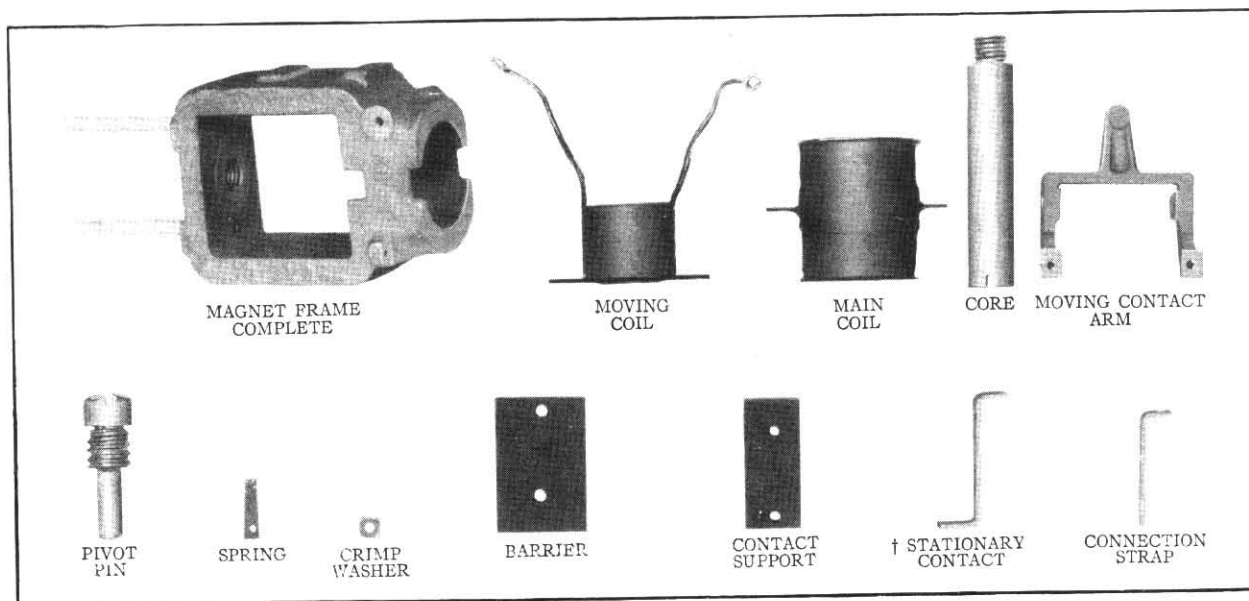


TYPE PR PLUGGING RELAY**RENEWAL PARTS DATA****RECOMMENDED STOCK OF RENEWAL PARTS**

Style Number of Relay.	579 714	Number Per Relay	Relays in Use	
DESCRIPTION OF PART	Style Number of Part		1	5
			Recommended For Stock	
Relay without coils	551 049	1	0	0
Moving contact arm	575 078	1	0	0
Spring	575 077	1	0	1
Pivot pin	575 076	2	0	0
Stationary contact, long	575 074	1	0	1
Stationary contact, short.	575 073	1	0	1
Connection strap.	595 752	2	0	0
Contact support	575 075	2	0	0
Barrier.	575 079	3	0	0
Crimp washer	148 425	8	0	0
Core.	595 753	1	0	0
Magnet frame complete		1	0	0
*Studs.	661 329	2	0	0
Moving coil, 230 volts	553 240	1	1	1
Main coil, 230 volts	553 241	1	1	1

* Not Illustrated

Order Parts by Style Number and Description.

Parts indented are included in the Part under which they are indented.

This is a list of the Renewal Parts and the quantities of each that we recommend should be stocked by the user of this apparatus to minimize service interruptions caused by breakdowns. The parts recommended are those most subject to wear in normal operation or to damage or breakage due to possible abnormal conditions.

This list of Renewal Parts is given only as a guide. When continuous operation is a primary consideration, additional insurance against shut-downs is desirable. Under such conditions more renewal parts stock should be carried, considering the severity of service and the time required to secure replacements.

