that was removed. File off the head of the brass rivet furthest from the free end of the finger of the bank contact cleaner with the R-1051 file. Drive out the rivet with

the 1/16" pin punch and 4 oz. hammer. While holding the tool so that the finger is above the extension of the handle, rotate the finger on the remaining rivet approximately 36° in a clockwise direction and with the R-1051 file, file off that portion of the finger that extends beyond the left side of the handle until it is flush with the side of the handle and file off the portion of the handle that may extend beyond the edge of the slot nearest the rivet so as not to interfere with the insertion of the tape. Bevel these edges slightly. Using the file, clean the pointed end of the finger and the adjacent portion of the handle so that they may be soldered together. Rotate the finger in a counter-clockwise direction so that the pointed end moves approximately .030" and solder the finger and the handle together by applying the solder at the pointed end of the finger. See Fig. 1. Then file off approximately 1/32" from the right hand side of the finger adjacent to the slot with the R-1051 file. This will permit cleaning the first half of the lower contact on the level at the left. If necessary insulate the handle with tape or sleeving.

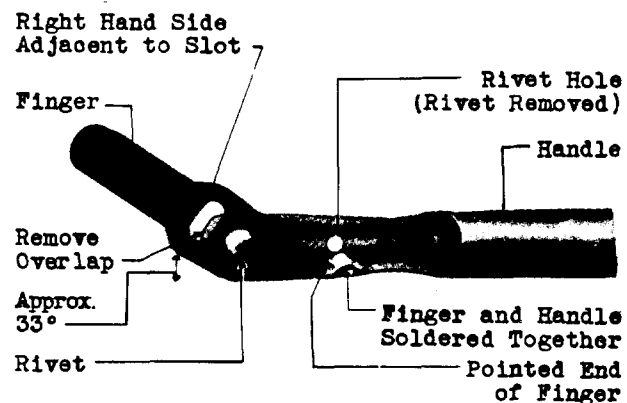


Fig. 1 - Method of Modifying the No. 451A Bank Contact Cleaner

3.02 Preparation of No. 451A Bank Contact Cleaner: To sleeve the No. 451A bank contact cleaner, thread a piece of sleeving about two or three feet long through the hollow handle of the tool from the finger end of the tool. This operation may be facilitated if a piece of No. 22 wire about 1 foot long is wrapped around and secured to the sleeving and the wire used as a needle to draw the sleeving through the handle.

Disengage the wire after the sleeving has been drawn through the handle and thread the end of the sleeving through the slot near the finger of the tool. Draw approximately 2" of the sleeving through this slot and pull the end over the finger of the tool. Then draw back the remainder of the sleeving through the other end of the tool making the part that is over the finger fairly tight. Exercise care that the sleeving is not pulled so tight that the finger of the tool protrudes through the sleeving. See Fig. 2. To obtain a fresh cleaning surface, release the sleeving from the slot, pull it off the finger of the tool and out off the used end of the sleeving. Then force the fresh end of the sleeving over the finger of the tool and pull the sleeving back through the handle as outlined above. Use a fresh cleaning surface for each row of contacts on each level.

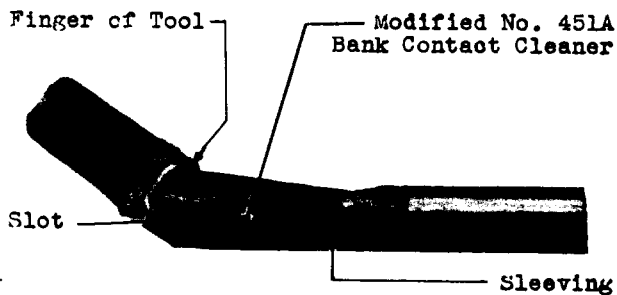


Fig. 2 - Position of Sleeving on Modified No. 451A Bank Contact Cleaner

**4. PREPARATION OF SELECTORS**

**4.01 Make Busy Information:** Before treating the bank contacts or wipers, make busy in the approved manner, the relays or other apparatus controlling the operation of the selector.

**4.02** Remove the wiper assembly restoring spring and rotate the wipers off the bank. If wiring conditions are such as to cause interference between the wiring and the modified No. 451A bank contact cleaner, remove the wiper assembly and off-normal spring assembly as outlined in the Division 026 section covering this apparatus.

**4.03** After cleaning and treating the bank contacts and wipers, remount the parts that were removed as outlined in the Division 026 section covering this apparatus.

