



CLASS 6140 1350/2700 AMPERE MANUAL-MAGNETIC DISCONNECT SWITCH

INSTRUCTIONS

GENERAL

Square D Manual-Magnetic Crane safety disconnect switches combine into one unit the two requirements of a disconnect on the foot walk, and a disconnecting means in the crane cab by use of push button station for remote control.

The 1350 ampere manual-magnetic uses a double pole NEMA Size 8 Type L LINE-ARC contactor to disconnect both sides of the power circuit. The 2700 ampere manual-magnetic uses two double pole NEMA Size 8 Type L LINE-ARC contactors connected in parallel to disconnect both sides of the power circuit.

The panels are front-wired, with all power and control terminals front-connected. The panels are of tilt-out design, in enclosures of type I, IG, III or XII design.

OPERATION

Pushing the operating handle of the manual-magnetic to the up or "on" position closes the double-pole control contacts which enables the manual-magnetic to be remotely operated by the push button station located in the operator's cab. The push button station button is wired to the control terminals on the manual-magnetic base and may be either a 2-wire maintained-contact type, or a 3-wire momentary-contact type. The push button station is effective only when the operating handle of manual-magnetic is in the up or "on" position. Pulling the operating handle to the "off" position opens the control circuit. Control contacts are provided on the contactors that can be used to indicate whether the main contactors are closed or open.

RATING

The rating of the electrical interlocks are 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

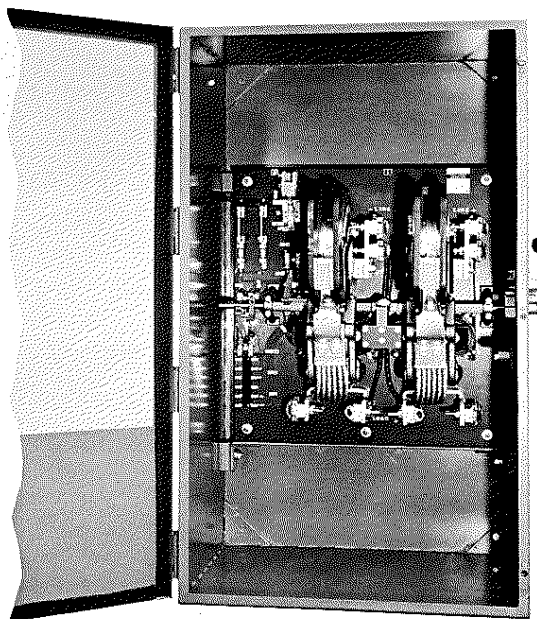
MAIN CONTACTS

The main contacts are forged copper with silver facing to maintain the maximum electrical characteristics when maintained closed for long periods of time.

CAUTION: Before operating the switch under load, be sure that the arc shields are lowered in their proper positions.

INSTALLATION

Mount the disconnect switches vertically on rigid supports with adequate clearances for the external operating lever.



MAGNET AIR GAP

To insure quick release of the magnet arm, a non-magnetic spacer .045" thick is placed between the magnet cores and the core caps. See that the magnet faces are free from oil or sticky foreign material.

BEARINGS

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

OPERATING COILS

The disconnect switch 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.

