



REPLACEMENT 30VA TRANSFORMER ASSEMBLY KIT 31104-623-51

FOR NEMA SIZE 6 CONTACTORS AND STARTERS

(INCLUDES TRANSFORMER 30023-514-50 AND FUSE BLOCK)

A. GENERAL INSTRUCTIONS

The transformer assembly in this kit is intended for replacement use on NEMA Size 6 Type SH contactors and starters of either Series A or Series B design. It can also be used on Class 8903 Type SY or SZ electrically-held lighting contactors.

NOTE: Follow instructions carefully in the order given. It is recommended that each step on this sheet be checked off as it is completed.

1. Check device nameplate to determine whether it is Series A or Series B. For Series A devices follow replacement procedure beginning with section B below. For Series B devices skip section B and begin with section C on page 2.

B. CONTROL MODULE REPLACEMENT (SERIES A DEVICES ONLY)

2. When the transformer assembly in this kit is to be installed on a Series A device, IT IS ALSO NECESSARY TO REPLACE THE COIL EXCITATION CONTROL MODULE with a new module, part number 31123-514-50. The new control module has 8 terminals identified A through H; the old module has only 7 terminals (A through G) and CANNOT be used with the transformer in this kit.
3. Before installing the transformer in this kit, install new control module 31123-514-50 as described in steps 4 through 6 below.
4. Caution: Open disconnecting means ahead of contactor or starter before starting replacement procedure. If control power is supplied from a separate source, disconnect control power also.
5. Remove wire leads from terminals of old control module. (Do not disconnect opposite end of these leads.) Replace old module with new module, using the same 4 mounting screws.
6. Reconnect wire leads C, F, and G only, matching the labels on the wires with the labels on the control module terminals. Leads labeled A, B, D, E, and H will be connected later in the replacement procedure.
7. Proceed with instructions in section C on page 2.

C. TRANSFORMER REPLACEMENT

8. Caution: Open disconnecting means ahead of contactor or starter before starting replacement procedure. If control power is supplied from a separate source, disconnect control power also.
9. Service bulletin 370AS (supplied in kit) can be used to identify components and their location. The numbers in parentheses () in the following instructions refer to item numbers used in the illustrations and parts list of service bulletin 370AS.

NOTE: Although service bulletin 370AS refers only to Series B devices, the parts list and troubleshooting procedure will also apply to Series A devices after replacement of the coil excitation control module (12) and transformer assembly (10) per these instructions. Save the service bulletin.

10. Do not remove any wires attached to the white terminal block (13) unless specifically instructed.
11. Remove and save the screws from 5 terminals identified as A, B, D, E, and H on control module (12). (Do not remove screws from terminals C, F, or G.)
12. If transformer (10) to be replaced is equipped with a fuseholder (14) proceed with step 13. If there is no fuseholder (which is the case only on some contactors that are part of a reversing or two-speed controller), skip step 13 and proceed with step 14.
13. Loosen (on Series B devices) or remove (on Series A devices) the 2 terminal screws on old fuseholder (14). To aid in later identification, attach a temporary label or tag marked "FUSE" to each of the 2 wires that are now detached from the fuseholder terminals.

Note ("Form S" Only): If the device is marked "Form S" on its nameplate, one of the 2 wires detached from the fuseholder terminals will now be free at both ends, and is labeled B. If device is Series B, save this wire for later use; if device is Series A discard this wire. Attach a temporary label or tag marked "FUSE" only to the other wire detached from fuseholder terminals.

14. A heavy rubber band is supplied in kit. Install rubber band around white terminal block (13) without disturbing attached wiring. The rubber band should encircle all terminals so that it will hold the individual terminal block sections together during steps 15 through 18. (Adhesive tape could be used instead of rubber band.)
15. Remove 2 screws and 2 lockwashers that attach white terminal block (13) to transformer (10), leaving attached wires in place.

16. Remove 4 screws that attach transformer (10) to the panel. This will release the entire transformer assembly (including fuseholder). The replacement assembly should be identical, except that for Series A devices the new fuseholder is different from the old.
17. Install replacement transformer assembly from kit on the panel using 4 mounting screws previously removed.
18. Install white terminal block (13) on transformer (10) with 2 screws and 2 lockwashers previously removed.
19. Remove rubber band from terminal block (13).

D. TRANSFORMER AND CONTROL MODULE WIRING

20. If there was no fuseholder (14) on the old transformer (10) -- which is the case only on some contactors that are part of a reversing or two-speed controller -- remove and discard new fuseholder and skip to step 23. If there was a fuseholder on the old transformer, the fuseholder on the new transformer should be left in place -- proceed with step 21.
21. If device is Series A, skip to step 22. If device is Series B, make wire connections to fuseholder (14) as follows:
 - a. If device nameplate is marked "Form S", retrieve the loose wire labeled B which was saved from step 13. Connect unlabeled end to right hand terminal of fuseholder (14). Then connect the wire identified "FUSE" in step 13 to left hand terminal of fuseholder (14).
 - b. If device nameplate is not marked "Form S", reconnect the 2 wires that were identified "FUSE" in step 13 to the 2 terminals of fuseholder (14). The wire to be connected to the left hand terminal is the one which leads to terminal X1 on large transformer (11) located above control module (12).
 - c. The 2 control wires supplied in kit are not required for Series B devices and can be discarded.
 - d. Skip step 22 and proceed with step 23.
22. For Series A devices make wire connections to fuseholder (14) as follows:
 - a. Two control wires are supplied in kit -- a 10 inch wire labeled B and an 11 inch wire with no identification label. Remove and discard the wire attached to terminal X1 on large transformer (11) located above control module (12). (This is one of the wires that was identified "FUSE" in step 13.) Replace it with the 11 inch (unlabeled) wire from kit, connecting the lugged end to transformer terminal X1. Connect other end of this wire to left hand terminal of fuseholder (14).

b. Make the remaining fuseholder connection as follows:

- (1) If device nameplate is marked Form S, connect the unlabeled end of remaining wire from kit to right hand terminal of fuseholder (14).
- (2) If device nameplate is not marked Form S, locate the remaining wire that was identified "FUSE" in step 13 and connect it to right hand terminal of fuseholder (14). (Remove terminal screw and replace it after inserting through ring lug on wire.) The remaining wire supplied in kit is not used and can be discarded.

23. Connect 3 transformer leads labeled D, E, and H to the correspondingly lettered terminals on control module (12).

24. Connect transformer lead labeled B to terminal B on control module (12) along with one other wire labeled B.

Note: The opposite end of this "other" wire will usually be found attached either to the fuseholder (on "Form S" devices) or to the white terminal block (on most other devices).

25. Connect transformer lead labeled A to terminal A on control module (12) along with 2 other wires labeled A.

26. The device should now be completely wired. Check connections on control module (12) -- there should be 3 wires attached to terminal A, 2 wires to terminal B, and one wire to each of terminals C through H. Check to see that there is a fuse (15) in fuseholder (14), and that there is one wire on each terminal of fuseholder, unless no fuseholder was installed. Check appearance of completed wiring, making sure that there are no unconnected wire ends that would indicate an error in following these instructions.

E. TEST PROCEDURE

27. Important: To verify that the parts and wiring were correctly installed and that all components are functioning properly, follow the TEST PROCEDURE shown on page 2 of service bulletin 370AS (supplied in kit).