RELAYS
207 AND 213 TYPES
PIECE-PART DATA AND REPLACEMENT PROCEDURES

1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of 207- and 213-type relays.

1.02 The section is reissued to add procedures for replacing the armature, pivot screws, coil, and bonding strap. Detailed reasons for reissue will be found at the end of the section.

1.03 Part 2 of this section covers the piece-part numbers and the corresponding names of the parts which it is practicable to replace in the field in the maintenance of these relays. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts. This information is called Piece-part Data.

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

2. PIECE-PART DATA

2.01 The figures included in this part show the various piece parts in their proper relation to other parts of the relay. The piece-part numbers of the various parts are given together with the names of the parts as listed by the Western Electric Company Merchandise Department. When these names differ from those in general use in the field, the latter names in some cases are shown in parentheses.

2.02 When ordering parts for replacement purposes, give the piece-part number as well as the name of the part, for example, P-204059 Coil. Do not refer to the BSP number or any information shown in parentheses following the piece-part numbers.

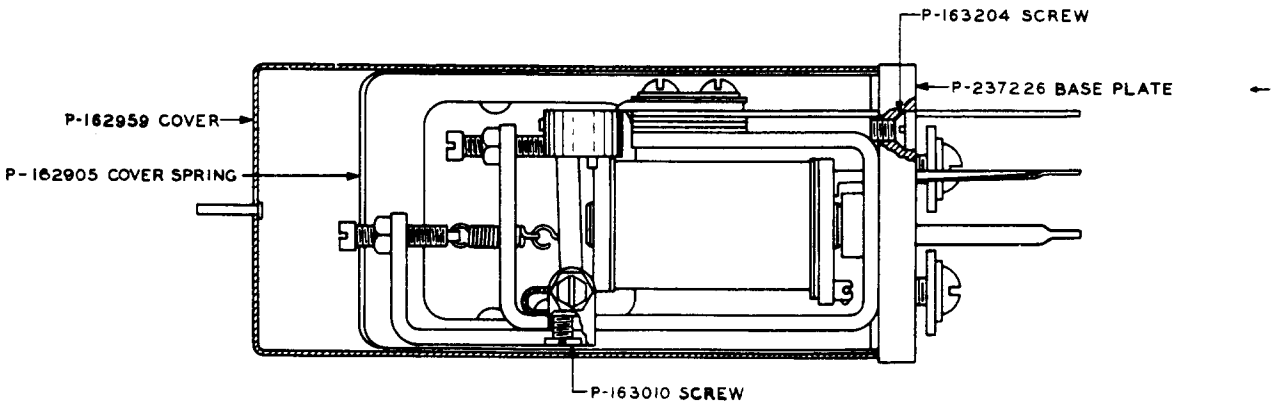

Fig. 1 - 213-type Relay (For Other Parts See Fig. 2)

