

## AUTOMATIC REVERSE CURRENT RELAYS REPLACEMENT PARTS AND PROCEDURES

### 1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of automatic reverse current relays per KS-5323 used with motor-driven charging generators and magnetic contactors in automatic power plants.

1.02 Part 2 of this section is called "Replacement Parts" and covers the various parts which may be replaced

in the field in the maintenance of this equipment. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts.

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

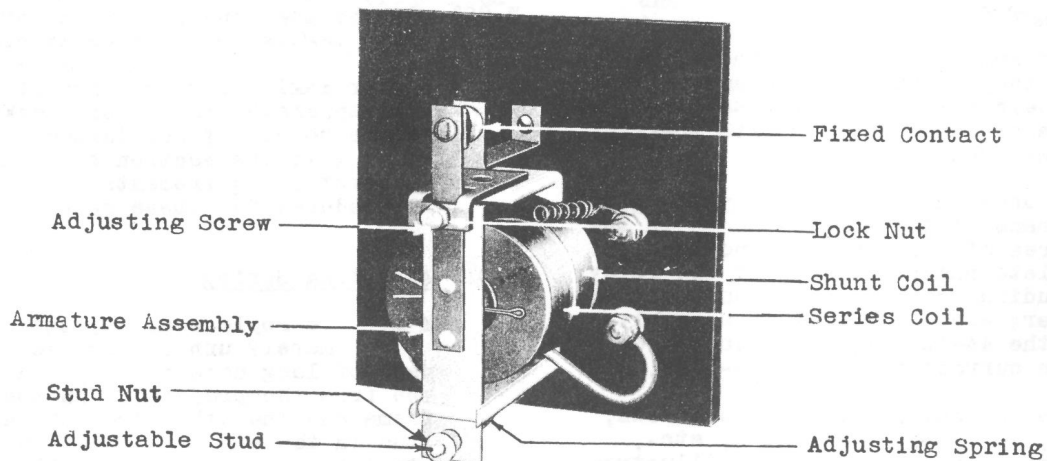


FIG. 1 - REVERSE CURRENT RELAY

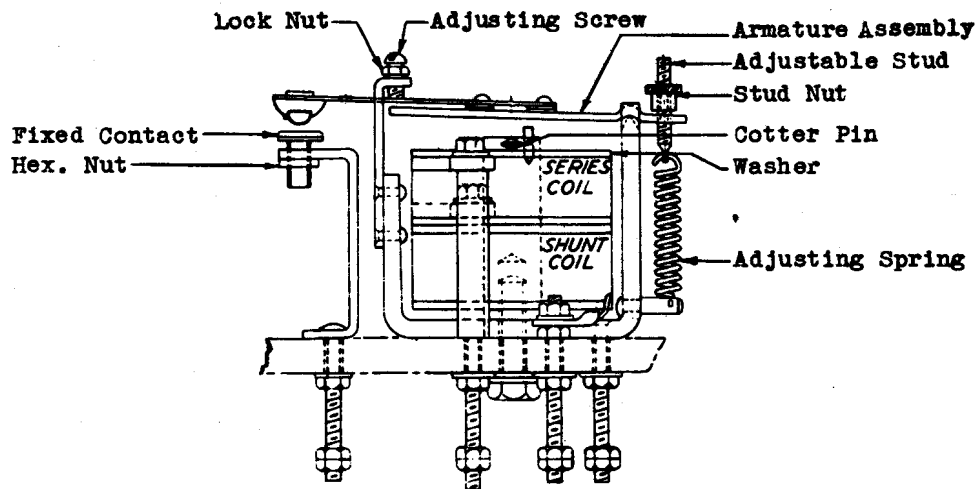


FIG. 2 - SECTIONAL VIEW - REVERSE CURRENT RELAY

## 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 replacement parts give the name of the part as shown in the figures of this section and also the complete nameplate data of the relay including the serial, KS and list number; e.g. 1 - armature assembly for the 44-62 volt, 100 ampere reverse current relay per KS-5323, L10.
- 2.03 Miscellaneous parts such as screws, nuts, washers, cotter pins, etc., which are not named in the illustrations and which cannot be obtained locally should be ordered by referring to the associated part; e.g. 1 - magnet core cotter pin for the 44-62 volt, 100 ampere reverse current relay per KS-5323, L10.

## 3. REPLACEMENT PROCEDURES

### Tools

- Pliers, long nose, per A. T. & T. Co. Std. Dwg. 46-X-56.  
 Screw-driver, 3-1/2" Cabinet Style, per A.T.&T. Co. Std. Dwg. 46-X-40.  
 Iron, Soldering, Electric.  
 Wrench, Adjustable, Flat, 6".

- 3.001 Remove the apparatus from service before making any replacements.
- 3.002 After making any replacement of parts the apparatus should be checked and where necessary readjusted in accordance with the section covering the apparatus requirements and adjusting procedures for these relays.

### 3.01 Adjusting Spring

M-1 To replace an adjusting spring merely unhook, by means of a pair of long nose pliers, its two ends, one from the projection on the magnet frame and the other from the adjustable stud in the end of the armature. Install the new spring by following the reverse procedure.

### 3.02 Armature and Contact Spring with Movable Contact

M-1 The armature, contact spring and movable contact should be replaced as a unit. Unfasten the adjusting spring from the adjustable stud. Loosen the locknut and screw out of the adjusting screw which limits the travel of the movable contact and slide the contact spring and contact down through the guiding slot in the magnet frame. Remove the adjustable stud and stud nut from the old armature and place in the end of the new armature. Assemble the

**3.02 (Continued)**

new armature and contact spring to the magnet frame in the reverse order making certain that the knife edge of the magnet frame fits into the groove provided for that purpose in the armature. Replace the adjusting spring as outlined in Procedure 3.01.

**3.03 Fixed Contact**

M-1 To replace the fixed contact it will first be necessary to remove the armature and contact spring assembly as outlined in Procedure 3.02. Next remove the hex. nut from that part of the contact screw which projects through the fixed contact support. Now remove the contact proper by inserting a small screw-driver in the slot in the contact screw provided for that purpose and turning in a clockwise direction. Install the new contact in the reverse order and reassemble the armature as outlined in Procedure 3.02.

**3.04 Series Coil**

M-1 To replace the series coil remove the armature and contact spring assembly as outlined in Procedure 3.02. Remove the connections from the terminal studs associated with the series coil, and the cotter pin and washer from the magnet core. After

noting the position of the leads slip the old coil off the magnet core and replace with a new or reconditioned one connected in the same manner. Replace the cotter pin and washer and connections to terminal studs. Tighten the nuts of the terminal studs. Replace the armature and contact spring assembly as outlined in Procedure 3.02.

**3.05 Shunt Coil**

M-1 To replace the shunt coil first remove the series coil as outlined in Procedure 3.04. Then remove the shunt coil terminal lugs from their associated studs, noting the position of the leads, and slip the coil off the magnet core. Unsolder the terminal lugs from the old coil and replace on the new or reconditioned one. Next insert the new or reconditioned coil in position and fasten the terminal lugs to their respective terminal studs in the same manner as the old one. When properly connected the shunt and series coil magnetic fields aid each other under normal conditions but will oppose each other causing the relay contacts to open if current flows through the circuit in the wrong direction. Replace the series coil and armature and contact spring assembly as outlined in Procedures 3.02, and 3.04, respectively.