Instructions for the Retrofit of AMPGARD NextGen RVSS
For Bottom Entry Starters

Instruction Bulletin – IB48073

Read and understand these instructions before attempting any installation, operation, or maintenance of the AMPGARD Reduced Voltage Soft Starter.

This equipment shall be installed and serviced only by qualified electrical personnel.

Retain this document for future use.
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Purpose

This instruction book is to ensure the safe and successful retrofit of the AMPGARD Reduced Voltage Soft Starter (RVSS) into a NextGen Starter. This equipment may be installed in an individual structure or may be part of a lineup of AMPGARD products.

Note that this manual is used as a representative of a NextGen RVSS starter. Individual starters can look different. This manual shows the mechanical retrofit of the components of the RVSS. Installation of low voltage wiring and components will be unique to every starter. Person(s) installing retrofit must refer to the electrical drawings for this specific information.

For more information visit: www.eaton.com
Section 1 – Introduction

The AMPGARD RVSS retrofit kits are designed to use common tools.

Hardware is provided in the kit with all necessary parts for a complete retrofit of the RVSS. Low voltage wire and terminals may need to be acquired for the specific wiring needs.

The MV801/MV811 RVSS and all components in the lower cell are removed during this retrofit. A new medium voltage door with low voltage components is supplied. The medium voltage door will have a display already installed. The low voltage compartment will have all RVSS wiring complete.

**Custom low voltage wiring and components must be installed per specific job. Refer to the job specific electrical drawings for this information.**
Section 2 – Disassembly

(1) Remove the hold down bolt in the main contactor in the top cell.

(2) Unplug the wiring harness from the contactor.

(3) Unclip the contactor interlock rod.
(4) Remove the contactor by rolling it out and set it aside.

(5) Remove the bolts from the top of the BUS drops at the bottom stabs of the main contactor and save the hardware.
(6) Remove the bolts from the load cables. Move the load cables aside so as they do not get damaged.

(7) Remove ground cables from ground BUS. Save hardware for later. Clip wire ties with cutters and pull ground cable outwards.
(8) Remove two bolts from lightning arrester ground BUS assembly in the upper right hand side of the bottom cell.¹ Use wire cutters to cut wire ties and let lightning arrester assembly drop down. Remove the bolt holding the ground cable to the top of the lightning arrester assembly.²
(9) Remove the bolts holding the cables that are labeled 1T1, 1T2, and 1T3 from the bottom stab assembly. Remove the lightning arrester assembly from the cell.

(10) Remove four bolts per stab assembly starting with the bottom assembly and then the top assembly. Remove both lightning arrester assemblies and pull out of the cell. Discard these assemblies.
(11) Remove the ground BUS bolts on both ends. Lay the ground BUS aside for later reassembly. Remove the ground BUS bracket and save for later assembly.

(12) Remove the thread former screws holding the truck rails down. Remove the truck rails and discard.

(13) Use wire cutters to cut all wire ties holding the low voltage wire bundles and medium voltage door low voltage door bucket. Loosen bolts holding down low voltage terminal block mounting assembly and remove.
(14) Pull these wire terminals up to top cell. Some of these will be used in the retrofit later.

(15) Remove the four hinge pins on the medium voltage door assembly and remove door.
(16) Remove two bolts holding the CT to the bracket. Remove four screws holding CT bracket and discard bracket. Replace with 87C0605H01 bracket. Attach CT to the new bracket. Attach bracket in upper cell with four ¼”-20 x 5/8” thread cutter screws.

Move CT up to below Customer motor terminals
(17) Remove four screws from the GFCT bracket. Move the bracket and GFCT up to the uppermost set of holes in the lower cell. Reattach the bracket to the cell.

Move up to highest position

(18) Remove all screws from bottom cell floorpans. Lift out the floorpans and discard.
The lower cell should be free of all parts as seen here.
Section 3 – Assembly

(1) Install new floor pan. Use supplied #10-32 thread former screws to attach.

(2) Install the truck rails and reattach the ground BUS.

(3) Attach ground wires back to ground BUS. Wire tie the loose wires back to the sidewall.
(4) Attach new low voltage terminal block mounting.

(5) Attach hinge pins and hang medium voltage door. ***This can be done later to keep it out of the way if needed.

(6) Attach the PT transformer to the left side of the upper cell. Add the third fuse and fuse clips supplied in the hardware kit. One wire must go from the fuse to the PT. The other goes from the fuse to the "C" phase main fuse. Make sure to place this wire into the conduit before securing with wire ties.

For more information visit: www.eaton.com
(7) Carefully align RVSS truck with the ramp and roll into the cell.
(8) Pull line side cables from the truck up to the bottom side of the main contactor in the top cell.

**Attach cables to the correct phase.**
Replace glasspoly barriers.

(9) Pull load side cables from RVSS truck to the customer load connections. Make sure to route through the GFCT and CT. Replace glassic phase barriers.
(10) Replace the main contactor.

**NOTE** – This is what the completed top cell should look like when done retrofitting the mechanical parts. Next, refer to the wiring drawings that are custom per starter.

(11) Reattach interlock rod clip to main contactor.
(12) Reattach contactor hold in bolt.

(13) Plug in low voltage wiring plug into main contactor.

(14) Attach top right of RVSS truck to the side of the cell with the supplied bracket. Use of a C-clamp may be useful.
(15) Attach low voltage plug to RVSS truck. Attach fiber optic cables to main circuit board in low voltage bucket. Be careful not to bend fiber optic cables.

Note:

Please refer to the before and after electrical drawings to complete the rest of the retrofit.