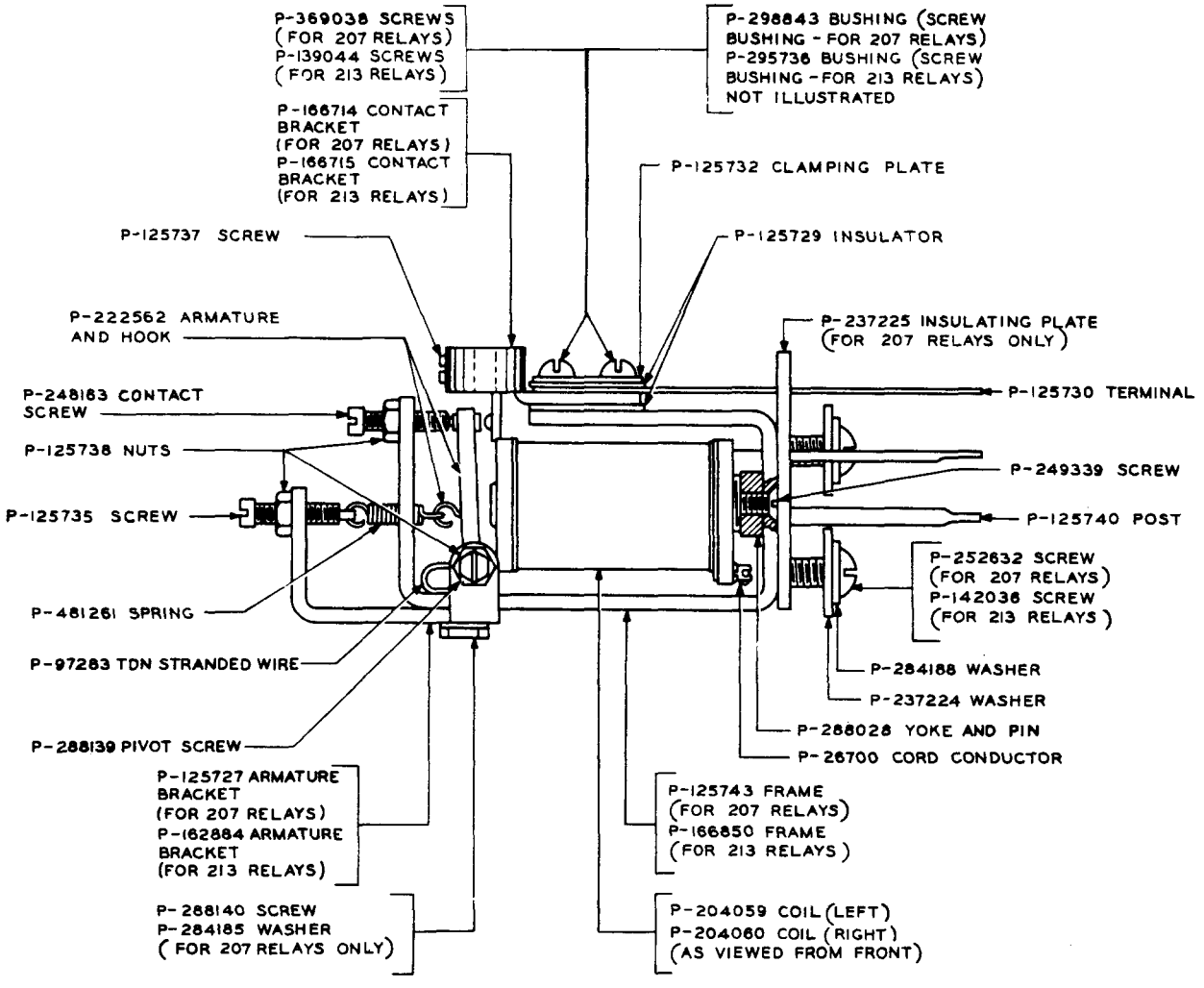

Fig. 2 - 207- and 213-type Relays (For Other Parts of 213-type Relays See Fig. 1)

3. REPLACEMENT PROCEDURES

3.01 List of Tools and Materials

Code or Spec No.	Description
Tools	
48	7/32- and 1/4-inch Hex. Double-end Combination Socket Wrench and Screwdriver
206	30-degree Offset Screwdriver
207	90-degree Offset Screwdriver
349	3/16- and 7/32-inch Hex. Closed Double-end Offset Wrench
→ KS-8511 (or the → replaced R-2217)	Tweezers
-	5-inch Diagonal Pliers
-	4-inch Regular Screwdrive
-	3-inch Cabinet Screwdriver
→ KS-2632	Reading Glass

Code or Spec No.	Description
Materials	
KS-14666 (or the replaced D-98063)	Cloth
-	Hardwood Toothpicks - Flat at one End and Pointed at the Other

3.02 After making any replacement in parts or after removing the relay from its mounting, check the relay to see that it meets the requirements specified in Section 040-229-701 covering this apparatus.

3.03 No replacement procedures are specified for screws or other parts where the replacement consists of a simple operation.

Retractile Spring

3.04 Using the KS-8511 tweezers, remove the retractile spring from the retractile spring adjusting screw. Then remove the spring from the hook in the armature. Attach the new spring to the hook on the armature and to the adjusting screw by either of the two methods covered in 3.05 and 3.06.

3.05 Tweezer Method: Grasp a loop of the spring close to an open end with the KS-8511 tweezers. Then, through the opening in the relay frame, attach the spring at the other end to the hook on the armature. Attach the loop at the free end to the retractile spring adjusting screw.

3.06 Toothpick Method: Insert a flat toothpick between adjacent convolutions near one end of the spring. Position the armature hook in a horizontal plane. Pass the free end of the spring through the opening in the relay frame and attach the spring to the armature hook. The other end of the spring may then be attached to the retractile spring adjusting screw. Withdraw the toothpick.

