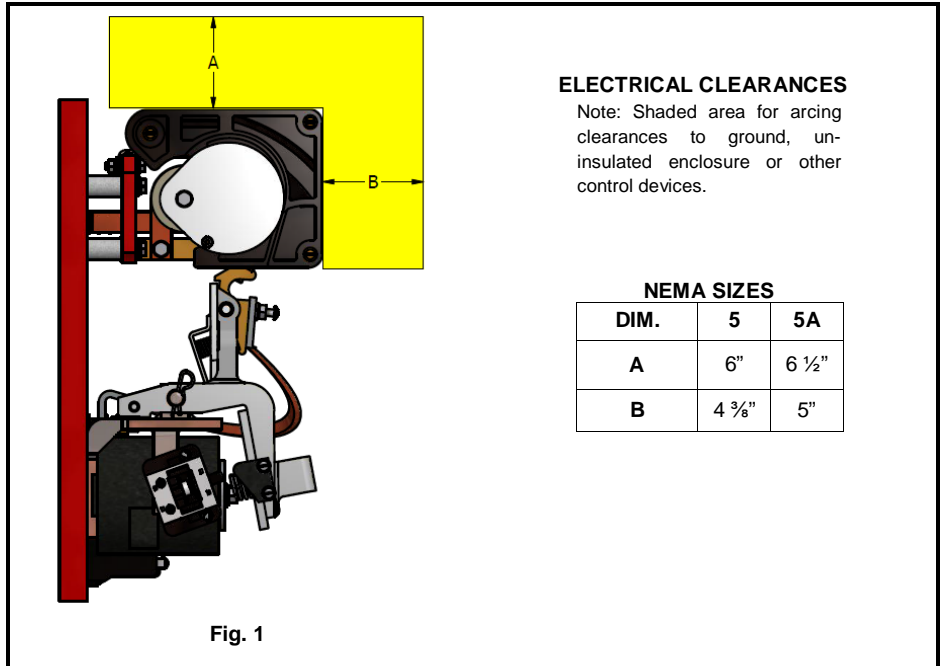


SERVICE AND REPAIR PARTS

NEMA SIZE 5, SINGLE POLE, NORMALLY CLOSED, P/N 58900 SERIES
NEMA SIZE 5A, SINGLE POLE, NORMALLY CLOSED, P/N 59501 SERIES

INSTALLATION AND ADJUSTMENT

Mount the contactor vertically on a rigid support. Refer to Figure 1 for proper clearances above the top of the contactor, dimension A, and in front of the Arc Shield, dimension B, for arcing clearance, and Arc Shield removal. Check nameplate data for correct equipment. Check that the contactor operating coil (25) is the correct voltage. With all power removed, pivot the Arc Shield (43) upwards and operate the contactor by hand. The contact tips (9) should meet SQUARELY. If they do not, align them by the procedure in the Contact Tip Adjustment. Pivot the Arc Shield (43) back to its proper position. **CAUTION: DO NOT OPERATE THE CONTACTOR UNDER LOAD UNLESS THE ARC SHIELD IS PIVOTED TO THE FULLY DOWN POSITION**



ELECTRICAL CLEARANCES

Note: Shaded area for arcing clearances to ground, un-insulated enclosure or other control devices.

NEMA SIZES

DIM.	5	5A
A	6"	6 1/2"
B	4 3/8"	5"

Fig. 1

CONTACTOR TIP ADJUSTMENT

1. With all power removed, pivot the arc shield (43) upward.
2. Check that the movable contact tip (9) is against the ledge located on the movable contact holder (52) (Fig. 2).
3. Make sure that the stationary contact tip (9) is against the ledge on the stationary support (7). (Fig. 2).
4. The contact tip surfaces must be aligned both vertically and horizontally (Fig. 2).
5. Pivot the Arc Shield (43) back to its proper position.

WARNING: ALL METAL PARTS OF THE CONTACTOR MAY BE AT LINE VOLTAGE. ALL POWER MUST BE DISCONNECTED FROM THE CONTACTOR BEFORE PERFORMING ANY ADJUSTMENT, MAINTENANCE OR TROUBLE-SHOOTING PROCEDURES.

CAUTION: FAILURE TO CONNECT THE OPERATING COIL TO THE PROPER VOLTAGE MAY RESULT IN IMPROPER CONTACTOR OPERATION OR DAMAGE TO THE COIL.

CONTACTOR TIP REPLACEMENT

The contact tips should be replaced when the contacts are worn down to dimensions shown in Figure 2.

