

## KEY AND JACK CONTACTS METHOD OF CLEANING

### 1. GENERAL

- 1.01 This section covers procedures to be followed in cleaning key and jack contacts.
- 1.02 This section is reissued to incorporate material from the addendum in its proper location.
- 1.03 Due to the fact that the failure of a circuit to function properly is often traced to dirty contacts, it is essential that contacts be kept clean. Therefore, it is important where a key is equipped with a cover that the cover should not be left off longer than necessary. Also, the keyshelf should not be kept open unnecessarily.
- 1.04 In some cases it is necessary to remove keys and jacks from their mountings in order to make the contacts accessible for cleaning. The procedures for performing this operation are covered in the individual sections for the various types of keys and jacks.
- 1.05 If it is necessary to remove a jack in order to gain access to the contacts, it may be economically advisable to replace the jack instead of cleaning the contacts, if the contacts are pitted.

### 2. LIST OF TOOLS AND MATERIALS

<u>Code or Spec No.</u>	<u>Description</u>
<b><u>Tools</u></b>	
265C	Contact Burnisher Holder (Includes No. 266C and 266E Tools)
266C	Wire Burnisher
373D (or the replaced 373C)	Contact Burnisher Holder
374A	Contact Burnisher Blade
374B	Contact Burnisher Blade
374C	Contact Burnisher Blade
510C (or the replaced 510B)	Test Lamp [equipped with W2CB (24V) or W2BL (48V) cord]
KS-2993	Brush
KS-6320	Orange Stick
<b><u>Materials</u></b>	
KS-2423	Cloth
KS-8372	Trichloroethylene
KS-14666 (or the replaced D-98063)	Cloth

### 3. CARE OF TOOLS USED IN CONTACT CLEANING

- 3.01 Keep the blades of contact burnishers clean and avoid touching or rubbing them with the fingers. Wipe the blades with a clean dry KS-2423 cloth before placing them between contacts. During use wipe them frequently with a clean KS-2423 cloth dampened with KS-8372 trichloroethylene.

### 4. CONTACT CLEANING

#### General

- 4.01 Before cleaning contacts examine the apparatus for the presence of dust and lint. If an excessive amount of dust and lint has collected on or adjacent to the contact portions of the apparatus, remove it with the KS-2993 brush or with a KS-14666 cloth. The use of a vacuum cleaner is desirable in order to collect dust and lint, and to prevent it from spreading to other apparatus.
- 4.02 To accomplish the desired result, hold the open end of the vacuum cleaner hose in close proximity to the parts from which the dust and lint are being removed. Protect adjacent apparatus while performing this operation.

- 4.03 **Key Covers:** Before replacing key covers, clean them on the inside with a KS-14666 cloth. Do not use a cloth that has been moistened with oil of any kind.

#### Burnishing Contacts

- 4.04 To clean contacts, burnish them using the No. 373D contact burnisher holder and the Nos. 374A, 374B, or 374C contact burnisher blades. Typical examples of methods of burnishing contacts are shown in Figs. 1 and 2.

