

ALLIS-CHALMERS

INSTRUCTION BOOK

DIRECT CURRENT CONTROL RELAY

AUGUST, 1967

BWX 6540



INDEX

DIRECT CURRENT
CONTROL RELAY

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INSTRUCTIONS

DIRECT CURRENT CONTROL RELAY

GENERAL

The solenoid operator of an Allis-Chalmers circuit breaker is designed for operation by a control relay from a direct current source only. This control relay actually consists of two relays mounted on a common base as shown in Figure 1. A cover, not shown in this Figure, is available and furnished with the relay for most applications. For applications where shock due to breaker operations is heavy, the base is provided with shock mounts. Dimensions of the complete assembly are shown in Figure 2.

The upper relay in this assembly handles the current to the solenoid and is known as the main control or "X" relay. The lower relay is designated as the auxiliary control or "Y" relay.

MAIN CONTROL RELAY

The main control or "X" relay is a TYPE JD-802 Relay as shown in Figure 3.

To remove the closing coil from the main control relay, proceed as follows.

Remove the arc chutes (consisting of J-161-L and J-161-R), by removing screws (J-254) and lift the chutes vertically until free. Next, remove the wires from the stationary auxiliary contact unit (J-219) and remove screws (J-255), thereby freeing the contact unit. Next, remove the screws (J-256) and remove the closing coil retainer (J-218). Now, disconnect the leads at the closing coil terminals, and remove the coil.

REPLACEMENT OF CONTACTS

To replace the stationary contacts (J-164), remove the arc chutes as described in paragraph above, and disconnect the lower leads of the blow-out coils (J-192) and screws (J-258). The contacts can then be replaced.

When it is necessary to replace the movable contact and shunt, remove the screws (J-254), thereby releasing the shunt, then press back the contact pin (J-223) until contact pin retaining washer (J-225) protrudes at the rear of the molded movable contact carrier (J-227). Remove the washer and pull out the pin and spring, thus permitting the removal of the movable contact arm.

When replacing the movable auxiliary contact (J-220) press auxiliary contact pin (J-221) until small wire pin is exposed on opposite side. Then remove wire pin, holding the auxiliary contact. Contact can then be replaced.

To replace stationary auxiliary contacts (J-219), remove all wires and screws (J-255). The contacts can then be replaced as a unit.

REPLACING INSERTS

If it is found that the arc chute inserts (J-226) require replacement, remove the arc chutes, and screw (J-260), releasing the magnetic blow-out plate (J-162). Insert will then slide free for replacement.

AUXILIARY CONTROL RELAY

The auxiliary or "Y" relay is a Type G-110, as shown in Figure 4.

REMOVAL OF COIL

To remove the coil, remove the solenoid base (item 4), which is held to frame by four (4) screws. Coil is now free to slip off solenoid core.

REMOVAL OF CONTACTS

To remove stationary contact assembly (item 1), remove screws on top of relay and lift off.

To remove movable contact assembly (item 2), remove one (1) screw holding cross bar to plunger bar and lift off.

REPLACEMENT PARTS

When ordering replacement parts refer to the following Supply Parts List. Specify quantity, reference number, description of part, and also type, amperage, voltage, and serial number of the breaker on which relay is used.

