



EPMV SWITCHGEAR

SafeGear® – MCC transition frame
Arc-resistant transition frame – SafeGear® to Rockwell
ArcShield™ MV motor control center
Installation, operations and maintenance manual –
Appendix B



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SafeGear®

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1. INSTALLING THE SAFEGEAR® SWITCHGEAR WITH ATTACHED TRANSITION FRAME

1.1 General Instructions

In order to obtain an optimum installation sequence and ensure adherence to high quality standards, site installation of the switchgear should only be carried out by specially trained and skilled personnel.

Follow SafeGear® Installation and Operation Instruction Manual 1VAL108002-MB to install the switchgear lineup. Refer to the General Arrangement Drawings prior to installation.

Torque all hardware according to Appendix A – Torque Requirements for SAE Grade 5 Steel Hardware.

NOTICE

Do not remove the shipping bases until the units are set in place.

Moving the units without the shipping base will cause irreparable damage and a hazardous condition.

NOTICE

Use of fork lift trucks for jacking or placing the jacks other than as described may result in stress distortions and irreparable damage to the equipment.

The Transition Frame is factory assembled and attached to the SafeGear® switchgear frames (Figure 1). The Plenum is shipped on a separate pallet.



Figure 1: The Transition Frame is factory assembled and attached to SafeGear®

1.2 SafeGear® Plenum Installation

1. Install the SafeGear® plenum using the Switchgear plenum technical guide 1VAL104602-TG. Do not install the end cover. Torque all hardware according to Appendix A – Torque Requirements for SAE Grade 5 Steel Hardware.



Figure 2: Installation of the SafeGear® plenum

2. Install the Transition Frame Plenum on the roof to the Transition Frame (Figure 3).



Figure 3: Install Transition Frame Plenum

- Secure the Transition Frame Plenum to the SafeGear® plenum and the roof to the Transition Frame using the supplied hardware (Figure 4).

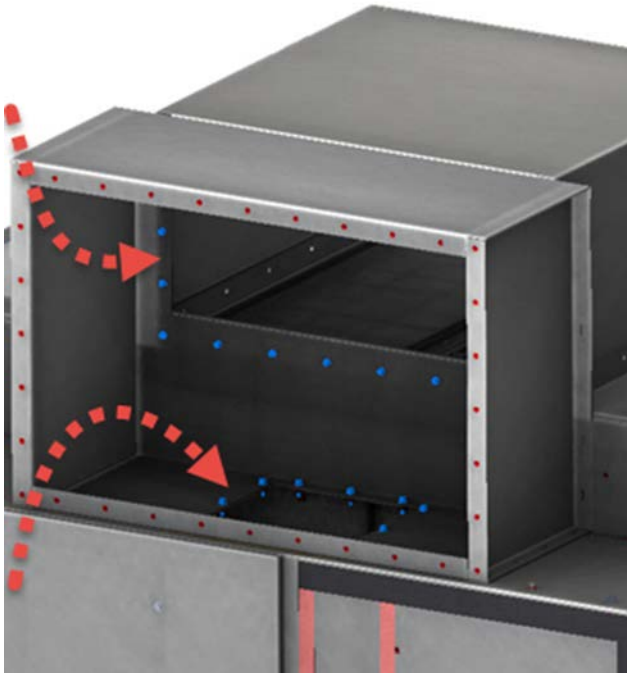


Figure 4: Secure the plenum with the supplied hardware

- Install the plenum access cover and secure it with the supplied hardware (Figure 5).

