CONTROL RELAYS

KS-15517 AND KS-15726

REPLACEMENT PARTS AND PROCEDURES

1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of the KS-15517 and KS-15726 control relays. This section also covers approved procedures for replacing these parts.

1.02 This section is reissued to bring it up to date. Detailed reasons for reissue will be found at the end of the section.

1.03 Part 2 of this section covers the various parts which it is practicable to replace in the field in the maintenance of the control relays. No attempt should be made to replace parts not designated. Part 2 also contains an explanatory figure showing the different parts. This information is called Replacement Parts.

1.04 Part 3 of this section covers the approved procedures for the replacement of the parts covered under Part 2. This information is called Replacement Procedures.

1.05 Abbreviation NO contact signifies normally open contact. Abbreviation NC contact signifies normally closed contact.

2. REPLACEMENT PARTS

2.01 The figures included in this part show the various replacement parts in their proper relation to other parts of the apparatus with their corresponding names.

2.02 When ordering parts for replacement purposes, give the name of the part as shown in the figure on this section, and also the nameplate data of the control relay for which the part is ordered, including the manufacturer's name, KS specification and list number, voltage and frequency range of the coil, and type of current and rating of contacts in volts (ac or dc) and amperes. For example: One movable contact for the Automatic Switch Company control relay, KS-15517, L1, coil voltage range 105 to 125 volts ac, 60 cycles, contact rating 250 volts, 60 cycles ac, 10 amperes.

2.03 Information enclosed by parentheses ( ) is not ordering information. This information may be references to notes, parts referred to in other portions of the section and not considered replaceable, or part names in general use in the field if these names differ from those assigned by the manufacturer.

2.04 Miscellaneous parts, for example, screws, etc, which are not named in the illustrations and which cannot be obtained locally should be ordered by describing the part and giving the complete nameplate data as referred to in 2.02.

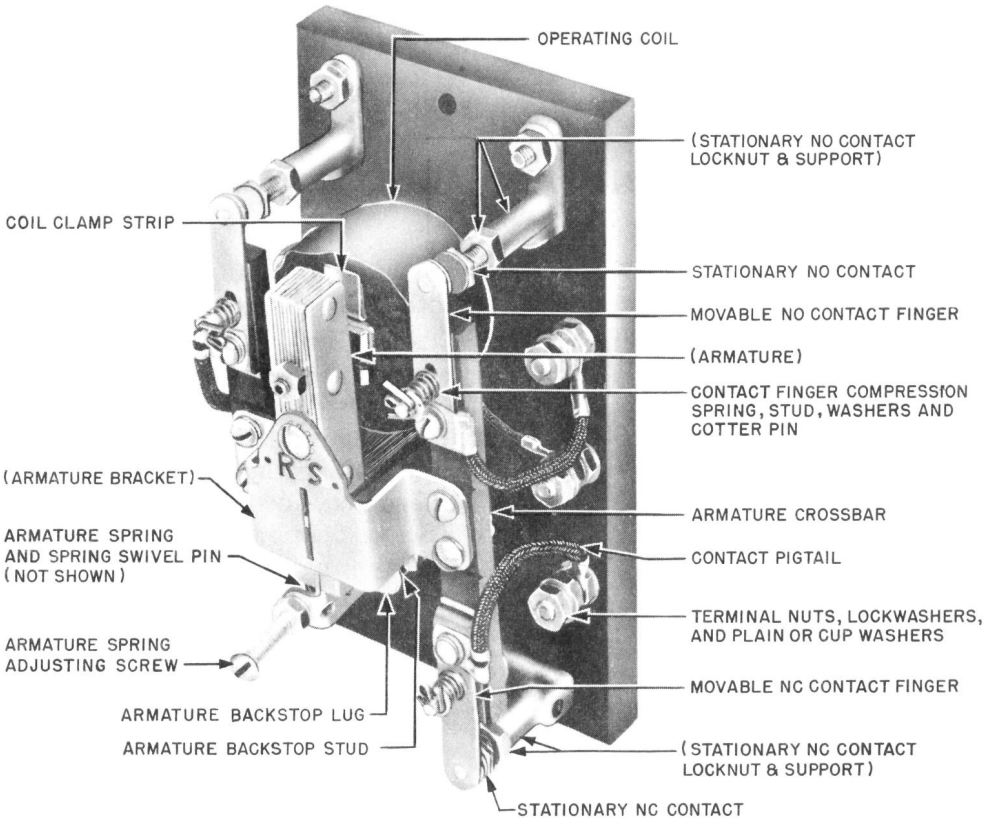

Fig. 1 – KS-15517 Relay (L2 shown)

