

TYPE F MAGNETIC CONTACTOR, FRAME NO. 67-F

INSTRUCTIONS

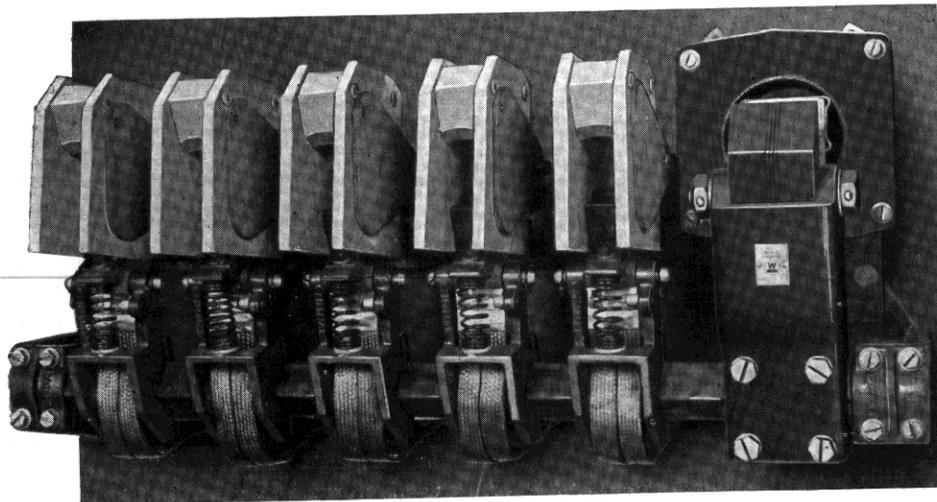


FIG. 1

Description

The type 67-F is a 5 pole, alternating current contactor, and can be supplied either with or without magnetic blow-out. The contactor is designed for mounting on slate or ebony asbestos panel up to two inches thick.

Rating—The contactor is designed for 300 amperes, 8 hour rating, 360 amperes one hour rating, 900 amperes peak load, and 1800 amperes arc rupturing capacity. Insulation is for 600 volts maximum.

Operating Coil is designed for intermittent service, and will successfully operate the contactor at from 85 to 110% of rated voltage.

Armature Lever is made of cast iron. The floating armature is supported on the armature lever by means of a hinge pin. This arrangement permits the floating armature to be self aligning when the operating coil is energized and the contactor is closed. All parts subject to corrosion, except the magnet face, are treated to prevent oxidation.

Arc Shields are moulded from a very durable heat resisting compound and each shield is securely fastened to the iron pole piece of the blowout coil. The pole piece is hinged so that the complete arc shield may be easily raised by hand to make inspection and renewal of the contact tips.

Contact Tips are made of hard drawn copper of sufficient cross section to insure long contact life. They are designed to open with a rolling action so that the burn occurs only at the extreme tip of the contact, and does not affect the current carrying surfaces. The contactor has been designed so that a slight wiping action is given to the tips on opening and closing. This action insures a clean low resistance contact area. A steel compression spring gives a positive and sufficient contact pressure up to the maximum life of the contact and produces a quick opening on the tips.

Shunts are made of a flexible braided copper cable which gives complete freedom to the moving armature, and has ample capacity to withstand the maximum current for which the contactor is rated.

Maintenance

Bearings of the armature shaft require no lubrication. Oil quickly collects dust, and unless the parts are frequently cleaned, will make the contactor sluggish in opening, thus causing the arc to hang on longer.

Arc Shields should always be down so that the arc is broken within the field of the blowout coil, otherwise the shield will not give satisfactory results. The arc box should always be renewed before the moulded material is burned away sufficiently to expose the steel pole pieces.

Operating Coil may be removed by taking out the main hinge pin, which allows the armature to be lowered, then disconnecting the terminal leads and removing the screw in the back of the coil, which holds it in place.

