1. DESCRIPTION

The Firecycle® II system is a single interlocked preaction system that has the ability to cycle on and off until the fire is potentially out. Firecycle® II is no longer offered by The Viking Corporation. The system is being phased out due to integral components of the system, namely the mother board of the release control panel, no longer being manufactured. An upgrade option for Firecycle® II to Firecycle® III Multi-Cycle single interlocked preaction system is available. The cycling function for Firecycle® III Multi-Cycle is the same as for Firecycle® II but utilizes recent technology and does not require the large power supply of Firecycle® II.

2. TECHNICAL DATA

**WARNING!:** FIRECYCLE II SYSTEMS MAY ONLY BE UPGRADED TO A FIRECYCLE III SINGLE INTERLOCK PREACTION SYSTEM. UPGRADING TO A DOUBLE INTERLOCK SYSTEM IS NOT PERMITTED.

**NOTE: FIRECYCLE® II DETECTORS AND DETECTOR CABLE ARE COMPATIBLE WITH THE FIRECYCLE® III MULTI-CYCLE RELEASE CONTROL PANEL AND DO NOT REQUIRE REPLACEMENT FOR UPGRADE PURPOSES.**

3. REMOVING FIRECYCLE® II FROM SERVICE:

Any system maintenance that involves placing a control valve or detection system out of service will impair the fire protection capabilities of that system. Prior to proceeding, appropriate impairment procedures per NFPA 25 shall be followed with the notification of all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected areas.

Failure to follow these instructions could cause improper system operation, resulting in serious personal injury and/or property damage.

**NOTE: ALL AUXILIARY OR CENTRAL STATION ALARM NOTIFICATION FACILITIES SHOULD BE NOTIFIED THAT MAINTENANCE IS BEING PERFORMED ON THE SYSTEM.**

1. Close the main control valve.
2. Turn off the power supply to the Firecycle® II Release Control Panel.
4. Remove power and neutral wires from L1 and L2 in the Firecycle® II Release Control Panel and the ground wire and terminate correctly. (This may require the aid of a qualified electrician)
5. Remove battery power supply leads from Model A-1 Battery Charger, landing contacts B+ and B-. (Removing this power supply will cause the solenoid valves in the valve trim box to open and drain priming water pressure out of the valve trim piping)
6. Remove Firecycle® detector cable leads from landing contacts 15 and 16 in the Firecycle® II Release Control Panel.
7. Remaining interface wiring between panels and alarms can now be removed. **CAUTION:** Confirm outside interfacing alarms have been disabled.
8. Turn off air supply to system.
9. Open system drain valve.
10. Remove valve trim to ¼” priming valve.

Table 1 - Components Required to Upgrade to Firecycle® III Multi-Cycle System

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VFR-400 Release Control Panel</td>
<td>14152-1</td>
</tr>
<tr>
<td>2</td>
<td>18 amp hour batteries</td>
<td>09867</td>
</tr>
<tr>
<td>1</td>
<td>Battery Cabinet</td>
<td>09866</td>
</tr>
<tr>
<td>1</td>
<td>Firecycle® III Multi-Cycle Single Interlocked Preaction System</td>
<td>13801E-1</td>
</tr>
<tr>
<td></td>
<td>Valve TRIMPAC®</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-1/2” - 11894-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2” - 11894-2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-1/2” &amp; 3” - 11894-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4”, 6” &amp; 8” - 11894-4</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**: FIRECYCLE® II DETECTORS AND DETECTOR CABLE ARE COMPATIBLE WITH THE FIRECYCLE® III MULTI-CYCLE RELEASE CONTROL PANEL AND DO NOT REQUIRE REPLACEMENT FOR UPGRADE PURPOSES.
4. INSTALLATION OF FIRECYCLE® III MULTI-CYCLE UPGRADE COMPONENTS

1. Mount the Model E-1 TRIMPAC® in an appropriate location near the riser. Refer to Technical Data Form F_051304 Rev. 15.1.
2. Disconnect all wiring tied into the Firecycle® II Release Control Panel.
3. Remove Firecycle® II Multi-Cycle Release Control Panel, Valve Trim Box, Batteries, Battery Box, Battery Charger.
4. Install the Model VFR-400 Release Control Panel.
5. Wire the VFR-400 panel per the wiring diagram for program #6. The wiring diagram is found in the VFR-400 Installation, Operation and Instruction Manual.
6. Once last connection is made, move Program switch down.
7. Press the FUNCTION (bottom) button until the display reads “PASSWORD = 000”.
8. To enter a password, press the SELECT button until the proper number is displayed above the ^ symbol, then press the SET button to move to the next digit. After entering the third number the display will change. (All panels are shipped with a 000 password.)
9. Press the FUNCTION (bottom) button until the display reads “PROGRAM #6”.
10. Press the SELECT button until the display reads “PROGRAM #6”.
11. Press the SET button.
12. Set the soak timer to the desired duration.
13. The panel is completely programmed except for the custom banner and zone messages. Move the program switch back up.

