



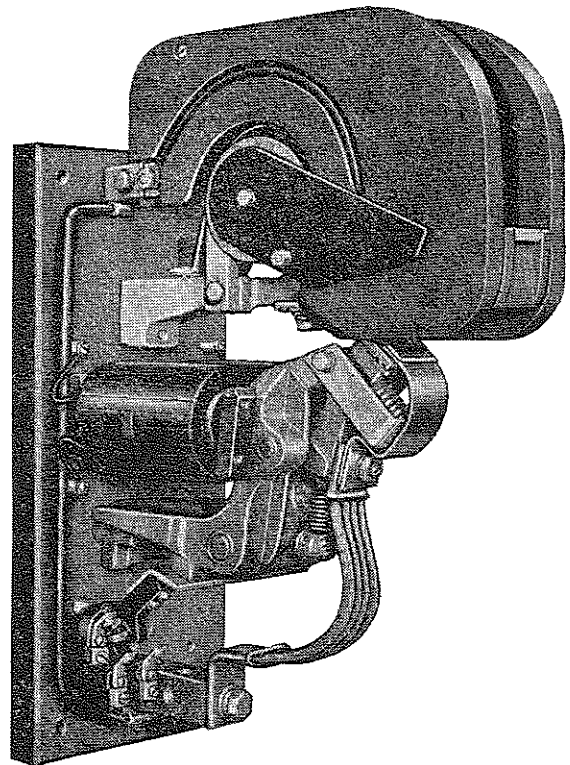
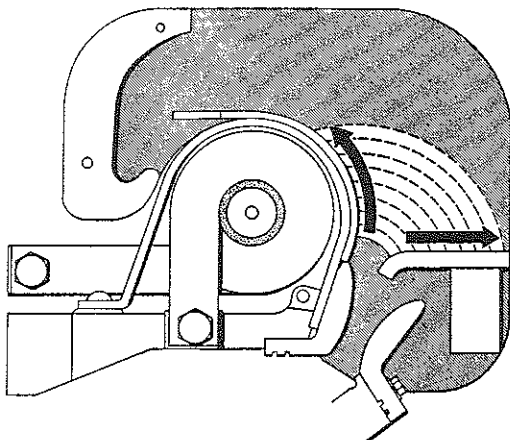
NEMA SIZE 6 SINGLE POLE L LINE-ARC CONTACTOR FRONT CONNECTED FOLIO 3A & 3B FOR DC OPERATION

INSTRUCTIONS

TYPE L LINE-ARC CONTACTORS are general purpose, direct current magnetic contactors.

Contactor Size NEMA	Continuous Rating Amperes	Crane and Mill Rating Amperes
No. 6	600 800	800 1060

LINE-ARC: These contactors derive their name from the manner in which they handle the arc. The Line-Arc principle of controlling the arc is simple . . . and automatic. There is nothing to adjust or wear out. At the instant the contacts start to separate, the arc is automatically transferred from the contacts to the arcing plate and circular guard over the blowout coil. The arc, as it travels along the arcing plate and circular guard, is stretched out in a line centered between the arc shields. Hence—cool contacts and the name Line-Arc.



CAUTION—Before operating the contactor under load, be sure that the arc shield is lowered in its proper position.

INSTALLATION: Mount the contactors vertically on rigid supports with at least 3 3/8" clearance above and in front of the arc shields to provide the proper distance for arcing clearance and also for removal of the arc shields. The life of the contactor will be considerably prolonged by installing it in a clean, dry place, preferably in a cabinet and as free as possible from external vibration or shock.

MAGNET AIR GAP: To insure quick release of the magnet arm, a non-magnetic spacer .0159" thick is placed between magnet cores and the core caps. See that the magnet faces are free from oil or sticky foreign material.

BEARINGS: Type L contactors are equipped with Nitralloy pins and oil-filled bearings. These bearings are self-lubricating and require no lubrication in the field.

OPERATING COILS: These contactors will operate satisfactorily on 80% of normal control voltage when the coils are hot and will hold in on 20% of normal voltage. The coils will stand 110% of normal voltage continuously.

This contactor has a horseshoe type magnetic circuit using two duplicate magnet coils connected in series.

Contactors for 115 and 230 volt service are supplied with half-voltage coils. Contactors for 550 volt service are supplied with 230 volt coils and suitable resistor mounted on the base to suit.

To remove the operating coils, first back out the magnet arm pin set-screw and remove the magnet arm pin. The magnet arm may then be lowered to remove the operating coils.

