

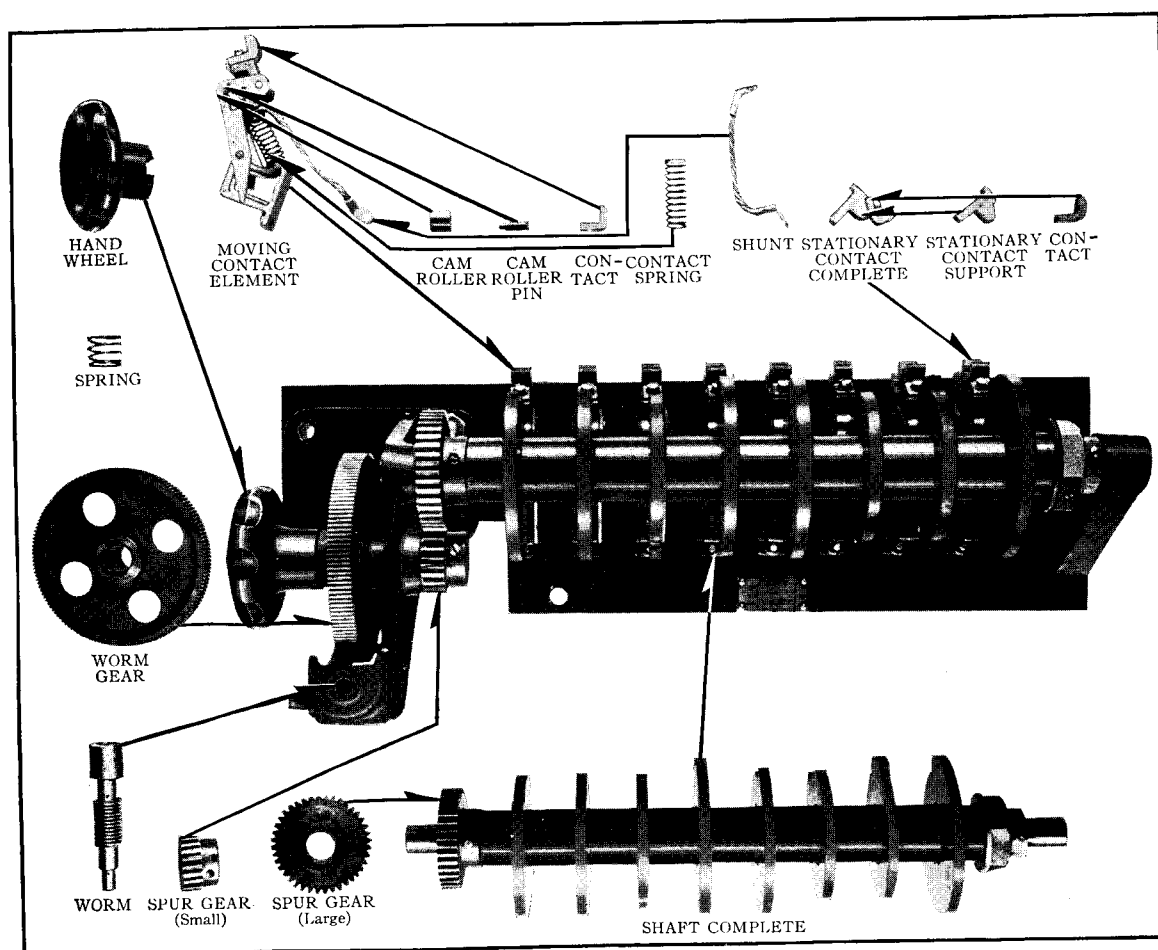
TYPE S-270 MOTOR OPERATED DRUM RELAY
RENEWAL PARTS DATA

FIG. 2—RENEWAL PARTS FOR TYPE S-270 MOTOR OPERATED DRUM RELAY

RECOMMENDED STOCK OF RENEWAL PARTS
For one Relay

NAME OF PART	UNIT	NO. PER RECOMMENDED FOR STOCK	STYLE NO.
Moving Contact Element.....	8	2	551812
Cam Roller.....	8	2	283008
Cam Roller Pin.....	8	2	466721
Contact.....	8	2	184665
Contact Spring.....	8	4	209856
Shunt.....	8	2	530111
Stationary Contact Complete..	8	2	325013
Stationary Contact Support..	8	2	312631
Contact.....	8	2	184665
Hand Wheel.....	1	0	358018
Spring.....	1	1	358019
Worm Gear.....	1	0	358014
Worm.....	1	0	358016
Shaft Complete.....	1	0	557386
Spur Gear, Large.....	1	0	500028
Spur Gear, Small.....	1	0	500027

ORDERING INSTRUCTIONS

Quick shipments from Sales Office stock and prompt replies to inquiries, without the necessity of referring to the

works for information, are possible only when complete identifying information for the part is given.

