

BSP # 818B

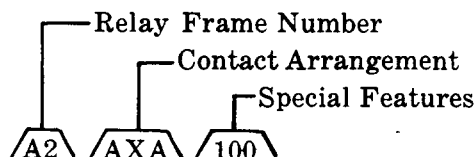
STRUTHERS-DUNN RELAYS HAVING NO KS DESIGNATIONS REPLACEMENT PARTS AND PROCEDURES

1. GENERAL

1.01 This section covers the information necessary for ordering parts to be used in the maintenance of the following relays manufactured by Struthers-Dunn Incorporated. It also covers procedures for replacing these parts.

A2AXA100, etc	8HXX222
	8HXX285
2PXM100, etc	8BXX325
2NXX101	8BXX338
2NXP102, etc	84XBX, etc
8BXX, etc	
8BXA106	89BXC100, etc
8AXA115	89XBX101, etc
8AXA116	
8AXX124	106QXX100, etc
8BXX192	106PXM103
	166BXB100

Note: The etc following the above designations refers to any combination of letters identifying the contact arrangement; for example AXA, XBX, BXC, etc, Struthers-Dunn relay designations are understood as follows.



1.02 This section is reissued to add information covering the 8BXX338 and 166BXB100 relays.

1.03 Part 2 of this section covers ordering information for those parts which it is practicable to replace in the field in the maintenance

of the above apparatus. No attempt should be made to replace parts not designated except small items such as screws. Part 2 also contains explanatory figures 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 in Part 2. This information is called Replacement Procedures.

2. REPLACEMENT PARTS

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

2.02 When ordering replacement parts, give the name of the part as shown in the figures of the section and also the complete nameplate data of the relay for which the part is ordered including the manufacturer's name. For example, one stationary contact for Struthers-Dunn Incorporated 106PXX100 relay, 22 to 36 volts dc coil, 115 volts dc 2-ampere contacts. Do not refer to the BSP number.

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.

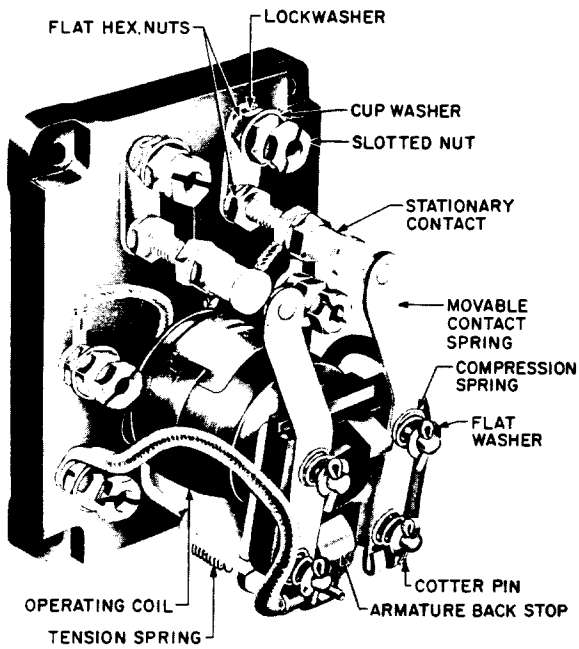


Fig. 1 - Typical Relay With Single-Throw Contacts (8BXX shown)