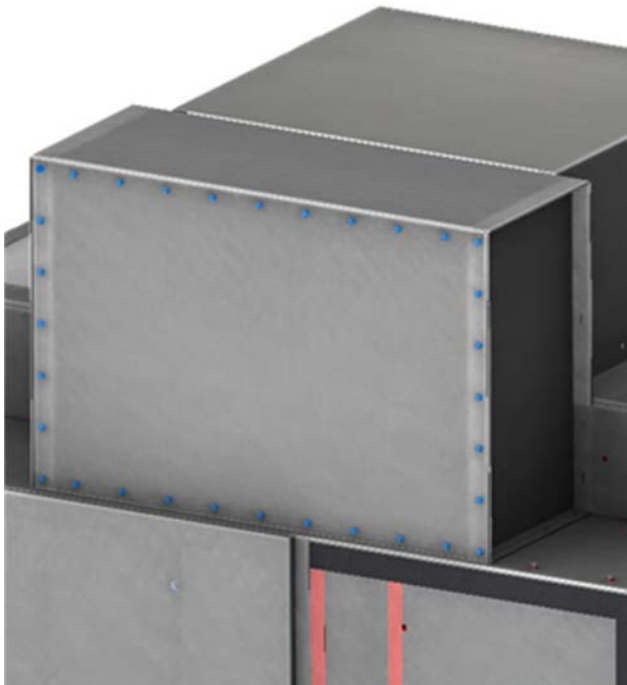


Figure 5: Secure the plenum access cover with the supplied hardware

1.3 Preparing the Transition Frame for installation

The hardware and bus to connect the main bus and ground bus may be previously installed on the SafeGear® Transition Frame (Figure 6). This is to ensure all the parts required for the assembly are readily available. Remove the main bus and ground bus hardware, including any spacer plates/connecting bus in preparation to move the MCC into position. The hardware and bus connections will be reinstalled after the MCC is in position.

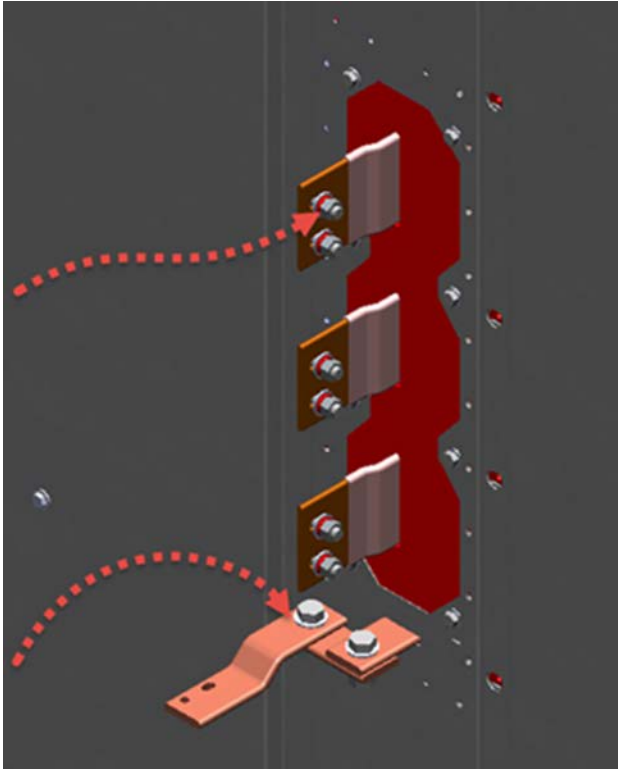


Figure 6: Remove the main bus, ground bus hardware and connecting bus

1.4 Attaching the MCC to the Transition Frame

Position the Rockwell Motor Control Center as close to the installation location as possible. Secure all doors and panels. Install the MCC plenums per the Rockwell installation manual.

Prepare the MCC for coupling to the transition frame.

1. Install the frame to frame taptite collar supplied by ABB (Figure 7). Follow the Rockwell MCC installation manual. Remove the rear access cover. Insert the collar through the access opening and place it close to the power bus access. This collar will be used to secure the taptites driven through the adjoining transition frame in later steps when the MCC is bolted to the transition frame.