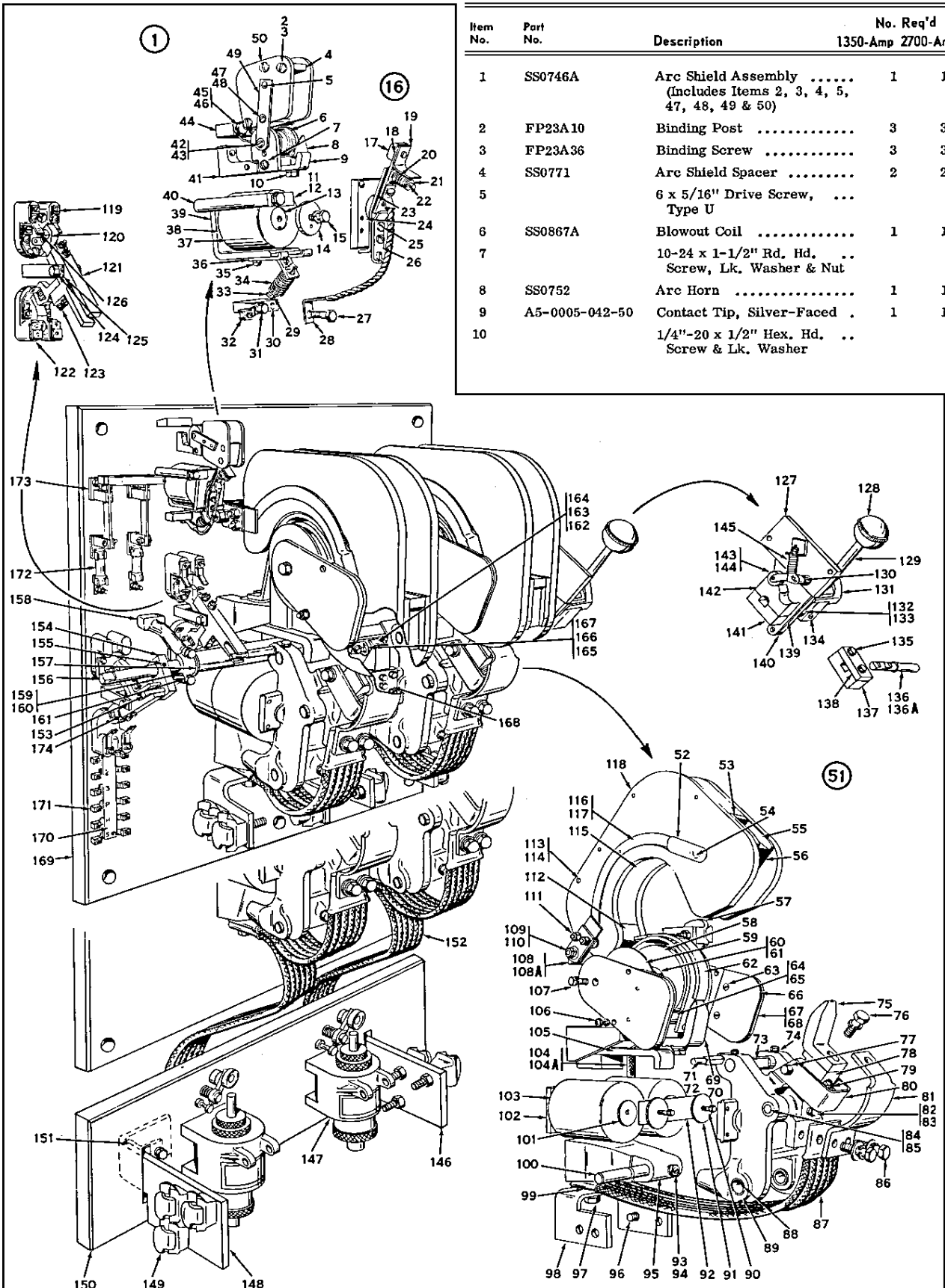
The contactors used have a horseshoe type magnetic circuit each, using two duplicate magnet coils all connected in series.

Contactors for 115, 230 and 550 volt service are supplied with quarter-voltage coils.

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.



