Renewal Parts Pub NEMA Size 4 Non-Reversing and Reversing Starters

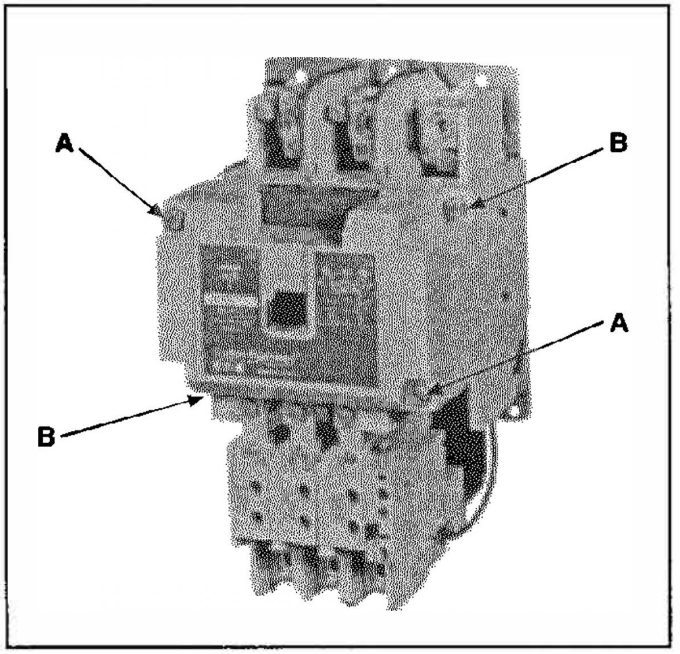


Fig. 1 Typical Size 4 Starter

Introduction

This publication is designed to simplify inspection and maintenance through the use of photographs and detail views for easy identification of parts. Illustrated steps on assembly and disassembly are shown. This information should be read carefully.

Description

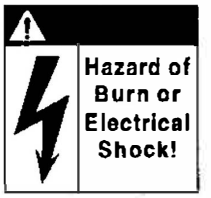
This publication covers 2 pole and 3 pole, 3 phase non-reversing and reversing contactors and starters with ratings as shown on the nameplates.

Care

These contactors/starters require no mechanical maintenance. Maintenance required can be performed with an electrician's screwdriver. For continued uninterrupted performance, renew all of the power contacts and springs at the same time before the contact tip material has worn away.

When renewing the contacts, check all terminal screws to insure they are tight and secure.

Note: Refer to publication 14183 for helpful information on inspecting and determining when to replace contacts.



DISCONNECT POWER BEFORE ANY FUNCTIONS ARE PERFORMED ON THIS EQUIPMENT

Renewal of Operating Coil (Fig. 1)

The operating coil is epoxy encapsulated and so contructed to provide long service life. Should the coil require changing, the entire operation can be performed in a few minutes.

CAUTION

IF THE DEVICE HAS BEEN IN SERVICE, MANY PARTS MAY STILL BE THERMALLY HOT.

1. Disconnect all power to the starter.
2. Unfasten the two pan head cover screws "A" and remove the cover, Item 22, page 3.
3. Unfasten the four pan head screws securing the clamp, Item 21, and the armature, Item 20. Remove the clamp and the armature.
4. Pull the coil straight out.
5. Install the new coil with the coil terminal blades engaging the coil terminal clips.
6. Install the armature (narrow end to the left) into its seated operating position.
7. Install the clamp and secure the screws.
8. Install the cover.