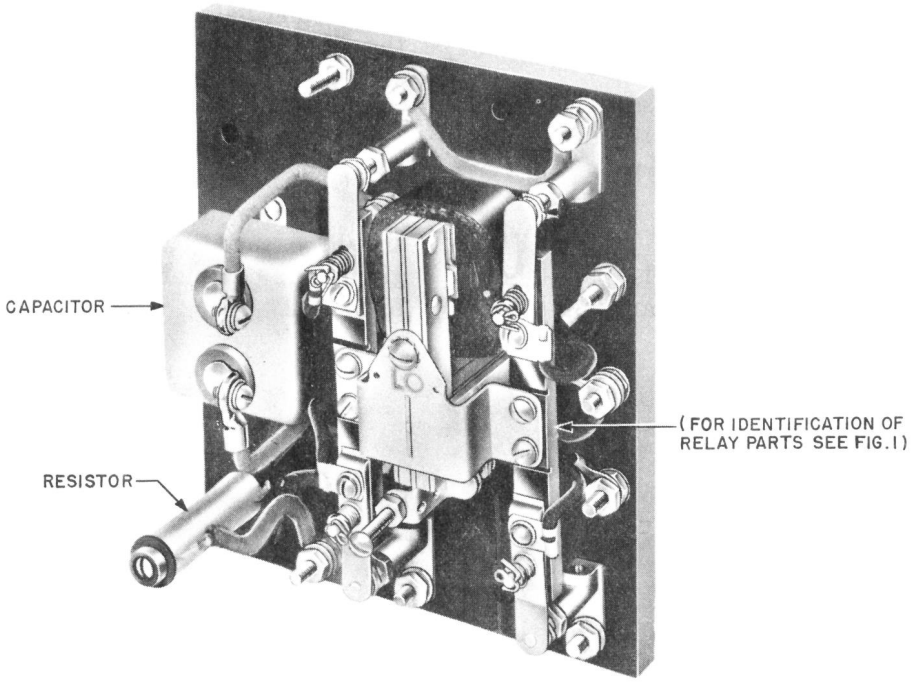

Fig. 2 – KS-15726 Relay (L3 shown)

3. REPLACEMENT PROCEDURES

3.01 *List of Tools*

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
417A (two required)	1/4 and 3/8-Inch Open Double-End Flat Wrench
KS-8740	Electric Soldering Copper
—	Long-Nose Pliers
—	3-Inch C Screwdriver (or the replaced 3-inch cabinet screwdriver)
—	4-Inch E Screwdriver

3.02 ***Caution: Before making any replacement of parts, the high voltage should be removed from the contact terminals when present. To shut off high voltages, refer to the sections covering the associated control equipment. After replacing any of the parts, restore the circuit to service.***

3.03 After making any replacement of parts of a control relay, the part or parts replaced shall meet the readjust requirements involved, as specified in Section 040-667-701. Other parts whose adjustments may have been directly disturbed by the replacing operations shall be checked. The readjust requirements and an over-all operation check shall be made of the relay before restoring the circuit to service.

3.04 No replacement procedures are specified for screws and other parts where the procedure consists of a simple operation.

3.05 Whenever it is necessary to disconnect leads, care should be taken to mark or record the position of the leads to facilitate their correct replacement.

3.06 ***Movable Contact:*** To replace a movable contact, it is necessary to replace the relay contact finger which includes the contact. Remove the screw and washer which fasten the pigtail terminal to the contact finger using the 3-inch C screwdriver. With the long-nose pliers, remove the cotter pin including the washers, compression spring, and stud, and remove the contact finger. Mount a new contact finger in position and reassemble the parts in the reverse order, making sure that the washers are placed in the same position. When replacing a contact finger, replace the associated pigtail using the No. 417A wrench to disconnect the pigtail from the terminal nut.

3.07 ***Stationary Contact:*** To replace a stationary contact, note the amount the contact to be replaced projects beyond the contact support. With the No. 417A wrench, loosen the nut. Remove the contact with the No. 417A wrench. Assemble the nut on a new contact with the lockwasher, and insert the contact in the contact support so that an amount approximately equal to the amount noted above projects beyond the contact support. While holding the contact with one No. 417A wrench, securely tighten the nut with another No. 417A wrench.

3.08 ***Armature Spring and Spring Swivel Pin:*** To replace the armature spring or spring swivel pin, unhook the spring using the long-nose pliers. Substitute the necessary new parts. Insert the spring swivel pin through the hole in the bracket and hook on the spring. Connect the other end of the spring through the hole in the armature spring adjusting screw.

3.09 ***Operating Coil:*** Disconnect the coil leads using the 4-inch E screwdriver or the No. 417A wrench, as required. To gain access to the armature pivot pin, remove the screw and lockwasher which fastens the armature bracket to the armature. Remove the pivot pin by pulling it out. If the pin resists being pulled out, tap it lightly with the side of the long-nose pliers. Allow the armature to be held by the armature spring. Bend the coil clamp strip outward with the pliers, holding the coil to the frame. Remove the coil, taking care not to lose the fish-paper insulator and the bakelite wedge. Replace the coil and reassemble in the reverse order. Do not change any adjustments.

3.10 ***Capacitor:*** Disconnect the leads from the capacitor terminals and remove the capacitor mounting screws using the 4-inch E screwdriver. Replace the capacitor and reassemble in the reverse order.

3.11 ***Resistor:*** Unsolder the leads from the resistor terminals and remove the resistor mounting screw using the 4-inch E screwdriver. Replace the resistor making sure the insulating bushings are placed in the same position and resolder the leads.

REASONS FOR REISSUE

1. To add a definition of NO and NC contacts. (1.05)
2. To revise Fig. 1 and to add Fig. 2.
3. To add a definition of information enclosed in parentheses. (2.03)
4. To revise the list of tools. (3.01)
5. To add information pertaining to marking and recording disconnected leads. (3.05)
6. To add replacement information for movable contact pigtails, operating coils, capacitors, and resistors. (3.06 and 3.09 through 3.11)