Armature and Pivot Screws

3.07 Remove the retractile spring as covered in 3.04. Remove the pivot screws and locknuts, using the No. 206 or No. 207 offset screwdriver and the No. 349 wrench. Remove the armature from the relay and unsolder the bonding strap from the armature. Examine the bearings of the new armature for smoothness of surface. Also examine the rounded end of the new pivot screws with the reading glass to see that they are smooth. When mounting the pivot screws, hold them by the head and wipe the rounded end with a clean piece of KS-14666 cloth to remove any moisture or dirt. Remount the locknuts and new pivot screws. Hold the armature with its base in a vertical position and the retractile spring hook to the left, position the bonding strap so that it is parallel to the base of the armature and on the left side of the soldering rivet, and wrap the soldering end of the strap around the rivet in a counterclockwise direction. Solder the bonding strap to the new armature. Remount the armature and tighten the pivot screws and locknuts. Remount the retractile spring.

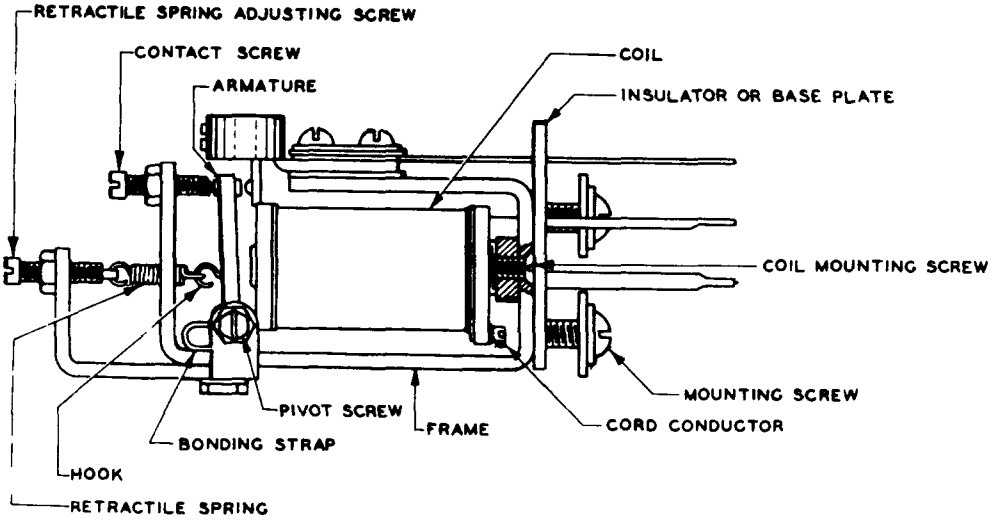

Fig. 3 - 207- and 213-type Relays

Coil

3.08 Unsolder the leads from the terminals, taking care to tag the wires. Remove the relay from the frame by removing the mounting screws and washers with the 4-inch regular screwdriver. Remove the insulator or base plate. Remove the contact screw and locknut, using the No. 48 combination wrench and screwdriver. Unsolder the cord conductor from the coil being replaced and remove the coil mounting screw, with the 3-inch cabinet screwdriver. Substitute the new coil and tighten the coil mounting screw securely. Resolder the cord conductor to the new coil and remount the contact screw and locknut. Reposition the insulator or base plate and remount the relay, tightening the mounting screws securely.

Bonding Strap

3.09 Remove the retractile spring as covered in 3.04 and remove the armature as covered in 3.07. Unsolder the bonding strap from the armature and frame. Substitute a new bonding strap 2-15/64 inches long and solder the new bonding strap to the frame. Position the new bonding strap to the right of the soldering rivet in the frame. Solder the new bonding strap to the armature as covered in 3.07. Remount the armature and retractile spring.

REASONS FOR REISSUE

1. To revise piece-part data on Figs. 1 and 2.
2. To revise the list of tools and materials (3.01).
3. To add a new figure identifying the various parts referred to in Part 3 (Fig. 3).
4. To add a procedure for replacing the armature and pivot screws (3.07).
5. To add a procedure for replacing the coil (3.08).
6. To add a procedure for replacing the bonding strap (3.09).