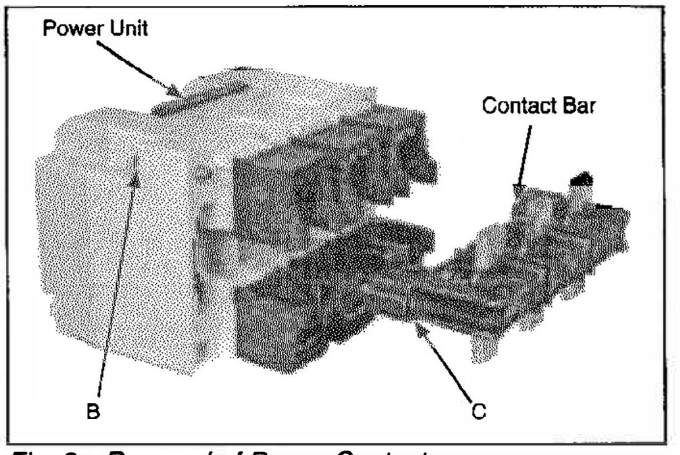


Fig. 2 Renewal of Power Contacts

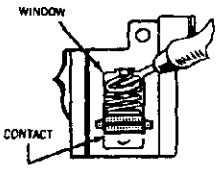
Renewal of Power Contacts, Fig. 2

The power contacts, when used within their rating, will provide long trouble-free life. They should not be filed or dressed.

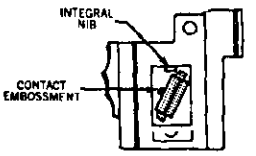
CAUTION

IF THE DEVICE HAS BEEN IN SERVICE, MANY PARTS MAY STILL BE THERMALLY HOT

1. Disconnect all power to the contactor/starter.
2. Loosen the two gold-colored slotted hex head screws "B" and pull out the power unit.



SKETCH "A"



SKETCH "B"

Movable Contacts

3. Remove the contact bar by removing screws "C".
4. Refer to Sketch "A". Insert a small screwdriver into the window of the contact bar. Depress contact spring and remove.
5. Refer to Sketch "B". Rotate contact and remove.
6. Insert the new contact so that the embossment of contact faces the integral nib of the contact bar.
7. Compress the spring with fingers and insert into window. The spring must engage both the integral nib of the contact bar and embossment of the contact in order to seal properly.
8. Install contact bar to power unit with screws "C".

   Note: The contact bar is not reversable. Match the ends of the contact bar to fit inside the raised projections on the push bar.

Stationary Contacts

Note: It is not necessary to disconnect any wiring

9. Loosen the screws securing the stationary contacts and remove.
10. Install the new stationary contacts and screws.
11. Reinstall power head and tighten screws "B".

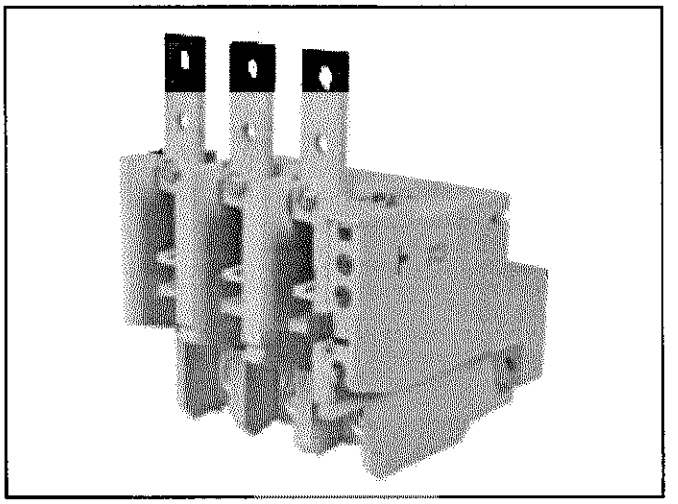
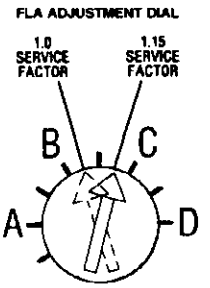


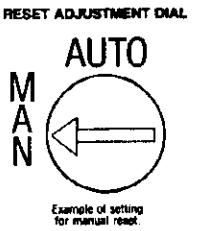
Fig. 3 Overload Relay

Renewal of Bimetal Overload Relay

The bimetal, ambient compensated overload relay is adjustable within the FLA range of the heater pack. Each heater pack is marked with its range of FLA ratings.

Select heater packs according to motor FLA rating and install in overload relay. Rotate FLA adjustment dial to a position corresponding to the motor FLA. **Consult overload relay publication supplied with the starter for proper setting and selection.** The overload relay is factory set for manual reset operation. If automatic reset is required, turn the reset adjustment dial to "AUTO".





