

# Appendix A: PowerVAC Application-Specific Coil

Application-specific magnetic field coils are customized solutions for testing vacuum interrupters that are still installed in their breakers, or pole assemblies. Application-specific magnetic field coils are specially constructed as single-piece units that allow users to test vacuum interrupters which are still installed in a circuit breaker or pole assembly, particularly when the use of the standard flexible magnetic field coil is difficult or impractical due to size restrictions or other factors.

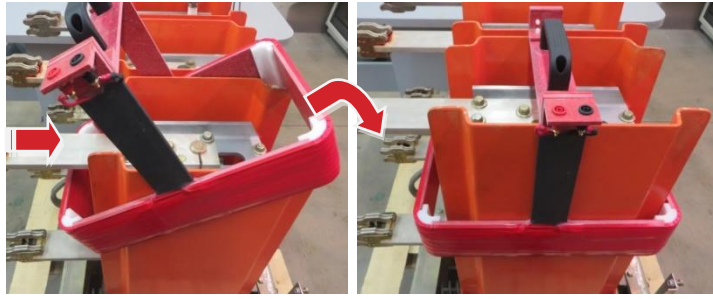
The PowerVAC Magnetic Field Coil is a custom coil option for testing all types and ratings of GE PowerVAC circuit breakers. This coil option allows users to test interrupters installed in a GE PowerVAC breaker without removing them from their pole assemblies. The PowerVAC Magnetic Field Coil also requires the use of an external capacitor box to operate.



## A.1 Setup

This section outlines the specific steps required to set up an Application-specific field coil on a breaker. These instructions supplement those found in Section 2 of the MAC-TS4 manual, so the user should be familiar with that section before reviewing these instructions.

1. Using denatured alcohol and a clean cloth, remove any contamination from the surfaces of the vacuum interrupter to be tested.
2. Open vacuum interrupter contacts to the manufacturer rated contact gap using breaker mechanism, if installed.
3. Install the application-specific coil onto the equipment by sliding the coil over the breaker pole, or interrupter. Ensure that the coil sits flat and flush against the breaker pole or insulating material, depending on the specific option. See the images below for reference.



4. Connect the capacitor box at this time.



5. Turn on the capacitor box by flipping the switch on the capacitor box to 'On'. This will allow the capacitor box to be properly recognized by the MAC test set when it is finally turned on for operation.
6. Continue with the setup procedure as described in Section 2.2, from step 4 onward, to complete the setup procedure.

## A.2 Operation

Operation of the MAC Test Set is not notably different from operation with the standard flexible magnetic field coil, with a single exception:

- When using an application-specific field coil that requires a capacitor box, during the test parameter setup the "Coil Option" will be locked to a single value, and cannot be changed. Therefore disregard the selection of the "Coil Option" in Section 3, but continue with all other steps as normal.
- PV Rigid coils require specific curve settings:
  - For PV-Rigid Low MVA (250 MVA and 500 MVA) Use Curve 7
  - For PV-Rigid High MVA (350 MVA, 750 MVA, 1000 MVA, and 1500 MVA) Use Curve 8
- Do not turn off the capacitor box during operation. The capacitor banks in the External Capacitor box will retain a charge (indicated by the "Charged" light on the box) for an extended period of time once charged.

## A.3 Troubleshooting

Problem	Possible Cause	Solution
Using the PowerVac test coil, the appropriate coil option does not show in the menu when setting up a test	Capacitor Box is was plugged in after starting the Test Set	Turn off the Test Set, then turn back on and restart the test setup process.
	Capacitor Box is not plugged in properly.	Turn off the Test Set. Check for any loose connections or damaged connectors, and re-seat as necessary. Turn the test set back on, and restart the test setup process.
	Capacitor Box or connecting cable is damaged or faulty.	Contact Vacuum Interrupters, Inc immediately for replacements.