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Item No.	Part No.	Description	No. Req'd		Item No.	Part No.	Description	No. Req'd	
			1350-Amp	2700-Amp				1350-Amp	2700-Amp
11	SS0805	Stop Plate	1	1	52		6-32 x 1/4" Flat Hd. Type .. F Self-Tapping Screw (Not Illustrated)		
12		1/4"-20 x 3/4" Hex. Hd. .. Screw & Lk. Washer			53	L6018A	Arc Plate Assembly	2	4
13	S0107A	Core Assembly	1	1	54		3/8"-16 x 1" Flat Hd. ... Screw (Not Illustrated)		
14	LT1067	Core Cap	1	1	55	L6009	Arc Block	2	4
15		1/4"-20 x 3/4" Everdur ... Hex. Hd. Screw & Lk. Washer			56		1/4"-20 x 2-1/2" Rd. Hd. . Brass Screw & External- Tooth Lk. Washer		
16	SS0755AS	Auxiliary Contact Arm ... Assembly (Includes Items 17 thru 19)	1	1	57	L6720	Connector Plate	2	4
17	A5-0005-051-50	Contact Tip, Silver-Faced .	1	1	58	L6730A	Contact Bracket Assembly .	2	
18	SS0754	Contact Finger	1	1	58A	L6345A	Contact Bracket Assembly .		4
19	SS0786	Guard	1	1	59	L6064	Blowout Ear Insulator	4	8
20	SS0896	Contact Spring	1	1	60	L6063	Blowout Core	2	4
21	ZS0349	Spring Guide	1	1	61	L6062	Blowout Core Insulator	2	4
22		1/16" x 1/2" Cotter Pin ...			62	L6020A	Blowout Guard Assembly ..	2	4
23	SS0796A	Contact Bracket Assembly .	1	1	63		10" x 1/2" Flat Hd. Self- Tapping Screw, Type F		
24	SS0922A	Armature	1	1	64	L6065	Blowout Ear Spacer Stud ..	2	4
25		10-24 x 1/2" Rd. Hd. Screw & Lk. Washer			65	L6048	Blowout Ear Spacer	4	8
26	SS0795	Spring Plate	1	1	66	L6038	Insulator	2	4
27		1/4"-20 x 1/2" Hex. Hd. . Screw & Lk. Washer			67	L6039	Blowout Ear	4	8
28	SS0828A	Connector Assembly	1	1	68	L6040A	Blowout Ear Assembly	4	8
29	SS0769A	Spring Pin Assembly	1	1	69		1/2"-13 x 1-1/2" Hex. Hd. Screw, Lk. Washer & S.A.E. Washer		
30	S0317A	Terminal Block Assembly . (Hdwe E)	1	1	70	A5-0005-027-50	Contact Tip	2	4
31		1/4"-20 x 1/2" Std. Hex. . Hd. Screw & Lk. Washer			71		3/8" Internal-Tooth Lk. ... Washer (Not Illustrated)		
32	FP28C20	Terminal	1	1	72	EL132	Operating Pin	1	4
33		3/32" x 3/4" Cotter Pin ...			73	L6050	Stop Pin	2	4
34	SS0802	Arm Spring	1	1	74		1/4"-20 x 3/4" Hex. Hd. .. Screw & Lk. Washer		
35		10-24 x 3/8" Rd. Hd. Screw & Lk. Washer			75	A5-0005-027-50	Contact Tip	2	4
36	SS0798	Spring Retaining Plate	1	1	76		1/2"-13 x 1-3/4" Hex. Hd. . Screw, Lk. Washer & S.A.E. Washer		
37	SS0785AE	Operating Coil	1	1	77		3/8"-16 x 5/8" Hex. Hd. .. Screw & Lk. Washer		
38	SS0803	Spacer (Not Illustrated) ...	1	1	78	L6049	Auxiliary Arm	2	4
39	SS0827A	Frame Assembly (Hdwe F) .	1	1	79	L6027	Contact Spring	2	4
40	SS0806	Stop Bar (Hdwe E)	1	1	80	L6022A	Spring Bracket Assembly ...	2	4
41	SS0750	Contact Bracket (Hdwe E) ..	1	1	81	L6052	Auxiliary Arm Shunt	2	4
42	SS0781	Blowout Core (Not Illus- trated)	1	1	82		5/16"-18 Hex. Jam Nut ... & Lk. Washer		
43		10-24 x 1-3/4" Rd. Hd. .. Screw, Lk. Washer & Nut			83	L6058	Setscrew	2	4
44	S0317A	Terminal Block Assembly . (Hdwe D)	1	1	84	FP24B15	Bearing	4	8
45		1/4"-20 x 1/2" Std. Hex. .. Hd. Screw			85	L6056	Auxiliary Arm Pin	2	4
46	Z01150	Cup Washer	2	2	86		1/2"-13 x 1-1/2" Hex. Hd. Screw, Lk. Washer & S.A.E. Washer		
47	FP23A13	Binding Post	1	1	87	L6716A	Connector Assembly	2	4
48		8-32 x 9/16" Al. Rd. Hd. . Screw			88	FP24B16	Bearing	4	8
49	SS0753	Blowout Ear	2	2	89	L6013A	Magnet Arm Assembly	2	4
50	SS0770	Arc Shield	2	2	90		1/4"-20 x 3/4" Everdur ... Hex. Hd. Bolt & Lk. Washer		
51	L6003A	Arc Shield Assembly	2	4			(Includes Items 52, 53, 54, 56, 112 thru 118)		