The entire overload relay must be replaced if burnout of the heater pack occurs.

DO NOT disassemble this relay!

Lubrication

Do not lubricate any part of this equipment.

Auxiliary Contacts

The auxiliary contacts are renewable as a complete assembly. See table on Page 4 for the various auxiliary contacts.

Art Chutes

These seldom require renewal. Some burning and discoloration is normal. When the contacts are renewed, brush out any loose accumulations.

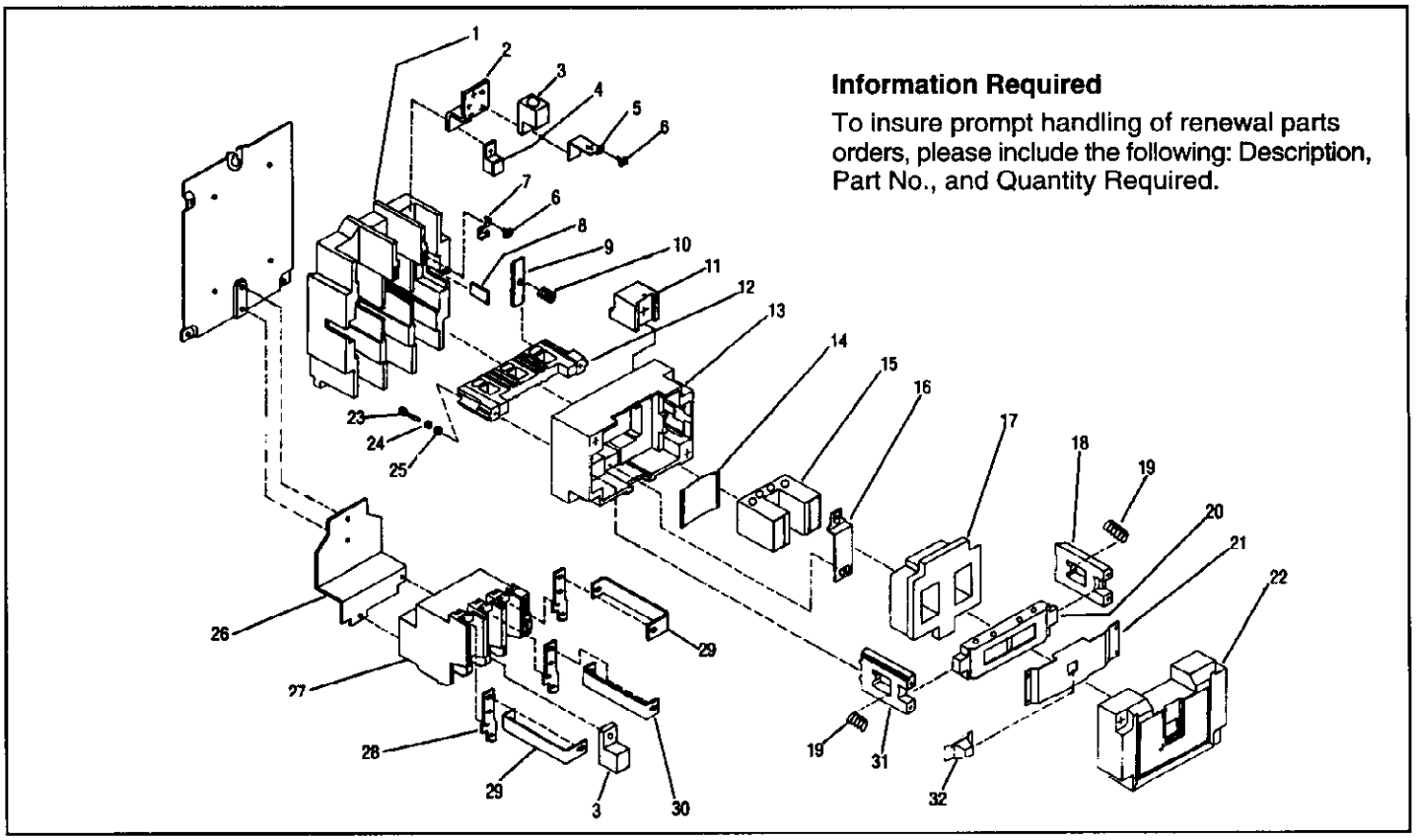


Fig. 4 Renewal Parts

Item No.	Description	Part No.	Quantities CN15	AN16	CN55	AN56
1	Molded Base	17-18965	1	1	2	2
2	Terminal Plate	80-5477	6	6	12	12
	1/4-20 x .625 Screw	11-2912	●	●	●	●
	10-32 x .438 Screw	11-2390	12	12	24	24
3	Lug					
	Copper	80-5520	6	6	6	6
	Aluminum	80-5462	6	6	6	6
4	Stationary Contact	(Included w/ Item 33)	6	6	12	12
5	Control Terminal	80-2824	2	2	2	2
6	Auxiliary Terminal Clamp	55-1743	4	4	4	4
7	Coil Terminal Clip	80-2747	2	2	4	4
8	Insulator	56-6504	1	1	-	-
9	Movable Contact	(Included w/ Item 33)	3	3	6	6
10	Contact Spring	(Included w/ Item 33	3	3	6	6
11	Arc Chute	62-531	6	6	12	12
12	Contact Bar	23-4030-4	1	1	2	2
13	Magnet Housing	49-6743-2	1	1	2	2
	1/4-20 x 1.45 Sems Scr	11-2522	2	2	4	4
14	Spring	69-2770	1	1	2	2
15	Magnet Frame ▲	48-1030	1	1	2	2
16	Clamp	19-1570	1	1	2	2
17	Magnet Coil	See Page 4	1	1	2	2

Item No.	Description	Part No.	Quantities CN15	AN16	CN55	AN56
