Instructions for Vari-Depth Operating Mechanisms for Types EB, EHB, FB, and F-Frame Series C Circuit Breakers, and Type HMCP (Sizes 0-4) Motor Circuit Protectors

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**WARNING**

CONTACT WITH ENERGIZED EQUIPMENT CAN RESULT IN DEATH, SEVERE PERSONAL INJURY, OR SUBSTANTIAL PROPERTY DAMAGE. DO NOT ATTEMPT TO INSTALL OR PERFORM MAINTENANCE ON EQUIPMENT WHILE IT IS ENERGIZED. ALWAYS VERIFY THAT NO VOLTAGE IS PRESENT BEFORE PROCEEDING WITH THE TASK, AND ALWAYS FOLLOW GENERALLY ACCEPTED SAFETY PROCEDURES.

**ASSEMBLY**

Handle and shaft are supplied as separate items and are not included with the mechanism. Mounting hardware is furnished with the mechanism. The following assembly procedure is recommended.

1. If using extra long shaft (F-Frame Series C only) assemble shaft support bracket to mechanism operating frame as per Fig. 6 with four 164-32 x 5/16" screws and lockwashers.

2. Mount the Breaker and the Operating Mechanism with the four 164-32 x 3-7/8" screws and spacers provided. Narrow diameter end of spacers insert into mounting hardware access holes in Breaker cover.

3. Determine shaft length as per Fig. 5 and cut off as required.

4. Set “D” as shown in Fig. 5 and lock shaft with special set screw provided and a commercially available thread locking adhesive per Fig. 1 or Fig. 2 as desired.

**EATON IS NOT LIABLE FOR THE MISAPPLICATION OR MISINSTALLATION OF ITS PRODUCTS.**

The user is cautioned to observe all recommendations, warnings, and cautions relating to the safety of personnel and equipment as well as all general and local health and safety laws, codes, and procedures.

The recommendations and information contained herein are based on Eaton experience and judgement, but should not be considered to be all-inclusive or covering every application or circumstance which may arise. If any questions arise, contact Eaton for further information or instructions.

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Fig. 1. Cabinet Drilling and Handle Position.

Fig. 5. Mounting Hardware Drilling.
5. Assemble handle assembly to covering using three 1/4-20 x 7/16" screws provided per Fig. 1 or Fig. 2 as desired.

6. Shaft may be used as a center punch to locate hole in cover. Follow instructions under Fig. 3.

7. The interlock defeat feature may be removed from the mechanism by placing the disc in the envelope in the hub so that the screwdriver slot is covered in the interlock latch. Remove the cover plate over the interlock latch carefully so that the latch spring is not lost.

Variations are given to allow easier engagement of the shaft by the handle on cover closing where the hinging produces a difficult engagement angle. Avoid the maximum variations where possible.

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Table 1. Use Only for Handle Position Shown in Fig. 1.

<table>
<thead>
<tr>
<th>B (Fig. 2A)</th>
<th>A* (Fig. 1)</th>
<th>C (Fig. 2B)</th>
<th>A* (Fig. 1)</th>
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<td>1.750 (44.45)</td>
<td>10 (254.00) to more</td>
<td>1.750 (44.45)</td>
</tr>
<tr>
<td>8 (203.20) to 10 (254.00)</td>
<td>1.718 (43.64)</td>
<td>8 (203.20) to 10 (254.00)</td>
<td>1.781 (45.24)</td>
</tr>
<tr>
<td>7 (177.80) to 8 (203.20)</td>
<td>1.687 (42.85)</td>
<td>7 (177.80) to 8 (203.20)</td>
<td>1.812 (46.02)</td>
</tr>
<tr>
<td>6 (152.40) to 7 (177.80)</td>
<td>1.656 (42.06)</td>
<td>6 (152.40) to 7 (177.80)</td>
<td>1.843 (46.81)</td>
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<tr>
<td>5 (127.00) to 6 (152.40)</td>
<td>1.625 (41.28)</td>
<td>5 (127.00) to 6 (152.40)</td>
<td>1.875 (47.63)</td>
</tr>
</tbody>
</table>

Table 2. Use Only for Handle Position Shown in Fig. 2.

<table>
<thead>
<tr>
<th>B (Fig. 2A)</th>
<th>A* (Fig. 1)</th>
<th>C (Fig. 2B)</th>
<th>A* (Fig. 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 (609.60) to more</td>
<td>1.750 (44.45)</td>
<td>8 (203.20) to more</td>
<td>1.750 (44.45)</td>
</tr>
<tr>
<td>18&quot; (457.20) to 24&quot; (609.60)</td>
<td>1.718 (43.64)</td>
<td>6 (152.40) to 8 (203.20)</td>
<td>1.812 (46.02)</td>
</tr>
<tr>
<td>12&quot; (304.80) to 18&quot; (457.20)</td>
<td>1.687 (42.85)</td>
<td>5 (127.00) to 6 (152.40)</td>
<td>1.843 (46.81)</td>
</tr>
<tr>
<td>8&quot; (203.20) to 12&quot; (304.80)</td>
<td>1.656 (42.06)</td>
<td>6 (152.40) to 8&quot; (203.20)</td>
<td>1.625 (41.28)</td>
</tr>
</tbody>
</table>

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Fig. 2. Handle and Hinge Positions.
To locate hole in cover, screw shaft to position shown above. Center punch cover with shaft and drill per figure No. 4. Relocate shaft as per figure No. 5.

Do not use V to Z groves.
Shaft length: E + F = 3.625 (92.08)

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Fig. 3. Center Punching of Cover Using Shaft.

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Fig. 4. Operating Handle - Outlined Dimensions.

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Fig. 5. Determining Shaft Length.
Fig. 6.   Securing Circuit Breaker, Handle Mechanism and Shaft Support Bracket to Mounting Surface.
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