1. With all power removed, pivot the Arc shield (43) upward.
2. Remove the movable contact tip (9) by removing the Stainless Steel cap screw (30) and lock-washer (29) and arc horn (53) located on contact arm (52).
3. Remove the stationary contact tip (9) by removing the stainless steel cap screw (51) and lock-washer (29) located on stationary contact support (7).

Fig. 2	CONTACTOR SIZE	MATED DIMENSION "A"		
		NEW	REPLACE	
	5	N.C.	3/4"	3/8"
	5A	N.C.	3/4"	3/8"

4. Install the new stationary contact tip (9) using the new stainless steel screw (51) and lockwasher (29) provided.

5. Install the new movable contact tip (9) using the new stainless steel screw (30), lockwasher (29), and arc horn (53) provided.
6. Replace the contact spring (48) with the new spring provided.
7. Manually operate the contactor and check the contact tips for alignment. Align the contact tips to meet squarely.
8. Pivot the Arc Shield (43) back to its proper position.

AUXILIARY ELECTRICAL CONTACTS

1. With all power removed, check that auxiliary contact (71) has the proper follow-up. With new auxiliary contacts, the correct operating height is as shown in Fig. 3.
2. If adjustment is needed bend the lower portion of the striker (67).

The Auxiliary Electrical Contacts should be replaced when inspection of the contacts shows that they are burned or badly pitted. It is necessary that the entire auxiliary block be replaced as a unit.

1. With all power "OFF", loosen terminal screws and remove terminal leads. NOTE POSITION OF LEADS so they can be replaced properly.
2. Remove Contact Assembly by removing screws (69).
3. Install NEW CONTACT ASSEMBLY as shown in the exploded view.
4. Manually operate the contactor and check the moving contacts for proper follow-up in Fig. 3.
5. Replace terminal leads.

OPERATING COIL REPLACEMENT

1. With all power removed, disconnect the coil leads.
2. Remove the armature bearing pin (41) by removing the hairpin clips (26).
3. Remove the armature/moving assembly (20) and return spring (17).
4. Remove the screw (23), lockwasher (33), and flat washer (15) on the front of the magnet core and remove non-magnetic spacer (50), core cap (21) and coil (25).
5. Install the new coil using the core cap (21), non-magnetic spacer (50), the flat washer (15), lockwasher (33) and screw (23). It is recommended that loctite thread locker be used on the core cap screw and that the screw is tightened to a minimum of 200 in-lbs. Note that the non-magnetic spacer must be installed against the core. (See Exploded View).
6. Replace the armature/moving assembly (20), return spring (17), and armature bearing pin (41). Reinstall the hairpin clips (26).
7. Reconnect the coil leads, including the flying lead of the coil.

SHUNT REPLACEMENT

The shunt (14) should be replaced when the flexible braided wires are broken or burned or if the wires are loose in the terminal connectors on either end of the shunt:

1. With all power removed, disconnect the bottom end of the shunt (14) by removing hex nuts (46), washers (34), power cable and shunt (14).
2. Disconnect the top end of the shunt by removing the screw (10), hex nut (12), lockwasher (11), flat washer (13) and the shunt (14)
3. Wrap spiro wrap (74) to protect flexible cables from chaffing.

4. Install the new shunt. Spin the nut (12) to the bottom of the screw (10) head. Place the top end of the new shunt on the contact holder arm (52) and install by replacing the screw/nut, lockwasher (11) and flat washer (13) as shown.
5. Check that the bearing pin (18) is centered and tighten the screw (10) very tight (100 in-lbs).
6. Hold the shunt ferrule straight in line with the vertical center line of the holder arm and tighten the nut (12) to 100 in-lbs.
7. Connect the bottom end of the shunt (14) by replacing the nuts (46), flat washers (34), and power cable.

CAUTION: SHUNT MUST BE DIRECTLY AGAINST MOVABLE CONTACT HOLDER ARM (17) AT THE TOP END AND DIRECTLY AGAINST THE WIRE TERMINAL (30) AT THE BOTTOM END.

FAILURE TO FOLLOW THE STEPS ABOVE COULD CAUSE PREMATURE WEAR OF THE CONTACT HOLDER ARM IF SCREW (41) IS NOT TIGHT.

