



## TYPE HHO-3, SERIES A, NEMA SIZE 6, 600 AMPERE, DC CONTACTOR SINGLE POLE, NORMALLY CLOSED

### INSTALLATION AND ADJUSTMENT

- Mount the contactor vertically on a rigid support. Provide at least 3.2" clearance above the top of the arc chute and 4.0" 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 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 1/16" 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 1/2" 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.

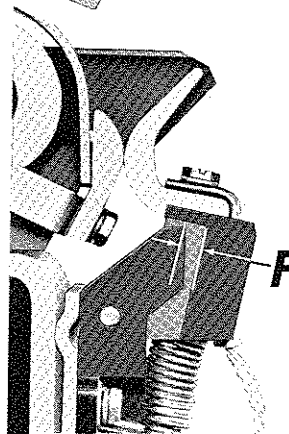
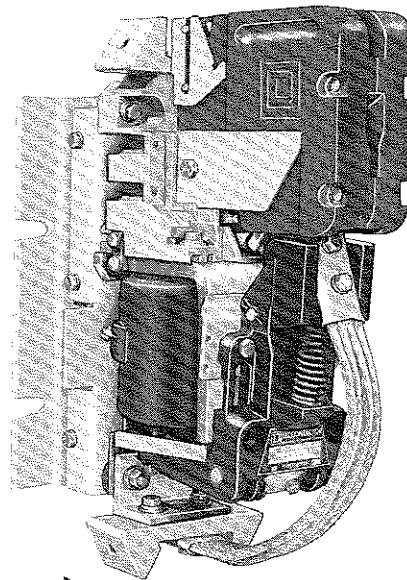
6. Operate the contactor by hand to see that the tips meet squarely. Contact tip alignment can be adjusted by loosening the tip retaining bolts and shifting the tips. After the contacts are properly aligned, retighten the bolts securely.

7. Replace the arc chute.

#### COIL REPLACEMENT

- To replace the operating coil, a screwdriver and 1/2" wrench are needed and the following procedure should be followed:

1. Remove the arc chute.
2. Remove the coil leads.
3. Loosen the two pan head screws (41), and push the contact arm pin out.
4. Remove the contact arm assembly and closing spring (36).
5. Unscrew the 2 bolts (63) 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 coil cap.
9. Reassemble the magnet frame and coil to the contactor base and replace the 2 bolts (63) holding it.
10. Replace the closing spring (36), the contact arm assembly, the contact arm pin (27), and tighten the two pan 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.