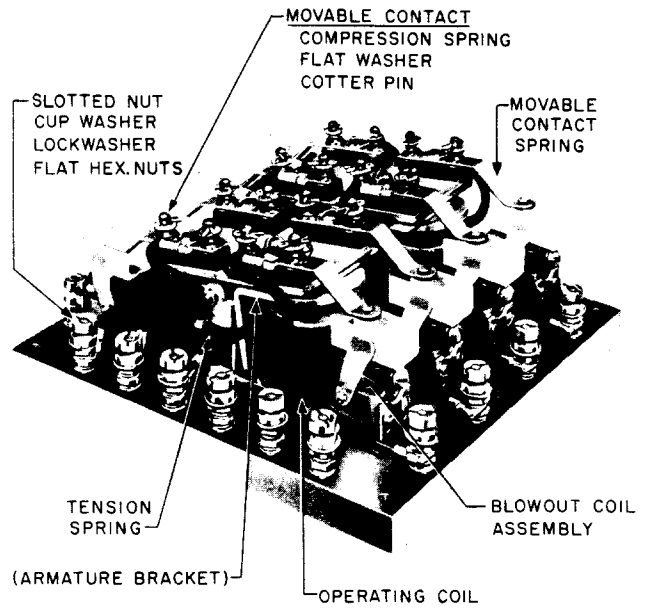


Fig. 3 - 166BXXB100 Relay

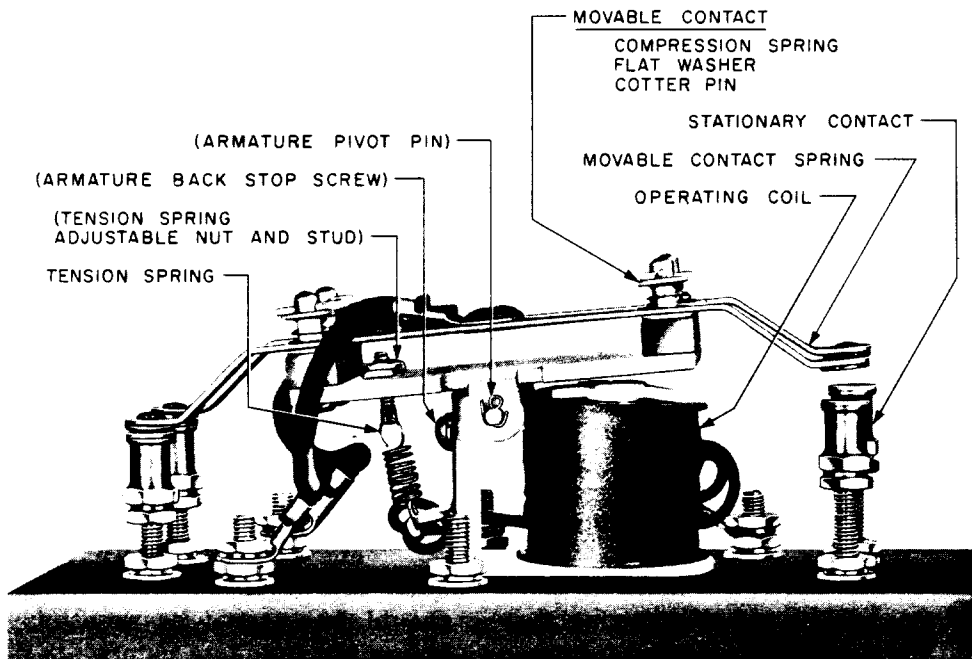


Fig. 2 - Typical Relay With Double-Throw Contacts (84XBX shown)

3. REPLACEMENT PROCEDURES

3.01 *List of Tools and Materials*

CODE OR SPEC. NO.	DESCRIPTION
TOOLS	
417A (2 reqd)	1/4- and 3/8-Inch Hex. Open Double-End Flat Wrench
—	3-Inch C Screwdriver
—	4-Inch E Screwdriver
—	P-Long-Nose Pliers
MATERIALS	
KS-2423	Cotton Twill Cloth

3.02 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 040-810-701. 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 replacement 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.

A2-, 2-, 8-, 84-, 89-, AND 106-Type Relays (see Fig. 1 and 2)

3.06 *Operating Coil:* Remove the tension spring adjustable nut and unhook the spring. Remove the armature backstop screw using the 3-inch C screwdriver, and lift the armature and movable contact assembly away from the top of the coil. In some cases, it may be

necessary to remove the armature pivot pin. Disconnect the coil leads, noting their connection to the terminal studs. Remove the sealing compound which covers the coil mounting screw and remove the screw. Lift out the center core from the old coil. Insert the core in the new coil and reassemble in the reverse order.

3.07 *Movable Contacts:* To replace a moving contact, it is necessary to replace the complete contact spring which includes the moving contacts and the pigtail. To replace a contact spring, remove the cotter pins using the P-long-nose pliers and lift off the compression washers and the compression springs. Disconnect the pigtail from the terminal stud and remove the contact spring complete with the pigtail. Substitute the new contact spring and reassemble in the reverse order.

3.08 *Stationary Contacts:* To replace a stationary contact, use one 417A wrench to turn the contact in a counterclockwise direction and the other 417A wrench to hold the locknut under the contact. Remove the contact, leaving the washer in place above the locknut. Replace the contact and reassemble in the reverse order.

3.09 *Tension Spring:* To replace the tension spring, remove the tension nut by raising the stud so that the nut clears the stops and remove the nut. This will free the tension stud. Unhook the tension spring from the armature back stop using the P-long-nose pliers and replace with a new spring.

166BXB100 Relay (see Fig. 3)

3.10 *Operating Coil:* Remove the two armature screws using the 4-inch E screwdriver and lift the armature and movable contact assembly away from the top of the coil. Remove the armature bracket and disconnect the coil leads, noting their connection to the terminal studs. Remove the sealing compound which covers the coil mounting screw and remove the screw. Lift out the center core from the old coil. Insert the core in the new coil and reassemble in the reverse order.

3.11 *Movable Contacts:* Replace movable contacts as outlined in 3.07.

3.12 **Contacts With Blowout Coils:** To replace contacts with blowout coils, replace the complete blowout coil assembly. Disconnect the coil lead to the terminal stud using the 417A wrench. Remove the sealing compound which covers the blowout coil assembly mounting screws and remove the screws using the 3-inch

C screwdriver. Reassemble the new unit in the reverse order.

3.13 **Tension Spring:** Unhook the tension spring using the P-long-nose pliers and replace with a new spring.