18	Push Bar (right-hand)	61-1606	1	1	2	2
19	Spring	69-4398	2	2	4	4
20	Armature ▲	48-1029-3	1	1	2	2
21	Clamp Plate	79-17426	1	1	2	2
22	Cover	49-6787-2	1	1	2	2
	Cover Screw	11-5394	2	2	4	4
23	10-32 x .938 Pan Hd Scr	11-3107	4	4	8	8
24	No. 10 Lockwasher	916-484Z	4	4	8	8
25	No. 10 Flatwasher	916-166	4	4	8	8
26	Mounting Plate	17-18939	-	1	-	1
27	Overload Relay (Includes Items 3 and 28)	10-6416	-	1	-	1
28	Bus Bar	See Item 27	-	3	-	3
29	Bus Bar (Ends)	25-8107	-	2	-	2
30	Bus Bar (Center)	25-8106	-	1	-	1
31	Push Bar (Left-Hand)	61-1612	1	1	2	2
32	Indicator	53-3050	1	1	2	2
33	Contact Renewal Kit (includes Items 4, 9, 10 and mounting hardware)					
	2 Pole Kit ■	6-26	1		-	-
	3 Pole Kit ■	6-26-2	1	1	2	2

● As required.
▲ It is recommended that Items 15 and 20 be replaced together.
■ Recommended spare parts.

ACCESSORIES
AUXILIARY CONTACTS, TERMINAL BLOCK, AND TRANSIENT SUPPRESSOR

AUXILIARY CONTACTS

BASE MOUNTED	
Circuit	**Catalog No.**
1 N.O.	C320KGS41
1 N.O. - 1 N.C.	C320KGS42

FOR MOUNTING ABOVE BASE MOUNTED INTERLOCK	
Circuit	**Catalog No.**
1 N.O.	C320KGS20
1 N.O.	C320KGS21
1 N.O. - 1 N.C.	C320KGS22

TERMINAL BLOCK

Catalog No.
C320TB2

TRANSIENT SUPPRESSOR

Catalog No.
C320AS1

OPERATING COILS

Volts	Hz	Part No.	Volts	Hz	Part No.
120 110	60 50	9-1891-1	380	50	9-1891-14
240 220	60 50	9-1891-2	24	60	9-1891-15
480 440	60 50	9-1891-3	240	50	9-1891-20
600 550	60 50	9-1891-4	415	50	9-1891-21
208	60	9-1891-13	--	--	--