ADVISE NAME PLATE MARKING WHEN ORDERING PARTS



6140 1350/2700 AMPERE MANUAL-MAGNETIC DISCONNECT SWITCH

Item No.	Part No.	Description	No. Req'd		Item No.	Part No.	Description	No. Req'd	
			1350-Amp	2700-Amp				1350-Amp	2700-Amp
128	FP12A13	Handle Ball	1	1	164	SS340	Cotter Pin	1	2
129	B5-0502-101-45	Handle Shaft	1	1	165	A5-1049-027-01	Roller Bracket	1	2
130	NT22	Roller Bracket	1	1	166	B5-0502-402-18	Roller Bracket Spacer	1	2
131	B5-1049-036-01	Handle Base	1	1	167		1/4"-20 x 1-3/4" Hex. Hd. Screw & Lk. Washer		
132	A5-1049-034-01	Operating Shaft, For Types I & IG Cabinets (Not Illus.)	1	1	168	A5-1051-021-50	Tie Bar Assembly	1	
133	FP27A27	Retaining Ring (Not Illustrated)	1	1	168A	A5-1087-016-50	Tie Bar Assembly, Top		1
134	24209-16400	Roll Pin	1	1	169	A5-1051-011-01	Base	1	
135		5/16"-18 x 1-1/4" Hex. Hd. Screw & Lk. Washer			169A	C5-1087-011-01	Base		1
136	A5-1049-038-01	Operating Shaft, For Type III & XII Cabinets	1		170	MT517	Designation Plate	1	1
136A	A5-1049-038-02	Operating Shaft, For All Cabinets		1	171	MT450A	Terminal Lug Assembly (Hdwe J, K)	1	1
137	A5-1049-016-01	Coupling Bracket, For Type III & XII Cabinets	1	1	172		Fuse, 30-Amp, 250-Volt	2	2
138	A5-1049-016-02	Coupling Clamp, For Type III & XII Cabinets	1	1	173	MT1232GS	Knife Switch (Hdwe G, H)	1	1
139	A5-1049-034-02	Gasket	1	1	174	A5-1049-015-01	Control Circuit Contact Operating Arm	1	1
140	C5-1049-037-50	Stop Plate Assembly	1	1	ADDITIONAL PARTS FOR 2700 AMP ONLY				
141	A5-1049-032-02	Coupling Clamp	1	1	175	A5-1087-014-50	Terminal Block Assembly		4
142	A5-1049-032-01	Roller Cam & Coupling	1	1	176	A5-1087-015-50	Bus Bar Assembly		4
143	NT26	Roller Pin	1	1	177	B5-0503-003-02	Terminal Lug		8-16
144	NT68	Roller	1	1	178	A5-1087-016-51	Tie Bar Assembly, Bottom		1
145	B5-0502-601-10	Spring	1	1	179	A5-1087-013-50	Shaft Assembly, Bottom		1
146	A5-1051-032-02	Terminal Bar, R.H.	1		180	LTZ3273	Operating Arm		4
• 147		Form N, Type "CT" Overload Relay, See Catalog 9055-2 For Parts	1 or 2		181	LTZ4009	Operating Rod		2
• 147A		Overload Relay, Clark Controller Co. Bul. # 7328		1 or 2	182	LTZ1273	Adjusting Yoke		2
▲•147B		Overload Relay Coil Assembly			183	LTZ1274	Yoke Pin		4
	A5-1087-071-01	Relay Coil	1 or 2		184	RS130	Hair Pin Cotter		4