Contact Tips and Spring Pressure—Use no oil or other lubricant on the copper contacts. The contacts normally wear to give the best contact surfaces without any attention. The roughened appearance of the contacts is no indication that good contact is not being obtained. The contacts should be replaced when the maximum usefulness has been reached in order that the contact pressure will not fall below the minimum value for which it is designed. The contact pressure for this unit, measured at the heel of the contact tip should be between 24 to 26 pounds. To measure the final spring pressure, close the contactor mechanically, place a thin piece of paper between the tips, then measure the pounds pull necessary to separate the tips by means of a hook spring balance attached to the head of the screw which holds the moving contact tips in place. Read the pounds pull required at the instant the paper can be moved. In case the contact pressure is below the minimum value, after the tips have been replaced, additional insulating washers should be added under the spring. Low spring pressure should be guarded against to avoid heating up of the contacts. Heating increases the resistance which may cause arcing and welding the tips together.

Magnet Noise (humming) on the a-c. contactor may develop. Should it become excessive, check to see if any of the following conditions exist.

1. The seating surface of the magnet may be corroded, which will not permit the magnet to seat properly.
2. The armature lever may be distorted through rough use, which will not allow the floating armature to find a square seat. Check this by placing a sheet of paper between the two pole faces and close the magnet electrically, this will leave an impression on the high points. Full contact is not actually necessary but should be over a large portion.
3. The voltage may be below the minimum rating of the operating coil.
4. The shading coil on the magnet may be broken.
5. The spring pressure may be too high.

Contact Gap on the 67-F contactor should be approximately $\frac{3}{32}$ of an inch when the magnet is in the full open position, measured at the heel of the contact tips when they are new. A greater gap may prevent the magnet from picking up on the minimum voltage for which the operating coil has been designed.

Failure to Close—A magnet may fail to close for any of the following reasons:

1. The lead wire to the operating coil may be disconnected.
2. The operating coil may be open circuited.
3. There may be mechanical friction.
4. The voltage may be below normal.

Failure to Open may be caused by mechanical interference or friction. The contact tips may be welded together. Residual magnetism may be holding magnet closed due to low spring pressure.

