TYPES KG-2 AND KG-2A RELAYS

RENEWAL PARTS DATA

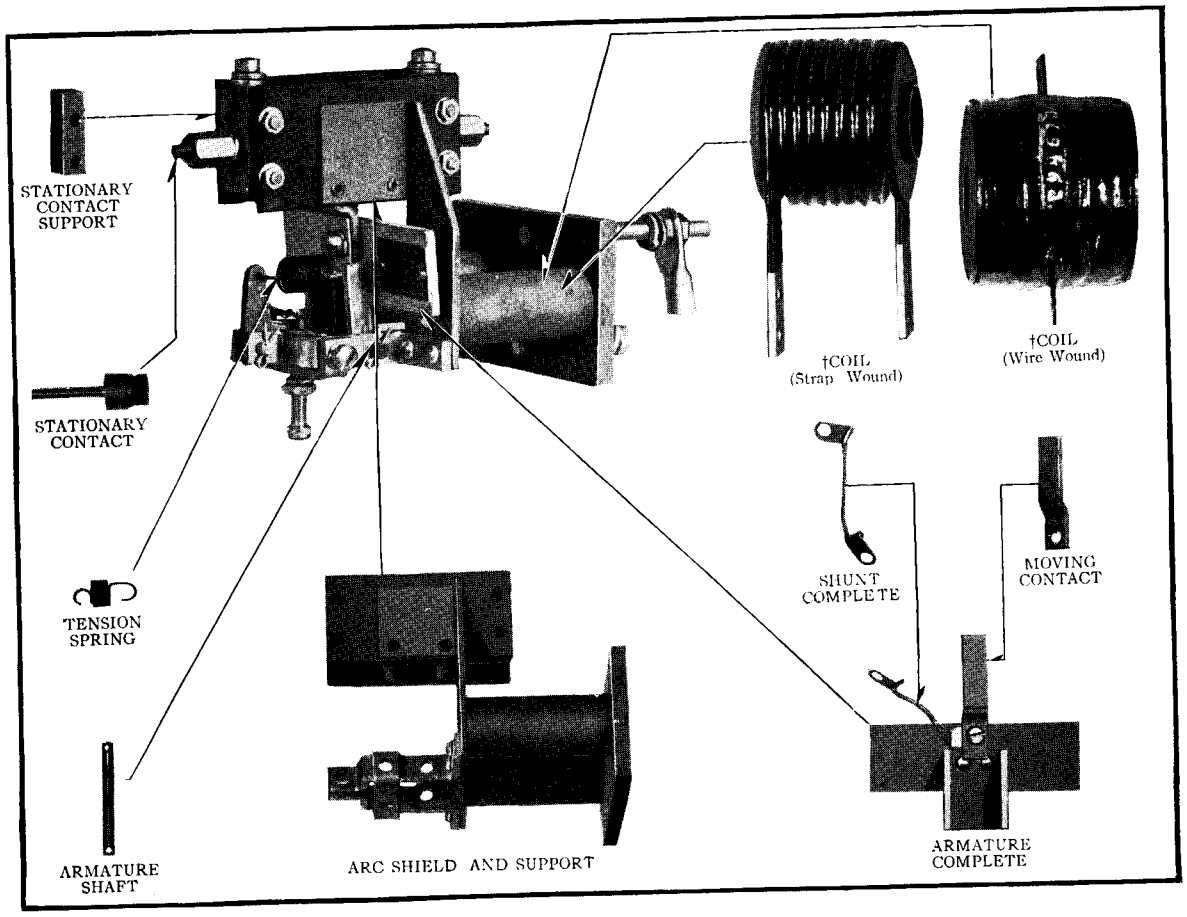

FIG. 1—RENEWAL PARTS FOR TYPES KG-2 AND KG-2A RELAYS

RECOMMENDED STOCK OF RENEWAL PARTS

Type of Relay				KG-2	KG-2A
Style Numbers of Relays				518924 A 518925 A 670932 A,B	595407 883512 .....
Relays in use up to and including		1	5		
Name of Part	No. Per Relay	Recommended For Stock		Style Number of Part	
Armature Complete	1	0	0	531784	531784
Moving Contact	1	1	2	203862	203862
Shunt Complete	1	0	1	276960	276960
‡Spring Clip	1	0	0	560113	560113
Stationary Contact	2	1	2	286553	286553
Stationary Contact Support	2	0	0	276964	276964
Armature Shaft	1	0	0	560112	560112
Tension Spring	1	0	1	325395	325395
°Arc Shield and Support	1	0	0	532622	532622
†Coil—Wire Wound	†	1	1	†	†
†Coil—Strap Wound	†	0	0	†	†

‡Not Illustrated.
†Coils are either wire wound or strap wound; the number used depends upon the application of the Relay. When ordering strap wound coil give the number stamped on one of the arms and when ordering wire wound coil give the number stamped on the tag, which is fastened to the coil.
Parts indented are included in the part under which they are indented.
°Arc Shield and Support does not include Cores or Frame.