	A5-1087-072-01	Spacer	1 or 2		185 } • 29963-08170	Resistor Mounting Hardware		1	
	A5-1087-073-01	Spacer	1 or 2		186 •	A5-2908-011-54	Resistor		1
	A5-1087-073-02	Spacer	1 or 2		188	FP10A12	Capacitor		1
	A5-1087-070-01	Base	1		189	LT4806AE	Coil Assembly (Hdwe C)		8
148	A5-1051-032-01	Terminal Bar, L.H.	1		190 •	A5-1087-036-50 ♦ A5-1087-074-50 •	Bus Bar Assembly (With Overload)		1 or 2
149	FP28Y14	Terminal Lug	12		191 •	A5-1087-037-01 ♦ A5-1087-068-01 •	Bus Bar (With Overload)		1 or 2
150	A5-1051-029-01	Base	1		192	FP28T1-10	Terminal Lug		8
150A	A5-1087-034-01	Base		1	MOUNTING HARDWARE LIST				
151	A5-1051-038-01	Terminal Bar Support Angle	1		Hdwe Description				
152	A5-1051-039-50	Flexible Connector	1 or 2		A	1/2"-13 x 2-3/4" Hex. Hd. Screw, Lk. Washer, & Flat Washer			
153	A5-1049-014-02	Operating Pin	1	1	B	5/8"-11 x 2-3/4" Hex. Hd. Screw, Lk. Washer, & Flat Washer			
154	A5-1049-014-01	Operating Arm	1	1	C	3/8"-16 x 2-3/4" Hex. Hd. Screw, Lk. Washer, & Flat Washer			
155		1/4"-20 x 3/8" Setscrew	1	1	D	1/4"-20 x 2" Hex. Hd. Screw, Lk. Washer, & Flat Washer			
156	A5-1051-012-50	Shaft Assembly	1		E	1/4"-20 x 2-1/4" Hex. Hd. Screw, Lk. Washer, & Flat Washer			
156A	A5-1087-012-50	Shaft Assembly, Top		1	F	3/8"-16 x 2-1/2" Brs. Hex. Hd. Screw, Lk. Washer, & Flat Washer			
157	DL607	Spacer	2	3	G	#12-32 x 2-1/4" Rd. Hd. Screw & Flat Washer			
158	LT6002	Bearing Bracket (Hdwe L)	2	4	H	#12-32 x 1-3/4" Rd. Hd. Screw & Flat Washer			
159	LT1125	Bearing Bracket Clamp	2	4	I	#12-24 x 2" Pan Hd. Screw, Lk. Washer, Flat Washer, & Stud EL120			
160	DL610	Bearing Bracket Bushing	2	4	J	Stud MT457, Lk. Washer, & Nut			
161		5/16"-18 x 1-1/4" Hex. Hd. Screw & Lk. Washer			K	#12-24 x 2" Rd. Hd. Screw, Lk. Washer, & Nut			
162	LC20A	Roller Assembly	1	2	L	5/16"-18 x 2-1/2" Hex. Hd. Screw, Lk. Washer, & Flat Washer			
163	LT4925	Roller Pin	1	2					

▲ Replaces obsolete Clark Controller Coil A73-235836A and supplied as standard after 6-15-69. Bus Bar Assemblies Items 190 and 191 must also be changed when converting overload coils.

♦ For use with Clark Controller Overload Coil A73-235836A

• For use with Square D Overload Coil A5-1087-071-01

• Minor revision since previous issue.

ADVISE NAME PLATE MARKING WHEN ORDERING PARTS

SQUARE D COMPANY