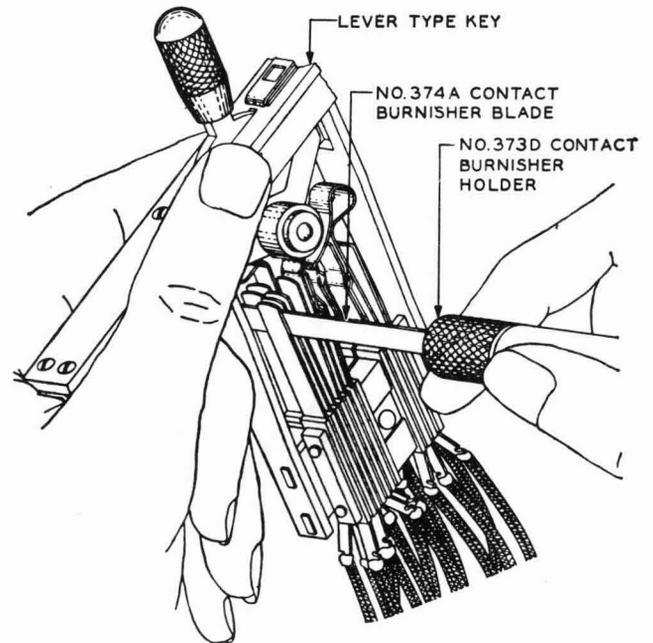


Fig. 1—Method of Burnishing Contacts of Lever-type Keys

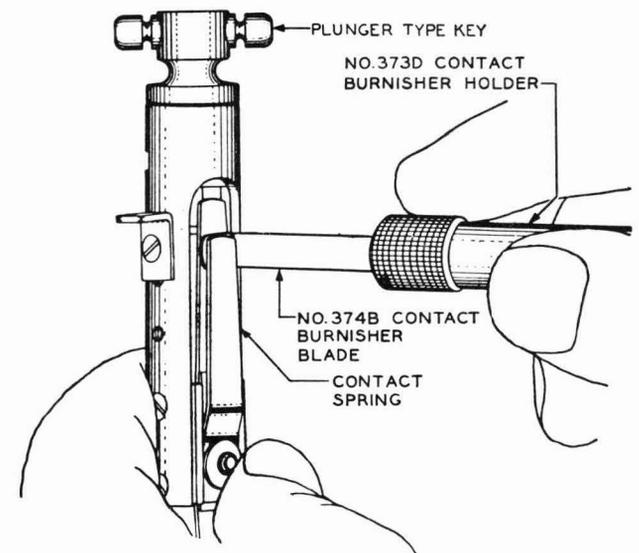


Fig. 2—Method of Burnishing Contacts of Plunger-type Keys

4.05 To burnish normally open contacts on keys, place the burnisher blade between the contacts and either press the contacts against the blade with a KS-6320 orange stick or operate the key to give a slight pressure on the blade. To burnish normally open contacts on jacks, place the burnisher blade between the contacts and either press the contacts against the blade with the orange stick or partially insert a plug to give a slight pressure on the blade. Then move the burnisher blade back and forth between the contacts three or four times. In some cases additional strokes of the blade may be required to clean the contacts.

4.06 To burnish normally closed contacts on keys, operate the key and place the burnisher blade between the contacts. In the case of normally closed contacts on jacks, insert a plug or open the contacts with the KS-6320 orange stick, as shown in Fig. 3, and then place the burnisher blade between the contacts. Return the key to normal or withdraw the plug or orange stick from the jack, and then burnish the contacts as covered in 4.05.

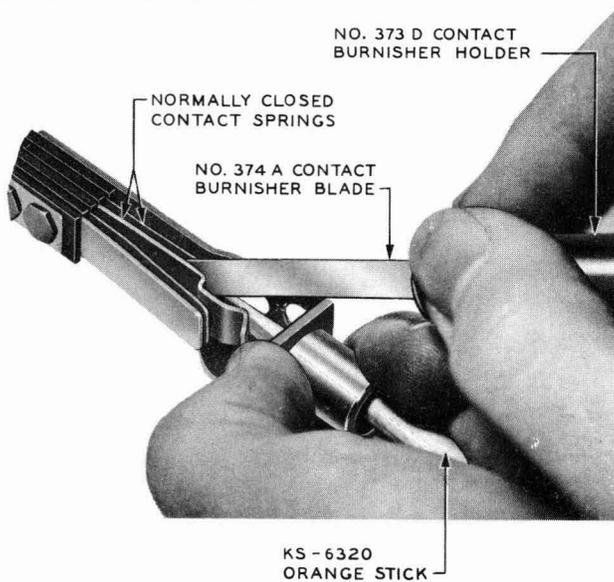


Fig. 3—Method of Inserting Burnisher Blade Between Normally Closed Contacts of Individually Mounted Jacks

4.07 After burnishing, note whether or not the contact follow and contact separation requirements are still met since repeated burnishing tends to increase the contact separation and to reduce the follow. If necessary, correct in accordance with the procedures given in the sections applying to the apparatus.

4.08 Pits on contacts of keys and jacks result from the action of electric current as the contacts make or break. Pitted contacts are not necessarily an indication that the end of the useful life of the contact has been reached. Do not replace keys or jacks as a result of contact pitting unless it has reached a point where contact is made on the base metal to which the contact is welded. Use of the No. 510C test lamp will facilitate determining the condition of contacts.

4.09 Fig. 4 illustrates disc- and bar-type contacts without pits. Figs. 5 and 6 illustrate progressive stages of contact pitting. Fig. 5 illustrates pitted contacts which can be reconditioned by cleaning, and Fig. 6, pitted contacts where replacement of the contact spring or the key or jack is necessary.

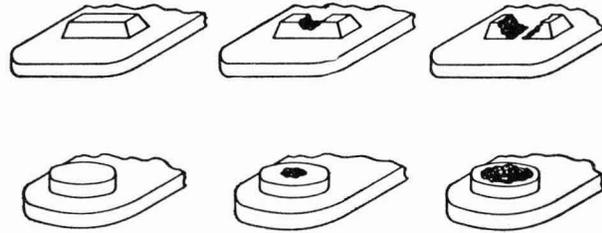


FIG. 4

FIG. 5

FIG. 6

#### Cleaning Pitted Contacts—

4.10 Before cleaning pitted contacts, burnish the contacts to be cleaned as covered in 4.04 to 4.06 of the section. In burnishing, do not attempt to remove the pit from the contact, but burnish only sufficiently to insure that the flat contacting surfaces surrounding the pit are cleaned.

4.11 Burnish the pit using the No. 266C wire burnisher provided with the No. 265C contact burnisher holder. To do this on normally closed contacts of keys, operate the key and place the ball point of the burnisher in the pit. In the case of normally closed contacts on jacks, insert a plug or open the contacts with the KS-6320 orange stick and then place the ball point of the burnisher in the pit of the contact.

4.12 If the pit is small, rotate the barrel of the burnisher holder between the thumb and finger and at the same time apply a slight pressure toward the contact. Apply this pressure by means of the tool itself, since the wire is sufficiently rigid to transmit the necessary pressure. Inspect the contact using the No. 510C test lamp (with the tip removed) and repeat this operation, if necessary, with the burnisher held at various angles until the entire surface of the pit has been cleaned. If the pit is large, the cleaning operation may be accomplished by moving the ball point of the wire burnisher over the surface of the pit with a circular motion. After cleaning the pit, again burnish as covered in 4.04 to 4.07 of the section.