**5. PROCEDURES FOR CLEANING AND TREATING BANK CONTACTS AND ASSOCIATED WIPERS**

**Treating Banks Equipped Wholly with Silver Plated Contacts**

**5.01** Treat the bank contacts with the No. 451A tool threaded with the No. 30 sleeving. In performing this operation,

treat the contacts in the level at the right from the tenth to the first contact as outlined in 5.02 and 5.03 followed by treating the contacts in the level at the left as outlined in 5.04. In no case shall No. 29 aloxite sleeving be used for cleaning banks equipped with silver-plated contacts. When more than one selector is to be treated, proceed along the mounting plate from right to left.

**Note:** Silver plated bank contacts are subject to tarnish. In order to protect the finish, no attempt should be made to remove this tarnish as it is not detrimental electrically in the normal operation of the apparatus.

**5.02** To treat the upper bank contacts in the level at the right, hold the modified No. 451A bank contact cleaner so that the finger of the tool is above the handle and projects toward the right. Insert the tool from the side further from the magnets and place the finger of the tool as shown in Fig. 3 firmly (with a pressure of approximately one pound) against the tenth bank contact. Take three complete strokes across the width of the contact and proceed to the next contact. Treat all the upper bank contacts in the level at the right in the same manner progressing from the tenth to the first bank contact. Then while exercising a light pressure on the bank contact cleaner, draw it with a single stroke, across the row of contacts. This will tend to remove any lint that may have been deposited in the treating operation.

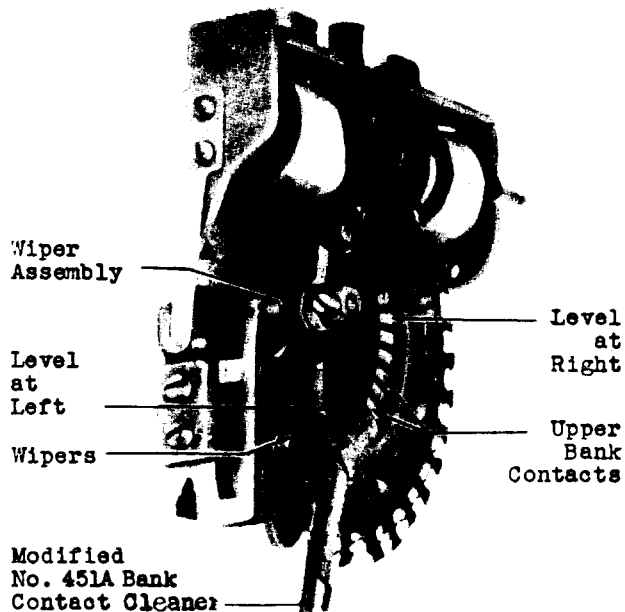


Fig. 3 - Method of Cleaning and Treating Bank Contacts

5.03 To treat the lower bank contact in the level at the right, insert the bank contact cleaner as outlined above between the wipers at the right and left and between the levels at the right and left as outlined in 5.02. The contact in the lower portion of the level at the right is a solid contact across the entire bank. Press the cleaning tool firmly (with a pressure of approximately 1 pound) against the contact and take three complete strokes across the width of the contact. Then while exerting a light pressure on the bank contact cleaner against the contact, draw the tool with one stroke across the contact. This will remove any lint that may have been deposited on the contact.

5.04 To treat the upper and lower bank contacts in the level at the left, proceed as outlined in 5.02 and 5.03 except that after cleaning the upper row of contacts and about one-half the contact on the lower row, withdraw the tool and reinsert it with the finger pointing to the left to treat the remainder of the contact.

#### Cleaning and Treating Banks Equipped with Brass Contacts

5.05 Clean the bank contacts as outlined in 5.02 to 5.04 inclusive with No. 29 sleeving applied in the manner outlined in 5.02 to 5.04 except that six strokes should be used instead of three and the pressure should be as much as practicable (at least two pounds). This procedure shall be followed by the procedures outlined in 5.02 to 5.04 inclusive using the No. 30 sleeving.

#### 6. PROCEDURES FOR CLEANING AND TREATING WIPERS

6.01 With the wiper assembly rotated off the bank, separate the wiper tips of the wiper at the right with the KS-6320 orange stick and insert the finger of the No. 451A tool sleeved with the No. 30 sleeving between the springs. Take six complete strokes in the direction of the normal rotation of the wipers with the pressure permitted by the tension of the wipers. Then proceed as outlined above to treat the wiper at the left. Exercise care not to exert sufficient pressure on the wiper tips to change their adjustment with respect to the contacts.