Factory Authorized Mechanism Enhancement (FAME)
Factory Authorized Mechanism Enhancement (FAME)

DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY

The information, recommendations, descriptions and safety notations in this document are based on Eaton's experience and judgment and may not cover all contingencies. If further information is required, an Eaton sales office should be consulted. Sale of the product shown in this literature is subject to the terms and conditions outlined in appropriate Eaton selling policies or other contractual agreement between Eaton and the purchaser.

THERE ARE NO UNDERSTANDINGS, AGREEMENTS, WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, OTHER THAN THOSE SPECIFICALLY SET OUT IN ANY EXISTING CONTRACT BETWEEN THE PARTIES. ANY SUCH CONTRACT STATES THE ENTIRE OBLIGATION OF EATON. THE CONTENTS OF THIS DOCUMENT SHALL NOT BECOME PART OF OR MODIFY ANY CONTRACT BETWEEN THE PARTIES.

In no event will Eaton be responsible to the purchaser or user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental or consequential damage or loss whatsoever, including but not limited to damage or loss of use of equipment, plant or power system, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information, recommendations and descriptions contained herein. The information contained in this manual is subject to change without notice.

⚠️ DANGER

IMPROPERLY INSTALLING OR MAINTAINING THESE PRODUCTS CAN RESULT IN DEATH, SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE.

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE ATTEMPTING ANY UNPACKING, ASSEMBLY, OPERATION OR MAINTENANCE OF THE CIRCUIT BREAKERS.

INSTALLATION OR MAINTENANCE SHOULD BE ATTEMPTED ONLY BY QUALIFIED PERSONNEL. THIS IS A SUPPLEMENT TO THE OEM INSTRUCTION BOOKLET AND SHOULD NOT BE CONSIDERED ALL INCLUSIVE REGARDING INSTALLATION OR MAINTENANCE PROCEDURES. IF FURTHER INFORMATION IS REQUIRED, YOU SHOULD CONSULT EATON'S ELECTRICAL SERVICES & SYSTEMS.

THE CIRCUIT BREAKERS DESCRIBED IN THIS BOOK ARE DESIGNED AND TESTED TO OPERATE WITHIN THEIR NAMEPLATE RATINGS. OPERATION OUTSIDE OF THESE RATINGS MAY CAUSE THE EQUIPMENT TO FAIL, RESULTING IN DEATH, BODILY INJURY AND PROPERTY DAMAGE.

ALL SAFETY CODES, SAFETY STANDARDS AND/OR REGULATIONS AS THEY MAY BE APPLIED TO THIS TYPE OF EQUIPMENT MUST BE STRICTLY ADHERED TO.

VACUUM CIRCUIT BREAKERS ARE DESIGNED TO BE INSTALLED PURSUANT TO THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). SERIOUS INJURY, INCLUDING DEATH, CAN RESULT FROM FAILURE TO FOLLOW THE PROCEDURES OUTLINED IN THE OEM INSTRUCTION MANUAL AND THIS SUPPLEMENTAL INSTRUCTION LEAFLET.

The operating mechanism of this power circuit breaker was enhanced by Eaton with the latest materials and design concepts that were fully tested to applicable IEEE Standards. The enhancements extend the useful life and numbers of operations of the circuit breaker mechanism. These enhancements do not affect or improve the interrupting capabilities of the OEM circuit breaker design.

All possible contingencies which may arise during installation, operation or maintenance, and all details and variations of this equipment do not purport to be covered by these additional instructions. If further information is desired by purchaser regarding his particular installation, operation or maintenance of particular equipment, contact an Eaton representative.
# Table of Contents

## SECTION 1: INTRODUCTION  
1.1 VISUAL INSTRUCTION BOOKLET ESSENTIALS 4  
1.2 QUICK RESPONSE CODE 4  
1.3 ADDITIONAL LABEL INFORMATION 4  
1.4 FAME CIRCUIT BREAKER ENHANCEMENTS 5