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 shutdowns is desirable. Under such conditions more renewal parts should be carried, considering 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 one dollar, as order-handling and shipping expenses prevent us from billing a smaller amount.

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

Westinghouse Electric & Manufacturing Company
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TYPES KG-2 AND KG-2A RELAYS

INSTRUCTIONS

Description

The types KG-2 and KG-2A are direct-current relays of pressed steel construction. The magnet frame is so designed that either 2 inch or $2\frac{15}{16}$ inch coils may be used on each core. Two insulated stationary contacts provide a normally open and normally closed circuit, with the moving contact as a common point. The magnet gap is adjustable by turning the stud on the stationary contact. The relay is magnetically closed in one position and spring closed in the other.

Application:

This relay may be used in a number of ways, for example:

1. Fluttering relay for automatic field regulation during acceleration or deceleration.
2. It may be used as an adjustable current or voltage relay for general purpose, which then gives low voltage protection.
3. By using two separately connected coils, the relay may be used as a differential or reverse current relay.
4. By using two interconnected coils, the available setting range may be approximately doubled.
5. It may be used as a transfer relay in case of voltage failure.

Rating:

Contacts are designed for 5 ampere continuous service and 30 amperes arc rupturing capacity. Operating coils are designed for continuous duty on direct current only. Insulation is for 600 volts. Operating coils may be series or shunt, depending upon the application.

Operation:

The operation of the relay depends upon the application to which it is applied. A number of adjustments may be made which will give various conditions, for example:

1. The magnet gap may be increased or decreased by changing the position of the stationary contact.
2. The spring on the armature may be adjusted to varying degrees of tension, which will vary the pick up and drop out value.

Frame:

The magnet frame is made from a steel plate with two steel cores assembled to it for mounting the operating coils.

Armature:

The armature is made from pressed steel and is attached to a support by means of a hinge pin. A coil spring is attached to the armature for pulling it open.

Moving Contact:

The moving contact is a copper strap attached to the armature by means of a screw. This contact is renewable and can be replaced if necessary.

Stationary Contacts:

The stationary contacts are made from graphalloy and are adjustable to compensate for wear and give adjustment for the contact gaps.

Arc Shield:

The arc shield is mounted on two brackets which act as supports for the two stationary contacts. The supporting brackets also serve as pole pieces for quenching the arc. The complete bracket and arc shield assembly is held in place by countersunk head screws.

Shunt:

The current carrying shunt is made from round flexible braided copper cable, which gives complete freedom to the moving armature and has ample capacity to withstand the maximum current for which the relay is rated.

Maintenance

Cleaning:

The relay should never be cleaned with an oily rag or waste. A film of oil will collect dust particles which will decrease the creepage, and may cause an arc between adjacent parts.

Bearings:

The bearing of the relay should not be lubricated; oil quickly collects dust and, unless parts are frequently cleaned, may cause the relay to become sluggish in action, thus causing excess arcing. It is important that the bearing pin is not tight. This should be examined occasionally.

Stationary Contacts:

Do not use oil or other lubricants on the contacts. The contacts will give satisfactory results with very little attention. Their roughened appearance is no indication that good contact is not being made. It may be necessary to make adjustment as they burn away in order not to lose the correct current or voltage setting to which the relay was originally set, when first put in service. This is done by loosening the lock nut on the end of the stud and setting the contacts to the desired contact gap and then tightening the nut again.

Operating Coil:

The operating coil may be replaced as follows:

Remove the armature hinge pin and release the spring, this will permit getting at the two countersunk head screws which hold the brackets and coil in place. Take out these screws and the coils are free to be removed.

Adjustments:

The relay may be adjusted by changing the spring tension or by changing the magnet gap. Increasing the spring tension will require higher voltage or current values to pull in the armature and also will cause it to drop out at the higher values.

Increasing the open position gap will increase the voltage or current at which the relay will pull in.

The magnet gap is changed by the positions of the back stationary contact. Decreasing the gap will hold the relay in longer and to a lower current and voltage value.

General Care:

1. Examine the contacts to see that they are not burned away beyond their useful values.
2. Examine the shunt to see that it is not broken and is making good contact.
3. Examine the armature and armature pin to see that it is free to operate.
4. Examine all bolts, screws and nuts to make sure they are tight.

Relays on controllers shipped to customers are tested at the factory and should be ready for service. However, they may be out of adjustment due to handling. It may be necessary to make corrections as explained in the foregoing paragraph. Before making any corrections, examine the relay carefully to determine definitely, whether or not the relay is out of adjustment.

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