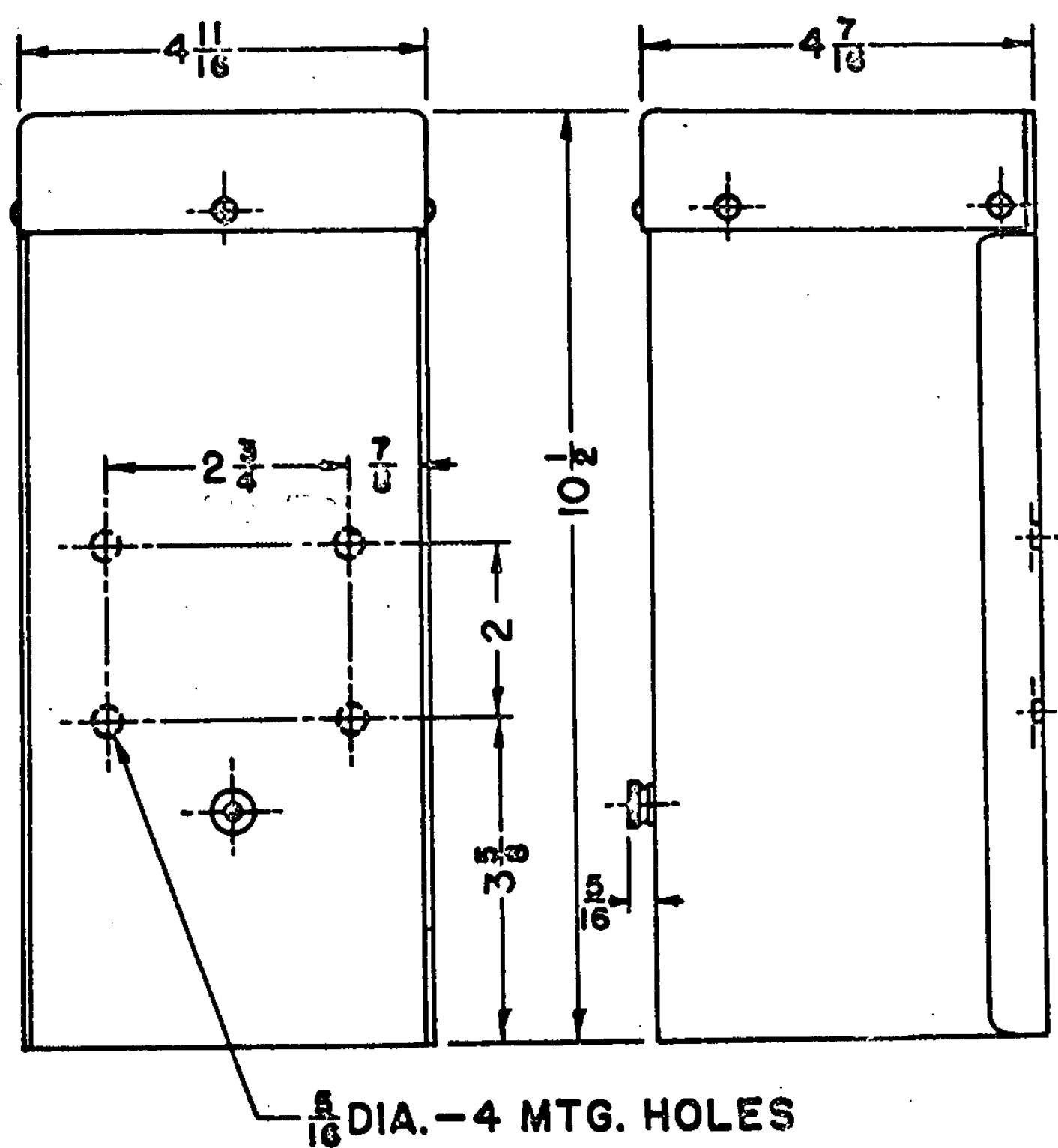


FIG. 2

RELAY COVER

6-3-'59

71-III-180

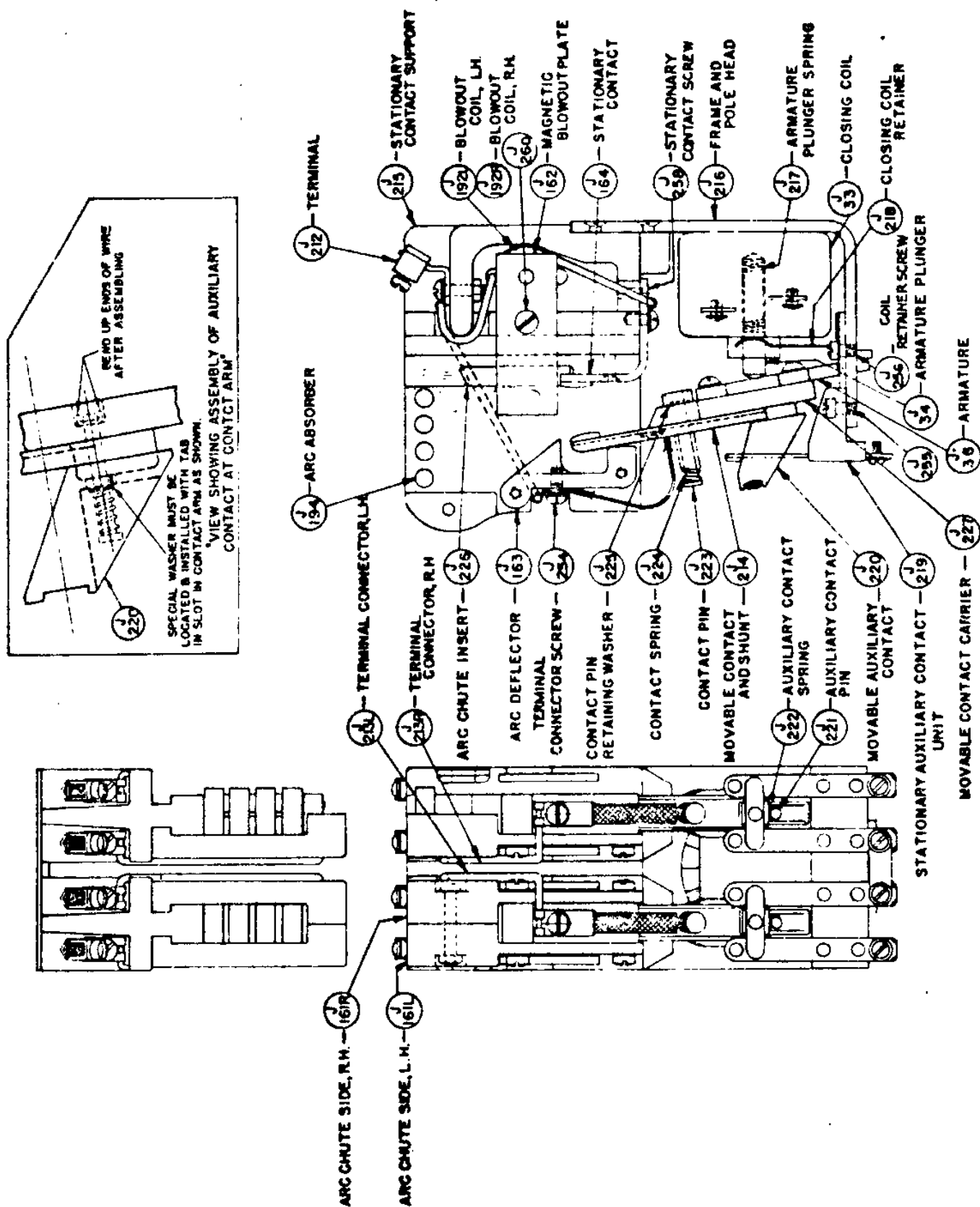


FIG. 3
TYPICAL TYPE JD-802 RELAY

10-20-41

BJ-8115



REPLACEMENT PARTS FOR THE JD-802 RELAY

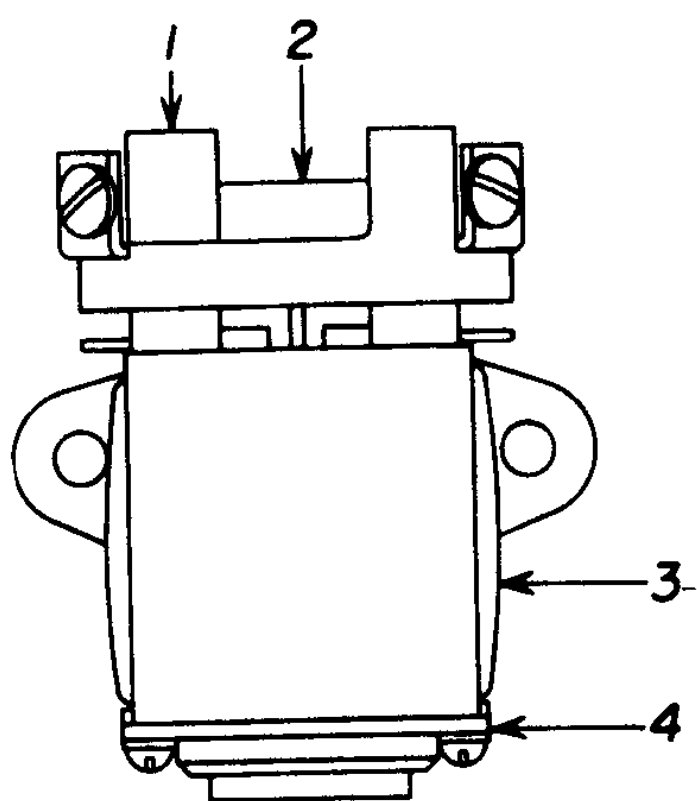
REFER TO FIGURE 3

<u>REFERENCE NUMBER</u>	<u>DESCRIPTION</u>
J-33	CLOSING COIL
J-34	ARMATURE PLUNGER
J-36	ARMATURE
J-161-R	ARC CHUTE SIDE - RIGHT HAND
J-161-L	ARC CHUTE SIDE - LEFT HAND
J-162	MAGNETIC BLOWOUT PLATE
J-163	ARC DEFLECTOR
J-164	STATIONARY CONTACT
J-192-R	BLOWOUT COIL - RIGHT HAND
J-192-L	BLOWOUT COIL - LEFT HAND
J-194	ARC ABSORBER
J-212	TERMINAL - #6-14 ILSCO LUG - TYPE SLU-35 - COPPER*