## SECTION 2: SAFE PRACTICES  

## SECTION 3: INSPECTION & MAINTENANCE  
3.1 INSPECTION FREQUENCY 6

## SECTION 4: REPLACEMENT PARTS  
4.1 GENERAL 6  
4.2 ORDERING INSTRUCTIONS 6
SECTION 1: INTRODUCTION

This instruction leaflet provides updated information on VCP-W and VR-Series vacuum circuit breakers with the Factory Authorized Mechanism Enhancement (FAME). The FAME process is not a conversion, but rather an enhancement that upgrades an existing VCP-W or VR-Series metal-clad circuit breaker mechanism to the latest materials and components. The FAME process does not increase or modify the nameplate operating characteristics of the VCP-W or VR-Series, however, it offers these performance enhancements to the circuit breaker’s mechanism:

- **10-year or 10,000 operation scheduled maintenance intervals.** When applied in “usual service conditions” as defined by IEEE C37.04-1999, the FAME upgraded VCP-W and VR-Series requires maintenance only once every ten years or ten thousand operations, which ever comes first.
  
  **Note:** See inspection and testing procedures in the OEM instruction booklet for details.

- **Increased mechanical endurance.** Circuit breakers in repetitive duty applications offer 50% more operations over conventional vacuum circuit breaker elements before parts replacement may be needed.

Use this instruction leaflet in conjunction with the technical information provided with the OEM equipment order which includes electrical control schematic and wiring diagrams, outline diagrams, installation plans, and procedures for installation.

Satisfactory performance is dependent on proper application, correct installation, and adequate inspection. It is very important that this instruction leaflet be read and followed closely to achieve optimum performance and a long useful circuit breaker life in its application.

1.1 VISUAL INSTRUCTION BOOKLET ESSENTIALS

Eaton provides additional documentation designed to enhance the technical information provided in this instruction booklet for the VCP-W and VR-Series FAME circuit breakers. The Visual Instruction Booklet Essentials (VIBE) is a digital supplemental booklet featuring user interactive content and informative videos intended to assist with the maintenance of the VCP-W and VR-Series FAME circuit breaker. The VIBE document is available for immediate download at www.eaton.com/VR-Series.

**WARNING**

**DO NOT FOLLOW THE LUBRICATION INSTRUCTIONS SHOWN IN THE OEM INSTRUCTION BOOKLET. THE CIRCUIT BREAKER MECHANISM SHOULD NEVER BE OILED OR RE-LUBRICATED IN ANY MANOR AFTER THE FAME UPGRADE IS PERFORMED. THE FAME WARRANTY WILL VOID IF ANY LUBRICATION IS PERFORMED ON THE CIRCUIT BREAKER THAT HAS THE FAME PROCESS APPLIED.**

1.2 QUICK RESPONSE CODE

VCP-W and VR-Series FAME circuit breakers have a new front escutcheon plate which includes a quick response code (QR Code). The escutcheon is mounted on the front cover of the power circuit breaker. This QR Code is a matrix barcode that provides direct access to download VCP-W and VR-Series FAME specific documentation, such as this product instruction leaflet, product aids and the VIBE documentation. See Figure 1.1 for the featured VCP-W and VR-Series FAME QR Code and Figure 1.2 for the front escutcheon plate.

**Note:** A smart phone with an adequate QR Code Scanner application must be used. Downloading content may incur data charges from the mobile service provider.

1.3 ADDITIONAL LABEL INFORMATION

The front cover of the FAME upgraded circuit breaker displays information specific to the FAME process in addition to the OEM label decals. An updated nameplate reflects the upgrade information. (Figures 1.3 and 1.4)

---

**NOTICE**

**MECHANISM**

FACTORY AUTHORIZED MECHANISM ENHANCEMENT (FAME).

FAME was performed on this circuit breaker’s operating mechanism. The operating mechanism now has performance characteristics that exceed the mechanical endurance capabilities of the original design testing program. The nameplate ratings and interrupting capabilities remain unchanged.

**NOTICE**

**LUBRICATION**

DO NOT RE-LUBRICATE OR ADD OILS TO THE CIRCUIT BREAKER MECHANISM.

