

GE
Industrial Solutions

E9000* Low-Voltage Motor Control Center Retrofit Kit for Arc Flash Mitigation Units Installation Guide



imagination at work

Arc Flash Mitigation (AFM) Unit Retrofit Instructions

If you have purchased this retrofit kit, you are planning to install a new GE AFM unit into GE's existing E9000* Motor Control Center (MCC). This kit along with your new AFM unit and new door will bring new safety features to existing installations.

The retractable stab mechanism of the AFM unit allows for closed-door racking of the unit, permitting the user to ENGAGE and DISENGAGE the stabs with the vertical bus without opening the unit door.

The new AFM units can be mounted in existing E9000 MCCs giving customers the option to get the enhanced features without the added expense of replacing and re-cabling their entire MCC.

One retrofit kit is required for each new AFM unit that a customer wishes to install in their E9000 MCC to replace the legacy E9000 stationary stab-in units. The retrofit kit consists of the list of parts shown in Table 1 and in Figure 1. The retrofit can be easily performed at the installation site of the equipment without any drilling or alteration to the existing structure or bus work.

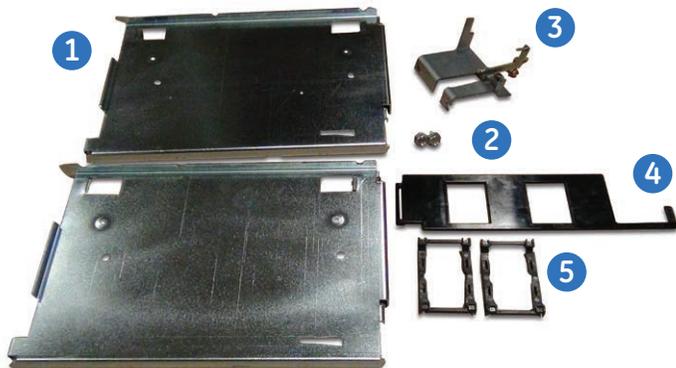


Figure 1. Retrofit Kit

Table 1. Retrofit Kit - Parts List

Description	Quantity	Part
Shelf	2	1
Bolts for Shelf (one per shelf)	2	2
Shutter Mechanism	1	3
Shutter	1	4
Shutter Guides	2	5

E9000* Low-Voltage Arc Flash Mitigation Retrofit Assembly Instructions

WARNING: Before performing any operation make sure that the Disconnect is switched "OFF" and the section is completely de-energized.

Arc Flash Mitigation (AFM) Unit Retrofit

Follow the instructions provided in this guide to properly mount the new AFM unit into existing E9000 line equipment manufactured by GE.

Before beginning the installation of the new AFM unit, make sure the equipment is de-energized before performing any maintenance or operations contained in this document.

Removing Existing Unit from the Section

Step 1: Turn "OFF" the disconnect. Unlatch and open the door by turning the latch head a quarter of a turn in the counter clockwise direction as shown in Figure 2.



Figure 2. Unlatching the door

Step 2: Unlatch the three unit latches (2 on top and 1 on bottom of unit) by rotating the latch head in counter clockwise direction by a quarter turn as shown in Figure 3. This will allow the unit to be removed from the section.



Figure 3. Unlatching the unit

Step 3: Pull the unit out from section as shown in Figure 4.

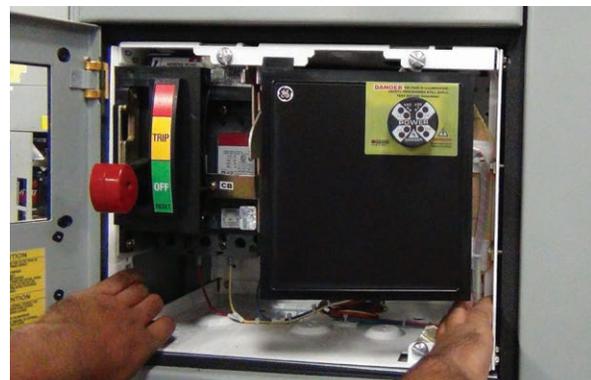


Figure 4. Removing the unit from section

Step 4: Remove the door by removing all hinge pins connecting the door to the case side, as shown in Figure 5.



Figure 5. Removing the door from the section

Step 5: Remove the existing shelves from the section both on the top and bottom of the unit by loosening the screw as shown in Figure 6.

Note: If there is a unit above the unit to be replaced, it will need to be removed before removing the top shelf.



Figure 6. Removing shelf from the unit

Step 6: Remove the existing shutter assembly by loosening the four screws as shown in Figure 7.