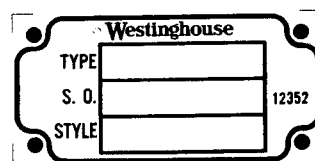


FIG. 3—NAME PLATE

Careful observance of the following points on inquiries or orders is essential, for correct shipments and prompt service:

1. Name the part, using the name shown in the illustration, Fig. 2, and state quantity desired.
2. Give the name plate reading. For illustration of name plate see Fig. 3.
3. State whether shipment is to be made by freight, express or by parcel post.
4. Send all orders or correspondence to the nearest Sales Office of the company.
5. Small orders should be combined so as to amount to a value of at least one dollar, as shipping expenses prevent us from billing a smaller amount.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

East Pittsburgh Works

Printed in U.S.A.

East Pittsburgh, Pa.

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

TYPE S-270 MOTOR OPERATED DRUM RELAY INSTRUCTIONS

Introduction:

The Type S-270 motor operated Drum Relay is primarily for use on the Class 14-410 Synchronous Motor Controller although it may be used on other applications. It is a cam operated drum driven by a single phase induction motor.

Mounting:

The drum should be mounted as shown in Fig. 2.

General:

1. When starting the equipment, make sure all moving parts are properly aligned and all parts move freely.
2. The relay should be periodically cleaned and inspected. Especial attention should be given to the gearing as an excess of dirt in the gears might prevent the proper operation of the relay.
3. Occasionally a little light oil should be applied to the bearings and rollers of the relay.
4. The cover should be kept on the relay at all times except when inspecting or cleaning the relay.

The speed of the pilot motor and the gearing is adjusted so that the drum will make one complete revolution in approximately 30 seconds. The timing

Timing:

of the various operations is determined by the shape of the various cams, which are set at the factory to give the proper sequence for the controller with which the drum is used. If a different timing cycle or a different sequence of operations is desired, cams of different shape must be used. In some cases, it may be possible to cut the cams on the controller to give the proper operation, but in any such case, the nearest Westinghouse District Office should be requested to approve the application and specify the necessary changes. If the drum cannot be modified with the material available, it is desirable that a new cam shaft assembly be ordered from the factory.

When applying the S-270 relay, it is almost invariably necessary to use three of the contacts for controlling the operation of the pilot motor. There remains five switches which may be used to make, break, or control any control circuit at any time within the range of the relay. The contacts have ample capacity for any ordinary control currents so that they may be used for controlling the largest of our AC magnets even though two or three are connected in parallel.

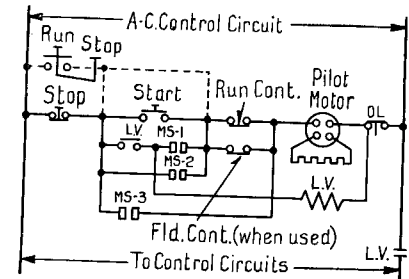


FIG. 1—WIRING DIAGRAM

Fig. 1 shows a representative connection for controlling the pilot motor. When the start button is depressed, the pilot motor is energized and rotates the drum. A moment later MS-1 closes energizing the low voltage relay which picks up completing a holding circuit for itself and the pilot motor and which at the same time may perform other control functions. MS-3 soon closes and almost immediately MS-1 opens. MS-3 opens later as the relay reaches the run position. By this time the controller will be in the running position, the "run" contactor and field contactor interlocks will be opened and MS-2 will be closed. In case the "run" or field contactors opens, either through the action of the operator or because of low voltage, overload, or other abnormal conditions, the pilot motor circuit will again be completed through MS-2 and the interlocks as shown. The pilot motor will again run, resetting the drum, until MS-2 opens at the off position.