J-213-R	TERMINAL CONNECTOR - RIGHT HAND
J-213-L	TERMINAL CONNECTOR - LEFT HAND
J-214	MOVABLE CONTACT AND SHUNT
J-215	STATIONARY CONTACT SUPPORT
J-216	FRAME AND POLE HEAD
J-217	ARMATURE PLUNGER SPRING
J-218	CLOSING COIL RETAINER
J-219	STATIONARY AUXILIARY CONTACT UNIT
J-220	MOVABLE AUXILIARY CONTACT
J-221	AUXILIARY CONTACT PIN
J-222	AUXILIARY CONTACT SPRING
J-223	CONTACT PIN
J-224	CONTACT SPRING
J-225	CONTACT PIN RETAINING WASHER
J-226	ARC CHUTE INSERT
J-227	MOVABLE CONTACT CARRIER

FIGURE 3A

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Bulletin 200 - D.C. CONTROL RELAYS
Type G



Renewal Parts List

Item	Part No.	Description of Part	
1	See Table	Stationary Contact	
2	See Table	Cross Bar	
3	See Table	Operating Coil	
4	See Table	Solenoid Base (Less Coil) . . .	

Type of Relay	Stationary Contacts Item 1	Cross Bars Item 2	Solenoid Base Item 4
G-100	X-159612	X-159625	X-165704
G-010	X-159613	X-159624	X-165704
G-200	X-159611	X-159621	X-165704
G-110	X-159615	X-159623	X-165704
G-020	X-159614	X-159622	X-165705

Operating Coils

Volts	6	12	24	32	64	115	230
Old Coil No.	RH-6714	RH-6716	RH-6713	RH-6702	RH-6712	RH-6710	RH-6711
New Coil No.	00D150	00D151	00D152	00D153	00D154	00D155	00D156

Ordering Information

Your order cannot be entered unless the following information is given; Part number, description of part and the series number of switch.

FIG. 4