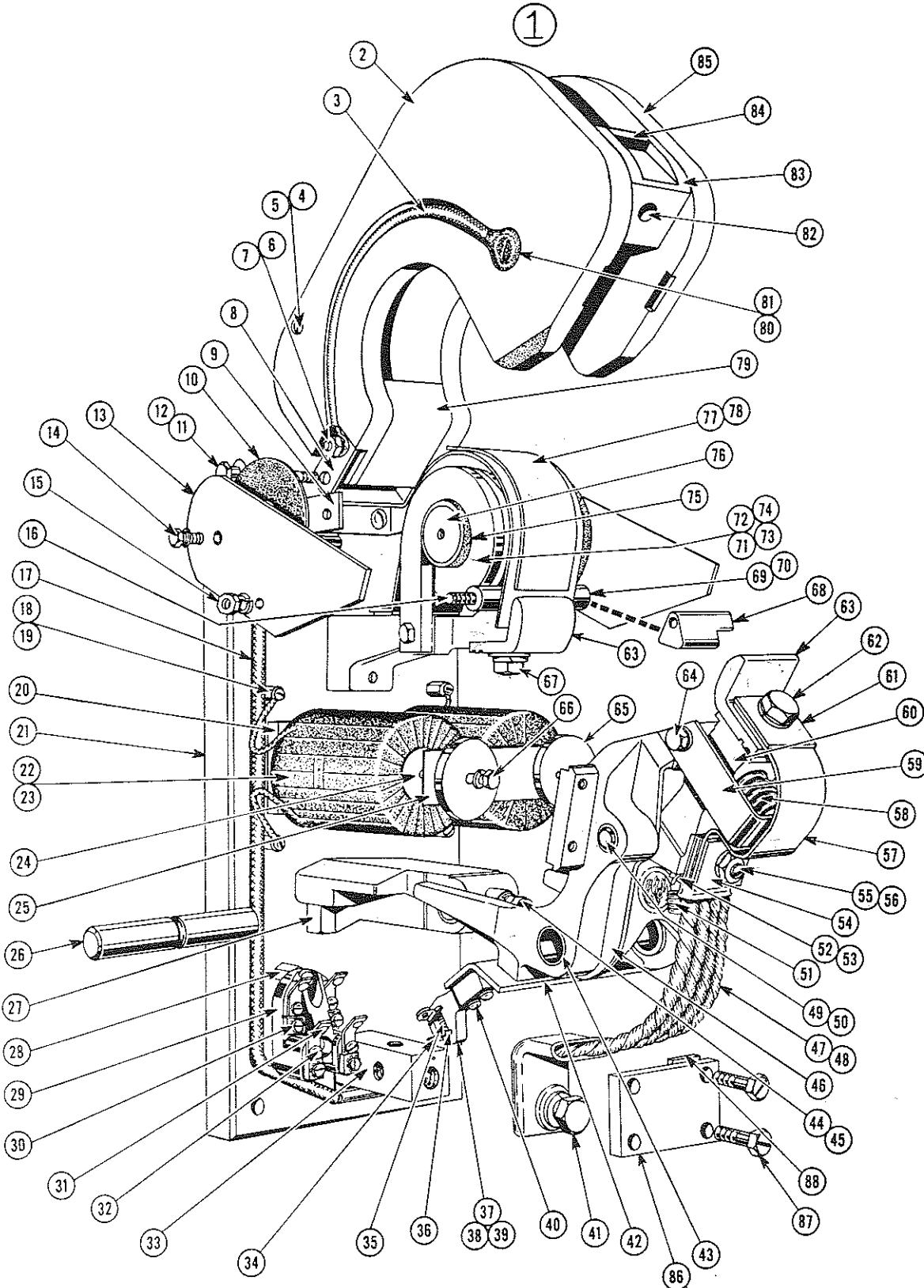
ELECTRICAL INTERLOCKS: These consist of stationary contacts mounted on the base and a moving contact attached to the bottom of the magnet arm. The moving contact should provide 1/8" follow-up when the magnet arm reaches its limit of travel, either completely closed or completely opened. The rating of these electrical interlocks is as follows:

	Max. Inrush	Cont. Amps.	Rupturing Capacity Amps. Inductive			
			115 V.	250 V.	440 V.	550 V.
A.C.	30	15	10	10	5	5
D.C.	30	15	2.5	1.0	.4	.4

(Continued on Page 4)