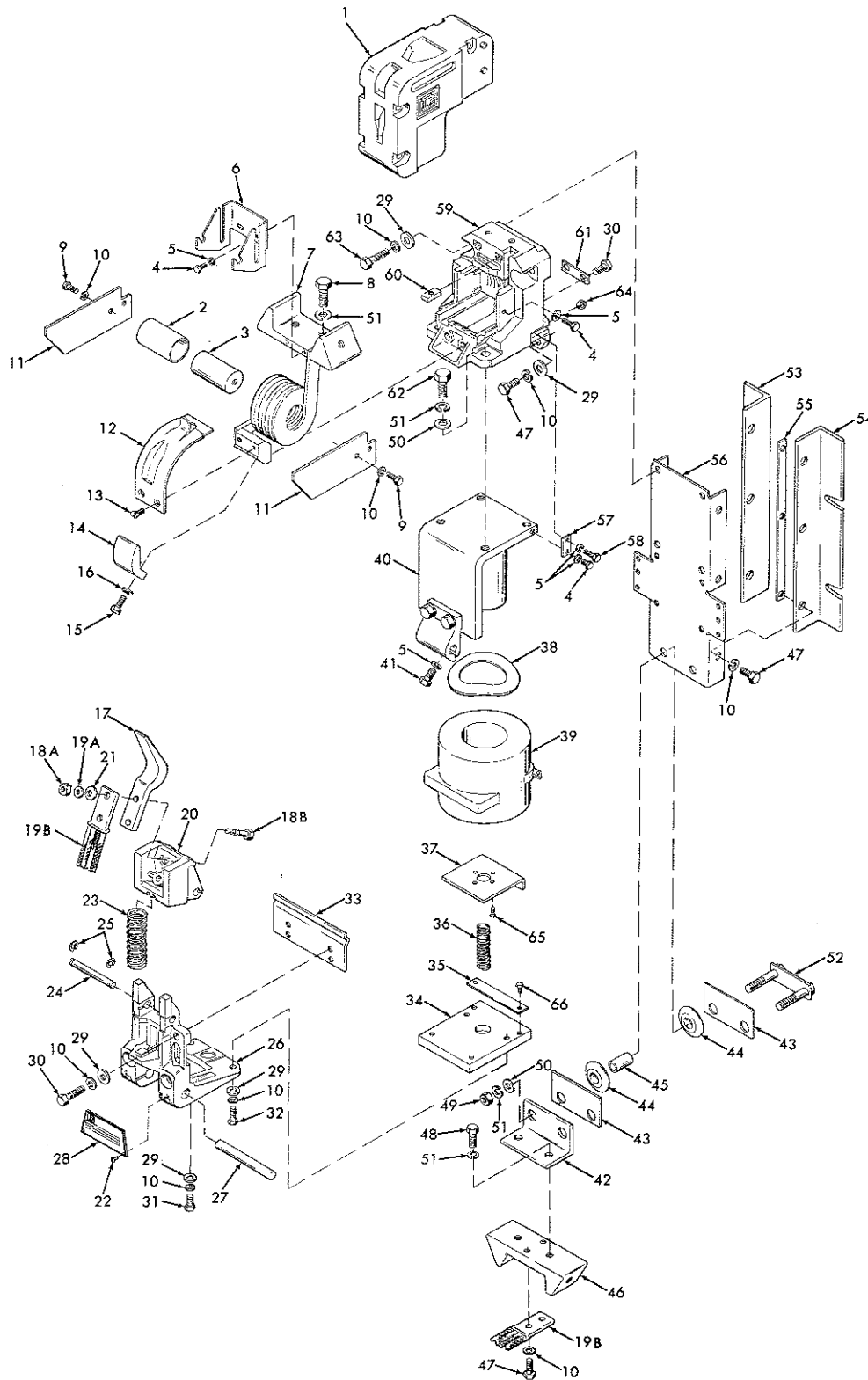
NOTE: \*The special non-magnetic bolts and lockwashers supplied with the contact parts kit must be used.