ORDERING INSTRUCTIONS

Name the part and give its style number. Give the complete nameplate reading. State whether shipment is desired by express, freight or by parcel post. Send all orders or correspondence to nearest sales office of the company. Small orders should be combined so as to amount to a value of at least \$1.00 net. Where the total of the sale is less than this, the material will be invoiced at \$1.00.

TYPE PR PLUGGING RELAY

INSTRUCTIONS

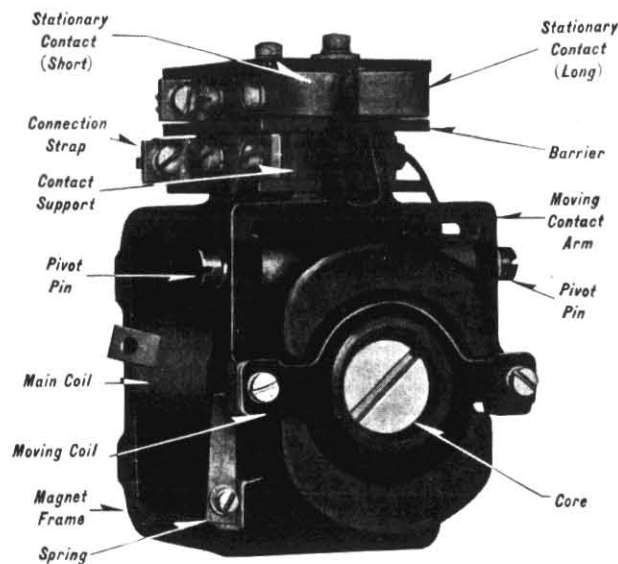


FIG. 1—TYPE PR PLUGGING RELAY

INSTRUCTIONS

General Information

The type "PR" or polarized relay makes one of two contacts depending on the direction of excitation applied to the stationary and moving coils.

Normally, the main or stationary coil is allowed to "Soak" across the line and the direction of excitation of the moving coil is changed. Its chief application lies in controlling the contactor which shorts the first or plugging step of resistance in a d-c. plugging reversing controller.

Construction

As shown in the illustrations, the essential parts of the relay are the two coils, iron yoke, core and contacts. The arrangement of barriers, method of bringing out leads, location of floating coil, construction of supporting spool of floating coil and its small travel, all insure mechanical protection. It employs the idea of unit construction, so that there are no accurate alignments to be made in the field.

Application

This relay has been designed to make a circuit, not to break one. Therefore, in all applications, any circuits which are to be broken must be taken care of with larger relays. The operating range is approximately 10 or 15 volts to 250 volts.

The function of this relay is to protect the motor during plugging by preventing the first accelerating or plugging contactor from closing too soon. This relay consists of a fixed coil and a moving coil and their magnetic circuits. The fixed coil is permanently connected across the line in parallel with the low voltage contactor and furnishes an unidirectional field in which the moving coil acts. The moving coil is connected across the armature. Hence, for one direction of motor armature rotation the moving coil is repelled, while for opposite rotation it is attracted. During the plugging operation, the moving coil retains its original polarity until armature rotation has almost ceased. Then the polarity of the moving coil is reversed, thereby energizing the plugging contactor. When starting from

rest, the IR drop across the armature will cause the moving coil to be energized, thus allowing the first accelerating contactor to close.

Maintenance

The small movement of the floating coil insures almost infinite mechanical life for the bearings and contacts. Should the main coil burn out or ground, it may be removed by taking a large screw driver and unscrewing the core, then sliding the coil out of the side of the relay.

If the small coil becomes defective, it may be replaced by disconnecting its leads and two supporting screws. In neither case need any other part of the apparatus be dismantled to change coils.

After replacing either coil, should the direction of motion of the moving contact be reversed, remove the coil and turn it around 180° to change its polarity.

There are no adjustments to be made, except taking care that there is no friction in the bearings and that the moving contact is about central when no voltage is applied to the moving coil.

To be filed as an Instruction Leaflet and as Renewal Parts Data; for Renewal Parts see reverse side of this sheet.

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.