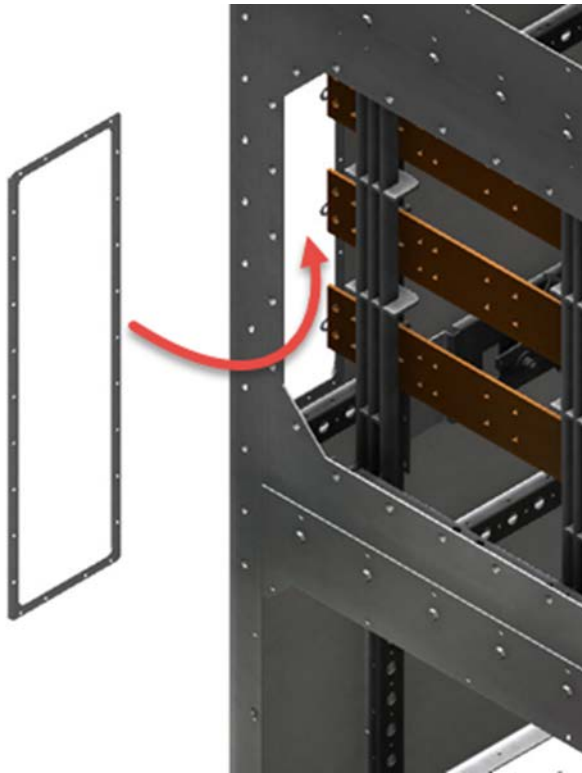


Figure 7: Insert taptite collar

2. Installing the upper bracket to the MCC (Figure 8). Due to limited access, the upper bracket should be secured to the MCC with $\frac{1}{4}$ "-20 taptites before it is coupled to the transition frame.



Figure 8: Install the upper bracket and secure it to the MCC

3. Before the equipment is moved, verify the pre-move steps have been completed as outlined in section 3.3 & 3.4.
4. Move the MCC into position next to the Transition Frame (Figure 9). Align the MCC to the front or the rear face of the transition frame. (depending on the configuration) Ensure the frame-to-frame holes line up and with minimal gap between the equipment.

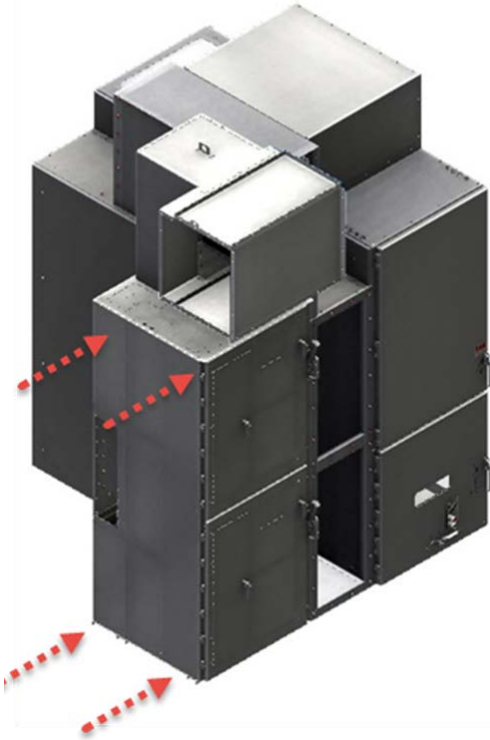


Figure 9: Align and move the MCC into position

5. Drive the ¼"-20 taptites from inside the transition frame, into the MCC taptite collar, previously installed, fastening it to the Transition Frame (Figure 10).

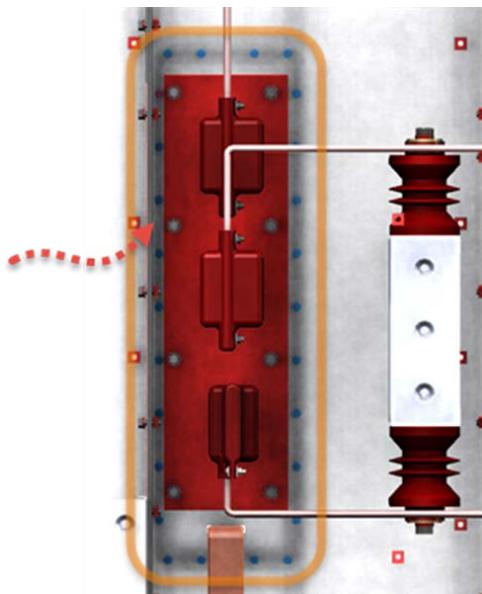


Figure 10: Secure the taptite collar in the MCC from within the transition frame

6. Drive the 1/4-20 taptites into the MCC frame connection holes from inside the transition frame and secure it to the Transition Frame (Figure 11). Ensure all frame-to-frame holes are closed with hardware.

