



OBSOLETE

TYPE HDO-2, SERIES B, NEMA SIZE 2, 50 AMPERE, DC CONTACTOR DOUBLE POLE, NORMALLY OPEN

INSTALLATION AND ADJUSTMENT

Mount the contactor vertically on a rigid support. Provide at least .6" clearance above the top of the contactor base and 1.7" in front of the arc chute for arcing clearance and arc chute removal.

With the contactor power OFF, lift straight up on the arc chute (1) and remove it from the contactor. Operate the contactor by hand to see that the contact tips meet squarely. If they do not, adjust by the procedure described below in step 9 of "Contact Tip Replacement". When released, the contactor should open freely. If it does not, check for binding around the contact arm pin (23) or the opening spring (31). Check all electrical connections to see that they are tight. Now replace the arc chute. No further adjustments are necessary.

CAUTION: Do not operate the contactor under load without the arc chute installed in its proper position.

TROUBLESHOOTING

PROBLEM: Contactor will not close when energized.

SOLUTION: Check the voltage at the operating coil terminals. An absence of voltage indicates a fault elsewhere in the circuitry. If the coil voltage is normal, disconnect the coil leads and check the coil for continuity. An open or shorted coil must be replaced.

REPAIR and MAINTENANCE

CONTACT TIP REPLACEMENT

To determine when the contact tips should be replaced, the contact follow up must be measured. The contact follow up is the distance "F" measured at the upper edge of the contact arm with the contactor fully closed, as shown on the right. When this distance is reduced to 1/32" or less, the contact tips must be replaced to assure that proper contact pressure is maintained.

Should it be necessary to replace the tips, a screwdriver is the only tool needed and the following procedure should be followed:

1. Lift straight up on the arc chute (1) to remove it from the contactor.
2. Unscrew the arc horn assembly (43), and remove the flexible connector and movable contact tip.
3. Loosen the two pan head screws (22) and push the contact arm pin (23) out.
4. Remove the contact arm assembly and unscrew the screw (41) holding the stationary contact tip in place.
5. Install a new stationary contact tip (39), screw (41)*, and lock washer (40)*.
6. Replace the contact arm assembly making sure that the opening spring (31) is seated properly over the head of screw 29.

7. Replace the contact arm pin (23) and tighten the two pan head screws (22).
8. Reassemble the new movable contact tip (42), flexible connector (24), and arc horn (43), in that order.
9. Operate the contactor by hand to see that the tips meet squarely. Contact tip alignment can be adjusted by loosening the tip retaining screws and shifting the tips. After the contacts are properly aligned, retighten the screws securely.
10. Replace the arc chute.

COIL REPLACEMENT

To replace the operating coil, a screwdriver is required and the following procedure should be followed:

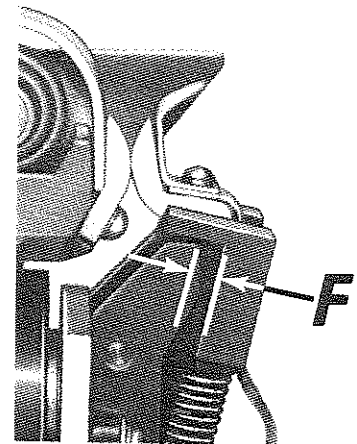
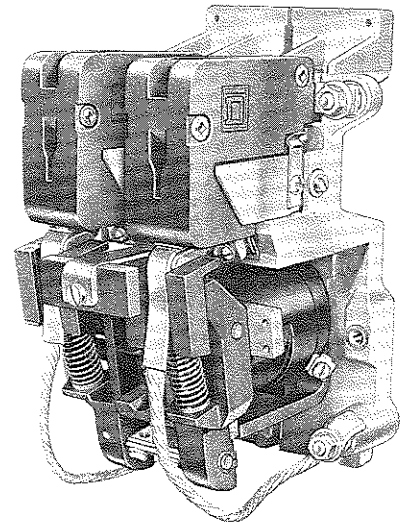
1. Lift straight up on the arc chute (1) and remove it.
2. Remove the coil leads.
3. Loosen the two pan head screws (22) and push the contact arm pin (23) out.
4. Remove the contact arm assembly.
5. Unscrew the screw (29) on the top of the magnet core and remove the coil.
6. Install the new coil and replace the core cap (26), the core cap spacer (27), lock

washer (28), and screw (29). Make sure the core cap (heavy steel washer) is next to the coil.