The circuit breaker mechanism uses an advanced synthetic lubrication system. The scheduled maintenance interval is 10 years or 10,000 operations, whichever comes first when applied in “usual service conditions” as defined by IEEE C37.04-1999. Any attempt to re-lubricate or add oils to the mechanism will void the mechanism warranty. Contact Eaton for service or maintenance.
**WARNING**

SATISFACTORY PERFORMANCE OF THESE CIRCUIT BREAKERS IS CONTINGENT UPON PROPER APPLICATION, CORRECT INSTALLATION AND ADEQUATE MAINTENANCE. THIS INSTRUCTION LEAFLET ALONG WITH THE OEM INSTRUCTION BOOKLET MUST BE CAREFULLY READ AND FOLLOWED IN ORDER TO OBTAIN OPTIMUM PERFORMANCE FOR LONG USEFUL LIFE OF THE CIRCUIT BREAKERS. IT IS FURTHER RECOMMENDED THAT THE INSTALLATION BE PERFORMED BY AN EATON TRAINED ENGINEER OR TECHNICIAN.

CIRCUIT BREAKERS ARE PROTECTIVE DEVICES, AS SUCH, THEY ARE MAXIMUM RATED DEVICES. THEREFORE, THEY SHOULD NOT UNDER ANY CIRCUMSTANCE BE APPLIED OUTSIDE THEIR NAMEPLATE RATINGS.

ALL POSSIBLE CONTINGENCIES WHICH MIGHT ARISE DURING INSTALLATION, OPERATION, OR MAINTENANCE, AND ALL DETAILS AND VARIATIONS OF THIS EQUIPMENT ARE NOT COVERED BY THESE INSTRUCTIONS. IF FURTHER INFORMATION IS DESIRED BY THE PURCHASER REGARDING A PARTICULAR INSTALLATION, OPERATION, OR MAINTENANCE OF THIS EQUIPMENT, THE LOCAL EATON REPRESENTATIVE SHOULD BE CONTACTED.

### 1.4 FAME CIRCUIT BREAKER ENHANCEMENTS

The FAME process does not change the rating, outline diagrams, or dimensions of the circuit breaker. The receiving, handling and storage for the FAME upgraded circuit breaker remains the same. Moreover, the initial inspection, installation, and operation of FAME upgraded circuit breakers remain the same as the OEM VCP-W and VR-Series circuit breakers. Refer to the OEM instruction booklet for information on these details.

The inspection and maintenance guidelines for the FAME upgraded circuit breakers are different from the OEM guidelines. Refer to Section 3 for updated inspection and maintenance recommendations for the FAME upgraded circuit breakers.

**SECTION 2: SAFE PRACTICES**

Vacuum replacement circuit breakers are equipped with high speed, high energy operating mechanisms. They are designed with several built-in interlocks and safety features to provide safe and proper operating sequences.

**DANGER**

TO PROTECT THE PERSONNEL ASSOCIATED WITH INSTALLATION, OPERATION, AND MAINTENANCE OF THESE CIRCUIT BREAKERS, THE FOLLOWING PRACTICES MUST BE FOLLOWED:

- Only qualified persons, as defined in the National Electrical Safety Code, who are familiar with the installation and maintenance of medium voltage circuits and equipment, should be permitted to work on these circuit breakers.
- Read these instructions carefully before attempting any installation, operation or maintenance of these circuit breakers.
- Always remove the circuit breaker from the enclosure before performing any maintenance. Failure to do so could result in electrical shock leading to equipment failure, resulting in death, severe personal injury, equipment damage and/or improper operation.
- Do not work on a circuit breaker with the secondary test coupler engaged. Failure to disconnect the test coupler could result in an electrical shock leading to equipment failure, resulting in death, severe personal injury, equipment damage and/or improper operation.
- Do not work on a closed circuit breaker or a circuit breaker with closing springs charged. The closing spring should be discharged and the main contacts open before working on the circuit breaker. Failure to do so could result in cutting or crushing injuries.
- Do not use a circuit breaker by itself as the sole means of isolating a high voltage circuit. Move the circuit breaker to the 'Disconnect' position and follow all lockout and tagging rules of the National Electrical Code and any and all applicable codes, regulations and work rules.
- Do not leave the circuit breaker in an intermediate position in the circuit breaker compartment. Always have the circuit breaker either in the 'Disconnect / Test' or 'Connect' position. Failure to do so could result in a flash over and possible equipment failure, resulting in death, severe personal injury, equipment damage and/or improper operation.
- Always remove the maintenance tool from the circuit breaker after charging the closing springs.
- Circuit breakers are equipped with safety interlocks. Do not defeat them. This may result in equipment failure, resulting in death, severe personal injury, equipment damage and/or improper operation.
SECTION 3: INSPECTION & MAINTENANCE

⚠️ WARNING
DO NOT WORK ON A CIRCUIT BREAKER IN THE ‘CONNECT’ POSITION.

