# **ET·N** Cutler-Hammer

#### Field Installation Instructions for Dead Front Mechanisms

Instruction Sheet H

December 2008

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Do not attempt to install switches or perform maintenance on equipment while it is energized. <u>Failure to following this warning could lead to</u> <u>death or severe injury.</u> Always verify that no voltage is present on all switch terminals prior to servicing. While energized, an arc flash and shock hazard exists. Consult NFPA 70E and OSHA guidelines for operator safety prior to servicing equipment.

- Every dead front is shipped from the factory to match its mating switch in the OPEN position. All power, including that for controls to both line and load of switch, must be shut off for safety before attempting dead front replacement on the opened switch in question.
- II. For access to switch, sizes 800-6000A:
  - 1. Remove operating handle (one 3/8 socket head cap screw)
  - 2. Remove trim plate (three #10 flush head machine screws)
  - 3. Remove enclosure cover (all exposed front-facing hardware)
  - 4. Remove red barrier (four or more #10 round head screws as labeled)
- III. Although replacement is similar for different models, separate detail instructions are shown here for:
  - 1. Type QA manual close and open, 800-4000A
  - 2. Type CBC manual close, manual and

electrical trip open, 800-4000A

- 3. Types QA and CBC 5000-6000A
- Note: Handles are peculiar to each type switch and are keyed to NOT be interchangeable.
- IV. QA replacement dead front, 800-4000A:
  - Securely tape or wire together front and rear bearing supports (Items 1 & 2 on enclosed drawing C-67340) on installed dead front in a manner similar to that seen on replacement dead front.
  - 2. Tag any special wiring from auxiliary switches, etc., on the dead front at the most accessible terminal and disconnect.
  - Remove four 1/4-20 socket head cap screws (Item 3) from each end of dead front. Caution: removal of last screw will free dead front to drop.
  - 4. Pull or pry dead front directly forward while stabilizing bronze universal block (Item 4) so that the stainless steel pin projecting from the rear of the operating lever slides out freely. Note: If the universal block falls off the yoke block it must be replaced with the beveled edge to the top/rear for proper pivot clearance.
  - 5. Insert the replacement dead front and replace the eight 1/4-20 socket head cap screws.
  - 6. Remove binding straps used to hold dead front together.
  - 7. Reconnect any wiring to proper terminals
  - 8. Temporarily attach operating handle for test operation, then remove and reverse access instructions (Section II).
  - 9. Retest switch operation for any possible

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# E-T-N Cutler-Hammer

assembly interference before final closure of switch and return of power to unit.

- V. CBC dead front replacement, 800-4000A:
  - A. On models prior to 1976, 800-2500A only
    - 1. Remove two bolts at location #6A on Drawing C-67340
    - 2. Retract 5/16-18 hex head backup bolt to free closing cam stop.
    - 3. Remove closing cam stop and discard
    - 4. Remove 5/16-18 hex head backup bolt and discard.
  - B. On models after 1976, one bolt at location #6 into cam stop (Item 9)
    - 1. Remove one bolt at location #6 on drawing C-67340.
    - 2. Remove one nut at location #7
    - 3. Back off one nut (two on 3000A & 4000A) at location #8
    - 3a. On 3000A & 4000A only, remove four bolts at location #11 to free Item 11A to be removed as an assembly with Item 12.
    - Pry cam stop (Item 9) up to clear top of cam resting against right end of stop as shown; then drive cam stop to right as an assembly with rod (Item 12) until it clears horizontal support.
  - C. On all models
    - 5. Duplicate steps 1, 2, & 3 from Section IV, noting in step 3 there are four pieces each of Items 3 & 3A of different lengths.
    - 6. Remove two bolts (Item 5) from center bearing support (Item 5A).
    - 6a. On 3000A & 4000A only, remove two more of these same bolts from the left.
    - 7. Duplicate step 4 from Section IV
    - Remove mounting hardware furnished with replacement dead front and note its proper position for reassembly. Note: The 1/2-13 threaded rod on replacement will not extend trough horizontal support as does the original, but two nuts jammed on rod rest against support as shown in detail A on drawing C-67340.
    - 9. Insert the replacement dead front and install mounting hardware.

- 9a. On 800-2500A only, check and adjust for approximately 1/32 clearance of link stop (Item 10) to end of mating link
- 10. Duplicate steps 6, 7, 8 & 9 from Section IV

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- VI. QA & CBC dead front replacement, 5000A & 6000A:
  - Remove link disconnect pin (Item 13) after noting number and position of spacer washers used on pin, Drawing C-67340.
  - 2. Duplicate step 2 from Section IV.
  - Remove twenty bolts on CBC or fourteen bolts on QA at location 14 on Drawing C-67340 and note position of each different size and associated washers.
  - 4. Drop dead front out and install replacement unit.
  - If linkage disconnect pin (Item 13) does not realign, loose jam nut on the 1/2-13 threaded link rod and screw clevis up or down in half turn increments until pin fits; then replace with washers and cotter pin as shown on Drawing C-67340 and retighten jam nut.
  - 6. Duplicate steps 7, 8 & 9 from Section IV except for access instructions.
- VII. Replacement dead front with horizontal supports attached (only when switch is removed from cubicle):
  - A. For 800-4000A QA & CBC
    - 1. Duplicate Section I, II, III & IV.2
    - 2. Remove four bolts from rear of base (Drawing C-67340, Detail B) Note position in respect to base mounting hole.

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<u>Caution:</u> Removal of last bolt on either side will cause vertical support to fall

 Remove dead front with horizontal supports attached while stabilizing bronze universal block (Item 4) so that the stainless steel pin projecting from the rear of the operating lever slides out freely.

Note: If the universal block falls off the yoke block it must be replaced with the beveled edge to the top rear for proper pivot clearance.

- 4. Install replacement dead front while positioning vertical support with 5/8 hole matching nearest base mounting hole
- 5. Duplicate Sections IV.7, IV.8 & IV.9
- B. For 5000A & 6000A QA & CBC
  - 1. Duplicate Sections I, II, III & IV.2
  - 2. Duplicate Section VI.1
  - 3. Duplicate Section VII.A.2
  - 4. Remove dead front with horizontal supports attached
  - 5. Duplicate Section VII.A.4
  - 6. Duplicate Section VI.5

7. Duplicate Section IV.7, IV.8 & IV.9 Note: If any problems are encountered, please contact factory.

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