5. PLACE FIRECYCLE® III MULTI-CYCLE PRE-ACTION SYSTEM IN SERVICE

1. Verify that the VFR-400 Release Control Panel, Detector Circuits, and Detectors have been properly installed and energized according to instructions provided in Viking Technical Data.
2. Verify that the system has been properly drained. (When the plunger is depressed on drip check, no water should flow) System Drain should be open. Verify that the emergency release is closed.
3. Verify that the system main water control valve is closed.
4. Verify that the system water supply piping is pressurized up to the closed system main water supply control valve and the priming line is pressurized up to the closed priming valve.
5. Apply supervisory air pressure to 35 psi (2.4 bar) (55 psi (3.8 bar) for systems with greater than 175 psi (12 bar) water pressure) on system piping.
6. Open priming valve. Prime pressure should rise on priming pressure gauge.
7. Press SYSTEM RESET on the VFR-400 Release Control Panel.
8. Open the flow test valve.

6. TEST FIRECYCLE® III MULTI-CYCLE SYSTEM

Test the system according to the instructions found in the Technical Data for Model E-1 TRIMPAC® and the Model VFR-400 Release Control Panel.
Figure 2 - Firecycle® II Control Panel Wiring Diagram
### Component Description

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Part Numbers</th>
<th>Corresponding Data Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Flow Control Valve</td>
<td>Various</td>
<td>500 through 508</td>
</tr>
<tr>
<td>B</td>
<td>TRIMPAC® Components</td>
<td>13801E-1</td>
<td>Form F_051304</td>
</tr>
<tr>
<td>C</td>
<td>Auxiliary Drain Valve (NC)</td>
<td>1-1/2&quot; - 11894-1</td>
<td>Form F_051304</td>
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<td></td>
<td>Drip Check Valve</td>
<td>2&quot; - 11894-2</td>
<td>Form F_051304</td>
</tr>
<tr>
<td></td>
<td>Drain Cup</td>
<td>2-1/2&quot; &amp; 3&quot; - 11894-3</td>
<td>Form F_051304</td>
</tr>
<tr>
<td></td>
<td>Flow Test Valve (NC)</td>
<td>4&quot;, 6&quot; &amp; 8&quot; - 11894-4</td>
<td>Form F_051304</td>
</tr>
<tr>
<td>D</td>
<td>Water Supply Control Valve</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>E</td>
<td>1-1/2&quot; &amp; 2&quot; - Model L-1 or M-1 Check Valve</td>
<td>Various</td>
<td>804a-d 815a-f</td>
</tr>
<tr>
<td></td>
<td>3&quot; - 8&quot; - Easy Riser® Check Valve</td>
<td>Various</td>
<td>804a-d 815a-f</td>
</tr>
<tr>
<td>F</td>
<td>Model VFR-400 Release Control Panel</td>
<td>14152-1</td>
<td>Form F_041307</td>
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<tr>
<td></td>
<td>Firecycle® Detectors</td>
<td>Firecycle® III</td>
<td>Form F_071697</td>
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<td></td>
<td>Firecycle® III-OH</td>
<td>Various</td>
<td>Form F_040902</td>
</tr>
<tr>
<td></td>
<td>Detector Cables</td>
<td>FPL Cable</td>
<td>16 Gauge - 09954 18 Gauge - 19750 Form F_031915</td>
</tr>
</tbody>
</table>

**Table 2 - TRIMPAC® System Components**

Refer to Figure 3 for component identification

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**NOTE:** When viewing this data page online, blue text represents hyperlinks and will open the desired data page when clicked.

### Legend for Figure 3

- Dotted lines indicate electrical system wiring required but not listed in "System Components" Table. For additional wiring requirements refer to technical data for components used.
- Dashed lines indicate pipe required but not included with TRIMPAC trim packages. Minimum 1/2" nominal piping recommended.
- Smaller diameter hoses are the (4) included flexible braided stainless steel hoses. Also available as a kit (P/N 12072).
- Larger diameter hose is the included PVC Drain Hose. Also available separately (P/N 12071).

** 1/2" (15 mm) NPT for non-interruptible Alarm Pressure Switch (Optional)
Figure 3 - Firecycle® III Multi-Cycle Single Interlocked Preaction System

Note: The 6" angle style valve is shown. Refer to data page Form F_051304 for other valve sizes.
B. TRIMPAC, FIRECYCLE III Preaction
- B.1 Emergency Release ( Normally Closed )
- B.2 Priming Valve ( Normally Open )
- B.3 Strainer
- B.4 1/8" Restriction
- B.5 Spring Loaded Check Valve
- B.6 Priming Pressure Water Gauge and Valve
- B.7 Alarm Test Valve ( Normally Closed )
- B.8 Drain Check Valve
- B.9 Water Supply Pressure Gauge and Valve
- B.10 Alarm Shut-Off Valve ( Normally Open )
- B.11 Pressure Operated Relief Valve (PORV)
- B.12 Pneumatic Actuator
- B.13 Water Flow Alarm Pressure Switch (Optional)
- B.14 Solenoid Valve ( Normally Closed )
- B.15 Spring Loaded Check Valve
- B.16 Solenoid Valve ( Normally Open )
- B.17 Air Pressure Supervisory Switch

Note: Emergency release (B.1) is closed when the handle is in line with the pipe. This allows the door to close when the valve is in the normal position.

Figure 4 - TRIMPAC® Components