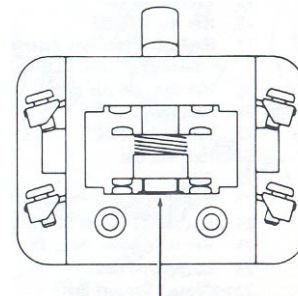
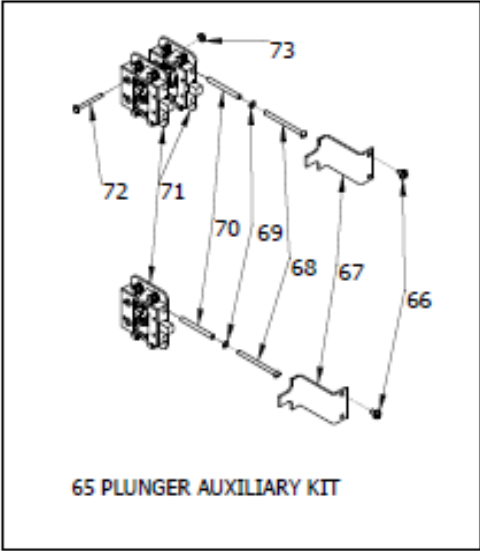
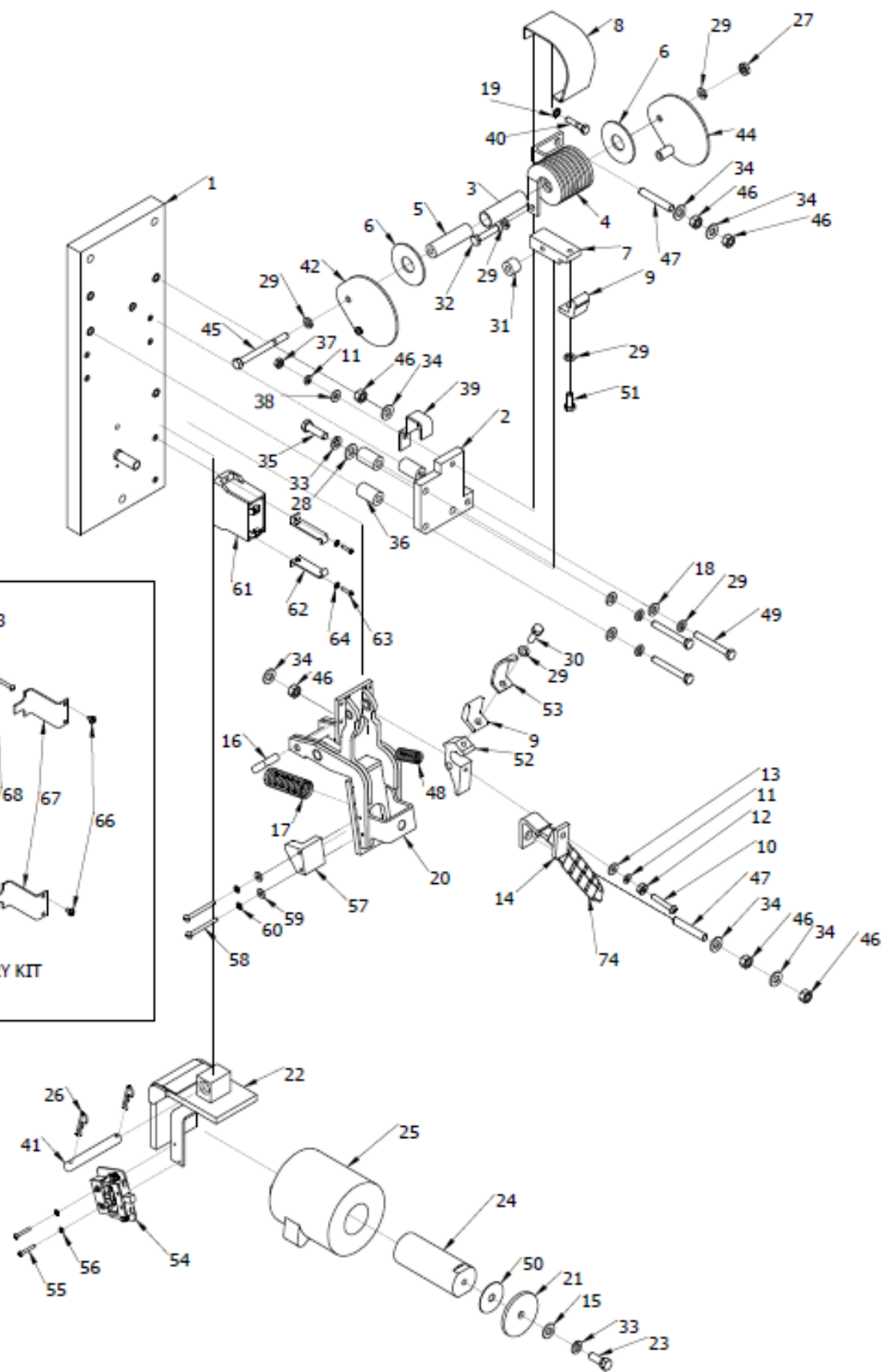
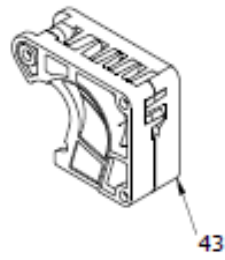