NEMA SIZE 6 SINGLE POLE L LINE-ARC CONTACTOR, FOLIO 3A & 3B



ADVISE NAMEPLATE MARKING WHEN ORDERING PARTS



NEMA SIZE 6 SINGLE POLE L LINE-ARC CONTACTOR, FOLIO 3A & 3B

Item No.	List No.	Description	Item No.	List No.	Description
✓ 1	LT-4708-A	Assembled Arc Shield, Complete.....	✓ 46	LT-4713-A	Assembled Magnet Arm.....
2	LT-4741	Arc Shield, Left Hand.....	✓ 47	L-4714-A	Assembled Connector, for No. 4.....
3	LT-4778	Arc Plate Connector, 2 req'd.....	✓ 48	L-4716-A	Assembled Connector, for No. 4A.....
4	FP-23A35	Binding Screw.....	✓ 49	LT-4777	Auxiliary Arm Pin.....
5	PP-23A12	Binding Nut.....	✓ 50	29005-32221	Bearing, 2 req'd., Pressed into Magnet Arm.....
6		5/16"-18x3 1/2" H.I. Cap Screw, Nut and Washers.....	✓ 51	L-4078	Spring.....
7		#1118 Shake Proof Lk. Washer.....	✓ 52	L-4080	Spring Bracket, 2 req'd.....
✓ 8	LT-4734	Arc Shield Hinge.....	53		10-24x1/2" R.I. Screw and Lk. Washer.....
✓ 9	LT-4657	Arc Shield Clip.....	✓ 34	L-4011	Washer.....
✓ 10	LT-4750	Insulator, for blowout Ear, 2 req'd.....	55	LT-3892	Set Screw.....
11		5/16"-18x3 1/2" H.I. Cap Screw with 2 Nuts.....	56		3/8"-16 H.I. Jam Nut and Lk. Washer.....
12	29005-104-02	Spring Washer, 2 req'd.....	✓ 57	LT-4727	Auxiliary Arm Guard.....
✓ 13	LT-4738	Blowout Ear, 2 req'd.....	✓ 58	LT-4755	Contact Spring.....
14		1/4"-20x1/2" H.I. Cap Screw and Lk. Washer.....	✓ 59	LT-4737	Spring Bracket.....
15		1/4"-20 H.I. Jam Nut and Lk. Washer.....	60	LT-4077-A	Assembled Auxiliary Arm.....
16	LT-4748	Stud, for Blowout Ear Spacer.....	✓ 61	L-4010	Washer.....
* 17	LT-4705-A	Blowout Connector.....	62		1/2"-13x1" H.I. Cap Screw and Lk. Washer.....
18	LT-1722	Coil Terminal Stud, 4 req'd.....	✓ 63	ASMM-817-81	Contact Tip <i>50005-017-01</i>
19		10-24x3/8" R. Stl. Mach. Screw.....	64		5/16"-18x3/8" H.I. Cap Screw and Lk. Washer.....
20	LT-4729-A	Assembled Frame.....	65	LT-4067	Core Cap, 2 req'd.....
21		Base, Advise Name Plate Data.....	66		1/4"-20x3/8" Everdur Hex Mach. Bolt and Lk. Washer.....
✓ 22	LT-4705-AE	Coil, 115 volt, 2 req'd., (57.5 V Coils in series).....	67		1/2"-13x1" H.I. Cap Screw, S.A.E. Washer and Lk. Washer.....
✓ 23	LT-4704-AE	Coil, 230 volt, 2 req'd., (115 V Coils in series).....	✓ 68	LT-4743	Blowout Ear Spacer, 2 req'd., for Folio 3A Contactors.....
24	L-4015-A	Assembled Core, 2 req'd.....	✓ 69	LZA-6135	Blowout Ear Spacer, 2 req'd., for Folio 3B Contactors.....
25	LT-4752	Non-Magnetic Spacer.....	✓ 70	LZA-6134	Insulator, for Folio 3B Contactors.....
26	LT-4037	Magnet Arm Pin.....	71	L-4730-A	Assembled Contact Bracket, for No. 4 Folio 3A Contactors.....
✓ 27	LT-4029-A	Magnet Arm Bracket.....	✓ 72	L-4458-A	Assembled Contact Bracket, for No. 4A Folio 3A Contactors.....
28	EL-112	Mounting Stud, 2 req'd.....	✓ 73	L-4457-A	Assembled Contact Bracket, for No. 4 Folio 3B Contactors.....
29	EL-100-A	Control Circuit Base.....	✓ 74	L-4458-A	Assembled Contact Bracket, for No. 4A Folio 3B Contactors.....
30	PP-28HT-10	Terminal.....	✓ 75	LT-4749	Blowout Core Insulator.....
✓ 31	EL-109-A	Assembled Contact.....	✓ 76	LT-4757	Blowout Core.....
✓ 32	<i>21916-17120</i>	10-32x3/8" R. Stl. Mach. Screw and Lk. Washer.....	✓ 77	LT-4732-A	Blowout Guard, for Folio 3A Contactors.....
✓ 33	L-4712-A	Terminal Block.....	✓ 78	LZA-6193-A	Assembled Blowout Guard, for Folio 3B Contactors.....
34	EL-84-A	Assembled Contact Bridge, 1 req'd. for Item 37, 2 req'd. for Item 38.....	✓ 79	LT-4745	Arc Shield Spacer.....
<i>51075-023-50</i>		Spring.....	80		1/4"-20x1 1/2" F.I. Screw, (not shown) 2 req'd
35	EL-49	Spring Retainer, 2 req'd.....	81	20-1150	Cup Washer, (not shown) 2 req'd.....
36	EL-87	Control Circuit Arm, complete, for Open or Closed Control Circuit.....	82		1/4"-20x1 3/8" R.B. Mach. Screw and #1214 Lk. Washer.....
37	EL-111-A	Control Circuit Arm, complete, for Open and Closed Control Circuit.....	83	LT-4744	Arc Block.....
<i>51075-022-50</i>		Control Circuit Arm, only.....	84	LT-4720-A	Arc Plate.....
38	EL-87-A	Control Circuit Arm, only.....	85	LT-4742	Arc Shield, Right Hand.....
39	EL-47	Control Circuit Arm, only.....			
40	<i>21916-16280</i>	10-24x7/8" R. Stl. Mach. Screw and Lk. Washer.....			
41		1/2"-13x1 1/4" H. Stl. Cap Screw, Std. 1 Washer and Lk. Washer.....			
✓ 42	L-4020	Control Contact Bracket.....			
43	FP-24B16	Bearing, 2 req'd., Pressed into Magnet Arm.....			
44	L-4079	Spring Nut.....			
45	LT-3892	Set Screw.....			

