



TYPE HKO-3, SERIES A 1350 AMPERE, DC DEFINITE PURPOSE CONTACTOR SINGLE POLE, NORMALLY CLOSED

INSTALLATION AND ADJUSTMENT

Mount the contactor vertically on a rigid support. Provide at least 4.5" clearance above the top of the arc chute and 4.5" 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 6 of "Contact Tip Replacement". When released, the contactor should close quickly and completely. If it does not, check for impaired operation of the contact arm assembly. On double-pole contactors check also for binding of the tie bar. Check all electrical connections to see that they are tight and 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 open 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 proper resistance. Resistance values for standard coils are listed in the parts list on page 3. Resistance values for other coils are listed in the Class 9998 Magnet Coil Application Data catalog sheet.

REPAIR and MAINTENANCE

CONTACT TIP REPLACEMENT

To determine when the contact tips should be replaced, the follow up must be measured. The 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 3/32" 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 9/16" wrench is the only tool needed and the following procedure should be followed:

1. Remove the arc chute (1).
2. Unscrew the hex head bolts (18B), holding the flexible connector and movable contact tip in place.
3. Remove these parts and unscrew the hex head bolts (15)* holding the stationary contact tip in place.
4. Install a new stationary contact tip (14), and replace the bolt (15).*
5. Reassemble the new movable contact tip (17), flexible connector (19B), and bolt (18B), in that order.
6. Operate the contactor by hand to see that the tips meet squarely.

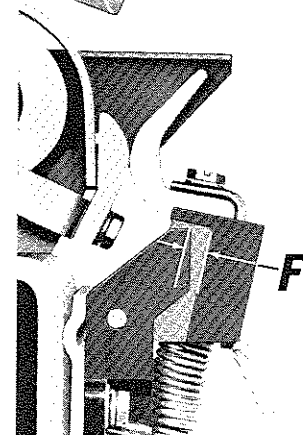
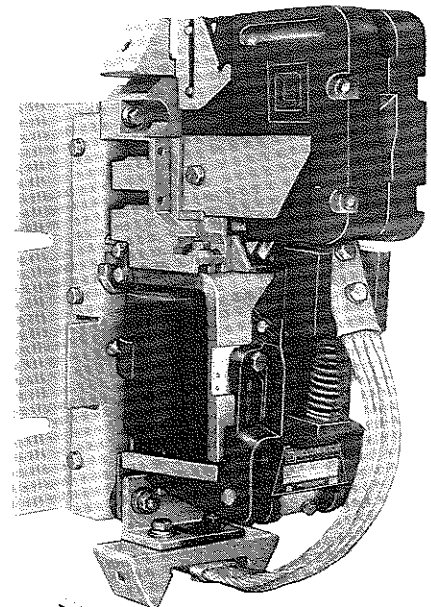
Contact tip alignment can be adjusted by loosening the tip retaining bolts and shifting the tips. After the contacts are properly aligned, retighten the bolts securely.

7. Replace the arc chute.

COIL REPLACEMENT

To replace the operating coil, a screwdriver and 9/16" wrench are needed and the following procedure should be followed:

1. Remove the arc chute.
2. Remove the coil leads.
3. Loosen the two hex head screws (41), and push the contact arm pin (27) out.
4. Remove the contact arm assembly and closing spring (36).
5. Unscrew the 2 bolts (30) holding the assembled magnet frame (40) and coil in place.
6. Remove the magnet frame and coil from the contactor and unscrew the 4 screws (66) holding the core cap (37) to the magnet core.
7. Remove the core cap and coil.



8. Install the new coil and replace the core cap.
9. Reassemble the magnet frame and coil to the contactor base and replace the 2 bolts (30) holding it.
10. Replace the closing spring (31), the contact arm assembly, the contact arm pin (27), and tighten the two hex head screws (41).
11. Reconnect the coil leads and replace the arc chute.