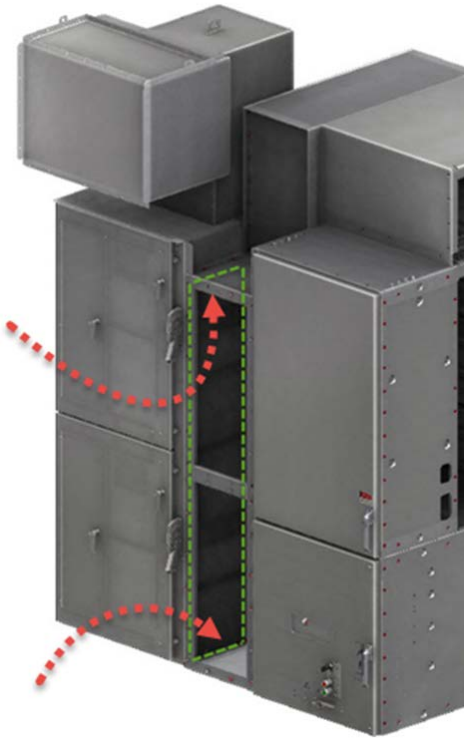


Figure 11: Attach the MCC securely to the Transition Frame

7. Secure the upper bracket attached to the MCC to the roof of the Transition Frame using the supplied hardware (Figure 12).

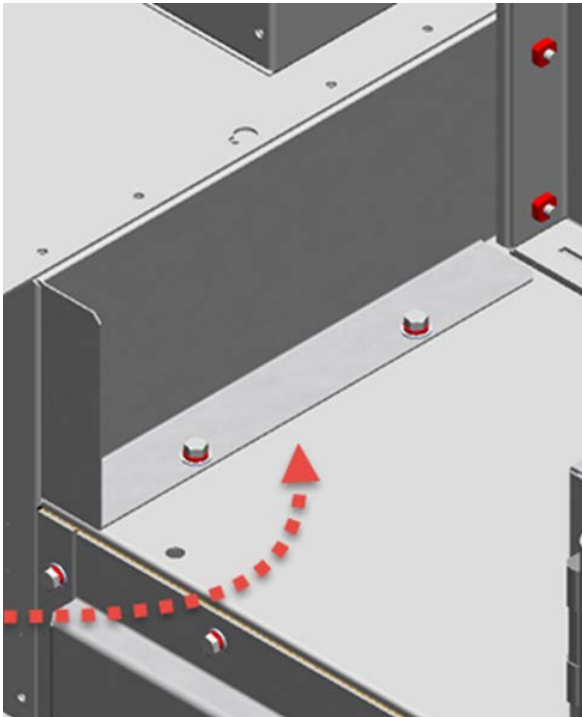


Figure 12: Secure the upper bracket to the roof of the Transition Frame

1.5 Installing the Main bus and Ground bus

Clean contact surfaces with a clean cloth and an OSHA approved solvent.

CAUTION

Do not use alcohol or Freon.

Limit the use of solvents to removing grease and contamination from primary conductors, insulation and unpainted metallic surfaces.

Use an OSHA approved, non-flammable solvent with a threshold limit of 300 PPM or higher in accordance with local regulations.

Use solvents in well-ventilated areas.

Take care not to remove or tarnish plating.

Remove the existing fasteners securing the MCC ground bus and install the ABB supplied offset ground bus. Connect to the MCC ground bus and reinstall the fasteners torqueing per the Rockwell MCC instruction manual. Complete the assembly by installing the additional main bus connections and torque the bolted joints according to Appendix A – Torque Requirements for SAE Grade 5 Steel Hardware.