Fig. 3

PROPER OPERATED HEIGHT

The snap ring on plunger is even with bottom edge of cover opening. This does not apply to the auxiliary contact (54) which operates the coil.

Item No.	Description	Part No.	Qty.		Item No.	Description	Part No.	Qty.	
			Size 5	Size 5A				Size 5	Size 5A
1	Mounting Base	59511-002	1	1	*42	Flux Plate Assembly L.H.	18061-000	1	1
2	Blowout Coil Mounting Base	58719-000	1	1	43	Arc Shield Assembly	59695-501	1	1
3	Blowout Core Insulator	18601-000	1	1	*44	Flux Plate Assembly R.H.	18062-000	1	1
4	Blowout Coil 230V	59514-005	1		45	Hex Head Screw (5/16-18 x 3.5)	47246-101	1	1
	Blowout Coil 550V	59514-003	1		46	Brass Hex Nut (3/8-16)	47254-015	6	6
	Blowout Coil 230V	59514-002		1	47	Brass Threaded Stud (3/8-16 x 2.25)	57438-041	2	2
	Blowout Coil 550V	59514-005		1	48	Contact Spring	67981-020	1	1
5	Blowout Core	66870-035	1	1	49	Hex Head Screw (5/16-18 x 2.5)	47246-087	3	3
6	Blowout Coil Insulating Washer	18603-000	2	2	50	Core Cap Spacer	67988-001	1	1
*7	Stationary Contact Bracket	58718-000	1	1	51	SS Hex Head Screw (5/16-18 x .75)	47779-079	1	1
8	Blowout Guard	18605-000	1	1	52	Contact Holder Arm	59458-002	1	1
9	Contact Tip	18402-000	1	1	53	Arc Transfer Tip	59465-002	1	1
	Contact Tip AgWC	18402-004	1	1	54	Plunger Auxiliary Contact	67976-301	1	1
10	Fillister Head Screw (1/4-20 x 1.5")	47244-153	1	1	55	Pan Head Screw (#6-32 x 1)	47243-050	2	2
11	Split Lockwasher (1/4")	47252-038	2	2	56	Internal Tooth Lockwasher (#6)	47304-005	2	2
12	Heavy Hex Nut (1/4-20)	47253-301	1	1	57	Auxiliary Contact Striker	81279-016	1	1
13	Flat Washer (1/4")	47250-511	1	1	58	Pan Head Screw (#10-32 x 2)	47243-112	2	2
14	Finger Shunt Assembly	41722-001	1		59	Brass Flat Washer (#10)	47251-008	2	2
	Finger Shunt Assembly (5A)	43008-001		1	60	Internal tooth Lock Washer (#10)	47304-007	2	2
15	Steel Flat Washer (.390x.750x.188)	47250-518	1	1	61	Arc Suppressor	48422-001	1	1
16	Contact Bearing Pin	59462-000	1	1	62	Arc Suppressor Strap	59572-101	2	2
17	Operating Spring	67981-018	1	1	63	Fillister Head Screw (#8-32 x 5/8)	47244-086	2	2
18	Flat Washer (5/16")	47250-505	3	3	64	Internal Tooth Lock Washer (#8)	47304-006	2	2
19	External Tooth Lockwasher (1/4")	47303-008	1	1	65	Plunger Auxiliary Kit (Single)	68011-006		
20	Armature Assembly	81279-001	1	1		Plunger Auxiliary Kit (Double)	68011-007		
21	Core Cap	43202-000	1	1	66	SEMS Screw (#8-32 x 5/16)	47661-095	2	2
22	Stator Assembly	81279-020	1	1	67	Auxiliary Striker	59516-000	1	1
23	Hex Head Screw (3/8-16 x 1)	47246-103	1	1	68	Round Head Screw (8-32 x 2 1/16")	47241-261	2	2
24	Stator Core	58725-001	1	1	69	Lock Washer (No. 8)	47252-006	2	2
25	Operating Coil 230/250 V	67891-005	1	1	70	Screw Insulating Sleeve	73108-000	2	2
	Operating Coil 115/125 V	67891-006	1	1	71	Auxiliary Contact	67976-001	1	1
26	Hair Cotter Pin	57403-005	2	2	72	Sems Screw (6-32 x 1-1/2")	47661-088	2	2
27	Heavy Hex Nut (5/16-18)	47253-602	1	1	73	Nut (6-32)	47253-012	2	2
28	Flat Washer (3/8")	47250-020	1	1	74	Spirol Wrap	57337-013	1	1
29	Split Lockwasher (5/16")	47252-039	8	8					
30	SS Hex Head Screw (5/16-18x1)	47779-081	1	1					
31	Blowout Coil Spacer	81279-026	1						
	Blowout Coil Spacer (5A)	66870-031		1					
32	SS Hex Head Screw (5/16-18x1.5)	47779-083	1	1					
33	Medium Spring Lockwasher (3/8")	47252-040	2	2					
34	Brass Flat Washer (3/8")	47251-039	6	6					
35	Hex Head Screw (3/8-16 x 1.25)	47246-104	1	1					
36	Standoff Spacer	58068-000	3	3					
37	Hex Nut (1/4-20)	47253-021	1	1					
38	Flat Washer (1/4")	47250-502	1	1					
39	Arc Shield Retainer	68322-001	1	1					
40	Hex Head Screw (1/4-20 x 1.25)	47246-068	1	1					
41	Armature Bearing Pin	18049-100	1	1					