LUBRICATION

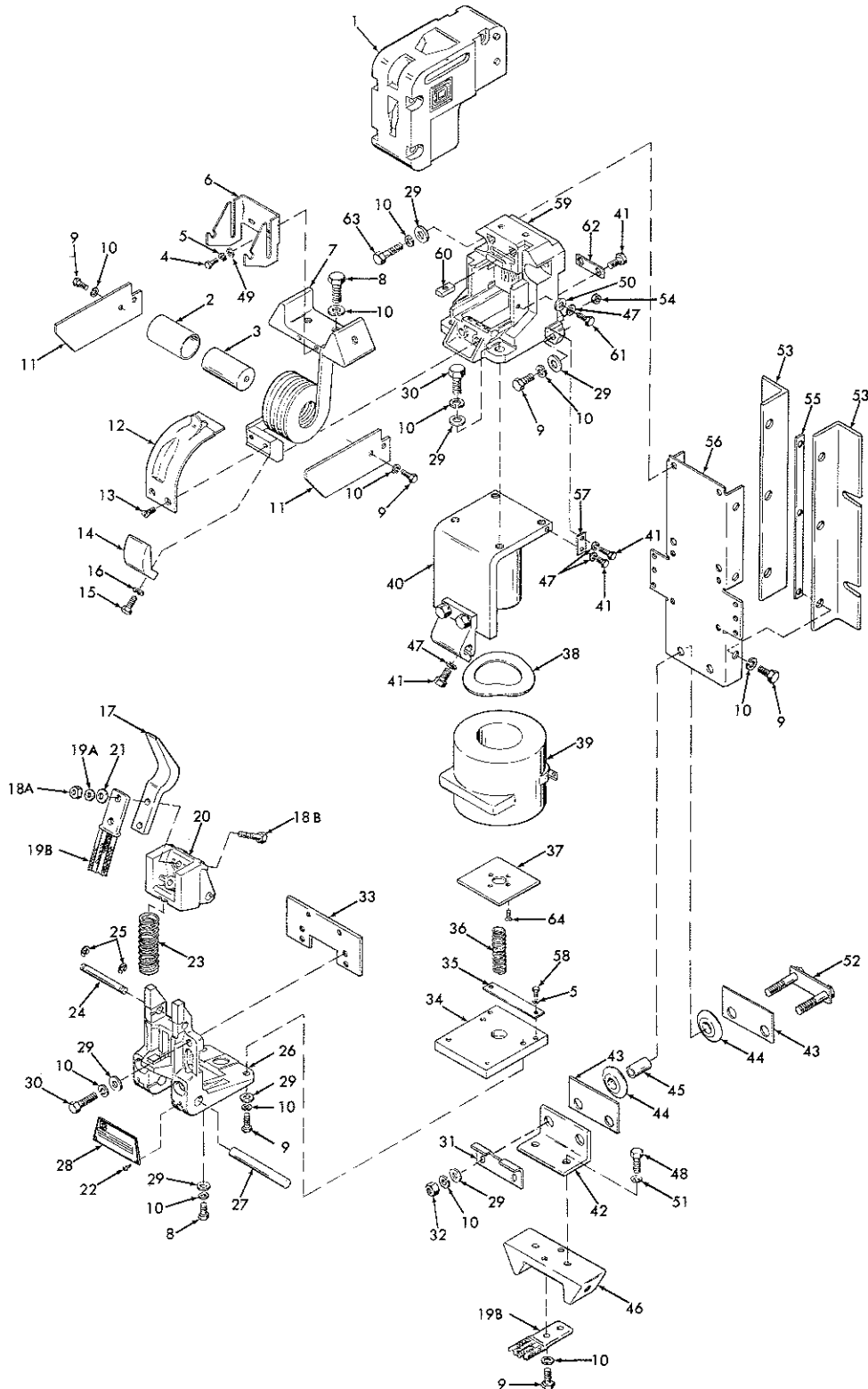
The Type H contactor requires no lubrication. The pivot pins bear in a self-lubricating material.