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

TYPE S-270 MOTOR OPERATED DRUM RELAY RENEWAL PARTS DATA

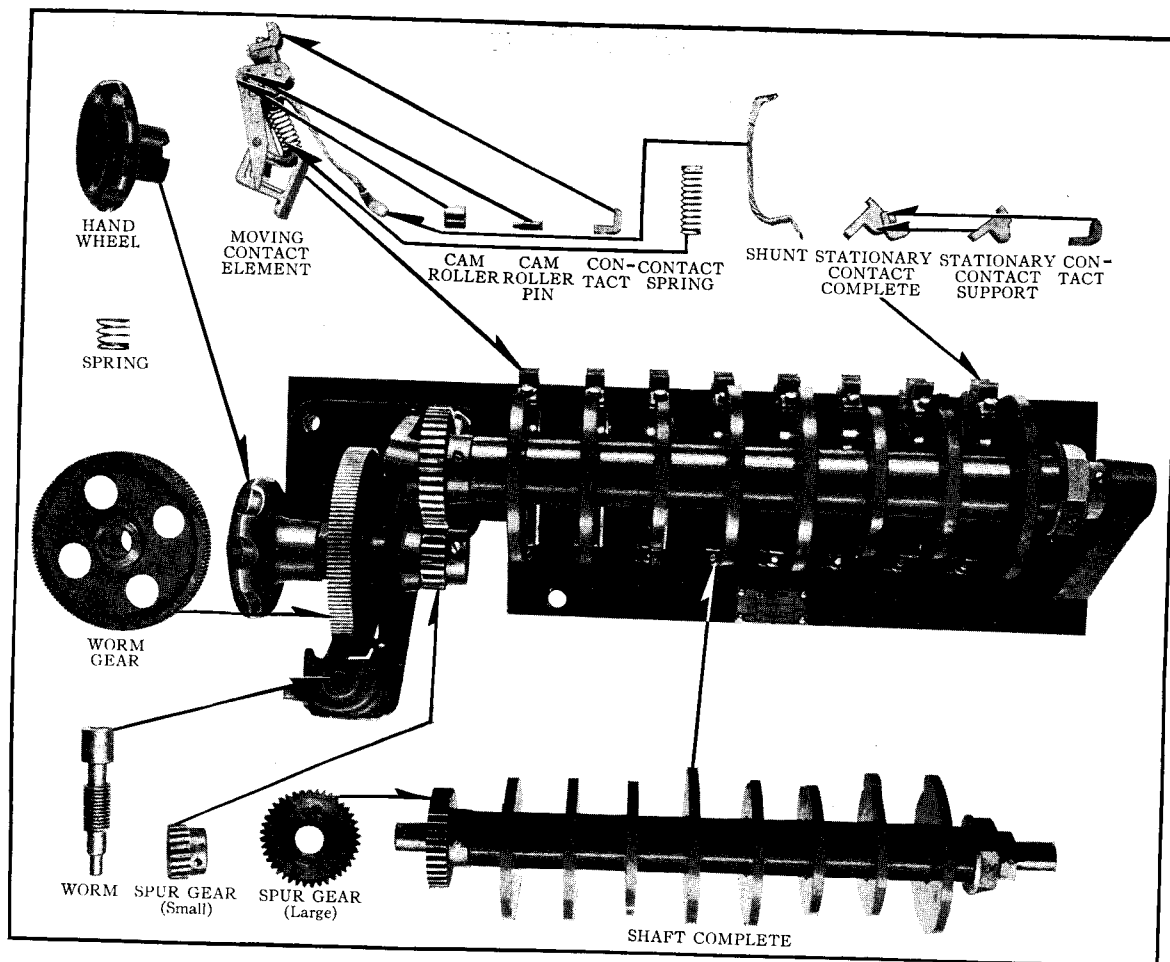


FIG. 1—RENEWAL PARTS FOR TYPE S-270 MOTOR OPERATED DRUM RELAY

Description of Part	Style Number of Part	No. per Relay	Relays in Use	
			1	5
			Recommended for Stock	
Motor Operated Drum Relay.....	501 664	1	0	0
Shaft Complete.....	557 386	1	0	0
Spur Gear—Large.....	500 028	1	0	0
Spur Gear—Small.....	500 027	1	0	0
Hand Wheel.....	358 018	1	0	0
Spring.....	358 019	1	1	1
Worm.....	358 016	1	0	0
Worm Gear.....	358 014	1	0	0
Moving Contact Element.....	551 812	8	1	2
Contact.....	184 665	8	4	8
Contact Spring.....	209 856	8	1	2
Shunt.....	530 111	8	1	2
Cam Roller.....	283 008	8	0	0
Cam Roller Pin.....	466 721	8	0	0
Stationary Contact Complete.....	325 013	8	1	2
Contact.....	184 665	8	4	8
Stationary Contact Support.....	312 631	8	0	0
†Bearing Bracket—R.H.....	499 244	1	0	0
†Bearing Bracket—L.H.....	499 243	1	0	0
†Cover.....	541 513	1	0	0
†Pilot Motor—220 Volts, 60 Cycles.....	457 832	1	0	0
†Pilot Motor—440 Volts, 60 Cycles.....	457 833	1	0	0
†Pilot Motor—550 Volts, 60 Cycles.....	457 924	1	0	0

† Not illustrated.

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

RECOMMENDED STOCK OF RENEWAL PARTS

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 interrupted operation caused by breakdowns. The parts recommended are those most subject to wear in normal operation or those subject 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 should be carried, the amount depending upon the severity of the service and the time required to secure replacements.

ORDERING INSTRUCTIONS

Name the part and give its style number. Give the complete name plate 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 S-270 MOTOR OPERATED DRUM RELAY

INSTRUCTIONS

Introduction:

The Type S-270 motor operated Drum Relay is primarily for use on the Class 14-410 Synchronous Motor Controller although it may be used on other applications. It is a cam operated drum driven by a single phase induction motor.

Mounting:

The drum should be mounted as shown in Fig. 2.

General:

1. When starting the equipment make sure all moving parts are properly aligned and all parts move freely.
2. The relay should be periodically cleaned and inspected. Especial attention should be given to the gearing as an excess of dirt in the gears might prevent the proper operation of the relay.
3. Occasionally a little light oil should be applied to the bearings and rollers of the relay.