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RENEWAL PARTS DATA

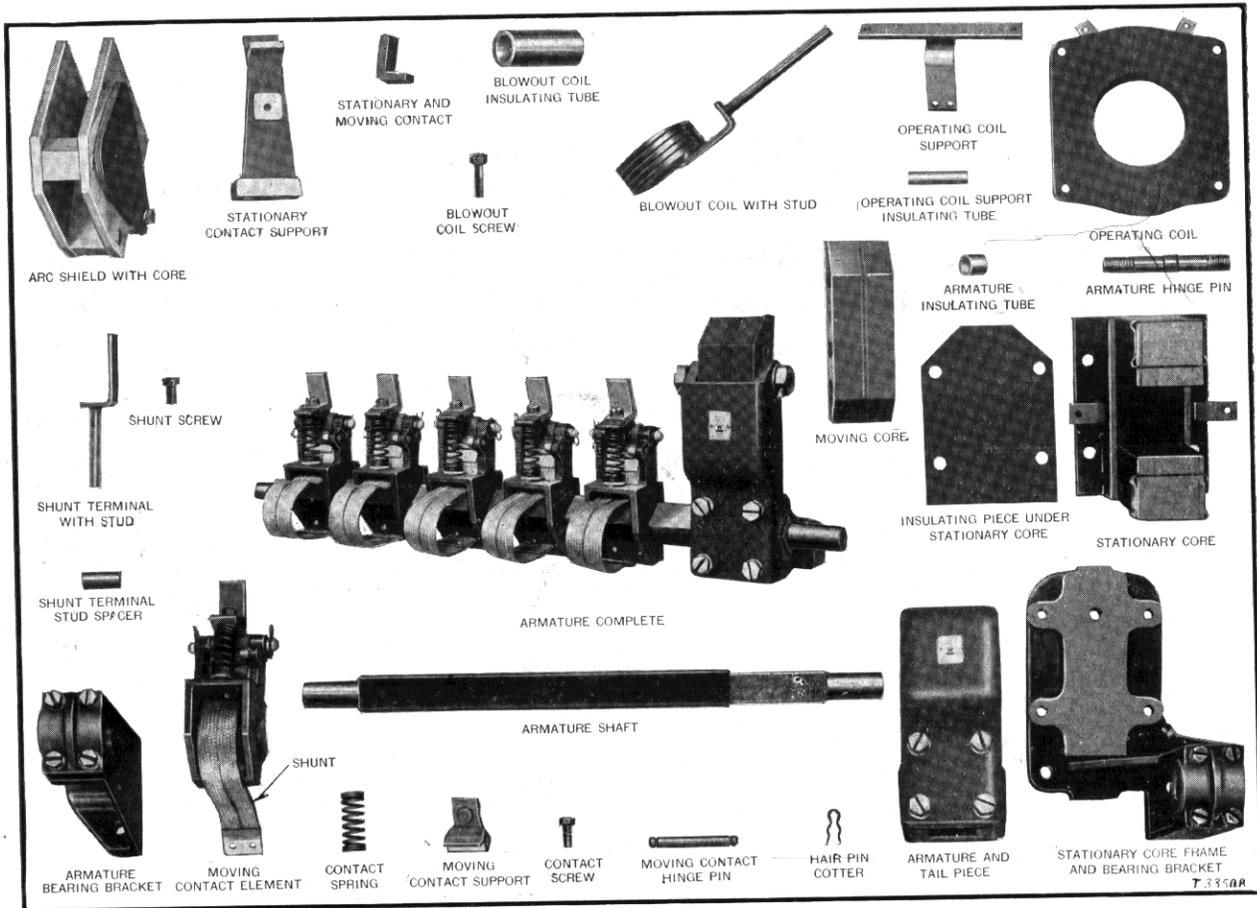


FIG. 2—RENEWAL PARTS OF TYPE F MAGNETIC CONTACTOR, FRAME NO. 67-F

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.

RECOMMENDED STOCK OF RENEWAL PARTS

Style Number of Contactor		With Blowout.....		530 259			
		Without Blowout.....		530 260			
For Contactors in use up to and including...		1	5	For Contactors in use up to and including.....			
NAME OF PARTS	NO. PER CONTACTOR	RECOMMENDED FOR STOCK	STYLE NO. OF PART	NAME OF PARTS	NO. PER CONTACTOR	RECOMMENDED FOR STOCK	STYLE NO. OF PART
Armature Complete.....	1	0	0	xStationary Contact Support....	5	0	489 243
Armature and Tail Piece....	1	0	0	Stationary Contact.....	5	5	94 401
†Stop.....	1	0	0	Contact Screw.....	5	2	780 767
†Cushion.....	1	0	0	xBlowout Coil with Stud.....	5	0	489 238
Moving Core.....	1	0	0	xBlowout Coil Stud Spacer.....	5	0	489 247
Armature Hinge Pin.....	1	0	0	xBlowout Coil Screw.....	5	0	334 812
Armature Insulating Tube....	2	0	0	xArc Shield with Core.....	5	0	368 330
Armature Shaft.....	1	0	0	xBlowout Coil Insulating Tube	5	0	302 860
Moving Contact Element....	5	0	1	Shunt Terminal with Stud.....	5	0	379 677
Moving Contact Support.....	5	1	2	Shunt Screw.....	10	2	5 281 054
Moving Contact.....	5	5	10	Armature Bearing Bracket.....	1	0	496 535
Contact Screw.....	5	2	5	Stationary Core Frame and Bear-	1	0	496 536
Contact Spring.....	5	1	2	ing Bracket.....	1	0	489 233
Shunt.....	5	2	5	Stationary Core.....	1	0	761 411
Shunt Screw.....	10	2	5	†Shading Coil.....	2	0	0
Moving Contact Hinge Pin	5	0	1	Operating Coil Support.....	1	0	0
Pin.....	5	0	1	Operating Coil Support Insulat-	4	0	0
†Stationary Contact Support with	5	0	0	ing Tube.....	1	1	1
Stud.....	5	0	0	Operating Coil.....	1	1	1

Parts indented are included in the part under which they are indented.
*Used only on Contactor without Blowout.
xUsed only on Contactor with Blowout.

†Not listed on Illustration.
‡When ordering, specify Identification Number stamped on coil.

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

Westinghouse Electric & Manufacturing Company

East Pittsburgh, Pa.