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

SQUARE D COMPANY



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Item No.	Part No.	Description	Item No.	Part No.	Description
†1.	A51022-035-50	Assembled Arc Chute	33.	A51022-073-01	Stop Plate
2.	B50512-052-47	Blowout Core Insulator	34.	A51022-043-02	Armature
3.	B50502-776-17	Blowout Core	35.	A51022-071-01	Core Cap Spacer
4.		1/4"-20x5/8" Hex Head Steel Screw. 2 Req'd.	36.	B50502-602-24	Closing Spring
5.		1/4" Plain Lock Washer. 4 Req'd.	37.	A51021-072-01	Core Cap
6.	B51022-065-01	Arc Chute Bracket	38.	A51022-041-01	Spring Washer
7.	A51022-066-01	Blowout Coil and Top Terminal Block	†39.	C51022-056-71	Operating Coil 240V. Approximate Resistance 400 Ohms.
8.		3/8"-16x1-1/2" Hex Head Steel Screw. 4 Req'd.		C51022-056-74	Operating Coil 120V. Approximate Resistance 94 Ohms.
9.		3/8"-16x1" Hex Head Steel Screw. 14 Req'd.	40.	A51022-037-51	Assembled Magnet Frame
10.		3/8" Plain Lock Washer. 28 Req'd.	41.		5/16"-18x1" Slotted Hex Head Screw. 6 Req'd.
11.	A51022-032-01	Blowout Ear	42.	A51022-060-01	Mounting Bracket for Bottom Terminal
12.	C51022-033-01	Blowout Guard	43.	A51022-092-01	Isolator. 2 Req'd.
* 13.		1/4"-20x1/2" Flat Head Steel Screw. 2 Req'd.	44.	A51020-059-01	Insulator. 4 Req'd.
†14.	Class 9998 Type HK-1 Kit	Stationary Contact Tip	45.	A51022-062-01	Bushing. 2 Req'd.
†15.		3/8"-16x1-1/4" Hex Head Silicon Bronze Screw. 2 Req'd.	46.	A51022-061-01	Bottom Terminal Block
†16.		3/8" Silicon Bronze Lock Washer. 2 Req'd.	47.		5/16" Plain Lock Washer. 5 Req'd.
†17.		Movable Contact Tip	48.		1/2"-13x1-1/4" Hex Head Steel Screw. 2 Req'd.
†18A.		3/8"-16 Hex Steel Nut. 2 Req'd.	49.		1/4" Plain Washer. 2 Req'd.
†18B.		3/8"-16x2" Hex Head Steel Screw. 2 Req'd.	50.		5/16" Plain Washer. 1 Req'd.
†19A.		3/8" Spring Belleville Washer. 2 Req'd.	51.		1/2" Plain Lock Washer. 2 Req'd.
19B.	A51022-050-50	Assembled Connector.	52.	A51022-024-50	Assembled Terminal Mounting Strip
20.	A51022-075-50	Auxiliary Arm with Bushings	53.	A51022-026-01	Insulating Support. 2 Req'd.
21.		3/8" Plain Washer. 2 Req'd.	54.		5/16"-18 Hex Steel Nut. 2 Req'd.
22.		# 6-20x1/4" Pan Head Screw. 2 Req'd.	55.	A51022-027-01	Mounting Strip
23.	B50502-602-22	Auxiliary Arm Spring	56.	A51022-025-01	Mounting Pan
24.	A51022-046-01	Auxiliary Arm Pin	57.	A51022-039-01	Clamp Plate
25.	29907-03210	E Ring	58.		1/4"-20x1/2" Pan Head Steel Slotted Screw. 2 Req'd.
26.	A51022-074-51	Contact Arm with Bushings	59.	D51022-028-01	Contactor Base
27.	A51022-047-01	Contact Arm Pin	60.	A51020-091-01	Reinforcing Nut. 2 Req'd.
28.	A51139-190-02	Nameplate	61.		5/16"-18x5/8" Hex Head Steel Screw. 1 Req'd.
29.		3/8" Plain Washer. 16 Req'd.	62.	A51020-052-01	Locking Plate
30.		3/8"-16x1-1/4" Hex Head Steel Screw. 4 Req'd.	63.		3/8"-16x2" Hex Head Steel Screw. 2 Req'd.
31.	A51021-059-01	Retarding Plate	* 64.		1/4"-20x1/2" Flat Head Steel Screw. 4 Req'd.
32.		3/8"-16 Hex Steel Nut. 4 Req'd.			

■ Standard hardware, listed without a Square D part number, should be obtained from a local hardware supplier.

†Essential Parts for General Maintenance

*Use Locktite "EV" Sealant