Also
23601-00160 Flat Washer

Coil Spring LT 1058

#43 29005-48300

MECHANICALLY-TIED CONTACTORS

Two or more single pole contactors, mounted on a single base, may be mechanically tied to operate as a multiple-pole contactor. For this type contactor, the following parts are used.

21	Base, advise Name Plate Data.....	87	1/4"-20x3/8" H. Stl. Slotted Cap Screw, Blk. Burr and Lk. Washer.....
✓ 22	Operating Coil, advise Name Plate Data.....	✓ 88	L-3034 Tie Bar Spacer, as req'd.....
86	T-9148 Tie Bar.....		

†Essential Parts for General Maintenance.
 * Early production of contactors had blowout connector mounted on front of base as illustrated. Current production has blowout connector mounted on rear of base.



NEMA SIZE 6 SINGLE POLE L LINE-ARC CONTACTOR, FOLIO 3A & 3B

MECHANICAL INTERLOCKS: These are horizontal bakelite bars, pivoted at the center. They are carefully ground at the factory to suit the contactors with which they are used. They must prevent the contacts of both contactors touching simultaneously but not interfere with the complete closure and seal of either contactor alone. **CAUTION**—The interlock should maintain one set of contacts open at least $\frac{3}{8}$ " when the other contacts just touch.

MAIN CONTACTS: These are made of pure copper by a special forging process to give high Brinell hardness throughout their entire thickness. These contacts close with a slight rolling action, there is no wiping action.

The stationary and moving contacts may wear unequally, depending upon polarity. It may not be necessary to change both contact tips when replacement is necessary. The best operation is obtained with positive connected to the stationary contact and negative to the moving contact. Wiring diagrams are so arranged by the Square D Company.

MAIN CONTACT OPENING: In the table at right is shown the correct dimension for contact opening and the contact pressure. Contact follow-up is necessary so that the contact pressure will be maintained as the contacts wear. The follow-up is the amount of opening between the moving contact auxiliary arm and its stop when at "B" in the sketch below, WITH THE CONTACTOR FULLY CLOSED. Follow-up decreases with contact wear. When dimension "B" is reduced to $\frac{1}{16}$ ", the contact tips must be advanced or replaced. Contacts are grooved for advancing movable contact to compensate for wear.

MAIN CONTACT PRESSURE: Type L contactors are designed with contact pressures as given in the table below. A slight arcing or spitting of the contacts when closing may be an indication that the contact spring should be replaced or contact tips advanced or replaced.

To check spring pressures, a spring balance may be used with a tape on the hook passing around the contact tip at its point of contact and pulled at right angles to the auxiliary contact arm, as shown in the sketch below. Contact pressure is correct if the balance scale shows a pull as given in the following table with the arm just leaving its stop at "B".

OPENING WHEN NEW	
Opening at "B" with Contactor fully closed.....	.200"
CONTACT PRESSURE IN POUNDS	
Surfaces at "B" just breaking (new or old).....	11.5-13.5
Sealed, Contactor fully closed (when new).....	18-20