7. Replace the contact arm assembly, making sure that the opening spring (31) is seated properly over the head of screw 29.
8. Replace the contact arm pin (23) and tighten the two pan head screws (22).
9. Reconnect the coil leads to the new coil and replace the arc chute.

LUBRICATION

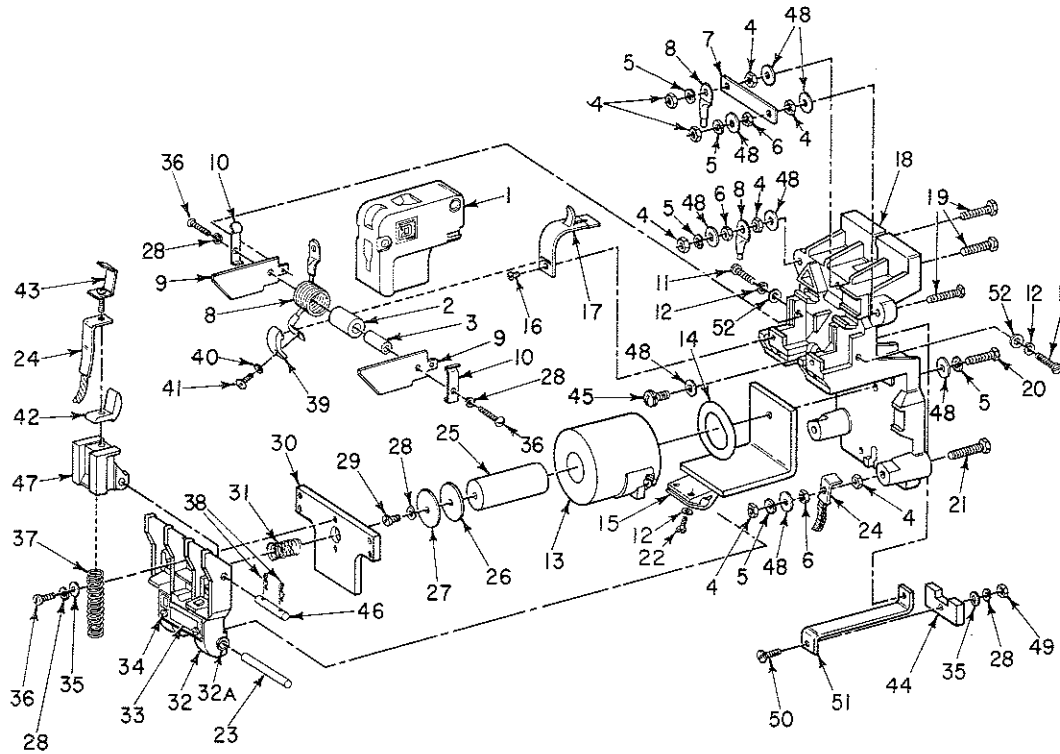
The type "H" contactor requires no lubrication. The pivot pins bear in a self-lubricating material.



NOTE: *The special non-magnetic bolts and lockwashers supplied with the contact parts kit must be used.