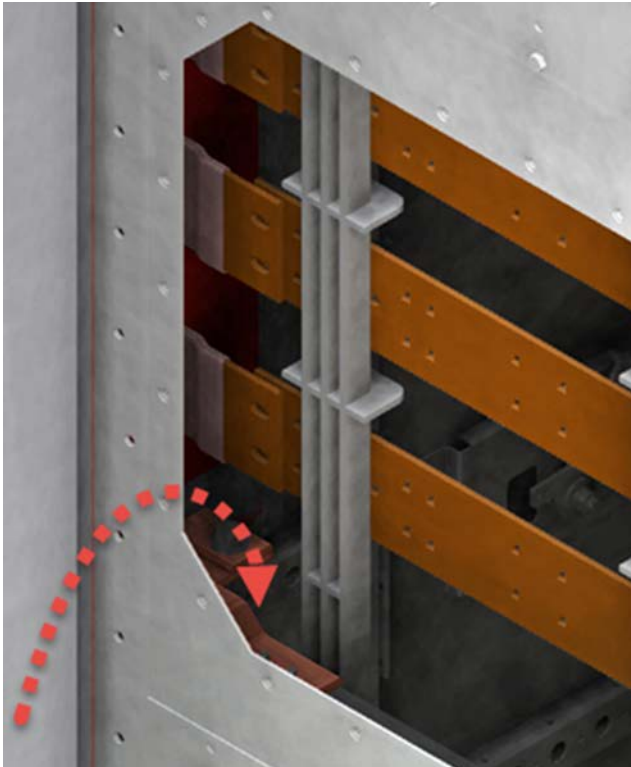


Figure 13: Install the supplied connecting ground bus to the MCC ground bus

Reinstall the bus spacers (2000A & 3000A only) and fasteners. Bolt the main bus together using supplied hardware. All bolted joints must be torqued per the values in the SafeGear® IOMM. Install the main bus joint covers and secure it with the supplied hardware. Reinstall and close all access covers and panels.

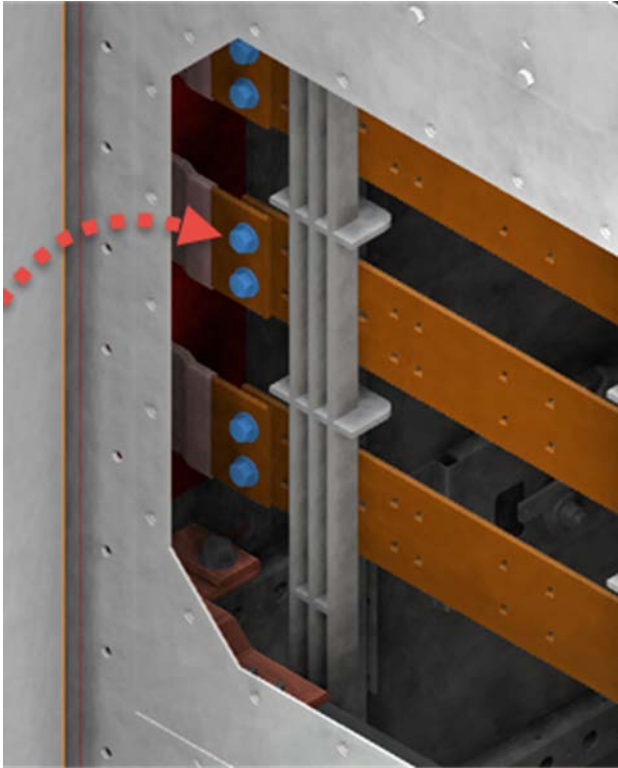


Figure 14: Install the supplied bus spacers and fasteners

1.6 Attaching the Rockwell MCC to the floor

Following the connection of the MCC frame and bussing to the switchgear transition frame, units should be secured to the floor by bolting per the guidelines outlined in the Rockwell MCC instruction manual.

1.7 Disclaimer of Warranties and Limitation of Liability

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