• Minor revision since previous issue

SQUARE D COMPANY



**TYPE HHO-3, SERIES A, NEMA SIZE 6, 600 AMPERE,  
DC CONTACTOR, S.P., N.C.**





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Item No.	Part No.	Description	Item No.	Part No.	Description
†1.	A51020-035-50	Assembled Arc Chute	35.	A51020-071-01	Core Cap Spacer
2.	B50512-052-46	Blowout Core Insulator	36.	B50502-602-14	Closing Spring
3.	B50502-776-16	Blowout Core	37.	A51020-072-01	Core Cap
● 4.		1/4"-20x1/2" Hex Head Steel Screw. 5 Req'd.	38.	A51020-041-01	Spring Washer
● 5.		1/4" Plain Lock Washer. 7 Req'd.	†39.	C51020-067-71	Operating Coil 240V—Approximate Resistance 469 ohms.
6.	B51020-065-01	Arc Chute Bracket		C51020-067-74	Operating Coil 120V—Approximate Resistance 119 ohms.
7.	A51020-054-50	Blowout Coil and Top Terminal Block Assembly	†40.	A51020-037-51	Assembled Magnet Frame
● 8.		3/8"-16x1-1/4" Hex Head Steel Screw. 2 Req'd.	● 41.		1/4"-20x7/8" Hex Head Slotted Cap Screw. 2 Req'd.
● 9.		5/16"-18x5/8" Hex Head Steel Screw. 2 Req'd.	42.	A51020-060-01	Bottom Terminal Mounting Bracket
● 10.		5/16" Plain Lock Washer. 20 Req'd.	43.	A51020-092-01	Isolator. 2 Req'd.
11.	A51020-032-01	Blowout Ear	44.	A51020-059-01	Insulator. 4 Req'd.
12.	B51020-033-01	Blowout Guard	45.	A51020-062-01	Bushing. 2 Req'd.
● *13.		# 10-24x3/8" Flat Head Steel Screw. 2 Req'd.	46.	A51020-061-01	Bottom Terminal Block
● †14.	Class 9998 Type HH-1 Kit	Stationary Contact Tip	● 47.		5/16"-18x3/4" Hex Head Steel Screw. 10 Req'd.
†15.		5/16"-18x1" Hex Head Silicon Bronze Screw. 2 Req'd.	● 48.		3/8"-16x3/4" Hex Head Steel Screw. 2 Req'd.
†16.		5/16" Silicon Bronze Lock Washer. 2 Req'd.	● 49.		3/8"-16 Hex Steel Nut. 2 Req'd.
†17.		Movable Contact Tip	● 50.		3/8" Plain Washer. 4 Req'd.
†18A.		5/16"-18 Hex Steel Jam Nut. 2 Req'd.	● 51.		3/8" Plain Lock Washer. 8 Req'd.
†18B.		5/16"-18x1-1/2" Hex Head Steel Screw. 2 Req'd.	52.	A51020-024-50	Assembled Terminal Mounting Strip
†19A.	23903-32003	5/16" Spring Belleville Washer. 2 Req'd.	53.	B51020-026-01	Insulating Support (Left Hand)
● 19B.	A51020-050-50	Assembled Connector.	54.	B51020-026-02	Insulating Support (Right Hand)
● 20.	A51020-075-50	Auxiliary Arm with Bushings	55.	A51020-027-01	Mounting Strip
● 21.		5/16" Plain Washer. 2 Req'd.	56.	A51020-025-01	Mounting Pan
● 22.		# 6-20x1/4" Pan Head Screw. 2 Req'd.	57.	A51020-039-01	Clamp Plate
23.	B50502-602-15	Auxiliary Arm Spring	● 58.		1/4"-20x3/4" Hex Head Steel Screw. 2 Req'd.
24.	A51020-046-01	Auxiliary Arm Pin	59.	D51020-028-01	Contacting Base
25.	29907-02410	"E" Ring. 2 Req'd.	60.	A51020-091-01	Reinforcing Nut. 2 Req'd.
● 26.	D51020-074-51	Contact Arm with Bushings	● 61.	A51020-052-01	Locking Plate
27.	A51020-047-01	Contact Arm Pin	● 62.		3/8"-16x1" Hex Head Steel Screw. 2 Req'd.
● 28.	A51139-180-02	Nameplate	● 63.		5/16"-18x1-1/2" Hex Head Steel Screw. 2 Req'd.
● 29.		5/16" Plain Washer. 10 Req'd.	● 64.		1/4"-20 Hex Steel Jam Nut. 2 Req'd.
● 30.		5/16"-18x7/8" Hex Head Steel Screw. 4 Req'd.	● 65.		1/4"-20x3/8" Flat Head Steel Screw. 4 Req'd.
● 31.		5/16"-18x1-1/4" Hex Head Steel Screw. 2 Req'd.	● 66.		1/4"-20x3/8" Hex Head Steel Screw. 2 Req'd.
● 32.		5/16"-18x1" Hex Head Steel Screw. 2 Req'd.			
33.	A51020-073-01	Stop Plate			
34.	A51020-043-02	Armature			

■ 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

● Minor Revisions Since Previous Issue.