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Item No.	Part No.	Description	Item No.	Part No.	Description
✓ 1	A51015-035-50	Assembled Arc Chute, 2 Req'd.	26	B50502-006-12	Core Cap
✓ 2	B50512-052-29	Blowout Core Insulator, 2 Req'd.	27	B50502-006-13	Core Cap Spacer
✓ 3	B50502-776-06	Blowout Core, 2 Req'd.	✓ 28	23701-00160	#10 Lk. Washer, 8 Req'd.
✓ 4	23003-00200	1/4"-20 Hex. Stl. Jam Nut, 10 Req'd.	✓ 29	21507-16120	#10-24 x 3/8" Pan Hd. Stl. Screw
✓ 5	23701-00200	1/4" Lk. Washer, 6 Req'd.	30	A51015-176-01	Armature
✓ 6	23005-00202	1/4"-20 Hex. Brass Nut, Silver Dipped, 4 Req'd.	✓ 31	B50502-602-07	Opening Spring
✓ 7	A51015-119-01	Terminal Tie Bar	32	C51015-175-50	Contact Arm Assembly
✓ 8	A51015-054-50	Assembled Blowout Coil, 2 Req'd.	✓ 32A	A51019-134-01	Bushing, 2 Req'd.
✓ 9	A51015-032-01	Blowout Ear, 4 Req'd.	33	A51139-175-02	Nameplate
✓ 10	A51015-034-01	Arc Chute, Spring Clip, 4 Req'd.	✓ 34	21509-12080	#6-32 x 1/4" Pan Hd. Type F Tapping Screw, 2 Req'd.
✓ 11	21590-14120	#8-32 x 3/8" Hex. Pan Hd. Tri-Lobe Scr., 2 Req'd.	✓ 35	23601-00141	#10 Plain Washer, 3 Req'd.
✓ 12	23701-00140	#8 Lk. Washer, 2 Req'd.	✓ 36	21507-16160	#10-24 x 1/2" Pan Hd. Stl. Screw, 6 Req'd.
✓ 13	A51015-067-51	Assembled Operating Coil (240V)	37	B50502-602-09	Auxiliary Arm Spring, 2 Req'd.
✓ 14	A51015-067-54	Assembled Operating Coil (120V)	38	A50502-701-03	Hairpin Clip (Aux. Arm Pin), 4 Req'd.
✓ 15	A51017-041-01	Spring Washer	*39		Stationary Contact Tip
✓ 16	A51015-076-50	Assembled Magnet Frame	*40		#10 Lk. Washer, Silicon Bronze
✓ 17	21201-12080	#6-32 x 1/4" Fl. Hd. Stl. Screw, 2 Req'd.	*41	Class 9998	#10-24-1/2" Rd. Hd. Silicon Bronze Screw
✓ 18	A51015-033-01	Blowout Guard, 2 Req'd.	*42	Type HD-1 Kit	Movable Contact Tip
✓ 19	D51015-170-50	Assembled Contactor Base	*43		Assembled Arc Horn
✓ 20	21401-20320	1/4"-20 x 1" Hex. Hd. Stl. Screw, 3 Req'd.	44	A51015-170-01	Stop Plate
✓ 21	21401-20280	1/4"-20 x 7/8" Hex. Hd. Stl. Screw	✓ 45	A5-2927-026-50	1/4"-20 x 1/2" Pan Hd. Mch. Scr. Assem.
✓ 22	21401-20400	1/4"-20 x 1 1/4" Hex. Hd. Stl. Screw, 2 Req'd.	✓ 46	A51015-059-01	Auxiliary Arm Pin, 2 Req'd.
✓ 23	21507-14120	8-32 x 3/8" Pan Head Screws, 2 Req'd. (Incl. in Item 15)	✓ 47	B51015-145-50	Auxiliary Arm, 2 Req'd.
23	A51015-102-01	Contact Arm Pin	✓ 48	23601-00200	1/4" Plain Washer, 10 Req'd.
✓ 24	A51016-050-50	Assembled Connector, 2 Req'd.	✓ 49	23001-00160	#10-24 Hex. Stl. Nut
25	A51015-040-50	Assembled Coil Core	✓ 50	21507-16240	#10-24 x 3/4" Pan Hd. Mch. Scr.
			51	A51015-172-01	Stop Plate Bracket
			✓ 52	23601-00121	#8 Plain Washer, 2 Req'd.

NOTE: Parts Kits are Sold Only as Complete Kits and are Listed Under Class 9999 of Catalog. User Modification Kits Such as Interlocks, Tie Bars, and Timers are Listed Under Class 9998. *Essential Parts for General Maintenance.