



MAINTENANCE INSTRUCTION

AUXILIARY RELAYS

DESCRIPTION

The relays listed under Maintenance Data are all of similar construction. An example is shown in Fig. 1. They consist of a magnet frame and solid core riveted to two end plates which serve as a support for the contact assembly and as a mounting bracket for the relay. A cylindrical armature is guided between two graphite-bakelite collars to reduce friction to a minimum and to ensure that the relay will not stick open or closed.

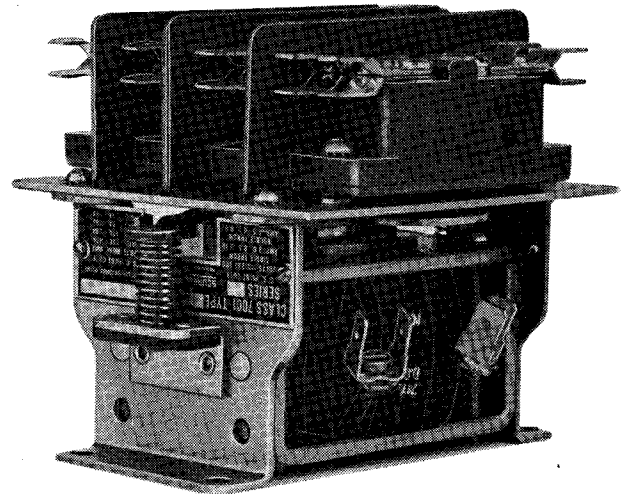
An armature lever is riveted to the solid armature which projects through slots in the end plates, where two return springs ensure operation of the relay when the magnet coil is de-energized. Pins in the ends of the armature lever are guided through holes in an angle bracket on each end plate.

Each pole of the relay consists of a precision snap switch, Fig. 2, having one normally closed and one normally open circuit. Contacts are double break, silver to silver. Stationary contacts have a radius face, while the movable contacts have a flat face.

From two to six single-pole double-throw switch assemblies are mounted on top of the relay. Early models of the relay switch assemblies have screw type terminals suitable for wire as large as No. 14 solid. Later models are equipped with No. 250 series faston tabs. The two, four, and six pole relays are similar except for the number of switch assemblies employed and electrical characteristics of the magnet

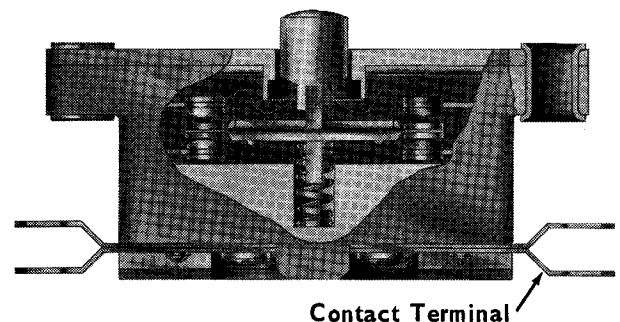
*This bulletin is revised and supersedes previous issues of this number.

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Fig. 1 — Auxiliary Relay, Four Pole Type



15498

Fig. 2 — Switch Assembly Cutaway View

coil. The two pole relay uses two switch assemblies, the four pole relay uses four, and the six pole relay uses six. Relay coils are rated for working voltages of 74 V DC, 115 V DC, and 115 V AC.

Refer to the maintenance data table to relate the electrical characteristics of the coil to the relay part number and to relate switch assemblies to relay part numbers.

MAINTENANCE

The relays should be inspected at intervals specified in the applicable Scheduled Maintenance Program Maintenance Instruction for the following:

1. Missing parts.
2. Security of mounting of all parts.
3. Free movement of parts.
4. Adequate clearance of all electrical parts.
5. Damaged coil insulation and terminals.
6. Damaged switch assemblies.
7. Electrical continuity of coil and switch assemblies.

AIR GAP

The dimension of the armature air gap shown in Fig. 2 is inherent in the relay design and cannot be adjusted. If the gap

is incorrect, the component parts that affect the gap must be replaced with new parts. The relay may be sent to Electro-Motive Division for Rebuild and Return Service.

SWITCH ASSEMBLY CONTACTS

The contacts do not corrode and never require cleaning. If it is determined that a set of contacts is bad, the defective contact assembly should be replaced with a new assembly. Refer to parts list 5434 for replacement part numbers.

MAGNET COILS

Refer to the maintenance data table in this instruction when checking the coil. If coil is defective, replacement with a new coil is a simple matter of removing four screws holding the switch assembly and four screws holding the coil retaining plate.

MAINTENANCE DATA

Relay Part No.	Coil Resistance @ 20° C	Pickup @ 20° C	Dropout @ 20° C	Working Voltage	Contacts
8246278	550 Ohms ± 10%	48 V DC Max.	5-28 V DC	74 V DC	4 N.O.-4 N.C.
8249610	550 Ohms ± 10%	48 V DC Max.	5-28 V DC	74 V DC	6 N.O.-6 N.C.
8263337	1370 Ohms ± 10%	98 V DC Max.	12-42 V DC	115 V DC	4 N.O.-4 N.C.
8269705	1370 Ohms ± 10%	90 V DC Max.	12 V DC Min.	115 V DC	6 N.O.-6 N.C.
8292627	550 Ohms ± 10%	48 V DC Max.	5-28 V DC	74 V DC	2 N.O.-2 N.C.
8297116	57.3 Ohms ± 10% (DC Equivalent Resistance)	102 V AC Min.	12 V AC Min.	115 V AC (50 Cycle)	4 N.O.-4 N.C.
8304175	224 Ohms ± 10%	28.8 V DC Max.	4.8 V DC Min.	48 V DC	6 N.O.-6 N.C.
8300581	224 Ohms ± 10%	28.8 V DC Max.	4.8 V DC Min.	48 V DC	4 N.O.-4 N.C.
8304631	157 Ohms ± 10%	180 V AC Max.	24 V AC Min.	230 V AC	4 N.O.-4 N.C.
8335951	2020 Ohms ± 10%	98 V DC Max.	12 V DC Max.	300 V Max. DC	1 N.O.-2 N.C.

Hi-Pot Test (Relays 8246278, 8249610, 8292627) - 1 Minute Duration

Coil To Ground	600 V RMS - 60 Cycle
Coil To Contacts	2400 V RMS - 60 Cycle
Contacts To Ground	2400 V RMS - 60 Cycle
Contacts To Contacts	2400 V RMS - 60 Cycle

Hi-Pot Test (Relays 8263337, 8269705, 8297116

8304175, 8300581, 8304631, 8335951) - 1 Minute Duration

Coil To Ground	1500 V RMS - 60 Cycle
Coil To Contacts	1500 V RMS - 60 Cycle
Contacts To Ground	1500 V RMS - 60 Cycle
Contacts To Contacts	1500 V RMS - 60 Cycle