TROUBLE SHOOTING

TROUBLE	POSSIBLE CAUSE	SOLUTION
Contacts will not operate or operation is sluggish.	<ol style="list-style-type: none"> 1. Improper or defective operating coil. 2. Low control circuit voltage. 3. Loose connection in control circuit. 4. Mechanical interference or binding. 	<ol style="list-style-type: none"> 1. Check coil part number resistance to determine if coil is defective. 2. Check that control circuit voltage is a minimum of 80% of rated coil voltage. If it is zero, the problem is elsewhere in the circuit. 3. Check connections and tighten if loose. 4. Check for mechanical interference or bindings: <ol style="list-style-type: none"> 4a. Check mechanical interlock interference. 4b. Manually close the contact arm, check that the armature hinge pins are not binding. 4c. Manually close the contactor, check that the armature bearings are not binding.
Contacts will not open.	<ol style="list-style-type: none"> 1. Core cap spacer damaged or missing. 	<ol style="list-style-type: none"> 1. Inspect core cap spacer.
Contact tips overheating, short contact tip life.	<ol style="list-style-type: none"> 1. Loose connections. 2. Movable or stationary contact tip not properly aligned 3. Foreign matter on contact surfaces. 4. Contact tips worn beyond recommended limits. 5. Contact surfaces severely scored or burned 6. Arc shield not properly installed 7. Normal load currents below 5% of rated current of contactor. 8. Excessive current. 	<ol style="list-style-type: none"> 1. Check contact tips and shunt connections and tighten if loose. 2. Align contact tips by the procedure listed in the ADJUSTMENT-Contact Tip Alignment instructions in this Service Bulletin. Check for positive contact pressure from spring (31). 3. Remove foreign matter. 4. Check for contact war by the procedure listing in the MAINTENANCE-Contact Tip Replacement instructions in this Service Bulletin. 5. Inspect contact surfaces and dress with a file as required. 6. Check that arc shield is pivoted to the fully down position. 7. Use a smaller size contactor to improve blowout action. 8. Check that load currents are within contactor rating.
Operating Coil Overheats.	<ol style="list-style-type: none"> 1. Improper or defective 2. High voltage condition on coil. 	<ol style="list-style-type: none"> 1. Check coil part number and resistance to determine if coil is defective. 2. Check that control circuit voltage does not exceed 110% of rated coil voltage for extended periods.
	<ol style="list-style-type: none"> 3. Loose connection at coil terminals. 	<ol style="list-style-type: none"> 3. Check connection and tighten if loose.

Hubbell Industrial Controls, Inc.

a subsidiary of Hubbell Incorporated

4301 Cheyenne Dr., Archdale, NC 27263

Telephone (336) 434-2800 • FAX (336) 434-2803

<http://www.hubbell-icd.com>

Sales@hubbell-icd.com