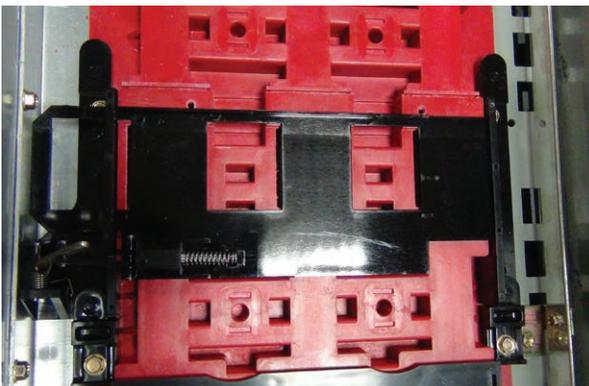


Figure 7. Removing existing shutter assembly

Assembling AFM Units

Step 1: Replace the existing shelves with the new AFM shelves as shown in Figure 8a and 8b. The AFM unit shelves are fastened at two locations: one in the section case side and the other on the ladder plate (accessible from wire way).

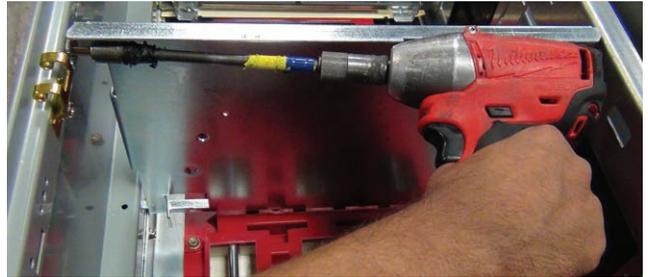


Figure 8a. Assembling AFM unit shelf

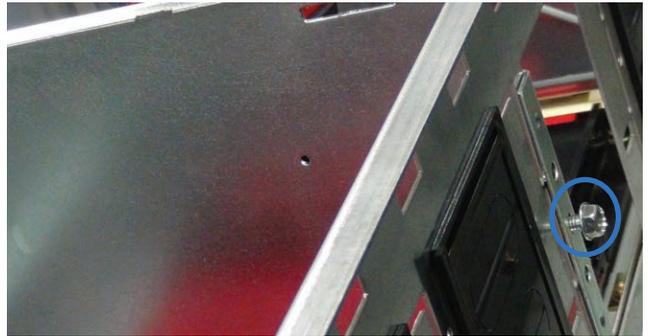


Figure 8b. Assembling AFM unit shelf (Additional fastener)

Step 2: Align the mounting holes of the AFM shutter mechanism on the case side of the section and fasten the AFM shutter mechanism securely with two screws as shown in Figure 9.

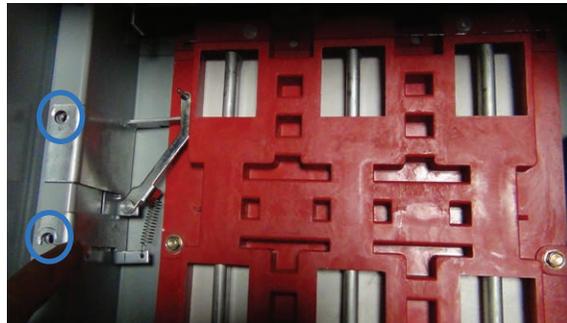


Figure 9. Assembling AFM shutter mechanism

Step 3: Slide the shutter guide into the shutter as shown in Figure 10a. Care should be taken that the shutter guide with the ribs on the back should always be placed on the bottom of the shutter as shown in Figure 10b. The AFM shutter requires 2 guides and these are easily snap-fitted on the first two (from the left of the panel) vertical bus barrier cut-outs.

While assembling the shutter, make sure that the rivet pin on the shutter mechanism is inserted into the guide slot provided in the shutter, as shown in Figure 10c.



Figure 10a. Sliding shutter guide into shutter



Figure 10b. Shutter guide orientation



Figure 10c. Shutter mechanism engagement with shutter

After assembling the shutter, check the spring action of the shutter for auto closure by gently sliding the shutter manually toward the left.

Step 4: Slide the AFM unit in-between the two shelves and latch the unit securely by rotating the three quarter turn latches in the clockwise direction to engage with the shelf. Avoid placing your hand on top of the shutter indicator during insertion of the unit as this might alter the shutter cam on the back of the unit.



Figure 11. Avoid placing your hand on the shutter indicator while inserting the AFM unit

Step 5: Assemble the AFM unit door to the section and latch the door securely by rotating the latches by a quarter turn in clockwise.



Figure 12. Assembling door and latching

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These instructions do not purport to cover all details or variations in equipment nor, to provide contingency to be met in connection with installation, operation, or maintenance. Should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to GE.