4. The cover should be kept on the relay at all times except when inspecting or cleaning the relay.

The speed of the pilot motor and the gearing is adjusted so that the drum will make one complete revolution in approximately 30 seconds. The timing

Timing:

of the various operations is determined by the shape of the various cams, which are set at the factory to give the proper sequence for the controller with which the drum is used. If a different timing cycle or a different sequence of operation is desired, cams of different shape must be used. In some cases, it may be possible to cut the cams on the controller to give the proper operation, but in any such case, the nearest Westinghouse District Office should be requested to approve the application and specify the necessary changes. If the drum cannot be modified with the material available, it is desirable that a new cam shaft assembly be ordered from the factory.

When applying the S-270 relay, it is almost invariably necessary to use three of the contacts for controlling the operation of the pilot motor. There remains five switches which may be used to make, break, or control any control circuit at any time within the range of the relay. The contacts have ample capacity for any ordinary control currents so that they may be used for controlling the largest of our A C. magnets even though two or three are connected in parallel.

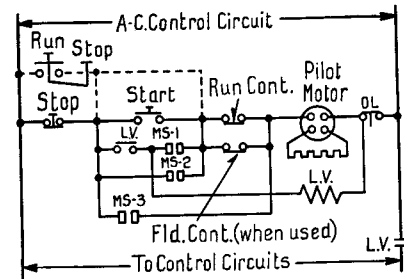


FIG. 2—WIRING DIAGRAM

Fig. 2 shows a representative connection for controlling the pilot motor. When the start button is depressed, the pilot motor is energized and rotates the drum. A moment later MS-1 closes energizing the low voltage relay which picks up completing a holding circuit for itself and the pilot motor and which at the same time may perform other control functions. MS-3 soon closes and almost immediately MS-1 opens. MS-3 opens later as the relay reaches the run position. By this time the controller will be in the running position, the "run" contactor and field contactor interlocks will be opened and MS-2 will be closed. In case the "run" or field contactors opens, either through the action of the operator or because of low voltage, overload, or other abnormal conditions, the pilot motor circuit will again be completed through MS-2 and the interlocks as shown. The pilot motor will again run, resetting the drum, until MS-2 opens at the off position.

Westinghouse Electric & Manufacturing Company

East Pittsburgh, Pa.

Printed in U.S.A.

EVERY HOUSE NEEDS WESTINGHOUSE