DO NOT WORK ON A CIRCUIT BREAKER WITH SECONDARY DISCONNECTS ENGAGED.

DO NOT WORK ON A CIRCUIT BREAKER WITH SPRINGS CHARGED OR CONTACTS CLOSED.

DO NOT DEFEAT ANY SAFETY INTERLOCKS.

DO NOT LEAVE MAINTENANCE TOOL IN THE SOCKET AFTER CHARGING THE CLOSING SPRINGS.

⚠️ WARNING
STAND AT LEAST ONE METER AWAY FROM THE CIRCUIT BREAKER WHEN TESTING FOR VACUUM INTEGRITY.

FAILURE TO FOLLOW ANY OF THESE INSTRUCTIONS MAY CAUSE EQUIPMENT FAILURE, RESULTING IN DEATH, SEVERE PERSONAL INJURY, EQUIPMENT DAMAGE AND/OR IMPROPER OPERATION. SEE SECTION 2 - SAFE PRACTICES FOR MORE INFORMATION.

3.1 INSPECTION FREQUENCY
The scheduled maintenance interval of a FAME upgraded power circuit breaker is 10 years or 10,000 operations, whichever comes first. However, it is recommended that the circuit breaker be inspected and cleaned on a regular interval based on the surrounding ambient conditions. Dust, contaminants and moisture can combine to create voltage tracking on the surfaces of insulating materials. An inspection schedule should be created based on the surrounding ambient conditions. Inspection schedules typically range from 1 to 5 years, but may extend to more or less frequency depending on the cleanliness of the circuit breaker installation.

A vacuum integrity test should be performed as outlined in the OEM instruction booklet before the initial installation of a FAME upgraded circuit breaker and also anytime the circuit breaker is transported to a new circuit breaker compartment location. Additionally, it is recommended to inspect the circuit breaker every time it interrupts fault current.

Note: The OEM instruction booklet contains specific inspection, maintenance and trouble shooting procedures. Refer to the table in the OEM instruction manual for maintenance and trouble-shooting.

⚠️ WARNING
DO NOT FOLLOW THE LUBRICATION INSTRUCTIONS SHOWN IN THE OEM INSTRUCTION BOOKLET. THE CIRCUIT BREAKER MECHANISM SHOULD NEVER BE OILED OR RE-LUBRICATED IN ANY MANOR AFTER THE FAME UPGRADE IS PERFORMED. THE FAME WARRANTY WILL VOID IF ANY LUBRICATION IS PERFORMED ON THE CIRCUIT BREAKER THAT HAS THE FAME PROCESS APPLIED.

SECTION 4: REPLACEMENT PARTS

4.1 GENERAL
The FAME upgrade is achieved with custom engineered sub-assemblies available only from Eaton’s Power Breaker Center (PBC) and are not required for general maintenance or purchase for renewal parts. The FAME upgrade and repairs to the FAME mechanism should only be performed at Eaton’s PBC or one of the Power Breaker Reconditioning centers (PB Rc).

⚠️ WARNING
DO NOT ATTEMPT TO REPAIR A FAME MECHANISM USING ANY OF THE RENEWAL PARTS LISTED IN THE OEM INSTRUCTION MANUAL.

In order to minimize production downtime, it is recommended that an adequate quantity of spare control parts be carried in stock. The quantity will vary from customer to customer, depending upon the service severity and continuity requirements. Each customer should develop their own level based on operating experience. However, when establishing a new operating record, it is a good practice to stock one set of control components for every six circuit breakers of the same control voltage. This quantity should be adjusted with time and frequency of operation of the circuit breakers. These components are not included in the FAME upgrade. Refer to the OEM instruction booklet for replacement control components.